COUNTY OF LOS ANGELES
Public Health
Office of AIDS Programs & Policy

Research Brief: iPrEx Study

EraseDoubt.org

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Erase Doubt is funded by the U.S. Centers for Disease Control and Prevention, the California State Office of AIDS and the County of Los Angeles. This initiative is intended to increase HIV testing in LA County, drive awareness of HIV prevention, and provide information about HIV/AIDS treatment and care. EraseDoubt.org is designed as an online resource center for Los Angeles County residents at risk of contracting HIV/AIDS and/or living with HIV/AIDS. This site is designed solely for educational purposes and should not be used as a substitute for professional care. For more information, call 800-367-AIDS (2437), email info@erasedoubt.org, or consult your health care provider.

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RESEARCH BRIEF

What the iPrEx study found
January 2011

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The HIV Pre-Exposure Prophylaxis Initiative (iPrEx) was a multinational randomized controlled study of HIV pre-exposure prophylaxis (PrEP) in 2,499 HIV-negative men who have sex with men (MSM) and transgender women who have sex with men. The trial examined the efficacy of Truvada (a fixed dose combination of 2 antiretroviral medications: FTC and Tenofovir) taken every day to prevent HIV infection.

All participants in the trial demonstrated one of the following risks for HIV acquisition in the 6 months prior to enrollment: anal sex with 4 or more male partners, a diagnosis of a sexually transmitted infection (STI), history of transactional sex activity, or condomless anal sex with a partner who was HIV infected or of unknown infection status.

The study found that participants receiving Truvada had a 44% reduction in new HIV infections compared with those who received placebo. Participants who took Truvada on 90% or more of the days during the course of the study had a 73% reduction in incident HIV infection compared with those who received placebo. This finding emphasizes that adherence to the daily Truvada regimen was critical to the efficacy of Truvada to prevent HIV infection.

There was a statistically significant increased number of reports of nausea and weight loss among participants who received Truvada, compared to those who received the placebo. There was also an increase in serum creatinine (a marker for kidney impairment) in those who received Truvada compared to those who received placebo, but this difference was not statistically significant. The creatinine abnormalities resolved when the Truvada was stopped in all cases.

Ten cases of “acute” or primary HIV infection were missed when enrolling participants into the study because participants were only tested with an EIA antibody test, which cannot detect primary HIV infection. Of the ten participants entering the study with primary HIV infection, two of them received Truvada. Both of these participants developed a resistance mutation to FTC, one of the drugs in the fixed dose combination Truvada.

Of the 100 patients who seroconverted to HIV-infection during the study, 36 had been receiving Truvada and 64 had been receiving placebo. None of the participants who seroconverted while on the study demonstrated resistance to the components of Truvada. (*Note*: these 100 patients do not include the 10 with primary HIV infection at enrollment who were described previously.)

High-risk sexual behavior decreased in both treatment groups over the course of the trial (as measured by number of sexual partners and condom use). This was likely because intensive risk reduction counseling was delivered to all participants of the trial, regardless of whether they received Truvada or placebo.

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What we still don't know about PrEP

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The iPrEx trial was conducted among MSM and transgender women who have sex with men. There is currently no data available on the efficacy of PrEP in individuals who engage in heterosexual sex, those who inject drugs, or other high risk populations. Several studies of PrEP in these populations are currently underway.

The iPrEx trial studied Truvada dosed EVERY DAY. There is currently no data on dosing schedules other than once-a-day. There is also no data on the efficacy of medications other than Truvada for PrEP. There are studies underway to examine alternate dosing strategies as well as the efficacy of other medications for PrEP.

The participants in the iPrEx study took Truvada for a median duration of 1.2 years. The trial did not address the optimal length of time to take PrEP. The trial also did not provide any data on the longer-term toxicities that may be associated with Truvada for durations of treatment beyond the study period.

There was not an increase in risk behavior associated with taking Truvada or placebo in this trial. While this is encouraging, it is not known what will happen to risk behavior outside of a clinical trial setting when individuals receive PrEP.

What the iPrEx Study Findings Mean for Los Angeles County

The County of Los Angeles, Department of Public Health, Office of AIDS Programs and Policy (OAPP) has reviewed the findings of the iPrEx study in detail and is actively considering how PrEP will fit into the toolbox of HIV prevention interventions locally. More information is needed from other ongoing studies of PrEP in order to learn more about the optimal dosing intervals and strategies, alternative drugs that may be used, and the longer term toxicities associated with PrEP. OAPP is seeking opportunities to hear from community partners, local HIV prevention and care providers, and researchers while continuing to refine the HIV prevention response in Los Angeles County to include biomedical prevention interventions.

OAPP also strongly recommends that providers considering the use of PrEP wait for the U.S. Public Health Service guidelines on PrEP that will be forthcoming from the Centers for Disease Control and Prevetion (CDC). Given that Truvada is already commercially available in the U.S., MSM and their providers are urged to consider the immediate cautions outlined by the CDC (next page). Additionally, MSM considering PrEP should be tested for acute HIV infection (via HIV Nucleic Acid Amplification Testing or NAAT) in addition to conventional HIV antibody testing. MSM with a positive HIV antibody test or NAAT test should NOT take PrEP.

In the iPrEx study, PrEP was delivered along with intensive risk reduction counseling, frequent screening for HIV and other STIs, as well as STI treatment. It is critical that when PrEP is rolled out in Los Angeles County, it is done so as part of a comprehensive package of HIV prevention interventions in order to optimize the impact on HIV transmission.

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Immediate Cautions from the CDC*

What Gay and Bisexual Men and Doctors in the U.S. Should Know Now About PrEP

For MSM at high risk for HIV infection, PrEP may represent a much-needed additional prevention tool. However, PrEP should be used only in combination with other strategies, requires strict adherence, and is an intensive approach that won't be right for everyone. Anyone considering using or prescribing PrEP should know:

▪ To date, PrEP has only been proven to reduce HIV infection among men who have sex with men, and there are no data regarding its benefit among heterosexuals or injection drug users.

▪ Truvada taken once daily is the only regimen proven safe and effective for PrEP, therefore Truvada is the only medication that should be prescribed for PrEP. Providers and patients should be aware that HIV prevention is not a labeled indication for use of the medication. PrEP should only be used among individuals who have been confirmed to be HIV-negative. Initial and regular HIV testing are critical for anyone considering using PrEP. All individuals considering PrEP must also be evaluated for other health conditions that may impact PrEP use.

▪ PrEP should never be seen as the first line of defense against HIV. It was only proven to be partially effective when used in combination with regular HIV testing, condoms, and other proven prevention methods, and it does not protect against other sexually transmitted infections. Men who have sex with men should still:

1) Use condoms consistently and correctly
2) Get tested to be certain of their own and their partners' HIV status
3) Get tested - and treated if needed - for other sexually transmitted infections that can facilitate HIV transmission, such as syphilis and gonorrhea
4) Get information and support to reduce drug use and sexual risk behavior
5) Reduce their number of sexual partners

▪ Taking PrEP daily is critical. This study found that PrEP provided a high level of protection only to those who took the pills regularly; protection was very low among those who did not adhere to the daily regimen well.

▪ PrEP must be obtained and used in close collaboration with health care providers to ensure regular HIV testing, risk reduction and adherence counseling, and careful safety monitoring.

**From CDC Fact Sheet: Promoting Safe and Effective PrEP Use in the U.S. – November 2010.*