Annual Report of the Cancer Data Registry of Idaho

Cancer in Idaho – 2017

December 2019

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

IDAHO DEPARTMENT OF HEALTH & WELFARE

CANCER IN IDAHO – 2017

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PREFACE

"Cancer in Idaho – 2017," the forty-first annual report of the Cancer Data Registry of Idaho (CDRI), describes the state of cancer among Idaho residents, with a focus on cancer cases diagnosed during 2017. The data can be used by public health officials, hospital administrators, physicians, the Comprehensive Cancer Alliance for Idaho, and others to effectively plan services, appropriately allocate health resources, develop and measure prevention and intervention strategies, and identify high-risk populations in Idaho.

ACKNOWLEDGMENTS

The Idaho Hospital Association (IHA) contracts with, and receives funding from, the Idaho Department of Health and Welfare, Division of Public Health, to provide a statewide cancer surveillance system.

The statewide cancer registry database is a product of collaboration among many report sources, including hospitals, physicians, surgery centers, pathology laboratories, and other states in which Idaho residents are diagnosed or treated for cancer. Their cooperation in reporting timely, accurate, and complete cancer data is acknowledged and sincerely appreciated.

CDRI also thanks the Division of Public Health, Idaho Department of Health and Welfare, and the Comprehensive Cancer Alliance for Idaho for their continued partnership and for using CDRI data as a tool in cancer control and prevention.

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BACKGROUND

Introduction to the Cancer Data Registry of Idaho (CDRI)

Purpose of the Registry

Population-based cancer registries are essential for assessing the extent of cancer burden in a specified geographic area. The Cancer Data Registry of Idaho (CDRI) is a population-based cancer registry that collects incidence and survival data on all cancer patients who are Idaho residents or patients who are diagnosed or treated for cancer in the state of Idaho. The goals of CDRI are to:

- determine the incidence of cancer in the state of Idaho with respect to geographic, demographic, and community characteristics;
- monitor trends and patterns of cancer incidence over time;
- identify high-risk populations;
- serve as a resource for conducting epidemiologic studies; and
- provide data to assist public health officials, hospital administrators, and physicians to effectively plan services, appropriately allocate health resources, and develop and measure prevention and intervention strategies.

CDRI works closely with the Comprehensive Cancer Alliance for Idaho (CCAI), the Idaho Comprehensive Cancer Control Program, and other organizations to lessen the burden of cancer in Idaho.

History and Funding of the Registry

CDRI was established in 1969 and became population-based in 1971. The Idaho State Legislature has provided guidelines for the establishment, requirements, and funding of the statewide cancer registry. The operations of the registry are mandated by Idaho Code 57-1703 through 57-1707. Funding is appropriated in Idaho Code 57-1701 and 63-2520, which delineates that a portion (less than one percent) of the cigarette tax be dedicated to fund the statewide cancer registry. Through the National Program of Cancer Registries (NPCR), additional funding has been awarded to CDRI from the Centers for Disease Control and Prevention (CDC) to enhance timely, complete, and accurate data collection, computerization, and reporting of reliable data. In May 2018, the National Cancer Institute (NCI) awarded the Idaho Hospital Association (IHA) a contract to operate CDRI as part of the Surveillance, Epidemiology and End Results (SEER) Program.

Collection of Data

Each Idaho hospital, outpatient surgery center, and pathology laboratory is responsible for the complete ascertainment and reporting of all data on cancer diagnoses and treatments provided in its facility within six months of diagnosis. Sources for identifying eligible cases include:

- hospitals;
- outpatient surgery centers;
- private pathology laboratories;
- free-standing radiation centers;
- physicians (for patients not receiving cancer diagnoses or treatment in the above sources);
- death certificates; and
- other state cancer registries reporting an Idaho resident with cancer (as negotiated).

When a cancer case is reported from more than one source, the information is consolidated into one record.

Reported cases contain the following data:

- patient demographics (including geographic place of residence at time of cancer diagnosis);
- description of cancer (including date of diagnosis, primary site, metastatic sites, histology, extent of disease, etc.);
- first course treatment; and
- follow-up data for purposes of calculating survival rates.

Primary site, behavior, grade, and histology were coded according to the *International Classification of Diseases for Oncology, 3rd edition*.[1] Stage of disease variables were coded using SEER's *Summary Staging Manual 2000* and the *AJCC Manual for Staging of Cancer, 7th edition*, which were used to calculate NPCR-derived clinical and pathologic stage group.[2,3,4] All other variables were coded following the rules of the North American Association of Central Cancer Registries (NAACCR), the National Cancer Institute's SEER program, and the American College of Surgeons Commission on Cancer.[5–8] Beginning with cases diagnosed in 2010, new rules for coding hematopoietic and lymphoid neoplasms were applied.[9]

Reportable Cases

All in situ and malignant neoplasms are reportable to CDRI. The database includes all cases of carcinoma, sarcoma, melanoma, lymphoma, and leukemia diagnosed by histology/cytology, radiology, laboratory testing, clinical observation, and autopsy.

Benign tumors of the brain, meninges, spinal cord, any other part of the central nervous system, pineal gland, and pituitary gland are also reportable.

Basal and squamous cell carcinomas of the skin are excluded except when occurring on a mucous membrane or if the AJCC stage group is II, III, or IV.

Under Idaho Code and as recommended by NAACCR, cervix in situ cases are not currently reportable.

Confidentiality of Data

Idaho state law ensures the protection of confidential data and restricts the release of identifying data. Only aggregate data are published. The same law protects report sources from any liability for reporting confidential data to CDRI. Persons with access to confidential data are required to sign a pledge of confidentiality and are subject to penalty if they, through negligence or willful misconduct, disclose confidential data.

Quality Assurance

To assure validity and reliability of data presented, CDRI has many mechanisms in place to check data for quality and completeness. CDRI uses SEER*Edits and GenEDITS Plus software, which apply algorithms that check the values of data fields against an encoded set of acceptable possible values and flags the acceptability of coded data. Edits include field edits, inter-field edits, and inter-record edits. Edits check for unlikely sex/site, site/histology, and site/age combinations. Records are also routinely checked for duplicate entries using manual and probabilistic record linkage methods.

CDRI has met NPCR program standards and is recognized as a "gold standard registry" for data quality, completeness, and timeliness as designated by NAACCR. These designations enable Idaho data to be included in *United States Cancer Statistics* and all NAACCR volumes of "*Cancer Incidence in North America*." Idaho data have been included in SEER-21 statistics published by NCI since April 2019"

Executive Summary

Data Presentation

This report is comprised of nine sections. Section I focuses on the 23 most common cancer sites and all sites combined and presents age-adjusted incidence rates, numbers of cases, numbers of deaths, case counts by county, stage of disease at time of diagnosis, risk factors, special notes, age-adjusted incidence rate comparisons by health district, and age-specific rates by gender. Comparison rates from United States Cancer Statistics (USCS) are provided, which are combined from SEER and the Centers for Disease Control and Prevention's National Program of Cancer Registries (NPCR).[10] Only registries whose data meet specified data quality criteria are included in USCS statistics. For the latest USCS data (2016 incidence), all areas of the U.S. are included. Section II describes incidence data by site, subsite, and gender for invasive and in situ cases. For completeness, site groups include categories for mesothelioma and Kaposi sarcoma histologies. Section III describes mortality data by site and gender. Section IV contains a table of age-specific cancer rates by site and gender for 2013–2017. Section V contains a table of observed versus expected numbers of cancer cases by health district.[‡] Section VI contains tables of age-specific risks of being diagnosed with and dying from cancer for males and females. Section VII shows cancer incidence trends in Idaho for the period 1975–2017. Section VIII shows cancer incidence rates by race and ethnicity for the period 2013–2017. Section IX shows cancer survival statistics for Idahoans diagnosed during the period 2010–2016 with follow-up through 2017.

Descriptive Summary by Gender and Race and Ethnicity

The data presented in this report cover cancer cases diagnosed among Idaho residents from January 1, 2017 to December 31, 2017, inclusive. During this period, there were 9,394 cases of in situ and invasive cancer diagnosed among Idaho residents (4,837 among males and 4,557 among females). By race and ethnicity, there were 8,696 cases among non-Hispanic Whites, 332 among Hispanic Whites, 30 cases among Blacks, 100 cases among Native Americans, 88 cases among Asians/Pacific Islanders, and 148 cases of other or unknown race. The number of cancer cases treated in outpatient settings and reported only by pathology laboratories has increased over the last several years; these cases are more likely to have missing race and ethnicity information. To improve the accuracy of race information collected on Native Americans, CDRI has conducted matches with the Indian Health Service and Northwest Portland Area Indian Health Board. To improve the accuracy of ethnicity information, CDRI uses the NAACCR Hispanic Identification Algorithm to identify Hispanics by birthplace/race/surname. For more detailed statistics by race and ethnicity, see Section VIII of this report and *Cancer in North America: 2011-2016, Volume Two*.[11]

Trends

From 2016 to 2017, there was a 0.7% decrease in the age-adjusted cancer incidence rates in Idaho as published in CDRI's 2016 and 2017 annual reports. Changes in health policy and screening recommendations may have impacted cancer incidence since 2013. In May 2012, the United States Preventive Service Task Force issued a recommendation against Prostate

[‡]For more detailed statistics by county, see CDRI's County Cancer Profiles at https://www.idcancer.org/ContentFiles/special/CountyProfiles/CountyMap.htm.

Specific Antigen (PSA)-based screening for prostate cancer in all age groups. During 2011–2014, prostate cancer incidence rates decreased about 13% per year in Idaho — similar to national trends — but rebounded during 2015–2017. The decrease in brain cancer cases in 2016 was followed by an increase in 2017. Low-dose CT (LDCT) screening for lung cancer among persons at higher risk due to smoking history was recommended by the United States Preventive Services Task Force in December 2013. The incidence rates of cancers of the brain, corpus uteri, Hodgkin lymphoma, larynx, and ovary, which fluctuate annually due to relatively small case counts, rebounded from 2016. See Section VII for more detailed long-term trends in cancer incidence.

Population Description

The population of the state of Idaho on July 1, 2017, was estimated to be 1,718,904 (861,051 males and 857,853 females). Population estimates were obtained from the National Center for Health Statistics.[12] Idaho is comprised of 44 counties, which are grouped into seven health districts. The composition of the health districts and their population estimates by gender as used in this report are shown below:

Health District	Counties	Male	Female
District 1	Benewah, Bonner, Boundary, Kootenai, Shoshone	116,459	118,278
District 2	Clearwater, Latah, Lewis, Idaho, Nez Perce	55,588	53,429
District 3	Adams, Canyon, Gem, Owyhee, Payette, Washington	160,286	161,080
District 4	Ada, Boise, Elmore, Valley	252,065	249,668
District 5	Blaine, Camas, Cassia, Gooding, Jerome, Lincoln, Minidoka, Twin Falls	99,041	98,371
District 6	Bannock, Bear Lake, Bingham, Butte, Caribou, Franklin, Oneida, Power	86,486	86,287
District 7	Bonneville, Clark, Custer, Fremont, Jefferson, Lemhi, Madison, Teton	110,872	109,141

A map of Idaho counties and health districts can be found in **Appendix A**.

SUMMARY MEASURES OF CANCER BURDEN IN IDAHO — 2017

Primary Site	Incident Cases	Deaths	Median Age at Diagnosis	Median Age at Death	Estimated 10-Year Limited Duration Prevalence Count	Total Number of YPLL Before Age 75	Average Number of YPLL per Death, Persons Aged < 75 Years	% Change Incidence Rate, 2016 to 2017
All Sites	8,624	3,015	68.0	73.0	44,000	18,692	10.8	-0.7%
Bladder	418	95	73.0	78.0	2,400	218	6.1	2.0%
Brain	121	92	63.0	65.0	400	1,159	15.9	11.9%
Breast	1,333	225	64.0	69.0	8,600	2,003	13.1	9.9%
Cervix	60	14	48.0	61.0	400	207	17.3	-3.7%
Colorectal	648	256	68.0	72.5	3,500	1,869	12.6	-2.4%
Corpus Uteri	253	39	63.0	69.0	1,700	286	11.0	-10.6%
Esophagus	101	99	67.0	69.0	200	827	13.1	-0.2%
Hodgkin Lymphoma	44	7	48.0	-	300	-	-	23.6%
Kidney	334	83	67.0	75.0	1,800	433	10.3	7.4%
Larynx	37	9	70.0	76.0	200	44	11.0	-22.3%
Leukemia	300	131	70.0	77.0	1,500	783	12.6	7.4%
Liver and Bile Duct	149	121	68.0	70.0	200	824	9.9	-7.1%
Lung and Bronchus	961	605	72.0	73.0	2,000	3,165	8.7	-1.7%
Melanoma of Skin	522	48	65.0	69.5	3,500	418	12.7	-8.5%
Myeloma	137	76	71.0	77.5	500	216	7.7	5.6%
Non-Hodgkin Lymphoma	351	119	67.0	77.0	2,000	507	9.2	-10.8%
Oral Cavity and Pharynx	235	47	65.0	68.0	1,400	391	12.2	-15.5%
Ovary	97	68	63.0	70.5	400	477	11.6	-14.7%
Pancreas	298	244	72.0	73.0	300	1,315	9.3	17.6%
Prostate	1,159	164	68.0	82.0	8,700	264	5.4	5.8%
Stomach	90	40	69.0	73.5	300	260	10.8	-10.1%
Testis	46	1	33.5	-	500	-	-	-23.3%
Thyroid	217	10	51.0	73.5	2,400	98	16.3	-22.2%

Notes:

Incidence cases include all invasive and bladder in situ cases newly diagnosed among Idaho residents in 2017.

Years of potential life lost (YPLL) is a statistic used to measure the number of years of life lost in a population when persons in that population die prematurely (standard of 75 years of age used for this table).

Mortality-related statistics are suppressed for Hodgkin lymphoma and testis primary sites due to small number of deaths.

Technical Notes

National Program of Cancer Registries

The Centers for Disease Control and Prevention's National Program of Cancer Registries (NPCR) supports central cancer registries in 46 states (including Idaho), the District of Columbia, Puerto Rico, the U.S. Pacific Island Jurisdictions, and the U.S. Virgin Islands. These data represent 97% of the U.S. population.

Surveillance, Epidemiology and End Results Program

Part of the National Cancer Institute, the Surveillance, Epidemiology, and End Results (SEER) Program consists of several U.S. population-based cancer registries (including Idaho). SEER cancer statistics are designed to be representative of the U.S. population. SEER data used to calculate USCS statistics in Section I included data from 21 registries; statistics were calculated using SEER*Stat.[13]

Cancer Case Definition

A "cancer case" is defined as a primary cancer site (where the cancer started), not a metastatic cancer site (where the cancer spread to). Since an individual can have more than one primary cancer during their lifetime, the number of incident cancer cases is greater than the number of persons who are diagnosed with cancer.

Standard Site Analyses Categories

To facilitate interpretation of data and comparisons across registries, CDRI uses standardized groupings of site analysis categories. These groupings are consistent with those used by the SEER Program and NPCR, and are adopted by NAACCR.[5,6] Most neoplasms are grouped by the organ where they occur. Neoplasms of the lymphatic, hematopoietic, and reticuloendothelial systems are grouped by their histology (e.g. leukemias, lymphomas) and not by the anatomic site where they occurred. Melanoma of the skin is a combination of both anatomic site and histologic type. See https://seer.cancer.gov/siterecode/ for groupings of codes.

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); or
- unstaged.

Age-specific Incidence Rates

Age-adjusted incidence rates published in this report were calculated using the direct method and standardized to the age distribution of the 2000 U.S. population (see **Appendix B**). Incidence rates represent the average number of new cases diagnosed annually per 100,000 persons. Age adjustment allows rates from one geographic area or time period to be compared with rates from other geographic areas or time periods that may have differences in age distributions. Any observed differences in age-adjusted incidence rates between populations are not due to differing age structures.

Because the 2000 U.S. standard population was used to age adjust rates, the age-adjusted rates published in this report are not comparable with age-adjusted rates published in CDRI annual reports for incident years prior to 1999.

Rate calculation requires reliable estimates of the population at risk by five-year age groups and gender during the time period being studied. Population figures used in this report were obtained from the National Center for Health Statistics (NCHS; see **Appendix C**).[12]

In conformity with NPCR and SEER Program guidelines, the incidence rates excluded the following:

- in situ cases, except bladder;
- basal and squamous cell skin cancers;
- cases with unknown age; and
- cases with unknown gender.

Of the total number of invasive and in situ cases for 2017 (9,394), 8,624 cases (8,415 invasive and 209 bladder in situ) were used to calculate age-adjusted incidence rates. Of the 8,624 cases, 4,524 occurred among males and 4,100 occurred among females.

Age-specific Incidence Rates

Age-specific rates are calculated by dividing the number of cases for a given age group by the total population of that age group and are expressed as an average annual rate per 100,000 population by age group. Age-specific rates exclude the same types of cases that are excluded from age-adjusted incidence rates.

Observed vs. Expected Numbers of Cases

The expected numbers of cases were calculated using the indirect method of age adjustment. For each health district, the expected numbers of cases were calculated using rates for the remainder of Idaho. The observed and expected numbers exclude in situ cases (except bladder), basal and squamous cell skin cancers, and cases with unknown age or sex. Cases with unknown county of residence are not included in these analyses; there were no cases with unknown county in 2017. Statistically significant differences between numbers of observed and expected cases (standardized incidence ratios) were marked (+) for $p < 0.05$ and (*) for $p < 0.01$. Because statistically significant differences in observed versus expected cases can occur as a result of multiple factors, including chance, statistically significant differences do not necessarily imply that public or other health interventions are warranted.

Confidence Intervals

Confidence intervals, which are estimated from available data, provide a range of values that are likely to include the true and unknown population value. The width of a confidence interval is a measure of variability, with wider confidence intervals connoting less reliable estimates.

Mean/Median

Measures of central tendency are helpful to describe a group of individual values in a simple and concise manner.

Mean, also known as the arithmetic average, is the sum of all observations divided by the number of observations.

Median is the middle value when the observations are ranked in order from the smallest to the largest.

Factors Associated with Cancer Incidence

The “Factors Associated with Cancer Incidence” subsections in Section I were developed from extracts of *Cancer Epidemiology and Prevention*, cancer

information from the National Cancer Institute, and the International Agency for Research on Cancer.[14-16]

Limitations to Data Interpretation and Comparison

Rates based on population estimates: In non-Census years, state and county population figures are estimates. Errors in these estimates will impact the rates.

Rate comparisons: Age-adjusted incidence rates and age-specific rates based on small numbers (< 10) of cases may be unstable. In comparing rates among geographic areas (counties, health districts, or states), factors such as the absolute numbers of cases and differences in demographics should be considered. Interpretations of rates without consideration of these factors may be misleading or inaccurate.

Misclassification of race and/or ethnicity: Many source documents used to report cancer misclassify or do not specify the race and/or ethnicity of the patient. For detailed statistics by race and ethnicity, see Section VIII and *Cancer in North America: 2011-2016, Volume Two*.[11]

Risks of Developing and Dying from Cancer

Cancer incidence and mortality risks were estimated using DEVCAN Version 6.7.3 software.[17] DEVCAN was used to calculate the probability of developing or dying of cancer using Idaho-specific cancer incidence and mortality data for the years 2013-2017. The estimates generated are similar to estimates derived using incidence data from the SEER Program, mortality data from the National Center for Health Statistics, and population estimates from Census data. DEVCAN was developed by Information Management Services, Inc., in consultation with the Applied Research Branch of the National Cancer Institute.

Prevalence

Cancer prevalence is an estimate of the number of persons with a history of cancer who are alive on a certain date. Ten-year limited-duration prevalence statistics in this report estimate the number of people alive on July 1, 2017 who had a cancer diagnosis within the past 10 years.

Trend Analyses

Joinpoint Version 4.7.0.0 software was used to model trends in age-adjusted cancer incidence rates.[18] For each joinpoint time segment, the estimated annual percent change was calculated by fitting a least squares regression line to the natural logarithm of the rates using calendar year as a covariate. The Weighted Bayesian Information Criterion was used to determine the number of joinpoints (0 to 5) per primary site category and sex. Trend analyses are limited to cases considered to be malignant in both ICD-O-2 and ICD-O-3, and exclude cases only defined as malignant in 2010 or later.

Survival

Two tables of survival estimates are included in this annual report: one table for actual prognosis, referred to as “crude” survival in the statistical literature; and one table for cancer survival, referred to as “net” survival in the statistical literature. Crude measures of survival include cancer and other competing causes of death, while net measures of cancer survival exclude competing causes of death. Both types of survival estimates, crude and net, may be calculated using either information on cause of death or on expected survival. Policy makers, cancer control planners, and others may be interested in net deaths from cancer where the confounding effects of death from other causes are

removed, such as when comparing geographic areas or population subgroups that have different background mortality rates. Crude estimates of actual patient survival are useful for cancer patients and health care providers who are interested in estimating the patients' chances of dying from cancer, dying from other competing causes of death, or surviving.[20] For younger and healthier patients, crude and net estimates of survival are similar because competing causes of death are rare. Crude and net estimates of survival may differ substantially for older and sicker patients.

Relative survival is a net measure of excess mortality experienced by cancer patients. It is calculated by dividing the observed survival from all causes of death for the patient cohort by the expected survival in a comparable group not diagnosed with cancer. Because information on cancer-free cohorts is not readily available, general population life tables are used to estimate expected survival. Relative survival based on general life tables, which include people previously diagnosed with cancer, may be overestimated for common cancers, in particular for all sites combined, breast, colorectal, and prostate cancers.[21]

The SEER cause-specific death classification variable, which provides guidance for which deaths should be attributable to a specific cancer diagnosis, was used to estimate the probabilities of dying of cancer, dying of other competing causes, and survival.[22] For patients diagnosed with more than one primary cancer, this variable is not defined for the second or subsequent cancers. Thus, cancer survival tables are split into columns for "single or first primary cancers only," and "all primaries," for which relative survival can be calculated.

Survival statistics published in this annual report include all invasive and bladder in situ cases among patients aged 15–99 at diagnosis during 2010–2016 with follow-up/death ascertainment through December 31, 2017. Cases reported solely via death certificates or autopsy were excluded. Using SEER 2007 Multiple Primary and Histology Coding Rules,[8] multiple primary cancers could be included for each patient, but only one record per patient was included in each survival estimate.

SEER*Stat (version 8.3.6) was used to perform survival calculations. The survival duration in months was calculated based on complete dates and alive patients were censored on December 31, 2017 or at their date of last contact if before December 31, 2017. Survival calculations were performed using the actuarial method on monthly intervals. Expected survival was estimated using the Ederer II method from life tables matched to the cancer patients by age, sex, year, race/ethnicity, and county-level socioeconomic status.[23, 24] Cases were censored at an achieved age of 100 years.

Because the excess mortality due to cancer is often age dependent, and age distributions of cancer patients may differ among comparison groups, net survival estimates were age standardized using the International Cancer Survival Standards (ICSS).[25] Crude survival estimates were not age standardized and reflect the actual prognosis of the cohort of Idaho cancer cases.

SECTION I

2017 SUMMARY ON ALL SITES COMBINED
AND
23 MOST COMMON SITES

ALL SITES

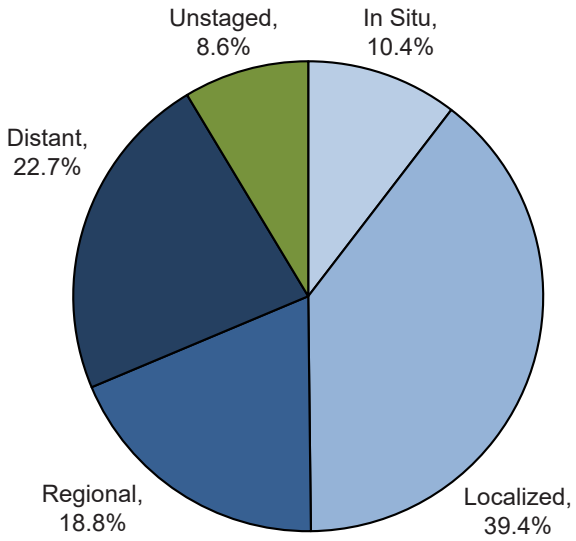
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	436.3	469.0	411.6
# of new invasive cases	8,514	4,365	4,050
# of new in situ cases	979	472	507
# of deaths	3,015	1,638	1,377

Total Cases by County

Ada	2,464	Cassia	99	Lewis	25
Adams	29	Clark	3	Lincoln	21
Bannock	391	Clearwater	65	Madison	113
Bear Lake	52	Custer	40	Minidoka	119
Benewah	43	Elmore	144	Nez Perce	253
Bingham	233	Franklin	72	Oneida	25
Blaine	132	Fremont	78	Owyhee	71
Boise	52	Gem	133	Payette	148
Bonner	354	Gooding	93	Power	31
Bonneville	589	Idaho	105	Shoshone	86
Boundary	71	Jefferson	117	Teton	65
Butte	19	Jerome	105	Twin Falls	394
Camas	4	Kootenai	1055	Valley	99
Canyon	1,050	Latah	154	Washington	82
Caribou	46	Lemhi	70		

Stage at Diagnosis - All Sites



Factors Associated with Cancer Incidence

Age & Sex Rates usually increase with age. Approximately 50% of new cancer cases are diagnosed among people aged 66 and older. Males and females have similar cancer rates through early adulthood. Females have higher rates than males from ages 30 to 54; males have higher rates than females from age 55 onwards. Apart from breast and thyroid, males have higher rates than females of the 10 most common cancers of both sexes.

Race/Ethnicity Rates among Whites are higher than among American Indians/Alaska Natives, Asians/Pacific Islanders, and Blacks. These rates may, however, be more indicative of access to care than actual risk. Hispanics have lower rates than non-Hispanic Whites.

Occupation Increased cancer risk is associated with some workplace exposures, such as some vinyl chloride, respirable crystalline silica, asbestos, and radiation.

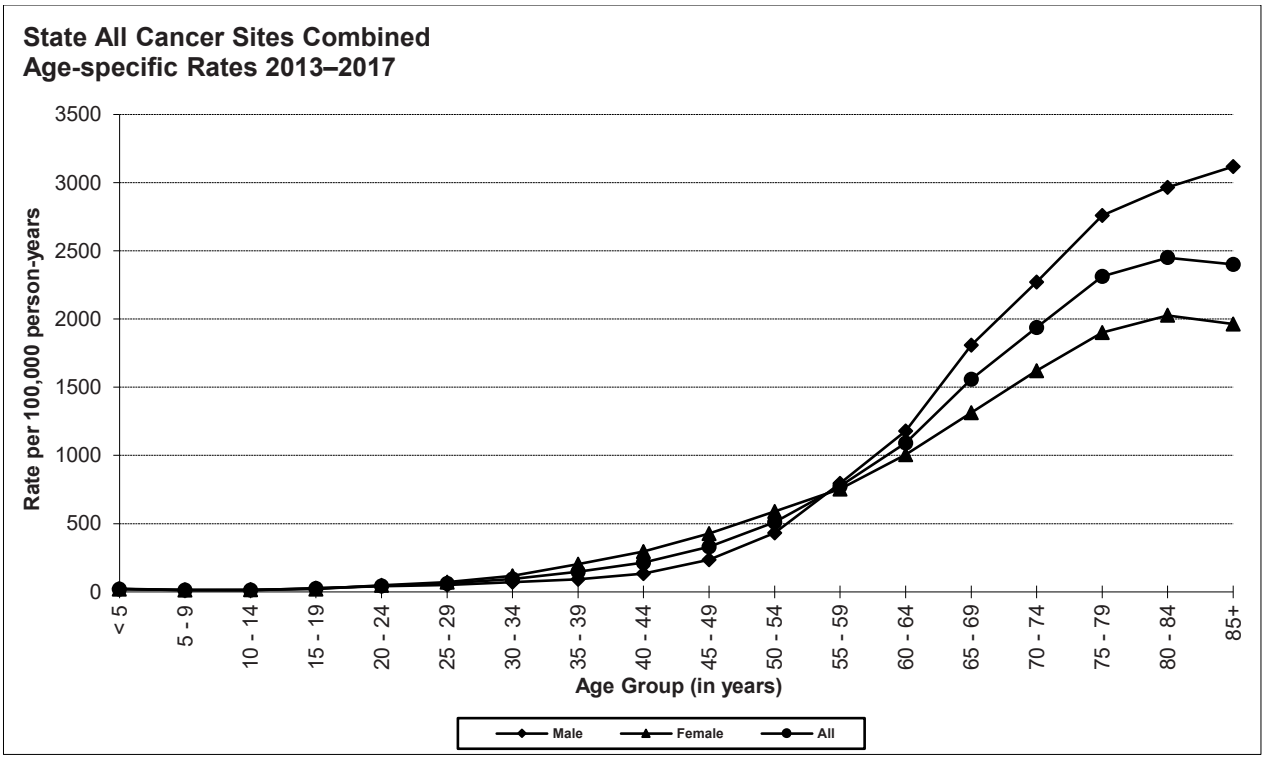
Diet Specific dietary items, such as processed meats and alcohol, increase cancer risk.

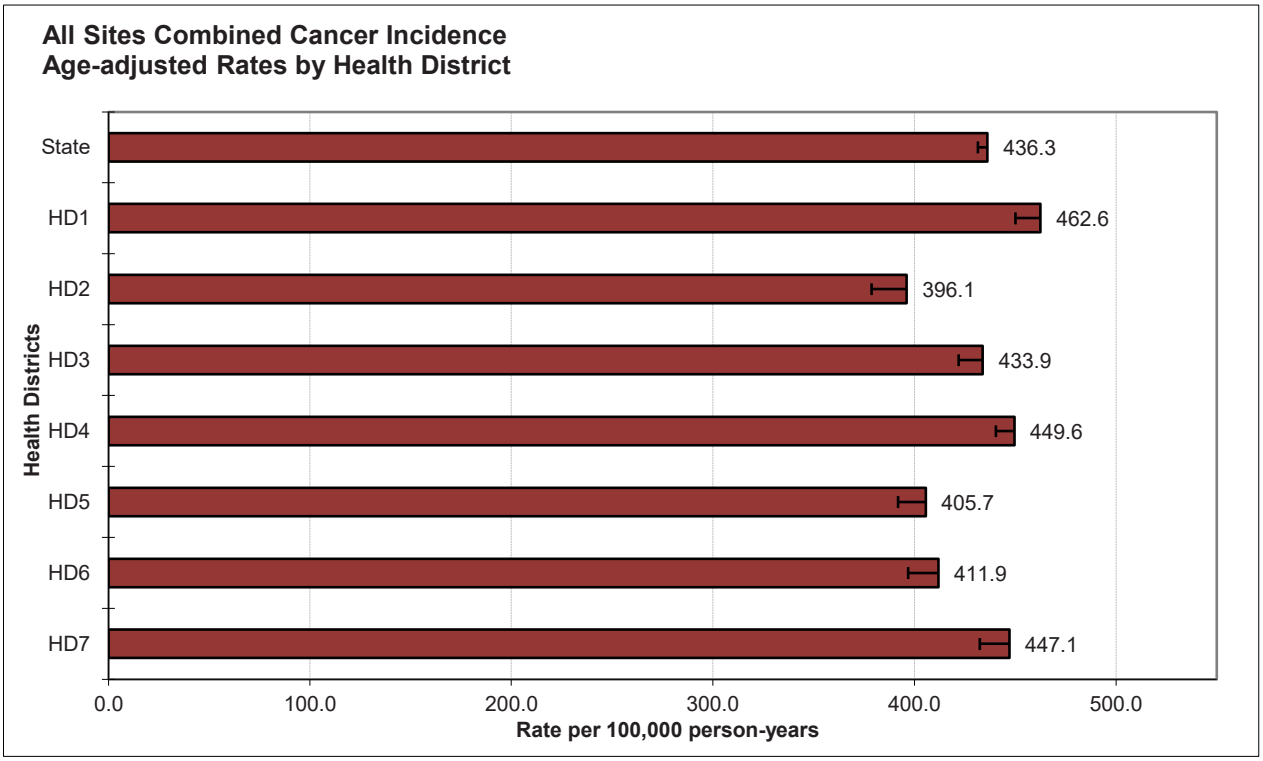
Other Tobacco use is the single most important risk factor for cancer incidence and mortality. Obesity, conditions of chronic inflammation, immunosuppression, and infection with certain infectious agents increases risk for certain cancers.

Data Summary

Mean age-adjusted incidence rate across health districts:	429.6
95% confidence interval on the mean age-adjusted incidence rate:	410.9–448.3
Median age-adjusted incidence rate of health districts:	433.9
Range of age-adjusted incidence rate for health districts:	396.1–462.6
USCS rate (2016, all races):	428.4

Incidence rates for all cancers combined are similar for males and females in Idaho until approximately age 60–64, after which rates for males rise dramatically. Rates peak for males and females in the age group 85+ and 80–84, respectively. Among total cases, Health District 1 had statistically significantly more cases of cancer than expected based upon rates for the remainder of Idaho, and Health Districts 2 and 5 had statistically significantly fewer cases than expected.


State All Cancer Sites Combined
Age-specific Rates 2013–2017
Rate per 100,000 person-years
3500
3000
2500
2000
1500
1000
500
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


All Sites Combined Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
436.3
462.6
396.1
433.9
449.6
405.7
411.9
447.1
0.0
100.0
200.0
300.0
400.0
500.0
Rate per 100,000 person-years

BLADDER

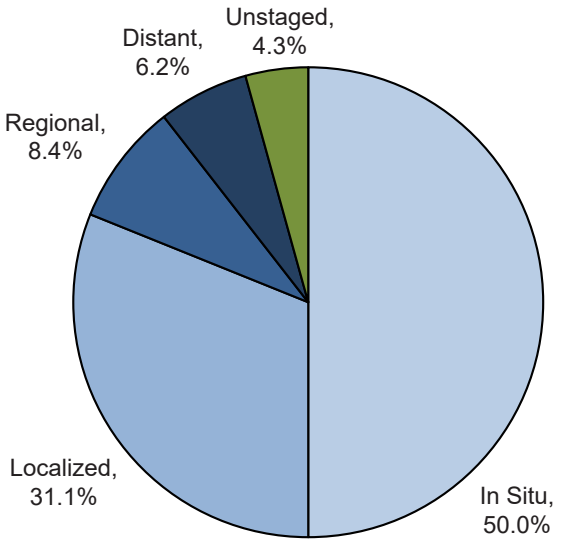
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	20.8	35.5	8.2
# of new invasive cases	209	171	38
# of new in situ cases	209	159	50
# of deaths	95	76	19

Total Cases by County

Ada	104	Cassia	5	Lewis	1
Adams	1	Clark	0	Lincoln	2
Bannock	7	Clearwater	5	Madison	1
Bear Lake	3	Custer	5	Minidoka	9
Benewah	2	Elmore	7	Nez Perce	13
Bingham	9	Franklin	6	Oneida	3
Blaine	6	Fremont	5	Owyhee	0
Boise	6	Gem	7	Payette	6
Bonner	22	Gooding	4	Power	0
Bonneville	17	Idaho	7	Shoshone	2
Boundary	4	Jefferson	6	Teton	2
Butte	1	Jerome	4	Twin Falls	23
Camas	1	Kootenai	50	Valley	2
Canyon	43	Latah	11	Washington	2
Caribou	1	Lemhi	3		

Stage at Diagnosis - Bladder



Factors Associated with Cancer Incidence

Age Rates usually increase steadily with age, with particularly marked increases among people 50 years old and older. Rates plateau among people aged 80 years and older.

Sex Rates are substantially higher in males than females. Males have at least three times the rate of females from age 50 onwards.

Race/Ethnicity Incidence rates are higher in Whites than in American Indians/Alaska Natives, Asians/Pacific Islanders, or Blacks. Non-Hispanic Whites have consistently higher rates that Hispanics.

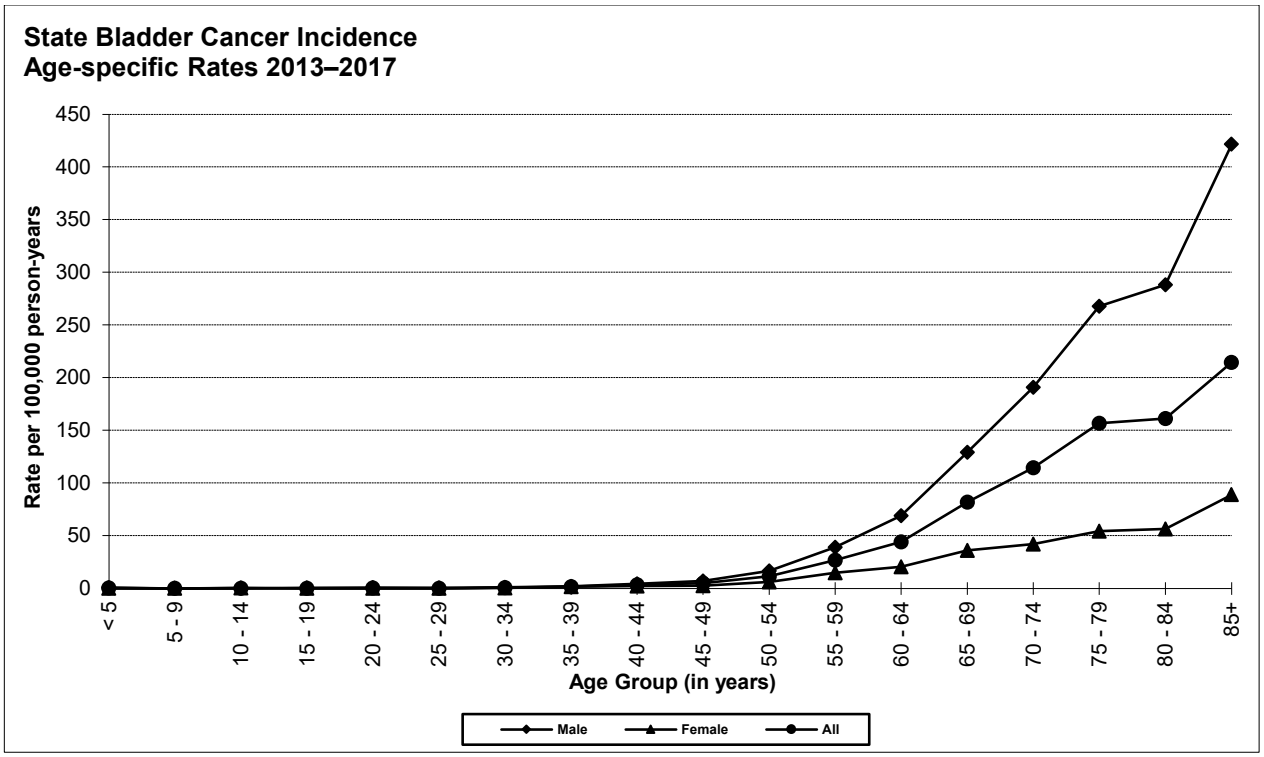
Occupation The following occupational activities or exposures have been linked to increased bladder cancer risk: painting; manufacturing of aluminum, rubber (4-aminobiphenyl, ortho-Toluidine), auramine, magenta, leather, cloth, and paper (benzidine), and certain dyes (ortho-Toluidine, 2-naphthylamine); X-radiation and gamma-radiation.

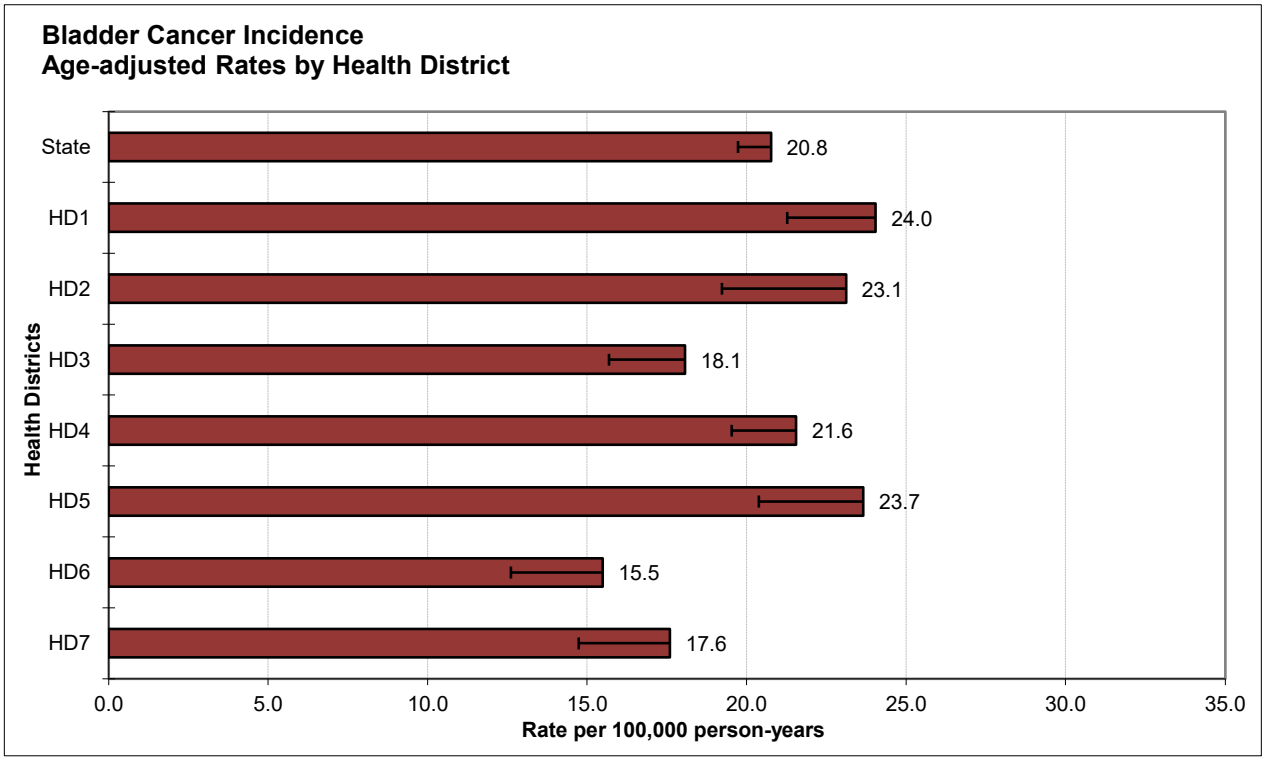
Other Tobacco consumption has been associated with a 2- to 5-fold higher incidence of bladder cancer. Arsenic and arsenic compounds – particularly in drinking water – are associated with an increased risk of bladder cancer. The chemotherapeutic agent cyclophosphamide, and parasitic infection Schistosoma haematobium are associated with an increased risk of bladder cancer.

Special Notes

Mean age-adjusted incidence rate across health districts:	20.5
95% confidence interval on the mean age-adjusted incidence rate:	18.0–23.0
Median age-adjusted incidence rate of health districts:	21.6
Range of age-adjusted incidence rate for health districts:	15.5–24.0
USCS rate (2016, all races):	19.0

There are few incident cases of bladder cancer among persons aged less than 50 years. Bladder cancer incidence rates increase with age, peaking in the age group 85+ for males and females. Among total cases, no health district had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


State Bladder Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
450
400
350
300
250
200
150
100
50
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Bladder Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
20.8
24.0
23.1
18.1
21.6
23.7
15.5
17.6
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Rate per 100,000 person-years

BRAIN

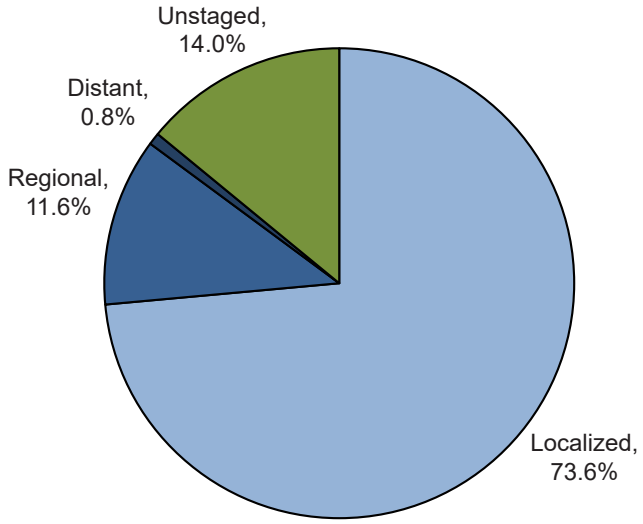
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	6.4	8.5	4.5
# of new invasive cases	121	76	45
# of new in situ cases	0	0	0
# of deaths	92	66	26

Total Cases by County

Ada	32	Cassia	1	Lewis	-
Adams	-	Clark	-	Lincoln	-
Bannock	7	Clearwater	-	Madison	1
Bear Lake	1	Custer	-	Minidoka	4
Benewah	1	Elmore	2	Nez Perce	5
Bingham	4	Franklin	4	Oneida	-
Blaine	3	Fremont	-	Owyhee	1
Boise	-	Gem	2	Payette	2
Bonner	5	Gooding	-	Power	-
Bonneville	6	Idaho	-	Shoshone	3
Boundary	1	Jefferson	2	Teton	1
Butte	1	Jerome	-	Twin Falls	3
Camas	-	Kootenai	9	Valley	1
Canyon	13	Latah	5	Washington	-
Caribou	1	Lemhi	-		

Stage at Diagnosis - Brain



Factors Associated with Cancer Incidence

Age Among children 0–14 years old, brain and central nervous system tumors are the second most common cancer. Incidence demonstrates a small peak in ages 1–4, a decrease and subsequent gradual rise through young adulthood, a steeper increase from age 40 onwards, and a second peak from ages 75–84.

Sex Males and females have similar rates of brain cancer until age 25, after which males have higher rates than females.

Race/Ethnicity Incidence is higher among Whites than American Indians/Alaska Natives, Asians/Pacific Islanders, and Blacks — all of which have similar incidence. Hispanics have a lower incidence than non-Hispanic Whites across the life course.

Genetics Certain genetic syndromes are associated with increased risk for brain tumors, e.g. Li-Fraumeni syndrome, Turcot syndrome type 1 or 2.

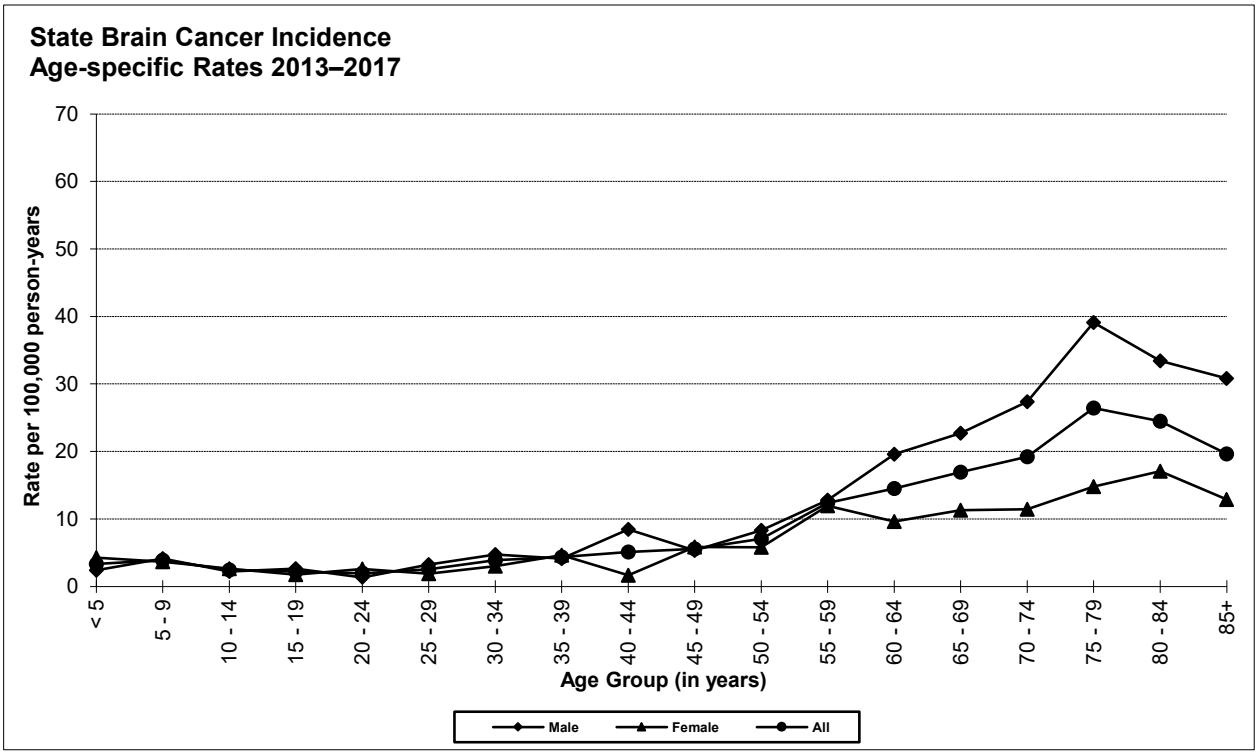
Occupation Vinyl chloride exposure is associated with increased risk for gliomas.

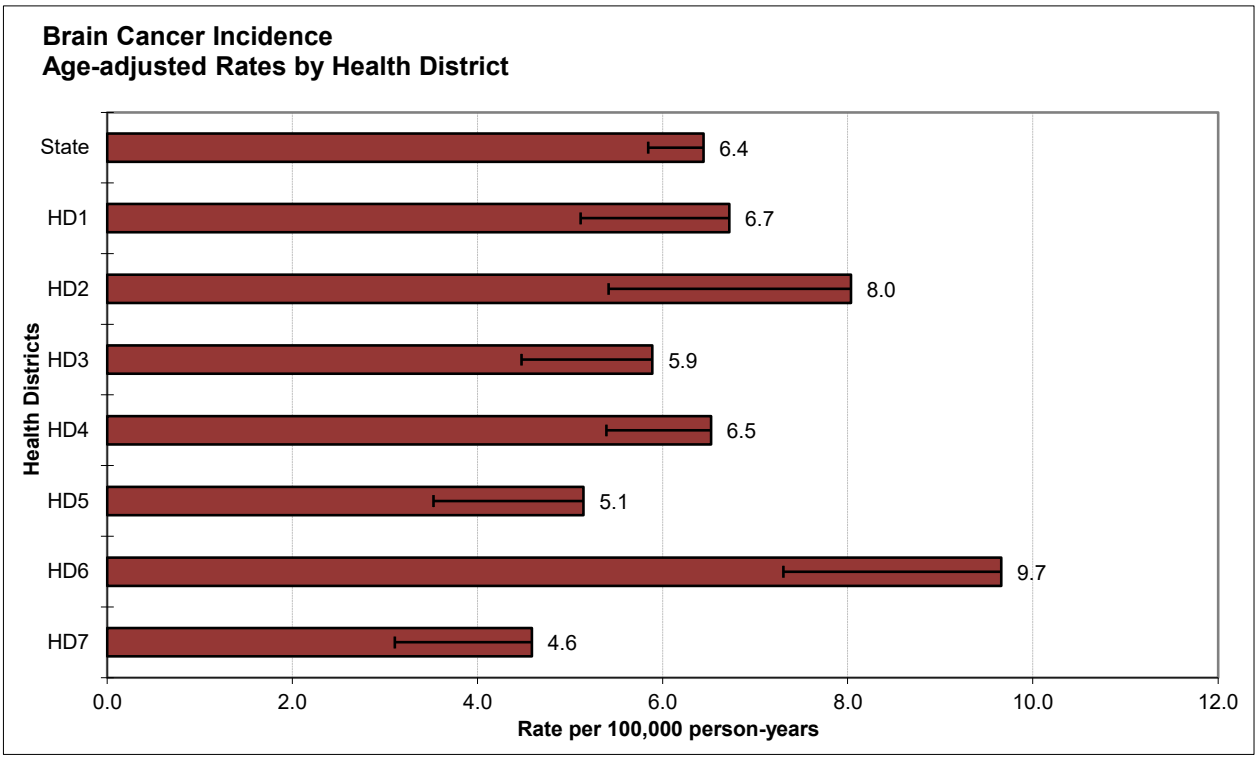
Other X-radiation and gamma-radiation are both associated with increased risk for brain tumors. Having Epstein-Barr virus, AIDS, or immunosuppression related to organ transplant are associated with increased risk for CNS lymphoma.

Data Summary

Mean age-adjusted incidence rate across health districts:	6.7
95% confidence interval on the mean age-adjusted incidence rate:	5.4–7.9
Median age-adjusted incidence rate of health districts:	6.5
Range of age-adjusted incidence rate for health districts:	4.6–9.7
USCS rate (2016, all races):	5.7

Among total cases, no health district had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


State Brain Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
70
60
50
40
30
20
10
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Brain Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
6.4
6.7
8.0
5.9
6.5
5.1
9.7
4.6
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Rate per 100,000 person-years

BRAIN & OTHER CNS NON-MALIGNANT

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	12.9	8.7	16.9
# of new cases	237	77	160

Total Cases by County

Ada	52	Cassia	4	Lewis	1
Adams	-	Clark	-	Lincoln	-
Bannock	8	Clearwater	1	Madison	4
Bear Lake	1	Custer	1	Minidoka	8
Benewah	3	Elmore	5	Nez Perce	8
Bingham	9	Franklin	1	Oneida	-
Blaine	3	Fremont	-	Owyhee	1
Boise	2	Gem	4	Payette	1
Bonner	7	Gooding	-	Power	3
Bonneville	18	Idaho	3	Shoshone	2
Boundary	-	Jefferson	3	Teton	2
Butte	1	Jerome	1	Twin Falls	20
Camas	-	Kootenai	25	Valley	-
Canyon	29	Latah	3	Washington	2
Caribou	1	Lemhi	-		

Factors Associated with Cancer Incidence

Age A small peak is observed in children < 1 year, who have higher incidence than people aged 1–24 years. Incidence increases steadily throughout the life course.

Sex Males and females have similar rates of brain cancer until age 25, after which males have higher rates than females.

Race/Ethnicity There are no differences in incidence by race. Hispanics have a lower incidence than non-Hispanic Whites across the life course.

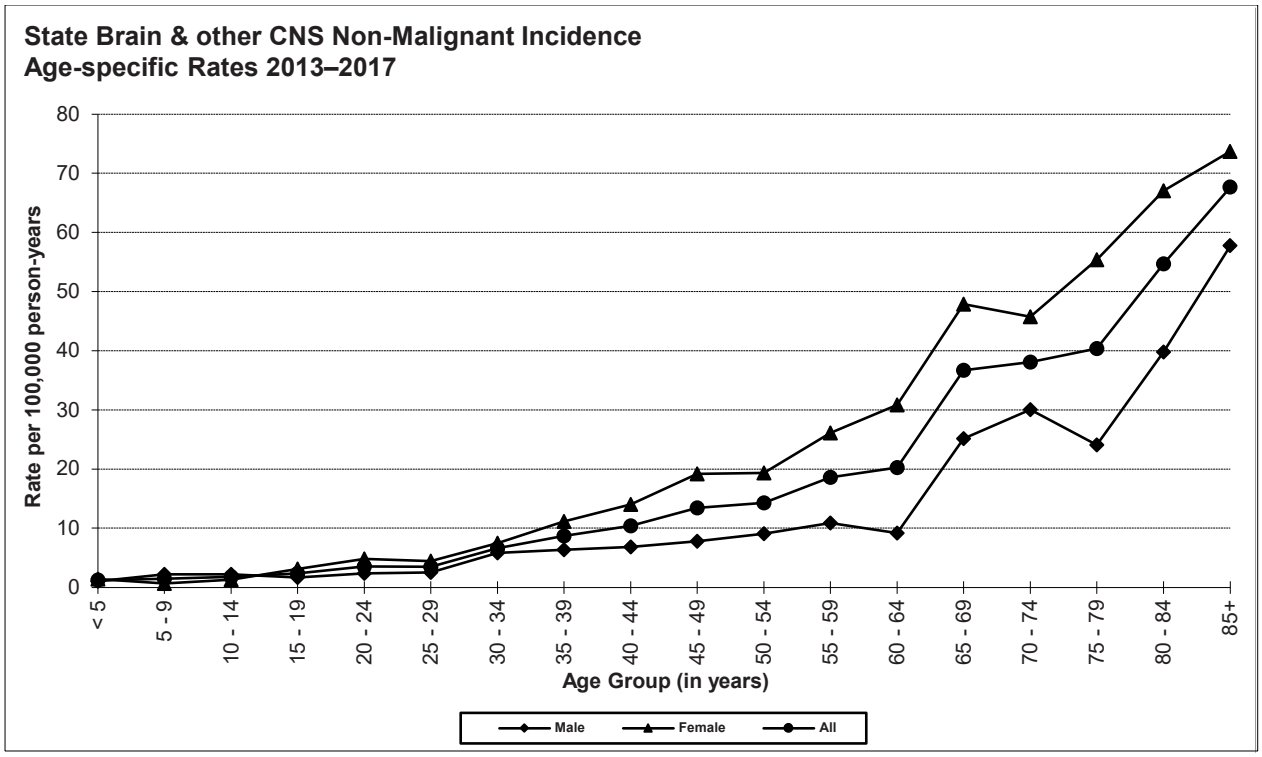
Special Notes

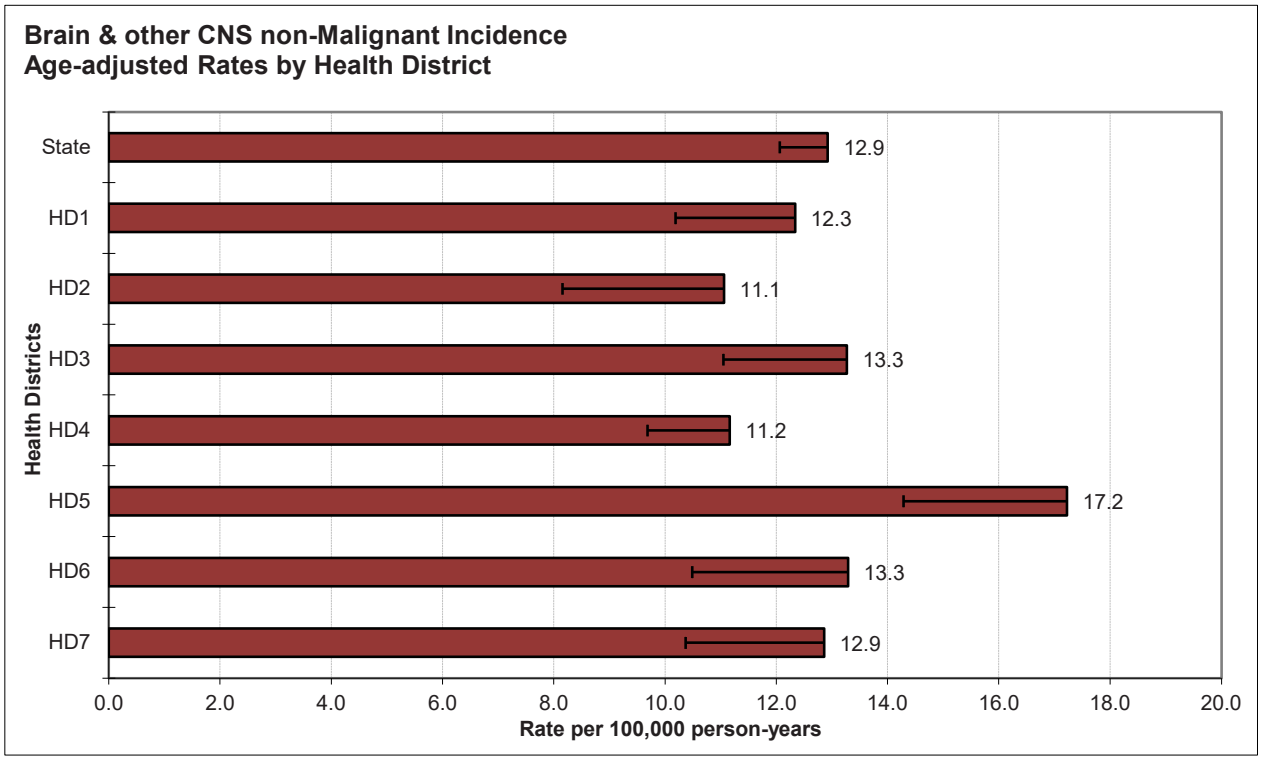
In 2007, as a result of Public Law 107-260, the publication *United States Cancer Statistics 2004 Incidence and Mortality* began to include tables for non-malignant brain tumors. Until this time, the only reference data were from the Central Brain Tumor Registry of the United States (CBTRUS; http://www.cbtrus.org), which has reported on data submitted from eighteen state central cancer registries, including Idaho.

Data Summary

Mean age-adjusted incidence rate across health districts:	13.0
95% confidence interval on the mean age-adjusted incidence rate:	11.5–14.6
Median age-adjusted incidence rate of health districts:	12.9
Range of age-adjusted incidence rate for health districts:	11.1–17.2
USCS rate (2016, all races):	11.8

Incidence rates of benign and borderline behavior brain and other central nervous system tumors increase with age, peaking in the age group 85+ for males and females. Among total cases, no health district had statistically significantly more, or fewer, cases of non-malignant brain and other central nervous system tumors than expected based upon rates for the remainder of Idaho.


State Brain & other CNS Non-Malignant Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
80
70
60
50
40
30
20
10
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Brain & other CNS non-Malignant Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
12.9
12.3
11.1
13.3
11.2
17.2
13.3
12.9
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
Rate per 100,000 person-years

BREAST

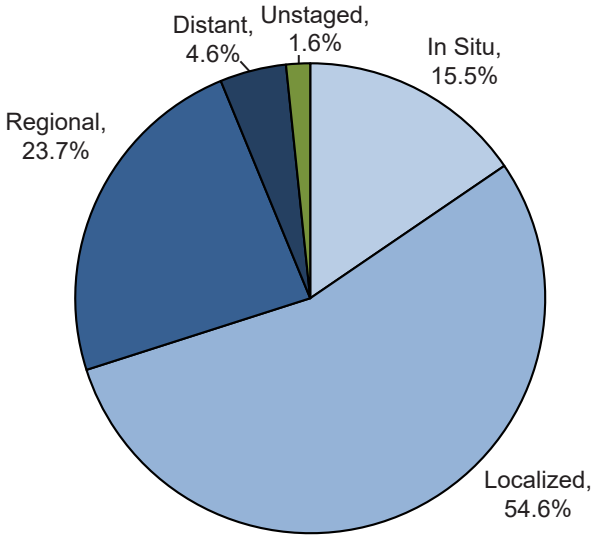
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	70.0	0.7	135.9
# of new invasive cases	1,333	7	1,326
# of new in situ cases	244	0	244
# of deaths	225	3	222

Total Cases by County

Ada	479	Cassia	23	Lewis	5
Adams	3	Clark	0	Lincoln	2
Bannock	66	Clearwater	8	Madison	23
Bear Lake	6	Custer	5	Minidoka	14
Benewah	7	Elmore	18	Nez Perce	43
Bingham	29	Franklin	12	Oneida	2
Blaine	23	Fremont	13	Owyhee	20
Boise	6	Gem	16	Payette	22
Bonner	61	Gooding	13	Power	7
Bonneville	99	Idaho	18	Shoshone	10
Boundary	18	Jefferson	10	Teton	13
Butte	1	Jerome	10	Twin Falls	41
Camas	-	Kootenai	182	Valley	9
Canyon	180	Latah	31	Washington	13
Caribou	6	Lemhi	10		

Stage at Diagnosis - Breast



Factors Associated with Cancer Incidence

Age Age is the most important risk factor for breast cancer. Luminal A, luminal B, and triple-negative breast cancer incidence increases with age and peaks among ages 65–74. HER2-enriched tumor incidence has an earlier and sustained increase in incidence from 50 to 79.

Race/Ethnicity Whites have the highest incidence rates. Whites, Blacks and Asians/Pacific Islanders have similar incidence of all breast cancers until the age of 50, when incidence for Whites and Blacks increases at a higher rate than for other races. American Indians/Alaska Natives have lower incidence than other races until age 60. Luminal A tumors, the most common breast cancer subtype, mirror breast cancer trends by race overall; triple-negative cancers are highest among Blacks across age groups; luminal B tumors have similar incidence across races; and HER2-enriched tumor incidence is highest among Blacks and Asians/Pacific Islanders.

Genetics Only 5%–10% of breast cancers are attributable to highly penetrant pathogenic genetic mutations, e.g. BRCA1/2, CDH1, PALB2. However, lifetime cancer risk for individuals with these mutations can be over 50% versus 10% in low-risk individuals. Breast cancer risk was twice as high among those with a family history (mother, sister, other first degree relative). Women with higher breast density, largely an inherited trait, are also at increased risk.

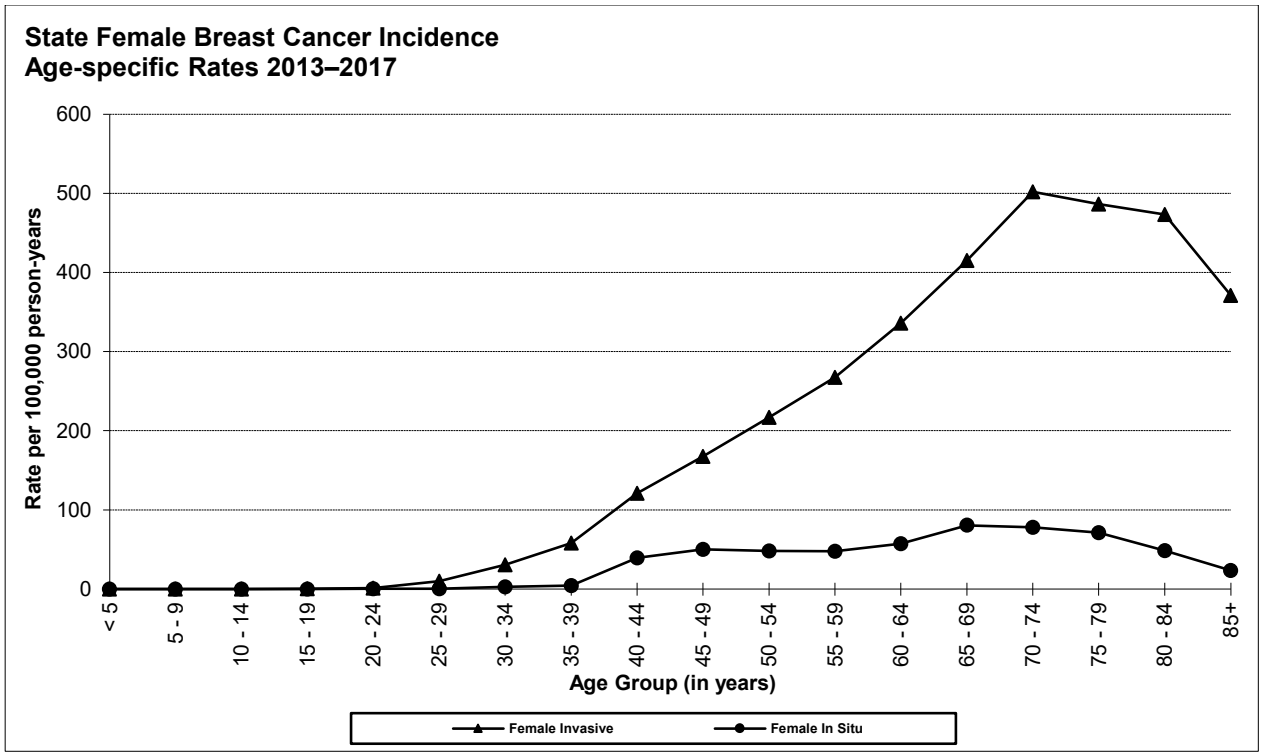
Hormonal Cumulative estrogen exposure, including use of combination hormone therapy (estrogen-progestin), early menarche, and late menopause, are associated with increased breast cancer risk.

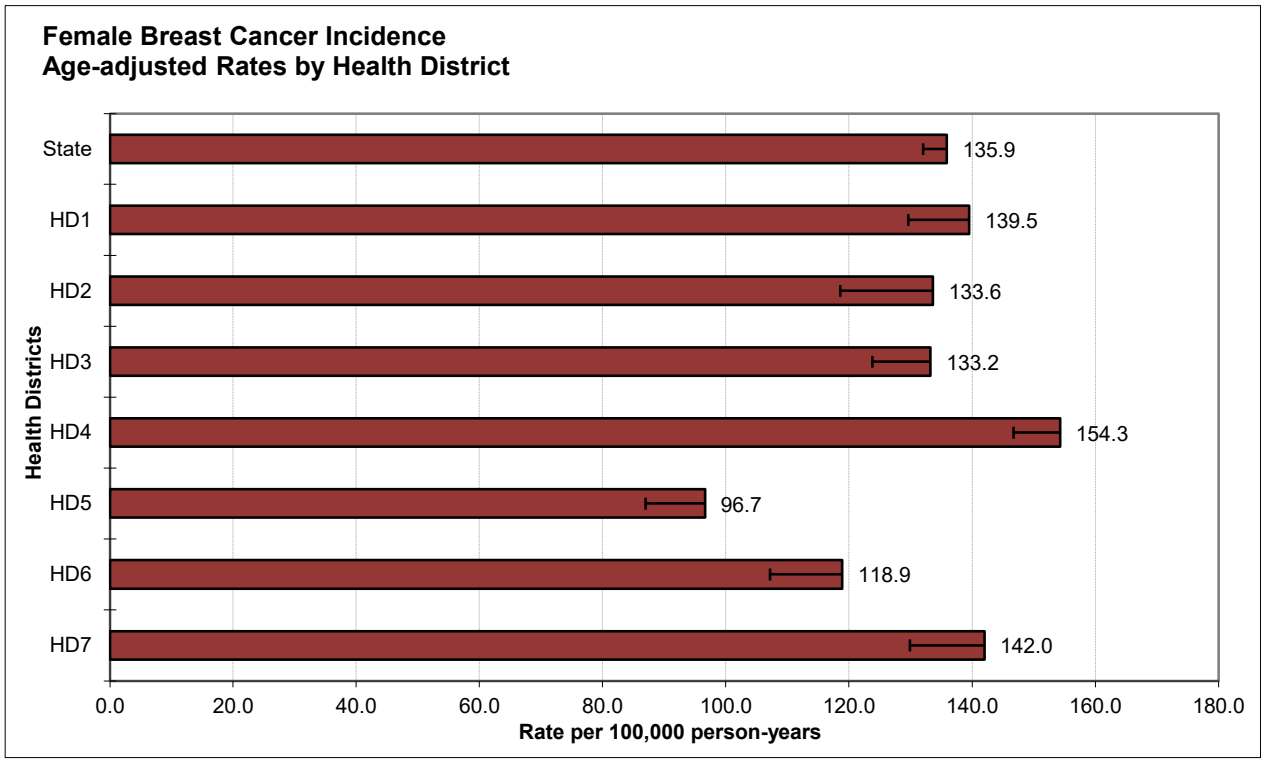
Other Heavy alcohol consumption, obesity in postmenopausal women, and exposure of breast tissue to ionizing radiation are associated with an increased risk of developing breast cancer.

Data Summary

Mean age-adjusted incidence rate across health districts:	131.2
95% confidence interval on the mean age-adjusted incidence rate:	117.4–144.9
Median age-adjusted incidence rate of health districts:	133.6
Range of age-adjusted incidence rate for health districts:	96.7–154.3
USCS rate (2016, all races):	123.6

During 2017, 99.5% of invasive breast cancer cases were diagnosed among females. Age-specific incidence rates of female breast peak among 70–74-year-olds. Among total cases, Health District 4 had statistically significantly more and Health District 5 had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho.


State Female Breast Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
600
500
400
300
200
100
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Female Invasive
Female In Situ


Female Breast Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
135.9
139.5
133.6
133.2
154.3
96.7
118.9
142.0
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
180.0
Rate per 100,000 person-years

CERVIX

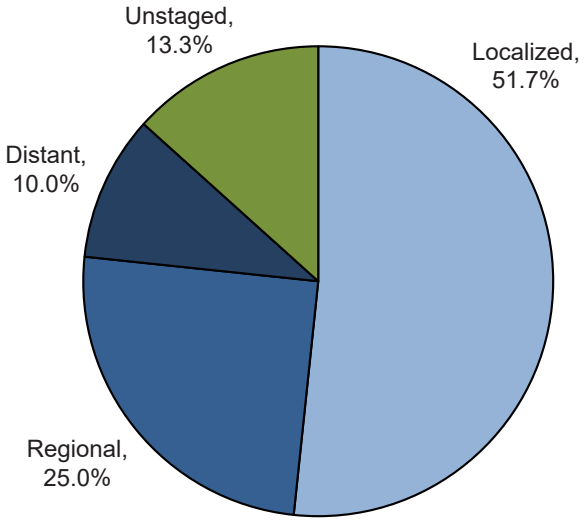
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	-	7.4
# of new invasive cases	-	-	60
# of new in-situ cases	-	-	n/a
# of deaths	-	-	14

Total Cases by County

Ada	11	Cassia	1	Lewis	-
Adams	-	Clark	-	Lincoln	-
Bannock	3	Clearwater	-	Madison	-
Bear Lake	1	Custer	-	Minidoka	2
Benewah	-	Elmore	1	Nez Perce	1
Bingham	2	Franklin	-	Oneida	-
Blaine	-	Fremont	-	Owyhee	1
Boise	-	Gem	-	Payette	2
Bonner	4	Gooding	1	Power	-
Bonneville	4	Idaho	1	Shoshone	1
Boundary	-	Jefferson	2	Teton	-
Butte	-	Jerome	-	Twin Falls	-
Camas	-	Kootenai	10	Valley	3
Canyon	7	Latah	2	Washington	-
Caribou	-	Lemhi	-		

Stage at Diagnosis - Cervix



Factors Associated with Cancer Incidence

Age Among women > 19 years, cervical cancer incidence increases sharply and steadily until it peaks among ages 40–44. Rates gradually decrease among older age groups. However, most invasive cases are diagnosed in older women.

Race/Ethnicity Overall, Blacks and American Indians/Alaska Natives have higher rates of cervical cancer than Whites and Asians/Pacific Islanders, although rates among American Indians/Alaska Natives are less stable due to small case counts. From age 40 onwards, Hispanics have higher rates than non-Hispanic Whites.

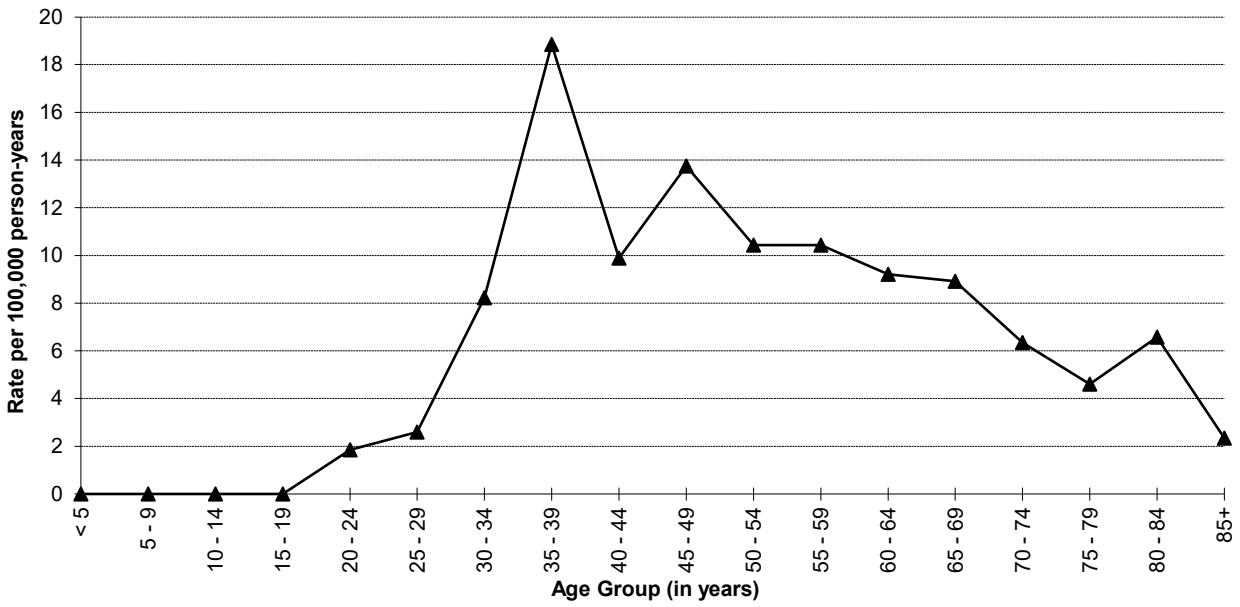
Other Human papillomavirus (HPV) is the cause of nearly all cases of cervical cancer. Of the over 100 known HPV types, types 16 and 18 are estimated to cause 70% of cervical cancers and pre-cancerous cervical lesions. Other risk factors that may be correlates or independent risk factors of HPV infection include: early age at first intercourse (< 16 years old), and a history of a higher number of lifetime sex partners. High parity and long-term oral contraceptive use are also associated with increased cervical cancer risk. Other risk factors include immunosuppression, e.g. HIV, exposure to cigarette smoke, and in utero-exposure to diethylstilbestrol (DES).

Data Summary

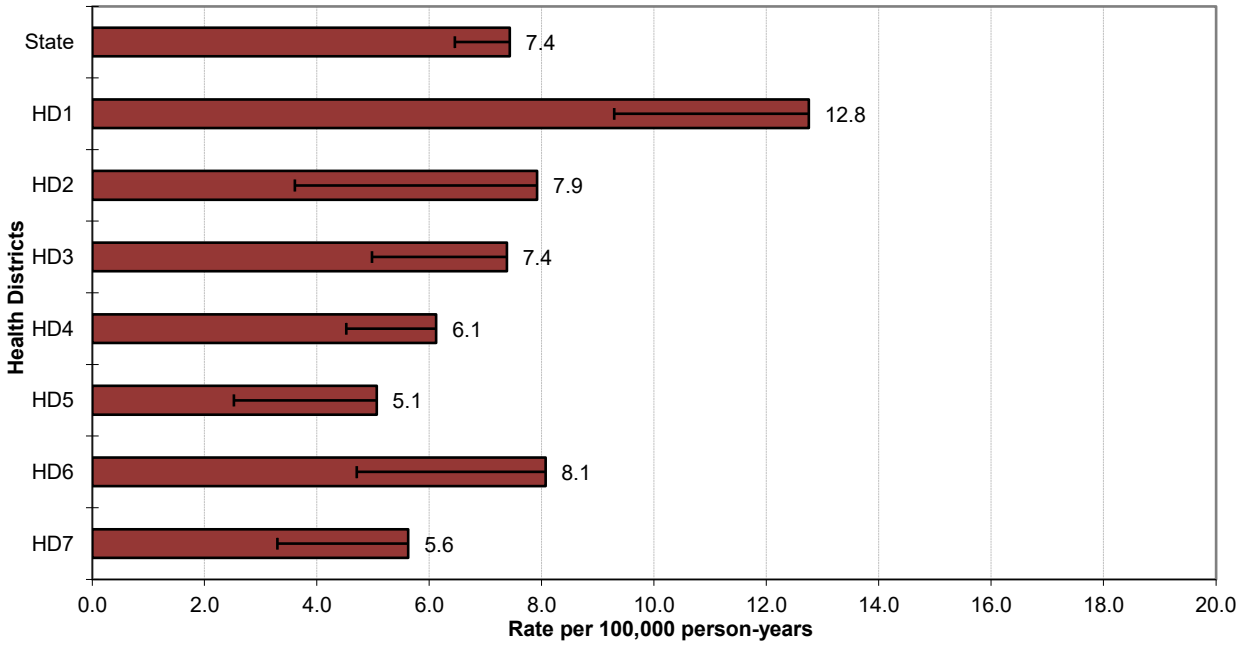
Mean age-adjusted incidence rate across health districts:	7.6
95% confidence interval on the mean age-adjusted incidence rate:	5.7–9.5
Median age-adjusted incidence rate of health districts:	7.4
Range of age-adjusted incidence rate for health districts:	5.1–12.8
USCS rate (2016, all races):	7.6

Increased screening with routine Pap tests has increased diagnostic rates for pre-invasive cervical disease and helped to reduce the incidence of invasive cervical cancer. Today, most cases in younger women are diagnosed before the invasive stage, with cure rates approaching 100%. However, rates peak among 35–39-year-old females. Among total cases, Health District 1 had statistically significantly more cases than expected based upon rates for the remainder of Idaho.

State Cervical Cancer Incidence
Age-specific Rates 2013–2017



Cervical Cancer Incidence
Age-adjusted Rates by Health District



COLORECTAL

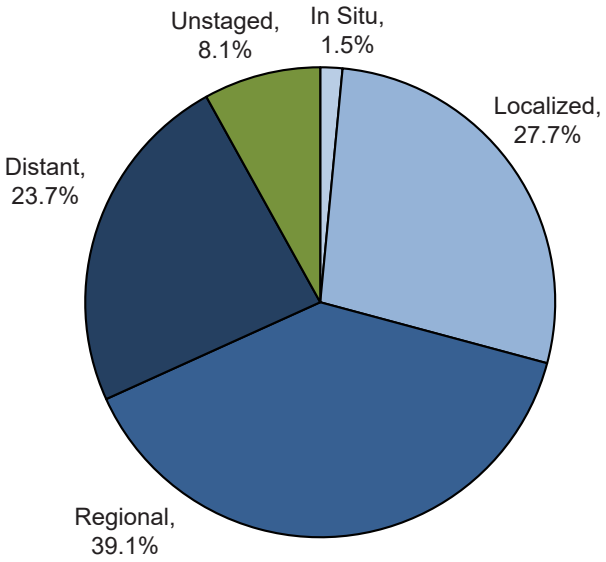
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	33.5	36.6	30.6
# of new invasive cases	648	344	304
# of new in situ cases	10	6	4
# of deaths	256	134	122

Total Cases by County

Ada	134	Cassia	9	Lewis	2
Adams	1	Clark	-	Lincoln	-
Bannock	28	Clearwater	4	Madison	10
Bear Lake	4	Custer	2	Minidoka	8
Benewah	5	Elmore	13	Nez Perce	26
Bingham	16	Franklin	5	Oneida	-
Blaine	9	Fremont	4	Owyhee	5
Boise	2	Gem	16	Payette	11
Bonner	30	Gooding	7	Power	3
Bonneville	40	Idaho	13	Shoshone	8
Boundary	8	Jefferson	13	Teton	5
Butte	1	Jerome	12	Twin Falls	32
Camas	-	Kootenai	66	Valley	4
Canyon	85	Latah	6	Washington	6
Caribou	2	Lemhi	3		

Stage at Diagnosis - Colorectal



Factors Associated with Cancer Incidence

Age Rates increase with age, and greatly increase from 50 years onwards.

Sex Males and females have similar incidence through age 49, after which males have increasingly higher rates than females.

Race/Ethnicity Blacks have higher incidence than Whites, particularly after age 50. American Indians/Alaska Natives have similar incidence to Whites and Asians/Pacific Islanders through age 69, at which point American Indians/Alaska Natives have similar incidence to Blacks. Asians/Pacific Islanders have the lowest incidence. Non-Hispanic Whites have similar incidence to Hispanics until age 70, when incidence among non-Hispanic Whites increases relative to Hispanics.

Genetics Familial adenomatous polyposis and Lynch syndrome are two forms of hereditary colorectal cancer that are associated with approximately 5%–10% of colorectal cancers. Other familial aggregation of colorectal cancer without evidence of a specific hereditary syndrome accounts for up to 25% of cases.

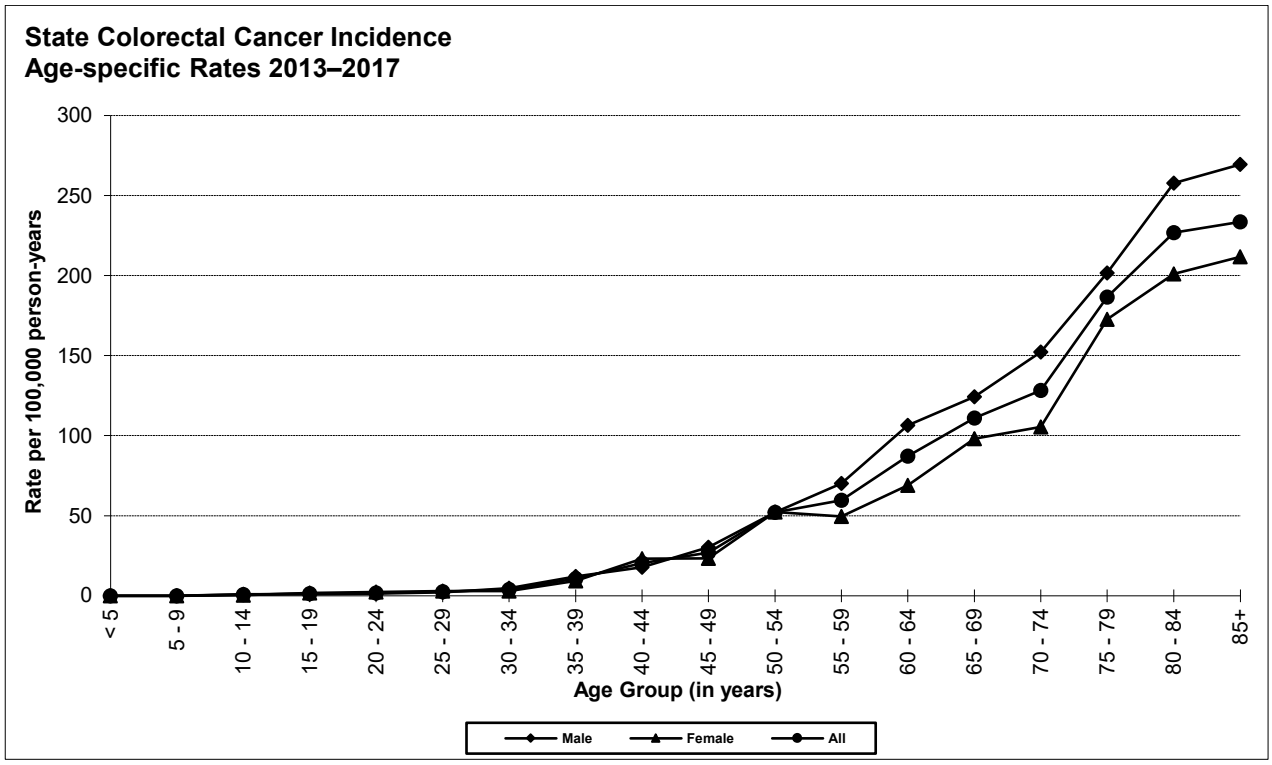
Diet Heavy alcohol consumption and processed meat consumption are associated with an increased risk of colorectal cancer.

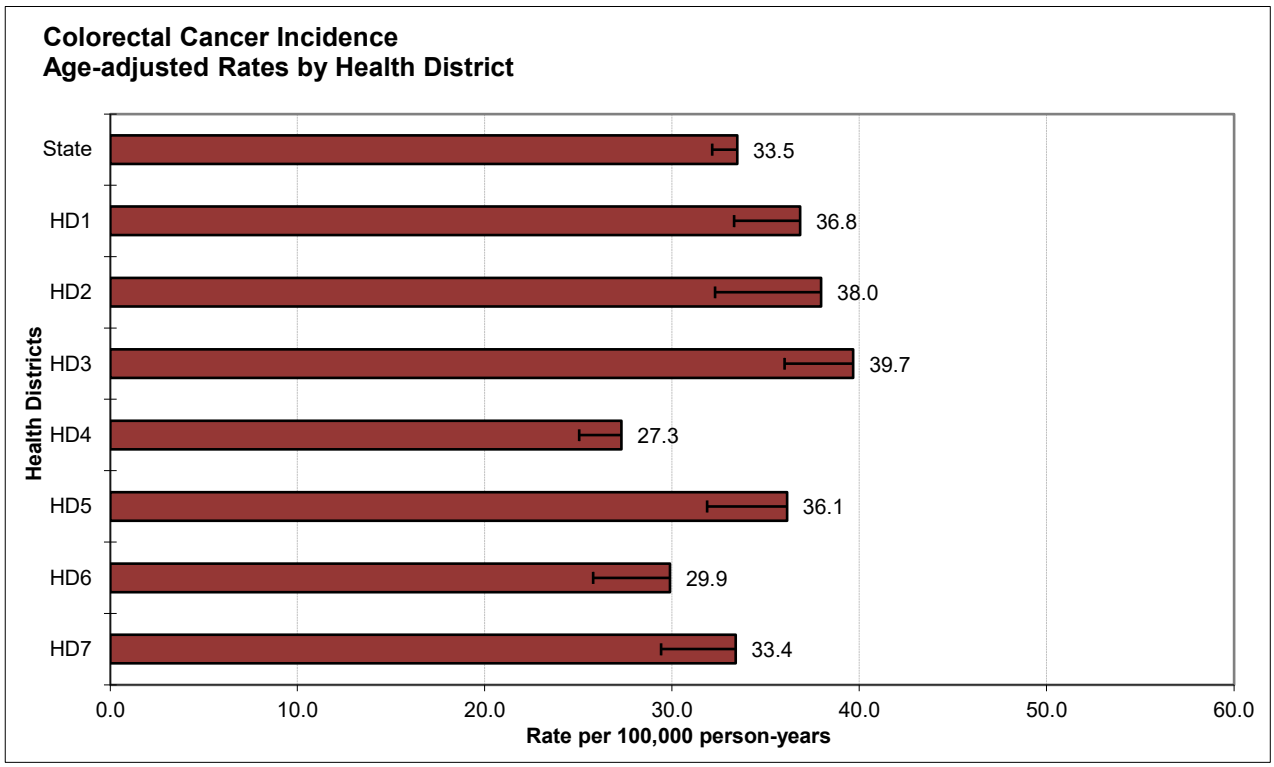
Other Cigarette smoking is significantly associated with increased colorectal cancer incidence and mortality. A sedentary lifestyle and obesity (body mass index > 29) confer increased colorectal cancer risk; colorectal cancer risk and body mass index have a positive dose-response relationship. The use of NSAIDs, including aspirin, may help prevent colon cancer.

Data Summary

Mean age-adjusted incidence rate across health districts:	34.5
95% confidence interval on the mean age-adjusted incidence rate:	31.1–37.8
Median age-adjusted incidence rate of health districts:	36.1
Range of age-adjusted incidence rate for health districts:	27.3–39.7
USCS rate (2016, all races):	36.9

Although colorectal cancer rates are declining among adults 50 years and older, colorectal cancer rates are increasing among adults less than 50. Among total cases, Health District 3 had statistically significantly more cases of colorectal cancer than expected based upon rates for the remainder of Idaho and Health District 4 had statistically significantly fewer cases than expected.


State Colorectal Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
300
250
200
150
100
50
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Colorectal Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
33.5
36.8
38.0
39.7
27.3
36.1
29.9
33.4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Rate per 100,000 person-years

CORPUS UTERI

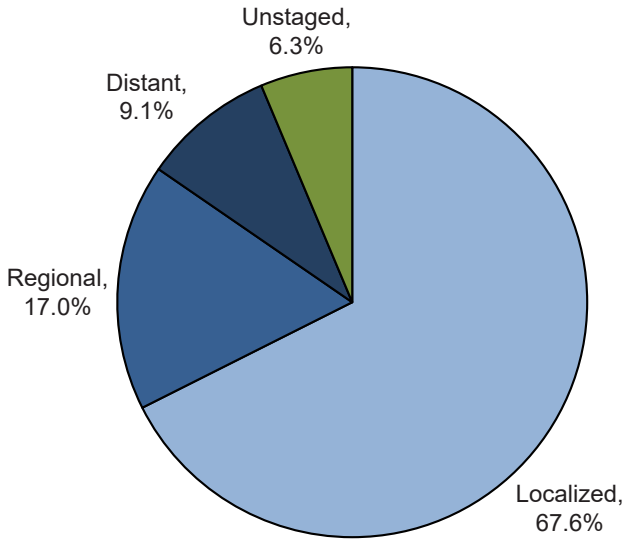
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	-	23.8
# of new invasive cases	-	-	253
# of new in situ cases	-	-	0
# of deaths	-	-	39

Total Cases by County

Ada	54	Cassia	-	Lewis	-
Adams	-	Clark	-	Lincoln	2
Bannock	14	Clearwater	1	Madison	2
Bear Lake	-	Custer	2	Minidoka	4
Benewah	1	Elmore	5	Nez Perce	6
Bingham	7	Franklin	3	Oneida	-
Blaine	1	Fremont	3	Owyhee	1
Boise	1	Gem	5	Payette	1
Bonner	11	Gooding	1	Power	-
Bonneville	21	Idaho	2	Shoshone	-
Boundary	3	Jefferson	6	Teton	-
Butte	1	Jerome	8	Twin Falls	15
Camas	-	Kootenai	35	Valley	2
Canyon	30	Latah	1	Washington	1
Caribou	2	Lemhi	1		

Stage at Diagnosis - Corpus Uteri



Factors Associated with Cancer Incidence

Age Occurs predominantly after menopause, with incidence rates above 100 per 100,000 among persons aged 60–74.

Race/Ethnicity Among adult females, Whites and Asians/Pacific Islanders have the highest incidence until age 54, when rates in Asians/Pacific Islanders decrease. Blacks have the highest incidence from age 60 through 84. American Indians/Alaska Native have the lowest rates among the race groups across age groups. Hispanics have higher rates than non-Hispanic Whites from ages 25–39, after which Non-Hispanic Whites have higher incidence than Hispanics.

Genetics Hereditary syndromes, such as Lynch syndrome, polycystic ovarian syndrome, and Cowden syndrome, are associated with increased endometrial cancer risk. Endometrial cancer risk is also elevated for individuals with a family history (mother, sister, other first degree relative).

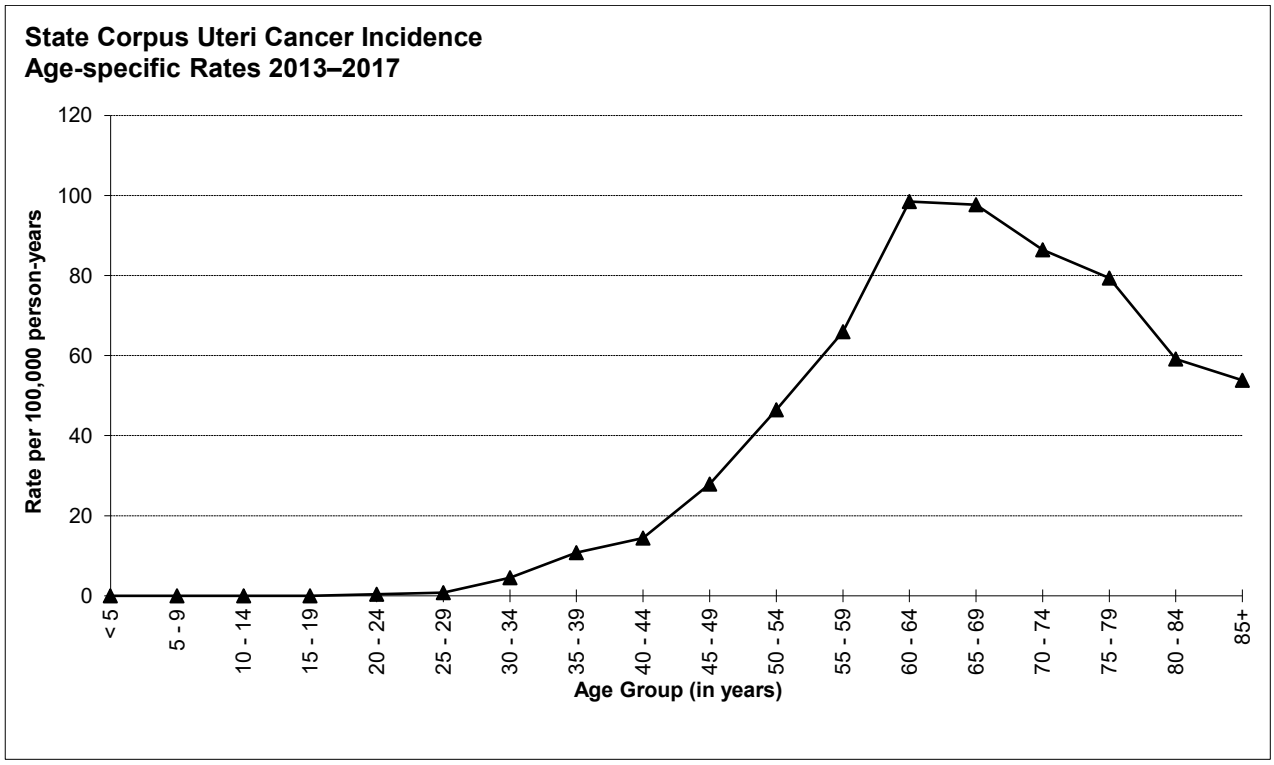
Hormonal Hormone therapy with unopposed estrogen (versus estrogen and progestin), use of selective estrogen receptor modulators, e.g. tamoxifen, and factors contributing to increased endogenous estrogen exposure, e.g. nulliparity, early menarche, and late menopause, are associated with increased risk.

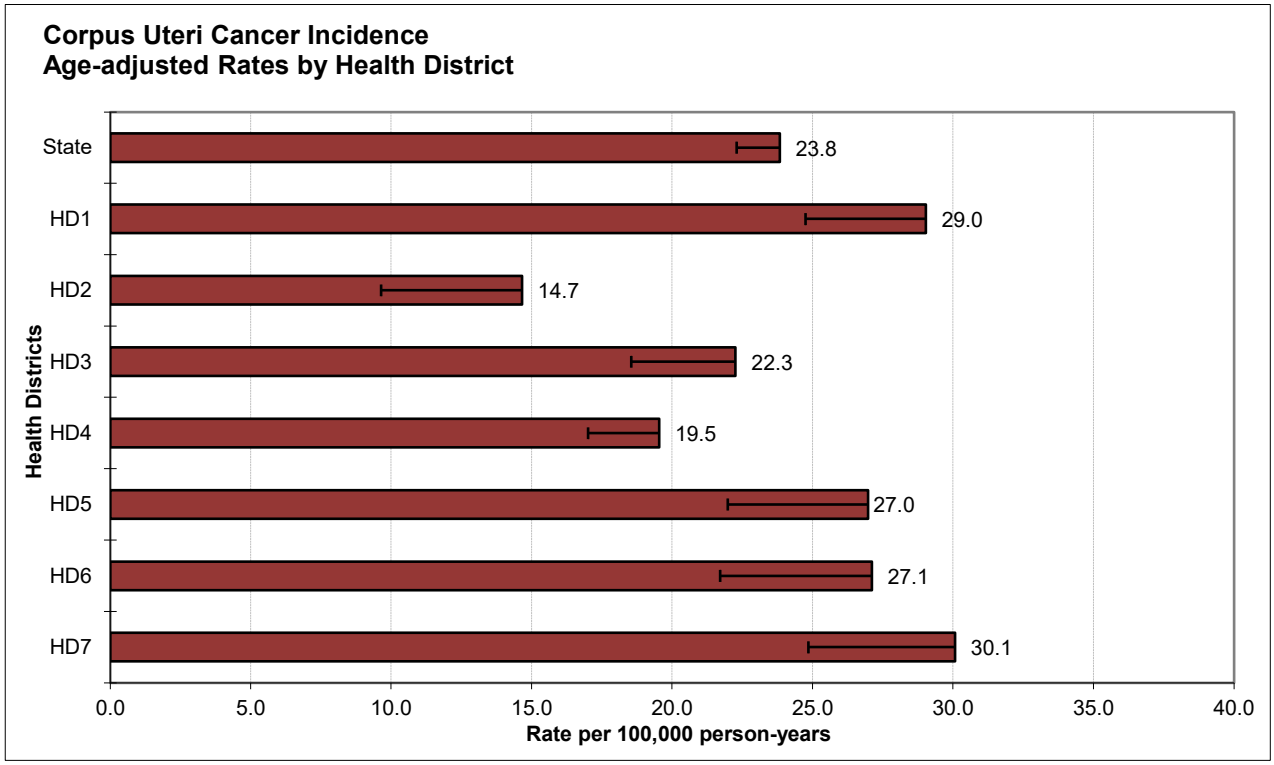
Other Endometrial hyperplasia is a common pre-cursor or concurrent condition to endometrial cancer. Obesity, high body mass index, metabolic syndrome, and post-menopausal weight gain are all associated with increased risk. Regular physical activity is associated with decreased risk.

Data Summary

Mean age-adjusted incidence rate across health districts:	24.2
95% confidence interval on the mean age-adjusted incidence rate:	20.1–28.4
Median age-adjusted incidence rate of health districts:	27.0
Range of age-adjusted incidence rate for health districts:	14.7–30.1
USCS rate (2016, all races):	27.2

Few cases of endometrial cancer were diagnosed in persons less than 35 years of age. After age 44, there was a sharp increase in age-specific rates, peaking in the age group 60–64. Among total cases, Health District 2 had statistically significantly fewer cases of endometrial cancer than expected based upon rates for the remainder of Idaho.


State Corpus Uteri Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
120
100
80
60
40
20
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)


Corpus Uteri Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
23.8
29.0
14.7
22.3
19.5
27.0
27.1
30.1
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
Rate per 100,000 person-years

ESOPHAGUS

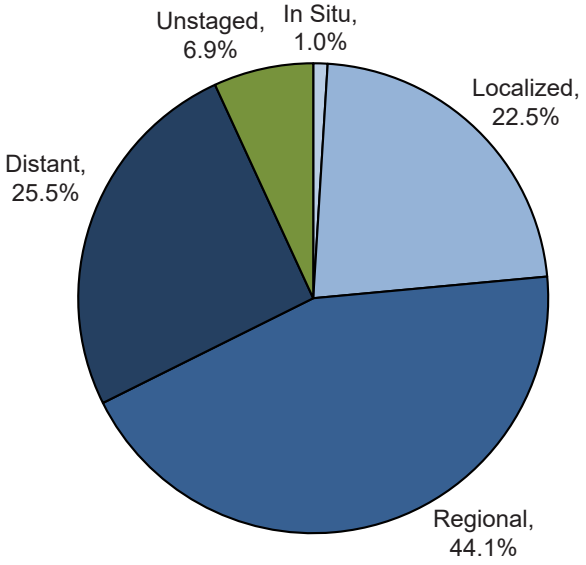
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	5.0	8.9	1.4
# of new invasive cases	101	87	14
# of new in situ cases	1	0	1
# of deaths	99	82	17

Total Cases by County

Ada	23	Cassia	-	Lewis	-
Adams	-	Clark	-	Lincoln	-
Bannock	5	Clearwater	2	Madison	-
Bear Lake	1	Custer	-	Minidoka	-
Benewah	1	Elmore	3	Nez Perce	1
Bingham	1	Franklin	-	Oneida	-
Blaine	-	Fremont	-	Owyhee	1
Boise	-	Gem	2	Payette	-
Bonner	5	Gooding	4	Power	2
Bonneville	6	Idaho	1	Shoshone	-
Boundary	-	Jefferson	1	Teton	1
Butte	-	Jerome	4	Twin Falls	6
Camas	-	Kootenai	15	Valley	1
Canyon	10	Latah	1	Washington	2
Caribou	-	Lemhi	3		

Stage at Diagnosis - Esophagus



Factors Associated with Cancer Incidence

Age Incidence of esophageal cancer increases with age, peaking among ages 80–84.

Sex Males have higher rates of esophageal cancer overall, adenocarcinoma, and squamous cell carcinoma; male-to-female incidence ratios are 3:1 or higher.

Race/Ethnicity Whites and Blacks have similar rates through age 64, when rates in Whites demonstrate steeper increases until rates peak among ages 80–84. Blacks and Whites experience higher rates of squamous cell carcinoma and adenocarcinoma, respectively, across the life course relative to other races. Data are limited for American Indians/Alaska Natives. Incidence is higher in non-Hispanic Whites than Hispanics.

Occupation Occupations with high levels of soot exposure are at higher risk.

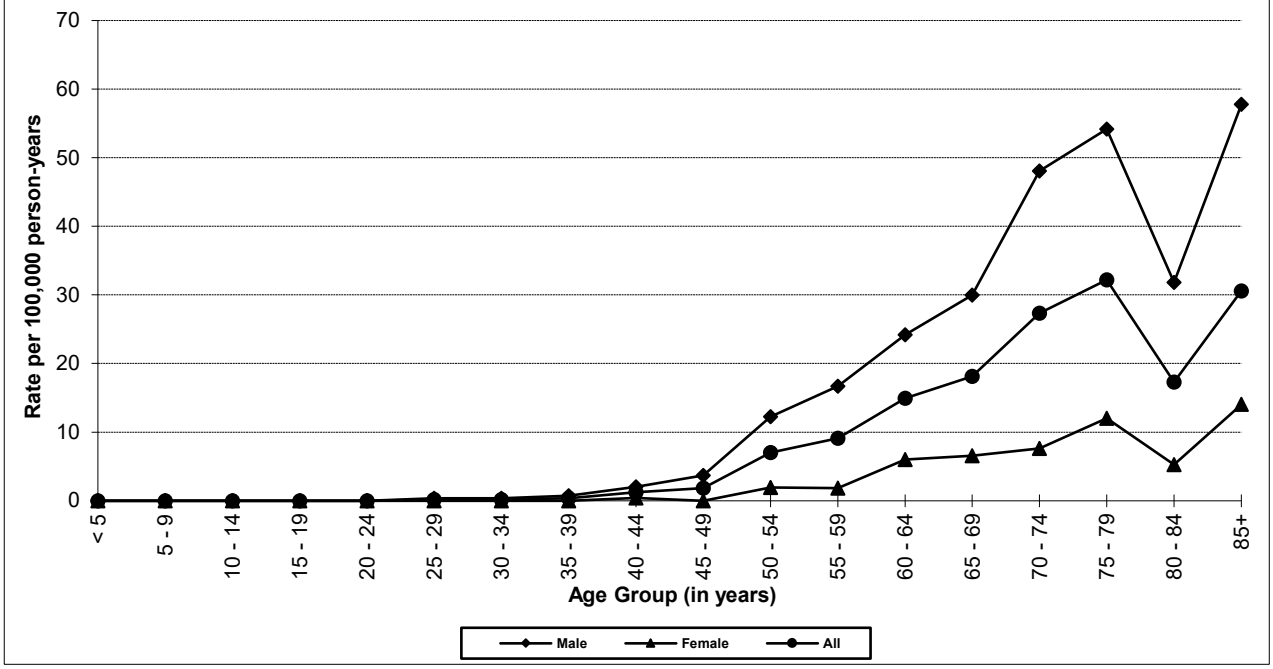
Other Tobacco use (cigarettes or spit tobacco) and heavy alcohol consumption are major risk factors for cancer of the esophagus, accounting for an estimated 90% of squamous cell carcinomas. Risk increases when both factors are present. Gastroesophageal reflux, and medications that predispose individuals to gastroesophageal reflux disease, e.g. anticholinergics, are associated with an increased risk of adenocarcinoma. Obesity is also associated with increased esophageal adenocarcinoma risk. Conversely, aspirin and nonsteroidal anti-inflammatory medications are associated with a small decrease in esophageal cancer risk.

Data Summary

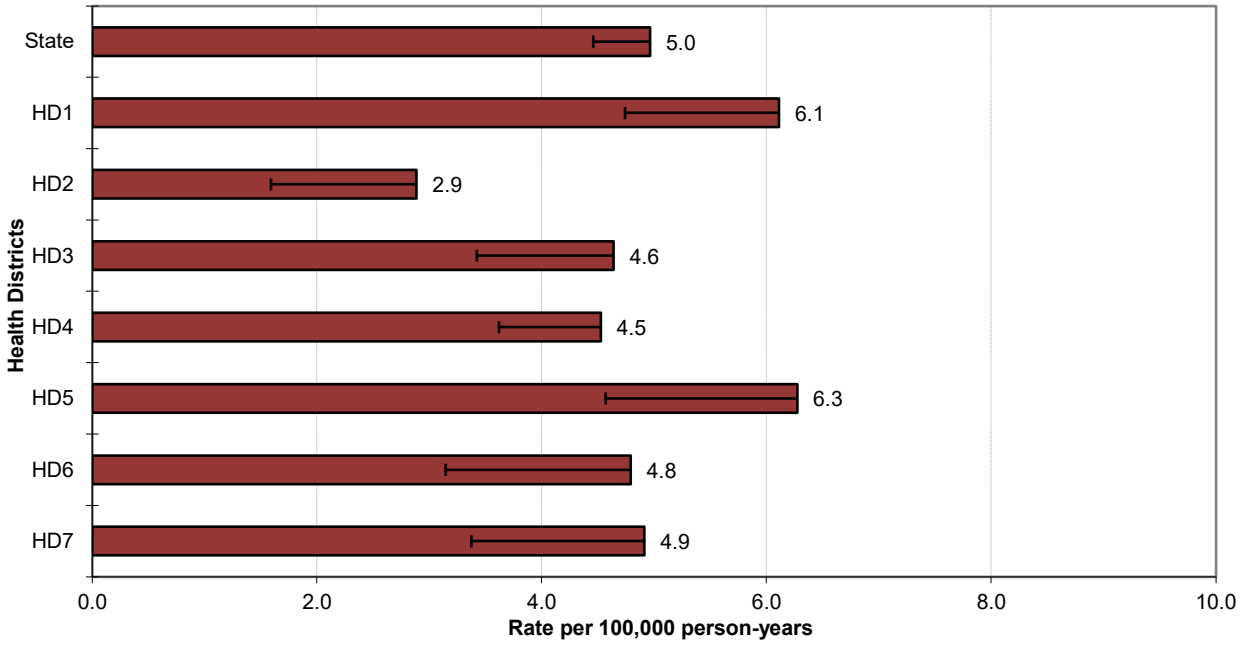
Mean age-adjusted incidence rate across health districts:	4.9
95% confidence interval on the mean age-adjusted incidence rate:	4.0–5.7
Median age-adjusted incidence rate of health districts:	4.8
Range of age-adjusted incidence rate for health districts:	2.9–6.3
USCS rate (2016, all races):	4.3

Few cases of esophageal cancer were diagnosed in persons less than 50 years of age. The age-specific incidence rates peaked in the age group 85+ for males and females. Among total cases, no health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.

State Esophageal Cancer Incidence
Age-specific Rates 2013–2017



Esophageal Cancer Incidence
Age-adjusted Rates by Health District



HODGKIN LYMPHOMA

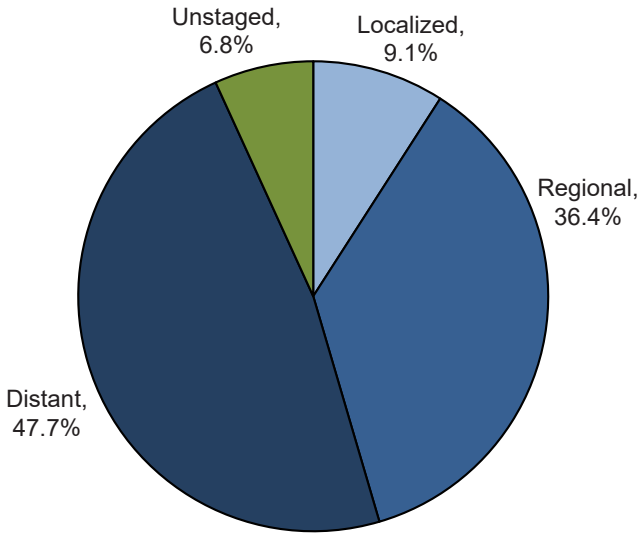
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	2.5	2.7	2.2
# of new invasive cases	44	24	20
# of new in situ cases	0	0	0
# of deaths	7	2	5

Total Cases by County

Ada	11	Cassia	-	Lewis	-
Adams	1	Clark	-	Lincoln	-
Bannock	3	Clearwater	-	Madison	-
Bear Lake	1	Custer	1	Minidoka	1
Benewah	-	Elmore	-	Nez Perce	2
Bingham	1	Franklin	-	Oneida	-
Blaine	-	Fremont	-	Owyhee	-
Boise	1	Gem	1	Payette	-
Bonner	2	Gooding	1	Power	-
Bonneville	1	Idaho	-	Shoshone	-
Boundary	-	Jefferson	-	Teton	-
Butte	-	Jerome	1	Twin Falls	3
Camas	-	Kootenai	6	Valley	2
Canyon	4	Latah	-	Washington	-
Caribou	1	Lemhi	-		

Stage at Diagnosis - Hodgkin Lymphoma



Factors Associated with Cancer Incidence

Age & Sex Hodgkin lymphoma rates are bimodal, with peaks for males and females aged 20–24 years and 75–84. Rates are higher among males among ages 5–14 and 30 – 85+.

Race/Ethnicity Whites have higher incidence of Hodgkin lymphoma than other races across the life course, except for Blacks from 35–54. Rates are similar to or lower among Asians/Pacific Islanders than other races. Non-Hispanic Whites have higher rates of Hodgkin Lymphoma through age 44, after which point incidence between Hispanic and Non-Hispanic Whites are similar, apart from higher incidence among Hispanics aged 75–79 years.

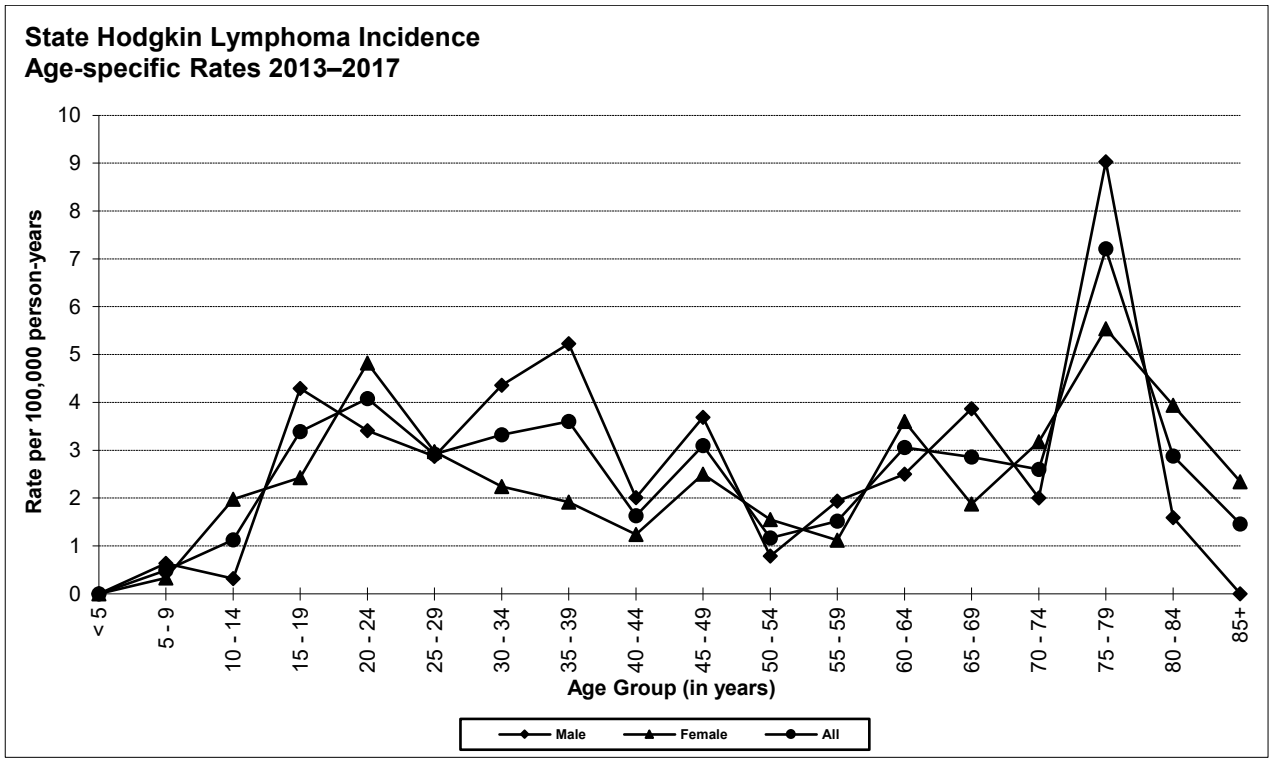
Genetics Hodgkin lymphoma risk is elevated for individuals with a family history, e.g. a sibling, but reasons for this increased risk are not well understood.

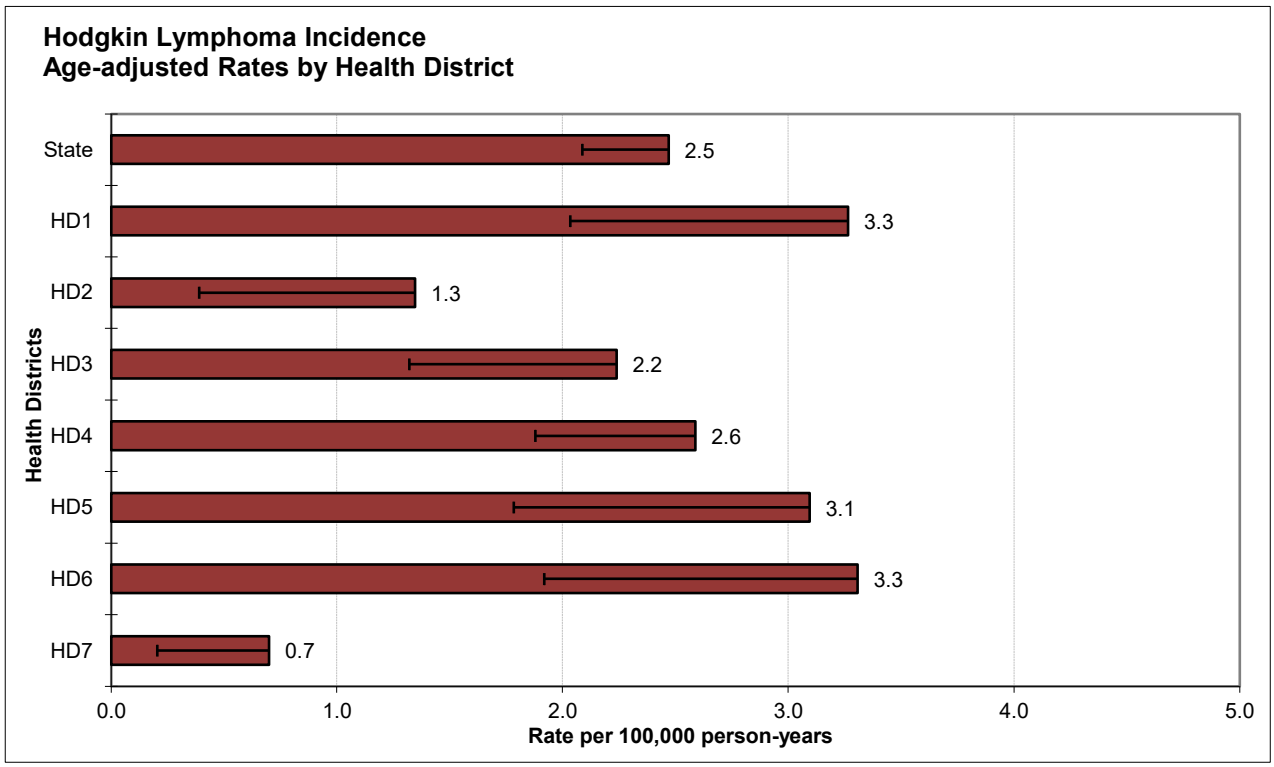
Other Epstein-Barr virus and immunosuppression (e.g. HIV infection, immunosuppressant medications related to organ transplant) are associated with increased risk of Hodgkin lymphoma.

Data Summary

Mean age-adjusted incidence rate across health districts:	2.4
95% confidence interval on the mean age-adjusted incidence rate:	1.6–3.1
Median age-adjusted incidence rate of health districts:	2.6
Range of age-adjusted incidence rate for health districts:	0.7–3.3
USCS rate (2016, all races):	2.5

The age-related incidence of Hodgkin lymphoma is typically bimodal, usually with a peak in the late 20s to early 30s, and another peak after age 74. Among total cases, no health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Hodgkin Lymphoma Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
0
1
2
3
4
5
6
7
8
9
10
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Hodgkin Lymphoma Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
2.5
3.3
1.3
2.2
2.6
3.1
3.3
0.7
0.0
1.0
2.0
3.0
4.0
5.0
Rate per 100,000 person-years

KIDNEY AND RENAL PELVIS

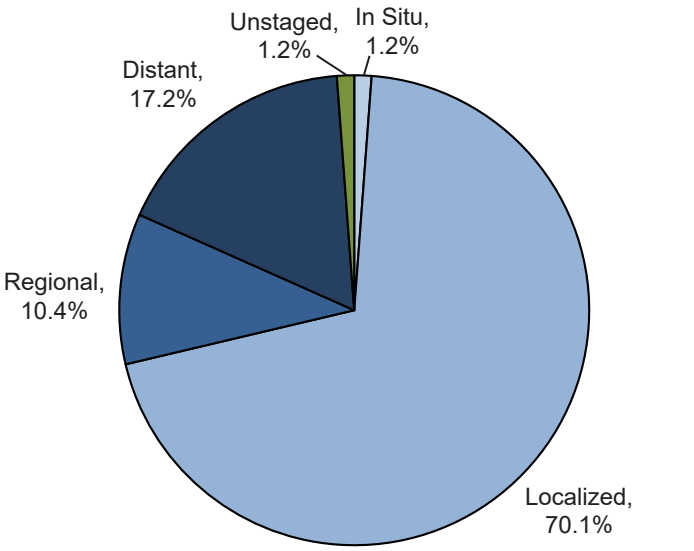
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	17.2	23.2	11.6
# of new invasive cases	334	219	115
# of new in situ cases	4	2	2
# of deaths	83	47	36

Total Cases by County

Ada	64	Cassia	5	Lewis	3
Adams	-	Clark	-	Lincoln	2
Bannock	11	Clearwater	3	Madison	7
Bear Lake	-	Custer	3	Minidoka	9
Benewah	2	Elmore	4	Nez Perce	7
Bingham	13	Franklin	-	Oneida	1
Blaine	6	Fremont	-	Owyhee	3
Boise	2	Gem	10	Payette	6
Bonner	17	Gooding	4	Power	-
Bonneville	22	Idaho	5	Shoshone	1
Boundary	2	Jefferson	4	Teton	2
Butte	1	Jerome	5	Twin Falls	17
Camas	-	Kootenai	47	Valley	5
Canyon	35	Latah	5	Washington	2
Caribou	-	Lemhi	3		

Stage at Diagnosis - Kidney and Renal Pelvis



Factors Associated with Cancer Incidence

Age Both adults and children are at risk for kidney cancer. Rates increase with age and peak during 75–79 years. 80% of all adult kidney cancers are renal cell carcinoma (RCC). Most pediatric kidney cancers are Wilms tumors, with a mean age at diagnosis of 31 or 44 months, depending on laterality.

Sex RCC incidence is approximately twice as high in males versus females.

Race/Ethnicity Asians/Pacific Islanders have lower rates of kidney and renal pelvis cancers than other races. Kidney and renal pelvis incidence is similar among Blacks, Whites, and American Indians/Alaska Natives across age groups. Incidence is similar among Hispanics and non-Hispanic Whites.

Genetics Hippel-Lindau disease, hereditary leiomyomatosis and RCC (HLRCC), Birt-Hogg-Dubé syndrome, and hereditary papillary renal carcinoma are RCC-associated syndromes, and account for < 10% of RCC. Li-Fraumeni, Frasier, and Beckwith-Wiedemann are some of the numerous Wilms tumor-associated syndromes.

Occupation Increased kidney cancer risk is associated with occupational cadmium exposure.

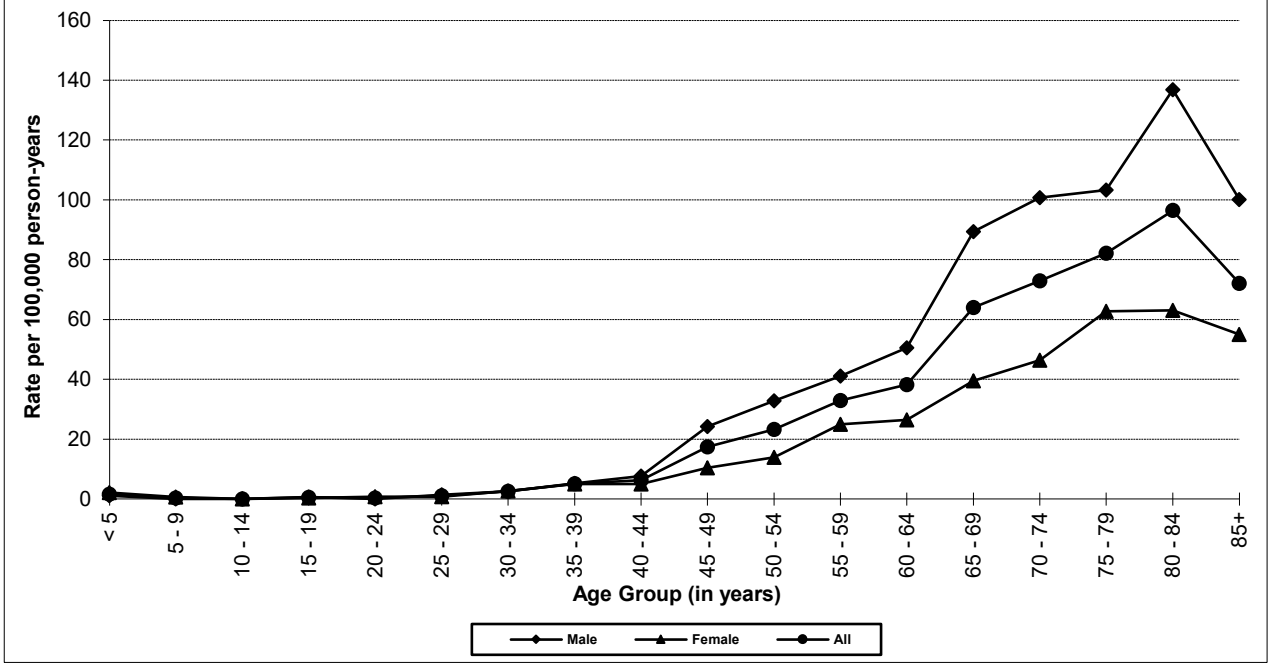
Other Cigarette smoking, obesity, and hypertension are important risk factors. Products containing aristolochic acids, which are naturally found in some plant families, are linked to increased risk for kidney and renal pelvis cancers. Trichloroethylene exposure, commonly used as a solvent or in refrigerants, is associated with increased risk.

Data Summary

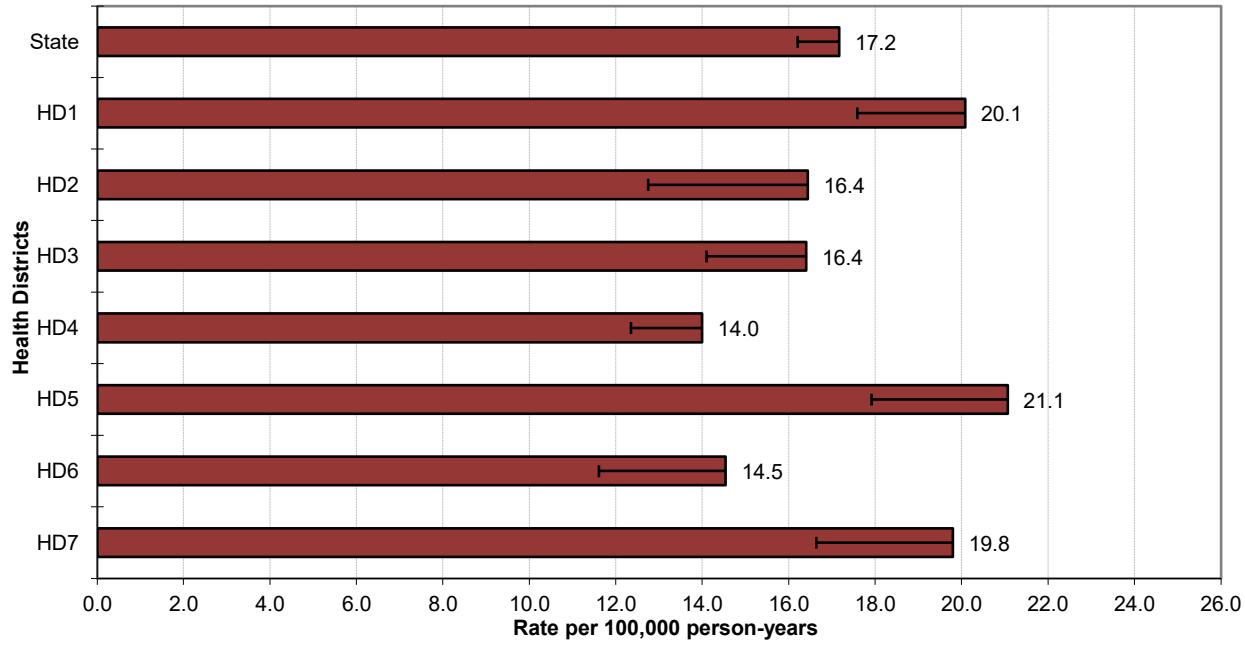
Mean age-adjusted incidence rate across health districts:	17.5
95% confidence interval on the mean age-adjusted incidence rate:	15.4–19.6
Median age-adjusted incidence rate of health districts:	16.4
Range of age-adjusted incidence rate for health districts:	14.0–21.1
USCS rate (2016, all races):	16.6

There were few cases of kidney or renal pelvis cancer among persons aged less than 40 years. The age-specific incidence rates peaked in the age group 80–84 for males and females. Among total cases, Health District 1 had statistically significantly more cases than expected based upon rates for the remainder of Idaho and Health District 4 had statistically significantly fewer.

State Kidney & Renal Pelvis Cancer Incidence
Age-specific Rates 2013–2017



Kidney & Renal Pelvis Cancer Incidence
Age-adjusted Rates by Health District



LARYNX

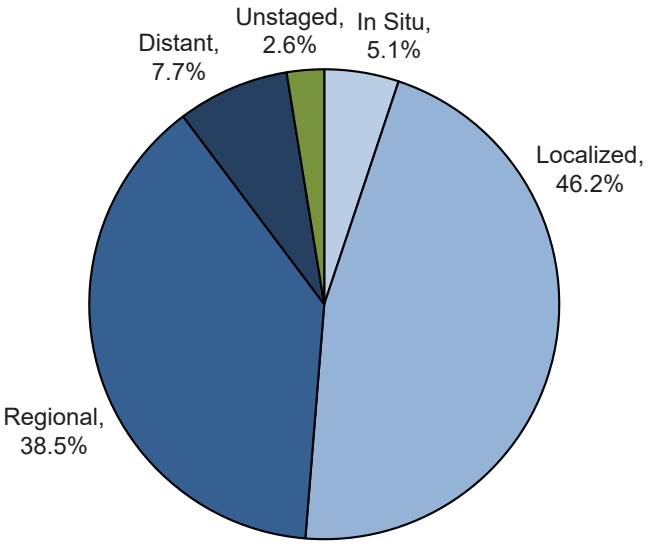
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	1.8	3.2	0.6
# of new invasive cases	37	31	6
# of new in situ cases	2	2	0
# of deaths	9	6	3

Total Cases by County

Ada	10	Cassia	-	Lewis	-
Adams	-	Clark	-	Lincoln	-
Bannock	3	Clearwater	1	Madison	1
Bear Lake	-	Custer	-	Minidoka	2
Benewah	1	Elmore	-	Nez Perce	2
Bingham	-	Franklin	-	Oneida	-
Blaine	1	Fremont	-	Owyhee	-
Boise	-	Gem	-	Payette	-
Bonner	1	Gooding	1	Power	-
Bonneville	1	Idaho	-	Shoshone	1
Boundary	-	Jefferson	-	Teton	-
Butte	-	Jerome	2	Twin Falls	2
Camas	-	Kootenai	2	Valley	-
Canyon	6	Latah	1	Washington	1
Caribou	-	Lemhi	-		

Stage at Diagnosis - Larynx



Factors Associated with Cancer Incidence

Age Rates increase with age, with most cases occurring after age 54.

Sex Laryngeal cancers are much more common in males than females.

Race/Ethnicity Generally in the United States, Blacks have higher incidence rates than Whites. Hispanics have lower rates than non-Hispanic Whites.

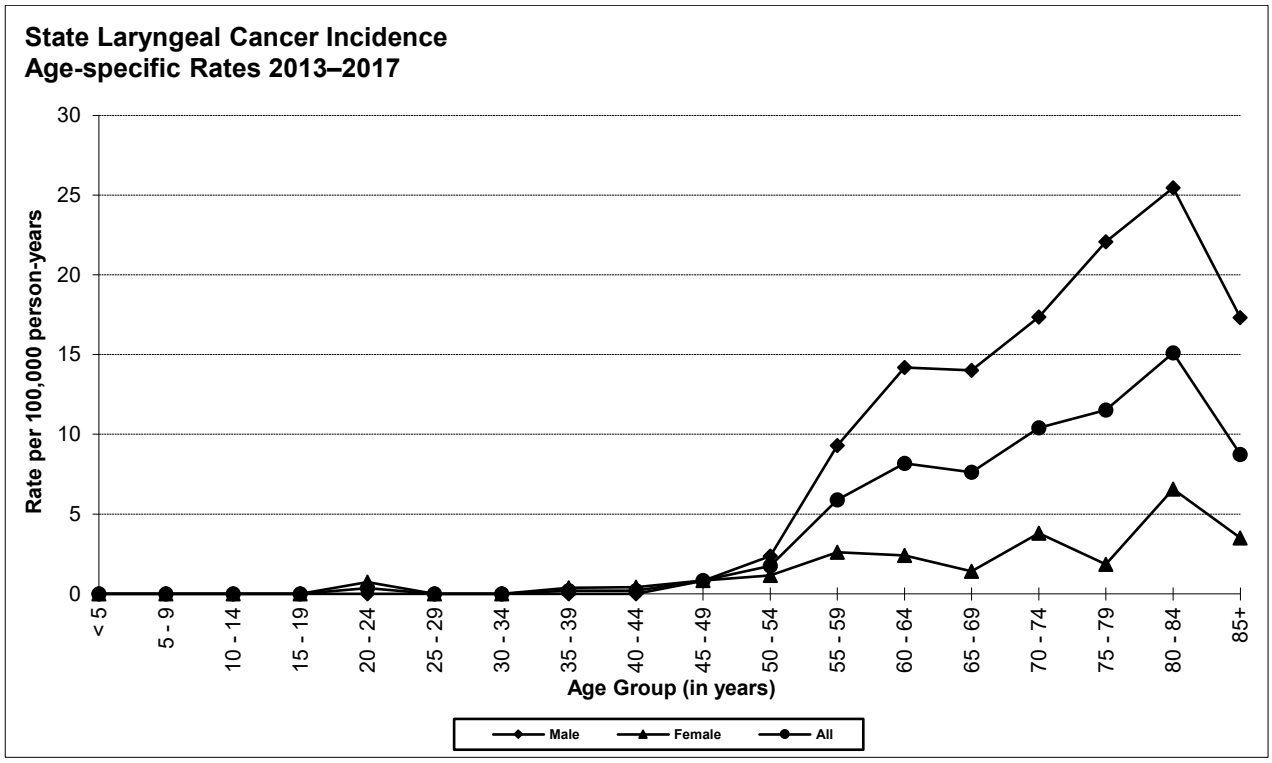
Occupation Laryngeal cancer has been associated with exposures to asbestos and wood dust.

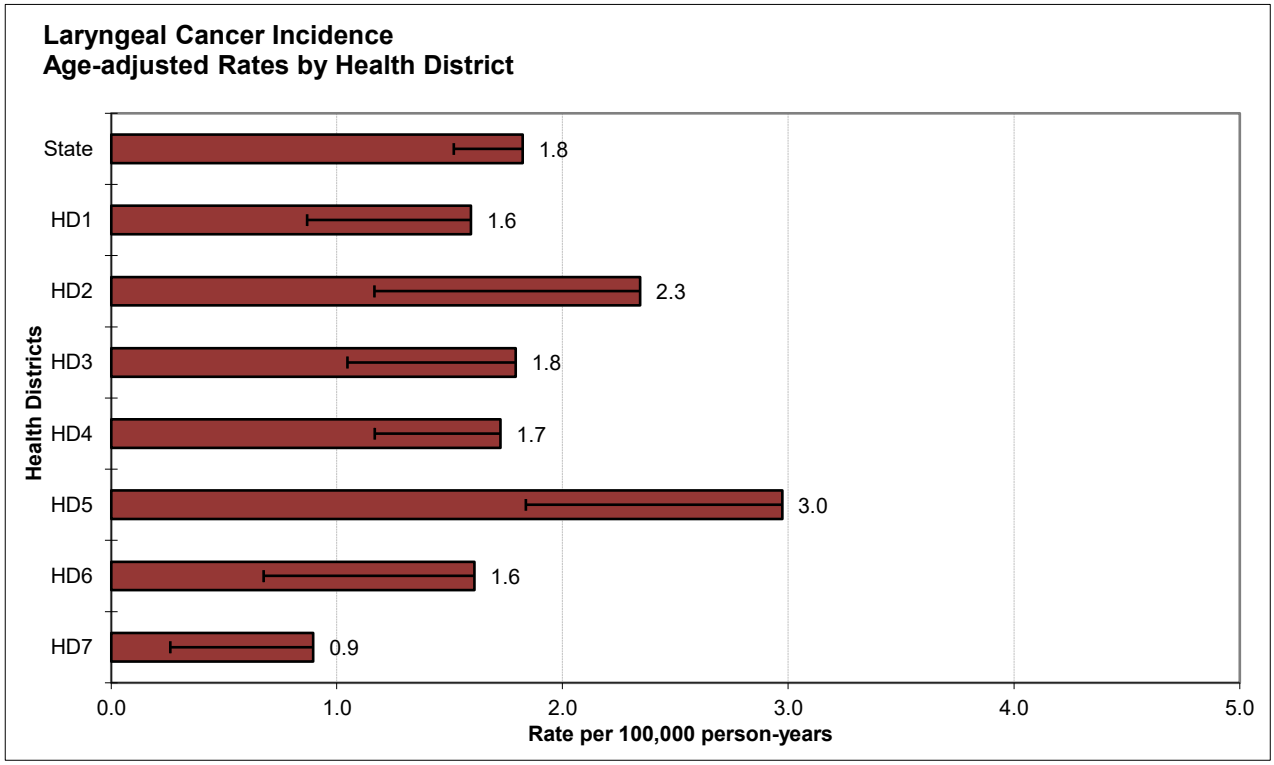
Other Cigarette smoking and excess alcohol use are both major risk factors. The combination of alcohol consumption and tobacco use (smoking or spit tobacco) acts greatly to increase the risk. A patient with a single laryngeal cancer who continues to smoke and drink alcohol has an enhanced risk of developing a second laryngeal tumor.

Data Summary

Mean age-adjusted incidence rate across health districts:	1.8
95% confidence interval on the mean age-adjusted incidence rate:	1.4–2.3
Median age-adjusted incidence rate of health districts:	1.7
Range of age-adjusted incidence rate for health districts:	0.9–3.0
USCS rate (2016, all races):	3.0

There were few cases of laryngeal cancer among persons aged less than 50 years. The age-specific incidence rates for males were more than twice those for females after age 54. The age-specific incidence rates peaked in the age group 80–84 for males and females. Among total cases, no health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Laryngeal Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
30
25
20
15
10
5
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Laryngeal Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
1.8
1.6
2.3
1.8
1.7
3.0
1.6
0.9
0.0
1.0
2.0
3.0
4.0
5.0
Rate per 100,000 person-years

LEUKEMIA

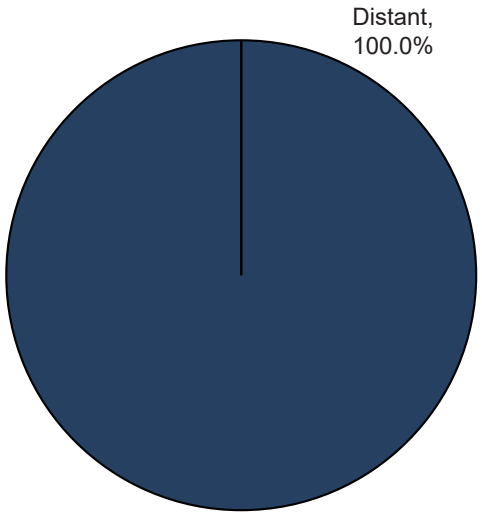
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	15.8	19.7	12.3
# of new invasive cases	300	178	122
# of new in situ cases	0	0	0
# of deaths	131	76	55

Total Cases by County

Ada	78	Cassia	2	Lewis	-
Adams	-	Clark	-	Lincoln	1
Bannock	12	Clearwater	2	Madison	4
Bear Lake	3	Custer	-	Minidoka	5
Benewah	1	Elmore	5	Nez Perce	7
Bingham	9	Franklin	4	Oneida	2
Blaine	4	Fremont	2	Owyhee	-
Boise	1	Gem	2	Payette	2
Bonner	3	Gooding	4	Power	3
Bonneville	19	Idaho	3	Shoshone	2
Boundary	1	Jefferson	2	Teton	2
Butte	1	Jerome	2	Twin Falls	20
Camas	-	Kootenai	43	Valley	3
Canyon	32	Latah	6	Washington	5
Caribou	2	Lemhi	1		

Stage at Diagnosis - Leukemia



Factors Associated with Cancer Incidence

Age Leukemia is the most common form of cancer in children. Incidence usually increases with age in adults. The highest rates occur in individuals over age 60.

Sex Males have higher incidence rates than females for acute lymphoblastic leukemia (ALL), chronic lymphocytic leukemia (CLL), acute myeloid leukemia (AML), chronic myeloid leukemia (CML), acute monocytic leukemia (AML-M5), and chronic myelomonocytic leukemia (CMML).

Race/Ethnicity ALL is less common among Blacks. CLL is rare in Asian/Pacific Islanders. Hispanics and non-Hispanic Whites have higher rates of AML-M5 than other race/ethnic groups.

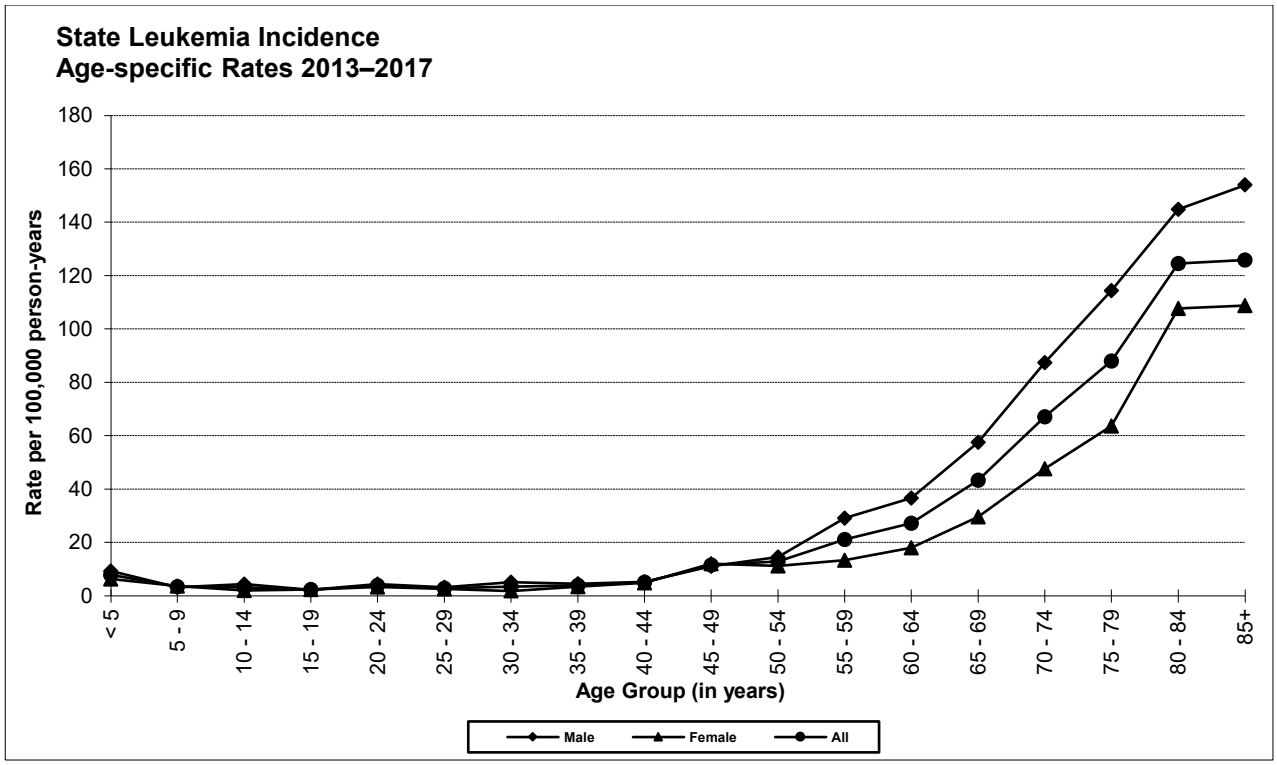
Genetics Certain congenital defects (e.g. trisomy 21, Fanconi's anemia, Bloom syndrome, ataxia-telangiectasia) increase risk for various types of leukemia in children.

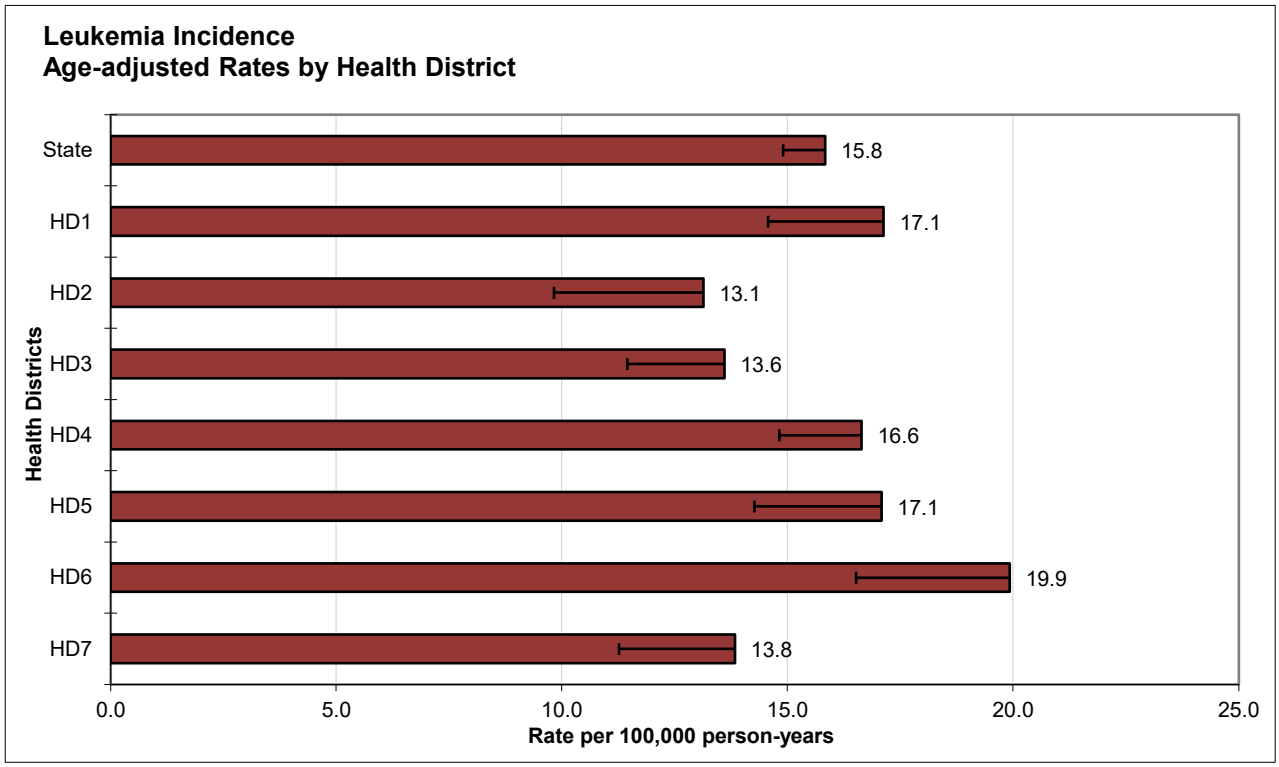
Other Ionizing radiation exposure increases leukemia risk, except for CLL. Benzene is a known cause of leukemia (predominantly AML). Treatment with some chemotherapeutic agents for other cancers increases the risk of leukemia. Exposure to herbicides used during the Vietnam War, including Agent Orange, has been associated with increased incidence of CLL. Autoimmune diseases and several viruses, including HTLV-I and Epstein-Barr virus, are associated with certain types of leukemia.

Data Summary

Mean age-adjusted incidence rate across health districts:	15.9
95% confidence interval on the mean age-adjusted incidence rate:	14.1–17.7
Median age-adjusted incidence rate of health districts:	16.6
Range of age-adjusted incidence rate for health districts:	13.1–19.9
USCS rate (2016, all races):	12.9

The age-specific incidence distribution of leukemia for Idaho is quite similar to the typical pattern seen in SEER or NPCR data. The rates are higher for males than females for all types of leukemia apart from AML, which has no predilection for age or sex. Among total cases, no health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Leukemia Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
180
160
140
120
100
80
60
40
20
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Leukemia Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
15.8
17.1
13.1
13.6
16.6
17.1
19.9
13.8
0.0
5.0
10.0
15.0
20.0
25.0
Rate per 100,000 person-years

LIVER AND BILE DUCT

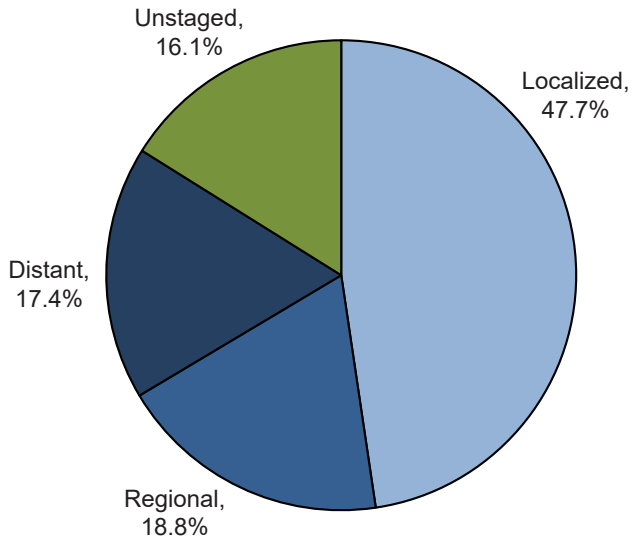
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	7.1	11.2	3.3
# of new invasive cases	149	113	36
# of new in situ cases	0	0	0
# of deaths	121	88	33

Total Cases by County

Ada	44	Cassia	-	Lewis	1
Adams	-	Clark	-	Lincoln	1
Bannock	7	Clearwater	1	Madison	1
Bear Lake	-	Custer	1	Minidoka	-
Benewah	1	Elmore	3	Nez Perce	2
Bingham	2	Franklin	-	Oneida	1
Blaine	1	Fremont	1	Owyhee	1
Boise	1	Gem	6	Payette	3
Bonner	8	Gooding	1	Power	-
Bonneville	6	Idaho	2	Shoshone	3
Boundary	-	Jefferson	3	Teton	-
Butte	-	Jerome	2	Twin Falls	5
Camas	1	Kootenai	14	Valley	3
Canyon	19	Latah	-	Washington	3
Caribou	-	Lemhi	1		

Stage at Diagnosis - Liver and Bile Duct



Factors Associated with Cancer Incidence

Age The incidence rate of liver cancer increases with age.

Sex Rates are usually higher among males than females.

Race/Ethnicity Incidence is higher among Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics.

Diet Aflatoxins, which are present in certain foods such as peanut butter, are classified as a known human carcinogen causing liver cancer.

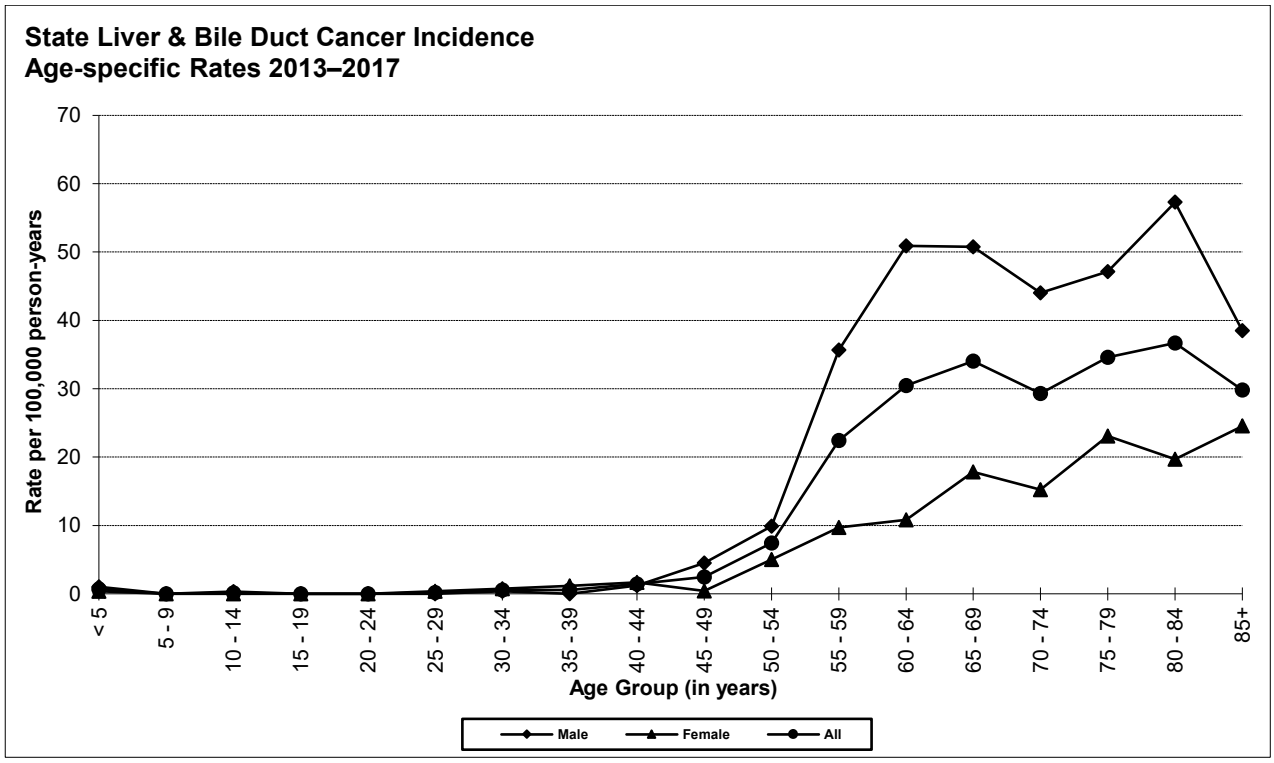
Occupation Thorium dioxide (an x-ray contrast medium) exposure increases liver cancer risk. Exposure to vinyl chloride used in plastic production is associated with an increased risk of angiosarcoma of the liver.

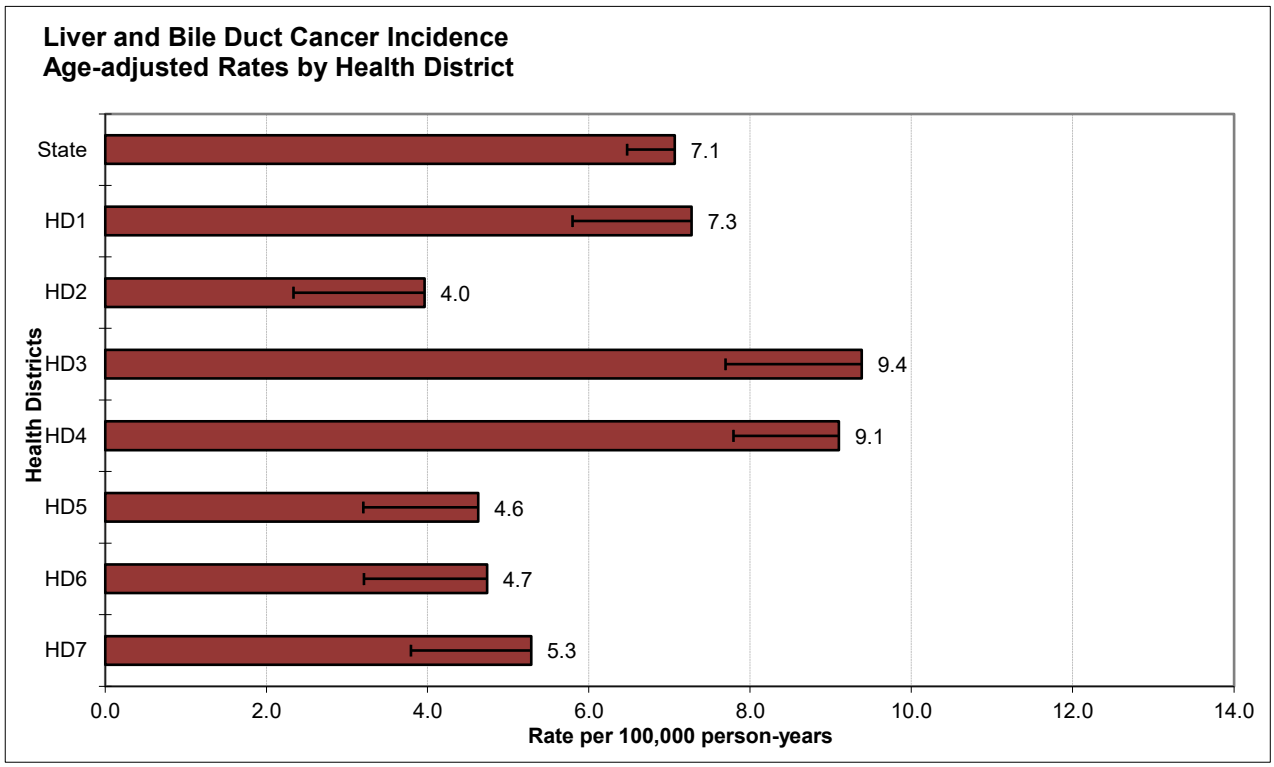
Other Hepatitis B and Hepatitis C infections are significant causes of hepatocellular carcinoma. Cirrhosis of the liver due to viral hepatitis, alcoholism, or toxic chemical exposure accounts for 50–80% of liver cancer cases. Long-term use of estrogen-progestogen contraceptives increases risk of hepatocellular carcinoma.

Data Summary

Mean age-adjusted incidence rate across health districts:	6.3
95% confidence interval on the mean age-adjusted incidence rate:	4.7–8.0
Median age-adjusted incidence rate of health districts:	5.3
Range of age-adjusted incidence rate for health districts:	4.0–9.4
USCS rate (2016, all races):	7.8

There were few cases of liver and bile duct cancer among persons less than 55 years of age. Age-specific incidence rates generally increased with age, peaking in the age group 80–84 for males and 85+ for females. Among total cases, no health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Liver & Bile Duct Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
70
60
50
40
30
20
10
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Liver and Bile Duct Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
7.1
7.3
4.0
9.4
9.1
4.6
4.7
5.3
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Rate per 100,000 person-years

LUNG AND BRONCHUS

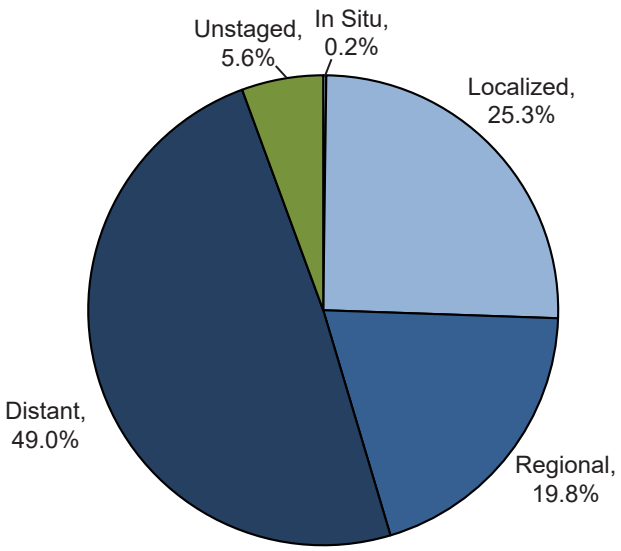
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	46.9	48.1	46.1
# of new invasive cases	961	471	490
# of new in situ cases	2	2	0
# of deaths	605	328	277

Total Cases by County

Ada	220	Cassia	7	Lewis	7
Adams	3	Clark	1	Lincoln	3
Bannock	38	Clearwater	13	Madison	-
Bear Lake	3	Custer	5	Minidoka	11
Benewah	4	Elmore	24	Nez Perce	40
Bingham	16	Franklin	3	Oneida	3
Blaine	6	Fremont	9	Owyhee	5
Boise	8	Gem	12	Payette	31
Bonner	35	Gooding	12	Power	1
Bonneville	43	Idaho	15	Shoshone	11
Boundary	9	Jefferson	12	Teton	6
Butte	4	Jerome	11	Twin Falls	53
Camas	-	Kootenai	132	Valley	4
Canyon	102	Latah	21	Washington	10
Caribou	3	Lemhi	7		

Stage at Diagnosis - Lung and Bronchus



Factors Associated with Cancer Incidence

Age Lung cancer incidence rates increase with age.

Sex The incidence is currently higher in males than in females, but the gap is narrowing due to increased smoking rates among women in recent decades.

Race/Ethnicity Incidence is highest among non-Hispanic Whites and Blacks and lowest among Hispanics and Asian and Pacific Islanders.

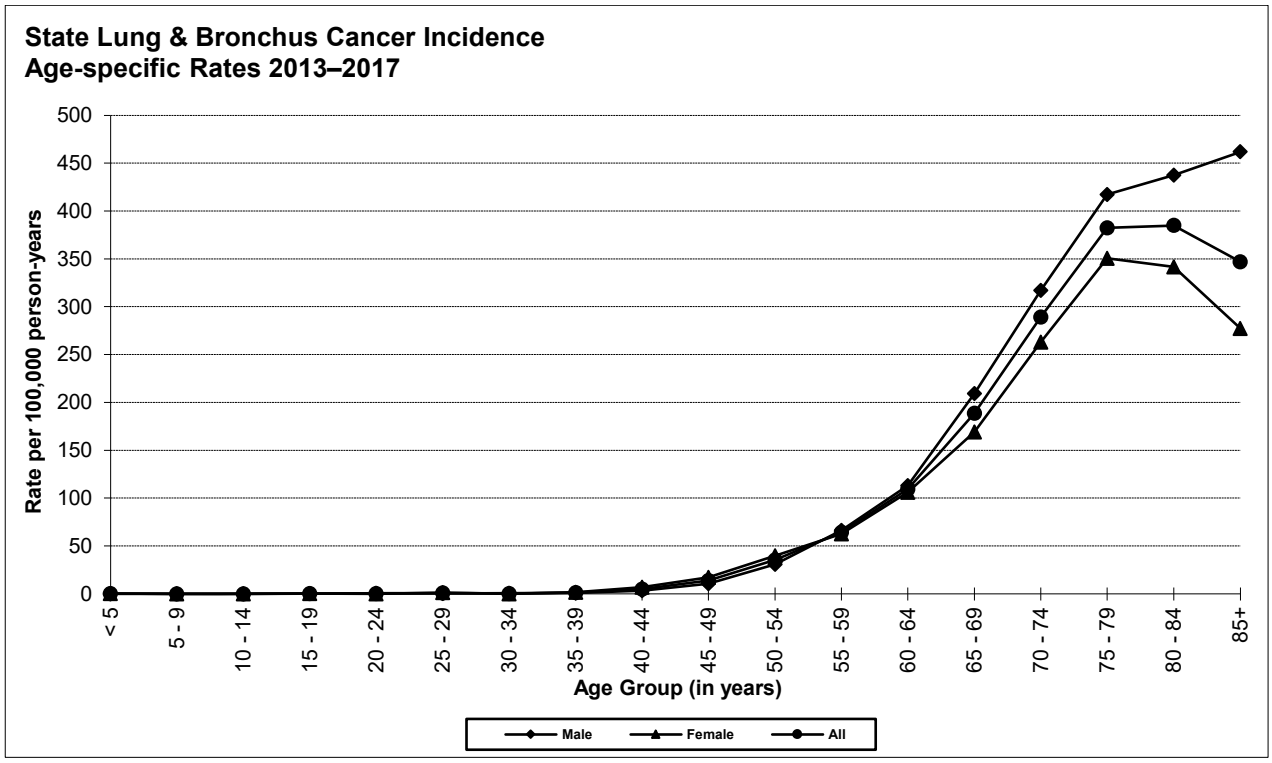
Occupation Occupational or environmental exposures to asbestos, cadmium, chromium, coal tars, crystalline silica dust, polycyclic aromatic hydrocarbons, radon, soot, chlorpyrifos insecticides, ionizing radiation, and other substances increase the risk.

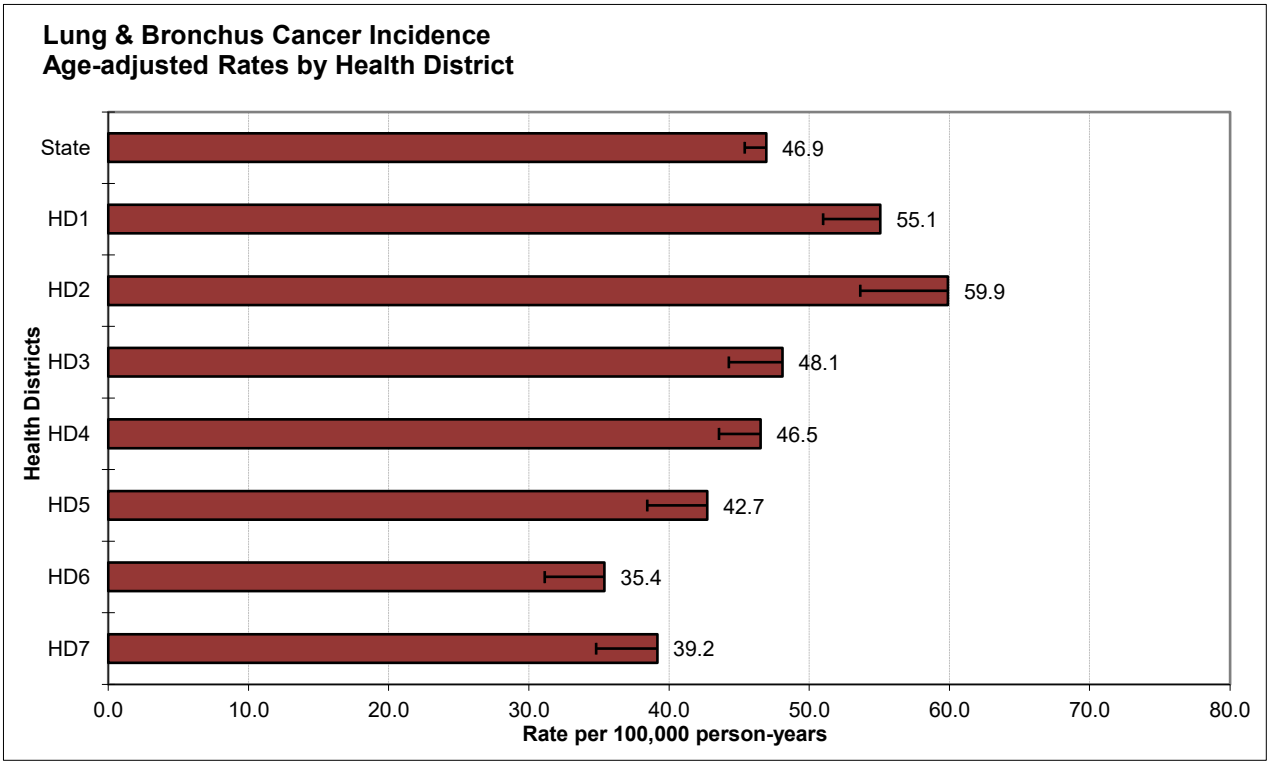
Other Cigarette smoking, including exposure to second-hand smoke, is the most important risk factor, accounting for about 80% of lung cancer deaths. Evidence exists that rates are about 1.3 times higher, adjusted for smoking, in urban areas than rural areas due to air pollution, mostly from motor vehicles.

Data Summary

Mean age-adjusted incidence rate across health districts:	46.7
95% confidence interval on the mean age-adjusted incidence rate:	40.3–53.1
Median age-adjusted incidence rate of health districts:	46.5
Range of age-adjusted incidence rate for health districts:	35.4–59.9
USCS rate (2016, all races):	54.2

There were few cases of lung cancer among persons less than 50 years of age. The age-specific incidence rates for males were uniformly higher than the rates for females after age 64. The incidence rates increased with age, peaking in the age group 85+ for males and 75–79 for females. Among total cases, Health Districts 1 and 2 had statistically significantly more cases of lung cancer than expected based upon rates for the remainder of Idaho, and Health Districts 6 and 7 had statistically significantly fewer.


State Lung & Bronchus Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
500
450
400
350
300
250
200
150
100
50
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Lung & Bronchus Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
46.9
55.1
59.9
48.1
46.5
42.7
35.4
39.2
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Rate per 100,000 person-years

MELANOMA OF SKIN

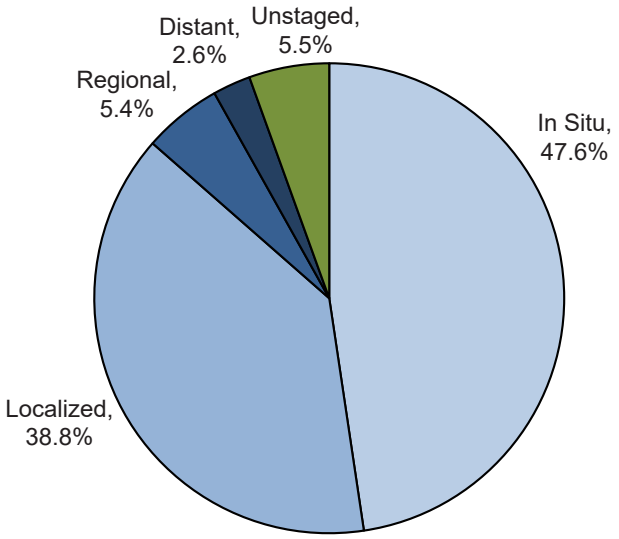
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	27.3	34.4	21.0
# of new invasive cases	522	323	199
# of new in situ cases	475	284	191
# of deaths	48	30	18

Total Cases by County

Ada	355	Cassia	8	Lewis	2
Adams	3	Clark	1	Lincoln	-
Bannock	68	Clearwater	6	Madison	16
Bear Lake	6	Custer	3	Minidoka	7
Benewah	-	Elmore	14	Nez Perce	19
Bingham	28	Franklin	8	Oneida	4
Blaine	21	Fremont	13	Owyhee	5
Boise	5	Gem	10	Payette	9
Bonner	14	Gooding	3	Power	4
Bonneville	67	Idaho	6	Shoshone	4
Boundary	1	Jefferson	13	Teton	9
Butte	3	Jerome	12	Twin Falls	27
Camas	-	Kootenai	79	Valley	17
Canyon	106	Latah	8	Washington	3
Caribou	6	Lemhi	4		

Stage at Diagnosis - Melanoma of Skin



Factors Associated with Cancer Incidence

Age Melanoma is extremely uncommon before puberty. Rates increase with age.

Sex Incidence rates are higher among females than males in younger age groups, and higher in males than females in older age groups.

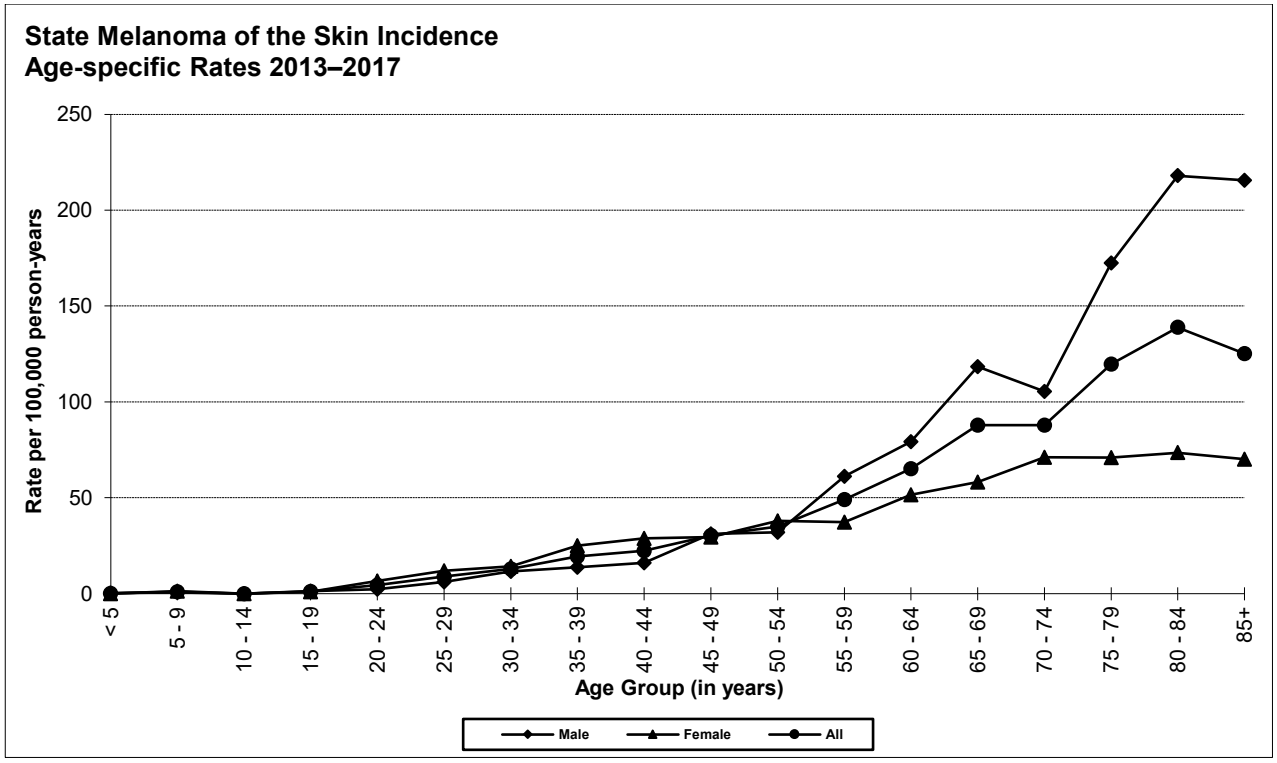
Race/Ethnicity Incidence rates are over 5-fold higher for non-Hispanic Whites than American Indian/Alaska Natives or Hispanics and lowest among Asian/Pacific Islanders and Blacks.

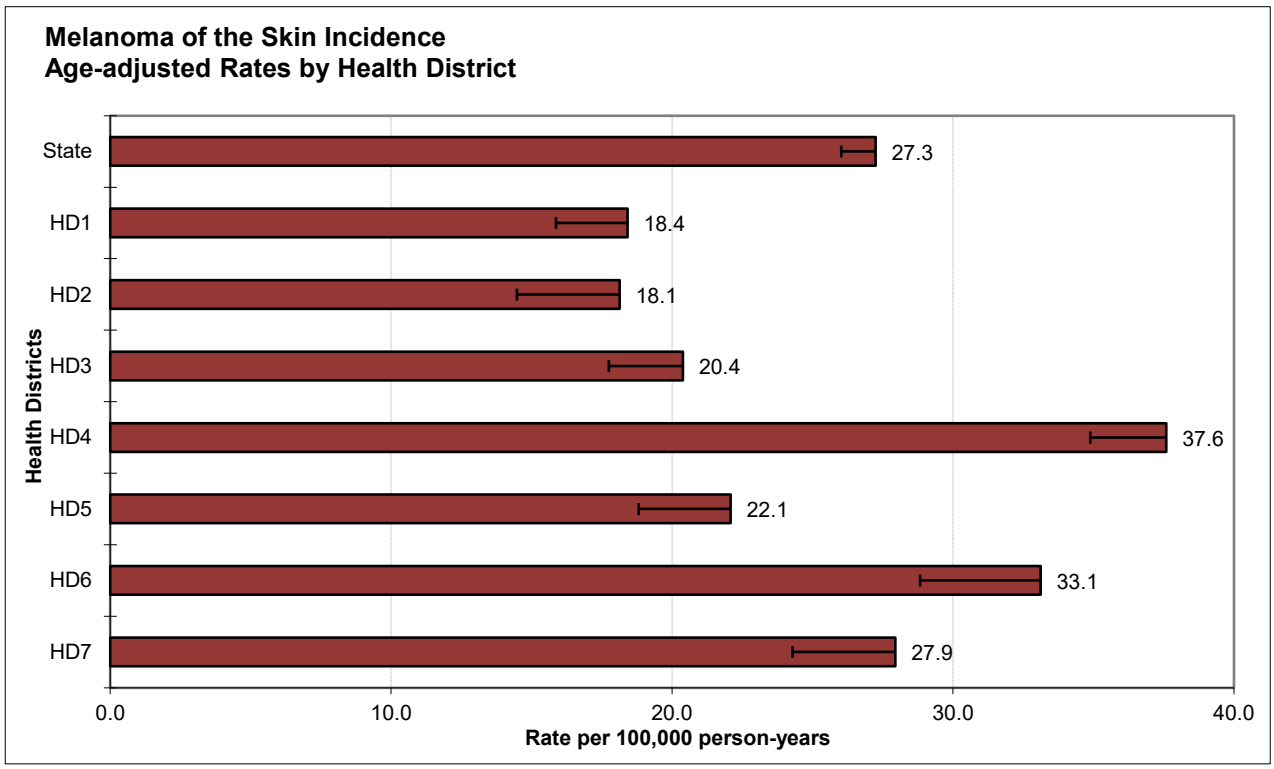
Other Ultraviolet light exposure, especially blistering sunburns during childhood and intermittent exposure of untanned skin to intense sunlight, is a major risk factor. Melanoma incidence rates are increasing around the world. Blue eyes, fair or red hair, and pale complexion are well-known risk factors for melanoma. Apart from race and age, the number of melanocytic nevi is the strongest known risk factor for melanoma.

Data Summary

Mean age-adjusted incidence rate across health districts:	25.4
95% confidence interval on the mean age-adjusted incidence rate:	19.7–31.1
Median age-adjusted incidence rate of health districts:	22.1
Range of age-adjusted incidence rate for health districts:	18.1–37.6
USCS rate (2016, all races):	22.2

There were few cases of melanoma of the skin among persons less than 25 years of age. The age-specific incidence rates were higher among males after age 54. Among total cases, Health District 4 had statistically significantly more cases of melanoma than expected based upon rates for the remainder of Idaho, and Health Districts 1 and 3 had statistically significantly fewer.


State Melanoma of the Skin Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
250
200
150
100
50
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Melanoma of the Skin Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
27.3
18.4
18.1
20.4
37.6
22.1
33.1
27.9
0.0
10.0
20.0
30.0
40.0
Rate per 100,000 person-years

MYELOMA

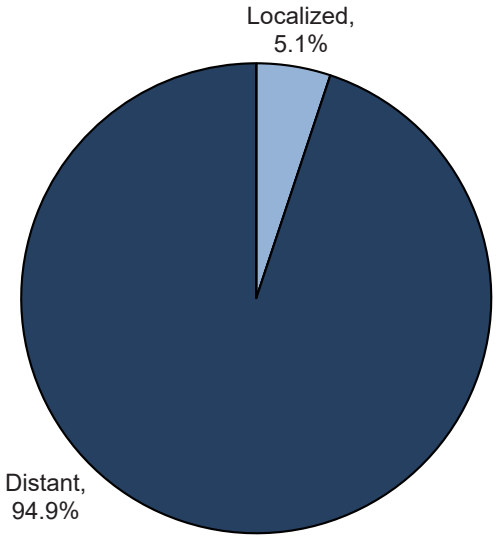
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	6.8	8.7	5.2
# of new invasive cases	137	80	57
# of new in situ cases	0	0	0
# of deaths	76	48	28

Total Cases by County

Ada	38	Cassia	3	Lewis	1
Adams	-	Clark	-	Lincoln	-
Bannock	5	Clearwater	-	Madison	2
Bear Lake	-	Custer	-	Minidoka	3
Benewah	-	Elmore	2	Nez Perce	1
Bingham	4	Franklin	1	Oneida	-
Blaine	3	Fremont	2	Owyhee	-
Boise	1	Gem	1	Payette	3
Bonner	3	Gooding	-	Power	-
Bonneville	10	Idaho	-	Shoshone	2
Boundary	1	Jefferson	-	Teton	-
Butte	4	Jerome	2	Twin Falls	9
Camas	-	Kootenai	12	Valley	3
Canyon	16	Latah	3	Washington	2
Caribou	-	Lemhi	-		

Stage at Diagnosis - Myeloma



Factors Associated with Cancer Incidence

Age Multiple myeloma is an age-dependent cancer; incidence rates increase with age, and it rarely occurs before age 40.

Sex Rates for males are somewhat higher than for females.

Race/Ethnicity Blacks have substantially higher incidence rates than other race/ethnicity groups and Hispanics have the second highest rates.

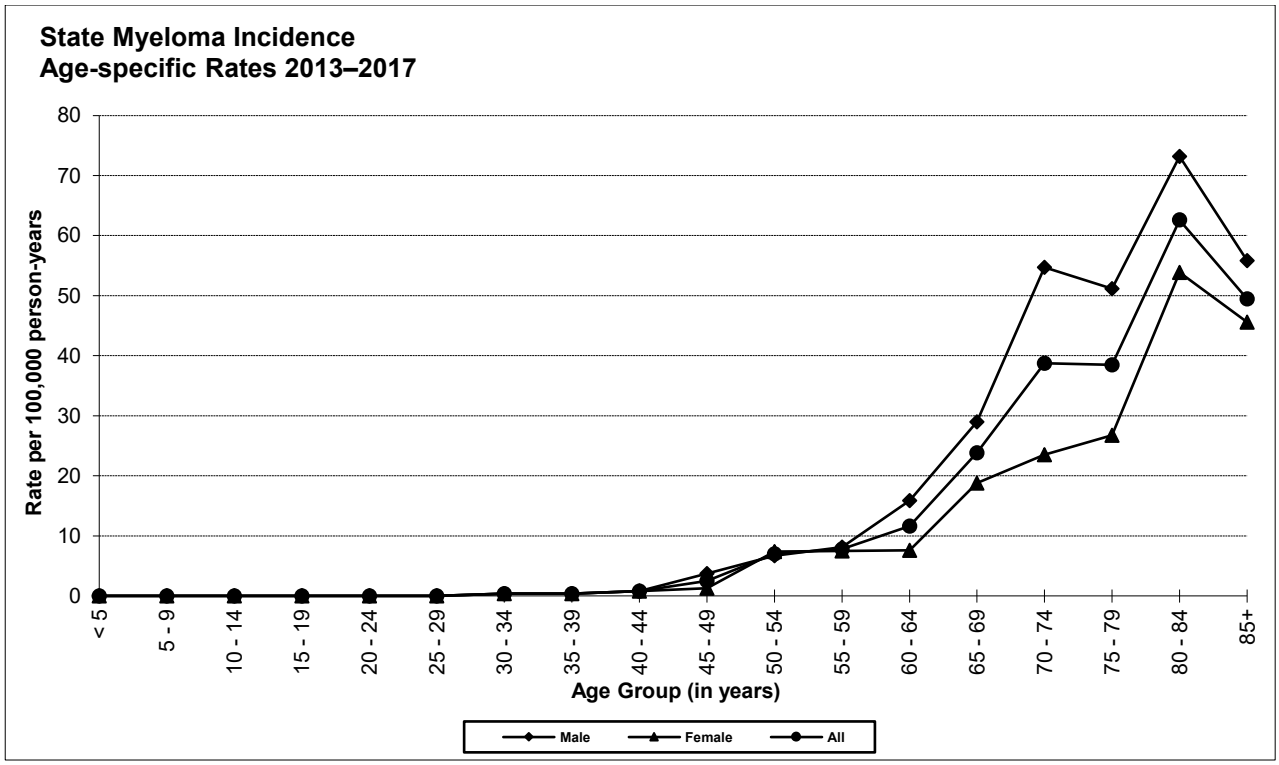
Genetics There appears to be a slight increase in the incidence of the disease in first-degree relatives (parents or siblings) of people with multiple myeloma.

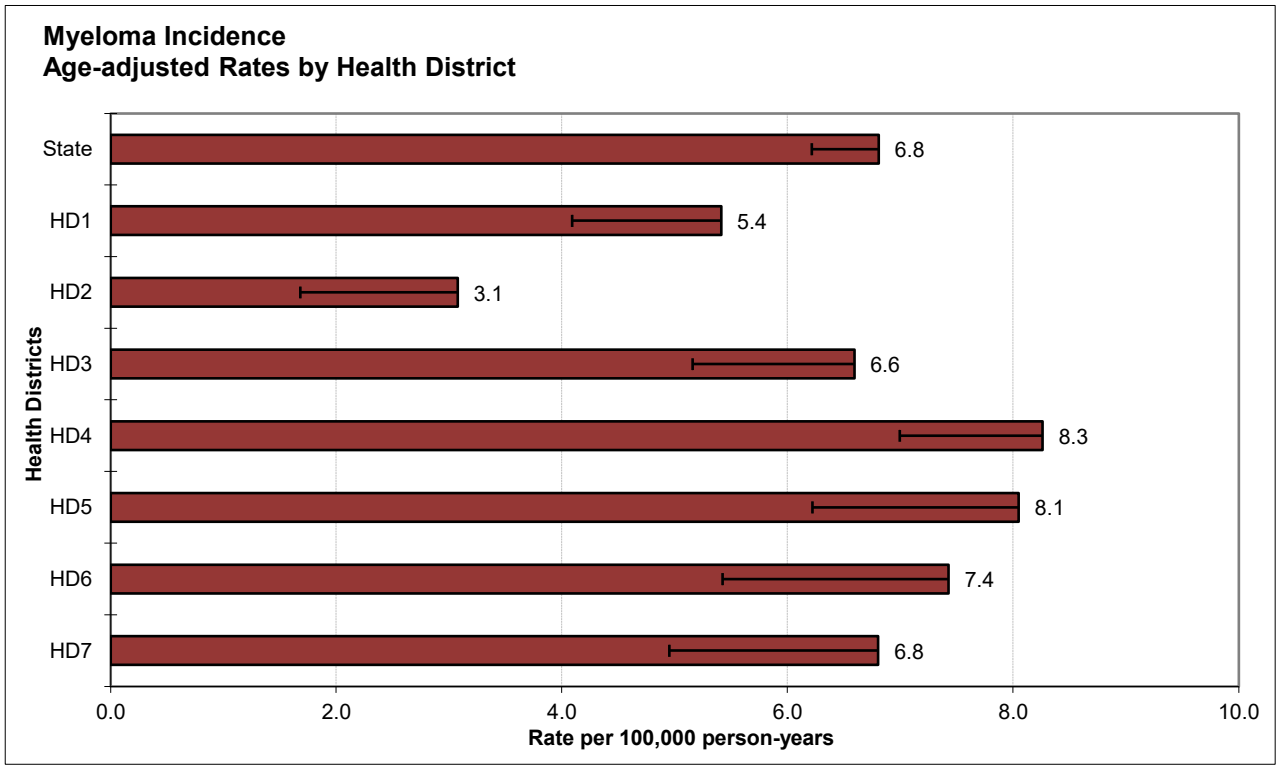
Other Being overweight or obese increases a person's risk of developing myeloma. Several specific chemical and physical substances have been linked to myeloma risk in one or more studies. Truck drivers, painters, and agricultural workers are at increased risk for multiple myeloma. Individuals with monoclonal gammopathy of unknown significance or solitary plasmacytoma are at higher risk of developing multiple myeloma.

Data Summary

Mean age-adjusted incidence rate across health districts:	6.5
95% confidence interval on the mean age-adjusted incidence rate:	5.2–7.9
Median age-adjusted incidence rate of health districts:	6.8
Range of age-adjusted incidence rate for health districts:	3.1–8.3
USCS rate (2016, all races):	6.4

There were no cases of myeloma among persons less than 30 years of age. The age-specific incidence rates increased rapidly for males and females after age group 55–59. Among total cases, no health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Myeloma Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
80
70
60
50
40
30
20
10
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Myeloma Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
6.8
5.4
3.1
6.6
8.3
8.1
7.4
6.8
0.0
2.0
4.0
6.0
8.0
10.0
Rate per 100,000 person-years

NON-HODGKIN LYMPHOMA

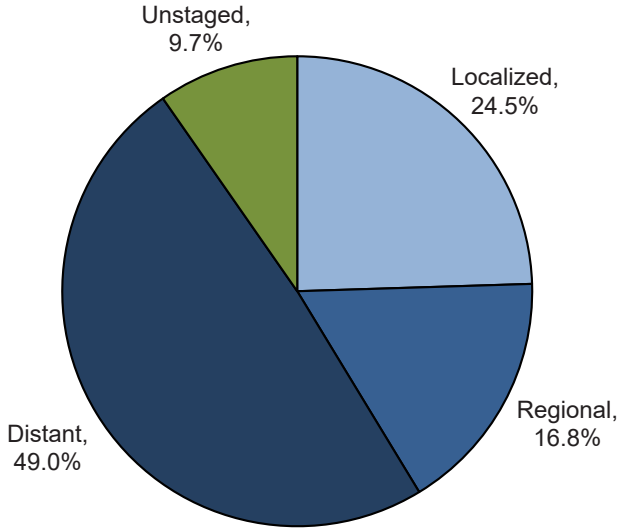
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	18.0	21.6	14.5
# of new invasive cases	351	204	147
# of new in situ cases	0	0	0
# of deaths	119	66	53

Total Cases by County

Ada	85	Cassia	5	Lewis	1
Adams	3	Clark	-	Lincoln	-
Bannock	15	Clearwater	-	Madison	5
Bear Lake	3	Custer	-	Minidoka	1
Benewah	2	Elmore	3	Nez Perce	9
Bingham	15	Franklin	1	Oneida	-
Blaine	5	Fremont	1	Owyhee	6
Boise	5	Gem	2	Payette	4
Bonner	13	Gooding	4	Power	-
Bonneville	26	Idaho	3	Shoshone	3
Boundary	4	Jefferson	4	Teton	4
Butte	-	Jerome	6	Twin Falls	16
Camas	-	Kootenai	41	Valley	-
Canyon	42	Latah	5	Washington	6
Caribou	2	Lemhi	1		

Stage at Diagnosis - Non-Hodgkin Lymphoma



Factors Associated with Cancer Incidence

Age Rates increase with age, reaching the highest levels in the eighth and ninth decades of life.

Sex Males have higher rates than females.

Race/Ethnicity In the United States, incidence rates are generally higher for non-Hispanic Whites and Hispanics than for other race/ethnicity groups.

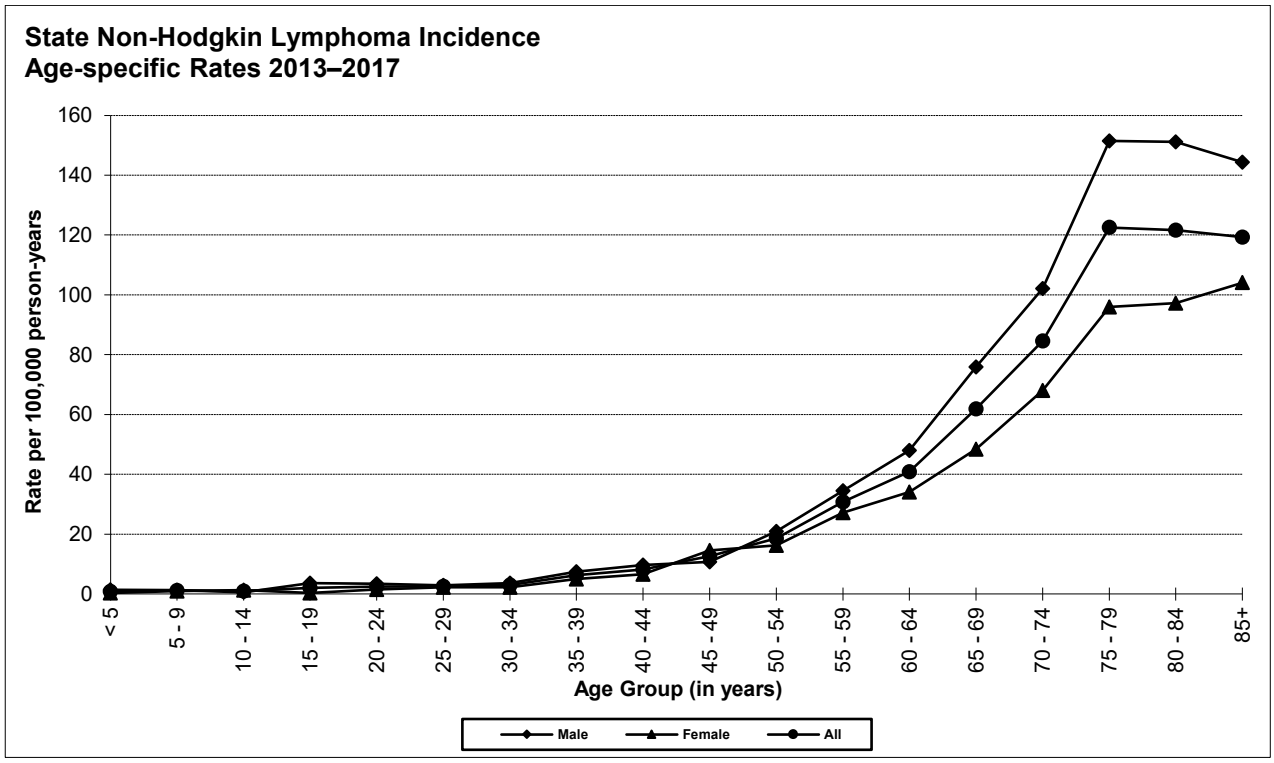
Occupation Exposure to ethylene oxide, such as through commercial production or use as a sterilant in the manufacture of medical and pharmaceutical products or production of food spices, has been identified as a risk factor.

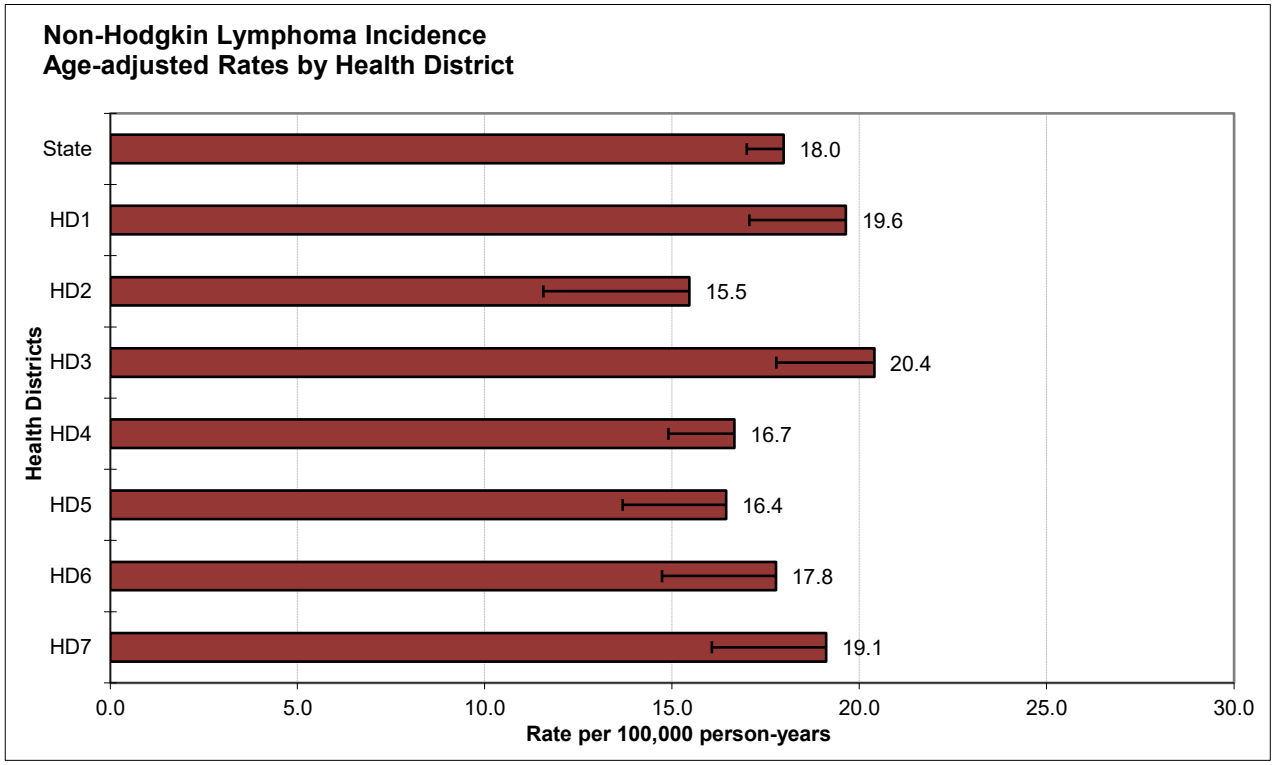
Other Non-Hodgkin lymphoma (NHL) develops with increased frequency in individuals infected with certain viruses, including HTLV-I, HIV, and Epstein-Barr virus. Treatment with some immunosuppressants increases the risk of NHL among organ transplant patients.

Data Summary

Mean age-adjusted incidence rate across health districts:	17.9
95% confidence interval on the mean age-adjusted incidence rate:	16.6–19.3
Median age-adjusted incidence rate of health districts:	17.8
Range of age-adjusted incidence rate for health districts:	15.5–20.4
USCS rate (2016, all races):	18.1

The age-specific incidence rates of NHL increased with age, peaking in the age group 75–79 for males and 85+ for females. Among total cases, no health district had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


State Non-Hodgkin Lymphoma Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
160
140
120
100
80
60
40
20
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Non-Hodgkin Lymphoma Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
18.0
19.6
15.5
20.4
16.7
16.4
17.8
19.1
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Rate per 100,000 person-years

ORAL CAVITY AND PHARYNX

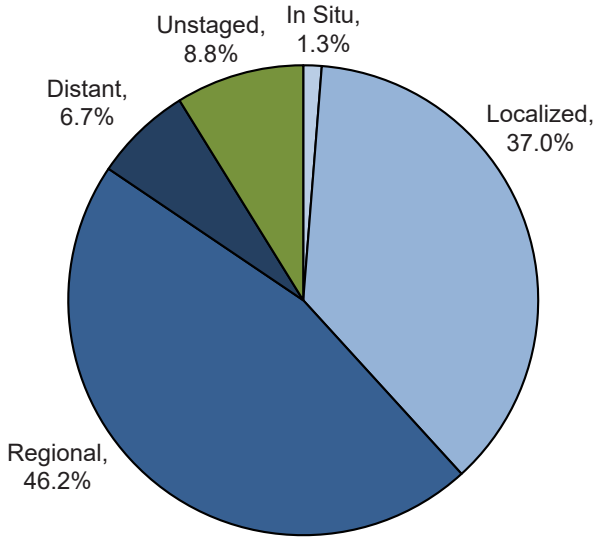
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	11.5	18.0	5.6
# of new invasive cases	235	178	57
# of new in situ cases	3	1	2
# of deaths	47	39	8

Total Cases by County

Ada	53	Cassia	2	Lewis	-
Adams	1	Clark	-	Lincoln	-
Bannock	11	Clearwater	2	Madison	3
Bear Lake	-	Custer	2	Minidoka	2
Benewah	1	Elmore	4	Nez Perce	9
Bingham	5	Franklin	-	Oneida	-
Blaine	7	Fremont	2	Owyhee	-
Boise	1	Gem	3	Payette	3
Bonner	10	Gooding	4	Power	-
Bonneville	11	Idaho	3	Shoshone	5
Boundary	-	Jefferson	3	Teton	1
Butte	-	Jerome	1	Twin Falls	11
Camas	-	Kootenai	30	Valley	6
Canyon	33	Latah	5	Washington	1
Caribou	1	Lemhi	2		

Stage at Diagnosis - Oral Cavity and Pharynx



Factors Associated with Cancer Incidence

Age Incidence rates increase with age, markedly after age 44.

Sex Males have higher incidence rates than females, 2–6 times higher in most parts of the world.

Race/Ethnicity Rates are highest for non-Hispanic Whites and lowest for Hispanics.

Diet Diets low in fresh fruit and vegetable consumption are associated with increased risk.

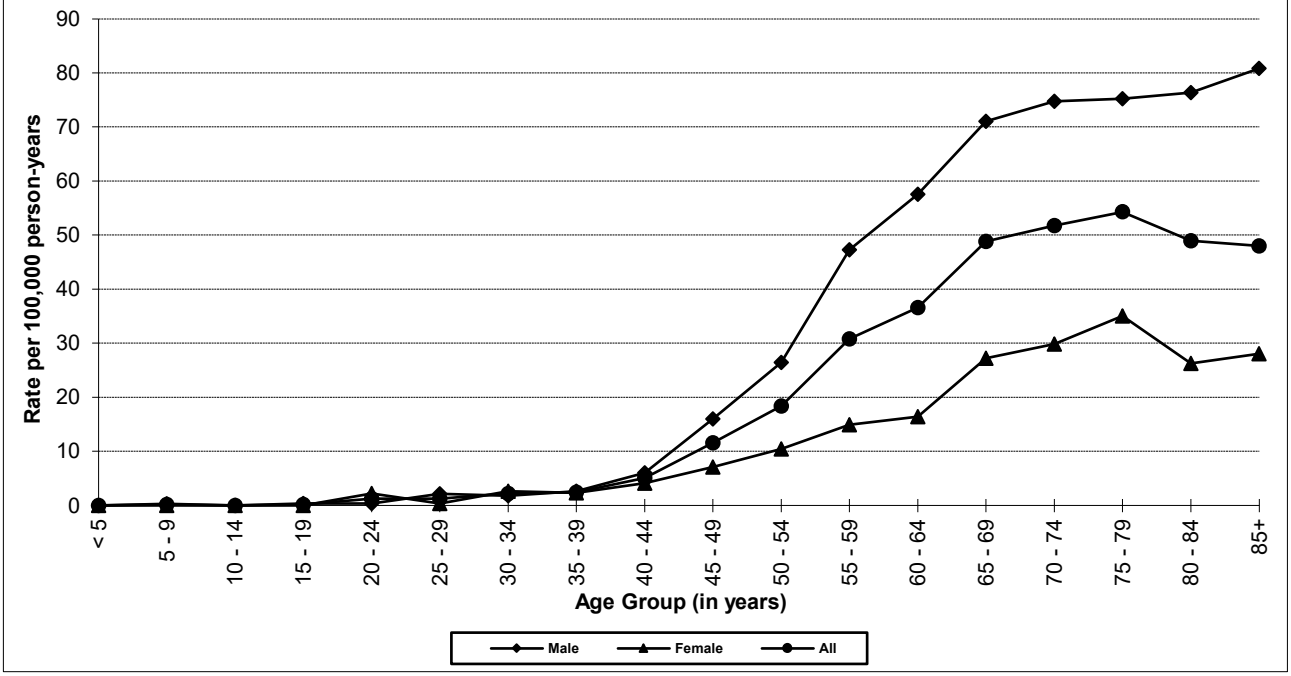
Other Smoking and spit tobacco use are major risk factors for cancers of the oral cavity and pharynx. Alcohol use, especially excessive, is a major risk factor. Combined exposure to tobacco and alcohol multiply the risks of each other. Smoking and drinking are estimated to account for 75% of all oral cancers in the United States. Approximately 15% of oral cavity and pharyngeal cancers in the United States are attributable to infection with oncogenic human papillomavirus (HPV) types. Patients with late stage oropharyngeal cancer have better outcomes if their tumors were linked to HPV versus tobacco and alcohol.

Data Summary

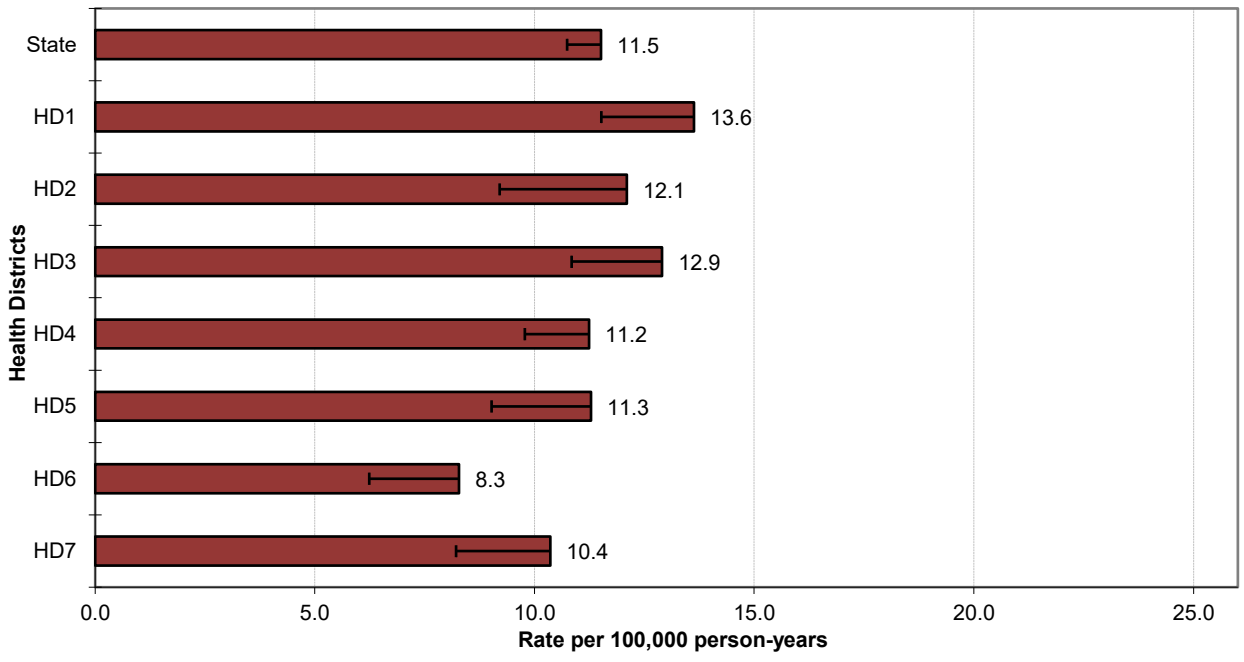
Mean age-adjusted incidence rate across health districts:	11.4
95% confidence interval on the mean age-adjusted incidence rate:	10.1–12.7
Median age-adjusted incidence rate of health districts:	11.3
Range of age-adjusted incidence rate for health districts:	8.3–13.6
USCS rate (2016, all races):	11.6

There were few cases of oral cavity and pharyngeal cancers among persons less than 45 years of age. The age-specific incidence rates generally increased with age after age 44, peaking in the age group 85+ for males and 75–79 for females. Among total cases, no health district had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.

State Oral Cavity & Pharyngeal Cancer Incidence
Age-specific Rates 2013–2017



Oral Cavity & Pharyngeal Cancer Incidence
Age-adjusted Rates by Health District



OVARY

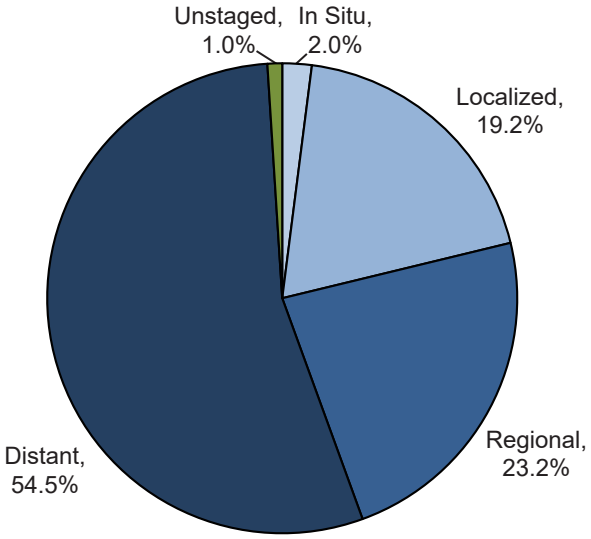
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	-	9.8
# of new invasive cases	-	-	97
# of new in situ cases	-	-	2
# of deaths	-	-	68

Total Cases by County

Ada	19	Cassia	1	Lewis	-
Adams	1	Clark	-	Lincoln	-
Bannock	4	Clearwater	-	Madison	2
Bear Lake	1	Custer	1	Minidoka	2
Benewah	2	Elmore	3	Nez Perce	2
Bingham	1	Franklin	1	Oneida	2
Blaine	2	Fremont	1	Owyhee	2
Boise	-	Gem	1	Payette	1
Bonner	5	Gooding	1	Power	-
Bonneville	9	Idaho	-	Shoshone	-
Boundary	1	Jefferson	-	Teton	-
Butte	-	Jerome	1	Twin Falls	8
Camas	-	Kootenai	12	Valley	-
Canyon	10	Latah	1	Washington	-
Caribou	-	Lemhi	2		

Stage at Diagnosis - Ovary



Factors Associated with Cancer Incidence

Age The rate of ovarian cancer increases with age, markedly after age 39.

Race/Ethnicity Incidence rates are slightly higher among non-Hispanic Whites and Hispanics than other race/ethnicity groups.

Genetics The most important risk factor for ovarian cancer is a family history of a first-degree relative (mother, daughter, or sister) with the disease. The risk is higher still in women with two or more first-degree relatives with ovarian cancer. The lifetime ovarian cancer risk for women with a BRCA1 mutation is estimated to be between 35% and 70%.

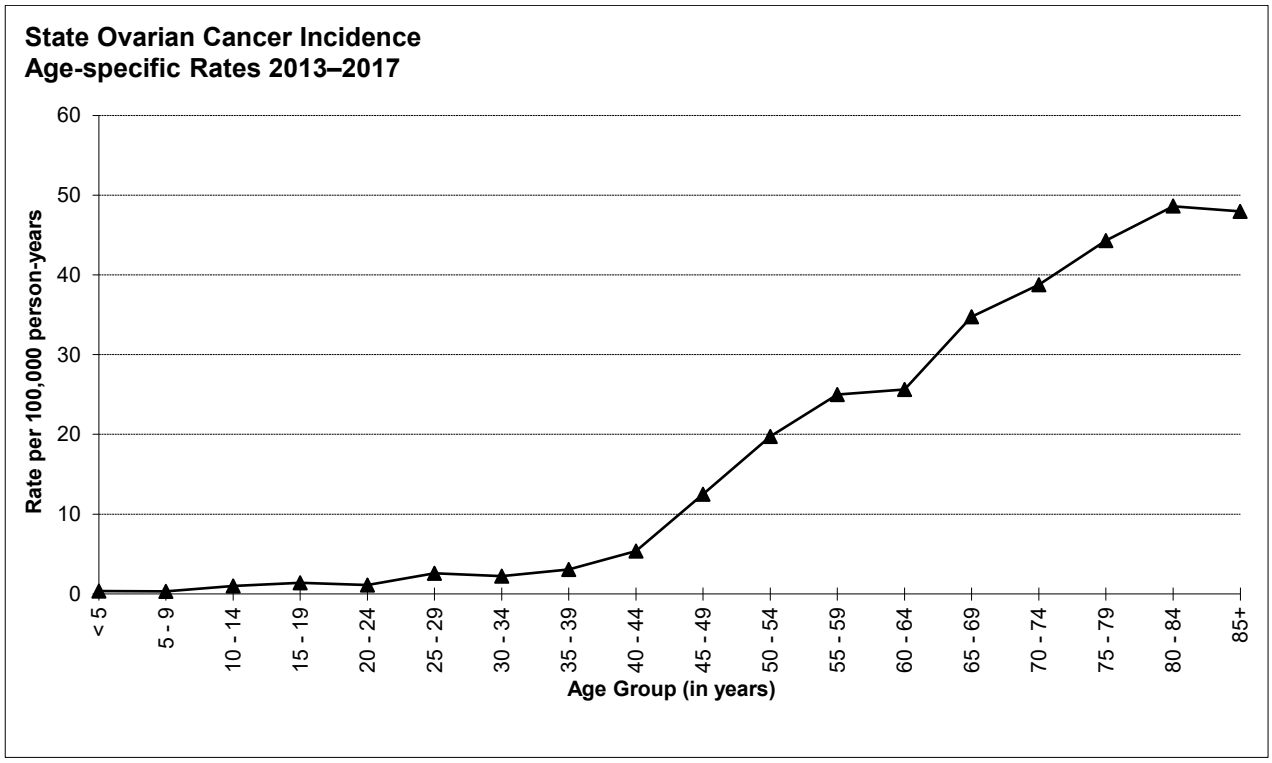
Hormonal Ovarian cancer is most frequently diagnosed in post-menopausal women. However, the strongest predictors of reduced ovarian cancer risk occur in pre-menopausal women, specifically suppression of ovulation through pregnancy or oral contraceptive use. Hormone replacement therapy is also associated with increased ovarian cancer risk.

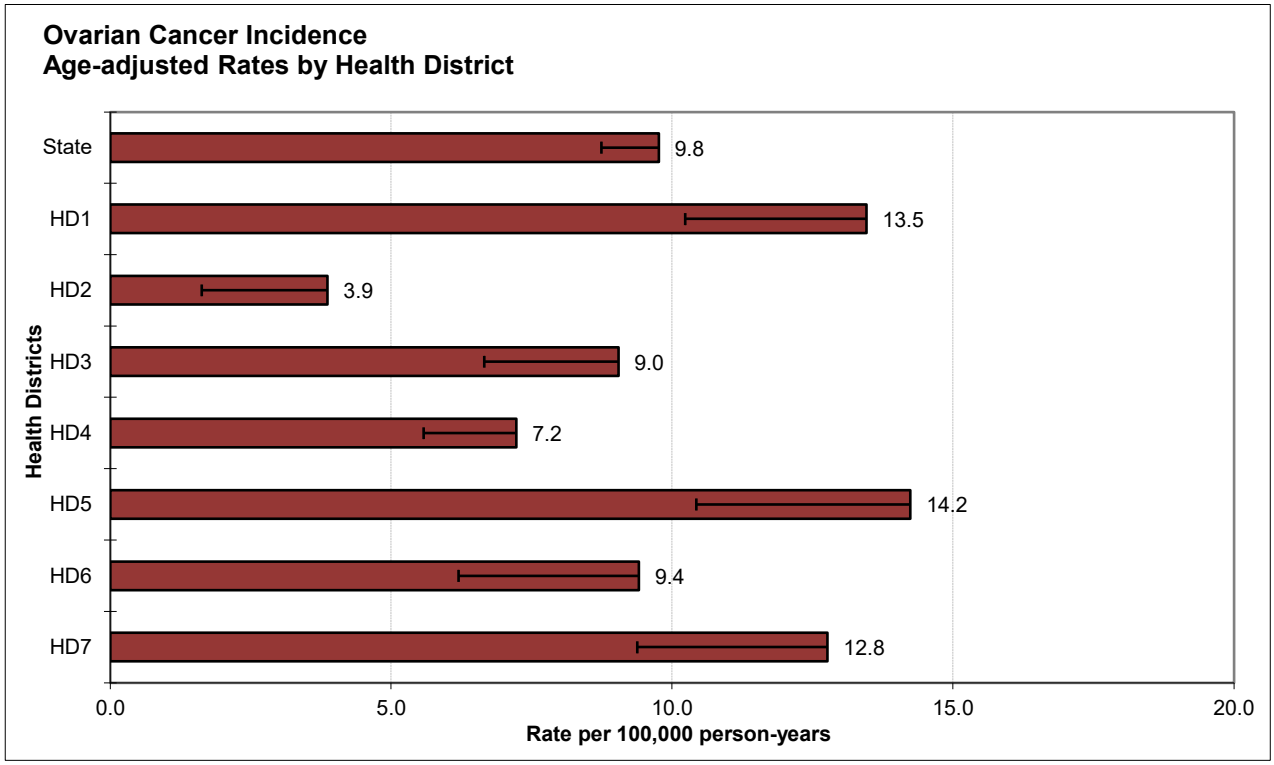
Other Exposure to asbestos and tobacco smoking increase ovarian cancer risk. Other risk factors for ovarian cancer include obesity, tall height, and endometriosis.

Data Summary

Mean age-adjusted incidence rate across health districts:	10.0
95% confidence interval on the mean age-adjusted incidence rate:	7.2–12.8
Median age-adjusted incidence rate of health districts:	9.4
Range of age-adjusted incidence rate for health districts:	3.9–14.2
USCS rate (2016, all races):	10.1

There were few cases of ovarian cancer among females aged less than 40 years. The age-specific incidence rates of ovarian cancer generally increased with age. The highest age-specific rate was for women aged 80–84. Among total cases, Health District 4 had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho.


State Ovarian Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
60
50
40
30
20
10
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)


Ovarian Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
9.8
13.5
3.9
9.0
7.2
14.2
9.4
12.8
0.0
5.0
10.0
15.0
20.0
Rate per 100,000 person-years

PANCREAS

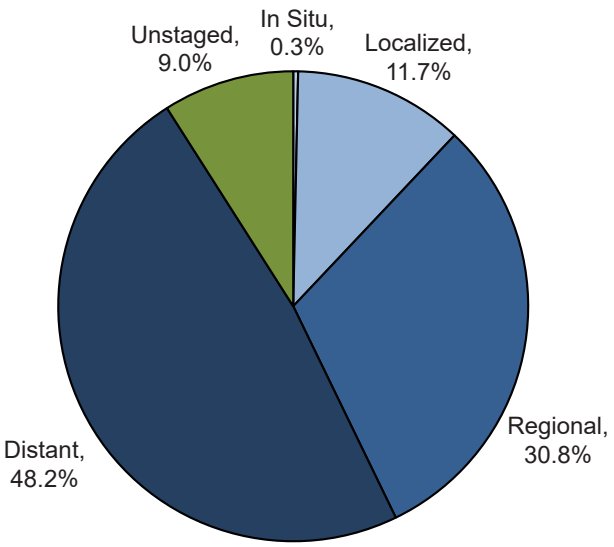
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	15.1	17.0	13.4
# of new invasive cases	298	159	139
# of new in situ cases	1	0	1
# of deaths	244	128	116

Total Cases by County

Ada	77	Cassia	4	Lewis	-
Adams	2	Clark	-	Lincoln	-
Bannock	17	Clearwater	3	Madison	2
Bear Lake	2	Custer	-	Minidoka	7
Benewah	-	Elmore	5	Nez Perce	7
Bingham	8	Franklin	2	Oneida	-
Blaine	5	Fremont	1	Owyhee	4
Boise	2	Gem	4	Payette	6
Bonner	13	Gooding	4	Power	2
Bonneville	17	Idaho	5	Shoshone	2
Boundary	2	Jefferson	1	Teton	5
Butte	-	Jerome	6	Twin Falls	12
Camas	-	Kootenai	34	Valley	3
Canyon	25	Latah	5	Washington	2
Caribou	2	Lemhi	1		

Stage at Diagnosis - Pancreas



Factors Associated with Cancer Incidence

Age Pancreatic cancer incidence increases with age, with rates notably increasing at age 50 and a median age at diagnosis ranging from 68–72.

Sex Incidence is approximately 20%–30% higher in males than females among people aged 55 to 84 years.

Race/Ethnicity Incidence is highest among Blacks, followed by Whites. Asians/Pacific Islanders and American Indians/Alaska Natives have similar and the lowest incidence rates in the United States. Rates among American Indians/Alaska Natives are unstable due to small sample sizes. Hispanics have lower incidence than non-Hispanic Whites.

Diet Heavy alcohol consumption is an important risk factor for pancreatic cancer.

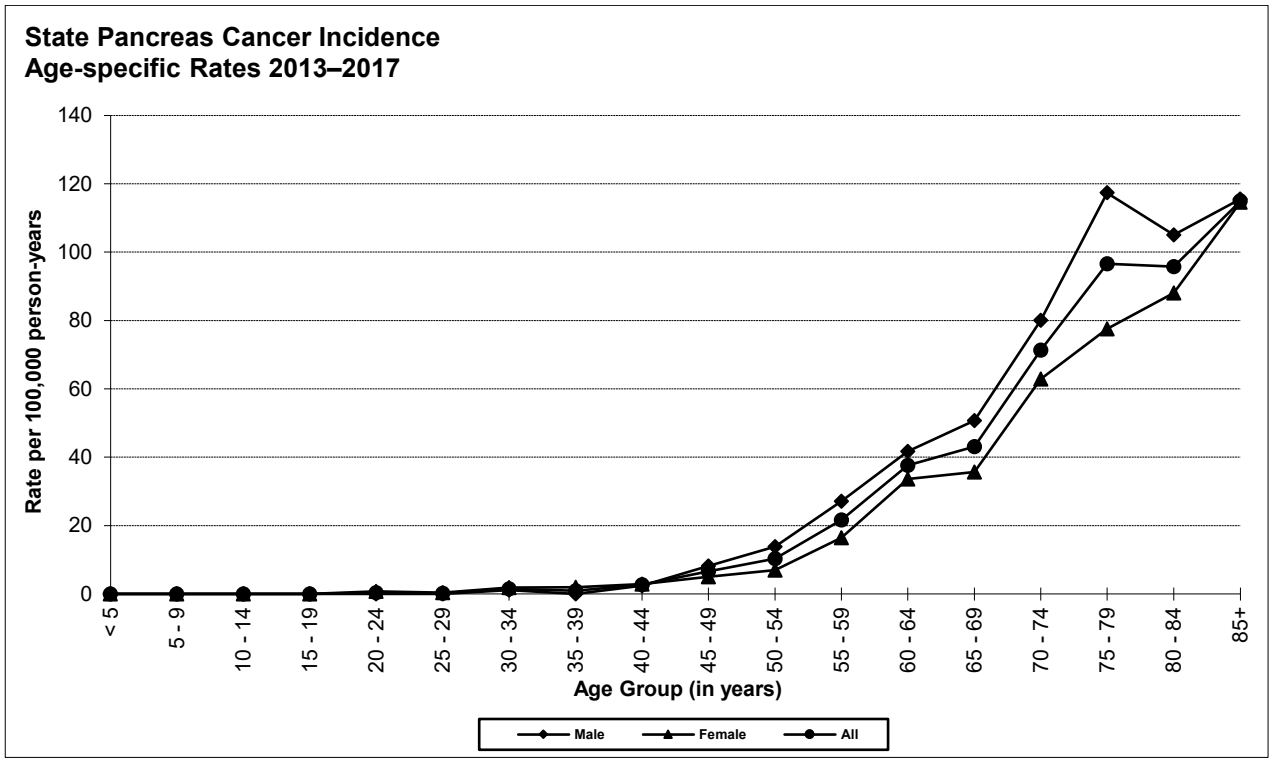
Occupation Occupational exposures to chlorinated hydrocarbon solvents as used in dry cleaning, nickel and nickel compounds, benzene, asbestos, and pesticides are associated with increased risk.

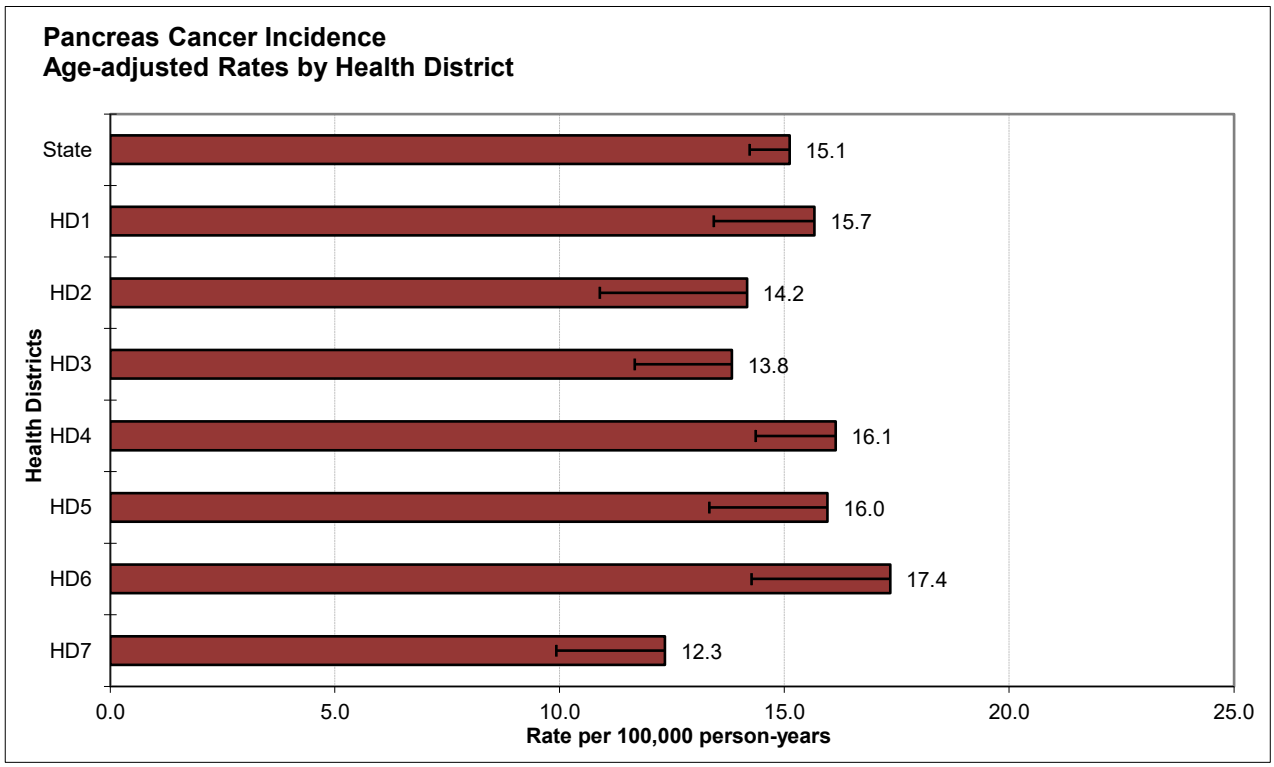
Other Smoking is the most important risk factor for pancreatic cancer. Hereditary and genetic factors, such as family history of pancreatic cancer, gene mutations (e.g. BRCA2, p16/CDKN2A gene), and inherited genetic syndromes (e.g. familial pancreatitis, Lynch syndrome) are associated with increased risk. Co-morbidities such as obesity, diabetes, and chronic pancreatitis also confer increased risk.

Data Summary

Mean age-adjusted incidence rate across health districts:	15.1
95% confidence interval on the mean age-adjusted incidence rate:	13.8–16.3
Median age-adjusted incidence rate of health districts:	15.7
Range of age-adjusted incidence rate for health districts:	12.3–17.4
USCS rate (2016, all races):	12.1

There were few cases of pancreatic cancer among persons aged less than 45 years. The age-specific incidence rates of pancreatic cancer generally increased after age 44, peaking in the age group 75–79 for males and 85+ for females. Among total cases, no health district had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


State Pancreas Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
140
120
100
80
60
40
20
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Pancreas Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
15.1
15.7
14.2
13.8
16.1
16.0
17.4
12.3
0.0
5.0
10.0
15.0
20.0
25.0
Rate per 100,000 person-years

PROSTATE

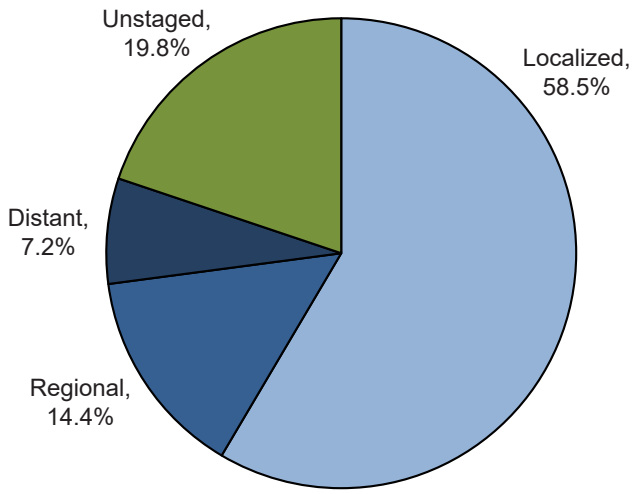
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	111.1	-
# of new invasive cases	-	1,159	-
# of new in situ cases	-	0	-
# of deaths	-	164	-

Total Cases by County

Ada	300	Cassia	10	Lewis	1
Adams	4	Clark	-	Lincoln	4
Bannock	25	Clearwater	7	Madison	13
Bear Lake	8	Custer	7	Minidoka	15
Benewah	6	Elmore	13	Nez Perce	25
Bingham	23	Franklin	14	Oneida	1
Blaine	14	Fremont	13	Owyhee	9
Boise	10	Gem	20	Payette	16
Bonner	59	Gooding	11	Power	1
Bonneville	78	Idaho	8	Shoshone	16
Boundary	9	Jefferson	14	Teton	9
Butte	-	Jerome	13	Twin Falls	40
Camas	-	Kootenai	127	Valley	21
Canyon	127	Latah	23	Washington	13
Caribou	12	Lemhi	20		

Stage at Diagnosis - Prostate



Factors Associated with Cancer Incidence

Age Prostate cancer is primarily a disease of older males, and is rarely diagnosed before age 50.

Race/Ethnicity Black males have substantially higher incidence and mortality rates than other race/ethnicity groups, with non-Hispanic Whites and Hispanic males having higher rates than American Indian/Alaska Natives or Asian and Pacific Islanders.

Genetics A family history of prostate cancer is associated with increased risk.

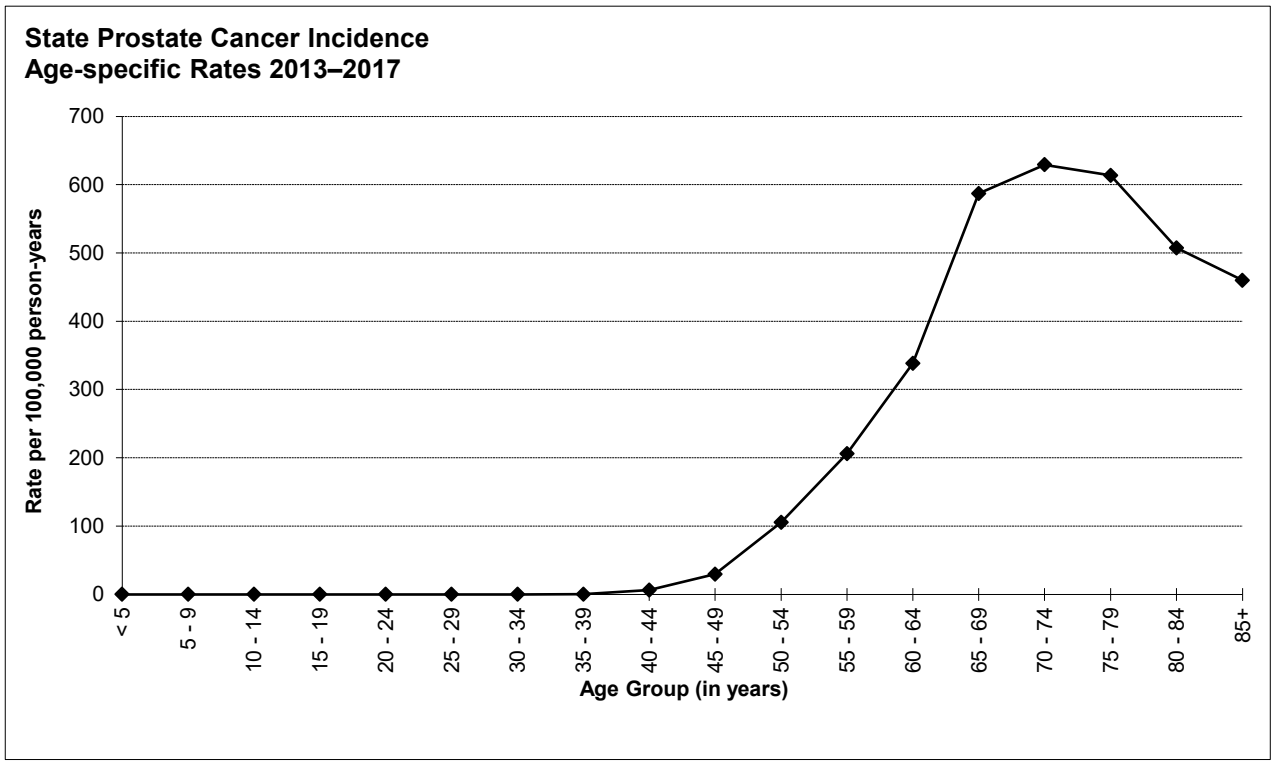
Diet Dietary fat has been implicated in several international, regional, and case-control studies.

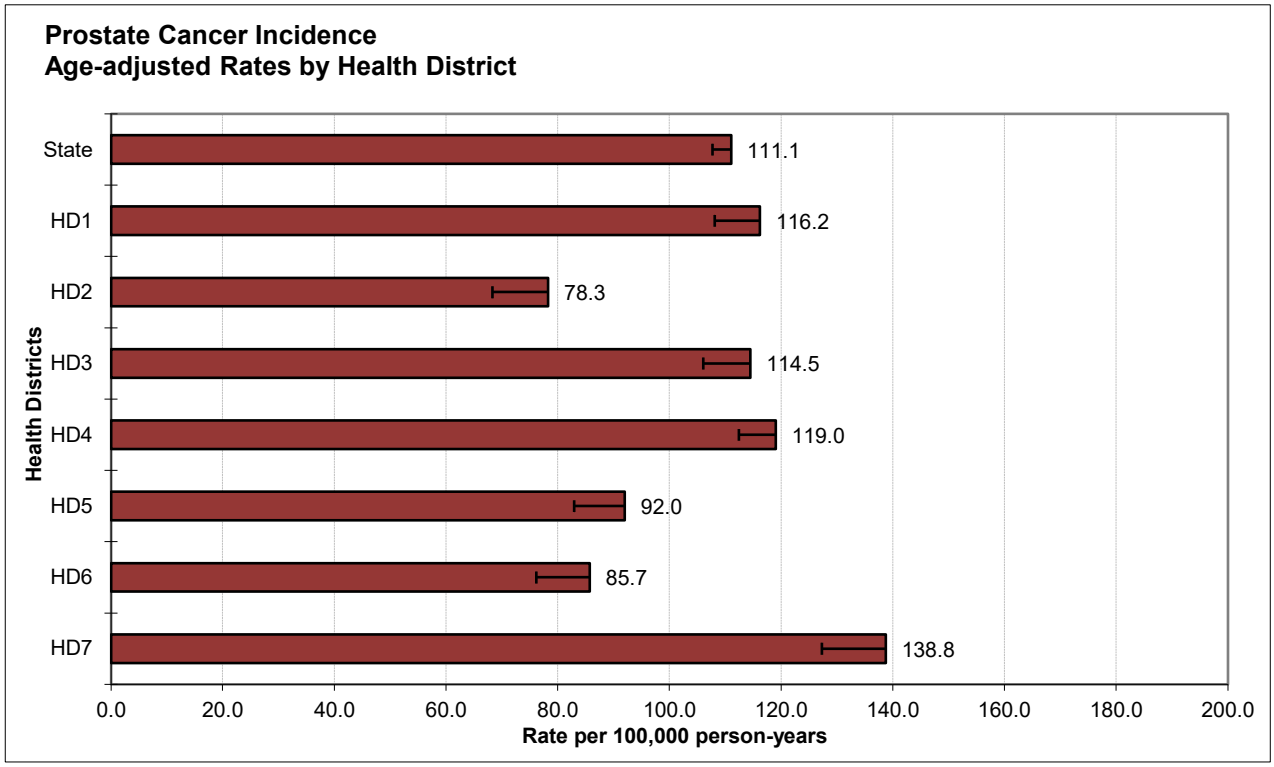
Other Prostate cancer is most common in North America, northwestern Europe, Australia, and on Caribbean islands. It is less common in Asia, Africa, Central America, and South America.

Data Summary

Mean age-adjusted incidence rate across health districts:	106.4
95% confidence interval on the mean age-adjusted incidence rate:	90.4–122.4
Median age-adjusted incidence rate of health districts:	114.5
Range of age-adjusted incidence rate for health districts:	78.3–138.8
USCS rate (2016, all races):	100.0

There were few cases of prostate cancer among men aged less than 50 years. The age-specific incidence rates of prostate cancer increased with age, peaking in the 70–74 age group. Among total cases, Health District 7 had statistically significantly more cases than expected based upon rates for the remainder of Idaho and Health Districts 2, 5, and 6 had statistically significantly fewer.


State Prostate Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
700
600
500
400
300
200
100
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)


Prostate Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
111.1
116.2
78.3
114.5
119.0
92.0
85.7
138.8
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
180.0
200.0
Rate per 100,000 person-years

STOMACH

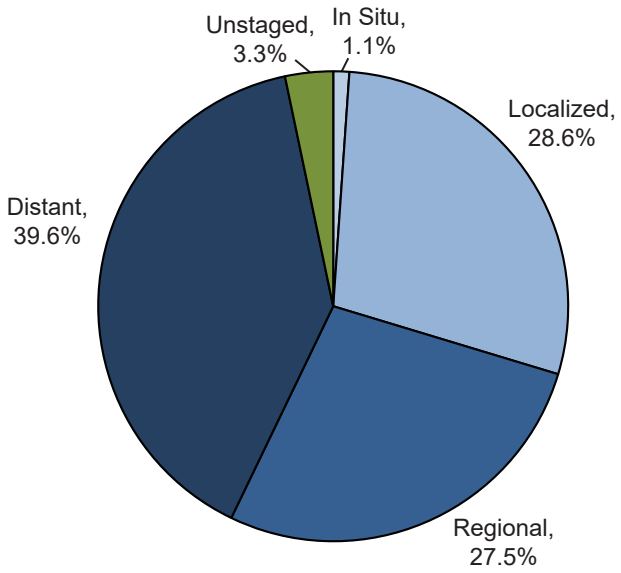
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	4.5	6.5	2.8
# of new invasive cases	90	62	28
# of new in situ cases	1	1	0
# of deaths	40	22	18

Total Cases by County

Ada	27	Cassia	-	Lewis	-
Adams	-	Clark	-	Lincoln	1
Bannock	7	Clearwater	-	Madison	-
Bear Lake	-	Custer	-	Minidoka	-
Benewah	2	Elmore	2	Nez Perce	4
Bingham	2	Franklin	-	Oneida	-
Blaine	-	Fremont	-	Owyhee	2
Boise	-	Gem	3	Payette	-
Bonner	4	Gooding	1	Power	1
Bonneville	4	Idaho	1	Shoshone	-
Boundary	2	Jefferson	4	Teton	-
Butte	1	Jerome	1	Twin Falls	3
Camas	-	Kootenai	6	Valley	-
Canyon	10	Latah	2	Washington	1
Caribou	-	Lemhi	-		

Stage at Diagnosis - Stomach



Factors Associated with Cancer Incidence

Age Stomach cancer incidence rates increase with age.

Sex Incidence rates for males are about twice as high as for females.

Race/Ethnicity Incidence rates are highest among Asian and Pacific Islanders and lowest among non-Hispanic Whites.

Diet Dietary risk factors include low consumption of fruits and vegetables and consumption of salted, smoked, or poorly preserved foods.

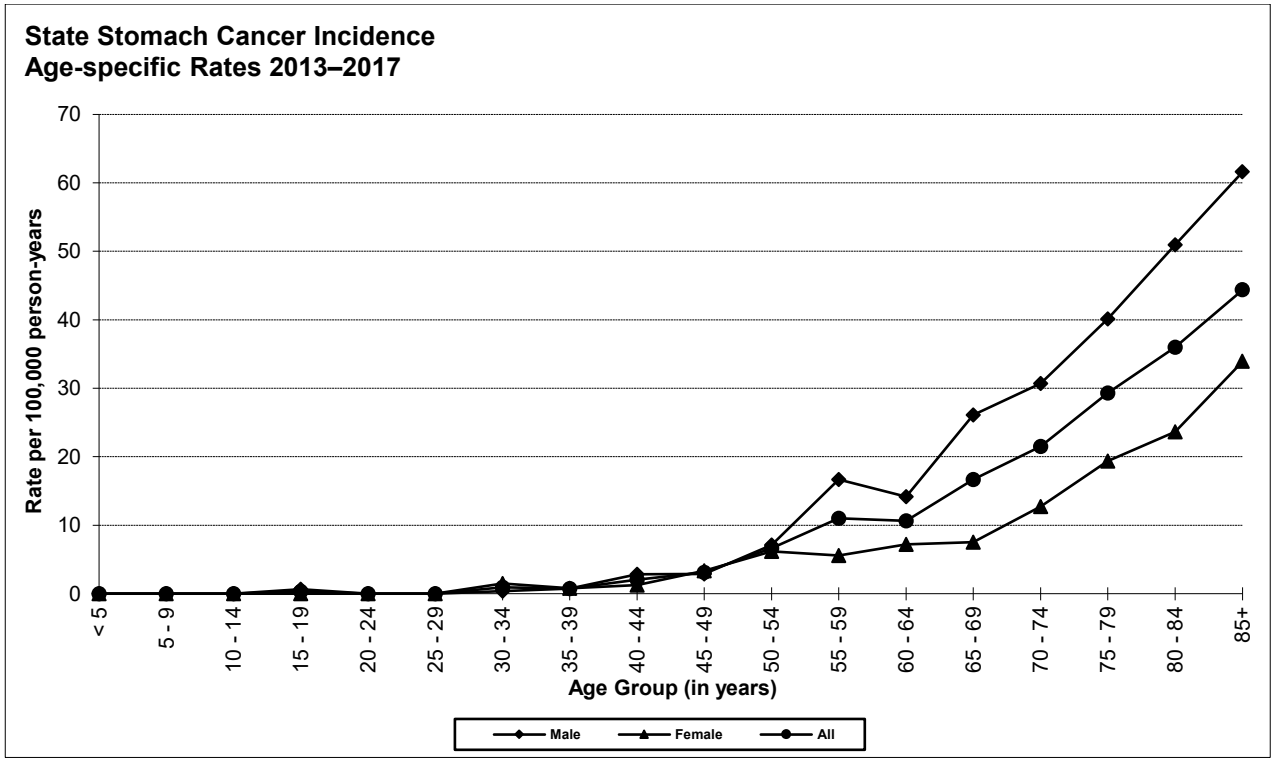
Occupation Workers in the rubber and coal industries are at increased risk of stomach cancer.

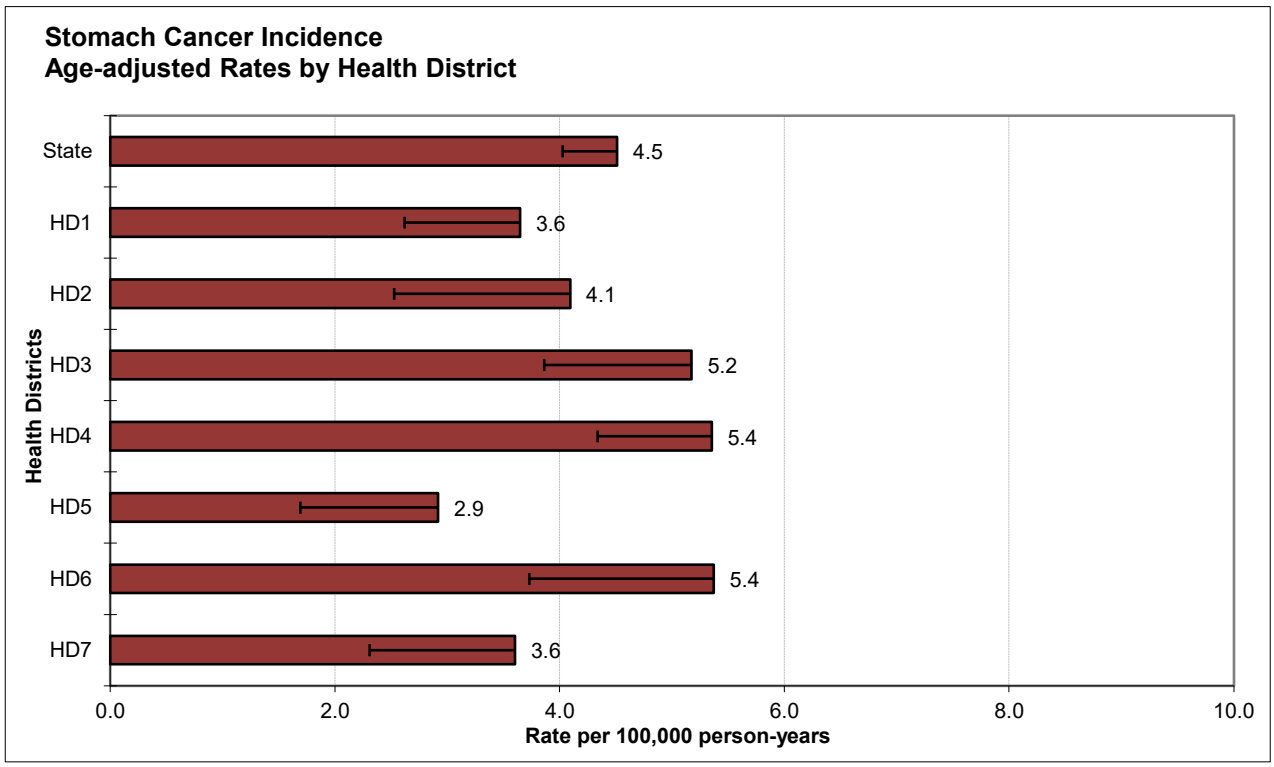
Other Helicobacter pylori infection and smoking are associated with increased risk of stomach cancer. Genetic risk factors include a family history of stomach cancer, Li Fraumeni syndrome, and type A blood type. Worldwide, stomach cancer is more common in Japan, China, Southern and Eastern Europe, and South and Central America.

Data Summary

Mean age-adjusted incidence rate across health districts:	4.3
95% confidence interval on the mean age-adjusted incidence rate:	3.6–5.0
Median age-adjusted incidence rate of health districts:	4.1
Range of age-adjusted incidence rate for health districts:	2.9–5.4
USCS rate (2016, all races):	6.3

There were few cases of stomach cancer among persons aged less than 50 years. The age-specific incidence rates of stomach cancer increased with age, peaking in the 85+ age group for males and females. Among total cases, no health district had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


State Stomach Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
70
60
50
40
30
20
10
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Stomach Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
4.5
3.6
4.1
5.2
5.4
2.9
5.4
3.6
0.0
2.0
4.0
6.0
8.0
10.0
Rate per 100,000 person-years

TESTIS

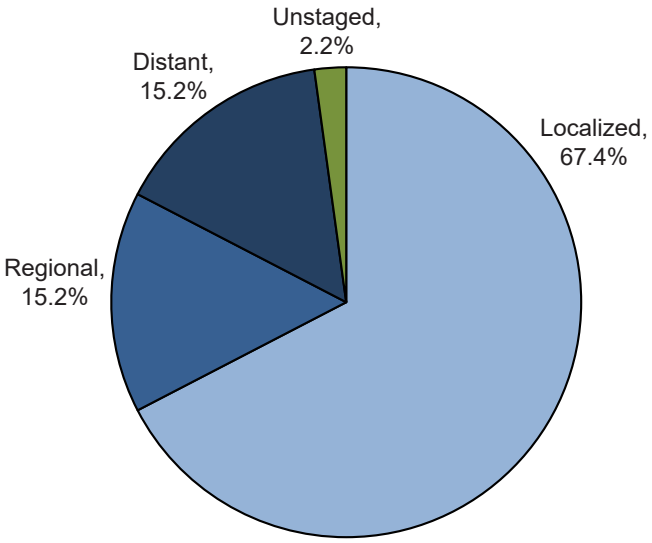
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	5.8	-
# of new invasive cases	-	46	-
# of new in situ cases	-	0	-
# of deaths	-	1	-

Total Cases by County

Ada	11	Cassia	-	Lewis	-
Adams	-	Clark	-	Lincoln	-
Bannock	-	Clearwater	-	Madison	1
Bear Lake	1	Custer	-	Minidoka	1
Benewah	2	Elmore	2	Nez Perce	1
Bingham	1	Franklin	-	Oneida	-
Blaine	2	Fremont	-	Owyhee	-
Boise	-	Gem	-	Payette	-
Bonner	1	Gooding	1	Power	-
Bonneville	3	Idaho	1	Shoshone	2
Boundary	-	Jefferson	1	Teton	-
Butte	-	Jerome	-	Twin Falls	5
Camas	-	Kootenai	2	Valley	1
Canyon	7	Latah	-	Washington	-
Caribou	-	Lemhi	-		

Stage at Diagnosis - Testis



Factors Associated with Cancer Incidence

Age Testicular cancer is the most common cancer in young males, especially males between the ages of 20 and 34.

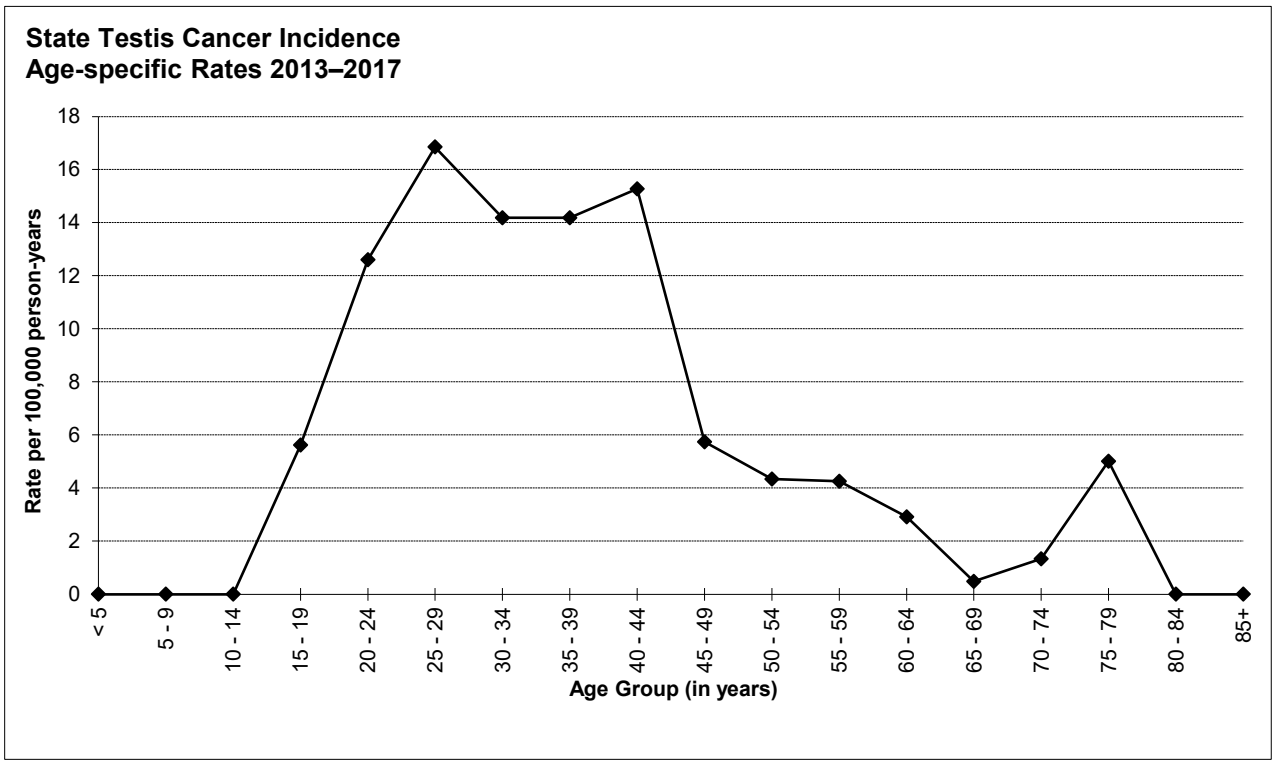
Race/Ethnicity Incidence rates are higher in non-Hispanic Whites, Hispanics, and American Indian/Alaska Natives and lower in Asian and Pacific Islanders and Blacks.

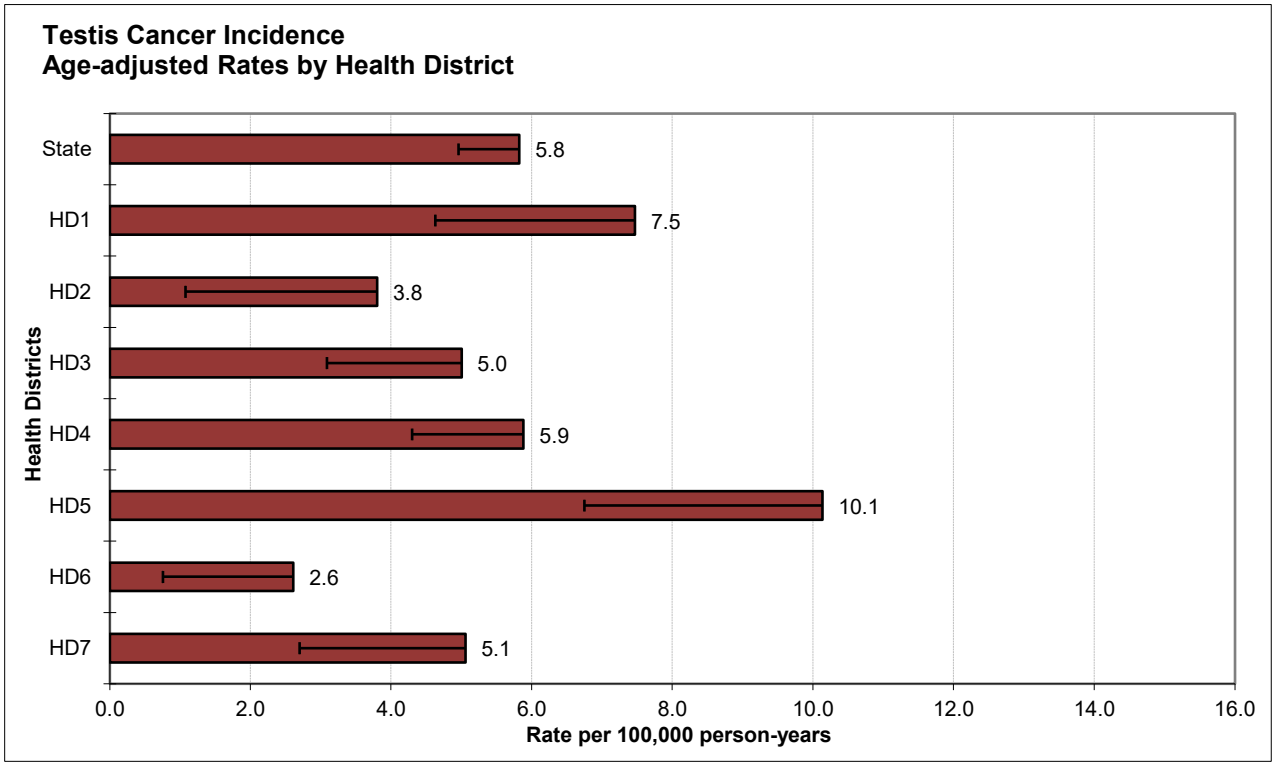
Other Undescended testis, a minor abnormality that can usually be detected and corrected with surgery in childhood, is responsible for a substantially higher risk for testicular cancer when uncorrected. With current treatment, long term survival rates for testicular cancer are about 95%.

Data Summary

Mean age-adjusted incidence rate across health districts:	5.7
95% confidence interval on the mean age-adjusted incidence rate:	3.9–7.5
Median age-adjusted incidence rate of health districts:	5.1
Range of age-adjusted incidence rate for health districts:	2.6–10.1
USCS rate (2016, all races):	5.7

The highest age-specific incidence rates were in the 25–44 age range. No health district had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


State Testis Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
18
16
14
12
10
8
6
4
2
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)


Testis Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
5.8
7.5
3.8
5.0
5.9
10.1
2.6
5.1
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
Rate per 100,000 person-years

THYROID

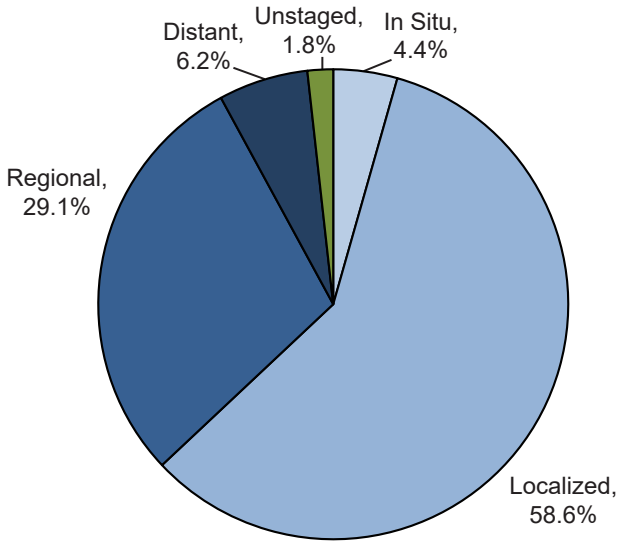
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	12.5	8.2	16.8
# of new invasive cases	217	70	147
# of new in situ cases	10	6	4
# of deaths	10	5	5

Total Cases by County

Ada	57	Cassia	4	Lewis	1
Adams	4	Clark	1	Lincoln	2
Bannock	4	Clearwater	-	Madison	9
Bear Lake	2	Custer	-	Minidoka	1
Benewah	1	Elmore	5	Nez Perce	5
Bingham	15	Franklin	2	Oneida	-
Blaine	4	Fremont	2	Owyhee	1
Boise	-	Gem	2	Payette	7
Bonner	3	Gooding	2	Power	-
Bonneville	37	Idaho	-	Shoshone	1
Boundary	1	Jefferson	6	Teton	2
Butte	-	Jerome	-	Twin Falls	6
Camas	-	Kootenai	18	Valley	-
Canyon	16	Latah	3	Washington	1
Caribou	1	Lemhi	1		

Stage at Diagnosis - Thyroid



Factors Associated with Cancer Incidence

Age Thyroid cancer is one of the most common malignancies affecting adolescents and adults up to 50 years of age.

Sex Incidence rates are nearly three times higher among females than males

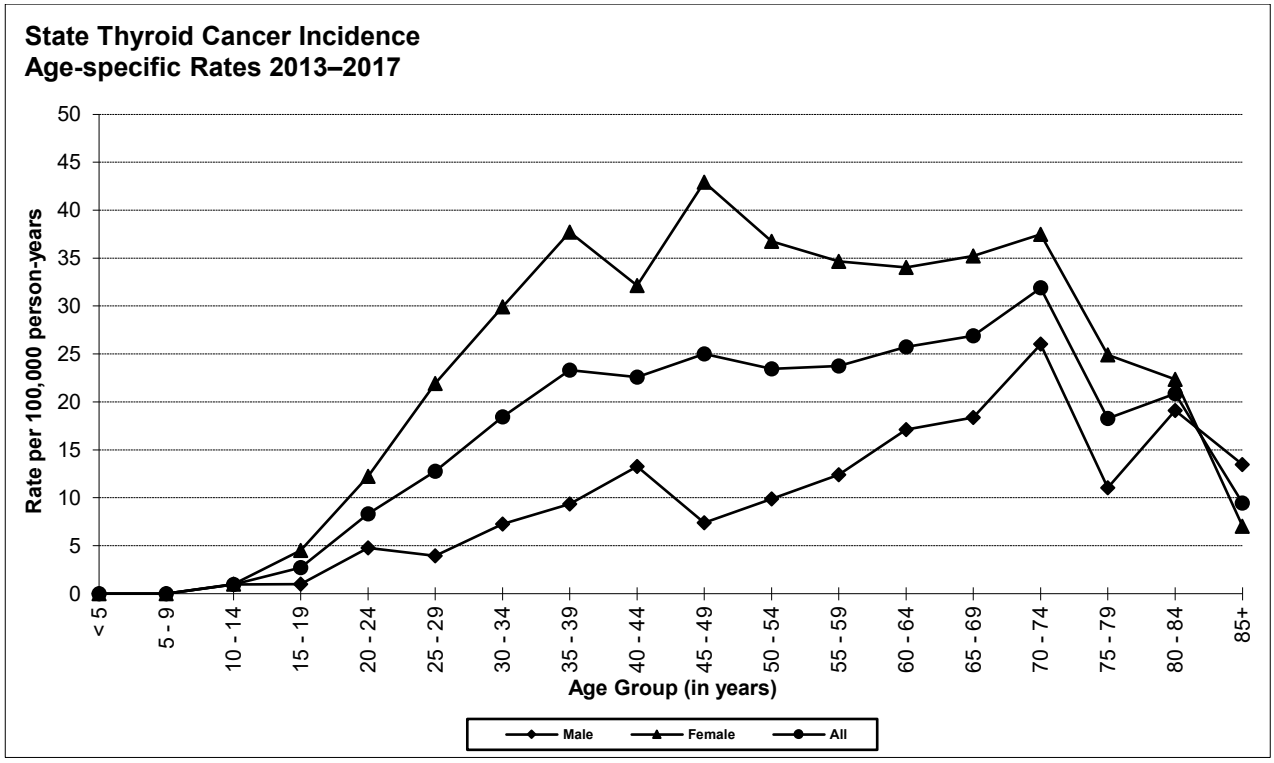
Race/Ethnicity Incidence rates are higher among non-Hispanic Whites, Asian and Pacific Islanders, and Hispanics and lower among American Indian/Alaska Natives and Blacks.

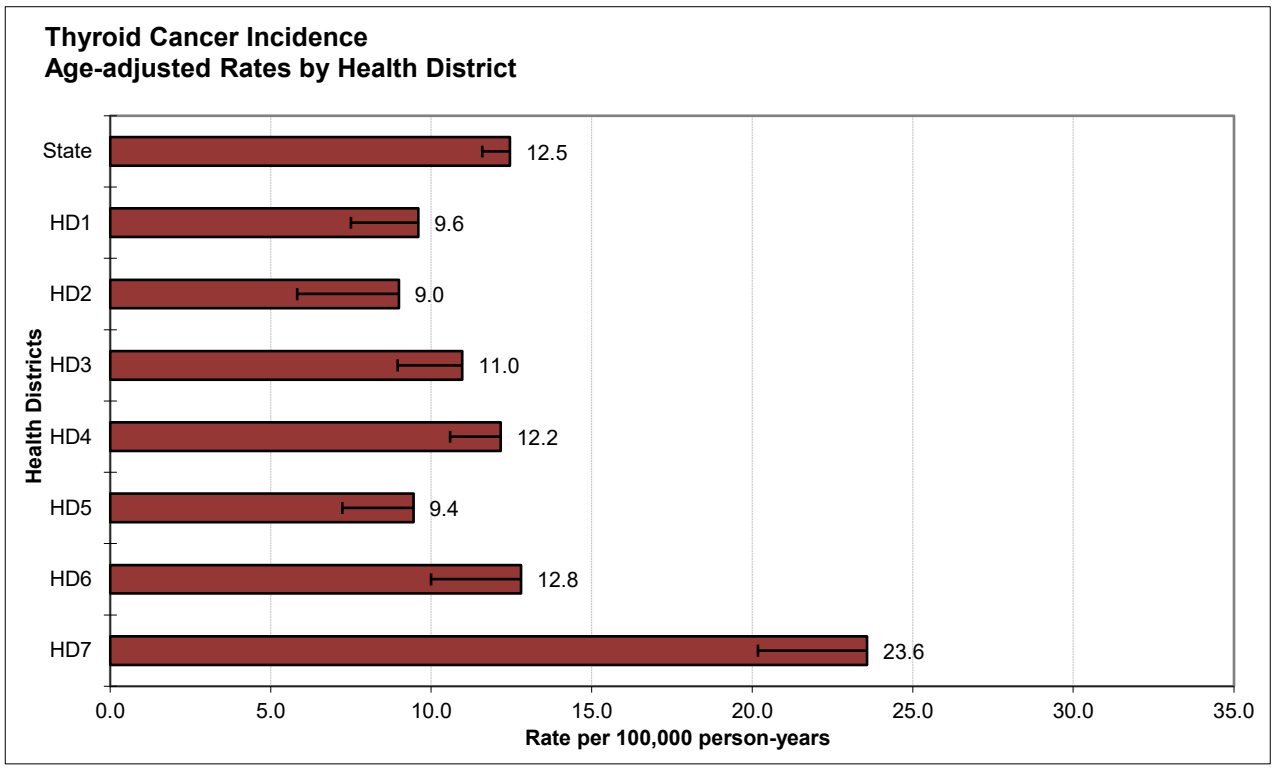
Other Occupational and environmental exposures to ionizing radiation have been associated with higher rates of thyroid cancer. Radiation exposure to the head and neck in childhood is a well-known risk factor. About 2 out of 10 medullary thyroid carcinomas result from inheriting an abnormal gene. Thyroid cancer prognosis worsens with each decade of age over 50, partially because anaplastic thyroid cancer, which has a higher fatality rate, occurs more often among older patients. In the U.S., thyroid cancer incidence rates have tripled in the past 30 years. Some clinicians believe that use of imaging technologies such as ultrasound, CT, and MRI scanning is fueling an epidemic in diagnosis of thyroid cancers that are unlikely to progress to cause symptoms or death, while others argue that the trend is in part real and involves both small and large tumors.

Data Summary

Mean age-adjusted incidence rate across health districts:	12.5
95% confidence interval on the mean age-adjusted incidence rate:	8.7–16.3
Median age-adjusted incidence rate of health districts:	11.0
Range of age-adjusted incidence rate for health districts:	9.0–23.6
USCS rate (2016, all races):	14.0

The age-specific incidence rates of thyroid cancer were typically higher for females than males. Among total cases, Health District 7 had statistically significantly more cases than expected based upon rates for the remainder of Idaho.


State Thyroid Cancer Incidence
Age-specific Rates 2013–2017
Rate per 100,000 person-years
50
45
40
35
30
25
20
15
10
5
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Thyroid Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
12.5
9.6
9.0
11.0
12.2
9.4
12.8
23.6
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Rate per 100,000 person-years

SECTION II

STATE OF IDAHO – 2017
INCIDENCE DATA BY SITE AND GENDER

Primary Site of Cancer	Invasive			In situ		
	Total	Male	Female	Total	Male	Female
All Sites	8,415	4,365	4,050	979	472	507
Oral Cavity and Pharynx	235	178	57	3	1	2
Lip	37	30	7	3	1	2
Tongue	78	56	22	-	-	-
Salivary Gland	25	15	10	-	-	-
Floor of Mouth	5	5	-	-	-	-
Gum and Other Mouth	30	20	10	-	-	-
Nasopharynx	5	4	1	-	-	-
Tonsil	30	29	1	-	-	-
Oropharynx	7	6	1	-	-	-
Hypopharynx	5	3	2	-	-	-
Other Oral Cavity and Pharynx	13	10	3	-	-	-
Digestive System	1,438	828	610	13	7	6
Esophagus	101	87	14	1	-	1
Stomach	90	62	28	1	1	-
Small Intestine	43	23	20	-	-	-
Colon and Rectum	648	344	304	10	6	4
Colon excluding Rectum	452	221	231	4	2	2
Cecum	105	50	55	1	-	1
Appendix	36	14	22	-	-	-
Ascending Colon	85	40	45	2	1	1
Hepatic Flexure	21	10	11	-	-	-
Transverse Colon	45	25	20	-	-	-
Splenic Flexure	12	7	5	-	-	-
Descending Colon	27	14	13	-	-	-
Sigmoid Colon	90	49	41	-	-	-
Large Intestine, NOS	31	12	19	1	1	-
Rectum and Rectosigmoid Junction	196	123	73	6	4	2
Rectosigmoid Junction	41	26	15	1	1	-
Rectum	155	97	58	5	3	2
Anus, Anal Canal and Anorectum	30	8	22	-	-	-
Liver and Intrahepatic Bile Duct	149	113	36	-	-	-
Liver	124	100	24	-	-	-
Intrahepatic Bile Duct	25	13	12	-	-	-
Gallbladder	16	3	13	-	-	-
Other Biliary	37	20	17	-	-	-
Pancreas	298	159	139	1	-	1
Retroperitoneum	5	4	1	-	-	-
Peritoneum, Omentum and Mesentery	8	-	8	-	-	-
Other Digestive Organs	13	5	8	-	-	-
Respiratory System	1,015	511	504	4	4	-
Nose, Nasal Cavity and Middle Ear	12	7	5	-	-	-
Larynx	37	31	6	2	2	-
Lung and Bronchus	961	471	490	2	2	-
Pleura	-	-	-	-	-	-
Trachea, Mediastinum and Other Respiratory Organs	5	2	3	-	-	-
Skin excluding Basal and Squamous	540	333	207	475	284	191
Melanoma of the Skin	522	323	199	475	284	191
Other Non-Epithelial Skin	18	10	8	-	-	-
Breast	1,333	7	1,326	244	-	244

Primary Site of Cancer	Invasive			In situ		
	Total	Male	Female	Total	Male	Female
Female Genital System	461	-	461	7	-	7
Cervix Uteri	60	-	60	-	-	-
Corpus and Uterus, NOS	259	-	259	-	-	-
Corpus Uteri	253	-	253	-	-	-
Uterus, NOS	6	-	6	-	-	-
Ovary	97	-	97	2	-	2
Vagina	9	-	9	-	-	-
Vulva	22	-	22	3	-	3
Other Female Genital Organs	14	-	14	2	-	2
Male Genital System	1,215	1,215	-	2	2	-
Prostate	1,159	1,159	-	-	-	-
Testis	46	46	-	-	-	-
Penis	7	7	-	2	2	-
Other Male Genital Organs	3	3	-	-	-	-
Urinary System	566	409	157	218	165	53
Urinary Bladder	209	171	38	209	159	50
Kidney and Renal Pelvis	334	219	115	4	2	2
Ureter	12	9	3	3	2	1
Other Urinary Organs	11	10	1	2	2	-
Brain and Other Nervous System	127	79	48	-	-	-
Brain	121	76	45	-	-	-
Cranial Nerves Other Nervous System	6	3	3	-	-	-
Endocrine System	226	77	149	10	6	4
Thyroid	217	70	147	10	6	4
Other Endocrine including Thymus	9	7	2	-	-	-
Lymphoma	395	228	167	-	-	-
Hodgkin Lymphoma	44	24	20	-	-	-
Non-Hodgkin Lymphoma	351	204	147	-	-	-
Myeloma	137	80	57	-	-	-
Leukemia	300	178	122	-	-	-
Lymphocytic Leukemia	143	92	51	-	-	-
Acute Lymphocytic Leukemia	30	23	7	-	-	-
Chronic Lymphocytic Leukemia	109	65	44	-	-	-
Other Lymphocytic Leukemia	4	4	-	-	-	-
Myeloid and Monocytic Leukemia	139	78	61	-	-	-
Acute Myeloid Leukemia	101	56	45	-	-	-
Acute Monocytic Leukemia	3	-	3	-	-	-
Chronic Myeloid Leukemia	32	22	10	-	-	-
Other Myeloid/Monocytic Leukemia	3	-	3	-	-	-
Other Leukemia	18	8	10	-	-	-
Other Acute Leukemia	7	4	3	-	-	-
Aleukemic, Subleukemic and NOS	11	4	7	-	-	-
Other or Unknown Sites	427	242	185	3	3	-
Bones and Joints	24	11	13	-	-	-
Soft Tissue including Heart	65	32	33	-	-	-
Eye and Orbit	13	6	7	3	3	-
Mesothelioma	28	18	10	-	-	-
Kaposi Sarcoma	-	-	-	-	-	-
Miscellaneous	297	175	122	-	-	-

SECTION III

STATE OF IDAHO – 2017
MORTALITY RATES BY SITE AND GENDER

Idaho Resident Cancer Mortality Rates – 2017

Cause of Death	Total			Male			Female		
	Rate	Deaths	Pop	Rate	Deaths	Pop	Rate	Deaths	Pop
All Causes of Death	743.4	14,007	1,718,904	854.8	7,364	861,051	643.0	6,643	857,853
All Malignant Cancers	153.0	3,015	1,718,904	180.1	1,638	861,051	131.3	1,377	857,853
Bladder	5.0	95	1,718,904	9.0	76	861,051	1.7	19	857,853
Brain and Other Nervous System	4.7	95	1,718,904	7.2	68	861,051	2.5	27	857,853
Breast	11.5	225	1,718,904	0.2	3	861,051	21.6	222	857,853
Cervix	0.8	14	1,718,904	-	-	861,051	1.5	14	857,853
Colorectal	13.1	256	1,718,904	14.5	134	861,051	11.8	122	857,853
Corpus Uteri	1.9	39	1,718,904	-	-	861,051	3.6	39	857,853
Esophagus	5.0	99	1,718,904	8.9	82	861,051	1.6	17	857,853
Hodgkin Lymphoma	0.4	7	1,718,904	0.2	2	861,051	0.6	5	857,853
Kidney	4.2	83	1,718,904	5.1	47	861,051	3.4	36	857,853
Larynx	0.4	9	1,718,904	0.7	6	861,051	0.3	3	857,853
Leukemia	6.9	131	1,718,904	8.7	76	861,051	5.3	55	857,853
Liver and Bile Duct	5.9	121	1,718,904	9.0	88	861,051	3.1	33	857,853
Lung and Bronchus	30.0	605	1,718,904	34.6	328	861,051	26.2	277	857,853
Melanoma of the Skin	2.4	48	1,718,904	3.3	30	861,051	1.7	18	857,853
Myeloma	4.0	76	1,718,904	5.6	48	861,051	2.7	28	857,853
Non-Hodgkin Lymphoma	6.1	119	1,718,904	7.4	66	861,051	5.0	53	857,853
Oral Cavity and Pharynx	2.4	47	1,718,904	4.0	39	861,051	0.9	8	857,853
Ovary	3.3	68	1,718,904	-	-	861,051	6.2	68	857,853
Pancreas	12.3	244	1,718,904	13.9	128	861,051	10.9	116	857,853
Prostate	8.7	164	1,718,904	20.0	164	861,051	-	-	857,853
Stomach	2.0	40	1,718,904	2.2	22	861,051	1.8	18	857,853
Testis	0.0	1	1,718,904	0.1	1	861,051	-	-	857,853
Thyroid	0.5	10	1,718,904	0.6	5	861,051	0.5	5	857,853

Data source: Bureau of Vital Records and Health Statistics (BVRHS), Idaho Department of Health and Welfare, 2018.[19]

Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130) standard.

Cause of death categories are based on SEER cause of death recodes (https://seer.cancer.gov/codrecode/), which differ from official BVRHS cancer mortality categories. Death counts may differ from official BVRHS statistics due to late filings.

SECTION IV

2013–2017 AGE SPECIFIC INCIDENCE RATES
PER 100,000 POPULATION
BY SITE AND GENDER

Age (years)	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80 - 84	85+
All Cancers																		
All	21.3	14.1	13.7	23.9	43.5	61.3	93.7	147.1	213.5	330.6	511.7	774.2	1091.3	1557.6	1938.5	2312.6	2451.2	2399.4
Male	23.0	14.0	12.3	27.8	40.2	50.9	70.2	92.3	133.9	235.1	432.6	794.7	1179.6	1809.0	2271.5	2760.1	2964.3	3118.3
Female	19.5	14.3	15.2	19.8	47.1	72.0	117.8	203.5	295.0	427.6	589.1	754.5	1006.5	1313.2	1621.4	1900.9	2027.5	1962.6
Bladder																		
All	0.4	0.0	0.2	0.2	0.4	0.2	0.7	1.7	3.3	4.8	11.3	26.8	44.1	81.9	114.6	156.7	161.2	214.6
Male	0.7	0.0	0.0	0.3	0.7	0.4	1.1	1.9	4.4	7.0	16.6	39.2	68.8	129.0	190.9	267.8	288.0	421.6
Female	0.0	0.0	0.3	0.0	0.0	0.0	0.4	1.5	2.1	2.5	6.2	14.9	20.4	36.2	41.9	54.4	56.5	88.9
Brain																		
All	3.3	3.9	2.4	2.2	2.0	2.6	3.9	4.4	5.1	5.6	7.0	12.4	14.5	16.9	19.2	26.4	24.5	19.6
Male	2.4	4.1	2.2	2.6	1.4	3.2	4.7	4.1	8.4	5.3	8.3	12.8	19.6	22.7	27.4	39.1	33.4	30.8
Female	4.3	3.7	2.6	1.7	2.6	1.9	3.0	4.6	1.7	5.8	5.8	11.9	9.6	11.3	11.4	14.8	17.1	12.9
Brain & Other Central Nervous System (Non-Malignant)																		
All	1.2	1.5	1.8	2.4	3.6	3.5	6.6	8.7	10.4	13.4	14.3	18.6	20.2	36.7	38.1	40.4	54.7	67.7
Male	1.0	2.2	2.2	1.7	2.4	2.5	5.8	6.4	6.8	7.8	9.1	10.9	9.2	25.1	30.0	24.1	39.8	57.8
Female	1.4	0.7	1.3	3.1	4.8	4.5	7.5	11.2	14.0	19.2	19.3	26.1	30.8	47.9	45.7	55.4	67.0	73.7
Breast																		
Female Invasive	0.0	0.0	0.0	0.4	1.1	10.0	30.7	58.1	121.1	167.6	217.0	267.7	335.9	415.0	501.9	486.3	473.0	370.8
Female In Situ	0.0	0.0	0.0	0.0	0.4	0.4	2.6	4.2	39.6	50.0	48.4	47.7	57.3	80.8	78.2	71.1	48.6	23.4
Cervix																		
Female	0.0	0.0	0.0	0.0	1.9	2.6	8.2	18.9	9.9	13.8	10.4	10.4	9.2	8.9	6.4	4.6	6.6	2.3
Colorectal																		
All	0.0	0.0	0.6	1.4	1.8	2.6	3.9	10.6	20.4	26.9	52.2	59.7	87.2	111.0	128.2	186.5	226.7	233.5
Male	0.0	0.0	1.0	1.0	1.4	2.2	4.7	12.0	17.7	30.4	52.1	70.2	106.4	124.2	152.2	201.6	257.8	269.5
Female	0.0	0.0	0.3	1.7	2.2	3.0	3.0	9.2	23.1	23.3	52.2	49.6	68.9	98.1	105.5	172.6	201.0	211.7
Corpus Uteri																		
Female	0.0	0.0	0.0	0.0	0.4	0.7	4.5	10.8	14.4	27.9	46.4	66.0	98.5	97.7	86.4	79.4	59.1	53.8
Esophagus																		
All	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4	1.2	1.9	7.0	9.1	14.9	18.1	27.3	32.2	17.3	30.6
Male	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.8	2.0	3.7	12.2	16.7	24.2	30.0	48.1	54.2	31.8	57.8
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.9	1.9	6.0	6.6	7.6	12.0	5.3	14.0

IDAHO **AGE-SPECIFIC CANCER RATES, PER 100,000 POPULATION, BY SITE AND GENDER** **2013–2017**

Age (years)	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80 - 84	85+
Hodgkin Lymphoma																		
All	0.0	0.5	1.1	3.4	4.1	2.9	3.3	3.6	1.6	3.1	1.2	1.5	3.1	2.9	2.6	7.2	2.9	1.5
Male	0.0	0.6	0.3	4.3	3.4	2.9	4.4	5.2	2.0	3.7	0.8	1.9	2.5	3.9	2.0	9.0	1.6	0.0
Female	0.0	0.3	2.0	2.4	4.8	3.0	2.2	1.9	1.2	2.5	1.6	1.1	3.6	1.9	3.2	5.5	3.9	2.3
Kidney & Renal Pelvis																		
All	1.6	0.3	0.0	0.5	0.4	1.1	2.6	5.1	6.3	17.4	23.3	32.9	38.2	64.1	72.9	82.2	96.4	72.0
Male	1.0	0.0	0.0	0.7	0.0	1.4	2.6	5.2	7.6	24.2	32.8	41.1	50.5	89.4	100.8	103.3	136.8	100.1
Female	2.1	0.7	0.0	0.4	0.7	0.7	2.6	5.0	4.9	10.4	13.9	25.0	26.4	39.4	46.4	62.8	63.1	55.0
Larynx																		
All	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.2	0.8	1.8	5.9	8.2	7.6	10.4	11.5	15.1	8.7
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.4	9.3	14.2	14.0	17.4	22.1	25.5	17.3
Female	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.4	0.4	0.8	1.2	2.6	2.4	1.4	3.8	1.9	6.6	3.5
Leukemia																		
All	7.9	3.4	3.2	2.4	3.9	2.9	3.5	4.0	5.1	11.6	12.9	21.1	27.2	43.3	67.1	88.0	124.5	125.9
Male	9.3	3.2	4.4	2.3	4.4	3.2	5.1	4.5	5.2	11.1	14.6	29.1	36.7	57.5	87.4	114.3	144.8	154.0
Female	6.4	3.7	2.0	2.4	3.3	2.6	1.9	3.5	4.9	12.1	11.2	13.4	18.0	29.6	47.7	63.7	107.8	108.8
Liver & Bile Duct																		
All	0.7	0.0	0.2	0.0	0.0	0.2	0.6	0.6	1.4	2.5	7.4	22.4	30.4	34.1	29.3	34.6	36.7	29.8
Male	1.0	0.0	0.3	0.0	0.0	0.0	0.4	0.0	1.2	4.5	9.9	35.7	50.9	50.7	44.0	47.1	57.3	38.5
Female	0.4	0.0	0.0	0.0	0.0	0.4	0.8	1.2	1.7	0.4	5.0	9.7	10.8	17.8	15.3	23.1	19.7	24.6
Lung & Bronchus																		
All	0.2	0.0	0.0	0.3	0.4	0.9	0.4	1.3	5.1	13.9	35.4	64.4	109.5	188.8	289.3	382.6	385.0	347.0
Male	0.0	0.0	0.0	0.3	0.7	0.4	0.7	1.1	3.2	10.7	30.8	66.3	113.0	209.2	317.0	417.2	437.6	462.0
Female	0.4	0.0	0.0	0.4	0.0	1.5	0.0	1.5	7.0	17.1	39.8	62.6	106.1	169.0	263.0	350.7	341.6	277.2
Melanoma of the Skin																		
All	0.2	1.0	0.0	1.2	4.4	8.9	12.9	19.3	22.4	30.4	35.0	49.0	65.2	87.9	87.9	119.7	138.9	125.1
Male	0.3	0.6	0.0	1.3	2.4	6.1	11.6	13.8	16.1	31.2	32.0	61.3	79.3	118.4	105.4	172.5	218.0	215.6
Female	0.0	1.3	0.0	1.0	6.7	11.9	14.2	25.0	28.8	29.6	37.9	37.3	51.7	58.2	71.2	71.1	73.6	70.2
Myeloma																		
All	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.8	2.5	7.0	7.8	11.6	23.8	38.7	38.5	62.6	49.5
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.8	3.7	6.7	8.1	15.9	29.0	54.7	51.2	73.2	55.8
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.8	1.3	7.4	7.5	7.6	18.8	23.5	26.8	53.9	45.6

IDAHO **AGE-SPECIFIC CANCER RATES, PER 100,000 POPULATION, BY SITE AND GENDER** **2013–2017**

Age (years)	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80 - 84	85+
Non-Hodgkin Lymphoma																		
All	0.9	1.1	1.0	2.0	2.5	2.6	3.0	6.3	8.1	12.6	18.6	30.8	40.9	61.9	84.6	122.6	121.6	119.3
Male	1.4	1.3	0.6	3.6	3.4	2.9	3.6	7.5	9.7	10.7	20.9	34.5	48.0	75.9	102.1	151.5	151.2	144.4
Female	0.4	1.0	1.3	0.4	1.5	2.2	2.2	5.0	6.6	14.6	16.3	27.2	34.0	48.4	68.0	96.0	97.2	104.1
Oral Cavity & Pharynx																		
All	0.0	0.2	0.0	0.2	1.2	1.3	2.2	2.5	5.1	11.6	18.4	30.8	36.6	48.8	51.8	54.3	48.9	48.0
Male	0.0	0.3	0.0	0.3	0.3	2.2	1.8	2.6	6.0	16.0	26.4	47.3	57.6	71.0	74.7	75.2	76.4	80.9
Female	0.0	0.0	0.0	0.0	2.2	0.4	2.6	2.3	4.1	7.1	10.4	14.9	16.4	27.2	29.9	35.1	26.3	28.1
Ovary																		
Female	0.4	0.3	1.0	1.4	1.1	2.6	2.2	3.1	5.4	12.5	19.7	25.0	25.6	34.7	38.8	44.3	48.6	48.0
Pancreas																		
All	0.0	0.0	0.0	0.0	0.4	0.2	1.5	1.0	2.7	6.6	10.4	21.7	37.6	43.1	71.3	96.6	95.7	115.0
Male	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	2.4	8.2	13.8	27.1	41.7	50.7	80.1	117.3	105.0	115.5
Female	0.0	0.0	0.0	0.0	0.7	0.4	1.9	1.9	2.9	5.0	7.0	16.4	33.6	35.7	62.9	77.5	88.0	114.6
Prostate																		
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	6.4	29.5	105.4	206.2	338.3	587.1	629.3	613.8	507.6	460.1
Stomach																		
All	0.0	0.0	0.0	0.3	0.0	0.0	0.9	0.8	2.0	3.1	6.6	11.0	10.6	16.7	21.5	29.3	36.0	44.4
Male	0.0	0.0	0.0	0.7	0.0	0.0	0.4	0.8	2.8	2.9	7.1	16.7	14.2	26.1	30.7	40.1	50.9	61.6
Female	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.8	1.2	3.3	6.2	5.6	7.2	7.5	12.7	19.4	23.7	33.9
Testis																		
Male	0.0	0.0	0.0	5.6	12.6	16.9	14.2	14.2	15.3	5.7	4.3	4.3	2.9	0.5	1.3	5.0	0.0	0.0
Thyroid																		
All	0.0	0.0	1.0	2.7	8.3	12.8	18.4	23.3	22.6	25.0	23.4	23.8	25.7	26.9	31.9	18.3	20.9	9.5
Male	0.0	0.0	1.0	1.0	4.8	3.9	7.3	9.3	13.3	7.4	9.9	12.4	17.1	18.4	26.0	11.0	19.1	13.5
Female	0.0	0.0	1.0	4.5	12.2	21.9	29.9	37.7	32.1	42.9	36.8	34.7	34.0	35.2	37.5	24.9	22.3	7.0

SECTION V

2017 OBSERVED VS. EXPECTED NUMBERS BY HEALTH DISTRICT

2016 OBSERVED VERSUS EXPECTED NUMBERS
BY
HEALTH DISTRICT

ALL SEXES

	HD 1		HD 2		HD 3		HD 4		HD 5		HD 6		HD 7	
	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP
All Sites	1,517	1,422.0 +	573	637.6 *	1,386	1,380.0	2,482	2,408.5	913	989.3 +	782	830.8	971	932.4
Bladder	80	70.3	37	32.0	59	68.2	119	112.1	54	47.3	30	41.2	39	45.3
Brain	19	19.0	10	8.4	18	19.8	35	34.8	11	14.2	18	11.2	10	14.3
Brain & CNS non-Malignant	37	37.7	16	16.6	37	38.4	59	71.4	36	25.8	24	22.7	28	26.4
Breast	228	215.8	92	94.1	212	214.4	434	365.7 *	107	155.9 *	112	128.6	148	144.5
Breast (in situ)	50	38.0	13	17.2	42	38.9	78	68.3	19	28.3	17	23.8	25	26.6
Cervix	15	7.5 +	4	3.7	10	9.6	15	19.9	4	7.1	6	5.7	6	7.0
Colorectal	117	105.5	51	47.7	122	99.8 +	153	194.6 *	76	73.8	56	63.0	73	70.0
Corpus Uteri	50	40.9	10	18.6 +	38	40.6	62	77.1	31	28.1	27	23.9	35	26.4
Esophagus	21	16.3	5	7.6	15	16.3	26	29.5	14	11.1	9	9.7	11	10.8
Hodgkin lymphoma	8	6.2	2	3.0	6	7.3	14	12.1	6	4.8	6	4.1	2	5.9
Kidney & renal pelvis	69	52.7 +	23	24.4	53	53.7	75	101.8 *	47	36.8	26	32.5	41	35.5
Larynx	5	6.5	4	2.6	6	5.9	10	10.5	7	3.8	3	3.6	2	4.2
Leukemia	50	49.4	18	22.5	41	49.9	87	82.1	38	34.1	36	28.2	30	33.9
Liver & bile duct	26	25.5	6	11.5	32	22.2	51	38.1	11	17.7	10	14.7	13	16.3
Lung & bronchus	191	161.0 +	95	71.9 +	163	152.3	255	266.4	103	111.0	71	94.2 +	83	104.6 +
Melanoma of skin Myeloma	59	90.4 *	27	38.3	62	87.6 *	202	127.2 *	48	60.6	63	48.7	61	56.8
N-H Lymphoma	18	24.6	5	10.9	22	22.0	44	35.6	20	15.2	14	13.0	14	14.7
Oral cavity & pharynx Ovary	63	57.0	18	26.5	63	55.0	93	101.0	37	40.2	36	33.4	41	38.1
	46	38.1	19	17.0	41	36.7	62	68.7	26	26.7	17	23.1	24	25.6
Pancreas	20	15.1	3	7.2	15	15.7	20	31.2 +	15	10.4	9	9.3	15	10.2
Prostate														
Stomach	51	50.4	20	23.0	43	48.6	86	81.2	38	33.9	33	28.2	27	32.5
Testis	217	197.1	64	87.9 *	189	184.1	344	313.9	107	133.4 +	84	113.1 *	154	119.6 *
Thyroid	13	15.5	7	6.8	16	13.9	29	23.6	6	10.9	11	8.4	8	9.9
Pediatric (age 0-19)	7	5.6	2	3.0	7	7.5	14	14.3	9	4.6	2	4.8	5	6.3
	23	33.8	9	14.8	31	35.6	62	66.1	19	25.0	22	20.8	51	22.0 *
	9	10.6	4	4.9	18	15.2	20	25.8	13	10.6	12	9.6	13	13.2

+ Statistically significant difference at p<.05.
* Statistically significant difference at p<.01.

Note: Observed and expected numbers exclude in situ cases, basal/squamous skin cases, and cases with unknown age or sex.

2017 OBSERVED VERSUS EXPECTED NUMBERS BY HEALTH DISTRICT

MALES

	HD 1		HD 2		HD 3		HD 4		HD 5		HD 6		HD 7	
	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP
All Sites	794	762.0	308	347.4+	715	722.2	1,291	1,228.3	494	516.6	412	437.6	510	493.7
Bladder	61	56.8	32	25.9	45	54.1	88	87.7	46	37.0	28	32.3	30	36.4
Brain	11	11.9	8	5.2	11	12.4	22	21.5	8	8.8	10	7.2	6	9.2
Brain & CNS non-Malignant	10	12.0	5	5.3	18	11.3	21	22.3	7	9.1	3	8.0	13	8.5
Breast	2	1.1	0	0.6	0	1.3	1	2.2	0	0.9	2	0.5	2	0.6
Breast (in situ)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Colorectal	59	57.1	29	25.4	62	53.2	83	101.5	42	38.8	33	33.1	36	37.9
Esophagus	19	14.0	4	6.8	11	14.3	23	24.8	12	9.6	8	8.4	10	9.4
Hodgkin lymphoma	6	3.0	0	1.7	3	4.0	8	6.4	3	2.7	3	2.3	1	3.2
Kidney & renal pelvis	45	34.8	14	16.5	32	35.6	54	64.1	30	24.1	21	20.9	23	24.0
Larynx	5	5.3	2	2.4	6	4.8	8	8.7	5	3.3	3	3.0	2	3.5
Leukemia	28	29.7	9	13.8	22	30.0	52	47.7	23	20.1	22	16.8	22	20.1
Liver & bile duct	20	19.3	6	8.8	26	16.4+	37	29.2	7	13.5	7	11.3	10	12.6
Lung & bronchus	89	81.3	47	36.2	93	71.9+	115	131.3	52	53.9	38	46.0	37	52.3+
Melanoma of skin	39	57.0+	17	24.9	34	54.8*	121	77.9*	33	37.1	42	29.9+	37	35.4
Myeloma	12	14.2	3	6.6	9	13.6	28	19.1	13	8.7	7	7.7	8	8.7
N-H Lymphoma	35	33.7	15	15.3	33	32.6	60	55.8	21	23.4	17	19.9	23	22.6
Oral cavity & pharynx	33	29.3	16	13.0	34	27.0	47	51.3	17	20.6	10	17.9	21	19.3
Pancreas	22	28.3	10	12.6	22	26.1	50	40.8	22	17.8	16	15.2	17	17.3
Prostate	217	198.1	64	90.4*	189	183.0	344	307.9+	107	133.3+	84	113.9*	154	121.4*
Stomach	11	10.4	6	4.7	9	9.9	19	16.4	3	7.6	7	5.9	7	6.7
Testis	7	5.5	2	3.1	7	7.3	14	14.5	9	4.6	2	4.8	5	6.3
Thyroid	9	10.8	1	5.1	10	11.4	21	20.3	5	8.3	9	6.5	15	7.1+
Pediatric (age 0-19)	5	6.1	2	2.8	11	8.6	13	14.3	6	6.3	6	5.6	8	7.4

+ Statistically significant difference at p<.05.
* Statistically significant difference at p<.01.

Note: Observed and expected numbers exclude in situ cases, basal/squamous skin cases, and cases with unknown age or sex.

2017 OBSERVED VERSUS EXPECTED NUMBERS
BY
HEALTH DISTRICT

FEMALES

	HD 1		HD 2		HD 3		HD 4		HD 5		HD 6		HD 7	
	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP	OBS	EXP
All Sites	723	663.5+	265	292.8	671	658.5	1,191	1,170.7	419	471.5+	370	394.2	461	440.0
Bladder	19	14.2	5	6.6	14	14.1	31	22.5	8	10.3	2	9.0+	9	9.3
Brain	8	7.0	2	3.2	7	7.3	13	13.0	3	5.5	8	4.0	4	5.2
Brain & CNS non-Malignant	27	25.6	11	11.1	19	27.2	38	49.4	29	16.8*	21	14.7	15	17.7
Breast	226	214.9	92	91.5	212	214.7	433	366.5*	107	154.6*	110	127.9	146	141.9
Breast (in situ)	50	38.0	13	16.8	42	39.2	78	68.8	19	28.2	17	23.7	25	26.3
Cervix	15	7.6+	4	3.7	10	9.8	15	19.8	4	7.0	6	5.8	6	6.9
Colorectal	58	48.5	22	22.3	60	46.4	70	92.8+	34	35.1	23	29.9	37	32.3
Corpus Uteri	50	40.9	10	18.2	38	40.9	62	77.9	31	28.0	27	23.7	35	26.0
Esophagus	2	2.4	1	1.0	4	1.9	3	4.3	2	1.6	1	1.4	1	1.5
Hodgkin lymphoma	2	3.2	2	1.3	3	3.3	6	5.6	3	2.1	3	1.8	1	2.8
Kidney & renal pelvis	24	17.9	9	8.2	21	18.1	21	37.3*	17	12.7	5	11.6	18	11.7
Larynx	0	1.2	2	0.3	0	1.2	2	1.6	2	0.5	0	0.6	0	0.7
Leukemia	22	19.9	9	8.9	19	19.9	35	34.0	15	13.9	14	11.5	8	13.9
Liver & bile duct	6	6.2	0	2.9	6	5.7	14	8.6	4	4.1	3	3.5	3	3.9
Lung & bronchus	102	79.8+	48	35.8	70	80.3	140	134.8	51	57.1	33	48.3+	46	52.3
Melanoma of skin	20	33.8+	10	13.8	28	33.0	81	48.4*	15	23.4	21	18.8	24	21.5
Myeloma	6	10.5	2	4.4	13	8.4	16	16.3	7	6.4	7	5.3	6	6.0
N-H Lymphoma	28	23.5	3	11.3*	30	22.3	33	45.0	16	16.8	19	13.5	18	15.5
Oral cavity & pharynx	13	8.8	3	4.2	7	9.5	15	16.8	9	6.2	7	5.3	3	6.5
Ovary	20	15.1	3	7.1	15	15.8	20	31.4+	15	10.4	9	9.2	15	10.1
Pancreas	29	22.2	10	10.6	21	22.5	36	40.2	16	16.1	17	12.9	10	15.3
Stomach	2	5.1	1	2.2	7	3.9	10	7.1	3	3.3	4	2.6	1	3.3
Thyroid	14	23.2	8	9.6	21	24.5	41	45.6	14	16.6	13	14.3	36	14.8*
Pediatric (age 0-19)	4	4.5	2	2.1	7	6.7	7	11.5	7	4.3	6	3.9	5	5.9

+ Statistically significant difference at p<.05.
* Statistically significant difference at p<.01.

Note: Observed and expected numbers exclude in situ cases, basal/squamous skin cases, and cases with unknown age or sex.

SECTION VI

RISKS OF BEING DIAGNOSED AND DYING FROM CANCER

Risks of Being Diagnosed with and Dying from Cancer

All Sites, Invasive in Females

If your current age is:	Then your risk of being diagnosed with cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 62	1 in 20	1 in 9	1 in 5	1 in 3	1 in 2
40		1 in 28	1 in 10	1 in 5	1 in 3	1 in 2
50			1 in 15	1 in 6	1 in 3	1 in 2
60				1 in 8	1 in 4	1 in 2
70					1 in 5	1 in 3
80						1 in 4

If your current age is:	Then your risk of dying from cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 681	1 in 151	1 in 47	1 in 19	1 in 9	1 in 5
40		1 in 191	1 in 50	1 in 20	1 in 9	1 in 5
50			1 in 67	1 in 22	1 in 10	1 in 5
60				1 in 30	1 in 11	1 in 6
70					1 in 16	1 in 6
80						1 in 8

All Sites, Invasive in Males

If your current age is:	Then your risk of being diagnosed with cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 124	1 in 38	1 in 12	1 in 5	1 in 3	1 in 2
40		1 in 53	1 in 13	1 in 5	1 in 3	1 in 2
50			1 in 17	1 in 5	1 in 3	1 in 2
60				1 in 7	1 in 3	1 in 2
70					1 in 4	1 in 2
80						1 in 3

If your current age is:	Then your risk of dying from cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 690	1 in 195	1 in 49	1 in 18	1 in 8	1 in 5
40		1 in 268	1 in 52	1 in 18	1 in 8	1 in 5
50			1 in 62	1 in 18	1 in 8	1 in 4
60				1 in 24	1 in 9	1 in 4
70					1 in 12	1 in 5
80						1 in 6

Risks of Being Diagnosed with and Dying from Cancer

Female Breast Cancer

If your current age is:	Then your risk of being diagnosed with breast cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 218	1 in 54	1 in 24	1 in 14	1 in 9	1 in 7
40		1 in 71	1 in 27	1 in 14	1 in 9	1 in 8
50			1 in 42	1 in 17	1 in 10	1 in 8
60				1 in 28	1 in 13	1 in 9
70					1 in 22	1 in 13
80						1 in 23

If your current age is:	Then your risk of dying from breast cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 2250	1 in 533	1 in 206	1 in 102	1 in 56	1 in 36
40		1 in 691	1 in 225	1 in 105	1 in 57	1 in 36
50			1 in 327	1 in 122	1 in 61	1 in 37
60				1 in 186	1 in 72	1 in 40
70					1 in 108	1 in 47
80						1 in 63

Prostate Cancer

If your current age is:	Then your risk of being diagnosed with prostate cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 17938	1 in 452	1 in 59	1 in 18	1 in 10	1 in 8
40		1 in 456	1 in 58	1 in 18	1 in 10	1 in 8
50			1 in 65	1 in 18	1 in 10	1 in 8
60				1 in 23	1 in 11	1 in 9
70					1 in 18	1 in 11
80						1 in 21

If your current age is:	Then your risk of dying from prostate cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in *	1 in 70528	1 in 2033	1 in 324	1 in 94	1 in 32
40		1 in 69316	1 in 1999	1 in 318	1 in 92	1 in 32
50			1 in 1999	1 in 311	1 in 89	1 in 31
60				1 in 344	1 in 87	1 in 29
70					1 in 102	1 in 28
80						1 in 27

Note: * Risk is not precise - estimate not shown.

Risks of Being Diagnosed with and Dying from Cancer

Colon/Rectal Cancer in Females

If your current age is:	Then your risk of being diagnosed with colorectal cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 1447	1 in 333	1 in 130	1 in 68	1 in 40	1 in 27
40		1 in 428	1 in 141	1 in 70	1 in 41	1 in 27
50			1 in 205	1 in 82	1 in 44	1 in 28
60				1 in 130	1 in 53	1 in 31
70					1 in 82	1 in 37
80						1 in 51

If your current age is:	Then your risk of dying from colorectal cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 8135	1 in 1563	1 in 490	1 in 238	1 in 122	1 in 64
40		1 in 1915	1 in 517	1 in 242	1 in 123	1 in 64
50			1 in 694	1 in 272	1 in 129	1 in 65
60				1 in 429	1 in 152	1 in 69
70					1 in 214	1 in 75
80						1 in 89

Colon/Rectal Cancer in Males

If your current age is:	Then your risk of being diagnosed with colorectal cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 1210	1 in 316	1 in 114	1 in 55	1 in 34	1 in 24
40		1 in 419	1 in 124	1 in 57	1 in 34	1 in 24
50			1 in 170	1 in 64	1 in 36	1 in 25
60				1 in 96	1 in 43	1 in 27
70					1 in 67	1 in 33
80						1 in 46

If your current age is:	Then your risk of dying from colorectal cancer by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 4659	1 in 1365	1 in 401	1 in 175	1 in 95	1 in 56
40		1 in 1898	1 in 432	1 in 178	1 in 95	1 in 56
50			1 in 543	1 in 191	1 in 97	1 in 56
60				1 in 276	1 in 110	1 in 59
70					1 in 160	1 in 65
80						1 in 76

Risks of Being Diagnosed with and Dying from Cancer

Melanoma in Females

If your current age is:	Then your risk of being diagnosed with melanoma by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 519	1 in 208	1 in 120	1 in 77	1 in 55	1 in 44
40		1 in 344	1 in 155	1 in 89	1 in 60	1 in 47
50			1 in 275	1 in 118	1 in 72	1 in 54
60				1 in 196	1 in 92	1 in 64
70					1 in 159	1 in 86
80						1 in 144

If your current age is:	Then your risk of dying from melanoma by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 28088	1 in 5654	1 in 1909	1 in 1015	1 in 607	1 in 348
40		1 in 7009	1 in 2028	1 in 1042	1 in 615	1 in 349
50			1 in 2798	1 in 1200	1 in 660	1 in 360
60				1 in 2012	1 in 827	1 in 396
70					1 in 1281	1 in 449
80						1 in 534

Melanoma in Males

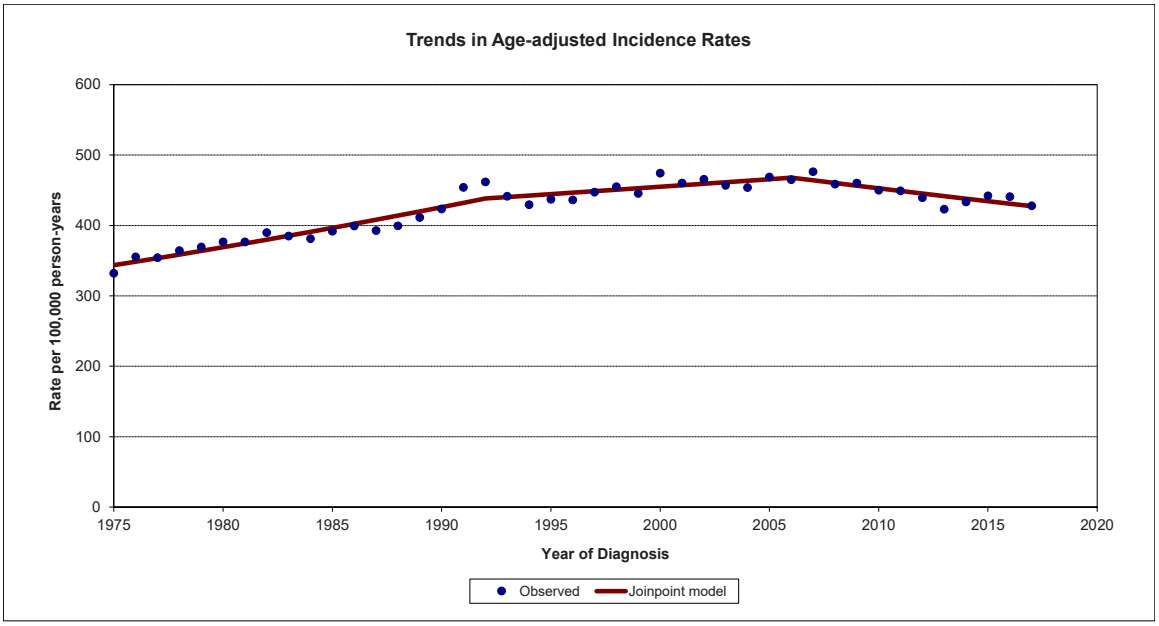
If your current age is:	Then your risk of being diagnosed with melanoma by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 828	1 in 289	1 in 129	1 in 64	1 in 41	1 in 30
40		1 in 435	1 in 151	1 in 68	1 in 42	1 in 30
50			1 in 223	1 in 78	1 in 45	1 in 32
60				1 in 112	1 in 53	1 in 34
70					1 in 85	1 in 42
80						1 in 59

If your current age is:	Then your risk of dying from melanoma by a given age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 7899	1 in 3570	1 in 1244	1 in 537	1 in 312	1 in 200
40		1 in 6402	1 in 1452	1 in 566	1 in 320	1 in 201
50			1 in 1824	1 in 604	1 in 327	1 in 202
60				1 in 843	1 in 372	1 in 212
70					1 in 578	1 in 246
80						1 in 303

SECTION VII

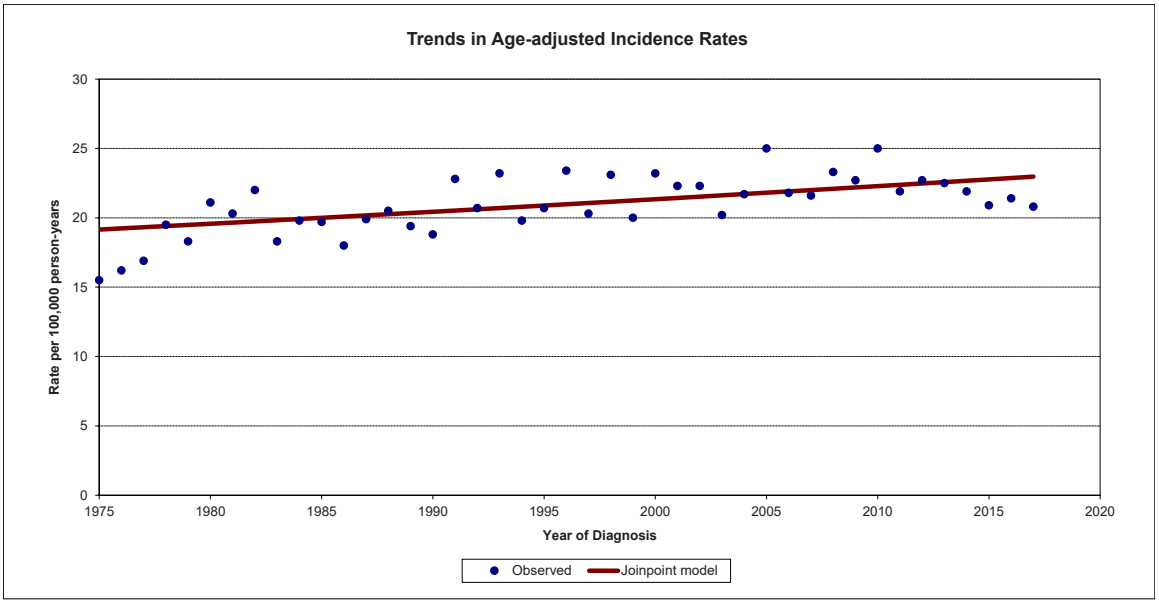
CANCER TRENDS IN IDAHO
1975–2017

All Sites



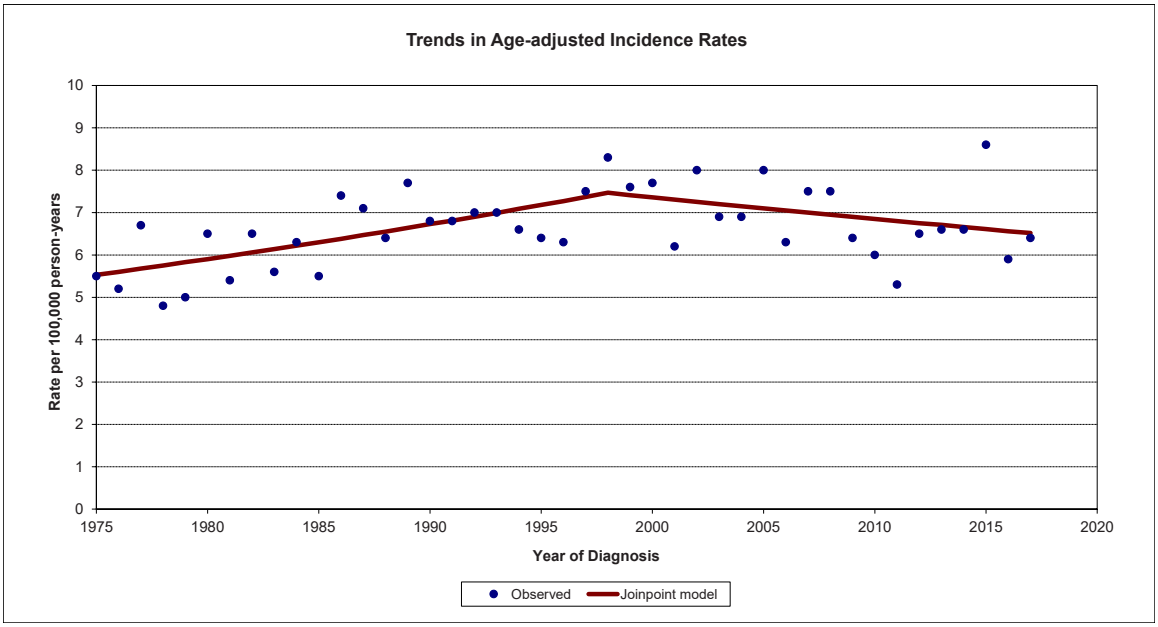
Cancer incidence increased at a rate of about 1.4% per year in Idaho from 1975 to 1992, and at a rate of about 0.5% per year from 1992 to 2006. Since 2006, overall cancer incidence has declined about 0.8% per year. Cancer incidence trends over time were different for males and females. For males, much of the overall trend is due to the trend in prostate cancer incidence. For females, much of the overall trend is due to the trend in breast cancer incidence.

Bladder



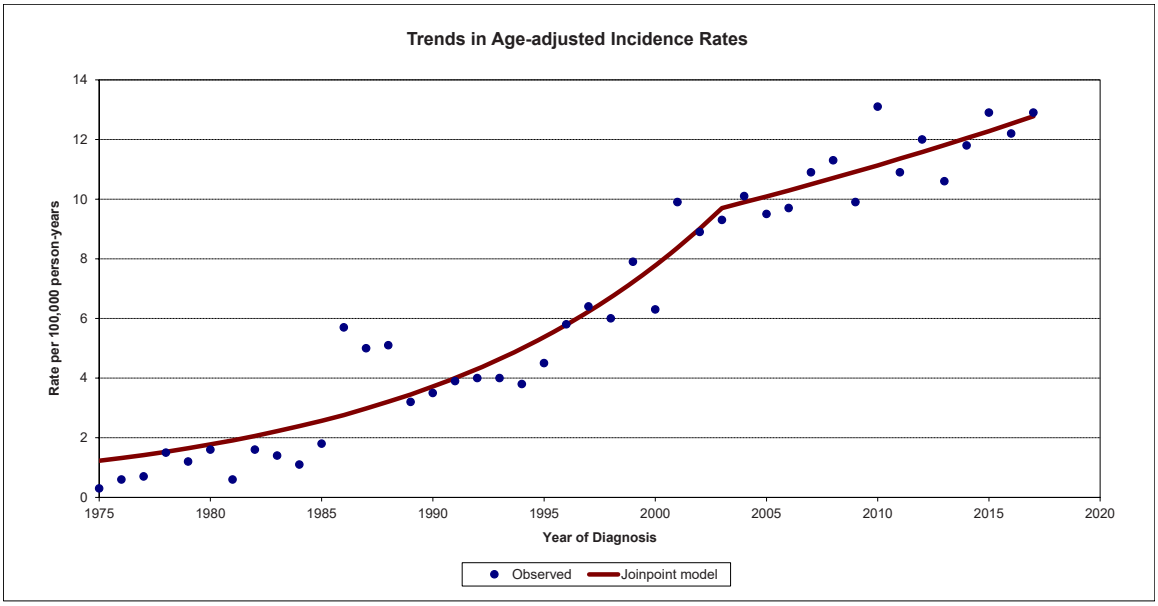
Bladder cancer incidence includes in situ and invasive cases. Bladder cancer incidence increased at a rate of about 0.4% per year in Idaho from 1975 to 2017. Most of the increase in bladder cancer incidence is attributable to males, who have rates of bladder cancer incidence about 4-5 times those of females.

Brain



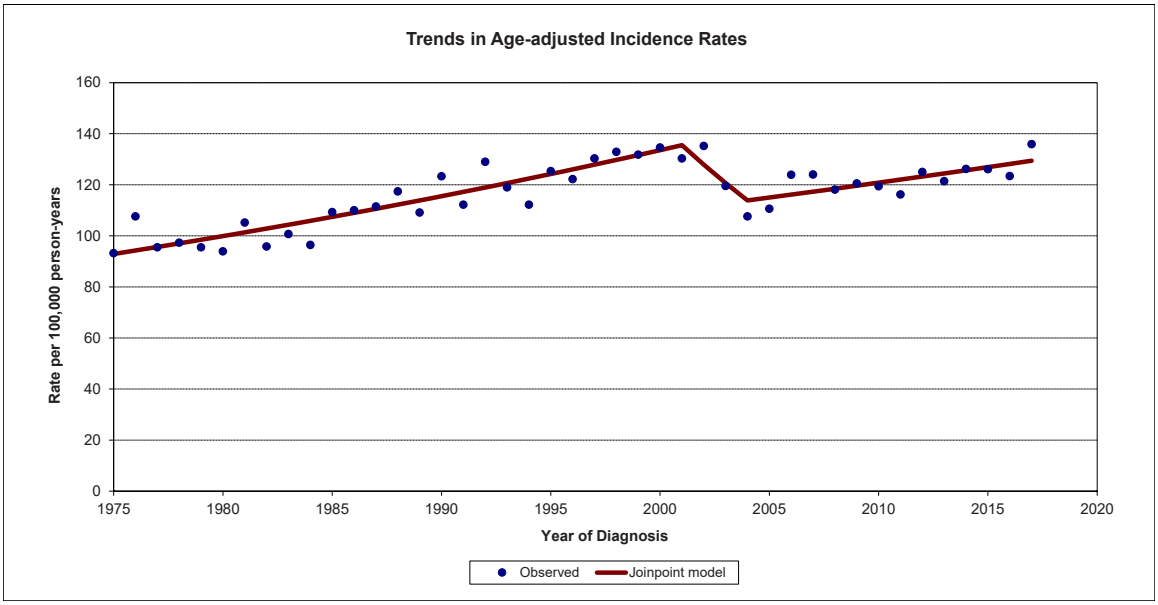
Malignant brain cancer incidence increased at a rate of about 1.3% per year in Idaho from 1975 to 1998, after which the rate has declined about 0.7% per year. Among males, malignant brain cancer incidence rates followed the same pattern. Among females, the rate has been stable 1975 to present.

Brain and Other CNS, Non-Malignant



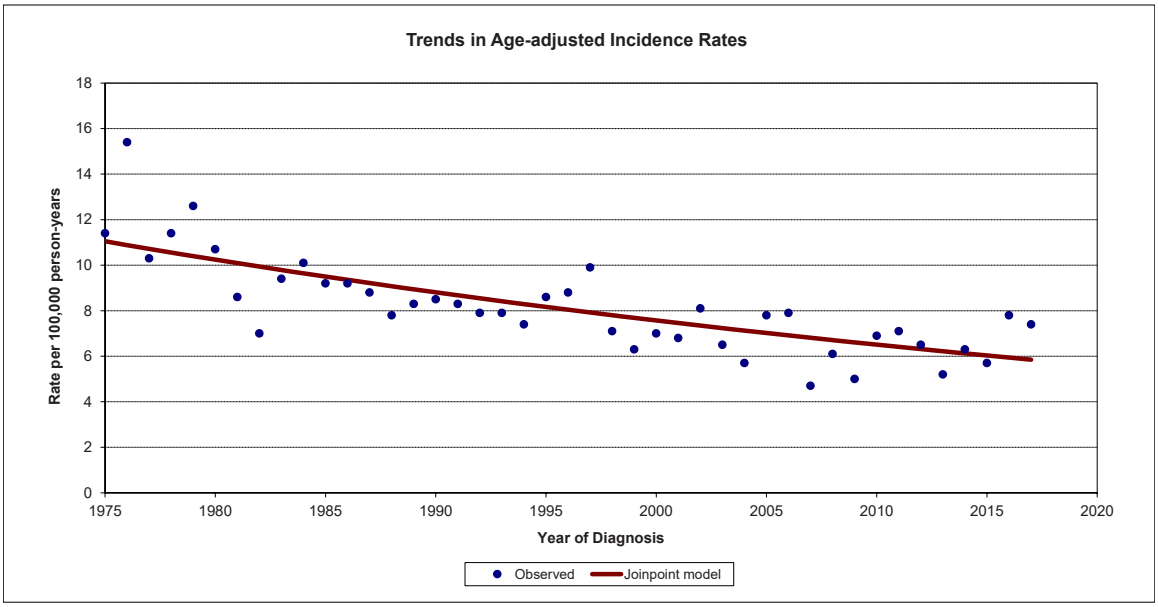
Non-malignant brain and other central nervous system tumors include those with benign and borderline behavior. Non-malignant brain and other CNS tumor incidence increased at a rate of about 7.7% per year in Idaho from 1975 to 2003, after which the rate increased by about 2.0% per year.

Breast Female



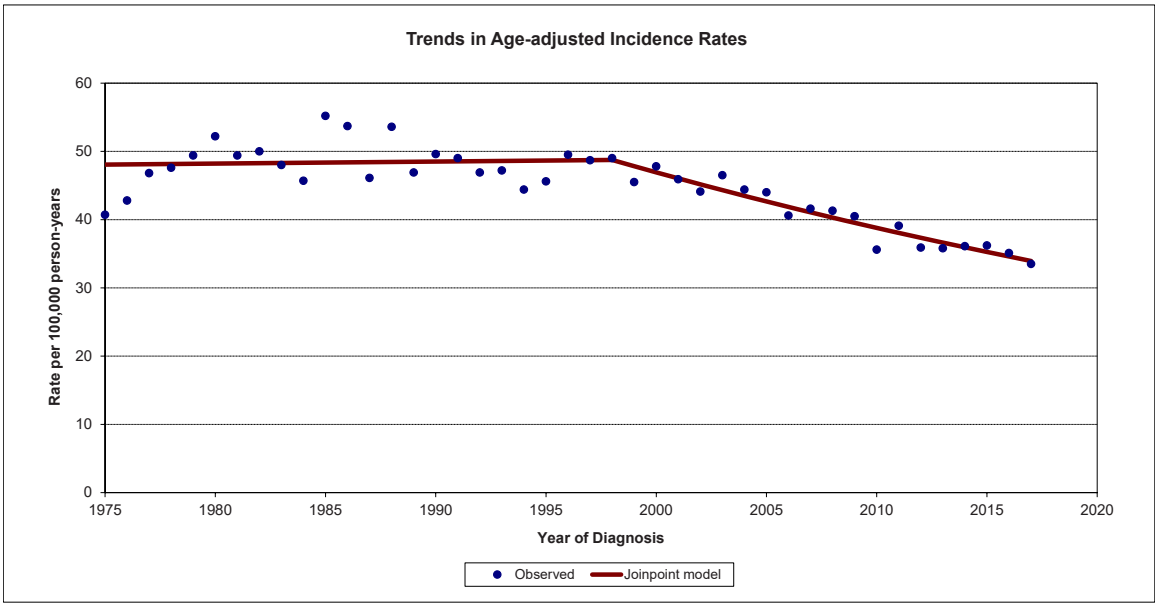
Invasive breast cancer incidence increased at a rate of about 1.5% per year among female Idahoans from 1975 to 2001. From 2001 to 2004, the rate decreased sharply by about 5.6% per year. This decrease may be due in part to a decrease in the use of hormone replacement therapy. Since 2004, the invasive breast cancer incidence rate has increased about 1.0% per year. In situ breast cancer rates increased at a rate of about 13.4% per year from 1975 to 1992, after which the rate has been stable (data not shown).

Cervix



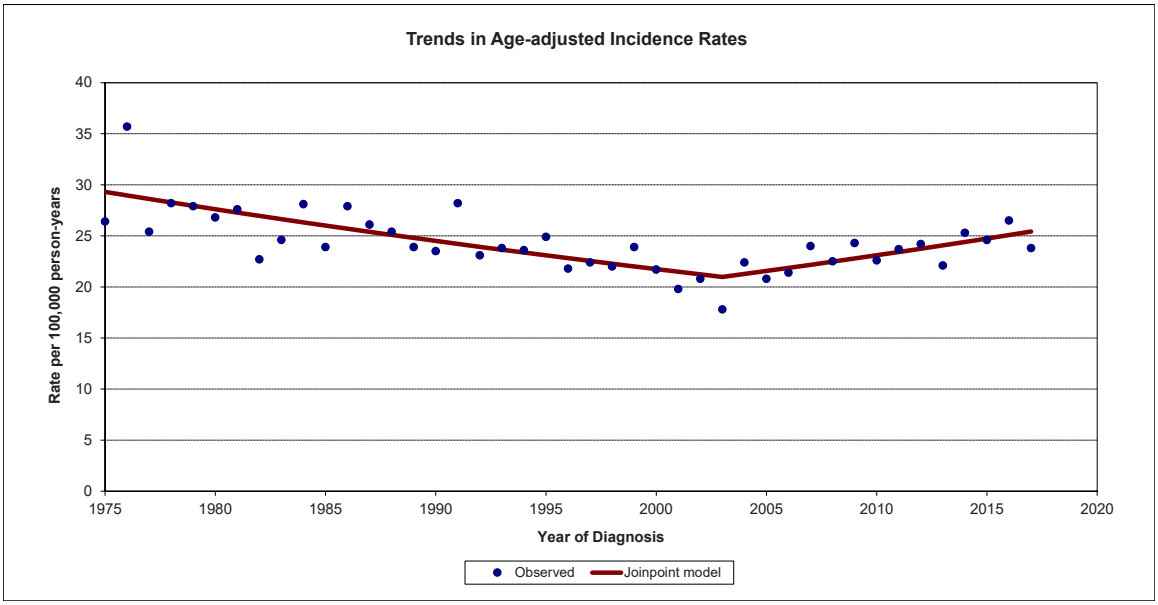
Invasive cervical cancer incidence has decreased about 1.5% per year in Idaho from 1975 to 2017.

Colorectal



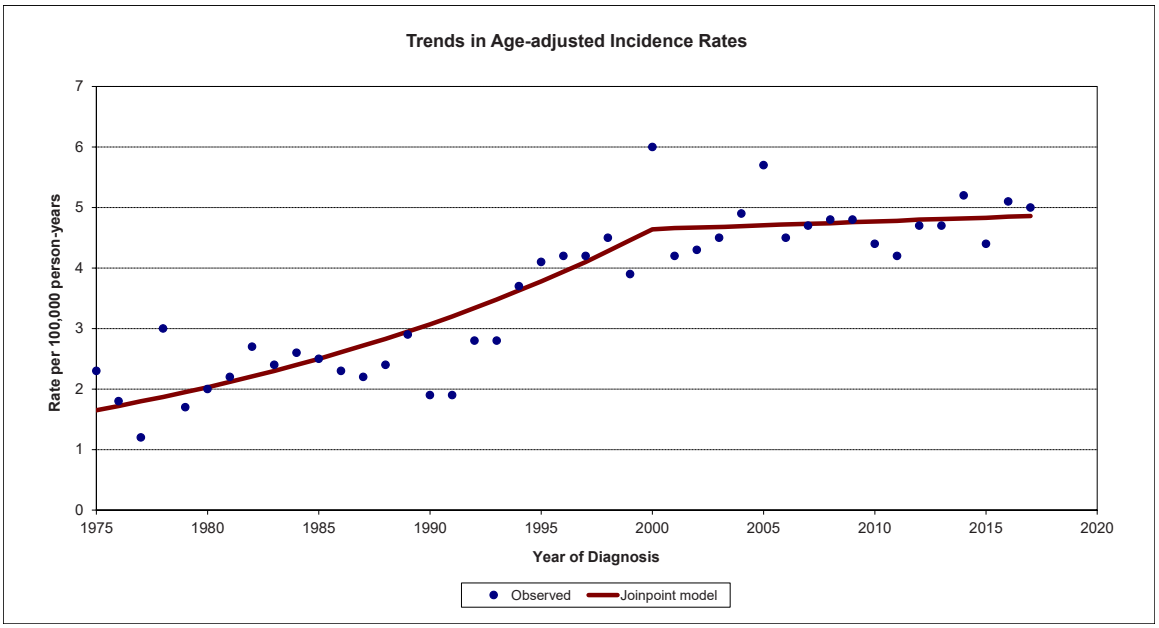
Colorectal cancer incidence rates were stable in Idaho from 1975-1998 and have since decreased about 1.9% per year. Colorectal cancer incidence trends over time were different for males and females. For males, rates increased from 1975 to 1988, then decreased. For females, rates have deceased about 0.9% per year from 1975-2017.

Corpus Uteri



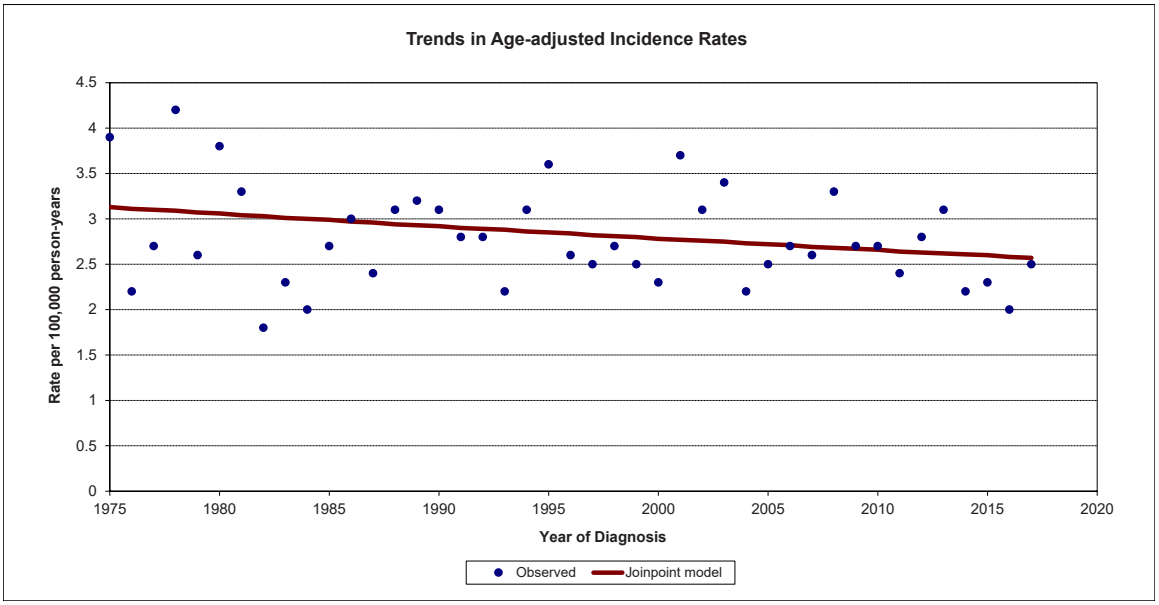
Corpus uteri cancer incidence rates decreased about 1.2% per year in Idaho from 1975 to 2003 and have increased by 1.4% per year since 2003.

Esophagus



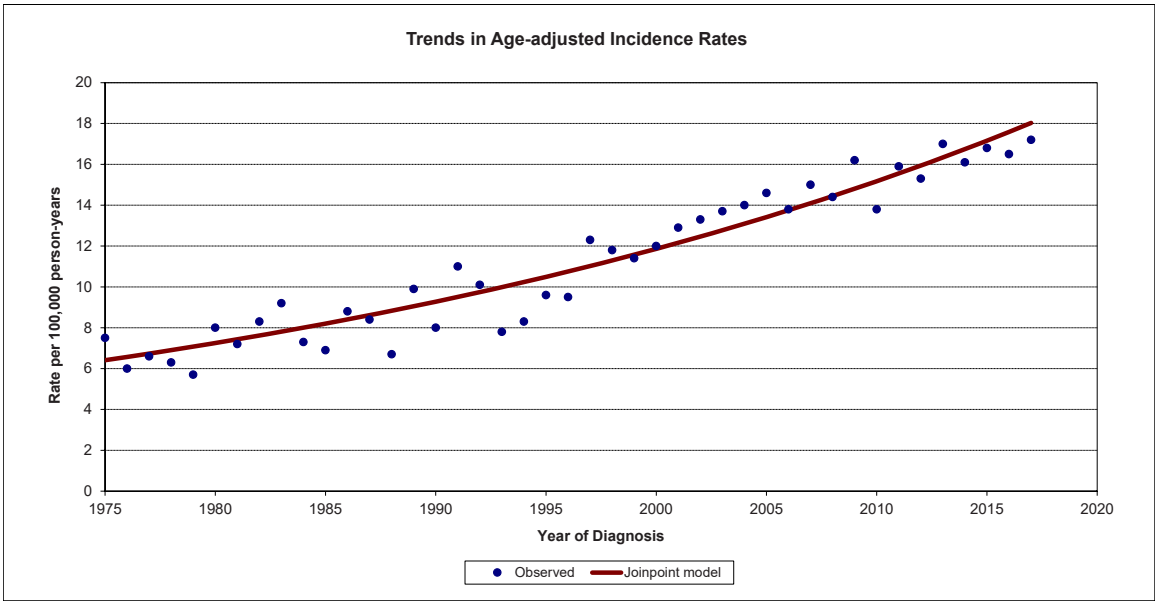
Esophageal cancer incidence increased at a rate of about 4.2% per year in Idaho from 1975 to 2000, after which the incidence rate has been stable. Rates of esophageal cancers among males were about 3-4 times higher than those among females.

Hodgkin Lymphoma



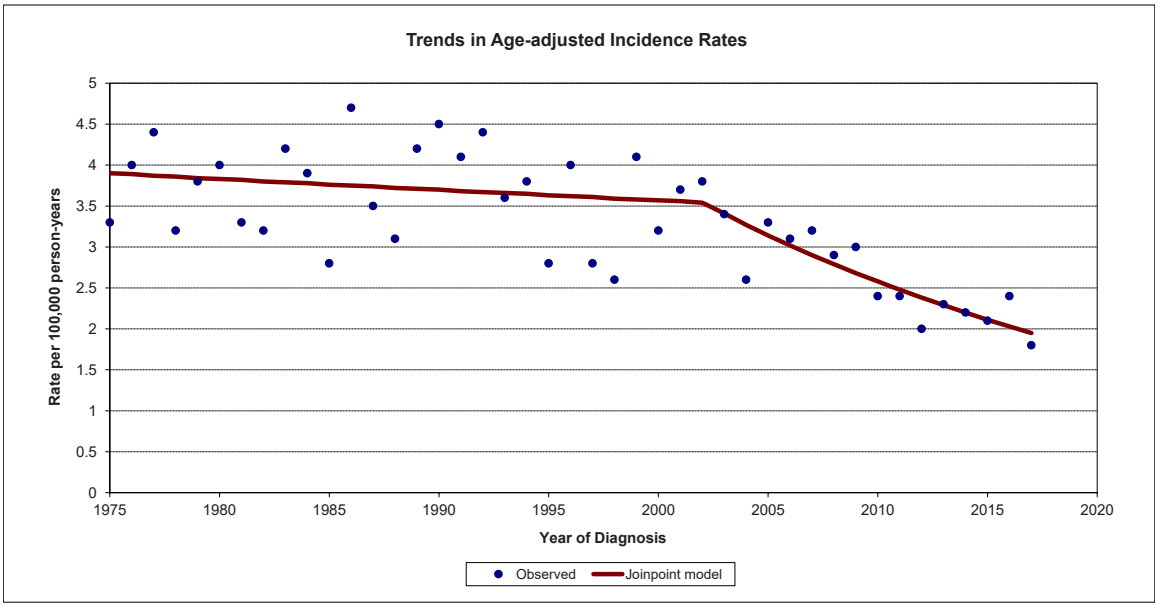
Hodgkin lymphoma incidence has decreased about 0.5% per year in Idaho from 1975 to 2017. Rates showed year-to-year variability due to the relatively small numbers of cases diagnosed annually.

Kidney and Renal Pelvis



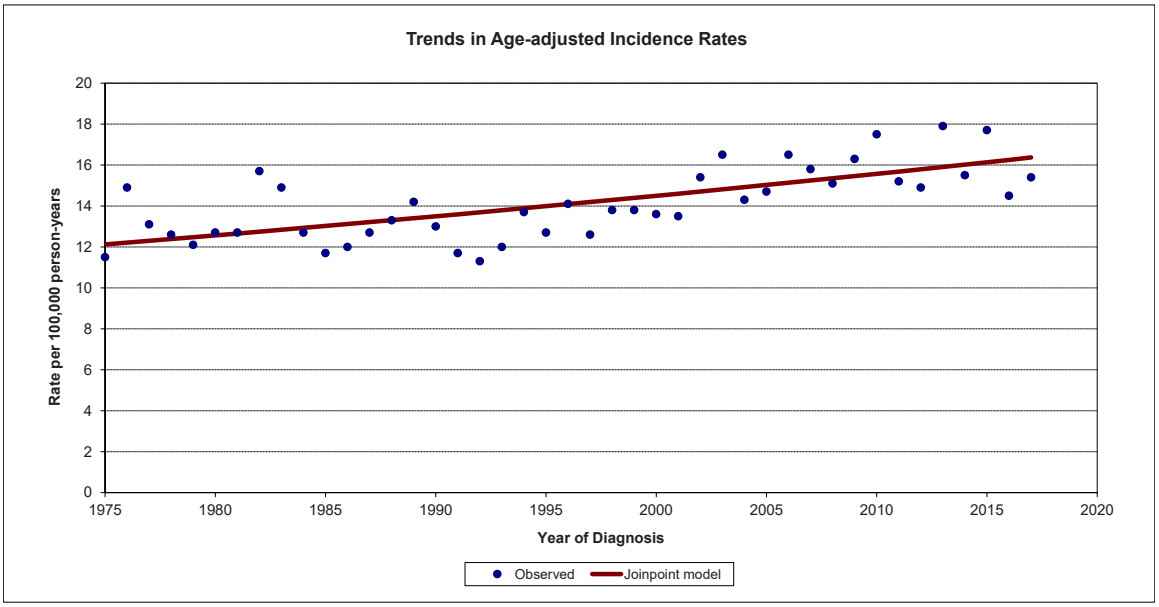
Kidney and renal pelvis cancer incidence increased at a rate of about 2.5% per year in Idaho from 1975 to 2017. The rate of increase was similar for males and females, although rates of kidney and renal pelvis cancers among males were about twice as high as among females.

Larynx



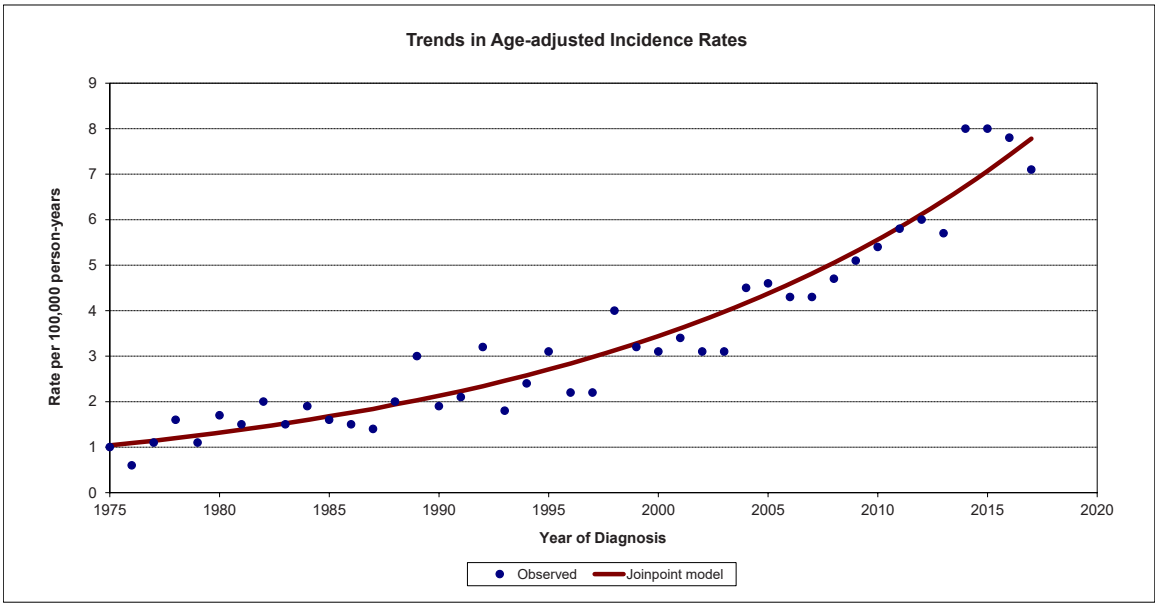
Laryngeal cancer incidence decreased about 0.4% per year in Idaho from 1975 to 2002, and decreased about 3.9% per year since 2002. Rates showed year-to-year variability due to the relatively small numbers of cases diagnosed annually. The temporal pattern was similar for males. Among females, incidence rates of laryngeal cancer decreased about 1.2% per year from 1975 to 2017. Incidence rates of laryngeal cancers among males were about 4 times as high as among females.

Leukemia



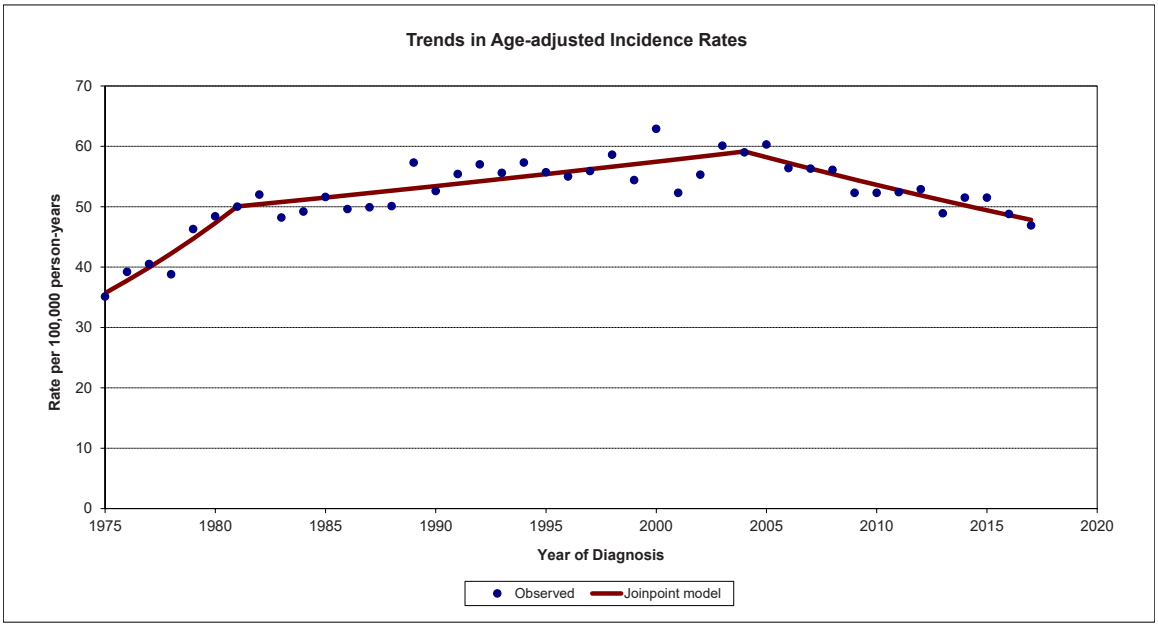
Leukemia incidence has increased about 0.7% per year from 1975 to 2017. Rates showed year-to-year variability due to the relatively small numbers of cases diagnosed annually.

Liver and Bile Duct



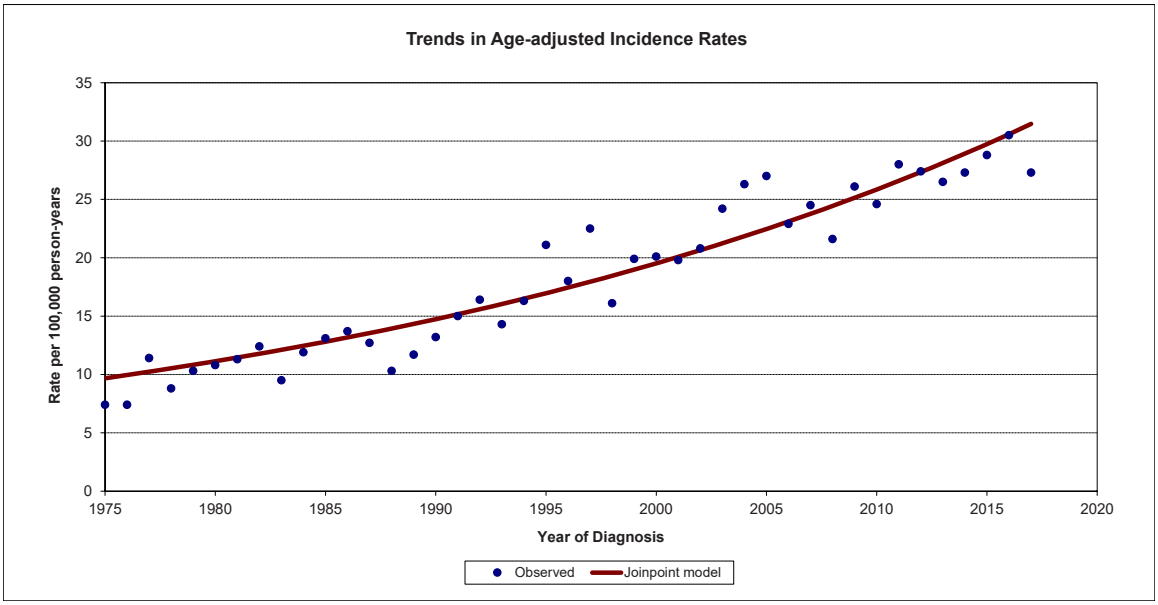
Liver cancer incidence increased at a rate of about 4.9% per year in Idaho from 1975 to 2017. The rate of increase was higher for males (5.5% per year) than for females (3.5% per year), and rates of liver cancers among males were about twice as high as among females.

Lung and Bronchus



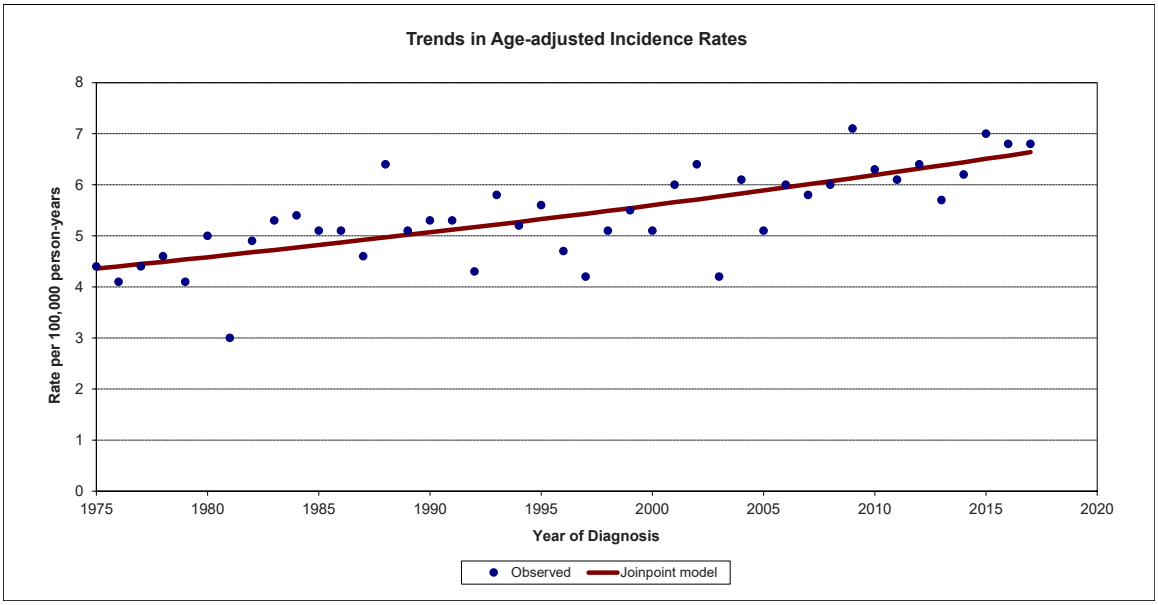
Lung cancer incidence increased at a rate of about 5.8% per year in Idaho from 1975 to 1981, after which the rate of increase lessened to about 0.7% per year until 2004. From 2004 to 2017, the rate has decreased about 1.6% per year. Lung cancer incidence trends over time were different for males and females. For males, lung cancer incidence increased at a rate of about 4.6% per year from 1975 to 1981, and then decreased by about 0.4% per year until 2004, after which it has decreased by about 2.5% per year. For females, lung cancer incidence increased at a rate of about 6.1% per year from 1975 to 1988, after which the rate of increase lessened to about 1.9% per year until 2005. From 2005 to 2017, the rate has decreased about 0.7% per year. Historically, lung cancer incidence rates have been two or more times higher among males as among females, but the gap is continuing to narrow, reflecting long-term trends in smoking prevalence.

Melanoma



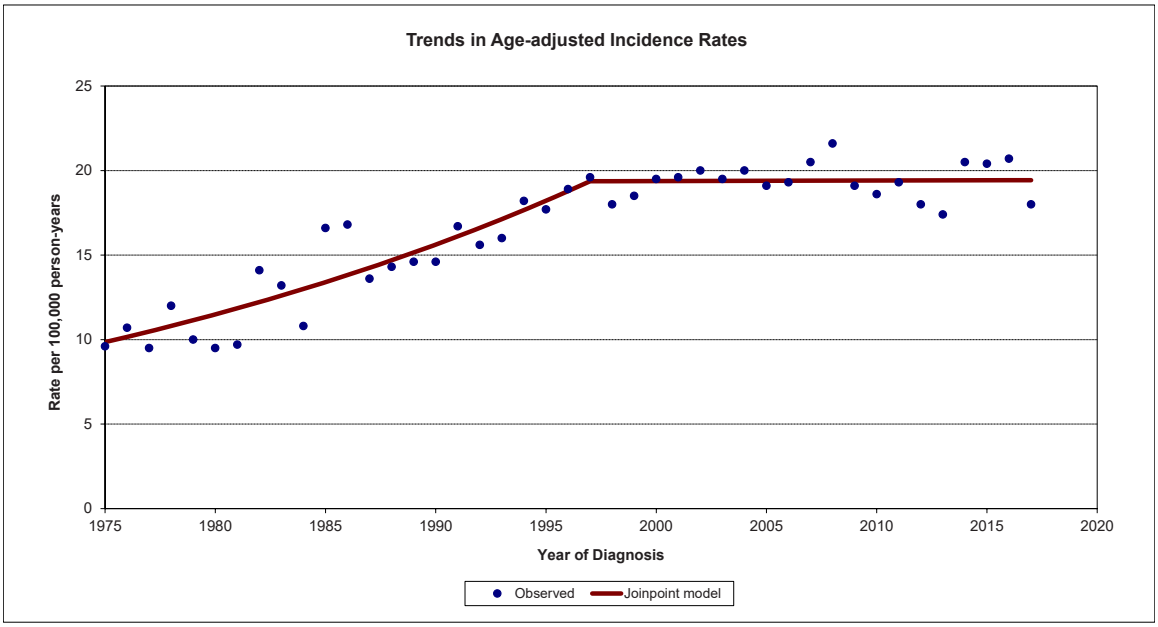
The incidence of melanoma of the skin increased at a rate of about 2.9% per year in Idaho from 1975 to 2017. Among males, the rate increased about 4.4% per year from 1975-2004, after which it has been stable. Among females, incidence rates of melanoma of the skin increased about 2.5% per year from 1975 to 2017. The incidence of in situ melanoma of the skin increased at a higher rate (6.0% per year from 1980 to 2017) than for the invasive cases depicted in the graph.

Myeloma



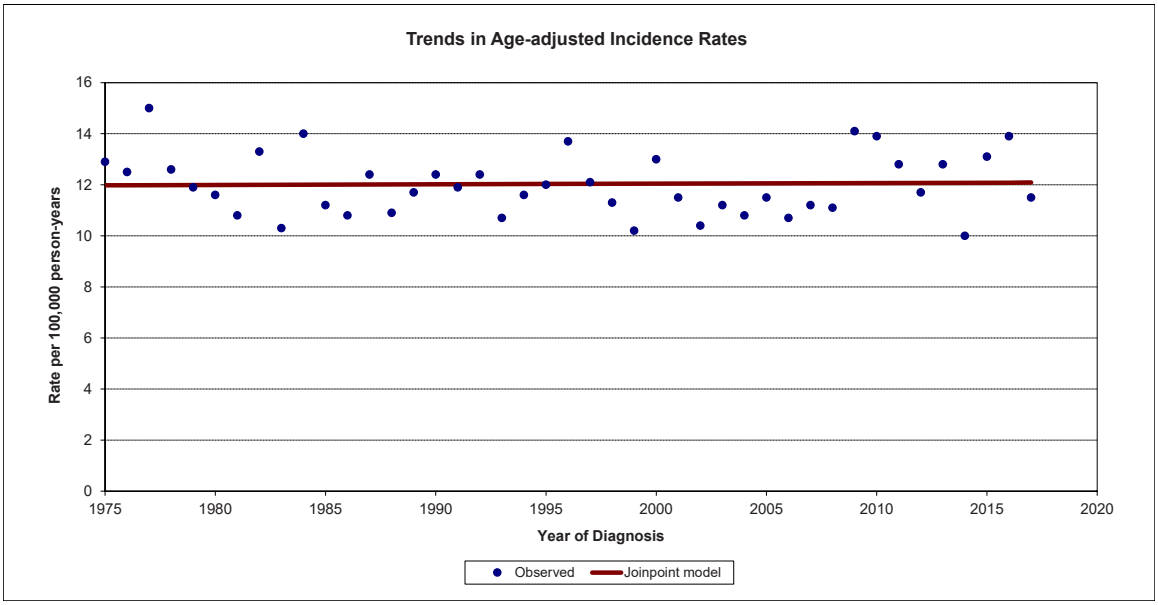
The incidence of myeloma increased at a rate of about 1.0% per year in Idaho from 1975 to 2017. The rate of increase was higher for males (1.3% per year) than for females (no significant trend), and rates of myeloma incidence among males were higher than among females.

Non-Hodgkin Lymphoma



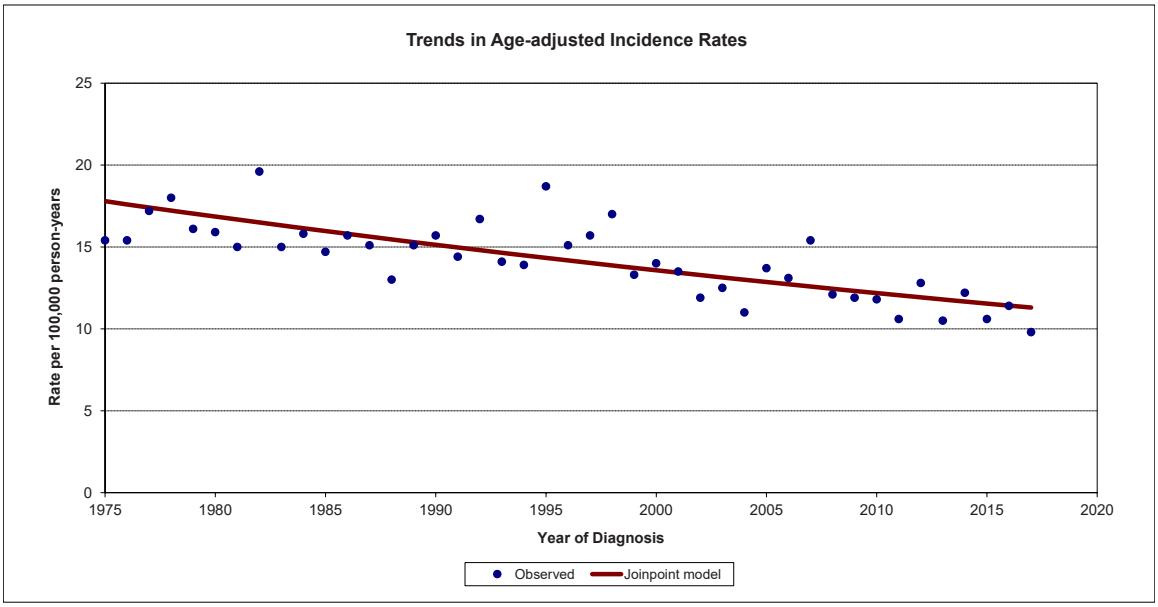
The incidence of non-Hodgkin lymphoma increased at a rate of about 3.1% per year in Idaho from 1975 to 1997, after which rates were stable. Non-Hodgkin lymphoma incidence trends over time were similar for males and females, but rates of non-Hodgkin lymphoma incidence among males were higher than among females.

Oral Cavity and Pharynx



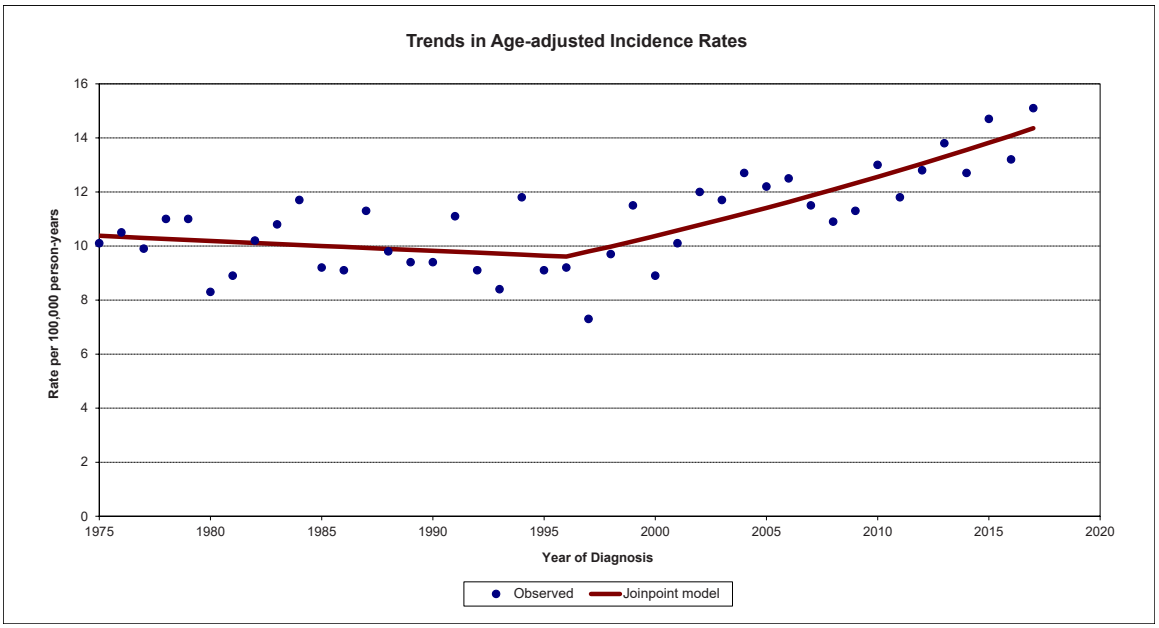
The incidence of cancers of the oral cavity and pharynx was stable in Idaho from 1975 to 2017. Among males, rates decreased about 0.3% per year. Among females, incidence of cancers of the oral cavity and pharynx increased at a rate of about 0.6% per year. Rates of cancers of the oral cavity and pharynx were about 3 times higher among males than among females. This latter result likely reflects differences in long-term prevalence trends for tobacco use and alcohol consumption between males and females.

Ovary



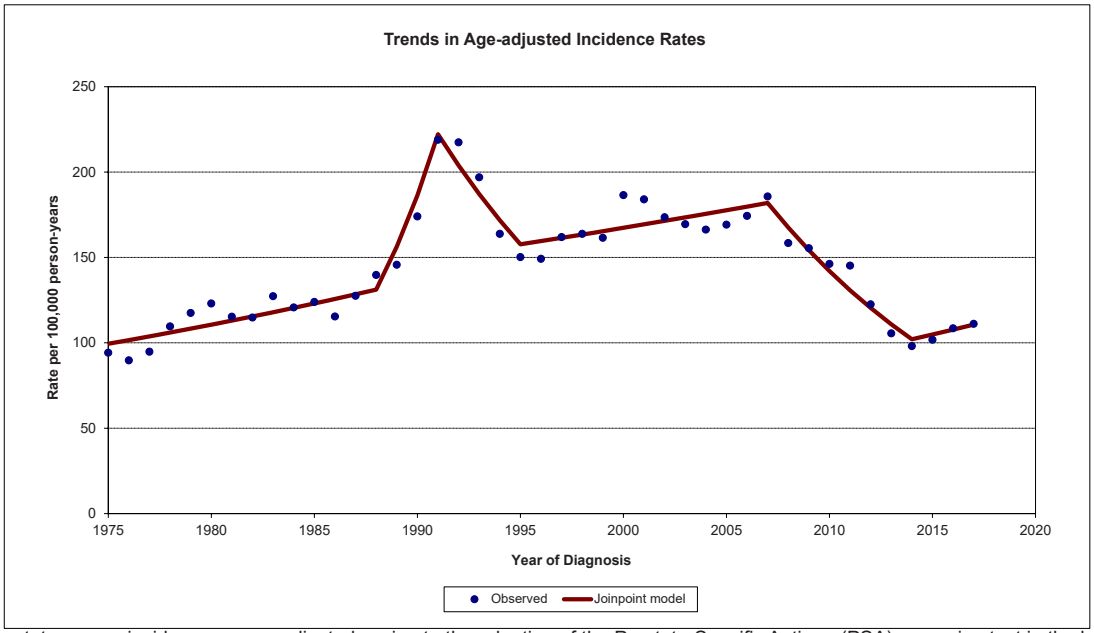
The incidence of ovarian cancer among females in Idaho decreased about 1.1% per year from 1975 to 2017. Part of the decrease in ovarian cancer incidence rates may have been due to a decrease in the use of hormone replacement therapy.

Pancreas



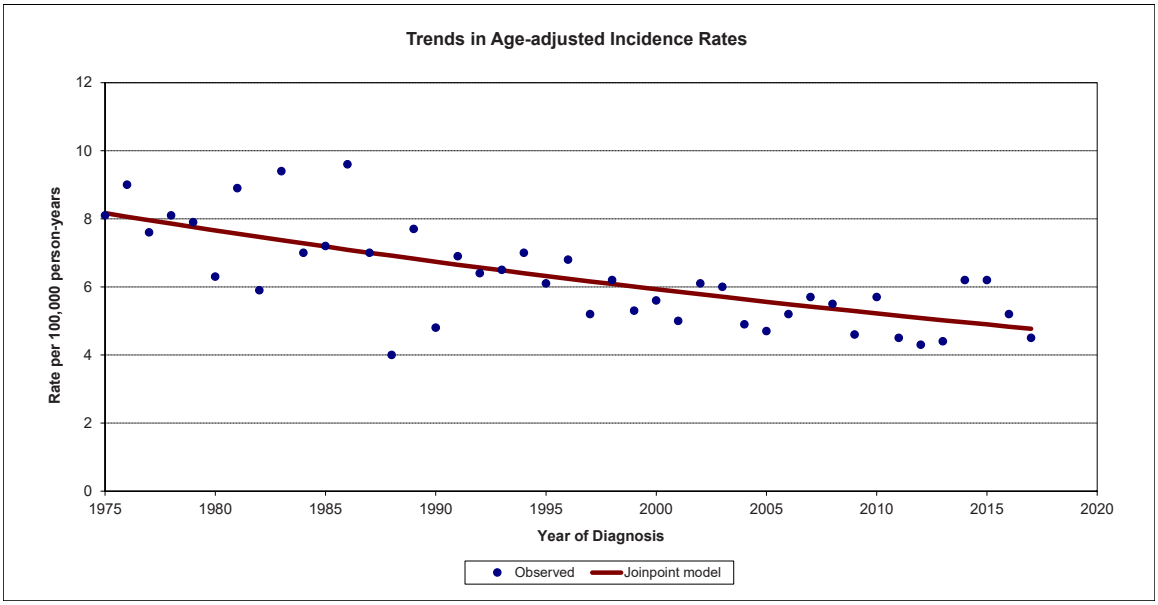
Pancreas cancer incidence decreased at a rate of 0.3% per year from 1975 to 1996 and increased at a rate of about 1.9% per year from 1996 to 2017. Pancreas cancer incidence trends over time were different for males and females. Among males, pancreas cancer incidence decreased about 1.2% per year from 1975-1997 and has increased about 2.1% per year since 1997. Among females, pancreas cancer increased about 1.3% per year from 1975-2017. Rates of pancreas cancer incidence among males were higher than among females.

Prostate



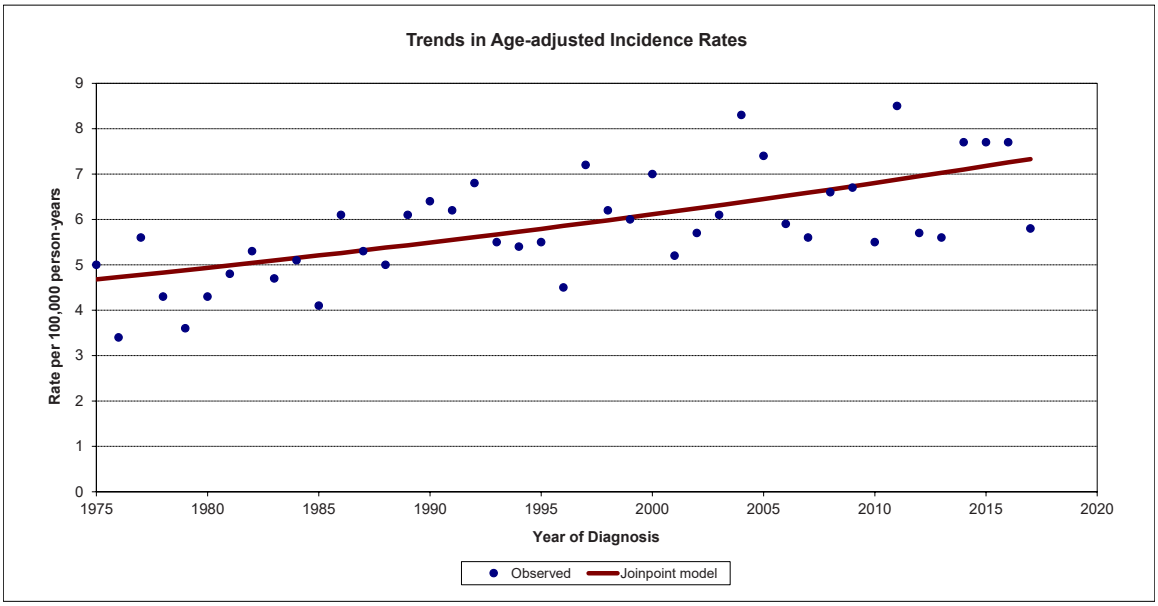
Trends in prostate cancer incidence are complicated, owing to the adoption of the Prostate-Specific Antigen (PSA) screening test in the late 1980s and early 1990s. From 1975 to 1988, prostate cancer incidence increased in Idaho at a rate of about 2.0% per year. From 1988 to 1991, prostate cancer incidence increased at a rate of about 20% per year. During 1991-1995, prostate cancer incidence rates decreased by about 7.6% per year. During 1995-2007, the rates increased about 1.6% per year. From 2007 to 2014, rates decreased about 7.7% per year, after which they have been stable. In May 2012, the United States Preventive Service Task Force issued a recommendation against PSA-based screening for prostate cancer in all age groups. Overall, there was an increasing trend in prostate cancer incidence from 1975 to 2007 punctuated by a large increase and concomitant decrease associated with widespread adoption of the PSA test, which likely detected many indolent cases. The prostate cancer incidence rates in 2014-2017 were similar to the rates at the beginning of the time series, before the adoption of the PSA test.

Stomach



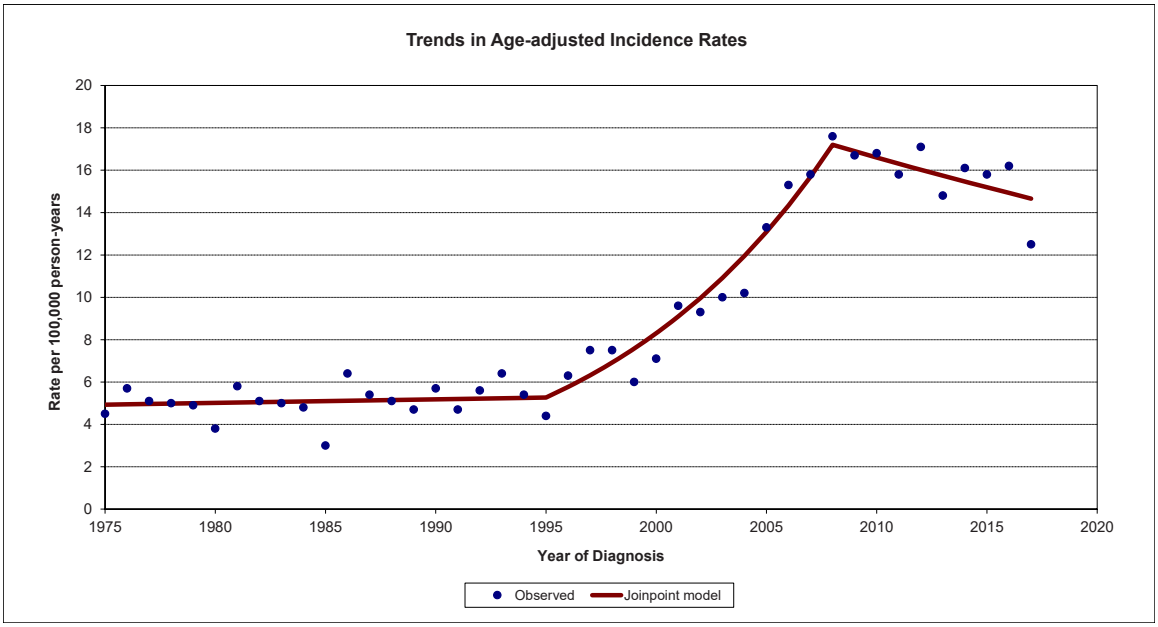
Stomach cancer incidence decreased at a rate of about 1.3% per year in Idaho from 1975 to 2017. Stomach cancer incidence trends over time were similar for males and females, although stomach cancer incidence rates among males were about twice as high as among females.

Testis



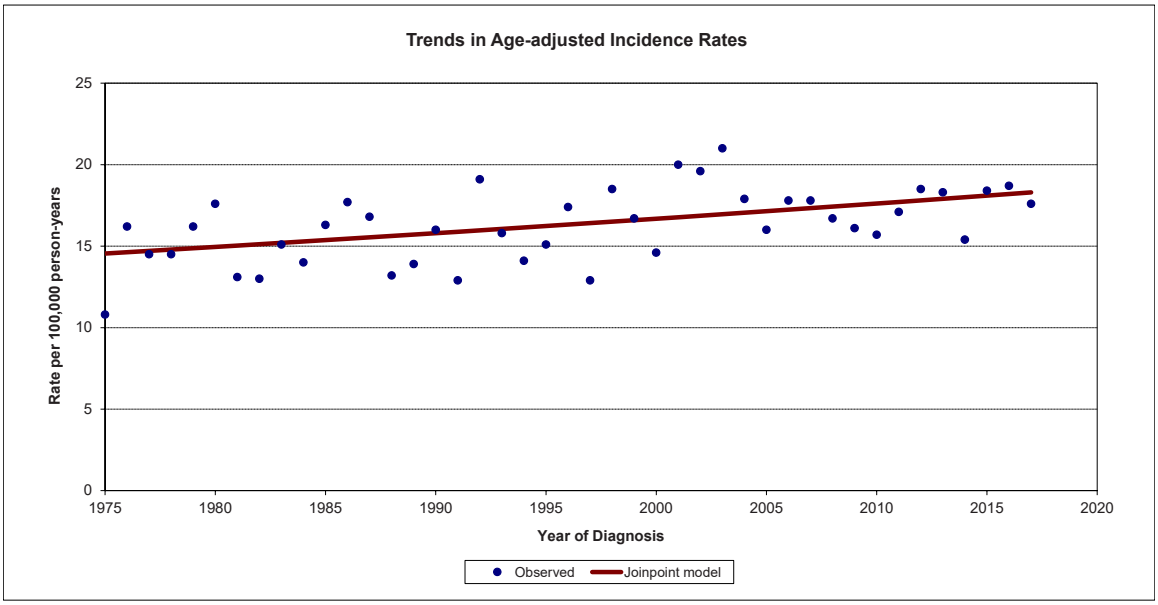
Testis cancer incidence increased at a rate of about 1.1% per year in Idaho from 1975 to 2017.

Thyroid



Thyroid cancer incidence was stable in Idaho from 1975 to 1995. From 1995-2008, thyroid cancer incidence increased at a rate of about 9.5% per year, and thyroid cancer incidence has been stable since 2008. Thyroid cancer incidence trends over time were different for males and females. For males, thyroid cancer incidence increased at a rate of about 4.0% per year from 1975 to 2017. Among females, the trend was similar to both sexes combined. Historically, thyroid cancer incidence rates have been about 3 times higher among females as among males.

Pediatric (age 0 to 19) Cancer



Pediatric cancer incidence increased at a rate of about 0.6% per year in Idaho from 1975 to 2017. Pediatric cancer incidence trends over time were similar for males and females although pediatric cancer incidence rates among males were slightly higher than among females. For more detailed information on pediatric cancer in Idaho, see: https://www.idcancer.org/pediatriccancer.

SECTION VIII

CANCER INCIDENCE BY RACE AND ETHNICITY
2013–2017

Idaho Cancer Incidence Rates by Race and Ethnicity, 2013–2017

Primary Site	All Races (includes Hispanic)		White Non-Hispanic		Hispanic (any race)		Black		American Indian/ Alaska Native		Asian or Pacific Islander	
	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases
All Sites	442.2	40,996	446.7	38,007	345.3	1,733	351.9	132	361.9	435	292.3	353
Bladder	21.5	2,015	21.9	1,917	12.6	46	^	^	8.0	10	13.8	14
Brain - malignant	6.8	610	7.1	564	4.1	26	^	^	^	^	^	^
Brain and other CNS - non-malignant	12.1	1,072	12.1	966	12.7	74	^	^	9.9	13	7.4	11
Breast	126.7	5,956	127.8	5,487	102.6	279	83.6	13	117.1	76	89.1	69
Breast - in situ	23.4	1,061	23.9	981	16.8	50	^	^	17.2	10	18.1	13
Cervix	6.5	259	6.2	215	8.9	32	^	^	^	^	^	^
Colorectal	35.3	3,235	35.6	2,992	29.1	146	32.9	12	39.4	44	20.8	24
Corpus Uteri	24.5	1,209	24.6	1,107	22.0	66	^	^	21.2	14	12.4	10
Esophagus	4.9	469	5.0	446	^	^	^	^	7.7	10	^	^
Hodgkin Lymphoma	2.4	199	2.5	174	2.7	20	^	^	^	^	^	^
Kidney and Renal Pelvis	16.7	1,554	16.4	1,408	18.3	93	^	^	23.8	26	11.9	14
Larynx	2.1	209	2.2	196	^	^	^	^	^	^	^	^
Leukemia	16.5	1,486	16.7	1,368	14.6	87	^	^	8.6	10	10.8	13
Liver and Bile Duct	7.3	733	6.7	621	13.4	62	^	^	21.7	28	11.6	14
Lung and Bronchus	49.5	4,657	50.0	4,401	37.0	139	39.2	14	58.7	58	35.1	37
Melanoma of the Skin	28.1	2,526	30.6	2,483	6.5	37	^	^	^	^	^	^
Myeloma	6.5	608	6.6	569	6.2	20	^	^	^	^	^	^
Non-Hodgkin Lymphoma	19.4	1,773	19.3	1,632	18.3	92	^	^	12.4	14	10.3	12
Oral Cavity and Pharynx	12.3	1,168	12.5	1,094	6.0	30	^	^	7.3	11	9.0	11
Ovary	10.9	519	10.9	473	11.2	31	^	^	^	^	^	^
Pancreas	13.9	1,304	14.1	1,229	11.8	49	^	^	7.3	11	10.0	11
Prostate	105.3	5,027	104.3	4,633	71.8	145	139.7	32	61.3	39	53.2	26
Stomach	5.3	488	5.1	437	6.6	35	^	^	^	^	9.8	10
Testis	6.9	267	7.3	228	4.7	30	^	^	^	^	^	^
Thyroid	15.1	1,256	15.0	1,095	14.4	108	^	^	11.0	15	13.9	21
Pediatric Age 0 to 19	18.2	435	19.1	354	13.4	58	^	^	^	^	21.6	10

Notes:
Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130) standard.
Rates and case counts include all invasive and bladder in situ cases. Statistics for non-malignant brain and other CNS, and breast in situ categories are not included in the all sites totals.
Rates and case counts for cancers of the breast, cervix, corpus uteri, and ovary are for females only, and rates and case counts for cancers of the prostate and testis are for males only.
Statistics for Black, American Indian/Alaska Native, and Asian or Pacific Islander include non-Hispanic and Hispanic ethnicity. All races category includes unknown race.
^ Statistic not displayed due to fewer than 10 cases.

SECTION IX

CANCER SURVIVAL
2010–2016

Actual (Crude) Measures of Cancer Prognosis at 5 Years After Diagnosis
Idaho Cases Diagnosed 2010–2016 Followed Through December 31, 2017

	Single or First Primary Cancers Only							All Primaries			
		Using Cause of Death			Using Expected Survival				Using Expected Survival		
Primary Site	N	Cancer Death	Other Death	Survival	Cancer Death	Other Death	Survival	N	Cancer Death	Other Death	Survival
All Sites	42,812	30.3	8.5	61.2	30.3	8.5	61.2	50,048	31.9	9.2	58.9
Brain & Other Nervous System	641	74.3	2.8	22.9	75.6	1.6	22.8	731	77.5	1.8	20.7
Breast	6,233	11.3	6.4	82.3	9.1	8.6	82.3	7,481	9.8	9.5	80.7
Cervix Uteri	332	30.1	2.2	67.7	30.3	1.9	67.8	351	30.2	2.1	67.7
Colon & Rectum	3,463	34.9	10.0	55.1	35.0	10.0	55.0	4,179	36.1	10.7	53.2
Corpus & Uterus, NOS	1,442	20.0	5.0	75.0	18.7	6.4	74.9	1,630	20.9	6.7	72.4
Esophagus	459	73.7	6.7	19.6	76.2	4.2	19.6	567	77.5	4.7	17.8
Hodgkin Lymphoma	247	7.9	2.8	89.3	7.9	2.8	89.3	261	11.1	2.9	86.0
Kidney & Renal Pelvis	1,487	23.0	10.0	67.0	24.6	8.5	66.9	1,864	25.9	9.6	64.5
Larynx	219	30.2	14.9	54.9	36.8	8.3	54.9	278	38.7	8.8	52.5
Leukemia	1,331	32.1	9.9	58.0	33.0	9.1	57.9	1,743	37.6	9.7	52.7
Liver & Intrahepatic Bile Duct	697	77.2	10.0	12.8	84.7	2.8	12.5	824	84.9	3.0	12.1
Lung & Bronchus	4,500	71.6	10.3	18.1	77.0	4.9	18.1	5,915	76.6	5.6	17.8
Melanoma of the Skin	2,477	10.2	7.5	82.3	8.1	9.7	82.2	3,106	9.5	11.3	79.2
Mesothelioma	102	88.4	4.9	6.7	88.8	4.5	6.7	140	86.3	5.2	8.5
Myeloma	578	42.5	13.0	44.5	46.1	9.4	44.5	743	48.8	10.1	41.1
Non-Hodgkin Lymphoma	1,751	27.7	8.7	63.6	26.9	9.5	63.6	2,248	29.4	10.4	60.2
Oral Cavity & Pharynx	1,200	24.7	9.8	65.5	26.4	8.2	65.4	1,516	28.7	9.4	61.9
Ovary	600	56.8	4.0	39.2	56.6	4.2	39.2	693	57.5	4.3	38.2
Pancreas	1,228	90.6	2.6	6.8	90.9	2.4	6.7	1,535	90.1	2.7	7.2
Prostate	6,465	8.2	8.7	83.1	3.9	13.1	83.0	7,165	5.0	13.5	81.5
Stomach	492	67.8	7.8	24.4	69.9	5.8	24.3	614	69.9	6.5	23.6
Testis	344	2.1	1.2	96.7	2.5	1.1	96.4	355	2.4	1.1	96.5
Thyroid	1,551	2.6	2.4	95.0	1.9	3.2	94.9	1,791	2.4	3.9	93.7
Urinary Bladder	1,936	18.3	15.4	66.3	18.5	15.3	66.2	2,627	21.4	16.7	61.9

Notes:

Actual (crude) measures of cancer survival include competing causes of death. Analysis includes all invasive and bladder in situ cases diagnosed among persons aged 15-99. See Technical Notes for more details.

N: Number of cases included in analysis.

^ Statistic not able to be calculated.

Net Measures of Cancer Survival at 5 Years After Diagnosis
Idaho Cases Diagnosed 2010–2016 Followed Through December 31, 2017

Primary Site	Single or First Primary Cancers Only					All Primaries		
	N	Cause Specific Survival (95% CI)		Relative Survival Ratio (95% CI)		N	Relative Survival Ratio (95% CI)	
All Sites	42,812	66.8	(66.3, 67.3)	67.3	(66.6, 67.9)	50,048	66.2	(65.7, 66.8)
Brain & Other Nervous System	641	24.1	(20.2, 28.3)	23.6	(19.7, 27.8)	731	26.9	(23.3, 30.7)
Breast	6,233	87.5	(86.3, 88.5)	90.8	(89.0, 92.4)	7,481	89.7	(88.1, 91.0)
Cervix Uteri	332	59.9	(52.8, 66.4)	59.4	(51.9, 66.2)	351	60.7	(53.8, 66.8)
Colon & Rectum	3,463	63.0	(61.0, 64.9)	62.8	(60.5, 65.0)	4,179	62.2	(60.2, 64.2)
Corpus & Uterus, NOS	1,442	74.7	(71.4, 77.7)	76.6	(72.1, 80.4)	1,630	74.4	(70.3, 78.1)
Esophagus	459	22.8	(18.4, 27.6)	22.0	(17.5, 26.9)	567	20.3	(16.3, 24.5)
Hodgkin Lymphoma	247	90.2	(85.4, 93.5)	89.3	(83.1, 93.4)	261	86.9	(81.5, 90.8)
Kidney & Renal Pelvis	1,487	73.7	(70.8, 76.4)	72.4	(68.5, 75.9)	1,864	71.5	(68.2, 74.6)
Larynx	219	***67.9***	***(60.5, 74.2)***	***62.1***	***(53.9, 69.3)***	278	***59.8***	***(51.6, 67.0)***
Leukemia	1,331	65.8	(62.9, 68.6)	64.7	(60.9, 68.1)	1,743	61.4	(58.2, 64.3)
Liver & Intrahepatic Bile Duct	697	***16.9***	***(13.0, 21.3)***	***13.8***	***(10.4, 17.7)***	824	***13.5***	***(10.4, 16.9)***
Lung & Bronchus	4,500	24.5	(22.7, 26.3)	22.1	(20.4, 24.0)	5,915	22.3	(20.7, 24.0)
Melanoma of the Skin	2,477	90.0	(88.5, 91.4)	91.5	(89.4, 93.2)	3,106	90.7	(88.9, 92.3)
Mesothelioma	102	***16.4***	***(8.6, 26.4)***	***16.8***	***(8.7, 27.0)***	140	***10.0***	***(4.4, 18.2)***
Myeloma	578	57.1	(52.1, 61.7)	54.5	(49.0, 59.7)	743	52.5	(47.6, 57.3)
Non-Hodgkin Lymphoma	1,751	70.7	(68.2, 72.9)	71.5	(68.4, 74.3)	2,248	70.4	(67.7, 72.9)
Oral Cavity & Pharynx	1,200	71.6	(68.2, 74.7)	70.2	(65.6, 74.3)	1,516	68.3	(64.4, 71.9)
Ovary	600	37.1	(32.7, 41.5)	36.6	(31.9, 41.3)	693	36.6	(32.3, 40.8)
Pancreas	1,228	8.7	(6.7, 11.0)	8.3	(6.4, 10.6)	1,535	9.4	(7.4, 11.6)
Prostate	6,465	89.5	(88.5, 90.5)	93.8	(92.3, 95.0)	7,165	92.9	(91.3, 94.2)
Stomach	492	30.3	(25.7, 35.0)	28.5	(23.6, 33.5)	614	28.5	(24.0, 33.2)
Testis	344	***95.4***	***(88.1, 98.2)***	***94.7***	***(87.3, 97.9)***	355	***95.4***	***(88.8, 98.1)***
Thyroid	1,551	95.1	(93.1, 96.5)	95.9	(93.4, 97.5)	1,791	96.1	(93.5, 97.7)
Urinary Bladder	1,936	81.8	(79.6, 83.7)	81.2	(78.1, 83.9)	2,627	78.8	(76.1, 81.2)

Notes:

Net measures of cancer survival exclude competing causes of death. Analysis includes all invasive and bladder in situ cases diagnosed among persons aged 15-99. Age standardized to the International Cancer Survival Standards. Statistics in bold italics could not be age standardized; unstandardized measure shown instead. See Technical Notes for more details.

N: Number of cases included in analysis; CI: Confidence Interval.

^ Statistic not able to be calculated.

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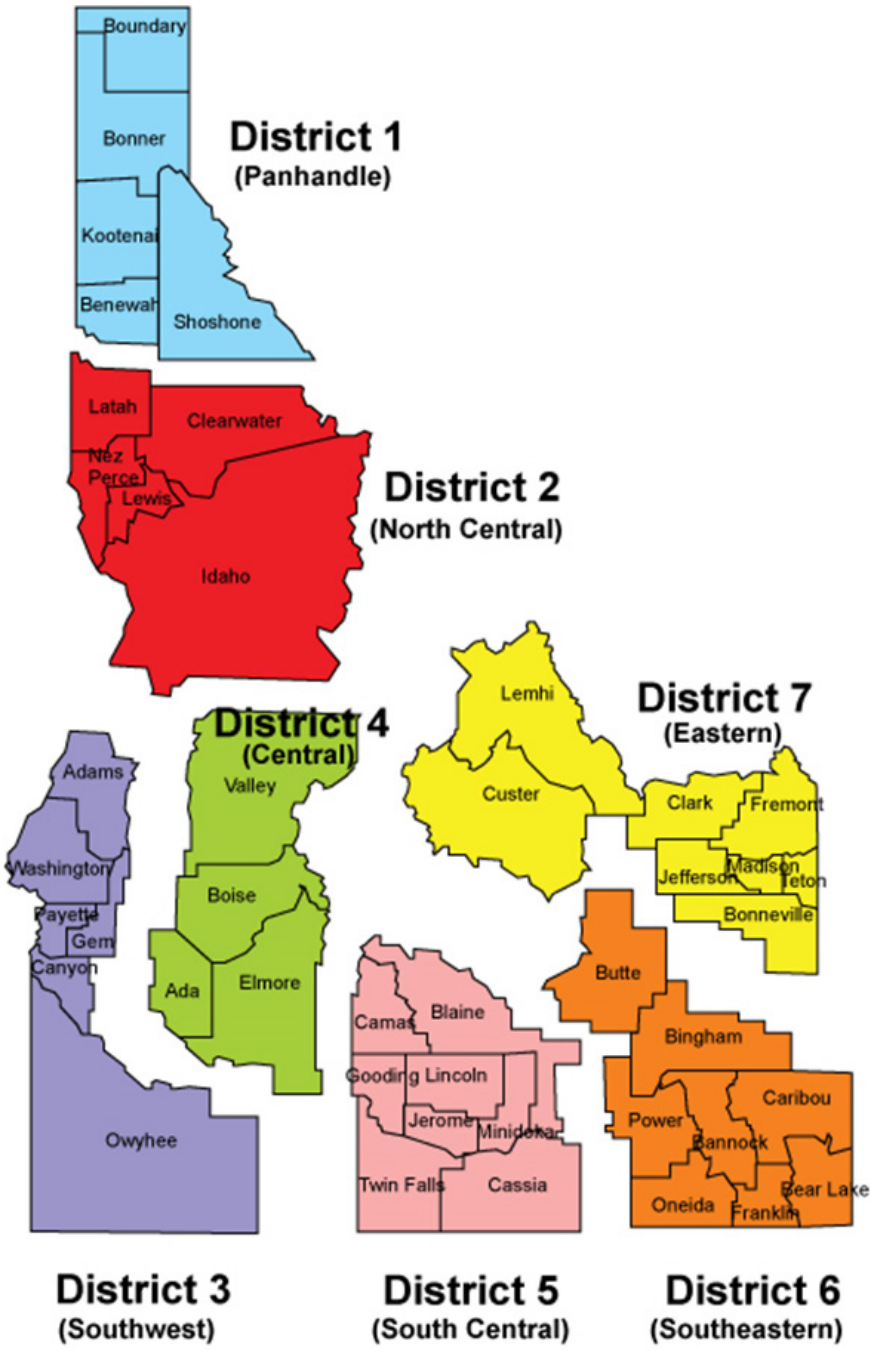
APPENDICES

APPENDIX A

Map of Idaho Public Health Districts and Counties



Source: http://www.healthandwelfare.idaho.gov/?TabId=97

APPENDIX B

2000 U.S. STANDARD POPULATION

Age Group	2000 US Standard Population (Census P25-1130)
0	3,794,901
10-14	20,056,779
15-19	19,819,518
20-24	18,257,225
25-29	17,722,067
30-34	19,511,370
35-39	22,179,956
40-44	22,479,229
45-49	19,805,793
50-54	17,224,359
55-59	13,307,234
60-64	10,654,272
65-69	9,409,940
70-74	8,725,574
75-79	7,414,559
80-84	4,900,234
85+	4,259,173
Total	274,633,642

Source: SEER Program, National Cancer Institute, 2019.[16]

APPENDIX C

2017 POPULATION BY HEALTH DISTRICT, GENDER, AND AGE GROUP

	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	STATE
Males								
< 5	6,969	3,047	11,293	15,341	7,399	6,445	9,311	58,927
5 to 9	7,301	3,089	11,965	16,857	8,053	7,023	9,036	62,619
10 to 14	7,786	3,096	12,185	18,414	8,262	7,208	9,247	65,727
15 to 19	7,276	4,081	12,461	17,643	7,105	7,090	8,530	62,576
20 to 24	6,397	5,979	13,036	16,265	6,152	5,594	10,152	59,552
25 to 29	6,963	4,089	11,174	18,538	6,368	5,777	8,259	59,042
30 to 34	6,810	3,193	9,987	18,335	6,417	5,671	6,970	56,093
35 to 39	6,971	3,045	9,917	18,442	6,535	5,667	7,304	56,789
40 to 44	6,436	2,780	9,251	16,530	5,825	4,993	6,135	51,061
45 to 49	6,963	2,921	9,290	16,966	5,413	4,449	5,506	50,650
50 to 54	7,235	2,979	8,749	15,381	5,685	4,326	5,522	49,153
55 to 59	8,360	3,539	9,071	15,789	5,988	5,217	5,994	52,908
60 to 64	8,521	3,641	8,930	14,345	5,689	5,078	5,580	50,611
65 to 69	8,018	3,506	8,042	12,413	4,791	4,224	4,769	44,630
70 to 74	6,182	2,561	6,243	9,258	3,755	3,169	3,537	34,081
75 to 79	4,169	1,810	4,113	5,453	2,627	2,106	2,282	22,133
80 to 84	2,354	1,210	2,529	3,218	1,613	1,306	1,484	13,446
85+	1,748	1,022	2,050	2,877	1,364	1,121	1,254	11,053
Total	116,459	55,588	160,286	252,065	99,041	86,464	110,872	861,051

	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	STATE
Females								
< 5	6,843	2,934	10,996	14,703	7,216	6,363	8,945	57,148
5 to 9	6,914	2,904	11,378	16,384	7,871	6,752	8,886	60,436
10 to 14	7,272	2,856	11,757	17,543	7,877	6,943	8,862	62,698
15 to 19	6,894	3,908	12,067	16,459	6,655	6,388	9,296	59,970
20 to 24	5,801	4,886	11,809	14,428	5,697	5,193	9,239	53,865
25 to 29	7,027	3,558	10,967	17,478	6,340	5,833	7,404	56,822
30 to 34	6,823	2,976	10,043	17,393	6,302	5,562	6,751	54,637
35 to 39	7,036	2,852	9,954	17,637	6,226	5,647	6,982	55,510
40 to 44	6,539	2,562	9,112	15,941	5,419	4,836	5,825	49,542
45 to 49	7,046	2,881	9,250	15,992	5,234	4,503	5,484	49,633
50 to 54	7,645	3,056	8,941	15,731	5,491	4,589	5,281	49,954
55 to 59	8,872	3,750	9,770	16,189	6,199	5,284	5,968	54,870
60 to 64	9,264	3,660	9,254	15,521	5,805	5,180	5,689	53,227
65 to 69	8,439	3,325	8,459	13,333	4,984	4,323	4,860	46,673
70 to 74	6,267	2,588	6,673	9,734	4,099	3,255	3,559	35,537
75 to 79	4,158	1,864	4,457	6,300	2,790	2,260	2,588	23,961
80 to 84	2,601	1,260	2,836	4,166	1,996	1,654	1,644	15,777
85+	2,837	1,609	3,357	4,736	2,170	1,722	1,878	17,593
Total	118,278	53,429	161,080	249,668	98,371	86,287	109,141	857,853

Total	234,737	109,017	321,366	501,733	197,412	172,751	220,013	1,718,904

Source: National Center for Health Statistics, 2019.