

# Online Report to the Minnesota Legislature on Cancer in Minnesota

Fiscal Year 2023

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## Cancer

Different cancers have different causes, treatments, and long- and short-term outcomes, but all cancers start with the uncontrolled growth of cells at a specific location or site within the body. The site where the cancer first started usually identifies the cancer type. For example, abnormal cells that started growing in the breast are called breast cancers. Unfortunately, cancer cells are able to spread to distant sites, away from where the cancer first started and this can have serious impacts on a person's health, and their family and community.

## Burden of cancer incidence and mortality in Minnesota

Cancers are much more common than most people realize, especially when considered in terms of lifetimes rather than as a yearly rate. Using current Minnesota cancer rates and average life expectancies, we estimate that about four people out of ten will be diagnosed with some type of cancer at some point in their lifetimes. Most of this "lifetime" risk of cancer occurs as we get older because cancer rates rise sharply with age. As we and our families, friends, and neighbors advance into middle age and beyond, we will begin to witness an increasing number of family members, other relatives, neighbors, and friends develop and, unfortunately, die from some type of cancer.

Examining the incidence (new cancers) and mortality (deaths) of all cancer sites combined is useful in describing the overall cancer burden in a population. This will give us a partial answer to the question, "How large of a public health problem is cancer in Minnesota?" Because different cancers have different causes, in looking at the trends for cancers combined we will not be able to gain an understanding of the factors that are linked to an increase or decrease in the chance of developing any individual cancer.

Examining the patterns of all cancers by population demographics (for example, age, sex, race and ethnicity) broadens our understanding of cancer as a public health problem. The number and rates of different cancers are different in males and females. Differences in the number of cancers and rates also exist by racial and ethnic groups, as well as by age groups. Understanding these differences can help inform effective and culturally appropriate cancer prevention and control programs.

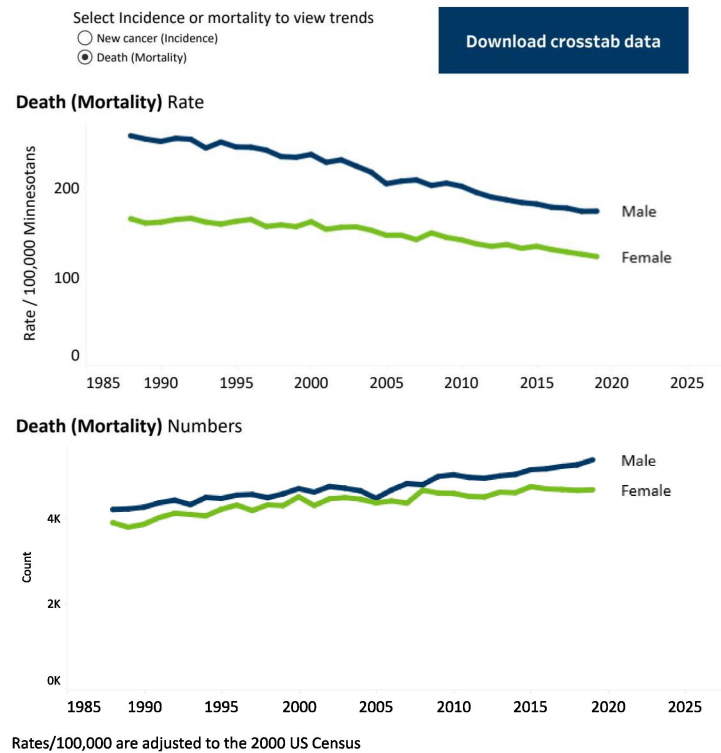
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# Long-term trends in all cancers combined | Minnesota 1988-2019

The graph below shows how cancer rates have varied since 1988. Long term (32-year) trends in cancer incidence and mortality for all cancers are slightly different for males and females in Minnesota.

- Incidence: For males, the rate of new cancers has fluctuated up and down since 1988. Between 1988 and 2016, incidence increased slightly by 0.2% per year. From 2016-2019 incidence rates decreased 0.75% per year. By contrast, for females the rate of new cancers appears to gradually increase. Since 1988, the rate for females increased 0.6% per year.
- Mortality: The rate of cancer deaths has decreased for both males and females. The declines over the 32-year period appear greater for males than females. More recently, for males, the rate of cancer deaths has decreased 1.6% per year since 1997. The rate of cancer deaths for females has decreased 1.3% per year since 2000.

## Rates for all cancers combined | Minnesota | 1988-2019



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## Top 10 cancers for males and females | Minnesota | 2019

In 2021, five cancer sites were the most common new cancers diagnosed in Minnesota: prostate (males), breast (females), lung and bronchus, colorectal, and melanomas of the skin. Additionally, lung and bronchus, prostate and breast cancers were the two leading causes of cancer death among Minnesota males and females in 2021. These cancers are strongly linked to modifiable lifestyle risk factors (e.g., smoking, diet, physical activity).

## Top cancers | 2019 | Minnesota

Select Incidence or mortality to view tables

- New Cancer (Incidence)  
 Death (Mortality)

[Download crosstab data](#)

### Males | New Cancer (Incidence)

Site	Number	Rate	% of Total
Prostate	4,590	121.9	25.9%
Lung and Bronchus	1,932	56.1	10.9%
Melanoma of the Skin	1,435	43.2	8.1%
Colon and Rectum	1,305	40.4	7.4%
Urinary Bladder	1,155	35.1	6.5%
Non-Hodgkin Lymphoma	879	26.9	5.0%
Kidney and Renal Pelvis	873	25.4	4.9%
Leukemia	697	21.4	3.9%
Oral Cavity and Pharynx	679	19.5	3.8%
Pancreas	564	16.3	3.2%

### Females | New Cancer (Incidence)

Site	Number	Rate	% of Total
Breast	5,129	146.6	30.5%
Lung and Bronchus	1,921	48.4	11.4%
Colon and Rectum	1,221	34.1	7.3%
Melanoma of the Skin	1,174	35.8	7.0%
Uterus	1,132	30.2	6.7%
Non-Hodgkin Lymphoma	673	18.1	4.0%
Thyroid	567	19.2	3.4%
Pancreas	463	12.1	2.8%
Leukemia	460	12.7	2.7%
Kidney and Renal Pelvis	445	12.3	2.6%

Rates/100,000 are adjusted to the 2000 US Census

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## Short-term trends for leading cancer sites | Minnesota 2017-2019

The short-term trends in the incidence and mortality rates for individual cancer sites show wide variation, with some rates increasing, some decreasing, and others remaining stable. The charts below show short-term trends in the 10 most common new cancers and 10 most common cancer death for males and females.

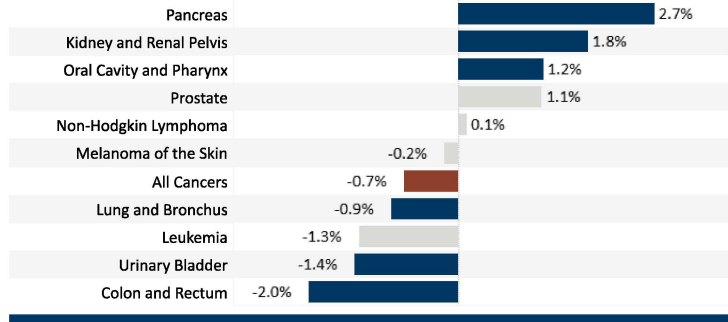
Average Annual Percent Change | 2015-2019

Select Incidence or mortality  
 New Cancer (Incidence)  
 Death (Mortality)

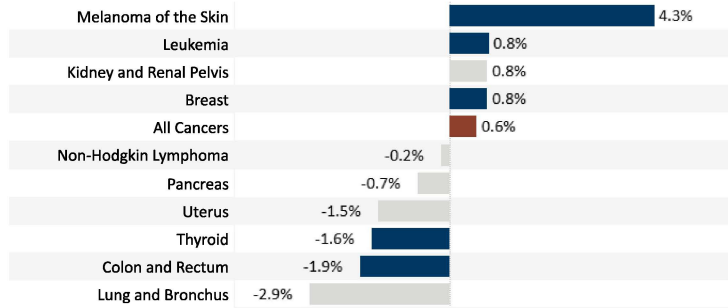
Not significant  
 Significant  
 All cancers

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**Males | New Cancer (Incidence)**



**Females | New Cancer (Incidence)**



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## Overall cancer rates by race/ethnicity | Minnesota 2017-2019

American Indian males and females had both the highest incidence and mortality rates for all cancers combined between 2017 and 2019. These results suggest the need for continued focused, appropriate cancer prevention and control efforts.

## Rates by Race and Ethnicity | 2015 to 2019 | Minnesota

Gray bars are 95% confidence intervals (CI)

Select Incidence or mortality to view charts

- New cancer (Incidence)  
 Death (Mortality)

[Download crosstab data](#)

### New cancer (Incidence) rate



Sex	Race / Ethnicity	Rate/100,000	Lower CI	Upper CI	Count
Male	AIAN, Non-Hispanic	661.1	612.1	712.8	816
	API, Non-Hispanic	330.9	312.0	350.5	1,396
	Black, Non-Hispanic	525.3	503.8	547.3	3,098
	Hispanic - All Races	385.4	361.6	410.2	1,423
	White, Non-Hispanic	520.4	516.6	524.2	77,711
Female	AIAN, Non-Hispanic	618.8	577.8	661.8	928
	API, Non-Hispanic	301.9	287.0	317.4	1,717
	Black, Non-Hispanic	404.1	387.6	420.9	2,606
	Hispanic - All Races	418.0	396.1	440.8	1,743
	White, Non-Hispanic	464.9	461.3	468.5	72,604

Rates/100,000 are adjusted to the 2000 US Census

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## Top 5 cancers by race/ethnicity | Minnesota 2017-2019

The most frequently diagnosed cancers and cancer cause of death are not the same across Minnesota's racial and ethnic populations.

## Top 5 cancers by Race/Ethnicity | 2015-2019

Ranked 1 (highest) to 5 (lowest)

Select Incidence or mortality

- New cancers (Incidence)  
 Death (Mortality)

Select Race(s) to filter tables

(All)

Download crosstab data

### Male | New cancers (Incidence)

Count (%)

	1	2	3	4	5
White, Non-Hispanic	Prostate 19,235 (25%)	Lung and Bronchus 8,904 (11%)	Melanoma 6,576 (8%)	Colon and Rectum 5,681 (7%)	Urinary Bladder 5,416 (7%)
Hispanic - All Races	Prostate 271 (19%)	Colon and Rectum 131 (9%)	Kidney 102 (7%)	Non-Hod Lymphoma 99 (7%)	Lung and Bronchus 96 (7%)
AIAN, Non-Hispanic	Prostate 134 (16%)	Lung and Bronchus 133 (16%)	Colon and Rectum 91 (11%)	Kidney 70 (9%)	Liver and Bile Duct 55 (7%)
API, Non-Hispanic	Prostate 206 (15%)	Colon and Rectum 182 (13%)	Lung and Bronchus 174 (12%)	Liver and Bile Duct 145 (10%)	Non-Hod Lymphoma 82 (6%)
Black, Non-Hispanic	Prostate 1,034 (33%)	Lung and Bronchus 364 (12%)	Colon and Rectum 280 (9%)	Kidney 179 (6%)	Liver and Bile Duct 161 (5%)

### Female | New cancers (Incidence)

Count (%)

	1	2	3	4	5
White, Non-Hispanic	Breast 21,873 (30%)	Lung and Bronchus 8,909 (12%)	Melanoma 5,258 (7%)	Colon and Rectum 5,138 (7%)	Uterus 4,999 (7%)
Hispanic - All Races	Breast 524 (30%)	Uterus 134 (8%)	Colon and Rectum 130 (7%)	Lung and Bronchus 123 (7%)	Thyroid 112 (6%)
AIAN, Non-Hispanic	Lung and Bronchus 221 (24%)	Breast 187 (20%)	Colon and Rectum 73 (8%)	Kidney 46 (5%)	Pancreas 36 (4%)
API, Non-Hispanic	Breast 531 (31%)	Lung and Bronchus 152 (9%)	Colon and Rectum 137 (8%)	Uterus 125 (7%)	Thyroid 111 (6%)
Black, Non-Hispanic	Breast 761 (29%)	Lung and Bronchus 301 (12%)	Uterus 197 (8%)	Colon and Rectum 195 (7%)	Thyroid 105 (4%)

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## Living with cancer

There were an estimated 282,000 Minnesotans diagnosed with cancer in the last 25 years who were alive as of January 1, 2019. This includes people with a new (or incident cancer) and those who survived a cancer diagnosed during the past 25 years.

Survivors of prostate and breast cancers represent 41% of these Minnesotans. By contrast, individuals who survived pancreas cancer represent only 0.6% of Minnesotans who were diagnosed with and survived their cancer between 1993 and 2018.

## Minnesotans living with cancer as of Jan 1, 2019

Diagnosed in the last 25 years

All sites combined and top 10 cancers

Sex	Cancer site	Count
Male	All Cancers	147,530
	Prostate	55,600
	Melanoma	15,860
	Colon and Rectum	12,580
	Urinary Bladder	10,520
	Non-Hodgkin Lymphoma	8,730
	Kidney and Renal Pelvis	7,680
	Leukemia	5,910
	Lung and Bronchus	5,480
	Oral Cavity and Pharynx	5,420
	Pancreas	950
Female	All Cancers	168,580
	Breast	68,510
	Melanoma	16,900
	Uterus	15,220
	Colon and Rectum	12,120
	Thyroid	10,510
	Lung and Bronchus	7,330
	Non-Hodgkin Lymphoma	7,000
	Kidney and Renal Pelvis	4,230
	Leukemia	4,170
	Pancreas	900

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## County Rates

Incidence and mortality rates vary across counties in Minnesota for 2017-2019

### County Rates in Minnesota | 2015-2019

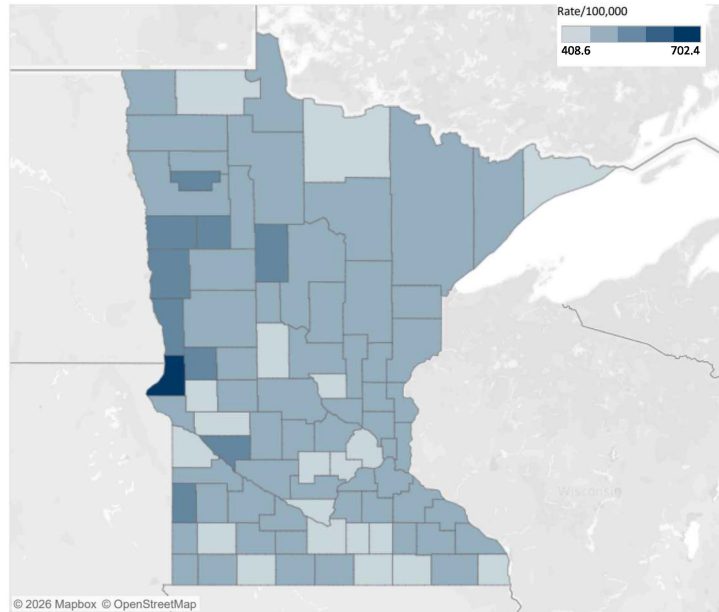
Select Incidence or mortality

- New cancer (Incidence)  
 Death (Mortality)

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New cancer (Incidence)

Hover or click for more information



Rates/100,000 are adjusted to the 2000 US Census

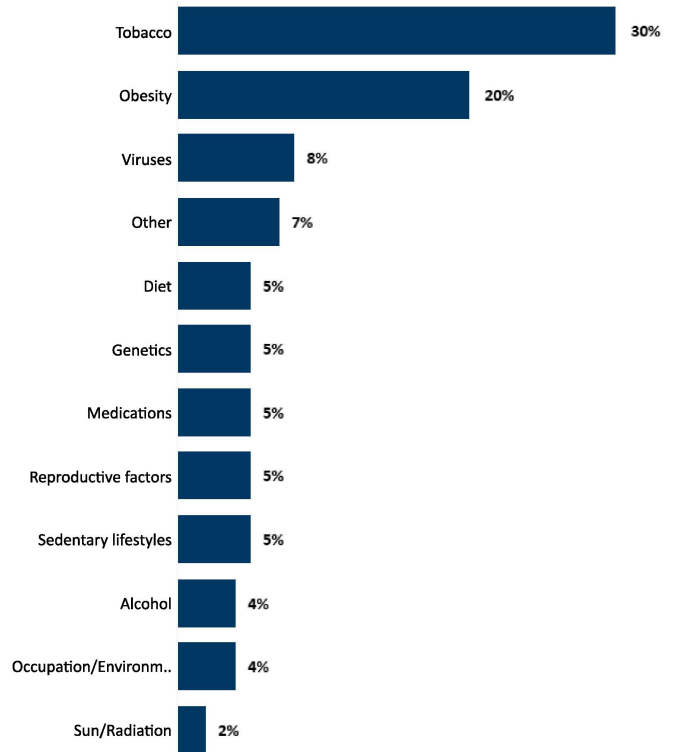
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# Risk factors for cancer

Research has shown that age, genetics, obesity, certain exposures, and behaviors increase or decrease the chances of developing cancer.

- We have no control over some factors that affect cancer (age, genetics, family history, race). The National Cancer Institute's interactive online tool [Know Your Chances](https://knowyourchances.cancer.gov/) shows how these non-modifiable factors might affect the risk of cancer and other chronic diseases
- Researchers have shown that cancer risk is strongly influenced by lifestyle factors that we can control (1, 2, 3, 4). Such modifiable lifestyle risk account about 60% of cancer deaths in the U.S. Of note, half of cancer deaths have been attributed to just two risk factors - tobacco use (30%) and obesity (20%).

Estimate of U.S. cancer mortality attributable to various known risk factors



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## Early detection of cancer

Screening for certain cancers in people who do not already show signs or symptoms of cancer can reduce the risk of dying from those cancers. The goal of screening is to identify and treat specific cancers early in the course of disease when treatment is usually more effective compared to when they have spread to distant sites in the body. If the screening procedure removes an *in situ* cancer or pre-cancerous tissue from the cervix, breast, colon, or rectum, the procedure can prevent the cancer from occurring altogether.

For other MDH cancer resources visit [MDH: Cancer](https://www.health.state.mn.us/diseases/cancer/index.html)

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## Other sources of cancer statistics

For MCRS cancer reports go to [MCRS Cancer Statistics and Reports](https://www.health.state.mn.us/data/mcrs/data/index.html).

For MCRS data and queries to [Minnesota Public Health Data Access portal](https://data.web.health.state.mn.us/web/mndata/).

For cancer statistics in the US, including Minnesota go to:

- [National Cancer Institute-Cancer Statistics](https://seer.cancer.gov/statistics)

- [National Cancer Institute-State Cancer Profiles](https://statecancerprofiles.cancer.gov/index.html) [LINK <https://statecancerprofiles.cancer.gov/index.html>]
- [National Program of Cancer Registries](https://www.cdc.gov/cancer/npcr/index.htm) [LINK <https://www.cdc.gov/cancer/npcr/index.htm>]
- [Centers for Disease and Prevention online database-CDC WONDER](https://wonder.cdc.gov/) [LINK <https://wonder.cdc.gov/>]
- [United States Cancer Statistics: Data Visualizations](https://gis.cdc.gov/cancer/uscs/dataviz.html) [LINK <https://gis.cdc.gov/cancer/uscs/dataviz.html>]

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6. Centers for Disease Control (CDC). May 19, 2022. Retrieved January 10, 2023 from [Centers for Disease Control - Screening Tests](https://www.cdc.gov/cancer/prevention/screening.html). [LINK <https://www.cdc.gov/cancer/prevention/screening.html>]

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