



**MONTANA**  
Department of Public Health & Human Services  
PO Box 202951  
Helena, MT  
59620-2951

# MONTEANA Fact[or]s

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## ► Prevention Works, But Complacency Hinders Progress! BRFSS findings of HIV Testing among Montana adults

Public health, constituting federal, state, local and community partners, has made great progress in preventing the human immunodeficiency virus (HIV) infection since AIDS was first recognized as a syndrome in 1981. As CDC writes, "the science is clear: HIV prevention can and does save lives."<sup>1,2,3</sup> Much research exists on the successes of effective prevention efforts and it is estimated that these efforts have caused a decrease in mortality and averted more than 350,000 HIV infections in the United States to date.<sup>4,5</sup> In addition to the lives saved from HIV infections, it is estimated that more than \$125 billion in medical costs alone have been averted.<sup>6</sup> But the crisis is far from over, CDC estimates that more than 56,000 people in the United States become newly infected every year—one person every 9½ minutes—and more than one million are living with HIV.<sup>7</sup>

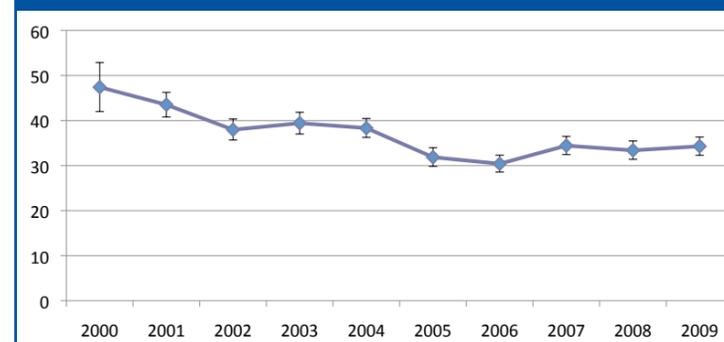
Once thought to be an acute, fatal illness recent developments in treatment have transformed HIV infection into a chronic condition that is treatable. The projected life expectancy for those infected with HIV, if they remain in **optimal HIV care**, has increased from less than seven years in 1993 to more than 20 years today.<sup>8,9</sup> However, optimal care cannot begin without a diagnosis and **routine testing for HIV infection is critical** to this process.

Knowing one's HIV status is also important for **preventing the spread of the disease** as well as its treatment and care efforts. People who become aware that they are infected with HIV can adopt behaviors to prevent transmission to others and start treatment to improve their life expectancy; therefore, **periodic testing** to detect early HIV infections is an important public health intervention and has been recommended by the US Preventive Services Task Force since 1996.<sup>10,11</sup>

State and local health departments have primary responsibility for coordinating and delivering HIV prevention services. In Montana, the DPHHS STD/HIV Section collaborates with local health departments and providers to reduce the burden of HIV infections in the state and to increase awareness of high risk behaviors associated with these infections. They work together to provide prevention and risk-reduction strategies and to increase local access to HIV testing and clinical services. Through the DPHHS STD/HIV section, funds are distributed for statewide prevention, clinical services and staff trainings to reduce the burden of this disease.

Montana receives Ryan White CARE act funds to support drug assistance, public clinics, and program planning and evaluation, along with two community-based programs in Missoula and Billings that receive separate funding. There are seven Ryan White-supported clinics in Montana.<sup>12</sup> As of December 31, 2009, there were 445 known HIV/AIDS cases living in Montana and the number of known cases has steadily increased since 1985 (see [www.dphhs.mt.gov/phsd/STD-HIV](http://www.dphhs.mt.gov/phsd/STD-HIV) for a forthcoming full report of disease prevalence). However, these statistics include reported cases only, and therefore, underestimate the **number of persons living with HIV/AIDS, that is, the portion of the population that does not know that they are infected.**

Figure 1: Ever Tested for HIV, Montana Adults Aged 18 to 64, 2000-2009.



## HIV/AIDS

- As of December 31, 2009, a total of 955 cases of Human Immunodeficiency Virus (HIV) and HIV, Stage 3 (formerly Acquired Immune Deficiency Syndrome (AIDS)) have been reported to Montana Department of Public Health and Human Services (MTDPHHS) since reporting began in 1985 and 445 of these are not reported as deceased or having moved from Montana.
- Though Montana is considered a "low incidence" state with respect to HIV, 16-30 new cases were diagnosed and reported every year from 2000-2009.
- Nearly 9 of every 10 reported cases of HIV have been men.
- Men who have sex with men (MSM) account for more than half of the reported cases of HIV in Montana.
- The largest risk factor for females is heterosexual contact.
- Nearly 90% of HIV cases occur in persons reporting race as White, a percentage consistent with the general Montana population. The same proportionate representation is seen with the state's largest minority group, American Indians, who represent about 6.3% of the general population and about 7% of the reported HIV cases.
- The average age at HIV diagnosis has remained in the upper 30s since 2000.
- 80% of known persons living with HIV sought care in 2009.
- See MTDPHHS, **Montana 2009 Annual Report: STDs including HIV/AIDS and Hepatitis C**, forthcoming at: [www.dphhs.mt.gov/PHSD/STD-HIV](http://www.dphhs.mt.gov/PHSD/STD-HIV).

## ► HIV Testing Behavior of Montana Adults

The Montana Behavioral Risk Factor Surveillance System (BRFSS) included questions about HIV testing practices and HIV-related risk behaviors in this continually on-going survey. The HIV testing practice and risk behavior questions were asked of respondents aged 18-64 and 9,710 adults of this age group completed the surveys in 2008 and 2009. Note: to increase sample size and stability of estimates, results presented in this report were based on the two years of data combined. BRFSS respondents were asked if they had ever been tested for HIV; and if "yes," the month and the year of their last HIV test (Table 1). Overall, 34% of Montana adults aged 18-64 years had ever been tested for HIV, apart from blood donations. There were not significant differences between males and females (32% v. 36%) in reporting that they had ever been tested. The prevalence of HIV testing varied by age; almost one-half of adults aged 25 to 44 (≥46%) reported ever having been tested, while less than one-fifth of adults aged 55-64 (19%) did so. There was little difference in "ever testing" based on educational attainment, but adults earning less than \$25,000 per year (42%) were significantly more likely to have ever been tested than adults in households earning more than this amount per year (≤34%). American Indian/Alaska Natives and other minority groups (≥43%) were more likely to ever have been tested than White, non-Hispanic adults (33%). Adults with a disability (40%) were more likely to report ever having been tested than adults without a disability (33%). Also adults living in Eastern Montana health planning region (28%) were significantly less likely to report ever having been tested than adults living in the rest of the state. Since 2000, the lifetime prevalence of HIV testing in Montana among adults aged 18-64 years has decreased 13% from 47% to 34% (see Figure 1).

Table 1. HIV Testing, Montana Adults (18-64), 2008-09  
(with 95% confidence intervals)

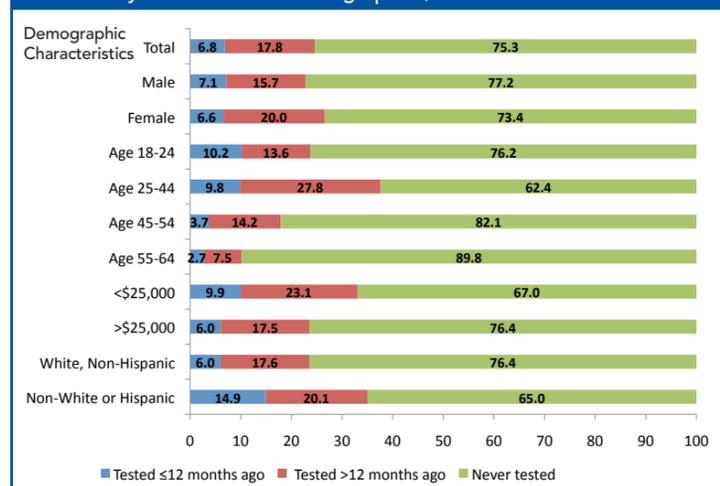
	Ever Tested for HIV (excludes blood donation)†			Tested for HIV within the Past 12 Months ‡		
	N	Wt.%	95% CI	N	Wt.%	95% CI
<b>All Adults</b>	2954	34.0	32.5 - 35.4	434	6.8	6.0 - 7.8
<b>Sex:</b>						
Male	1211	32.2	30.1 - 34.3	197	7.1	5.8 - 8.7
Female	1743	35.8	33.9 - 37.8	237	6.6	5.5 - 7.8
<b>Age:</b>						
18 - 24	117	26.2	21.1 - 32.0	45	10.2	7.0 - 14.6
25 - 34	547	49.0	45.3 - 52.8	114	13.4	10.8 - 16.7
35 - 44	788	46.0	43.2 - 48.9	95	5.8	4.5 - 7.3
45 - 54	870	29.2	27.2 - 31.3	110	3.7	2.9 - 4.7
55 - 64	632	19.1	17.5 - 20.8	68	2.7	2.0 - 3.5
<b>Education:</b>						
<High School	157	36.3	29.7 - 43.5	26	11.5	6.5 - 19.5
High School	742	30.1	27.4 - 32.9	108	5.8	4.4 - 7.5
Some College	883	36.3	33.6 - 39.0	140	8.2	6.5 - 10.3
College Degree	1170	35.3	33.2 - 37.6	159	5.9	4.6 - 7.4
<b>Income:</b>						
<\$15,000	349	42.2	36.8 - 47.7	63	10.6	7.3 - 15.2
\$15,000 - \$24,999	467	41.9	37.5 - 46.3	73	9.6	6.6 - 13.7
\$25,000 - \$49,999	751	32.0	29.4 - 34.8	114	7.2	5.5 - 9.3
\$50,000 - \$74,999	532	33.0	30.0 - 36.2	75	6.0	4.4 - 8.0
\$75,000+	683	34.1	31.5 - 36.9	82	4.8	3.7 - 6.3
<b>Race/Ethnicity:</b>						
White, non-Hispanic	2478	32.9	31.4 - 34.4	325	6.0	5.1 - 7.0
AI/AN*	290	46.7	41.2 - 52.3	80	17.0	12.9 - 22.2
Other or Hispanic**	176	42.5	34.9 - 50.5	28	13.1	7.7 - 21.4
<b>Disability:</b>						
Disability	792	39.8	36.8 - 42.7	104	7.4	5.6 - 9.8
No Disability	2147	32.5	30.9 - 34.2	328	6.7	5.7 - 7.8
<b>Region:</b>						
1- Eastern MT	312	27.9	24.8 - 31.4	42	4.4	3.0 - 6.4
2- N Central MT	510	34.1	31.0 - 37.3	101	8.6	6.7 - 10.9
3- S Central MT	442	35.7	32.4 - 39.1	82	8.2	6.3 - 10.7
4- Southwest MT	799	33.5	30.8 - 36.4	99	5.3	3.9 - 7.2
5- Northwest MT	865	34.4	31.7 - 37.2	102	6.7	4.9 - 8.9
MMSA-Billings	270	38.0	33.8 - 42.4	45	8.4	6.0 - 11.6
MMSA-Butte	192	30.2	24.9 - 36.1	21	5.4	2.1 - 13.1

\* American Indian or Alaska Native only  
\*\* All other non-White (including multiracial) or Hispanic  
† Total Sample Size=9,218; Weighted Prevalence Est.=196,000  
‡ Total Sample Size=8,074; Weighted Prevalence Est.=34,800

Seven percent of Montana adults reported that they had been tested for HIV in the past year (Table 1). Reporting of HIV testing within the past year varied by age, household income, race/ethnicity and geographic location of residence. HIV testing was inversely related to age, that is the

older the respondent, the less likely they were to have been tested in the past year. Adults in households earning more than \$75,000 per year (5%) were more than twice as likely to report not having been tested in the past year than adults in households earning less than \$25,000 per year (≥10%). Minority

Figure 2: Percent of Non-Elderly who report being tested for HIV by Selected Sociodemographics, 2008-09.



adults (13%-17%) were two to three times more likely to report having been tested in the past year than White, non-Hispanic Montanans (6%). There were no differences in the prevalence of past year HIV testing between males and females, between educational levels or between adults with and without a disability. However, adults living in Eastern (HP1) Montana (4%) were significantly less likely to report having been tested in the past year than adults in North (HP2) or South (HP3) Central Montana (~8%). The majority of non-elderly adults in Montana, regardless of subgroup analysis, have not been tested for HIV (Figure 2).

Respondents were asked what the main reason was for having their most recent HIV test (Figure 3). The largest proportion of respondents stated that it was part of a routine check-up (24%), followed by "it was required" (20%), "just wanted to know" (18%) and routine testing for pregnant women (16%). Three percent of adults "felt at risk for HIV" and another three percent said that "someone else suggested it."

Figure 3: Main Reason for Having Most Recent HIV Test, Montana Adults, 2008-09.

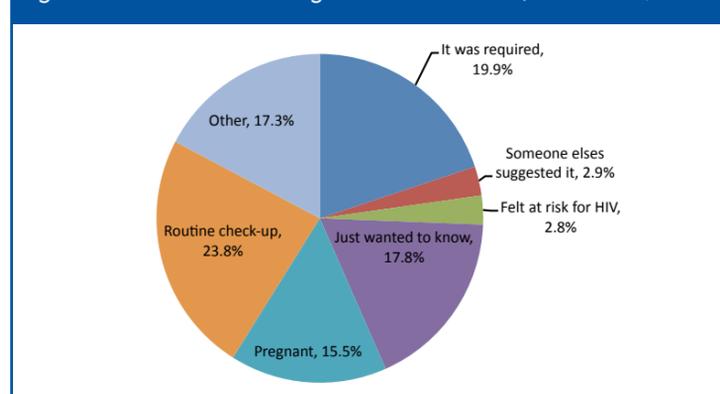
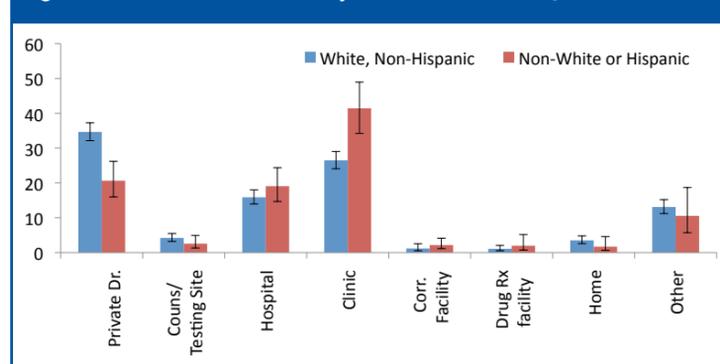


Figure 4: Place of Last HIV Test by Race, Montana Adults Aged 18-64, 2008-09.



## HIV Routine Screening Recommendations:

CDC recommends routine HIV screening in health-care settings for all adults, aged 13-64, and repeat screening at least annually for those at high risk. HIV testing is also recommended for all pregnant women and for any newborn whose mother's HIV status is unknown. In addition, it is recommended that all individuals at high risk for HIV, regardless of setting, be tested routinely for HIV infection.<sup>10</sup>

Risk behaviors include:

- ▶ Injecting drugs or steroids or sharing equipment (such as needles, syringes) with others,
- ▶ Having unprotected vaginal, anal, or oral sex with men who have sex with men, multiple partners or anonymous partners,
- ▶ Exchanging sex for drugs or money,
- ▶ Being diagnosed with or treated for hepatitis, tuberculosis, or a sexually transmitted disease, like syphilis,
- ▶ Having unprotected sex with anyone who falls into an above category, or with someone whose history is unknown.

## Risk Behavior

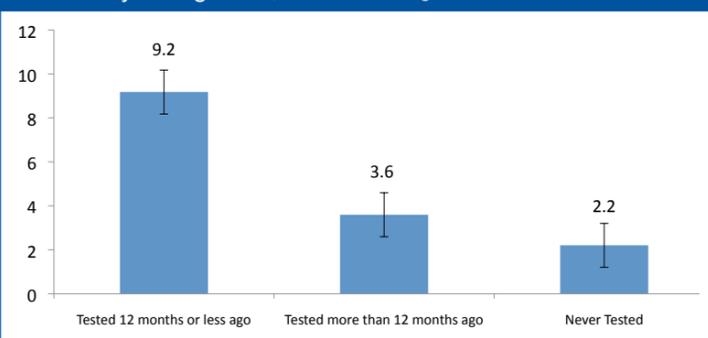
To assess if a person was at increased risk for HIV, BRFSS respondents were asked if any of the following risk behaviors applied to them in the past year: used intravenous drugs, treated for a sexually transmitted or venereal disease, given or received money or drugs in exchange for sex, had anal sex without a condom (Table 2). Respondent did not have to specify which situation, if any, applied to them. Based on data from 2008 and 2009, overall, 3% of Montana adults reported having engaged in a high risk activity in the past year that increased their risk of HIV infection (i.e., shared IV drugs, treated for an STD, exchanged sex for money or drugs, had anal sex without a condom). Adults aged 34 and younger (≥5%) were more likely to report having engaged in high risk activity than older adults (≤2%). There were no significant differences reported in engaging in high risk activity based on gender of the respondents, their disability status or geographic location of residence. However, adults with less than a high school education (11%) were significantly more likely to engage in high risk activity in the past year than adults with more education (≤3%). There was a greater tendency for adults in households earning less than \$25,000 per year (≥4%) to engage in high risk activity in the past year than adults in higher income households (≤2%). Persons of a minority group (AI/AN = 6%, Hispanics/Other = 9%) were more likely to report having engaged in high risk activity in the past year as compared to White, non-Hispanic adults (2%).

Table 2. High Risk Behaviors for Acquiring HIV, Montana Adults Aged 18-64, 2008-09 (with 95% confidence intervals)

	Engaged in High Risk Situation <sup>1</sup> (past year) <sup>‡</sup>		
	UnWt. N	Wt.%	95% CI
<b>All Adults</b>	185	2.8	2.3 - 3.5
<b>Sex:</b>			
Male	73	2.6	1.8 - 3.7
Female	112	3.1	2.4 - 4.0
<b>Age:</b>			
18 - 24	28	7.5	4.8 - 11.6
25 - 34	53	4.6	3.3 - 6.4
35 - 44	34	1.9	1.2 - 3.0
45 - 54	43	1.1	0.7 - 1.5
55 - 64	26	0.6	0.4 - 1.0
<b>Education:</b>			
<High School	28	11.2	6.6 - 18.2
High School	53	2.7	1.8 - 4.1
Some College	55	2.8	2.0 - 4.0
College Degree	48	1.4	0.9 - 2.2
<b>Income:</b>			
<\$15,000	36	4.2	2.6 - 6.7
\$15,000 - \$24,999	38	5.7	3.5 - 9.1
\$25,000 - \$49,999	46	2.1	1.4 - 3.1
\$50,000 - \$74,999	14	1.4	0.7 - 2.7
\$75,000+	21	1.5	0.8 - 2.9
<b>Race/Ethnicity:</b>			
White, non-Hispanic	133	2.3	1.8 - 3.0
AI/AN*	32	5.9	3.8 - 9.0
Other or Hispanic**	20	8.8	4.8 - 15.6
<b>Disability:</b>			
Disability	62	3.8	2.6 - 5.3
No Disability	123	2.6	2.0 - 3.4
<b>Region:</b>			
1- Eastern MT	21	2.3	1.2 - 4.4
2- N Central MT	35	2.4	1.6 - 3.6
3- S Central MT	26	3.1	1.9 - 5.0
4- Southwest MT	51	2.3	1.4 - 3.6
5- Northwest MT	50	3.4	2.3 - 5.0
MMSA-Billings	15	3.4	1.9 - 6.1
MMSA-Butte	19	4.2	2.1 - 8.3

\* American Indian or Alaska Native only  
 \*\* All other non-White (including multiracial) or Hispanic  
 † Data from survey year 2008 only. Total Sample Size=4,325; Weighted Prevalence Est.=16,500  
 ‡ One or more of the following behaviors: • Used intravenous drugs; • Treated for a sexually transmitted disease; • Given or received money or drugs in exchange for sex; • Had anal sex without a condom.

Figure 5: Reported One or More High Risk Situations in the Past Year by Testing Status, Montana Adults Aged 18-64, 2008-09.



Small sample sizes prohibited determining whether those that reported engaging in high risk behavior in the past year were more likely to have been tested for HIV in the past year than those that did not engage in high risk behavior within the past year. However, in examining length of time since last HIV test and high risk activity, of adults who reported that they had an HIV test within the past year, 9% reported having engaged in high risk activity within the past year (Figure 5). Of adults who were tested but not within the past year, almost 4% had engaged in high risk activity within the past year and another 2% of adults who have never been tested reported engaging in high risk activity in the past year.

Persons who were never tested or not tested periodically and still engage in high risk activity may contribute to unknowingly spreading the HIV infection and also to the failure to link those with infections to medical care and services that could reduce morbidity and mortality and improve quality of life. In the United States as of June 2009, among the more than one million people living with HIV/AIDS, an estimated 21% do not know they are infected and knowledge is even lower among some populations.<sup>14</sup> In addition, many people are diagnosed late in their illness; in the United States, according to 2006 estimates, 36% received an AIDS diagnosis within one year of testing HIV positive.<sup>15</sup>

## Discussion

With continued increases in the number of people living with HIV/AIDS over time thanks to effective HIV medications, there are more opportunities for transmission, yet the number of new infections has remained stable since about 1991.<sup>6</sup> This indicates that HIV testing, prevention, and treatment programs are effectively reducing the rate of transmission, including those among HIV-infected pregnant women to their newborns. Awareness of one's HIV status through testing, along with access to HIV prevention programs, is necessary for effective interventions to occur.

A major public health concern, because Montana is a low incidence state, is that people have become complacent about HIV. BRFSS data shown in this report indicated that even some of the population at highest risk (having engaged in high risk activity in the past year) have not been recently or ever tested for HIV, and despite public health efforts, the prevalence of HIV testing among Montana adults has decreased significantly in the past decade. Failure to either recognize one's risk or falsely believing HIV is no longer a threat will reduce the efforts to control the spread of HIV. HIV testing is critical to prevention. By investing in HIV prevention programs and successful policies that expand the reach of prevention,<sup>16</sup> improvement in the health of Montanans is possible. The future of the HIV epidemic will depend on the choices made today.

To learn more about HIV and AIDS and find out where you can receive confidential HIV testing, visit [www.hivtest.org](http://www.hivtest.org), call 800-CDC-INFO, text your zipcode to "Know It" (566948) or contact your local health department or Laurie Kops at the DPHHS STD/HIV Program, 406-444-2457, [lkops@mt.gov](mailto:lkops@mt.gov).

## Endnotes

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## Survey Limitations

The BRFSS relies on self-reported data. This type of survey has certain limitations: many times, respondents have the tendency to underreport some behaviors that may be considered socially unacceptable (e.g., smoking, heavy alcohol use); conversely, respondents may over-report behaviors that are desirable (e.g., physical activity, nutrition).

## Background

The Montana Behavioral Risk Factor Surveillance System (BRFSS) has been collecting and reporting state-specific, population-based estimates of health-related data since 1984. The purpose of this statewide telephone survey of Montana residents aged 18 and older is to gather information regarding personal health risk behaviors, selected medical conditions, and the prevalence of preventive health care practices among Montana adults. These BRFSS results have been used by public health agencies, academic institutions, non-profit organizations, and others to develop programs that promote the health of Montana adults and reduce risks that contribute to the leading causes of death in the state. A full set of Montana yearly questionnaires and health indicators can be found on the Department of Public Health and Human Services (DPHHS) BRFSS database query system website at [www.brfss.mt.gov](http://www.brfss.mt.gov). The CDC website [www.cdc.gov/brfss](http://www.cdc.gov/brfss) also provides national, state, and some local area prevalence estimates of health indicators, as well as access to downloadable datasets for further analyses.

## Acknowledgements

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