
Montana State Health Assessment



A Report on the Health of Montanans



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Healthy People. Healthy Communities.

Department of Public Health & Human Services

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Executive Summary

The 2017 Montana State Health Assessment (SHA) provides a broad overview of the current state of the health of Montanans. This assessment presents data and information from a variety of sources and covers health issues spanning all stages of a person's life: from birth to death, physical health to mental health, and communicable disease to chronic disease. The SHA will inform public health improvement efforts outlined in the 2019-2023 Montana State Health Improvement Plan (SHIP).

Social Determinants of Health and Access to Care

- The number of Montanans with health insurance has increased greatly in recent years. In 2016, 93% of Montanans aged 65 years and younger had health insurance.
- American Indian communities do not fare as well as other communities for several socio-economic indicators, including lower high school graduation rates, higher unemployment, and lower household income.
- Adverse Childhood Experiences (ACEs), such as child abuse or family dysfunction, are associated with risky behaviors, chronic health conditions, and premature death. In 2011, sixty-percent of Montana adults reported at least one adverse childhood experience.

Mortality and Premature Death

- From 2011–2015, nearly half (48%) of all Montana residents died of two broad classes of chronic disease: cancer and cardiovascular disease (heart disease and stroke).
- Cancer and unintentional injury were the leading causes of premature death among all Montanans.
- The median age at death was lower among American Indian residents compared to white residents for both men and women. From 2011–2015, white men in Montana lived 16 years longer than American Indian men and white women lived 19 years longer than American Indian women.
- The median age at death among American Indian men increased from 56 years in 2006–2010 to 59 years in 2011–2015. Meanwhile, the median age at death among American Indian women increased from 62 years to 63 years over the same time period.

Chronic Disease

- Tobacco use and physical inactivity are major risk factors attributable to chronic disease.
- Each year, 1,600 Montanans die of tobacco-related diseases: one in four adults (26%) were current tobacco users in 2016.
- Tobacco use was significantly higher among American Indians, those with less education, and people living with disabilities.
- Cigarette smoking has significantly declined among Montana high school students, particularly among American Indian students (from 45% in 2007 to 19% in 2017).
- Nearly three-quarters of adults and high school students in Montana did not meet physical activity recommendations in 2015 and 2017, respectively.

Unintentional Injury

- From 2011 to 2015, approximately 585 deaths from unintentional injury occurred among Montana residents annually; mortality from unintentional injury among Montana residents was greater than the U.S.
- Three-quarters of unintentional injury deaths were because of motor vehicle crashes, falls, and poisonings.
- On average, over 200 Montanans die each year in motor vehicle crashes. Motor vehicle crash deaths were highest among American Indians and residents living in rural counties.
- Non-fatal unintentional injuries account for over 3,900 hospital admissions and 57,000 emergency department visits annually. Falls accounted for the majority of hospital admissions (57%) and emergency department visits (36%).

Behavioral Health

- Nearly one in ten (9%) Montanans have a substance use disorder. Young adults (aged 18–25 years) in Montana rank among the highest nationwide for Alcohol Use Disorder (14%) and Alcohol Dependence (6%).
- Deaths from opioid misuse in Montana peaked in 2009 and decreased to 4 deaths per 100,000 in 2015.
- From 2011–2015, Montana’s suicide rate was nearly two times higher than the U.S. On average, 240 suicides occur each year in Montana and 990 emergency department visits for suicide attempts. Suicide rates did not differ significantly by race; however, suicide was significantly higher among veterans compared to non-veterans and residents of rural counties compared to micropolitan counties.
- Many Montanans who need mental health and substance use disorder treatment do not receive treatment. During 2015 and 2016, an estimated 72,000 Montanans aged 12 years and older needed but did not receive treatment for substance use in the past year.



Maternal and Child Health

- Overall, infant mortality rates in Montana were the same as the U.S. However, from 2011-2015, infant mortality was significantly higher among American Indians compared to white Montanans.
- Among all Montana births, one in two (50%) births in Montana was intended, while one in three (33%) births was intended among American Indian women. Women with unintended pregnancies are more likely to engage in risk behaviors during pregnancy, such as smoking or drinking, and are less likely to use folic acid during pregnancy or breastfeed postpartum.
- Substance use during pregnancy remains a concern in Montana; 16% of women smoked during pregnancy and approximately 100 babies, on average, were born addicted to opioids each year.
- In 2015, the mortality rate among Montana’s children was among the highest in the nation. The leading cause of childhood mortality was unintentional injuries, namely motor vehicle crashes.

Immunization and Communicable Disease

- Montana’s coverage for vaccines among children aged 19 to 35 months was 60% in 2011 and increased to 64% in 2016.
- Overall, the percent of American Indian children up-to-date with childhood immunizations was higher at many tribal clinics than other Montana clinics.
- The number of Syphilis cases dramatically increased from 14 cases in 2016 to 49 cases in 2017.

Environmental Health

- Between 2013 and 2015, ozone-monitoring sites in Montana recorded zero days of unhealthy ozone concentrations. At the same time, nearly all particulate matter (PM_{2.5}) monitoring sites in Montana recorded unhealthy days.
- Many Montanans (81%) get their drinking water from public water supplies and most public water supply systems (94%) met the Environmental Protection Agency’s Safe Drinking Water Standards.
- The number communities that adopted policies to encourage people to walk and bike more has grown to 24 in 2017 from 6 in 2013.

Introduction

Purpose of the State Health Assessment

The 2017 Montana State Health Assessment (SHA) provides a broad overview of the current state of the health of Montanans. This assessment presents data and information from a variety of sources and covers health issues spanning all stages of a person's life: from birth to death, physical health to mental health, and communicable disease to chronic conditions. This report also describes the many factors that influence Montanans' health, such as where a person lives, how much money they make, and their educational attainment. The SHA identifies existing and emerging health issues, including issues disproportionately affecting specific population groups, like American Indians. The SHA will inform public health improvement efforts outlined in the 2018 Montana State Health Improvement Plan (SHIP).

Process of the State Health Assessment

A coalition of twenty-four partner organizations was formed to provide oversight in drafting both the SHA and SHIP (Appendix A). The Public Health and Safety Division (PHSD) at the Montana Department of Public Health and Human Services (DPHHS) led the development of the SHA. In early 2017, PHSD epidemiologists and subject matter experts drafted an outline of health issues, indicators, and data sources for the coalition to provide feedback and guidance for inclusion in the SHA. Between April and October 2017, PHSD presented key findings of the SHA to stakeholders at 12 meetings and conferences throughout Montana, including: the Montana American Indian Health Leaders, Montana Association of Counties, Montana Hospital Association, Montana Medical Association, Montana Public Health Association, and more. In total, these presentations reached over three hundred health partners throughout Montana. Attendees at each presentation had the opportunity to provide feedback on the SHA findings, such as additional topics to include, and an opportunity to share their views on the most important public health issue. PHSD incorporated both verbal and written feedback into the SHA. In addition, information, data, and materials related to the SHA and SHIP were available to the public via the [Healthier Montana](#) webpage.

Data Sources and National Benchmarks

Data and information used in the 2017 SHA came from several national, state, and local sources. National and state public health surveillance systems were used to describe many health outcomes. In addition, to understand community health concerns, information from community health assessments completed by local and tribal health departments and hospitals across Montana were incorporated into this state-level assessment.

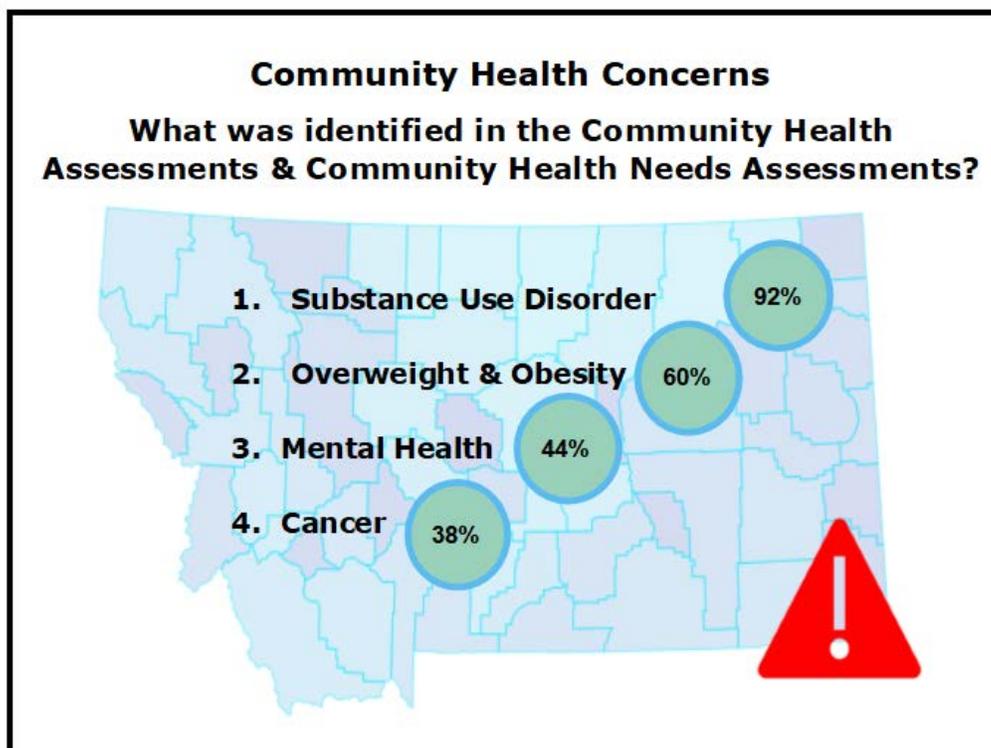
The 2017 SHA compared Montanans' health outcomes to those of the nation and established benchmarks. The U.S. Department of Health and Human Services provides science-based, 10-year national objectives for improving the health of all Americans. The current objectives are called *Healthy People 2020*. *Healthy People 2020* establishes targets that are measurable, achievable, and applicable at the national, state, and local levels. The 2017 SHA used Healthy People 2020 targets as benchmarks to describe Montana's progress towards reaching these science-based objectives for improving the health of all Montanans.



Montana Community Health Concerns

Montana has a decentralized public health system with seven tribal and 51 local health jurisdictions. Under state law, Montana's public health system is governed by local boards of health (BOH). Local health departments carry out public health activities under authority delegated by the legislature to the local BOH and public health officers. Each of the seven American Indian reservations is governed by a group of elected officials who serve on the Tribal Council. Each American Indian reservation has an independently governed tribal health department as determined by their tribal government. The National Public Health Accreditation Board recommends all health departments complete health assessments and improvement plans. In addition, the Affordable Care Act requires non-profit hospitals to complete health assessments and improvement plans. These documents provide a local data source to understand Montana community health priorities and are essential to fully describe the health issues in Montana. From 2012 through 2018, 52 Community Health Assessments or Community Health Needs Assessments were completed in Montana. These 52 community assessments represent 54 of Montana's 56 counties and three tribal health departments (Blackfeet, Fort Peck, and Northern Cheyenne).

In 2018, PHSD staff reviewed and summarized the overall community health concerns or priorities identified in each of these 52 assessments. Overall, Montana communities identified substance use disorder (i.e. alcohol, illicit drugs, prescription pain medicine, or tobacco), overweight and obesity, mental health, and cancer most often as health concerns in their communities.





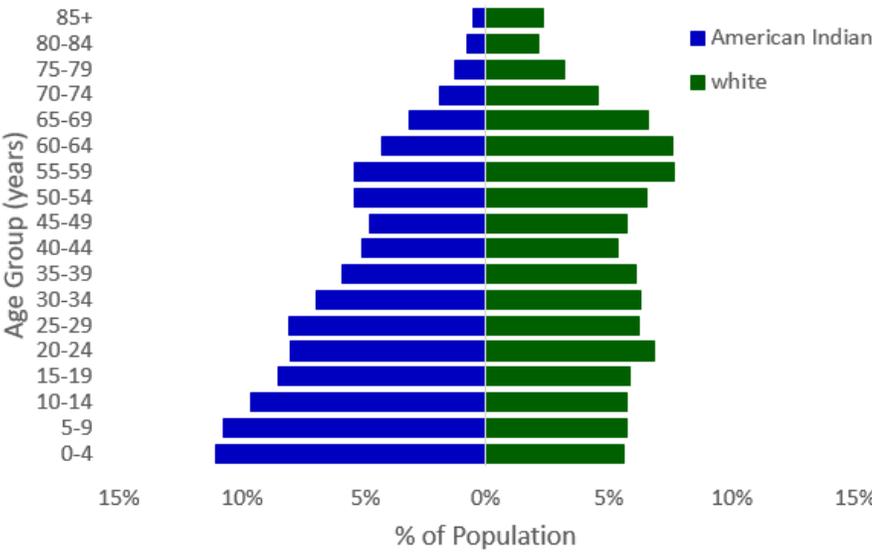
Chapter 1

Social Determinants of Health and Access to Care

The Population of Montana

In 2016, Montana was home to an estimated 1,042,520 residents with 92% white and 8% American Indian. (1) The American Indian population of Montana was younger than the white population (Figure 1). The median age of white residents was 42 years, while the median age of American Indian residents was 27 years; 20% of white residents were under age 18 years, compared to 38% of American Indian residents; and 19% of white residents were age 65 years or older, compared to 7% of American Indian residents. (1)

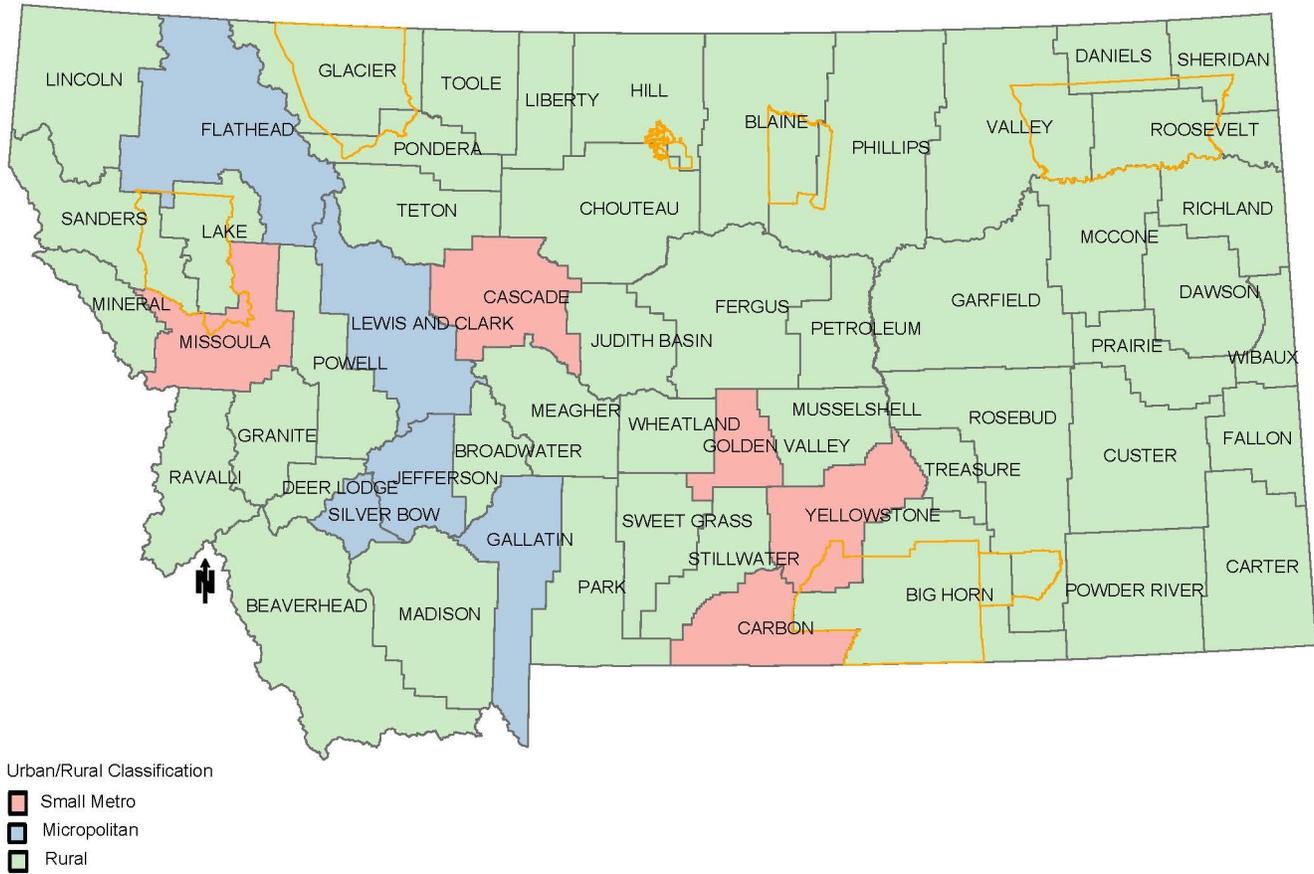
Figure 1. Age-distribution among white and American Indian residents of Montana, 2016



Data source: NCHS Bridged race estimates, 2016, vintage 2017

Montana is a rural state that has seven cities with more than 20,000 residents and 15 cities with 5,000 to 20,000 residents.(2) 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 and only 5% lived in cities of 5,000 to 19,999, compared to 36% and 11% of white residents, respectively.(2) According to the National Center for Health Statistics’ urban-rural classification of counties, only five Montana counties are classified as Small Metropolitan (population less than 250,000), five counties are Micropolitan (population between 10,000 and 49,999), and 46 counties are classified as Noncore (population less than 10,000), hereafter referred to as Rural (Figure 2).(3)

Figure 2. Montana counties by urban-rural classification



An estimated 88,000 of Montana residents are veterans, making up approximately 11% of the state’s adult population which was more than the estimated 8% of U.S. adults. (4)

Fourteen percent of Montana residents (approximately 136,000 people) reported having a disability. (4) Disability is defined as having difficulty with hearing, vision, cognition, ambulatory, self-care, or independent living. One in four (25%) Montana residents who reported having a disability were under the age of 65. (4)

Social Determinants of Health

Good health begins at home, school, work, neighborhoods and communities. The social and physical environment affects the way people live and their risk of illness or premature death. Key social determinants of health affecting the health of Montana residents include education, employment status, median income, housing, and adverse childhood experiences (ACEs). Childhood experiences, both positive and negative, have a tremendous impact on health throughout life. Table 1, on page 10, shows key social determinants of health for the U.S. and Montana by race.

Table 1. Select social determinants of health among Montana and U.S. residents, 2012-2016

Social Determinant of Health	U.S.	Montana		
		All	American Indian	White
Education ^a				
% of ninth graders that graduate in 4 years	83	86	66	89
Employment ^b				
% Unemployed	7.4	5.6	16.3	5.0
Poverty ^b				
% of children under age 18 living in poverty	21.2	18.6	39.8	14.5
Median household income ^b	\$ 55,322	\$ 48,380	\$ 29,837	\$ 49,939
Housing ^b				
% of home owners* that pay ≥ 30% household income on housing	30.8	30.1	Not available (NA)	NA
% of renters that pay ≥ 30% household income on housing	51.1	46.0	NA	NA
Food Security ^b				
% of households with Food stamp/SNAP benefits	13.0	10.6	32.3	9.3

^a U.S. Department of Education, National Center for Education Statistics, Common Core of Data, 2014-2015 school year; Montana Office of Public Instruction, Facts About Montana Education 2017, 2015-2016 school year.
^b American Community Survey, 5-year estimates, 2012-2016
*Home owners with a mortgage

In the 2015-2016 school year, 86% of Montana high school students completed high school within four years (Table 1). The percentage of American Indian students who completed high school within four years was only 66%, much lower than the state, as a whole (Table 1).

From 2012-2016, the median household income in Montana was lower than the U.S. The median household income was lower among Montana American Indians compared to Montana whites, \$29,837 compared to \$49,939. (4) During this same period, Montana had fewer people out of work compared with the U.S. with an unemployment rate of 5.6% compared to 7.4% nationally (Table 1). Unfortunately, this success was not shared by all. The unemployment rate among American Indians was much higher at 16.3% (Table 1). According to the Montana Department of Labor and Industry, Montanans experienced real-wage gains (wage increases above the rate of inflation) of 3% in 2015. (5)

Housing costs Montanans a large proportion of their income; 30% of home owners and 46% of renters spend 30% or more of their monthly household income paying the mortgage or rent (Table 1).

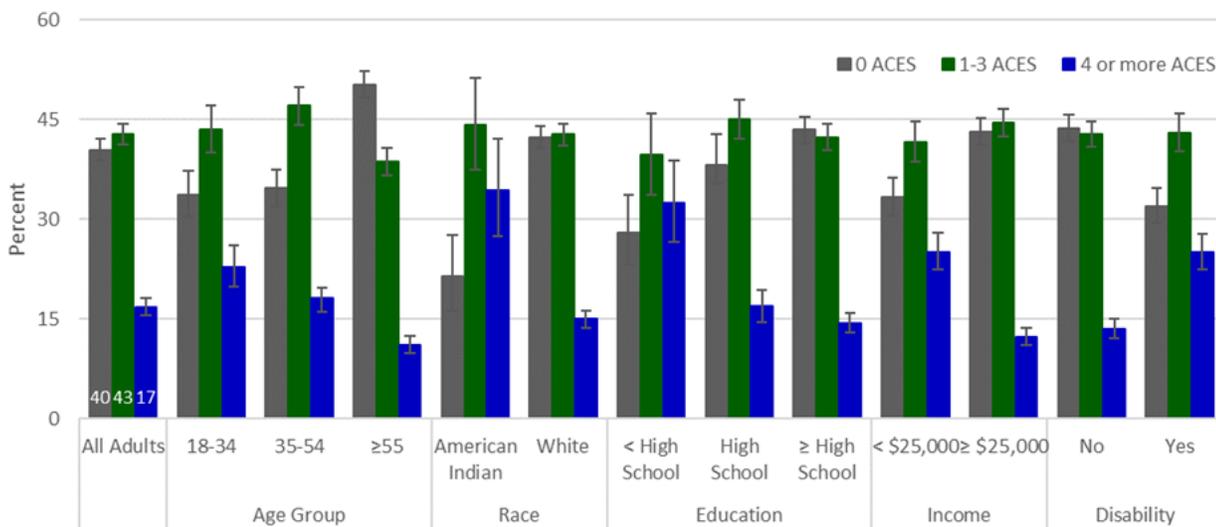
In 2011, 60% of Montana adults reported at least one ACE and 39% reported two or more ACEs. (6) A higher percent of American Indian than white adults reported experiencing four or more ACEs. Adults who had not completed high school also reported more ACEs than those who had more education, as well as adults with lower annual incomes compared to those with higher incomes, and adults with disabilities compared to those without disabilities (Figure 3). Fewer adults aged 55 years and older reported experiencing four or more ACEs than younger adults. Adults with ACE scores of four or more reported poor physical or mental health more often than those with no ACEs (Figure 4). They also reported smoking, drinking, or misuse of prescription drugs, and being obese more often (Figure 4).

ACEs

Adverse Childhood Experiences (ACEs) such as child abuse or family dysfunction are associated with risky behaviors (tobacco use, alcohol abuse, or risky sexual activity), chronic health conditions, and premature death.

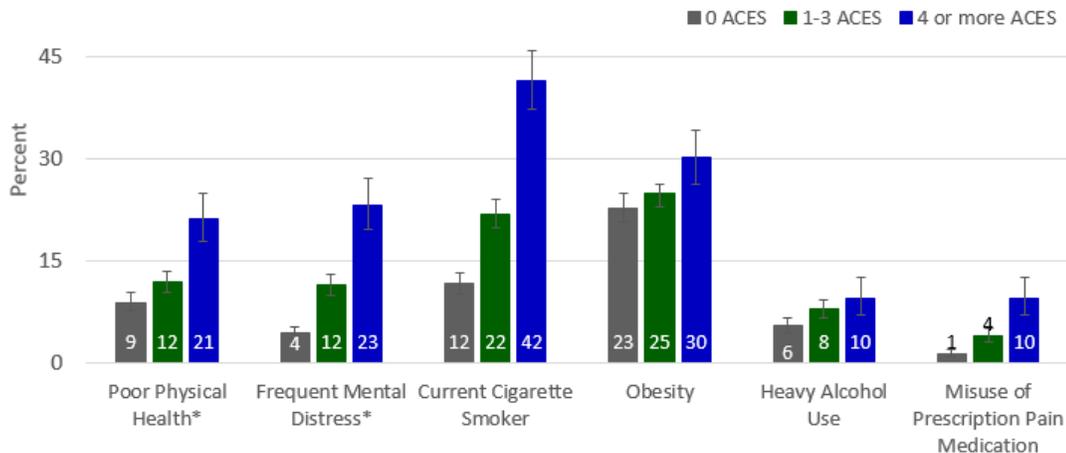


Figure 3. Prevalence of reported Adverse Childhood Experiences (ACEs) by sociodemographic characteristics among Montana adults, 2011



Data Source: Montana Behavioral Risk Factor Surveillance System, 2011

Figure 4. Prevalence of health risk behaviors and physical health risks by adverse childhood experience (ACE) score among Montana residents, 2011



* ≥ 14 days in past 30 days of reported poor physical or mental health.

Data Source: Montana Behavioral Risk Factor Surveillance System, 2011

Access to Care

Much of Montana's population lives in rural or frontier areas, characterized by lack of or long distances to essential services, including both general and specialized health care. Most Montana counties are designated as Health Professional Shortage Areas (HPSA). Of the 56 Montana counties, 54 are designated as Primary Care HPSA, 55 as Mental Health HPSA, and 41 as a Dental HPSA (Figures 5, 6, and 7).

Figure 5. Health Professional Shortage Area for Primary Care, 2018

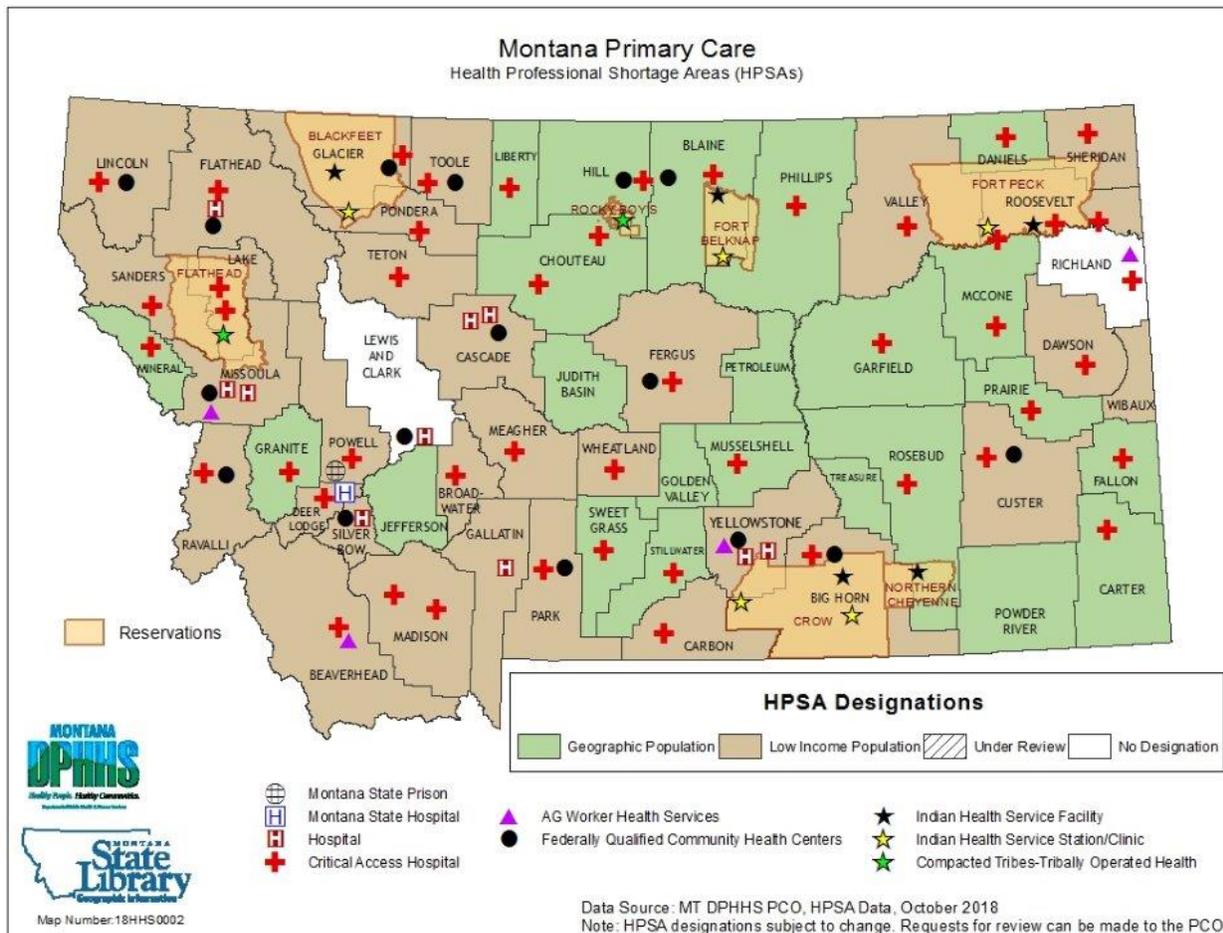


Figure 6. Health Professional Shortage Area for Mental Health Care, 2018

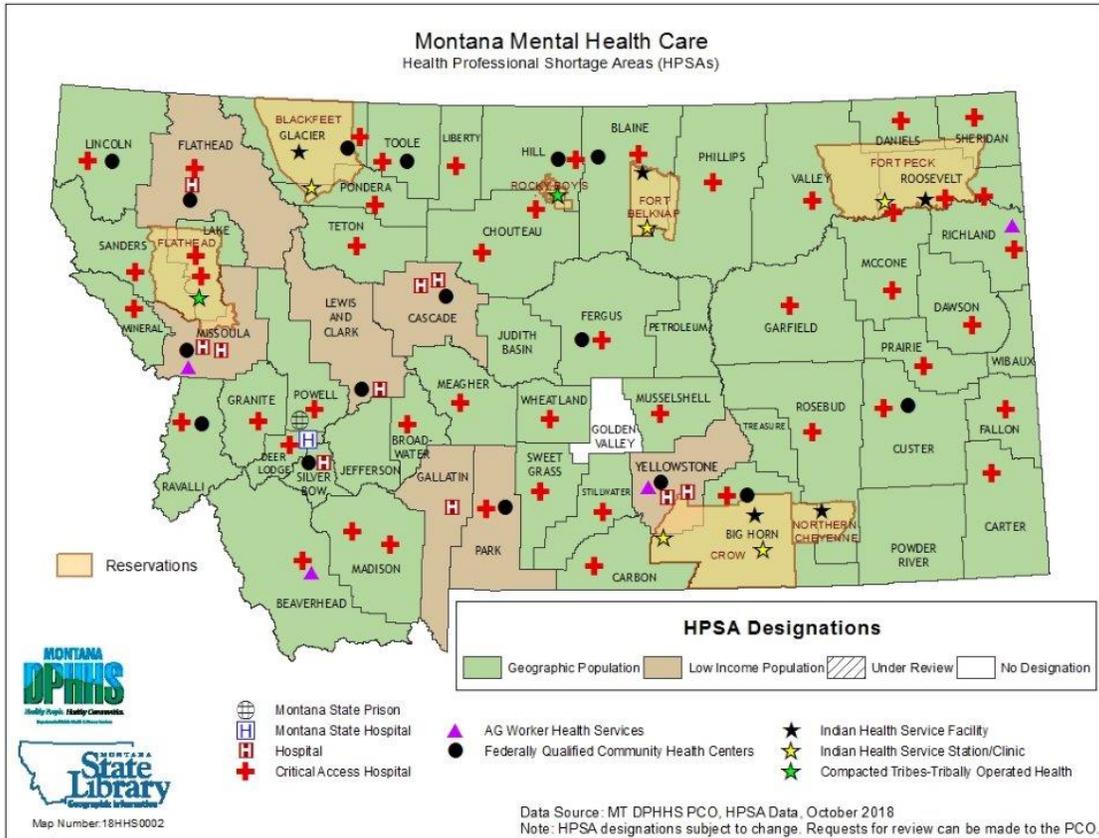
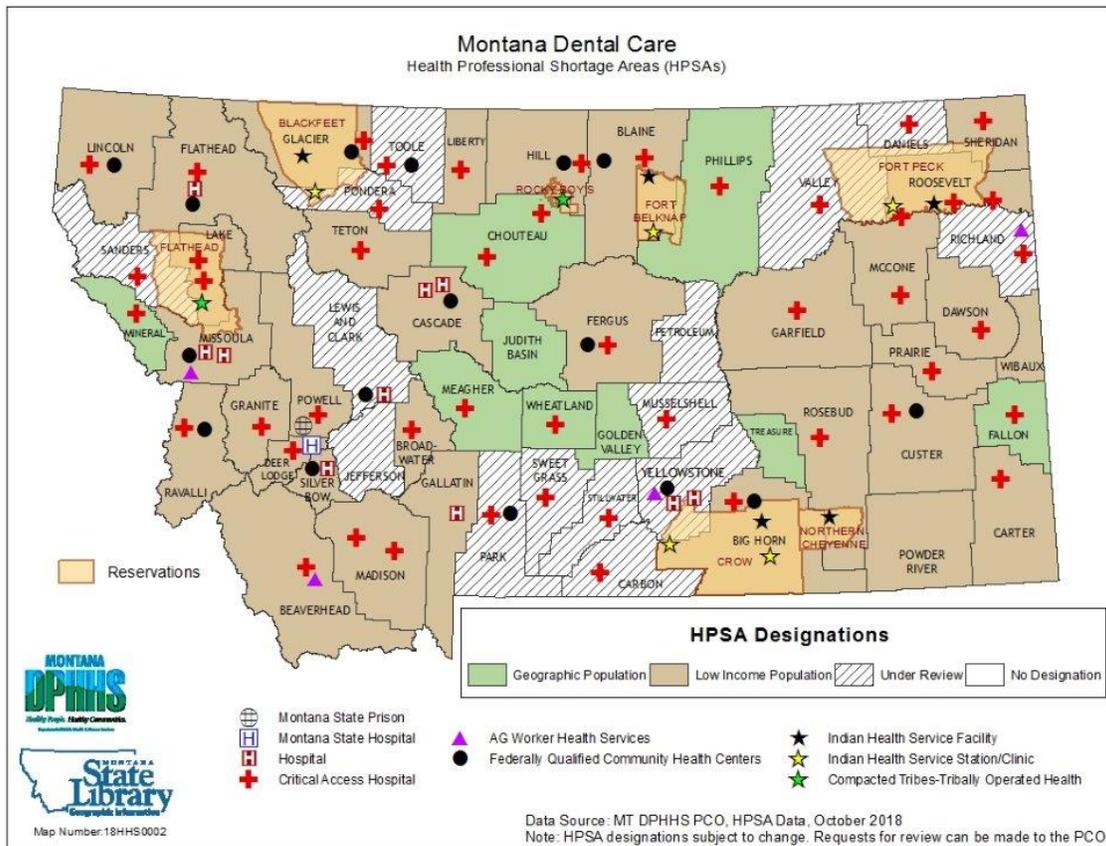
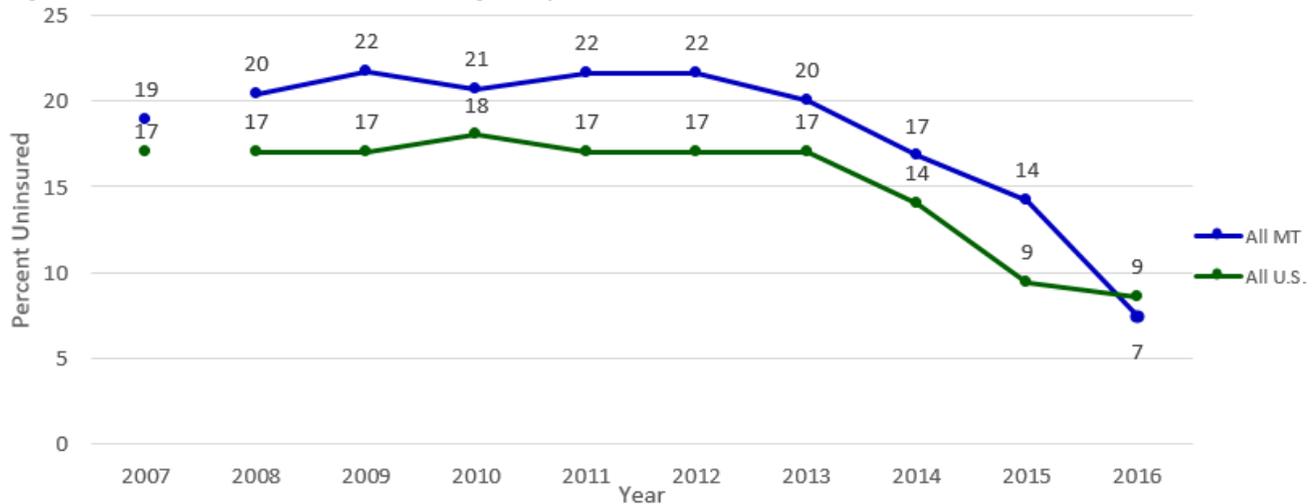


Figure 7. Health Professional Shortage Area for Dental Health Care, 2018



According to the American Community Survey, in the past decade the proportion of Montanans under 65 years of age without health insurance has decreased by 50%, from 19% in 2007 to 7% in 2016 (Figure 8). This large decrease in the proportion of Montanans without health insurance may be attributable to the enactment of two policies. First, starting in 2014, Montanans who met certain criteria were eligible to purchase health insurance through the health exchange. In 2016, Montana Medicaid expanded through the Montana Health and Economic Livelihood Partnership (HELP) Plan. The 2016 American Community Survey estimated that 93% Montanans had health insurance, leaving 7% of Montanans without health insurance. Among American Indian adults aged 18 to 64 years, 9% reported not having health insurance in 2016. (7)

Figure 8. Percent of Montanans under age 65 years with no health insurance, 2007-2016

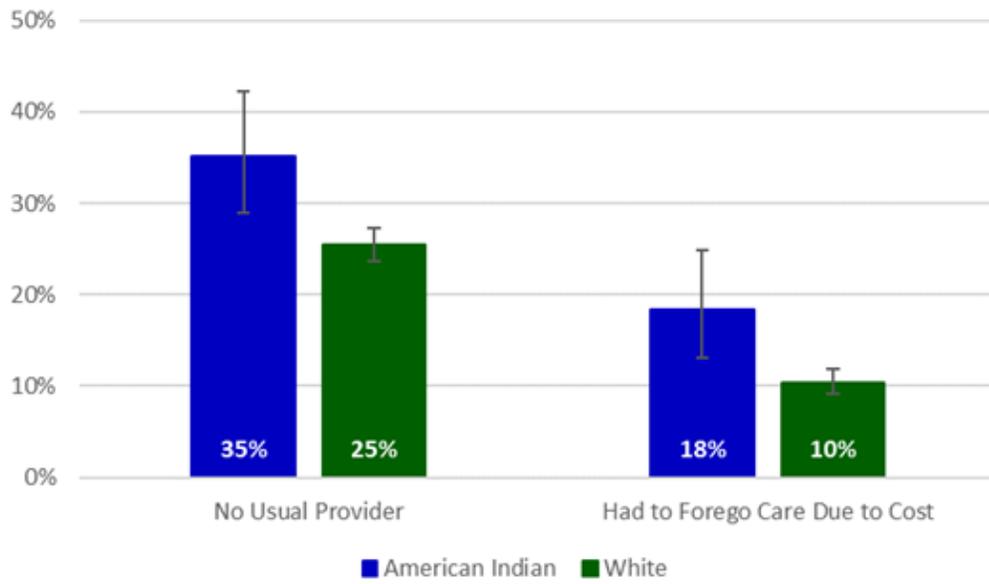


Data source: U.S. Census Bureau, American Community Survey, 2008-2016; Current Population Survey, 2007

Despite improvements in the number of Montanans with health insurance:

- Nearly one in four Montana adults (26%) in 2016 reported they do not have a person they regarded as their usual health care provider.
- American Indian residents reported they did not have a person they regarded as their usual health care provider more frequently than white residents (35% and 25%, respectively) (Figure 9).
- Nearly one-quarter of rural county residents (27%) reported not having a usual health care provider, as did residents of small metro or micropolitan counties (25% and 27%, respectively).
- Nearly one in five American Indian residents (18%) reported that they were not able to see a doctor when they needed to in the past year because of cost (Figure 9). (7)

Figure 9. Access to health care among Montana adults by race, 2016



Data Source: Montana Behavioral Risk Factor Surveillance System, 2016

Chapter 2

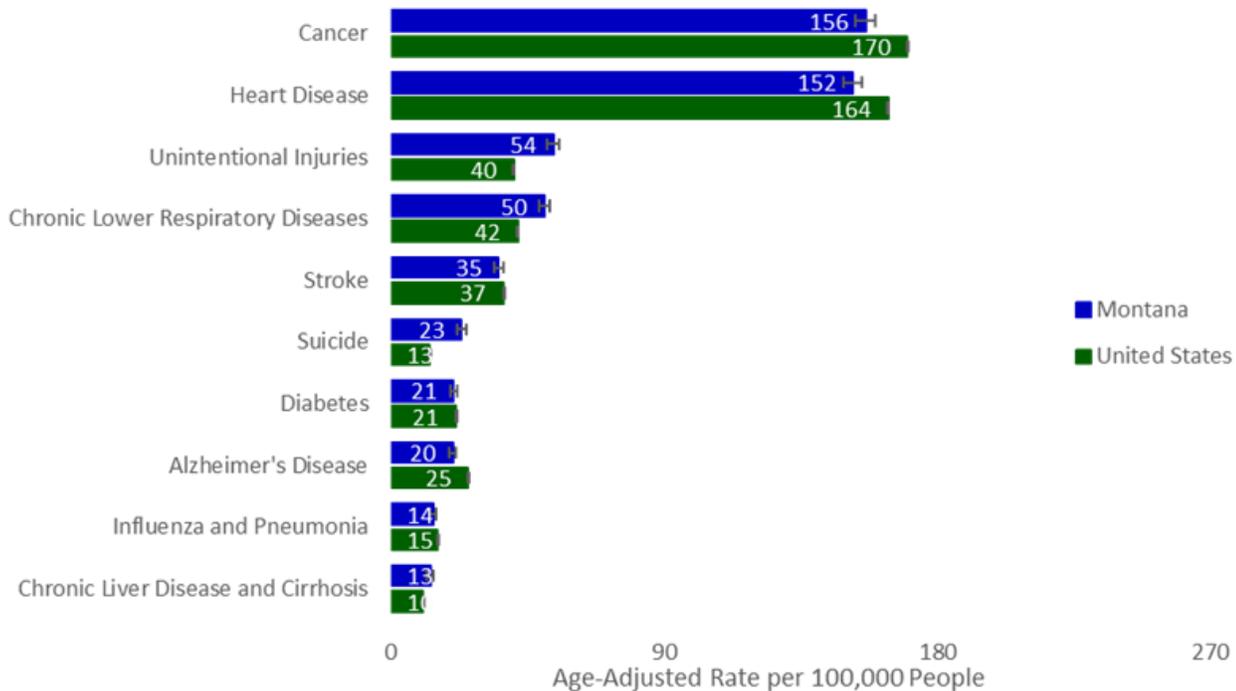
Mortality and Premature Death



Leading Causes of Death in Montana and the U.S.

Nearly half (48%) of all Montana residents die of two broad classes of chronic disease: cancer and cardiovascular disease (heart disease and stroke). Between 2011 and 2015, Montana residents had lower rates of death from chronic diseases such as cancer, heart disease, and Alzheimer's disease compared to the U.S. (Figure 10). Age-adjusted death rates in Montana for unintentional injuries (accidents), suicides, and chronic lower respiratory diseases were markedly higher than the U.S. (Figure 10). Deaths from diabetes, influenza and pneumonia, and chronic liver disease were similar in both Montana and the U.S.

Figure 10. Ten leading causes of death among Montana and U.S. residents, 2011-2015

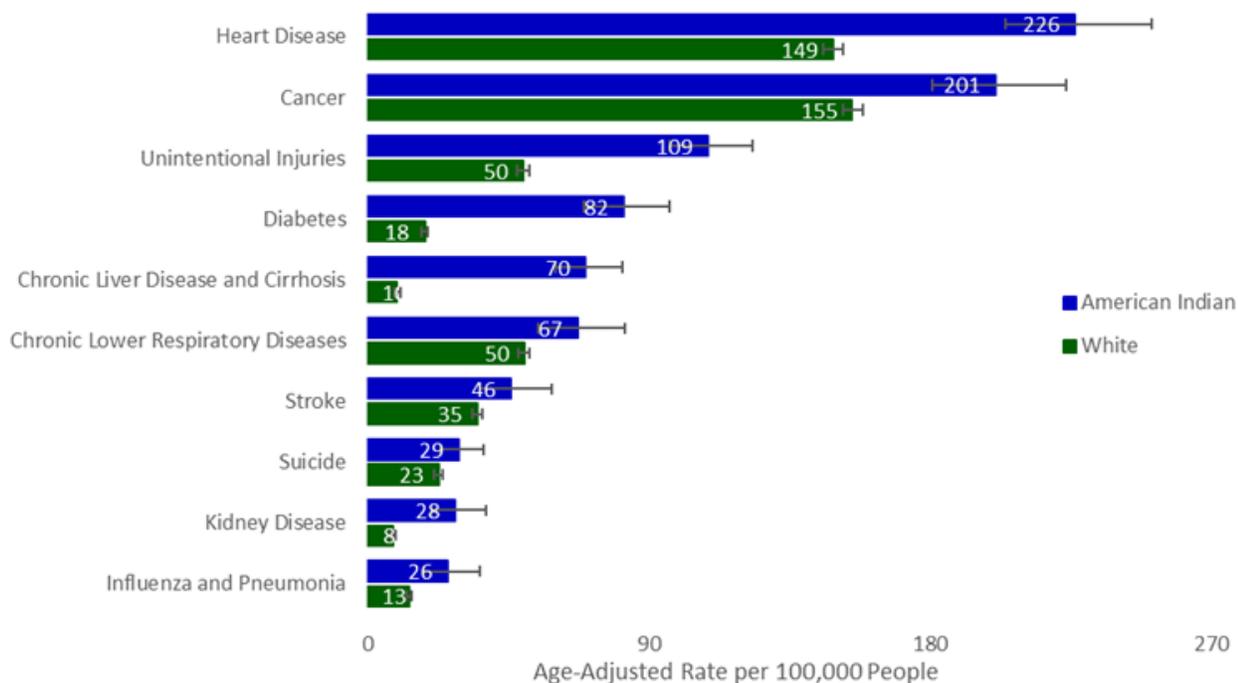


Data source: Montana Office of Vital Statistics, 2011-2015; National Center for Health Statistics, 2011-2015

Leading Cause of Death by Race

Montana's American Indian residents had higher rates of death for all leading causes of death compared to white residents. This was particularly true for chronic liver disease and cirrhosis, where mortality rates were seven times higher, and diabetes, where mortality rates were four-and-a-half times higher (Figure 11). Deaths from unintentional injuries among American Indian residents were more than twice as high compared to white residents.

Figure 11. Ten leading causes of death among American Indian and white Montana residents, 2011-2015

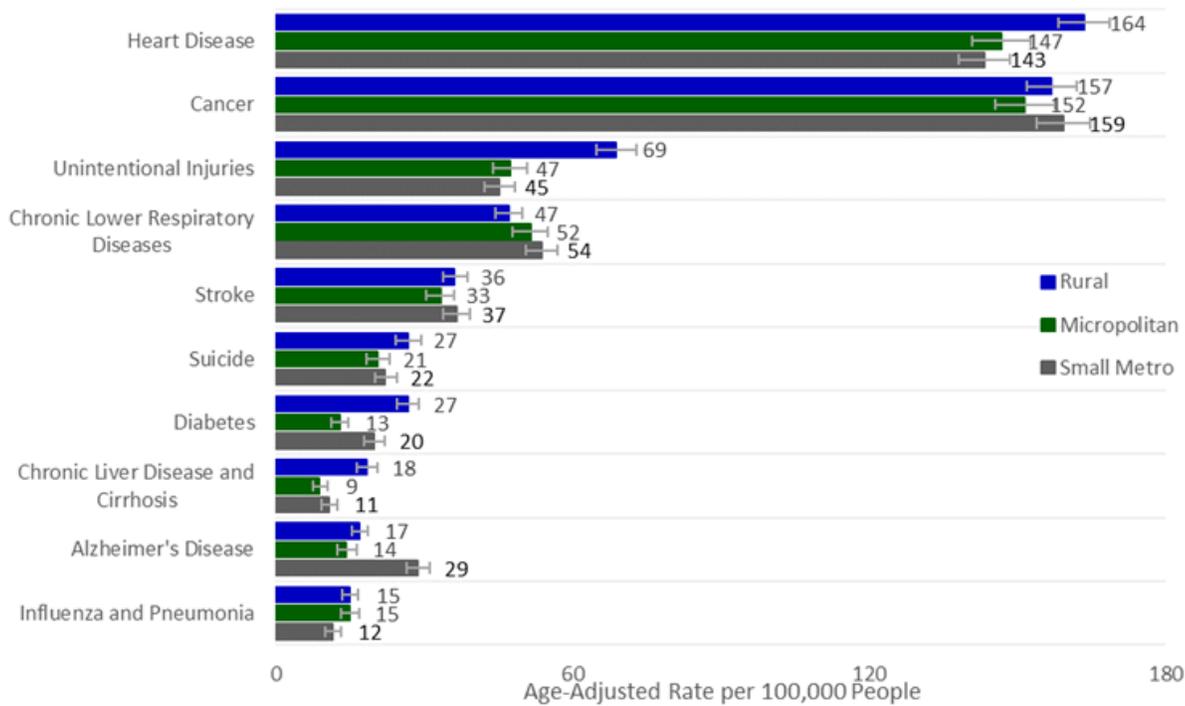


Data Source: Montana Office of Vital Statistics, 2011-2015

Leading Cause of Death by Geographic Location

When examining Montana communities by geographic location, residents of rural counties had a one-and-a-half-times higher mortality rate due to unintentional injury compared to residents of micropolitan and small metropolitan sized counties (see *Chapter 1. Social determinants of health and access to care* for urban-rural definitions) (Figure 12). Rural county residents also had higher death rates due to heart disease, diabetes, chronic liver disease and cirrhosis, and suicide compared to residents of more urban counties. Death rates among small metropolitan counties were highest for Alzheimer's disease. Overall, death rates were lowest among micropolitan county residents for six of the ten leading causes of death compared to residents of metropolitan and rural counties (Figure 12).

Figure 12. Ten leading causes of death in Montana by geographic location, 2011-2015



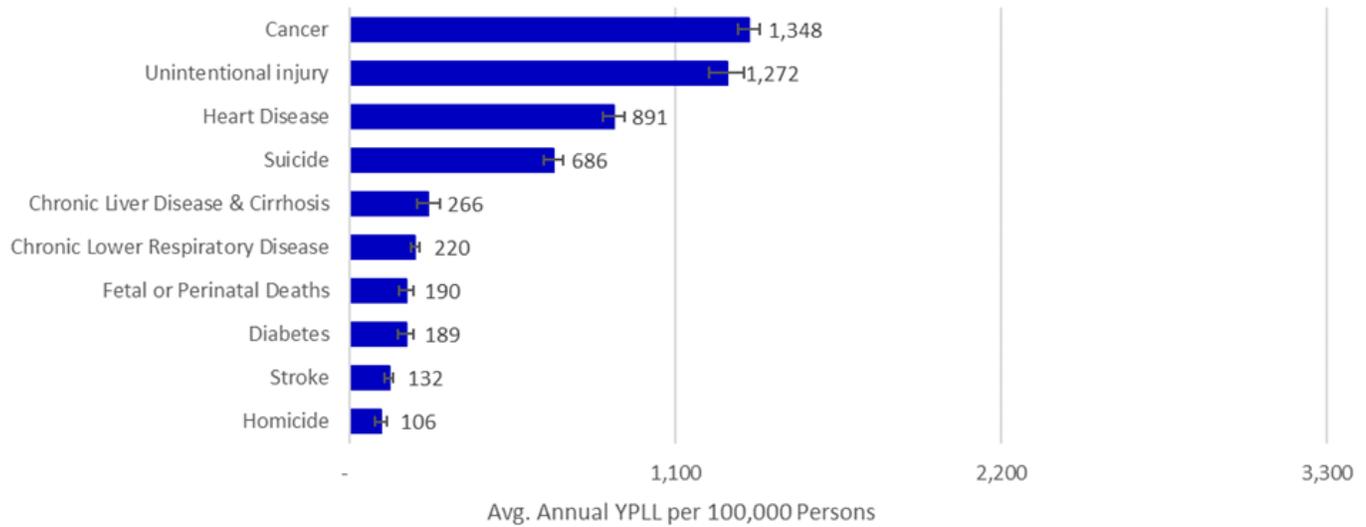
Data source: Montana Office of Vital Statistics, 2011-2015

Premature death

Premature deaths are deaths that occur before a person reaches an expected age of 75 years, which is measured in terms of Years of Potential Life Lost (YPLL). For example, if a 25-year old were to die in a motor vehicle crash, that person would have 50-years of potential life lost. Many premature deaths are considered preventable. The three leading causes of premature death among Montana residents were cancer, unintentional injury, and heart disease (Figure 13). The premature death rate was much higher among American Indian residents compared to white residents for nearly all causes of death, except for cancer. The three leading causes of premature death among American Indian residents were unintentional injury, heart disease, and chronic liver disease and cirrhosis (Figure 14). Among white residents the three leading causes of premature death were cancer, unintentional injury, and heart disease (Figure 14).

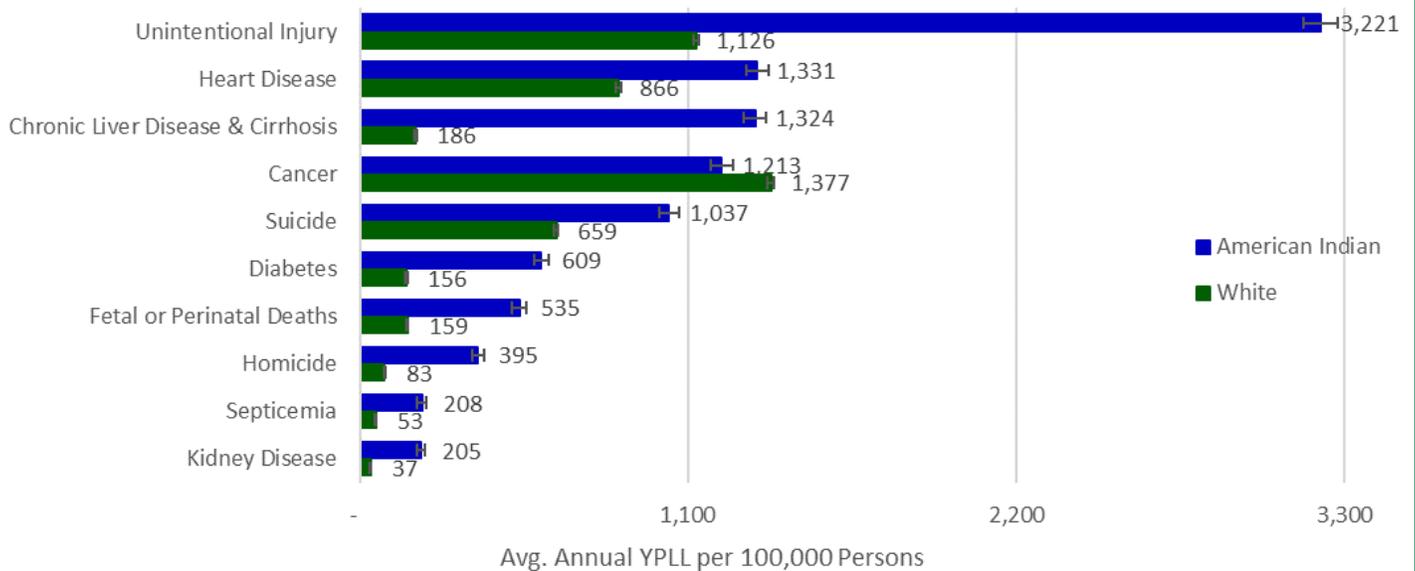


Figure 13. Ten leading causes of premature death among all Montana residents, 2011–2015



Data Source: Montana Office of Vital Statistics, 2011–2015

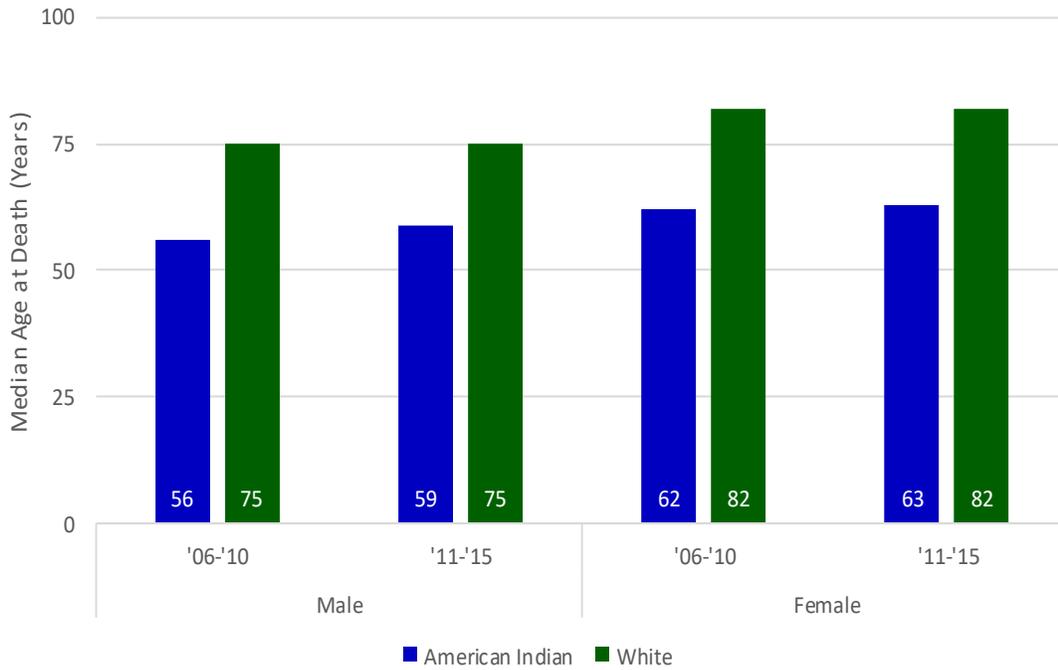
Figure 14. Ten leading causes of premature death among American Indian compared to white Montana residents, 2011–2015



Data Source: Montana Office of Vital Statistics, 2011–2015

Median age at death is the age at which half the population has died. Median age at death is different than life expectancy, which is the average number of years a newborn can be expected to live given prevailing mortality rates. The median age at death was lower among American Indian residents compared to white residents for both men and women. From 2011–2015, white men in Montana lived 16 years longer than American Indian men, and white women lived 19 years longer than American Indian women (Figure 15a). Over the past decade, the median age at death increased among American Indian men from 56 years (2006–2010) to 59 years (2011–2015) (Figure 15a). Meanwhile, the median age at death among American Indian women increased from 62 years to 63 years over the same time period (Figure 15a).

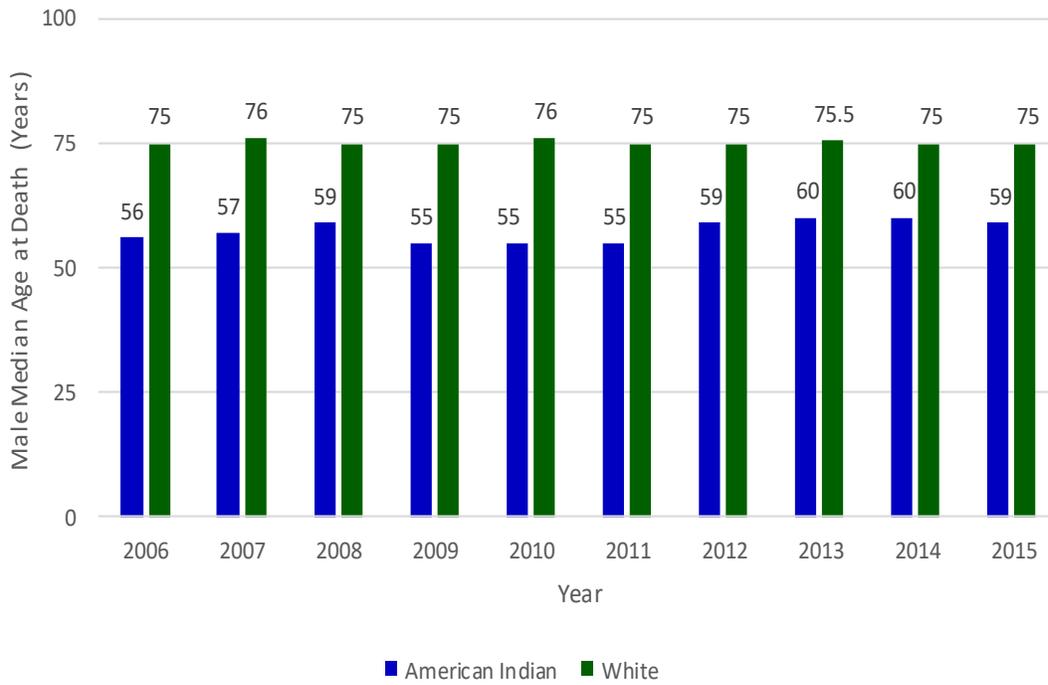
Figure 15a. Median age at death among American Indian and white Montana residents, 2006-2010 and 2011-2015



Data Source: Montana Office of Vital Statistics, 2006-2015

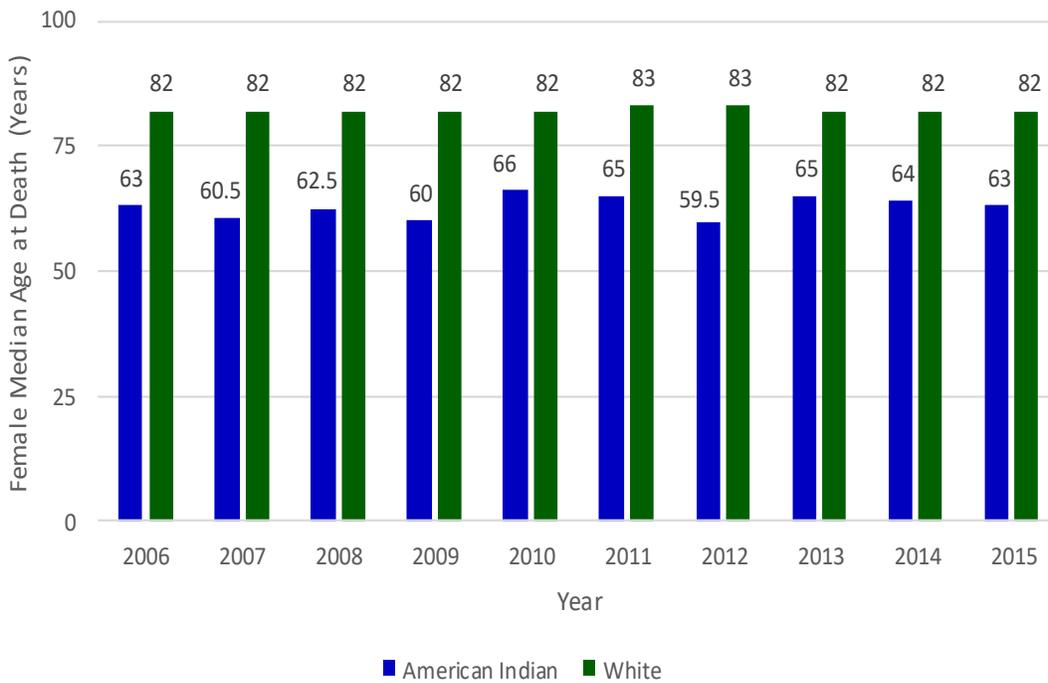
The median age at death reported in the 2013 State Health Assessment incorrectly stated that the data were for the single year 2010. However, the data reported in the 2013 State Health Assessment were for the 5-year time period of 2006-2010. These data are also reported here, in Figure 15a.

Figure 15b. Median age at death among male American Indian and white Montana residents, by year, 2006-2015



Data Source: Montana Office of Vital Statistics, 2006-2015

Figure 15c. Median age at death among female American Indian and white Montana residents, by year, 2006-2015



Data Source: Montana Office of Vital Statistics, 2006-2015



Chapter 3

Chronic Disease

Chronic diseases are the leading cause of death in Montana and in the U.S. In fact, two chronic conditions, cancer and cardiovascular disease (heart disease and stroke), account for nearly half (48%) of all deaths in Montana. Many chronic conditions can be prevented or managed by engaging in two health behaviors: not using tobacco and engaging in regular physical activity. This chapter focuses on tobacco use and physical inactivity and their contribution to the burden of chronic disease among Montanans.

Healthy Lifestyles

Tobacco

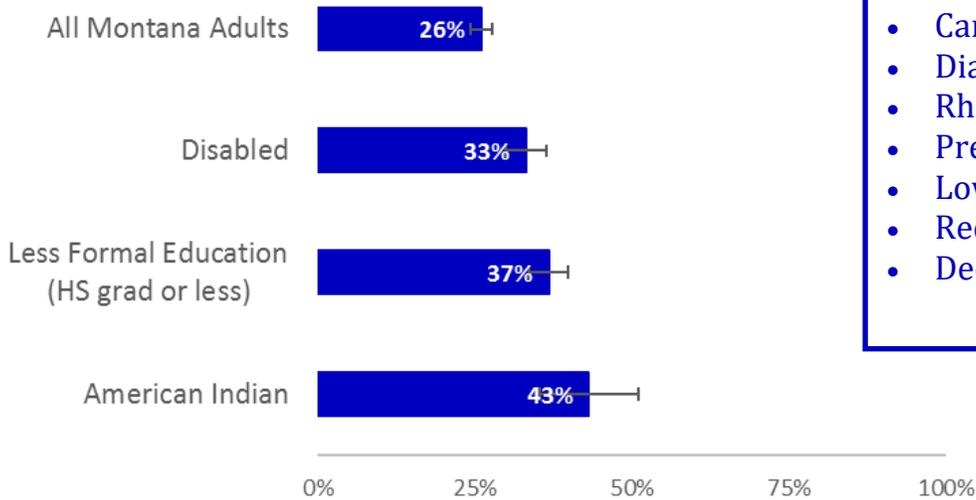
Tobacco use remains the leading cause of preventable death and disability, with 1,600 tobacco-related deaths occurring in Montana each year. (8) Cigarette smoking harms nearly every organ of the body, causes many diseases, and reduces the health of smokers. (9, 10) Montana residents have significantly decreased cigarette consumption over the last decade, but the use of other tobacco products remains high. The tobacco industry spends almost \$30 million each year on marketing in Montana and their strategies specifically target youth by focusing on sports, celebrities, and tempting flavors. (11) Moreover, nearly 90% of adult smokers started smoking prior to age 18. (12) Continued vigilance of youth tobacco use is necessary to prevent another generation of adults addicted to nicotine.

In recent years, the percent of Montana adults who were current smokers has significantly decreased from 22% in 2011 to 19% in 2016. Still, more than one quarter of adults (26%) were current tobacco users in 2016. (6, 7) Tobacco use was significantly higher among American Indians, those with less education, and people living with disabilities (Figure 16). Cigarettes are still the most commonly used tobacco product among Montana adults (Figure 17). Cigarette use was significantly higher among American Indian adults compared to white adults (38% and 17%, respectively). (7) Smokeless tobacco use was twice as high in Montana compared to the U.S. (Figure 17).

People who use tobacco increase their risk for:

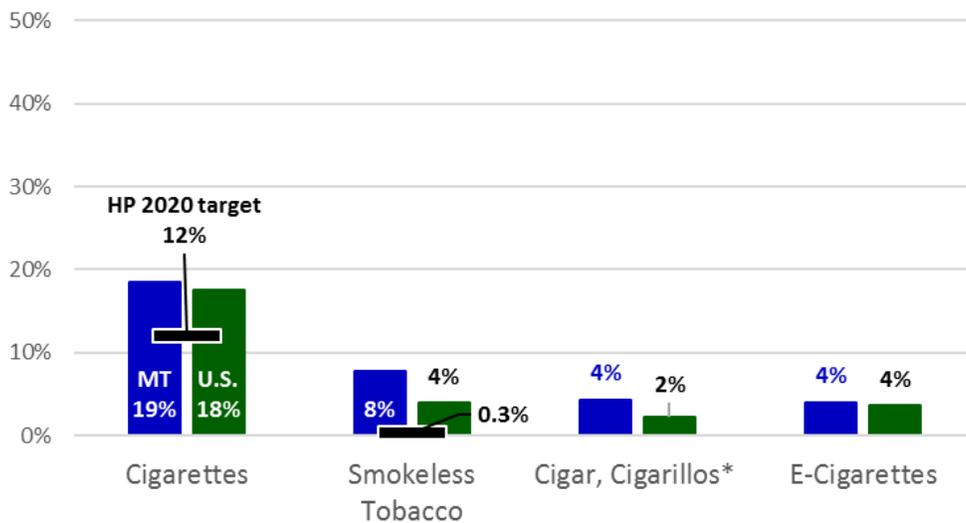
- Heart disease
- Stroke
- Cancers (numerous)
- Diabetes
- Rheumatoid arthritis
- Preterm births
- Low birth weight babies
- Reduced fertility
- Decreased immune function

Figure 16. Current tobacco use among Montana adults by select demographic characteristics, 2016



Data source: Montana Behavioral Risk Factor Surveillance System, 2016

Figure 17. Current use of tobacco products among Montana adults, 2016

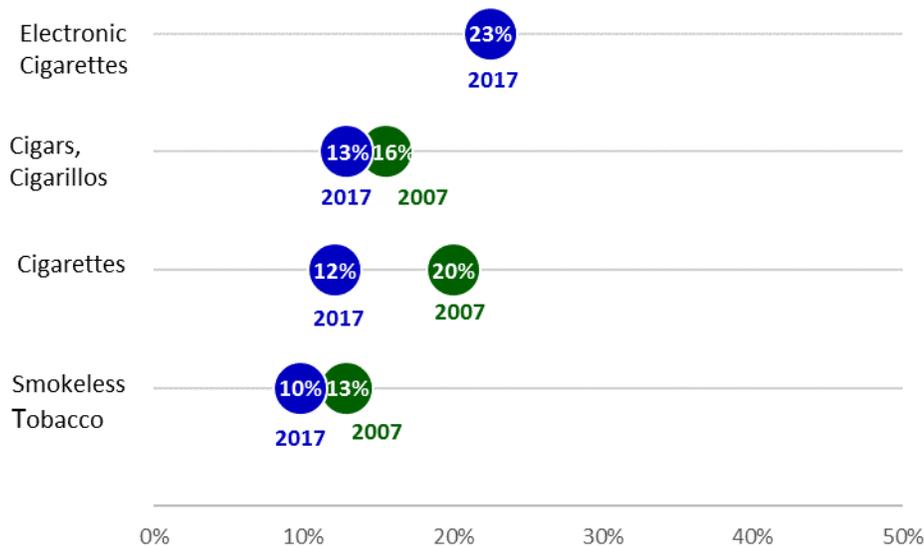


Data source: Montana Behavioral Risk Factor Surveillance System, 2016

Youth cigarette smoking has significantly decreased in recent years among all Montana high school students, from 20% in 2007 to 12% in 2017 (Figure 18). (13) Moreover, the decline in youth cigarette smoking was even greater among American Indian high school students, from 45% in 2007 to 19% in 2017 (Figure 19). (13) A strong connection can be drawn between the cost of cigarettes and usage rates among youth. As cigarette price increases, youth smoking decreases. From 1995 to 2015, the price per cigarette pack increased from \$1.55 to \$6.30, while youth cigarette use decreased by 62% during the same time period (Figure 20).

Despite the success in decreasing youth cigarette smoking, youth use of other tobacco and nicotine products continues. Youth use of smokeless tobacco was high, particularly among males. Male high school students used smokeless tobacco almost as much as adult males (14% and 15%, respectively). (7, 13) Additionally, in 2017 electronic cigarettes were the most used nicotine product among Montana high school students. Almost half of all Montana high school students tried electronic cigarettes and nearly one in four (23%) report currently using them (Figure 18).

Figure 18. Current use of tobacco products among Montana high school students, 2007 and 2017



Data source: Montana Youth Risk Behavior Survey, 2007 and 2017



Youth Smoking

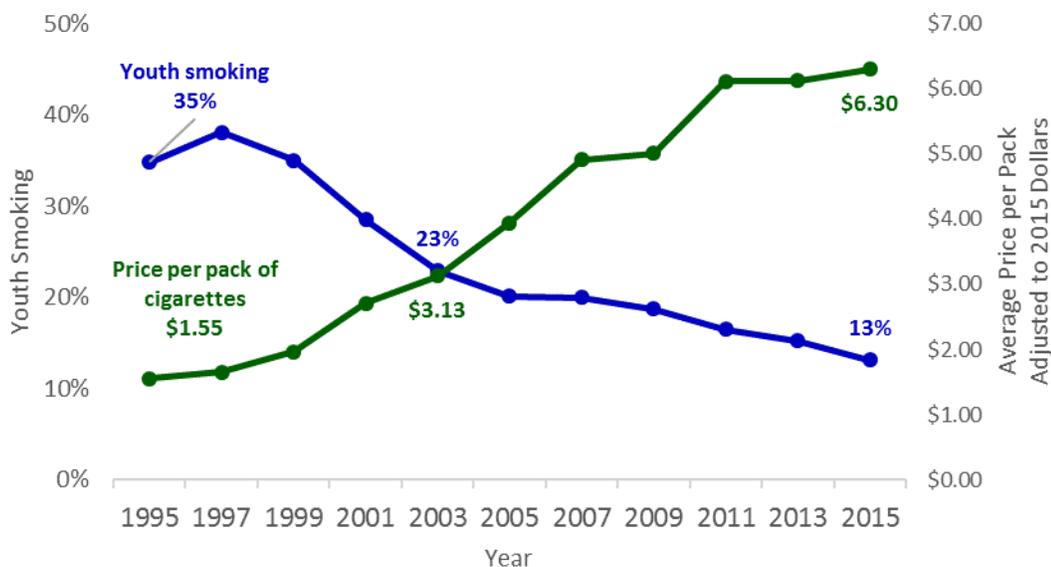
Youth use of nicotine in any form, from cigars to smokeless tobacco to e-cigarettes, is addictive and unsafe.

Figure 19. Current use of tobacco products among Montana American Indian high school students, 2007 and 2017



Data source: Montana Youth Risk Behavior Survey, 2007 and 2017

Figure 20. Prevalence youth smoking and average price per cigarette pack in Montana, 1995–2015



Data source: Montana Youth Risk Behavior Survey, 1995-2015; Orzechowski W, Walker R. The tax burden on tobacco. Historical Compilation, Volume 51. Arlington (VA): Orzechowski and Walker Economic Consulting Firm; 1970-2016.

Nearly 90% of adult smokers started smoking prior to age 18.



Physical Inactivity

Regular physical activity is one of the most important things people can do for their health. People who are physically active live longer and have lower risks for heart disease, stroke, type 2 diabetes, depression, and some cancers. (14) Physical inactivity is, therefore, recognized as an important risk factor for multiple causes of death and chronic morbidity. (15) Three-quarters of Montana adults (75%) and seven in ten Montana youth (72%) do not meet national physical activity recommendations. (13, 16)

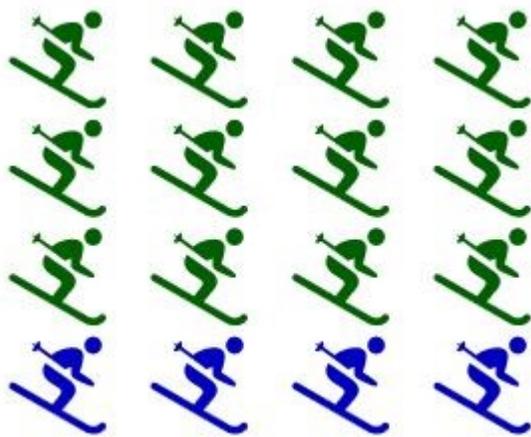


PHYSICAL ACTIVITY RECOMMENDATIONS

Adults: At least 150 minutes moderate intensity physical activity each week and 2 days of muscle strengthening activities each week.

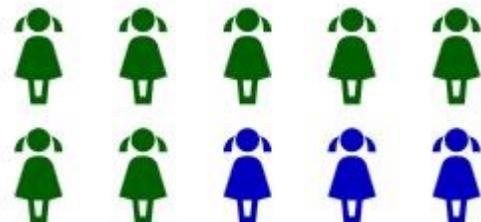
Youth: At least 60 minutes of physical activity every day.

The social, cultural, physical, and economic foundations of a community support healthy lifestyles for its citizens. Available, accessible, attractive, and safe stairwells, bicycle paths, walking paths, exercise facilities, and swimming pools can increase the type and length of physical activity.



75% of adults are **NOT** meeting physical activity recommendations

72% of youth are **NOT** meeting physical activity recommendations



Chronic Conditions

Obesity

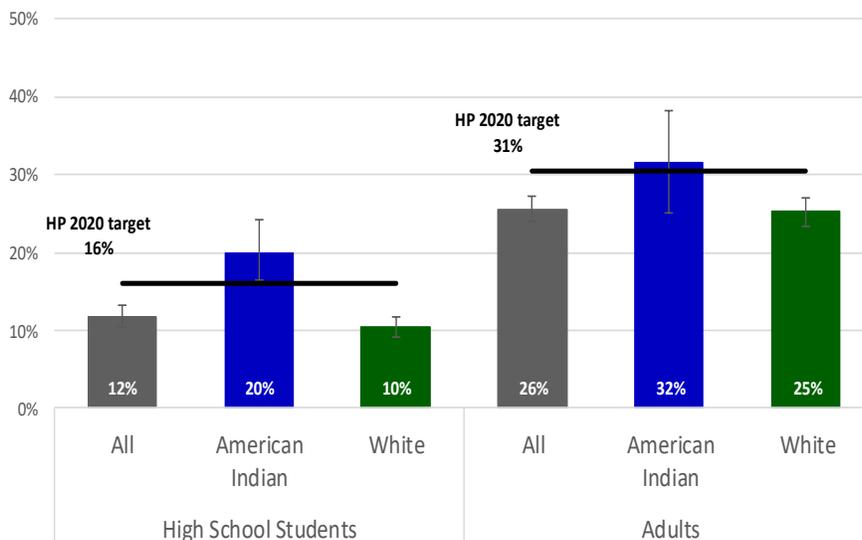
Obesity is a serious health condition that can be attributed to a combination of poor dietary patterns and physical inactivity. In 2016, Montana met the Healthy People 2020 target for adult obesity. Even still, more than one in ten Montana high school students (12%) was obese, with significantly more obese American Indian students than white students (20% and 10%, respectively) (Figure 21). Additionally, one in four Montana adults (26%) was obese (Figure 21). Obesity prevalence was significantly higher among American Indian adults and persons with a disability (32% and 38% obese, respectively). (7)



Obese people have an increased risk for:

- High blood pressure
- High cholesterol
- Diabetes
- Heart disease
- Stroke
- Arthritis
- Some cancers
- Gallbladder disease
- Mental illness
- Low quality of life

Figure 21. Prevalence of obesity among Montana high school students and adults by race, 2016 and 2017



Data source: Montana Youth Risk Behavior Survey, 2017; Montana Behavioral Risk Factor Surveillance System, 2016

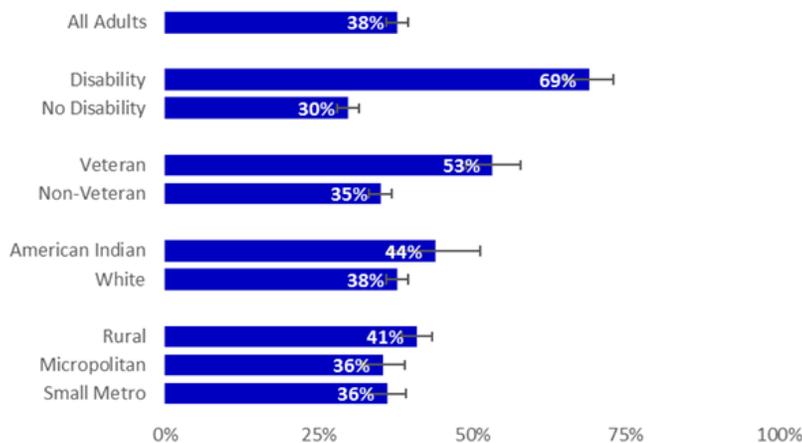
Multiple Chronic Conditions

More than one-third of Montana adults (38%) report having two or more chronic conditions. (16) The prevalence of multiple chronic conditions was significantly higher among adults who have not earned a college degree, adults living in rural counties, adults with a disability, and veterans (Figure 22). Table 2 lists the ten most prevalent chronic diseases among Montana adults.



Chronic Conditions Include:	
High Cholesterol	Diabetes
Chronic Kidney Disease	Arthritis
Cancer	COPD
Coronary Heart Disease	Stroke
High Blood Pressure	Heart attack
Depressive Disorder	Asthma

Figure 22. Percent of Montana adults with two or more chronic conditions by select demographic characteristics, 2015



Data source: Montana Behavioral Risk Factor Surveillance System, 2015

Table 2. The ten most prevalent self-reported chronic conditions among Montana adults, 2015 and 2016

Chronic Condition	All Adults		American Indian Adults	
	% of Adults	Estimated Number of Adults	% of Adults	Estimated Number of Adults
1. High Cholesterol	33%	266,000	29%	14,000
2. High Blood Pressure	29%	234,000	35%	17,000
3. Arthritis	28%	228,000	24%	12,000
4. Depressive Disorder	20%	163,000	27%	13,000
5. Asthma	9%	73,000	13%	6,000
6. Cancer (excludes skin cancer)	9%	73,000	8%	4,000
7. Diabetes	8%	65,000	17%	8,000
8. Cardiovascular Disease [‡]	8%	65,000	10%	5,000
9. Chronic Obstructive Pulmonary Disease	8%	65,000	8%	4,000
10. Kidney Disease	3%	24,000	5%	2,000

[‡]Includes respondents that reported having coronary heart disease, myocardial infarction, or stroke

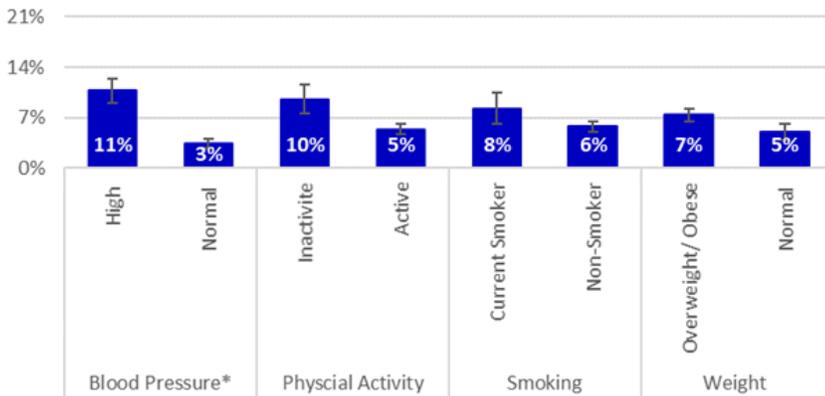
Data source: Montana Behavioral Risk Factor Surveillance System, 2015 and 2016

Cardiovascular Disease

Cardiovascular disease (CVD) was a leading cause of death among Montanans from 2011-2015. It includes heart disease, which was the second leading cause of death, and stroke, which was the fifth. Stroke is also a leading cause of adult disability. In 2015, nearly 2,000 inpatient hospital admissions for stroke and 3,600 hospital admission for heart disease occurred - many of which could have been prevented. (17) Several modifiable risk factors contribute to the development of CVD. These risk factors include high blood pressure, tobacco use, sedentary lifestyle, obesity, high cholesterol, and diabetes. Adults can have multiple risk factors.

Approximately 65,000 Montana adults (8%) reported a history of CVD (heart attack, stroke or coronary heart disease) in 2016. The percent of Montana adults reporting a history of CVD was significantly higher among those who were overweight or obese or reported no physical activity, compared to those without these risk factors (Figure 23). The percent of adult Montanans with CVD was almost four times higher for those with high blood pressure than those without this risk factor (11% compared to 3%, respectively) (Figure 23). Similarly, American Indian adults with high blood pressure had a prevalence of CVD three-times higher than those without high blood pressure (Figure 24). Focusing on modifiable risk factors like high blood pressure, high cholesterol, physical inactivity, tobacco use, and being overweight or obese can reduce the burden of CVD in Montana.

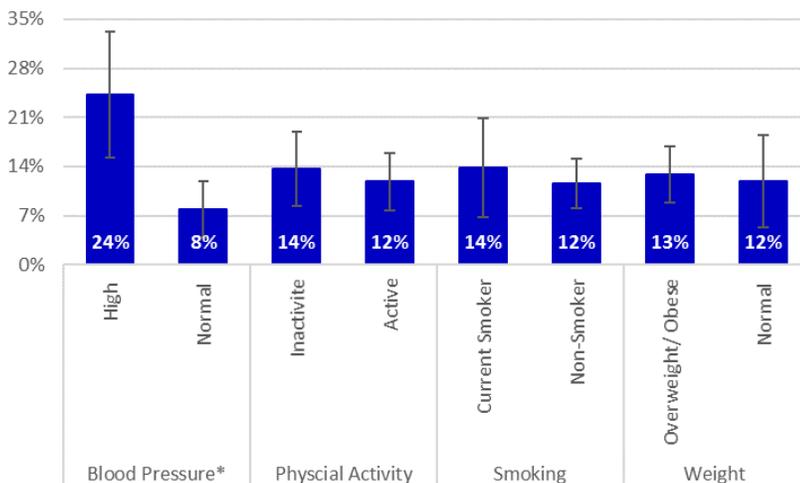
Figure 23. Percent of Montana adults with cardiovascular disease among those with select risk factors and those without select risk factors, 2015 and 2016



*2015 Behavioral Risk Factor Surveillance System

Data source: Montana Behavioral Risk Factor Surveillance System, 2015 and 2016

Figure 24. Percent of American Indian adults with cardiovascular disease among those with select risk factors and those without select risk factors in Montana, 2015 and 2016



*2015 Behavioral Risk Factor Surveillance System

Data source: Montana Behavioral Risk Factor Surveillance System, 2015 and 2016

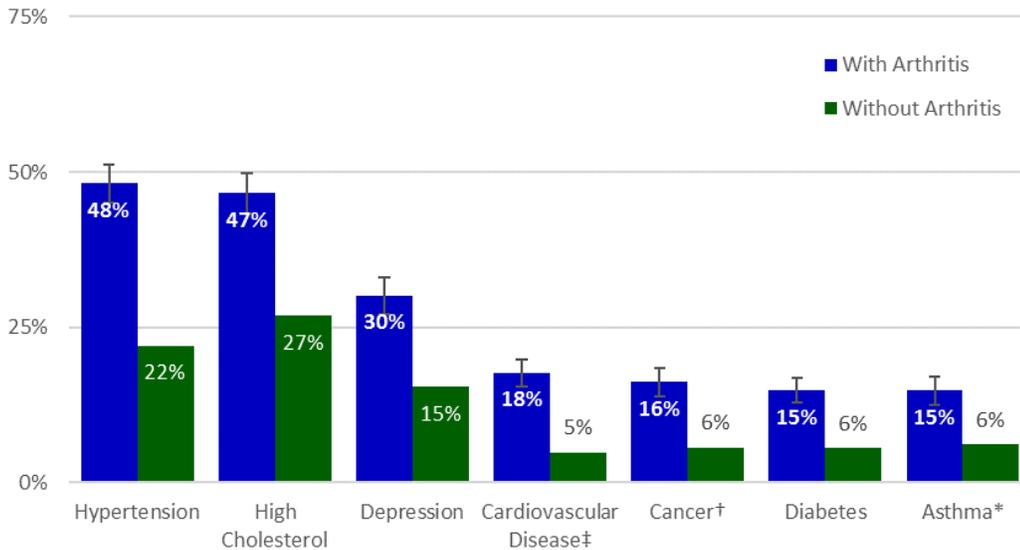
Modifiable risk factors for CVD include:

- High blood pressure
- Tobacco use
- Sedentary lifestyle
- Obesity
- High cholesterol
- Diabetes

Arthritis

Arthritis is common among Montana adults; 28% (approximately 228,000 adults) reported ever being diagnosed with arthritis in 2016. (7) More than four out of five Montana adults with arthritis (82%) also had at least one additional chronic health condition (Figure 25). Having multiple chronic conditions substantially increases the risk of death, hospitalization, and poor day-to-day functioning compared to having only one chronic condition. (18)

Figure 25. Percent of Montana adults with select chronic conditions among those with arthritis and without arthritis, 2015 and 2016



‡ Includes respondents that reported having coronary heart disease, myocardial infarction, or stroke

† Not including skin cancer

* Current asthma

Data source: Montana Behavioral Risk Factor Surveillance System, 2015 and 2016

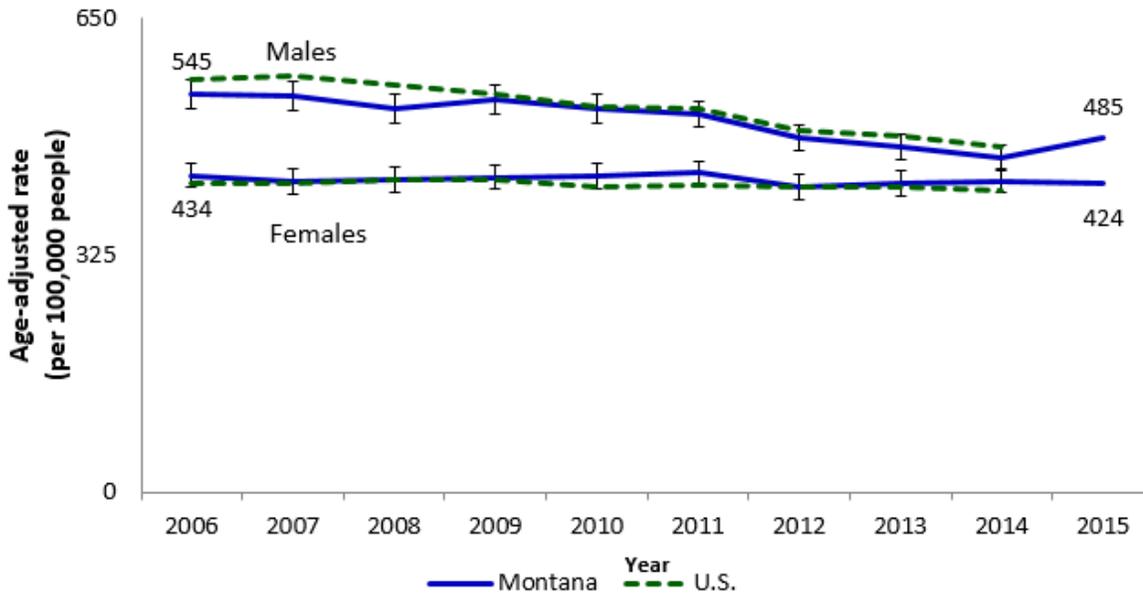
Cancer

Cancer is a common disease; one in three individuals will be diagnosed with cancer in their lifetime. (19) The risk of cancer can be significantly decreased by avoiding tobacco use, maintaining a healthy weight through healthy diet and physical activity, and following screening recommendations for breast, cervical, and colorectal cancers. (20, 21)

In Montana, about 5,600 new cases of cancer occur each year. Four types of cancer account for over 50% of all cancers: female breast cancer, prostate cancer, lung cancer, and colorectal cancer. The incidence (new cases) of cancer was higher among men compared to women (Figure 26). Cancer incidence has been decreasing among both men and women over the past ten years. However, the decline has been larger among men. Cancer incidence in Montana was similar to cancer incidence in the U.S. overall.

Tobacco Use Causes Cancers of the:	Being Obese Raises the Risk of Cancers of the:
Lung and Bronchus	Esophagus
Mouth and Throat	Breast
Esophagus	Colon and Rectum
Stomach	Uterus
Colon and Rectum	Gallbladder
Liver	Upper Stomach
Pancreas	Kidney
Voice Box (larynx)	Liver
Kidney and Renal Pelvis	Ovary
Urinary Bladder	Pancreas
Cervix	Thyroid
Acute Myeloid Leukemia	Meninges
	Multiple Myeloma

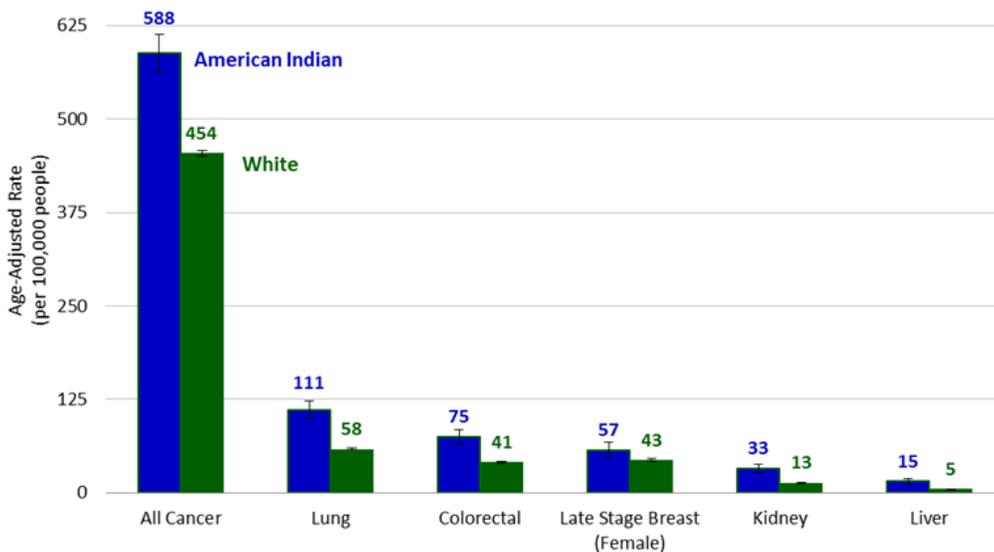
Figure 26. Trends in age-adjusted cancer incidence (new cases) rates in Montana and the U.S., 2006-2015



Data source: Montana Central Tumor Registry, 2006–2015; U.S. Cancer Statistics, 2006-2014

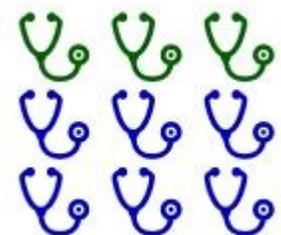
Overall, cancer incidence was significantly higher among American Indians in Montana compared to whites (Figure 27). The largest disparities between American Indians and whites were for lung and liver cancer incidence, which were two and three times higher, respectively. Although the overall incidence of female breast cancer was similar for American Indian women compared to white women, American Indian women had a higher incidence of breast cancer diagnosed at late-stage.

Figure 27. Age-adjusted cancer incidence rates among American Indian Montanans compared to white Montanans, 2006-2015



Data source: Montana Central Tumor Registry, 2006-2015

Cancer is a common disease; **one in three** individuals will be diagnosed with cancer in their lifetime.

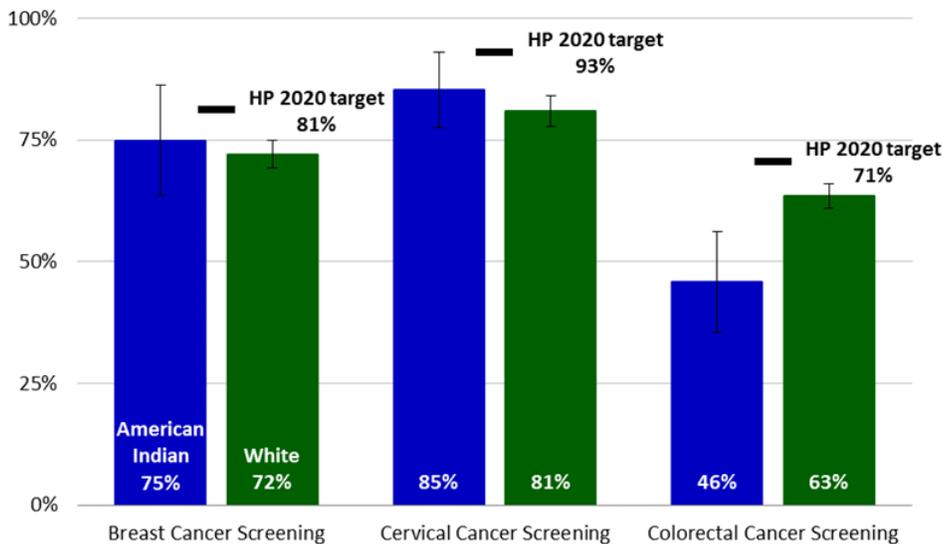


The U.S. Preventive Services Task Force (USPSTF) recommends that all women aged 50 to 74 years are screened for breast cancer through mammography every two years and that all women aged 21 to 65 years are screened for cervical cancer with a pap test every three years. USPSTF also recommends all adults aged 50 to 75 years receive colorectal cancer screening through colonoscopy every 10 years, flexible sigmoidoscopy every five years with high sensitivity fecal occult blood testing (FOBT) every three years, or annual FOBT.(22) Too few Montana adults are receiving these recommended screening tests to meet the Healthy People 2020 targets (Figure 28). Significantly fewer American Indian



adults aged 50 to 74 years received recommended colorectal cancer screening compared to white adults in 2016.(7) About 47,000 Montana women aged 50 to 74 years need breast cancer screening and 58,000 women aged 21 to 64 years need cervical cancer screening.(7) About 124,000 adults aged 50 to 74 have not had recommended colorectal cancer screening.(7)

Figure 28. Proportion of adults who meet breast, cervical, and colorectal cancer screening recommendations among American Indian and white Montanans, 2016



Data source: Montana Behavioral Risk Factor Surveillance System, 2016

Asthma

Asthma, if properly treated and controlled through self-management, should not limit a person's daily activities or cause troublesome symptoms. However, over half (57%) of Montana adults with current asthma reported symptoms indicating that their asthma was not well or very poorly controlled. (23) Tobacco smoke and other environmental triggers often produces asthma symptoms. The prevalence of tobacco use among Montana adults with asthma was substantially higher (25%) than prevalence of tobacco use among those with no asthma (18%). (16)

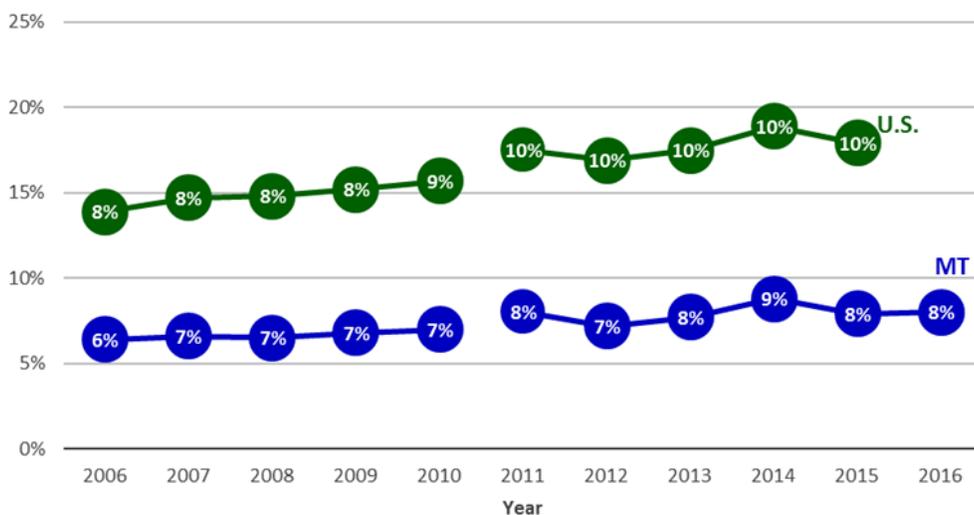


Over half (57%) of Montana adults with current asthma, reported symptoms indicating that their asthma was not well or very poorly controlled.

Diabetes

Montana's prevalence of diagnosed diabetes among adults was significantly lower than the U.S.; however, diabetes prevalence increased overtime from 6% in 2005 to 8% in 2016 (Figure 29). In 2016, the prevalence of diagnosed diabetes among American Indian adults was two times higher (17%), compared to whites (8%). (7) Diabetes and kidney disease were among the ten leading causes of death for American Indians and further emphasizes how this disease disparately affects the American Indian community (See *Chapter 2. Mortality and Premature Death*). Smokers are 30% to 40% more likely to develop type 2 diabetes than nonsmokers. Moreover, people with diabetes who smoke are more likely than nonsmokers to have trouble with insulin dosing and controlling their disease. (9)

Figure 29. Prevalence of diabetes among adults in Montana and the U.S., 2006–2015



Data source: Montana Behavioral Risk Factor Surveillance System, 2006–2015

Chapter 4

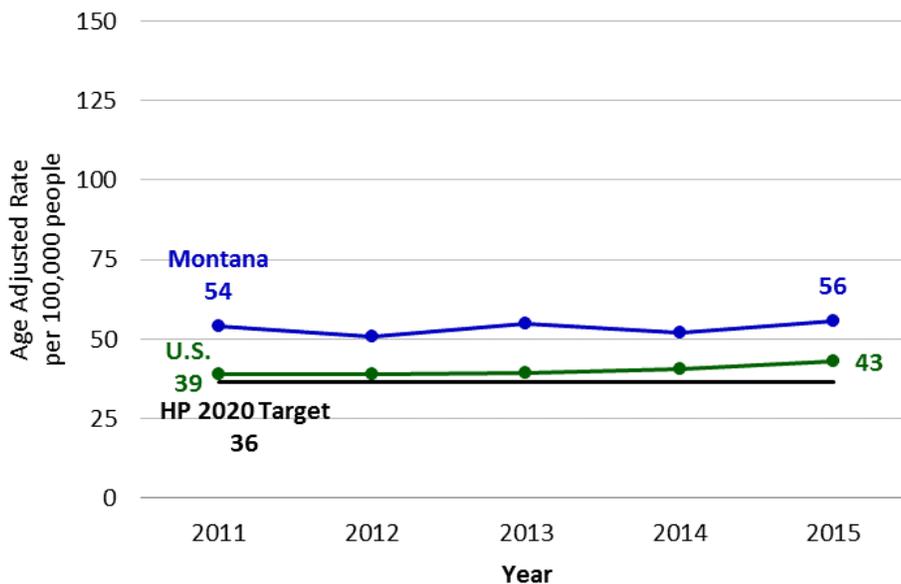
Unintentional Injury



A common mistake is to consider injuries as random events that are both unpredictable and unavoidable. From a public health perspective, injuries are understood to be a preventable problem, with identifiable risk and protective factors and proven mitigation strategies. This chapter covers unintentional injuries focusing on three common mechanisms: motor vehicle crashes, falls, and poisonings. For more information on intentional injuries, including suicide, see *Chapter 5: Behavioral Health*.

From 2011 to 2015, approximately 585 deaths from unintentional injury occurred among Montana residents annually. Unintentional injury was the third leading cause of death and the second leading cause of premature death among Montana residents during this period. From 2011–2015, the mortality rate from unintentional injury among Montana residents was consistently higher than the U.S. (Figure 30). Motor vehicle crashes, falls, and poisonings were the leading causes of unintentional injury deaths (Table 3).

Figure 30. Unintentional injury mortality rate in Montana compared to the U.S. and the Healthy People 2020 target by year, 2011-2015



Data source: Montana Office of Vital Statistics 2011–2015; National Center for Health Statistics, 2011-2015

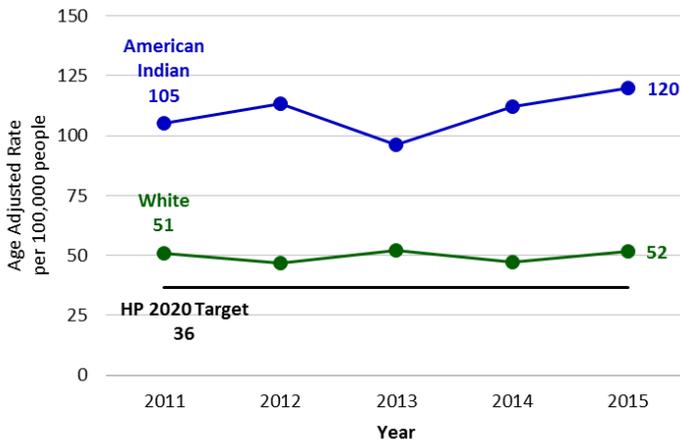
Table 3. Leading cause of fatal and non-fatal unintentional injury in Montana, 2011-2014

Rank	Deaths (N=2,385)	Hospitalizations (N=15,610)	ED Visits (N=228,658)
1	Motor Vehicle (36%)	Falls (57%)	Falls (36%)
2	Falls (23%)	Motor Vehicle (14%)	Struck by/against (13%)
3	Poisoning (16%)	Other Transport (7%)	Overexertion (10%)
4	Unspecified (6%)	Poisoning (7%)	Cut/Pierce (9%)
5	Suffocation (5%)	Struck by/against (3%)	Motor vehicle (9%)

Data source: Montana Office of Vital Statistics, 2011–2014; Montana Hospital Discharge Data System 2011-2014

Unintentional injury disproportionately effects American Indian communities and was the number one cause of premature death among American Indian residents (Figure 31). Seventy-five percent of unintentional injury deaths among American Indians were because of motor vehicle crashes and poisonings.

Figure 31. Unintentional injury mortality rate in Montana by race compared to the Healthy People 2020 target by year, 2011-2015



Data source: Montana Office of Vital Statistics 2011-2015

Non-fatal unintentional injuries account for over 3,900 hospital admissions and 57,000 emergency department visits annually (Table 3).

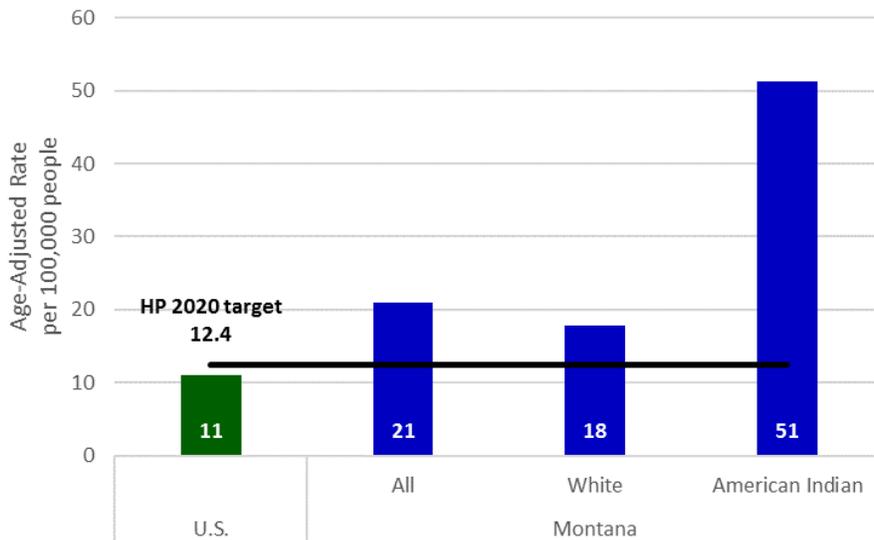
Falls accounted for the majority of hospital admissions (57%) and emergency department visits (36%).



Motor Vehicle Crashes (MVCs)

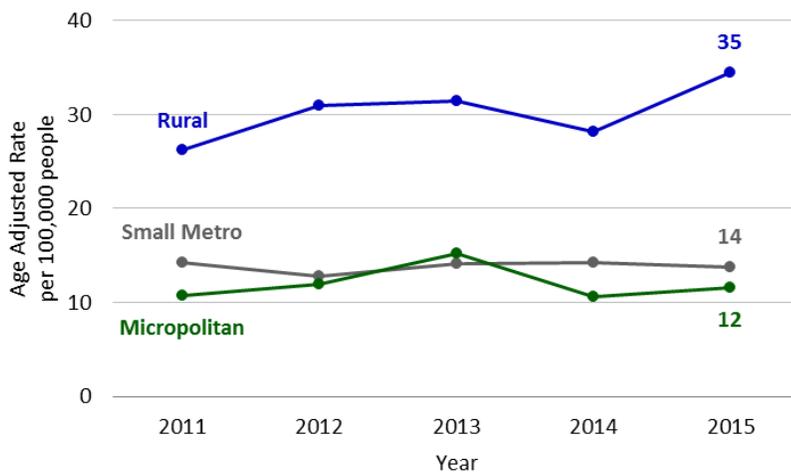
On average, over 200 Montanans die each year in motor vehicle crashes (MVCs). Montana's MVC death rate was greater than the U.S. and the Healthy People 2020 target (Figure 32). Not only did MVCs account for the majority of unintentional injury deaths, but MVCs also caused non-fatal injuries resulting in increased costs to individuals, the health system, and society. In Montana, American Indian and rural residents suffer disproportionately from the effects of MVCs (Figures 32 and 33).

Figure 32. Age-adjusted death rate due to motor vehicle crashes among Montana residents by race compared to the U.S. and the Healthy People 2020 target, 2011-2015



Data source: Montana Office of Vital Statistics 2011–2015; National Center for Health Statistics, 2011-2015

Figure 33. Motor vehicle crash mortality rate by geographic area among Montana residents, 2011-2015

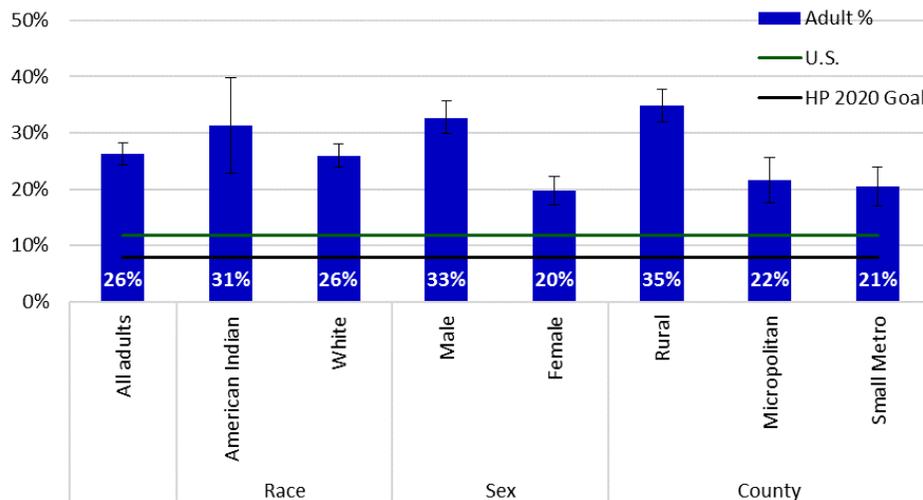


See Appendix B for definition of rural, micropolitan, and small metro county.

Data source: Montana Office of Vital Statistics, 2011–2015

The most common unsafe driving practices associated with death or injury in MVCs are lack of seatbelt use, driving under the influence of alcohol or drugs, and distracted driving. From 2011 to 2015, 67% of drivers and passengers killed on Montana’s roads were unrestrained. (24) Nearly one in four adults and high school students reported not always wearing their seatbelt (26% and 22%, respectively). (7, 13) A higher percentage of males, American Indians, and residents of rural counties reported not always wearing their seatbelt than their counterparts (Figure 34).

Figure 34. Percent of Montana adults that do not always wear a seatbelt by select demographic characteristics, 2016

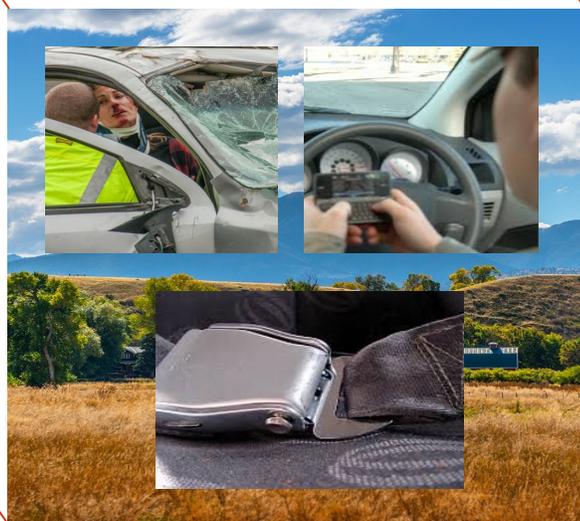


Data source: Montana Behavioral Risk Factor Surveillance System, 2016

From 2011–2015, over half (54%) of all fatal crashes involved a driver impaired by alcohol or drugs. (24) In 2015, 3% of adults in Montana reported having driven after consuming alcohol within the past 30 days, higher than the 2% reported in the U.S. (16) In 2017, 54% of Montana high school students reported texting or emailing while driving, compared with 42% in the U.S. (13)

Motor Vehicle Crashes

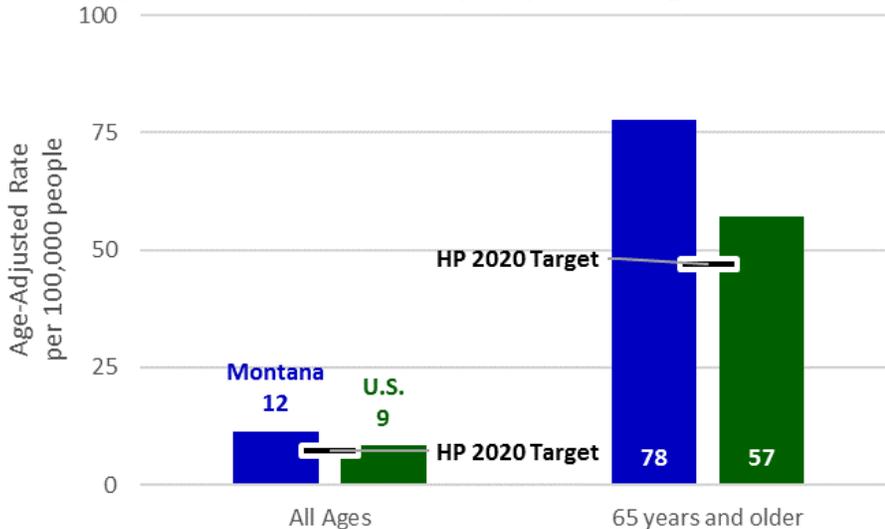
The most common unsafe driving practices associated with death or injury in MVCs are lack of seatbelt use, driving under the influence of alcohol or drugs, and distracted driving.



Unintentional Falls

Falls were the second leading cause of unintentional injury deaths statewide, accounting for 23% of all fatalities due to unintentional injury in Montana from 2011-2014 (Table 3). This trend is largely driven by falls among older adults; hence, the burden from falls is likely to increase as the Montana population ages. The mortality rate due to falls in Montana is higher than in the U.S. for all ages and those 65 years or older (Figure 35).

Figure 35. Age-adjusted mortality rate due to falls among all Montanans and among Montanans aged 65 years and older, compared to the U.S. and Healthy People 2020 target, 2011-2015



Data source: Montana Office of Vital Statistics, 2011–2015; National Center for Health Statistics, 2011-2015

Unintentional Poisoning

Unintentional poisoning was the third leading cause of unintentional injury death among all Montanans and the second leading cause of injury among American Indian residents. In addition, unintentional poisoning was a leading cause of hospitalization for unintentional injuries. The age-adjusted mortality rate due to unintentional poisoning in Montana from 2011–2015 was 9 per 100,000 people, overall, and was more than twice as high among American Indian residents at 25 per 100,000.

Since 1983, DPHHS has partnered with the Rocky Mountain Poison Center to provide lifesaving medical advice and poison information to Montanans through a confidential toll-free hotline called the Montana Poison Center. Managing a poisoning event at the site by the Montana Poison Center saves time and the expense of an emergency department visit.

In 2016, a total of 12,117 total inbound calls to the poison center occurred:

- 7,531 (62%) human exposures,
- 3,741 (31%) medication exposures,
- 2,068 (17%) informational calls, and
- 995 (8%) exposures to cleaning products and cosmetic items.

One-third (33%) of exposures were referred to a healthcare facility while the remaining calls were managed at the exposure site.



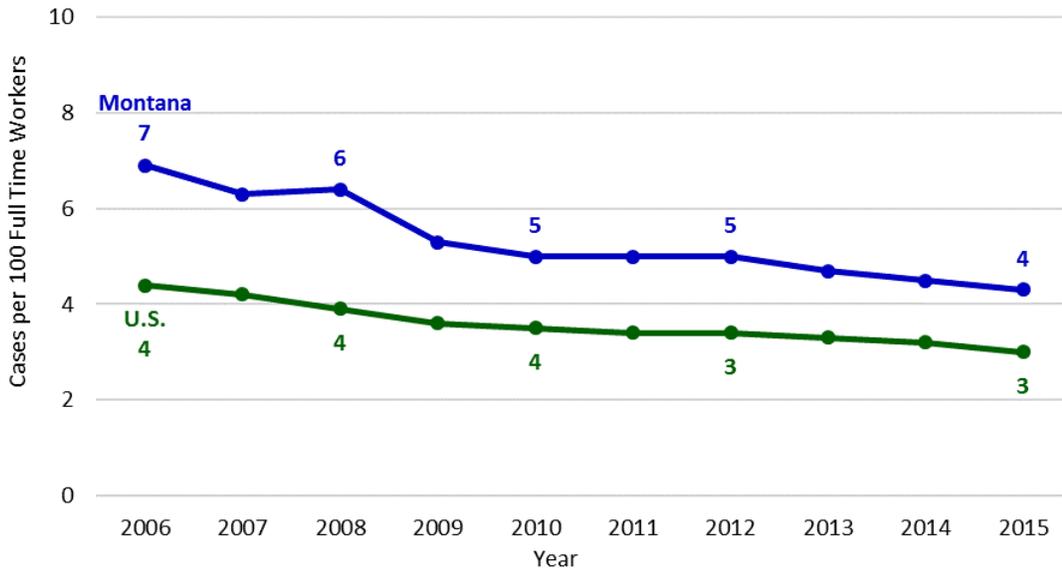
Unintentional Poisoning

Most (85%) of the unintentional poisoning deaths from 2011–2015 were a result of drug poisoning, primarily narcotics and hallucinogens.

Occupational Injury

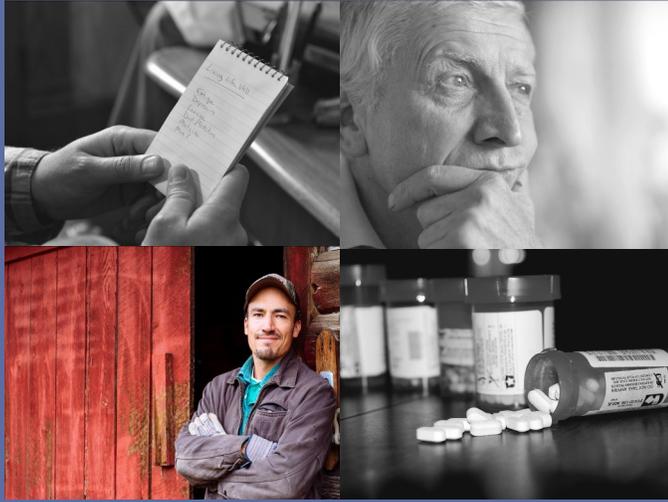
Over the past decade (2006–2015), Montana had a high incidence rate of work-related injury and illness (morbidity), compared with the U.S. as a whole. In 2015, Montana had the fourth highest rate of non-fatal work-related injuries and illnesses in the country with 4 cases per 100 full-time workers (Figure 36). In 2014, 18% of the Montana workforce was employed in high morbidity risk occupations compared to 16% of the U.S. workforce. (25) These high morbidity occupations include drivers, labors, and healthcare workers working in the construction, transportation, and healthcare industries.

Figure 36. Non-fatal work-related injuries and illnesses in Montana and the U.S., 2006-2015



Data source: Bureau of Labor Statistic Survey of Occupational Injuries and Illnesses, 2006-2015





Chapter 5

Behavioral Health

Behavioral health encompasses mental and emotional well-being, as well as the actions that influence overall wellness. This chapter focuses on two key areas that contribute substantially to behavioral health: substance use and mental health.

Substance Use

The chronic use of addictive substances results in profound changes in brain structure and function that radically impair efforts to control use, despite harmful consequences. (26) Thus, substance use disorders are characterized by the overindulgence in or dependence upon one or more addictive substances, which in turn causes functional impairment. (27) Examples of addictive substances include: alcohol, tobacco, illicit drugs, and prescription drugs.

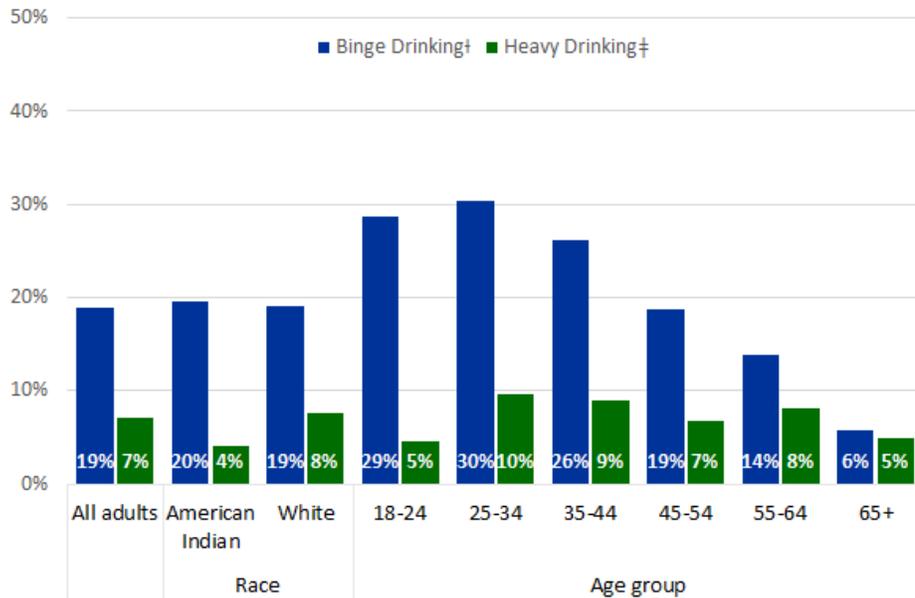
According to the 2015–2016 National Survey on Drug Use and Health (NSDUH), approximately 79,000, or 9%, of Montanans aged 12 years and older had a substance use disorder in the past year (illicit drug use or alcohol dependence or abuse). (28) Overall, drug and alcohol-related inpatient admissions totaled 35,998 from 2010 to 2014, costing Montana residents \$598 million. (29) Furthermore, drug and alcohol related emergency department visits during the same time frame totaled 55,916 and cost Montanans \$116 million. (29)

Alcohol

Alcohol is the most commonly abused substance in Montana. Approximately 63,000 (7%) Montanans aged 12 years and older had an alcohol use disorder in the past year. (28) In 2016, 19% of Montanans aged 18 years and older reported binge drinking and 7% reported heavy drinking, compared to 17% and 6% of U.S. adults, respectively. (7) Binge drinking and heavy drinking are most prevalent among Montanans aged 25 to 34 years (Figure 37). In 2016, approximately 30% of Montanans in this age group reported binge drinking and 10% reported heavy alcohol consumption. (7)

Young adults (aged 18-25 years) in Montana rank among the highest nationwide for percentage of Alcohol Use Disorder (14%) and percentage of Alcohol Dependence (6%) (Table 4).

Figure 37. Percent of Montana adults who reported binge or heavy drinking in the past 30-days, 2016



† Binge Drinking is defined as consuming 5 or more drinks on one occasion for men or 4 or more drinks on one occasion for women

‡ Heavy Drinking is defined as consuming more than 14 drinks per week for men or more than 7 drinks per week for women

Data Source: Montana Behavioral Risk Factor Surveillance System, 2016

Table 4. Percent alcohol use disorder and alcohol dependence among young adults aged 18 to 25 years old by state, 2014-2015

Alcohol Use Disorder		Alcohol Dependence	
State	Percent	State	Percent
1. Vermont	15.5	1. Wyoming	6.7
2. Wisconsin	14.6	2. Nebraska	6.4
3. South Dakota	14.6	3. New Mexico	6.4
4. New Hampshire	14.1	4. Alaska	6.2
5. Montana	14.1	5. Rhode Island	6.2
6. Rhode Island	13.8	6. D.C.	6.2
7. Minnesota	13.3	7. Vermont	6.2
8. Pennsylvania	13.3	8. Montana	6.1
9. Nebraska	13.3	9. North Dakota	6.1
10. North Dakota	13.2	10. California	6.0
		11. Connecticut	6.0
		12. Indiana	6.0
Total U.S.	11.6	Total U.S.	5.2

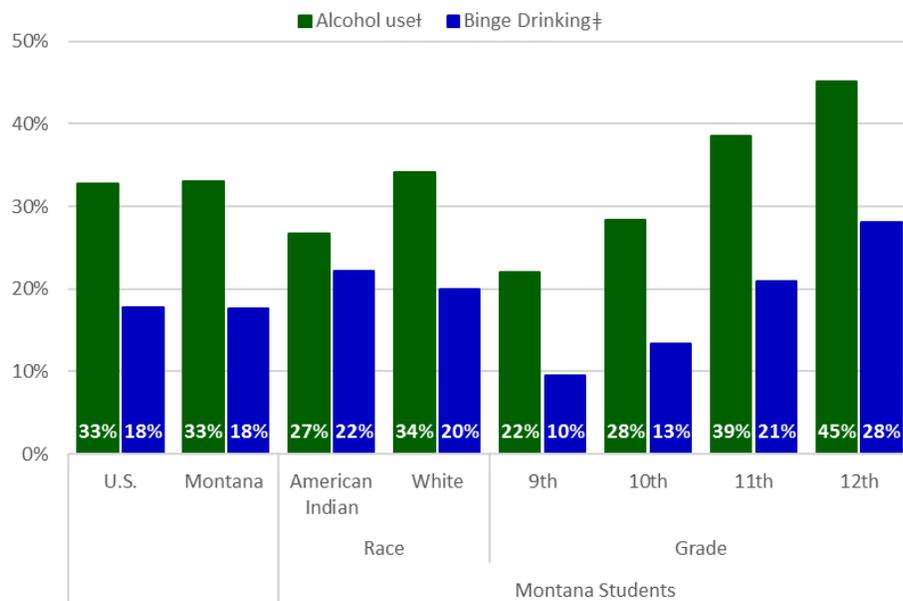
Data source: National Survey on Drug Use and Health, 2014-2015

In 2017, 33% of high school students in Montana reported drinking within the last 30 days and 18% reported binge drinking on at least one occasion within the last 30 days (Figure 38). The prevalence of alcohol consumption and binge drinking increased significantly by grade. Of students in 9th grade, 22% reported having at least one drink in the past 30 days and 10% reported binge drinking, compared to 45% and 28% of 12th grade students, respectively (Figure 38). In 2017, 20% of high school students in Montana reported having their first drink of alcohol before they were 13 years old. (13)

Young adults (aged 18-25 years) in Montana rank among the highest nationwide for percentage of Alcohol Use Disorder (14%) and percentage of Alcohol Dependence (6%).



Figure 38. Alcohol use and binge drinking among Montana high school students compared to the U.S., 2015 and 2017



† Consuming at least one drink of alcohol on one or more of the past 30 days

‡ Consuming five or more drinks within a couple of hours on one or more of the past 30 days

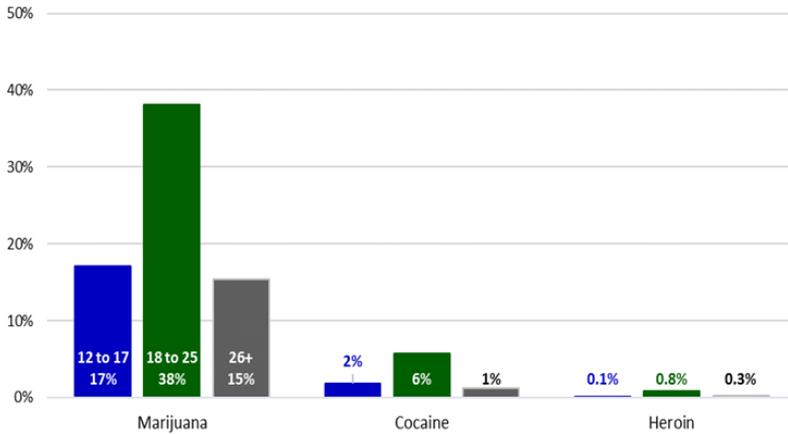
Data Source: Montana Youth Risk Behavior Survey, 2017; U.S. Youth Risk Behavior Survey, 2015

Illicit Drugs

In Montana, approximately 27,000 individuals aged 12 years and older had an illicit drug use disorder in the past year from 2015–2016. (28) Marijuana was the most commonly used illicit drug. According to the 2015-2016 NSDUH, marijuana use within the past year was reported among 17% of Montana adolescents aged 12 to 17 years (Figure 39). Thirty-eight percent of young adults aged 18 to 25 years reported marijuana use within the past year, as did 15% of adults aged 26 years and older (Figure 39).

In Montana, approximately 2% of adolescents aged 12 to 17 years and 1% of adults aged 26 years and older reported cocaine use in the last year; however, 6% of young adults (18 to 25 years) reported having used cocaine within the past year (Figure 39). Meanwhile, less than 1% of any age group reported having used heroin in the past year (Figure 39).

Figure 39. Illicit drug use within the past year among Montana residents by age group, 2015–2016



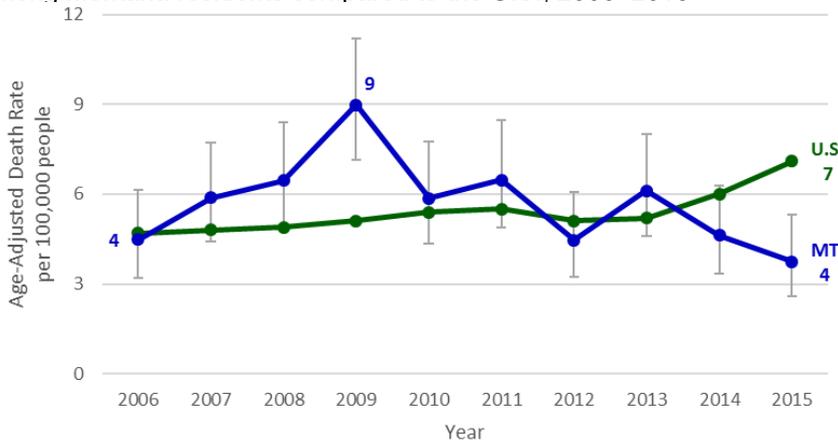
Data Source: National Survey on Drug Use and Health, 2015–2016

Methamphetamines continue to be of concern in Montana; however, data regarding usage are limited, particularly among Montana’s adult population. Among Montana youth, 2% of high school students in 2017 reported having used methamphetamines during their lifetime. (13)

Prescription Drugs

Prescription drug misuse or abuse occurs when an individual consumes medication, either intentionally or unintentionally, without having a prescription for the drug, in a manner other than prescribed, or for the experience or feeling rather than the intended medical effects. In Montana, prescription opioid misuse

Figure 40. Prescription opioid overdose death rate per 100,000 people among Montana residents compared to the U.S., 2006–2015



contributed to 371 hospitalizations between 2010 and 2014 and accounted for 241 deaths from 2011 through 2015. (29, 30) There were 22 deaths among American Indian residents during this same period. In 2009, Montana had a higher prescription opioid death rate than the rest of the U.S., but over the last few years Montana has seen a decline in these deaths. In 2015, Montana had a lower death rate at 4 per 100,000 people compared to the U.S. average of 7 (Figure 40).

Data source: Montana Office of Vital Statistics, 2006-2015; National Center for Health Statistics, 2006–2015

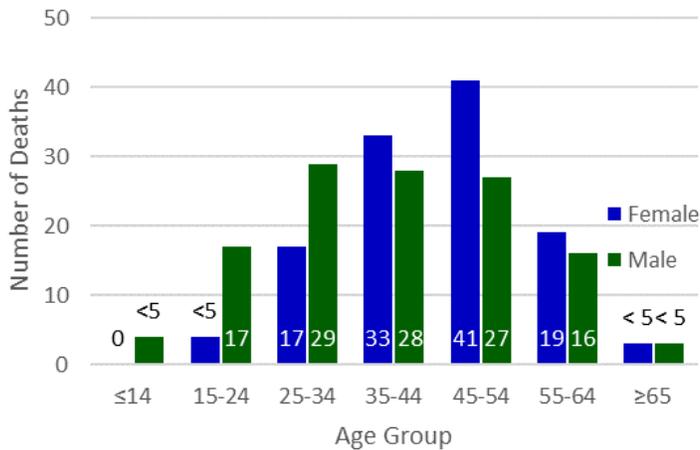
In 2016, approximately 70 opioid prescriptions were dispensed per 100 residents in Montana, compared to 67 nationwide. (31) While prescription opioid sales in Montana are nearly consistent with the U.S. rate, this does not necessarily represent an appropriate level of consumption. For instance, the U.S. accounts for nearly half of the worldwide consumption of prescription opioids, despite making up less than 5% of the total world population. (32)



The U.S.
accounts for nearly half
of the worldwide consumption of
prescription opioids.

From 2011-2015, prescription drug overdose deaths were highest among adults aged 35 to 54 years, with slightly more than half of deaths attributed to men (51%) (Figure 41). This rate was consistent with the rest of the nation, where males had a higher death rate due to opioid prescription overdose than females.

Figure 41. Prescription drug overdose deaths by age and sex among Montana residents, 2011-2015



Data Source: Montana Office of Vital Statistics, 2011-2015

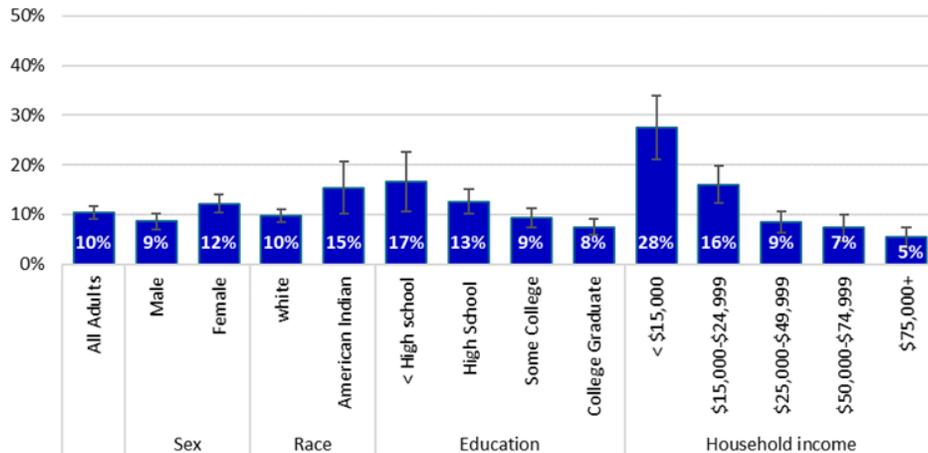
Mental Health

The World Health Organization (WHO) defines mental health as “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community.” (33)

In 2016, one in five Montana adults (21%) reported experiencing mental distress (1 to 13 days of poor mental or emotional health) in the past month while one in ten (10%) reported experiencing frequent mental distress (14 or more days of poor mental or emotional health). (7)

The prevalence of frequent mental distress was significantly higher among Montanans living with a disability (23%) than among those without a disability (6%). (7) Women in Montana also reported a higher prevalence of frequent mental distress compared to men (12% and 9%, respectively) (Figure 6). However, previous research has found that social norms around mental health symptoms may lead to exaggerated gender disparities, as well as decreased self-reporting overall. (34) Higher educational attainment also appeared to be associated with lower prevalence of mental distress: 17% of Montanan adults with less than a high school education reported frequent mental distress, compared to 8% of Montanans with at least a college degree (Figure 42).

Figure 42. Proportion of Montana adults who reported frequent mental distress, 2016[‡]



[‡] Frequent Mental Distress: reporting 14 or more days, out of the past 30, of poor mental or emotional health

Data Source: Montana Behavioral Risk Factor Surveillance System, 2016

Serious Mental Illness

In contrast to mental health, which addresses mental well-being, mental illness is characterized by an array of psychiatric disorders that affect an individual's mood, thinking, or behavior. (35) Some of the most common forms of mental disorders include anxiety disorders, depressive disorders, schizophrenic disorders, and trauma/stressor-related disorders, among others. The disability resulting from these diagnoses present in varying proportion.

Individuals who have Severe Disabling Mental Illness (SDMI) are those aged 18 or older who have been involuntarily hospitalized for at least 30 consecutive days; have had recurrent suicidal ideation within the past 12 months, a history of suicide attempts, or a specific plan for completing suicide; or have a primary SDMI diagnosis. In addition, individuals with SDMI have ongoing functional impairment due to their primary SDMI diagnosis.

In 2014, the crude inpatient hospitalization rate for all mental disorders in Montana was 606 per 100,000 people. (29) For mood and depressive disorders specifically, the 2014 crude inpatient hospitalization rate was 431 per 100,000 people and it was 68 for schizophrenic disorders. (29) Overall, between 2010 and 2014, mental disorders accounted for 29,660 inpatient hospital admissions in Montana. (29) Of these, 23,962 were classified as non-drug or alcohol related mental disorders.



Mental Health

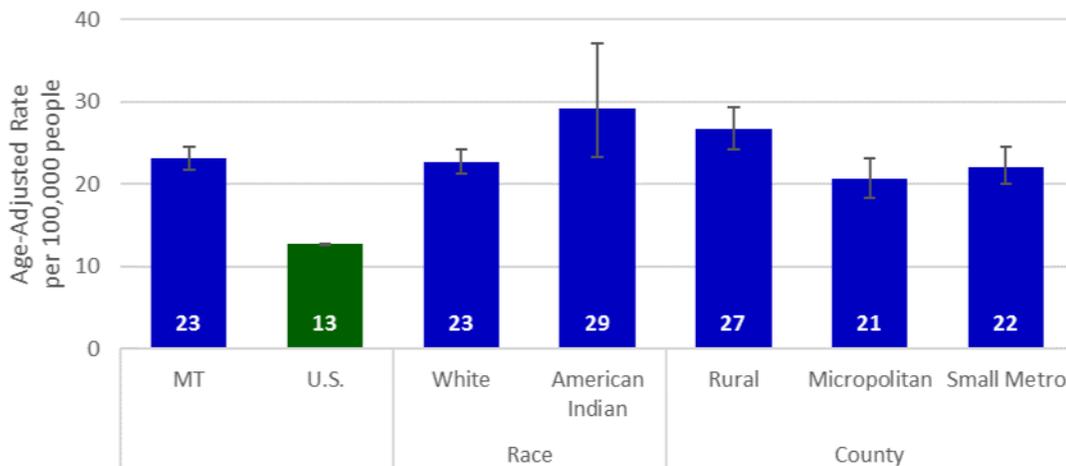
In 2016, one in five Montana adults (21%) reported experiencing mental distress (1 to 13 days of poor mental or emotional health).

Mental Health Crisis: Suicide

For nearly 40 years, Montana's suicide rate has been among the highest nationwide, consistently ranking within the top five. (36) Between 2011 and 2015, suicide ranked as the sixth leading cause of death among Montanans. During this time, there were an average of 240 suicides per year in Montana for an age-adjusted mortality rate of 23 per 100,000 people, nearly double the U.S. rate of 13. (30)

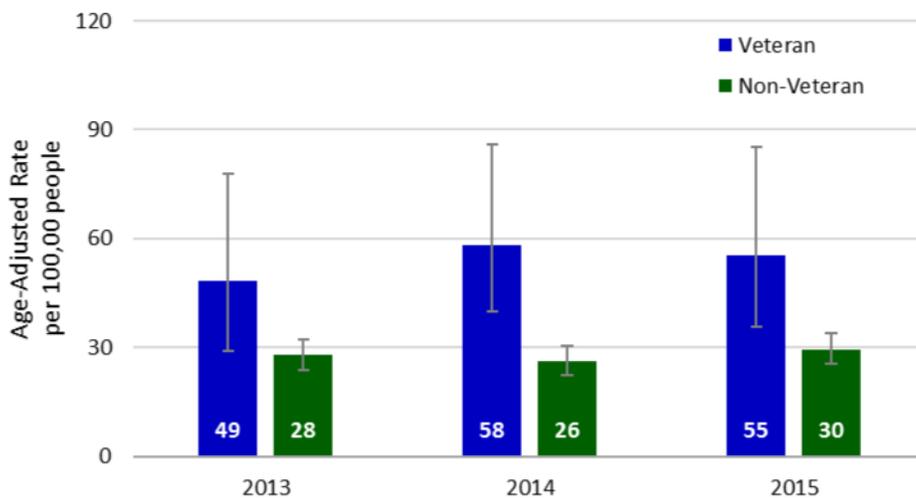
Between 2011 and 2015, the suicide rate was significantly higher in rural counties of Montana compared to micropolitan counties (Figure 43). Within that same time frame, the suicide rate in Montana was higher, although not significantly, among American Indians than among whites (Figure 43). Additionally, one in five suicides (21%) in Montana was among veterans between 2013 and 2015, with the suicide rate nearly twice as high among veterans compared to non-veterans during the same period (Figure 44).

Figure 43. Suicide mortality among Montana residents by race and county of residence compared to U.S. residents, 2011-2015



Data Source: Montana Office of Vital Statistics, 2011-2015

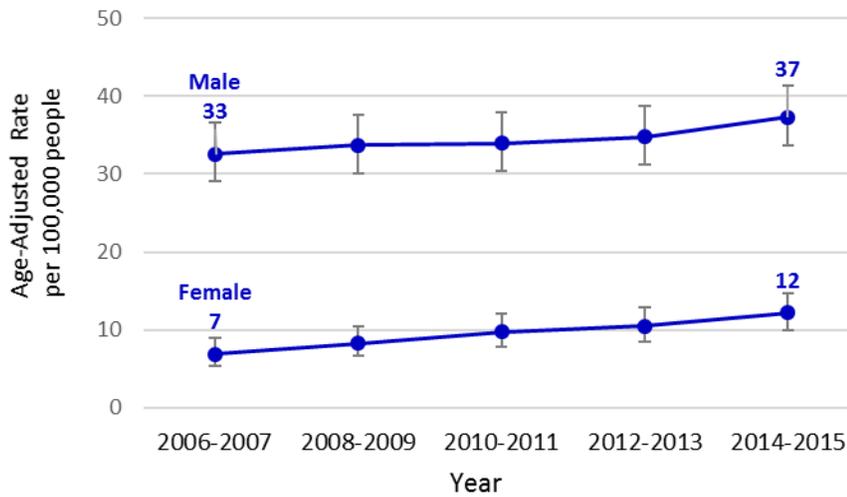
Figure 44. Suicide mortality among Montana residents by veteran status, 2013--2015



Data source: Montana Office of Vital Statistics, 2013-2015

Although the rate of suicide remains highest among males in Montana, the rate of suicide among females has increased significantly. From 2006 to 2015, the suicide rate in Montana increased by approximately 14% among males, whereas the rate of suicide increased by nearly 77% among females (Figure 45).

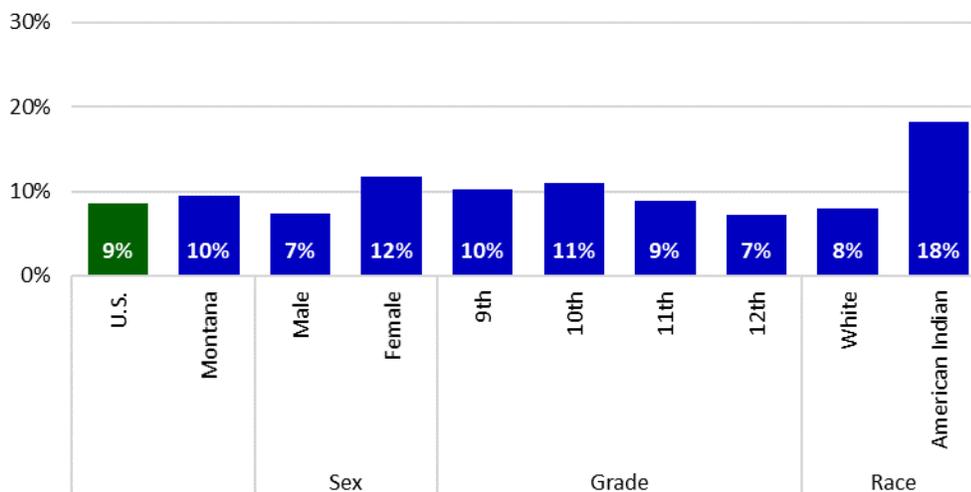
Figure 45. Suicide mortality rate by gender among Montana residents, 2006-2015



Data Source: Montana Office of Vital Statistics, 2006-2015

From 2011-2014, 990 emergency department visits per year for intentional self-harm occurred on average in Montana. (29) According to the 2017 Montana Youth Risk Behavior Survey, 31% of high school students felt sad or hopeless for two or more weeks in a row and stopped participating in some of their usual activities at some point during the last 12 months. Furthermore, 21% reported having seriously considered attempting suicide within the last year, 17% made a plan about how they would attempt suicide, and 10% attempted suicide (Figure 46).

Figure 46. Percent of Montana high school students that reported attempting suicide in the past year compared to the U.S., 2015 and 2017



Data Source: Montana Youth Risk Behavior Survey, 2017; U.S. Youth Risk Behavior Survey, 2015

Treatment for Substance Use Disorder and Mental Illness

Between 2015 and 2016, an estimated 72,000 Montanans aged 12 years and older (8%) needed but did not receive treatment for substance use in the past year. (28) Of Montanans who visited a state-funded facility between 2012 and 2015 for outpatient treatment, 7% waited more than seven days to receive treatment. (37) Meanwhile, 26% of Montanans who received intensive outpatient treatment at a state-funded facility waited over seven days to receive treatment. (37) Furthermore, between 2015 and 2016, an estimated 57,000 Montanans aged 12 years and older needed but did not receive treatment for alcohol use in the past year. Additionally, 23,000 Montanans 12 years and older needed but did not receive treatment for illicit drug use in the past year. (28)

From 2010 to 2014, approximately 39% of adolescents aged 12 to 17 years with a Major Depressive Episode (MDE) received treatment within the last year. (38) Of adult residents with any mental illness in Montana, 48% received treatment or counseling within the prior year from 2010 to 2014. (38)

In 2014, nearly 18,000 adolescents (aged 17 years and younger) in Montana were served in Montana's public mental health system. (38) Of those, 64% reported improved functioning as a result of the treatment they received. (38) Meanwhile, among adults who received mental health treatment in Montana's public mental health system in 2014, 62% reported functional improvements. (38)

In state fiscal year 2016, over 24,000 adults with SDMI, co-occurring substance use disorders, and those experiencing a psychiatric crisis received services through publicly funded community-based behavioral services, an increase of nearly 48% since 2003. (39) These programs included prevention and early intervention programs, crisis services, core mental health treatment, and transition and recovery services.



Treatment

Between 2015-2016, an estimated 57,000 Montanans aged 12 and older needed but did not receive treatment for alcohol use in the past year.

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Chapter 6

Maternal & Child Health

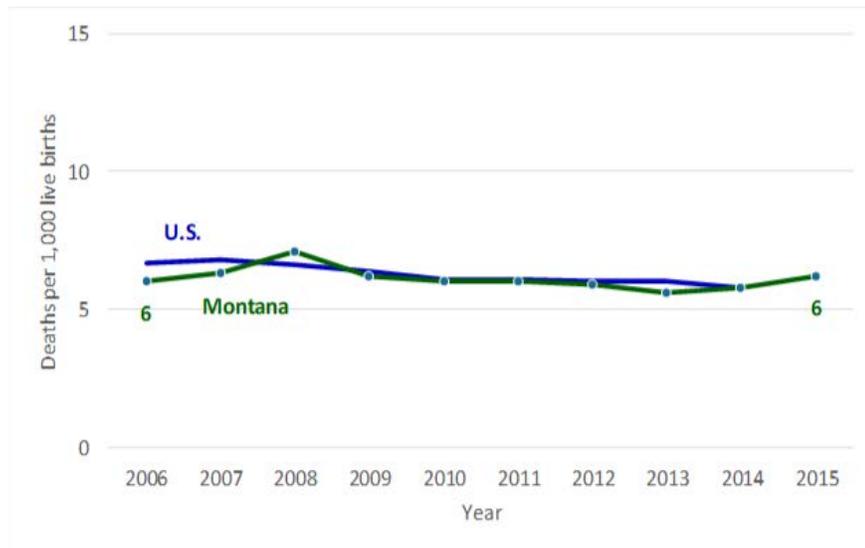
The well-being of mothers, infants, and children influences the health of the next generation and forecasts the future health challenges of Montana families, communities, and the health care system. This chapter covers a wide range of conditions and health behaviors that affect the health and wellness of Montana’s women, infants, and children.

Maternal and Infant Health

Infant Mortality

Infant mortality is the death of an infant and is a general measure of maternal and infant health, as well as the overall health of a society. The infant mortality rate in Montana has not significantly changed over the past ten years. In 2015, the rate in Montana was similar to the U.S. rate and met the Healthy People 2020 target of 6 deaths per 1,000 live births (Figure 47).

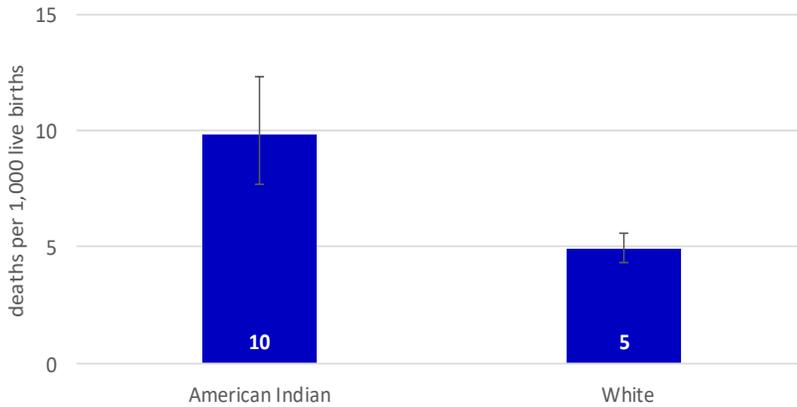
Figure 47. Infant mortality rate per 1,000 live births in Montana and U.S., 2006-2015



Data source: Montana Office of Vital Statistics, 2006-2015

However, the mortality rate for American Indian infants was twice as high as the rate for white infants (Figure 48). Between 2011-2015, the leading causes of infant mortality in Montana were congenital malformations, sudden infant death syndrome (SIDS), premature birth, and low birth weight.

Figure 48. Infant mortality rate per 1,000 live births by race among Montana residents, 2011-2015



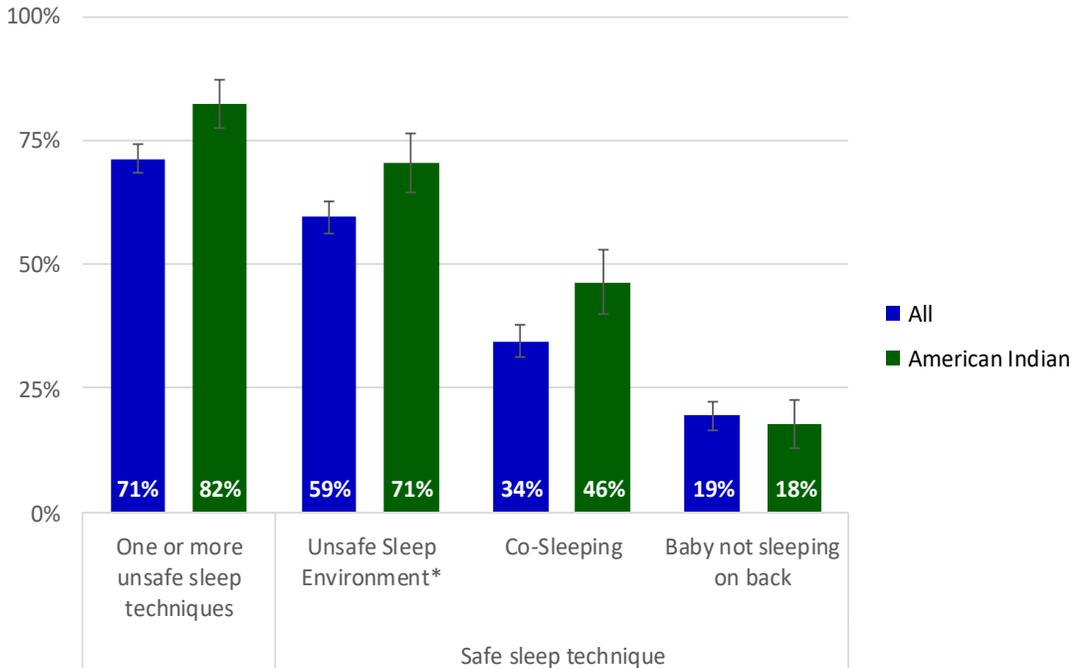
Data Source: Office of Vital Statistics, 2011-2015

Unsafe Sleep

The American Academy of Pediatrics recommends implementing safe sleep practices to reduce the risk of Sudden Unexpected Infant Death (SUID). (41) In 2015, nearly three in four Montana mothers (71%) reported practicing at least one unsafe sleep technique with their infant (Figure 49). Among American Indian mothers, 82% reported at least one unsafe sleep technique (Figure 49). (40) Almost 25% of all infant deaths in Montana between 2013 and 2015 were related to sleep or the infant’s sleeping environment. (42)



Figure 49. Percent of new mothers in Montana who reported unsafe sleep techniques with their infant, 2015



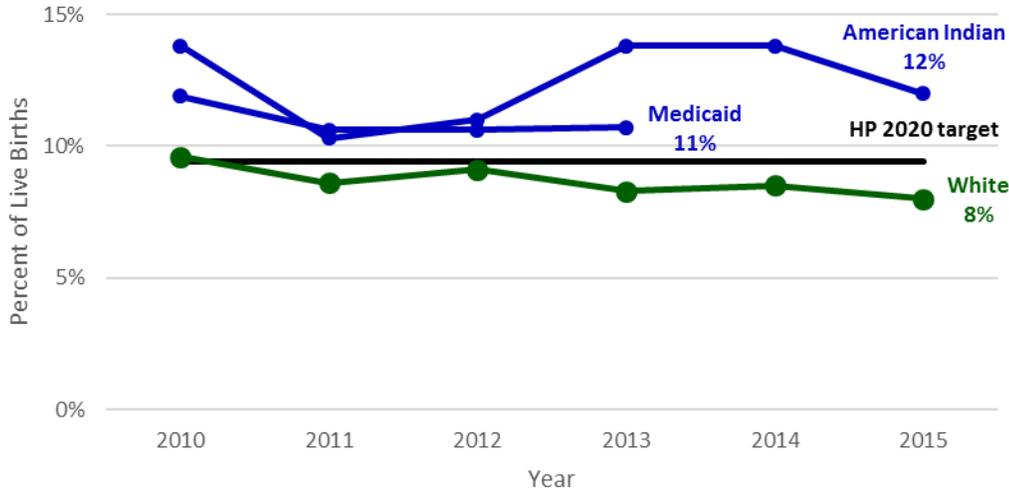
Data source: 2015 Health Survey of Montana’s Mothers and Babies

* Does not use a crib. Uses soft mattress, pillows, etc.

Premature Birth and Low Birth Weight

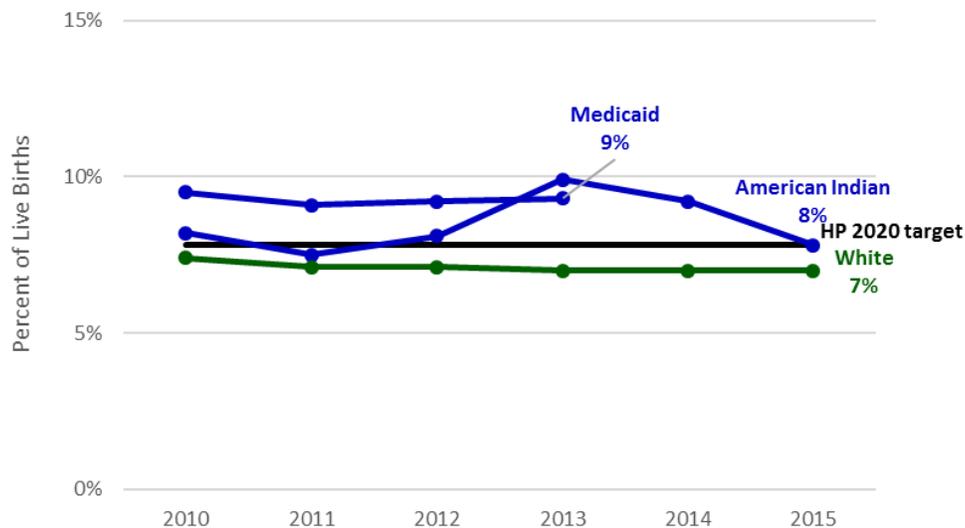
Infants born less than 2500 grams and before 37 weeks have a greater risk of morbidity and mortality. (43, 44) Montana, as a whole, has continually met the Healthy People 2020 targets of less than 9% of births being preterm births (<37 weeks gestation) and less than 8% of births being low birth weight (1500-2499 grams). Between 2010 and 2015, the proportion of premature births among American Indian infants was higher than white infants (Figure 50). Medicaid births, which make up approximately 45% of all births in Montana, have consistently had a higher percentage of premature births and low birth weight births (Figures 50 and 51). Medicaid costs for a premature or low birth weight infant are slightly greater than an average birth; however, when an infant is both premature and low birth weight the cost is three times greater than an average birth. (45)

Figure 50. Percent of premature births (< 37 weeks) among all Montana births by race and among Montana births covered by Medicaid, 2010-2015



Data source: Montana Department of Public Health and Human Services, Medicaid Birth Report, 2010-2013; Montana Office of Vital Statistics, 2010-2015

Figure 51. Percent of low birth weight births (< 2500 g) among all Montana births by race and among Montana births covered by Medicaid, 2010-2015

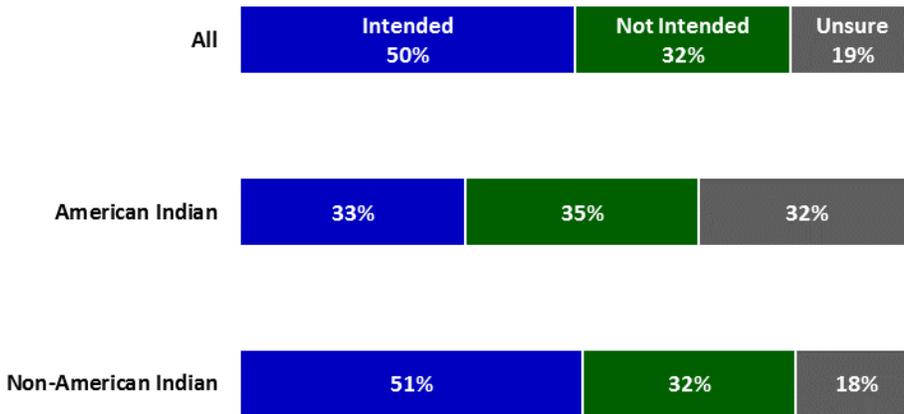


Data source: Montana Department of Public Health and Human Services, Medicaid Birth Report, 2010-2013; Montana Office of Vital Statistics, 2010-2015

Pregnancy Intention

Unintended pregnancy is defined as a pregnancy that is mistimed, unplanned, or unwanted at the time of conception. Unintended pregnancy can result in adverse maternal and child health outcomes, such as delayed and inadequate prenatal care, premature birth, low birth weight, and poor mental and physical health outcomes for mothers and babies.(46-51) Women with unintended pregnancies are more likely to engage in risky behaviors during pregnancy, such as smoking or drinking, and are less likely to use folic acid during pregnancy or breastfeed postpartum.(50, 52, 53) In 2015, approximately one in two live births (50%) in Montana was intended (Figure 52). Pregnancy intention was even lower among American Indian mothers with one in three intending to get pregnant (Figure 52). Similarly, pregnancy intention was lower among young adult women (aged 18 to 24 years) with only one in three pregnancies (31%) was intended. (40)

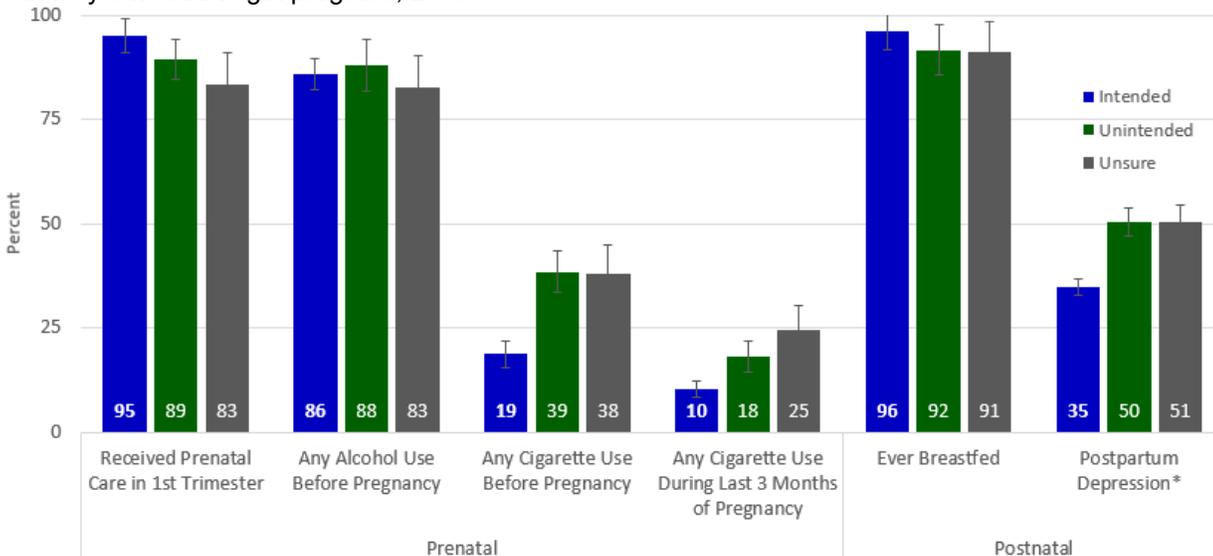
Figure 52. Percent of Montana women who recently gave birth that reported whether or not they intended to get pregnant by race, 2015



Data source: 2015 Health Survey of Montana's Mothers and Babies

Mothers who had unintended pregnancies and mothers who were unsure reported practicing more high-risk behaviors that can lead to adverse birth outcomes compared to mothers who had intended pregnancies (Figure 53).

Figure 53. Health risk behaviors before and after birth among Montana women who recently gave birth by whether or not they intended to get pregnant, 2015



Data source: 2015 Health Survey of Montana's Mothers and Babies

*Includes mild postpartum depression

Of the women who did not intended to get pregnant, 45% reported not using anything to prevent pregnancy prior to getting pregnant, but 83% reported using some form of contraception after giving birth. (40) Women who had unintended pregnancies reported using a form of long-acting reversible contraception (LARC) after giving birth (29%) more than women who intended to get pregnant or women who were unsure (18%). (40)



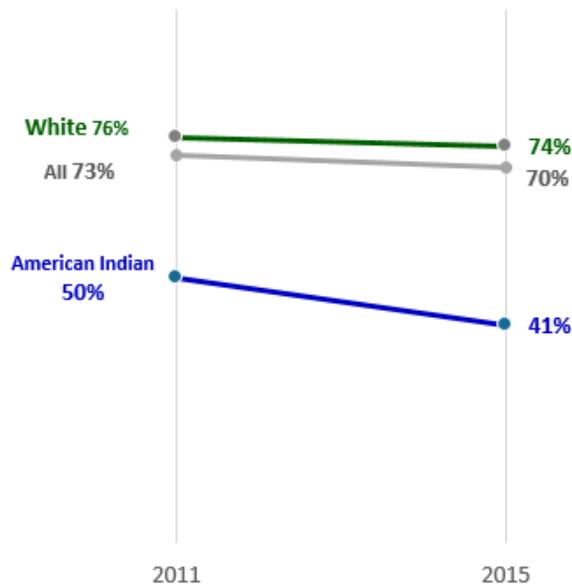
Unintended Pregnancy

In 2015, approximately **one in two live births (50%)** in Montana **was intended**.

Prenatal Care

Early and adequate prenatal care is important to ensure mother and infant are healthy through pregnancy and birth. The Healthy People 2020 target for beginning prenatal care in the first trimester is 78%; overall, Montana mothers did not meet this target. The percent of all births with prenatal care beginning in the first trimester decreased significantly from 73% in 2011 to 70% in 2015. (30) In Montana, the percentage of American Indian mothers entering prenatal care in the first trimester significantly decreased over the past five years from 50% in 2011 to 41% in 2015 (Figure 54).

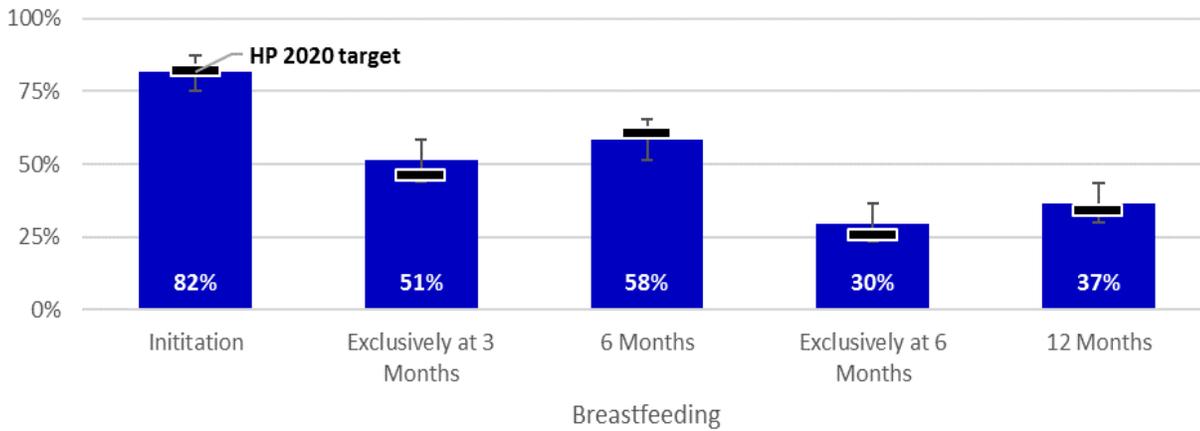
Figure 54. Percent of Montana mothers entering prenatal care in the first trimester by race, 2011 and 2015



Data Source: Montana Office of Vital Statistics, 2011-2015

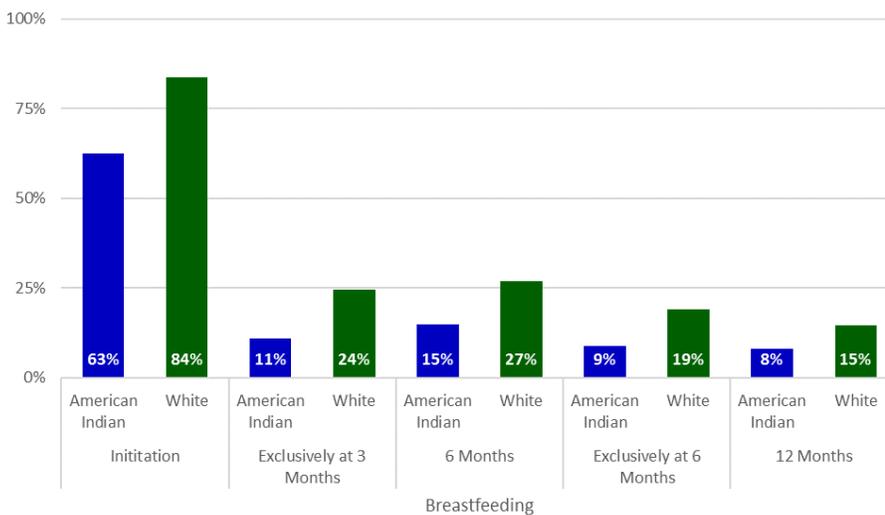
Breastfeeding

Breastfeeding is the gold standard for infant nutrition; in fact, it is recommended that infants are exclusively breastfed for the first 6 months of life. In 2014, Montana met the Healthy People 2020 target for initiating breastfeeding (82%), exclusive breastfeeding at three and six months (51% and 30%, respectively), and any breastfeeding at 12 months (37%) (Figure 55). (54) Among Montana Women, Infant, Children (WIC) participants, the proportion of participants that reported initiating breastfeeding was higher among white participants (84%) than American Indian participants (63%) (Figure 56). Breastfeeding among WIC participants decreased greatly after initiation and was lower than Montana overall at three, six, and 12 months (Figures 55 and 56).



Data Source: National Immunization Survey, 2014

Figure 56. Breastfeeding among Montana WIC participants born in 2016 by race



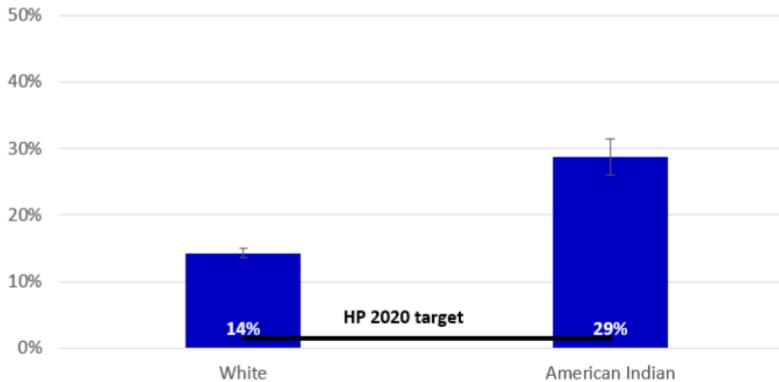
Data Source: Montana Women, Infant, and Children, 2016

Substance Use During Pregnancy

Tobacco use

Smoking during pregnancy is known to cause adverse birth outcomes, including premature birth, low birth weight, and neonatal death. From 2011 to 2015, the percentage of women who smoked during pregnancy remained, statistically, the same (17% and 16%, respectively). Montana continues to be much higher than the Healthy People 2020 target of 1% of women who smoked during pregnancy. In 2015, a greater percentage of American Indian women smoked during pregnancy (29%) compared to white women (14%) (Figure 57).

Figure 57. Cigarette smoking during pregnancy by race among Montana residents, 2015

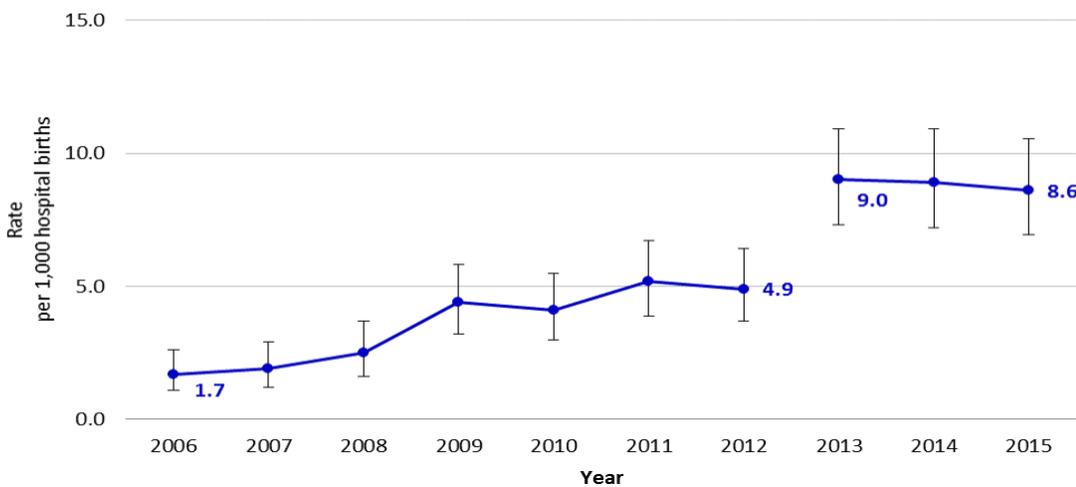


Data source: Montana Office of Vital Statistics, 2015

Illicit drug use

Neonatal abstinence syndrome (NAS) and illicit drug use during pregnancy is an increasing concern in Montana and the U.S. (55) The rate of NAS in Montana newborns increased in the past 10 years, from 1.7 per 1,000 live births in 2006 to 8.6 in 2015 (Figure 58). The American Academy of Pediatrics revised NAS diagnostic guidelines in 2012, meaning that NAS was diagnosed (or defined) differently before 2012 and after 2012; the revision may explain part of the large increase seen in 2013.

Figure 58. Rate of Montana newborns diagnosed with Neonatal Abstinence Syndrome (NAS), 2006-2015



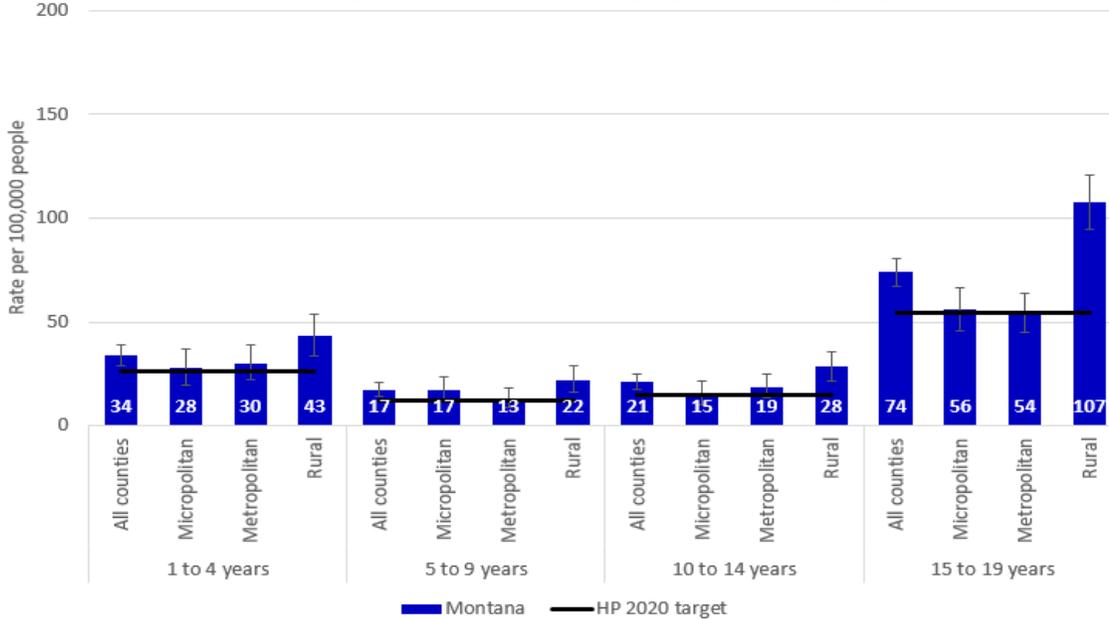
Data source: Montana Hospital Data Discharge System, 2006-2015

Child and Adolescent Health

Childhood Mortality

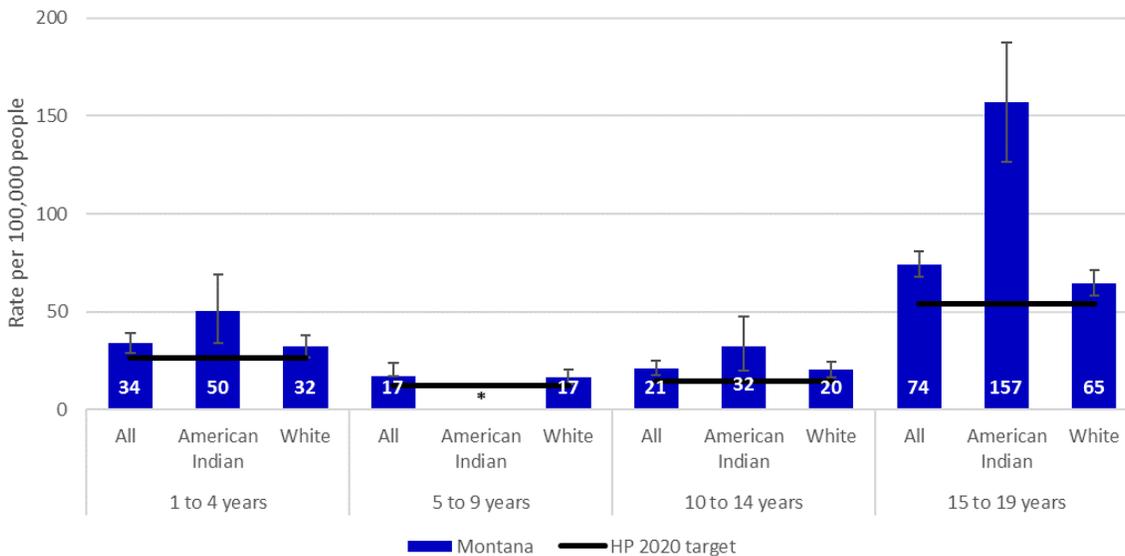
In 2015, Montana ranked highest in the nation for childhood mortality. (56) From 2006-2015, Montana only met the Healthy People 2020 target childhood mortality rates for residents aged 15 to 19 years in micropolitan and metropolitan areas. By geography, residents of rural counties had the greatest disparity; the childhood mortality rate for rural residents was greater than the Healthy People 2020 target for all age groups and greater than rates for micropolitan and metropolitan residents (Figure 59). Moreover, neither American Indian nor white residents met Healthy People 2020 target childhood mortality rates for any age group (Figure 60). The mortality rate among American Indian teens aged 15 to 19 years was two times higher than white teens (Figure 60).

Figure 59. Mortality rate among Montana children by age group and by geography, 2006-2015



Data source: Montana Office of Vital Statistics, 2006-2015

Figure 60. Mortality rate among Montana children by age group and by race, 2006-2015



Data source: Montana Office of Vital Statistics, 2006-2015

*Number of deaths too small to calculate rate

Over the past 10 years, the leading cause of death among children and adolescents was unintentional injury (Table 5). Most unintentional injury deaths among children and adolescents were motor vehicle crashes. (57) Suicide accounted for more than one in five deaths among children aged 10 years and older. (Table 5)

Table 5. Leading cause of death among Montana children, 2006-2015

	Children aged 1 to 4 years (n= 167)	Children aged 5 to 9 years (n= 107)	Children aged 10 to 14 years (n= 132)	Adolescents aged 15 to 19 years (n= 495)
	Unintentional Injury, 43%	Unintentional Injury, 49%	Unintentional injury, 46%	Unintentional Injury, 56%
	Homicide, 7%	Cancer, 13%	Suicide, 21%	Suicide, 23%
	Congenital malformations and chromosomal anomalies, 7%	Congenital malformations and chromosomal anomalies, 5%	Cancer, 8%	Cancer, 5%

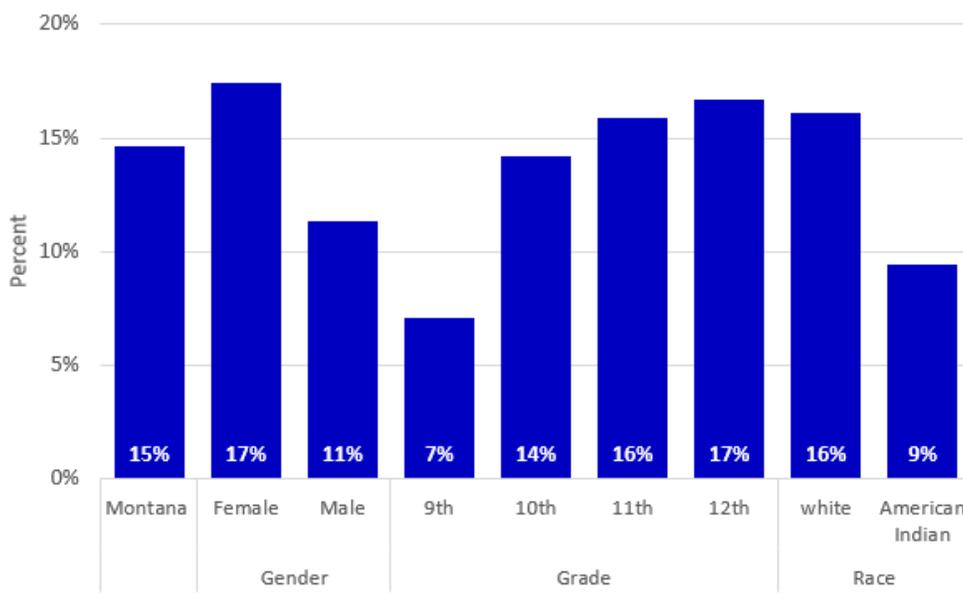
Data source: Montana Office of Vital Statistics, 2006-2015

Adolescent Risk Behaviors

Contraceptive Use

Using condoms is the most effective way to prevent sexually transmitted infections (STIs), and hormonal or intrauterine contraception is the most effective way to prevent pregnancy if sexually active. In 2017, two in five high school students (43%) reported ever having had sexual intercourse during their life.(13) The percent of teens in Montana using both condoms and hormonal or intrauterine contraception has increased from 13% in 2013 to 15% in 2017 (Figure 61).

Figure 61. The percent of Montana high school students that reported using both condoms and hormonal or intrauterine contraception (dual contraception) during last sexual intercourse, 2017



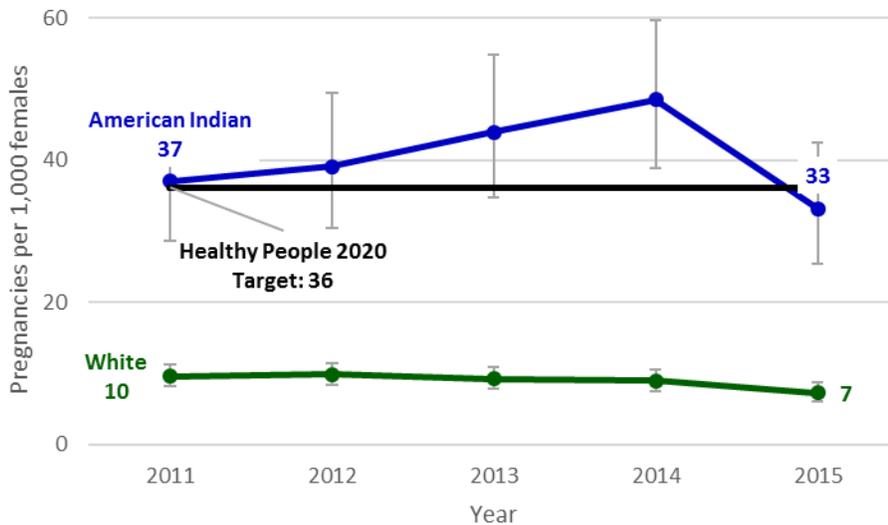
Data source: 2017 Youth Risk Behavior Survey, 2017

Teen Pregnancy

Infants born to adolescents (teens) are more likely to have worse educational, behavioral, and health outcomes throughout their lives compared to children born to older parents.

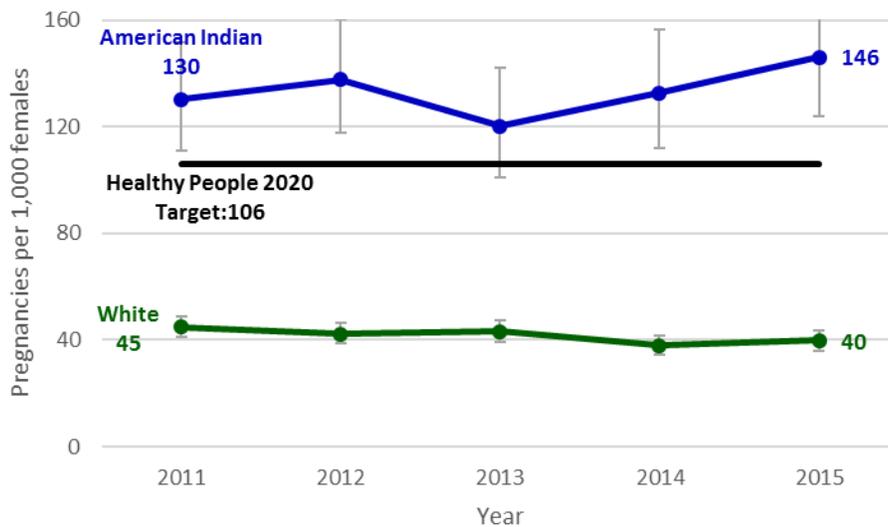
From 2011 to 2015, teen pregnancy among Montana American Indians aged 15 to 17 years and 18 to 19 years was greater than the Healthy People 2020 target (Figures 62 and 63). Meanwhile, the pregnancy rate among white teenagers has been consistently below the Healthy People 2020 target during this same period (Figures 62 and 63).

Figure 62. Pregnancy rate among Montana females aged 15 to 17 years by race compared to Healthy People 2020 target, 2011-2015



Data Source: Montana Office of Vital Statistics, 2011-2015

Figure 63. Pregnancy rate among Montana females aged 18 to 19 years by race compared to Healthy People 2020 target, 2011-2015



Data Source: Montana Office of Vital Statistics, 2011-2015

Children and Youth with Special Health Care Needs

In 2016, almost 20% of children and youth in Montana have a special health care need. (58) All children should have a medical home, a personal doctor or nurse who provides primary care and provides coordination for all of the child's health services. In 2016, 48% of Montana children and youth with special health care needs had a medical home and 54% of Montana children and youth without special health care needs had a medical home. (58) Only 15% of children and youth with special health care needs receive care through a well-functioning system, meaning they have family partnership, medical home, early screening, adequate insurance, easy access to services, and preparation for adult transition. (58)



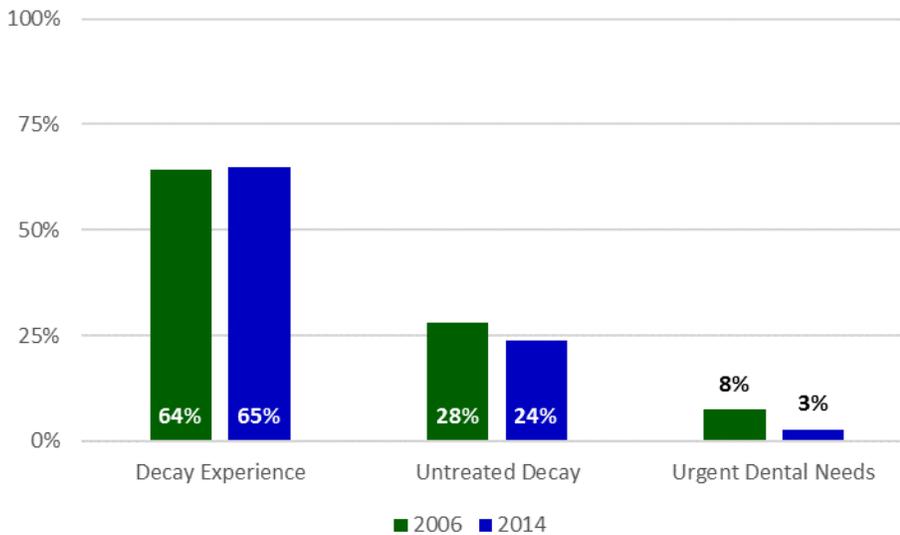
Oral Health

Good oral health, no matter a person's age, is an important part of good overall health. Tooth decay is almost 100% preventable and, if left untreated, can cause pain or infection that may lead to problems with eating, speaking, playing, and learning.

Children

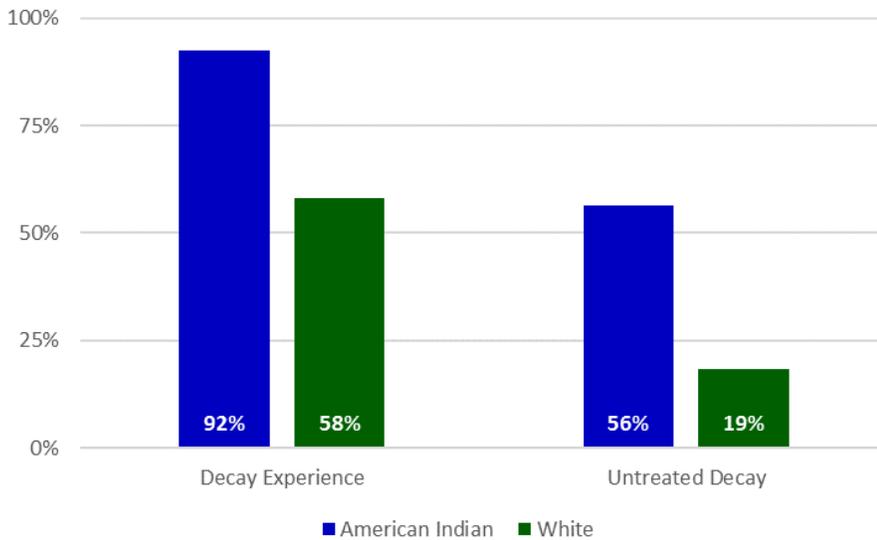
Children with poor oral health miss more school and have lower grades than children with good oral health. (59) The percent of third graders with any dental decay has not decreased over the past decade; however, more children are getting treated for their decay and fewer children have urgent dental needs (Figure 64). In 2014, 90% of American Indian third graders experienced dental decay and more than 50% had untreated decay (Figure 65). Medicaid provides early periodic screening, diagnostic, and treatment services for eligible children aged 1 to 19 years. In 2015, only 47% of eligible children received any dental services. (60)

Figure 64. Percent of Montana third grade children with dental decay experience, untreated decay, and urgent dental needs, 2006 and 2014



Data source: Montana Basic Screening Survey, 2006 and 2014

Figure 65. Percent of Montana third grade children with dental decay experience and untreated decay, 2014

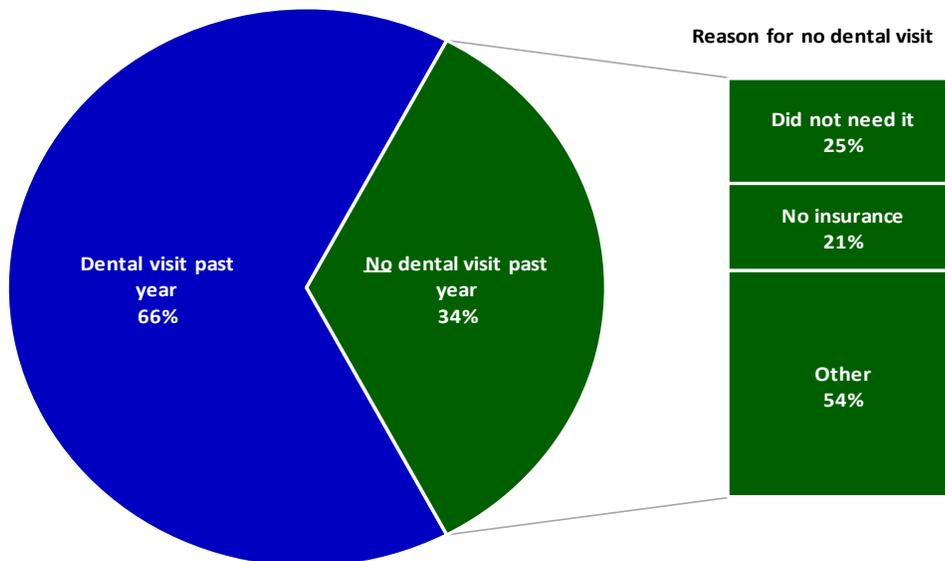


Data source: Montana Basic Screening Survey, 2014

Adults

In 2016, two-thirds of Montana adults (66%) reported visiting the dentist in the past year, which was a significant increase from 61% in 2011. (6, 7) For the 34% of Montana adults not receiving dental care in the last year, the most common reasons for not going to the dentist in the past year were “Did Not Need It /No Dental Problems” (25%) and “No Insurance” (21%) (Figure 66). (7)

Figure 66. Percent of Montana adults that visited a dentist in the past year and the most common reasons for not visiting a dentist among those who had not gone in the past year, 2016



Data source: Montana Behavioral Risk Factor Surveillance System, 2016

Pregnant Women

Oral health before, during, and after pregnancy is important for the overall health of the mother and baby. (61) In 2015, most Montana women who had recently given birth (93%) reported understanding the importance of oral health during pregnancy; however, only 56% visited the dentist while pregnant. (40)



Chapter 7

Immunization and Communicable Disease

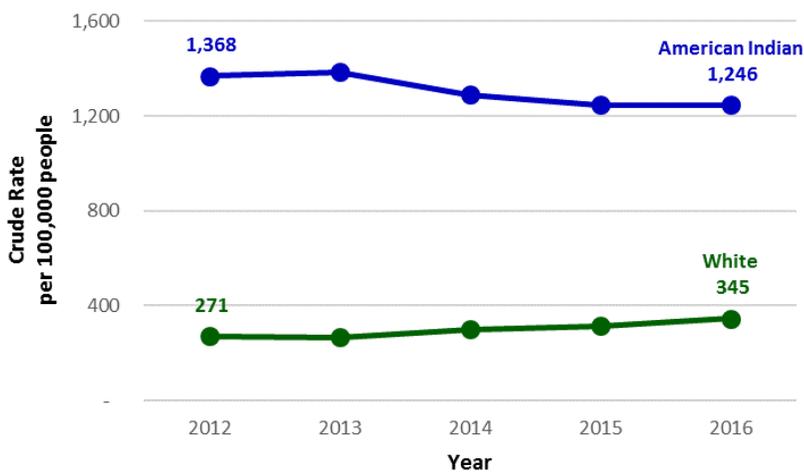
Communicable disease was the leading cause of death in the early 20th century. Thanks to the advances in the control of communicable disease, such as improved sanitation, antibiotics, and immunization, the incidence of communicable disease greatly declined. This chapter summarizes the incidence of sexually transmitted infections, vaccination use among children and adults, and the incidence of diarrheal disease.

Sexually Transmitted Infections

Chlamydia

Chlamydia infection is the most commonly reported communicable disease in Montana and the U.S. Over the past five years, the chlamydia incidence rate has increased in Montana from 381 per 100,000 people in 2012 to 428 in 2016. The incidence rate among American Indian residents was approximately four times higher than the rate among white residents from 2012 to 2016 (Figure 67).

Figure 67. Chlamydia incidence rate by race among Montana residents, 2012-2016

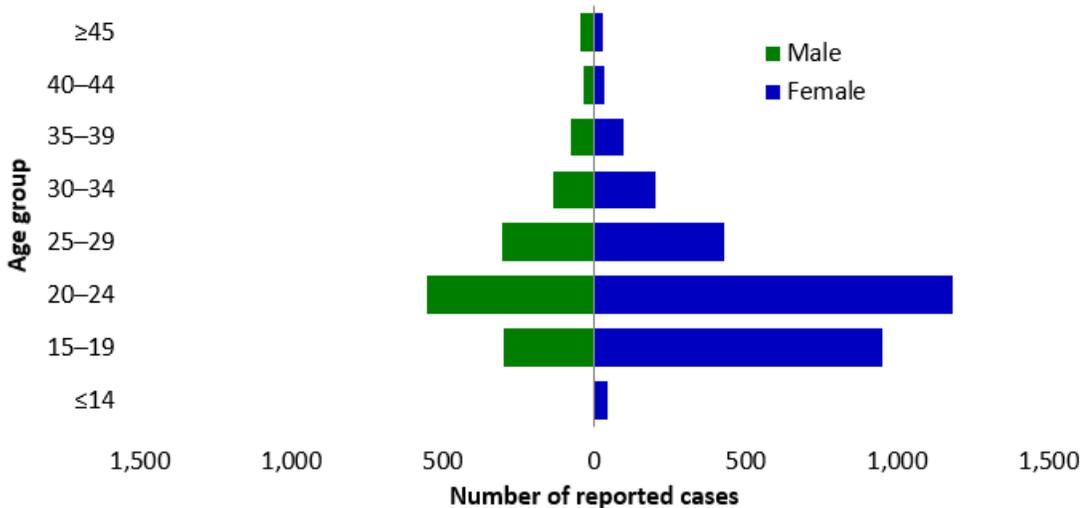


Data source: Montana Infectious Disease Information System, 2012-2016

Chlamydia infection is the most commonly reported communicable disease in Montana.

Women are diagnosed more than twice as often as men. Infections in women are usually asymptomatic and can result in pelvic inflammatory disease, a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. In 2016, 67% of chlamydia cases were diagnosed among persons aged 15 to 24 years (Figure 68).

Figure 68. Number of reported chlamydia cases by sex by age group among Montana residents, 2016

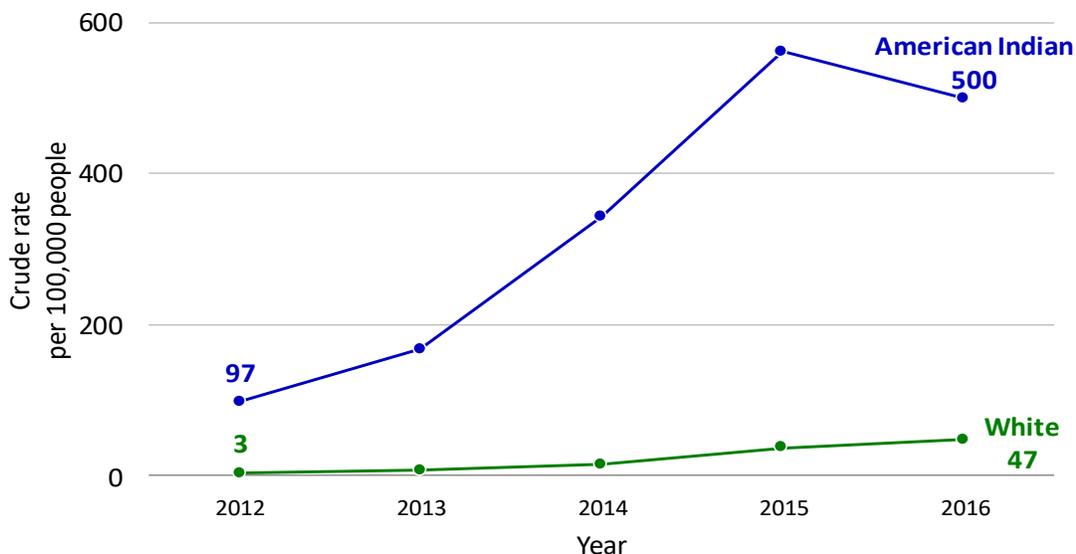


Data source: Montana Infectious Disease Information System, 2016

Gonorrhea and Syphilis

Gonorrhea and syphilis are less prevalent than chlamydia in Montana. Gonorrhea, however, has increased greatly over the past five years from 11 cases per 100,000 people in 2012 to 83 in 2016 among all residents. The gonorrhea incidence rate was persistently greater among American Indian residents compared to white residents; however, this disparity grew from 2012 to 2016 (Figure 69). Tribal health departments and Indian Health Services clinics routinely screen patients for sexually transmitted diseases, which may account for some of the difference by race.

Figure 69. Gonorrhea rate among Montana residents by race, 2012-2016



Data source: Montana Infectious Disease Information System, 2012-2016

In 2016, 14 cases of primary and secondary syphilis (1.4 per 100,000) were reported in Montana, which was below the U.S. rate of 7.5 per 100,000 population. However, the number of syphilis cases increased dramatically to 49 reported cases in 2017. Most syphilis cases were among men who have sex with men.

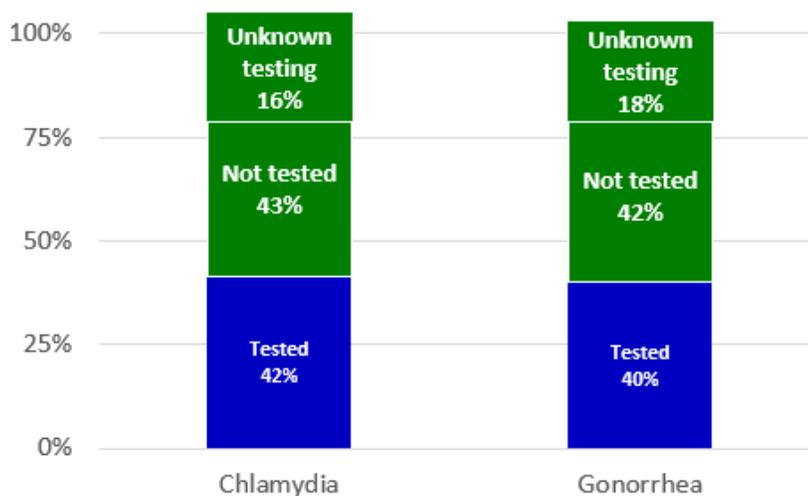
HIV and AIDS

Montana has been a low-incidence state since HIV and AIDS became reportable conditions in 1985. In 2016, 22 new cases of HIV infection were reported in Montana (2.1 per 100,000 people) compared to national incidence rate of 12.3 per 100,000 people in 2015.

Individuals with HIV in Montana are predominately male, aged 20-39 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.

The 2014 Centers for Disease Control and Prevention STD Screening Guidelines recommend that all individuals who seek evaluation and treatment for sexually transmitted infections should be counseled and screened for HIV infection, regardless of the presence of known risk behaviors for HIV. In 2016, 42% of Montana patients with chlamydia were tested for HIV infection and 40% of patients with gonorrhea were tested for HIV infection (Figure 70).

Figure 70. Percent of HIV testing among patients tested for Gonorrhea and Chlamydia, 2016



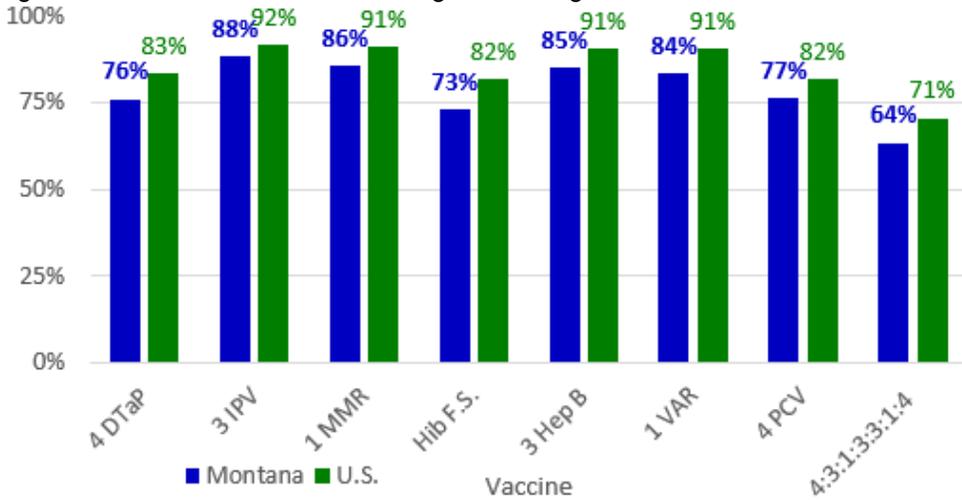
Data source: Montana Infectious Disease Information System, 2016

Immunization Coverage

The percent of Montana children receiving the recommended dosage varied by vaccine, with vaccines requiring 4 doses having the lowest completion (Figure 71). Montana's coverage for vaccines among children aged 19 to 35 months was 60% in 2011 and increased, although not significantly, to 64% in 2016 (Figure 72). Overall, the percent of children up-to-date on all vaccines remains lower than the Healthy People 2020 target of 80%. The percent of American Indian children up-to-date was higher at many tribal clinics than Montana as a whole (Figure 73).

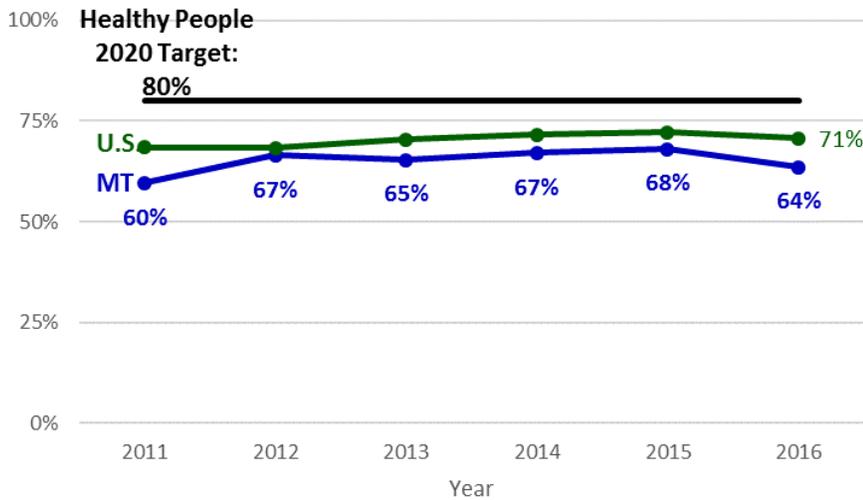
Over the past five years (2012-2016), an increased incidence for select vaccine preventable disease has been observed, most notably pertussis and mumps. While pertussis tends to be cyclic, with increases in cases every 3 to 5 years, Montana experienced several community-wide outbreaks that exceeded these expected increases. An increased incidence of mumps in 2016 was attributed to two separate outbreaks. Similar increases in activity were noted in the U.S. as well.

Figure 71. Immunization status among children aged 19 to 35 months in Montana and the U.S., 2016



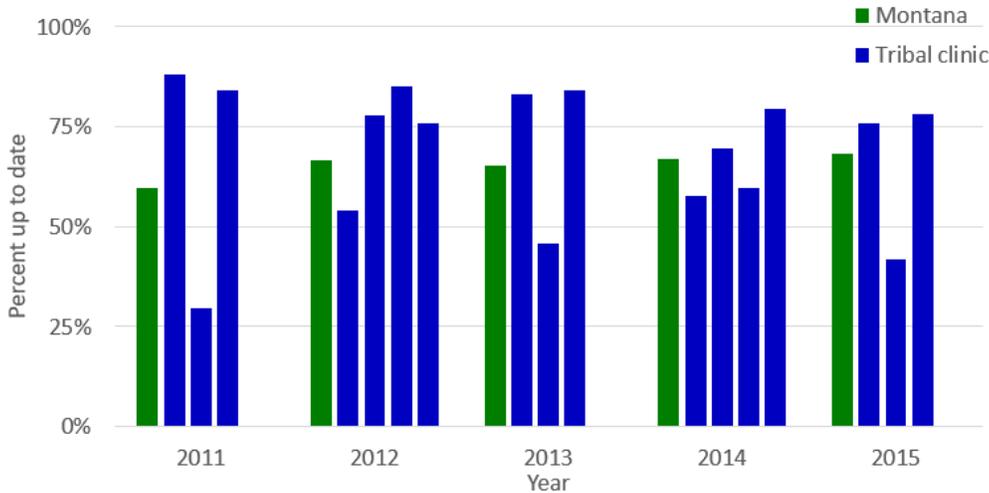
Data source: National Immunization Survey, 2016

Figure 72. Percent of children aged 19 to 35 months up-to-date on all vaccines in Montana and U.S., 2011-2016



Data source: National Immunization Survey, 2011-2016

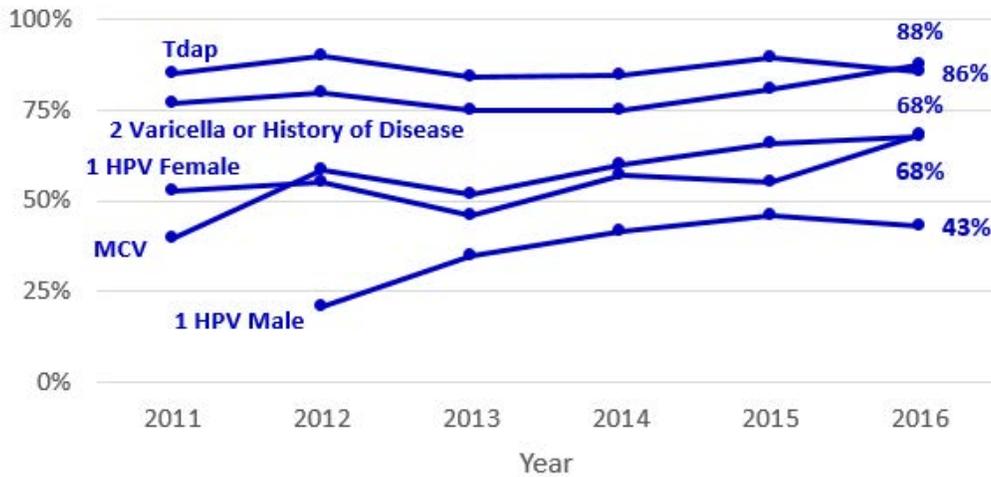
Figure 73. Percent of children seen at tribal clinics up-to-date with childhood immunizations compared to Montana, 2011-2015



Data source: Montana Immunization Program, Clinic Review Assessment, 2011-2015; National Immunization Survey, 2011-2015

Healthy People 2020 targets for teen immunization is 80% for tetanus, diphtheria, and acellular pertussis (Tdap), meningococcal conjugate (MCV), and human papillomavirus (HPV) vaccines and 90% for 2 doses of varicella vaccine. Vaccination coverage for Tdap was high in Montana, exceeding the Healthy People 2020 target (Figure 74). Coverage for MCV and HPV were lower than the national average among Montana teens.

Figure 74. Immunization coverage among Montana teenagers aged 13-17 years, 2011-2016

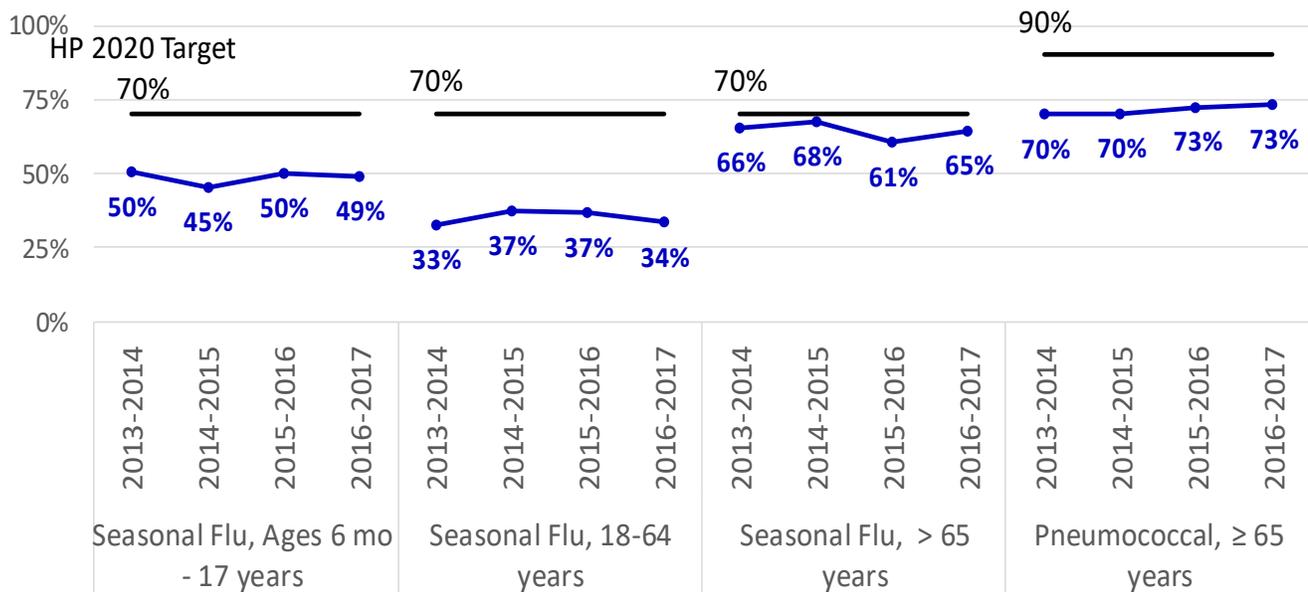


Data source: National Immunization Survey, 2011-2016

Influenza & Pneumonia

During the 2016-2017 influenza season, 49% of Montana children six months of age and older received a seasonal influenza vaccine, while 65% of Montana adults aged 65 years and older were vaccinated (Figure 75).

Figure 75. Seasonal influenza and pneumococcal immunization status among Montanans by age, 2013-2017



Data source: National Immunization Survey, 2013-2017



Tdap in Montana

Vaccination coverage for Tdap was high in Montana, exceeding the Healthy People 2020 target.

The Healthy People 2020 target for adults aged 65 years and older vaccinated against pneumococcal is 90%. In 2016-2017, Montana’s coverage was higher than the national average; almost three-quarters of this population (73%) was reported to have received a pneumococcal vaccine (Figure 75).

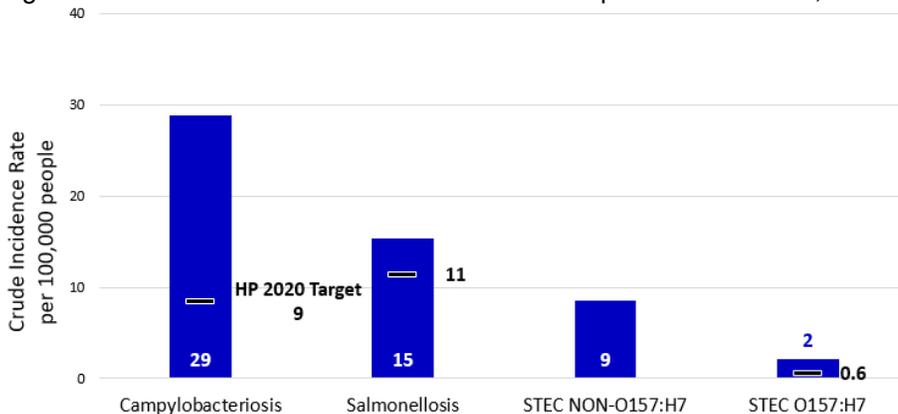
Diarrheal Diseases

Diarrheal diseases, such as *Campylobacter*, *Salmonella*, and Shiga-toxin producing *E.Coli* (STEC), are common and caused by food or agricultural exposures. Proper food handling and hygiene can prevent many of these infections.

Campylobacter infections are the leading cause of bacterial acute gastroenteritis in Montana. In 2016, 299 confirmed cases of campylobacteriosis were reported for a rate of 29 cases per 100,000 people (Figure 76). Most infections are due to eating raw or undercooked poultry. Exposure to contaminated water, contact with animals, or drinking raw (unpasteurized) milk may also cause infection. Campylobacteriosis rates in Montana have, historically, been higher than the Healthy People 2020 target, largely due to the agricultural exposure associated with the disease.

In 2016, *Salmonella* infection was the second most common diarrheal disease with 15 cases per 100,000 people (158 reported cases), followed by 110 cases of bacterial gastroenteritis caused by Shiga-toxin producing *E. coli* (STEC). 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. One strain of STEC, O157:H7, can cause more severe illness and may lead to hospitalization. Four out of five STEC infection in Montana were caused by non-O157:H7 serotypes.

Figure 76. Incidence of select diarrheal diseases reported in Montana, 2016



Data source: Montana Infectious Disease Information System, 2016

“Eating raw or undercooked poultry, exposure to contaminated water, contact with animals, or drinking raw (unpasteurized) milk may cause Campylobacter infection.”



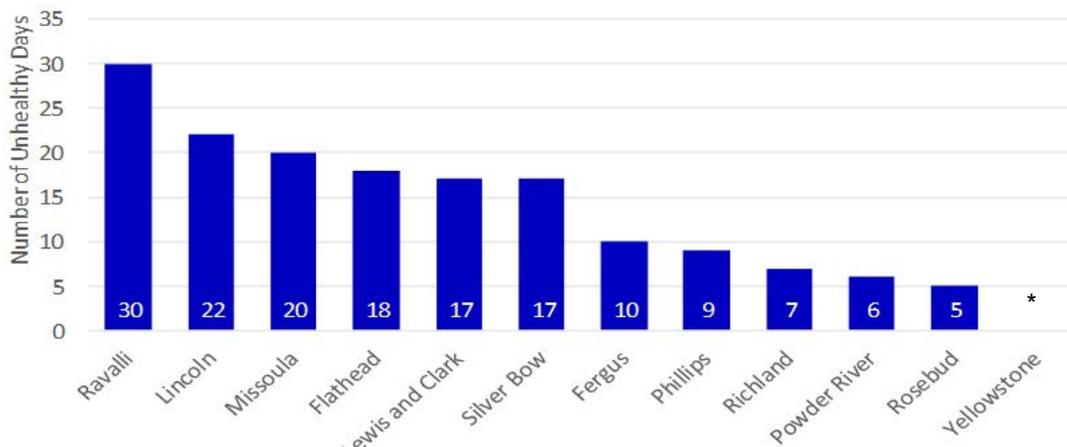
Chapter 8

Environmental Health

Clean Air

Air pollution levels impact the type and level of daily activity appropriate for people. Two pollutants directly monitored for their impact on people's daily activity are ground level ozone and particulate matter 2.5 microns or less in diameter (PM_{2.5}). These air pollutants are monitored at select sites throughout Montana. According to the American Lung Association's *State of the Air 2017* report, ozone-monitoring sites in Montana recorded zero days of unhealthy ozone concentrations between 2013 and 2015. (62) Meanwhile, nearly all PM_{2.5} monitoring sites in Montana recorded unhealthy days (24-hour average PM_{2.5} ≥ 35.5 mg/m³) between 2013 and 2015 (Figure 77).

Figure 77. Number of unhealthy days for particle pollution for 24-hour PM_{2.5} concentration greater than 35.5mg/m³ by Montana County for the three-year period 2013-2015



Data Source: American Lung Association, State of the Air, 2017; *Incomplete data

Safe Drinking Water

Most Montanans are served by public water systems. In 2016, 1,024 active community water supplies served 847,038 people or about 81% of the population.¹ Public water systems are routinely monitored for contamination from harmful bacteria, chemicals, and radionuclides. In 2016, 94% of the public water supply systems met the Environmental Protection Agency's Safe Drinking Water Standards.(63)

Most people who are not served by a public water system (approximately 19%) use a private well as their primary source of household water. The Centers for Disease Control and Prevention recommends that well owners test their water for total coliform bacteria, nitrates, total dissolved solids, and pH levels once a year. (64) The number of Montana well owners who regularly test their wells is unknown.



Safe Water

94% of the public water supply systems met the EPA's Safe Drinking Water Standards.

Lead

No safe level for lead in the body exists. In children, exposure to lead might result in learning disabilities, behavioral problems, decreased intelligence, and poisoning. The most common lead exposure for children is from lead-based paint, which was commonly used in homes prior to 1978. Children might be exposed to lead through consumer products, toys, and parents' hobbies. Montana Medicaid requires healthcare providers to test children for blood lead at least once by age 12 months and again by age 24 months. Elevated blood lead is a reportable condition in Montana (ARM 37.114.203). In 2015, 77 children were reported with elevated blood lead levels ($\geq 5 \mu\text{g}/\text{dL}$). (65) The number of children tested for blood lead during this period is unknown, thus the percentage of children with elevated blood lead in Montana cannot be calculated. The Healthy People 2020 target is 97.5% of children aged 1 to 5 years blood lead measure below $5.2 \mu\text{g}/\text{dL}$.

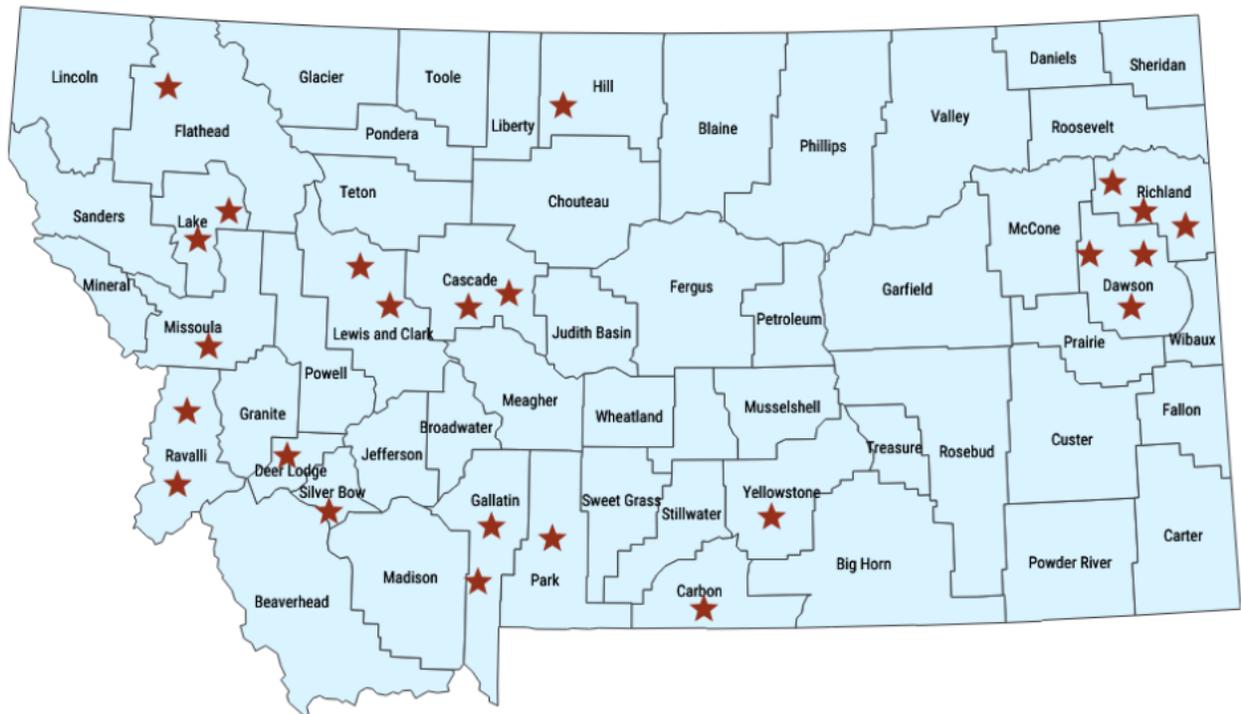
¹Footnote: Includes the community and non-transient non-community (i.e. schools, hospitals, office buildings, etc) water supply systems.

Built Environment

Access to Safe Places for Physical Activity

The way communities are designed (buildings, landscapes, streets, and neighborhoods) influence the way people live and can affect residents' health and well-being. Engaging in healthy behaviors, such as physical activity, is easier if the environment is built to support people in making healthy choices. One way to ensure communities are designed to support healthy behaviors is through the adoption of policies and plans, such as Complete Streets Policies and Active Transportation Plans. These policies and plans make community sidewalks and roads accessible, easy, and safe for all modes of transportation, including pedestrians and cyclists. As of June 2017, 24 such policies or plans have been adopted in the 28 Montana communities (Figure 78).

Figure 78. Location of Active Transportation policies and plans in Montana, 2017



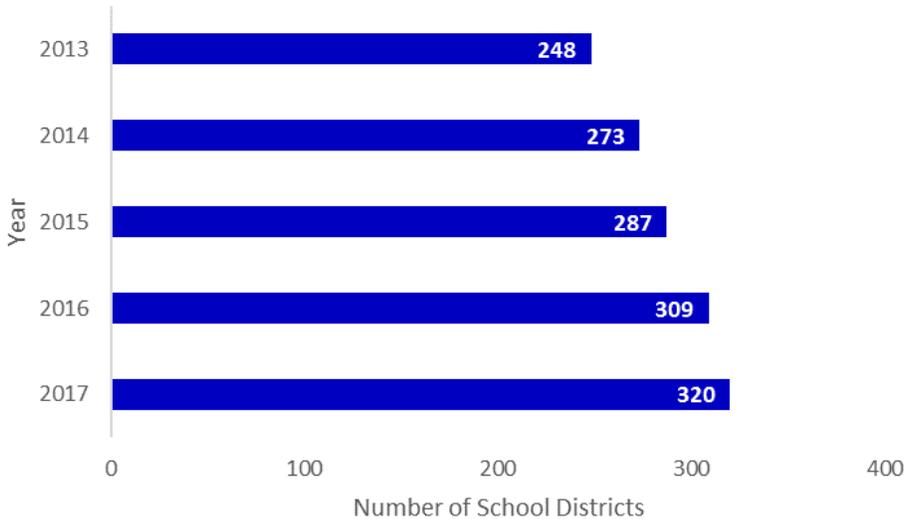
★ Each star indicates one policy. Policies include: Complete Streets (or similar) policies and Master Plans (transportation, bike, pedestrian or downtown with a non-motorized component)

Data Source: Montana Department of Public Health and Human Services, Montana Nutrition and Physical Activity Program, 2017

Clean Indoor Air

The most common environmental hazard to which Montana residents are exposed is second-hand indoor tobacco smoke. The implementation of the Clean Indoor Air Act in 2009 protects Montanans from this health hazard in all public buildings. In 2012, comprehensive tobacco-free policies have also been enacted in numerous other settings, including eight public housing authorities, 320 school districts, 12 college campuses, 60 medical campuses, and four county- or city-owned parks. In addition, e-cigarettes have been included in five county Clean Indoor Air implementation protocols (Figure 79).

Figure 79. The number of Montana school districts with comprehensive tobacco-free policies, 2013—2017



Data Source: Montana Department of Public Health and Human Services, Montana Tobacco Use Prevention Program, 2013-2017

However, access to smoke-free environments at home is still not available to all Montanans, particularly among renters living in multi-unit housing such as apartments, duplexes, or condominiums. Only one in four (26%) of Montana renters are protected by smoke-free policies. (66)

***Only one in four (26%) of
Montana renters are
protected by smoke-free
policies.***



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Appendix A: SHA SHIP Coalition Members

1. **Frontier County Health Department** (Fallon County Health Department)
2. **Small County Health Department** (Toole County Health Department)
3. **Medium County Health Department** (Park County Health Department & Lincoln County Health Department)
4. **Large County Health Department** (Lewis and Clark City-County Health Department & Cascade City-County Health Department)
5. **Blackfeet Tribal Health Department** (Tribal Health Department)
6. **Rocky Boy's Health Board** (Tribal Health Department)
7. **Association of Montana Public Health Officials**
8. **Montana Association of Counties**
9. **Montana Environmental Health Association**
10. **Montana Hospital Association**
11. **Montana Medical Association**
12. **Montana Public Health Association**
13. **Helena Indian Alliance**
14. **Rocky Mountain Tribal Epidemiology Center**
15. **Office of Public Instruction**
16. **University of Montana, School of Public and Community Health Sciences**
17. **Montana State University Office of Rural Health**
18. **Department of Environmental Quality**
19. **Montana Healthcare Foundation**
20. **Addictive and Mental Disorders Division, MT.** Department of Public Health and Human Services
21. **Developmental Services Division, Children's Mental Health Bureau, MT.** Department of Public Health and Human Services
22. **Health Resources Division, MT.** Department of Public Health and Human Services
23. **Public Health and Safety Division, MT.** Department of Public Health and Human Services
24. **State Medical Officer, MT.** Department of Public Health and Human Services

Appendix B: Glossary of Key Terms

Age-Adjusted Rate - A rate which has been calculated to control for the effect of age which allows for comparison of rates across populations (e.g. Montana compared to the U.S.). An age-adjusted rate is a weighted average of the age-specific rates.

Crude Rate - A rate is said to be crude if the measure has not been adjusted for any factor, such as age.

Disabled - A person having one or more of the following disability types: hearing, vision, cognition, mobility, self-care, and independent living.

Healthy People 2020 - The U.S. Department of Health and Human Services provides science-based, 10-year national objectives for improving the health of all Americans, the current objectives are called *Healthy People 2020*. Healthy People 2020 establishes targets that are measurable, achievable, and applicable at the national, state, and local levels.

Incidence - Refers to the occurrence of *new* cases of disease among a population at risk of disease over a period of time. Incidence is often reported as a number or rate.

Injury - Refers to damage to the body produced by energy exchanges or deprivations resulting in relatively sudden discernible effects. In public health, the topic of injury includes trauma, poisoning, fire and chemical burns, drowning, bites/stings, and more.

Intent - Indicates whether an injury was unintentional, assault (homicide), intentional self-harm (suicide), or related to legal interventions or war.

Mechanism - Typifies how an injury occurred or what caused it.

Median - The middle value that separates the higher half of the data from the lower half.

Micropolitan County - The National Center for Health Statistics defines micropolitan counties as those that contain one or more urbanized area of 2,500—49,999 people or counties that do not contain the urban area(s) but meet specified requirements of commuting to or from counties with urbanized areas. Micropolitan counties in Montana are Flathead, Gallatin, Jefferson, Lewis & Clark, and Silver Bow.

Morbidity - Sick, sickness

Mortality - Refers to death due to a particular cause among a population over a period of time. Mortality is often reported as a number or a rate.

Premature Death - A death which occurs before a person's life expectancy. In the U.S., premature death is dying before the age of 75.

Prevalence - Refers to the existing cases of a disease at a point in time or over a period of time. Prevalence is often reported as a number or a percentage.

Rate - A measure of the number of events that occur in a defined population with respect to time. A rate may or may not be a proportion. Example: $a / (a+b)$ where a is the number of people experiencing an event during a certain time period and $(a+b)$ is the total number at risk of the event during that same time period.

Risk Factor - Anything that makes it more likely, is the reason for, or increases the chance a person or group of people will get sick, hurt, or die.

Rural County - Counties are defined by the National Center for Health Statistics as *Noncore* which are nonmetropolitan counties that did not qualify as micropolitan. Noncore counties are referred to as rural counties in this report. Using this definition, Rural counties in Montana are Beaverhead, Big Horn, Blaine, Broadwater, Carter, Chouteau, Custer, Daniels, Dawson, Deer Lodge, Fallon, Garfield, Glacier, Granite, Hill, Lake, Liberty, Lincoln, McCone, Madison, Meagher, Mineral, Park, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, and Wibaux.

Small-Metro County - The National Center for Health Statistics defines small-metro counties as counties in metropolitan statistical areas (MSA) with populations less than 250,000. The small-metro counties in Montana are Carbon, Cascade, Golden Valley, Missoula, and Yellowstone.

Years of Potential Life Lost (YPLL) - A measure of premature death which estimates the average years a person would have lived had he or she not died prematurely.

Appendix C: Data Sources: Strengths and Limitations

Communicable Disease Surveillance System

Montana statutes require the reporting of conditions and communicable diseases of public health significance to local and state public health authorities. MIDIS, the Montana Infectious Disease Information System, and eHARS, the electronic HIV/AIDS Reporting System, are nationally developed applications for the secure receipt and storage of information submitted to local and state public health authorities. The systems contain records for all communicable diseases reportable in the state of Montana. Case reports are entered into each system by state and local health departments and supplemented electronically by laboratory reports. Systems are accessed only by selected local and state public health staff. The purposes of the systems are to collect data for analysis, conduct patient disease investigations, and implement and monitor the effectiveness of disease prevention and treatment efforts. Both systems transmit limited information to the US Centers for Disease Control and Prevention for analysis.

Strengths: Inclusion of reportable conditions identified by a provider, laboratory or other sources in the Communicable Disease Surveillance System is required by statute.

Limitations: Data in the Communicable Disease Surveillance System are limited to what is submitted by providers, laboratories, and state and local health departments. There is potential for underreporting of disease due to undiagnosed conditions or failure to report as required. Data analysis may also be limited due to a low number of disease events.

Montana Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is a cross-sectional telephone survey conducted annually in all 50 states, as well as the District of Columbia and three U.S. territories. It is co-sponsored by the Centers for Disease Control and Prevention (CDC) and the Montana Department of Public Health and Human Services (DPHHS) and has been administered throughout Montana since 1984. Non-institutionalized adults (18+) are randomly selected using both cell phone and land line numbers. Participation is voluntary and personally identifiable information is not collected; furthermore, all responses are kept confidential. The survey data is collected and cleaned by a contractor, currently the University of Missouri. The CDC performs some data analyses and the final data is provided to MT DPHHS for further analyses to better inform public health practices and policies throughout the state.

Strengths: The Montana BRFSS survey collects data on diverse public health topics from a large sample size (average 7,000 respondents). Furthermore, Montana has over 30 years of quality BRFSS data produced from questions that have been tested for validity and reliability. Because of these factors, we are able to obtain estimates that are highly representative of the Montana adult population and several sub-populations. Other strengths of the BRFSS survey and the data that it produces include the ability to: compare Montana's prevalence estimates to other states and the U.S., report data specific to each of Montana's five health planning regions, track Montana's state-level progress towards Healthy People 2020 goals and objectives, produce prevalence estimates for a wide range of chronic diseases and many of the risk factors associated with them, and oversample Montana's American Indian population to ensure there is enough data to report statically reliable estimates.

Limitations: Limitations of the BRFSS include: the data are self-reported and, therefore, susceptible to potential biases; individuals who do not own a phone, as well as institutionalized adults such as those living in nursing homes, on military bases, or within prisons, are not included in the survey; the sample size is not sufficient to produce annual county-level estimates; and the BRFSS cannot assess incidence or whether or not measured risk factors/behaviors contributed to specific health outcomes.

Montana Central Tumor Registry

The Montana Central Tumor Registry (MCTR) was established in 1979 and data is available from 1980 forward. Montana Statute requires that hospitals, clinical pathologic laboratories, and health care practitioners report data on any reportable tumors that they diagnose or provide treatment for. MCTR collects patient characteristics, cancer characteristics, and treatment characteristics. MCTR conducts regular follow-up on cases to determine date of last contact, vital status, or recurrence of the cancer. MCTR also links to death records to record time and cause of death.

Strengths: MCTR collects data on all tumors that are diagnosed or treated in Montana and has data for Montana residents who are diagnosed or treated out of state because of data exchange agreements with most other states. To better identify MT American Indian patients, the MCTR links with Indian Health Services administrative files of enrolled recipients of IHS services from 1990 forward each year. This record linkage allows MCTR to identify additional American Indian patients in the registry, which greatly improves MCTR's ability to describe the cancer burden among Montana American Indians. MCTR has earned the North American Association of Central Cancer Registries Silver or Gold certification for quality, completeness, and timeliness each year since 1999, meaning that the data is more than 95% complete and adheres to all national standards for data quality.

Limitations: Eighty (80%) of data is collected within 12 months of diagnosis; 90% is collected within 15 months after diagnosis. Most cases are not reported to the MCTR until cancer treatment is complete. Reporting timeliness can vary among facilities depending on staffing or loss of staff. MCTR collects data on patient characteristics at the time of diagnosis, but does not include information about risks or possible exposures that may have occurred prior to diagnosis (except for tobacco and alcohol use history). As such, the MCTR is not a suitable data source for exploring possible relationships between cancer and any behavioral or environmental risk factors. Likewise, MCTR would not be able to link cancer cases back to known environmental or occupational hazards or disasters.

Montana Hospital Discharge Data System

The Montana Department of Public Health and Human Services (DPHHS) has a memorandum of agreement with the Montana Hospital Association (MHA) to receive a subset of inpatient admission (2000 onward) and emergency department (ED; 2010 onward) data elements based on the Uniform Billing 2004 form (UB-04). The Montana Hospital Discharge Data System (MHDDS) currently includes short stay non-Federal hospitals that participate with MHA. All large Montana hospitals submit data annually to MHA and most critical access hospitals also submit data; this captures an estimated 95% of admissions in Montana.

Strengths: Montana hospital discharge data is based on billing systems and has information on more than 95% of admissions and encounters in Montana. MHDDS includes data on charges, which describes the financial impact of conditions on Montana's health.

Limitations: The MHDDS data sets do not contain patient identifiers so hospital discharges cannot be linked to other data sets, and the data cannot be de-duplicated if individuals are admitted more than once during a time interval of interest. MHDDS data sets do not contain information on patients' race. No interstate agreements exist for exchange of data on Montana residents hospitalized out-of-state. MHDDS does not include information from federal facilities, such as Indian Health Service hospitals or Veterans Affairs hospitals. Hospital discharge data systems vary greatly from state to state. Because of this variation, there may not be standardized definitions of conditions and it may not be possible to compare Montana to other states or the U.S.

Montana Youth Risk Behavior Survey

The Youth Risk Behavior Survey (YRBS) is administered by the Montana Office of Public Instruction through a cooperative agreement with the U.S. Centers for Disease Control and Prevention (CDC). The YRBS is a self-reported student survey conducted biennially the last week of February in odd-numbered years in Montana high schools, middle schools, non-public accredited, and alternative high schools. Montana has attained weighted data YRBS results since Montana adopted the survey in 1991.

Strengths: The Montana High School YRBS dataset is obtained through a two-stage random sampling of public high schools and selected classes. Survey procedures are designed to protect students' privacy by allowing for anonymous and voluntary participation. Before survey administration, local parental permission procedures are followed. Students complete the self-administered questionnaire during one class period and record their responses directly on a computer-scan answer sheet. Montana has attained weighted data YRBS results since 1991; thus, the data are representative of all students in grades 9-12 attending Montana high schools.

Limitations: YRBS data apply only to youth who attend school and, therefore, are not representative of all persons in this age group. Data are self-reported and subject to reporting bias.

Vital Statistics Surveillance System

Information in the vital statistics system consists of six vital events that are required to be reported and maintained by law: live births, deaths, fetal deaths, induced abortion, marriage, and divorce. The Office of Vital Records (OVR) utilizes an electronic registration system for births, deaths, and fetal deaths.

Strengths: Vital events are required to be reported by law, ensuring nearly 100% registration. OVR has statistical datasets for births and deaths from 1954 to present and indexes of these vital events beginning in 1860.

Limitations: OVR relies on other jurisdictions to transfer records of vital events that occur to Montana residents outside of the state. It is unlikely that Montana receives 100% of these out-of-state records; therefore, state records may vary slightly from nationally published statistics. Data is generally available six to nine months after the end of the previous calendar year. The information contained on these certificates is limited by the person certifying the event, his or her access to medical/legal records, autopsy results, and information provided by relatives, friends, or witnesses. Misclassification of race (e.g., American Indian resident classified as white race) may occur. A 2002 study found that 91% American Indian decedents were correctly classified as American Indian on the Montana death certificate. (67) Misclassification of the cause of death may also occur, although enumerating the extent of this misclassification varies by cause of death.

Appendix D: Assets and Resources

Assessing the health of Montana also involves assessment of state resources and assets to improve health. This includes some of the human, social, economic, and organizational resources that stakeholders can leverage. The SHA/SHIP Coalition, with feedback from the public and stakeholders, identified a list of over 150 state assets.

- American Association of Retired People
- American Cancer Society
- American Diabetes Association
- American Heart Association/
American Stroke Association
- American Lung Association of
the Northern Rockies
- American Red Cross
- Americans for Non-Smokers
Rights
- Area Health Education Center/
Office of Rural Health
- Arthritis Foundation
- Association of Montana Public
Health Officials
- Behavioral Risk Factor
Surveillance System
- Blue Cross and Blue Shield of
Montana
- Campaign for Tobacco Free
Kids
- Cancer Treatment Centers
- Carroll College
- Centers for Disease Control
and Prevention
- Certified Diabetes Educators
Mentoring Program
- Children's Special Health
Services Advisory Council
- Council on Aging
- Dennis & Phyllis Washington
Foundation
- Diabetes Self-Management
Education Program
- Disability Rights Montana
- Early Childhood Project,
Montana State University
- Eat Right Montana
- Environmental Protection
Agency
- Glacier Bancorp, Inc.
- Glacier Neuroscience and
Spine
- Governor's Office of
Community Service
- Grow Montana
- Head Start
- HIV Community Planning
Groups
- HRDC Offices
- Indian Health Service
- Infections Disease Physician
Network
- Insure Montana
- International Heart Institute of
Montana
- International Traditional
Games Society
- Lake County Community
Development Corp.
- Local & Tribal Health
Departments
- Local FICMR Review Teams
- Local media outlets
(newspaper, television & radio
stations)
- Local Newspapers
- Local Pharmacies
- Local School Districts
- Low Income Energy
Assistance Program
- Missoula in Motion
- Montana Action for Healthy
Kids
- Montana American Indian
Women's Health Coalition
- Montana American Institute of
Architects
- Montana American Society of
Landscape Architects
- Montana Association of
Counties
- Montana Association of Family
Planning Directors
- Montana Association of
Physician Assistants
- Montana Association of
Planners
- Montana Association of School
Nurses
- Montana Association of WIC
Agencies
- Montana Beverage
Association
- Montana Board of Sanitarians
- Montana Breastfeeding
Coalition
- Montana Cancer Consortium
- Montana Chamber of
Commerce
- Montana Chapter American
Association Family
Practitioners
- Montana Chapter American
Association of Pediatricians
- Montana Chapter of the
American Association of
Diabetes Educators
- Montana Chapter of the
American College of Surgeons

- Montana Chapter, American Academy of Pediatrics
- Montana Child Care Resource and Referral Network
- Montana Coalition Against Sexual and Domestic Violence
- Montana Comprehensive Cancer Control Coalition
- Montana Dental Association
- Montana Dental Hygienist Association
- Montana Department of Administration, Health Care and Benefits
- Montana Department of Agriculture
- Montana Department of Commerce Community
- Montana Department of Environmental Quality
- Montana Department of Fish, Wildlife, and Parks
- Montana Department of Justice
- Montana Department of Labor and Industry
- Montana Department of Livestock
- Montana Department of Natural Resources and Conservation
- Montana Department of Revenue
- Montana Diabetes Advisory Coalition
- Montana Disaster and Emergency Services
- Montana Electric Cooperatives Association
- Montana Environmental Health Association
- Montana Food Bank Network
- Montana Food Security Council
- Montana Food System Council
- Montana Healthcare Forum
- Montana Hospital Association
- Montana Hospitals and Healthcare providers
- Montana Hypertension Coalition
- Montana Medicaid Program
- Montana Medical Association
- Montana Municipal Interlocal Authority
- Montana Nurses Association
- Montana Office of Public Instruction
- Montana Parent Teacher Association
- Montana Primary Care Association
- Montana Public Health Association
- Montana Recreation and Parks Association
- Montana Safe Routes to Schools Program
- Montana School Board Association
- Montana School Nurses Association
- Montana School Nutrition
- Montana State Fund
- Montana State University
- Montana Statewide Breastfeeding Coalition
- Montana Team Nutrition Program
- Montana Worksite Health Promotion Coalition
- Montana/Wyoming Tribal Leaders Council
- Mountain Pacific Quality Healthcare Foundation
- National Breast Cancer Foundation
- National Cancer Institute
- National Coalition of Sexually Transmitted Disease Directors
- National Every Child By Two Coalition
- National Farmers Market Association
- National Indian Women's Health Resource Center
- National Park Service
- National WIC Association
- New West Health Services
- North American QuitLine Consortium
- Northwest Center for Public Health Practice at the University of Washington
- Northwestern Energy
- Occupational Health Data Exchange
- Pacific Northwest Border Health Alliance
- Planned Parenthood of Montana
- Public Health Informatics Institute
- Public Knowledge, L.L.C.
- Rural Health Initiative
- Salish Kootenai College
- Stroke Workgroup
- Susan G. Komen for the Cure Foundation
- Town Pump, Inc.
- Two Medicine Health and Financial Fitness
- U.S. Department of Agriculture
- U.S. Department of Veterans Affairs
- U.S. Food and Drug Administration (FDA)
- United Way
- University of Montana
- University of Montana Rural Institute

- University of Montana School of Public and Community Health
- University of Montana Skaggs School of Pharmacy
- Urban Indian Centers
- USDA Food Safety and Inspection Service (FSIS)
- Vaccines for Children Providers
- Volunteers Organizations Active in Disaster (VOAD)
- Western States Insurance Agency
- Western Transportation Institute
- WIC Future's Study Group
- WorkSafe MT, Department of Labor and Industry
- Worksite Health Promotion Coalition
- Wyoming Department of Health



Healthy People. Healthy Communities.

Department of Public Health & Human Services