

**COMPdata Monthly Monitor - Montana**  
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**HIV/AIDS**

**INTRODUCTION**

Acquired immune deficiency syndrome (AIDS) is caused by the human immunodeficiency virus (HIV) and was first reported in the U.S. in 1981. Since then it has become a worldwide epidemic and in many countries it is an ongoing crisis that continues to grow.

**Defining HIV & AIDS**

HIV progressively destroys the body's ability to fight infections and certain cancers by killing or impairing cells of the immune system. Individuals who are diagnosed with AIDS are susceptible to life-threatening diseases called opportunistic infections, which are caused by microbes that usually do not cause illness in health people. The HIV virus (type 1) was discovered in 1984 and in 1986 HIV, type 2, was isolated in patients in West Africa.<sup>1</sup> While having the same modes of transmission and having similar patterns of development into AIDS, type 2 HIV is very rare in the U.S.

Testing positive for HIV does not mean that a person has AIDS. There are specific criteria established by the CDC for defining AIDS.<sup>2</sup> AIDS can be diagnosed by examining specific white blood cells (CD4 cells) or when an HIV patient develops one or more of the "AIDS-defining conditions." In 1992, the Centers for Disease Control and Prevention (CDC) published a list of 18 such conditions. Having one of these conditions alone does not mean that a person has AIDS. They must also be infected with the HIV virus to be diagnosed as having AIDS.

**HIV/AIDS Surveillance**

The distinction between HIV and AIDS is especially problematic in surveillance efforts.<sup>3</sup> Historically, statistics have been based primarily on reports of AIDS diagnoses and did not necessarily include persons infected with HIV. In the U.S. the reporting of HIV was not standardized until 1991 and remains inconsistent from state-to-state. Data on HIV infection (not AIDS) should be interpreted with caution because not all infected persons have been tested, some confidential test results may not be included in statistics, and particular patterns and/or access to testing may lend bias to the data. But the situation is improving in the U.S. As of December 31, 2003, many states, including Montana, had implemented a name-to-code system to conduct case surveillance for HIV infection (not AIDS).

**The Global AIDS Crisis<sup>4</sup>**

Worldwide it is estimated that 38 million people are living with HIV. Sub-Saharan Africa is home to just over 10% of the world's population and almost two-thirds of all people living with HIV. In 2003, an estimated three million people became newly infected and 2.2 million died.

The Asian countries of China, Indonesia, and Viet Nam have experienced rapid increases in HIV infections. More people became infected in the region in 2003, 1.1 million, than in any year before. The fast-growing Asian epidemic has major global implications since the area is home to 60% of the world's population.

Two factors are especially key in the rising tide of HIV and AIDS throughout the world. HIV prevention services are available to fewer than one in five people worldwide. It is believed that comprehensive prevention could ward off 29 million of the 45 million infections projected to occur in the next decade. The second key factor is that nine out of ten people who urgently

need HIV treatment are not being reached. Antiretroviral therapy allows people infected with HIV to lead healthier and longer lives. Yet five to six million people in developing countries will die in the next two years if they do not receive treatment.

### **HIV & AIDS in the U.S.**

The prevalence of HIV/AIDS in the U.S. is believed to be as high as 1 million.<sup>4</sup> CDC estimates that 405,926 persons were living with AIDS in the U.S. in 2003.<sup>3</sup> Of these:

- 36% were white
- 42% were black
- 20% were Hispanic
- 2% were of other race/ethnicity.

Of the adults and adolescents (13 years or older) with AIDS, 77% were men. Of these men,

- 58% were men who had sex with men (MSM)
- 22% were injection drug users (IDU)
- 11% were exposed through heterosexual contact
- 8% were both MSM and IDU.

Of the 88,815 adult and adolescent women with AIDS,

- 63% were exposed through heterosexual contact
- 35% were exposed through injection drug use.

In recent years, the use of antiretroviral therapy, especially highly active antiretroviral therapy (HAART) has slowed the progression of HIV in many infected persons and thus contributed to a decline in AIDS incidence in mid-to-late 1990s.<sup>3</sup> From 2001 to 2003 the number of AIDS cases increased slightly from 40,833 to 43,171, a 5.7% increase. The prevention of the onset of AIDS due to HAART is one of the reasons that there is an increased focus on the surveillance of HIV since the trends in AIDS are not reflective of the true number of HIV cases in the population.

### **HIV & AIDS in Montana**

In Montana, CDC estimates that 175 adults and adolescents or 22.8 persons per 100,000 population were living with AIDS in 2003.<sup>3</sup> This compares to the U.S. rate of 167.3 per 100,000 population. There were no Montana children with AIDS in 2003 compared to the U.S. rate of 3.7 per 100,000 population. In 2003 the number of new reported cases of AIDS was 7 (0.8 per 100,000 population), a 58.8% decrease from 2002, when there were 17 new cases of AIDS (1.9 per 100,000).

Additional information on HIV and AIDS in Montana can be found on the web site for the Montana Department of Public Health & Human Services (<http://www.dphhs.state.mt.us/hpsd/pubheal/disease/commdis/stats.htm>).

### **HIV and AIDS in Montana Inpatients**

The following section will provide statistics for HIV/AIDS patients in Montana hospitals. It is important to note that these statistics represent inpatient care. Much of what hospitals do in caring for HIV and AIDS patients is done increasingly in outpatient centers, clinics, and community settings. The pattern of findings for hospital inpatients may be different than the statistics reported above on HIV/AIDS incidence and prevalence rates because those are population based.

The ICD-9-CM coding conventions for HIV and AIDS are relatively straightforward. The diagnostic code for HIV positive patients who have no symptoms or conditions related to HIV is V08 (Asymptomatic human immunodeficiency virus infection status). When HIV-related symptoms or conditions are present, i.e., an AIDS diagnosis, the code is 042 (Human immunodeficiency virus disease), or symptomatic HIV. If the HIV infection is a Type 2 virus, an additional code, 079.53, is used. In the statistics that follow, the term "AIDS" will be used to refer to symptomatic HIV patients (code 042) and "HIV" will be used to refer to HIV positive patients who have no HIV-related symptoms or conditions (code V08).

#### All HIV/AIDS Patients (ICD-9 Diagnosis codes 042, V08)

In 2003 Montana hospitals found that 63 patients had a principal or secondary diagnosis of HIV or AIDS compared to 78 in 2000, a 19.2% decrease. In each year, the HIV/AIDS patients represented less than 1% of all patients.

#### Patients with a Principal Diagnosis of AIDS (ICD-9 Diagnosis code 042)

There were 18 patients in 2003 with a principal diagnosis of AIDS compared to 25 in 2000, a 28.0% decline. The 18 patients in 2003 represented 28.6% of all HIV/AIDS inpatients. A statistical breakdown of these cases is not possible due to the small sample size.

#### Patients with a Secondary Diagnosis of AIDS (ICD-9 Diagnosis code 042)

There were 28 patients who had a secondary diagnosis of AIDS in 2003 compared to 31 such patients in 2000, a 9.7% decrease.

#### Patients with a Secondary Diagnosis of HIV (ICD-9 Diagnosis code V08)

There were 17 patients who had a secondary diagnosis of HIV in 2003 compared to 22 such patients in 2000, a 22.7% decrease.

#### Patients with a Principal or Secondary Diagnosis of Type-2 HIV (ICD-9 Diagnosis code 079.53)

There were no patients with any diagnosis of Type-2 HIV in 2003 or 2000.

### **Montana Statistics from COMPdata**

All of the Montana patient statistics were derived from MHA's COMPdata. We encourage you to use COMPdata to examine your hospital community area(s) regarding HIV/AIDS patients so that you might better understand the impact of these patients on your care and treatment of your changing patient population and the resources needed to diagnose, treat, and manage the HIV/AIDS population.

The COMPdata graphing feature can be utilized to examine in a pictorial fashion trends in your state and hospital community area(s) regarding HIV and AIDS. Click here to obtain a graph that illustrates a case trend analysis of all HIV/AIDS inpatient cases by gender in Montana for each year from 2000 to 2003: <http://www.ihatoday.org/compdata/mthivgraph.pdf>.

## **APPENDIX**

### **HIV Prevention** <sup>5</sup>

To date there is no vaccine against HIV and the only way to prevent infection is to avoid behaviors that put a person at risk of infection. The most common activities that put people at risk for HIV are unprotected sex and injection drug use. Because many people who are infected with HIV have no symptoms, people often assume they are safe from infection when they may not be.

There is also a risk of HIV transmission from a pregnant woman to her baby. This risk is significantly reduced if the mother takes AZT during pregnancy, labor and delivery, and if the baby takes it for the first six weeks of life.

For more information on HIV prevention, hospitals should go the web site for the CDC National Prevention Information Network (<http://www.cdcnpin.org>). It may be the nation's largest collection of information and resources on HIV prevention.

### **HIV Treatment**

At total of twenty antiretroviral drugs have been approved by the Food and Drug Administration to treat individuals with HIV.<sup>6</sup> The first approved classes of drugs work by interfering with the HIV virus' ability after entering a host cell to use enzymes to survive and multiply. There are two categories of these drugs: reverse transcriptase (RT) inhibitors and protease inhibitors. The newest class of approved drugs works by changing the shape of the outer covering of the HIV virus. These drugs are known as fusion inhibitors because they interfere with the virus' ability to fuse with the cellular membrane, blocking entry into the host cell.

None of the retroviral drugs cure the HIV infection. And since HIV can become resistant to any one drug, a combination of antiretroviral drugs is used to suppress the virus. This combination of drugs, usually from at least two classes, is referred to as highly active antiretroviral therapy (HAART).

As of 2003, more than 60 new anti-HIV drugs were in development according to the Pharmaceutical Research and Manufacturers Association of America.<sup>7</sup> These drugs include new protease inhibitors and more potent, less toxic RT inhibitors, as well as other drugs that interfere with entirely different steps in the virus' lifecycle.

### **Women and HIV/AIDS** <sup>8</sup>

Worldwide the number of women with HIV infection and AIDS has been steadily increasing to the point where 19.2 million women were living with HIV/AIDS, accounting for approximately 50 percent of all adults living with HIV/AIDS. In the U.S. the proportion of AIDS cases that are women is not nearly as large. However, among adolescent and adult women, the proportion of AIDS cases more than tripled from 7 percent in 1985 to 26 percent in 2002. The number of AIDS cases among women actually declined and has plateaued in the past 4 years, in large part due to the success of antiretroviral therapies in preventing the development of AIDS.

Of particular concern is the risk to unborn children posed by pregnant women who are infected with the HIV virus. In the U.S., approximately 25 percent of these women who do not receive AZT or a combination of antiretroviral therapies pass on the virus to their babies. When women do receive a combination of antiretroviral therapies during pregnancy, the risk of HIV transmission to the newborn drops below 2 percent.

### **HIV/AIDS in Minority Populations**<sup>9</sup>

Racial and ethnic minority populations, primarily African Americans and Hispanics, constitute 61 percent of the more than 800,000 cases of AIDS reported to the CDC since 1981. African Americans make up 41 percent of all AIDS cases reported in the U.S., yet they comprise only 12 percent of the U.S. population. Hispanics represent 19 percent of all AIDS cases and are approximately 13 percent of the population. Key factors that contribute to the spread of HIV in minority population are injection drug use, men who have sex with men and, increasingly, heterosexual transmission.

### **HIV/AIDS in Adolescents and Young Adults**<sup>10</sup>

Through 2002, CDC reported a total of 41,287 cumulative cases of AIDS among people ages 13 to 24. Health experts estimate the number living with HIV to be much higher. The average duration from HIV infection to the development of AIDS is 10 years. This points out that most adults with AIDS were likely infected as adolescents or young adults. HIV is the seventh leading cause of death for those ages 13 through 24. Treatment of adolescents with HIV can be problematic since many often postpone care after an initial diagnosis. It's important for providers to ensure confidentiality, explain information clearly, elicit questions, and emphasize the success of newly available treatments.

### **WHAT SOME HOSPITALS ARE DOING**

As the CDC data indicate, the great majority of HIV/AIDS patients reside in the metropolitan areas. Many hospitals have responded by developing dedicated services and programs for these patients, their families, and their caregivers. Two examples of these in Illinois are The CORE Center, a joint effort of the Cook County Bureau of Health Services and Rush University Medical Center, and Mt. Sinai Hospital's comprehensive care and research programs.

A unique aspect of The CORE Center is its four-story facility dedicated to a comprehensive range of outpatient care to individuals and families affect by HIV/AIDS and other infectious diseases. Patients and providers participated in the design of the facility that features a welcoming environment with a focus on physical comfort, privacy, and language and patient diversity. In addition to its patient care and research missions, The CORE Center provides education, training and consultation on HIV/AIDS to medical professionals and the community. For more information go to: <http://www.corecenter.org>.

With a steady increase in the incidence of HIV in communities around Chicago's Mt. Sinai Hospital, the hospital now offers many unique and effective services to this expanding patient base. Distinctive clinic features are services targeted to pediatric HIV patients and obstetric services for pregnant women who are HIV positive. The clinic participates in the Pediatric AIDS Clinical Trial Group, which enables patients to receive state of the art treatments. Another unique program is the Staying Healthy and Stopping Transmission project funded by the Health Resources and Services Administration. The study is a randomized controlled trial focusing on the effectiveness of peer education in helping HIV patients to be healthier and reduce the spread of HIV. For more information on the HIV/AIDS services and programs at Mt. Sinai, go to: [http://www.sinai.org/health\\_programs/hiv/index.asp](http://www.sinai.org/health_programs/hiv/index.asp).

### **RESOURCES FOR ADDITIONAL INFORMATION**

## **For Hospitals**

A wealth of information for providers can be found on the web site of the Division of Acquired Immunodeficiency Syndrome of the National Institute of Allergy and Infectious Diseases (<http://www.niaid.nih.gov/daids/>). From the main page there are links to resources for physicians and investigators, publications and meeting summaries, and NIAID-funded research networks on HIV vaccines, HIV/AIDS treatment, and HIV prevention.

AIDSinfo (<http://aidsinfo.nih.gov/>) is another comprehensive web site provided by the U.S. Department of Health and Human Services. From the main page, hospitals can click on "Providers" under "Health Topics" to get information on AIDS Education and Training Centers (AETCs), Cultural and Gender Resources, Management of HIV Complication, Maternal-Child Transmission, Portals/News Reports, Post-Exposure Prophylaxis (occupational and non-occupational), Professional References, and Treatment Consultation.

Under the AETC section of the AIDSinfo site, providers can find a link to their regional AETC. For Montana the regional center is the Northwest AIDS Training and Education Center (NWATEC) based at the University of Washington. NWATEC provides training and information services in five states. For more information on NWATEC go to: <http://depts.washington.edu/nwaetc/>. Information on the Montana activities of AETC can be found at: <http://depts.washington.edu/nwaetc/montana.html>.

Occupational exposure to HIV is a great concern to all health care providers. As of December 2001, exposure to HIV has resulted in 57 documented cases of HIV seroconversion among healthcare personnel in the U.S. Recommendations for preventing HIV exposure in health care settings as well as CDC guidelines for the management of occupational exposure and postexposure prophylaxis are found at <http://www.cdc.gov/hiv/pubs/facts/hcwprev.htm>.

## **For Patients and the Community**

As it is for providers, the AIDSinfo web site is a valuable resource for patients and the community. From the main page (<http://aidsinfo.nih.gov/>), under "Health Topics," there is a link for "Patients/Public." In addition to general HIV/AIDS information, there are links for HIV Complications, HIV Treatment and Caregiving, Insurance/Drug Assistance, Portals/News Reports, Women and HIV, National Library of Medicine Portal, and other U.S. Government Resource.

The National Library of Medicine (NLM) offers Specialized Information Services (SIS) on HIV/AIDS information. Included is a dedicated section of Consumer Health Information. The link to this site is <http://sis.nlm.nih.gov/HIV/HIVMain.html>.

Also from NLM is Medline Plus, a great resource for providers and patients. The AIDS section is found at <http://www.nlm.nih.gov/medlineplus/aids.html>. For patients, an especially interesting tool listed under "Overviews" is an AIDS Interactive Tutorial. There are also links to dozens of other resources of value to patients, families, and caregivers.

The oldest national AIDS organization in the U.S. is the National Association People With AIDS (NAPWA). NAPWA was founded in 1983 and advocates on behalf of all people living with HIV and AIDS. The NAPWA web site includes information on a variety of programs, publications, a calendar of events, jobs, links, and more. The web site is <http://www.napwa.org>.

## **REFERENCES**

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