

PRIMARY CARE PROVIDERS AND PrEP: GETTING READY TO OFFER PrEP

As frontline providers, primary care providers (PCPs) are well situated to identify and serve youth who could benefit from pre-exposure prophylaxis (PrEP) for HIV. Yet studies suggest that lack of knowledge about PrEP, provider discomfort with issues surrounding PrEP delivery, and inexperience in conducting HIV risk assessments may represent missed opportunities for reaching youth at high risk of HIV acquisition.¹

This resource is designed to support PCPs in identifying and effectively serving youth who could benefit from PrEP. In particular, this fact sheet addresses some common issues and concerns and directs providers to more detailed sources in the toolkit for additional information.

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- Daily PrEP can reduce the risk of acquiring HIV from sex by more than 90%.
- Daily PrEP can reduce the risk of acquiring HIV among people who inject drugs by more than 70%.
- Yet: 1 in 3 primary care doctors and nurses does not know about PrEP.

Source: Centers for Disease Control and Prevention

ABOUT PrEP

PrEP stands for **Pre-Exposure Prophylaxis**. PrEP can be used by those at substantial risk of HIV exposure through sexual contact or injectable drug use to prevent acquisition of HIV infection.

To date, the FDA has approved one drug, Truvada, for PrEP in adults (18 and older) in 2012. Truvada is a combination of tenofovir disoproxil fumarate and emtricitabine (TDF-FTC) in one daily pill. It was FDA-approved for HIV treatment in 2004. In March 2016, the FDA approved low strength TDF-FTC for *treatment* for those under 18 years of age.

Evidence from clinical trials conducted among multiple high-risk populations suggests that oral TDF-FTC reduces the risk of HIV infection—by up to 92%—among those who regularly take their medications.^{2,3} When taken daily, TDF-FTC is safe and highly effective in preventing HIV infection.⁴

TDF-FTC should be used as part of a comprehensive prevention plan that also includes adherence and risk reduction counseling, HIV prevention education, and behavioral interventions such as drug abuse treatment and correct and consistent condom use.

TDF-FTC is for individuals who are at ongoing substantial risk of HIV infection. For those who need to prevent HIV after a single high-risk event of potential HIV exposure—such as condomless sex, sexual assault, or needle-sharing injection drug use—there is post-exposure prophylaxis (PEP). PEP must begin within 72 hours of exposure.

THE IMPORTANT ROLE OF PRIMARY CARE PROVIDERS IN PRESCRIBING PREP

All prescribing health care providers can deliver PrEP care. Infectious disease (ID) or HIV specialization is not needed. While ID providers are offering TDF-FTC to partners of some of their clients who are living with HIV, the primary care setting is the best setting for reaching youth that may benefit most from TDF-FTC and for preventive care. In fact, most youth who are HIV-negative could benefit from TDF-FTC are seen by community-based primary care providers (PCPs) for other reasons.

The concept behind PrEP is not new. Health care providers have long been prescribing malarial prophylaxis among those travelling to endemic areas. Contraception protects against unintended pregnancy in women of reproductive age. Bringing PrEP to more community settings and normalizing HIV prevention with PrEP, just as prevention of heart attacks is offered through prescription of statins to at-risk individuals, will bring this effective intervention where it can be accessed by those who would benefit from it.

Studies have found that some at-risk patients resist starting TDF-FTC because of their own perceived stigma as well as concerns that others may think they are HIV positive if they are taking medication traditionally associated with HIV care. Accessing TDF-FTC in a primary care office or clinic where multiple conditions are diagnosed and treated can help reduce the stigma for patients themselves. Particularly in small or rural communities, the PCP's office reduces the risk that a patient will be "discovered" in an HIV/AIDS setting and assumed to be HIV positive when they are actually seeking preventive care. This does not release society from the obligation to further de-stigmatize HIV care for individuals living with HIV.

PCPs who are willing to screen and prescribe TDF-FTC to youth at high risk and address the complexity of their lives as it impacts their health care are critical to curbing the HIV epidemic among youth. Yet providers who are comfortable serving all youth, including lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ) youth and addressing sexual and drug use behaviors and environmental factors associated with HIV risk are in short supply.

This toolkit offers resources to address some of the concerns providers face in offering PrEP. In some cases, information about PrEP and the faces behind the epidemic may be all that's needed. In other cases, the guidance around [Taking a Sexual History](#) and having sensitive conversations around sexuality and gender identity may be most helpful. For others, examining individual biases (see [Check Your Bias](#)) and [Creating a Welcoming Office](#) can help increase efficacy as a clinician.

With more than 40,000 new HIV infections annually in the United States⁵ and without an available HIV vaccination or cure, the need for bringing effective HIV prevention tools to primary care settings where they can be accessed by more who could benefit is critical.⁶

WHY PROVIDE PREP TO YOUTH

Many youth at substantial risk for HIV infection who would be good candidates do not know about and are not receiving TDF-FTC.

Youth are among those at the forefront of those at greatest risk of HIV acquisition. In 2014, youth ages 13–24 accounted for more than one in five new HIV infections in the United States. Gay, bisexual, and other men who have sex with men (MSM) accounted for most (80%) new infections among youth. Black/African American and Hispanic/Latino gay and bisexual men are especially affected.

Young women accounted for 19% of new cases in 2014.⁷ Black/African American women in particular, as well as Hispanic/Latina women continue to be disproportionately affected by HIV compared with women of other races and ethnicities.⁸

Numerous factors contribute to this disparity. These range from an individual’s low perceptions of risk, inconsistent condom use, high rates of sexually transmitted diseases (STDs) in youth, declining formal sexual health education and inadequate HIV prevention education, low rates of HIV testing, homelessness, substance abuse, and older sex partners who are more likely to be HIV positive.⁹ See Section 3: HIV, Stigma, and Social Determinants of Health for further discussion.

By addressing these causes over time and by making prevention more available now, these high infection rates can be lowered. TDF-FTC, along with risk reduction counseling and other prevention measures, offers an effective tool to help to contain the spread of infection in youth at highest risk of HIV acquisition.

INDICATIONS FOR PREP

Per the Centers for Disease Control and Prevention’s (CDC) PrEP Guidelines,¹⁰ PrEP may be appropriate for the following populations:

	Men who have sex with men (MSM)	Heterosexual women and men	Injection Drug Users (IDU)
Recommended Indicators for PrEP Use	HIV+ sex partner Recent bacterial STD Multiple sex partners Inconsistent condom use	HIV+ sex partner Recent bacterial STD Multiple sex partners Inconsistent condom use (with MSM, IDU, other high risk partner)	HIV+ injecting partners Sharing injection equipment or needles Risk of sexual acquisition (see columns on left)

SCREENING FOR HIV RISK

PCPs have a lot of ground to cover with each patient squeezed into a tight timeframe dictated by insurance reimbursement schedules. Government agencies provide standards for care, which establish metrics for health services delivery. Since sexual health metrics are rarely measured, why would PCPs offer sexual health services? Consider that according to the CDC:

- 1 in 4 teens is believed to have an STD.¹¹ Having a STD increases the chance of seroconversion.¹²
- Only 44% of youth ages 18–24 living with HIV were aware they had HIV in 2012.¹³
- People at high risk of HIV acquisition who should be offered TDF-FTC include:
 - 1 in 4 gay or bisexual men
 - 1 in 5 who inject drugs
 - 1 in 200 heterosexual adults¹⁴

- **Providing risk assessment and prevention education and offering TDF-FTC as indicated can reduce the morbidity and mortality associated with HIV in youth and others at high risk of HIV acquisition.**
- **More than half of all people will have an STD at some point in their lifetime.**¹⁵ Studies have shown that a significant portion of the sexually experienced population of all ages has risks associated with STDs yet many are unaware of potential risks associated with their sexual behaviors. Providers have the opportunity and responsibility to provide information and counseling that can reduce high risk behaviors and contribute to reducing STDs, including HIV, unintended pregnancies, and promote healthy sexual decisions in patients of all ages.
- **Sexual health is part of total health.** In the *Proactive Sexual Health History*, Nusbaum et. al. assert that “the most crucial deficit in sexual health care is a proactive and preventive approach in the primary care setting.”¹⁶ In high quality health care, sexual health would be integrated with all aspects of patient care on par with physical, spiritual, social, and emotional care. Asking about sexual orientation and sexual behaviors should be as natural as asking about risk factors for diabetes.¹⁷
- **Failing to take a sexual history may represent a risk management issue.** For example, a patient with repeated diagnoses of syphilis who is never asked about his sexual behaviors or advised that recurrent diagnoses may be associated with higher risks of HIV is not receiving optimal health care.¹⁸

Primary prevention of STDs, including HIV, includes performing an assessment of behavioral risk (i.e., assessing the sexual behaviors that may place persons at risk for infection) as well as biologic risk (i.e., testing for risk markers for HIV acquisition or transmission). A sexual and social history is vital to assessing risk behaviors and identifying indications for PrEP use.¹⁹

In order to obtain information about sexual health, clinicians must have conversations about sex that they may not be comfortable with or prepared to have. Thus, these conversations are often left to urologists or gynecologists. However, because people see PCPs more than other providers, PCPs are on the frontlines to address issues of sexual health.²⁰ Developing a routine way to take the patient’s sexual history can help address discomfort and build competence. See [Taking a Sexual History](#) for guidance on how to have effective conversations around sensitive topics.

PREP SAFETY

TDF-FTC has been used to treat HIV for over a decade with a good safety profile. In prevention studies to date, TDF-FTC for PrEP has not caused serious short-term safety concerns. TDF-FTC has caused renal toxicity and decreased bone mineral density when used for HIV treatment for months and years. TDF-FTC is considered safe for women of child-bearing age. Decisions about possible use during [pregnancy](#) must be individualized. While available data suggests that TDF-FTC does not increase the risk or birth defects, there are not enough data to exclude the possibility of harm (Pregnancy Class B). TDF-FTC is often used in pregnancy if the risk of ongoing HIV transmission is sufficiently high as in a serodiscordant partnership and because pregnancy itself is associated with an increased risk of HIV acquisition.

Since TDF-FTC is actively eliminated by the kidney, it should be co-administered with care in patients taking medications that are eliminated by active tubular secretion (e.g., acyclovir, adefovir dipivoxil, cidofovir, ganciclovir, valganciclovir, aminoglycosides and high dose of multiple NSAIDs). Drugs that decrease renal function may also increase concentrations of TDF-FTC.

Adapted from: NYC Health, PrEP Provider FAQs²¹

PREP SAFETY IN PATIENTS UNDER 18 YEARS OF AGE

In March 2016, the United States Food and Drug Administration (FDA) updated the TDF-FTC tablet label to expand the indication to include treatment for pediatric patients weighing at least 12 kilograms and the addition of the following strength tablets (100/150 mg, 133/200 mg and 167/250 mg). See the [full changes](#) for more information.

The CDC PrEP guidelines suggest that prior to initiating TDF-FTC as PrEP for adolescents that clinicians consider:

- Lack of data on safety and effectiveness of TDF-FTC taken by patients under age 18;
- Possibility of bone or other toxicities among youth who are still growing; and
- Safety evidence available when TDC/FTC is used in treatment regimens for HIV-infected youth.

These factors should be weighed against the potential benefit of providing TDF-FTC for an adolescent at substantial risk of HIV acquisition.²²

Unless contraindicated for an adolescent's safety, parent/guardian involvement is advised. In addition, the individual patient's ability to comply with daily dosing given developmental stage, family and social support, housing situation, and other life circumstances should also be considered.

PREP EFFECTIVENESS IN YOUNG WOMEN

Both the FEM-PrEP and VOICE clinical studies failed to find efficacy in women at high-risk on daily TDF-FTC.²³ However, other studies of heterosexual populations including both women and men found higher efficacy where higher levels of adherence were achieved.²⁴

Research indicates that adherence needs to be greater to achieve high levels of efficacy in women. Some studies have found that women need daily doses of TDF-FTC to prevent HIV acquisition while men need only two doses per week.²⁵ Furthermore, according to the CDC PrEP guidelines, data suggest that maximum intracellular concentrations of tenofovir diphosphate are reached in blood after approximately 20 days of daily oral dosing, in rectal tissue at approximately 7 days, and in cervico-vaginal tissues at approximately 20 days.²⁶

Some research also suggests that PrEP may not be as effective in women younger than 25 and particularly younger than 21.²⁷ Further research is needed.

SUPPORTING PREP ADHERENCE

Research indicates that the efficacy of TDF-FTC depends upon patient adherence to the regimen as well as the benefits of the medication itself.²⁸ Therefore PrEP education, assessment of a patient's ability to adhere, follow up safety monitoring visits, and additional social supports as needed by individual patients given their life circumstances are all critical to successful TDF-FTC use.²⁹ Adherence is also critical to reducing the risk of developing a drug resistant virus.

Patients with chronic diseases have reported that the most important factors in medication adherence were incorporating medication into their daily routines, knowing that the medications work, believing the benefits outweigh the risks, knowing how to manage side effects, and low out-of-pocket costs.³⁰

When initiating TDF-FTC, PCPs must educate patients to ensure they understand:

- How to take their medications (e.g., when, how many pills);
- What to do if they experience problems (e.g., what to do if they miss a dose, what constitutes a missed dose);

- What the most common side effects are and help patients develop a plan for handling them; and
- The importance of using condoms, especially if they decide to stop taking TDF-FTC.³¹

Additional tools such as providing reminder systems (e.g., texts, emails) have also proven effective. Furthermore, addressing financial, substance abuse, and mental health needs that may interfere with adherence and facilitating social supports are also recommended and may be key to maintaining adherence over time in high-risk youth. The [Clinical Reference Sheet](#) in this toolkit outlines key components of medication adherence counseling.

Research in this area continues to explore mechanisms for encouraging adherence, as well as novel formulations of PrEP that can help overcome adherence barriers such as long acting vehicles or intermittent PrEP.

HORMONAL CONTRACEPTION AND PREP

Studies have found that TDF-FTC has no adverse impact on hormonal contraceptive effectiveness for pregnancy prevention.³² Injectable contraceptives (Depo-Provera) have been associated with a 2–4 fold increased risk of HIV acquisition in some observational studies.³³ Research has demonstrated that TDF-FTC could mitigate the potential increased HIV-1 acquisition and transmission risks that have been associated with DMPA use.³⁴

CONCEPTION, PREGNANCY AND BREASTFEEDING

Please refer to the CDC’s [Provider Information Sheet-PrEP During Conception, Pregnancy and Breastfeeding](#) for more information.

TRANSGENDER WOMEN AND PREP

Transgender women are at increased risk of HIV infection due to multiple factors, dominated by stigma and discrimination, including sex practices (vaginal and/or receptive anal sex), substance abuse, and possible sex work. Some limited studies demonstrated efficacy of PrEP in trans women who were adherent to PrEP.³⁵

More research is needed to understand the interaction between feminizing hormones and PrEP and impact on the buildup of PrEP to protective levels in rectal tissue. It is advised to counsel patients on balancing possible PrEP efficacy with risk of HIV acquisition.³⁶

EFFICIENTLY ADDING PREP TO YOUR PRACTICE OR CLINIC

So you want to add PrEP to your clinical practice. Here are some tools and ideas to make the transition smoother for you and your team:

- **Patient/Provider checklist.** The [CDC PrEP Guidelines Clinical Providers Supplement](#) offers resources to support delivery of PrEP care, including a Patient/Provider Checklist (pages 4–5) to help clinicians preparing to offer TDF-FTC to new patients.
- **Patient handouts.** The [CDC PrEP Guidelines Clinical Providers Supplement](#) includes a PrEP Information Sheet (pages 5–6) and Truvada Medication Information Sheet for Patients (pages 9–11). Additional patient education resources are provided throughout this toolkit.
- **Use technology to facilitate and streamline processes.**
 - Set up “*nudges*” in your electronic health record (EHR) to provide reminders to screen for HIV risk and indications for PrEP or to follow up negative HIV tests with a reminder to reassess risk practices and discuss prevention options including PrEP when appropriate.³⁷

- **Order set.** To make prescribing PrEP easier in the clinical setting, work with IT staff to develop a drop down order set so all the baseline and follow lab tests are easy to order.
- **Create a team approach.** Involve nurses, pharmacists, counseling and other staff in managing the many steps needed for the safe use of TDF-FTC and to help increase TDF-FTC adherence.
- **Partner with community-based organizations (CBOs).** Local CBOs can help provide ancillary services that can save your practice time and potentially save your low-income clients money, as they may be able to offer lower cost lab work and other services.
- **Use the tools in this toolkit.** Go to the [PrEP Education for Youth-Serving Primary Care Providers Toolkit Section 5](#) to view available and additional resources.

- 1 Douglas Krakower, Kenneth H. Mayer, "Engaging Healthcare Providers to Implement HIV Pre-Exposure Prophylaxis," *Current Opinion in HIV and AIDS* 7, no. 6 (2012): 593-599, DOI: [10.1097/COH.0b013e3283590446](https://doi.org/10.1097/COH.0b013e3283590446); "Daily Pill Can Prevent HIV," *Centers for Disease Control and Prevention*, last modified November 24, 2015, www.cdc.gov/vitalsigns/hivprep/.
- 2 "CDC Supports New WHO Early Release HIV Treatment and PrEP Guidelines," *Centers for Disease Control and Prevention*, September 30, 2015, www.cdc.gov/media/releases/2015/s0930-hiv-prep.html.
- 3 "Pre-exposure Prophylaxis (PrEP) for HIV Prevention," *Centers for Disease Control and Prevention*, May 2014, www.cdc.gov/hiv/pdf/PrEP_fact_sheet_final.pdf.
- 4 "Daily Pill Can Prevent HIV."
- 5 "HIV Surveillance Report: Diagnoses of HIV Infection in the United States and Dependent Areas, 2014," *Centers for Disease Control and Prevention*, 26 (2015), www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-us.pdf.
- 6 "Strategy for an AIDS-Free Generation," *Centers for Disease Control and Prevention*, last modified November 27, 2013, www.cdc.gov/globalaids/global-hiv-aids-at-cdc/interventions.html.
- 7 "HIV Among Youth," *Centers for Disease Control and Prevention*, last modified April 27, 2016, www.cdc.gov/hiv/group/age/youth/index.html.
- 8 "HIV Among Women," *Centers for Disease Control and Prevention*, last modified March 16, 2016, www.cdc.gov/hiv/group/gender/women/.
- 9 "HIV Among Youth."
- 10 "Pre-Exposure Prophylaxis for the Prevention of HIV Infection in the United States: A Clinical Practice Guideline," *Centers for Disease Control and Prevention*, 2014, www.cdc.gov/hiv/pdf/prepguidelines2014.pdf.
- 11 "HIV Among Women," *Centers for Disease Control and Prevention*, last modified March 16, 2016, www.cdc.gov/hiv/group/gender/women/.
- 12 "Syphilis—CDC Fact Sheet (Detailed)," *Centers for Disease Control and Prevention*, last modified May 19, 2016, www.cdc.gov/std/syphilis/STDFact-Syphilis-detailed.htm.
- 13 "HIV Among Women."
- 14 "Daily Pill Can Prevent HIV."
- 15 "Statistics," American Sexual Health Association, www.ashsexualhealth.org/stdsstis/statistics/.
- 16 Margaret Nusbaum, Carol Hamilton, "The Proactive Sexual Health History," *American Family Physician* 66, no. 9, (2002): 1705-1713, www.aafp.org/afp/2002/1101/p1705.html.
- 17 Ibid.
- 18 Ibid.
- 19 "A guide to taking a sexual history," *US Department of Health and Human Services, Centers for Disease Control and Prevention*, www.cdc.gov/std/treatment/sexualhistory.pdf.
- 20 Margaret Nusbaum, "The Proactive Sexual Health History."
- 21 "PrEP Provider FAQs," *New York City Department of Health and Mental Hygiene*, www.nyc.gov/html/doh/downloads/pdf/csi/csi-prep-hcp-faq.pdf.
- 22 "Pre-Exposure Prophylaxis for the Prevention of HIV Infection in the United States: A Clinical Practice Guideline."
- 23 Mackenzie L. Cottrell et al., "A Translational Pharmacology Approach to Predicting HIV Pre-Exposure Prophylaxis Outcomes in Men and Women Using Tenofovir Disoproxil Fumarate With or Without Emtricitabine," *Journal of Infectious Diseases* 214, no. 1 (2016): 55-64, DOI: [10.1093/infdis/jiw077](https://doi.org/10.1093/infdis/jiw077).
- 24 Jared M. Baeten, et al, "Antiretroviral Prophylaxis for HIV Prevention in Heterosexual Men and Women," *New England Journal of Medicine* 367, (2012): 399-410, DOI: [10.1056/NEJMoa108524](https://doi.org/10.1056/NEJMoa108524).
- 25 Mackenzie L. Cottrell et al., "A Translational Pharmacology Approach."
- 26 "Pre-Exposure Prophylaxis for the Prevention of HIV Infection in the United States: A Clinical Practice Guideline."
- 27 Sharon Hillier, "Macrobicides and PrEP: What have we learned?" (presentation, Office of AIDS Research Advisory Council meeting, Rockville, MD, April 7, 2016).

- 28 Amanda D. Castel, Many Magnus, Alan E. Greenberg, "Pre-exposure Prophylaxis for Human Immunodeficiency Virus: The Past, Present, and Future," *Infectious Disease Clinics of North America* 24, no. 4 (2014): 563-583, DOI: 10.1016/j.idc.2014.08.001.
- 29 Ibid.
- 30 Ibid.
- 31 "Pre-Exposure Prophylaxis for the Prevention of HIV Infection in the United States: A Clinical Practice Guideline."
- 32 Pamela M. Murnane et al., "Pre-exposure prophylaxis for HIV-1 prevention does not diminish the pregnancy prevention effectiveness of hormonal contraception." *AIDS* 28, no. 12 (2014) 1825-30. DOI: 10.1097/QAD.0000000000000290.
- 33 Craig Walter Hendrix, "The effect of Depo-Provera on HIV susceptibility, immune activation, and PrEP PK," *Grantome*, <http://grantome.com/grant/NIH/R01-AI110371-01>; Renee Heffron et al., "PrEP is Efficacious for HIV-1 prevention among Women using DMPA for Contraception," *AIDS* 28, no. 18 (2014): 2771-2776, DOI: 10.1097/QAD.0000000000000493.
- 34 "PrEP is Efficacious for HIV-1 prevention among Women using DMPA for Contraception."
- 35 "Pre-Exposure Prophylaxis for the Prevention of HIV Infection in the United States: A Clinical Practice Guideline."
- 36 Ibid.
- 37 Douglas Krakower, "Engaging Healthcare Providers to Implement HIV Pre-Exposure Prophylaxis."