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AIDS Bulletin

James K. Stewart

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The cause, transmission, and incidence of AIDS

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What is AIDS?

AIDS (Acquired Immune Deficiency Syndrome) is a disease that undermines the body's immune system, making individuals susceptible to infections and diseases not generally life-threatening to persons with normal immune systems. AIDS also causes disorders of the central nervous system.

The medical facts

AIDS is caused by a virus known as Human Immunodeficiency Virus

(HIV). HIV infects and destroys certain white blood cells, thereby undermining the body's ability to combat infection. One can be infected with HIV for years without ever developing symptoms of AIDS. Infected persons can transmit the virus even though they may not have symptoms of AIDS.

There is presently no cure for AIDS. Most patients die within 2 years of being diagnosed with end stage AIDS and very few live more than 3 years. Despite progress in understanding the AIDS virus, the National Academy of

Sciences concludes that "development of therapy for HIV infection will most likely be a difficult and long-term process with no presently available guarantees of success." The probability of a vaccine becoming available in the next 5 to 10 years is said to be "low."

The body may react to HIV infection in a variety of ways:

HIV infection without symptoms.

An HIV infected individual may have no symptoms of illness whatsoever for an extended period following infection. Infection is identified through a

From the Director

Acquired Immune Deficiency Syndrome—AIDS—has been called the most serious public health problem in the United States and worldwide today. Since it first appeared in 1981, there has been an enormous amount of uncertainty and fear about this fatal disease. Because they may be in contact with intravenous drug users and others at high risk for the disease, criminal justice professionals understandably are concerned about becoming infected with the AIDS virus while carrying out their duties.

Until a vaccine or cure for AIDS is found, education is the cornerstone of society's response to this deadly disease. Accurate information can help calm unwarranted fears about the

disease and its transmission, thus enabling criminal justice personnel to continue to perform their duties in a safe and professional manner.

Since 1985, the National Institute of Justice has worked with the Centers for Disease Control and other public health officials to provide important authoritative medical information about AIDS to criminal justice professionals.

Two special reports on AIDS—as it relates to corrections and law enforcement agency procedures—have been published and widely disseminated. This AIDS bulletin is the first in a new series designed to inform criminal justice professionals about the disease and its implications for criminal justice agencies. Given the importance of a sound understanding of the medical

facts about AIDS, this first AIDS bulletin reviews what is known to date about AIDS. Future bulletins will summarize agency policies relating to AIDS, education programs, and legal and labor relations issues.

President Reagan has said that the AIDS crisis "calls for urgency, not panic... compassion, not blame... understanding, not ignorance." The National Institute of Justice is working to ensure that criminal justice professionals have the accurate information they need to understand and deal with the risks created by AIDS. Until medical science can bring this deadly disease under control, our best defense is a well-informed citizenry.

James K. Stewart
Director

blood test (called an ELISA test) that screens a person for antibodies to the AIDS virus. Antibodies are evidence of the immune system's attempt to fight off an infection. If the ELISA test finds antibodies to HIV, blood samples must be retested using the more accurate "Western Blot" test to confirm the original result.

Discovery of HIV antibodies—a positive test result—means that an individual was infected at some time in the past. The test cannot determine the date of infection or say with certainty whether the person remains infected. The Centers for Disease Control (CDC) recommends that persons who test positive for HIV be considered infected and capable of passing on the infection to others.

The blood test is used only to indicate whether a person has been infected with the virus. It cannot predict who will develop more serious forms of HIV infection or AIDS. Since AIDS was identified in 1981, estimates of the portion of infected persons who will become ill with the disease have steadily increased. An estimated 25 to 50 percent of infected persons will develop AIDS within 5 to 10 years of infection. With the long and uncertain incubation period of AIDS, the portion of infected persons who develop the disease may continue to rise.³

ARC (AIDS-Related Complex).

Patients who are shown to be infected with HIV and have some of the symptoms of HIV infection are generally considered to have AIDS-Related Complex or ARC. Such symptoms include persistent fever, weight loss, diarrhea, and swollen lymph nodes. Although these symptoms may be debilitating, they are generally not life threatening. To date, not all persons who have developed the symptoms of ARC have developed AIDS.

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The Assistant Attorney General, Office of Justice Programs, coordinates the criminal and juvenile justice activities of the following program Offices and Bureaus: National Institute of Justice, Bureau of Justice Statistics, Bureau of Justice Assistance, Office of Juvenile Justice and Delinquency Prevention, and Office for Victims of Crime.

AIDS. AIDS can only be diagnosed by a medical doctor. The Centers for Disease Control defines an AIDS patient as one who has these symptoms: HIV infection and one or more "opportunistic" diseases in the absence of all other known causes of immune system deficiency. Opportunistic diseases found in AIDS patients include infections such as a type of pneumonia (*Pneumocystis carinii* pneumonia), and several malignancies, including a skin cancer (Kaposi's sarcoma). Persons who die from AIDS die from such opportunistic diseases, not from AIDS itself.

How is the AIDS virus transmitted?

The AIDS virus is transmitted through exposure to contaminated blood, semen, and vaginal secretions. This occurs primarily through intimate sexual relations and needle-sharing activities. Transmission from infected mother to newborn infant has also occurred. It is not yet clear whether the HIV infection is transmitted before, during, or after the infant's birth. HIV has not been transmitted through other bodily fluids such as saliva or tears, nor is it transmitted through any form of casual social contact.

The AIDS virus can be transmitted through homosexual or heterosexual activities. As with any sexually transmitted disease, the risk of infection increases as the number of potential exposures increases. Those who are extremely active sexually, with numerous partners and partners not previously well-known to them, may be at higher risk of infection. Condoms provide substantial, though not absolute, protection from sexual transmission of HIV. Currently, blood-transmitted infection occurs primarily through needle-sharing by intravenous drug abusers. AIDS transmission has also been traced to blood transfusions

and to blood products given to hemophiliacs. However, the Nation's blood supply is now considered safe as a result of universal screening of donated blood and heat treatment of blood products. CDC estimates that only about 100 transfusion-associated infections will occur annually out of a total of 16 million units of blood transfused.⁴

Difficulty of transmission

HIV is difficult to transmit and is not very hardy when outside the body. It can be destroyed by heat, many common household disinfectants and detergents, and by washing with simple soap and water.

HIV infection is similar to Hepatitis-B virus infection; both are transmitted by exposure to contaminated blood and body fluids. However, Hepatitis-B is more easily transmitted than HIV infection.⁵ Infection control measures (such as precautions regarding contact with blood and other body fluids) designed to prevent Hepatitis-B transmission are considered by CDC to be more than sufficient to prevent HIV transmission.

"Casual contact"

HIV infection is not transmitted through "casual contact." A number of studies have confirmed that the AIDS virus is not spread, for example, by sneezing, coughing, breathing, hugging, handshaking, sharing eating and drinking utensils, using the same toilet facilities, or other forms of nonsexual contact or activity.⁶

Occupational contact

There is no evidence of AIDS transmission in schools, offices, churches, or other social settings. There are no documented cases of police officers, paramedics, correctional officers, or firefighters contracting HIV infection through performance of their duties.

Except for a very small number of cases of infection in health-care workers attributed to accidental needle sticks or other exposure to blood, there are no reports of HIV infection as a result of occupational contact.

Who has AIDS?

The Centers for Disease Control counted over 36,000 cases of AIDS in adults and infants in the United States through May 1987. More than 20,000 persons have died from AIDS.⁷ Public health officials estimate that 1 to 1.5 million individuals may be infected with the AIDS virus but show no symptoms. CDC predicts that there will be 270,000 AIDS cases diagnosed in the United States by the end of 1991.⁸

Over one-half (52 percent) of the total cases have been located in New York or California. New Jersey, Florida, and Texas collectively account for another 19 percent. AIDS cases are heavily concentrated in cities and major metropolitan areas.

Table 1

Demographic characteristics of AIDS victims (age, race, and sex)

A. Racial/ethnic group	Percent
White	61
Black	24
Hispanic	14
Other/Unknown	1
	100
B. Sex	
Male	93
Female	7
	100
C. Age group	
13-19	0*
20-29	21
30-39	47
40-49	21
Over 49	10
	99**

* The figure is actually 0.4%.

** Items do not add to 100% due to rounding.

Source: CDC, *AIDS Morbidity and Mortality Weekly Report*, June 1, 1987.

Table 2

Breakdown of confirmed AIDS cases by risk groups

Transmission category	Percent of all cases
Homosexual/bisexual males	66
Intravenous drug abusers	17
Homosexual males and IV drug abusers	8
Transfusion recipients	2
Hemophiliacs	1
Heterosexuals with a partner in one of the above risk groups	2
Persons born in countries where heterosexual transmission is the major route of HIV spread (e.g. Haiti)	2
Other/unclassified*	3
Total	99%**

* Includes patients with incomplete risk information (due to death, refusal to be interviewed, or inability to follow up on initial information), patients still under investigation, men reported only to have had heterosexual contact with a prostitute, and interviewed patients for whom no specific risk was identified. CDC believes that if full information was available it would be possible to assign these cases to other transmission categories.

** Items do not add to 100% due to rounding.

Source: CDC, *AIDS Morbidity and Mortality Weekly Report*, March 30, 1987.

Ninety-one percent of all AIDS victims have a history of either homosexual/bisexual activities and/or of intravenous drug abuse. Sixty-six percent of AIDS victims are known to be exclusively homosexual/bisexual males; 17 percent are IV drug abusers; and 8 percent have both of these characteristics. Tables 1 and 2 provide a detailed breakdown of the characteristics of AIDS victims.

Many public health officials believe that the portion of cases attributed to IV drug abuse is likely to grow dramatically in the next few years. Moreover, they believe the greatest potential for significant spread of infection to the heterosexual population is through infection of the sexual partners of IV drug abusers.

Notes

1. The virus was originally called Human T-cell lymphotropic virus Type III (HTLV-III) or lymphadenopathy-associated virus (LAV).
2. Institute of Medicine, National Academy of Sciences, *Confronting AIDS: Directions for Public Health, Health Care, and Research* (Washington, 1986), pp. 219, 229.

3. *Confronting AIDS*, pp. 44, 91.

4. *Confronting AIDS*, pp. 54.

5. This conclusion is based on a comparison of studies of health-care workers exposed to the Hepatitis-B virus through needle sticks and other sharp instrument injuries.

6. G.H. Friedland et al., "Lack of Transmission of HTLV-III/LAV Infection to Household Contacts of Patient with AIDS or AIDS-Related Complex with Oral Candidiasis," *New England Journal of Medicine* 1986, 314:344-349; Thomas Peterman (CDC), Presentation at 10th National Conference on Correctional Health Care, Washington, D.C., October 31, 1986.

7. CDC, *AIDS Morbidity and Mortality Weekly Report*, June 1, 1987.

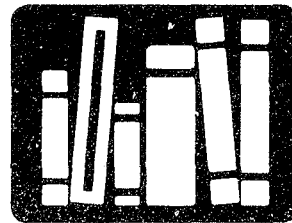
8. CDC, *AIDS Morbidity and Mortality Weekly Report*, June 1, 1987; W.M. Morgan et al., "AIDS: Current and Future Trends," *Public Health Reports* 1986, 101:459-465; *Confronting AIDS*, pp. 69-70.

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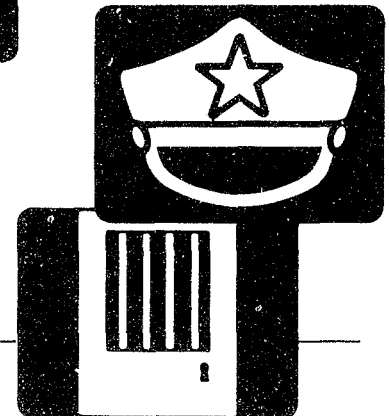
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*Attorney General
Edwin Meese III
announces the*



NIJ AIDS Clearinghouse



Now criminal justice professionals can call a central resource with their questions and concerns about AIDS.

The Attorney General has asked the National Institute of Justice to establish a clearinghouse that criminal justice professionals can use to obtain current information on AIDS.

The number is 301-251-5500 and is operated by the National Criminal Justice Reference Service.

Criminal justice professionals often deal with individuals who exhibit AIDS high-risk behavior, particularly intravenous drug use.

And these professionals need appropriate procedures and information to protect against the threat and avoid overreacting.

Now they can call the Clearinghouse and get the facts about AIDS as it relates to their jobs.

Call 301-251-5500 for more details about the NIJ AIDS Clearinghouse.

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