The State of the State's Health

A Report on the Health of Montanans

2013

MONTANA DPHHS

Healthy People. Healthy Communities.

Department of Public Health & Human Services

A Message from the Director

Thank you for your interest in the health of Montana citizens. This report is intended to inform all Montanans about some key opportunities to improve the health of all of us who are lucky enough to call the Big Sky State home.

The Montana Department of Public Health and Human Services (DPHHS) hopes that readers of this report take action by:

- Targeting their work and resources on the prevention of leading causes of death and disability in Montana
- Informing state, local, and tribal policymakers about the health issues that have the greatest impact on the populations they represent
- Improving their own health and the health of those around them

The DPHHS is committed to leading the state in health improvement by targeting our resources on programs and practices that are most effective and have the most impact. However, we cannot do this alone. It is important that we work together as a state. This report is the first step in that process, and I thank the DPHHS staff and partners who have worked together to bring you this information.

Working with you for a healthier Montana,

Richard Opper
DIRECTOR
Montana Department of Public Health and Human Services

Table of Contents

Introduction

Antibiotics and immunizations led the transition from the infectious causes of sickness and death that prevailed a century ago to the chronic disease causes that prevail today. These two medical advances that we now take for granted changed the face of personal and public health forever. Today sickness, disability, and premature death are largely under personal control through lifestyle choices and compliance with health care and public health recommendations. Public policy plays a key role by making healthy personal choices and compliance with recommendations easier. The impacts that recent national health care reform initiatives will have on Montana's population are uncertain. Nevertheless, we can assess our current health status and make solid recommendations to achieve improvements.

Many Montanans experience limited access to health care, for financial or geographic reasons or both. One in five residents did not have health insurance or said they had to forego necessary health care because of cost. More than half of our population lives in rural or frontier areas, characterized by limited access to health care in local communities. Most Montana counties are designated as medically underserved. Financial and geographic disparities affecting health are unequally distributed by race: half of our White residents but nearly two-thirds of our American Indian residents live in medically underserved counties, and more than three times as many American Indian as White residents are unemployed or live in poverty.

The greatest overall killers of Montana residents are cardiovascular diseases and cancer, which jointly account for approximately half of all deaths in the state each year. However, causes of death differ greatly by age group. Among children and adolescents, unintentional injuries cause almost half of all deaths. Among adolescents and young adults, suicide accounts for approximately a quarter of all deaths. Tobacco use remains the single most preventable cause of morbidity and mortality in Montana across the lifespan.

Tobacco use remains the single most preventable cause of morbidity and mortality in Montana across the lifespan.

It contributes to prematurity, low birth weight, Sudden Infant Death Syndrome, childhood and adult asthma, cardiovascular disease, and many cancers. Alcohol also kills many Montanans. One third of unintentional injury deaths are vehicle crashes, and half of fatal crashes involve alcohol. In addition, four out of five people who die in vehicle crashes are unrestrained by seat belts or age-appropriate car seats. Vigorous enforcement of drunk driving laws and passage of a primary seat belt law could save lives. Montana's occupational injury and fatality rates are consistently among the worst in the nation, in large part because many of our workers are employed in the most hazardous occupations: agriculture, mining, construction, and transportation.

The mortality rate from communicable diseases in Montana and the US is dramatically lower now than it was 50 years ago. This is in large part due to improvements in sanitation, hygiene, and immunizations for vaccine-preventable diseases. However recently the high incidence of vaccine-preventable disease, such as pertussis, emphasizes the need for improving our low childhood immunization rates. Chlamydia, a sexually-transmitted infection (STI), is the most common reportable infectious disease in Montana, underscoring the need for ongoing STI prevention activities. Acute diarrheal diseases, while not often fatal, continue to sicken our citizens. These diseases are primarily waterborne, underscoring the need to monitor water supplies and maintain other sanitation activities, such as restaurant inspections and licensing.

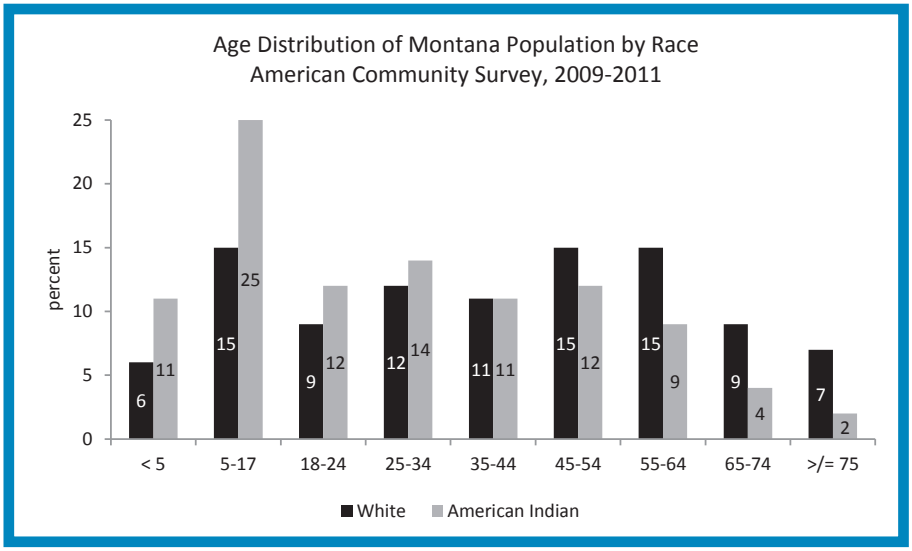
Montana has already achieved federal Healthy People 2020 targets for low rates of premature birth, low birth weight, and neonatal and infant mortality. Our rates could be even better if more women entered prenatal care early and if we could reduce smoking during pregnancy, especially among younger mothers.

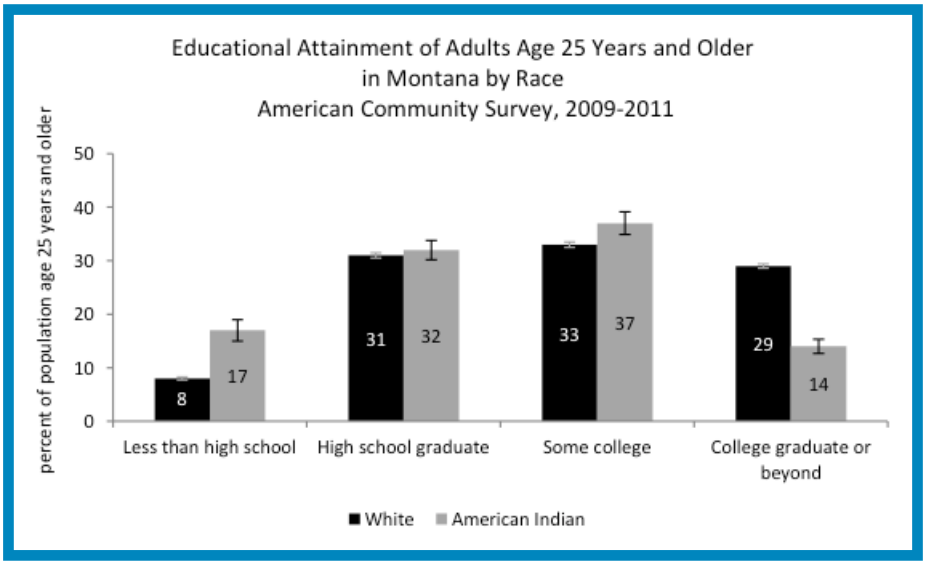
The Montana Clean Indoor Air Act, implemented in 2005, reduced citizens' involuntary exposure to the most common environmental health hazard: second-hand smoke. Outdoor air quality is an intermittent concern due to wildfires in summer and periods of air inversion in winter. Periodic burning bans, replacement programs for wood stoves, and health alerts for susceptible segments of the population, such as those with asthma and other chronic lung diseases, help to mitigate the health effects of poor air quality.

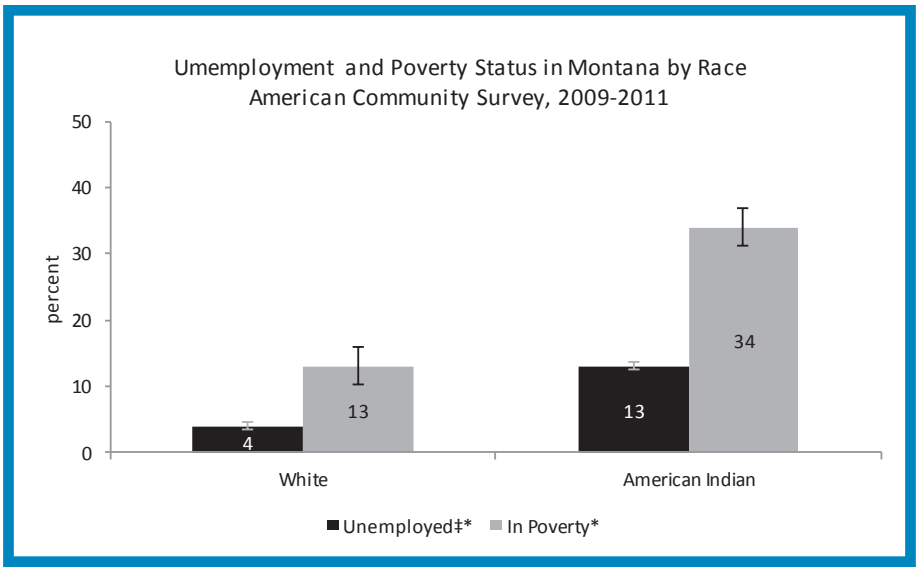
The Population of Montana

The population of Montana is 93% White and 6% American Indian; only 1% of Montana residents are of other races.[1] The American Indian population of Montana is younger than the White population. The median age of White residents is 42 years, while the median age of American Indian residents is 26 years; 21% of White residents are under age 18 years compared to 36% of American Indian residents; and 16% of White residents are age 65 years or older, compared to 6% of American Indian residents.

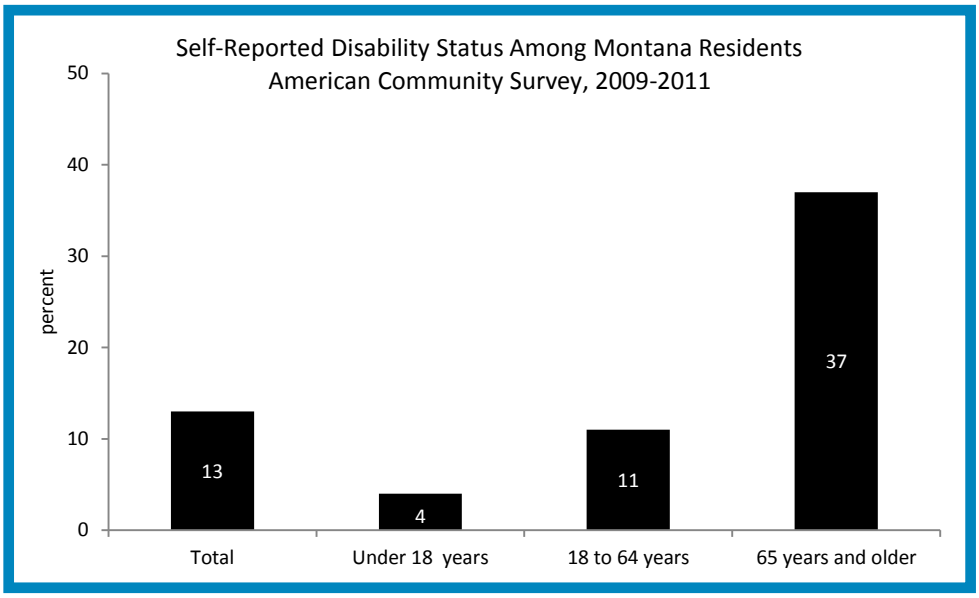
As a group, American Indian residents tend to have lower educational attainment than White residents. American Indian residents experience almost three times the unemployment rate of White residents. More than one third of American Indian residents live below the federally defined poverty level, compared to only 13% of white residents, but numerically most Montana residents who live in poverty are White (115, 000 vs. 26,500). [2,3]

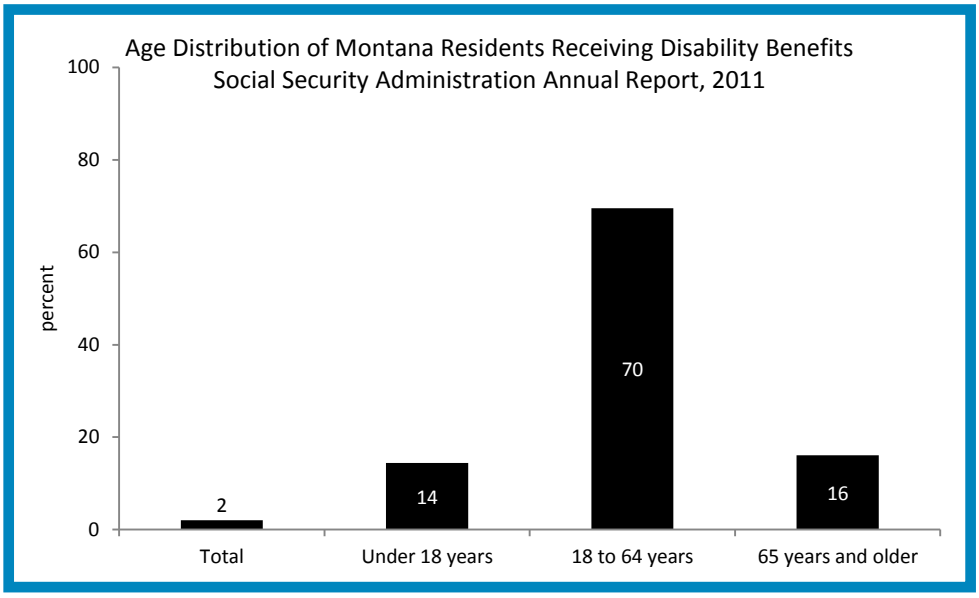






Disability[4,5]



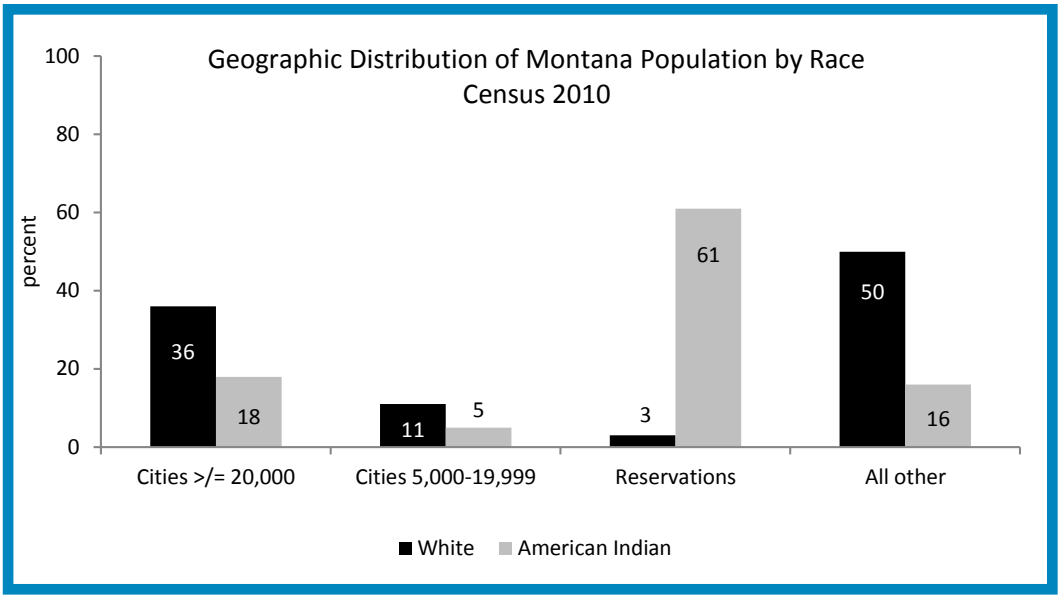


Thirteen percent of Montana residents reported having a disability, but only 2%, or nearly 20,000 individuals, received some form of disability benefits in 2011. More than one third of Montana residents who reported having a disability were age 65 years or older but 70% of those who received disability benefits were between the ages of 18 to 64 years, and more than half of those recipients (57%) were disabled workers.

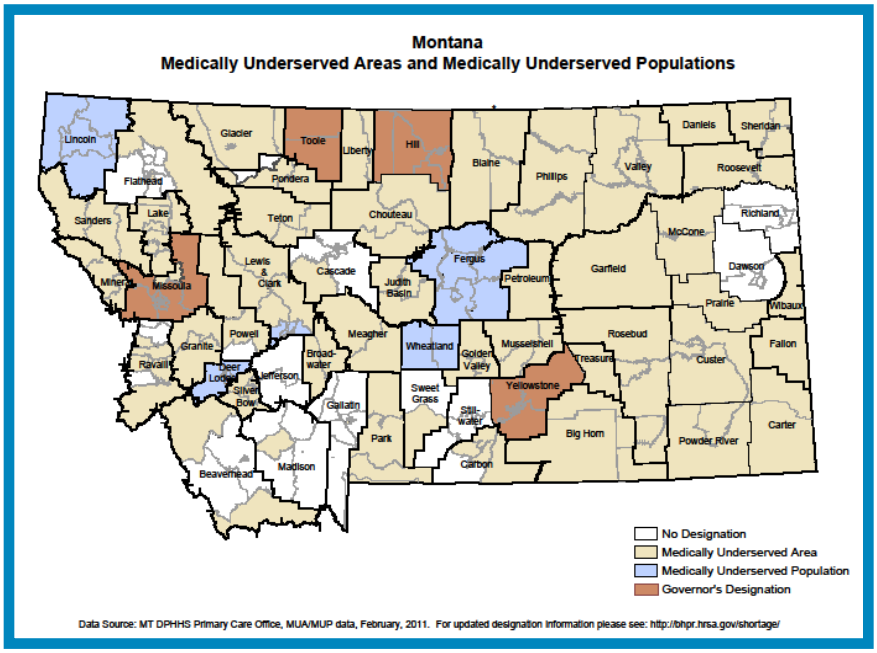
1 http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=datasets_2&_lang=en
2 http://pubdb3.census.gov/macro/032007/pov/new46_001.htm
3 http://factfinder.census.gov/servlet/DTGeoSearchByListServlet?ds_name=ACS_2009_5YR_G00_&_lang=en&_ts=317148289930
4 http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml
5 www.saa.gov/docs/statecomps/sse_sc/index.html

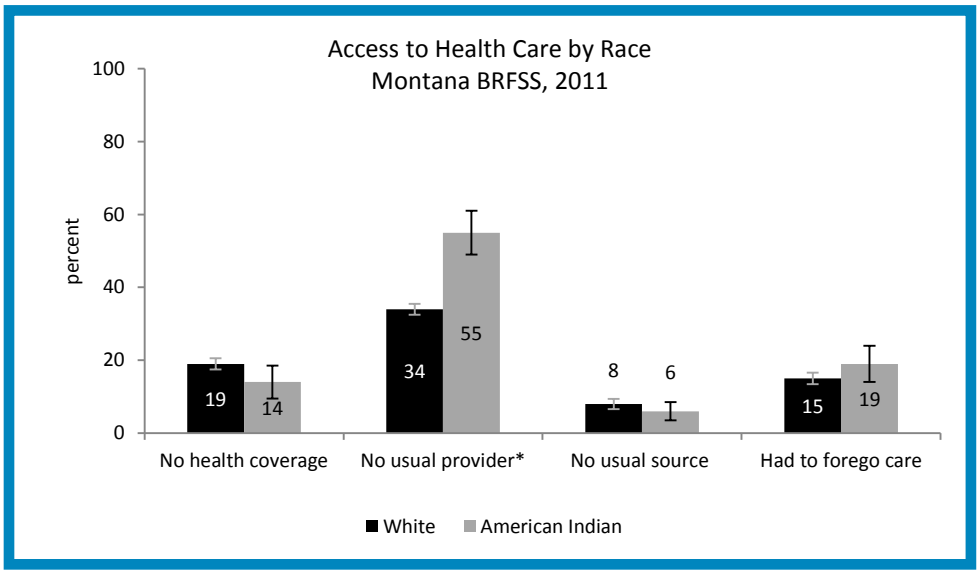
Access to Health Care

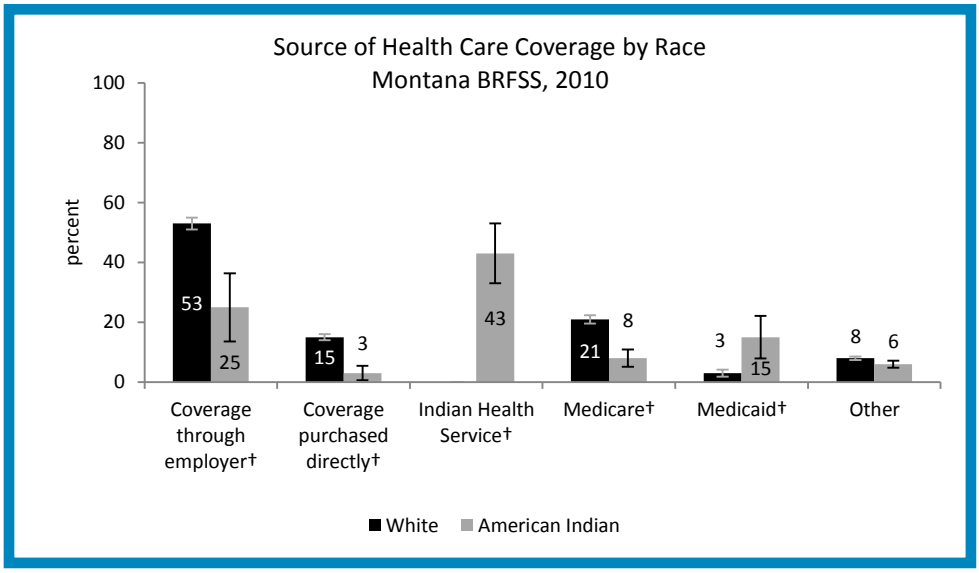
Montana has nearly one million residents and an area of nearly 146,000 square miles. There are only seven cities with more than 20,000 residents and only 15 cities with 5,000 to 20,000 residents.[6] American Indians tend to live in more rural areas of the state: only 18% lived in Montana's seven cities of 20,000 or more according to the 2010 Census, and only 5% lived in cities of 5,000 to 19,999; compared to 36% and 11% of White residents, respectively.



As a result, 53% of our population lives in rural or frontier areas,[7] characterized by lack of essential services including health care, both general and specialized, in their local communities, and long distances from and long travel times to essential services. [8] Most Montana counties are designated as medically underserved.[9]







In the 2011 Behavioral Risk Factor Surveillance System (BRFSS) survey, one in five Montana residents reported that they had no health care coverage; this did not differ by race. [10]

In the BRFSS, American Indian residents reported that they did not have a person they regarded as their usual health care provider more frequently than White residents. However, relatively few respondents of either race reported that they did not have a usual place to go to seek care. One in six residents reported that they were not able to see a doctor when they needed to in the past year because of cost.

More than half of White residents obtained their health care coverage through their employer, compared to one quarter of American Indian residents. Nearly half of American Indian residents were covered by the Indian Health Service.

6 http://ceic.mt.gov/Census2010.asp
7 http://www.raconline.org/states/Montana.php
8 Larson EH et al. State of the Health Workforce in Rural America. Rural Health Research Center, University of Washington, Seattle, 2003.
9 http://bhpr.hrsa.gov/shortage/muaps/index.html
10 http://74.205.72.25/html/brfss-index.shtml

Causes of Death[11]

More than half of all Montana residents die of two broad classes of chronic disease: cardiovascular disease (heart disease and stroke) and cancer. For the population as a whole, the leading causes of death in 2011 were:

Leading Causes of Death (entire population)

- Cardiovascular disease 28%
- Cancer 22%
- Respiratory Diseases. 7%
- Unintentional Injury 6%

Infants under 1 year of age

- Conditions arising from the perinatal period. 36%
- Congenital malformations and chromosomal anomalies. 30%
- Suden Infant Death Syndrome 17%

Children age 1 to 14 years

- Unitentional injury. 44%
- Cancer. 12%
- Suicide 10%

Adolescents age 15 to 19 years

- Unitentional injury. 45%
- Suicide 26%

Young adults age 20 to 34 years

- Unitentional injury. 44%
- Suicide 24%

The causes of death varied substantially by age group. No other causes accounted for at least 10% of deaths by age group.

Adults age 35 to 49

- Unintentional injury 21%
- Cancer 14%
- Cardiovascular disease 17%
- Suicide. 12%

Adults age 50 to 64

- Cancer. 32%
- Cardiovascular disase 24%

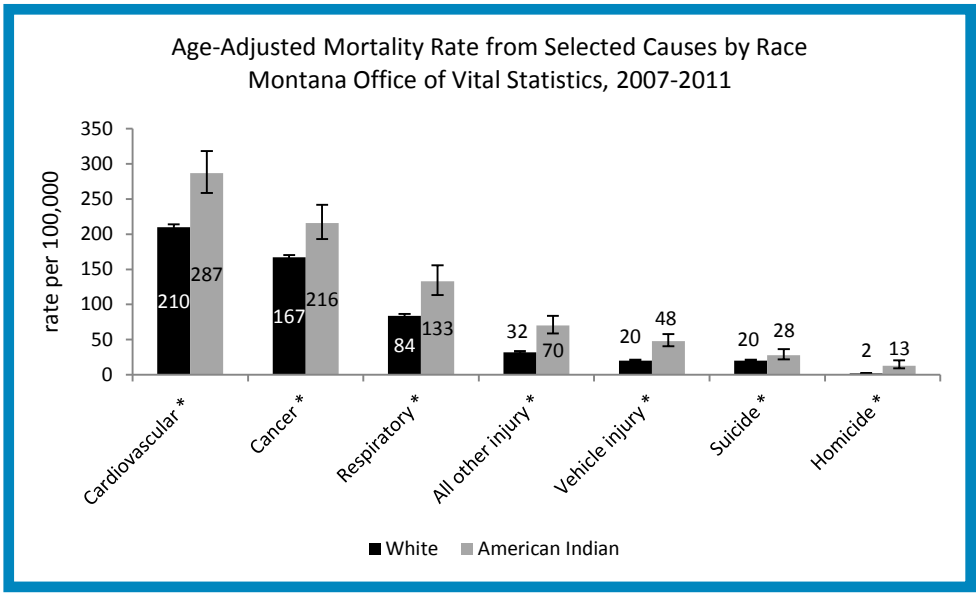
Adults age 65 years and older

- Cardiovascular disease. 32%
- Cancer. 24%
- Respiratory diases 9%

11 Unless otherwise noted, all data in this section are from the Montana Office of Vital Statistics Annual Report for 2011, http://www.dphhs.mt.gov/statisticalinformation/vitalstats/

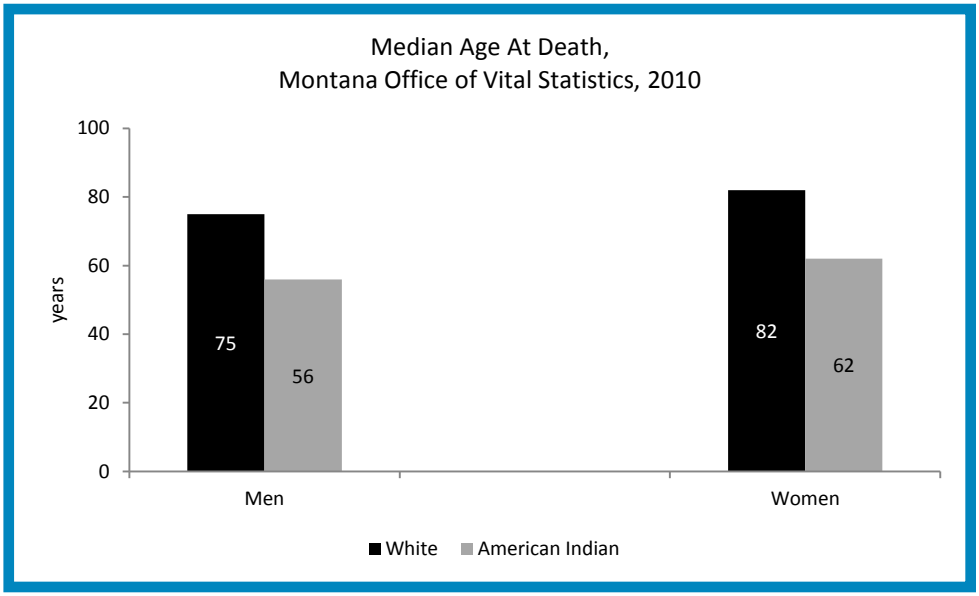
Causes of Death continued

The age-adjusted mortality rate for White residents of Montana was substantially lower than for American Indian residents: 742.6 per 100,000 (95% Confidence Interval 735.4 -749.7) compared to 1184.6 per 100,000 (1129.9-1242.0). In addition, the mortality rates for many individual causes of death were lower for White residents than for American Indian residents.

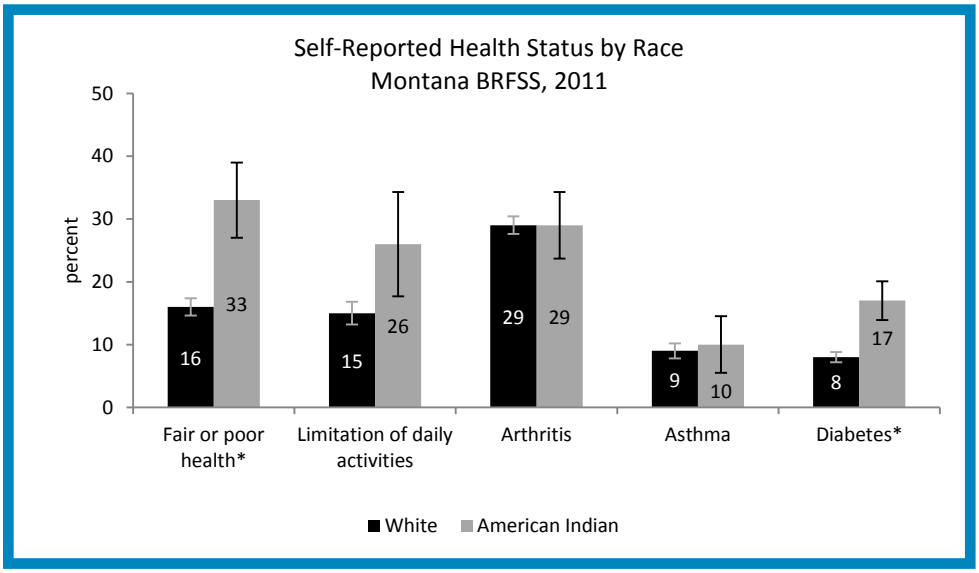


* American Indian mortality rates statistically significantly higher than White mortality rates.

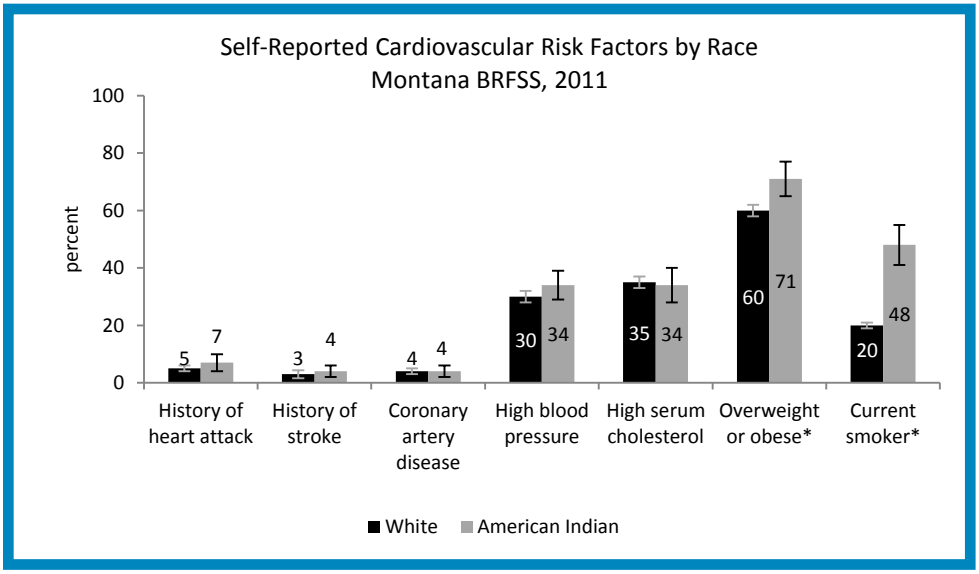
White men in Montana lived 19 years longer than American Indian men, and white women lived 20 years longer than American Indian women. White women lived seven years longer than White men, and American Indian women lived six years longer than American Indian men.



Chronic Disease[12]



* Statistically significantly different by race



* Statistically significantly different by race

Self-Reported Health Status

A substantial number of Montana adults characterized their own health as fair or poor and reported limitations of daily activities attributable to physical or mental disabilities. The most common chronic disease reported by both races was arthritis, followed by asthma and diabetes.

Cardiovascular Disease

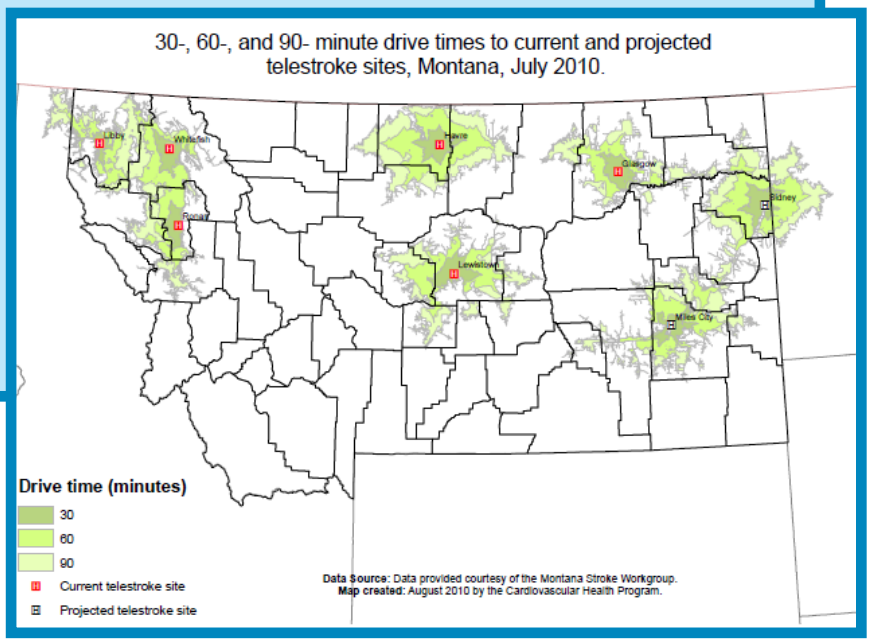
Cardiovascular disease is the biggest killer of adults in Montana. Twelve percent of White residents and 15% of American Indian residents reported a history of heart attack, stroke, or coronary artery disease. Approximately one third reported being diagnosed with high blood pressure or high serum cholesterol. Nearly two thirds of White respondents and almost three quarters of American Indians were overweight or obese. Smoking was substantially higher among American Indian than among White residents. All are risk factors for cardiovascular disease. These conditions are not mutually exclusive; respondents may have had a history of more than one critical health event or more than one high-risk condition..

12 Unless otherwise noted, all data in this section are from the Montana Behavioral Risk Factor Surveillance System 2011 survey, http://74.205.72.25/html/brfss-index.shtml

One Montana Strategy: The Montana Telehealth Project

Survival and recovery from stroke are optimized when effective and advanced treatments are delivered as quickly as possible. There is an effective treatment for an ischemic stroke - the most common type of stroke. The treatment involves using a blood clot-busting medication called t-PA. Nationally, the utilization rates of t-PA are extremely low -- <4%. Reasons for these low treatment rates are due to the narrow treatment window in which the drug can be administered and a lack of stroke neurologists managing the care of the patient. Montana, like most rural areas, lacks access to stroke neurologists that can provide advanced care in the early hours of a stroke. The Cardiovascular Health Program, in collaboration with the Montana Stroke Initiative and the Montana Health Research and Education Foundation, has developed telestroke capabilities in Montana using Master Settlement Agreement funding. The Cardiovascular Health Program partnered with neurologists from Montana, Washington, Colorado and Oregon to provide 24/7 coverage for Montana's hospitals that use the telestroke system. The telestroke system's two-way audio/video capabilities allow the stroke specialist to examine patients remotely. In turn, the patient and emergency room staff can see and hear the stroke neurologist. Brain images, such as CT scans, can also be reviewed by the stroke neurologist greatly reducing the "decision to treat time." Telestroke systems are operational at Central Montana Medical Center in Lewistown, St. John's Lutheran Hospital in Libby, St. Luke Community Healthcare in Ronan, Frances Mahon Deaconess Hospital in Glasgow, Northern Montana Hospital in Havre, North Valley Hospital in Whitefish and Clark Fork Valley Hospital in Plains.

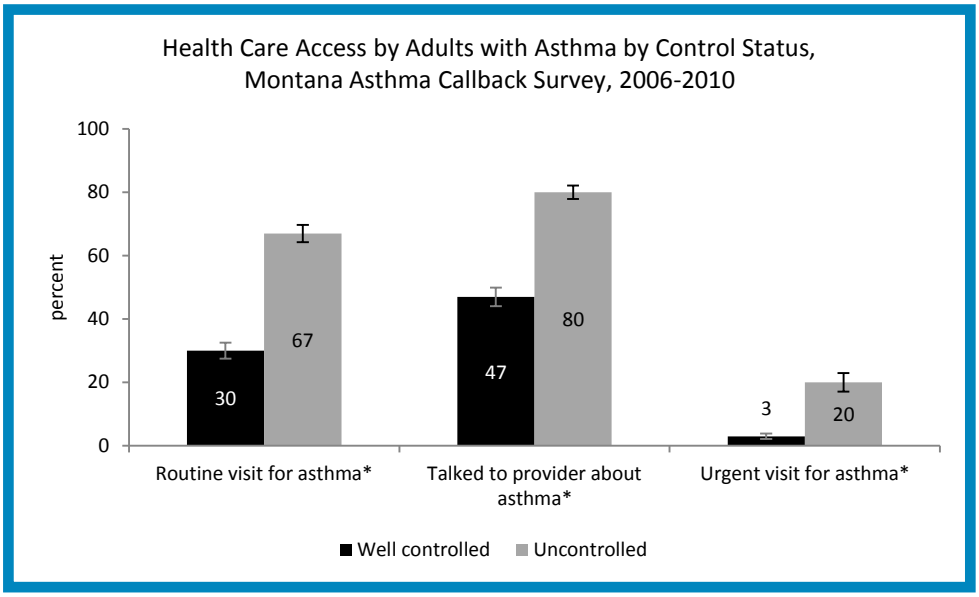
Telestroke Reach



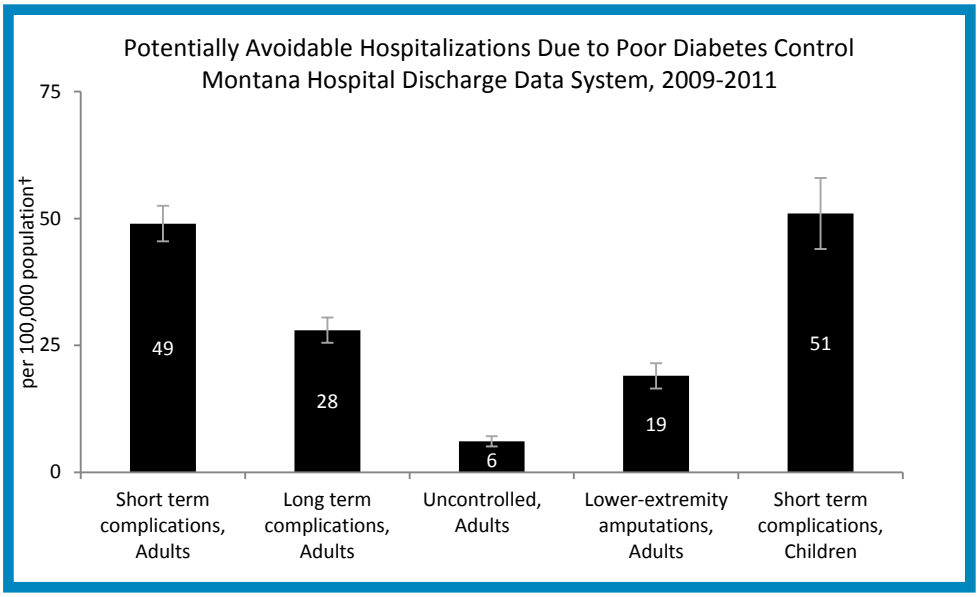
Outcomes

From June 2009 – March 2013, 47 neurologist consults were completed using the telestroke system. In eleven of the cases - or nearly 1 in 4 - patients received t-PA. This t-PA treatment rate is much higher than the national t-PA treatment rate and offers patients the best chance to recover from stroke.

Chronic Disease Continued



*Significantly different by control status



† Adult rates age-adjusted to the population age 18 years and older; children's crude rate per 100,000 children 6-17 years.

Asthma[13]

In 2010, an estimated 9% of adults and 7% of children in Montana had been diagnosed with asthma. Nearly half of Montana adults and more than one third of children with active asthma reported that their disease was not well controlled. People with uncontrolled asthma had more frequent visits to Urgent Care centers or Emergency Departments than did people with well-controlled asthma and reported more frequent encounters with health care providers.

Despite being an at-risk population, 26% of adults with current asthma in Montana reported smoking cigarettes, compared to 17% of Montana adults in general. In addition, 12% of children (ages 0-17 years) with current asthma were exposed to environmental tobacco smoke at home.[12]

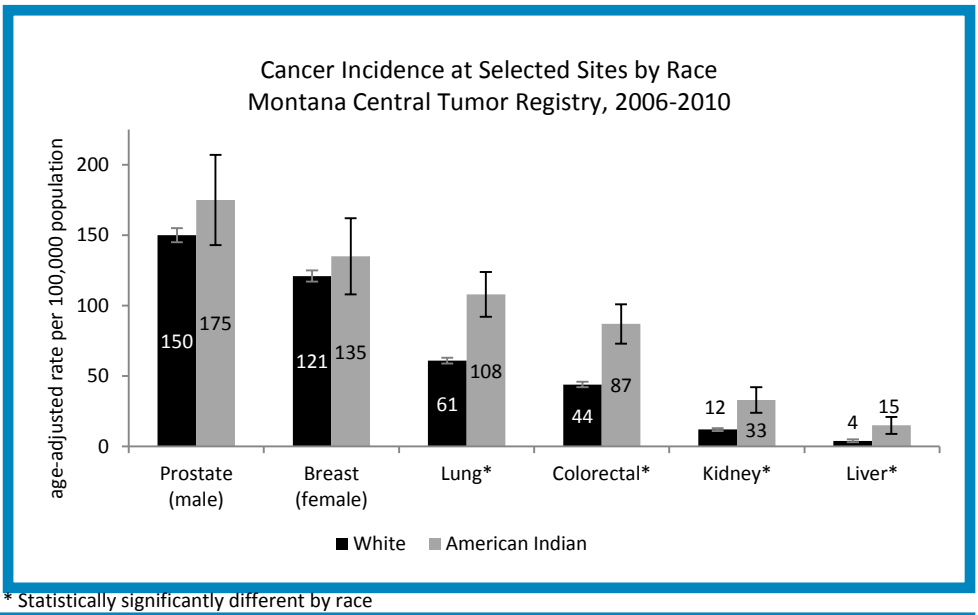
Diabetes

In 2011, 8% of adult respondents to the BRFSS said they had been diagnosed with diabetes.[14] Complications of poorly controlled diabetes contributed to 102 potentially avoidable hospitalizations per 100,000 population among adults and 52/100,000 among children ages 6 to 17 years for the three-year interval 2009 through 2011.[15] These hospitalizations cost $16.5 million in 2011 alone.

13 Montana Asthma Call Back Survey , 2006-2009, http://dphhs.mt.gov/asthma
14 Montana Behavioral Risk Factor Surveillance System 2011 survey http://74.205.72.25/html/brfss-index.shtml
15 Montana Hospital Discharge Data System, 2009-2011, http://www.dphhs.mt.gov/PHSD/MTHDDS/index.shtml

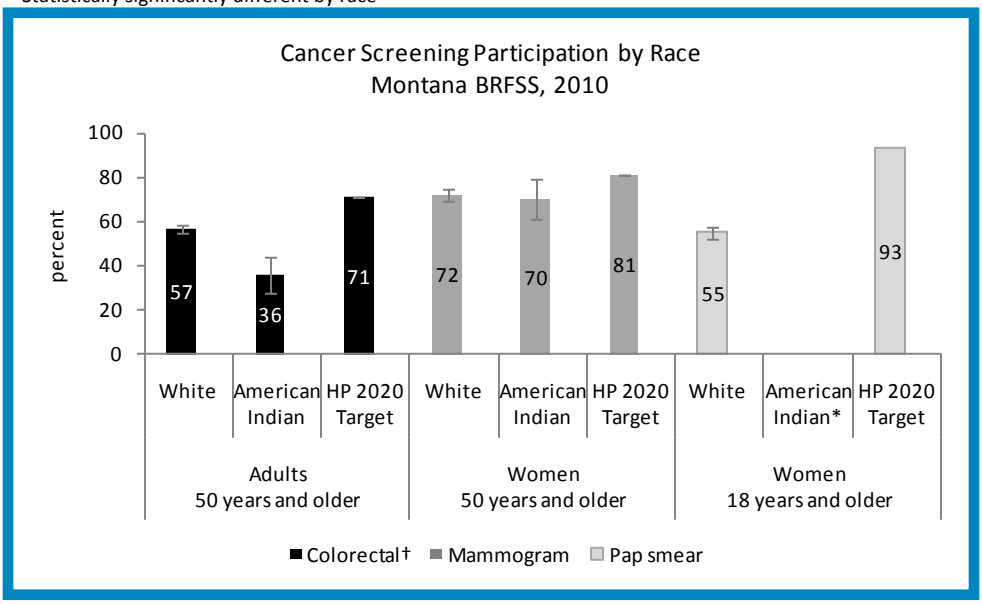
Cancer

Cancer is the second leading cause of death in Montana. An average of 5,000 new cases are diagnosed each year.[16] The most common types in Montana and the nation as a whole are prostate (17%), lung (14%), female breast (14%), and colorectal cancer (10%). Jointly, these sites account for more than half of all newly diagnosed cancers. No other kind of cancer accounts for even 5% of cases, and many account for less than 1%.



* Statistically significantly different by race

American Indian residents of Montana have substantially higher incidence rates of lung cancer than White residents, probably due to a higher prevalence of smoking among American Indian residents. They also have higher incidence rates of colorectal, kidney, and liver cancers. The higher incidence rate of colorectal cancer may be due in part to notably lower participation in screening. The higher incidence rate of liver cancer may be due to higher prevalence of cirrhosis of the liver and hepatitis.



* 95% confidence interval for American Indian women exceeds reporting guidelines.

The single most effective way to reduce cancer incidence is to avoid tobacco use, which is estimated to cause approximately 90% of lung cancer and to increase the risk for one third of other cancers throughout the body.

The most important way to reduce cancer mortality is to participate in regular screening for colorectal, breast, and cervical cancer. Colorectal and cervical cancer screening can prevent cancer by finding precancerous lesions. The Pap test has reduced cervical cancer from the most common cause of cancer death among U.S. women in 1900, to one of the least common today. Colorectal cancer screening has the potential to have a similar impact if people are screened according to guidelines, but only slightly more than half of Montana adults report being screened by either fecal occult blood tests (FOBT) or endoscopy.

16 Montana Central Tumor Registry Annual Report, 2011.http://www.dphhs.mt.gov/PHSD/cancer-control/tumor-registry-index.shtml

One Montana Strategy: Cancer Control Programs

The Montana Cancer Control Programs (MCCP) coordinate and integrate cancer activities at the state, local, and tribal levels. The MCCP includes policy and environmental approaches and community-clinical linkages.

Promotion of breast, cervical, and colorectal cancer screening and of direct screening services is accomplished through Montana Cancer Control Programs (MCCP) contractors and statewide partners. Statewide partners include the Montana Cancer Control Coalition (MTCCC), the Montana American Indian Women's Health Coalition (MAIWHC), and local worksites and medical service providers across Montana. Montana's American Indian Screening Initiative began in 2000. It provides outreach to all seven reservation and eight tribes in Montana and to five Urban Indian Centers. MAIWHC is made up of American Indian women throughout Montana who donate their time, energy, and talent to assist American Indian communities with outreach, recruitment, and education on the cancer continuum (prevention, screening, treatment, and survivorship) in Indian Country.

Thirteen regional MCCP contracts reach Montana citizens in all 56 counties, five Urban Indian Centers, and seven tribal reservations. Contractors enroll eligible clients in direct cancer screening services, address policy and systems change activities in worksites and medical offices, and partner with regional community organizations to implement cancer control activities. The MCCP supports comprehensive cancer control in Montana by providing ongoing screening services to Montana men and women and education in a manner that is appropriate, accessible, cost-effective, and sensitive to the clients' needs. Screening services include mammograms, clinical breast exams, Pap tests, and pelvic exams for the early detection of breast and cervical cancers and colonoscopies and FOBT tests for the early detection of colorectal cancer. Diagnostic testing is also provided for the follow-up of abnormal screening tests. The eligibility guidelines for enrolling in screening services include age, income, and insurance.

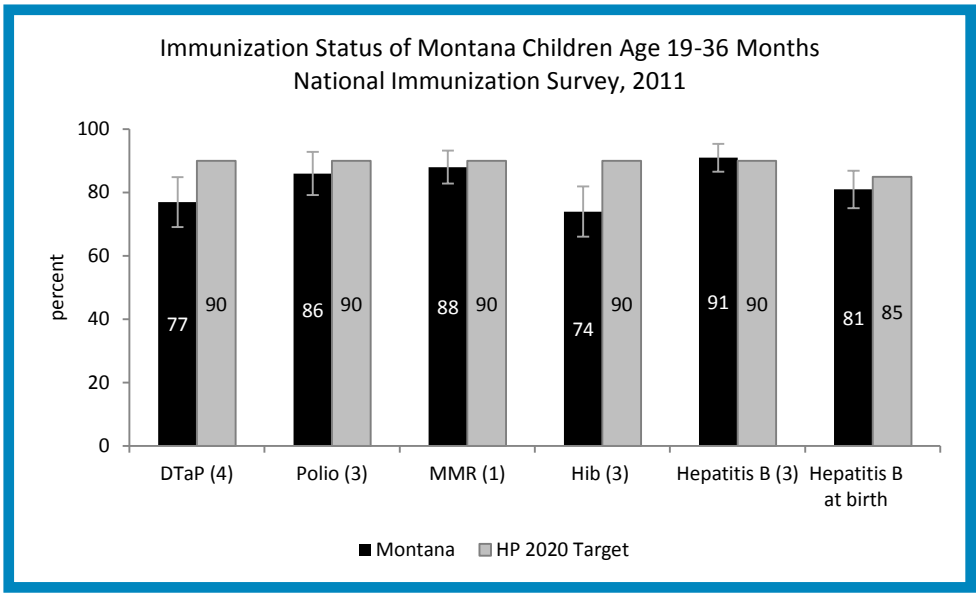
The MCCP data (October 1, 1996 – June 30, 2012) show that 46,813 mammograms and 30,953 Pap tests have been performed through MCCP direct screening services. A total of 24,785 women have been served in the direct screening program since its inception. The number of women of American Indian heritage screened by the MCCP has steadily increased from approximately 6% in 1996 (5 of 262 women), to approximately 19% in 2011 (1,150 of 5,931 women). For colorectal screening, (January 2010-June 2012) 1,658 residents have been screened and 342 cases of precancerous conditions and 7 cases of colorectal cancer have been diagnosed.

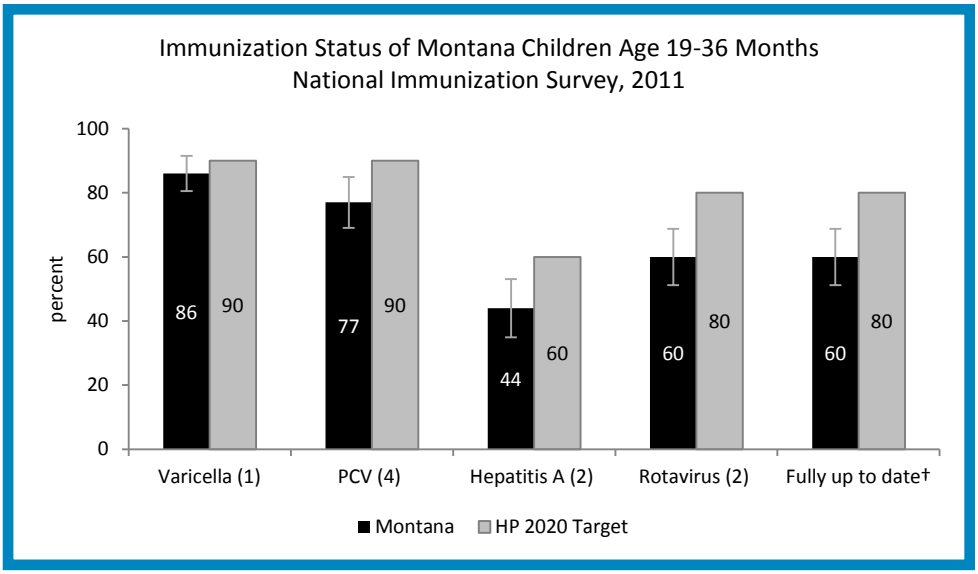
Communicable Disease[17]

Immunization Coverage[18]

Healthy People 2020 targets for population vaccination rates at age 36 months are 90% for most vaccines. The goal for being up to date on all vaccines is 80%. Montana law does not require all vaccines recommended by the HP 2020 or the Advisory Committee on Immunization Practices.[19]

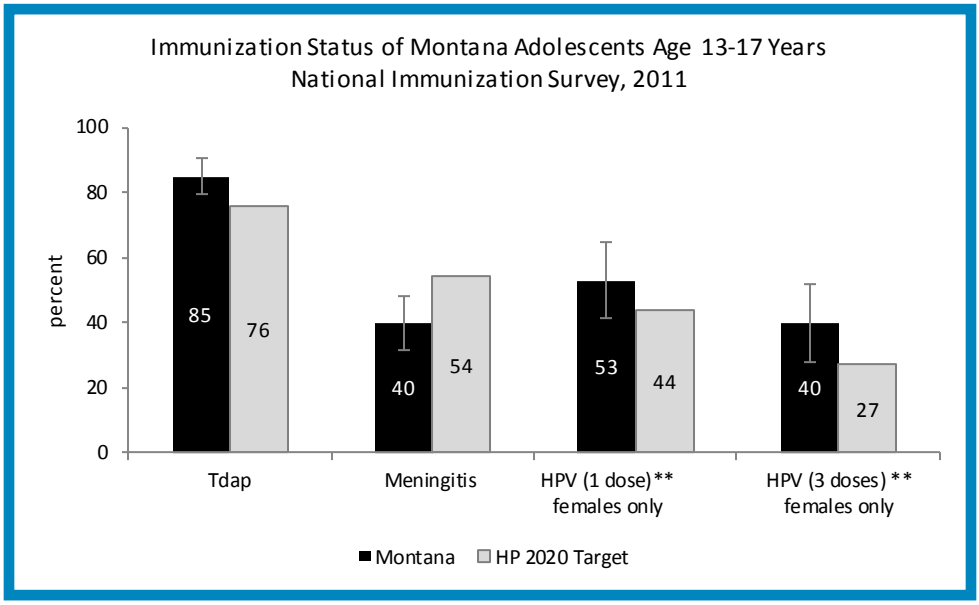
HP 2020 recommends a population-based, electronic database of childhood vaccination covering 95% of all children under six years of age. Montana has recently gone on-line with an immunization registry that meets the 12 minimum functional standards of the National Vaccine Advisory Council. HP 2020 also recommends that states collect immunization status of all children at enrollment in kindergarten. Montana schools must report the immunization status of children at enrollment to ensure that they are up to date according to the Administrative Rules of Montana for school entry (ARM 37.114.705).





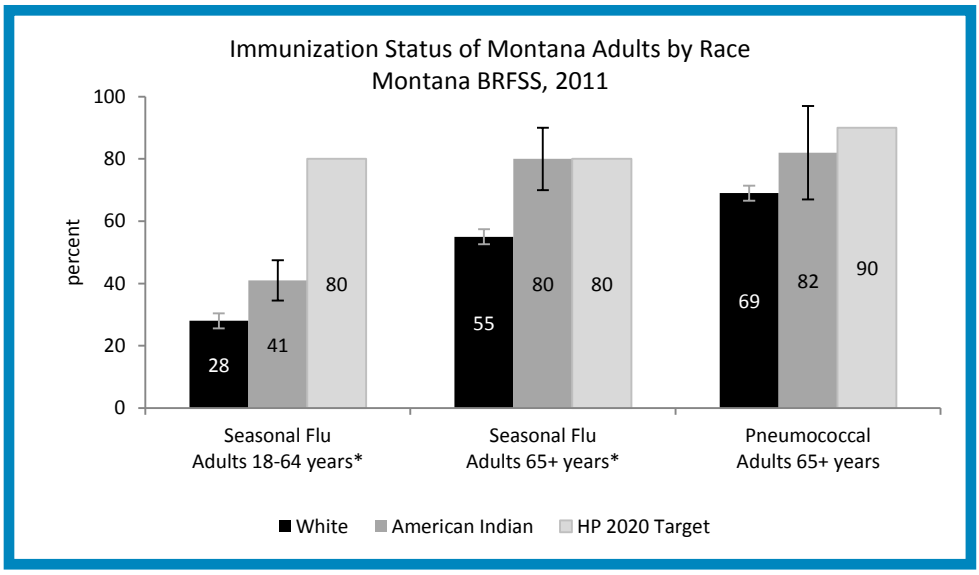
Fully up-to-date is currently defined as > 4 DTAP, > 3 polio, > 1MMR, > 3 or > 4 Hib depending on the product, > 3 Hepatitis B, > 1 Varicella, and > 4 PCV. 3 or > 4

Montana has experienced recent outbreaks of pertussis and varicella. There were 586 cases of pertussis in 2005 and 545 in 2012. There were 336 cases of varicella in 2008 and 424 in 2007. Upsurges in these and other vaccine-preventable diseases may be expected to increase in the future unless vaccination rates improve. Increases in pertussis cases in adolescents may also be due to the waning of immunity, underscoring the importance of a booster.



**Although HPV is now for males as well as females, the sample size for males was too small to compute a coverage rate in 2011.

Adolescent vaccination coverage for tetanus and diphtheria (Td) or for tetanus, diphtheria, and aceullular pertussis (Tdap) are high in Montana, exceeding the HP 2020 target.[20] Use of the Tdap is preferred to maintain immunity to pertussis among teens. Coverage for the newer vaccines for meningitis and HPV are lower among Montana teens but still exceed the HP 2020 targets.



* Statistically significantly different by race

The HP 2020 targets for adult vaccination are 80% for annual seasonal influenza for all adults and 90% for pneumococcal pneumonia for adults age 65 years and older. In 2011, fewer than one third of Montana adults aged 18 and 64 reported having a seasonal flu shot in the past year and only about half of adults age 65 years and older had been vaccinated.[21] However, more than two thirds of Montanans over age 65 years reported receiving the pneumococcal vaccine.

17 Except as otherwise noted, data in this section are from the Montana Communicable Disease Control and Prevention Bureau http://www.dphhs.mt.gov/PHSD/Communicable-disease/commun-disease-index.shtml
18 National Immunization Survey, 2011, http://www.cdc.gov/nchs/nis.htm
19 http://www.cdc.gov/vaccines/recs/acip/default.htm
20 National Immunization Survey, 2011, http://www.cdc.gov/nchs/nis.htm
21 Montana Behavioral Risk Factor Surveillance System 2011 survey http://74.205.72.25/html/brfss-index.shtml

One Montana Strategy: Improving immunization coverage

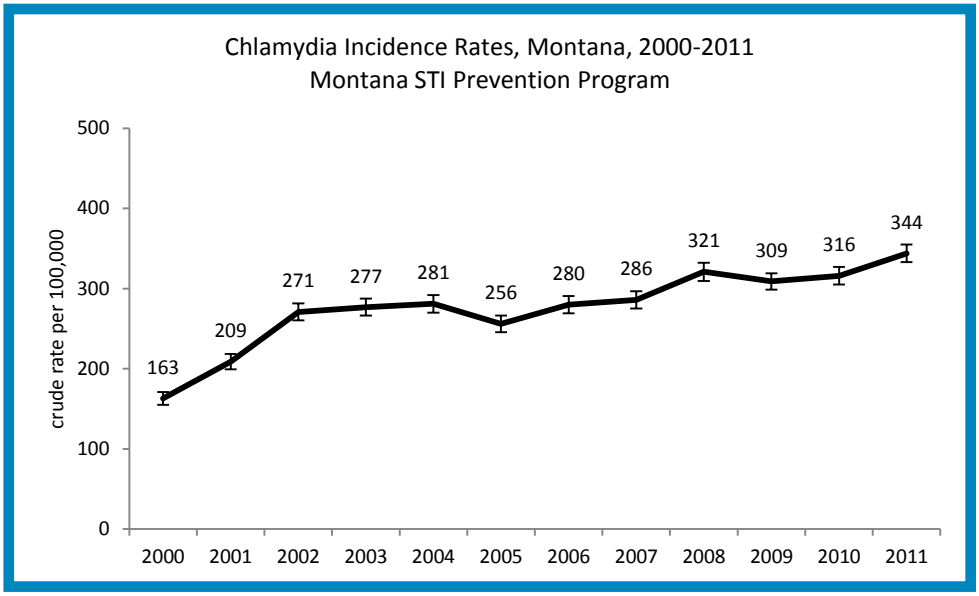
In 2012, Montana received national recognition and received an award from the Centers for Disease Control and Prevention for being the state with the most improved adolescent immunization coverage rate. This recognition was earned by significantly increasing coverage rates for key vaccines among Montana adolescents. An increase in the coverage rates for vaccines targeting Diphtheria, Tetanus and Pertussis (Tdap), meningococcal infections and Human Papilloma Virus (HPV) was identified through CDC's National Immunization Survey. Since 2008, the percentage of teens who have received these important vaccines has increased significantly and almost doubled in the case of pertussis vaccine and more than doubled with respect to meningococcal and HPV vaccines. With the exception of meningococcal vaccine, Montana's coverage rates match or exceed the US average.

In 2009, Montana received state funding to support immunization services for uninsured and underinsured adolescents. The availability of these vaccines has been an important factor in increasing adolescent immunization rates.

Sexually Transmitted Infections

Chlamydia

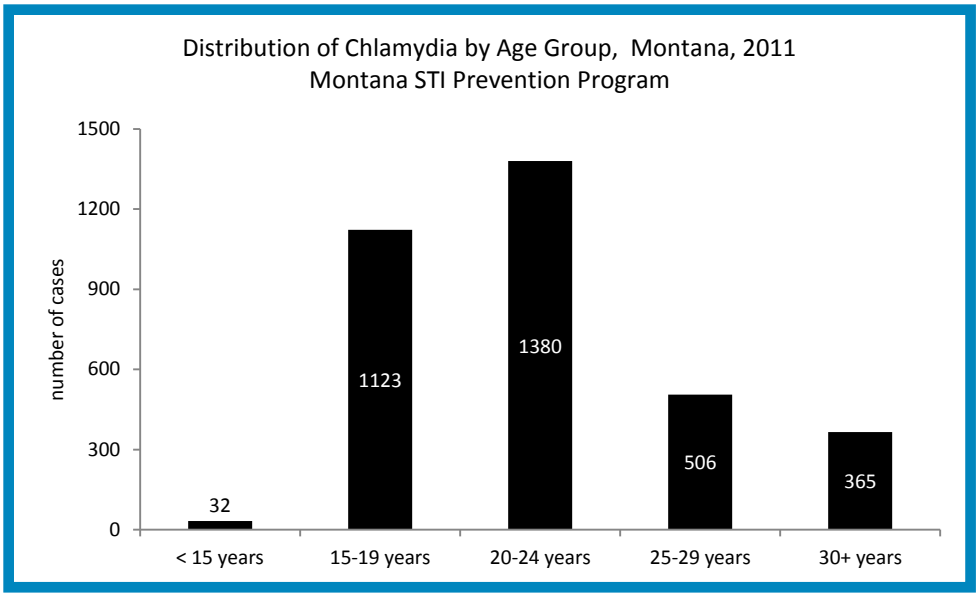
Chlamydia is the most commonly reported infectious disease in Montana and the U.S. Infections in women are usually asymptomatic and can result in pelvic inflammatory disease, a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. Women are diagnosed more than twice as often as men probably because women are often diagnosed when seeking reproductive health services; this may also account for the strong clustering of cases among persons aged 15 to 25 years. Because of the large burden of disease and risks associated with infection, the Centers for Disease Control and Prevention recommends that all sexually active women younger than age 26 years receive chlamydia screening annually.



Communicable Disease Continued

Since 2000, both the number of reported cases and the crude incidence rate have approximately doubled in Montana, from 163/100,000 (95% CI 154.1-171.0) to 344/100,000 (95% CI 297.2-391.3) in 2011. However, Montana's rate remains below the national rate of 458/100,000. The increase between 2000 and 2011 may be attributable to more complete reporting, as well as to a true increase in incidence.

Montana's 25 Family Planning Clinics perform approximately 69% of the state's chlamydia testing among young women. These clinics identify and treat the majority of the state's reported cases. In 2011, 7% of women aged 15 to 24 years who attended the clinics tested positive for chlamydia, slightly above the Healthy People 2020 target of 6.7%.



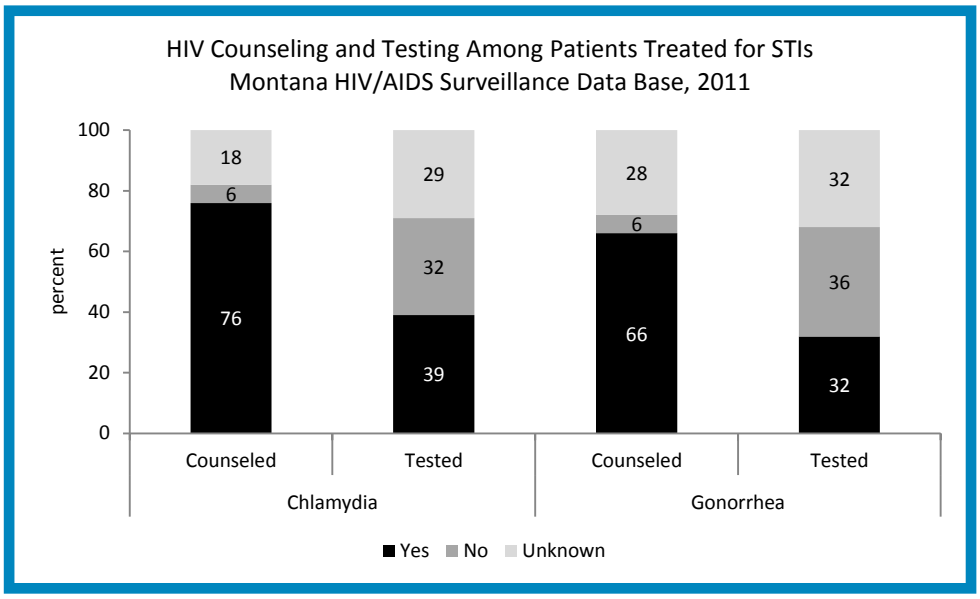
Gonorrhea and Syphillis

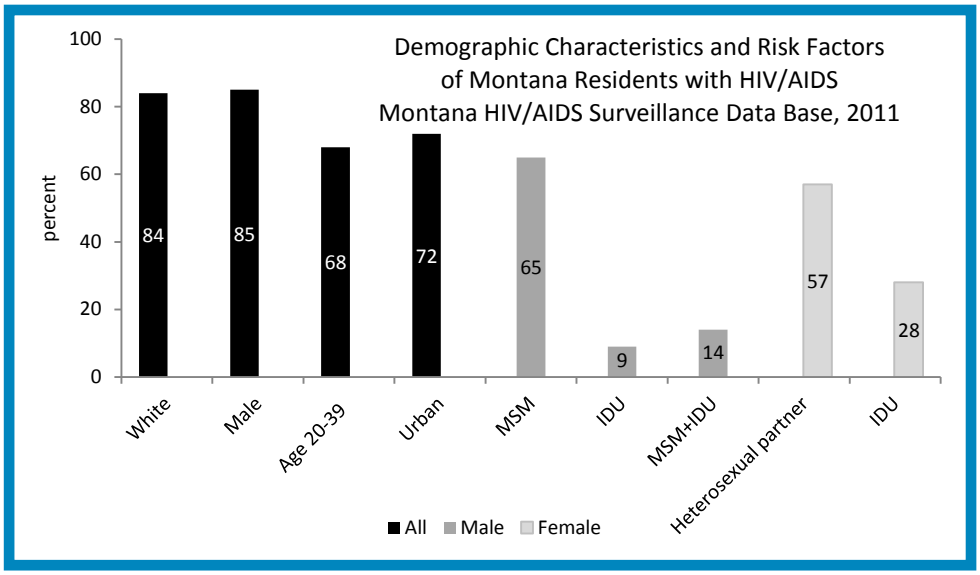
Gonorrhea and syphilis are less prevalent than chlamydia in Montana. In 2011, the overall incidence rates for both were well below the national average. Montana reported 85 cases of gonorrhea (8.5/100,000, 95% CI 6.5-10.2) compared to the national incidence rate of 104/100,000, and only seven cases of primary or secondary syphilis, substantially below the national incidence rate of 4.5/100,000.

Communicable Disease Continued

HIV and AIDS

The 2010 Centers for Disease Control and Prevention screening guidelines state that all individuals who seek evaluation and treatment for STIs should be counseled and screened for HIV infection, regardless of the presence of known behavioral risk factors for HIV. Three quarters of patients diagnosed with chlamydia and two thirds of those diagnosed with gonorrhea in Montana in 2011 received HIV counseling and more than one third were tested for HIV infection. However, the counseling status of 18% of patients with chlamydia and 28% of patients with gonorrhea was unknown, as was the testing status of 29% of patients with chlamydia and 32% of patients with gonorrhea.





Montana has been a low-incidence state since HIV and AIDS became reportable conditions in 1985. In 2011, 210 new cases of HIV infection (2.1/100,000, 95% CI 1.7-2.5) and 11 new cases of AIDS (1.1X/100,000, 95% CI 0.9-1.3) were reported in Montana, compared to national incidence rates of 11.2/100,000 and 17.4/100,000 respectively. Individuals with HIV in Montana are predominantly white, male, between the ages of 20 and 39 years and living in Montana's seven most urban counties (Cascade, Flathead, Gallatin, Lewis & Clark, Missoula, Ravalli, and Yellowstone). Identified risk factors for acquiring HIV among men are sexual contact with men, injection drug use, or both. Risk factors among women are heterosexual contact and injection drug use.

Vector-Borne Disease

Vector-borne diseases that can affect people in Montana include

- Colorado Tick Fever
- Rocky Mountain Spotted Fever
- Tick-Borne Relapsing Fever
- Tularemia (transmitted by ticks, deer flies, and contact with host animals)
- Plague (transmitted by fleas and contact with host animals)
- West Nile Virus (transmitted by Culex mosquitoes)
- Jamestown Canyon Virus (transmitted by Aedes mosquitoes)

Risk of exposure increases with some occupational and recreational activities and with contact with some animal species. Risk is seasonal, generally from April through the first hard freeze, when the vector insects are most active. In general, morbidity and mortality from most of these diseases are low in Montana.

- The incidence of Rocky Mountain Spotted Fever spiked in 2009.
- Seventeen cases of Lyme Disease were reported in Montana in 2008, but these were all acquired out of state; the Lyme disease tick vector has not yet been found in Montana.
- Montana's experience with West Nile Virus reflects the weather sensitivity of the mosquito vector; 2003 and 2007 were peak years for human cases, with more than 200 cases, including 5 deaths, in 2007. Human cases of West Nile Virus were much less common in 2008 and 2009. No other deaths from vector-borne diseases have been identified in Montana in recent years.
- The first human case of Jamestown Canyon Virus (JCV) in Montana was reported in 2009.[22]

Year	Colorado Tick Fever	Jamestown Canyon Virus	Lyme Disease	Rocky Mountain Spotted Fever	Tick-Borne Relapsing Fever	Tularemia	West Nile Virus Total Cases†
2005	3	0	0	1	9	2	26
2006	1	0	1	2	9	4	34
2007	2	0	7	1	9	0	202
2008	1	0	17	3	1	0	5
2009	1	1	3	9	1	2	6
2010	1	0	4	3	0	1	0
2011	1	0	11	1	2	3	1

* includes 5 deaths
† includes both neuroinvasive and non-neuroinvasive cases

22 Lowell J, et al. 2011. Human Jamestown Canyon Virus Infection --- Montana, 2009. MMWR 60(20);652-655 http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6020a3.htm?s_cid=mm6020a3_w

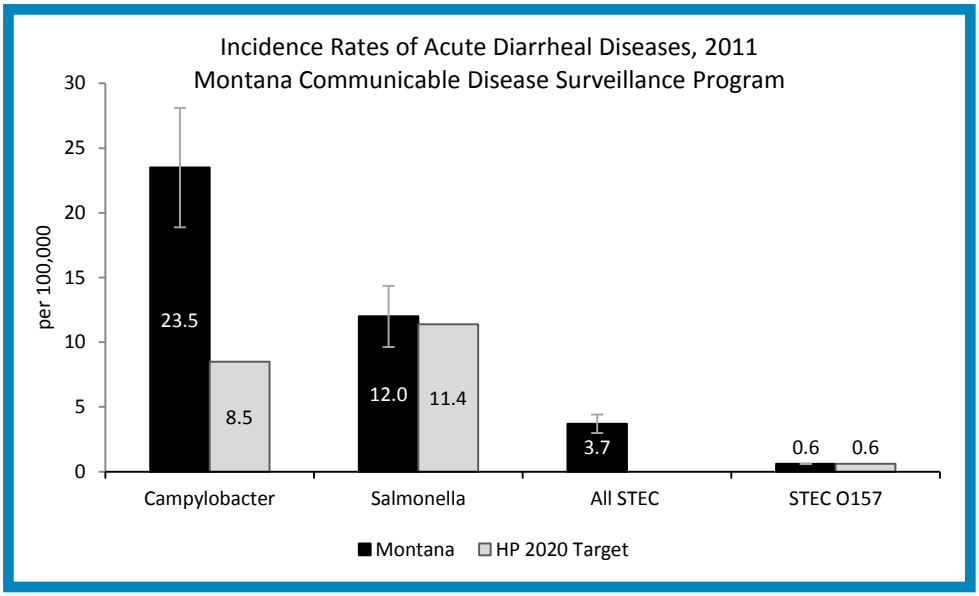
Communicable Disease Continued

Diarrheal Diseases[23]

Campylobacter infections are the leading cause of bacterial acute gastroenteritis in Montana. In 2011, 235 cases of campylobacteriosis were reported.

The second leading cause is Salmonella infection. During 2011, 120 cases of salmonellosis were reported.

In 2011, 37 cases of bacterial gastroenteritis caused by Shiga-toxin producing E. coli (STEC), including 6 from the O157 serogroup, were reported. While STEC infections are less common than those caused by Campylobacter and Salmonella, they can result in hospitalization, post-diarrheal hemolytic-uremic syndrome (HUS), and even death. Montana is currently achieving HP 2020 goals for STEC O157 and Salmonella infections but the incidence rate for Campylobacter infections is above the target.



The *HP 2020* Target for STEC is specifically for STEC O157; the rate reported for Montana is for all STEC strains.

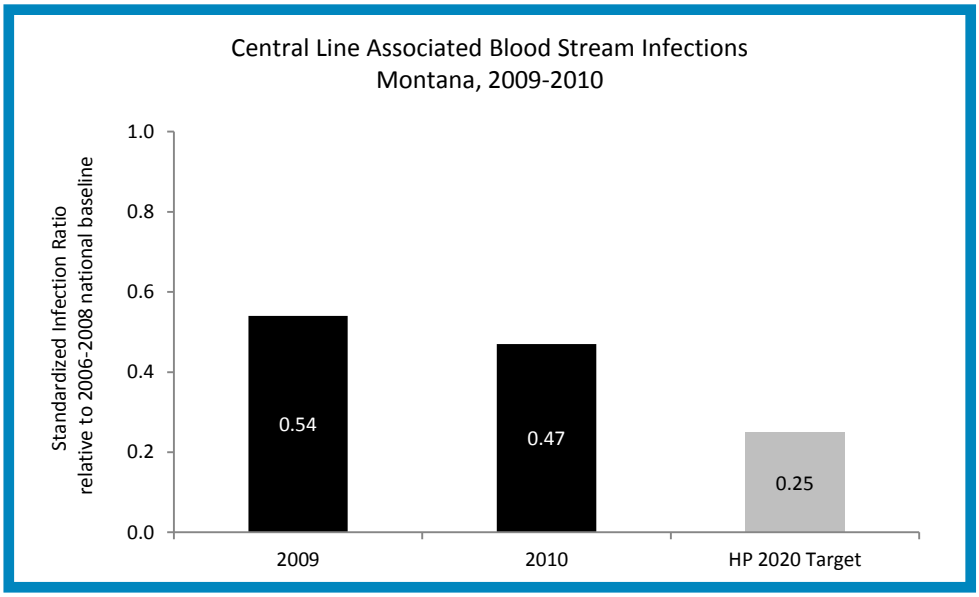
Health Care-Associated Infections

Health care-associated infections (HAIs) are among the leading causes of preventable deaths in the United States.[24] HAIs can be acquired through any contact with the health care system. The increased invasiveness and complexity of diagnostic tests and treatment, an aging population, and poor adherence to proven prevention practices all contribute to risk.

The most common HAIs are catheter-associated urinary tract infections, surgical site infections, and central line associated bloodstream infections (CLABSI). Methicillin-resistant Staphylococcus aureus (MRSA) is an increasing problem in health care settings. Healthy People 2020 targets include reducing CLABSI to 25% of the national 2006-2008 baseline, measured by the Standardized Infection Ratio (SIR), and reducing invasive MRSA infections to 6.56/100,000.[25]

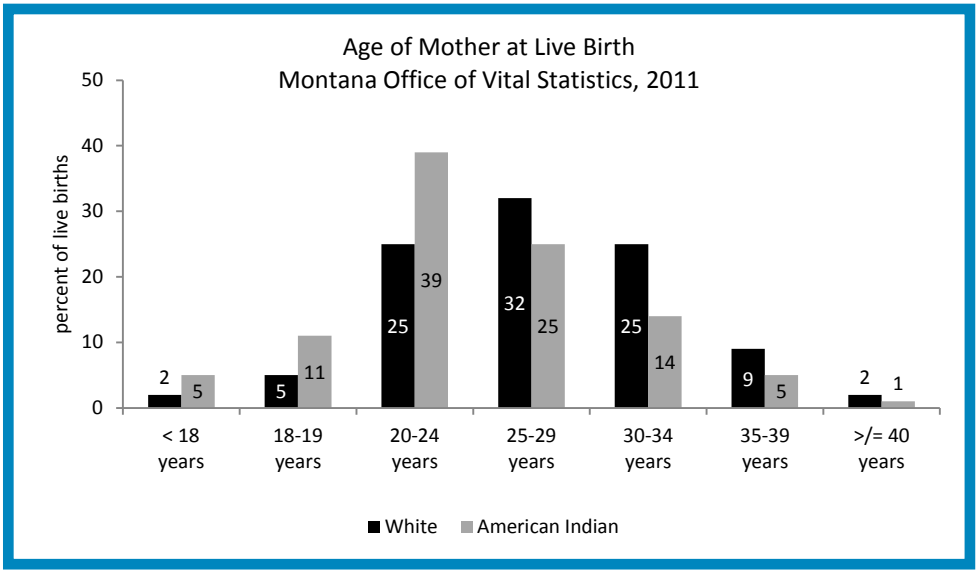
As of January 2012, 18 Montana hospitals were participating in voluntary reporting of HAI to the National Healthcare Safety Network. These hospitals account for 89% of all discharges in the state. Montana also participates in the National Action Plan to Prevent Healthcare-Associated Infections[26] and has adopted the nine national targets for the elimination of these infections.

The Montana Healthcare-Associated Infection Prevention Initiative (MHAIPI) collaborates with a variety of health care organizations, including Mountain-Pacific Quality Health, the Montana Hospital Association, the Montana Nurses Association, the Association for Professionals in Infection Control and Epidemiology, and the Montana Infectious Disease Physician Network, to standardize surveillance practices and infection prevention and control practices, and to mentor infection prevention and control professionals. In addition, MHAIPI has been instrumental in educating health care providers throughout the state about safe injection practices to prevent the transmission of hepatitis B and C between patients.

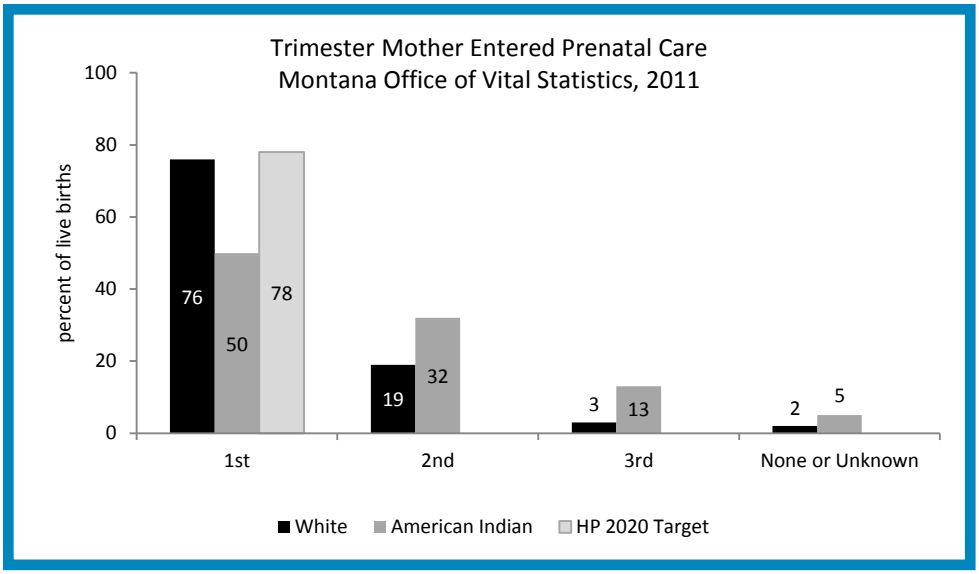


23 http://www.dphhs.mt.gov/PHSD/epidemiology/commun-disease-epi-surv.shtml
24 Klevens RM et al. Public Health Reports, 2007, 122(2):160-6.
25 http://www.healthypeople.gov/2020
26 http://www.cdc.gov/hai/national-sir-jan-dec-2010/

Maternal and Infant Health[27]

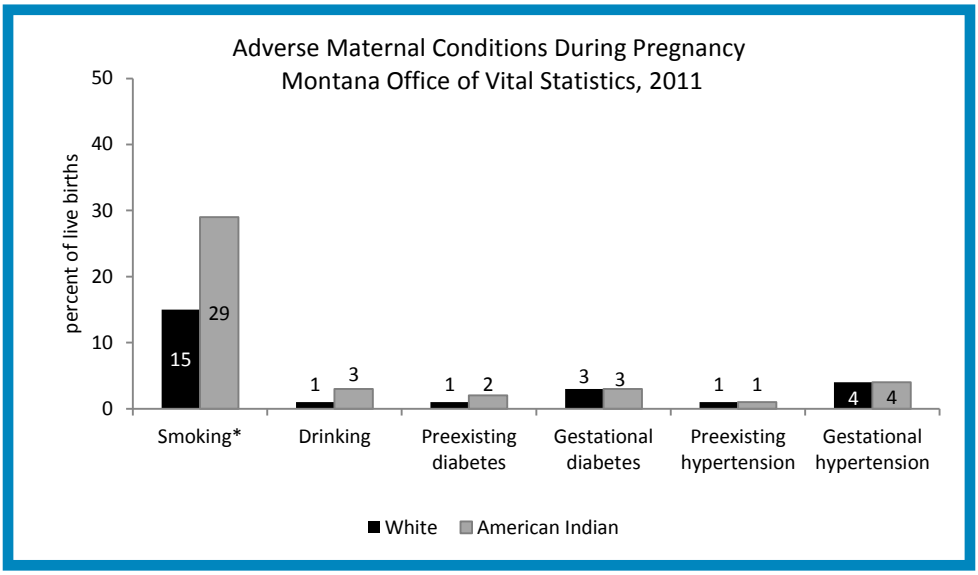


In 2011, 82% of White babies and 78% of American Indian babies in Montana were born to women aged 20 to 34 years. However, 2% of White babies and 5% of American Indian babies were born to girls younger than 18 years old, and an additional 11% of White babies and 6% of American Indian babies were born to women age 35 year or older. Mothers in the youngest and oldest age groups, and their babies, are at higher than average risk of poor pregnancy outcomes.



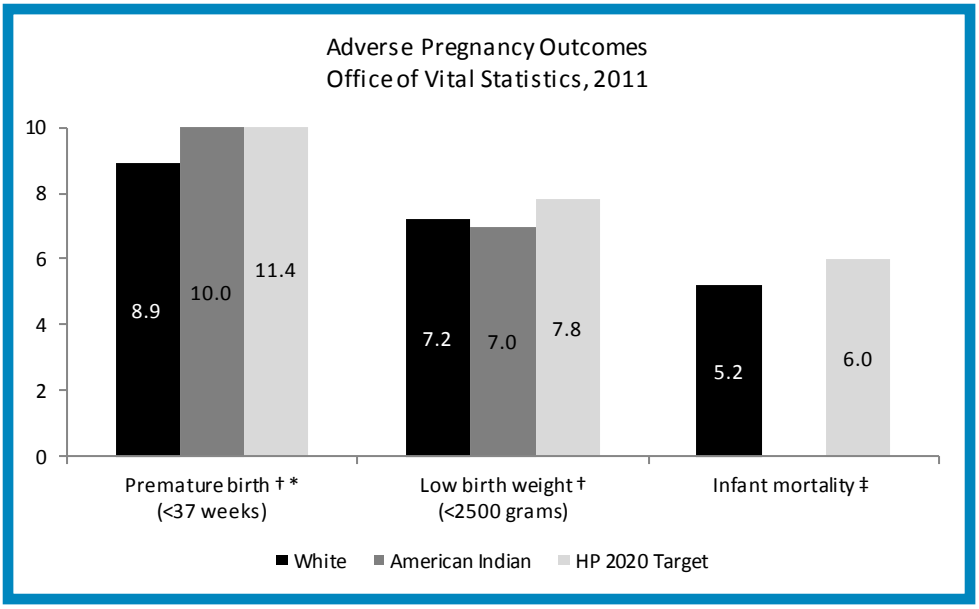
Three quarters of White mothers but only half of American Indian mothers entered prenatal care in the first trimester. Nearly one third of American Indian mothers entered prenatal care in the second trimester and 13% delayed until the third trimester. Very few women did not seek prenatal care at all.

The most common adverse maternal condition of pregnancy among Montana women is smoking (15% among White women and 29% among American Indian women), much higher than the Healthy People 2020 target of 1%. Few women reported drinking during pregnancy. In addition, about one in ten pregnancies was complicated by either preexisting diabetes, gestational diabetes, preexisting hypertension or gestational hypertension. Diabetes and hypertension are not mutually exclusive, and a given pregnancy may be complicated by both conditions. All are risk factors for adverse outcomes, such as prematurity, low birth weight, and neonatal death.



* Significantly different by race.

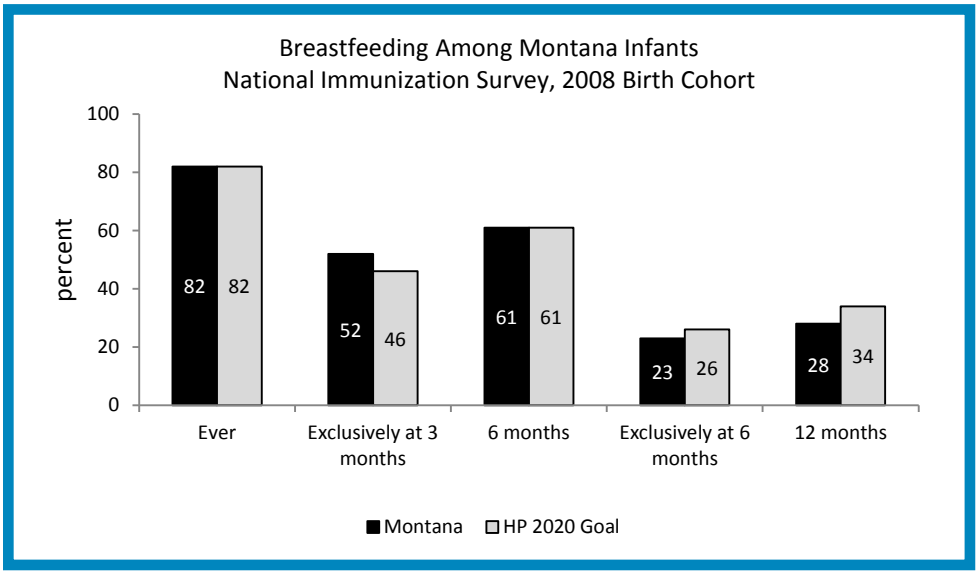
Montana approached or exceeded HP 2020 targets for premature birth (< 37 weeks gestation) and low birth weight (< 2500 grams or 5.5 pounds). Nevertheless, about 5 babies per 1,000 died before their first birthday in 2011. Approximately two thirds of infant deaths were associated with complications of labor and delivery (36%) or with congenital anomalies (30%).



† Percent of live births; * significantly different by race
‡ Per 1,000 live births; there were too few American Indian infant deaths to compute a reliable rate.
†There were too few neonatal infant deaths among American Indian infants to compute a reliable rate

27 Except as otherwise noted, data in this section are from the Montana Office of Vital Statistics Annual Report 2011, http://www.dphhs.mt.gov/statisticalinformation/vitalstats

Maternal and Infant Health Continued



Montana is meeting the Healthy People 2020 target for initiating breastfeeding and appears to be tracking the targets closely through one year of age.

Note: confidence intervals are not available from NIS report card.

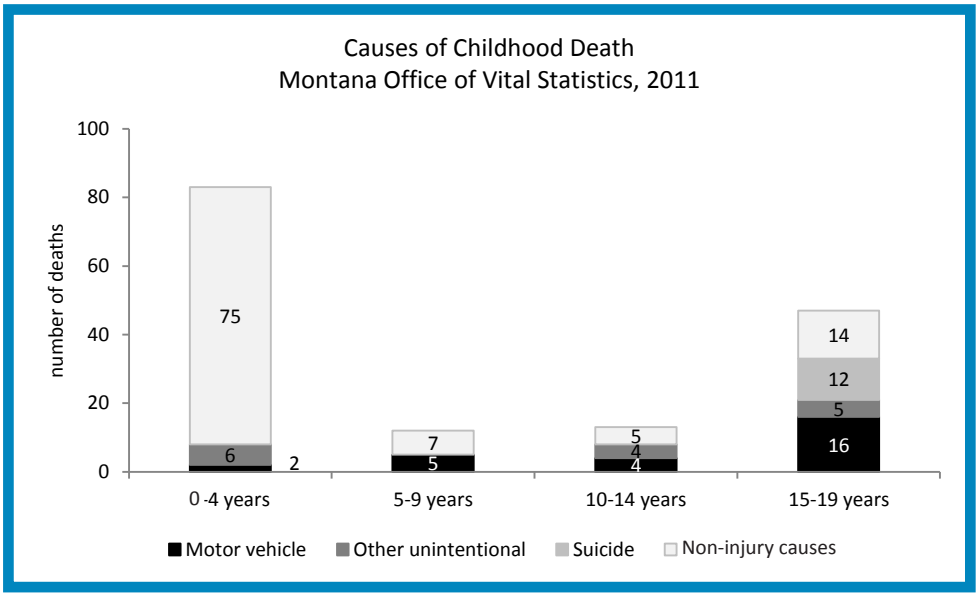
One Montana Strategy: Montana's Expanded Newborn Screening Programs

There are more than 12,000 live births in Montana each year. Since 2008, state statute requires that all newborns be screened for 28 metabolic conditions and hearing deficit. Newborns with out-of-range screening results are either rescreened for confirmation or are referred to specialist providers for evaluation, definitive diagnosis and, if necessary, treatment and follow-up care. For affected newborns, screening and early diagnosis and treatment are of paramount importance to their survival and future quality of life.

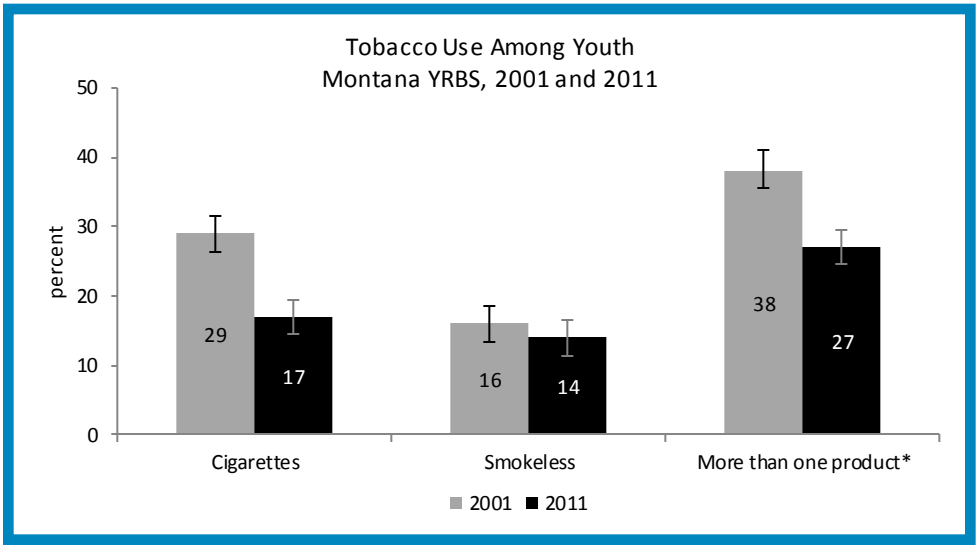
	2008	2009	2010	2011
Live Births	12,551	12,204	12,065	12,017
Number screened	12,451 (99.2%)	12,118 (99.3%)	11,959 (99.1%)	11,916 (99.2%)
Initial out-of-range sceening result	285 (2.3%)	257 (2.1%)	298 (2.5%)	323 (2.7%)
Referred to specialist care for evaluation	41 (0.3%)	26 (0.2%)	23 (0.2%)	53 (0.4%)
Confirmed diagnosis	17 (0.1%)	15 (0.1%)	9 (0.1%)	3 (0.03%)

Child and Adolescent Health

In 2011, the most frequent cause of death for Montana children and adolescents aged 5 to 19 years was injury.[28] In all but the youngest age group, half or more of unintentional injury deaths involved motor vehicles. Suicide accounted for one quarter of deaths among teens age 15 to 19 years.



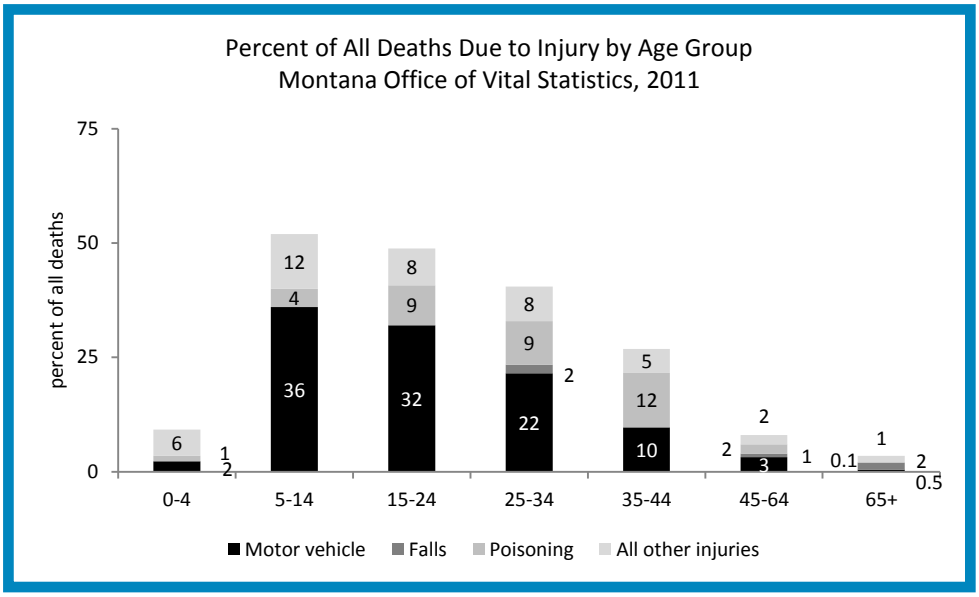
Smoking among youth has decreased significantly since 2001. However, use of all forms of tobacco remains common. 17% of teens reported smoking cigarettes and 14% of teens reported use of smokeless tobacco. Teens also report using other tobacco products, such as cigars, small cigars and cigarillos and any form of smokeless tobacco. Teens continue to be the target of heavy marketing of these other forms of tobacco products.

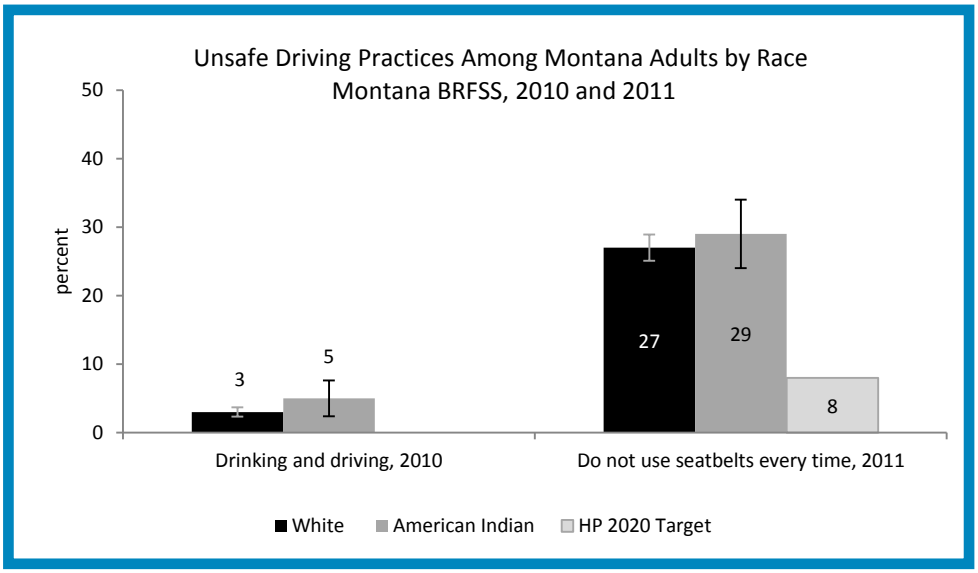


* Includes cigarettes, cigars, small cigars, pipes, and all forms of smokeless tobacco.

28 Montana Office of Vital Statistics Annual Report, 2011 http://www.dphhs.mt.gov/statisticalinformation/vitalstats/2009/2009report.shtml

Unintentional Injury[29]





Unintentional injury was the leading cause of death for Montanans aged 1 to 49 years. The age-adjusted mortality rate in Montana was 54.1/100,000 (95% CI 49.6 – 58.9) in 2011, higher than the U.S. rate, which averaged between 38 and 40 per 100,000 between 2000 and 2009.[30] Most unintentional injury deaths among Montana residents were caused by motor vehicle crashes (34%), falls (21%), and poisoning (17%). Among poisoning deaths, most were from abuse or misuse of prescription or illicit drugs.

The most common factors associated with death or incapacitating injury in motor vehicle crashes were lack of seat belt use and driving under the influence of alcohol. According to the Montana Department of Transportation, nearly 70% of people who died in motor vehicle crashes were unrestrained.[33] More than one quarter of both White and American Indian adults reported failure to use seatbelts. Fewer than half of middle school and high school students reported always using seat belts.[33,34]

Alcohol contributed to 10% of all crashes, 18% of all injury crashes, and nearly 50% of all fatal crashes.[33] Drivers age 18 to 20 years experienced the highest rate of fatal alcohol-related crashes.[31] Few adults surveyed in the BRFSS in 2009 reported drinking and driving, but 10% of youth surveyed in the 2011 YRBS reported they had done so, and 26% of youth reported riding with a drunk driver.[32]

One Montana Strategy: Stepping On, A Fall Prevention Program for Seniors

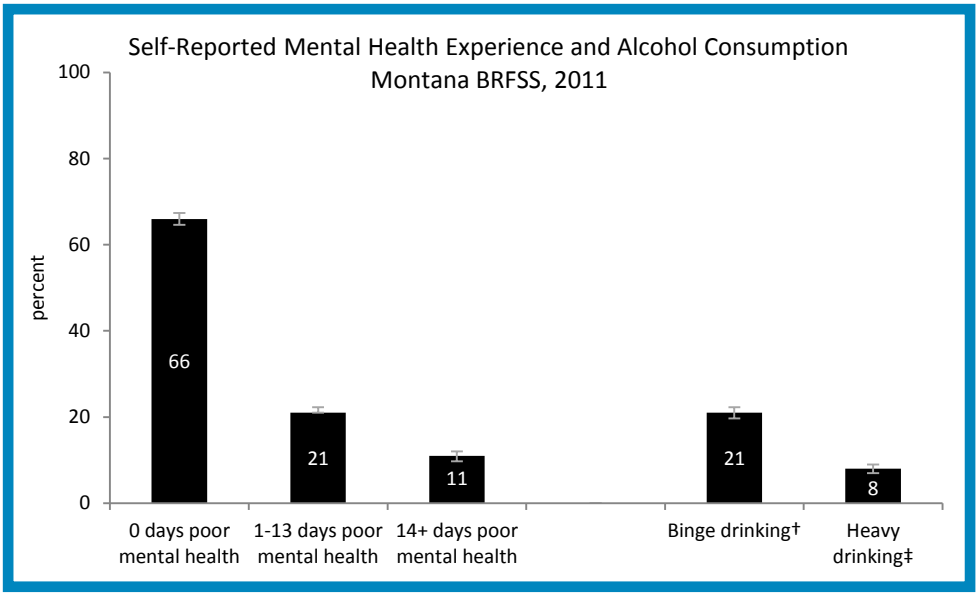
Falls are the second most common cause of unintentional injury for Montanans of all ages and the most common cause for those age 65 years and older.[33] One in five Montana residents age 45 years or older reported having a fall in the past three months and more than one quarter were injured as a result of the fall.[34] Montana's mortality rate from falls (11 per 100,000) is one of the highest in the nation and is nearly twice the national rate (6 per 100,000).[35] Falls have been the leading cause of injury-related death for Montanans age 65 and older since 1991.[36] Risk factors for falls include inactivity and lack of regular balance and strength exercise; changes in vision; use of medications that may cause side effects, such as dizziness or drowsiness; and home environments that may include poorly lit walkways, clutter on the floor, unsecured throw rugs, and lack of grab bars in bathrooms or hand rails in stairways. Aging is associated with a variety of changes in health and physical function, including gait and balance deficits, muscle weakness, visual deficit, arthritis, medication use, and hazards in the home. As Montana's population ages, the burden from falls is likely to increase, resulting in more serious injuries and more premature deaths.

The Montana Injury Prevention Program has implemented an evidence-based fall prevention intervention called Stepping On for individuals age 60 years and older who are independently mobile (including with a cane or walker) but who have either had a fall in the past year or have a fear of falling. Stepping On is a comprehensive educational program that reduces falls among participants by 30%. The program provides participants the opportunity to begin or increase activity through balance and strength exercises and teaches strategies to reduce the risk for falls, such as home safety, vision exams, medication reviews, calcium and vitamin D supplementation, and safe footwear. The Stepping On program is being piloted in three communities in Montana. Among participants the program has been well received not only by participants, but also by the health care providers who facilitate the classes. The number of self-reported falls is lower among participants, and the level of confidence in engaging in daily activities has increased upon course completion.

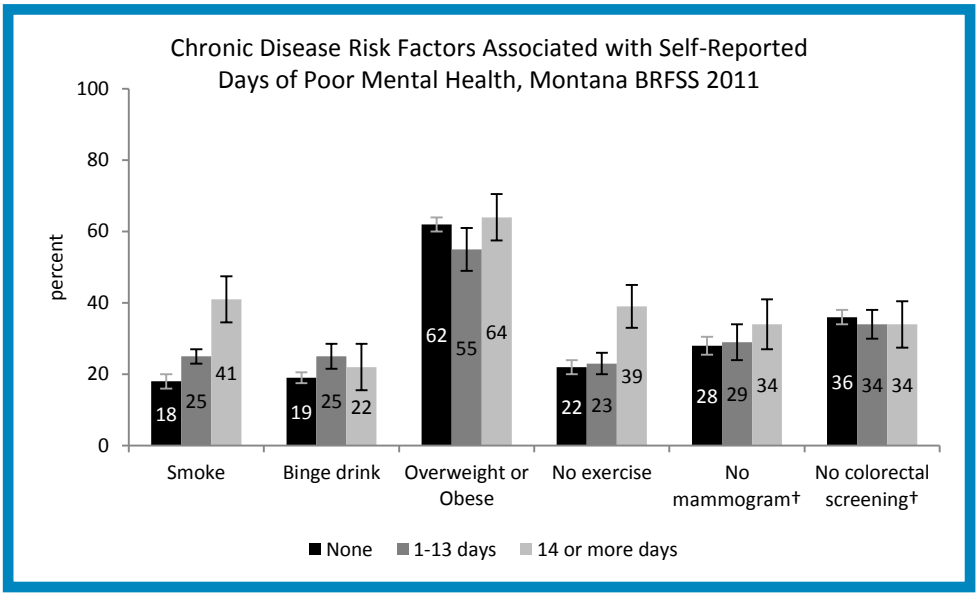
29 Unless otherwise noted, data in this section are from the Montana Office of Vital Statistics.
30 http://www.cdc.gov/nchs/fastats/acc-inj.htm
31 Montana Traffic Safety Problem Identification, FFY 2010. Montana Department of Transportation, June 2010. http://www.mdt.mt.gov/safety/safetyprg.shtml
32 Montana Behavioral Risk Factor Surveillance System 2010 and 2011 surveys, http://74.205.72.25/html/brfss-index.shtml ; Montana Youth Risk Behavior Survey, 2011. http://opi.mt.gov/Reports&Data/YRBS.html
33 CDC Injury Mortality Report. Wisqars. 2005-2007. http://webappa.cdc.gov
34 Montana Behavioral Risk Factor Surveillance System 2008 survey http://74.205.72.25/html/brfss-index.shtml
35 CDC Injury Mortality Report. Wisqars. 1991-2006. http://webappa.cdc.gov
36 Montana Office of Vital Statistics, Annual reports, 1991 through 2011 http://www.dphhs.mt.gov/statisticalinformation/vitalstats/index.shtml

Mental Health and Substance Abuse

The Impact of Mental Health on Chronic Disease Risk Factors Among Adults[37]



†Binge dringing is defined as more than 5 drinks on one occasion for men and more than 4 drinks for women.
‡Heavy drinking is defined as 2 or more drinks per day for men and 1 or more for women.



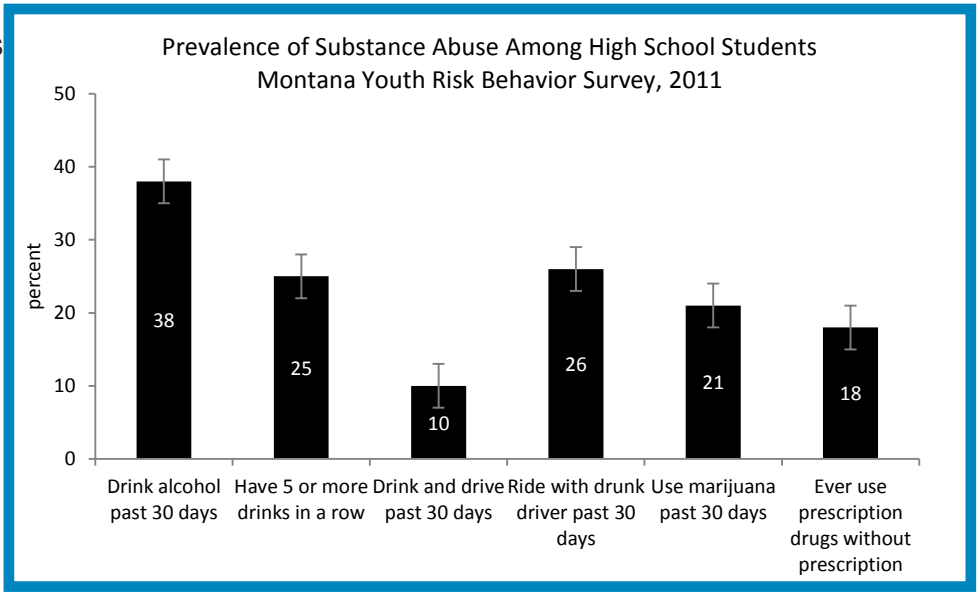
One fifth of respondents to the 2011 Montana Behavioral Risk Factor Surveillance System (BRFSS) survey reported experiencing 1 to 13 days of poor mental or emotional health in the month prior to the survey; 11% reported experiencing 14 or more days. The remaining two thirds did not experience poor mental or emotional health.

Alcohol is the most commonly abused substance among Montana adults. One in five Montanans reported binge drinking and 8% reported heavy drinking.

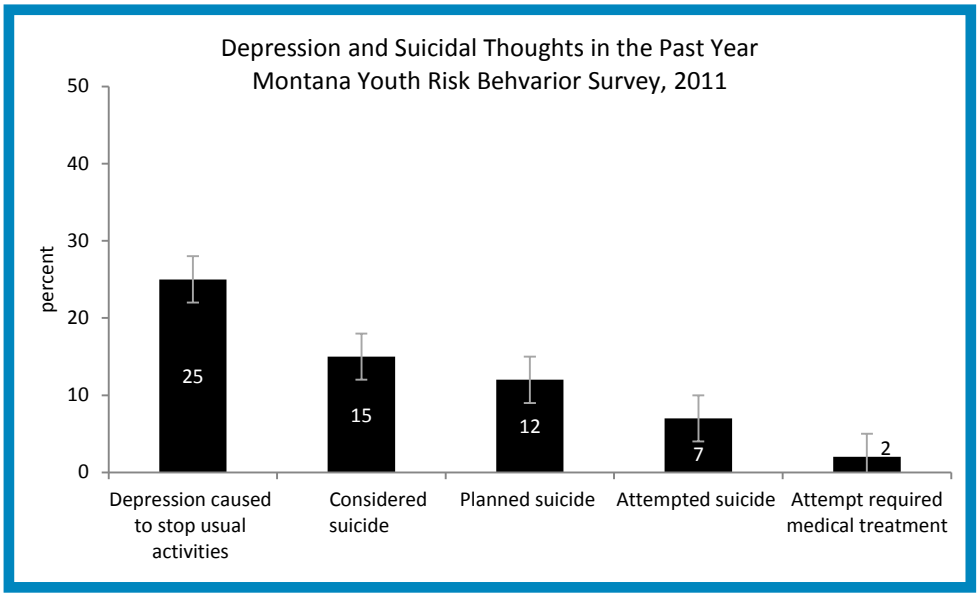
Respondents who reported experiencing 14 or more poor mental health days per month also reported significantly higher rates of smoking and failure to engage in any leisure time exercise. Both are risk factors for most chronic diseases. Days of poor mental health were not associated with significant differences in other risk factors, such as binge drinking, being overweight or obese, or failing to participate in breast or colorectal cancer screening. crashes.33 Drivers age 18 to 20 years experienced the highest rate of fatal alcohol-related crashes. Few adults surveyed in the BRFSS in 2009 reported drinking and driving, but 10% of youth surveyed in the 2011 YRBS reported they had done so, and 26% of youth reported riding with a drunk driver.

Mental Health and Substance Abuse Issues Among Youth[38]

More than a third of high school students reported drinking in the past month, and a quarter reported having five or more drinks on one occasion. A quarter also reported riding with a driver who had been drinking and 10% reported drinking and driving. Marijuana use and the use of prescription drugs without a prescription were also common. Students reported ever using other drugs (cocaine, heroin, methamphetamine, ecstasy, and steroids) infrequently, although 12% reported trying inhalants at least once.



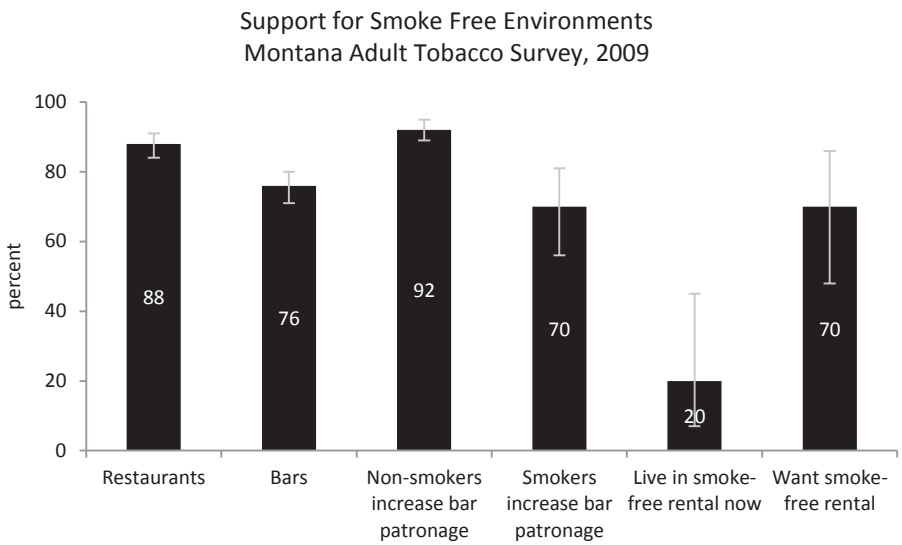
One quarter of high school students reported depression that lasted at least two weeks and caused them to give up some of their usual activities. Fifteen percent reported considering suicide in the past year, 12% reported planning a suicide attempt, and 7% reported actually attempting suicide. Only 2% reported that they made a suicide attempt that required medical attention.



37 Montana Behavioral Risk Factor Surveillance System, 2011, http://74.205.72.25/html/brfss-index.shtml
38 Montana Youth Risk Behavior Survey, High School Results, 2011, http://opi.mt.gov/Reports&Data/YRBS.html

Environmental Health

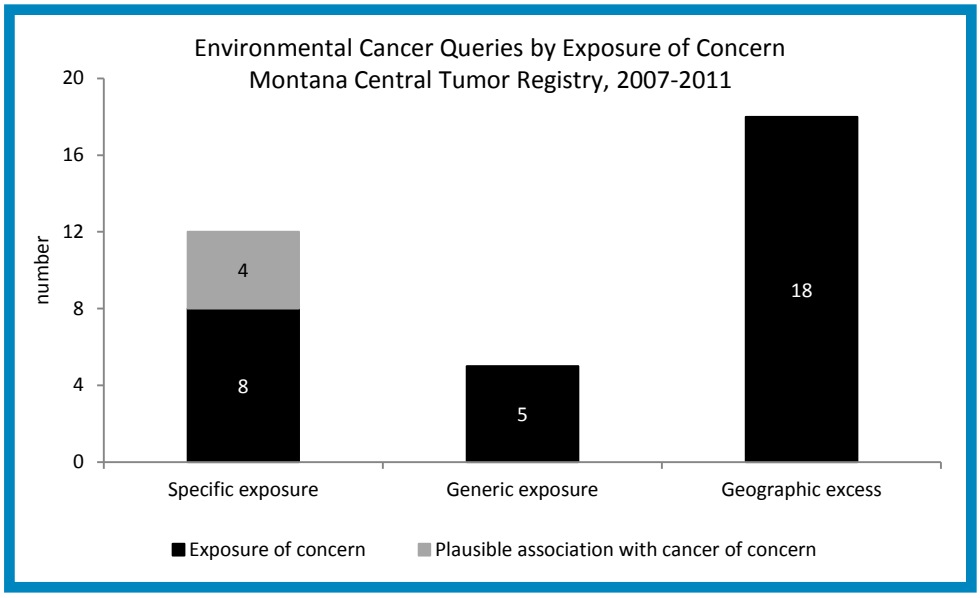
The most common environmental hazard to which Montana residents are exposed is second-hand tobacco smoke indoors. With the full implementation of the Clean Indoor Air Act in 2009, the Montana population is protected from this health hazard in all public buildings. The great majority of Montana residents support smoke-free restaurants and bars.[39] Most non-smokers reported planning to increase their patronage of bars substantially as the Clean Indoor Air Act was implemented, and even many smokers planned to increase bar patronage. The Montana Tobacco Use Prevention Program continues to strive to reduce exposure to second-hand smoke in other venues. Nearly one third of Montana residents are renters,[40] only 20% of renters in multi-unit housing currently live in smoke-free complexes, although 70% would prefer their housing to be smoke-free.[39]



One Montana Strategy: Food Star Awards

The Food and Consumer Safety Section protects the public's health by collaborating with local health officials to offer technical assistance, perform inspections, and license a variety of businesses that the public patronizes: retail food establishments, wholesale food manufacturers, public accommodations, trailer courts and campgrounds, pools and waterparks, day care centers and group homes, and tattoo and cosmetic piercing parlors. Restaurants with exemplary food safety management practices receive the Montana FOOD STAR Award.

DPHHS collaborates with the Montana Department of Environmental Quality and other federal, state, and local agencies on environmental issues that affect human health, including air and water quality. The DPHHS Laboratory Services Division conducts more than 15,000 tests a year for coliform bacteria, nitrates, heavy metals, and organic compounds in public and private drinking water supplies and recreational waters.



DPHHS staff respond to a variety of environmental health queries and concerns expressed by citizens, partner health agencies, health care professionals, and the media. The Montana Central Tumor Registry (MCTR) received 35 queries about environmental causes of cancer between 2007 and 2011. A third of the queries concerned exposures to specific substances (arsenic, asbestos, lead, radiation, exogenous hormones) and a few concerned generic exposures (industrial plant, rail road, sick building syndrome, water contamination), but half focused on the perception of a local excess of cancer without citing a particular exposure. Only four queries involved an exposure and a specific kind of cancer for which a documented association exists. MCTR staff evaluated each report against MCTR incidence data; no excess cancer was found in response to any query.

DPHHS staff responded to a variety of non-cancer environmental health queries in 2011 and 2012. These included the health effects of cell phone towers, pesticides, winter air inversions, and hydraulic fracturing. Staff also responded to requests for referral for assistance with infestations of roaches, bedbugs, and mold and mildew.

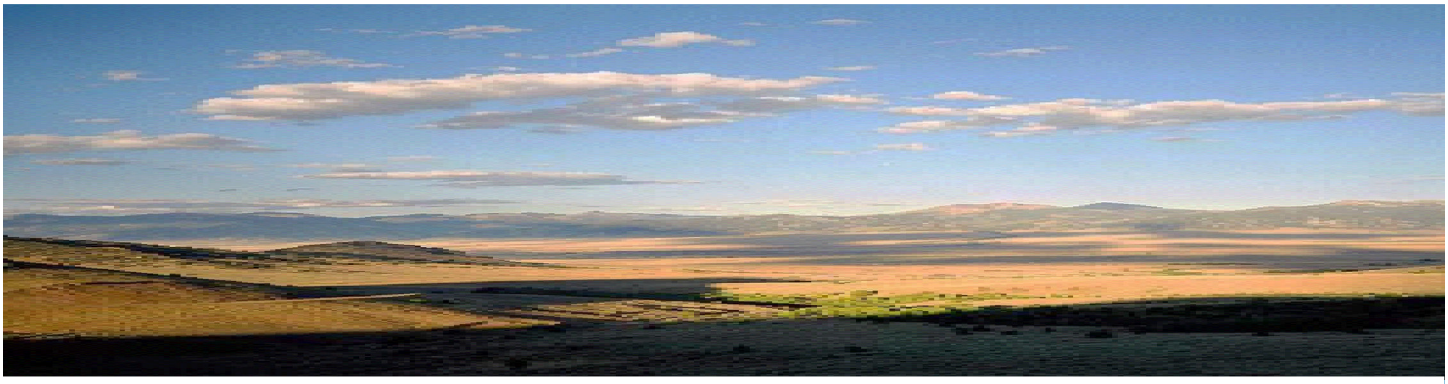
39 Montana Adult Tobacco Survey, 2009; http://tobaccofree.mt.gov/publications/index.shtml
40 http://2010.census.gov/2010census/popmap/ipmtext.php?fl=30

MONTANA DPHHS

Healthy People. Healthy Communities.

Department of Public Health & Human Services

www.dphhs.mt.gov



The Montana Department of Public Health and Human Services attempts to provide reasonable accommodations for any known disability that may interfere with a person participating in any service, program or activity of the Department. Alternative accessible formats of this document will be provided upon request. For more information call (406) 444-9352.

Version 1.0
June 20, 2013