

We have more tools to effectively prevent HIV than ever before. Since no single strategy provides complete protection or is right for all people, a combination of methods is needed to help reduce HIV transmission. CDC and its partners are currently pursuing a High-Impact Prevention approach to reduce HIV's continued toll. This approach seeks to use the best mix of proven, cost-effective and scalable interventions for high-risk populations and areas of the nation (see "HIV Prevention Today" fact sheet for information). Below is an overview of proven prevention strategies to date.

HIV Testing and Linkage to Care

HIV testing is the first critical step to ending the HIV epidemic in the United States, and CDC recommends that all Americans ages 13-64 get tested at least once for HIV as a routine part of medical care, and that gay and bisexual men and others at high risk get tested at least once a year. HIV testing is the only way to identify the nearly one in eight Americans currently living with HIV who are unaware of their infection and may be unknowingly transmitting the virus to others.

Knowledge of HIV status is empowering. When people test negative, they are in a better position to assess – and modify – their risk behaviors to help them stay uninfected. When people learn they are infected, research shows they take steps to protect their own health and prevent transmission to others. Linkage to care after a positive test helps ensure people receive life-saving medical care and treatment and helps reduce their risk of transmitting HIV (see "Treatment as prevention" below).

Proven HIV Prevention Methods

- HIV testing and linkage to care
- HIV medications
- Access to condoms
- Prevention programs for people with HIV and their partners
- Prevention programs for people at high risk for HIV infection
- Substance abuse treatment and access to sterile syringes
- STI screening and treatment

Biomedical Prevention Methods

Antiretroviral medications used to treat HIV can also be used to prevent it:

Treatment as prevention for people with HIV: Treating people with HIV lowers the amount of virus in their bodies and can dramatically reduce their risk of transmitting HIV to others. In fact, a landmark clinical trial in 2011 showed that people with HIV who began taking anti-HIV medications early (before their immune systems were significantly weakened) experienced a 96 percent reduction in their risk of transmitting HIV to sexual partners. This is why the continued expansion of HIV testing remains a primary prevention strategy for CDC – so that people who are infected with HIV can quickly be linked to care and can begin treatment.

Pre-exposure prophylaxis (PrEP): With PrEP, people who are not infected with HIV take a daily dose of antiretroviral medication to lower their risk of acquiring HIV through sexual activity by more than 90 percent – or from injection drug use by more than 70 percent. Studies show the level of protection is strongly related to the level of adherence to the daily regimen. PrEP has an important role in HIV prevention, and demonstration projects and open-label studies are underway to determine how best to implement PrEP programs efficiently and cost-effectively.



Post-exposure prophylaxis (PEP): When started promptly after exposure to HIV, antiretroviral medications can reduce the risk of infection. For example, a nurse accidentally stuck with a needle that may have been in contact with HIV-infected blood can reduce the risk of infection by completing a four-week course of medications. PEP can also help reduce the risk of infection among those who have been exposed to the virus through sexual behavior, injection drug use or other routes

Preventing mother-to-child transmission: Administering antiretroviral medications to HIV-infected pregnant women and their newborns significantly reduces the risk of HIV transmission to infants during pregnancy, labor and delivery, and breastfeeding.

Access to Condoms

When used consistently and correctly, latex condoms are highly effective in preventing sexual transmission of HIV – but for condoms to work, they need to be available and accessible to those living with or at risk for HIV infection. Research has shown that increasing the availability of condoms is associated with significant reductions in HIV risk.

Prevention Programs for People at High Risk for HIV Infection

Interventions for people who are at high risk of HIV infection can reduce risk behavior and can play an important role in many comprehensive prevention strategies.

Behavior change programs delivered by health care providers, peers and others have been shown to significantly reduce risk behaviors among people diagnosed with HIV to help ensure they do not transmit the virus to others. Partner services can also reduce the spread of HIV by confidentially identifying and notifying partners who may have been unknowingly exposed to HIV, and linking them to screening, prevention and care services.

Effective substance abuse treatment that helps people stop injecting drugs eliminates the risk of HIV transmission through needle sharing and has also been shown to reduce risky sexual behaviors. Additionally, increasing the availability of sterile syringes is associated with significant reductions in HIV risk.

STI Screening and Treatment

Sexually transmitted infections (STIs) increase an individual's risk of acquiring and transmitting HIV, and STI treatment may reduce HIV viral load. Therefore, STI screening and treatment may reduce risk for HIV transmission.

Research Continues

Scientists continue to investigate additional urgently needed HIV prevention strategies, including topical gels and rings that could interrupt transmission during sex and an effective HIV vaccine.

Results from several prevention studies reported in 2016 include data from clinical trials that show the potential for vaginal rings containing an experimental drug to prevent HIV transmission. Another study suggested that women may need more PrEP in gel form than men.

In 2009, researchers also reported the first evidence that an HIV vaccine could have a modest effect in preventing HIV infection. While the vaccine's effectiveness was too low to support real-world use, the trial has provided valuable data on certain antibodies that may play a role in decreasing the risk of HIV infection. Those findings are the basis for a new vaccine research trial, launched in 2015.

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