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Human Immunodeficiency Virus (HIV) is the virus that damages immune system cells (CD4+ T-cells) and causes Acquired Immunodeficiency Syndrome (AIDS). Upon infection with HIV, the virus attacks, infects, and destroys human CD4+ T-cells, which are crucial to helping the body fight disease and infection. Destruction of these cells over time weakens the immune system and its ability to fight off various diseases and opportunistic infections, resulting in AIDS. AIDS is the late clinical stage of infection with HIV.

The number of people living with HIV infection in the United States is higher than ever before. The Centers for Disease Control (CDC) estimates that more than 1.1 million individuals are living with HIV in the United States and more than one in five (21%) of these people living with HIV are unaware of their infection.¹

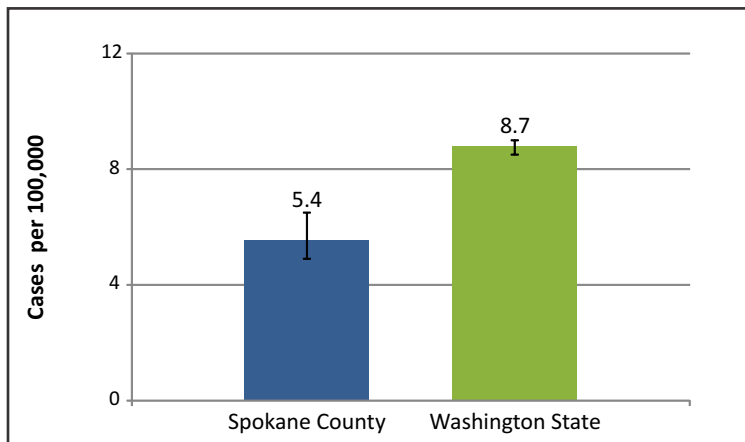
Despite the increase in the total number of people living with HIV in the United States in recent years, the annual number of new HIV infections has remained relatively stable.¹ New infections continue at a high rate; approximately 48,100 persons became infected in 2009.²

Although there are many successful strategies that prevent and treat HIV/AIDS, more than 18,000 people with AIDS continue to die each year in the United States and HIV remains a significant cause of death for some populations.³ Mortality rates of homosexual men, bisexual men, men who have sex with men (MSM), blacks, and Hispanics are disproportionately affected by HIV.³

New HIV Diagnoses

In Spokane County, reported cases of new HIV infections have remained stable from 2002 to 2010. Spokane County had 218 new HIV diagnoses or an average of 24 new cases per year. Spokane County's newly diagnosed HIV rate was 5.4 cases per 100,000 residents, which was significantly lower than Washington state's rate of approximately nine cases per 100,000 residents. Figure 1.

Figure 1
New HIV Diagnosis Rates, 2002-2010

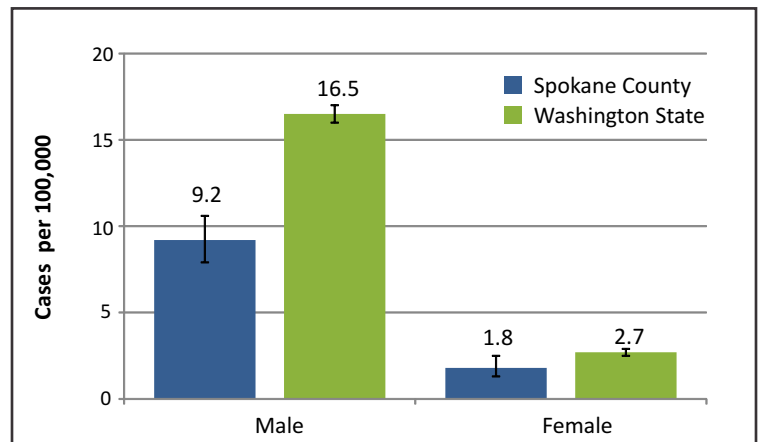


Data Source: Washington State Department of Health, Office of Infectious Disease and Reproductive Health Assessment Unit, December 31, 2011

New HIV Diagnoses by Gender

In Spokane County, 83 percent of newly diagnosed cases were male and 17 percent were female. The rate of new infections was five times higher for men than women in Spokane County and six times higher for men than women in Washington state. The rate of new infections was significantly lower among men and women in Spokane County compared to Washington state. Compared to Washington state, new infections among men were 44 percent lower and new infections among women were 33 percent lower in Spokane County. Figure 2.

Figure 2
New HIV Diagnosis Rates by Gender, 2002-2010



Data Source: Washington State Department of Health, Office of Infectious Disease and Reproductive Health Assessment Unit, December 31, 2011

New HIV Diagnoses by Race and Ethnicity

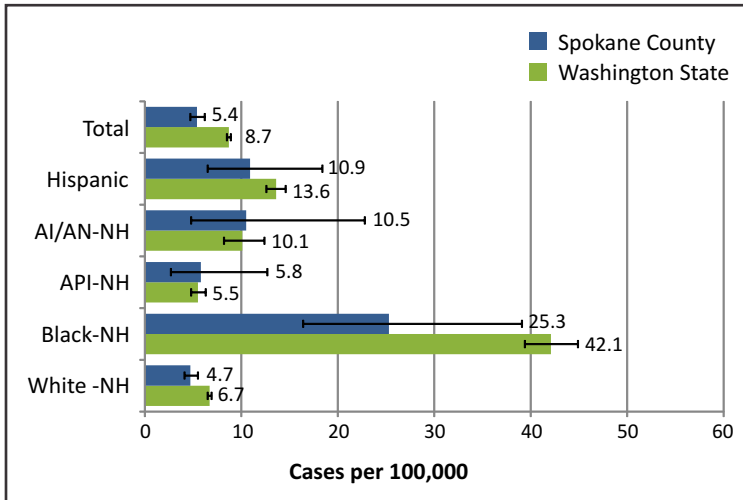
White Non-Hispanic (NH) individuals account for 79 percent of newly diagnosed cases in Spokane County. Black NHs account for 2 percent of the population in Spokane County; however, comprise 9.2 percent of new HIV cases.

The rate of new infections among black NHs is approximately 5.4 times higher than white NHs in Spokane County and 6.3 times higher in Washington state. Among Hispanics, the rate of new infections is 2.3 times higher than white NHs in Spokane County and two times higher in Washington state. For American Indian/Alaska Native (AIAN) NHs there was no difference in the rate of new infections when compared to white NHs in Spokane County, however in Washington state the rate of new infections for AIAN is 1.5 times higher. For Asian Pacific Islander (API) NHs there was no difference in the rate of new infections compared to white NHs in Spokane County; however in Washington state, the rate of new infections was 18 percent lower for API NHs compared to white NHs.

The rate of new infections among white NHs for Washington state was 1.4 times higher than white NHs in Spokane County and 1.7 times higher among black NHs. For all other races/ethnicities the rate of new infections was similar to Washington state for Spokane County. Figure 3.

Figure 3

New HIV Diagnosis Rates by Race/Ethnicity, 2002-2010



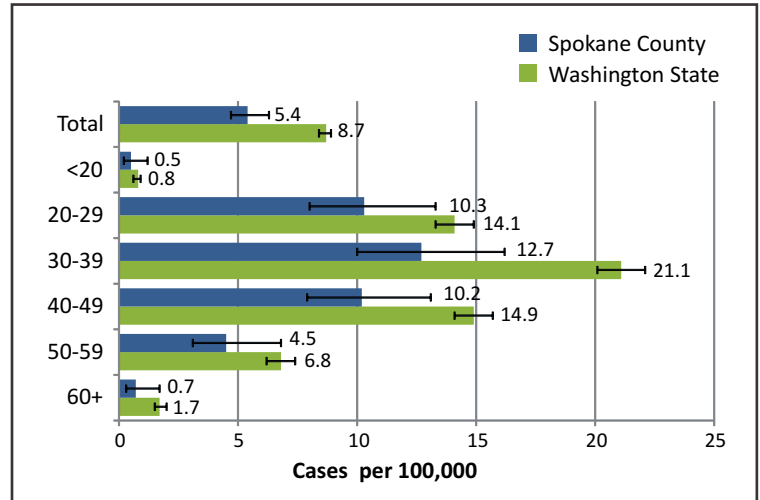
AI/AN – American Indian/Alaska Native, API – Asian Pacific Islander, NH – Non-Hispanic
 Data Source: Washington State Department of Health, Office of Infectious Disease and Reproductive Health Assessment Unit, December 31, 2011

New HIV Diagnoses by Age

In Spokane County, HIV infection is significantly higher among individuals in their 20s, 30s, and 40s; however, in Washington state the HIV infection rate is significantly higher among individuals in their 30s compared to all other age groups. Compared to Washington state, HIV infection in Spokane County is significantly lower among all individuals in their 20s, 30s, and 40s. Figure 4.

Figure 4

New HIV Diagnosis Rates by Age Group, 2002-2010



Data Source: Washington State Department of Health, Office of Infectious Disease and Reproductive Health Assessment Unit, December 31, 2010

HIV Diagnoses by Exposure

Transmission of HIV usually occurs through one of four different exposure categories: unprotected sexual intercourse (vaginal or anal) with someone who is infected with HIV; sharing needles or syringes with someone who is infected with HIV; childbirth or breast feeding by a woman with HIV (mother to infant transmission); or blood transfusions prior to 1985.

In the United States, homosexual men, bisexual men, and men who have sex with men (MSM) account for just 2-5 percent of the population; however, the rate of new HIV infection among MSM is more than 44 times that of other men and more than 40 times that of women.^{1,3} In addition, MSM are the only risk group in which new HIV infections have been increasing steadily since the early 1990s with MSM accounting for more than half (53 percent) of all new HIV infections and MSM with a history of injection drug use (IDU) accounting for an additional 4 percent of all new infections.^{1,4} Overall, more than half (53 percent) of all people living with HIV in the United States are MSM or MSM-IDU.⁴

Sharing syringes and other equipment for drug injection is also a significant potential route of HIV transmission.⁵ In the United States, injection drug users represent 12 percent of annual new infections and 19 percent of those living with HIV.¹

Lastly, individuals infected through heterosexual contact account for 31 percent of annual new HIV infections and 28 percent of people living with HIV.¹

Among individuals infected with HIV from 2002 to 2010, 62.1 percent in Spokane County and 64.7 percent in Washington state reported their risk factor as MSM (MSM and MSM-IDU). Injection drug use accounted for approximately 23 percent of new HIV infections in Spokane County and approximately 15 percent in Washington state (IDU and MSM-IDU). High risk heterosexual contact (having sex with someone who is infected with HIV or having sex with someone who is at high risk for acquiring or transmitting HIV) accounted for 14 percent of new infections in Spokane County and Washington state. Table 1.

Table 1
Newly Diagnosed Cases of HIV Disease by Exposure Category, 2002-2010

Exposure Category	Spokane Co.	WA State
Men who Have Sex with Men (MSM)	51.6%	57.3%
Injection Drug Use (IDU)	12.3%	7.0%
MSM and IDU	10.5%	7.4%
High Risk Heterosexual Contact	13.8%	14.2%
Mother to Infant Transmission	0.9%	0.5%
Transfusion/Hemophiliac	0.9%	0.2%
No Identified Risk/Other	10.0%	13.4%

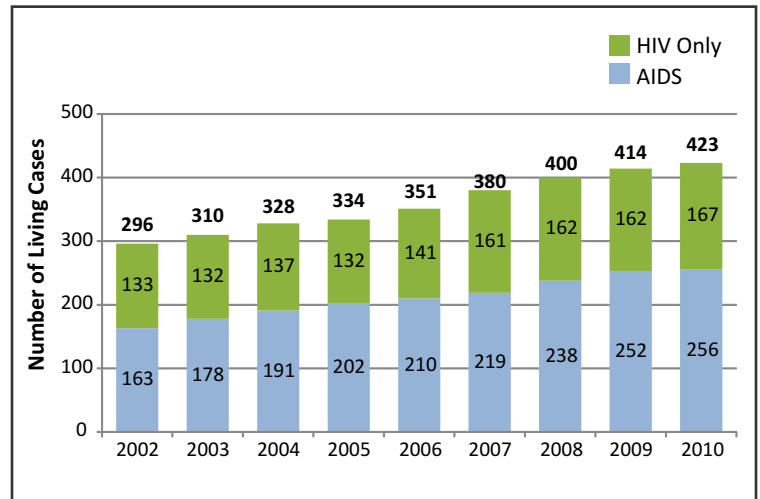
Data Source: Washington State Department of Health, Office of Infectious Disease and Reproductive Health Assessment Unit, December 31, 2011

HIV Documented Prevalence and Mortality

There have been substantial advances in the development of antiretroviral therapy (ART) in the past decade.⁶ ART is medication used in combination to reduce the replication of HIV and to treat HIV infected persons.⁶ These medications limit or slow down the destruction of the immune system, improve the health of people living with HIV, and may reduce an individual's ability to transmit HIV.⁶ Currently, people can live much longer with HIV before they develop AIDS because of ART.⁷ Since the development of these medications, there has been a steady increase in life expectancy and the number of people who are surviving and living with HIV/AIDS.⁷ The increase in prevalence of HIV can be attributed to the effective use of ART and because more people become infected with HIV than die from the disease each year.⁷ Despite major advances in diagnosing and treating HIV infection, there is still no vaccine for HIV or cure for AIDS.

As of December 31, 2010, there were 423 persons living with HIV in Spokane County, 60.5 percent of whom had a diagnosis of AIDS. Figure 5. Since 2002, there has been a 43 percent increase in the number of individuals living with HIV in Spokane County.

Figure 5
HIV/AIDS Documented Prevalence, Spokane County, 2002-2010

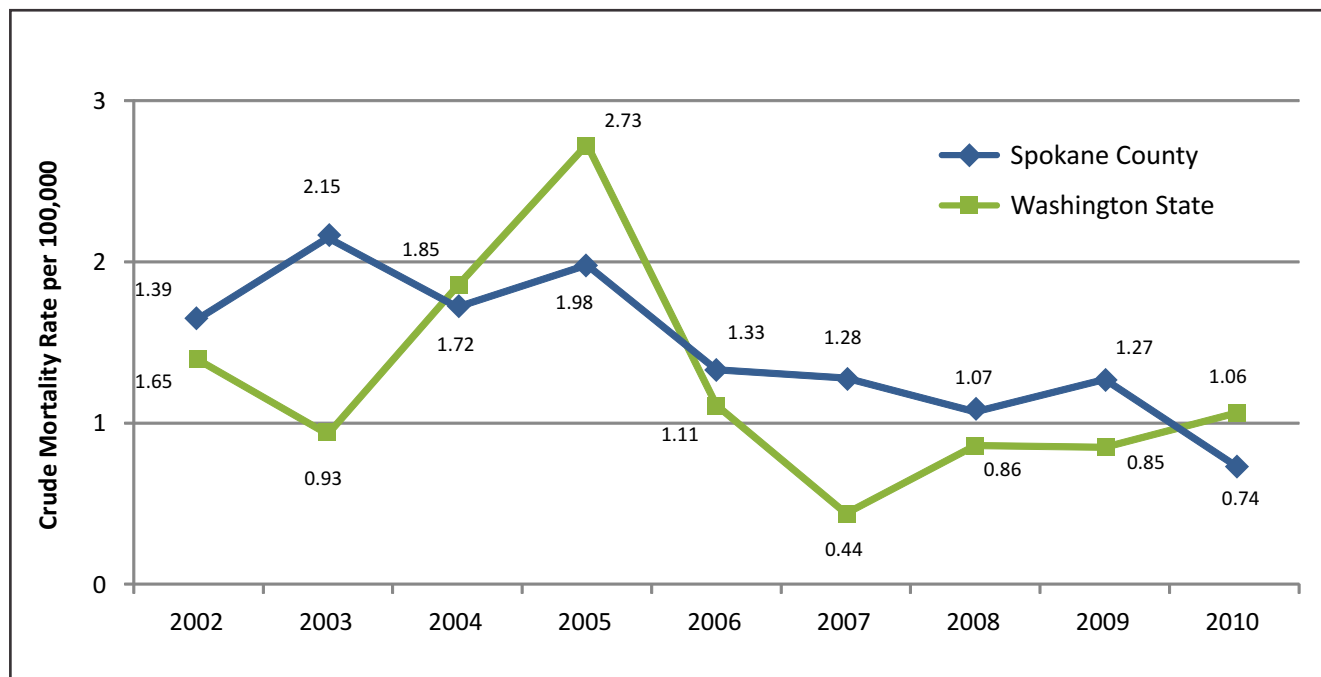


Data Source: Washington State Department of Health, Office of Infectious Disease and Reproductive Health Assessment Unit, December 31, 2011

The crude HIV mortality rate is defined as the number of deaths caused by HIV relative to the estimated total population each year per 100,000. In Spokane County, the crude HIV mortality rate has remained stable from 2002 to 2010 and is similar to the crude HIV mortality rate for Washington state. Washington state however has experienced a significant decrease in the crude HIV mortality rate from 2002 to 2010. On average, the crude HIV mortality rate has decreased by 9.1 percent each year for Washington state. Figure 6.

The Washington State Department of Health, along with the Spokane Regional Health District and the Spokane AIDS Network has implemented best practice care and prevention services for populations impacted by HIV in Spokane County. HIV Prevention services provide a needle exchange program for IDUs, and HIV and viral Hepatitis testing for MSMs and IDUs. Additionally, the Partner Notification program works with newly identified HIV positive persons to locate and provide testing to sex and/or needle sharing partners whom may have been exposed. Lastly, the Medical Case Management (MCM) program for HIV positive persons provides education to prevent new transmission to others and ensures access to medical care and treatment for HIV.

Figure 6
Crude HIV Mortality Rate, 2002-2010



Data Source: Washington State Department of Health, Office of Infectious Disease and Reproductive Health Assessment Unit, December 31, 2010

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For more information, please contact Lisa St. John, HIV/AIDS Program Manager at (509) 324-1542 or lstjohn@spokanecounty.org

Community Health Assessment, Planning & Evaluation • 1101 West College Avenue, Room 360, Spokane, WA 99201-2095

TEL (509) 323.2853 | FAX (509) 232.1706 | TDD (509) 324.1464 | www.srhd.org