

Facts about AIDS

2738

September 1983

The number one priority of the U.S. Public Health Service today is a new disease called Acquired Immune Deficiency Syndrome, or AIDS. Since AIDS was first reported in the United States, in mid 1981, the Public Health Service has received reports of more than 2,200 cases with a case-mortality rate of almost 40 percent.

AIDS is a serious threat to the health of several specific groups in the American population, a public health problem that merits the highest level of concern. Today, researchers within the Public Health Service and in many major medical institutions are working to identify the cause of AIDS and to develop effective treatments and preventive measures.

Since it was first discovered in 1981, medical experts have learned a great deal about AIDS. Here, in question-and-answer form, is the most accurate information available about the nature and extent of AIDS, the populations at risk of contracting AIDS, the actions that individuals can take to reduce the spread of AIDS, and the many research and related activities now underway in the Public Health Service.

What is AIDS?

AIDS is a serious condition characterized by a specific defect in natural immunity against disease. People who suffer from AIDS become susceptible to a variety of rare illnesses. These illnesses are not found in people whose immune system is normal. If they occur, they are relatively mild. The two diseases most commonly found in AIDS patients are *Pneumocystis carinii* pneumonia, a lung infection caused by a parasite, and Kaposi's sarcoma, a rare form of cancer or tumor of the blood vessel walls.

What are its symptoms?

Many AIDS patients do recall having some symptoms before being diagnosed. Some of these early signs are similar to those of many other illnesses such as cold or flu. These symptoms may include fever, night sweats, swollen glands (enlarged lymph nodes)—in neck, armpits, or groin,—unexplained weight loss, yeast infections, diarrhea, persistent coughs, fatigue and loss of appetite. Anyone with prolonged, persistent symptoms should consult a physician.

Why is AIDS called an epidemic?

AIDS is not like polio or measles. An epidemic occurs when a disease strikes 1 percent or more of the population, or when it occurs above its normal, background level. Although AIDS fits this definition, it is not as widespread or as easy to catch as other diseases have been in the past.

Who gets AIDS?

Nearly 95 percent of the AIDS cases have occurred in people belonging to one of four distinct groups:

- Sexually active homosexual and bisexual men with multiple sex partners. This group accounts for about three-fourths of all of the reported cases;
- Present or past abusers of intravenous drugs, 17 percent;
- Haitian entrants into the United States, 5 percent;
- Persons with hemophilia, .8 percent.

The PHS has examined all available information on recent Haitian entrants and considers them at high risk of acquiring AIDS. These risk groups have been es-

tablished for medical and surveillance purposes, to help in diagnosis and to track the occurrence of AIDS.

The failure to identify cases among the thousands of friends, relatives and co-workers of AIDS patients provides further assurance that routine contact of others' no risk.

What causes AIDS?

Scientists have not discovered the cause of AIDS, but they suspect that it is caused by a virus, possibly one present in the blood and/or body fluids, such as semen. AIDS appears to be primarily transmitted through sexual contact. The majority of cases (over 70%) have been in homosexual or bisexual men with multiple sex partners.

AIDS also has been found in intravenous drug abusers, leading investigators to suspect that AIDS can be transmitted by blood on contaminated needles that have been shared.

The best evidence for transmission of AIDS through blood products is the occurrence of AIDS in a small number of hemophilia patients receiving large amounts of Factor VIII, a clotting substance in blood.

Some patients cannot be placed into high-risk groups, but researchers believe that most of these are linked by close physical contact to AIDS victims. Some of the women who have developed AIDS have been steady sex partners of men with AIDS or men who are at high risk for AIDS, or they have a history of drug abuse. Children who have developed a syndrome similar to AIDS may have been exposed to AIDS before or during birth.

What are some theories about viruses linked to AIDS?

Researchers have reported finding evidence of several viral infections in the blood of AIDS patients, including those of cytomegalovirus (CMV), Epstein-Barr virus (EBV) and human T-cell leukemia virus (HTLV).

However, scientists are still uncertain if these viruses play a role in causing AIDS, or if they appear after the patient's immune system has been weakened by AIDS.

How contagious is AIDS?

No cases have been found to date where AIDS has been transmitted by cas-

ual or even close daily contact with AIDS patients or persons in the high risk groups. For instance, family members other than sex partners of AIDS victims have not developed AIDS. Ambulance drivers, police, and firemen who have offered emergency assistance to AIDS patients have not fallen ill. Nurses, doctors, and health care personnel have not developed AIDS from exposure to AIDS patients.

Although other diseases may be transmitted through saliva, there is no evidence that AIDS is transmitted by sweat or saliva.

However, health care providers and laboratory workers should follow careful procedures when handling any blood and tissue samples from patients with potentially transmissible diseases, including AIDS.

How do persons with hemophilia get AIDS?

Many persons with hemophilia require extensive use of Factor VIII, a blood product that helps blood to clot. Without effective clotting, even minor cuts can cause prolonged and dangerous bleeding. For persons with hemophilia, the development of Factor VIII has been an important medical advance.

Factor VIII is extracted and concentrated from pooled blood plasma donated by thousands of people, and it appears that in some rare instances the plasma has carried AIDS.

Recently, the FDA approved a new heat treatment similar to pasteurization for treating blood products such as Factor VIII. This procedure will reduce the likelihood that blood products will be contaminated with infectious agents like hepatitis B and, possibly, AIDS.

Can the hepatitis vaccine spread AIDS?

Concern has been expressed about the safety of hepatitis B vaccine (Heptavax-B) because the vaccine is made from the plasma of carriers of hepatitis B, many of whom may be in the same populations at high risk for AIDS. However, the procedures used in the manufacture of hepatitis B vaccine are effective in inactivating viruses from every known group. Therefore, the risk of vaccine-induced infection by any transmissible agent that might cause AIDS is extremely remote, and is far outweighed by the potential benefit from hepatitis B vaccine to individuals at high risk for hepatitis B virus infection.

Is there a danger of contracting AIDS from donating blood?

Absolutely not. Reputable blood banks and other blood collection centers use sterile equipment and disposable nee-

dles. Thus, there is no chance that a needle used for one blood donor would be used for another. The need for blood is always acute, and people who are not in the high-risk groups are urged to continue to donate blood as they have in the past. The chance of contracting AIDS through a blood transfusion has been estimated to be one in a million.

Is there a test for AIDS in blood?

There is as yet no test to detect AIDS in blood. Public Health Service agencies are examining blood products in order to make rapid progress in developing a screening test for AIDS. However, a totally satisfactory test may not be possible until the causative agent of AIDS is identified.

How is AIDS treated?

Some AIDS patients with Kaposi's sarcoma are being treated experimentally with forms of interferon—a virus-fighting protein produced by the body. While it has had some success against Kaposi's sarcoma, interferon treatment does not appear to restore immune function. There are other treatments, such as radiation, drugs, and surgery for many of the illnesses suffered by AIDS patients. Many biomedical investigators continue to work on methods for treating the specific immune defects found in AIDS patients.

Limited trials of a substance called interleukin-2, which scientists believe may help fight the severe deficiencies seen in the immune systems of AIDS patients, will begin soon. Preliminary laboratory results are promising, but much more work remains to be done.

Can AIDS be prevented?

The Public Health Service has recommended that the following steps be taken to prevent spread of this disease:

- Sexual contact should be avoided with persons known or suspected of having AIDS.
- Sexual promiscuity is a risk factor. Avoid having multiple sexual partners and avoid sexual contact with others who do.
- Members of high-risk groups should refrain from donating blood.
- Physicians should order blood transfusions for patients only when medically necessary. Health workers should use extreme care when handling hypodermic needles.

In addition, the FDA has advised blood and plasma collection centers to provide information on AIDS to potential donors, asking those in high-risk groups to refrain from donation. Personnel have been advised to learn the early warning signs of AIDS.

What is the Public Health Service doing about AIDS?

The Public Health Service has declared AIDS a top priority. The Centers for Disease Control in Atlanta has mobilized personnel and laboratories to establish a surveillance system to conduct epidemiologic investigations in an attempt to identify risk factors for AIDS. It also is carrying out extensive testing on blood and tissue from AIDS victims to find the specific cause of the disease.

At the National Institutes of Health in Bethesda, Maryland, 6 of the 11 research components are involved in multidisciplinary studies on AIDS in NIH laboratories and clinics. These studies are aimed at determining the causative agents of AIDS, evaluating the natural history of the disease, characterizing the immune deficiency of the patients, improving treatment for AIDS patients, and establishing the disease in animal models.

Research grants have been awarded by NIH to investigators at medical and research institutions around the country. These studies are aimed at evaluating various treatment regimens, investigating the underlying cause of the disorder, studying the AIDS-associated diseases such as Kaposi's sarcoma and opportunistic infections, developing an animal model for the disease, and developing a "surrogate" test for AIDS that may lead to a method for screening blood prior to transfusion.

In addition to new research activities on AIDS, many on-going basic research studies can yield information about the underlying immunologic defect involved in AIDS and about the diseases that attack AIDS victims.

The Food and Drug Administration is involved in several areas of research with NIH. Other FDA work is aimed at increasing the safety of blood and blood products.

What is the hope for the future?

Scientific research often does not provide quick solutions to diseases as complex as AIDS. But given the scope and sophistication of current investigative efforts, there is every reason to hope—and expect—that they will lead to rapid progress against this devastating illness.

Meanwhile, the preventive measures mentioned earlier can help reduce the risk of contracting or transmitting AIDS.

Is there one place where up-to-date information can be obtained?

The Public Health Service has established a toll-free AIDS hotline. The number is 800-342-AIDS. Collect calls will be accepted from Hawaii and Alaska on (202) 245-6867. Calls in Washington, D.C. should be to 646-2182.