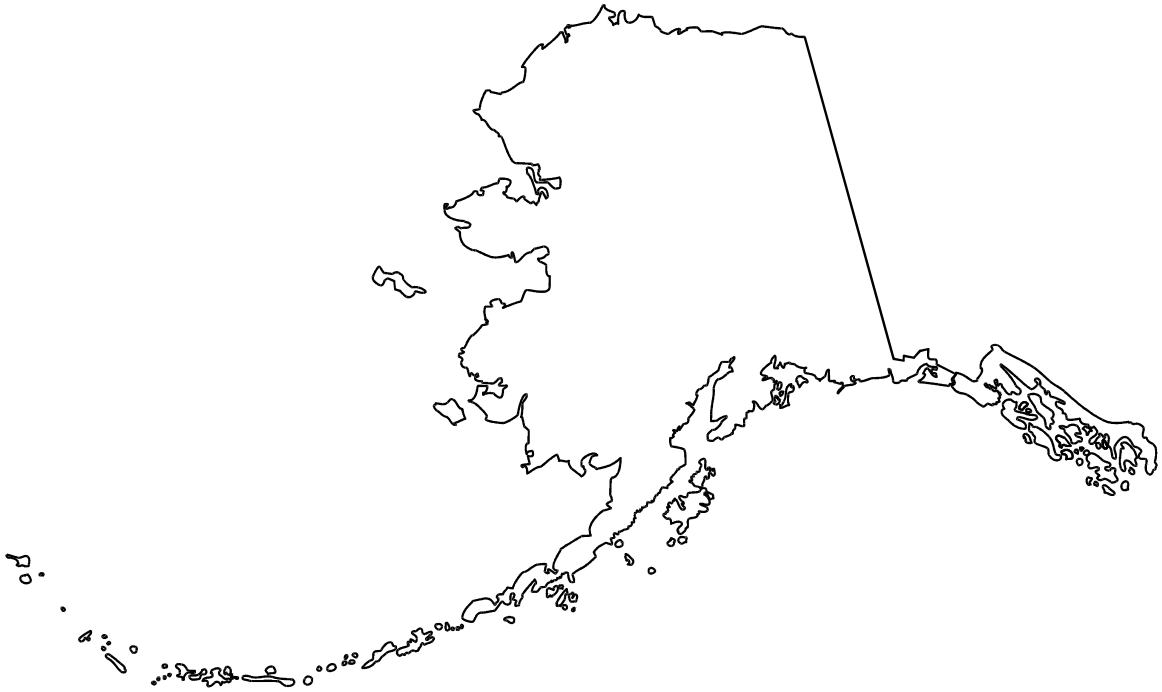
Cancer in Alaska – 2019



Alaska Cancer Registry
Health Analytics and Vital Records Section
Alaska Department of Health

June 2024

Cancer in Alaska – 2019

June 2023

A Publication of the

Alaska Cancer Registry

State of Alaska
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Department of Health
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Executive Summary

This report summarizes the most recently available information about cancer incidence rates in Alaska. Many partners in Alaska are working to reduce cancer risk, find cancers earlier, improve

treatment, increase the number of people who survive cancer and improve the quality of life for cancer survivors. Information included in this report about the burden of cancer overall and specific cancers serves as a valuable resource for the planning and evaluation of these efforts.

Data are from the Alaska Cancer Registry (ACR), a population-based cancer surveillance system that is funded by the Centers for Disease Control and Prevention. ACR collects data on all newly diagnosed cases of cancer for the State of Alaska. ACR collects a wide variety of information to determine cancer incidence, mortality, treatment, and survival. The data are used to:

- Determine the incidence of cancer in Alaska with respect to geographic and demographic characteristics
- Monitor trends over time
- Monitor early detection, evaluate the effectiveness of cancer control programs and identify areas in need of public health interventions
- Determine how Alaska compares with the rest of the U.S.
- Serve as a resource for health planners, medical professionals, researchers and others concerned about cancer

In 2019, ACR data showed:

- There were 3,190 new malignant cases of cancer diagnosed and 1,034 cancer deaths in Alaska.
- Breast cancer was the most common cancer diagnosis among women (505 cases) and prostate cancer was the most commonly diagnosed cancer among men (409 cases).
- Among both men and women, lung and bronchus cancer was the second most common cancer diagnosed (396 cases), and colorectal cancer was the third most common (278 cases).
- Overall cancer incidence has decreased in Alaska by an average of 1.4% per year between 2001 and 2019. Cancer incidence rates have also declined in the United States overall, but the 2019 Alaska overall cancer incidence rate (422.4 per 100,000) is lower than the United States rate (438.2 per 100,000).
- Significant declines in cancer incidence have occurred between 1996 and 2019 in Alaska for female breast, bladder, cervical, colorectal, esophageal, leukemia, lung and bronchus, non-Hodgkin lymphoma, ovarian, prostate, and stomach cancers.
- The incidence rates for kidney, liver, melanoma of the skin and uterine cancer incidence have increased in Alaska during the same time period (1996-2019).

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Introduction

Cancer in Alaska is the annual cancer report that summarizes the most recently available information about cancer incidence rates among Alaskan residents. This report can be used by the Alaska Cancer Partnership stakeholders – clinical and public health professionals as well as other health advocacy partners and the public – to support continued planning and evaluation of cancer prevention and control efforts.

What is cancer?

Cancer is a group of diseases, all of which involve uncontrolled growth and spread of abnormal cells.[1] There are over 100 different types of cancer.

The human body is made up of billions of cells. Normally, body cells grow, divide, and die in an orderly fashion. Cancer cells, however, continue to grow and divide and can spread to other parts of the body. These cells accumulate and form tumors (lumps) that compress, invade, and destroy normal tissue. If cells break away from such a tumor, they can travel through the bloodstream or the lymph system to other areas of the body. There, they may settle and form "colony" tumors. In their new location, the cancer cells continue growing. The spread of a tumor to a new site is called metastasis. Not all tumors are cancerous. Benign tumors do not metastasize and, with very rare exceptions, are not life-threatening.

When cancer spreads, it is still named after the body part where it started. For example, if prostate cancer spreads to the bones, it is still prostate cancer, and if breast cancer spreads to the lungs it is still called breast cancer. However, it is possible for a person to develop multiple unrelated types of cancer in different parts of the body over their lifetime.

Cancer is also classified by its appearance under a microscope, known as "histology". Different types of cancer vary in their rates of growth, patterns of spread, and responses to different types of treatment. That's why people with cancer need treatment that is aimed at their specific form of the disease.

Most cancer falls into five major histology groups. Within each group there are subtypes.

- **Carcinoma** is a cancer that develops from cells that cover the surface of the body (skin), glands (breast, prostate), and internal organs (lung, stomach, and intestines). Eighty to nighty percent of all cancers fall into this category.
- **Sarcoma** is a cancer that occurs in connective tissues such as bones, tendons, cartilage, fat, and muscle.

[1] For more discussion, see American Cancer Society, 2019. *After Diagnosis: A Guide for Patients and Families.* Available at: https://www.cancer.org/treatment/understanding-your-diagnosis.html (last accessed 1/30/2023)

- **Leukemia** is a cancer that develops from cells in bone marrow that make blood, and circulates through other tissues. Leukemia does not usually form a tumor.
- **Lymphoma** is a cancer that develops from cells in the immune system. Hodgkin lymphoma and non-Hodgkin lymphoma are in this group.
- **Myeloma** is a cancer that develops in the plasma cells of bone marrow.

Who is at risk for cancer?
Everyone. In the United States, an estimated 40 out of 100 men and 39 out of 100 women will develop cancer during their lifetimes.[2] Today, millions of people are living with cancer or have been cured of the disease. The sooner a cancer is found, and the sooner treatment begins, the better the person's chances are of a cure.

Although there are certain specific childhood cancers that have an expected early age peak and then are rarely seen in the rest of the population, the occurrence of cancer generally increases with age; most cancers occur among middle-aged or older adults. The term "lifetime risk" is the probability that an individual, over the course of a lifetime, will develop cancer or die from it. The American Cancer Society (ACS) has published lifetime risks of developing specific cancers by age and gender,[3] estimating:

- One in 8 men will develop prostate cancer
- One in 8 women will develop breast cancer
- One in 16 men and one in 17 women will develop lung or bronchus cancer
- One in 24 men and one in 25 women will develop colorectal cancer

What causes cancer?
An estimated 70% or more of the most common types of cancers are due to behavioral, occupational, and environmental factors.[4] These cover external factors that affect us, and include tobacco, diet, exercise, viruses, radiation, chemicals in the workplace, and not just what is thought of as the environmental pollution of air, water, and food. Research indicates that genes play a role, but the currently known genetic "markers" alone account for only a small proportion of cancers.

Tobacco use, alcohol consumption, unhealthy diet, physical inactivity, and air pollution are risk factors for cancer. Some chronic infections are risk factors for cancer, including Helicobacter pylori, human papillomavirus (HPV), hepatitis B virus, hepatitis C virus, and Epstein-Barr virus.

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[2] American Cancer Society (ACS), 2022. *Cancer Facts and Figures 2022*. Available at http://www.cancer.org/research/cancerfactsstatistics/index (last accessed 12/08/22).
[3] Ibid., page 14.
[4] Wu S., Powers S., Zhu W., and Hannun YA, 2016. Substantial contribution to extrinsic risk factors to cancer development. *Nature*, Jan 7; 529(7584): 43-47.

Around one-third of deaths from cancer are due to tobacco use, high body mass index, alcohol consumption, low fruit and vegetable intake, and lack of physical activity.[5]

Between 30 and 50% of cancers can currently be prevented by avoiding risk factors and implementing existing evidence-based prevention strategies. The cancer burden can also be reduced through early detection of cancer and appropriate treatment and care of patients who develop cancer. Early diagnosis and screening are the two components of early detection. Screening is not possible for all cancer types, but is particularly effective for colorectal and cervical cancers and can assist in early detection and reducing mortality for cancers of the breast, colon, rectum, cervix, lung and prostate. Many cancers have a high chance of cure if diagnosed early and treated appropriately. Cancer mortality is reduced when cases are detected and treated early.[5]

Resources

Information about specific cancer prevention, detection, and control programs within the Alaska Department of Health (DOH) can be found at the following websites:

Alaska Cancer Registry
https://health.alaska.gov/dph/VitalStats/Pages/cancer/registry.aspx

Alaska Comprehensive Cancer Control Program
https://health.alaska.gov/dph/Chronic/Pages/Cancer/default.aspx

Alaska Cancer Partnership
https://health.alaska.gov/dph/Chronic/Pages/Cancer/partnership/default.aspx

Alaska Breast and Cervical Screening Assistance Program
https://health.alaska.gov/dph/wcfh/Pages/AKB+C/default.aspx

[5] World Health Organization. Cancer Fact Sheet. Revised February 2022. Available at: https://www.who.int/en/news-room/fact-sheets/detail/cancer (last accessed 12/08/22)

Data Sources

Alaska Cancer Registry
Most data in this report are from the Alaska Cancer Registry (ACR), a population-based cancer surveillance system that is funded by the Centers for Disease Control and Prevention (CDC), National Program of Cancer Registries. ACR is housed within the Alaska Department of Health (DOH), Division of Public Health (DPH).

ACR collects data on all newly diagnosed cases of cancer for the State of Alaska, including a wide variety of information to determine cancer incidence, mortality, and survival.

The data are used to:

- Determine the incidence of cancer in Alaska with respect to geographic and demographic characteristics
- Monitor trends over time, looking for unusual patterns
- Monitor early detection, evaluate the effectiveness of cancer control programs and identify areas in need of public health interventions
- Determine how Alaska compares with the rest of the U.S.
- Serve as a resource for health planners, medical professionals, researchers and others concerned about cancer

Regulations and confidentiality
ACR was established in October 1994 through funding from the U.S. Centers for Disease Control and Prevention (CDC), National Program of Cancer Registries (NPCR), to establish and implement a statewide cancer registry. On January 19, 1996, the Alaska Administrative Code (7 AAC 27.011) established cancer reporting requirements for Alaska healthcare providers. ACR has operated under several statutes and regulations required for compliance with state law and federal quality control guidelines since that time. The regulations require all hospitals, health care facilities and health care practitioners screening, diagnosing or providing treatment for cancer patients diagnosed on or after January 1, 1996, to report information on newly diagnosed cancer cases to the Alaska Division of Public Health. ACR uses quality control methods to assure that cases are not duplicated in the cancer database. ACR has interstate agreements with most other state health departments to ensure that information about Alaska residents diagnosed or treated in other states are shared with ACR.

Alaska law demands strict confidentiality and the protection of the identity of both cancer patients and sources reporting to ACR. An additional law protects facilities and physicians from any liability for their reporting to the registry program. Registry personnel are held to the highest standards of data confidentiality. Access to the ACR office and its data is restricted. Any research study involving data with unique identifiers must be reviewed by an Institutional Review Board, which protects rights to privacy and informed consent, with final approval resting with DOH.

Quality assurance
ACR is a member of the North American Association of Central Cancer Registries (NAACCR), which sets standards for data definition, quality, and completeness of reporting. Each year, NAACCR provides an objective evaluation of state central cancer registry data for completeness, quality, and timeliness. For 22 of the last 23 years, ACR has met the "Gold Standard", the highest level of certification available. In 2022, ACR met the Gold Standard for cancer data collected for the diagnosis year 2019, the data included in this report.

Data collected
ACR collects information on all in situ and malignant cancers (those with behavior codes 2 or 3 in the *International Classification of Disease for Oncology*, 3rd Ed.), as well as benign brain cancers diagnosed as of 2004 and later. Three cancers are exempt from reporting because they are rarely fatal, are easily treated at a physician's office, and usually do not require hospitalization. These are:

- Carcinoma in situ of the cervix
- Basal and squamous cell skin cancers (unless these are at an external genital area)

The specific information required to be reported on each cancer case includes demographic data (date of birth, sex, ethnicity, race, residence, etc.) and information on each primary tumor, including site, histology, staging and first course of cancer-directed treatment.

For more information on Alaska's cancer surveillance and ACR, visit
https://health.alaska.gov/dph/VitalStats/Pages/cancer/registry.aspx

Mortality Data
Information on Alaska residents who died from cancer was obtained from the Alaska Bureau of Vital Statistics, DPH. Only Alaska residents are included in mortality data.

For more information on Alaska's mortality data, visit
https://health.alaska.gov/dph/VitalStats/Pages/data/default.aspx

U.S. Cancer Rates
National cancer incidence rates are age-adjusted and come from the United States Cancer Statistics (USCS). The USCS data represents the combined data sets of the two U.S. cancer registry programs: National Program of Cancer Registries of CDC; and the Surveillance, Epidemiology, and End Results (SEER) Program of the National Cancer Institute (NCI). These federal programs fund cancer registries in all 50 states, the District of Columbia, and the U.S. Pacific Island Jurisdiction.

For more information on U.S. cancer rates, visit
https://www.cdc.gov/cancer/uscs/index.htm

Alaska Population Estimates
The calculation of incidence rates requires population numbers by age, sex, and race. This information was available within NCI's cancer statistical program, SEER*Stat, which was used to produce the statistics for this report. SEER*Stat incorporated U.S. population data (including annual Alaska population estimates) from the U.S. Census Bureau's Population Estimates Program and the National Center for Health Statistics.

For more information on single year of age population estimates by county visit https://seer.cancer.gov/popdata/singleages.html

Definitions

Age-adjusted Rates
A "crude" cancer rate is calculated by taking the number of cancer cases for a given population and dividing it by the total number of people in that population. However, cancer incidence and mortality rates in this report are calculated using the direct method and age-adjusted to the standard 2000 U.S. population; they are expressed as number of cases per 100,000 persons.

Age adjustment (sometimes called age standardization) is a statistical process that allows communities and states with different age structures to be compared. Age adjustment removes the influence of the differences in age distributions that occur from one population to another. Since the risk of developing cancer is strongly associated with age, a geographic area with a high proportion of elderly residents could not be accurately compared with a younger-age populated area unless rates were adjusted to a standard reference population – the older community group would always naturally have a higher cancer rate even if the two communities had the same cancer risk.

Effectively, rates for a specific age group in the population of interest are multiplied by the number of people in the same age group in a standard population (in this case, the U.S. 2000 population). Age adjustment is an internationally approved statistical method to remove confounding caused by age.

Alaska Regions
For each specific cancer profile, 5-year (2015-2019) cancer rates are presented for 10 Behavioral Health Systems Regions in a chart and include a 95% confidence interval, with a line showing the overall state (5-year) estimate. Rates and counts are not shown when there were fewer than 6 cases within the 5-year period.

Confidence Intervals

Upper and lower confidence intervals for age-adjusted incidence rates were calculated using the method of Tiwari et al.[6] The "margin of error" is a common term for the "plus or minus" value around a point estimate, which in total represents the confidence interval. The confidence interval helps to understand the size of uncertainty of the "true value" in a population. Readers are advised to consider the precision of point estimates.

Our report uses 95% confidence intervals. If there is no bias in the data collection system, there is a 95% chance (95 times out of 100 random samples) that the confidence interval around an estimate will include the true value.

Uncertainty in our estimates occurs because the number of cases of cancer diagnosed is likely to change each year based on random variation. For example, perhaps 2 cases of stomach cancer were diagnosed in early January of the current year instead of December of the previous year because the physicians (or the patients) were on vacation at the end of the previous year. Therefore, the incidence of stomach cancer in the previous year would appear slightly lower than it might have been otherwise. The effect of random variation can be much greater when numbers of cases are small: if the 2 stomach cancers were 2 of only 4 for the entire year, then attributing those cases to the current year instead of the previous year more drastically affects the estimate of stomach cancer incidence than if those cases were 2 of 40 stomach cancers for the year.

Confidence intervals are also used as another way to test statistical significance. Generally, if the confidence intervals of two different rates overlap, we cannot be certain that there is a true difference between them. However, if the confidence intervals do not overlap, then we believe the true values of results for the two groups are different.

Incidence

An incident case is defined as a newly diagnosed primary cancer. A primary cancer, or site, is the cancer of origin, as opposed to a cancer that has spread, or metastasized, from another site. Since individuals can have more than one primary cancer, diagnosed either sequentially or at the same time, the number of incident cases may be greater than the number of persons who were diagnosed with cancer.

This report includes all cancer cases newly diagnosed in 2019. Only Alaska residents are included in the incidence data. Incidence data are presented as the number of cases and age-adjusted incidence rates.

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[6] Tiwari RC, Clegg LX, Zou Z. Efficient interval estimation for age-adjusted cancer rates. *Stat Methods Med Res* 2006 Dec;15(6):547-69.

The Alaska Cancer Registry follows standard protocols so that its incidence rates can be compared with those from other registries and the U.S. These include the following:

- Most cancers are grouped by the organ where they arise. The organ of origination is called the primary site.
- Rates are reported only for malignant cancers (those that have penetrated the basement membrane). There are two exceptions to this general rule. For cancer of the bladder, in situ cases are included with invasive cases because generally in situ bladder cancer is as aggressive as malignant bladder cancer. In addition, this report includes a 2-page summary for benign brain cancer.
- Basal cell and squamous cell carcinomas of the skin are excluded unless they occur at an external genital area. In these instances, they are considered cancers of the organs where they are located, not skin cancers.
- Cancers of the lymphatic, hematopoietic, and reticuloendothelial systems are grouped by their histology (e.g., leukemia, lymphoma), not by the anatomical sites where they occur. For example, lymphomas of the breast are grouped with non-Hodgkin lymphomas rather than with breast cancers.

Mortality

Deaths are attributed to cancer only if the underlying cause of death is listed as cancer on a person's death certificate. An underlying cause is the disease or condition that initiated the chain of events that lead to a person's death. It is possible for someone to die *with* cancer but not *from* cancer.

Race and Ethnicity

Five-year (2015-2019) cancer incidence rates are presented by race group, regardless of ethnicity. The race groups are White (Caucasian), Black (African-American, African, and people of African descent), Alaska Natives (this also includes a small number of American Indians who are residents of Alaska), and Asian/Pacific Islanders (all Asian, Native Hawaiian and other Pacific Islander races combined). Some cancer cases are reported with "unknown race." Since this represents a relatively small number of cases (less than 1%) and it is not possible to calculate rates for a group with an undefined population, statistics by race for "unknown race" are not presented.

Five-year (2015-2019) cancer incidence rates are also presented by Hispanic ethnicity, which is separate from reporting by race but is included in the same data table. People who report Hispanic ethnicity may be of any race group and therefore may also be included in the reported race groups. The comparison group for Hispanic residents of Alaska is non-Hispanic residents of Alaska—however, data are not shown for that group.

Stage at Time of Diagnosis

"Staging" measures the extent of disease at the time of initial diagnosis. Summary staging attempts to group cases with similar prognoses into categories of:

- *In situ:* non-invasive
- *Localized:* cancer confined to the primary site
- *Regional: direct extension of tumor to adjacent organs, tissues, or lymph nodes*
- *Distant: metastasis to tissues or lymph nodes remote from the primary site*
- *Unknown: There is not enough information to determine stage (also referred to as "unstaged").*

Cancer Incidence Rankings

The first section of this report summarizes the leading cancer types in Alaska in 2019.

The leading 25 cancers in the total population are shown. These are the cancers with the greatest number of incident cases diagnosed among Alaskans within the past year. Therefore, they also make up the largest percentages of all cancers diagnosed among Alaskans within the year.

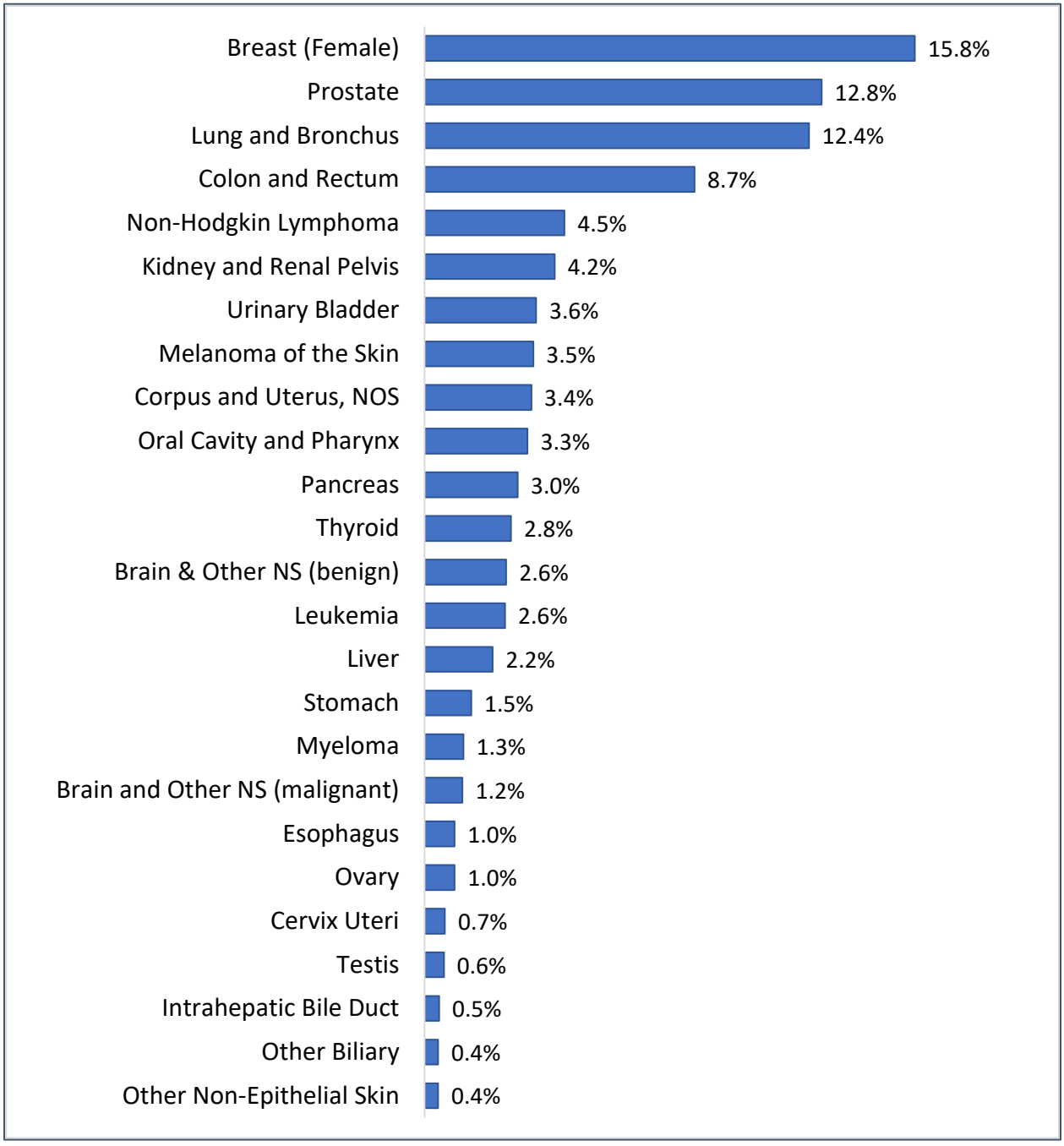
25 Highest Ranked Cancer Sites by Percent of Total Cancer Cases
2019 Cancer Incidence Rate and Count of Alaska Residents

Cancer Site	Rate	Count	% of Cases
All Sites	422.4	3,190	
Breast (Female)	133.0	505	15.8%
Prostate	98.7	409	12.8%
Lung and Bronchus	52.3	396	12.4%
Colon and Rectum	38.6	278	8.7%
Non-Hodgkin Lymphoma	19.8	144	4.5%
Kidney and Renal Pelvis	18.2	134	4.2%
Urinary Bladder	16.7	115	3.6%
Melanoma of the Skin	15.4	112	3.5%
Corpus and Uterus, NOS	28.3	110	3.4%
Oral Cavity and Pharynx	13.6	106	3.3%
Pancreas	12.9	96	3.0%
Thyroid	12.3	89	2.8%
Brain and Other Nervous System (benign)	11.1	84	2.6%
Leukemia	11.8	83	2.6%
Liver	8.4	70	2.2%
Stomach	6.6	48	1.5%
Myeloma	5.5	40	1.3%
Brain and Other Nervous System (malignant)	5.6	39	1.2%
Esophagus	3.8	31	1.0%
Ovary	8.6	31	1.0%
Cervix Uteri	5.4	21	0.7%
Testis	5.8	20	0.6%
Intrahepatic Bile Duct	2.1*	15	0.5%
Other Biliary	2.1*	14	0.4%
Other Non-Epithelial Skin	2.0*	14	0.4%

Rates are per 100,000 and age-adjusted to the 2000 U.S. gender-specific population. All incidence rates are for malignant cases plus in situ bladder and benign brain cases.

* Rates based on <20 events are statistically unreliable and should be used with caution.

25 Highest Ranked Cancer Sites by Percent of Total Cancer Cases
2019 Cancer Incidence of Alaska Residents



The leading 10 cancers are also provided for men and women separately, because some cancers are only or mainly observed among men or women specifically (e.g., breast cancer among women or prostate cancer among men). Gender-specific rankings were based on the rate per 100,000 per male or female population; occasionally, the number of cases would suggest a slightly different rank-order, but the general conclusions would be the same.

10 Highest Ranked Cancers by Age-adjusted Rate among Males, Alaska 2019

Ranking	Cancer Types, Male	Rate	Count
1	Prostate	98.7	409
2	Lung and Bronchus	52.9	199
3	Colon and Rectum	42.2	153
4	Urinary Bladder	29.2	91
5	Non-Hodgkin Lymphoma	22.0	80
6	Kidney and Renal Pelvis	21.9	80
7	Oral Cavity and Pharynx	18.0	72
8	Melanoma of the Skin	15.3	57
9	Pancreas	14.0	52
10	Leukemia	13.9	46

10 Highest Ranked Cancers by Age-adjusted Rate among Females, Alaska 2019

Ranking	Cancer Types, Female	Rate	Count
1	Breast	133.0	505
2	Lung and Bronchus	51.9	197
3	Colon and Rectum	35.6	125
4	Uterus	28.3	110
5	Thyroid	18.0	63
6	Non-Hodgkin Lymphoma	17.5	64
7	Melanoma of the Skin	15.7	55
8	Kidney and Renal Pelvis	14.5	54
9	Pancreas	12.1	44
10	Leukemia	9.9	37

Rates are per 100,000 and age-adjusted to the 2000 U.S. gender-specific population. All incidence rates are for malignant cases plus in situ bladder cases.

Site-specific Cancer Summaries

In this section, cancer data are presented in two-page summaries by type of cancer, for overall cancers and for the leading 20 cancers. See the Definitions section of this report (pg. 6 – 8) for additional detail about terms or methods for reporting in this section.

Each two-page summary includes charts or tables presenting:

- For the total population, and by gender and race/ethnicity:
    - Numbers of new cases (incidence)
    - Numbers of deaths (mortality)
    - Incidence rates
    - Mortality rates
- Incidence rates by Behavioral Health Region (5-year average rate)
- Stage at diagnosis
- Incidence trend for Alaska (1996-2019) and the U.S. (2001-2019)

Each two-page summary also includes a description of the cancer type and a summary of findings. When comparing groups, we use the term "statistically significant" when the confidence intervals (CIs) of two groups do not overlap. Unless otherwise noted, only these statistically significant results are described in text as being "higher" or "lower" than other groups. This includes when findings from comparisons of incidence and mortality data are described in text for males and females, among race groups, or by ethnicity (Hispanic vs non-Hispanic). The 95% confidence intervals are not presented in the summaries.

For comparison of region rates against the state rate, we report a difference from the overall state rate only if the state rate is outside the region's 95% confidence interval. This method may slightly underestimate the difference between region and state rates because the region's data are also included in the state rate.

Cancer Risk Factors

Information in the discussion points about cancer risk factors was summarized from

American Cancer Society (ACS). *Cancer Facts and Figures 2022.* Atlanta, GA: American Cancer Society; 2022. Available online at http://www.cancer.org/research/cancerfactsstatistics/index (last accessed 12/08/2022).

Small Populations and Few Events

Data based on small populations and a small number of events require careful analysis. Alaska's population is divided into many small groups where variation is expected and may be attributed to chance. Rates that are based on fewer than 6 cases are considered unstable because they have a large standard error (a statistical measure of how different the cohort mean is from the population mean). Also, it may be possible to identify an individual person in a small population when there are fewer than 6 cases. For these reasons, we suppress counts and rates when

there are fewer than 6 cases in accordance with the national standard used by NAACCR and indicate this suppression by using a caret symbol (^).

Note that rates based on fewer than 20 occurrences are statistically unreliable and should be used with caution. These estimates are identified using an asterisk (*) symbol.

Alaska and United States comparisons

We compared the confidence intervals for Alaska's annual incidence rates with the U.S. rate. Differences between Alaska and the U.S. are only mentioned in the text when the U.S. rate is outside the 95% confidence interval of the Alaska rate consistently for three or more years in a row. This method may slightly overestimate differences between Alaska and U.S. rates because it does not consider the 95% confidence interval around the U.S. rate. Since confidence interval size tends to decrease as the cohort size increases, typically the U.S. confidence interval is extremely narrow due to the large number of cases being considered in comparison to Alaska.

Alaska trend analysis

Alaska trend data are presented to identify changes in patterns of cancer that need additional investigation.

Each specific cancer profile in this report shows annual age-adjusted incidence rates per each type of cancer in Alaska as a line graph, with Alaska's rates shown as a solid line. The shaded area surrounding that line is the 95% confidence interval for the annual rate. U.S. rates are shown as a dotted line for comparison.

> Note to readers: the simple trend examination for Alaska's overall population that is included in this report will not detect subgroup trend differences or shifts (e.g., variations in trend patterns by gender, age, or race).

Trends for Alaska's age-adjusted cancer incidence rates were assessed using the National Cancer Institute's (NCI) Joinpoint Regression Program, Version 4.3.1.0 (April 2016, NCI Statistical Research and Applications Branch; software available at https://surveillance.cancer.gov/joinpoint/). Joinpoint is a national standard for analysis of population-based cancer statistical trends.

The software identifies "joinpoints" (points of inflection where trends have significantly changed). The program starts with the minimum number of joinpoints (e.g., 0 joinpoints, or a straight line), and tests whether more joinpoints are statistically significant and must be added to the model (up to the maximum allowed number; 3 for this report).

For each joinpoint time segment, the estimated annual percentage change (APC) was calculated by fitting a least squares regression line to the natural logarithm of the rates. This APC can be interpreted as the average percent increase or decrease in cancer incidence during that period. When the APC is statistically significantly different from zero (e.g., significantly different from a flat line) we describe the trend as "increasing" or "decreasing", and if not significantly changing we describe the trend as "stable" during the period.

All Cancer Sites

Cancer is a group of diseases characterized by the uncontrolled growth and spread of abnormal cells that can result in death if not treated. Although the causes of cancer development are not completely understood, numerous factors are known to increase risk, including many that are potentially modifiable. Excluding non-melanoma skin cancer, at least 42% of newly diagnosed cancers in the US – about 805,600 cases in 2022 – are potentially avoidable, including the 19% of cancers caused by smoking and at least 18% caused by a combination of excess body weight, alcohol consumption, poor nutrition, and physical inactivity.

- In Alaska, overall cancer incidence was higher among people who identify as Alaska Native than those who identify as White, Black or Asian/Pacific Islander.
- Cancer mortality was higher among males than females, and among those who identify as Alaska Native (compared to other race groups).
- Since 2001, the incidence of all cancer in Alaska decreased by 1.35% per year, after remaining stable between 1996-2001. Nationally, all cancer incidence decreased by about 1% per year beginning in 2007.
- In general, environmental factors, defined broadly to include tobacco use, diet, obesity, sun exposure, and infectious diseases like hepatitis and HPV, as well as chemicals and radiation, cause an estimated 75% to 80% of all cancer cases in the United States.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	426.1	174.9	1,606	579
Female	427.0	128.1	1,584	455
Total	422.4	149.5	3,190	1,034

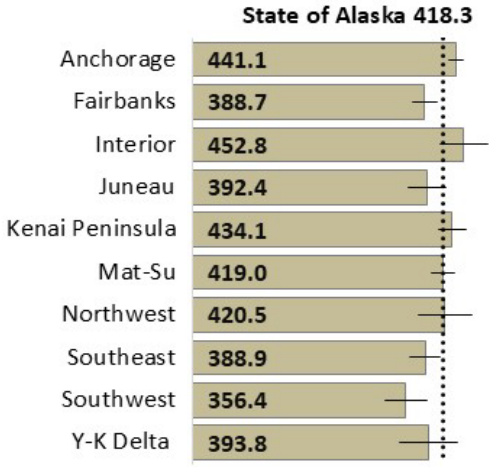
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates include malignant cases, plus in situ bladder cases.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	411.9	142.1	11,372	3,557
Alaska Native	521.4	220.2	2550	959
Black	360.1	138.1	394	123
Asian/Pacific Islander	284.5	105.0	744	246
Hispanic**	344.5	113.8	417	101
Total***	418.3	151.1	15,141	4,931

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates include malignant and in situ cases. **Hispanic persons can be of any race. *** Total includes cases of unknown race and excludes the Hispanic count value.

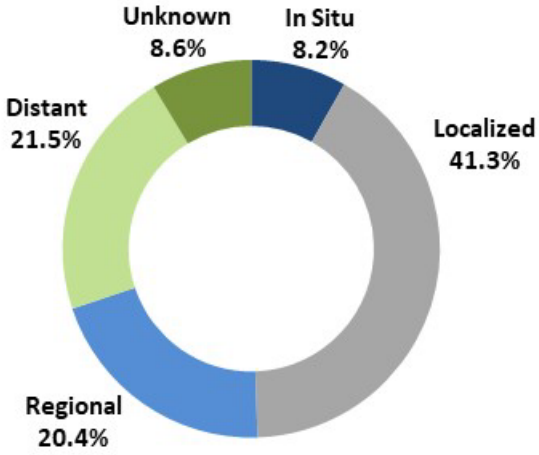
Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



All Cancers Incidence Rate by AK Behavioral Health Systems Region.

The all cancer sites incidence rate for Alaska from 2015-2019 was 418.3 per 100,000. The rate for Anchorage (441.3) was significantly higher than the state overall, and three regions had significantly lower rates than the state: Fairbanks (388.7), Southeast (388.9) and Southwest (356.4).

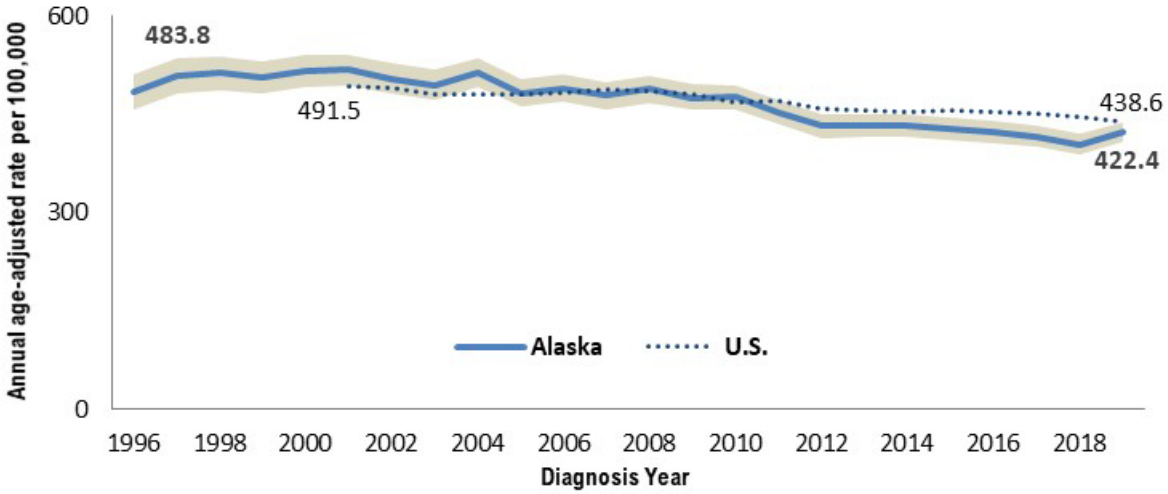
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine stage.

All Cancers Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases, plus in situ bladder cases. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

From 2001-2019, Alaska's incidence rates for all cancers decreased by an average of 1.35% per year, after remaining stable between 1996-2001. Nationwide, the incidence of all cancers did not change significantly from 2001-2007; the rate decreased by 1.15% per year from 2007-2012; rates decreased by 0.57% per year from 2012-2019.

Bladder

Bladder cancer is a disease in which cells in the urinary bladder grow out of control. The bladder is made up of several different layers, each having their own type of cells. Bladder cancer is most often found, and starts, in the innermost lining of the bladder, and is known as urothelial carcinoma or transitional cell carcinoma (TCC). Bladder cancer can spread to other parts of the body if the cells continue to grow.

- Bladder cancer was the 7th most diagnosed cancer in Alaska in 2019, 3.6% of total cancer cases.
- Men are five times more likely than women in Alaska to develop bladder cancer.
- In Alaska, people who identify as White had a significantly higher incidence rate of bladder cancer compared to those who identify as Alaska Native or Asian/Pacific Islander.
- The incidence of bladder cancer in Alaska decreased by 1.1% per year between 1996-2019. Nationally, the rate declined by 0.7% per year between 2004-2015, and by 2.69% per year between 2015-2019.
- The risk of bladder cancer increases with age and is more commonly found in men than in women. Modifiable risk factors include smoking, certain workplace exposures, being exposed to water contaminated with arsenic, and not drinking enough fluids.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	29.2	4.1*	91	14
Female	5.8	2.0*	24	6
Total	16.7	3.0	115	20

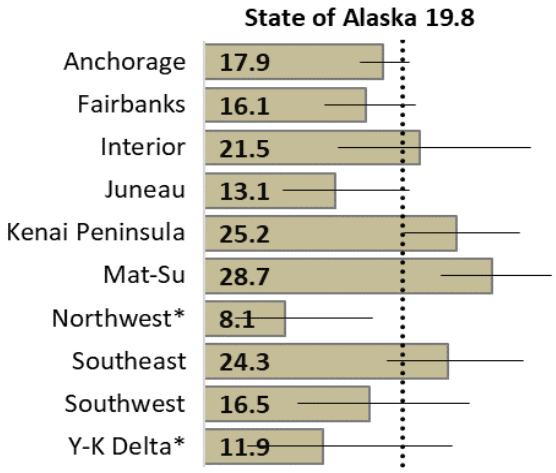
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates include malignant and in situ cases. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	22.0	4.3	563	99
Alaska Native	12.4	3.7*	57	13
Black	13.5*	^	12	^
Asian/Pacific Islander	8.2*	^	17	^
Hispanic**	13.3*	^	11	^
Total***	19.8	3.9	659	115

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates include malignant and in situ cases. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

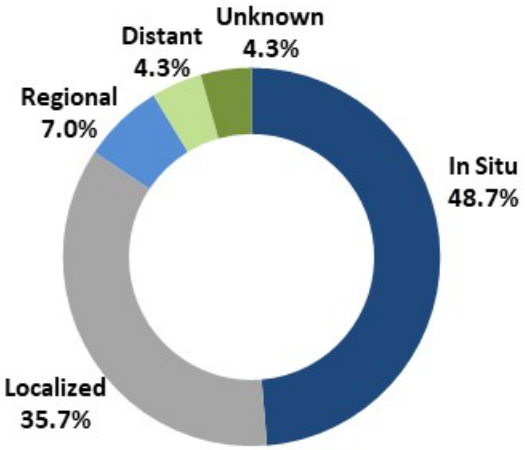


Bladder Cancer Incidence Rate by AK Behavioral Health Systems Region.

The bladder cancer incidence rate for Alaska from 2015-2019 was 19.8 per 100,000. The Kenai Peninsula (25.2) and Mat-Su (28.7) had significantly higher rates than the state overall. The rate for the Northwest region (8.1) was significantly lower than the state.

* Rates based on <20 events are statistically unreliable and should be used with caution.

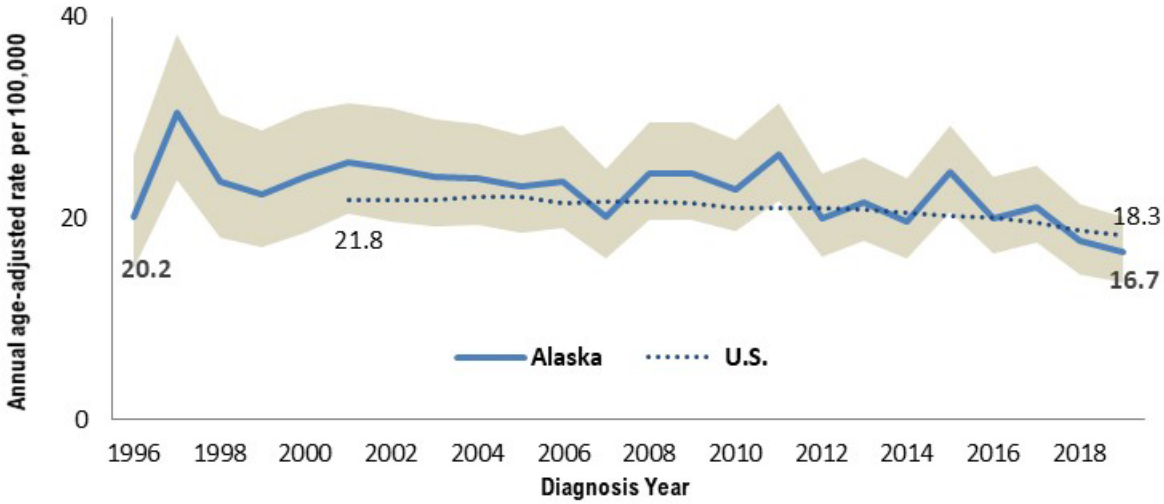
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine stage.

Bladder Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant and in situ cases. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of bladder cancer in Alaska decreased by 1.10% per year between 1996-2019. Nationally, the rate declined by 0.70% per year between 2004-2015, and by 2.69% per year between 2015-2019.

Brain and Other Central Nervous System (CNS)—Benign Cases

Brain and other CNS tumors are masses that form in the brain or spinal cord when healthy cells grow out of control. Benign tumors are non-cancerous, usually slow-growing, and do not spread to other parts of the body.

- Brain and other CNS--Benign was ranked 13th in Alaska in 2019, 2.6% of total cancer cases.
- Females were more than two times as likely to develop brain and other CNS benign tumors compared to males.
- People who identify as Alaska Native were more likely to develop brain and other CNS benign tumors compared to those who identify as White.
- The incidence of benign brain and other CNS cancer in Alaska did not change significantly between 1996-2019. Nationally, the rate increased by 5.74% per year between 2004-2008, and by 1.29% per year between 2008-2017.
- Risk factors include radiation exposure, family history of certain genetic syndromes, and having a weakened immune system.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	6.6	0.0	23	0
Female	16.2	0.0	61	0
Total	11.1	0.0	84	0

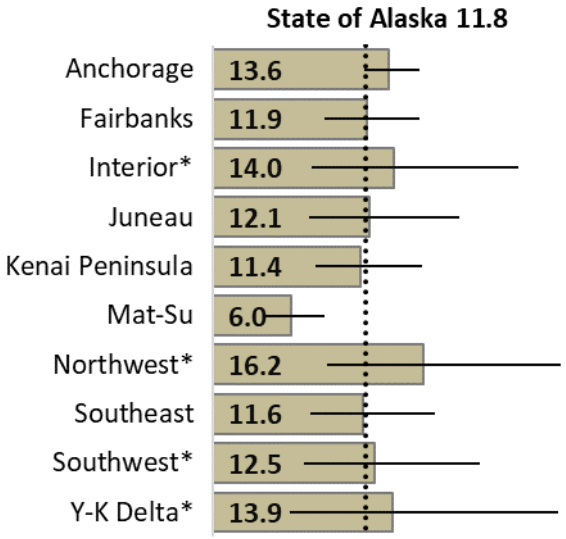
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for benign cases only.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	10.7	0.0	284	0
Alaska Native	18.6	0.0	89	0
Black	10.4*	0.0	9	0
Asian/Pacific Islander	11.6	0.0	31	0
Hispanic**	6.9*	0.0	7	0
Total***	11.8	0.0	415	0

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for benign cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

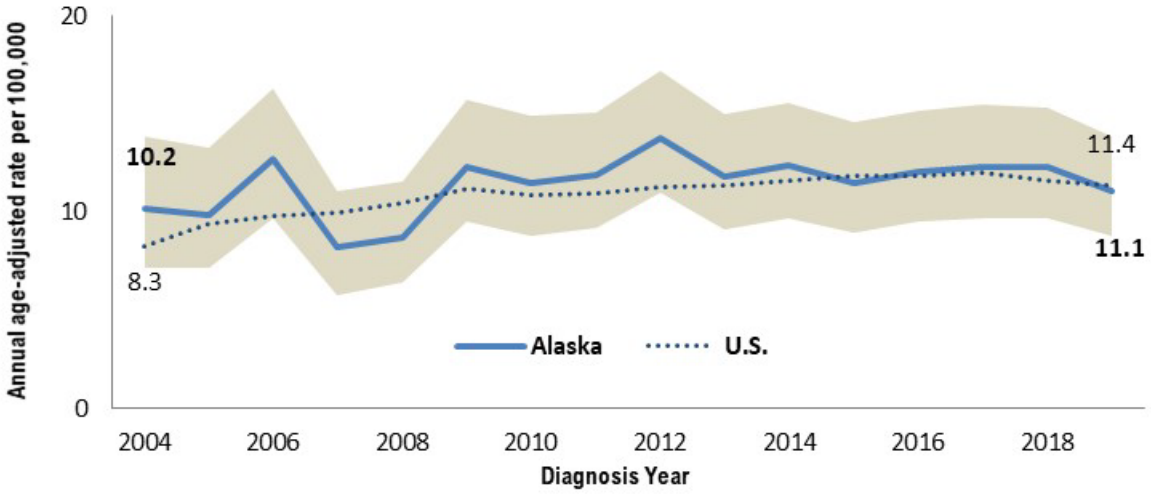


Incidence Rate by AK Behavioral Health Systems Region.

The brain and other cancers of the nervous system (CNS)—benign incidence rate for Alaska from 2015-2019 was 11.8 per 100,000. None of the 10 Alaska Behavioral Health System Regions had rates that were significantly higher than the state rate, but the incidence rate for Mat-Su (6.0) was significantly lower than the state overall rate.

* Rates based on <20 events are statistically unreliable and should be used with caution.

Brain and other CNS—Benign Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for benign cases only in graph above. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of benign brain and other CNS cancer in Alaska did not change significantly between 1996-2019. Nationally, the rate increased by 5.74% per year between 2004-2008, and by 1.29% per year between 2008-2017, with no significant change between 2017-2019.

Brain and Other Central Nervous System (CNS)—Malignant Cases

Brain and other CNS malignant cases are when healthy cells grow out of control, and form a mass, in the brain or spinal cord. Malignant tumors are cancerous, grow quickly, and can spread to other parts of the body.

- Brain and other CNS—Malignant cases were ranked the 18th most diagnosed cancer in Alaska in 2019, 1.2% of cancer cases.
- In 2019, there were no significant differences between males and females for incidence or mortality rates of malignant brain and other CNS cases.
- Alaskans who identify as White were more likely to develop malignant brain and other CNS cancer than those who identify as Alaska Native.
- The incidence of malignant brain and other CNS cancer in Alaska did not change significantly between 1996-2019. Nationally, the rate decreased starting in 2007, by 0.62% per year between 2007-2017, and by 3.04% per year between 2017-2019.
- Risk factors include radiation exposure and family history of certain genetic syndromes.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	5.9	4.8	22	19
Female	5.2	2.6	17	8
Total	5.6	3.7	39	27

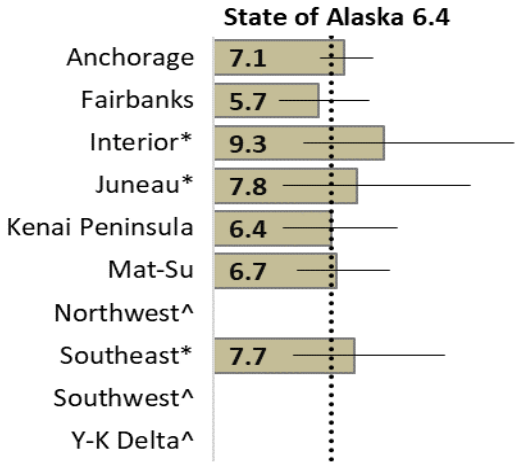
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	7.4	4.9	204	137
Alaska Native	3.7*	3.0*	24	14
Black	5.7*	^	8	^
Asian/Pacific Islander	^	^	^	^
Hispanic**	^	^	^	^
Total***	6.4	4.4	240	157

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



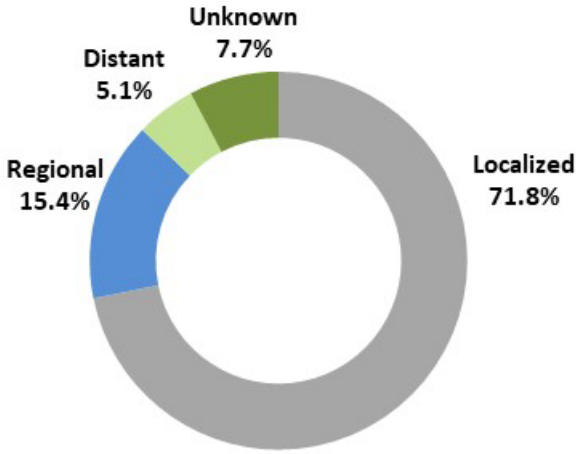
Incidence Rate by AK Behavioral Health Systems Region.

The brain and other cancers of the nervous system (CNS)—malignant cases incidence rate for Alaska from 2015-2019 was 6.4 per 100,000. None of the 10 Alaska Behavioral Health System Regions had rates that were significantly different from the overall state rate.

^ Indicates statistic not displayed due to fewer than 6 cases.

* Rates based on <20 events are statistically unreliable and should be used with caution.

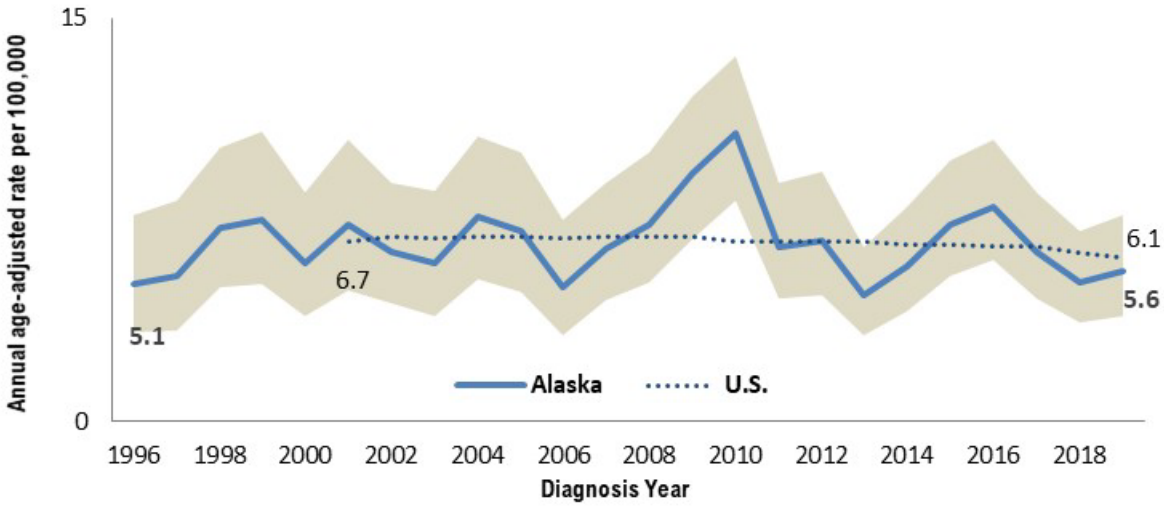
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine the stage.

Brain and Other CNS—Malignant Cases Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of malignant brain and other CNS cancer in Alaska did not change significantly between 1996-2019. Nationally, the rate decreased starting in 2007, by 0.62% per year between 2007-2017, and by 3.04% per year between 2017-2019.

Breast

Breast cancer is a disease where cells in either one, or both, breasts grow out of control. Breast cancer mostly affects women, but men can also develop breast cancer. The breast is an organ that is located on top of the chest muscles and is made up of different parts: lobules, ducts, nipple, areola, blood vessels, lymph, fat, and connective tissues. Breast cancer can spread to other parts of the body when cancer cells get into the blood or lymph system. Women between the age of 50 to 74 years old, and at average risk, should receive a mammogram every two-years for breast cancer screening.

- Breast cancer was the most diagnosed cancer in Alaska in 2019, 15.8% of total cancer cases.
- People who identify as Alaska Native were more likely to develop breast cancer than those who identify as Asian/Pacific Islander or Black, and those identifying as White were also more likely to develop breast cancer compared to those identifying as Asian/Pacific Islander.
- The incidence of female breast cancer in Alaska decreased by 0.66% per year between 1996-2019. Nationally, the rate declined by 2.73% per year between 2001-2004, but increased by 0.41% per year between 2004-2019.
- Modifiable risk factors include overweight or obesity after menopause, physical activity, drinking alcohol, taking hormones, and having a first pregnancy after age 30. Nonmodifiable risk factors include age, genetic mutations (BRCA1 and BRCA2 genes), radiation therapy to the chest or breasts, and a family history of breast or ovarian cancer.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	^	^	^	^
Female	133.0	18.6	505	69
Total	133.0	18.6	505	69

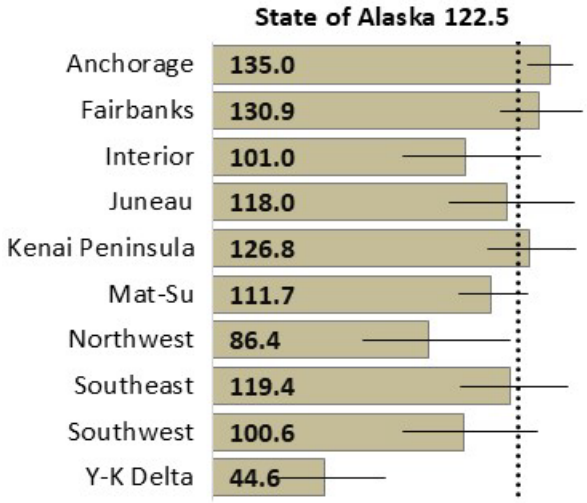
^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

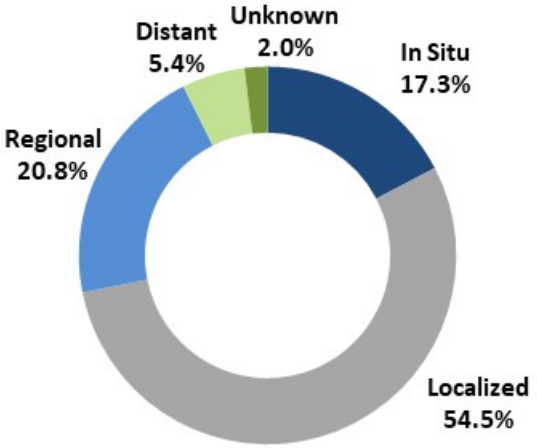
Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	124.3	18.0	1,658	237
Alaska Native	142.7	21.0	376	51
Black	91.5	16.2*	53	9
Asian/Pacific Islander	80.3	13.4	132	20
Hispanic**	128.5	14.2*	88	7
Total***	122.5	18.0	2,226	319

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



Stage at Diagnosis, 2019



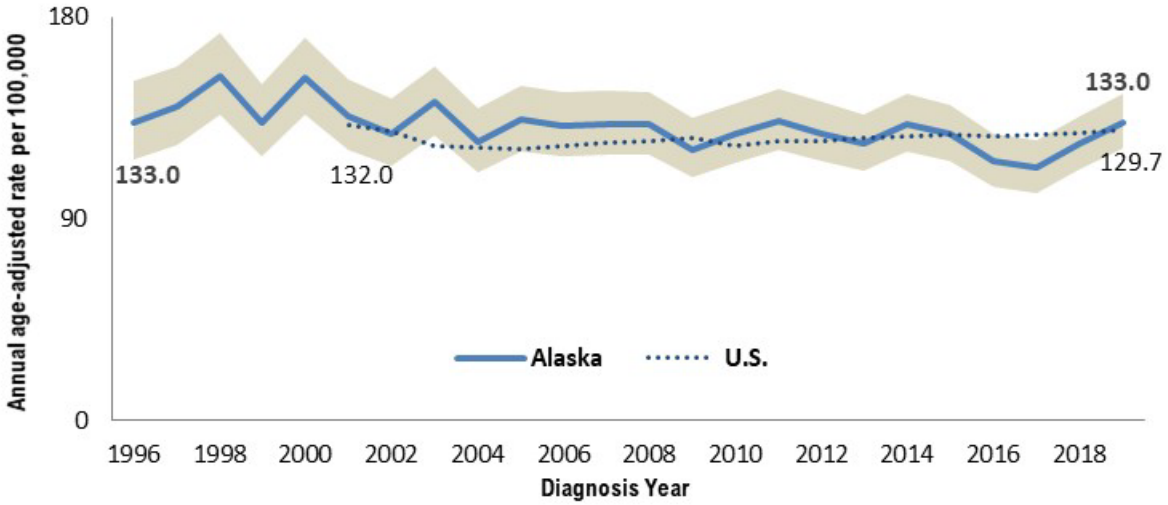
Incidence Rate by AK Behavioral Health Systems Region.

The breast cancer incidence rate for Alaska from 2015-2019 was 122.5 per 100,000. The Northwest (86.4) and Y-K Delta (44.6) regions had significantly lower rates than the overall state rate.

Stage at Diagnosis Definitions.

In situ: abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to figure out the stage.

Breast Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of female breast cancer in Alaska decreased by 0.66% per year between 1996-2019. Nationally, the rate declined by 2.73% per year between 2001-2004, but increased by 0.41% per year between 2004-2019.

Cervix

Cervical cancer is a type of cancer that starts in the cells of the cervix. The cervix is the lower part of the uterus that connects to the vagina. Cervical cancer is most often caused by certain strains of the human papillomavirus (HPV). Women can greatly reduce their risk of developing cervical cancer through routine screening tests (Pap smear and HPV test) and being vaccinated against HPV infection.

- Cervical cancer was ranked the 20th most diagnosed cancer in Alaska in 2019, 0.7% of total cancer cases.
- People who identify as Alaska Native were more likely to develop cervical cancer compared to those who identify as White.
- The incidence of cervical cancer in Alaska decreased by 1.52% per year between 1996-2019. Nationally, the rate declined by 1.34% per year between 2001-2013, but has not changed significantly between 2013-2019.
- Risk factors include HPV infection, smoking tobacco, having HIV, taking birth control pills for over five years, and having several sexual partners.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	NA	NA	NA	NA
Female	5.4	1.8*	21	6
Total	5.4	1.8*	21	6

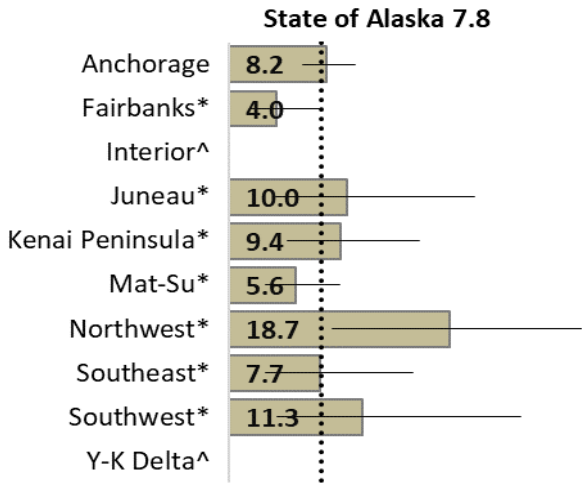
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	6.8	1.5	88	20
Alaska Native	12.5	3.9*	33	10
Black	^	^	^	^
Asian/Pacific Islander	10.0*	^	14	^
Hispanic**	^	^	^	^
Total***	7.8	1.7	137	31

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



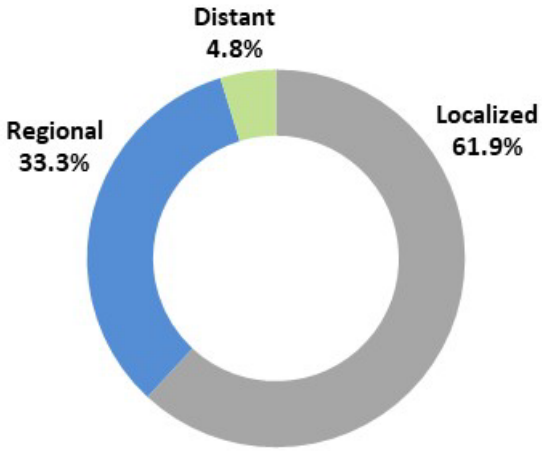
Incidence Rate by AK Behavioral Health Systems Region.

The cervical cancer incidence rate for Alaska from 2015-2019 was 7.8 per 100,000. The Northwest region (18.7) had a significantly higher rate than the state overall.

^ Indicates statistic not displayed due to fewer than 6 cases.

* Rates based on <20 events are statistically unreliable and should be used with caution.

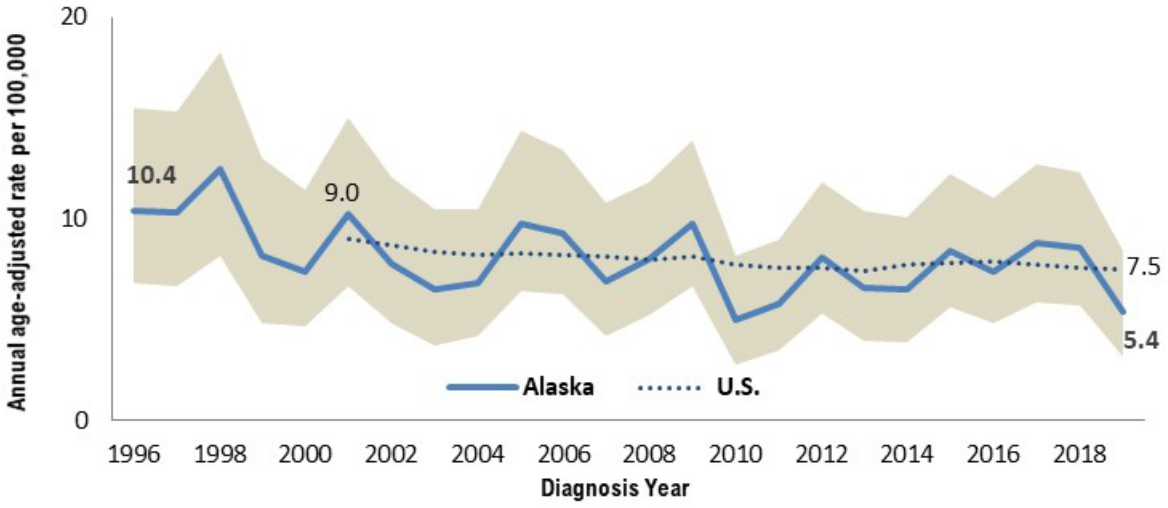
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine the stage.

Cervical Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of cervical cancer in Alaska decreased by 1.52% per year between 1996-2019. Nationally, the rate declined by 1.34% per year between 2001-2013, but has not changed significantly between 2013-2019.

Colorectal

Colorectal cancer, commonly referred to as colon cancer, is a disease in which cells in the colon or rectum grow uncontrollably. The colon is also known as the large intestine or large bowel. The rectum is the passageway that connects the colon to the anus.

Sometimes abnormal growths, called polyps, form in the colon or rectum. Over time, some polyps may turn into cancer. Screening tests can find polyps so that they can be removed before turning into cancer or help to detect colorectal cancer at an early stage for treatment.

- Colorectal cancer was the 4th most diagnosed cancer in Alaska in 2019, 8.7% of cancer cases.
- People who identify as Alaska Native were more likely to develop and to die from colorectal cancer than those identifying as any other race group. Those who identify as White were also more likely to develop colorectal cancer than those who identify as Asian/Pacific Islander.
- The incidence of colorectal cancer in Alaska decreased by 1.98% per year between 1996-2019. Nationally, the rate declined by 2.53% per year between 2001-2007, and continued to decrease by 3.69% per year between 2007-2011, and then by 1.30% per year between 2011-2019.
- The risk of colorectal cancer increases with age. Modifiable risk factors include obesity, physical activity, smoking, moderate to heavy alcohol use, and diets high in red meats and processed meats, as well as low intake of fruit and vegetables.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	42.2	12.6	153	46
Female	35.6	15.2	125	52
Total	38.6	14.0	278	98

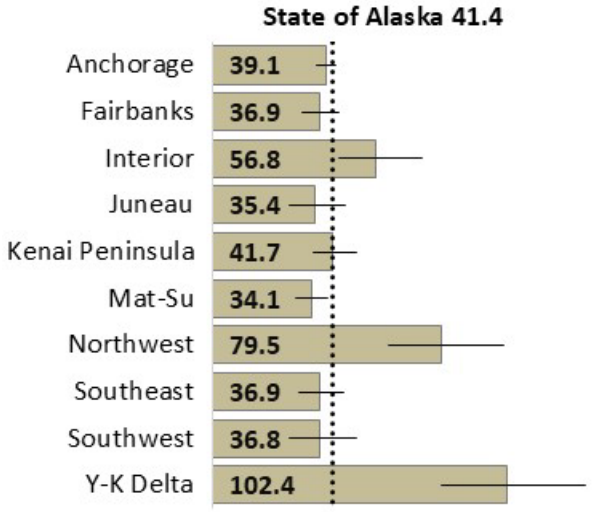
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

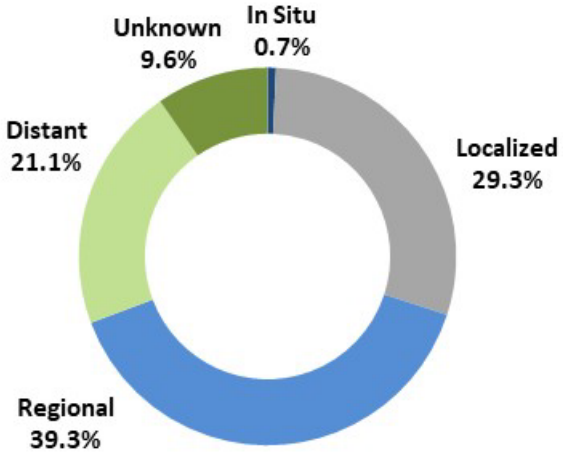
Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	35.5	11.8	961	290
Alaska Native	87.5	39.7	412	160
Black	30.2	4.5*	31	7
Asian/Pacific Islander	22.5	7.1*	62	19
Hispanic**	28.0	6.2*	36	10
Total***	41.4	15.0	1,469	481

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



Stage at Diagnosis, 2019



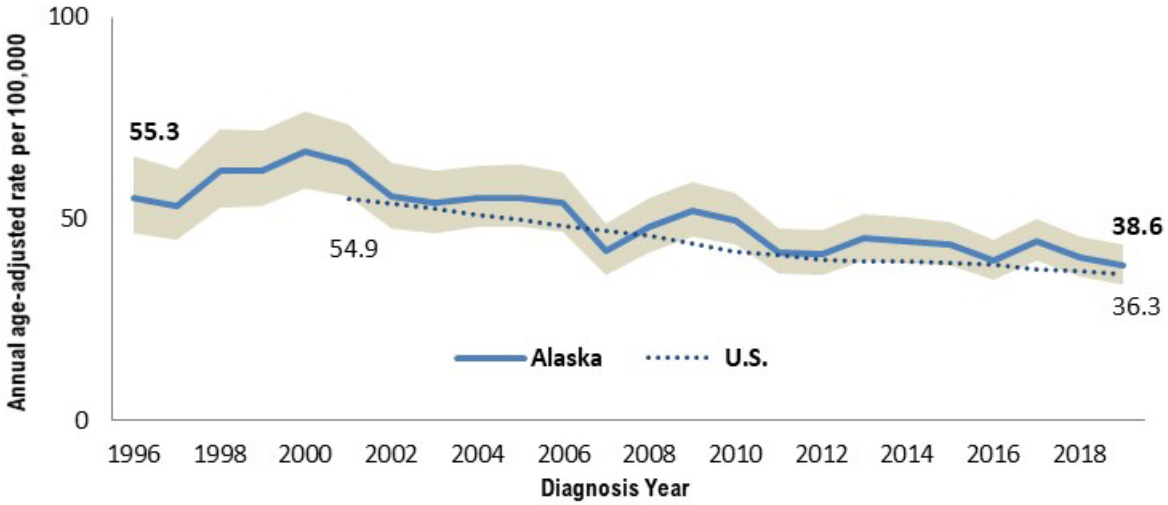
Incidence Rate by AK Behavioral Health Systems Region.

The colorectal cancer incidence rate for Alaska in 2015-2019 was 41.4 per 100,000. Three regions had higher incidence rates than the state overall: Interior (56.8), Northwest (79.5), and Y-K Delta (102.4). Mat-Su had a significantly lower rate (34.1).

Stage at Diagnosis Definitions.

In situ: abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to figure out the stage.

Colorectal Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of colorectal cancer in Alaska decreased by 1.98% per year between 1996-2019. Nationally, the rate declined by 2.53% per year between 2001-2007, and continued to decrease by 3.69% per year between 2007-2011, and then by 1.30% per year between 2011-2019.

Esophagus

Esophageal cancer, also known as cancer of the esophagus, is a type of cancer that starts in the cells of a person's esophagus. The esophagus is a muscular tube that connects your mouth to the stomach. There are two types of esophageal cancer identified by the type of cell the cancer starts in: squamous cell carcinoma and adenocarcinoma.

- Esophageal cancer tied with ovarian cancer as the 19th most diagnosed cancer in Alaska in 2019, 1% of all cancer cases.
- There were no significant differences by gender, race or ethnicity.
- The incidence of esophageal cancer in Alaska has not changed significantly between 1996-2019. Nationally, the rate has also not changed significantly between 2001-2019.
- The risk of esophageal cancer increases with age—most diagnosed after 55 years of age. Males are more likely to develop esophageal cancer compared to females. Other risk factors include using tobacco products (cigarettes, cigars, pipes, and chewing tobacco), having gastroesophageal reflux disease (GERD), Barrett's esophagus, being obese, previous history of lung, mouth, or throat cancer, and a diet low in fruits and vegetables.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	5.5	7.2	23	24
Female	2.2*	3.6*	8	12
Total	3.8	5.4	31	36

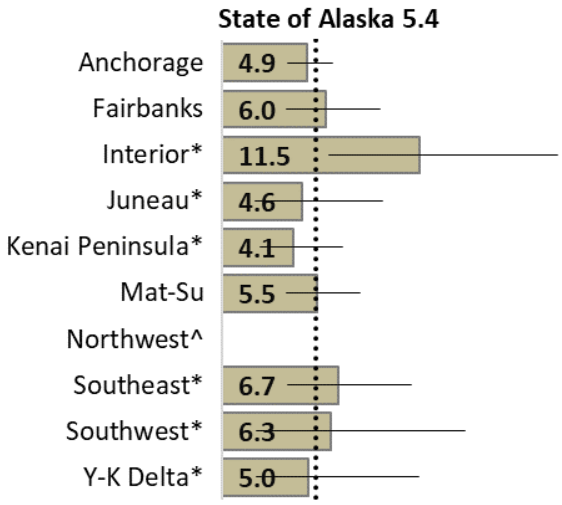
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	5.1	5.5	145	140
Alaska Native	9.2	7.8	46	37
Black	^	^	^	^
Asian/Pacific Islander	^	^	^	^
Hispanic**	^	^	^	^
Total***	5.4	5.5	199	185

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. **Hispanic persons can be of any race. *** Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



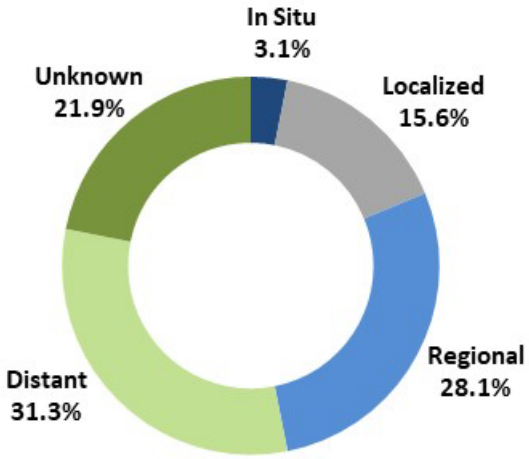
Incidence Rate by AK Behavioral Health Systems Region.

The esophageal cancer incidence rate for Alaska from 2015-2019 was 5.4 per 100,000. One region had a significantly higher incidence rate than the state overall: Interior (11.5).

^ Indicates statistic not displayed due to fewer than 6 cases.

* Rates based on <20 events are statistically unreliable and should be used with caution.

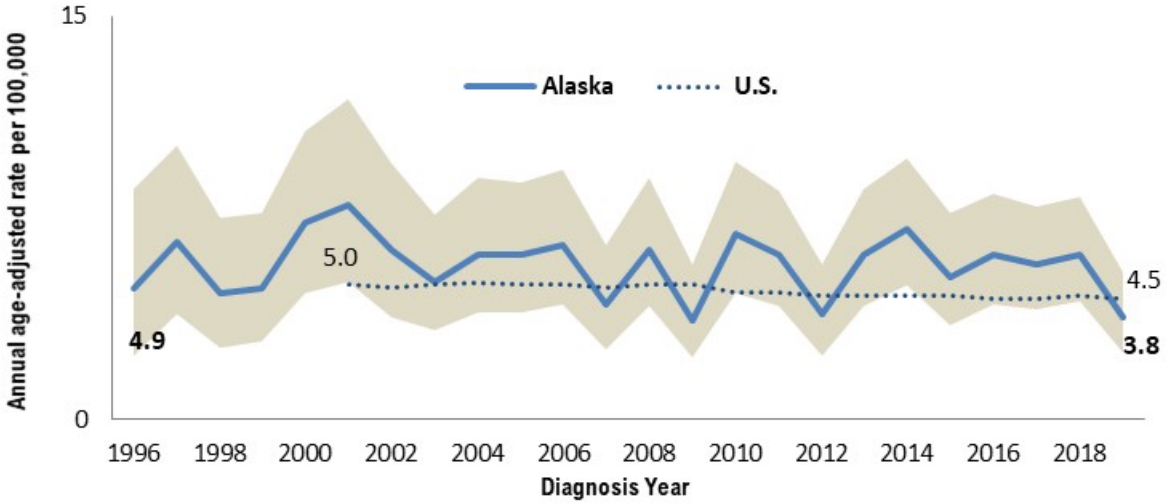
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine the stage.

Esophageal Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of esophageal cancer in Alaska has not changed significantly between 1996-2019. Nationally, the rate has also not changed significantly between 2001-2019.

Kidney and Renal Pelvis

Kidney and renal pelvis cancer is a type of cancer that starts in the kidneys. The body has two kidneys, one on each side, that produce urine and flush the body of waste. The renal pelvis is the middle of the kidney that collects the urine and moves it to the ureters where the urine collects in the bladder until it leaves the body.

- Kidney and renal pelvis cancer was the 6th most diagnosed cancer in Alaska in 2019, 4.2% of total cancer cases.
- People who identify as Alaska Native were more likely to develop kidney and renal pelvis cancer than those who identify as White or Asian/Pacific Islander.
- The incidence of kidney and renal pelvis cancer in Alaska increased by 1.50% per year between 1996-2019. Nationally, the rate increased by 3.45% per year between 2001-2007, and again increased by 1.41% per year between 2011-2017.
- Risk factors include being overweight or obese, smoking, kidney stones, being exposed to trichloroethylene, high blood pressure, chronic Hepatitis C infection, certain genetic conditions, and having a sickle cell trait associated with renal medullary carcinoma.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	21.9	5.1*	80	17
Female	14.5	^	54	^
Total	18.2	3.3	134	22

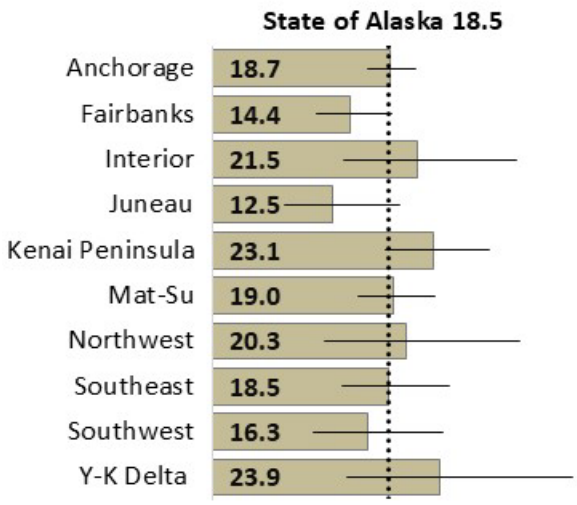
^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	17.5	3.0	478	76
Alaska Native	29.2	5.1	151	23
Black	16.9*	^	14	^
Asian/Pacific Islander	9.5	^	25	^
Hispanic**	19.5	8.2*	22	7
Total***	18.5	3.3	669	106

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

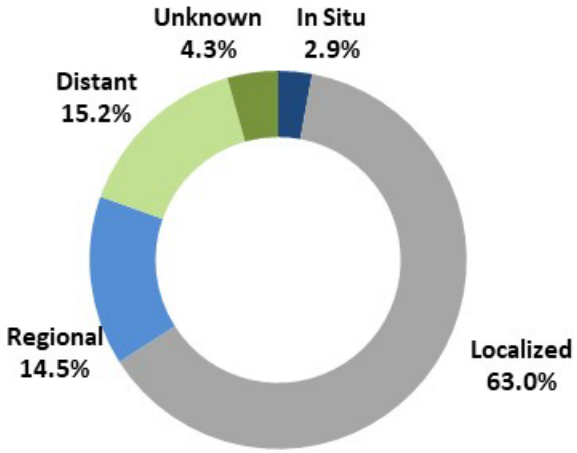
Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



Incidence Rate by AK Behavioral Health Systems Region.

The kidney and renal pelvis cancer incidence rate for Alaska from 2015-2019 was 18.5 per 100,000. None of the 10 Alaska Behavioral Health System Regions had rates that were significantly different from the state overall.

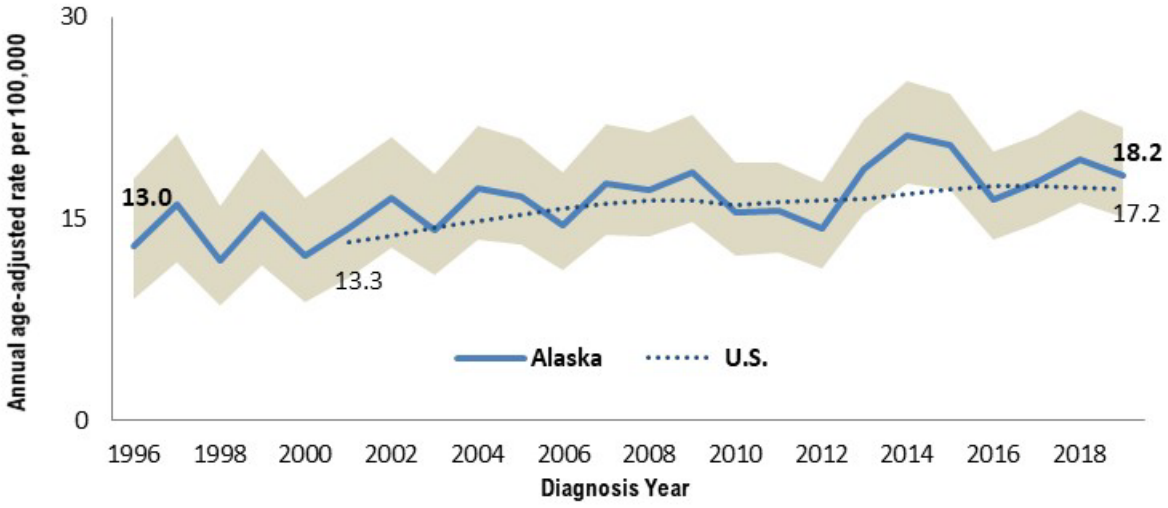
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine the stage.

Kidney and Renal Pelvis Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of kidney and renal pelvis cancer in Alaska increased by 1.50% per year between 1996-2019. Nationally, the rate increased by 3.45% per year between 2001-2007, and again increased by 1.41% per year between 2011-2017.

Leukemia

Leukemia is a term for cancers of the cells or tissues that form our blood. Leukemia most commonly affects white blood cells (WBCs)—best known for their ability in fighting infections—but can also involve other types of blood cells.

When a person develops leukemia, the body produces an excessive amount of abnormal white blood cells that impacts the body's number of healthy WBCs, red blood cells, and platelets. Leukemia is characterized by its progression—fast growing (acute) or slow growing (chronic)—and what type of cell it starts in –myeloid cells or lymphoid cells.

- Leukemia is the 14th most diagnosed cancer in Alaska in 2019, 2.6% of total cancer cases.
- There were no significant differences by gender, race or ethnicity.
- The incidence of leukemia in Alaska decreased by 1.19% per year between 1996-2019. Nationally, there was no significant change in the leukemia incidence rate between 2001-2015, but the rate decreased by 2.78% per year 2015-2019.
- Risk factors for leukemia include exposure to high levels of radiation or chemotherapy, certain chemicals, smoking, rare genetic syndromes, myelodysplastic syndromes, and a family history.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	13.9	7.6	46	22
Female	9.9	4.2*	37	15
Total	11.8	5.7	83	37

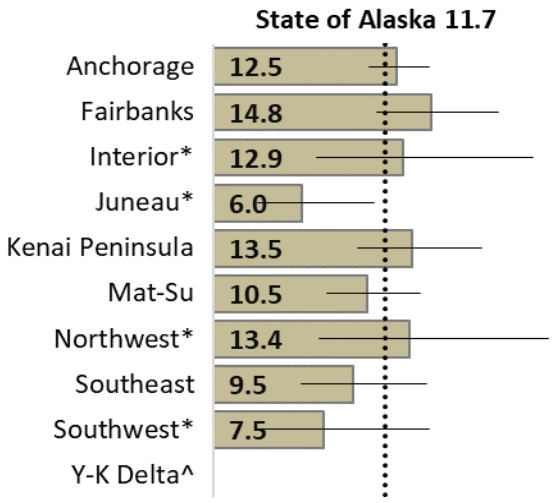
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	11.9	5.6	312	128
Alaska Native	10.4	3.5*	58	19
Black	14.1*	^	15	^
Asian/Pacific Islander	8.7	4.5*	24	11
Hispanic**	9.6*	^	15	^
Total***	11.7	5.4	411	165

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

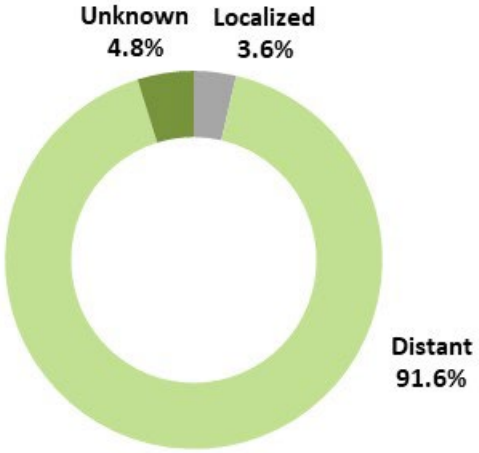


Incidence Rate by AK Behavioral Health Systems Region.

The leukemia incidence rate for Alaska from 2015-2019 was 11.7 per 100,000. Only one region differed significantly from the state's overall rate; Juneau was significantly lower (6.0).

^ Indicates statistic not displayed due to fewer than 6 cases.
* Rates based on <20 events are statistically unreliable and should be used with caution.

Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

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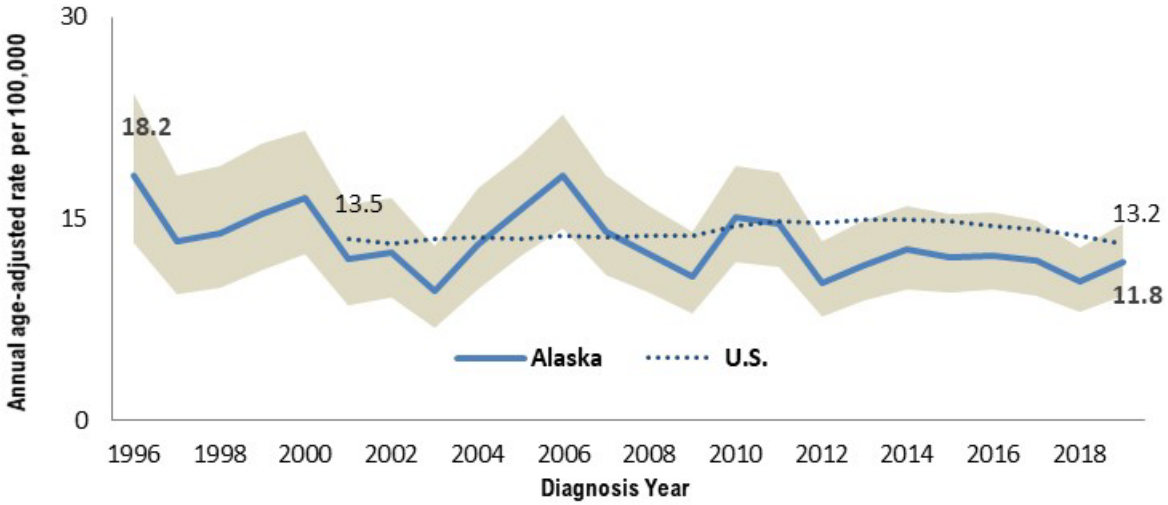
Leukemia Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of leukemia in Alaska decreased by 1.19% per year between 1996-2019. Nationally, there was no significant change in the leukemia incidence rate between 2001-2015, but the rate decreased by 2.78% per year 2015-2019.

Liver

Liver cancer is a type of cancer that starts in the cells of the liver. The liver is an organ that sits in the upper-right portion of the abdomen, underneath the diaphragm and above the stomach. The liver has many functions, including removing toxins from the blood supply, maintaining blood sugar, and controlling the blood clotting process.

- Liver cancer was the 15th most diagnosed cancer in Alaska in 2019, 2.2% of total cancer cases.
- Males were more than three times as likely to develop liver cancer compared to females.
- People who identify as Alaska Native were more likely to develop liver cancer and to die from liver cancer than those who identify as White.
- The incidence of liver cancer in Alaska increased by 1.53% per year between 1996-2019. Nationally, the rate increased by 4.94% per year between 2001-2008, by 2.37% per year between 2008-2015, and then began to decrease by 2.52% between 2015-2019.
- Risk factors include chronic viral hepatitis, cirrhosis, certain inherited metabolic diseases, heavy alcohol use, smoking, obesity, and type 2 diabetes.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	12.7	8.4	57	32
Female	4.0*	3.4*	13	12
Total	8.4	5.8	70	44

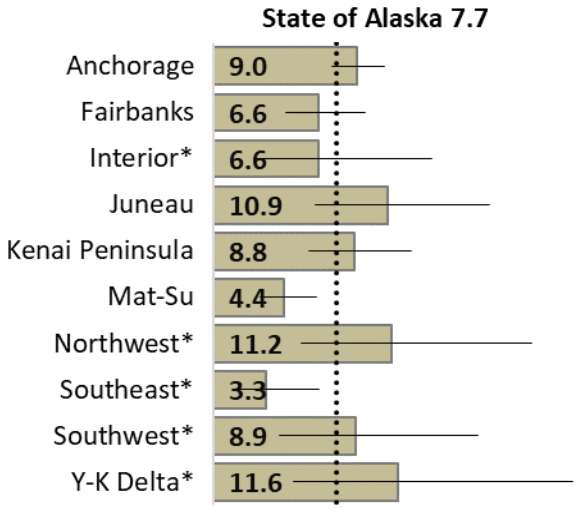
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	6.2	3.7	196	110
Alaska Native	14.3	7.2	76	30
Black	9.0*	^	13	^
Asian/Pacific Islander	10.2	5.8*	23	15
Hispanic**	10.5*	5.9*	13	7
Total***	7.7	4.5	308	166

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

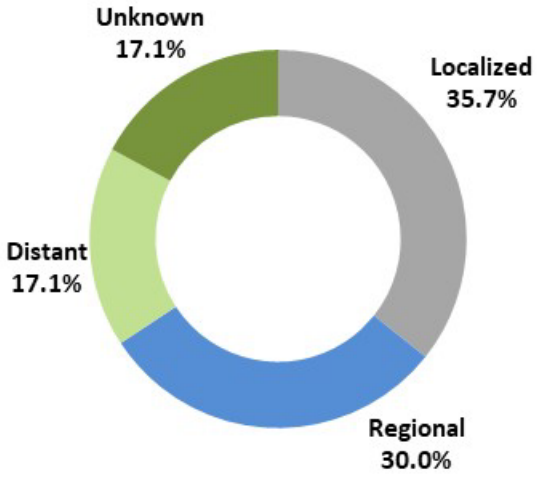


Incidence Rate by AK Behavioral Health Systems Region.

The liver cancer incidence rate for Alaska from 2015-2019 was 7.7 per 100,000. Two of the 10 Alaska Behavioral Health System Regions had significantly lower rates than the state: Mat-Su (4.4) and Southeast (3.3).

* Rates based on <20 events are statistically unreliable and should be used with caution.

Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

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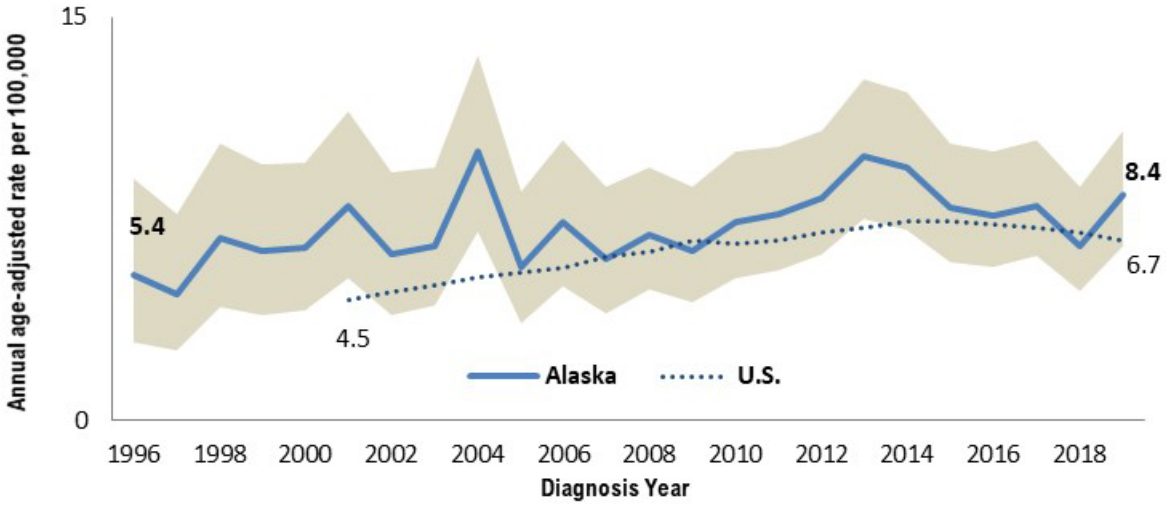
Liver Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of liver cancer in Alaska increased by 1.53% per year between 1996-2019. Nationally, the rate increased by 4.94% per year between 2001-2008, by 2.37% per year between 2008-2015, and then began to decrease by 2.52% between 2015-2019.

Lung and Bronchus

Lung and bronchus cancer, commonly referred to as lung cancer, begins in the cells lining the bronchi and other parts of the lungs—the bronchioles and alveoli. The body has two lungs that sit inside the chest that help you to breathe by inhaling oxygen and releasing carbon dioxide when you exhale. Lung cancer is the leading cause of cancer deaths globally.

- Lung cancer was the 3rd most diagnosed cancer in Alaska in 2019, 12.4% of total cancer cases.
- Alaskans who identify as Alaska Native had the highest rates of developing (86.8 per 100,000) and dying (53.9 per 100,000) from lung cancer compared to those who identify as White, Black, Asian/Pacific Islander (PI). Those identifying as White were more likely to die of lung cancer than those identifying as Asian/Pacific Islander. Alaskans of any race who identify as Hispanic were less likely to die of lung cancer than those who did not identify as Hispanic.
- After remaining stable from 1996-2006, the incidence of lung cancer in Alaska decreased by 3.07% per year between 2006-2019. Nationally, after being stable between 2001-2006, the rate decreased by 1.81% per year between 2006-2017, and by 3.40% per year between 2017-2019.
- Risk factors include smoking tobacco, secondhand smoke, exposure to radon or asbestos, workplace cancer-causing agents, and exposure to arsenic in drinking water. Nonmodifiable risk factors include air pollution, family history of lung cancer, and previous radiation therapy to the lungs.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	52.9	33.1	199	118
Female	51.9	28.5	197	106
Total	52.3	30.8	396	224

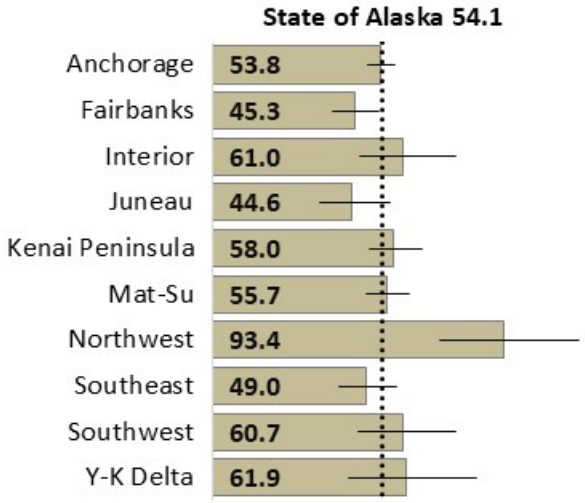
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	50.1	33.2	1,335	825
Alaska Native	86.8	53.9	400	237
Black	47.5	26.8	45	26
Asian/Pacific Islander	38.0	19.9	89	45
Hispanic**	37.7	17.3*	36	15
Total***	54.1	34.9	1,871	1,139

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

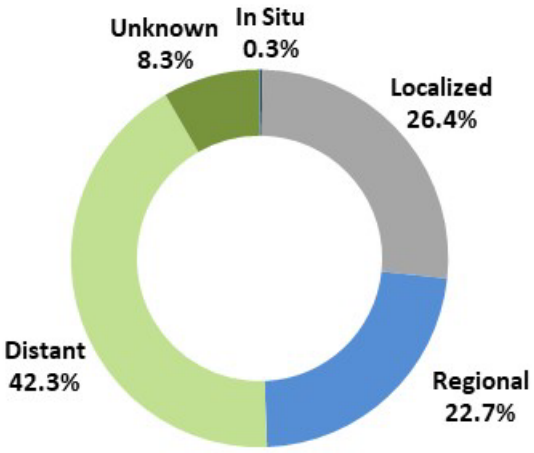
Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



Incidence Rate by AK Behavioral Health Systems Region.

The lung cancer incidence rate for Alaska from 2015-2019 was 54.1 per 100,000. One region, Northwest (93.4) had a rate that was significantly different than the state overall: Fairbanks (45.3) had a lower rate.

Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

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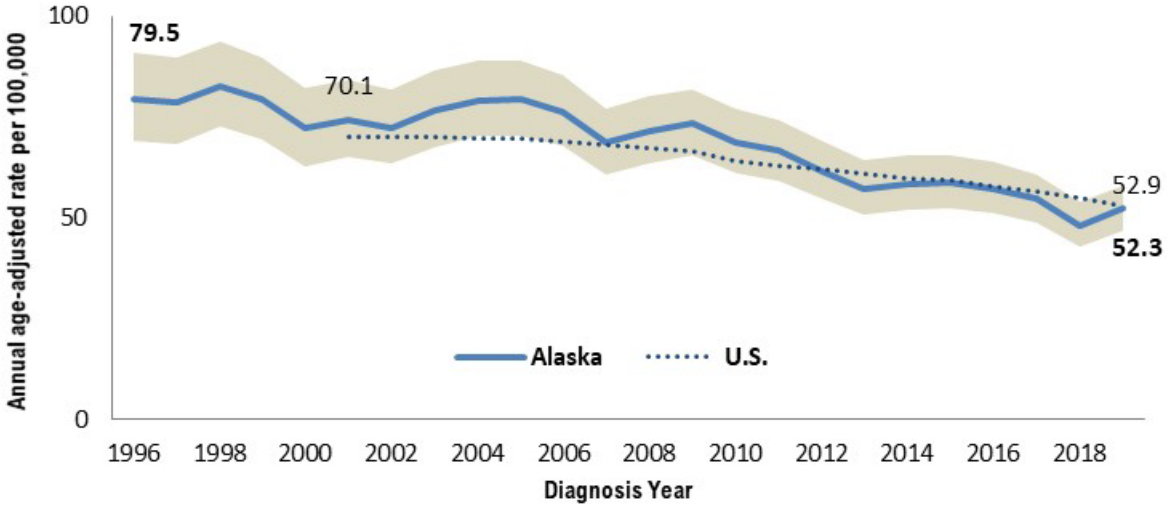
Lung Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

After remaining stable from 1996-2006, the incidence of lung cancer in Alaska decreased by 3.07% per year between 2006-2019. Nationally, after being stable between 2001-2006, the rate decreased by 1.81% per year between 2006-2017, and by 3.40% per year between 2017-2019.

Melanoma of the Skin

Melanoma is a type of skin cancer that develops in skin cells called melanocytes. Melanocytes make a pigment called melanin which gives skin its color. When melanocytes start to grow out of control, a person can develop melanoma.

Melanoma is a serious type of skin cancer because it is more likely to spread to other body parts if not diagnosed and treated early. Melanoma most commonly develops on the chest, back, legs, neck, and face. You can reduce your risk of developing melanoma by limiting exposure to ultraviolet rays (UV).

- Melanoma is the 8th most diagnosed cancer in Alaska in 2019, 3.5% of total cancer cases.
- Alaskans who identify as White were more likely to develop melanoma than any other race group.
- The incidence of melanoma in Alaska increased by 1.41% per year between 1996-2019, although it is lower than the national rate. Nationally, the rate increased by 1.96% per year between 2001-2016, and has not changed significantly between 2016-2019.
- Melanoma risk factors include UV ray exposure, having fair skin, moles, prior history of skin cancer, and having a first-degree family history.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	15.3	2.7*	57	8
Female	15.7	^	55	^
Total	15.4	1.6*	112	11

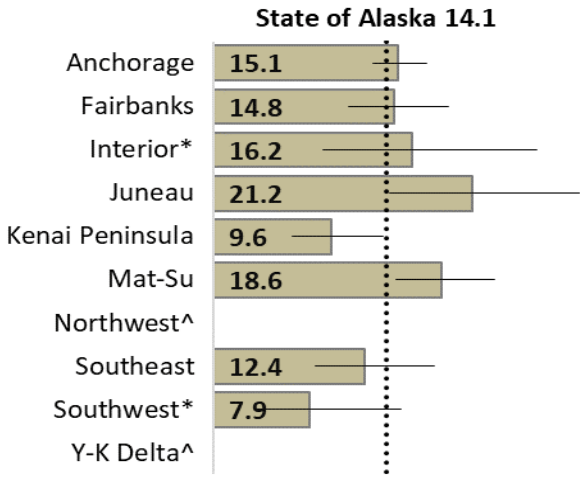
^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	17.1	2.2	454	55
Alaska Native	5.4	^	30	^
Black	^	^	^	^
Asian/Pacific Islander	^	^	^	^
Hispanic**	^	^	^	^
Total***	14.1	1.7	499	57

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. **Hispanic persons can be of any race. *** Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



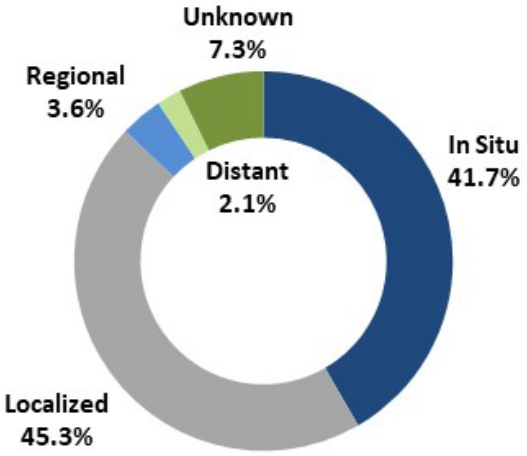
Incidence Rate by AK Behavioral Health Systems Region.

The melanoma incidence rate for Alaska from 2015-2019 was 14.1 per 100,000. Two regions, Juneau (21.2) and Mat-Su (18.6), had significantly higher rates than the state overall. Kenai Peninsula (9.6) had a significantly lower rate than the state.

^ Indicates statistic not displayed due to fewer than 6 cases.

* Rates based on <20 events are statistically unreliable and should be used with caution.

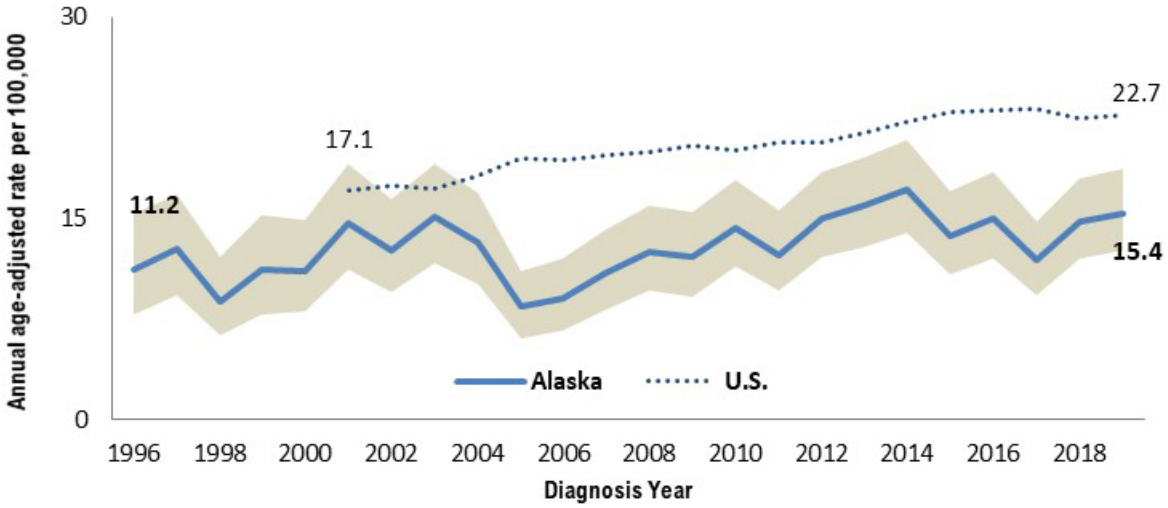
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine the stage.

Melanoma of the Skin Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of melanoma in Alaska increased by 1.41% per year between 1996-2019, although it is lower than the national rate. Nationally, the rate increased by 1.96% per year between 2001-2016, and has not changed significantly between 2016-2019.

Myeloma

Myeloma is a type of cancer that starts in your bone marrow—the blood-producing tissue inside your bones—and affects plasma cells. Plasma cells are a type of white blood cell that makes antibodies and helps a person fight an infection when they are sick.

- Myeloma was ranked the 17th most diagnosed cancer in Alaska in 2019, 1.3% of total cancer cases.
- There were no significant differences by gender, race or ethnicity.
- The incidence of myeloma in Alaska has not changed significantly between 1996-2019. Nationally, the rate has increased by 0.73% per year between 2001-2007, by 2.90% between 2007-2011, by 1.00% between 2011-2016, and by 1.95% between 2016-2019.
- The risk of myeloma increases with age. Males are more likely to develop myeloma compared to females. Other risk factors include family history of myeloma, personal history of monoclonal gammopathy of undetermined significance (MGUS), obesity, and exposure to radiation.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	6.9	3.0*	24	11
Female	4.5*	2.3*	16	7
Total	5.5	2.7*	40	18

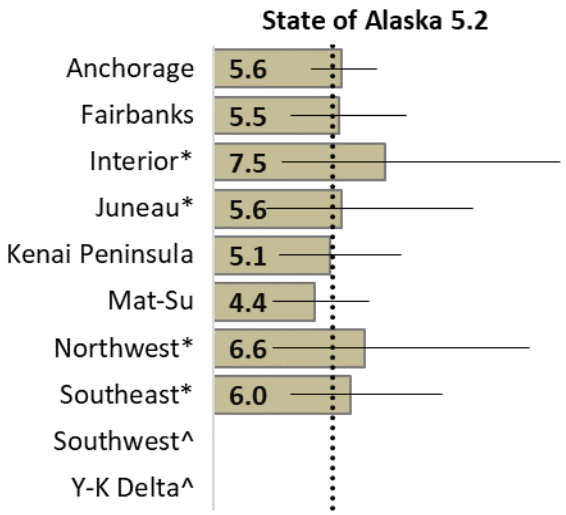
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	4.9	2.4	135	55
Alaska Native	6.3	1.9*	28	8
Black	5.5*	^	6	^
Asian/Pacific Islander	4.6*	3.8*	12	8
Hispanic**	^	^	^	^
Total***	5.2	2.4	183	74

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



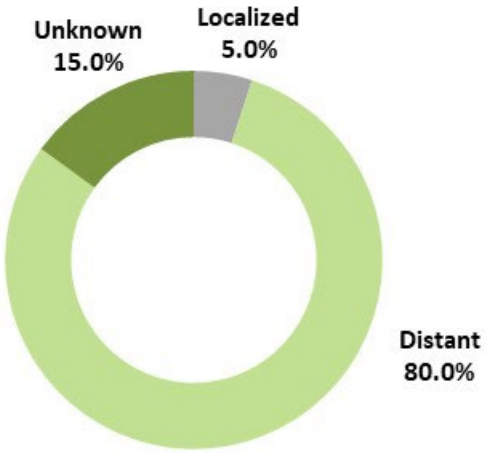
Incidence Rate by AK Behavioral Health Systems Region.

The myeloma incidence rate for Alaska from 2015-2019 was 5.2 per 100,000. None of the regions with reportable rates were significantly different from the overall state rate.

^ Indicates statistic not displayed due to fewer than 6 cases.

* Rates based on <20 events are statistically unreliable and should be used with caution.

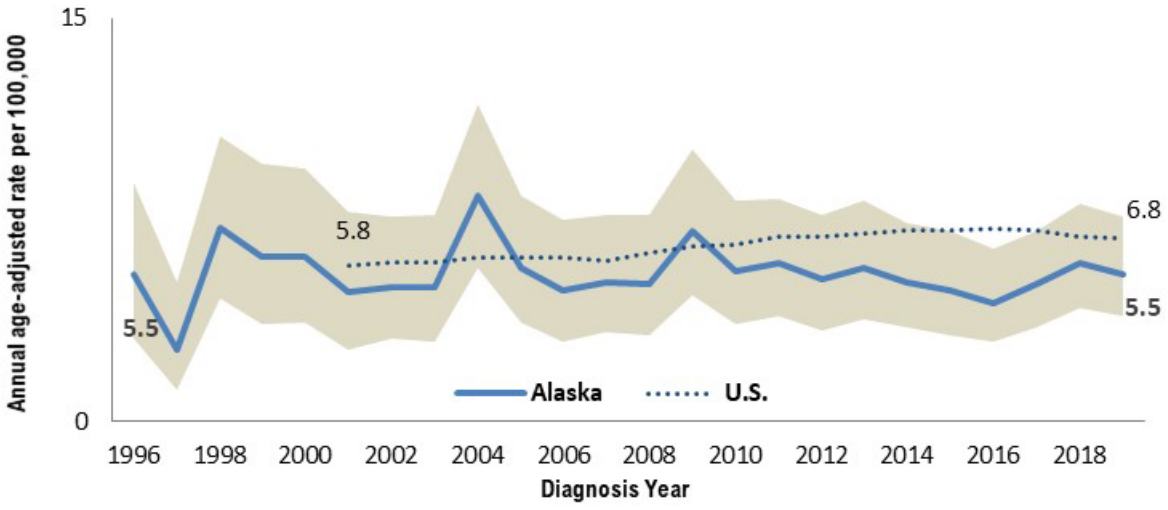
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to figure out the stage.

Myeloma Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of myeloma in Alaska has not changed significantly between 1996-2019. Nationally, the rate has increased by 0.73% per year between 2001-2007, by 2.90% between 2007-2011, by 1.00% between 2011-2016, and by 1.95% between 2016-2019.

Non-Hodgkin's Lymphoma (NHL)

Non-Hodgkin's Lymphoma (NHL) is a type of cancer that starts in white blood cells also known as lymphocytes. NHL affects the lymphatic system which is a part of the immune system that helps to fight off infection and disease.

- NHL was the 5th most diagnosed cancer in Alaska in 2019, 4.5% of total cancer cases.
- There were no significant differences by gender, race or ethnicity.
- The incidence of NHL in Alaska decreased by 0.96% per year between 1996-2019. Nationally, the rate increased by 1.26% per year between 2001-2004, and then decreased by 0.17% per year between 2004-2015 and decreased by 1.83% per year between 2016-2019.
- The risk of NHL increases with age with most cases occurring after 60 years old. Having a first-degree relative with NHL also increases your risk. Other risk factors include certain chemical exposures, radiation, and having a weakened immune system.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	22.0	7.3	80	20
Female	17.5	4.9*	64	15
Total	19.8	5.8	144	35

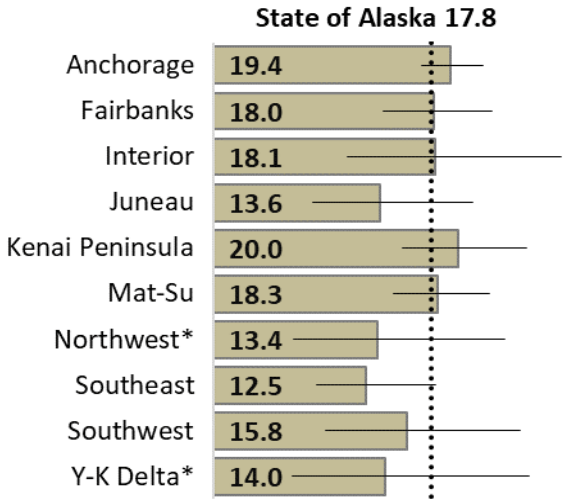
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	18.5	6.0	502	141
Alaska Native	15.7	4.6*	77	19
Black	15.7*	^	18	^
Asian/Pacific Islander	13.0	5.3*	34	11
Hispanic**	14.6*	^	19	^
Total***	17.8	5.7	636	176

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

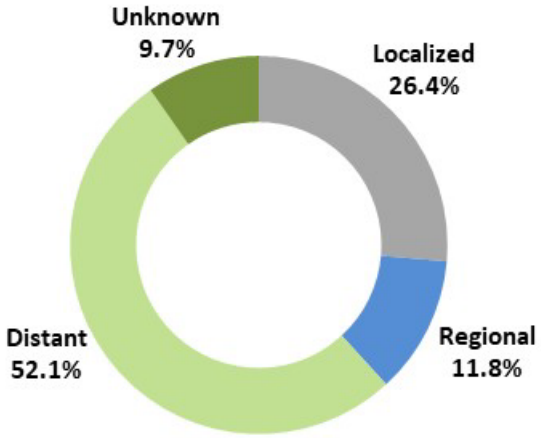


Incidence Rate by AK Behavioral Health Systems Region.

The Non-Hodgkin's Lymphoma (NHL) incidence rate for Alaska from 2015-2019 was 17.8 per 100,000. None of the 10 Alaska Behavioral Health System Regions were significantly different from the overall state rate.

* Rates based on <20 events are statistically unreliable and should be used with caution.

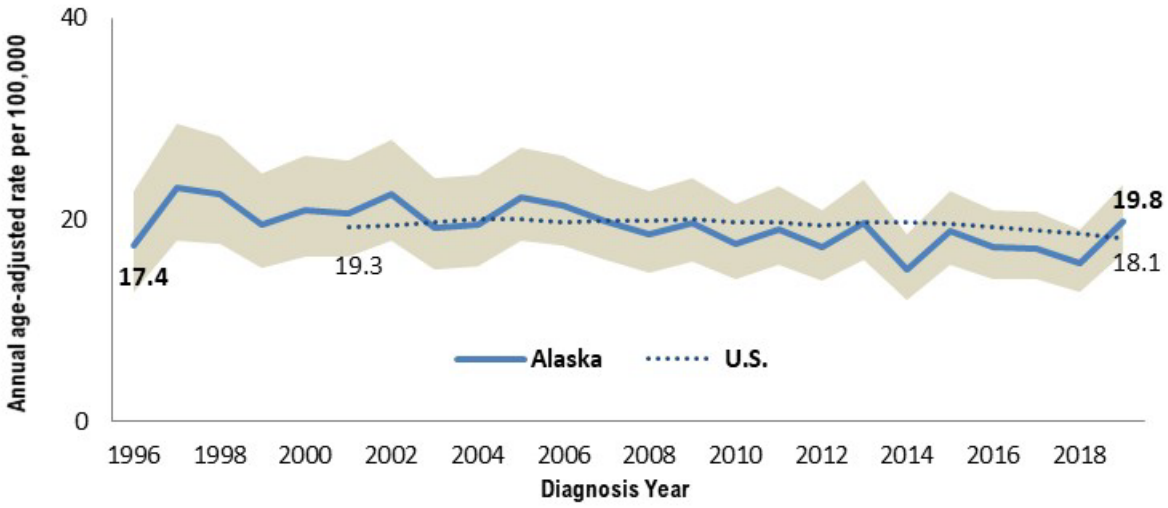
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine the stage.

NHL Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of NHL in Alaska decreased by 0.96% per year between 1996-2019. Nationally, the rate increased by 1.26% per year between 2001-2004, and then decreased by 0.17% per year between 2004-2015 and decreased by 1.83% per year between 2016-2019.

Oral Cavity and Pharynx

Oral cavity and pharynx cancer affects the mouth, throat, and pharynx regions. Cancers in these regions can begin in the lips, teeth, gums, roof of the mouth, tongue, cheeks, neck, or throat.

- Oral Cavity and Pharynx cancer was the 10th most diagnosed cancer in Alaska in 2019, 3.3% of total cancer cases.
- In 2019, males were twice as likely as females to develop oral cavity and pharynx cancer.
- People who identify as Alaska Native were more likely to die of oral cavity and pharynx cancer than those who identify as White. Those who identify as Asian/Pacific Islander were less likely to develop oral cavity and pharynx cancer than those identifying as White.
- The incidence of oral cancer in Alaska has not changed significantly between 1996-2019. Nationally, the oral cancer rate increased by 0.98% per year between 2005-2016.
- The risk of oral cavity and pharynx cancer increases with age. Other risk factors include use of any tobacco products and alcohol, ultraviolet (UV) light exposure, human papillomavirus (HPV) infection, and certain occupational industries that expose workers to wood dust, formaldehyde, asbestos, nickel, and other chemicals that increase the risk of oral cavity and pharynx cancer.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	18.0	3.8*	72	16
Female	8.9	1.7*	34	6
Total	13.6	2.8	106	22

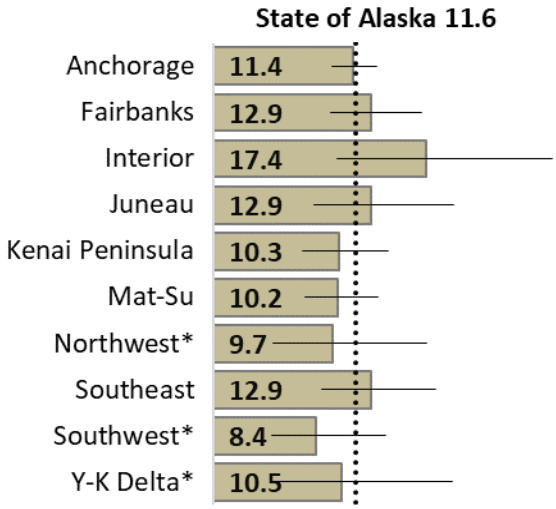
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	11.6	1.9	343	55
Alaska Native	14.8	6.0	80	32
Black	9.9*	^	10	^
Asian/Pacific Islander	5.6*	^	15	^
Hispanic**	11.8*	^	15	^
Total***	11.6	2.5	450	94

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

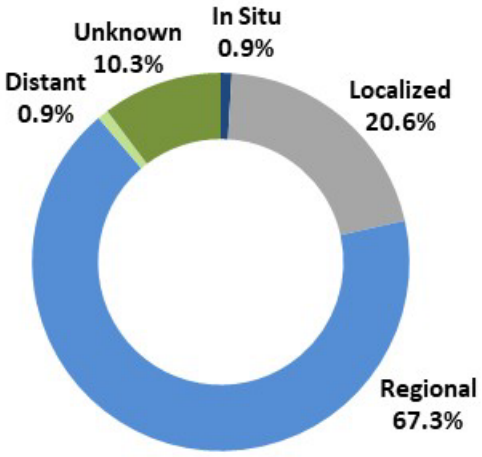


Incidence Rate by AK Behavioral Health Systems Region.

The oral cavity and pharynx cancer incidence rate for Alaska from 2015-2019 was 11.6 per 100,000. None of the region rates were significantly different from the overall state rate.

* Rates based on <20 events are statistically unreliable and should be used with caution.

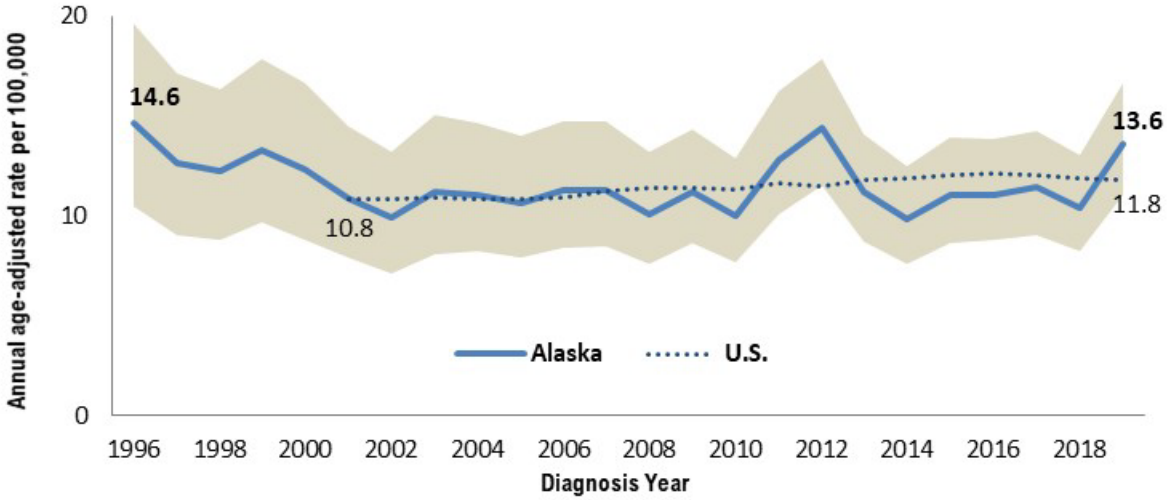
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine the stage.

Oral Cavity and Pharynx Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of oral cancer in Alaska has not changed significantly between 1996-2019. Nationally, the oral cancer rate increased by 0.98% per year between 2005-2016.

Ovary

Ovarian cancer develops when cells in the ovary grow out of control. The ovaries are reproductive glands that make eggs for reproduction, secrete both estrogen and progesterone, and are found on either side of the uterus. Non-cancerous ovarian tumors do not spread outside of the ovaries, whereas, cancerous, also known as malignant, tumors can spread to other parts of the body.

- Ovarian cancer tied with cancer of the esophagus as the 19th most diagnosed cancer in Alaska in 2019, 1% of total cancer cases.
- There were no significant differences by race or by ethnicity.
- The incidence of ovarian cancer in Alaska decreased by 1.85% per year between 1996-2019. Nationally, the rate declined by 1.58% per year between 2001-2015, and by 3.65% per year between 2015-2019.
- The risk of ovarian cancer increases with age and for those who have a family history of ovarian, breast, or colorectal cancer. Some other risk factors include being overweight or obese, post-menopausal hormone replacement therapy, age of menstruation (started and ended), and endometriosis.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	NA	NA	NA	NA
Female	8.6	5.2*	31	19
Total	8.6	5.2*	31	19

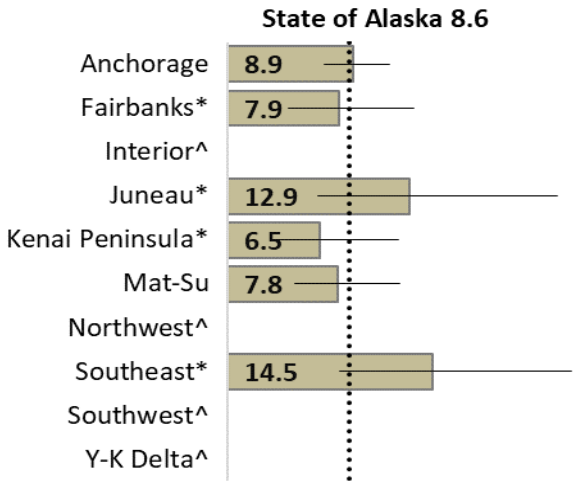
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	9.2	5.8	122	76
Alaska Native	6.3*	3.9*	18	11
Black	^	^	^	^
Asian/Pacific Islander	9.0*	7.3*	14	10
Hispanic**	8.9*	11.8*	7	6
Total***	8.6	5.6	157	98

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

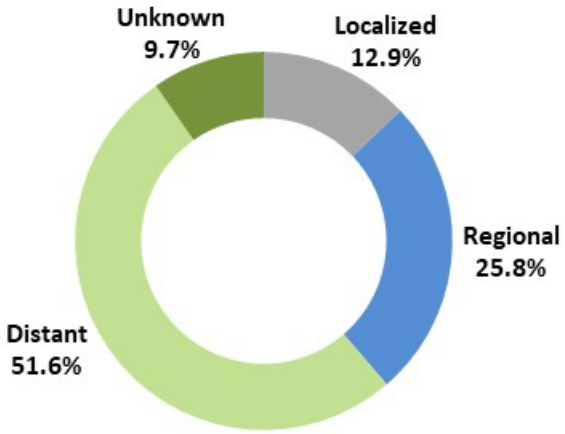


Incidence Rate by AK Behavioral Health Systems Region.

The ovarian cancer incidence rate for Alaska from 2015-2019 was 8.6 per 100,000. None of the regions with reportable rates were significantly different from the overall state rate.

^ Indicates statistic not displayed due to fewer than 6 cases.
* Rates based on <20 events are statistically unreliable and should be used with caution.

Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

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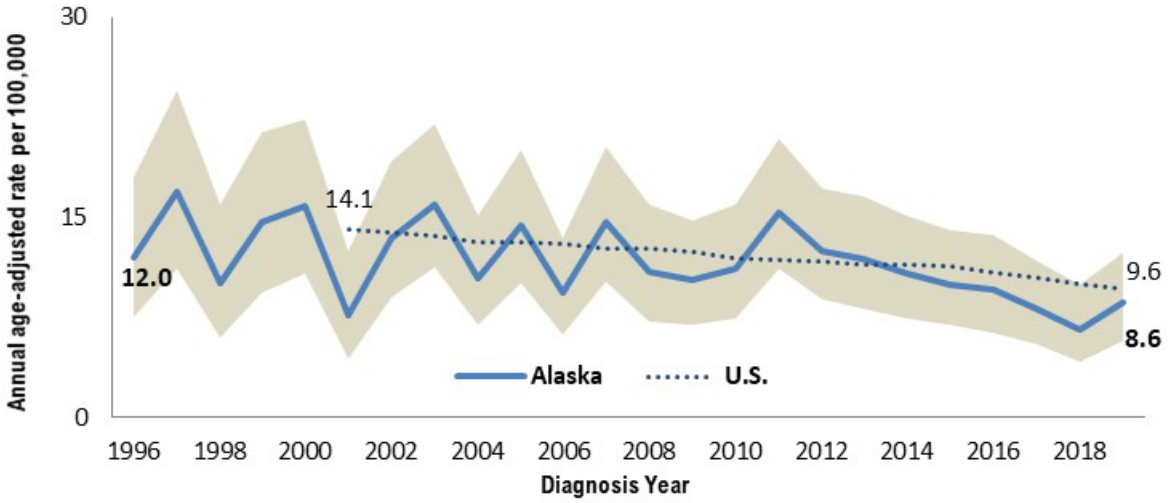
Ovarian Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of ovarian cancer in Alaska decreased by 1.85% per year between 1996-2019. Nationally, the rate declined by 1.58% per year between 2001-2015, and by 3.65% per year between 2015-2019.

Pancreas

Pancreatic cancer is a disease that begins in the pancreas. The pancreas is an organ located in the abdomen behind the lower part of your stomach and helps to digest food and manage your blood sugar. The most common type of pancreatic cancer starts in the cells that make up the inner lining of the pancreatic ducts. These ducts help to carry digestive enzymes outside of the pancreas.

- Pancreatic cancer was the 11th most diagnosed cancer in Alaska in 2019, 3.0% of total cancer cases.
- People who identify as Alaska Native were more likely to develop pancreatic cancer than those who identify as White.
- The incidence of pancreatic cancer in Alaska has not changed significantly between 1996-2019. Nationally, the rate increased by 1.62% per year between 2001-2006, and then by 0.89% per year between 2006-2019.
- The risk of pancreatic cancer increases with age. Other risk factors include smoking, diabetes, pancreatitis, obesity, and a family history.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	14.0	10.8	52	38
Female	12.1	8.1	44	32
Total	12.9	9.3	96	70

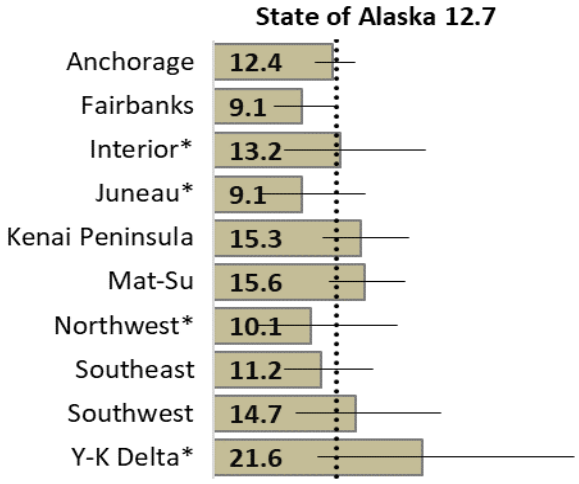
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	12.0	10.0	319	262
Alaska Native	17.9	12.0	83	56
Black	16.2*	15.1*	17	15
Asian/Pacific Islander	10.1	6.5*	23	14
Hispanic**	11.5*	9.0*	11	7
Total***	12.7	10.2	442	348

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

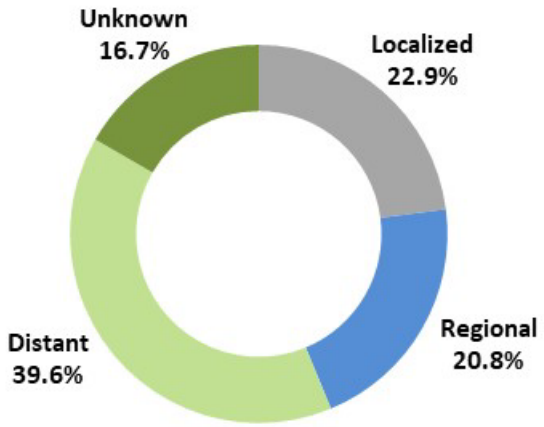


Incidence Rate by AK Behavioral Health Systems Region.

The pancreatic cancer incidence rate for Alaska from 2015-2019 was 12.7 per 100,000. None of the region rates were significantly different from the overall state rate.

* Rates based on <20 events are statistically unreliable and should be used with caution.

Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

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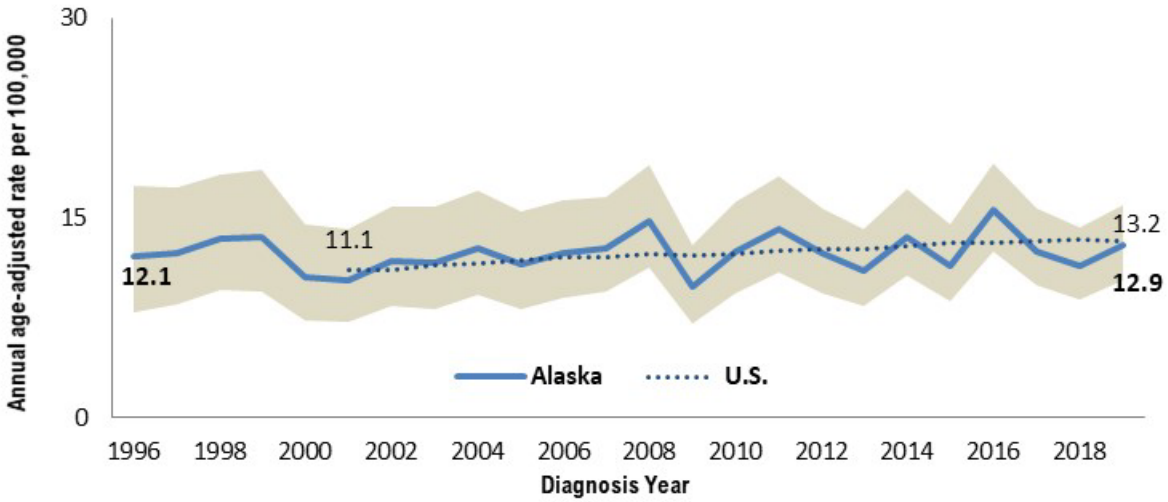
Pancreatic Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of pancreatic cancer in Alaska has not changed significantly between 1996-2019. Nationally, the rate increased by 1.62% per year between 2001-2006, and then by 0.89% per year between 2006-2019.

Prostate

Prostate cancer is a disease that affects only males and begins when cells in the prostate gland grow out of control. The prostate is a gland that is located below the bladder and in front of the rectum and is part of the male reproductive system. The prostate gland makes a fluid that is part of semen.

- Prostate cancer was the 2nd most diagnosed cancer in Alaska in 2019, 12.8% of total cancer cases. It ranked first in males, affecting 98.7 per 100,000 people.
- Alaskans who identify as Black or White were more likely to develop prostate cancer than those identifying as Alaska Native or Asian/Pacific Islander.
- From 1996-2019 the incidence of prostate cancer in Alaska decreased by 3.65% per year; however, there was no significant change for 2013-2019 alone. Nationwide, the incidence of prostate cancer has declined or been stable between 2001-2019.
- The risk of prostate cancer increases with age and for those who have a family history. African American men have an increased risk of getting, or dying from, prostate cancer.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	98.7	24.2	409	65
Female	NA	NA	NA	NA
Total	98.7	24.2	409	65

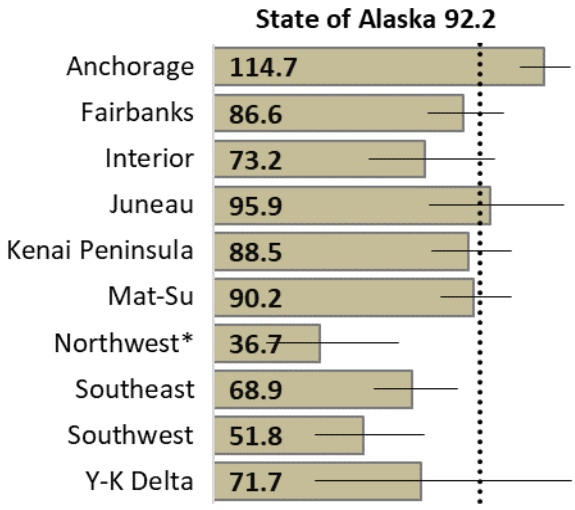
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

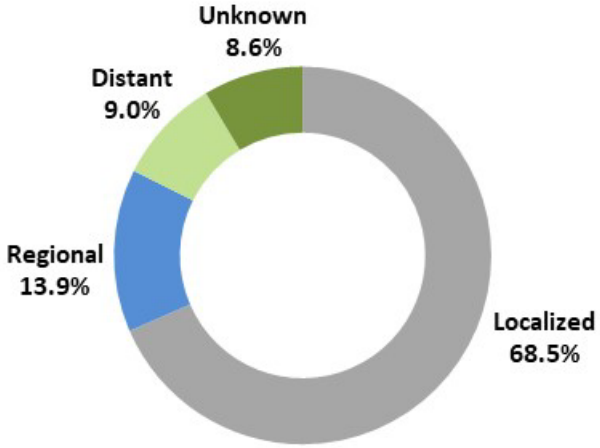
Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	96.3	19.0	1494	190
Alaska Native	67.8	17.0	144	20
Black	123.7	39.3*	78	11
Asian/Pacific Islander	49.5	11.9*	55	8
Hispanic**	83.6	37.9*	42	10
Total***	92.2	19.1	1,790	231

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



Stage at Diagnosis, 2019



Incidence Rate by AK Behavioral Health Systems Region.

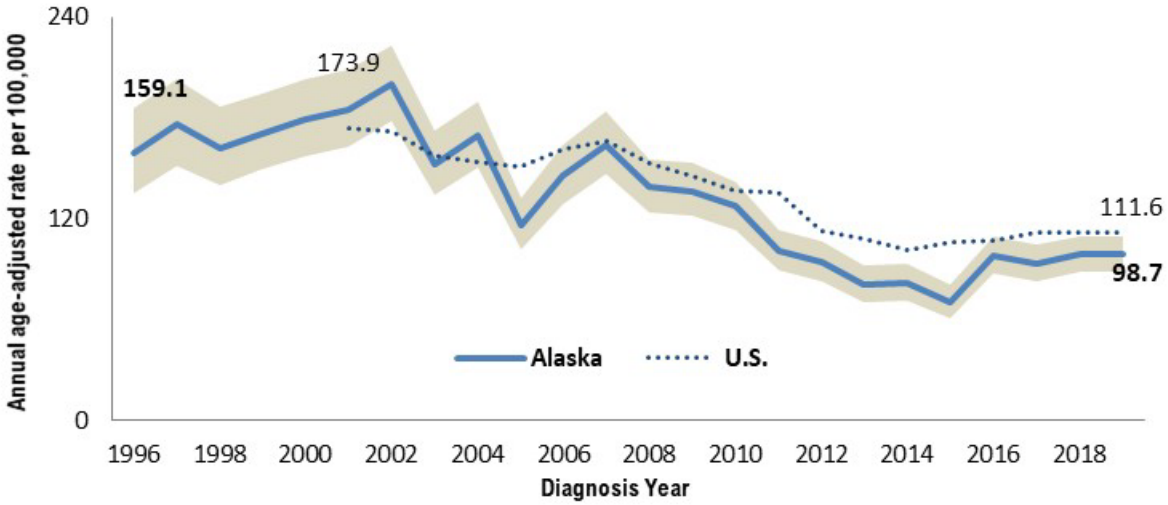
The prostate cancer incidence rate for Alaska from 2015-2019 was 92.2 per 100,000. One region, Anchorage (114.7), had a significantly higher rate and three regions had significantly lower rates than the state overall: Northwest (36.7), Southeast (68.9) and Southwest (51.8).

* Rates based on <20 events are statistically unreliable and should be used with caution.

Stage at Diagnosis Definitions.

In situ: Abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to determine the stage.

Prostate Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of prostate cancer in Alaska decreased by 3.65% per year for all of 1996-2019; between 1996-2009 rates declined by 1.75% per year, between 2009-2013 rates declined by 14.05% per year, and between 2013-2019 rates did not change significantly. Nationwide, the incidence of prostate cancer did not change significantly between 2001-2007, declined significantly by 6.60% per year between 2007-2014, and did not change significantly between 2014-2019.

Stomach

Stomach cancer, also known as gastric cancer, is a type of cancer that starts in the stomach. The stomach is an organ located in your abdomen and is a major part of your digestive system.

Stomach cancer is usually slow growing over many years and classified by what cells, or where in the stomach, the cancer begins. The stomach has five layers (innermost to outermost): mucosa, submucosa, muscularis propria, subserosa, and serosa. Cancer becomes more advanced as it grows from the innermost layer (mucosa) into the deeper layers.

- Stomach cancer was the 16th most diagnosed cancer in Alaska in 2019, 1.5% of cancer cases.
- People who identify as Alaska Native or Asian/Pacific Islander were more likely to develop stomach cancer or to die of stomach cancer than those who identify as White.
- From 1996-2019 the incidence of stomach cancer in Alaska decreased by 1.23% per year. Nationwide, the incidence of stomach cancer has declined or been stable between 2001-2019.
- The risk of stomach cancer increases with age. Other factors include H pylori infection, being overweight or obese, smoking, diet high in salty and smoked foods, gastroesophageal reflux, and family history of either stomach cancer or certain genetic syndromes.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	8.0	4.6*	32	16
Female	4.9*	2.1*	16	8
Total	6.6	3.3	48	24

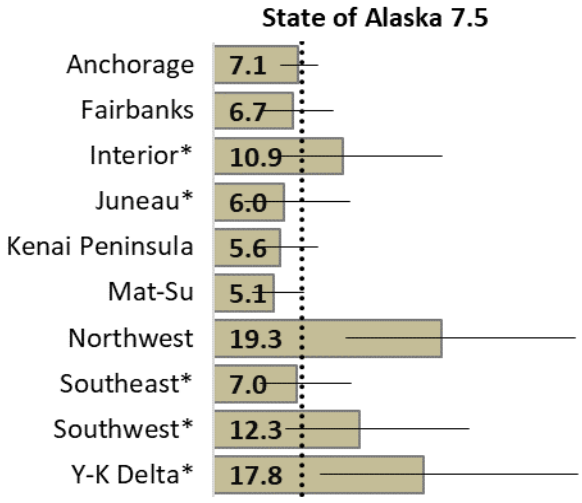
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	5.0	2.2	136	55
Alaska Native	18.1	12.2	87	59
Black	7.8*	8.2*	6	7
Asian/Pacific Islander	12.8	6.5*	29	16
Hispanic**	11.7*	^	10	^
Total***	7.5	4.1	260	138

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

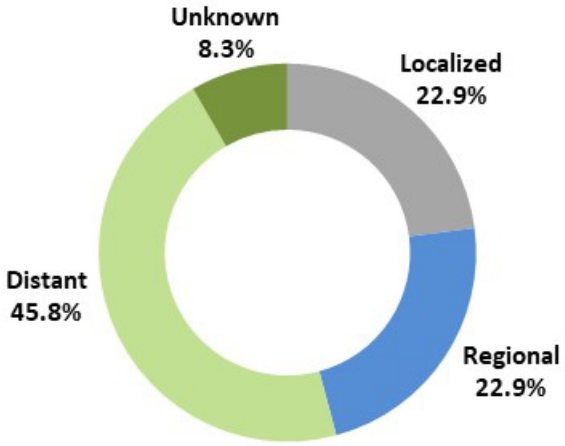


Incidence Rate by AK Behavioral Health Systems Region.

The stomach cancer incidence rate for Alaska from 2015-2019 was 7.5 per 100,000. Two of the 10 Alaska Behavioral Health System Regions had rates that were significantly higher than the state overall: Northwest (19.3) and Y-K Delta (17.8).

* Rates based on <20 events are statistically unreliable and should be used with caution.

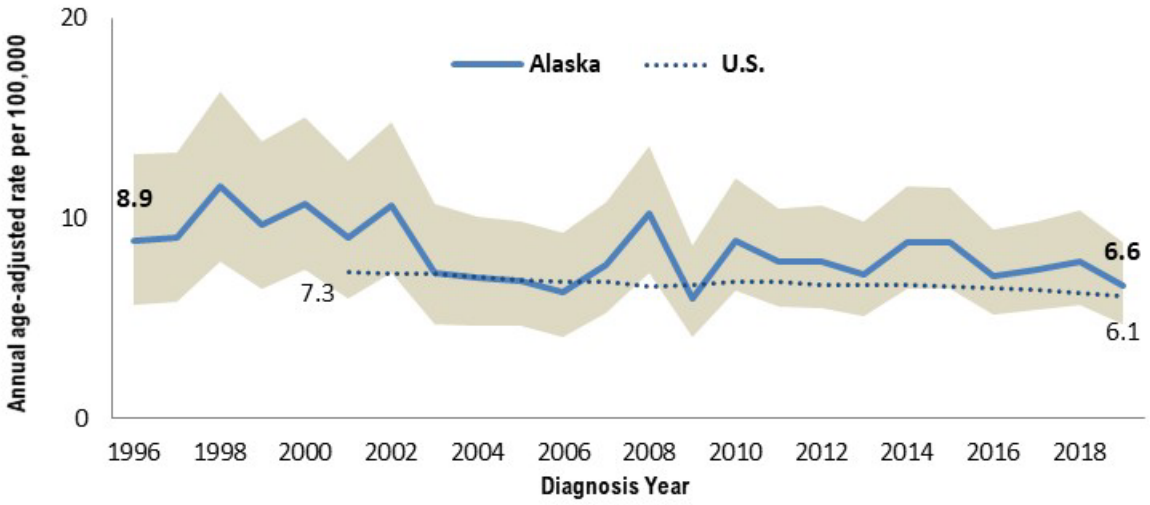
Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

In situ: abnormal cells are present but have not spread to nearby tissue. Localized: Cancer is limited to the place where it started. Regional: Cancer has spread to nearby lymph nodes, tissues, or organs. Distant: Cancer has spread to distant parts of the body. Unknown: There is not enough information to figure out the stage.

Stomach Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

From 1996-2019 the incidence of stomach cancer in Alaska decreased by 1.23% per year. Nationwide, the rate decreased by 1.29% per year between 2001-2008, and then decreased again by 1.84% per year between 2014-2019.

Thyroid

Thyroid cancer is a disease where cells in the thyroid gland grow out of control. The thyroid gland is located at the front of your neck, commonly known as your "Adam's apple." The thyroid gland is responsible for making hormones that regulate your heart rate, metabolism, blood pressure, and body temperature.

The thyroid gland has two main types of cells: follicular cells and C cells. The type of thyroid cancer a person develops depends on what cells are affected.

- Thyroid cancer was the 12th most diagnosed cancer in Alaska in 2019, 2.8% of total cancer cases.
- Females were more than two times more likely than males to develop thyroid cancer.
- Alaskans of any race who identify as Hispanic were less likely to develop thyroid cancer than those who did not identify as Hispanic.
- The incidence of thyroid cancer in Alaska has not changed significantly between 1996-2019. Nationally, the rate increased by 7.32% per year between 2001-2009, and then increased more gradually by 1.86% per year between 2009-2014, and by 2.76% per year between 2014-2019.
- Risk factors include exposure to radiation, being overweight or obese, or having too much or too little iodine in your diet. Nonmodifiable risk factors include gender and age, certain hereditary conditions, and a family history of thyroid cancer.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	7.1	^	26	^
Female	18.0	^	63	^
Total	12.3	^	89	^

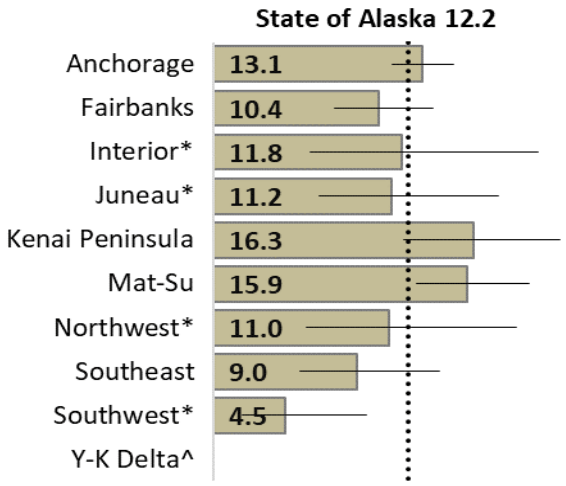
^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	11.7	0.2	322	7
Alaska Native	14.9	^	78	^
Black	7.1*	^	11	^
Asian/Pacific Islander	13.9	^	42	^
Hispanic**	5.3*	^	13	^
Total***	12.2	0.3	455	9

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019



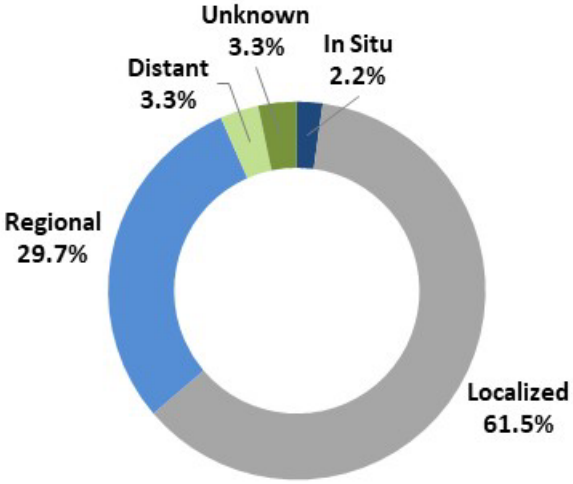
Incidence Rate by AK Behavioral Health Systems Region.

The thyroid cancer incidence rate for Alaska from 2015-2019 was 12.2 per 100,000. Of those regions with reportable rates, Mat-Su (15.9) was significantly higher and Southwest (4.5) was significantly lower than the state overall.

^ Indicates statistic not displayed due to fewer than 6 cases.

* Rates based on <20 events are statistically unreliable and should be used with caution.

Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

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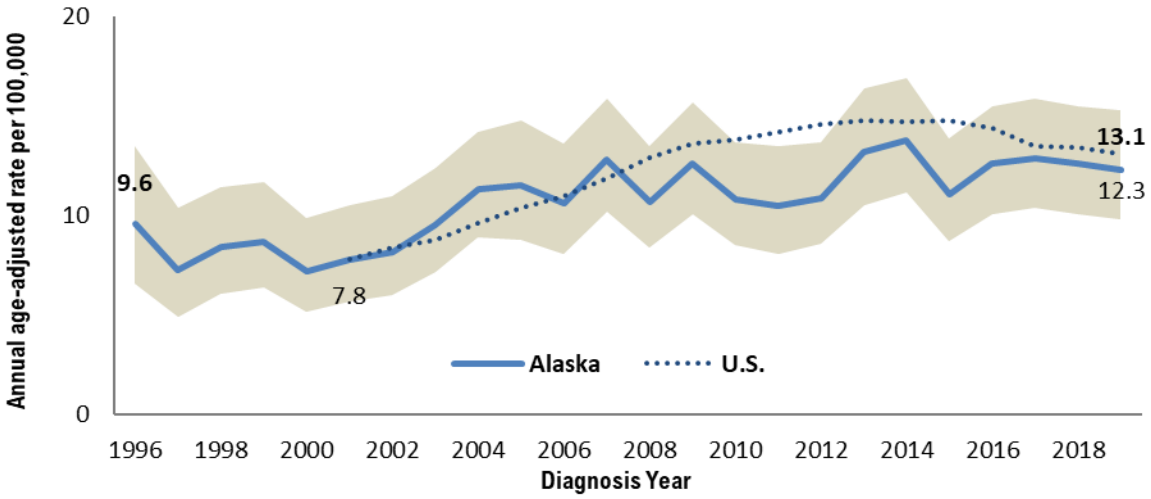
Thyroid Cancer Incidence Trend, Alaska and U.S., 1996-2019



Shading shows 95% confidence interval for Alaska's annual rates. 95% confidence interval for U.S. rates is about +- 0.3.

Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of thyroid cancer in Alaska has not changed significantly between 1996-2019. Nationally, the rate increased by 7.32% per year between 2001-2009, and then increased more gradually by 1.86% per year between 2009-2014, and by 2.76% per year between 2014-2019.

Uterus

Uterine cancer is a type of cancer that develops in the body of the uterus. There are two types of uterine cancer: endometrial cancer and uterine sarcoma.

Endometrial cancer starts in the innermost lining of the uterus and is the most common cancer of the reproductive system. Uterine sarcoma starts in the muscle wall of the uterus, also known as the myometrium, and is a rare type of cancer.

- Uterine cancer was the 9th most diagnosed cancer in Alaska in 2019, 3.4% of total cancer cases.
- Alaskans who identify as White or Asian/Pacific Islander were more likely to develop uterine cancer than those who identify as Alaska Native.
- The incidence of uterine cancer in Alaska increased by 1.18% per year between 1996-2019. Nationally, the rate decreased by 2.24% per year between 2001-2003, and then increased by 1.34% per year between 2003-2016.
- The risk of uterine cancer increases with age, most cases occurring after 50 years of age. Other risk factors include diets high in animal fat, being overweight or obese, and a family history.

Incidence and Mortality Summary by Sex, 2019

Sex	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
Male	NA	NA	NA	NA
Female	28.3	4.1*	110	13
Total	28.3	4.1*	110	13

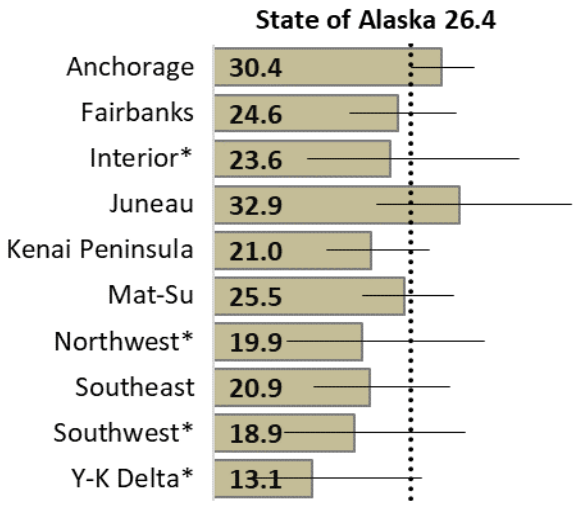
Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.

5-Year Incidence and Mortality Summary by Race/Ethnicity, 2015-2019

Race/Ethnicity	Incidence Rate	Mortality Rate	No. Of Cases	No. Of Deaths
White	26.9	2.8	395	35
Alaska Native	16.9	^	49	^
Black	25.1*	^	13	^
Asian/Pacific Islander	33.4	4.7*	52	8
Hispanic**	24.7*	^	16	^
Total***	26.4	3.2	511	55

^ Indicates statistic not displayed due to fewer than 6 cases. Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. All incidence rates are for malignant cases only. * Rates based on <20 events are statistically unreliable and should be used with caution.**Hispanic persons can be of any race. ***Total includes cases of unknown race and excludes the Hispanic count value.

Incidence Rate by Alaska Behavioral Health Systems Region, 2015-2019

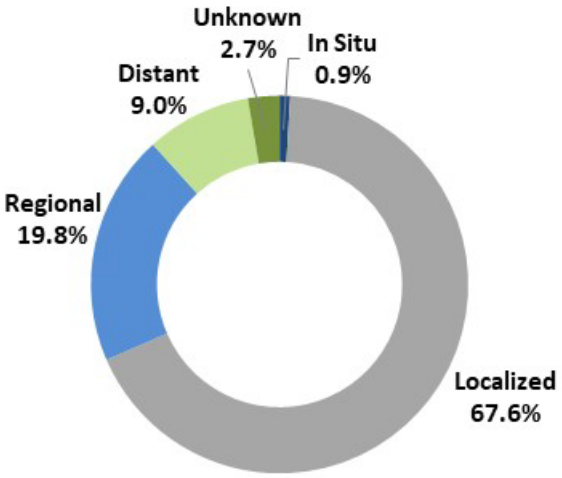


Incidence Rate by AK Behavioral Health Systems Region.

The uterine cancer incidence rate for Alaska from 2015-2019 was 26.4 per 100,000. Only Anchorage (30.4) had a significantly higher rate than the state overall.

* Rates based on <20 events are statistically unreliable and should be used with caution.

Stage at Diagnosis, 2019



Stage at Diagnosis Definitions.

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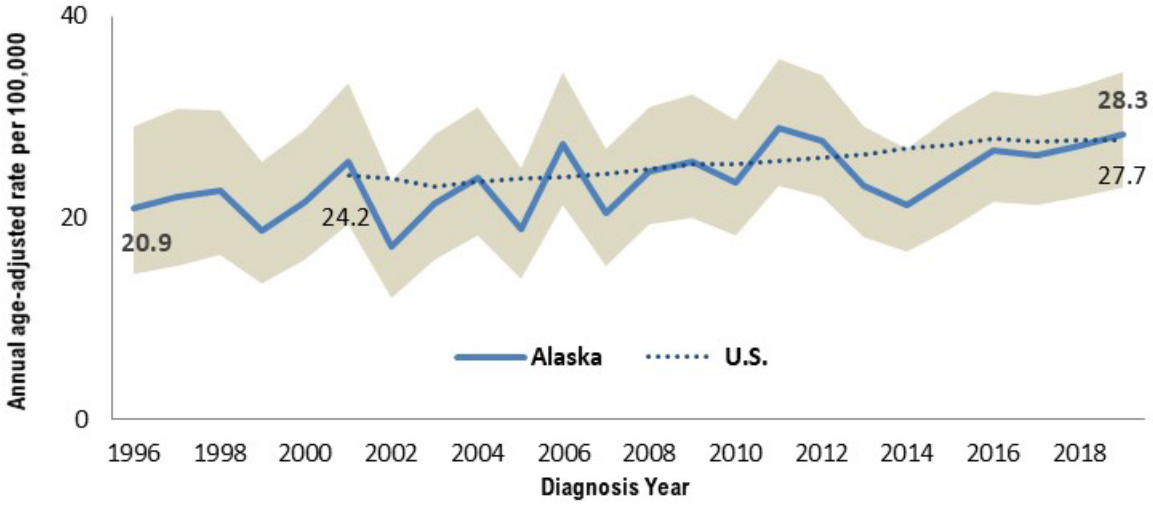
Uterine Cancer Incidence Trend, Alaska and U.S., 1996-2019



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Rates are per 100,000 and age-adjusted to the 2000 U.S. Population. Incidence rates are for malignant cases only. National data source: United States Cancer Statistics (Centers for Disease Control and Prevention [CDC] and the National Cancer Institute ([NCI]).

The incidence of uterine cancer in Alaska increased by 1.18% per year between 1996-2019. Nationally, the rate decreased by 2.24% per year between 2001-2003, and then increased by 1.34% per year between 2003-2016.