

2013—2017

# CANCER IN MONTANA

FEATURING CANCER MORTALITY TRENDS IN MONTANA



MONTANA CENTRAL TUMOR REGISTRY ANNUAL REPORT

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*Helena, Montana*



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All-site Cancer in Montana  
Quick Stats

**6,100**  
**MONTANANS**

DIAGNOSED WITH CANCER EACH YEAR BETWEEN 2013—2017

**NUMBER**  
**ONE**

CAUSE OF DEATH AMONG MONTANANS EACH YEAR

**39% OF MEN**

WILL BE DIAGNOSED WITH CANCER IN THEIR LIFETIME

**38% OF WOMEN**

WILL BE DIAGNOSED WITH CANCER IN THEIR LIFETIME

# All-site Cancer in Montana

**Cancer is a common disease; 39% of men and 38% of women will be diagnosed with cancer in their lifetime.<sup>1</sup> This report describes the burden of cancer among Montanans and includes a special feature on cancer mortality trends in Montana.**

A total of 36,192 incident cancer cases were reported to the Montana Central Tumor Registry (MCTR) between 2013—2017, including invasive and in-situ cancers, benign tumors, and tumors of uncertain behavior. Invasive cancers accounted for 29,696 cases (82%); carcinoma in-situ accounted for 6,496 cases (18%). An average of 6,100 invasive cancers were diagnosed each year among Montana residents between 2013 and 2017.

Over half (54%) of cancers diagnosed in Montana occurred among men. The cancer incidence rate was higher among males compared to females in Montana and the U.S. from 2008—2017 (Figure 1). However, the difference in the incidence rate between males and females has decreased over the past decade.

Cancer incidence has decreased among males in the past 10 years but the difference is not statistically significant (Figure 1). This decrease is likely due, in part, to the declining incidence of lung and colorectal cancer among males.

Cancer was the leading cause of death in Montana from 2013—2017, followed closely by heart disease. There were a total of 10,341 cancer deaths from 2013—2017; for an average of 2,068 cancer deaths each year over this time period.

**Figure 1. Trends in age-adjusted cancer incidence (new cases) and mortality (deaths) rates in Montana and the U.S., 2008—2017.**



Data Source: Montana Central Tumor Registry, 2008—2017; Montana Death Records, 2008—2017; United States Cancer Statistics, 2008—2016

<sup>1</sup>Siegel, Rebecca L., Miller, Kimberly D., Jemal, Ahmedin. *Cancer Statistics, 2019*. CA Cancer J Clin 2019;69:7-34.

Four types of cancer accounted for almost half of all new cancers diagnosed in Montana from 2013—2017. These cancers were female breast (14%), prostate (14%), lung (12%), and colorectal (8%) (Table 1).

About one in four cancer-related deaths in Montana were due to lung cancer (24%), followed by colorectal (9%), female breast (7%), pancreatic (7%) and prostate (6%) cancer.

The incidence rate for cancer overall in Montana was estimated to be 3% above the U.S. incidence rate. This difference was statistically significant and is at least partly because of higher rates of prostate and bladder cancer, leukemia, and melanoma in Montana (Figure 2). The incidence rate of melanoma was 26% higher in Montana

compared to the U.S. overall. In contrast, the incidence rate of lung cancer was significantly lower in Montana compared to the U.S. (Figure 2).

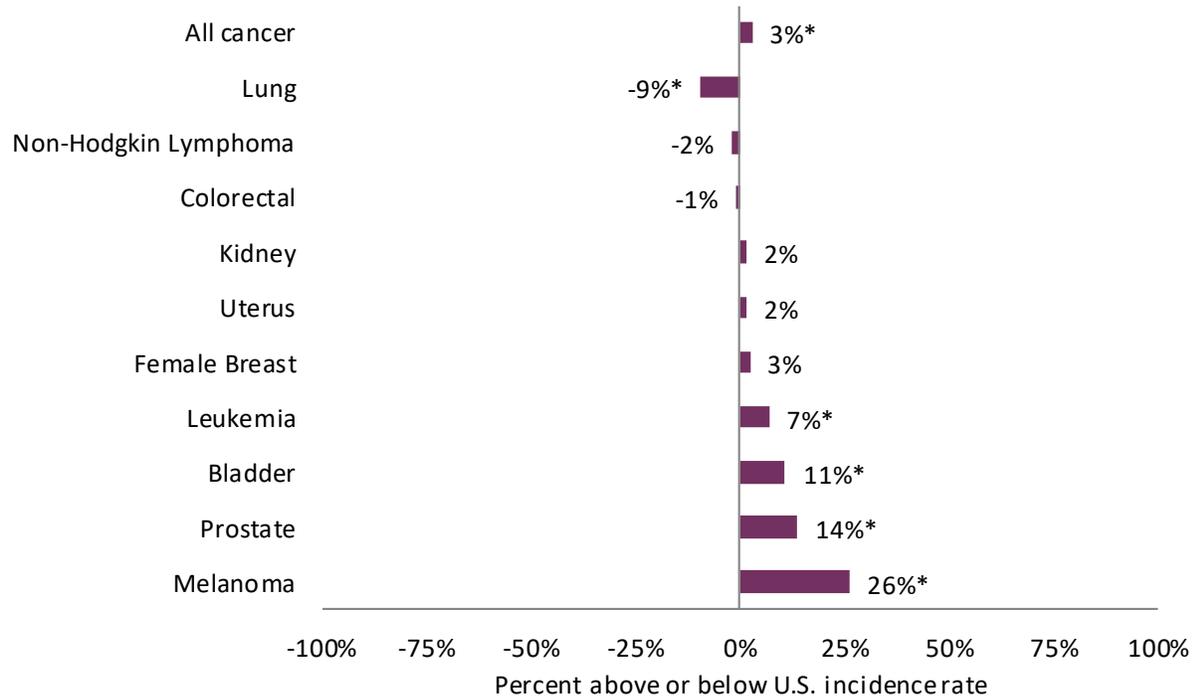
The cancer mortality rate for all-site cancer in Montana was significantly lower than the U.S. (Figure 3). Three cancer sites, lung, leukemia, and colorectal had significantly lower mortality rates than the U.S. (Figure 3). Mortality rates in Montana were statistically higher for prostate and esophageal cancer compared to the U.S. (Figure 3).

**Table 1. Number and percent of new cancer cases (incidence) and cancer-related deaths (mortality) among the 15 most common cancers in Montana over the 5-year period 2013 through 2017.**

New Cancers				Deaths			
Rank	Site	Avg. # per year	Percent	Rank	Site	Avg. # per year	Percent
1	Prostate	851	14%	1	Lung	505	24%
2	Female Breast	845	14%	2	Colorectal	178	9%
3	Lung	738	12%	3	Pancreas	144	7%
4	Colorectal	503	8%	4	Female Breast	137	7%
5	Melanoma	345	6%	5	Prostate	131	6%
6	Bladder	305	5%	6	Leukemias	78	4%
7	Non-Hodgkin Lymphoma	245	4%	7	Liver	76	4%
8	Kidney	222	4%	8	Non-Hodgkin Lymphoma	71	3%
9	Leukemia	196	3%	9	Esophagus	64	3%
10	Uterus	187	3%	10	Bladder	63	3%
11	Pancreas	165	3%	10	Brain & other CNS	63	3%
12	Thyroid	153	3%	12	Kidney	48	2%
13	Liver	93	2%	13	Ovary	48	2%
14	Myeloma	92	2%	14	Myeloma	42	2%
15	Brain & other CNS	89	1%	15	Melanoma	33	2%
<b>All new cancers (total)</b>		<b>6,100</b>	<b>100%</b>	<b>All cancer-related deaths</b>		<b>2,068</b>	<b>100%</b>

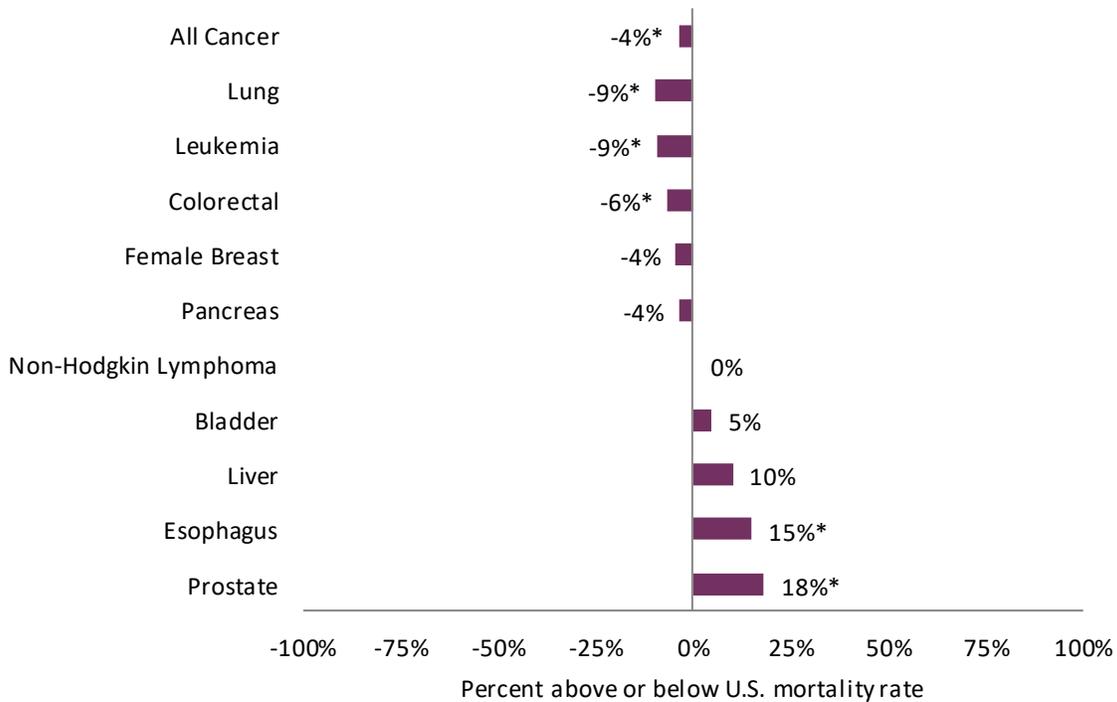
Data Source: Montana Central Tumor Registry, 2013—2017; Montana Death Records, 2013—2017

**Figure 2. Comparison of Montana and U.S. incidence rates for the select cancer sites, 2013—2017.**



All-site Cancer

**Figure 3. Comparison of Montana and U.S. mortality rates for the select cancer sites, 2013—2017.**



Figures 2 and 3 presents the Montana -U.S. Incidence Rate Ratio (IRR) and Mortality Rate Ratio (MRR). The IRR and MRR indicate which types of cancers among Montanans were above or below the U.S. age-adjusted incidence rate or mortality rate, respectively. This information is important in understanding the unique burden cancer presents to Montana.

\* Statistically significantly different

Data Source: Montana Central Tumor Registry, 2013—2017; Montana Death Records, 2013—2017; United States Cancer Statistics, 2012—2016

Cancer Mortality in Montana  
Quick Stats

**2,068**  
**CANCER DEATHS**

IN MONTANA EACH YEAR FROM 2013 TO 2017

**LUNG CANCER**  
**NUMBER ONE**

CAUSE OF CANCER DEATHS AMONG BOTH MEN AND WOMEN

**1.47%**  
**DECREASE**

IN CANCER DEATHS AMONG WOMEN EACH YEAR SINCE 2002

**1.96%**  
**DECREASE**

IN CANCER DEATHS AMONG MEN EACH YEAR SINCE 1999

## Special Feature: Cancer Mortality Trends in Montana

Cancer mortality rates have been decreasing in the United States since 1991 with an overall decrease of 27% as of 2016.<sup>1</sup> Examining cancer mortality trends in Montana can inform prevention activities. Cancer mortality rates are influenced by incidence rates, stage at diagnosis, effectiveness of treatment, and access to proper care. Decreasing modifiable risk factors like tobacco use and obesity, promoting screening for breast, cervical, colorectal, and lung cancers, and improving access to care in rural areas will ensure that cancer mortality in Montana continues to decline.

- There were a total of 10,341 cancer deaths from 2013—2017; for an average of 2,068 cancer deaths each year.
- Overall cancer mortality has decreased significantly in Montana since 1988 going from over 202 deaths per 100,000 people in 1988 to 152 in 2017 (data not shown).
- Cancer mortality trends were different among men and women in Montana (Figure 4).
- Among men the cancer mortality rate started decreasing significantly in 1998 going from 254 deaths per 100,000 men in 1998 to 177 deaths per 100,000 in 2017 (Figure 4).
- Among women the cancer mortality rate started decreasing significantly in 2001 going from 171 deaths per 100,000 women in 2001 to 132 deaths per 100,000 in 2017 (Figure 4).
- Men have higher cancer mortality rates than women but cancer mortality rates among men are also decreasing at a faster pace.
- American Indian Montanans have higher cancer mortality rates than White Montanans (Figure 5).
- Cancer mortality rates are decreasing at a faster pace among American Indians compared to Whites (Figure 5).

Figure 4. Trends in age-adjusted cancer mortality rates by Sex in Montana, 1988—2017.

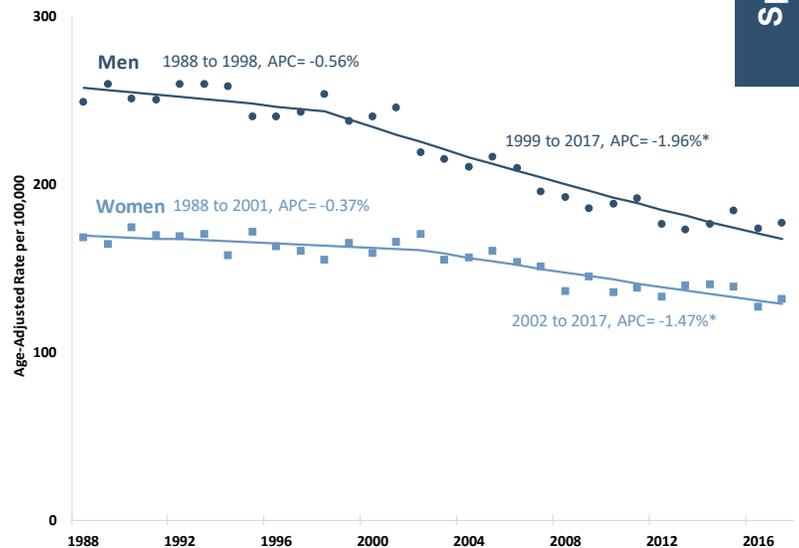
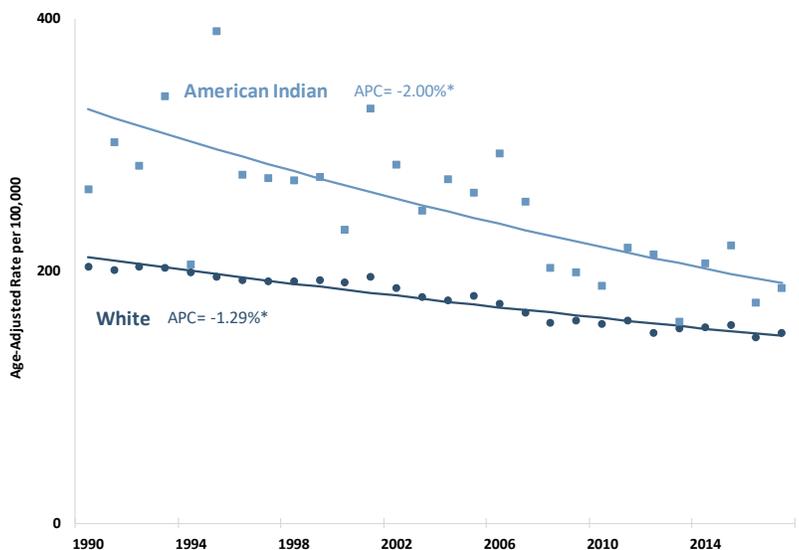


Figure 5. Trends in age-adjusted cancer mortality rates by Race in Montana, 1990—2017.



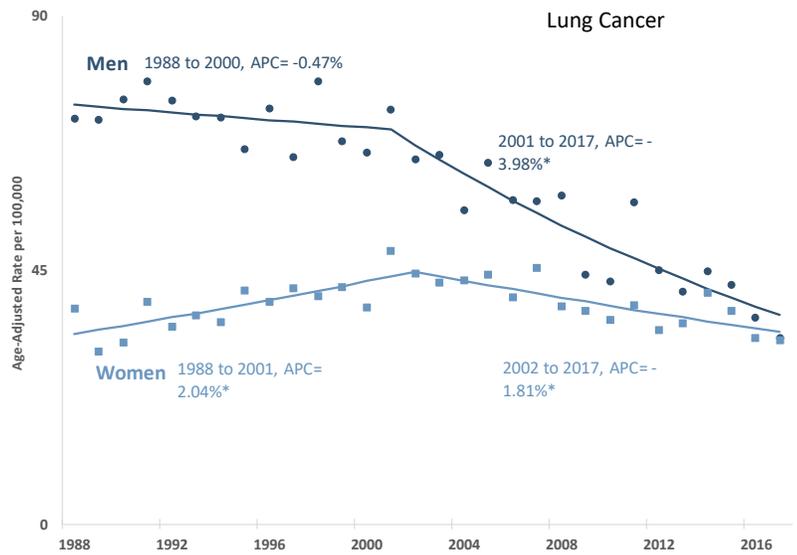
Data Source: Montana Death Records, 1988—2017

\* Statistically significantly different

Annual percent change (APC) was calculated using Joinpoint Trend Analysis Software version 4.7.0.0

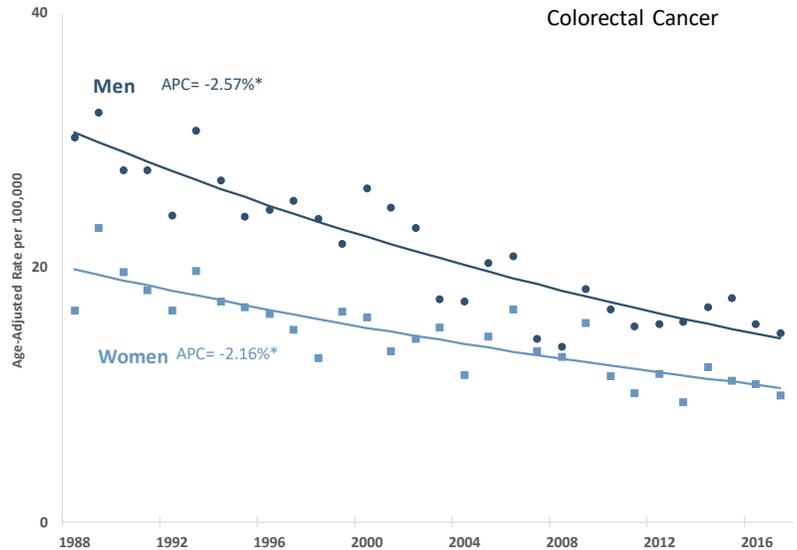
**Figure 6. Trends in age-adjusted Lung cancer mortality rates by Sex in Montana, 1988—2017.**

- Lung cancer mortality rates have been decreasing among MT men (4% each year) since 2001 and among MT women (2% each year) since 2002 (Figure 5).
- Decreases in lung cancer mortality are mostly due to lower rates of tobacco use and improvements in effectiveness of treatment.<sup>1</sup>
- Lung cancer mortality could be further decreased by increasing use of screening with low-dose computed tomography for current and former smokers aged 55 to 80.<sup>2</sup>



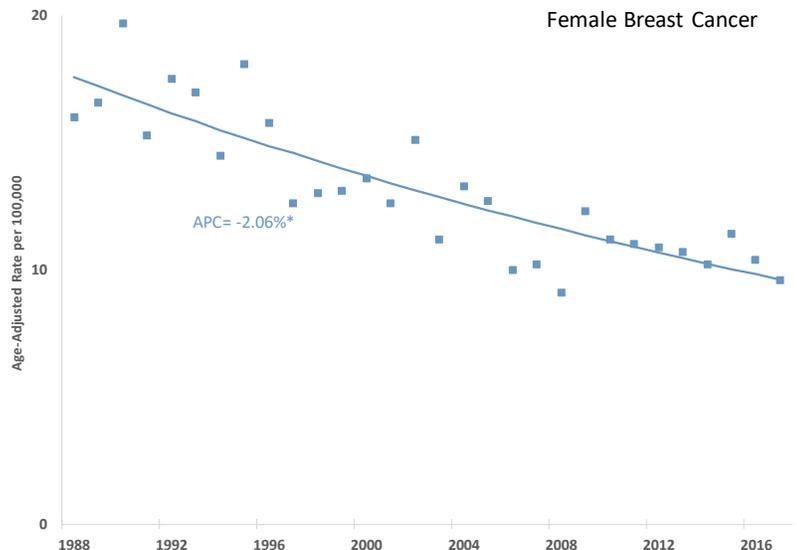
**Figure 7. Trends in age-adjusted Colorectal cancer mortality rates by Sex in Montana, 1988—2017.**

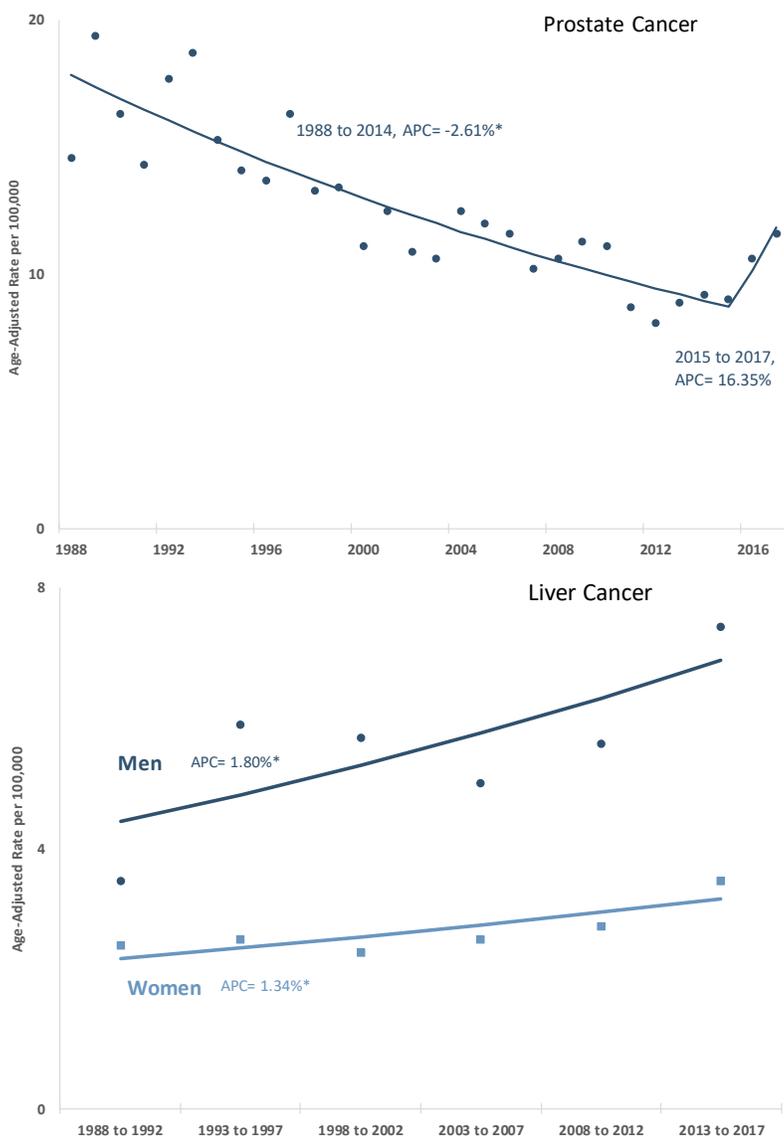
- Colorectal cancer (CRC) mortality rates have been decreasing in MT since 1988 (Figure 7).
- CRC mortality rates among men are decreasing at a faster pace (3% each year) than among women (2% each year) (Figure 7).
- Decreases in CRC mortality are largely due to increased use of recommended colorectal cancer screening tests that diagnose cancers at an earlier stage and can prevent cancer from forming.<sup>1,3</sup>
- CRC screening rates in Montana (64% of adults aged 50 to 75) are still lower than the U.S. overall (70%).<sup>4</sup>



**Figure 8. Trends in age-adjusted Female Breast cancer mortality rates in Montana, 1988—2017.**

- Female breast cancer mortality in MT has decreased by about 2% each year since 1988 (Figure 8).
- Advances in treatment as well as increases in screening with mammography have contributed to breast cancer mortality reductions.<sup>1</sup>
- 74% of MT women aged 50 to 74 are up to date with recommended breast cancer screening.<sup>4</sup>
- Women with no health insurance and women with a disability have lower breast cancer screening rates and should be targeted for intervention.<sup>4</sup>





**Figure 9. Trends in age-adjusted Prostate cancer mortality rates in Montana, 1988—2017.**

- Prostate cancer mortality rates decreased by almost 3% each year from 1988 to 2014 (Figure 9). Prostate cancer mortality rates appear to be increasing since 2014 although the trend is not statistically significant.
- Prostate cancer screening through the PSA test has contributed to the decrease in mortality rates. However, universal PSA testing has also contributed to over diagnosis. Screening recommendations changed in 2012 to advise shared decision making between patient and provider.<sup>1, 5</sup>

**Figure 10. Trends in age-adjusted Liver cancer mortality rates by Sex in Montana, 1988—2017.**

- Liver cancer is one of only a few cancer sites with increasing mortality rates. Liver cancer is increasing by about 2% every 5 years among MT men and about 1% among MT women (Figure 10).
- Since there are no effective screening tests for liver cancer, the best way to decrease mortality is to decrease modifiable risk factors.
- Metabolic disorders (including obesity, diabetes, impaired glucose tolerance, nonalcoholic fatty liver disease, and metabolic syndrome), Hepatitis C virus infection, and heavy alcohol use are the most significant risk factors for liver cancer and combined they account for 65% of liver cancer cases.<sup>6</sup>

\* Statistically significantly different . Data Source: Montana Death Records, 1988—2017

2 *Final Update Summary: Lung Cancer: Screening*. U.S. Preventive Services Task Force. July 2015. <https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/lung-cancer-screening>

3 *Final Update Summary: Colorectal Cancer: Screening*. U.S. Preventive Services Task Force. June 2016. <https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/colorectal-cancer-screening2>

4 Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. BRFSS Prevalence & Trends Data [online]. 2018. [accessed Mar 23, 2020]. URL: <https://www.cdc.gov/brfss/brfssprevalence/>.

5 *Final Update Summary: Prostate Cancer: Screening*. U.S. Preventive Services Task Force. April 2019. <https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/prostate-cancer-screening1>

6 Makarova-Rusher OV, Altekruze SF, McNeel TS, et al. Population attributable fractions of risk factors for hepatocellular carcinoma in the United States. *Cancer*. 2016;122:1757-1765.

Cancer Among Montana American Indians  
Quick Stats

**285**  
**NEW CASES**

OF CANCER DIAGNOSED EACH YEAR

CANCER INCIDENCE RATE AMONG MT AI WAS

**20 PERCENT**  
**HIGHER**

THAN AMONG MT WHITES

**87**  
**DEATHS**

DUE TO CANCER EACH YEAR AMONG MONTANA  
AMERICAN INDIANS

**28**  
**PERCENT**

OF CANCER-RELATED DEATHS WERE DUE TO LUNG CANCER

# Cancer among American Indians in Montana

## Cancer presents a significant burden to American Indians throughout Montana.

From 2013—2017, there were a total of 1,425 Montana American Indians (MT AI) diagnosed with cancer for an average of 285 new cases each year.

Lung cancer was the most commonly diagnosed cancer among MT AI followed by female breast, colorectal, and prostate cancers (Table 2). These four types of cancer accounted for 52% of all cancers diagnosed among MT AI.

MT AI men and women had about the same cancer incidence rate from 2013—2017 (561 new cases per 100,000 men and 535.3 new cases per 100,000 women). The average age at diagnosis was 62 years old among MT AI men and 60 years old among MT AI women.

From 2013—2017, cancer was the second leading cause of death with 433 cancer related deaths among MT AI. On average, there were 87 cancer deaths each year. Lung cancer accounted for 28% of cancer related deaths among MT AI (Table 2).

**Table 2. Number and percent of new cancer cases (incidence) and cancer-related deaths (mortality) among American Indians for the 10 most common cancers in Montana over the 5-year period 2013 through 2017.**

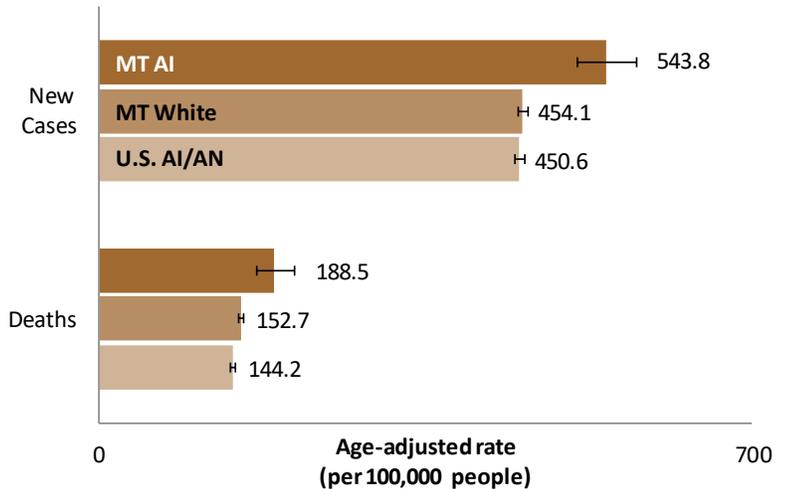
New Cancers			
Rank	Site	Avg # per year	Percent
1	Lung	45	16%
2	Female Breast	41	14%
3	Colorectal	34	12%
4	Prostate	28	10%
5	Kidney	20	7%
6	Uterus	11	4%
7	Liver	9	3%
8	Non-Hodgkin Lymphoma	8	3%
9	Thyroid	7	3%
10	Leukemia	7	2%
	All new cancers (total)	285	100%

Deaths			
Rank	Site	Avg # per year	Percent
1	Lung	23	28%
2	Colorectal	10	12%
3	Liver	5	6%
4	Female Breast	5	6%
5	Pancreas	4	4%
6	Kidney	3	4%
7	Prostate	3	4%
8	Leukemia	2	3%
9	Ovary	2	3%
10	Stomach	2	3%
	All cancer-related deaths (total)	83	100%

Data Source: Montana Central Tumor Registry, 2013—2016; Montana Death Records, 2013—2017

- Overall, new cancer cases (incidence) occurred at a significantly greater rate among MT AI (543.8 cases per 100,000 people) compared to MT Whites (454.1 cases per 100,000 people) and U.S. American Indian/Alaska Native (U.S. AI/AN) (450.6 cases per 100,000 people) (Figure 11).
- The overall cancer-related death rate (mortality) was also significantly greater among MT AI (188.5 deaths per 100,000 people) compared to MT Whites (152.7 deaths per 100,000) and U.S. AI/AN (144.2 deaths per 100,000) (Figure 11).
- There were five types of cancer which occurred at significantly greater rates among MT AI compared to MT Whites. These cancers were liver, kidney, stomach, lung, and colorectal (Figure 12).
- Bladder cancer occurred at significantly lower rates among MT AI compared to MT Whites (Figure 12).
- Cancer incidence and mortality rates among American Indian and Alaska Natives (AI/AN) varies across the United States (Figure 13).
- AI/AN in Alaska, the Northern Plains, and the Southern Plains had higher incidence and mortality rates than AI/AN in other regions and than whites (Figure 13).

**Figure 11. Age-adjusted cancer incidence and mortality rates among Montana American Indians, Montana Whites, and U.S. American Indians/Alaska Natives, 2013—2017.**



Data Source: Montana Central Tumor Registry, 2013—2017; Montana Death Records, 2013—2017; United States Cancer Statistics, AI/AN restricted to IHS Purchased/Referred Care Delivery Areas, 2012-2016; Surveillance, Epidemiology, and End Results (SEER) Program ([www.seer.cancer.gov](http://www.seer.cancer.gov)) SEER\*Stat Database: Mortality - All COD, Aggregated With County, Total U.S. (1990-2017) <Katrina/Rita Population Adjustment>, National Cancer Institute, DCCPS, Surveillance Research Program, released December 2019. Underlying mortality data provided by NCHS ([www.cdc.gov/nchs](http://www.cdc.gov/nchs)).

**Figure 12. Comparison of Montana American Indian and Montana White incidence rates for select cancer sites, 2013—2017.**

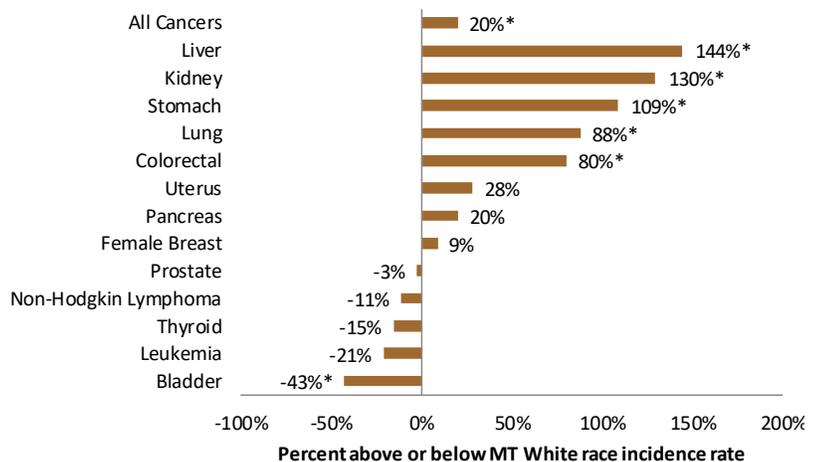
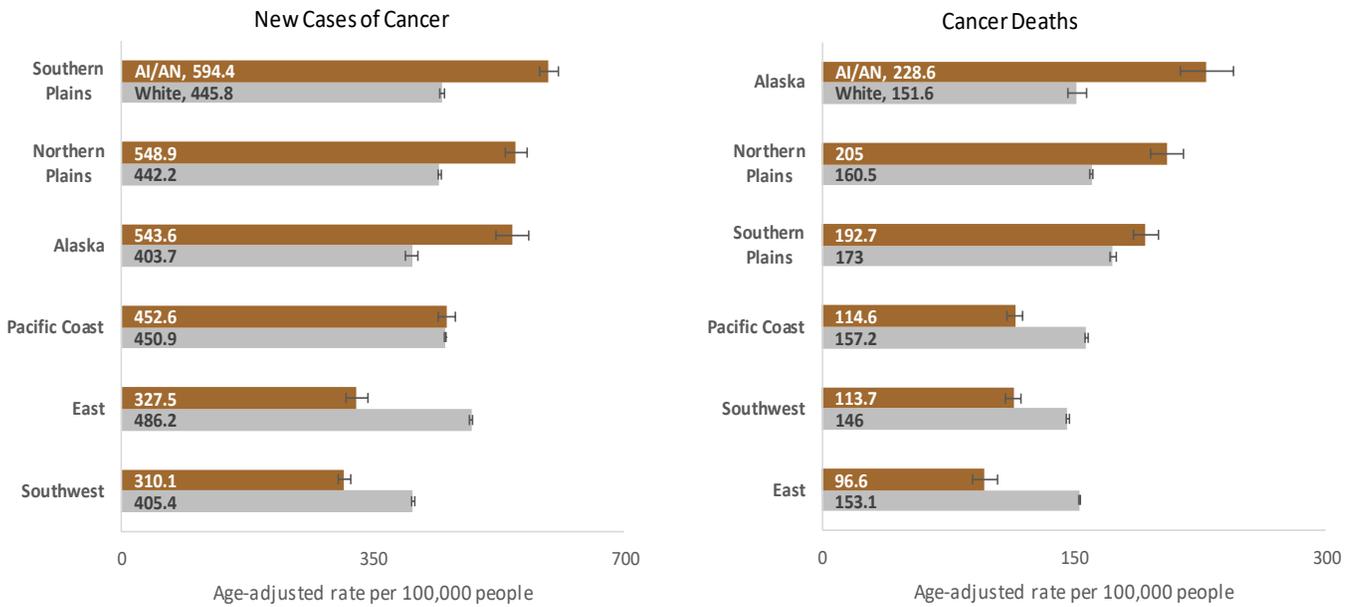


Figure 12 presents the Montana American Indian-White Incidence Rate Ratio (IRR). The IRR indicates which types of cancers among American Indians were above or below the age-adjusted incidence rate of MT White population. This information is important in understanding the unique burden cancer presents to MT AI.

\* Statistically significantly different

Data Source: Montana Central Tumor Registry, 2013—2017

**Figure 13. Age-adjusted cancer incidence and mortality rates among American Indian/Alaska Native (AI/AN) people compared to White people by IHS Region 2012–2016.**



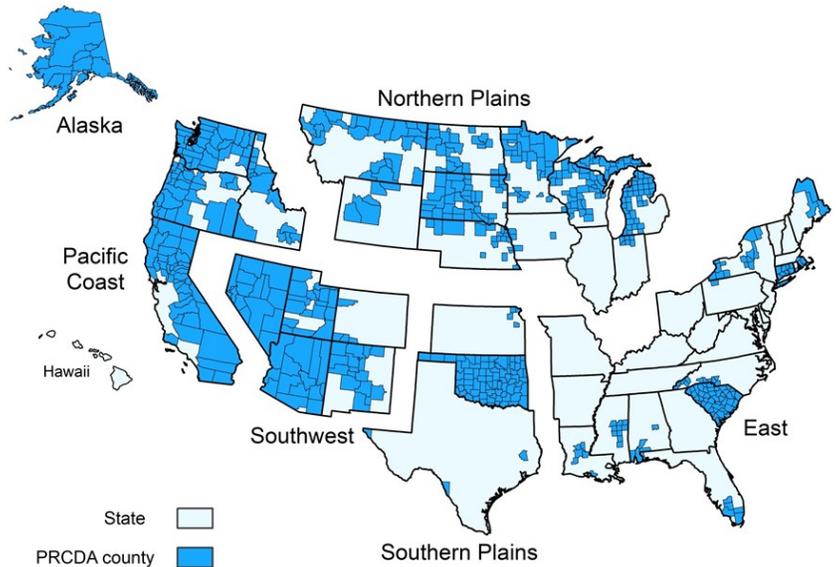
Data Source: United States Cancer Statistics, AI/AN restricted to IHS Purchased/Referred Care Delivery Areas, 2012-2016; Surveillance, Epidemiology, and End Results (SEER) Program ([www.seer.cancer.gov](http://www.seer.cancer.gov)) SEER\*Stat Database: Mortality - All COD, Aggregated With County, Total U.S. (1990-2017) <Katrina/Rita Population Adjustment>, National Cancer Institute, DCCPS, Surveillance Research Program, released December 2019. Underlying mortality data provided by NCHS ([www.cdc.gov/nchs](http://www.cdc.gov/nchs)).

- MT AI have similar cancer incidence and mortality rates as all AI in the Northern Plains region (Figure 13).

### Identifying American Indian patients in the Montana Central Tumor Registry (MCTR)

American Indians are often misclassified in health record systems. To better identify MT AI 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 AI patients in the registry. The addition of these patients greatly improves MCTR's ability to describe the cancer burden among MT AI.

### Indian Health Services (IHS) Region Map



Female Breast Cancer in Montana  
Quick Stats

**845**  
**WOMEN**

ARE DIAGNOSED WITH BREAST CANCER EACH YEAR

**NUMBER**  
**ONE**

TYPE OF CANCER DIAGNOSED AMONG WOMEN

**NUMBER**  
**TWO**

CAUSE OF CANCER DEATH AMONG WOMEN

**65**  
**PERCENT**

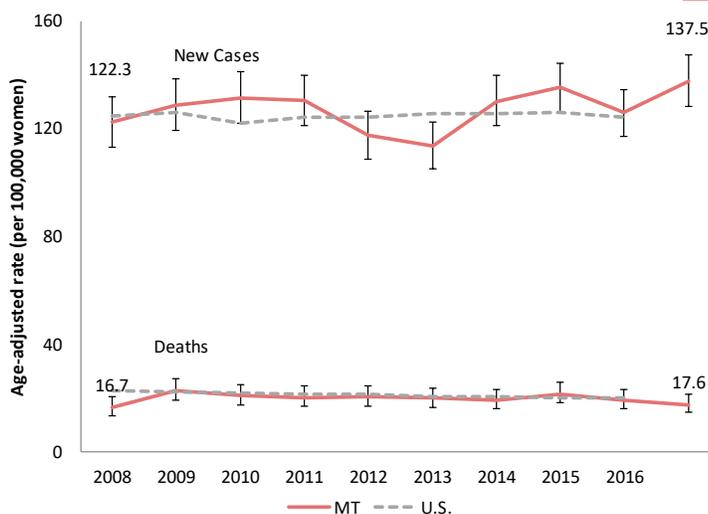
DIAGNOSED AT THE LOCAL STAGE

# Female Breast Cancer Incidence & Mortality in Montana

Breast cancer was the most common cancer diagnosed among Montana women, accounting for 29% of new cancers among Montana women.

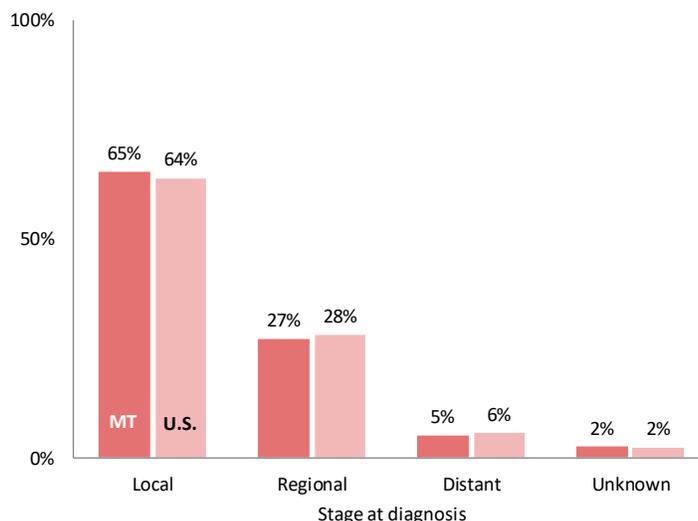
- 4,225 women in Montana were diagnosed with invasive breast cancer between 2013—2017, for an average of 845 women each year.
- 685 women died of breast cancer in Montana between 2013—2017 for an average of 137 women each year.
- In 2017, the age-adjusted incidence rate of breast cancer in Montana was 137.5 new cases per 100,000 women and the mortality rate was 17.6 deaths per 100,000 women (Figure 14).
- Over the past 10 years the incidence and mortality rates of breast cancer among Montana women were similar to U.S. women (Figure 14).
- In Montana, 65% of breast cancers were diagnosed at the local stage. Stage at diagnosis in Montana was similar to the U.S. (Figure 15).
- Women were, on average, 64 years old at the time of diagnosis (data not shown).

Figure 14. Trends in age-adjusted female breast cancer incidence and mortality rates in Montana and the U.S., 2008—2017.



Data Source: Montana Central Tumor Registry, 2008—2017; Montana Death Records, 2008—2017; United States Cancer Statistics, 2008—2016

Figure 15. Stage at diagnosis of female breast cancer in Montana and the U.S., 2013—2017.



Data Source: Montana Central Tumor Registry, 2013—2017; United States Cancer Statistics, 2012—2016

Prostate Cancer in Montana  
Quick Stats

**851**  
**NEW CASES**

OF PROSTATE CANCER WERE DIAGNOSED EACH YEAR

**NUMBER**  
**TWO**

CAUSE OF CANCER RELATED DEATH AMONG MEN

**131**  
**DEATHS**

DUE TO PROSTATE CANCER EACH YEAR

**74**  
**PERCENT**

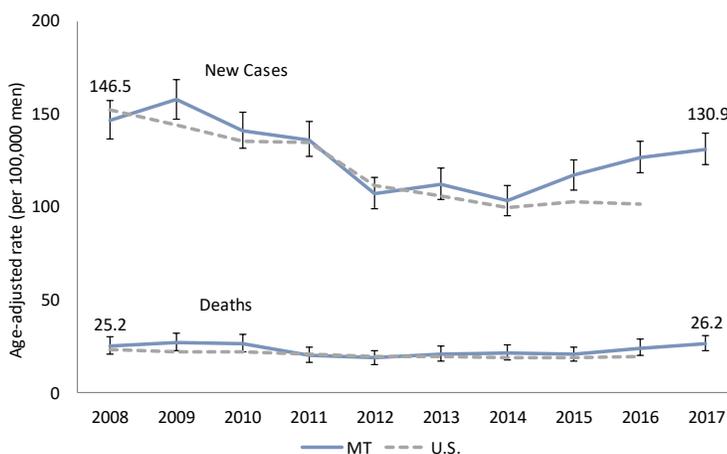
DIAGNOSED AT THE LOCAL STAGE

# Prostate Cancer Incidence & Mortality in Montana

Prostate cancer was the most common cancer diagnosed among men, accounting for 26% of new cancers among Montana men.

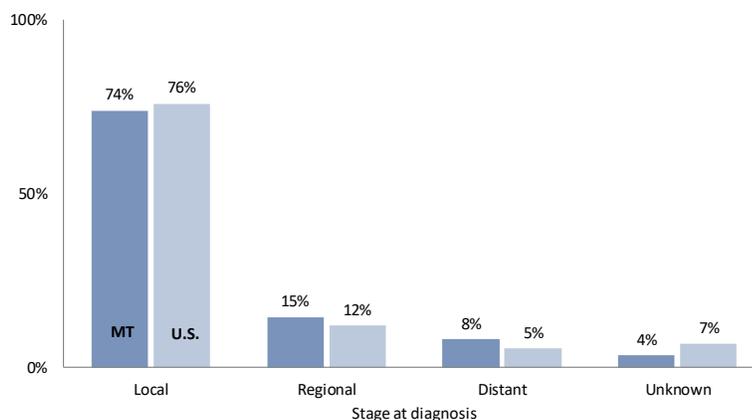
- 4,253 Montanans were diagnosed with prostate cancer between 2013—2017, for an average 851 new cases each year.
- 657 men died of prostate cancer between 2013—2017 for an average of 131 deaths each year in Montana.
- Prostate cancer was the 2nd leading cause of cancer-related deaths among Montana men from 2013—2017.
- In 2017, the age-adjusted incidence rate of prostate cancer in Montana was 130.9 new cases per 100,000 men and the mortality rate was 26.2 deaths per 100,000 men (Figure 16).
- From 2008—2014 the incidence rate of prostate cancer in Montana decreased\* significantly but incidence rates now appear to be increasing with the 2017 rate being significantly higher than the 2014 rate (Figure 16).
- The incidence rate of prostate cancer in Montana has been significantly higher than in the U.S. since 2015. However, mortality rates in Montana remain similar to prostate cancer mortality rates in the U.S. (Figure 16).
- 74% of prostate cancers were diagnosed at the local stage. Stage at diagnosis in Montana was similar to the U.S. (Figure 17).
- In Montana the average age at diagnosis was 68 years (data not shown).

Figure 16. Trends in age-adjusted prostate cancer incidence and mortality rates in Montana and the U.S., 2008—2017.



Data Source: Montana Central Tumor Registry, 2008—2017; Montana Death Records, 2008—2017; United States Cancer Statistics, 2008—2016

Figure 17. Stage at diagnosis of prostate cancer in Montana and the U.S., 2013—2017.



Data Source: Montana Central Tumor Registry, 2013—2017; United States Cancer Statistics, 2012—2016

\* At least some of the decrease in prostate cancer incidence is likely due to the changes in prostate cancer screening recommendations.

Lung Cancer in Montana  
Quick Stats

**738**  
**NEW CASES**

OF LUNG CANCER DIAGNOSED EACH YEAR

**51**  
**PERCENT**

OF LUNG CANCER CASES DIAGNOSED AT THE DISTANT STAGE

**NUMBER**  
**ONE**

CAUSE OF CANCER RELATED DEATHS

**510**  
**DEATHS**

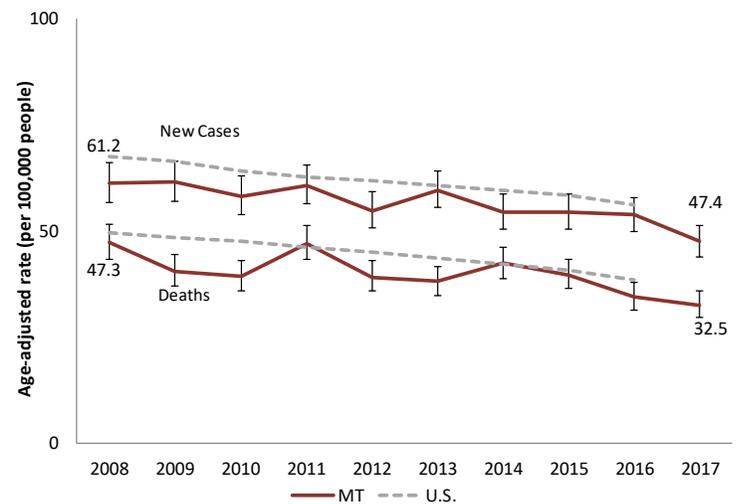
DUE TO LUNG CANCER EACH YEAR

# Lung Cancer Incidence & Mortality in Montana

Lung cancer was the 2nd most common cancer in Montana men and women accounting for about 12% of all cancer cases. It is also one of the most deadly cancers and is the leading cause of cancer-related death.

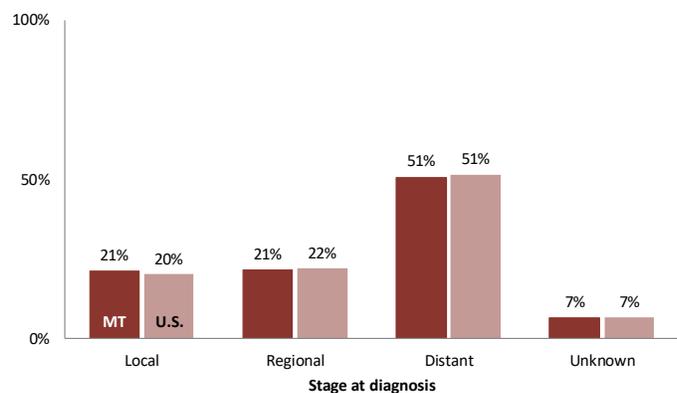
- 3,689 Montanans were diagnosed with lung cancer between 2013—2017, for an average of 738 new cases each year.
- 2,552 Montanans died of lung cancer between 2013—2017 for an average of 510 deaths each year.
- Lung cancer was the leading cause of cancer-related deaths from 2013—2017, accounting for 24% of cancer-related deaths.
- In 2017 the age-adjusted incidence rate of lung cancer in Montana was 47.4 new cases per 100,000 people and the mortality rate was 32.5 deaths per 100,000 people (Figure 18).
- Lung cancer incidence and mortality rates continue to decrease in Montana and the U.S. (Figure 18)
- In Montana, 51% of lung cancers were diagnosed at the distant stage while only 21% were diagnosed at the local stage. Stage at diagnosis in Montana was similar to the U.S. (Figure 19).
- The average age at diagnosis was 71 years for both men and women (data not shown).

Figure 18. Trends in age-adjusted lung cancer incidence and mortality rates in Montana and the U.S., 2008—2017.



Data Source: Montana Central Tumor Registry, 2008—2017; Montana Death Records, 2008—2017; United States Cancer Statistics, 2008—2016

Figure 19. Stage at diagnosis of lung cancer in Montana and the U.S., 2013—2017.



Data Source: Montana Central Tumor Registry, 2013—2017; United States Cancer Statistics, 2012—2016

Colorectal Cancer in Montana  
Quick Stats

**THIRD  
MOST COMMON**

TYPE OF CANCER DIAGNOSED AND CANCER-RELATED DEATH

**503  
NEW CASES**

OF COLORECTAL CANCER ARE DIAGNOSED EACH YEAR

**178  
DEATHS**

DUE TO COLORECTAL CANCER EACH YEAR

**36  
PERCENT**

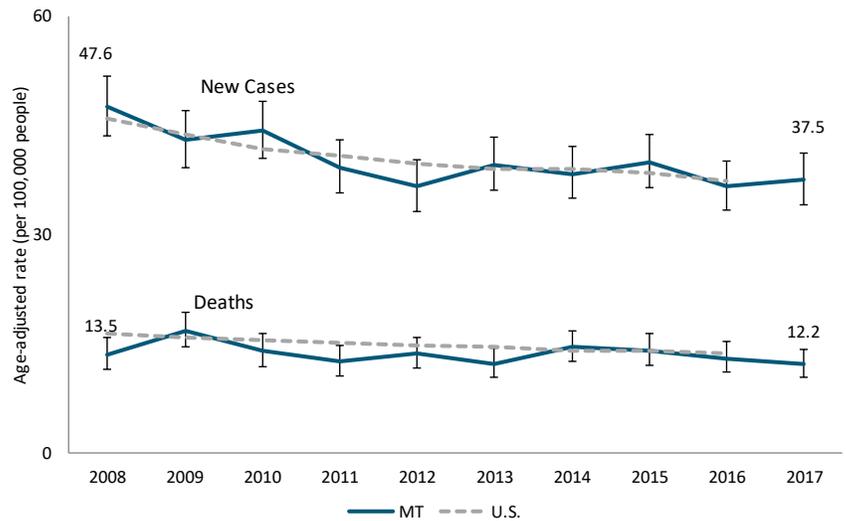
OF CASES ARE DIAGNOSED AT THE LOCAL STAGE

# Colorectal Cancer Incidence & Mortality in Montana

**Colorectal cancer (CRC) is the third most common type of cancer diagnosed and the third most common cause of cancer-related death among men and women in Montana.**

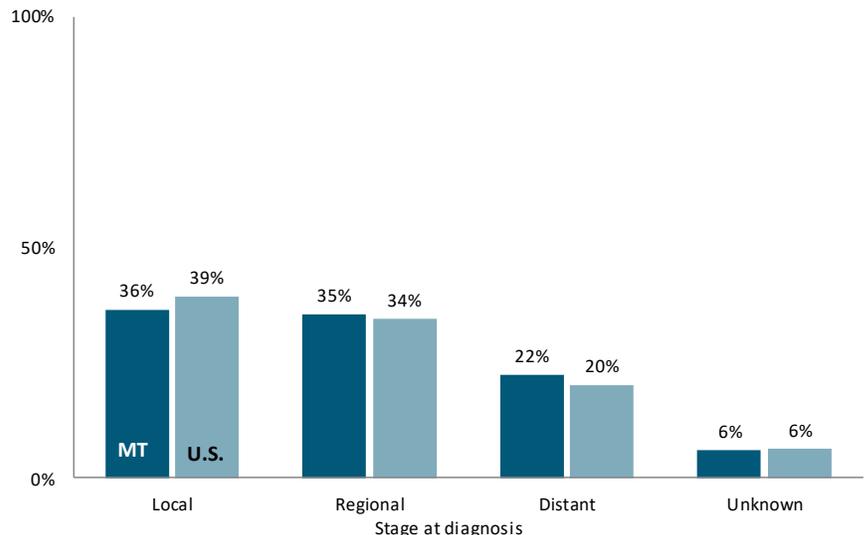
- 2,514 Montanans were diagnosed with CRC between 2013—2017 for an average of 503 cases each year.
- 888 Montanans died of CRC between 2013—2017 for an average of 178 deaths each year.
- In 2017 the age-adjusted incidence rate of colorectal cancer in Montana was 37.5 cases per 100,000 people and the mortality rate was 12.2 deaths per 100,000 people (Figure 20).
- CRC incidence in Montana has decreased significantly since 2008 (Figure 20).
- Over the past 10-years the incidence and mortality rates of colorectal cancer among Montana adults were similar to U.S. adults (Figure 20).
- 56% of CRC cases occurred among men (data not shown).
- From 2013—2017, the average age at diagnosis was 66 years among men and 68 years among women (data not shown).
- 36% of CRC cases in Montana were diagnosed at the local stage, less than in the U.S. overall (Figure 21).

**Figure 20. Trends in age-adjusted colorectal cancer incidence and mortality rates in Montana and the U.S., 2008—2017.**



Data Source: Montana Central Tumor Registry, 2008—2017; Montana Death Records, 2008—2017; United States Cancer Statistics, 2008—2016

**Figure 21. Stage at diagnosis of colorectal cancer in Montana and the U.S., 2013—2017.**



Data Source: Montana Central Tumor Registry, 2013—2017; United States Cancer Statistics, 2012—2016.

Melanoma in Montana  
Quick Stats

**345**  
**NEW CASES**

OF MELANOMA DIAGNOSED EACH YEAR

**95%**  
**OF CASES**

ARE CAUSED BY EXPOSURE TO ULTRAVIOLET (UV) LIGHT<sup>7</sup>

**SECOND**  
**MOST COMMON**

CAUSE OF CANCER AMONG TEENS AND YOUNG ADULTS (AGED 15 TO 39) IN MONTANA

**86**  
**PERCENT**

DIAGNOSED AT THE LOCAL STAGE

<sup>7</sup> Islami F, Goding Sauer A, Miller KD, et al. Proportion and number of cancer cases and deaths attributable to potentially modifiable risk factors in the United States. ICA Cancer J Clin 2018;68:31-54.

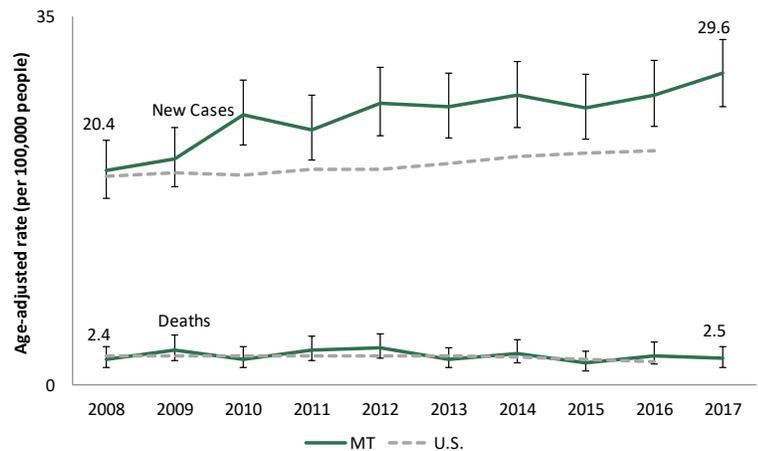
# Melanoma

## Incidence in Montana

**Melanoma is the most dangerous form of skin cancer and is the most likely to spread to other areas of the body. Melanoma is the fourth most common type of cancer in Montana.**

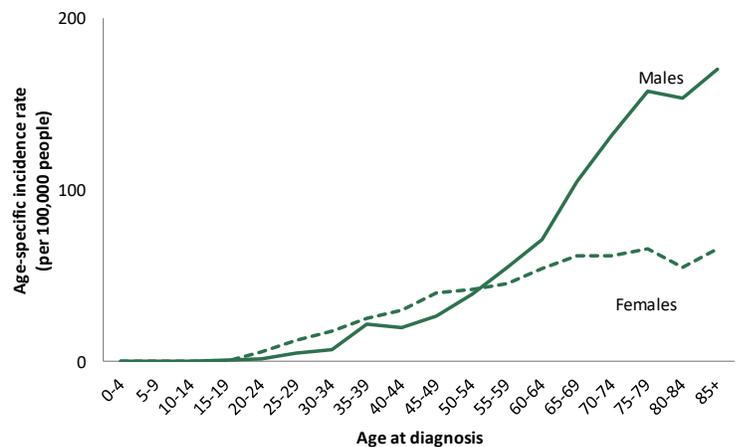
- 1,725 Montanans were diagnosed with melanoma between 2013—2017, for an average 345 new cases each year.
- 166 Montanans died of melanoma between 2013—2017 for an average of 33 deaths each year.
- Melanoma was the 2nd leading cause of cancer among teens and young adults aged 15 to 39, accounting for 12% of cases in that age group from 2013—2017 (data not shown).
- In 2017, the age-adjusted incidence rate of melanoma in Montana was 29.6 new cases per 100,000 people and the mortality rate was 2.5 deaths per 100,000 people (Figure 22).
- The melanoma incidence rate has increased significantly since 2008 (Figure 22).
- Since 2010 the melanoma incidence rate in Montana has been significantly higher than in the U.S. but mortality rates were similar in Montana and the U.S. (Figure 22).
- In Montana the average age at diagnosis was 65 years for men and 59 years for women (data not shown).
- The overall incidence rate for males and females was similar but females have higher incidence at younger ages and males have higher incidence at older ages (Figure 23).

**Figure 22. Trends in age-adjusted melanoma incidence and mortality rates in Montana and the U.S., 2008—2017.**



Data Source: Montana Central Tumor Registry, 2008—2017; Montana Death Records, 2008—2017; United States Cancer Statistics, 2008—2016

**Figure 23. Melanoma incidence rates by age group among males and females in Montana, 2013—2017.**



Data Source: Montana Central Tumor Registry, 2013—2017;



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