

BEST PRACTICES

# Supporting Medication Adherence for HIV Preexposure Prophylaxis (PrEP)

Dawn K. Smith, MD, MS, MPH

*Dr. Smith (dsmith1@cdc.gov) is the biomedical interventions activity lead in the Epidemiology Branch of the Division of HIV/AIDS Prevention (DHAP), National Center for HIV, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Centers for Disease Control and Prevention (CDC).*

## Preexposure Prophylaxis (PrEP) and Primary Care

The prescription of safe and highly effective once-daily oral medication (Truvada<sup>®</sup>) is becoming a common primary care intervention to prevent the acquisition of HIV. FDA approval of an indication for PrEP medication and CDC clinical practice guidelines for its use are based on results of randomized, placebo-controlled clinical trials. These trials have demonstrated substantial reductions in HIV incidence among persons at ongoing risk of sexual or injection HIV exposure who took PrEP compared to those who did not.

Given the effectiveness of PrEP and its potential to curb HIV infection rates, primary care physicians have an essential role to play in identifying patients with indications for PrEP and ensuring medication adherence.

### Primary Care Providers Play a Key Role in Patient Selection

CDC estimates that 1.2 million adults in the United States are at substantial risk for acquiring HIV infection, including men who have sex with men (MSM), heterosexual adults, and people who inject drugs. Primary care providers are optimally positioned to identify sexually active adult patients without HIV infection who have indications for PrEP, as described in the above table.

### Efficacy Is Closely Tied to Adherence

When HIV infections occur in patients taking PrEP, almost all have been in persons not taking the medication as prescribed. In every clinical trial, as well as in the open-label and observational studies that followed, no infections were seen among per-

Indications for PrEP	
Sexually Active, HIV-negative Adults Who Report in the Past 6 Months:	HIV-negative Adults Who Have Ever Injected Drugs and Who Report in the Past 6 Months:
<ul style="list-style-type: none"> <li>• Having 2 or more sex partners</li> <li>• Inconsistent or no condom use</li> <li>• Having 1 or more HIV-positive sex partners</li> <li>• A syphilis or gonorrhea diagnosis*</li> <li>• Engaging in commercial sex work</li> </ul>	<ul style="list-style-type: none"> <li>• Injecting drugs not prescribed for them</li> <li>• Sharing needles or injection equipment</li> <li>• Behaviors that place them at substantial risk for sexual exposure to HIV</li> </ul>
<ul style="list-style-type: none"> <li>• (For women) Having a male sex partner who also has sex with men or is an injection drug user</li> </ul>	
<ul style="list-style-type: none"> <li>• Any HIV-uninfected person with an HIV-positive sex partner considering pregnancy</li> </ul>	

\* *rectal chlamydia in an MSM*

sons with high drug levels consistent with taking drug regularly (four or more doses per week). A dose response effect was apparent, with the most infections occurring in those with no drug detected, and a few infections in those with some drug but less than the amount associated with taking  $\geq 4$  doses per week.

Observational studies have shown that protective levels of adherence are achievable in usual clinical practice settings. However, as with other conditions, medication adherence for young adults appears to be a particular challenge. This is especially unfortunate because CDC estimates that the lifetime risk of being diagnosed with HIV infection is 1 in 2 for young African-American MSM and 1 in 4 for young Hispanic MSM.

### Basic Adherence Guidelines for All Medications

When prescribing PrEP, we are reminded of the words of the Surgeon General in the earliest days of the HIV epidemic, C Everett Koop, "Drugs don't work in patients who don't take them." Reinforcing med-

ication adherence is an issue that primary care clinicians face daily with a range of patient conditions. The following basic tools are familiar:

- Give clear instructions to the patient about the medication, what it is for, how it is to be taken (daily), what to do if a dose is missed (do not double-up);
- Discuss what side effects are/are not likely and how to handle them if they occur;
- Discuss possible issues with taking pills, remembering doses, traveling;
- Offer ideas for dealing with any issues (pill boxes, phone app reminders, family/friend support); and
- Ask the patient to commit to a plan he is comfortable with.

### Specific Adherence Counseling Points for PrEP:

- Advise that most patients experience no side effects while taking PrEP (Truvada);
- Inform that 5-10% have a "start-

continued on page 2

## BEST PRACTICES

continued from page 1

up” syndrome of headache, mild gas, cramping, or diarrhea for the first 1-3 weeks after starting PrEP and suggest over-the-counter medications the patient can take if such side effects occur;

- Reinforce that PrEP should be taken daily—NOT only just before or after sex (“on-demand” or “intermittent” dosing); and
- Ask patients if they have any concerns about taking PrEP and address them. For example, some patients may be hesitant to tell others that they are taking PrEP because they worry they will be considered promiscuous or may be thought to have HIV infection. If not addressed, such concerns may interfere with adherence.

### Maintaining Adherence Over Time

After initiating PrEP, patients should be seen every 3 months for repeat HIV testing and when HIV tests are negative, refill the PrEP prescription in ample time for the patient to stay on medication. At these visits, providers should assess medication adherence. Adherence assessments should be asked in a nonjudgmental way that allows patients to acknowledge problems they are having. The provider can then solicit the reasons for missed doses, help the patient identify ways to address those issues going forward and incorporate those into a plan for the next few months. Periodic screening for unrecognized STIs and renal function is also necessary.

### Additional Adherence Support from Staff

Engaging nurses or medical assistants in assessing adherence, or following

#### Box 1: Patient Brochures and Factsheets

##### A Pill A Day Keeps HIV Away: Taking Daily Medication:

<https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-adherence.pdf>

##### Truvada Medication Information Sheet:

[http://www.cdc.gov/hiv/pdf/prep\\_gl\\_patient\\_factsheet\\_truvada\\_english.pdf](http://www.cdc.gov/hiv/pdf/prep_gl_patient_factsheet_truvada_english.pdf)

##### Talking to Your Doctor About PrEP:

[https://www.cdc.gov/hiv/pdf/risk\\_prep\\_talkingtodr\\_finalcleared.pdf](https://www.cdc.gov/hiv/pdf/risk_prep_talkingtodr_finalcleared.pdf)

##### Paying for PrEP:

<http://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-paying-for-prep.pdf>

up with patients after the visit may also help support adherence. Staff can also help patients maintain or transition between insurance and medication assistance plans, which are critical for paying for PrEP medication without which adherence is not possible.

### When Patients Do Not Adhere to PrEP

For patients who are not able or willing to take a pill daily, or who are not keeping their follow-up appointments for refills and retesting, it is important to discuss whether and how to safely transition off PrEP and onto another effective HIV prevention method that meets their needs. It's possible that they will be willing and able to adhere to PrEP at another time in their lives.

### Resources for Providers and Their Patients

PrEP is one of several highly effective means of preventing the spread of HIV infection, but like condoms and antiretroviral suppression through treatment of infection it requires adherence in both the short

#### Box 2: Clinical Resources

**PrEPline:** Call for phone consultation with clinical experts in PrEP care (855) 448-7737 or (855) HIV-PrEP Monday–Friday, 11 am–6 pm EST Voicemail available 24 hours a day

##### National Clinician Consultation Center Web Site:

<http://nccc.ucsf.edu/clinician-consultation/prep-pre-exposure-prophylaxis/>

term and persistent adherence over time. Primary care providers are ideally suited to provide PrEP to their HIV-uninfected patients who would benefit and to support their adherence to daily medication use.

Educational materials for patients (box 1) and clinical education and support services for health care providers (box 2) are being scaled up by CDC, professional associations, health departments, and others to support expanded access to and use of PrEP by those who would benefit from its prevention effectiveness.

### References

1. Conniff J, Evensen A. Preexposure prophylaxis (PrEP) for HIV prevention: the primary care perspective. *J Am Board Fam Med.* 2016;29(1):143-151.
2. Centers for Disease Control and Prevention. Preexposure prophylaxis for the prevention of HIV infection in the United States—2014: a clinical practice guideline. <http://www.cdc.gov/hiv/pdf/guidelines/PrEPguidelines>

continued on page 3

## BEST PRACTICES

continued from page 3

- 2014.pdf. Accessed April 27, 2017.
3. Centers for Disease Control and Prevention. Preexposure prophylaxis for the prevention of HIV infection in the United States—2014: clinical providers' supplement. 2014:1-43. <http://www.cdc.gov/hiv/pdf/guidelines/preprovidersupplement2014.pdf>. Accessed April 27, 2017.
  4. Smith DK, Van Handel M, Wolitski RJ, et al. Vital signs: estimated percentages and numbers of adults with indications for preexposure prophylaxis to prevent HIV acquisition—United States, 2015. *MMWR Morb Mortal Wkly Rep*. 2015;64(46):1291-1295.
  5. Grant RM, Anderson PL, McMahan V, 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. *Lancet Infect Dis*. 2014;14(9):820-829.
  6. Osterberg L, Blaschke T. Adherence to medication. *N Engl J Med*. 2005;353(5):487-497.

<sup>a</sup> Co-formulated tenofovir disoproxil fumarate 300 mg and emtricitabine 200 mg, marketed as Truvada in the United States by Gilead Sciences, Foster City, CA.

**SGIM**