

- Neuropathy - Numbness, tingling and pain in extremities
- Psychological and Emotional - Headaches, dizziness, anxiety, paranoia, hallucinations
- Bone Marrow Suppression - Anemia, low red cell, white cell and platelet counts
- Others - Muscle aches and weakness, alterations in taste, Lipodystrophy (body fat redistribution into "buffalo hump" and abdominal paunch), elevated cholesterol and triglycerides leading to cardiac disease, glucose intolerance, lactic acidosis.

People with HIV should be advised to report side effects - even those that seem minor - to their healthcare providers. The likelihood of drug interactions and the possibility of developing drug resistant HIV or life-threatening hypersensitivity or lactic acidosis make it important to seek expert advice. For more details, see www.sfaf.org/treatment/beta/b36/b36adverse.html

Other Drugs

Drugs are also available for the prevention and treatment of opportunistic conditions particularly when the CD4+ lymphocyte count falls below 200/mm³. Examples include Trimethoprim-sulfamethoxazole (Bactrim, Septra and other brands) and Dapsone, for PCP, the most common opportunistic infection, as well as Toxoplasmosis; Azithromycin and Clarithromycin to prevent MAC (Mycobacterium Avium Complex); and vaccines against Hepatitis A and B as well as bacterial pneumonias. Prophylaxis and treatment related to latent and active tuberculosis may need to be adjusted in immunocompromised individuals or because of interactions of TB medications with antiretroviral drugs, and should be done with expert consultation. Guidelines for prophylaxis against opportunistic infections as well as recommendations for post-exposure treatment to prevent HIV infection can be found at the CDC website: www.cdc.gov, and assistance with TB care may be obtained by calling the Florida TB Hotline at 1-800-4TB-Info.

Adherence/Resistance

Adherence to medication regimens is critical in HIV infection because the virus has a very high replication and mutation rate. In the presence of sub-therapeutic drug levels, viral mutations may emerge that will lead to drug resistance. Also, HIV develops broad cross-resistance, especially to the most potent drugs, protease inhibitors and nonnucleoside reverse transcriptase inhibitors. Thus, nonadherence to one regimen can sharply limit choices of alternative combinations. It is now possible to test for HIV resistance to antiretrovirals, either by determining the genetic sequences of the virus (genotyping) or measuring specific drug activity against the virus (phenotyping). The tests are expensive,

\$400-\$800, and imperfect but can assist in designing a new antiretroviral regimen in the presence of viral resistance.

Drug-Drug Interactions

In addition to the adjustments described above for TB medications, studies have shown interactions involving antiretrovirals with oral contraceptives, over-the-counter medications, alternative and herbal therapies, methadone, "street" or "party" drugs, and others. For example, methadone levels are significantly reduced in the presence of certain protease inhibitors and vice-versa so that dosages must be adjusted, and cocaine can increase HIV replication 20-fold. For information on interactions between antiretrovirals and prescription drugs, check the DHHS treatment guidelines at www.hivatis.org. Regarding methadone interactions, see www.harmreduction.org/issues/health/haartmeth/allmeds.html. Regarding antiretroviral interactions with alternative treatments and non-prescription drugs, see such sites as www.bcpwa.org/issue5/badmix.htm and www.sweetlove.be/br_hivdrugs.html

Other websites with useful information on treatment issues include: www.projinf.org, www.gmhc.org, and hivinsite.ucsf.edu/InSite.

Always consult with a medical professional about the impact of any other drug(s) while taking HIV medications.

For clinicians seeking information about all aspects of antiretrovirals and other HIV/AIDS care, the Florida/Caribbean AIDS Education and Training Center (AETC) maintains a toll-free warmline at 1-866-4AETC-DOC.

Epidemiology Of AIDS

Epidemiology is the study of disease in humans, its cause and where it occurs. To study HIV/AIDS, information on the number of cases which have occurred and the demographics of those individuals with the disease must be collected. This information represents the statistics associated with this disease. AIDS is a reportable condition in Florida and in the US. During the 1996 legislative session, the Florida Legislature passed a law allowing HIV infection to become a reportable condition in mid-1997. Most states in the US *do* require the reporting of HIV, however, CDC does not require states to report HIV at the federal level.

Statistics

Statistical information can be collected and presented in many different ways. It is important to look closely at the reported number of cases and case rates to understand what they mean. Reported cases of AIDS are often shown as cumulative numbers (the

total number of AIDS cases reported since data were first collected in 1981). For example, between 1981 and December 2001, there were 816,149 cumulative adult, adolescent and pediatric cases of AIDS reported in the US. In Florida, between 1981 and 2002, there were 90,837 cumulative reported cases. Fifty-six percent (56%) of the cumulative cases reported in the U.S., and fifty-five percent (55%) of the cumulative cases in Florida are deceased.

Adult and adolescent cases are reported as one category and pediatric cases (12 years and younger) are reported as another. All 50 states and U.S. territories (Washington D.C., Guam, Puerto Rico, U.S. Virgin Islands and Pacific Islands) report to CDC monthly, however CDC only publishes cumulative data twice a year (June and December). Data are reported by age (adult/adolescent or pediatric), exposure category (adults only), race/ethnicity and sex.

Case rates are usually reported as number of cases per 100,000 population. Case rates are used to evenly compare populations that have a lot of reported cases with populations that have reported few cases. For example, there were 26,040 cumulative cases of AIDS reported in Miami-Dade County (Miami) from 1981 through 2002. This is a case rate of 1156 AIDS cases per 100,000 population. There were 1,053 cumulative cases of AIDS reported in Escambia County (Pensacola) from 1981 through 2002, for a case rate of 358 AIDS cases per 100,000 population. Also, there were 26 cases of AIDS reported in Washington County (Chipley) from 1981 through 2002, for a case rate of 124 AIDS cases per 100,000 population.

This example shows a comparison of case rates between large, medium and small population areas, based upon 2000 census data. These cumulative totals do not include the Department of Corrections cases either diagnosed and/or reported by any Department of Correction's institution located in that county.

The "Florida Division of Disease Control Monthly Surveillance Report" is published by the Department of Health, Division of Disease Control, and is available through the Area AIDS Offices located around the state and can be found on the Department of Health website (www.doh.state.fl.us).

Worldwide

Nearly every country in the world has reported at least one AIDS case. Several countries south of the Sahara Desert in Africa have reported a significant number of cases compared to the population in other regions. Some of these countries are Kenya, Tanzania, Uganda and Zaire. Many researchers believe the first AIDS cases may have occurred in this part of the world, because of the high number of reported cases and the presumed high number of unreported cases.

HIV infection is not always tracked, but several seroprevalence studies have been conducted to determine the prevalence of HIV in a population. These studies show an unusually high proportion of positives in specific groups of people. For example, studies done in the Democratic Republic of Congo (formerly Zaire) and Thailand showed prostitutes to have a high HIV positivity rate. There were some hospitals in Central Africa, where a high percentage of persons admitted for reasons other than HIV, had a high positivity rate.

Large numbers of AIDS cases have been reported from places like Thailand, France, South Africa and Brazil. During the *early* 1980s, many countries, including the US, started reporting AIDS cases to the World Health Organization (WHO). However, countries with the largest populations, such as Russia, China and India, did not report AIDS cases to the WHO until the *late* 1980s. The highest number of AIDS cases has been reported from the United States, with heterosexual females representing the fastest growing group of newly reported cases. For current epidemiologic AIDS facts sheets on different countries, visit the United Nations Programme on HIV/AIDS website at www.unaids.org/hivaidsinfo.

In most parts of the world, AIDS cases are reported in women at about the same rate they are reported in men. In the US and several European countries, AIDS cases in men outnumber cases reported in women by about five to one. Worldwide, AIDS is primarily considered a sexually transmitted disease, with a small percentage of cases associated with sharing drug needles. In the US, about one out of every four AIDS cases is associated with injecting drug use and sharing needles.

National

Approximately one-third of all the AIDS cases in the world, reported to the WHO, come from the US. This does not necessarily mean that one-third of all AIDS cases in the world have *occurred* in the US. The reporting system in the US is more technologically advanced than many other countries, particularly developing countries, where most of the actual cases that occur may not be reported.

In the US, surveillance activities are conducted by public health workers who make certain AIDS cases are being reported. These activities include, but are not limited to, visiting doctor's offices, hospitals and other health care facilities. In a developing country such as Kenya, many people have died from AIDS-related illnesses in rural areas without ever seeing a city doctor. A case such as this would probably go unreported.

Nearly half of all the AIDS cases in the US are among men who have had sex with men. The high proportion of these cases can probably be attributed to the frequency of sexual

encounters (particularly unprotected anal sex) and the number of partners that many of these individuals had in the early days of this epidemic.

More than half of all cumulative reported AIDS cases nationally occur in racial/ethnic minorities. According to published studies, poverty and other social and economic factors probably contribute to much of this discrepancy. Regarding cumulative *pediatric* cases, nine out of every ten reported cases in children are black or Hispanic. Current nationwide statistics can be found at the Centers for Disease Control and Prevention's website: www.cdc.gov. You may also call the Florida HIV/AIDS Hotline for more information at 1-800-FLA-AIDS.

Florida

For several years, Florida has reported approximately ten percent of all the AIDS cases in the US, but has only six percent of the US population. Of the cumulative number of reported cases of AIDS in the US, Florida is third behind New York and California. Texas and New Jersey round out the top five. In case rate per 100,000 population, Florida is second behind New York. In numbers of reported pediatric cases of AIDS (under 13 years of age), Florida is second behind New York. In 2001, HIV/AIDS was the fourth leading cause of death for Floridians 25-44 years of age and the leading cause of death for black males and black females in that same age group.

Miami-Dade County reports about one-third of all AIDS cases in Florida, yet has about fourteen percent of the state population. The four most southeastern counties (Miami-Dade, Broward, Palm Beach and Monroe) report approximately 55% of Florida's AIDS cases.

NOTE: The Department of Health local Area HIV/AIDS Office or county health department may be contacted for information on the latest statistics. You may also go to the DOH website at: www.doh.state.fl.us.

Legal And Ethical Issues

Legal

The Florida Omnibus AIDS Act became law in 1988 and was subsequently amended and revised in 1998. This law gives the Florida Department of Health the authority to make specific rules based on the AIDS law. What follows is a brief description of Florida's HIV/AIDS law.

I. Education

- A. Education on HIV infection is required for a wide spectrum of health care providers.
- B. The Florida law establishes the educational requirement. Individual licensing boards establish specific requirements for professions.
- C. Health care providers must spend a specified number of contact hours learning about HIV infection.

II. Counseling and Testing

- A. Individuals or clinics that provide HIV testing to identify HIV infection in individuals must first be registered with the DOH. (This requirement does not apply to providers who perform or provide HIV testing services which are incidental to the primary diagnosis or care of a patient). For more information on becoming a confidential or anonymous testing site, call the Department of Health, Bureau of HIV/AIDS at (850) 245-4424 or SunCom 205-4424.
- B. Informed Consent
 1. Persons tested for HIV must be informed about the HIV antibody test and agree to be tested. Informed consent must include information on the fact that, if a person tests positive for HIV antibodies, that the test result will be reported to the Department of Health and that confidentiality laws apply to protect the client's privacy. The client should also be informed that anonymous (no name used) testing is also available.
 2. The test subject must give his/her informed consent and it must be documented in the patient medical record. With anonymous testing, there should be no documentation in the confidential medical record that such testing occurred.

3. Florida law requires those who perform HIV tests in county health departments and other registered testing sites to obtain the informed consent of the test subject and make private counseling available both before and after the test.
- C. Except in a few limited situations, positive test results must be confirmed with a supplemental test prior to informing the test subject of a positive result.
1. Current law permits preliminary HIV test results to be released to the test subject when decisions about medical care or treatment cannot await the results of a confirmatory test.
 2. Positive preliminary HIV test results shall not be characterized to the patient as a diagnosis of HIV infection. Confirmatory testing must be conducted as a follow-up to a positive preliminary test.
- D. Pregnant women are to be offered HIV testing as a standard of care at the initial prenatal care visit and again at 28-32 weeks gestation. If she declines testing, it should be documented in her medical file.
- E. Effective July 1, 2002, the Florida Department of Corrections (DOC) will perform an HIV test on inmates (if their HIV status is unknown) before they are released from prison. The law allows for certain exceptions, such as inmates who are known to be HIV positive or who have been tested within the previous year. An inmate who is released due to an emergency is also exempt from mandatory testing. The DOC is required to notify the Department of Health and county health department where the HIV-positive inmate plans to reside following release. The DOC is also required to provide special transitional assistance to HIV-positive inmates which includes: education on preventing the transmission of HIV to others; the importance of receiving care and treatment; a written discharge plan that includes referrals to and contacts with county health department and local community-based organizations; and a 30 day supply of all HIV/AIDS-related medications that the inmate is taking prior to release;
- F. Confidentiality
1. Release of results to a third party must be specifically authorized by the test subject or his/her legal representative, or court order, or on a need-to-know basis (ex: foster parents of an HIV-infected child.)

2. When performing a confidential HIV antibody test, positive results are reportable to the Department of Health. Anonymous HIV testing (no name used) is offered in each county by the health departments and, in some counties, by community-based organizations.
- G. It is illegal to donate blood or human tissue if you know you are infected with HIV.
- H. Health care practitioners regulated through the Department of Health, Division of Medical Quality Assurance are permitted (but not required) to disclose the test results of an infected patient to the patient's sex and or/needle-sharing partners(s). The health care practitioner must follow the "Partner Notification Protocol for Practitioners", dated May 1, 1990. (This is available on the Florida Department of Health website.)
- I. All seropositive persons must be asked if they have, or have had, a spouse at any time within the ten-year period prior to the diagnosis of HIV infection. If so, the person should be informed of the importance of notifying the spouse or former spouse(s) of the potential exposure to HIV. HIV-infected persons must be offered the assistance of public health personnel in notifying a spouse, or any sex or needle-sharing partners. The provider will refer those individuals choosing the assistance of public health personnel to the Department's local Sexually Transmitted Disease (STD) Control Program staff.
- J. Partner counseling and referral services are provided through the STD program of the health departments.
- K. Minors who seek testing or treatment for a sexually transmitted infection (including HIV) do not need parental consent to be tested. They may give their own informed consent.

III. Non-discrimination

- A. It is illegal to use HIV antibody tests or HIV infection to discriminate in areas of employment, housing, public accommodations or government services.
- B. It is illegal to discriminate against health care providers who treat HIV/AIDS patients.

IV. State laboratories

- A. Specific testing procedures are required.

1. If multiple Enzyme Immunoassays (EIAs, aka Enzyme Linked Immunosorbant Assays) are positive, a confirmatory test must be done.
2. Generally, a Western blot is used by the state lab as a confirmatory test. Whether the lab is public or private, a confirmatory test is required before an HIV-positive test is considered conclusive.

V. Public Health

- A. It is a third degree felony for an HIV-infected person to have sex without first informing the potential partner(s) of his/her HIV status and getting permission for sexual contact. This penalty is increased to a first degree felony for multiple offenses. (Simply wearing a condom during sexual contact does *not* exempt an HIV-infected person from informing their partner of their status or from any provision of this law.)
- B. Convicted prostitutes must submit to an HIV test.
- C. All specimens donated to blood, organ or sperm banks are tested for HIV and discarded if positive. The person collecting the specimen shall notify the donor of the presence of the virus.
- D. Victims (or their legal representative) of crimes involving the transmission of body fluids (such as rape or sexual abuse of a child) may request access to the test results of his/her alleged perpetrator.

VI. Insurance and HMOs

- A. Florida law provides guidelines for medical tests.
- B. Insurance companies or HMOs cannot cancel or not renew policies because of HIV/AIDS.

Ethical

Ethical issues go beyond the discussion of what is legal. Ethics deal with what is perceived as one's moral duty or obligation, even when laws may not necessarily require such action. What is technically legal may not be perceived as morally ethical.

HIV counselors should be familiar with the social and ethical issues in their community, as well as similar issues in the national and international media. HIV counselors do

themselves and their clients a tremendous service by reading and learning as much as possible about the disease and accessing reliable resources to keep their knowledge current on related issues and topics.

I. Discrimination

Discrimination continues to be a problem surrounding this epidemic despite laws, such as the Americans With Disabilities Act, that deal with HIV/AIDS related discrimination. Discrimination occurs in varying degrees. It can be as subtle as avoiding someone in the workplace because there is a rumor that this person is infected, or it may be a blatant situation where a person is fired from his job because his superiors learn of his infection.

People with HIV/AIDS, as well as friends, relatives and caregivers of infected people, have endured different types of discrimination. Children have been ostracized in school because they are infected or shunned because a relative is infected. Infected inmates in prison have experienced discrimination from both their fellow inmates and the corrections officers. Some health care providers have refused to treat someone either because of AIDS or because of *perceived* infection with HIV. Some people have refused treatment from a health care provider due to fear of contracting HIV.

Fear seems to be the root of discriminatory practices, despite a great deal of education having been provided to the public. Fear of social interaction with infected individuals is unfounded, since a lot is known about HIV and how it is transmitted.

II. The Mass Media

People often see television programs about AIDS. They pick up a newspaper or news magazine and read articles about HIV and AIDS. The message is there, HIV/AIDS is a household name. In the past, the media sent confusing messages but now the message is clear, get tested, get treated, get educated. There are still many unanswered questions concerning HIV/AIDS. The media plays a big role in getting those questions answered.

III. Fraud and Deceit

The Florida AIDS Health Fraud Task Force held its first organizational meeting in November 1993. The mission of the task force is to educate the public about health fraud and misinformation related to HIV/AIDS. Unethical people have exploited others by using the AIDS epidemic for personal or financial gain. Items are sold at exorbitant prices because the sellers play on the fears individuals have

regarding this disease. Assorted unapproved drugs and therapies are marketed to infected individuals, because a person who has a disease may grasp at anything that looks like it might provide relief from pain and suffering. There are also products that have been marketed as a guaranteed preventive or cure for HIV/AIDS. Abstinence is the only "100%-of-the-time" guaranteed prevention measure where sexual contact is concerned.

Conclusion

Regardless of how much has been taught about AIDS and learned about how the disease progresses, additional work needs to be done. Individuals can read and learn about this disease and help teach others the facts. Parents can learn the facts and teach their children. Department of Corrections employees can teach inmates the facts. Elementary, middle school and high school teachers can pass on correct information to children and teens in a sensitive, non-frightening way so that new HIV infections are avoided.

Reference

Florida Department of Health website: www.doh.state.fl.us (HIV/AIDS "Legal and Legislative")