

Drug Abuse and the Link to HIV/AIDS and Other Infectious Diseases

What Is HIV/AIDS?

The human immunodeficiency virus (HIV), which causes acquired immunodeficiency syndrome (AIDS), is a virus that lives and multiplies primarily in white blood cells (CD4⁺ lymphocytes), which are part of the immune system. HIV ultimately causes severe depletion of these cells. An HIV-infected person may look and feel fine for many years and may therefore be unaware of the infection. However, as the immune system weakens, the individual becomes more vulnerable to illnesses and common infections.

Over time, a person with untreated HIV is likely to develop AIDS and succumb to multiple, concurrent illnesses. Because HIV/AIDS is a condition characterized by a defect in the body's natural immunity to diseases, infected individuals are at risk for severe illnesses that are not usually a threat to anyone whose immune system is working properly.

Behaviors associated with drug abuse, such as sharing drug injection equipment and/or engaging in risky sexual behavior while intoxicated (from drugs or alcohol), have been central to the spread of HIV/AIDS since the pandemic began more than 25 years ago.

As yet, there is no cure for AIDS, and there is no vaccine to prevent a person

from acquiring HIV, although there are effective medications to treat HIV infection and help prevent the progression to AIDS.

How Is HIV/AIDS Spread?

HIV can be transmitted by contact with the blood or other body fluids of an infected person. In addition, infected pregnant women can pass HIV to their infants during pregnancy, delivery, and breastfeeding.

Among drug users, HIV transmission can occur through sharing needles and other injection paraphernalia such as cotton swabs, rinse water, and cookers. However, another way people are at risk for HIV is *simply by using drugs, regardless of whether a needle and syringe is involved*. Drugs and alcohol can interfere with judgment and can lead to risky sexual behaviors that put people in danger of contracting or transmitting HIV.

What is the Extent and Impact of HIV/AIDS?

HIV/AIDS has become one of the deadliest pandemics in human history, killing more than 25 million people around the world, including more than 500,000 Americans. Despite beneficial advances in treating HIV/AIDS, the pandemic is

far from over. The Centers for Disease Control and Prevention (CDC) estimates that 40,000 Americans become infected with HIV annually, many of whom are under the age of 25. Also, due to a number of complex and interacting biological, social, and economic factors, there are some populations that are at increased risk for HIV/AIDS.

For example:

- Although African-Americans constitute about 13 percent of the U.S. population, they accounted for nearly half of the total HIV/AIDS diagnoses in 2005.
- Hispanics made up about 13 percent of the population in 2006, yet they accounted for 18 percent of new HIV/AIDS diagnoses reported in the 35 areas with long-term, confidential name-based HIV reporting in the United States.
- African-American women accounted for 64 percent of female HIV diagnoses in 2005.
- In 2005, HIV infection was the leading cause of death for African-American women aged 25–34 and for African-American men of all ages; it was also the fourth leading cause of death among Hispanic men and women, aged 35–44.
- Men having sex with other men (MSM) remain the largest transmission category.

Furthermore, CDC estimates that about one-fourth of the HIV-infected persons in the United States are unaware of their

infection. Not only are these infected individuals at high risk for transmitting HIV to others, but they are also not taking advantage of effective medical treatments for HIV that can reduce AIDS-related illnesses and slow disease progression.

Is HIV/AIDS Preventable?

Early detection can help prevent HIV transmission. Research indicates that routine HIV screening in health care settings among populations with a prevalence rate as low as 1 percent is as cost effective as screening for other conditions such as breast cancer and high blood pressure. These findings suggest that HIV screening can lower health care costs by preventing high-risk practices and decreasing virus transmission.

For drug abusing populations, cumulative research has shown that comprehensive HIV prevention—drug abuse treatment, community-based outreach, testing and counseling for HIV and other infections, and HIV treatment—is the most effective way to reduce the risk of blood-borne infections.

Combined pharmacological and behavioral treatments for drug abuse have a demonstrated impact on HIV risk behaviors and acquisition of HIV infection. For example, recent research showed that when behavioral therapies were combined with methadone treatment, about half of the study participants who reported injection drug use at intake reported no such use at study exit, and over 90

percent of all participants reported no needle sharing at study exit. Although these findings show great promise for achieving reductions in HIV risk behaviors, studies are now underway to improve the long-term effectiveness of such interventions.

Is HIV/AIDS Treatable?

Since the mid-1990s, the lives of people with HIV/AIDS have been prolonged and symptoms decreased through the use of highly active antiretroviral therapy (HAART). HAART is a customized combination of different classes of medications prescribed for individual patients based on such factors as their viral load, CD4⁺ lymphocyte count, and clinical symptoms.

Behavioral treatments for drug abuse have shown promise for enhancing patient adherence to HAART. Interventions aimed at increasing HIV treatment adherence are crucial to treatment success, but they usually require dramatic lifestyle changes to counter the often irregular lifestyle created by drug abuse and addiction. Adequate medical care for HIV/AIDS and related illnesses is also critical to reducing and preventing the spread of new infections.

What Other Infectious Diseases are Associated with HIV/AIDS?

Besides increasing their risk of HIV infection, individuals who take drugs or engage in high-risk behaviors associated

with drug use also put themselves and others at risk for contracting or transmitting hepatitis C (HCV), hepatitis B (HBV), tuberculosis (TB), as well as a number of sexually transmitted diseases, including syphilis, chlamydia, trichomoniasis, gonorrhea, and genital herpes. Injecting drug users (IDUs) are also commonly susceptible to skin infections at the site of injection and to bacterial and viral infections, such as bacterial pneumonia and endocarditis, which, if left untreated, can lead to serious health problems.

HCV, HBV, and HIV/AIDS

HCV, the leading cause of liver disease, is highly prevalent among IDUs and often co-occurs with HIV; HBV is also common among drug abusers. These are two of several viruses that cause inflammation of the liver. Chronic infection with HCV or HBV can result in cirrhosis (liver scarring) or primary liver cancer. A vaccine does not yet exist for HCV; however, HBV infection can be prevented by an effective vaccine.

HCV is highly transmissible through blood-borne exposure. NIDA-funded studies have found that, within 3 years of beginning injection drug use, most IDUs contract HCV—and up to 90 percent of HIV-infected IDUs may also be infected with HCV. The effects of HCV infection on HIV disease are not well understood; however, the course of HCV infection is accelerated in dually infected individuals, with higher rates of progressive liver disease and death in those

with both HIV and HCV than in those with HCV alone.

While treatment can be effective, management of co-occurring HIV and HCV presents certain challenges. HIV therapy can slow progression of liver disease in co-infected persons, but treatment response rates to HCV therapy in these individuals are reduced. Assessment of stage of disease is important to the timing of therapy initiation for both infections, as is long-term medical followup in order to improve quality of life.

TB and HIV/AIDS

TB is a chronic and infectious lung disease. Through major public health detection and treatment initiatives, its prevalence declined in the United States for several years—in 2005, 14,000 cases were reported, the lowest number since surveillance began in 1953. However, the decline of TB prevalence has slowed by half in recent years, and TB infection remains intertwined with HIV/AIDS and drug abuse.

People with latent TB infection do not have symptoms, may not develop active disease, and cannot spread TB.

However, if such individuals do not receive preventive therapy, they may develop active TB, which is contagious. NIDA research has shown that IDUs have high rates of latent TB infection. Because HIV infection severely weakens the immune system, people infected with both HIV and latent TB are at increased risk of developing active TB and becoming highly infectious. Effective treatment for HIV and TB can reduce TB/HIV-associated disease and the risk of transmission to others.

To learn more about the link between drug abuse and HIV/AIDS, visit www.nida.nih.gov/DrugPages/HIV.html.

To learn more about resources for HIV/AIDS, HCV, and TB information, or for testing and referral in your geographic area, call 1-800-CDC-INFO (1-800-232-4636), or visit www.cdc.gov/hiv or www.cdc.gov/ncidod/diseases/hepatitis.

To find publicly funded treatment services for drug abuse and addiction in your state, visit www.findtreatment.samhsa.gov.