Annual Report of the Cancer Data Registry of Idaho

Cancer in Idaho – 2007

December 2009

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

IDAHO DEPARTMENT OF HEALTH & WELFARE

CANCER IN IDAHO - 2007

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Cancer Data Registry of Idaho

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PREFACE

“Cancer in Idaho - 2007," the thirty-first annual report of the Cancer Data Registry of Idaho (CDRI), contains data on cancer cases diagnosed during 2007 among Idaho residents. These data can be used by public health officials, hospital administrators, physicians, the Comprehensive Cancer Alliance for Idaho, and others to effectively plan services, prioritize health resource allocations, develop and measure prevention and intervention strategies, and identify high risk populations within the state of Idaho.

ACKNOWLEDGMENTS

The Idaho Hospital Association (IHA) contracts with, and receives funding from, the Idaho Department of Health and Welfare, Division of 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 and/or treated for cancer. Their cooperation in reporting timely, accurate, and complete cancer data is acknowledged and sincerely appreciated.

CDRI would also like to thank the Division of 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.

We acknowledge the Centers for Disease Control and Prevention for its support of CDRI under cooperative agreement 5U58DP000767-03. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease 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 reside in the state of Idaho or who are diagnosed and/or treated for cancer in the state of Idaho. The goals of the CDRI are to:

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

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 a portion (less than one percent) of the cigarette tax to 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.

Collection of Data

Each Idaho hospital, outpatient surgery center, and pathology laboratory is responsible for the complete ascertainment 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 and/or treatment in the above sources),
- death certificates, and
- other state cancer registries reporting an Idaho resident with cancer (as negotiated).

Incomplete case reporting by US Veterans Affairs (VA) hospitals since late 2004 may have resulted in 40,000 to 70,000 cases being missed nationwide each year.[1] The impact of incomplete case reporting of VA cases on Idaho cancer statistics is unknown, but acknowledged.

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.*[2] Stage of disease variables were coded using SEER's *Summary Staging Manual 2000*, the *AJCC Manual for Staging of Cancer, 6th edition*, and the *Collaborative Staging Manual, Version 1.04.*[3,4,5] SEER Summary Stage was derived from Collaborative Staging variables. 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.[6-8] Beginning with cases diagnosed in 2007, new rules for coding multiple primaries and histologies were applied.[9] These rules standardize the process of determining the number of primary cases and provide guidance for identifying histologic lineages.

Reportable Cases

All in-situ or 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.

Also reportable are benign tumors of the brain, meninges, pineal gland, and pituitary gland.

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 EDITS software which has standard edits using algorithms that check the content of data fields against an encoded set of acceptable possible contents 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. In addition to computerized edits, cases are manually reviewed for errors.

Records are also routinely checked for duplicate entries. Duplicate case checking is performed both manually and electronically using several methodologies.

CDRI has met NPCR program standards and is recognized as a "gold standard registry" for 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."*

Executive Summary

Data Presentation

This report is comprised of seven 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, 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 the National Cancer Institute's SEER program and *United States Cancer Statistics* (USCS)[10] are provided. Only registries whose data meet specified data quality criteria are included in USCS statistics. For the latest USCS report (2005 incidence), all states but Maryland and Wisconsin are included, representing approximately 96% of the U.S. population. Section II depicts incidence data by site and gender for invasive and in-situ cases. Section III depicts mortality data by site and gender. Section IV contains a table of age-specific cancer rates, per 100,000, by site and gender. Section V contains a table of observed versus expected numbers of cancer cases by health district. For more detailed statistics by county, see CDRI's *County Cancer Profiles* at www.idcancer.org. Section VI contains tables of age-specific risks of developing and dying from cancer for males and females. Section VII shows cancer incidence trends in Idaho for the period 1975-2007.

Descriptive Summary by Gender and Race and Ethnicity

The data presented in this report cover cancer cases diagnosed among Idaho residents between January 1, 2007, and December 31, 2007. In this time frame, there were 7,279 cases of in-situ and invasive cancer diagnosed among Idaho residents (3,774 among males and 3,505 among females). By race and ethnicity, there were 6,781 cases among non-Hispanic whites, 218 among Hispanic whites, 8 cases among Blacks, 46 cases among Native Americans, and 38 cases among Asians/Pacific Islanders. One hundred eighty-eight cases were coded as other or missing race. The number of cancer cases treated in outpatient settings and reported only by pathology laboratories has increased over the last several years. CDRI has conducted matches with the Indian Health Service and Northwest Portland Area Indian Health Board to improve the accuracy of race information collected on Native Americans, and uses the NAACCR Hispanic Identification Algorithm to identify Hispanics by birthplace/race/surname. For more detailed statistics by race and ethnicity, see *Cancer in Idaho by Race and Ethnicity: 1990-2001*.[11]

Trends

There was a 3.1% increase in the age-adjusted cancer incidence rates as published in the 2006 and 2007 annual reports. There was a notable decrease in cervical cancer incidence from 2006 to 2007, and a notable increase in ovarian cancer incidence. See Section VII for more detailed long term trends in cancer incidence.

Population Description

The population of the state of Idaho on July 1, 2007, was estimated to be 1,496,145 (752,644 males and 743,501 females). Population estimates were obtained from the National Center for Health Statistics.[12] Idaho is comprised of 44 counties 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	103,658	104,427
District 2	Clearwater, Latah, Lewis, Idaho, Nez Perce	51,870	49,795
District 3	Adams, Canyon, Gem, Owyhee, Payette, Washington	121,106	121,099
District 4	Ada, Boise, Elmore, Valley	212,556	205,933
District 5	Blaine, Camas, Cassia, Gooding, Jerome, Lincoln, Minidoka, Twin Falls	87,461	85,974
District 6	Bannock, Bear Lake, Bingham, Butte, Caribou, Franklin, Oneida, Power	81,046	81,575
District 7	Bonneville, Clark, Custer, Fremont, Jefferson, Lemhi, Madison, Teton	94,947	94,698

SUMMARY MEASURES OF CANCER BURDEN IN IDAHO - 2007

Primary Site	Incident Cases	Deaths	Median Age at Diagnosis	Median Age at Death	Estimated Prevalence Count	Total Number of YPLL Before Age 75	Average Number of YPLL per Death, Persons Aged Less than 75 Years	% Change Incidence Rate 2006 to 2007
All Sites	6,823	2,384	66.0	71.7	43,490	16,290	12.4	3.1%
Bladder	289	68	73.0	78.5	1,918	204	10.7	2.9%
Brain	104	70	57.5	59.3	402	1,149	19.8	13.0%
Breast	962	168	62.0	70.3	9,438	1,354	13.7	1.3%
Cervix	35	17	52.0	51.7	616	396	24.8	-37.4%
Colorectal	591	219	70.0	72.8	3,634	1,386	12.7	3.6%
Corpus Uteri	186	20	63.5	71.0	1,852	129	9.9	14.4%
Esophagus	72	63	64.0	69.7	100	493	12.0	7.5%
Hodgkin Lymphoma	39	6	39.0	54.0	628	130	25.9	-2.8%
Kidney	210	57	65.0	70.6	1095	423	12.4	10.8%
Larynx	46	18	65.0	63.1	299	223	13.9	3.0%
Leukemia	208	100	67.0	70.2	1053	887	16.7	-4.0%
Liver and Bile Duct	58	52	65.0	65.6	54	570	15.8	-4.3%
Lung and Bronchus	792	595	70.0	72.2	1,062	3,331	9.5	2.1%
Melanoma of Skin	341	43	57.0	68.0	3,083	424	16.3	7.4%
Myeloma	80	45	68.5	72.6	242	274	10.9	-2.8%
Non-Hodgkin Lymphoma	290	98	67.5	73.8	1,687	512	10.9	7.3%
Oral Cavity and Pharynx	165	32	63.0	68.1	1,089	309	15.5	6.5%
Ovary	119	73	63.0	70.3	647	554	12.0	21.3%
Pancreas	166	152	68.5	71.8	94	973	11.9	-2.6%
Prostate	1,176	157	68.0	80.3	9,396	276	6.9	3.8%
Stomach	76	45	72.5	73.8	173	243	9.7	14.1%
Testis	41	-	32.0	-	807	-	-	-6.9%
Thyroid	233	6	51.0	70.3	1,942	44	11.0	6.2%

Notes:

Incident cases include all invasive and bladder in situ cases newly diagnosed among Idaho residents in 2007.

Cancer prevalence is the number of people alive today who have been diagnosed with cancer. This includes individuals who were newly diagnosed, are in active treatment, have completed active treatment, and those living with progressive symptoms of their disease. Limited-duration prevalence was estimated from long-term incidence and survival rates from 1970 to 2007 but underestimates complete prevalence due to an unknown number of live cases diagnosed prior to 1970.

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).

Technical Notes

Age-adjusted Incidence Rates

Age-adjusted incidence rates published within this report were adjusted using the direct method and standardized to the age distribution of the 2000 U.S. population (see Appendix B for the 2000 U.S. standard population). 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.

The computation of rates 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 (see Appendix C).[12]

In conformity with NPCR and the National Cancer Institute's Surveillance, Epidemiology, and End Results (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 2007 (7,279), a total of 6,823 cases (6,656 invasive and 167 bladder in-situ) were used for calculating age-adjusted incidence rates. Of the 6,823 cases, 3,623 occurred among males and 3,200 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 were not included in the observed numbers of cases. Statistically significant differences between observed and expected cases (standardized incidence ratios) were marked (+) for $p <= 0.05$ and (*) for $p <= 0.01$. Statistical significance does not necessarily imply that concern is warranted, since differences can occur as a result of multiple factors.

Risk and Associated Factors

The "risk and associated factors" subsections in Section I were developed from extracts of *Cancer Epidemiology and Prevention*, the American Cancer Society's *Clinical Oncology*, and the *U.S. Department of Health and Human Services 11th Report on Carcinogens*.[13-15] Socio-economic status is abbreviated as SES in Section I text.

Mean/Median/Mode

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.

Mode is the value which occurs most frequently in a group of observed values.

Confidence Intervals

An estimated range of values within which the true population value lies with given probability is the confidence interval.

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 site during their lifetime, the number of incident cancer cases is greater than the number of persons who are diagnosed with cancer.

Limitations to Data Interpretation and Comparison

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

Rate comparisons: Age-adjusted incidence rates and age-specific rates based on small numbers of cases (fewer than 10 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 without consideration of these factors may be misleading or inaccurate.

Racial misclassification: Many source documents used to report cancer do not specify race of the patient, or misclassify race. For more detailed statistics by race and ethnicity, see *Cancer in Idaho by Race and Ethnicity: 1990-2001*.[11]

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 the National Cancer Institute's SEER Program, the Center for Disease Control and Prevention's National Program of Cancer Registries (NPCR), and are adopted by NAACCR.[6,7] Most neoplasms are grouped by the organ where they occur. Neoplasms of the lymphatic, hematopoietic, and reticuloendothelial systems are grouped by their histologies (leukemias, lymphomas, etc.), and not by the anatomic site where they occurred. Melanoma of the skin is a combination of both anatomic site and histologic type. See Appendix A for groupings of codes.

SEER

Part of the National Cancer Institute, the Surveillance, Epidemiology, and End Results (SEER) program consists of several population-based cancer registries throughout the U.S. SEER cancer statistics are designed to be representative of the U.S. population, and are included for reference in Section I of this report. SEER rates included data from 17 registries and were calculated using SEER*Stat.[16]

USCS

United States Cancer Statistics (USCS) includes data from SEER and NPCR registries whose data meet specified data quality criteria.[10] For the latest USCS report (2005 incidence data), all states besides Maryland and Wisconsin are included, representing approximately 96% of the U.S. population.

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, and/or lymph nodes),
- distant (metastasis to tissues or lymph nodes remote from the primary site), or
- unstaged.

Limited-Duration Prevalence

Limited-duration prevalence represents the number of people alive on a certain day who had a diagnosis of the disease within some past number of years. SEER*Stat's prevalence calculations use the counting method to estimate prevalence from incidence and follow-up data. The counting method estimates prevalence by counting the number of persons who are known to be alive at a specific calendar time and adjusting for those lost to follow-up.

Risks of Developing and Dying from Cancer

Cancer incidence and mortality risks were estimated using DEVCAN Version 6.4.1 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 2003-2007. The estimates generated are similar to estimates derived using incidence data from the Surveillance, Epidemiology, and End Results (SEER) Program of the National Cancer Institute, 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. DEVCAN uses a standard multiple decrement life table.

Trend Analyses

Joinpoint Version 3.3.1 software was used to model trends in age-adjusted cancer incidence rates.[18] For each joinpoint time segment, the estimated annual percent change (EAPC) was calculated by fitting a least squares regression line to the natural logarithm of the rates using calendar year as a covariate. Heteroscedastic errors in annual rates were incorporated into the models based on the standard errors for the rates by primary site category and year. The software used a grid search to find the maximum likelihood estimates of the joinpoints for multiple models (0 to 3 joinpoints) per primary site category and sex. Model selection was performed using Monte Carlo methods.

SECTION I

2007 SUMMARY ON ALL SITES COMBINED
AND
23 MOST COMMON SITES

ALL SITES

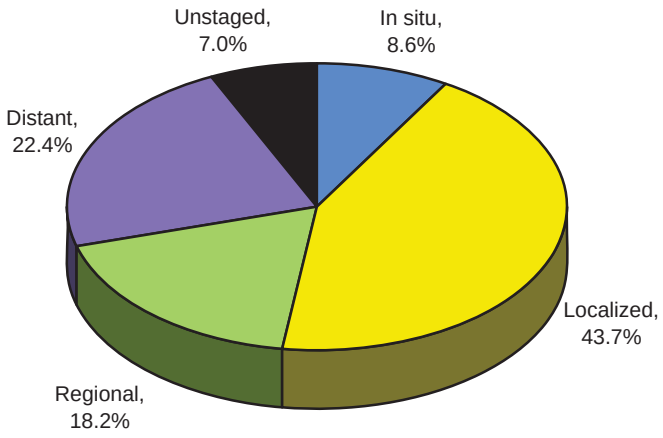
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	463.1	524.4	415.2
# of new invasive cases	6,656	3,492	3,164
# of new in-situ cases	623	282	341
# of deaths	2,384	1,229	1,155

Total Cases by County

Ada	1,744	Cassia	75	Lewis	49
Adams	21	Clark	7	Lincoln	22
Bannock	296	Clearwater	81	Madison	67
Bear Lake	29	Custer	26	Minidoka	86
Benewah	67	Elmore	109	Nez Perce	260
Bingham	173	Franklin	40	Oneida	21
Blaine	92	Fremont	54	Owyhee	49
Boise	27	Gem	110	Payette	121
Bonner	234	Gooding	97	Power	21
Bonneville	390	Idaho	81	Shoshone	99
Boundary	65	Jefferson	75	Teton	24
Butte	10	Jerome	112	Twin Falls	428
Camas	5	Kootenai	749	Valley	47
Canyon	821	Latah	132	Washington	74
Caribou	31	Lemhi	47		

Stage at Diagnosis - All Sites



Risk and Associated Factors

Age Rates usually increase steadily with age. Most cases occur among adults in mid-life or older.

Gender Males have higher incidence rates than females for most cancer types.

Race & SES Rates are higher for African Americans than for Caucasians and other races. Rates are generally higher among lower income groups.

Occupation Risk for cancer is greater with some kinds of workplace exposures, such as some chemicals, asbestos, and radiation.

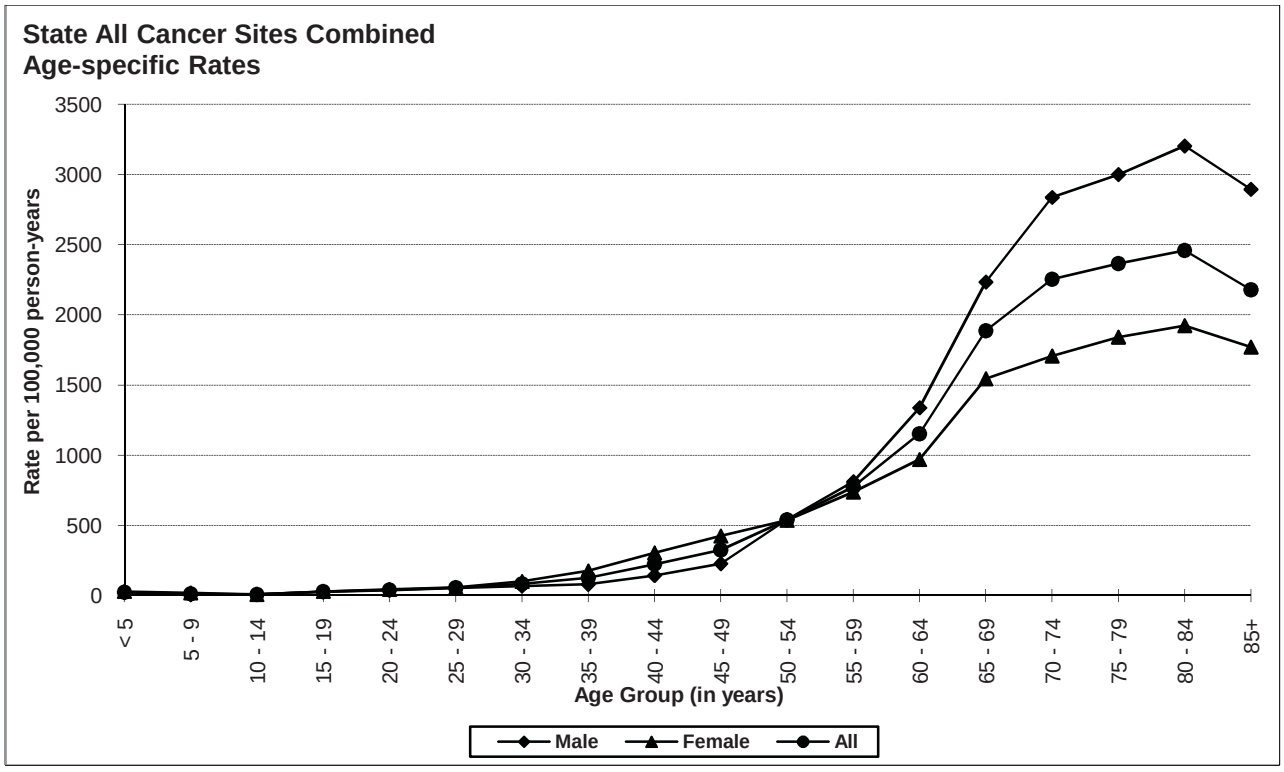
Diet Diets that are low in fresh fruits and vegetables have been associated with increased incidence of several cancers.

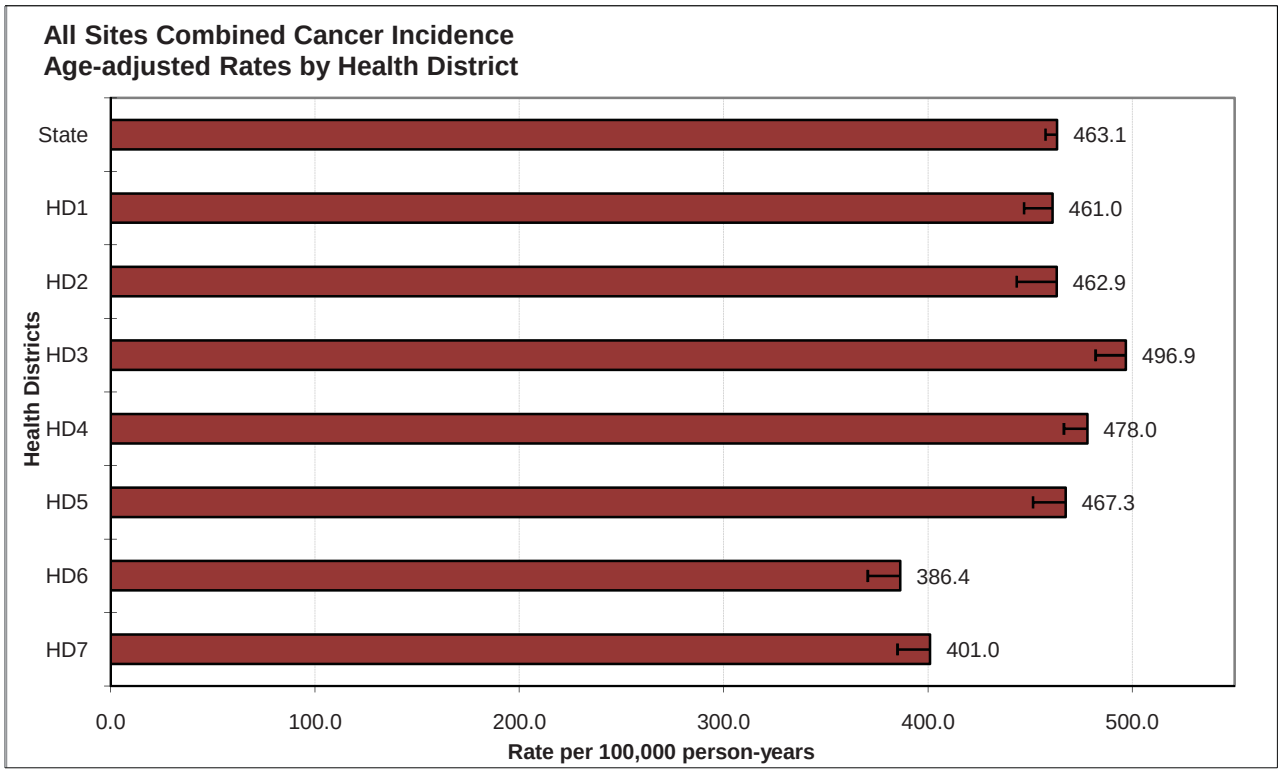
Other Tobacco use is the single most important risk factor for cancer incidence and mortality. Most cancers manifest a tendency to aggregate in families – close relatives of a cancer patient can be considered to have increased risk of that neoplasm, but not all forms of cancer. Excess risk is usually 2-3 times baseline, but in some (rare) families may be hundreds-fold.

Special Notes

Mean age-adjusted incidence rate across health districts:	450.5
95% confidence interval on the mean age-adjusted incidence rate:	420.2- 480.8
Median age-adjusted incidence rate of health districts:	462.9
Range of age-adjusted incidence rate for health districts:	386.4- 496.9
SEER 17 rate (2006, all races):	450.5
USCS rate (2005, all races):	457.5

The incidence rates for all cancers combined were similar for males and females in Idaho until approximately age 55-59, after which rates for males rose dramatically. The highest rates for both males and females were observed in age groups after age 70, peaking in the age group 80-84 for both males and females. Health District 3 had statistically significantly more cases of cancer than expected based upon rates for the remainder of Idaho, and Health Districts 6 and 7 had statistically significantly fewer cases than expected.


State All Cancer Sites Combined
Age-specific Rates
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
463.1
461.0
462.9
496.9
478.0
467.3
386.4
401.0
0.0
100.0
200.0
300.0
400.0
500.0
Rate per 100,000 person-years

BLADDER

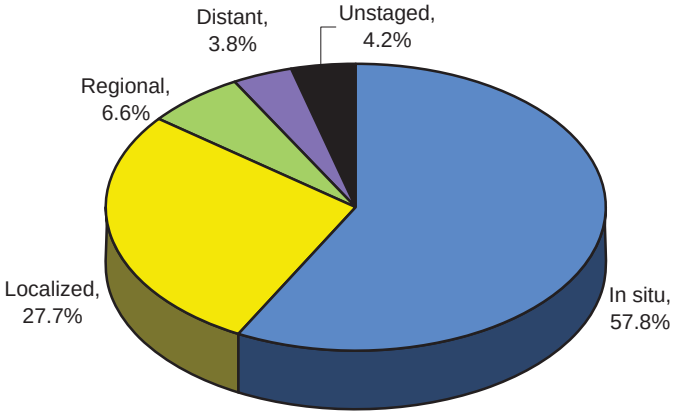
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	20.1	34.1	8.2
# of new invasive cases	122	93	29
# of new in-situ cases	167	131	36
# of deaths	68	48	20

Total Cases by County

Ada	50	Cassia	-	Lewis	4
Adams	1	Clark	1	Lincoln	-
Bannock	9	Clearwater	4	Madison	1
Bear Lake	1	Custer	1	Minidoka	1
Benewah	4	Elmore	3	Nez Perce	17
Bingham	5	Franklin	-	Oneida	1
Blaine	5	Fremont	1	Owyhee	2
Boise	2	Gem	6	Payette	3
Bonner	16	Gooding	2	Power	1
Bonneville	26	Idaho	1	Shoshone	7
Boundary	6	Jefferson	4	Teton	-
Butte	1	Jerome	4	Twin Falls	18
Camas	-	Kootenai	41	Valley	1
Canyon	25	Latah	6	Washington	3
Caribou	1	Lemhi	-		

Stage at Diagnosis - Bladder



Risk and Associated Factors

Age Rates usually increase steadily with age.

Gender Males have substantially higher rates than females.

Race Incidence rates are higher in Caucasians.

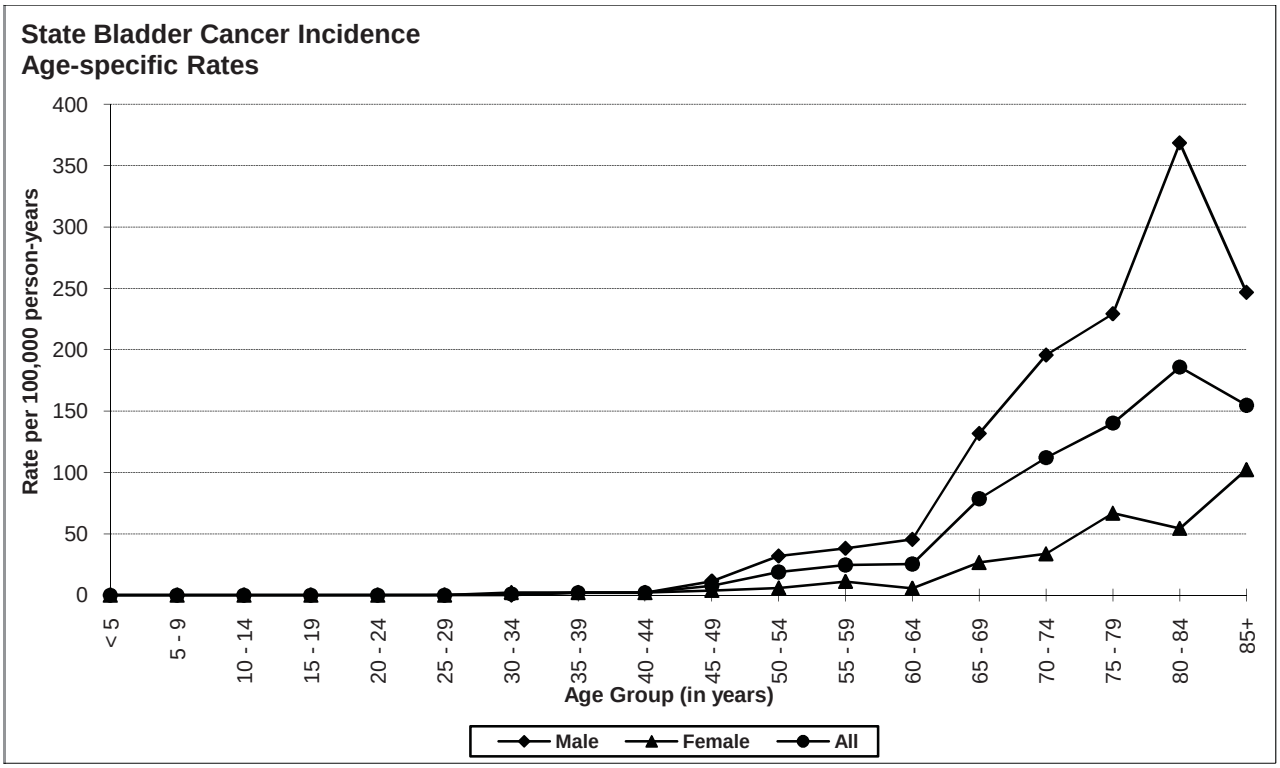
Occupation Truck drivers, likely via exposure to motor exhaust, are at increased risk. Occupational exposures, including manufacturers of certain dyes, painters, and aluminum, rubber, cable, and leather workers, have been shown to increase risk of bladder cancer. Exposure to permanent hair dyes may increase risk.

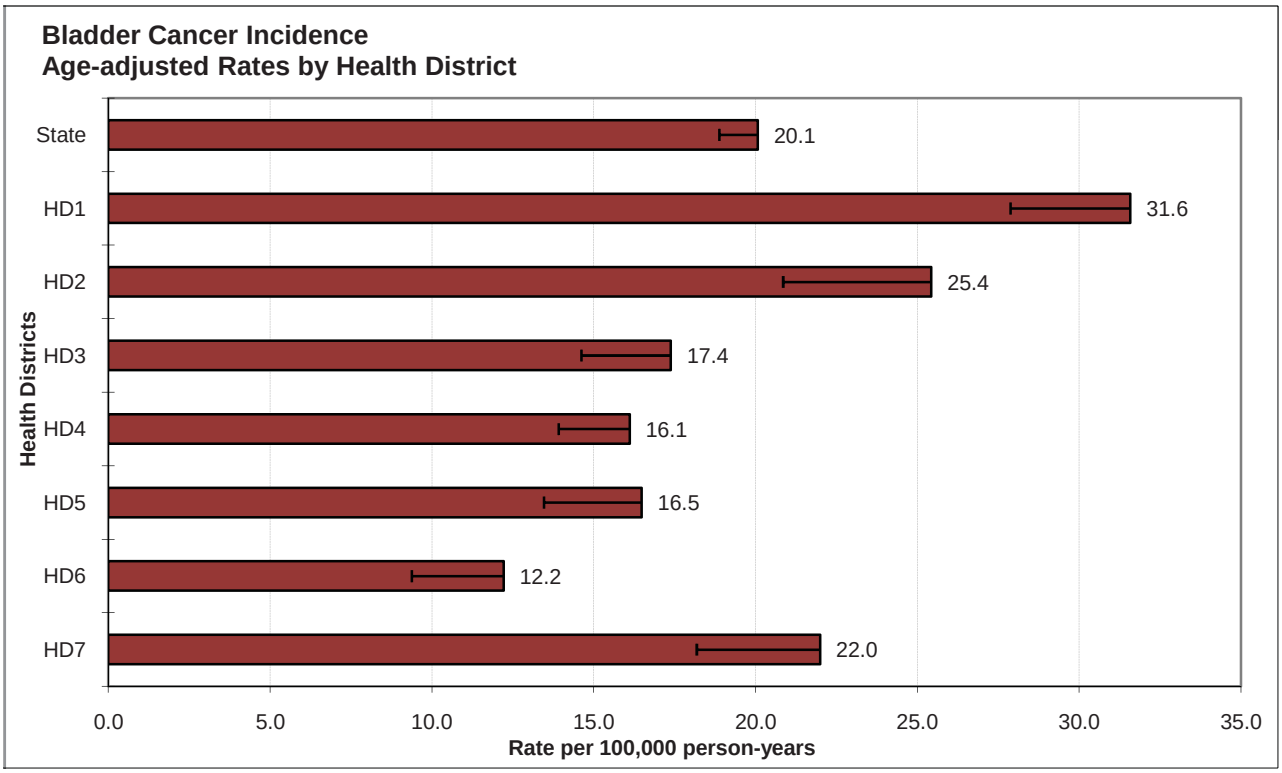
Other Tobacco consumption has been associated with a 2- to 5-fold higher incidence of bladder cancer and is attributable for a greater number of cases than other risk factors. Cyclophosphamide, a chemotherapeutic agent, and 4-amino-diphenyl are known human bladder carcinogens. Schistosoma hematobium may cause bladder tumors. Nitrate and arsenic in drinking water, and chlorinated surface water as a source for drinking water, have each been shown to increase the risk of bladder cancer.

Special Notes

Mean age-adjusted incidence rate across health districts:	20.2	
95% confidence interval on the mean age-adjusted incidence rate:	15.3-	25.1
Median age-adjusted incidence rate of health districts:	17.4	
Range of age-adjusted incidence rate for health districts:	12.2-	31.6
SEER 17 rate (2006, all races):	20.3	
USCS rate (2005, all races):	21.1	

There were few cases of bladder cancer among persons aged less than 50 years. Bladder cancer incidence rates increased with age, peaking in the age group 80-84 for males and 85+ for females. Health District 1 had statistically significantly more cases of cancer than expected based upon rates for the remainder of Idaho, and Health Districts 4 and 6 had statistically significantly fewer cases than expected.


State Bladder Cancer Incidence
Age-specific Rates
Rate per 100,000 person-years
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
20.1
31.6
25.4
17.4
16.1
16.5
12.2
22.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Rate per 100,000 person-years

BRAIN

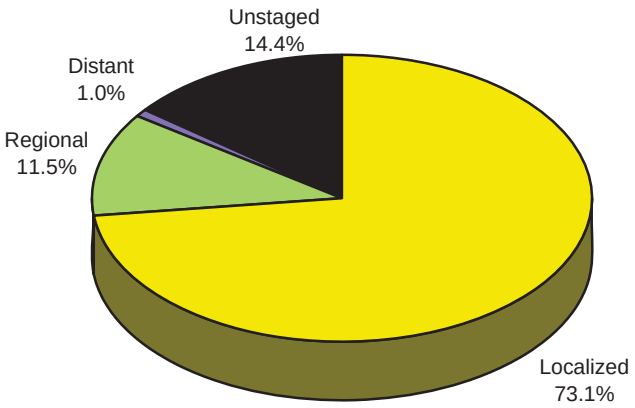
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	7.0	6.8	7.1
# of new invasive cases	104	52	52
# of new in-situ cases	0	0	0
# of deaths	70	30	40

Total Cases by County

Ada	21	Cassia	-	Lewis	1
Adams	-	Clark	-	Lincoln	-
Bannock	2	Clearwater	1	Madison	3
Bear Lake	1	Custer	-	Minidoka	-
Benewah	-	Elmore	2	Nez Perce	5
Bingham	5	Franklin	1	Oneida	1
Blaine	2	Fremont	2	Owyhee	-
Boise	-	Gem	-	Payette	2
Bonner	4	Gooding	-	Power	1
Bonneville	7	Idaho	1	Shoshone	2
Boundary	3	Jefferson	3	Teton	-
Butte	-	Jerome	3	Twin Falls	7
Camas	-	Kootenai	13	Valley	1
Canyon	6	Latah	-	Washington	2
Caribou	2	Lemhi	-		

Stage at Diagnosis - Brain



Risk and Associated Factors

Age This is the second most common cancer among children, following leukemia. Adult malignant brain tumors are most common after age 60.

Gender Males typically have higher rates than females.

Race & SES The incidence rate is higher in Caucasians and higher social classes.

Genetics Certain genetic factors may cause an increased risk of some malignant brain tumors, including gliomas, but the proportion of brain tumors attributable to inheritance is likely no more than 4%. Molecular tests that may be useful in screening for recurrences are being developed.

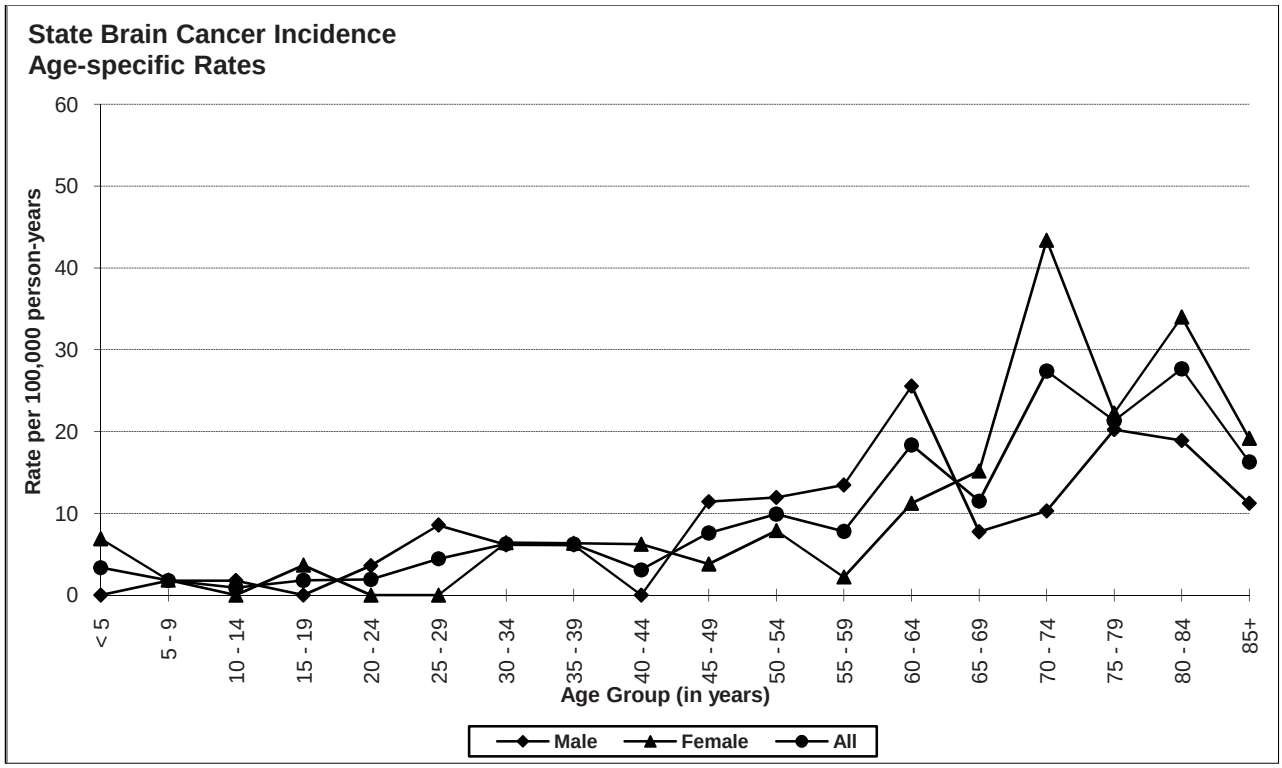
Occupation Vinyl chloride and ionizing radiation exposure are risk factors. Many occupational and environmental exposures have shown suggestive associations with elevated rates of brain cancer. Roofers, sheet metal workers, and rubber and plastic workers may be at elevated risk. Specific exposures underlying these associations have been suggested but not established.

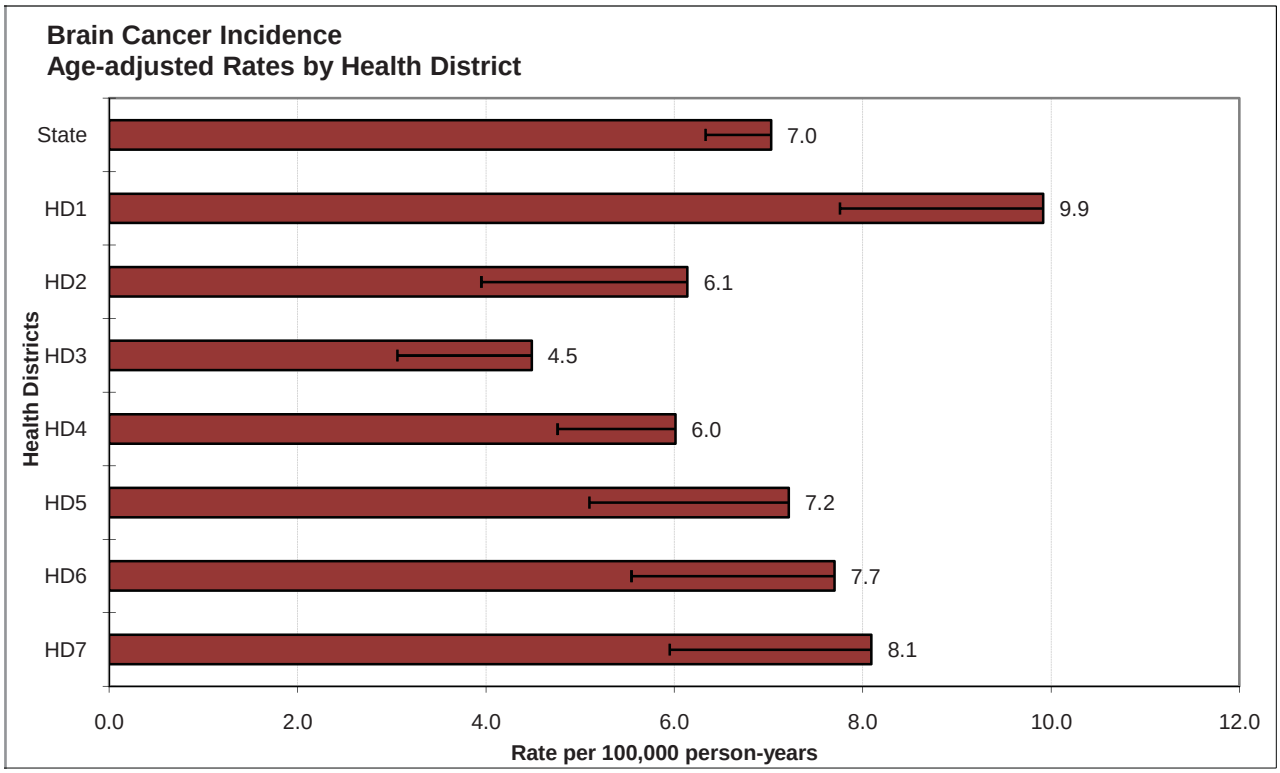
Other Human Immunodeficiency Virus (HIV) infected individuals and organ transplant recipients have an increased risk of developing brain lymphoma.

Special Notes

Mean age-adjusted incidence rate across health districts:	7.1	
95% confidence interval on the mean age-adjusted incidence rate:	5.8-	8.4
Median age-adjusted incidence rate of health districts:	7.2	
Range of age-adjusted incidence rate for health districts:	4.5-	9.9
SEER 17 rate (2006, all races):	5.8	
USCS rate (2005, all races):	6.1	

The age-related incidence of brain cancer is typically bimodal, usually with a peak in infancy and childhood, a gradual rise in young adulthood, and a broader, sustained peak during the fifth to eighth decade of life. This trend is difficult to discern in Idaho's population due to the relatively small number of cases observed annually, which increases the variability in age-specific rates. No health districts had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


State Brain Cancer Incidence
Age-specific Rates
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)
Male
Female
All


Brain Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
7.0
9.9
6.1
4.5
6.0
7.2
7.7
8.1
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	9.2	5.8	12.3
# of new cases	135	41	94

Total Cases by County

Ada	41	Cassia	2	Lewis	2
Adams	3	Clark	-	Lincoln	-
Bannock	5	Clearwater	1	Madison	3
Bear Lake	-	Custer	1	Minidoka	2
Benewah	-	Elmore	-	Nez Perce	6
Bingham	3	Franklin	1	Oneida	-
Blaine	-	Fremont	1	Owyhee	2
Boise	1	Gem	3	Payette	1
Bonner	1	Gooding	1	Power	-
Bonneville	4	Idaho	2	Shoshone	2
Boundary	-	Jefferson	1	Teton	-
Butte	-	Jerome	1	Twin Falls	5
Camas	-	Kootenai	23	Valley	1
Canyon	9	Latah	5	Washington	-
Caribou	1	Lemhi	1		

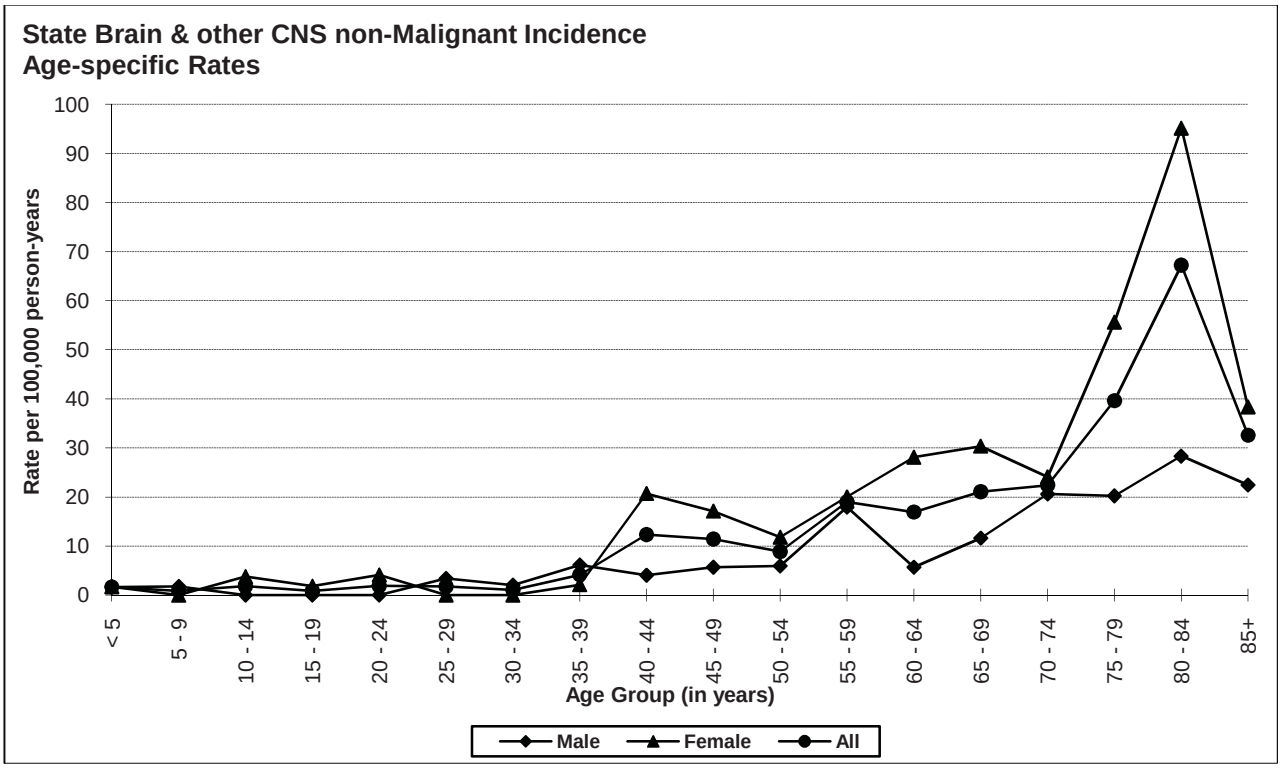
Background

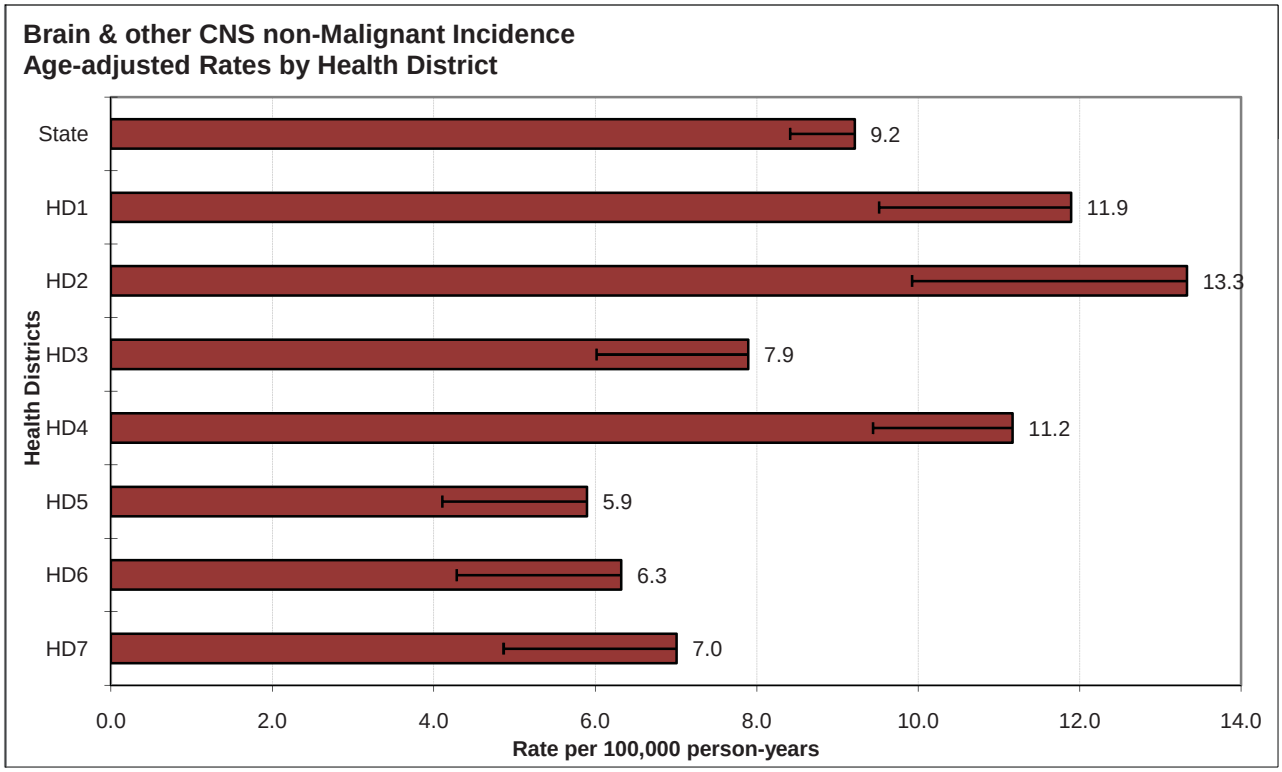
In 2007, as a result of Public Law 107-260, the publication United States Cancer Statistics 2004 Incidence and Mortality began to include tables for non-malignant brain tumors. Until this time, the only reference data were from the Central Brain Tumor Registry of the United States (CBTRUS), which has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

Special Notes

Mean age-adjusted incidence rate across health districts:	9.1	
95% confidence interval on the mean age-adjusted incidence rate:	6.9-	11.3
Median age-adjusted incidence rate of health districts:	7.9	
Range of age-adjusted incidence rate for health districts:	5.9-	13.3
SEER 17 rate (2006, all races):	9.0	
USCS rate (2005, all races):	11.2	

No health districts had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


State Brain & other CNS non-Malignant Incidence
Age-specific Rates
Rate per 100,000 person-years
100
90
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
9.2
11.9
13.3
7.9
11.2
5.9
6.3
7.0
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Rate per 100,000 person-years

BREAST

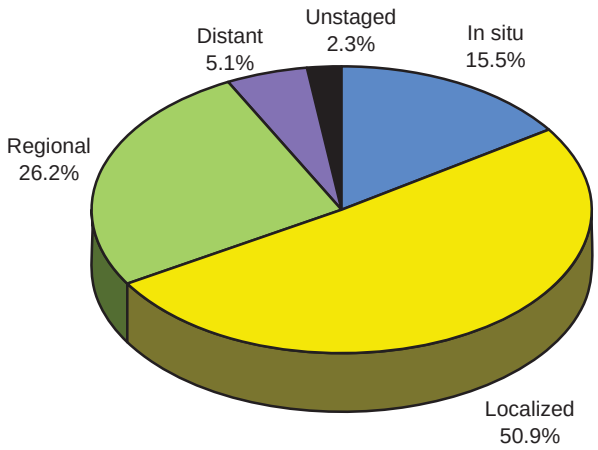
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	64.7	1.1	123.7
# of new invasive cases	962	8	954
# of new in-situ cases	177	2	175
# of deaths	168	0	168

Total Cases by County

Ada	298	Cassia	7	Lewis	7
Adams	4	Clark	2	Lincoln	4
Bannock	54	Clearwater	11	Madison	14
Bear Lake	6	Custer	2	Minidoka	12
Benewah	16	Elmore	17	Nez Perce	38
Bingham	18	Franklin	10	Oneida	3
Blaine	15	Fremont	11	Owyhee	5
Boise	5	Gem	15	Payette	17
Bonner	38	Gooding	15	Power	3
Bonneville	62	Idaho	11	Shoshone	8
Boundary	7	Jefferson	13	Teton	5
Butte	2	Jerome	19	Twin Falls	68
Camas	1	Kootenai	116	Valley	5
Canyon	129	Latah	21	Washington	10
Caribou	1	Lemhi	6		

Stage at Diagnosis - Breast



Risk and Associated Factors

Age Rates increase steadily with age. Age is the single most important risk factor for breast cancer. A 60-year-old white American woman's risk of developing breast cancer is fourteen times that of a 30-year-old American woman.

Race & SES Caucasians have higher incidence rates, as do women in higher income groups.

Genetics Specific genes associated with breast cancers have been identified and are being studied. Identical twins of women with breast cancer have triple the risk of getting the disease themselves.

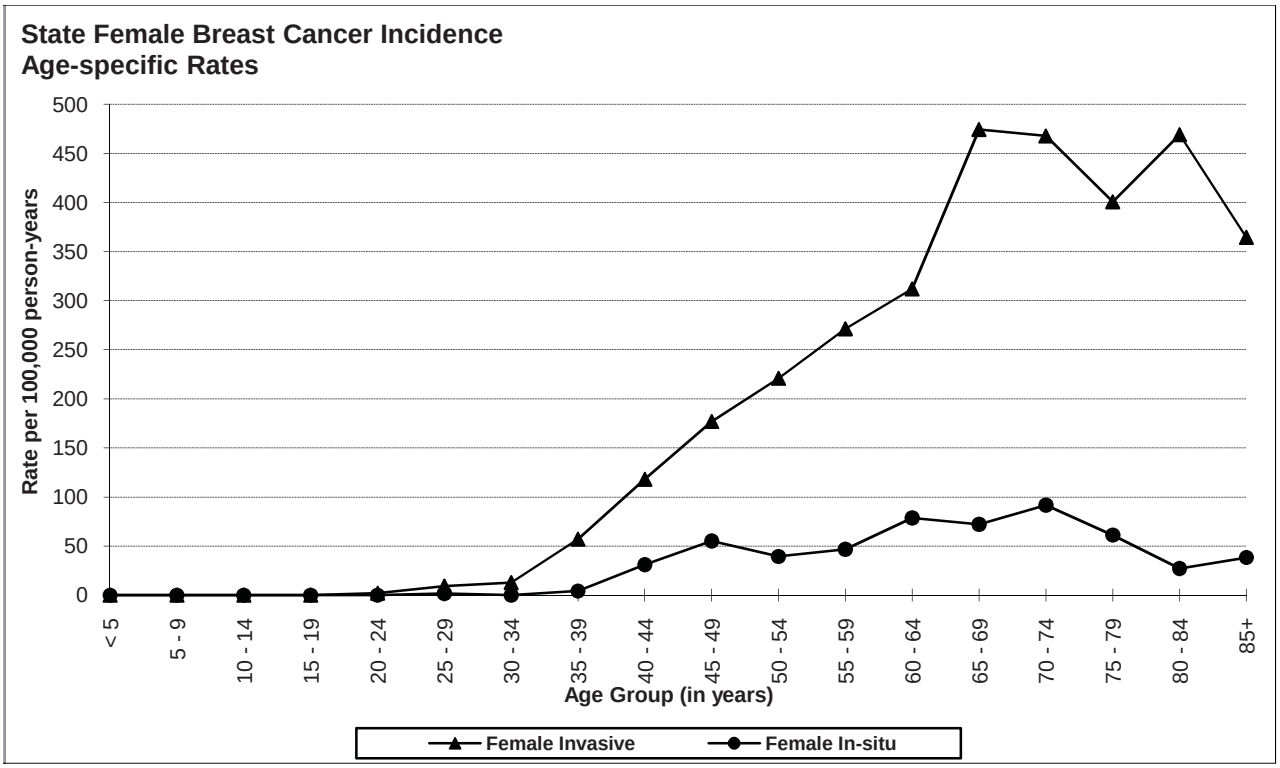
Hormonal There is evidence of hormonal influence in the risk of developing breast cancer. Longer intervals of menarche to the first full-term pregnancy and menarche to menopause, as well as menarche before age 13, have been associated with higher risks of breast cancer. Cumulative estrogen exposure, including use of hormone replacement therapy, increases breast cancer risk.

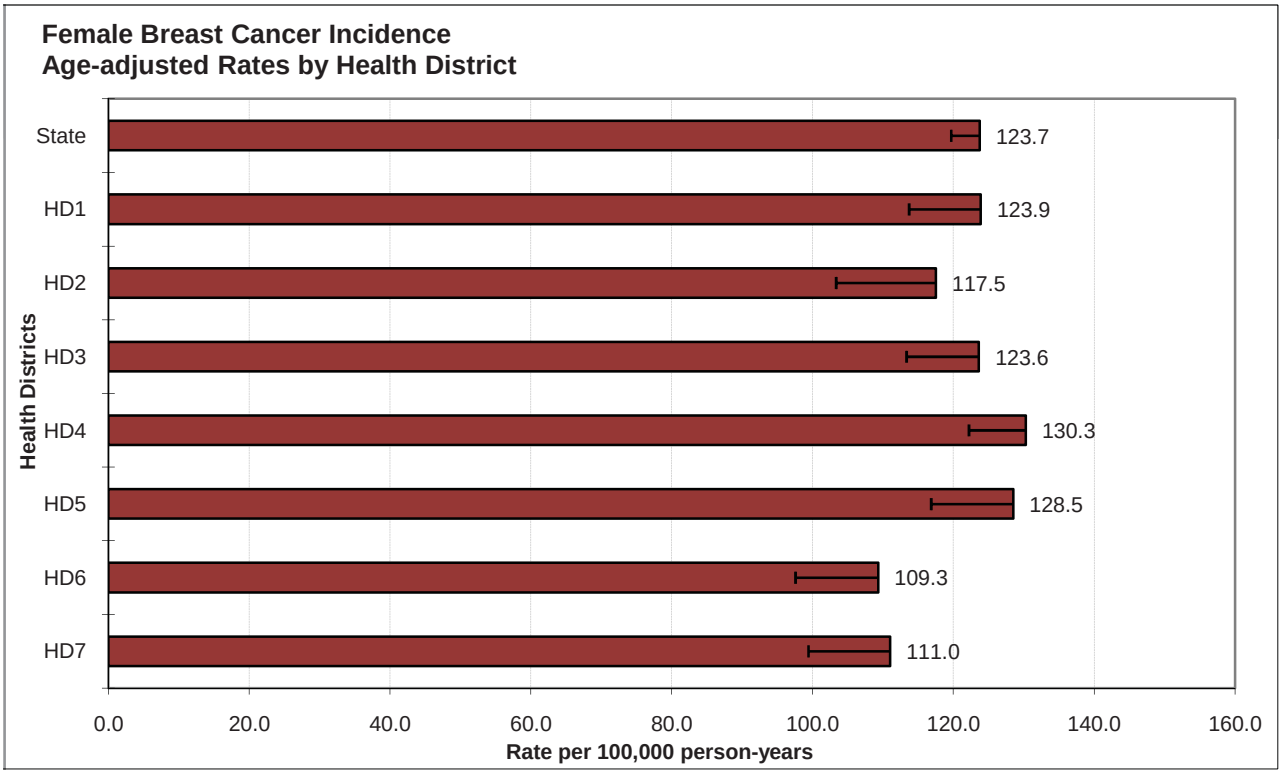
Other Alcohol consumption, high dietary fat intake, obesity (in postmenopausal women), sedentary life-style, and having a mother or sister with breast cancer have all been implicated as associated risk factors. Weight gain of 55 lbs or more after age 18 is associated with a 45% increased risk.

Special Notes

Mean age-adjusted incidence rate across health districts:	120.6	
95% confidence interval on the mean age-adjusted incidence rate:	114.5-	126.7
Median age-adjusted incidence rate of health districts:	123.6	
Range of age-adjusted incidence rate for health districts:	109.3-	130.3
SEER 17 rate (2006, all races):	120.8	
USCS rate (2005, all races):	117.5	

The vast majority of breast cancer cases occur among females. In Idaho during the year 2007, there were 8 cases of invasive breast cancer among males. The age-specific incidence rates of female breast cancer in Idaho in 2007 increased with age, peaking in the age group 65-69 for invasive cases. No cases were observed in women less than 25 years of age. No health districts had statistically significantly more, or fewer, cases of invasive female breast cancer than expected based upon rates for the remainder of Idaho.


State Female Breast Cancer Incidence
Age-specific Rates
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)
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
123.7
123.9
117.5
123.6
130.3
128.5
109.3
111.0
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
Rate per 100,000 person-years

CERVIX

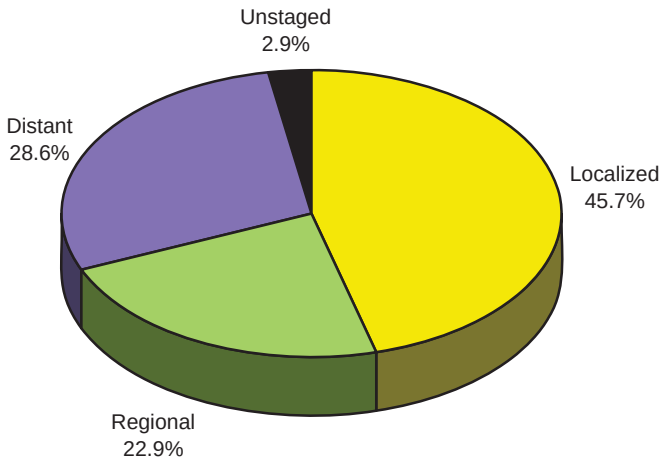
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	-	4.7
# of new invasive cases	-	-	35
# of new in-situ cases	-	-	n/a
# of deaths	-	-	17

Total Cases by County

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

Stage at Diagnosis - Cervix



Risk and Associated Factors

Age Cervical cancer occurs in adult women of any age. However, the majority of invasive cases are diagnosed in older women.

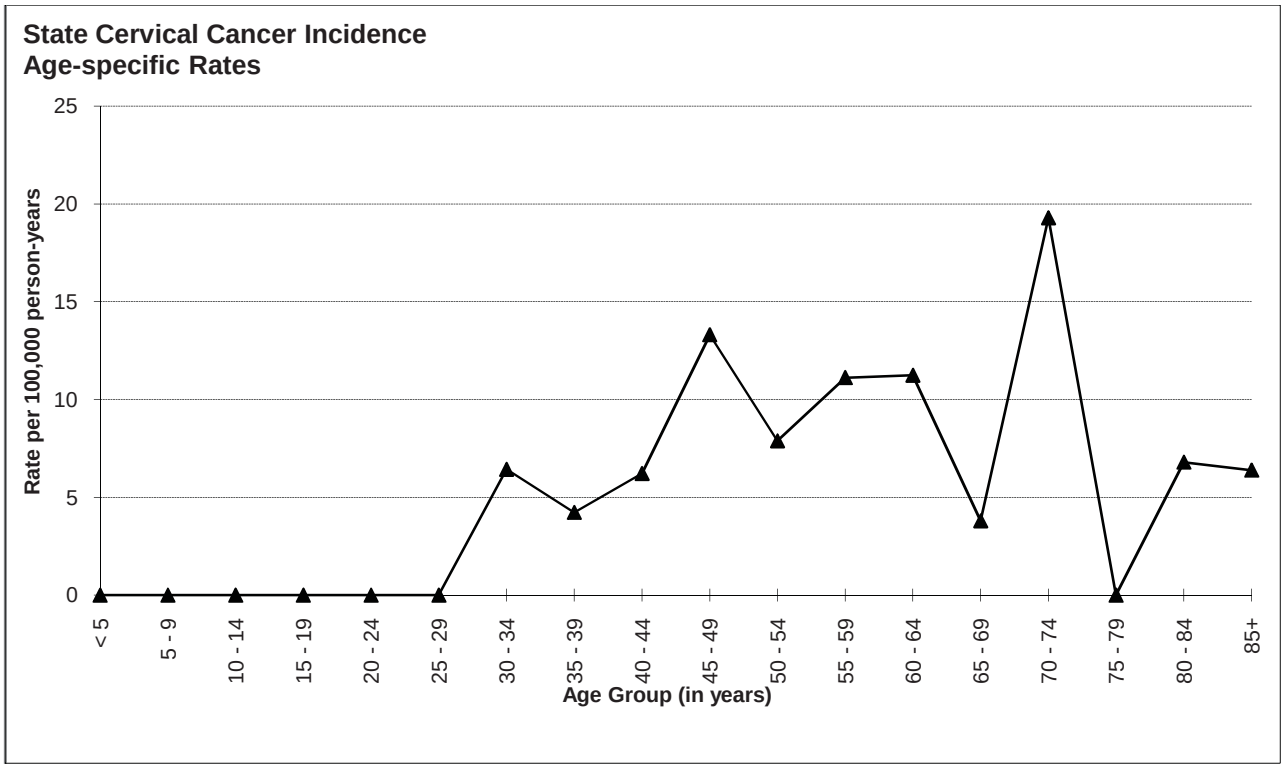
Race & SES African Americans, Hispanics, and women in lower income groups have been shown to experience higher rates.

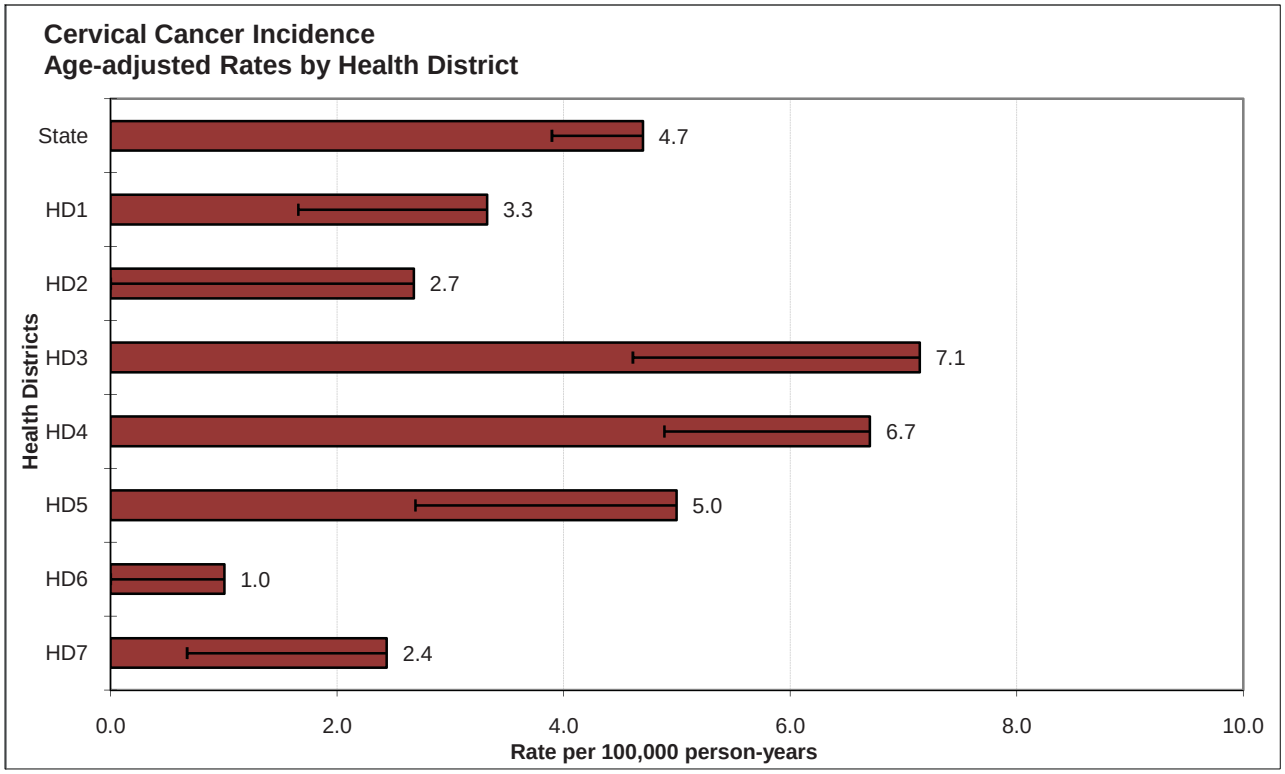
Other The large majority of cervical cancer cases worldwide can be attributed to human papilloma virus (HPV) infection. Of the at least 70 types of HPV known, types 16 and 18 are most closely associated with malignancy. Other risk factors that may be correlates, cofactors, or independent risk factors of HPV infection include: early age at first intercourse (less than 16 years old), a history of multiple sexual partners, a large number of pregnancies, oral contraceptive use, a history of other sexually transmitted diseases, and the presence of other genital tract neoplasia. Exposure to cigarette smoke is also a known risk factor, although by unknown mechanisms. Diethylstilbestrol use during pregnancy increased clear-cell adenocarcinoma in daughters exposed in utero.

Special Notes

Mean age-adjusted incidence rate across health districts:	4.0	
95% confidence interval on the mean age-adjusted incidence rate:	2.3-	5.7
Median age-adjusted incidence rate of health districts:	3.3	
Range of age-adjusted incidence rate for health districts:	1.0-	7.1
SEER 17 rate (2006, all races):	8.0	
USCS rate (2005, all races):	8.0	

Increased screening with routine Pap tests, particularly among older and low-income women, has increased diagnostic rates and helped to reduce the incidence of invasive disease. Today, the vast majority of cases in younger women is diagnosed before the invasive stage, with cure rates approaching 100%. These pre-invasive cases are not included in this report. No health district had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


State Cervical Cancer Incidence
Age-specific Rates
Rate per 100,000 person-years
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)


Cervical Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
4.7
3.3
2.7
7.1
6.7
5.0
1.0
2.4
0.0
2.0
4.0
6.0
8.0
10.0
Rate per 100,000 person-years

COLORECTAL

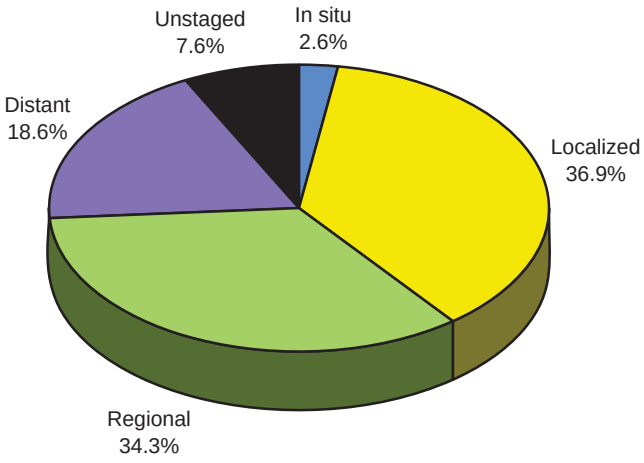
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	40.6	45.4	36.5
# of new invasive cases	591	306	285
# of new in-situ cases	16	11	5
# of deaths	219	105	114

Total Cases by County

Ada	142	Cassia	7	Lewis	3
Adams	1	Clark	1	Lincoln	2
Bannock	33	Clearwater	9	Madison	2
Bear Lake	3	Custer	3	Minidoka	5
Benewah	5	Elmore	8	Nez Perce	27
Bingham	15	Franklin	5	Oneida	-
Blaine	4	Fremont	2	Owyhee	3
Boise	1	Gem	9	Payette	15
Bonner	21	Gooding	8	Power	-
Bonneville	30	Idaho	7	Shoshone	10
Boundary	5	Jefferson	3	Teton	3
Butte	1	Jerome	8	Twin Falls	36
Camas	-	Kootenai	67	Valley	2
Canyon	69	Latah	9	Washington	11
Caribou	6	Lemhi	3		

Stage at Diagnosis - Colorectal



Risk and Associated Factors

Age Rates increase with age; the vast majority of cases occur after age 50.

Gender Incidence rates are slightly higher in males.

Genetics It is estimated that 65-85% of colorectal cancer cases are sporadic, 10-30% are familial, and the remainder are the result of specific rare genetic disorders such as Lynch Syndrome.

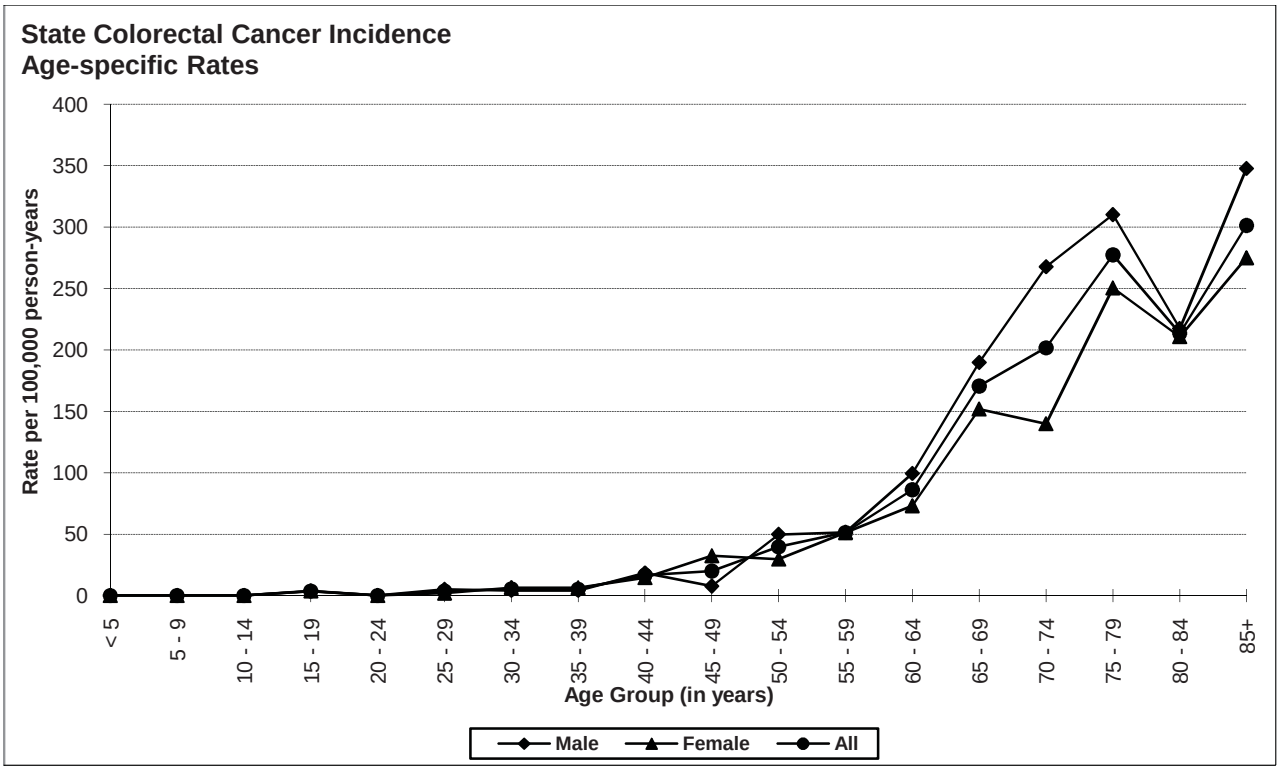
Diet There is strong evidence that high calorie diets and diets high in fat and low in fiber contribute to higher risks of colon cancer.

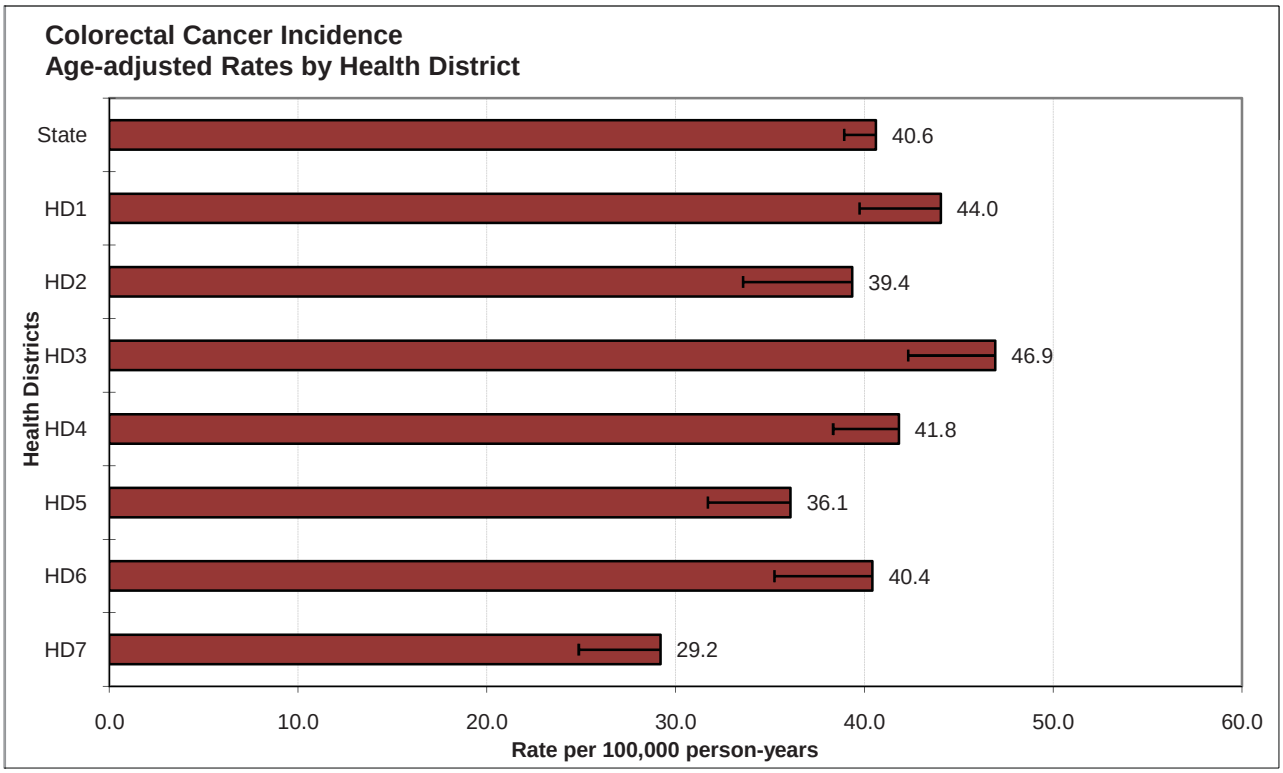
Other Individuals with a close family history of this cancer and those with a personal history of certain other cancers are at increased risk. Physical inactivity, obesity, and tobacco use are known risk factors for colorectal cancer. Cigarette smoking is significantly associated with colorectal cancer incidence and mortality. The use of NSAIDs, including aspirin, may help prevent colon cancer. Inflammatory bowel disease confers a 4- to 20-fold increase in colorectal cancer risk, with younger age at diagnosis.

Special Notes

Mean age-adjusted incidence rate across health districts:	39.7	
95% confidence interval on the mean age-adjusted incidence rate:	35.4-	44.0
Median age-adjusted incidence rate of health districts:	40.4	
Range of age-adjusted incidence rate for health districts:	29.2-	46.9
SEER 17 rate (2006, all races):	46.0	
USCS rate (2005, all races):	48.2	

Few cases of colorectal cancer were diagnosed in persons less than 40 years of age. There was a steep increase in age-specific incidence rates starting at age 55. Health District 7 had significantly fewer cases than expected based upon rates for the remainder of Idaho.


State Colorectal Cancer Incidence
Age-specific Rates
Rate per 100,000 person-years
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


Colorectal Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
40.6
44.0
39.4
46.9
41.8
36.1
40.4
29.2
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Rate per 100,000 person-years

CORPUS UTERI

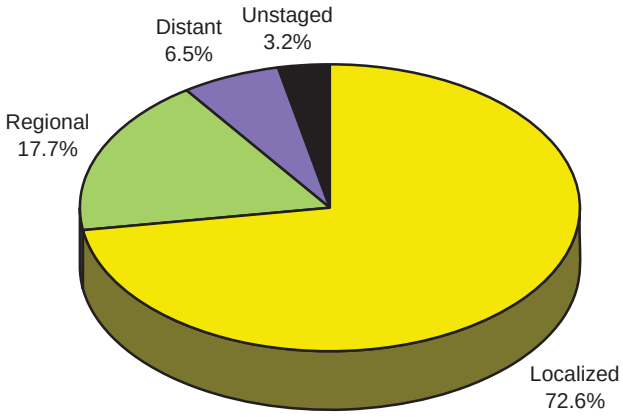
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	-	23.8
# of new invasive cases	-	-	186
# of new in-situ cases	-	-	-
# of deaths	-	-	20

Total Cases by County

Ada	48	Cassia	-	Lewis	-
Adams	-	Clark	-	Lincoln	-
Bannock	6	Clearwater	2	Madison	1
Bear Lake	-	Custer	-	Minidoka	5
Benewah	1	Elmore	-	Nez Perce	4
Bingham	3	Franklin	2	Oneida	-
Blaine	2	Fremont	5	Owyhee	1
Boise	-	Gem	3	Payette	6
Bonner	3	Gooding	-	Power	1
Bonneville	11	Idaho	2	Shoshone	4
Boundary	1	Jefferson	5	Teton	-
Butte	-	Jerome	6	Twin Falls	7
Camas	2	Kootenai	20	Valley	-
Canyon	25	Latah	3	Washington	4
Caribou	1	Lemhi	1		

Stage at Diagnosis - Corpus Uteri



Risk and Associated Factors

Age Occurs predominantly after menopause, with median age 58 and peaking at the 65 to 75 age group.

Race & SES Caucasian women have higher rates than African American or Asian women in the U.S.

Genetics Familial tendency has been observed, but likely accounts for a small fraction of cases.

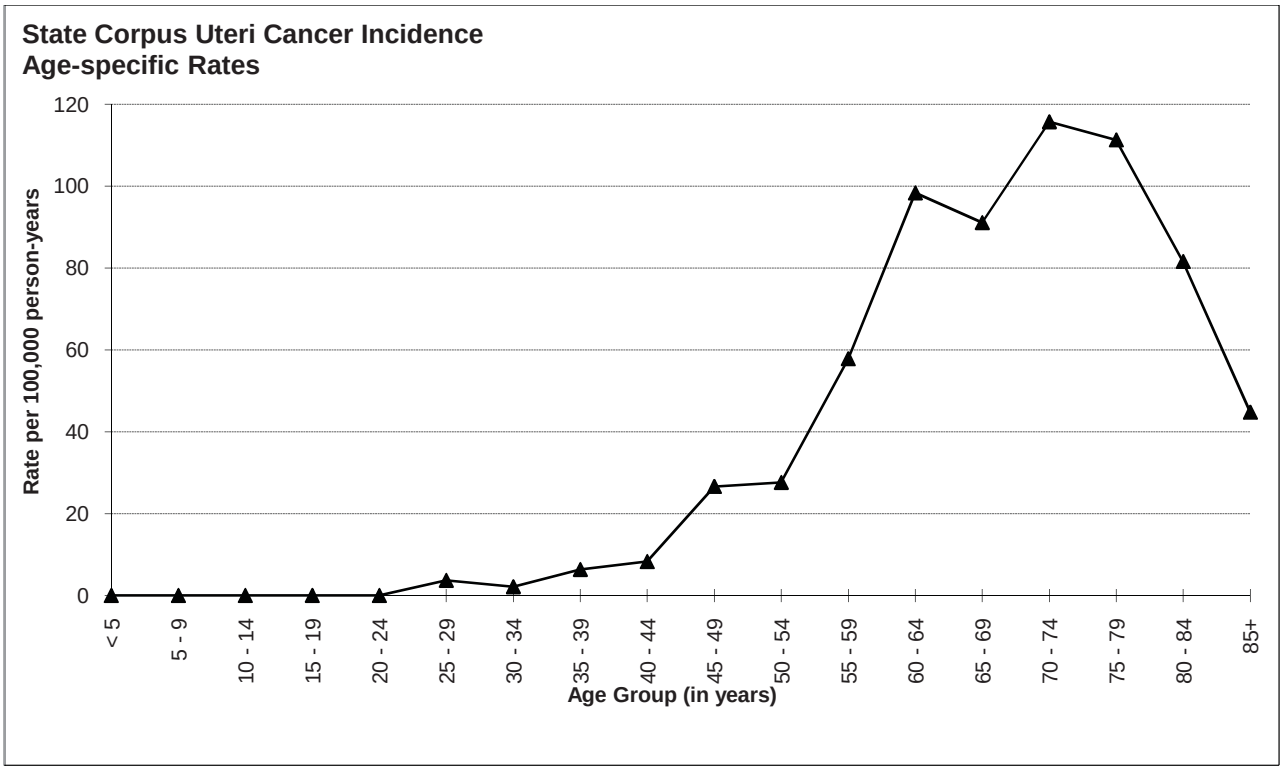
Diet Dietary fat may play a role in increased risk. Obesity and hypertension are common associated conditions of endometrial cancer.

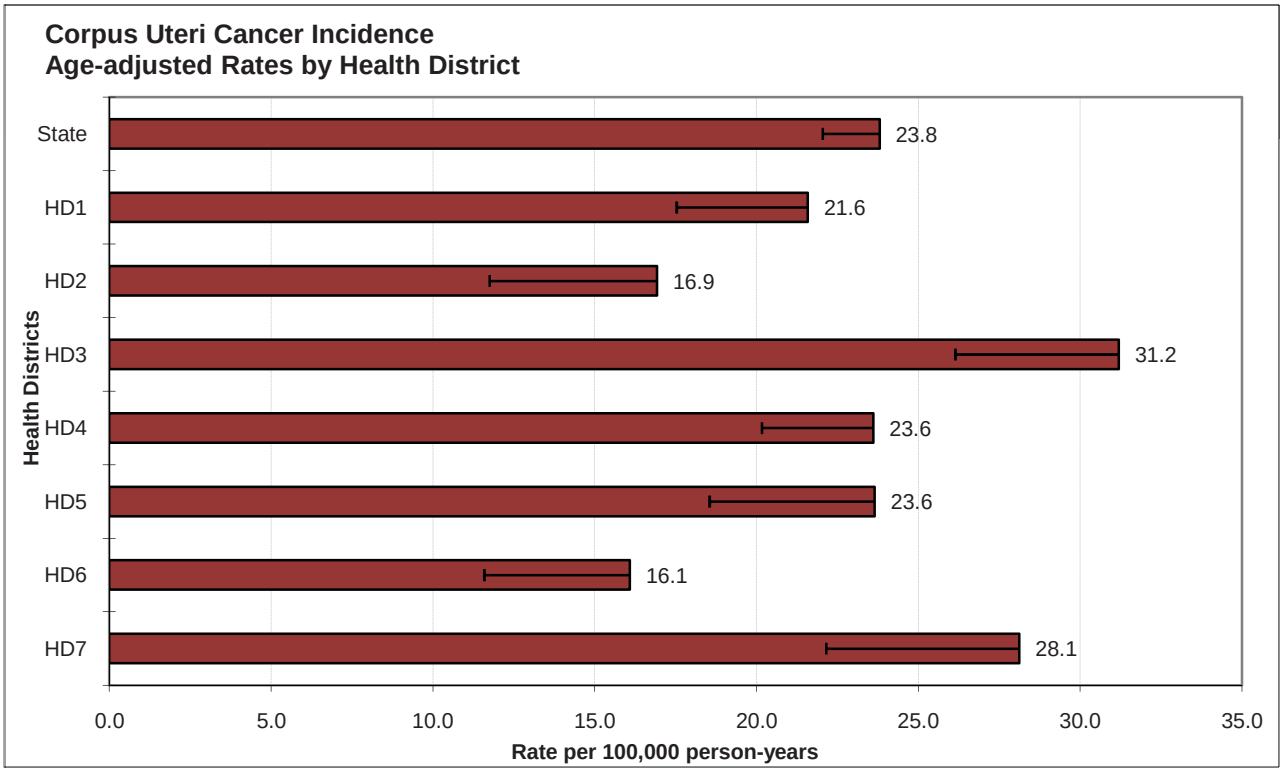
Hormonal Factors that elevate levels of estrogen or decrease progesterone levels enhance the risk. Women who have never carried a pregnancy to term are at a relatively high risk. Risk decreases as the number of pregnancies increases. An increased incidence of endometrial cancer has been found in association with prolonged, unopposed estrogen exposure as well as with tamoxifen treatment of breast cancer. Use of combination oral contraceptives (estrogen and progestin) decreases risk of endometrial cancer by about 50%.

Special Notes

Mean age-adjusted incidence rate across health districts:	23.0	
95% confidence interval on the mean age-adjusted incidence rate:	19.0-	27.1
Median age-adjusted incidence rate of health districts:	23.6	
Range of age-adjusted incidence rate for health districts:	16.1-	31.2
SEER 17 rate (2006, all races):	23.5	
USCS rate (2005, all races):	22.6	

Few cases of endometrial cancer were diagnosed in persons less than 35 years of age. After age 54, there was a sharp increase in age-specific rates, peaking in the age group 70-74. Health District 3 had significantly more cases than expected based upon rates for the remainder of Idaho.


State Corpus Uteri Cancer Incidence
Age-specific Rates
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
21.6
16.9
31.2
23.6
23.6
16.1
28.1
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Rate per 100,000 person-years

ESOPHAGUS

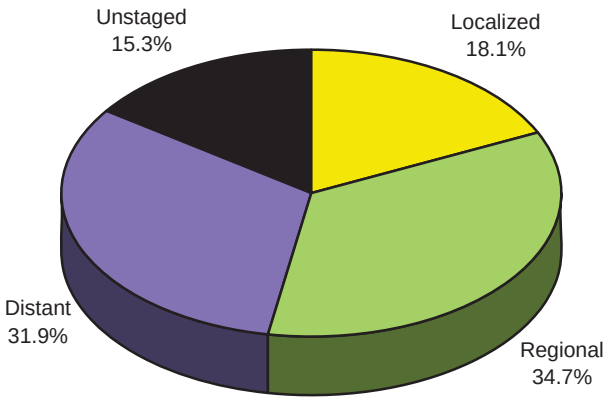
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	4.7	8.5	1.4
# of new invasive cases	72	61	11
# of new in-situ cases	0	0	0
# of deaths	63	50	13

Total Cases by County

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

Stage at Diagnosis - Esophagus



Risk and Associated Factors

Age Incidence of esophageal cancer is highest after age 55.

Gender It is predominantly a disease of the male, with male-to-female ratios of about 3:1 or more.

Race & SES United States data show that African Americans are affected more than Caucasians. Risk is higher among lower SES strata.

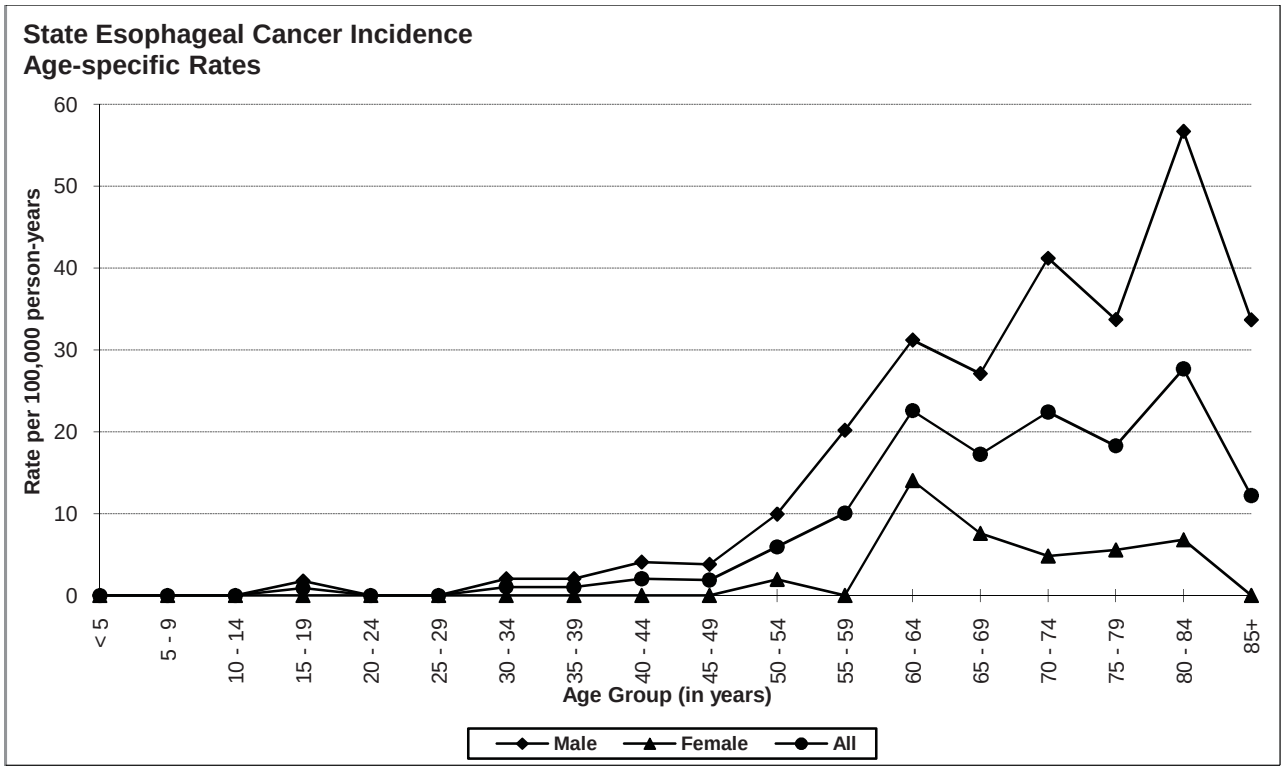
Occupation Chimney sweeps exposed to soot are at higher risk.

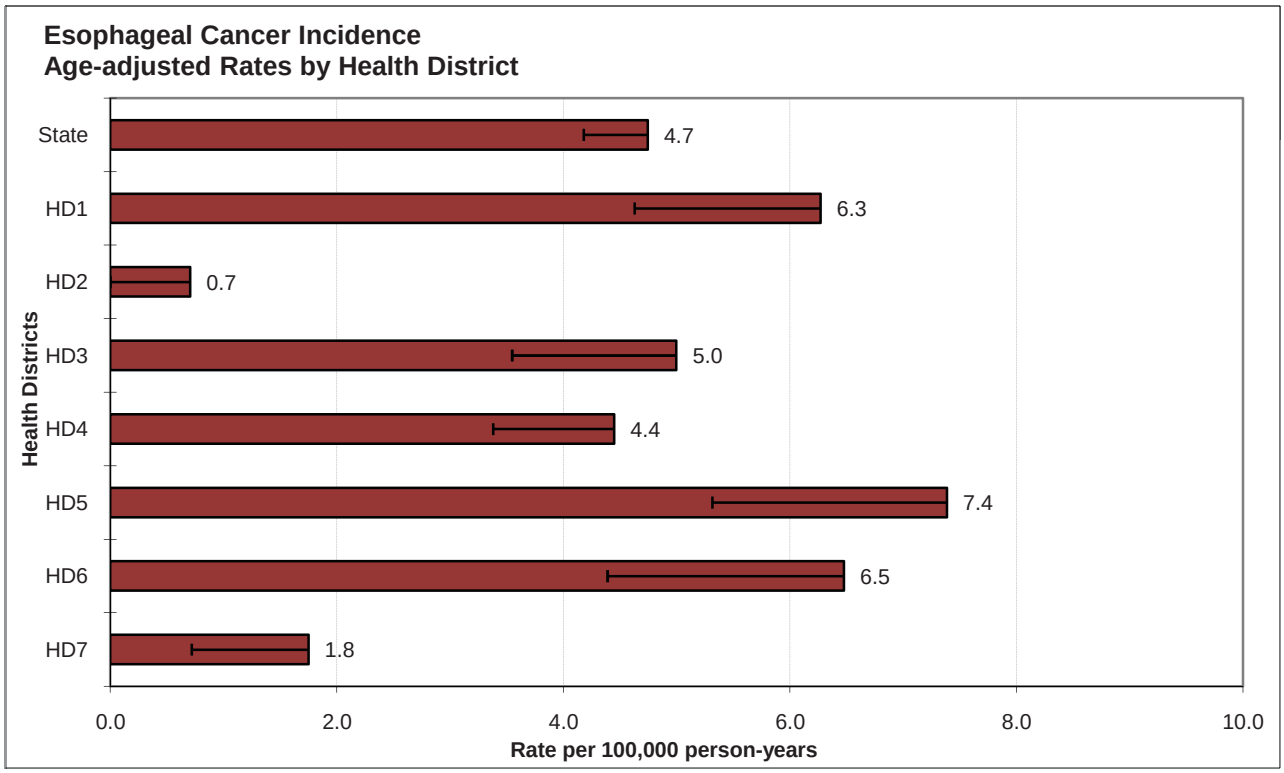
Other Tobacco use (cigarettes or spit tobacco) and heavy alcohol consumption are major risk factors for cancer of the esophagus. The risk is particularly increased when these two factors are both present. In Western Europe and North America, 90% or more of the risk of esophageal cancer can be attributed to alcohol and tobacco. Drinking “burning hot” beverages may increase the risk of esophageal cancer.

Special Notes

Mean age-adjusted incidence rate across health districts:	4.6	
95% confidence interval on the mean age-adjusted incidence rate:	2.7-	6.4
Median age-adjusted incidence rate of health districts:	5.0	
Range of age-adjusted incidence rate for health districts:	0.7-	7.4
SEER 17 rate (2006, all races):	4.4	
USCS rate (2005, all races):	4.8	

Few cases of esophageal cancer were diagnosed in person less than 35 years of age. The age-specific incidence rates peaked in the age group 80-84 for males and 60-64 for females. Health District 2 had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho.


State Esophageal Cancer Incidence
Age-specific Rates
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)
Male
Female
All


Esophageal Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
4.7
6.3
0.7
5.0
4.4
7.4
6.5
1.8
0.0
2.0
4.0
6.0
8.0
10.0
Rate per 100,000 person-years

HODGKIN LYMPHOMA

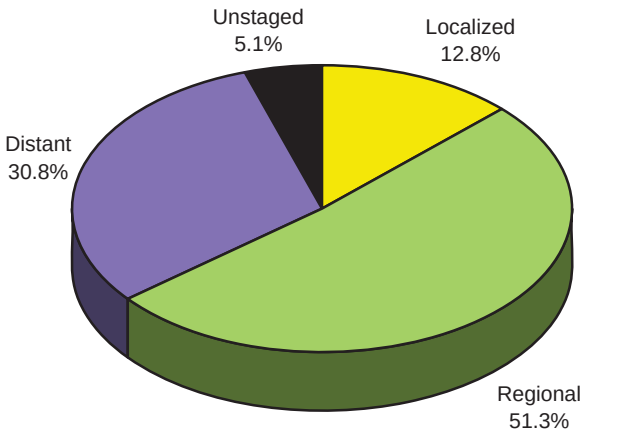
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	2.7	2.7	2.5
# of new invasive cases	39	21	18
# of new in-situ cases	0	0	0
# of deaths	6	3	3

Total Cases by County

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

Stage at Diagnosis - Hodgkin Lymphoma



Risk and Associated Factors

Age High rates are seen in young adults and in later age groups especially among males.

Gender Males typically have slightly higher rates than females.

Race & SES Hodgkin lymphoma is more common among Caucasians than among African Americans. Hodgkin lymphoma is more common in higher income groups.

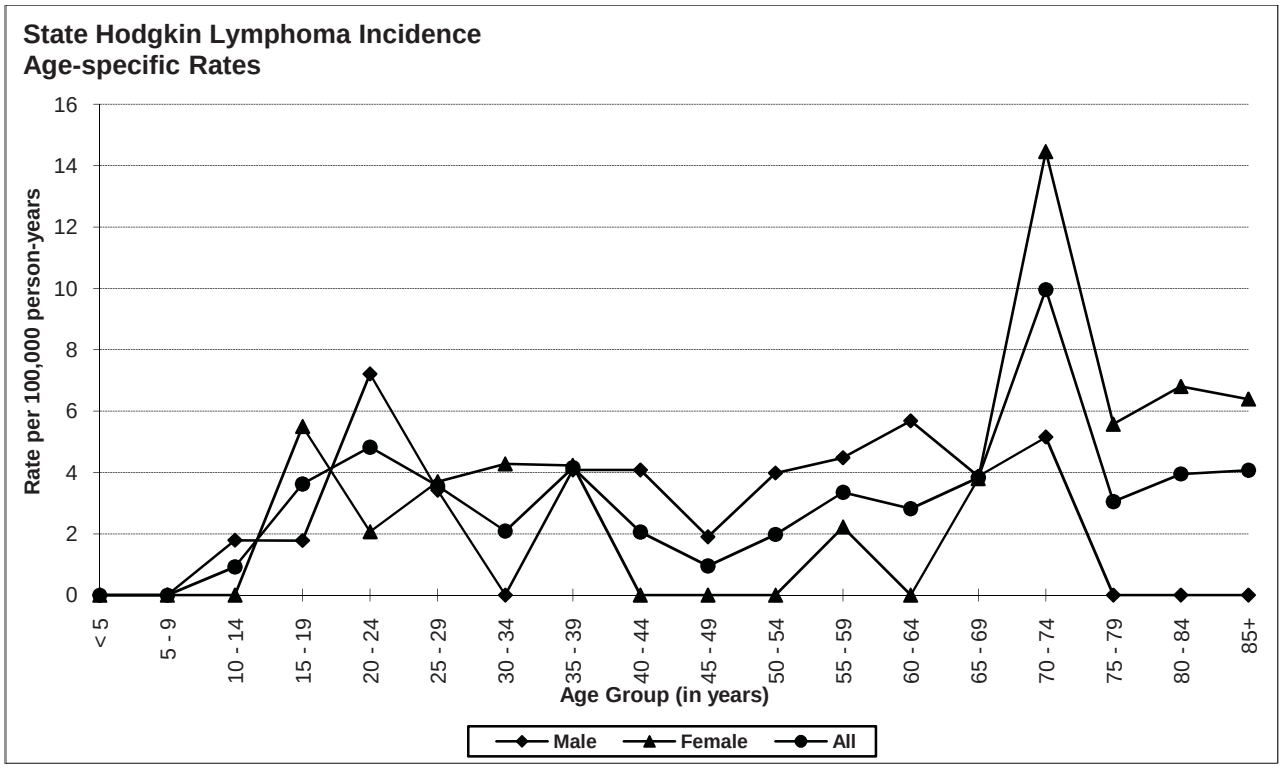
Genetics Genetic factors are thought to play an important role in the etiology of Hodgkin lymphoma, but these are yet to be adequately defined.

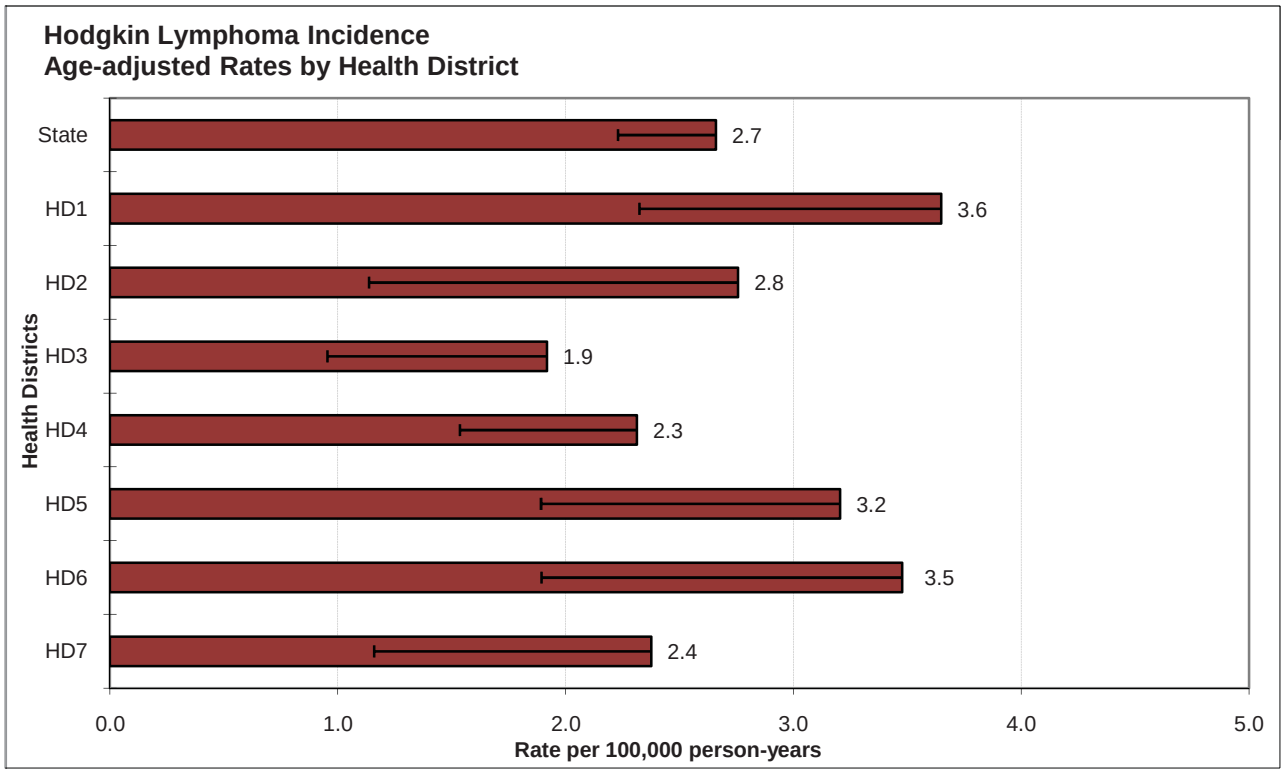
Other Small family size and ensuing delayed exposure to childhood infections is thought to be responsible for a portion of Hodgkin lymphoma cases. Certain viral infections, especially Epstein-Barr virus, and AIDS increase the risk of Hodgkin lymphoma. With current treatment, Hodgkin disease, which was once highly fatal, is among the most curable of all cancers.

Special Notes

Mean age-adjusted incidence rate across health districts:	2.8	
95% confidence interval on the mean age-adjusted incidence rate:	2.3-	3.3
Median age-adjusted incidence rate of health districts:	2.8	
Range of age-adjusted incidence rate for health districts:	1.9-	3.6
SEER 17 rate (2006, all races):	2.8	
USCS rate (2005, all races):	2.8	

The age-related incidence of Hodgkin lymphoma is typically bimodal, usually with a peak in the late 20s to early 30s, and another peak in the ninth decade of life. This trend is difficult to discern in Idaho's population due to the relatively small number of cases observed annually, which increases the variability in age-specific rates. 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
Rate per 100,000 person-years
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)
Male
Female
All


Hodgkin Lymphoma Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
2.7
3.6
2.8
1.9
2.3
3.2
3.5
2.4
0.0
1.0
2.0
3.0
4.0
5.0
Rate per 100,000 person-years

KIDNEY AND RENAL PELVIS

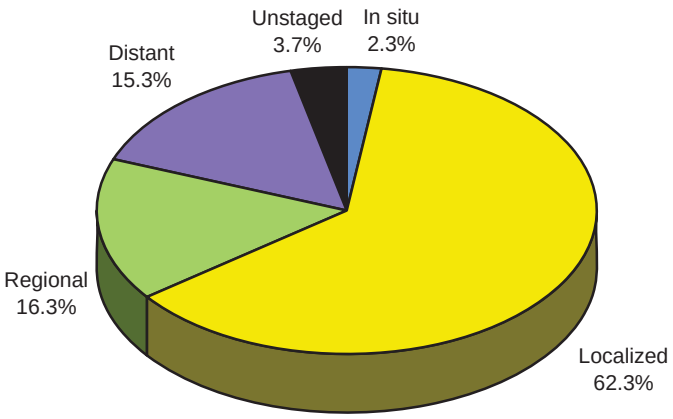
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	14.3	17.7	11.2
# of new invasive cases	210	125	85
# of new in-situ cases	5	2	3
# of deaths	57	32	25

Total Cases by County

Ada	47	Cassia	3	Lewis	1
Adams	-	Clark	-	Lincoln	-
Bannock	10	Clearwater	3	Madison	2
Bear Lake	3	Custer	-	Minidoka	1
Benewah	1	Elmore	2	Nez Perce	11
Bingham	4	Franklin	1	Oneida	-
Blaine	6	Fremont	1	Owyhee	3
Boise	2	Gem	3	Payette	2
Bonner	5	Gooding	2	Power	1
Bonneville	11	Idaho	2	Shoshone	6
Boundary	1	Jefferson	4	Teton	1
Butte	-	Jerome	1	Twin Falls	11
Camas	1	Kootenai	23	Valley	5
Canyon	28	Latah	2	Washington	2
Caribou	1	Lemhi	2		

Stage at Diagnosis - Kidney and Renal Pelvis



Risk and Associated Factors

Age Both adults and children are at risk for kidney cancer. Renal cell carcinoma accounts for about 80% of all adult kidney cancers. Wilm's tumor (nephroblastoma) affects predominantly children under age 5 and accounts for the majority of childhood kidney cancers.

Gender Renal cell carcinoma affects males twice as often as females.

Genetics Wilm's tumor often occurs with congenital defects.

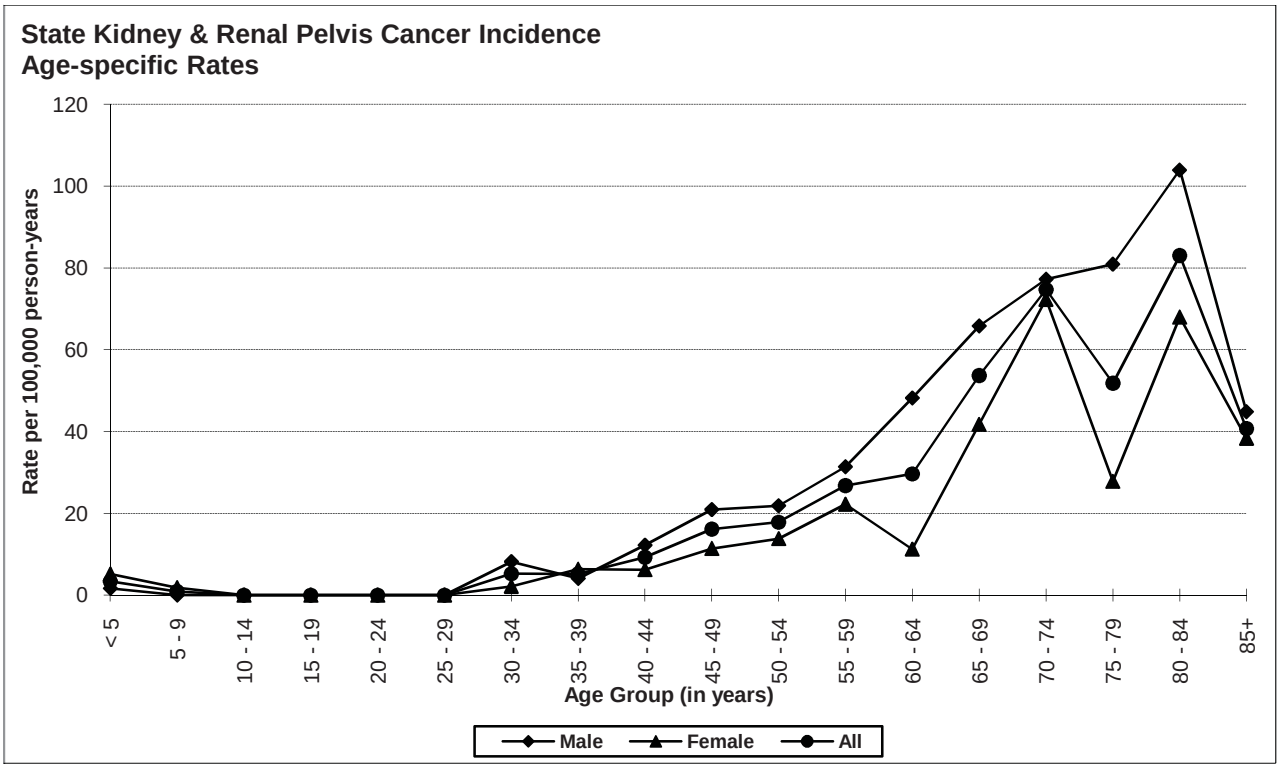
Occupation Certain occupations, such as laundry and leather workers, have been associated with increased risk due to chemical exposure.

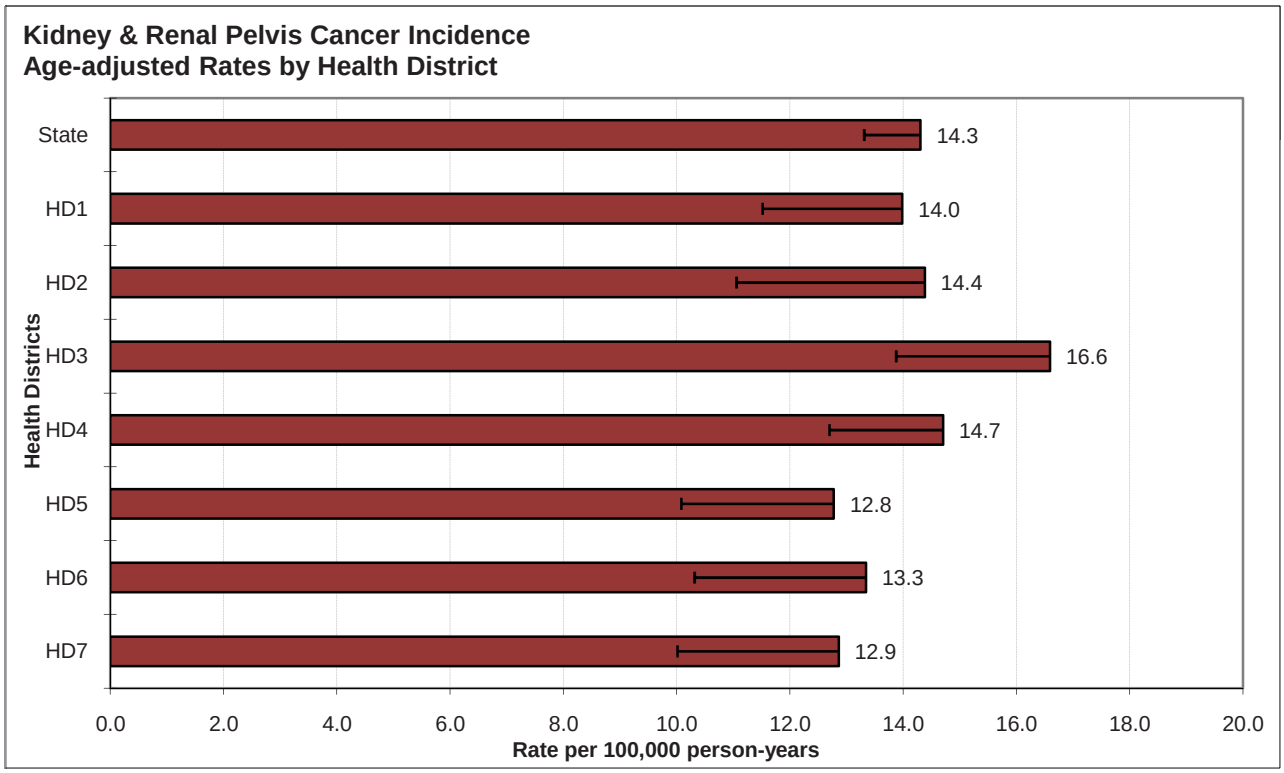
Other Cigarette smoking is strongly associated with renal pelvis and ureter cancers. Smokers are at twice the risk of developing kidney cancer as non-smokers. Analgesic mixtures containing phenacetin increase the risk of kidney cancer. Obesity is a risk factor for kidney cancer. High dietary protein consumption, independent of fat and calorie intake, may elevate kidney cancer risk.

Special Notes

Mean age-adjusted incidence rate across health districts:	14.1	
95% confidence interval on the mean age-adjusted incidence rate:	13.1-	15.1
Median age-adjusted incidence rate of health districts:	14.0	
Range of age-adjusted incidence rate for health districts:	12.8-	16.6
SEER 17 rate (2006, all races):	14.1	
USCS rate (2005, all races):	14.5	

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 70-74 for females. No health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Kidney & Renal Pelvis Cancer Incidence
Age-specific Rates
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)
Male
Female
All


Kidney & Renal Pelvis Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
14.3
14.0
14.4
16.6
14.7
12.8
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

LARYNX

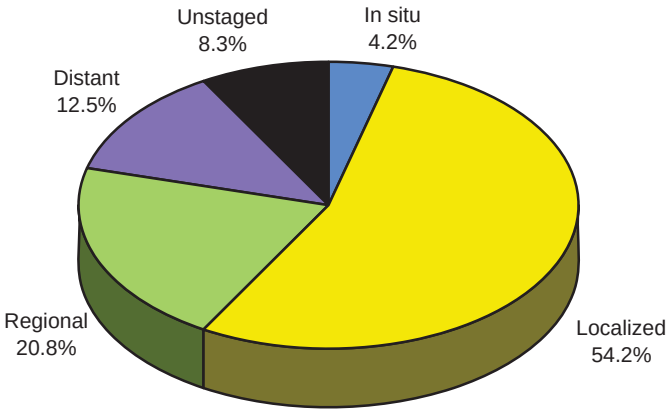
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	3.1	4.9	1.5
# of new invasive cases	46	35	11
# of new in-situ cases	2	2	0
# of deaths	18	15	3

Total Cases by County

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

Stage at Diagnosis - Larynx



Risk and Associated Factors

Age Rates increase with age, with the vast majority of cases occurring after age 55.

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

Race & SES Generally in the United States, African Americans have higher incidence rates than Caucasians. Lower income groups experience higher rates.

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

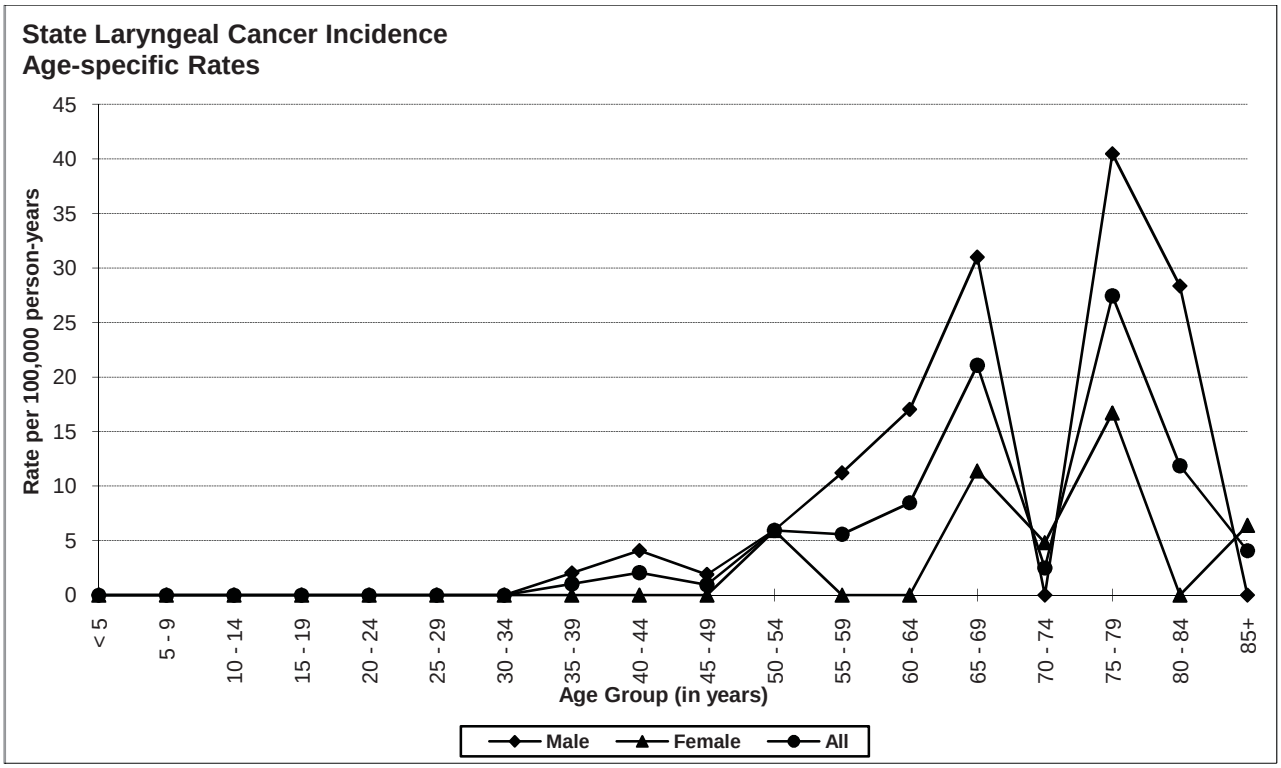
Diet Diets low in fresh fruits and vegetables may increase the risk.

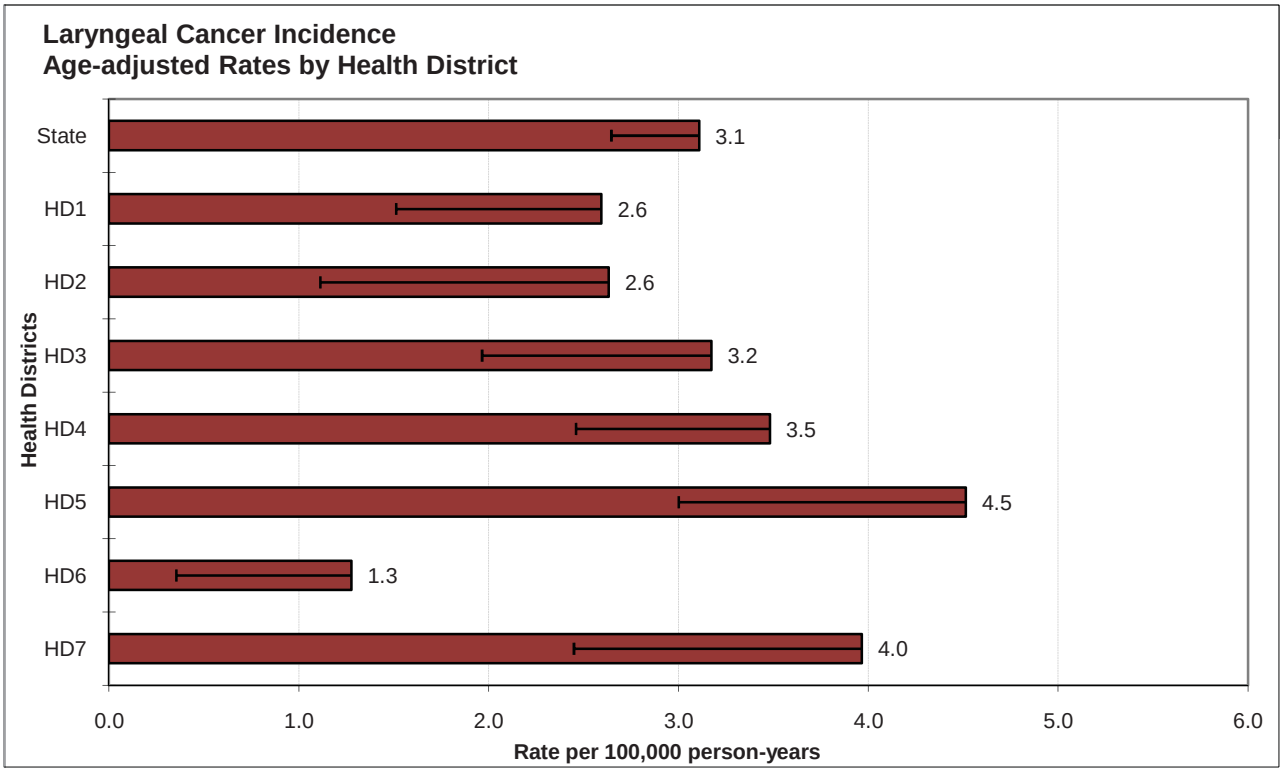
Other Cigarette smoking and alcohol use are both major risk factors. The combination of alcohol consumption and tobacco use (smoking or spit tobacco) acts greatly to increase the risk. A patient with a single laryngeal cancer who continues to smoke and drink alcohol has an enhanced risk of developing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

Special Notes

Mean age-adjusted incidence rate across health districts:	3.1	
95% confidence interval on the mean age-adjusted incidence rate:	2.3-	3.9
Median age-adjusted incidence rate of health districts:	3.2	
Range of age-adjusted incidence rate for health districts:	1.3-	4.5
SEER 17 rate (2006, all races):	3.4	
USCS rate (2005, all races):	3.9	

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 in most age groups. The highest incidence rate among both males and females was in the age group 75-79. 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
Rate per 100,000 person-years
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


Laryngeal Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
3.1
2.6
2.6
3.2
3.5
4.5
1.3
4.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
Rate per 100,000 person-years

LEUKEMIA

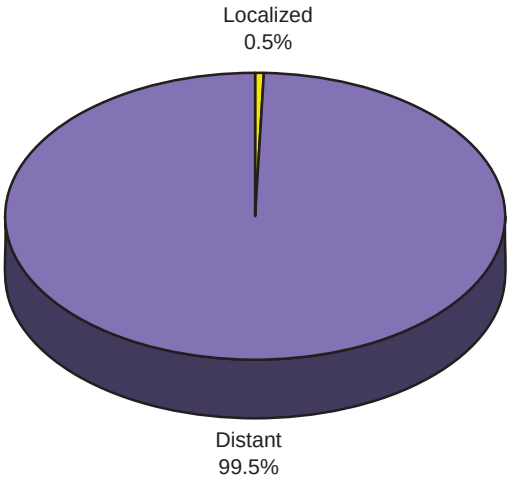
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	14.1	17.3	11.6
# of new invasive cases	208	119	89
# of new in-situ cases	0	0	0
# of deaths	100	54	46

Total Cases by County

Ada	51	Cassia	-	Lewis	1
Adams	-	Clark	1	Lincoln	-
Bannock	10	Clearwater	2	Madison	-
Bear Lake	-	Custer	2	Minidoka	3
Benewah	2	Elmore	2	Nez Perce	7
Bingham	6	Franklin	-	Oneida	1
Blaine	2	Fremont	2	Owyhee	1
Boise	-	Gem	2	Payette	5
Bonner	11	Gooding	1	Power	1
Bonneville	8	Idaho	4	Shoshone	3
Boundary	1	Jefferson	-	Teton	1
Butte	-	Jerome	-	Twin Falls	10
Camas	-	Kootenai	24	Valley	1
Canyon	35	Latah	1	Washington	6
Caribou	-	Lemhi	1		

Stage at Diagnosis - Leukemia



Risk and Associated Factors

Age This 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.

Gender Males have higher incidence rates than females for chronic myelogenous leukemia (CML), acute lymphoblastic leukemia (ALL), and chronic lymphocytic leukemia (CLL).

Race ALL is less common among African Americans. CLL is rare in Asians.

Genetics Certain congenital defects, such as trisomy 21, Fanconi's anemia, Bloom syndrome, and ataxia-telangectasia, increase risk in children for various types of leukemia.

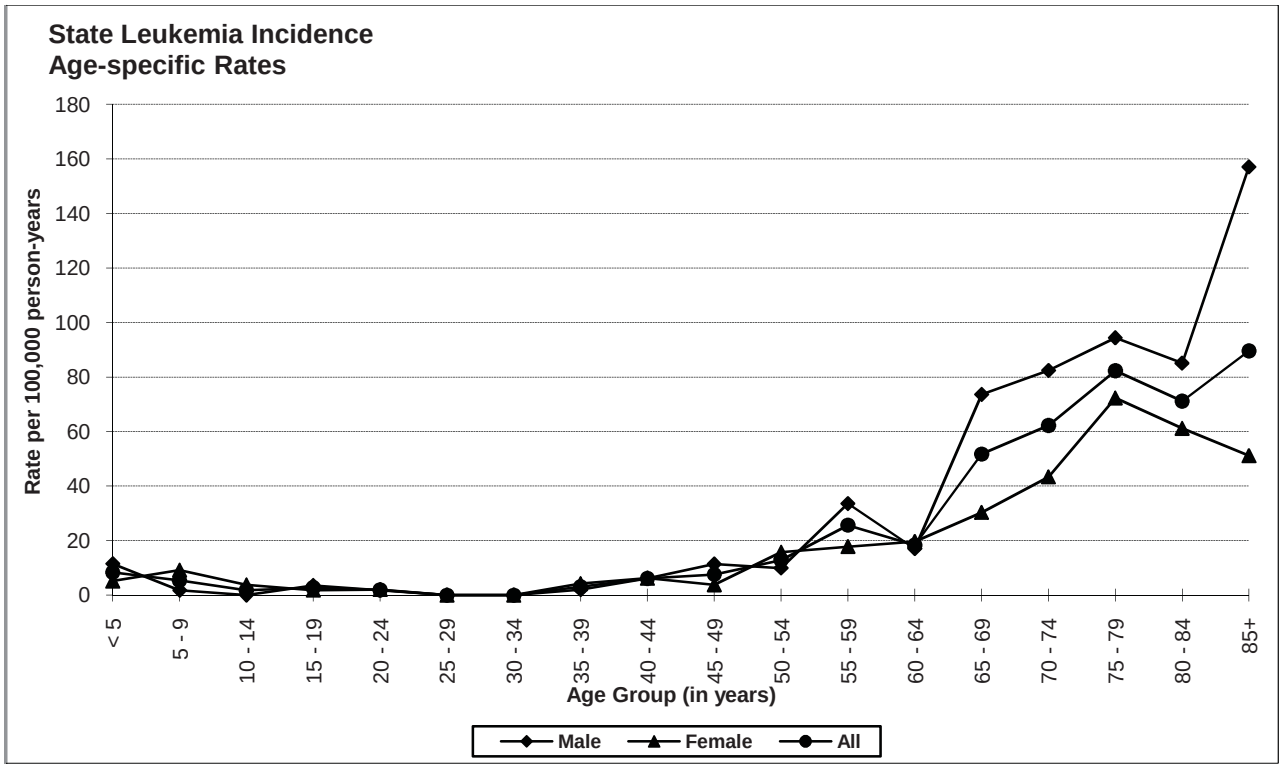
Occupation Benzene is a known cause of leukemia (predominantly acute myelogenous leukemia [AML]). Chimney sweeps exposed to soot are at higher risk.

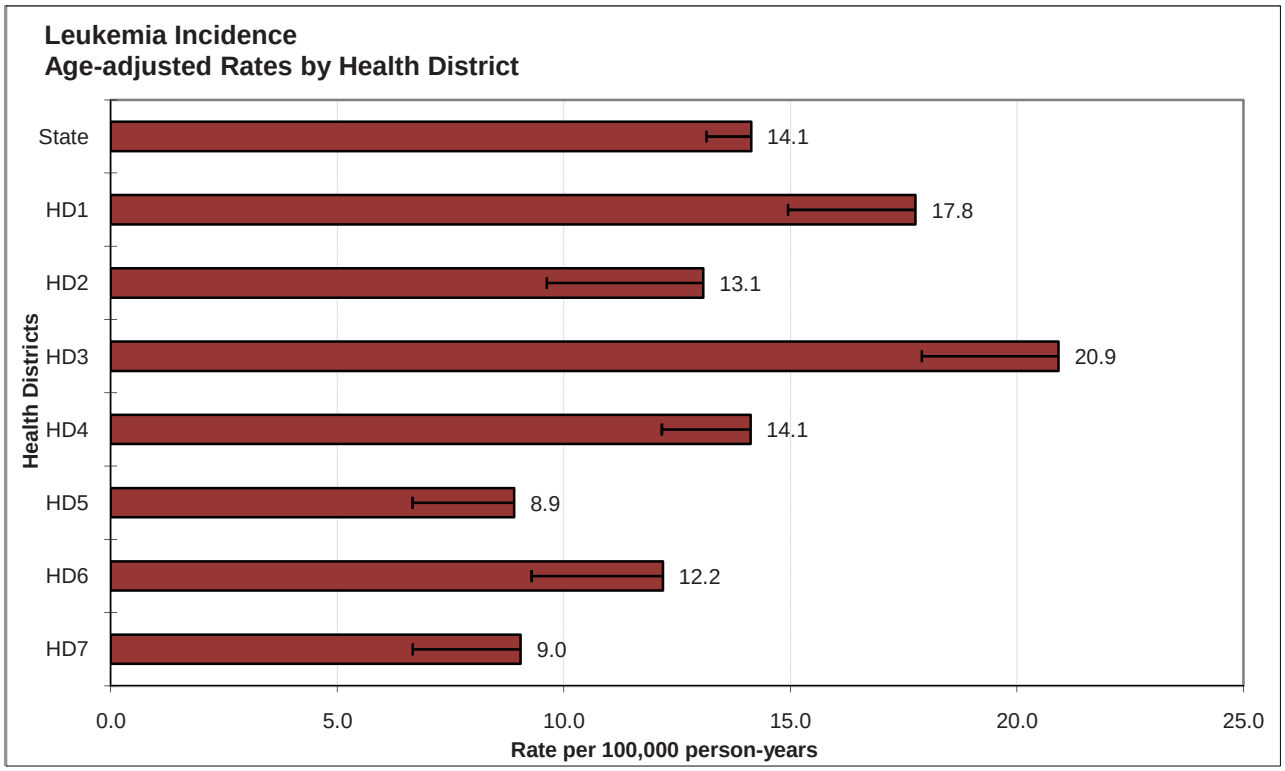
Other Ionizing radiation exposure increases the risk (except for CLL). Environmental exposure to low frequency, non-ionizing radiation and its association with leukemia incidence is being investigated. Treatment with some chemotherapeutic agents for other cancers increases the risk of leukemia. Exposure to herbicides used during the Vietnam War, including Agent Orange, has been associated with increased incidence of CLL. The antibiotic chloramphenicol likely causes leukemia. Autoimmune diseases and several viruses, including HTLV-I and EBV, have been linked to certain types of leukemia.

Special Notes

Mean age-adjusted incidence rate across health districts:	13.7	
95% confidence interval on the mean age-adjusted incidence rate:	10.5-	17.0
Median age-adjusted incidence rate of health districts:	13.1	
Range of age-adjusted incidence rate for health districts:	8.9-	20.9
SEER 17 rate (2006, all races):	11.5	
USCS rate (2005, all races):	11.6	

The age-specific incidence distribution of leukemia for Idaho is quite similar to the typical pattern described by the SEER program of the National Cancer Institute. The rates are higher for males than females for all types of leukemia with the exception of acute myelogenous leukemia (AML), which has no predilection for age or sex. Generally, the incidence of leukemia is higher in older age groups. Health District 3 had statistically significantly more cases of cancer than expected based upon rates for the remainder of Idaho, and Health District 5 had statistically significantly fewer cases than expected.


State Leukemia Incidence
Age-specific Rates
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
14.1
17.8
13.1
20.9
14.1
8.9
12.2
9.0
0.0
5.0
10.0
15.0
20.0
25.0
Rate per 100,000 person-years

LIVER AND BILE DUCT

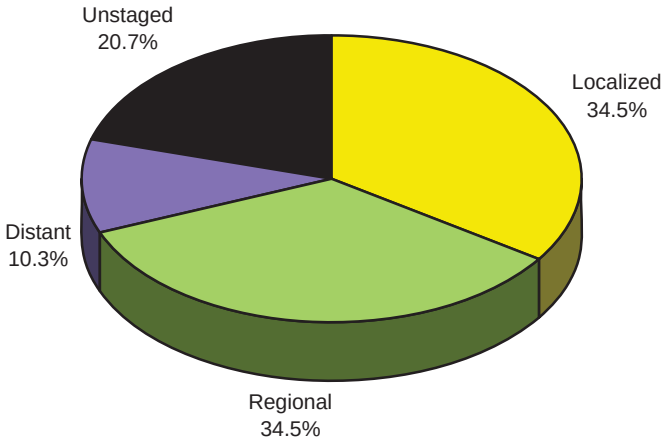
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	4.0	5.0	3.0
# of new invasive cases	58	35	23
# of new in-situ cases	0	0	0
# of deaths	52	26	26

Total Cases by County

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

Stage at Diagnosis - Liver and Bile Duct



Risk and Associated Factors

Age The incidence rate of liver cancer increases with age.

Gender Rates are usually higher among males than females.

Race Incidence is higher among Asians and African Americans than the remainder of the population.

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

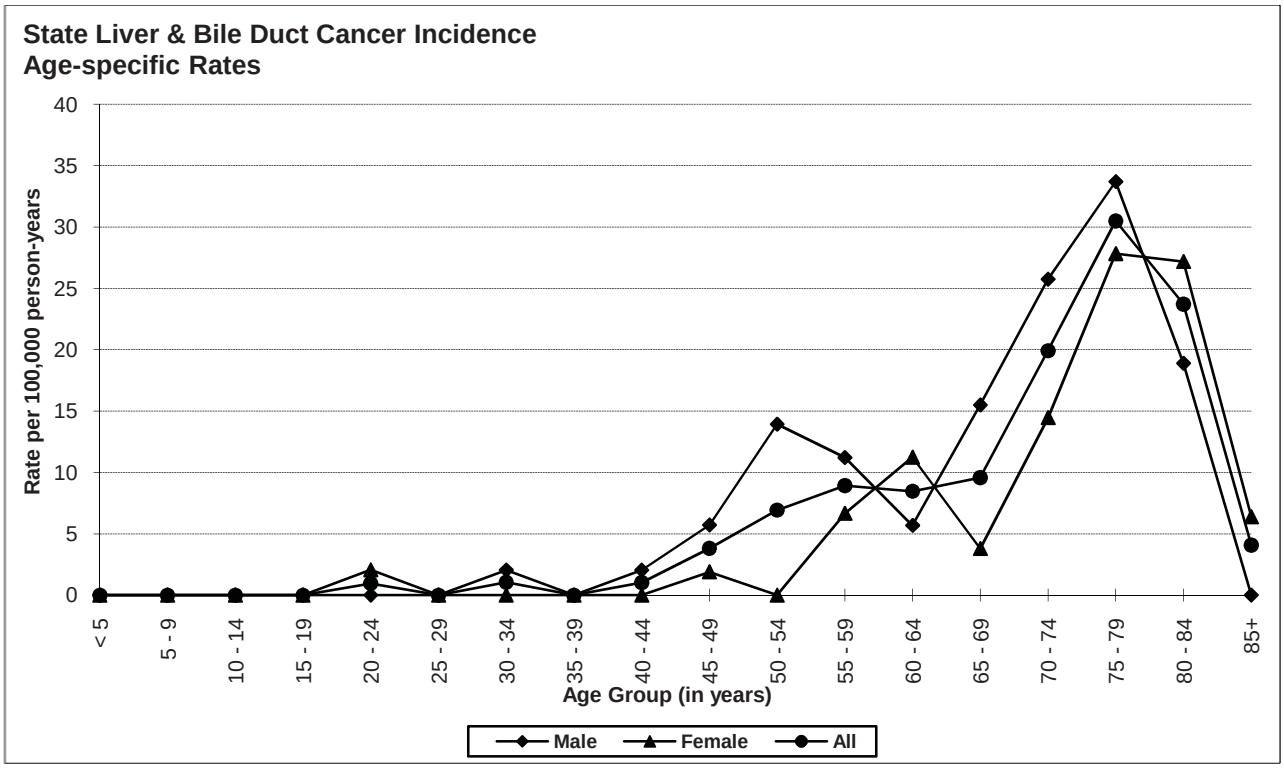
Occupation Thorium dioxide (an x-ray contrast medium) exposure increases liver cancer risk. Exposure to vinyl chloride used in plastic production is associated with an increased risk of angiosarcoma of the liver. Chimney sweeps exposed to soot are at higher risk.

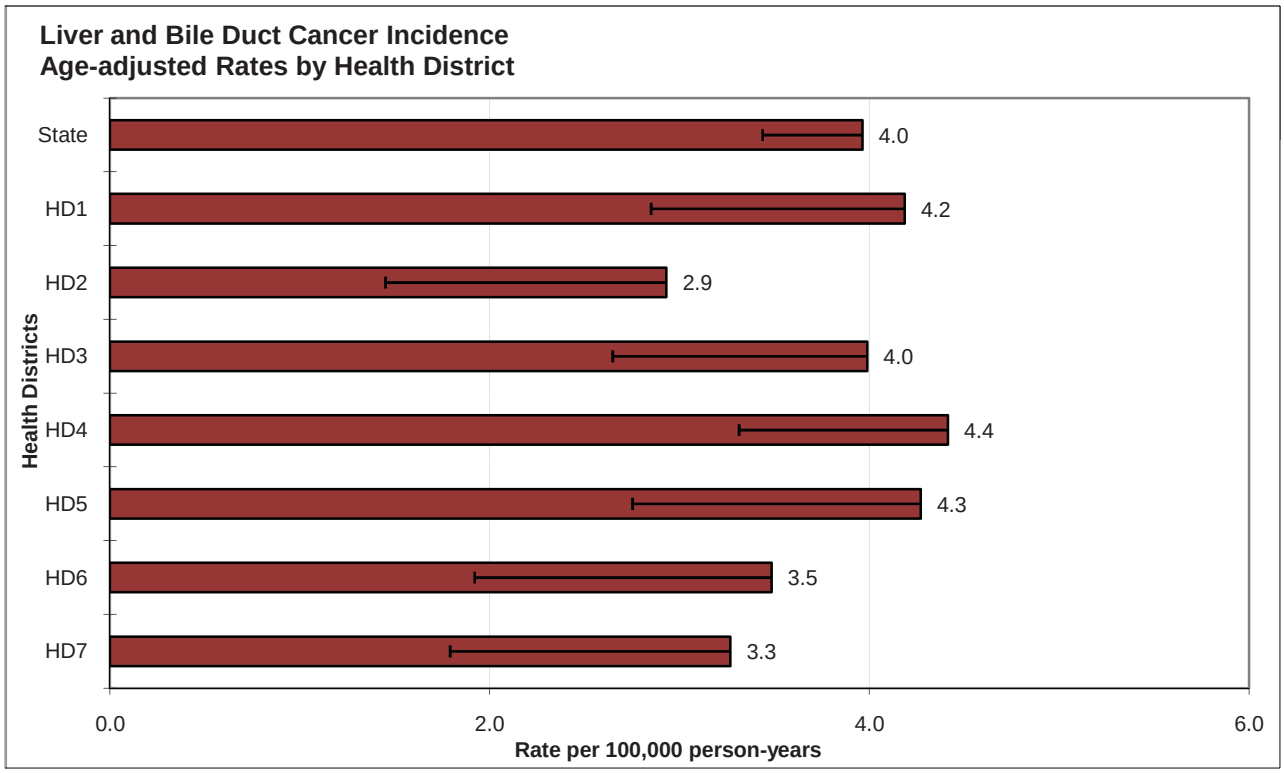
Other Hepatitis B and Hepatitis C infections are significant causes of hepatocellular carcinoma. Cirrhosis of the liver due to viral hepatitis, alcoholism, or toxic chemical exposure accounts for 50-80% of patients diagnosed with liver cancer. Long-term use of oral contraceptives increases risk of hepatocellular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

Special Notes

Mean age-adjusted incidence rate across health districts:	3.8	
95% confidence interval on the mean age-adjusted incidence rate:	3.4-	4.2
Median age-adjusted incidence rate of health districts:	4.0	
Range of age-adjusted incidence rate for health districts:	2.9-	4.4
SEER 17 rate (2006, all races):	6.9	
USCS rate (2005, all races):	5.8	

There were few cases of liver cancer among persons less than 45 years of age. Age-specific incidence rates increased with age, peaking in the age group 75-79 for males and females. 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
Rate per 100,000 person-years
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


Liver and Bile Duct Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
4.0
4.2
2.9
4.0
4.4
4.3
3.5
3.3
0.0
2.0
4.0
6.0
Rate per 100,000 person-years

LUNG AND BRONCHUS

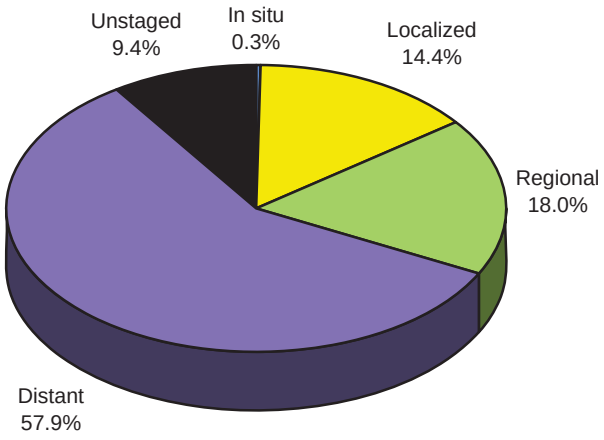
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	54.6	64.2	47.2
# of new invasive cases	792	426	366
# of new in-situ cases	2	2	0
# of deaths	595	332	263

Total Cases by County

Ada	189	Cassia	11	Lewis	5
Adams	4	Clark	1	Lincoln	1
Bannock	28	Clearwater	11	Madison	4
Bear Lake	2	Custer	5	Minidoka	9
Benewah	15	Elmore	16	Nez Perce	36
Bingham	17	Franklin	-	Oneida	2
Blaine	4	Fremont	2	Owyhee	12
Boise	2	Gem	18	Payette	18
Bonner	17	Gooding	15	Power	4
Bonneville	40	Idaho	14	Shoshone	15
Boundary	7	Jefferson	5	Teton	-
Butte	1	Jerome	17	Twin Falls	47
Camas	-	Kootenai	93	Valley	3
Canyon	80	Latah	6	Washington	6
Caribou	5	Lemhi	7		

Stage at Diagnosis - Lung and Bronchus



Risk and Associated Factors

Age Lung cancer incidence rates increase with age.

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

Race & SES Generally, incidence is higher among African Americans than other racial groups, and is also higher in lower income groups.

Diet Diets low in consumption of fresh fruits and vegetables contribute to increased risk.

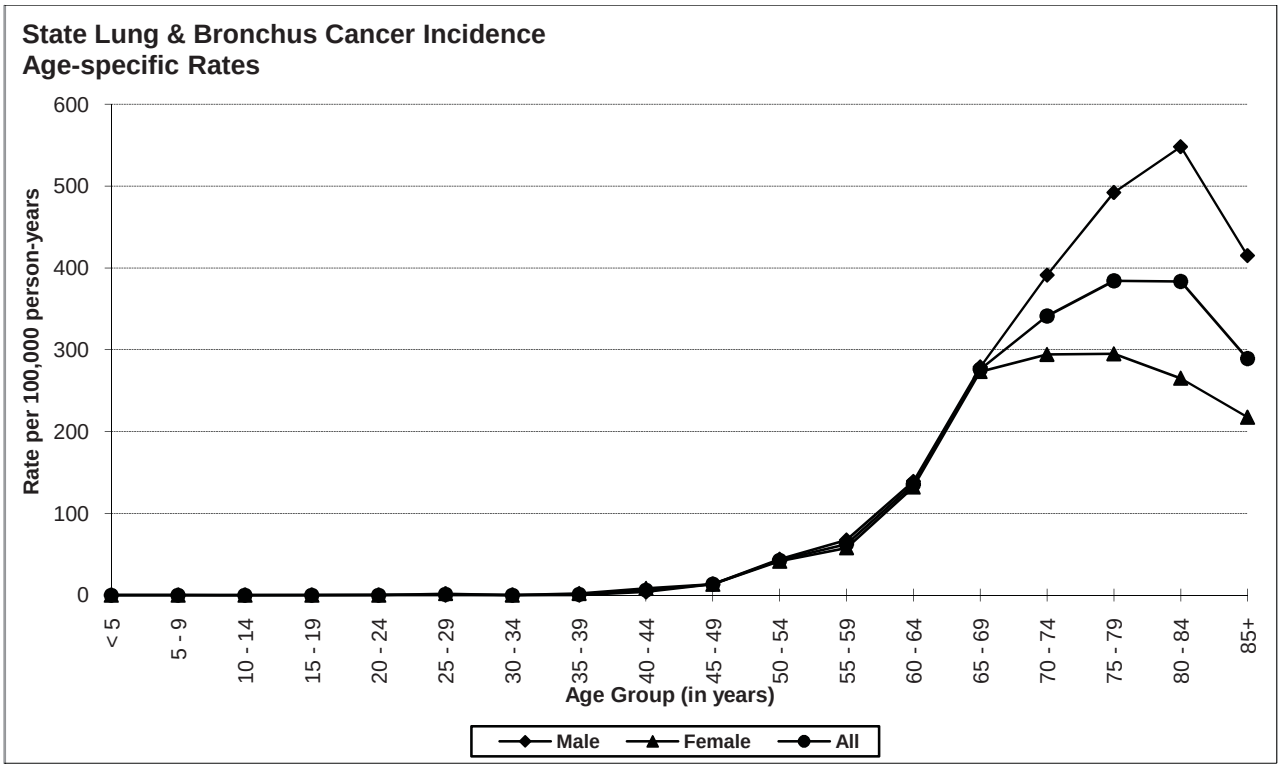
Occupation Occupational or environmental exposures to asbestos, cadmium, chromium, coal tars, crystalline silica dust, polycyclic aromatic hydrocarbons, radon, soot, chlorpyrifos insecticides, ionizing radiation, and other substances increase the risk.

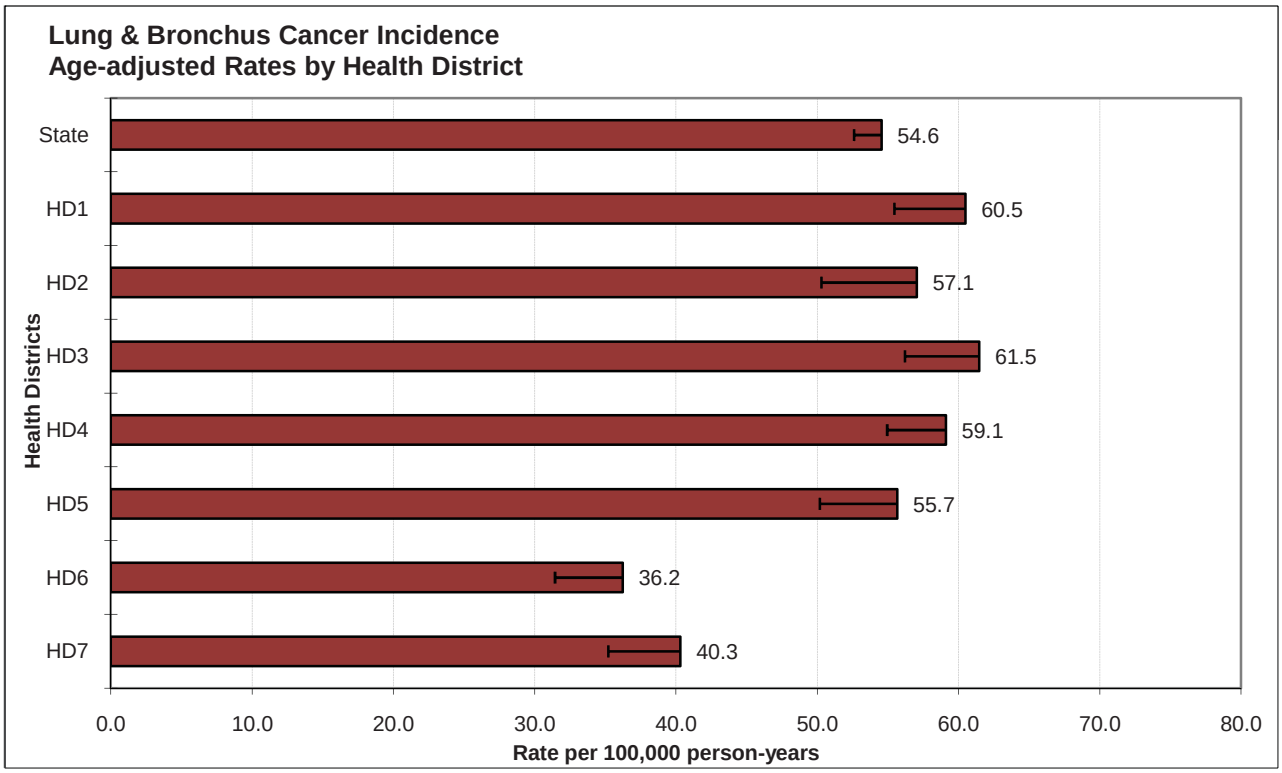
Other Cigarette smoking, including exposure to second-hand smoke, is the most important risk factor, accounting for over 85% of lung cancer deaths. Evidence exists that rates are about 1.3 times higher, adjusted for smoking, in urban areas than rural areas due to air pollution, mostly from motor vehicles.

Special Notes

Mean age-adjusted incidence rate across health districts:	52.9	
95% confidence interval on the mean age-adjusted incidence rate:	45.3-	60.5
Median age-adjusted incidence rate of health districts:	57.1	
Range of age-adjusted incidence rate for health districts:	36.2-	61.5
SEER 17 rate (2006, all races):	60.7	
USCS rate (2005, all races):	67.6	

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 69. The incidence rates increased with age, peaking in the age group 80-84 for males and 75-79 for females. Health Districts 6 and 7 had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho.


State Lung & Bronchus Cancer Incidence
Age-specific Rates
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)
Male
Female
All


Lung & Bronchus Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
54.6
60.5
57.1
61.5
59.1
55.7
36.2
40.3
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

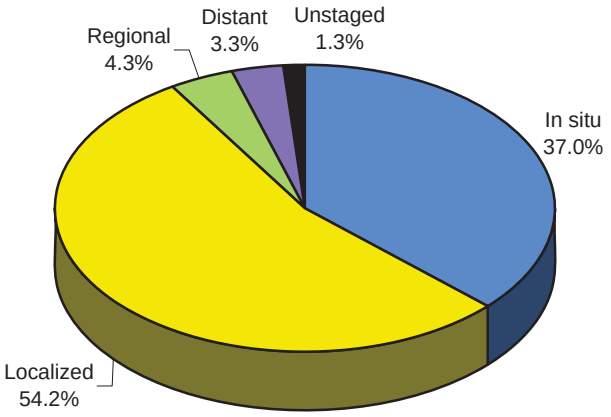
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	23.3	28.0	19.3
# of new invasive cases	341	197	144
# of new in-situ cases	200	114	86
# of deaths	43	30	13

Total Cases by County

Ada	143	Cassia	4	Lewis	3
Adams	-	Clark	-	Lincoln	1
Bannock	9	Clearwater	6	Madison	5
Bear Lake	3	Custer	-	Minidoka	7
Benewah	1	Elmore	1	Nez Perce	8
Bingham	7	Franklin	5	Oneida	1
Blaine	12	Fremont	3	Owyhee	2
Boise	2	Gem	4	Payette	6
Bonner	26	Gooding	7	Power	-
Bonneville	17	Idaho	7	Shoshone	4
Boundary	5	Jefferson	1	Teton	2
Butte	-	Jerome	8	Twin Falls	31
Camas	-	Kootenai	83	Valley	1
Canyon	70	Latah	5	Washington	3
Caribou	-	Lemhi	5		

Stage at Diagnosis - Melanoma of Skin



Risk and Associated Factors

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

Gender Incidence rates are higher among males than females.

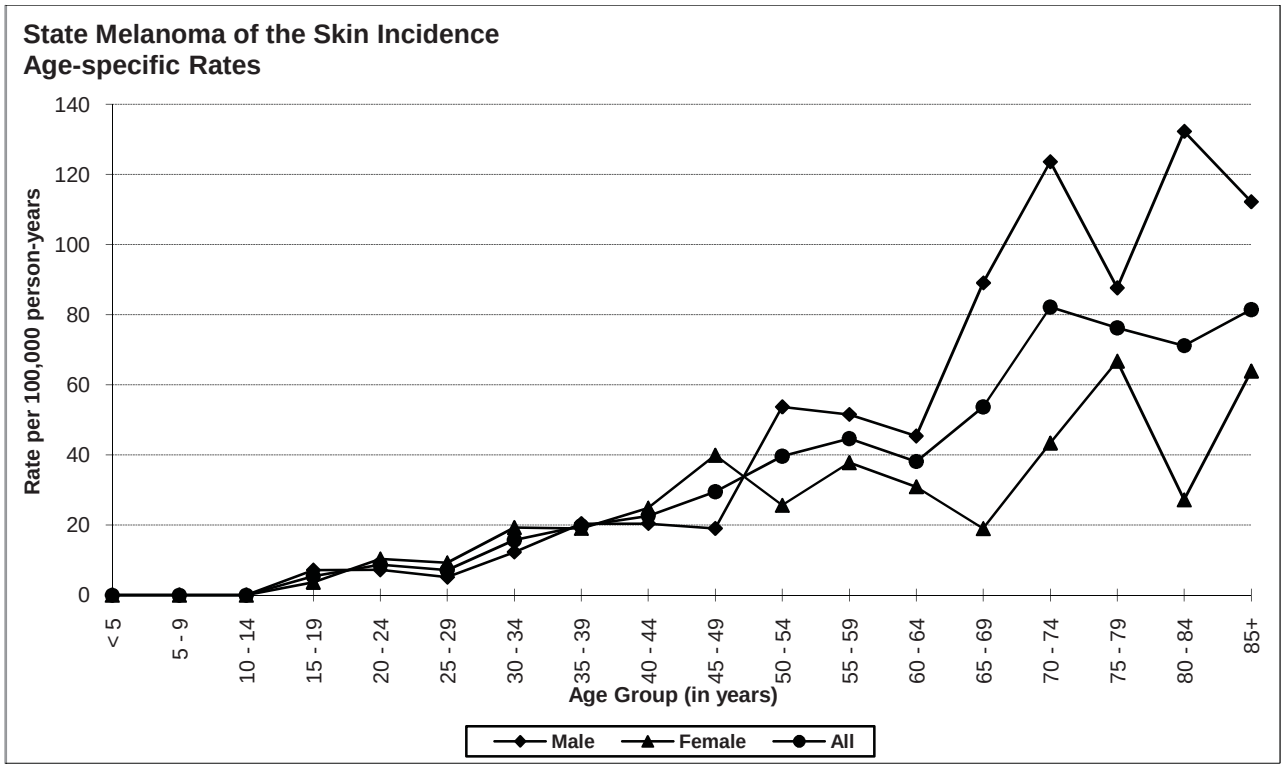
Race & SES The incidence rate is highest in Caucasians and lowest in African Americans. Incidence rates of melanoma of the skin are higher in higher income groups (indoor workers).

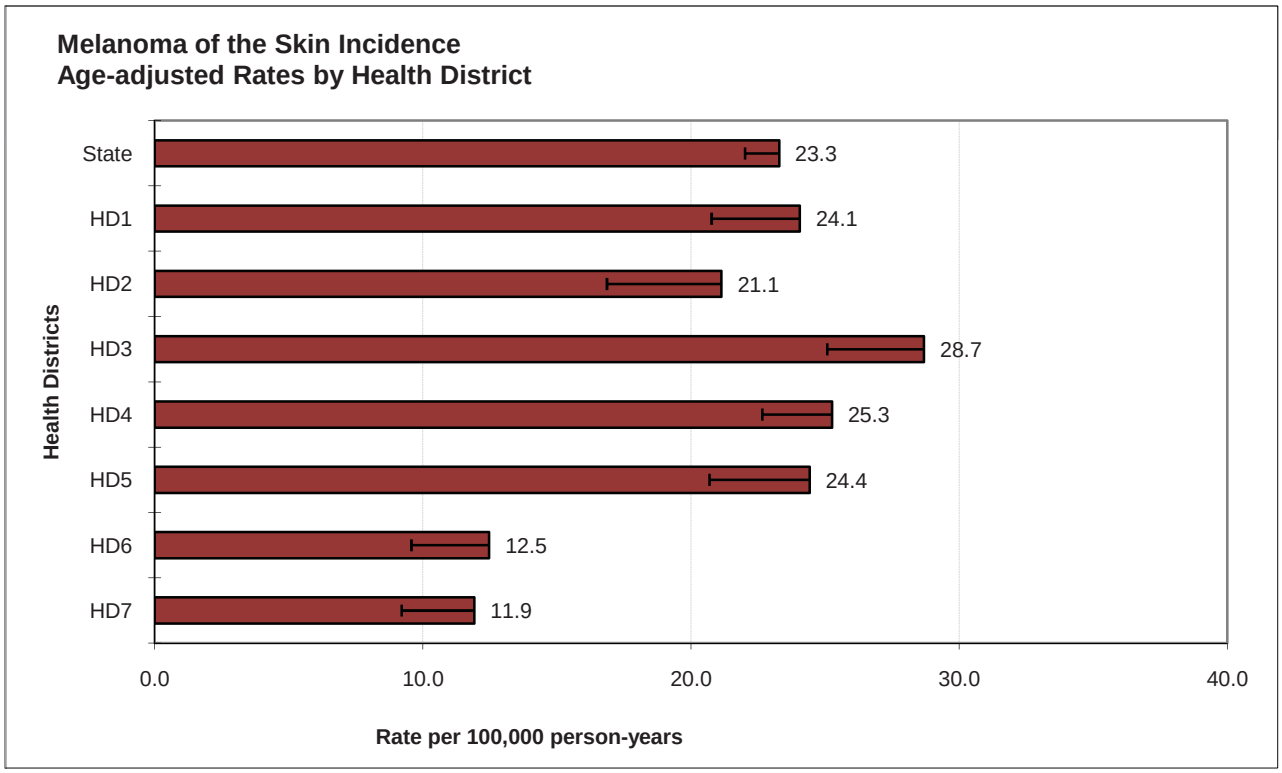
Other Ultra-violet light exposure, especially blistering sunburns during childhood, is a major risk factor. Melanoma incidence rates are increasing around the world. Blue eyes, fair or red hair and pale complexion are well-known risk factors for melanoma. Apart from race and age, the number of melanocytic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

Special Notes

Mean age-adjusted incidence rate across health districts:	21.1	
95% confidence interval on the mean age-adjusted incidence rate:	16.3-	25.9
Median age-adjusted incidence rate of health districts:	24.1	
Range of age-adjusted incidence rate for health districts:	11.9-	28.7
SEER 17 rate (2006, all races):	19.8	
USCS rate (2005, all races):	18.4	

There were few cases of melanoma of the skin among persons less than 25 years of age. The age-specific incidence rates were generally higher among males after age 50. Health Districts 6 and 7 had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho.


State Melanoma of the Skin Incidence
Age-specific Rates
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


Melanoma of the Skin Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
23.3
24.1
21.1
28.7
25.3
24.4
12.5
11.9
0.0
10.0
20.0
30.0
40.0
Rate per 100,000 person-years

MYELOMA

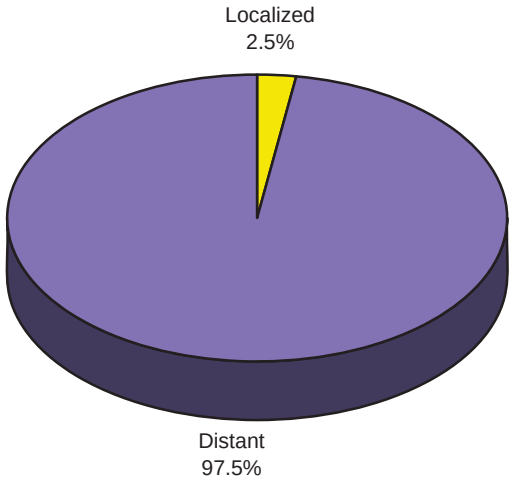
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	5.4	7.4	3.9
# of new invasive cases	80	50	30
# of new in-situ cases	0	0	0
# of deaths	45	24	21

Total Cases by County

Ada	11	Cassia	1	Lewis	1
Adams	-	Clark	-	Lincoln	-
Bannock	2	Clearwater	1	Madison	-
Bear Lake	-	Custer	1	Minidoka	2
Benewah	2	Elmore	-	Nez Perce	4
Bingham	2	Franklin	-	Oneida	-
Blaine	1	Fremont	3	Owyhee	2
Boise	2	Gem	1	Payette	2
Bonner	2	Gooding	3	Power	-
Bonneville	5	Idaho	3	Shoshone	2
Boundary	1	Jefferson	3	Teton	1
Butte	-	Jerome	2	Twin Falls	1
Camas	-	Kootenai	3	Valley	-
Canyon	12	Latah	2	Washington	-
Caribou	1	Lemhi	1		

Stage at Diagnosis - Myeloma



Risk and Associated Factors

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

Gender Rates for males are somewhat higher than for females.

Race African Americans have higher incidence rates than Caucasians.

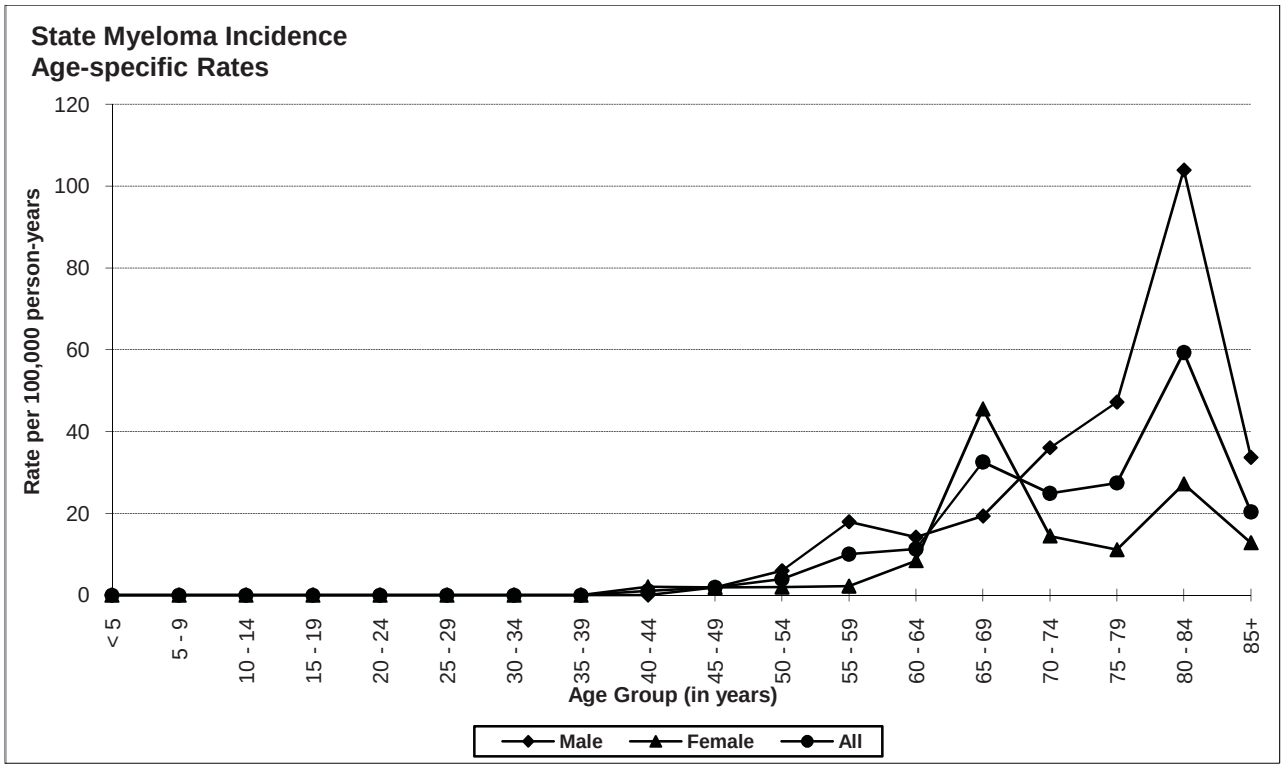
Genetics Genetic factors play an important role in its development but how so is not completely understood. Familial factors and chronic antigenic stimulation have also been implicated.

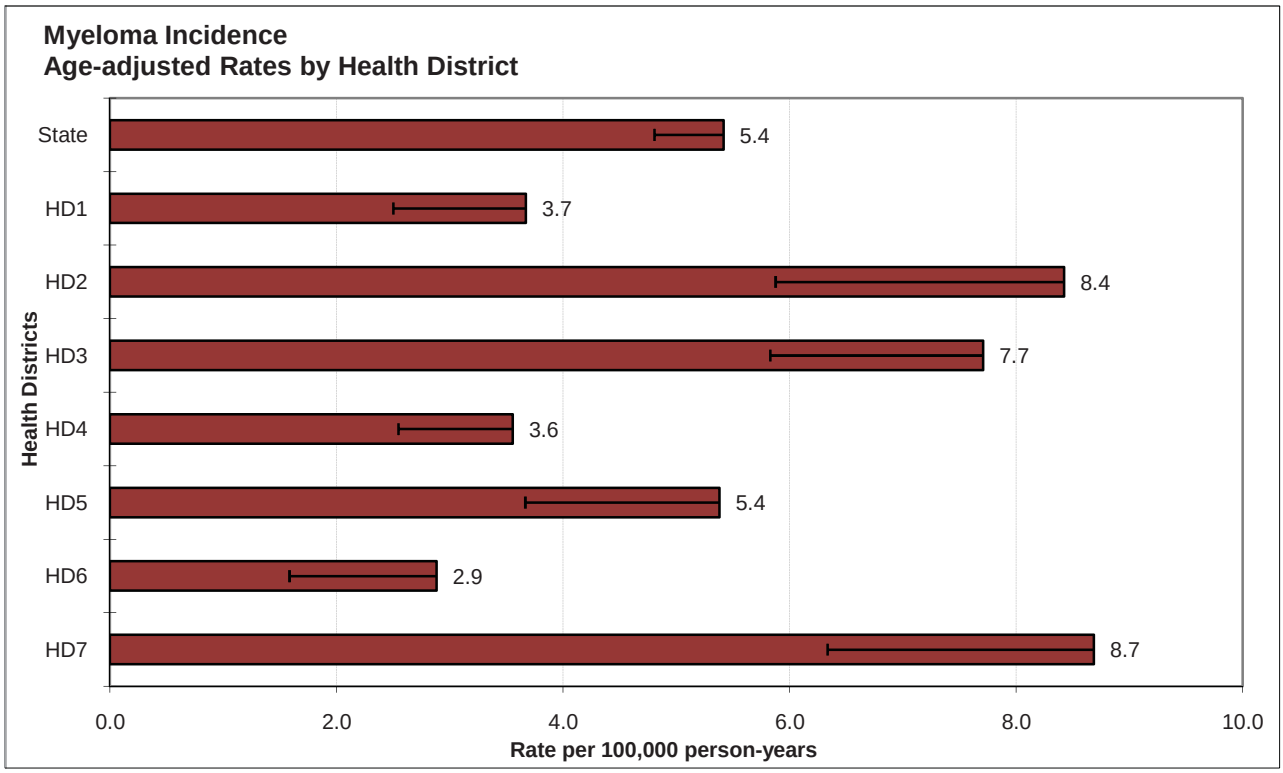
Other Multiple myeloma has been associated with lymphomas such as Burkitt's and non-Hodgkin lymphomas. Studies have suggested several possible viral etiologies, and multiple myeloma has been linked to ionizing radiation exposure. Several specific chemical and physical substances have been linked to myeloma 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 are predisposed to develop multiple myeloma.

Special Notes

Mean age-adjusted incidence rate across health districts:	5.8	
95% confidence interval on the mean age-adjusted incidence rate:	3.9-	7.6
Median age-adjusted incidence rate of health districts:	5.4	
Range of age-adjusted incidence rate for health districts:	2.9-	8.7
SEER 17 rate (2006, all races):	5.3	
USCS rate (2005, all races):	5.4	

There were few cases of plasma cell tumors among persons less than 45 years of age. The age-specific incidence rates increased rapidly for both males and females after age group 60-64. 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
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)
Male
Female
All


Myeloma Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
5.4
3.7
8.4
7.7
3.6
5.4
2.9
8.7
0.0
2.0
4.0
6.0
8.0
10.0
Rate per 100,000 person-years

NON-HODGKIN LYMPHOMA

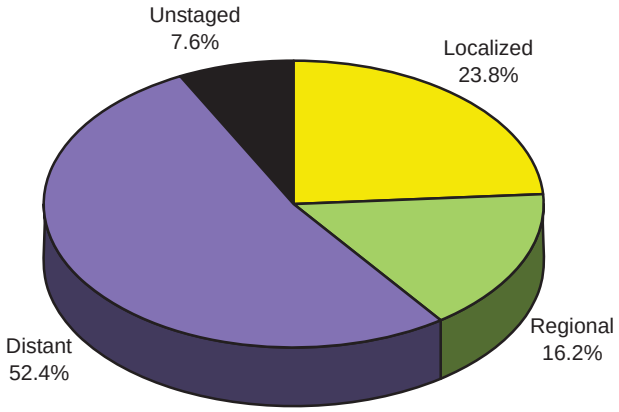
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	19.7	23.7	16.2
# of new invasive cases	290	163	127
# of new in-situ cases	0	0	0
# of deaths	98	43	55

Total Cases by County

Ada	75	Cassia	3	Lewis	1
Adams	1	Clark	-	Lincoln	1
Bannock	12	Clearwater	4	Madison	4
Bear Lake	-	Custer	1	Minidoka	5
Benewah	-	Elmore	4	Nez Perce	8
Bingham	15	Franklin	1	Oneida	2
Blaine	4	Fremont	4	Owyhee	-
Boise	1	Gem	5	Payette	6
Bonner	11	Gooding	1	Power	-
Bonneville	21	Idaho	3	Shoshone	1
Boundary	3	Jefferson	1	Teton	1
Butte	-	Jerome	8	Twin Falls	10
Camas	-	Kootenai	21	Valley	1
Canyon	36	Latah	9	Washington	2
Caribou	-	Lemhi	1		

Stage at Diagnosis - Non-Hodgkin Lymphoma



Risk and Associated Factors

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

Gender Males have higher rates than females.

Race & SES Generally in the United States, incidence rates are higher for Caucasians than African Americans. Rates are higher in upper income groups.

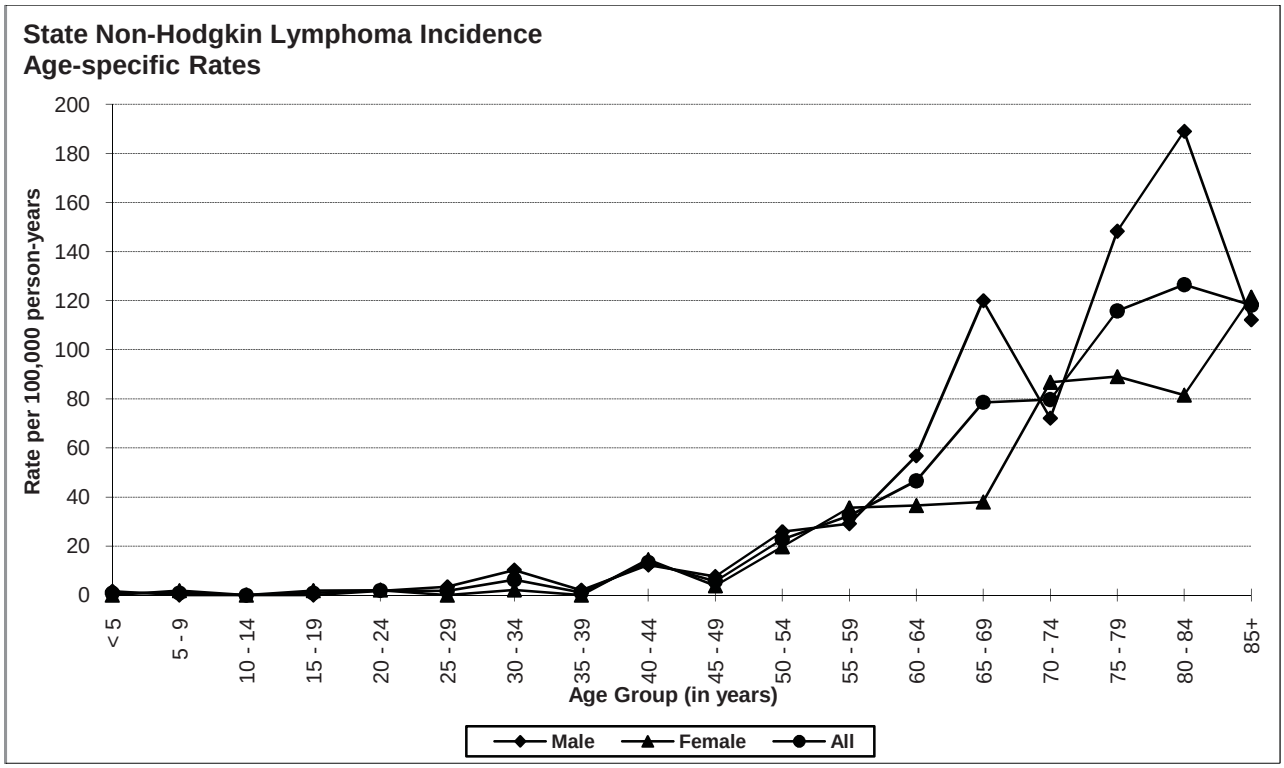
Occupation Ethylene oxide exposure at plants producing sterilized medical supplies and spices is a risk factor.

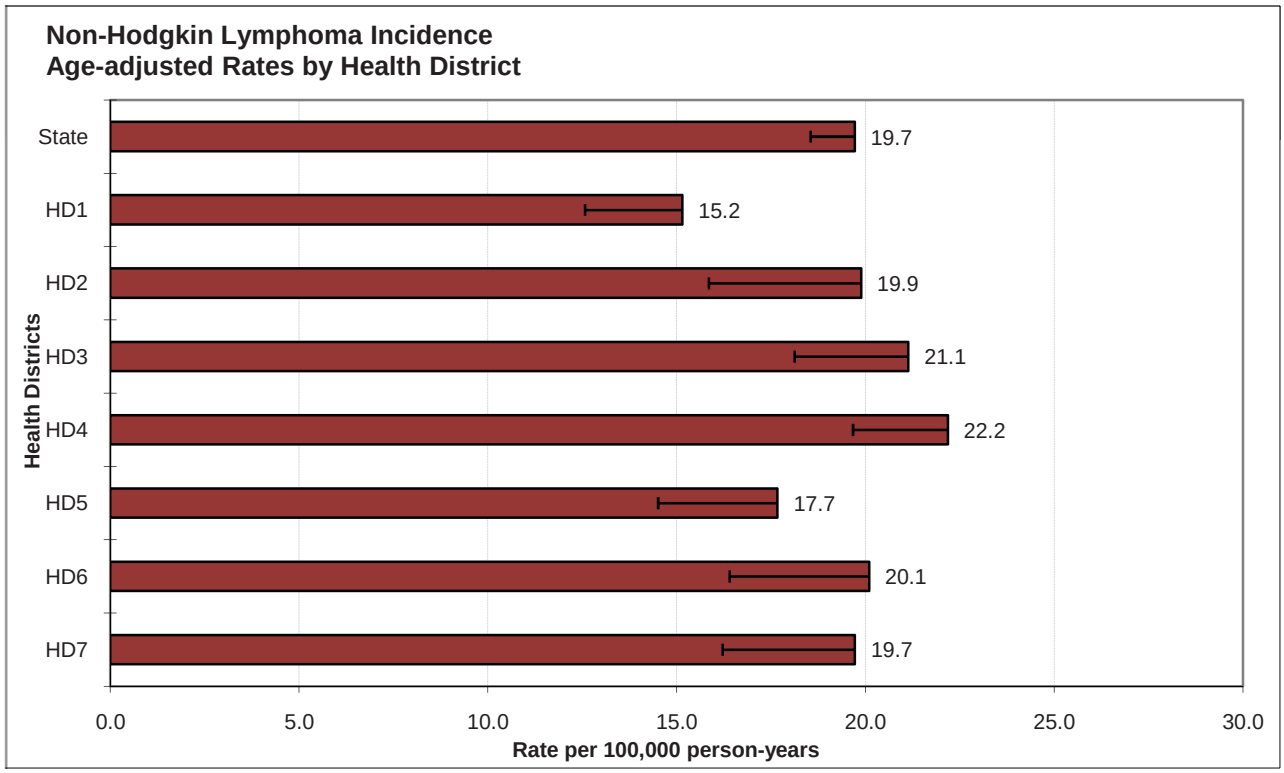
Other Non-Hodgkin lymphoma (NHL) develops with increased frequency in individuals infected with certain viruses, including HTLV-I, HIV, and EBV. Exposures to agricultural chemicals and PCBs have also been implicated. Treatment with some immunosuppressants increases the risk of NHL among organ transplant patients, evidently by reactivating Epstein-Barr virus.

Special Notes

Mean age-adjusted incidence rate across health districts:	19.4	
95% confidence interval on the mean age-adjusted incidence rate:	17.7-	21.1
Median age-adjusted incidence rate of health districts:	19.9	
Range of age-adjusted incidence rate for health districts:	15.2-	22.2
SEER 17 rate (2006, all races):	19.2	
USCS rate (2005, all races):	18.9	

The age-specific incidence rates of non-Hodgkin lymphoma increased with age, peaking in the age group 80-84 for males and 85+ for females. Health District 1 had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho.


State Non-Hodgkin Lymphoma Incidence
Age-specific Rates
Rate per 100,000 person-years
200
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


Non-Hodgkin Lymphoma Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
19.7
15.2
19.9
21.1
22.2
17.7
20.1
19.7
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Rate per 100,000 person-years

ORAL CAVITY AND PHARYNX

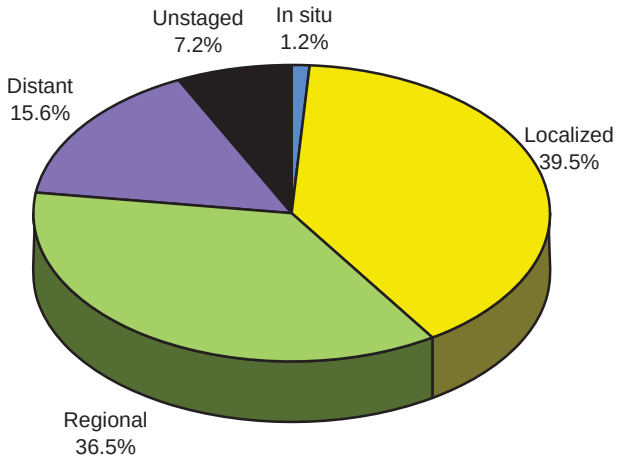
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	10.9	15.9	6.4
# of new invasive cases	165	115	50
# of new in-situ cases	2	2	0
# of deaths	32	20	12

Total Cases by County

Ada	36	Cassia	-	Lewis	2
Adams	1	Clark	-	Lincoln	2
Bannock	7	Clearwater	1	Madison	1
Bear Lake	2	Custer	-	Minidoka	3
Benewah	1	Elmore	2	Nez Perce	4
Bingham	5	Franklin	1	Oneida	-
Blaine	2	Fremont	1	Owyhee	1
Boise	1	Gem	1	Payette	3
Bonner	7	Gooding	2	Power	-
Bonneville	10	Idaho	1	Shoshone	2
Boundary	1	Jefferson	3	Teton	1
Butte	-	Jerome	-	Twin Falls	12
Camas	-	Kootenai	21	Valley	4
Canyon	16	Latah	3	Washington	3
Caribou	-	Lemhi	-		

Stage at Diagnosis - Oral Cavity and Pharynx



Risk and Associated Factors

Age Most cases occur in people over age 60.

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

Race & SES Rates are higher for African Americans than for Caucasians. Rates are also higher among lower income groups.

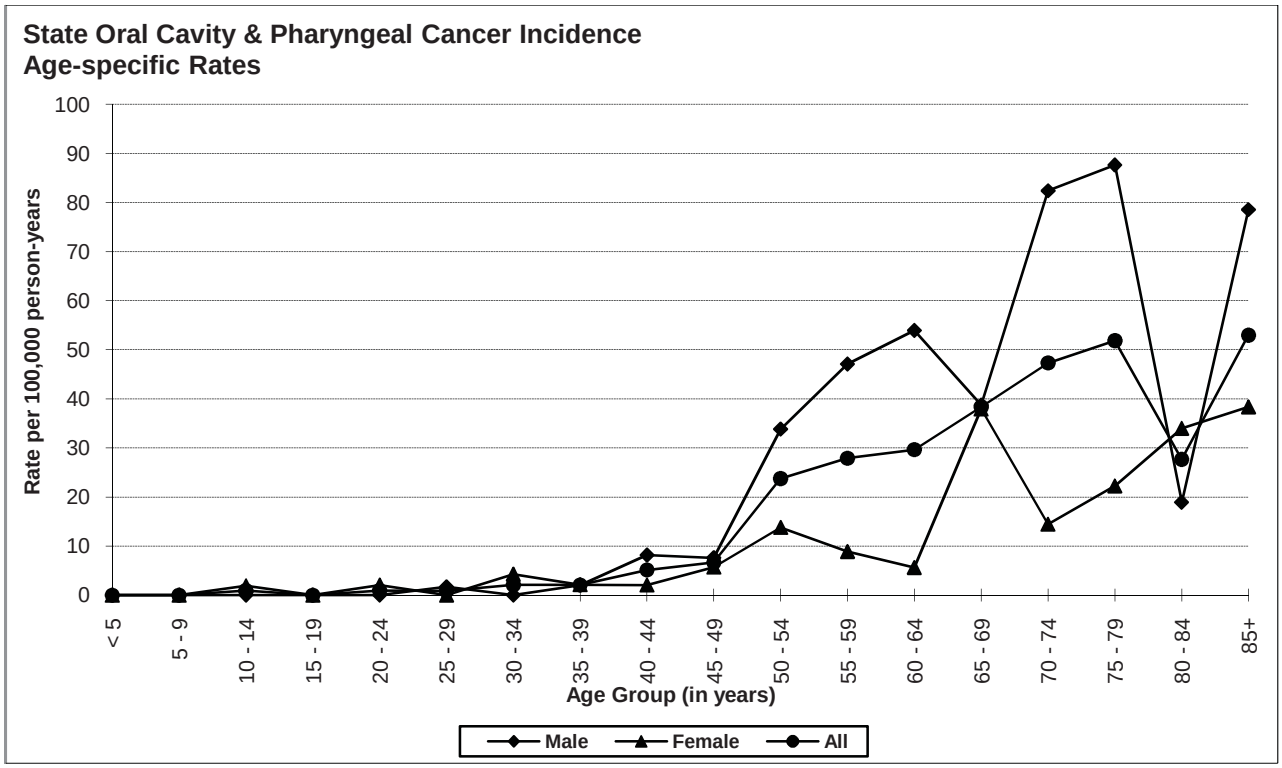
Diet Diets low in fresh fruit and vegetable consumption are associated with increased risk.

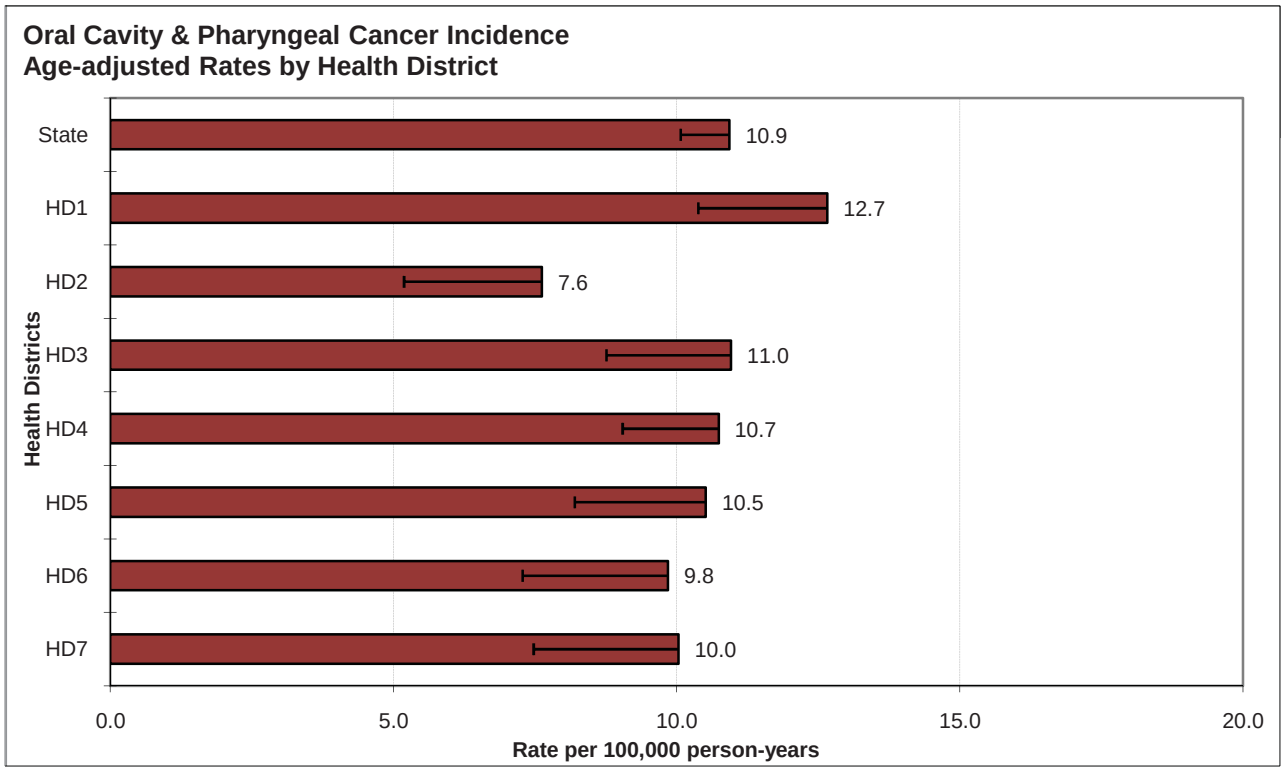
Other Smoking and spit tobacco use are major risk factors for cancers of the oral cavity and pharynx. Alcohol use, especially excessive, is a major risk factor. Combined exposure to tobacco and alcohol multiply the risks of each other. It is estimated that smoking and drinking account for 75% of all 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.

Special Notes

Mean age-adjusted incidence rate across health districts:	10.3	
95% confidence interval on the mean age-adjusted incidence rate:	9.2-	11.5
Median age-adjusted incidence rate of health districts:	10.5	
Range of age-adjusted incidence rate for health districts:	7.6-	12.7
SEER 17 rate (2006, all races):	10.2	
USCS rate (2005, all races):	10.3	

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 49, peaking in the age group 75-79 for males and 85+ for females. No health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Oral Cavity & Pharyngeal Cancer Incidence
Age-specific Rates
Rate per 100,000 person-years
100
90
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


Oral Cavity & Pharyngeal Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
10.9
12.7
7.6
11.0
10.7
10.5
9.8
10.0
0.0
5.0
10.0
15.0
20.0
Rate per 100,000 person-years

OVARY

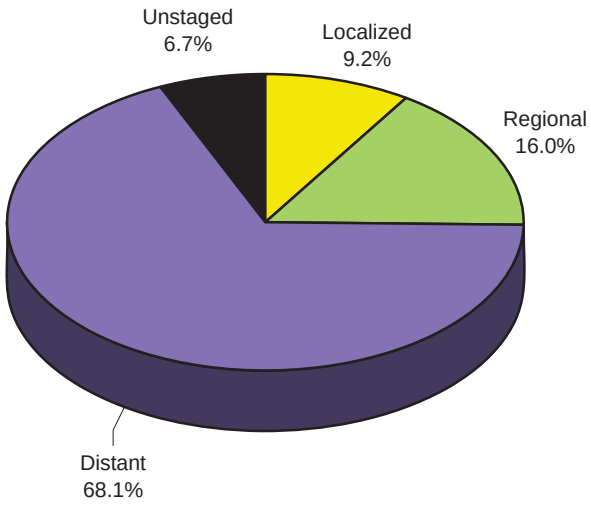
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	-	15.0
# of new invasive cases	-	-	119
# of new in-situ cases	-	-	-
# of deaths	-	-	73

Total Cases by County

Ada	27	Cassia	2	Lewis	1
Adams	-	Clark	-	Lincoln	-
Bannock	6	Clearwater	3	Madison	3
Bear Lake	-	Custer	1	Minidoka	1
Benewah	1	Elmore	2	Nez Perce	6
Bingham	4	Franklin	1	Oneida	2
Blaine	2	Fremont	-	Owyhee	-
Boise	-	Gem	1	Payette	1
Bonner	6	Gooding	-	Power	1
Bonneville	6	Idaho	1	Shoshone	-
Boundary	2	Jefferson	3	Teton	-
Butte	-	Jerome	3	Twin Falls	9
Camas	-	Kootenai	6	Valley	1
Canyon	13	Latah	4	Washington	-
Caribou	-	Lemhi	-		

Stage at Diagnosis - Ovary



Risk and Associated Factors

Age The rate of ovarian cancer increases with age, and it is primarily a disease of older women.

Race & SES Incidence rates are slightly higher among Caucasian females than African Americans. Rates are higher among upper income 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.

Hormonal Risk of ovarian cancer is significantly reduced via suppression of ovulation through pregnancy or oral contraceptive use. Highest risk is in post-menopausal women. Ovarian cancer is also associated with a personal history of breast, endometrial, and colon cancers.

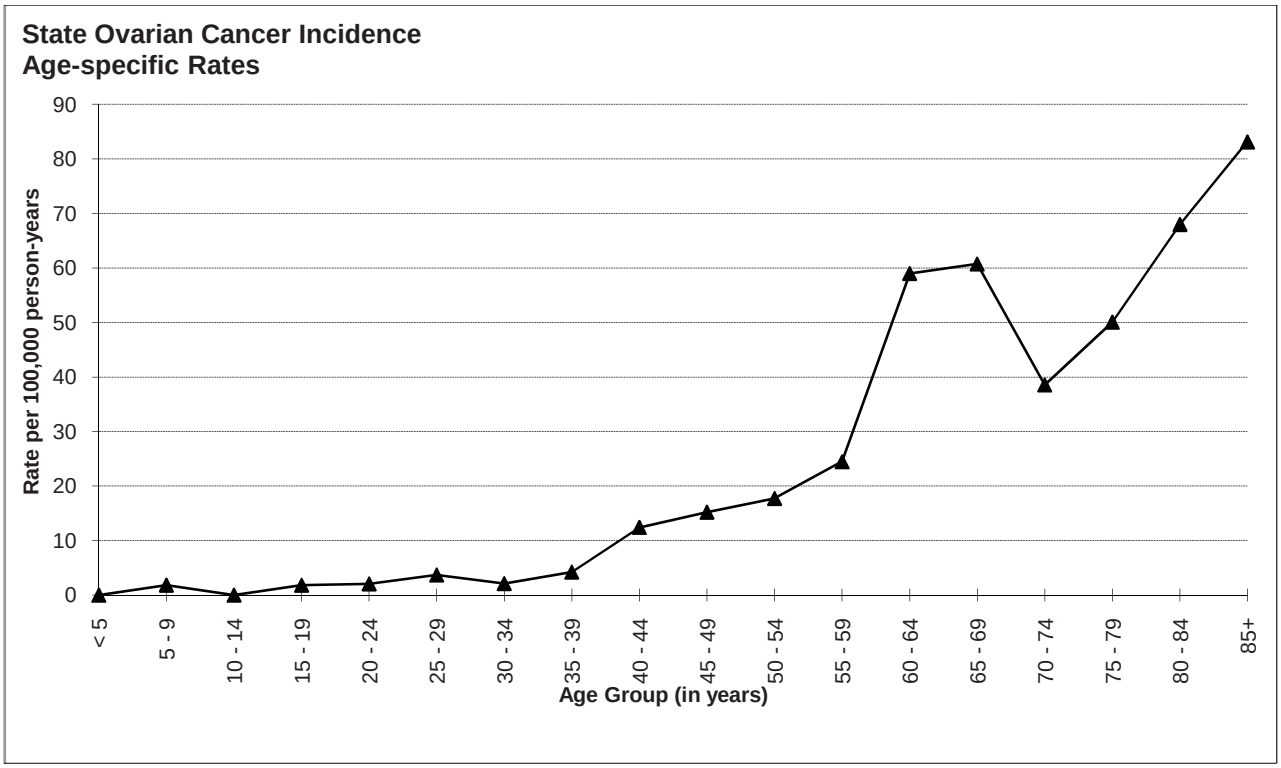
Diet Dietary animal fat may increase the risk.

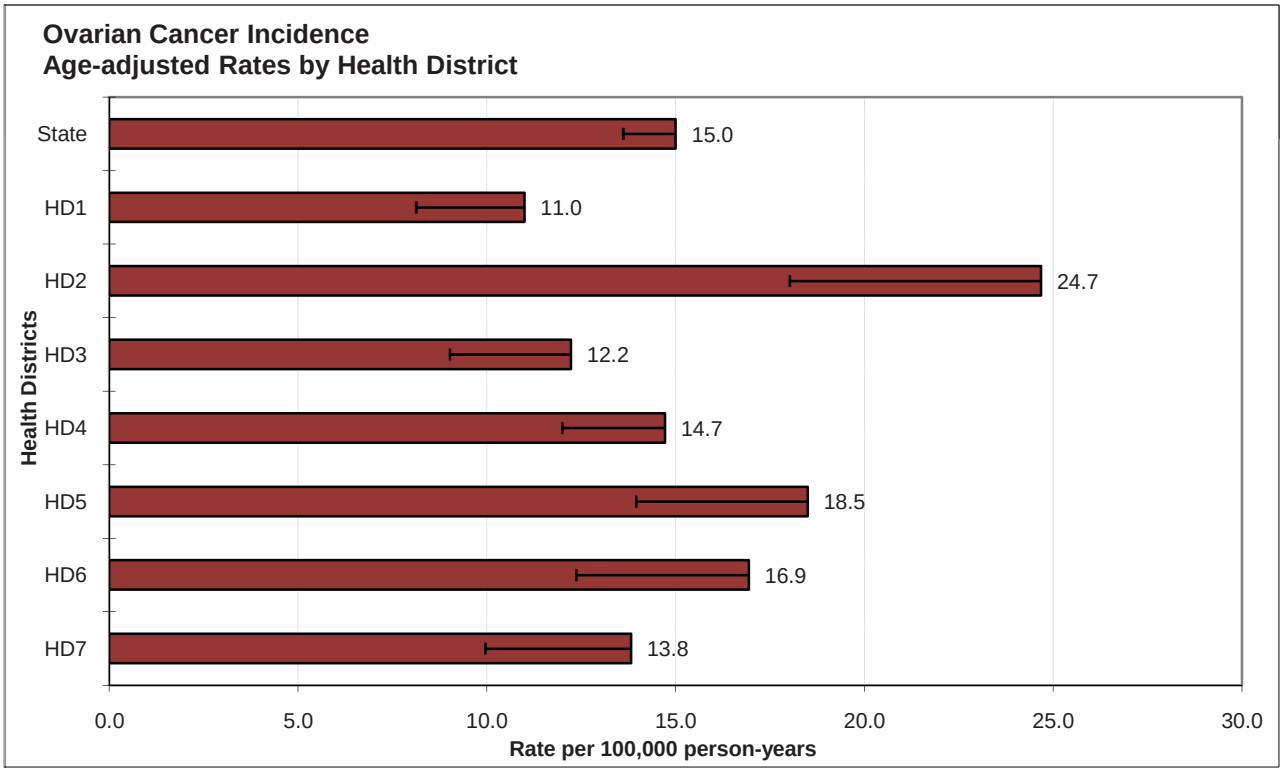
Other High dose (>100 rads) ionizing radiation roughly doubles the risk of ovarian cancer.

Special Notes

Mean age-adjusted incidence rate across health districts:	16.0	
95% confidence interval on the mean age-adjusted incidence rate:	12.6-	19.4
Median age-adjusted incidence rate of health districts:	14.7	
Range of age-adjusted incidence rate for health districts:	11.0-	24.7
SEER 17 rate (2006, all races):	12.6	
USCS rate (2005, all races):	12.4	

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 starting in the 45-49 age group. The highest age-specific rate was for women aged 85+. No health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Ovarian Cancer Incidence
Age-specific Rates
Rate per 100,000 person-years
90
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)


Ovarian Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
15.0
11.0
24.7
12.2
14.7
18.5
16.9
13.8
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Rate per 100,000 person-years

PANCREAS

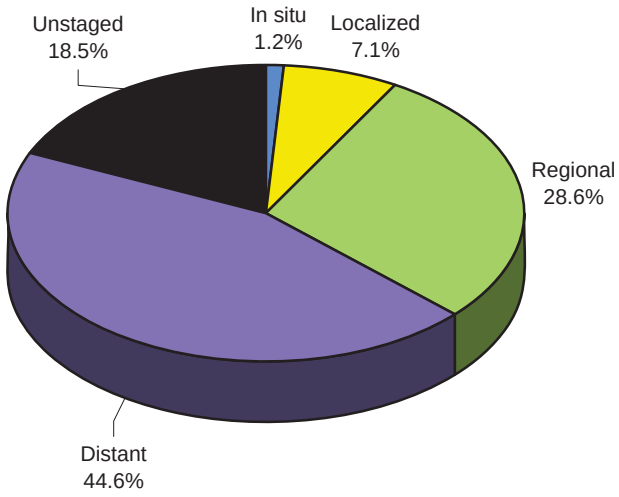
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	11.2	13.1	9.4
# of new invasive cases	166	91	75
# of new in-situ cases	2	2	0
# of deaths	152	83	69

Total Cases by County

Ada	31	Cassia	1	Lewis	2
Adams	-	Clark	-	Lincoln	2
Bannock	9	Clearwater	3	Madison	3
Bear Lake	-	Custer	-	Minidoka	3
Benewah	1	Elmore	5	Nez Perce	6
Bingham	4	Franklin	1	Oneida	-
Blaine	4	Fremont	1	Owyhee	2
Boise	-	Gem	4	Payette	2
Bonner	5	Gooding	4	Power	-
Bonneville	6	Idaho	2	Shoshone	2
Boundary	6	Jefferson	2	Teton	-
Butte	-	Jerome	4	Twin Falls	16
Camas	-	Kootenai	12	Valley	1
Canyon	18	Latah	3	Washington	-
Caribou	-	Lemhi	2		

Stage at Diagnosis - Pancreas



Risk and Associated Factors

Age Pancreatic cancer increases with age and is rare in persons younger than 40 years old.

Gender Incidence rates of pancreatic cancer are about 50% higher in males than females.

Race In the United States, the incidence is higher in African Americans.

Diet Investigators have generally found increased risks associated with animal protein and fat consumption, and decreased risks associated with vegetables and fruit intake. The normal range of body mass index (>=18 - <25 kg/m2) has been associated with decreased risk of pancreatic cancer.

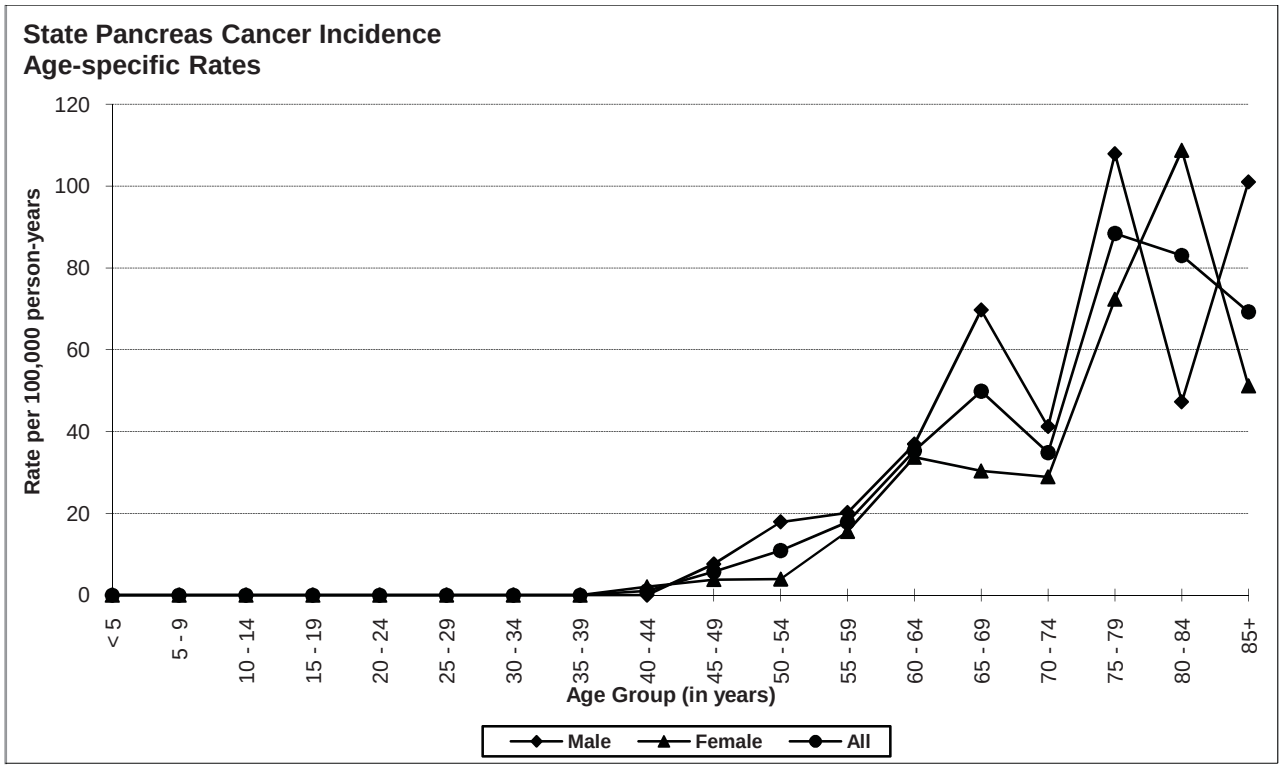
Occupation Persons in certain occupations, such as chemists, metal workers, and persons employed in the manufacture of benzidine and betanaphthylene, are believed to be at higher risk.

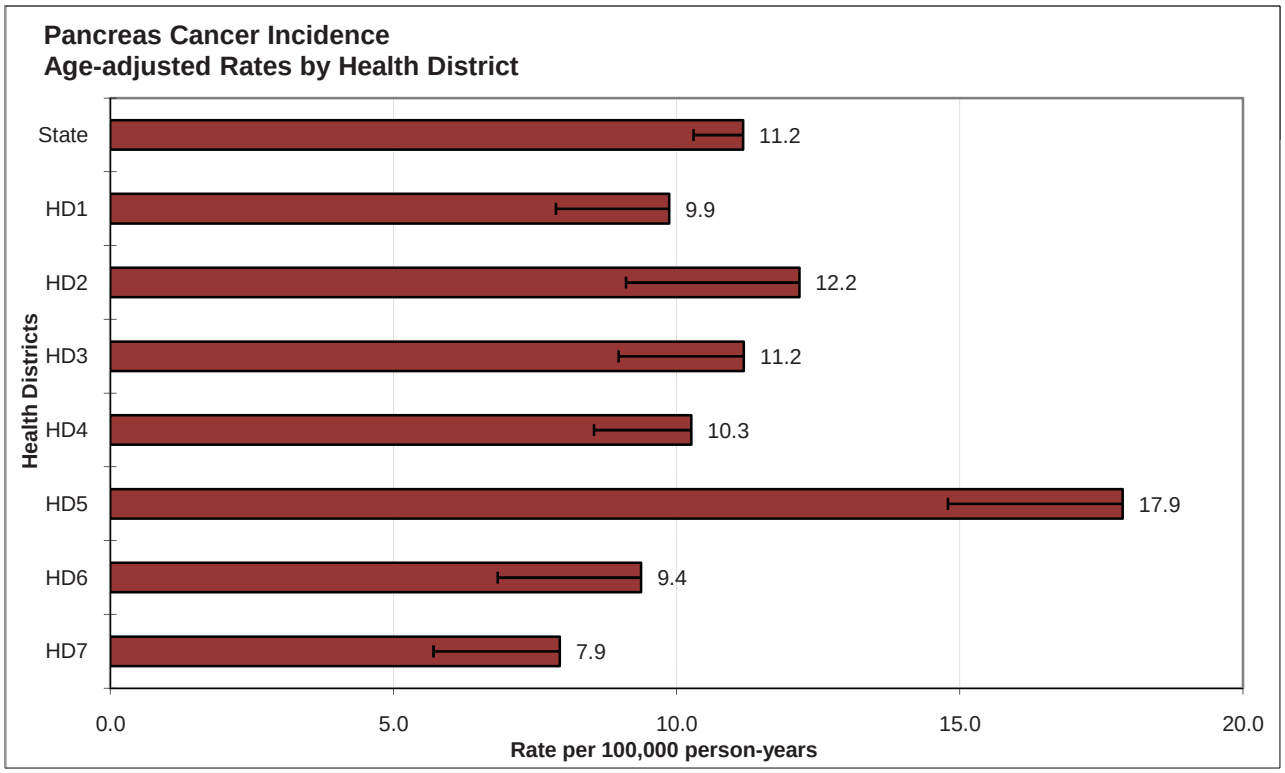
Other Pancreatic cancer is more common among smokers than non-smokers. Familial clustering has been observed in some studies. Pancreatic cancer usually progresses to an advanced stage before symptoms develop. It is rapidly fatal in over 90% of cases.

Special Notes

Mean age-adjusted incidence rate across health districts:	11.2	
95% confidence interval on the mean age-adjusted incidence rate:	8.9-	13.6
Median age-adjusted incidence rate of health districts:	10.3	
Range of age-adjusted incidence rate for health districts:	7.9-	17.9
SEER 17 rate (2006, all races):	11.7	
USCS rate (2005, all races):	11.3	

There were few cases of pancreatic cancer among persons aged less than 55 years. The age-specific incidence rates of pancreatic cancer generally increased after age 59. Health District 5 had statistically significantly more cases than expected based upon rates for the remainder of Idaho.


State Pancreas Cancer Incidence
Age-specific Rates
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)
Male
Female
All


Pancreas Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
11.2
9.9
12.2
11.2
10.3
17.9
9.4
7.9
0.0
5.0
10.0
15.0
20.0
Rate per 100,000 person-years

PROSTATE

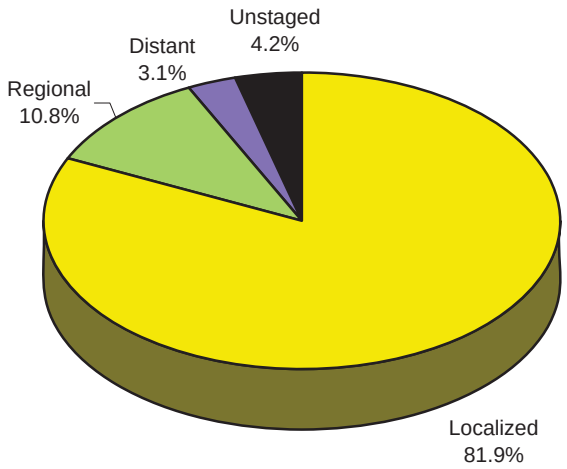
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	167.4	-
# of new invasive cases	-	1176	-
# of new in-situ cases	-	0	-
# of deaths	-	157	-

Total Cases by County

Ada	275	Cassia	19	Lewis	11
Adams	6	Clark	1	Lincoln	5
Bannock	53	Clearwater	14	Madison	11
Bear Lake	6	Custer	5	Minidoka	15
Benewah	13	Elmore	19	Nez Perce	47
Bingham	30	Franklin	6	Oneida	4
Blaine	16	Fremont	10	Owyhee	5
Boise	5	Gem	18	Payette	18
Bonner	28	Gooding	24	Power	5
Bonneville	55	Idaho	10	Shoshone	10
Boundary	9	Jefferson	11	Teton	2
Butte	1	Jerome	12	Twin Falls	71
Camas	1	Kootenai	86	Valley	8
Canyon	117	Latah	37	Washington	16
Caribou	6	Lemhi	11		

Stage at Diagnosis - Prostate



Risk and Associated Factors

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

Race African American males have substantially higher incidence and mortality rates than Caucasian males.

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

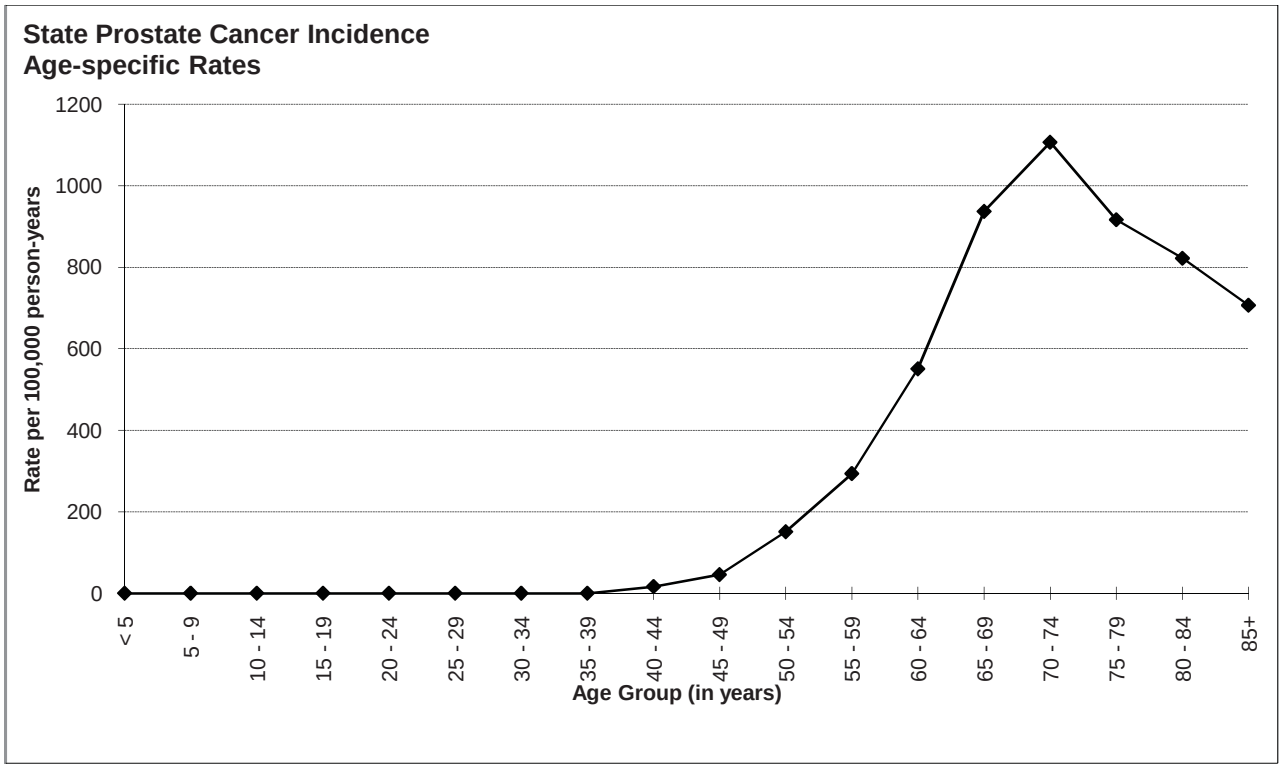
Diet Dietary fat has been implicated in several international, regional, and case-control studies.

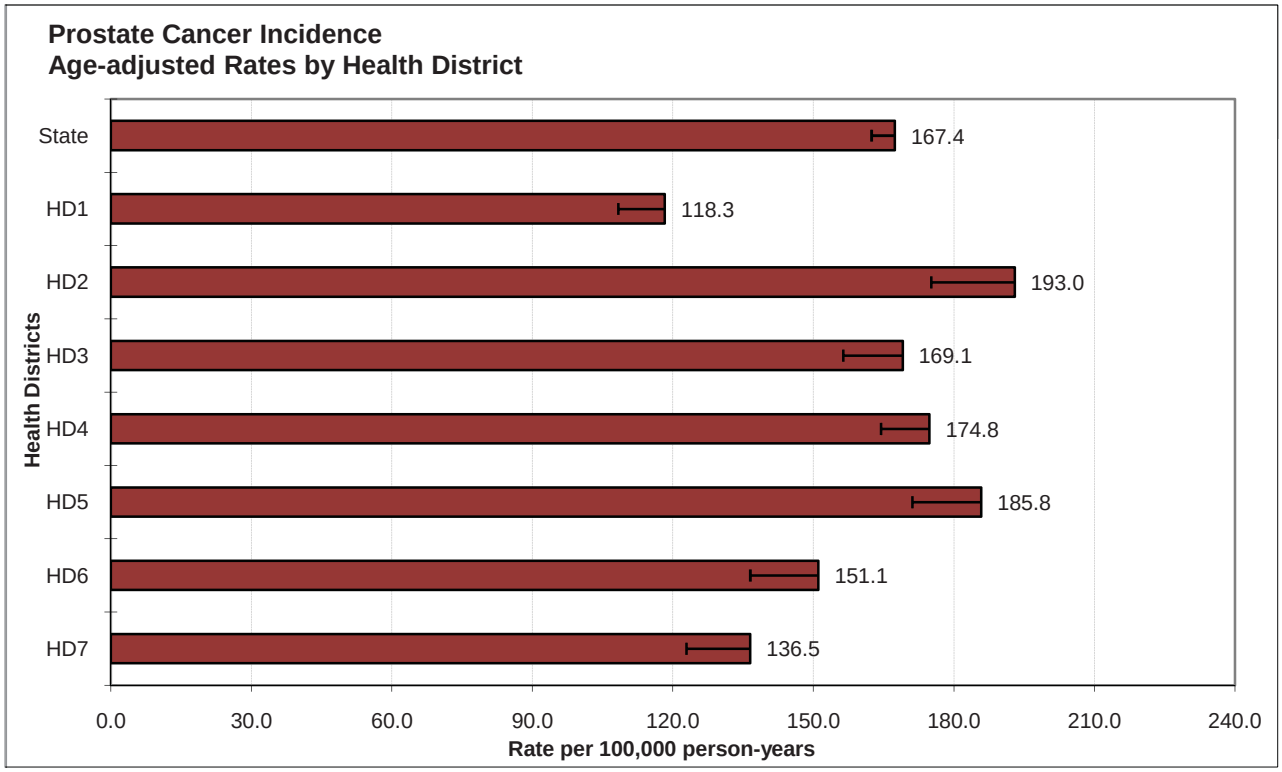
Other Environmental and familial factors may contribute to an increased incidence but no specific factor in these two groups of potential risk factors has been clearly identified. Three risk factors are well established: age, family history, and ethnic group/country of residence. Farming is the most consistent occupational risk factor for prostate cancer. Methyl bromide pesticide application has been identified as a risk factor by the Agricultural Health Study. It is likely that only a very small proportion of all prostate cancer cases can be attributed to a specific industrial chemical exposure.

Special Notes

Mean age-adjusted incidence rate across health districts:	161.2
95% confidence interval on the mean age-adjusted incidence rate:	141.1- 181.3
Median age-adjusted incidence rate of health districts:	169.1
Range of age-adjusted incidence rate for health districts:	118.3- 193.0
SEER 17 rate (2006, all races):	154.0
USCS rate (2005, all races):	142.1

There were few cases of prostate cancer among persons aged less than 45 years. The age-specific incidence rates of prostate cancer increased with age, peaking in the 70-74 age group. Health Districts 1 and 7 had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho.


State Prostate Cancer Incidence
Age-specific Rates
Rate per 100,000 person-years
1200
1000
800
600
400
200
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
167.4
118.3
193.0
169.1
174.8
185.8
151.1
136.5
0.0
30.0
60.0
90.0
120.0
150.0
180.0
210.0
240.0
Rate per 100,000 person-years

STOMACH

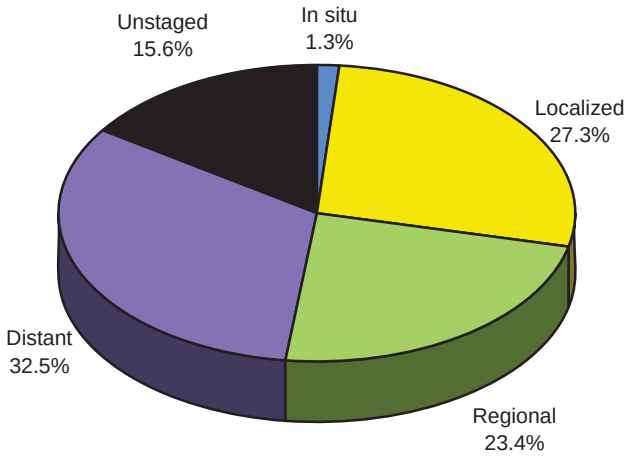
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	5.4	7.8	3.5
# of new invasive cases	76	50	26
# of new in-situ cases	1	1	0
# of deaths	45	31	14

Total Cases by County

Ada	19	Cassia	3	Lewis	1
Adams	1	Clark	-	Lincoln	-
Bannock	3	Clearwater	-	Madison	-
Bear Lake	-	Custer	-	Minidoka	2
Benewah	1	Elmore	-	Nez Perce	1
Bingham	-	Franklin	-	Oneida	1
Blaine	1	Fremont	-	Owyhee	1
Boise	-	Gem	2	Payette	2
Bonner	2	Gooding	2	Power	-
Bonneville	7	Idaho	1	Shoshone	1
Boundary	-	Jefferson	-	Teton	-
Butte	-	Jerome	1	Twin Falls	4
Camas	-	Kootenai	8	Valley	-
Canyon	9	Latah	-	Washington	1
Caribou	1	Lemhi	1		

Stage at Diagnosis - Stomach



Risk and Associated Factors

Age Stomach cancer incidence rates increase with age.

Gender Incidence rates for males are usually more than twice as high as for females.

Race & SES Incidence rates are higher among African Americans and Asians, and incidence is also higher in lower SES groups.

Diet Increased risk has been attributed to diets high in smoked foods and foods high in nitrates. Salt and salted foods contribute to stomach cancer risk. Diets high in fresh fruits and vegetables seem to be protective.

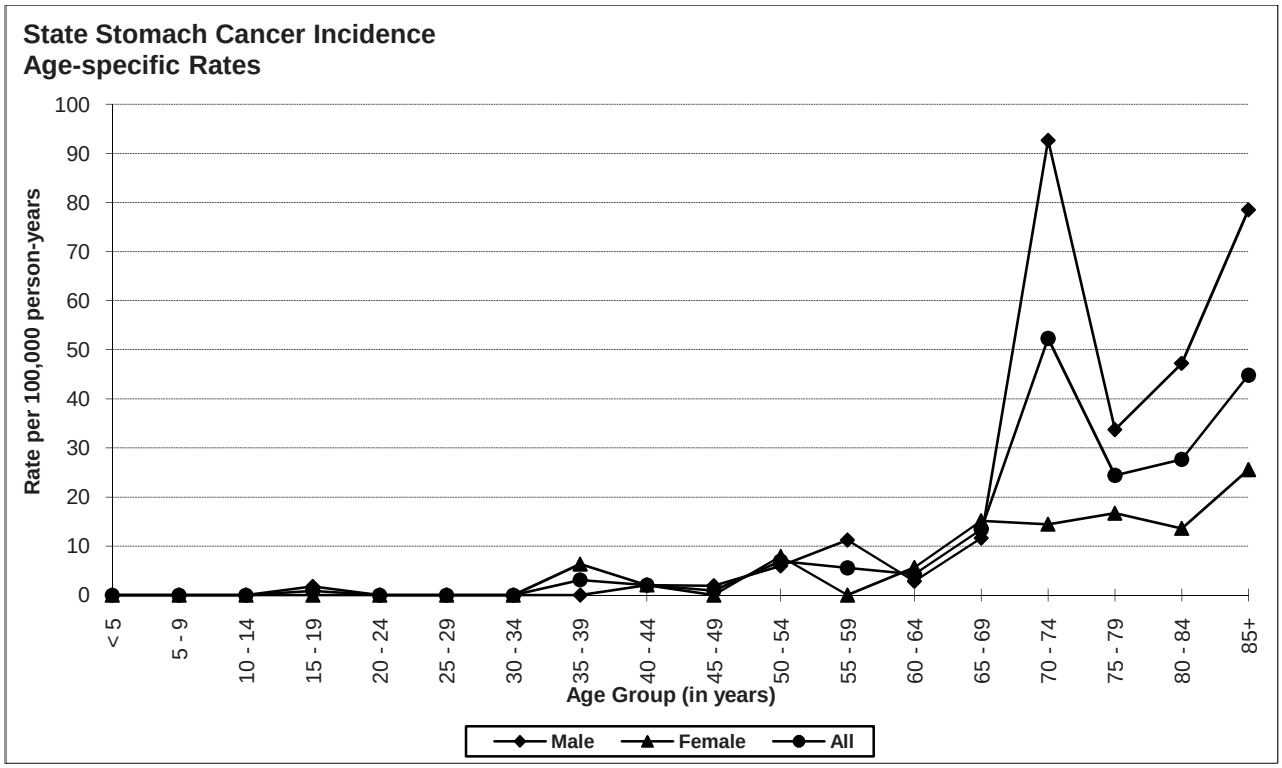
Occupation Elevated rates have been found in certain occupational groups, especially coal miners and asbestos workers, and occupations with mineral dust exposure.

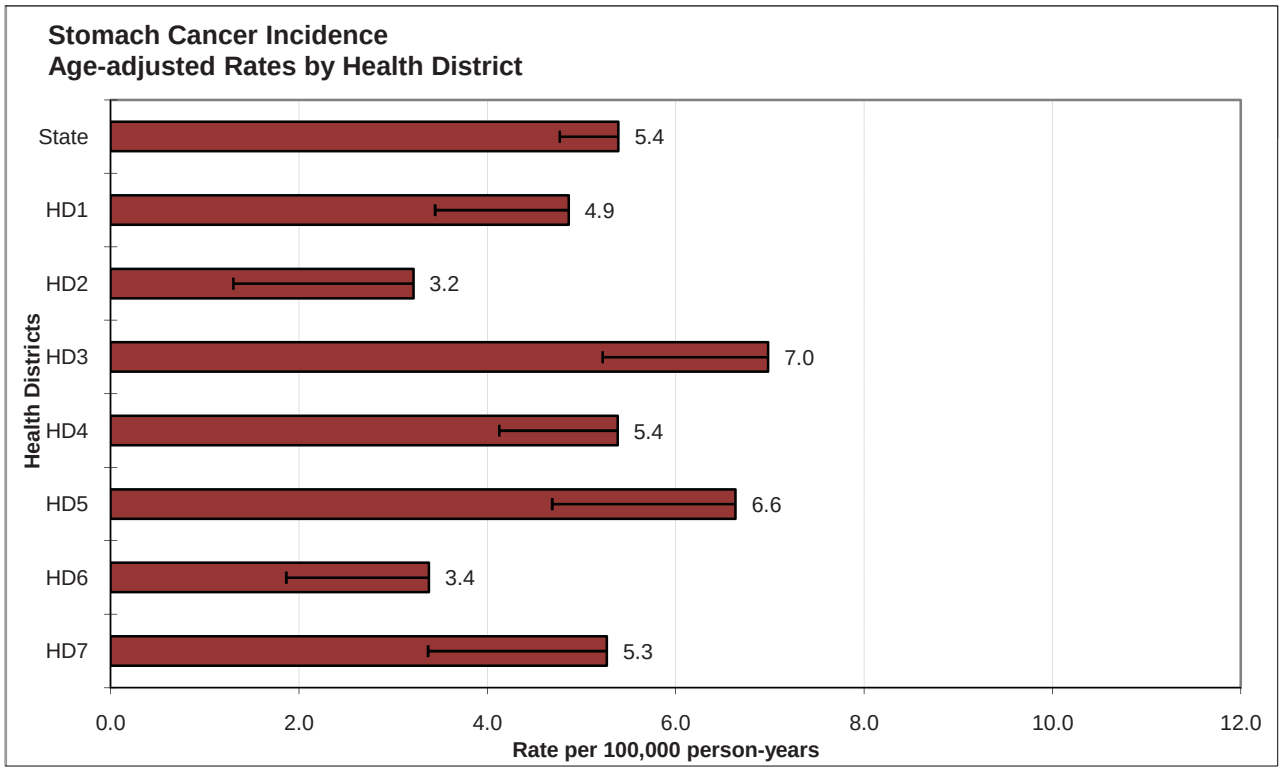
Other Stomach cancer has been linked to peptic ulcer disease and to certain bacteria.

Special Notes

Mean age-adjusted incidence rate across health districts:	5.1	
95% confidence interval on the mean age-adjusted incidence rate:	4.0-	6.2
Median age-adjusted incidence rate of health districts:	5.3	
Range of age-adjusted incidence rate for health districts:	3.2-	7.0
SEER 17 rate (2006, all races):	7.5	
USCS rate (2005, all races):	6.7	

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 70-74 age group for males and 85+ age group for females. No health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Stomach Cancer Incidence
Age-specific Rates
Rate per 100,000 person-years
100
90
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


Stomach Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
5.4
4.9
3.2
7.0
5.4
6.6
3.4
5.3
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Rate per 100,000 person-years

TESTIS

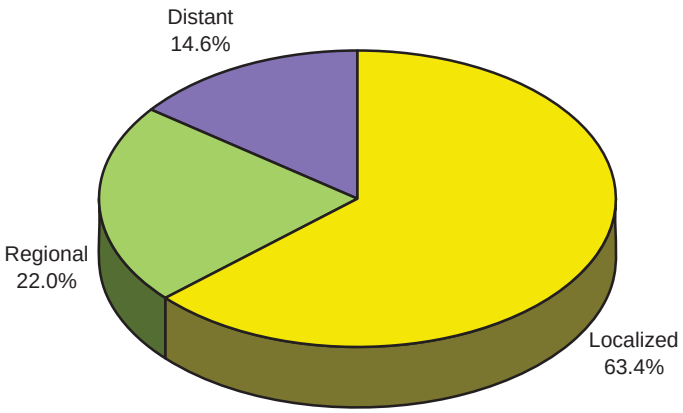
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	5.5	-
# of new invasive cases	-	41	-
# of new in-situ cases	-	0	-
# of deaths	-	0	-

Total Cases by County

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

Stage at Diagnosis - Testis



Risk and Associated Factors

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

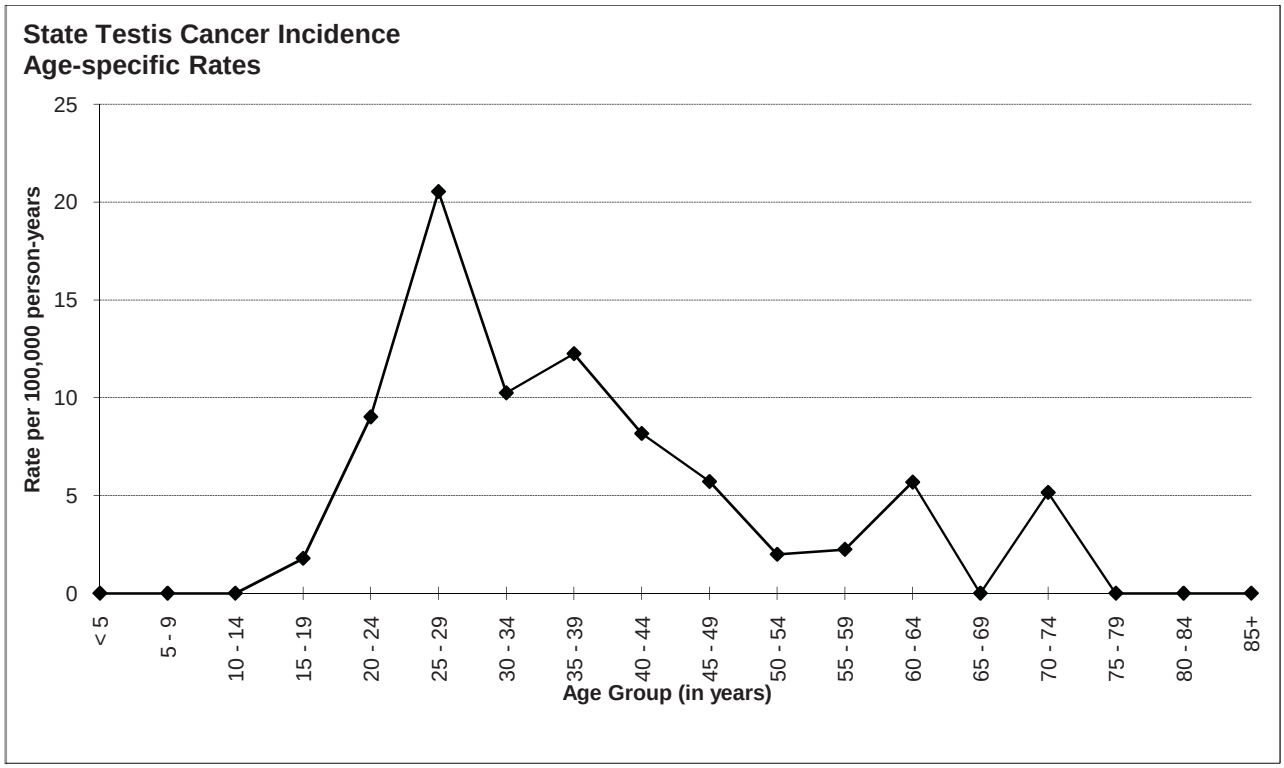
Race & SES Incidence rates are substantially higher in Caucasian males than in African American males. Incidence of testicular cancer is highest in highest socioeconomic classes.

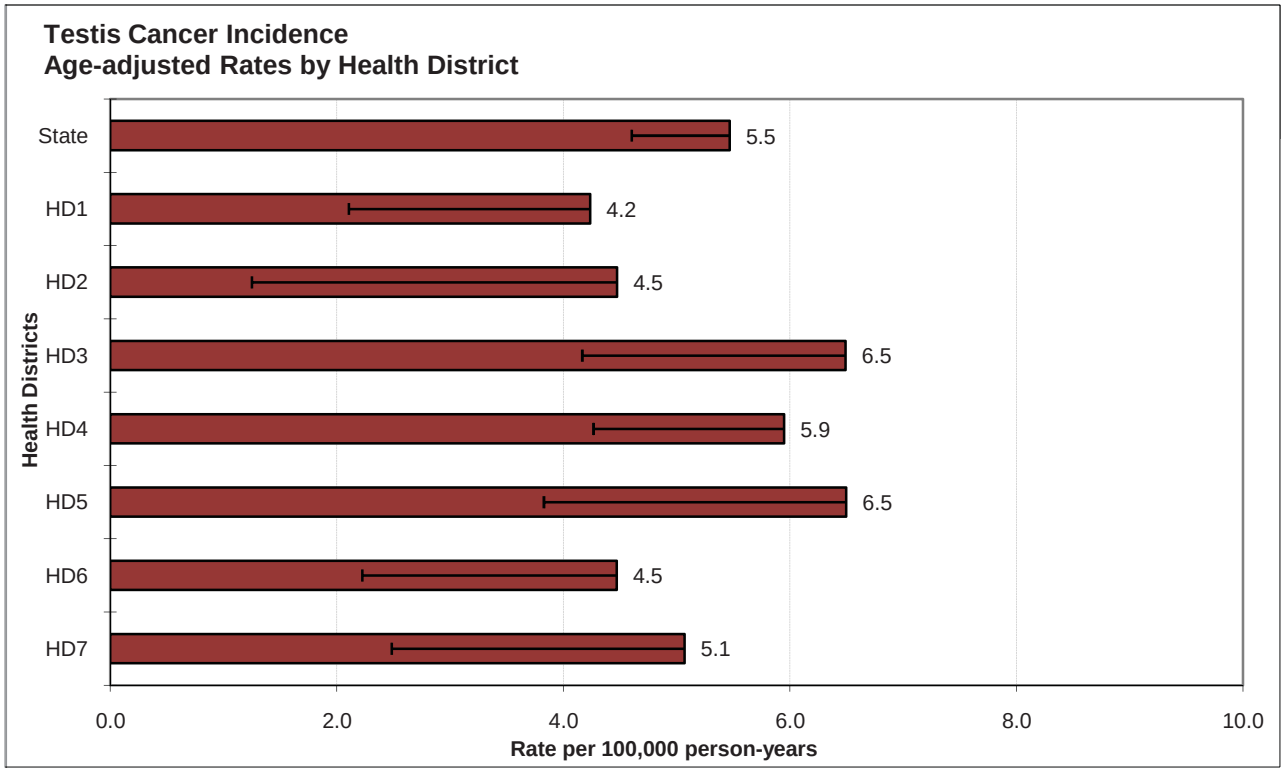
Other Undescended testis, a minor abnormality that can usually be detected and corrected with surgery in childhood, is responsible for a substantially high risk for testicular cancer when uncorrected. The extent to which surgical correction reduces cancer risk is unclear. Some evidence suggests that males exposed in utero to diethylstilbestrol (DES) are at increased risk. With current treatment the cure rates for testicular cancer are greater than 80%.

Special Notes

Mean age-adjusted incidence rate across health districts:	5.3	
95% confidence interval on the mean age-adjusted incidence rate:	4.6-	6.0
Median age-adjusted incidence rate of health districts:	5.1	
Range of age-adjusted incidence rate for health districts:	4.2-	6.5
SEER 17 rate (2006, all races):	5.3	
USCS rate (2005, all races):	5.3	

The highest age-specific incidence rate was in the 25-29 age group. No health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Testis Cancer Incidence
Age-specific Rates
Rate per 100,000 person-years
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)


Testis Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
5.5
4.2
4.5
6.5
5.9
6.5
4.5
5.1
0.0
2.0
4.0
6.0
8.0
10.0
Rate per 100,000 person-years

THYROID

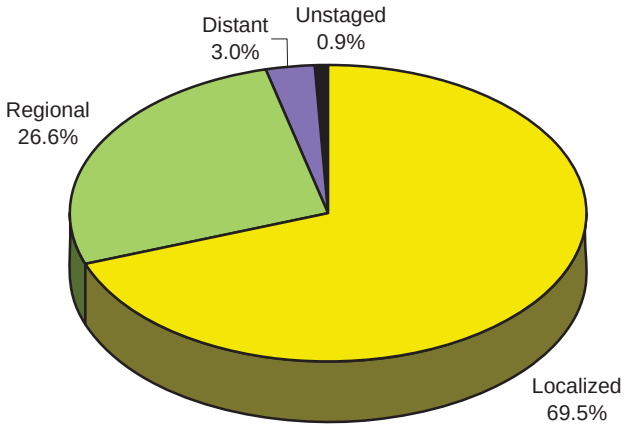
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	15.8	7.3	24.3
# of new invasive cases	233	55	178
# of new in-situ cases	0	0	0
# of deaths	6	3	3

Total Cases by County

Ada	56	Cassia	2	Lewis	1
Adams	1	Clark	-	Lincoln	1
Bannock	8	Clearwater	-	Madison	7
Bear Lake	-	Custer	1	Minidoka	2
Benewah	-	Elmore	4	Nez Perce	8
Bingham	14	Franklin	-	Oneida	1
Blaine	3	Fremont	1	Owyhee	3
Boise	-	Gem	1	Payette	3
Bonner	3	Gooding	2	Power	1
Bonneville	27	Idaho	1	Shoshone	2
Boundary	1	Jefferson	7	Teton	4
Butte	1	Jerome	1	Twin Falls	9
Camas	-	Kootenai	23	Valley	3
Canyon	26	Latah	3	Washington	1
Caribou	1	Lemhi	-		

Stage at Diagnosis - Thyroid



Risk and Associated Factors

Age Though relatively unusual, thyroid cancer is one of the most common malignancies affecting adolescents and adults up to 50 years of age.

Gender Two-thirds of the cases are among females.

Race & SES The incidence is higher in Caucasians and in upper income groups.

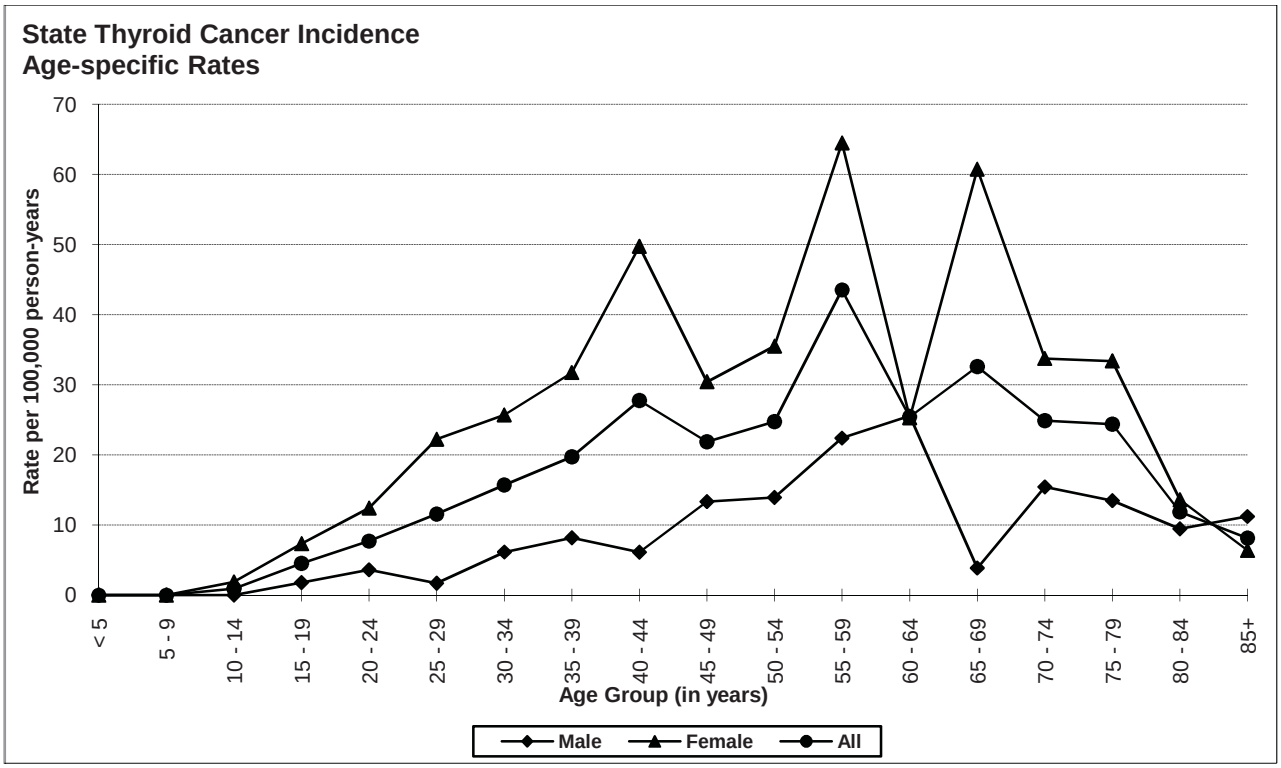
Hormonal Hormonal factors are believed to contribute to the increased risk in females. This is demonstrated by the sharp increase in incidence among women after menarche.

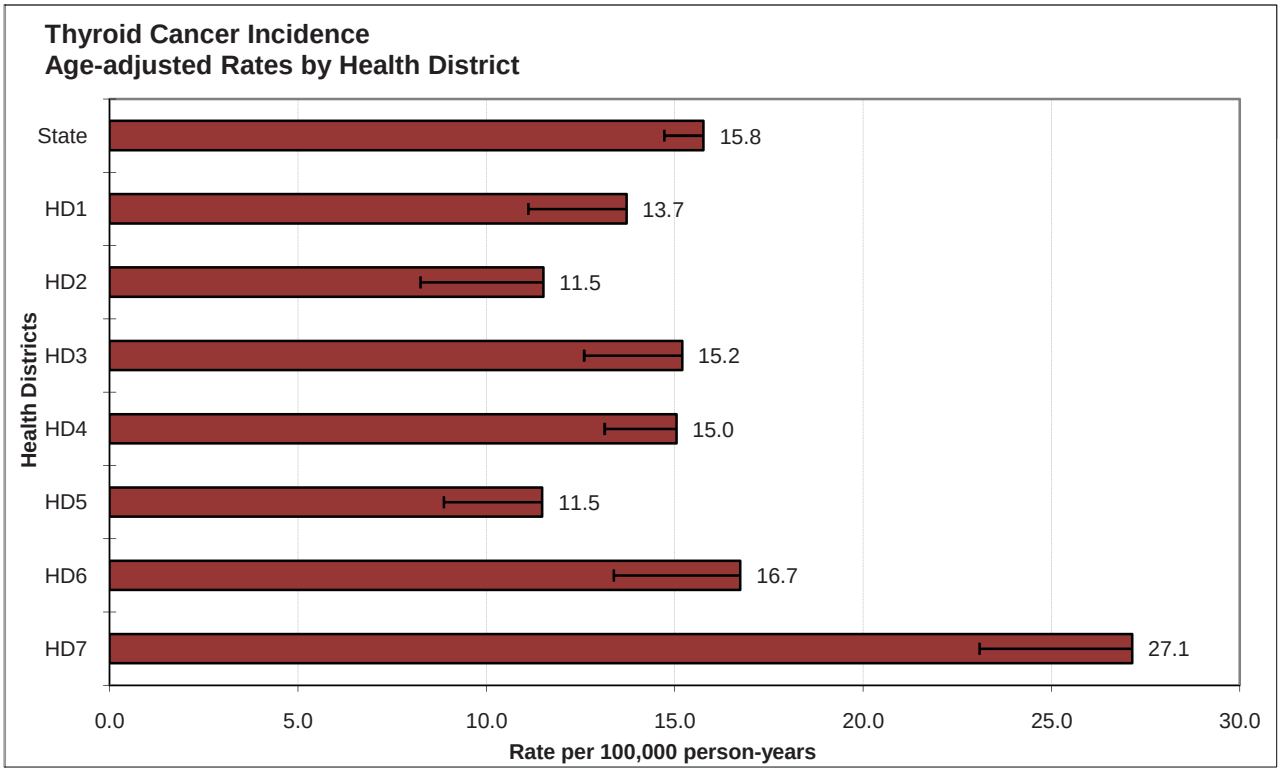
Other Occupational and environmental exposures to ionizing radiation have been associated with higher rates of thyroid cancer. Radiation exposure to the head and neck in childhood is a well-known risk factor. Family history of thyroid cancer substantially increases the risk. Death due to thyroid cancer under age 40 is rare. Prognosis worsens with each decade of age over 50, partially because anaplastic thyroid cancer, which has a high fatality rate, more often occurs among older patients.

Special Notes

Mean age-adjusted incidence rate across health districts:	15.8	
95% confidence interval on the mean age-adjusted incidence rate:	11.9-	19.8
Median age-adjusted incidence rate of health districts:	15.0	
Range of age-adjusted incidence rate for health districts:	11.5-	27.1
SEER 17 rate (2006, all races):	10.6	
USCS rate (2005, all races):	10.1	

The age-specific incidence rates of thyroid cancer were typically higher for females than males. 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
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


Thyroid Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
15.8
13.7
11.5
15.2
15.0
11.5
16.7
27.1
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Rate per 100,000 person-years

SECTION II

STATE OF IDAHO – 2007
INCIDENCE DATA BY SITE AND GENDER

Primary Site of Cancer	Invasive			In situ		
	Total	Male	Female	Total	Male	Female
All Sites	6,656	3,492	3,164	623	282	341
Oral Cavity and Pharynx	165	115	50	2	2	-
Lip	24	20	4	-	-	-
Tongue	47	34	13	1	1	-
Salivary Gland	28	15	13	-	-	-
Floor of Mouth	10	6	4	-	-	-
Gum and Other Mouth	19	11	8	-	-	-
Nasopharynx	4	4	-	-	-	-
Tonsil	25	19	6	-	-	-
Oropharynx	-	-	-	-	-	-
Hypopharynx	5	3	2	1	1	-
Other Oral Cavity and Pharynx	3	3	-	-	-	-
Digestive System	1,069	592	477	24	15	9
Esophagus	72	61	11	-	-	-
Stomach	76	50	26	1	1	-
Small Intestine	32	15	17	-	-	-
Colon and Rectum	591	306	285	16	11	5
Colon excluding Rectum	450	228	222	12	9	3
Cecum	106	60	46	1	-	1
Appendix	17	8	9	-	-	-
Ascending Colon	98	43	55	-	-	-
Hepatic Flexure	18	8	10	-	-	-
Transverse Colon	31	14	17	4	4	-
Splenic Flexure	5	4	1	-	-	-
Descending Colon	26	12	14	1	1	-
Sigmoid Colon	124	68	56	5	3	2
Large Intestine, NOS	25	11	14	1	1	-
Rectum and Rectosigmoid Junction	141	78	63	4	2	2
Rectosigmoid Junction	29	13	16	-	-	-
Rectum	112	65	47	4	2	2
Anus, Anal Canal and Anorectum	28	10	18	4	1	3
Liver and Intrahepatic Bile Duct	58	35	23	-	-	-
Liver	56	35	21	-	-	-
Intrahepatic Bile Duct	2	-	2	-	-	-
Gallbladder	10	2	8	1	-	1
Other Biliary	21	15	6	-	-	-
Pancreas	166	91	75	2	2	-
Retroperitoneum	6	4	2	-	-	-
Peritoneum, Omentum and Mesentery	5	1	4	-	-	-
Other Digestive Organs	4	2	2	-	-	-
Respiratory System	862	475	387	4	4	-
Nose, Nasal Cavity and Middle Ear	12	6	6	-	-	-
Larynx	46	35	11	2	2	-
Lung and Bronchus	792	426	366	2	2	-
Pleura	9	8	1	-	-	-
Trachea, Mediastinum and Other Respiratory Organs	3	-	3	-	-	-
Skin excluding Basal and Squamous	358	207	151	200	114	86
Melanoma of the Skin	341	197	144	200	114	86
Other Non-Epithelial Skin	17	10	7	-	-	-
Breast	962	8	954	177	2	175

Primary Site of Cancer	Invasive			In situ		
	Total	Male	Female	Total	Male	Female
Female Genital System	381	n/a	381	32	n/a	32
Cervix Uteri	35	n/a	35	-	n/a	-
Corpus and Uterus, NOS	188	n/a	188	-	n/a	-
Corpus Uteri	186	n/a	186	-	n/a	-
Uterus, NOS	2	n/a	2	-	n/a	-
Ovary	119	n/a	119	-	n/a	-
Vagina	10	n/a	10	12	n/a	12
Vulva	25	n/a	25	20	n/a	20
Other Female Genital Organs	4	n/a	4	-	n/a	-
Male Genital System	1,221	1,221	n/a	4	4	n/a
Prostate	1,176	1,176	n/a	-	-	n/a
Testis	41	41	n/a	-	-	n/a
Penis	3	3	n/a	4	4	n/a
Other Male Genital Organs	1	1	n/a	-	-	n/a
Urinary System	347	229	118	178	139	39
Urinary Bladder	122	93	29	167	131	36
Kidney and Renal Pelvis	210	125	85	5	2	3
Ureter	5	4	1	2	2	-
Other Urinary Organs	10	7	3	4	4	-
Brain and Other Nervous System	112	55	57	-	-	-
Brain	104	52	52	-	-	-
Cranial Nerves Other Nervous System	8	3	5	-	-	-
Endocrine System	244	60	184	-	-	-
Thyroid	233	55	178	-	-	-
Other Endocrine including Thymus	11	5	6	-	-	-
Lymphoma	329	184	145	-	-	-
Hodgkin Lymphoma	39	21	18	-	-	-
Non-Hodgkin Lymphoma	290	163	127	-	-	-
Myeloma	80	50	30	-	-	-
Leukemia	208	119	89	-	-	-
Lymphocytic Leukemia	115	67	48	-	-	-
Acute Lymphocytic Leukemia	25	10	15	-	-	-
Chronic Lymphocytic Leukemia	81	51	30	-	-	-
Other Lymphocytic Leukemia	9	6	3	-	-	-
Myeloid and Monocytic Leukemia	80	44	36	-	-	-
Acute Myeloid Leukemia	48	26	22	-	-	-
Acute Monocytic Leukemia	2	-	2	-	-	-
Chronic Myeloid Leukemia	27	17	10	-	-	-
Other Myeloid/Monocytic Leukemia	3	1	2	-	-	-
Other Leukemia	13	8	5	-	-	-
Other Acute Leukemia	5	3	2	-	-	-
Aleukemic, Subleukemic and NOS	8	5	3	-	-	-
Other or Unknown Sites	318	177	141	2	2	-
Bones and Joints	19	11	8	-	-	-
Soft Tissue including Heart	37	23	14	-	-	-
Eye and Orbit	14	7	7	2	2	-
Miscellaneous	248	136	112	-	-	-

SECTION III

STATE OF IDAHO – 2007
MORTALITY RATES BY SITE AND GENDER

Idaho Resident Cancer Mortality Rates - 2007

Cause of Death	Total			Male			Female		
	Rate	Deaths	Pop	Rate	Deaths	Pop	Rate	Deaths	Pop
All Causes of Death	729.2	10,742	1,496,145	819.9	5,331	752,644	649.5	5,411	743,501
All Malignant Cancers	164.5	2,384	1,496,145	188.6	1,229	752,644	147.8	1,155	743,501
Bladder	4.7	68	1,496,145	7.7	48	752,644	2.4	20	743,501
Brain and Other Nervous System	5.0	72	1,496,145	4.2	30	752,644	5.8	42	743,501
Breast	11.5	168	1,496,145	0.0	0	752,644	21.4	168	743,501
Cervix	1.2	17	1,496,145	0.0	0	752,644	2.3	17	743,501
Colorectal	15.1	219	1,496,145	16.2	105	752,644	14.3	114	743,501
Corpus Uteri	1.4	20	1,496,145	0.0	0	752,644	2.6	20	743,501
Esophagus	4.3	63	1,496,145	7.4	50	752,644	1.7	13	743,501
Hodgkin Lymphoma	0.4	6	1,496,145	0.4	3	752,644	0.4	3	743,501
Kidney	3.8	57	1,496,145	4.6	32	752,644	3.1	25	743,501
Larynx	1.2	18	1,496,145	2.1	15	752,644	0.4	3	743,501
Leukemia	6.9	100	1,496,145	8.4	54	752,644	5.9	46	743,501
Liver and Bile Duct	3.6	52	1,496,145	3.9	26	752,644	3.5	26	743,501
Lung and Bronchus	41.3	595	1,496,145	51.0	332	752,644	33.8	263	743,501
Melanoma of the Skin	3.0	43	1,496,145	4.6	30	752,644	1.7	13	743,501
Myeloma	3.0	45	1,496,145	3.6	24	752,644	2.6	21	743,501
Non-Hodgkin Lymphoma	6.8	98	1,496,145	6.3	43	752,644	7.1	55	743,501
Oral Cavity and Pharynx	2.2	32	1,496,145	2.9	20	752,644	1.5	12	743,501
Ovary	5.0	73	1,496,145	0.0	0	752,644	9.3	73	743,501
Pancreas	10.4	152	1,496,145	12.2	83	752,644	8.8	69	743,501
Prostate	10.9	157	1,496,145	26.2	157	752,644	0.0	0	743,501
Stomach	3.2	45	1,496,145	4.9	31	752,644	1.8	14	743,501
Testis	0.0	0	1,496,145	0.0	0	752,644	0.0	0	743,501
Thyroid	0.4	6	1,496,145	0.5	3	752,644	0.4	3	743,501

Data source: Bureau of Vital Records and Health Statistics (BVRHS), Idaho Department of Health and Welfare, 2008.[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 (http://seer.cancer.gov/codrecode/), which differ from official BVRHS cancer mortality categories.

SECTION IV

2007 AGE SPECIFIC INCIDENCE RATES
PER 100,000 POPULATION
BY SITE AND GENDER

IDAHO **AGE SPECIFIC CANCER RATES, PER 100,000 POPULATION, BY SITE AND GENDER** **2007**

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	24.4	11.7	8.3	28.0	40.5	55.2	83.8	126.8	223.2	325.4	538.8	774.6	1152.2	1886.1	2253.5	2365.9	2459.4	2179.1
Male	19.7	5.3	9.0	26.7	37.9	53.1	67.6	79.6	142.9	226.5	541.1	811.3	1336.9	2234.4	2837.4	3000.5	3203.9	2894.7
Female	29.3	18.4	7.6	29.4	43.5	57.4	100.7	175.6	304.6	424.1	536.5	738.2	969.4	1544.7	1706.9	1842.1	1923.9	1771.3
Bladder																		
All	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.1	2.1	7.6	18.8	24.6	25.4	78.6	112.1	140.2	185.8	154.8
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	11.4	31.8	38.1	45.4	131.7	195.7	229.3	368.6	246.8
Female	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	3.8	5.9	11.1	5.6	26.6	33.8	66.8	54.4	102.3
Brain																		
All	3.4	1.8	0.9	1.8	1.9	4.5	6.3	6.2	3.1	7.6	9.9	7.8	18.4	11.5	27.4	21.3	27.7	16.3
Male	0.0	1.8	1.8	0.0	3.6	8.6	6.2	6.1	0.0	11.4	11.9	13.5	25.6	7.8	10.3	20.2	18.9	11.2
Female	6.9	1.8	0.0	3.7	0.0	0.0	6.4	6.4	6.2	3.8	7.9	2.2	11.2	15.2	43.4	22.3	34.0	19.2
Brain & Other Central Nervous System (Non-Malignant)																		
All	1.7	0.9	1.8	0.9	1.9	1.8	1.1	4.2	12.3	11.4	8.9	19.0	16.9	21.1	22.4	39.6	67.2	32.6
Male	1.6	1.8	0.0	0.0	0.0	3.4	2.1	6.1	4.1	5.7	6.0	17.9	5.7	11.6	20.6	20.2	28.4	22.4
Female	1.7	0.0	3.8	1.8	4.1	0.0	0.0	2.1	20.7	17.1	11.8	20.0	28.1	30.4	24.1	55.7	95.2	38.4
Breast																		
Female Invasive	0.0	0.0	0.0	0.0	2.1	9.3	12.9	57.1	118.1	176.9	220.9	271.3	311.9	474.4	467.7	400.7	469.1	364.5
Female In-situ	0.0	0.0	0.0	0.0	0.0	1.9	0.0	4.2	31.1	55.2	39.5	46.7	78.7	72.1	91.6	61.2	27.2	38.4
Cervix																		
Female	0.0	0.0	0.0	0.0	0.0	0.0	6.4	4.2	6.2	13.3	7.9	11.1	11.2	3.8	19.3	0.0	6.8	6.4
Colorectal																		
All	0.0	0.0	0.0	3.6	0.0	3.6	5.2	5.2	16.5	20.0	39.6	51.3	86.1	170.6	201.7	277.4	213.5	301.4
Male	0.0	0.0	0.0	3.6	0.0	5.1	4.1	4.1	18.4	7.6	49.7	51.6	99.3	189.8	267.8	310.2	217.4	347.8
Female	0.0	0.0	0.0	3.7	0.0	1.9	6.4	6.4	14.5	32.3	29.6	51.1	73.1	151.8	139.8	250.4	210.7	275.0
Corpus Uteri																		
Female	0.0	0.0	0.0	0.0	0.0	3.7	2.1	6.4	8.3	26.6	27.6	57.8	98.4	91.1	115.7	111.3	81.6	44.8
Esophagus																		
All	0.0	0.0	0.0	0.9	0.0	0.0	1.1	1.0	2.1	1.9	5.9	10.1	22.6	17.3	22.4	18.3	27.7	12.2
Male	0.0	0.0	0.0	1.8	0.0	0.0	2.1	2.0	4.1	3.8	10.0	20.2	31.2	27.1	41.2	33.7	56.7	33.7
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	14.1	7.6	4.8	5.6	6.8	0.0

IDAHO **AGE SPECIFIC CANCER RATES, PER 100,000 POPULATION, BY SITE AND GENDER** **2007**

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	0.0	0.9	3.6	4.8	3.6	2.1	4.2	2.1	1.0	2.0	3.4	2.8	3.8	10.0	3.1	4.0	4.1
Male	0.0	0.0	1.8	1.8	7.2	3.4	0.0	4.1	4.1	1.9	4.0	4.5	5.7	3.9	5.2	0.0	0.0	0.0
Female	0.0	0.0	0.0	5.5	2.1	3.7	4.3	4.2	0.0	0.0	0.0	2.2	0.0	3.8	14.5	5.6	6.8	6.4
Kidney & Renal Pelvis																		
All	3.4	0.9	0.0	0.0	0.0	0.0	5.2	5.2	9.3	16.2	17.8	26.8	29.7	53.7	74.7	51.8	83.0	40.7
Male	1.6	0.0	0.0	0.0	0.0	0.0	8.2	4.1	12.3	20.9	21.9	31.4	48.3	65.8	77.2	80.9	104.0	44.9
Female	5.2	1.8	0.0	0.0	0.0	0.0	2.1	6.4	6.2	11.4	13.8	22.2	11.2	41.8	72.3	27.8	68.0	38.4
Larynx																		
All	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.1	1.0	5.9	5.6	8.5	21.1	2.5	27.4	11.9	4.1
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	4.1	1.9	6.0	11.2	17.0	31.0	0.0	40.5	28.4	0.0
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	11.4	4.8	16.7	0.0	6.4
Leukemia																		
All	8.4	5.4	1.8	2.7	1.9	0.0	0.0	3.1	6.2	7.6	12.9	25.7	18.4	51.8	62.3	82.3	71.2	89.6
Male	11.5	1.8	0.0	3.6	1.8	0.0	0.0	2.0	6.1	11.4	10.0	33.6	17.0	73.6	82.4	94.4	85.1	157.1
Female	5.2	9.2	3.8	1.8	2.1	0.0	0.0	4.2	6.2	3.8	15.8	17.8	19.7	30.4	43.4	72.4	61.2	51.2
Liver & Bile Duct																		
All	0.0	0.0	0.0	0.0	1.0	0.0	1.1	0.0	1.0	3.8	6.9	8.9	8.5	9.6	19.9	30.5	23.7	4.1
Male	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	2.0	5.7	13.9	11.2	5.7	15.5	25.8	33.7	18.9	0.0
Female	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	1.9	0.0	6.7	11.2	3.8	14.5	27.8	27.2	6.4
Lung & Bronchus																		
All	0.0	0.0	0.0	0.0	0.0	0.9	0.0	1.0	6.2	13.3	42.6	62.5	135.6	276.0	341.1	384.2	383.5	289.2
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	13.3	43.8	67.2	139.1	278.8	391.4	492.2	548.2	415.1
Female	0.0	0.0	0.0	0.0	0.0	1.9	0.0	2.1	8.3	13.3	41.4	57.8	132.1	273.3	294.1	295.0	265.1	217.4
Melanoma of the Skin																		
All	0.0	0.0	0.0	5.4	8.7	7.1	15.7	19.7	22.6	29.5	39.6	44.7	38.1	53.7	82.2	76.2	71.2	81.5
Male	0.0	0.0	0.0	7.1	7.2	5.1	12.3	20.4	20.4	19.0	53.7	51.6	45.4	89.1	123.6	87.7	132.3	112.2
Female	0.0	0.0	0.0	3.7	10.4	9.3	19.3	19.0	24.9	39.9	25.6	37.8	30.9	19.0	43.4	66.8	27.2	64.0
Myeloma																		
All	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.9	4.0	10.1	11.3	32.6	24.9	27.4	59.3	20.4
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	6.0	17.9	14.2	19.4	36.1	47.2	104.0	33.7
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	1.9	2.0	2.2	8.4	45.5	14.5	11.1	27.2	12.8

IDAHO **AGE SPECIFIC CANCER RATES, PER 100,000 POPULATION, BY SITE AND GENDER** **2007**

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	0.8	0.9	0.0	0.9	1.9	1.8	6.3	1.0	13.4	5.7	22.8	32.4	46.6	78.6	79.7	115.9	126.5	118.1
Male	1.6	0.0	0.0	0.0	1.8	3.4	10.3	2.0	12.3	7.6	25.9	29.1	56.8	120.1	72.1	148.3	189.0	112.2
Female	0.0	1.8	0.0	1.8	2.1	0.0	2.1	0.0	14.5	3.8	19.7	35.6	36.5	38.0	86.8	89.0	81.6	121.5
Oral Cavity & Pharynx																		
All	0.0	0.0	0.9	0.0	1.0	0.9	2.1	2.1	5.1	6.7	23.8	27.9	29.7	38.3	47.3	51.8	27.7	53.0
Male	0.0	0.0	0.0	0.0	0.0	1.7	0.0	2.0	8.2	7.6	33.8	47.1	53.9	38.7	82.4	87.7	18.9	78.5
Female	0.0	0.0	1.9	0.0	2.1	0.0	4.3	2.1	2.1	5.7	13.8	8.9	5.6	38.0	14.5	22.3	34.0	38.4
Ovary																		
Female	0.0	1.8	0.0	1.8	2.1	3.7	2.1	4.2	12.4	15.2	17.8	24.5	59.0	60.7	38.6	50.1	68.0	83.1
Pancreas																		
All	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	5.7	10.9	17.9	35.3	49.8	34.9	88.4	83.0	69.2
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	17.9	20.2	36.9	69.7	41.2	107.9	47.3	101.0
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.8	3.9	15.6	33.7	30.4	28.9	72.4	108.8	51.2
Prostate																		
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.3	45.7	151.2	293.6	550.7	937.2	1107.2	917.0	822.2	706.8
Stomach																		
All	0.0	0.0	0.0	0.9	0.0	0.0	0.0	3.1	2.1	1.0	6.9	5.6	4.2	13.4	52.3	24.4	27.7	44.8
Male	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	2.0	1.9	6.0	11.2	2.8	11.6	92.7	33.7	47.3	78.5
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	2.1	0.0	7.9	0.0	5.6	15.2	14.5	16.7	13.6	25.6
Testis																		
Male	0.0	0.0	0.0	1.8	9.0	20.5	10.3	12.3	8.2	5.7	2.0	2.2	5.7	0.0	5.2	0.0	0.0	0.0
Thyroid																		
All	0.0	0.0	0.9	4.5	7.7	11.6	15.7	19.7	27.8	21.9	24.8	43.5	25.4	32.6	24.9	24.4	11.9	8.2
Male	0.0	0.0	0.0	1.8	3.6	1.7	6.2	8.2	6.1	13.3	13.9	22.4	25.6	3.9	15.5	13.5	9.5	11.2
Female	0.0	0.0	1.9	7.3	12.4	22.2	25.7	31.7	49.7	30.4	35.5	64.5	25.3	60.7	33.8	33.4	13.6	6.4

SECTION V

2007 OBSERVED VS. EXPECTED NUMBERS BY HEALTH DISTRICT

2007 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	1,113	1,122.9	574	565.1	1,133	1,045.7 *	1,795	1,721.8	868	861.8	598	731.2 *	655	770.7 *
Bladder	74	43.1 *	32	24.7	40	46.9	56	75.3 +	30	39.1	19	31.7 +	34	30.8
Brain	22	14.8	8	7.8	10	17.7	24	29.3	12	12.8	13	10.7	15	11.6
Brain & CNS non-Malignant	26	20.6	16	10.4	18	21.5	43	33.5	11	17.6	10	14.7	11	15.8
Breast	157	157.1	72	77.7	150	145.9	267	248.0	127	118.4	88	102.3	95	109.2
Breast (in-situ)	28	28.8	16	13.7	30	25.9	58	42.8 +	14	22.7	9	19.7 +	20	20.1
Cervix	4	5.7	1	2.7	8	4.8	14	8.2	5	4.0	1	3.9	2	4.2
Colorectal	107	96.0	48	50.8	105	90.7	150	146.8	69	77.0	62	62.0	47	66.7 +
Corpus Uteri	29	31.0	11	15.5	39	26.4 +	48	48.2	22	23.5	13	20.3	23	20.6
Esophagus	15	11.3	1	6.4 +	12	10.9	18	18.9	13	8.5	10	7.3	3	8.7
Hodgkin lymphoma	8	5.2	3	3.0	4	6.6	9	11.4	6	4.3	5	4.1	4	5.0
Kidney & renal pelvis	33	34.5	19	16.6	38	31.4	56	54.2	23	26.8	20	22.3	21	23.7
Larynx	6	8.0	3	3.9	7	7.0	12	12.1	9	5.3	2	5.1	7	4.9
Leukemia	41	32.1	15	17.3	49	30.0 *	54	51.7	16	28.0 +	18	22.7	15	24.7
Liver & bile duct	10	9.5	4	4.9	9	8.8	17	14.1	8	7.2	5	6.3	5	6.7
Lung & bronchus	147	130.7	72	68.5	138	121.3	209	188.8	104	102.4	58	86.3 *	64	89.1 *
Melanoma of skin	56	53.3	25	26.7	64	50.4	98	90.3	44	41.3	19	37.8 *	20	41.2 *
Myeloma	10	14.2	11	6.5	17	11.6	13	21.9	10	10.3	5	8.8	14	8.1
N-H Lymphoma	36	50.0 +	25	24.3	50	44.6	81	71.2	32	37.7	30	30.5	33	31.8
Oral cavity & pharynx	32	26.1	10	13.7	25	25.3	42	43.1	21	20.6	15	17.7	16	18.7
Ovary	15	20.1	15	9.3	15	19.1	30	31.3	17	14.8	14	12.3	13	13.3
Pancreas	25	28.3	16	14.1	26	25.8	37	42.7	34	19.6 *	14	17.9	13	18.8
Prostate	146	209.7 *	119	97.7 +	180	181.0	307	287.7	163	147.6	111	125.3	106	133.0 +
Stomach	12	12.6	3	6.9	16	11.4	19	18.7	12	9.5	5	8.3	8	8.1
Testis	4	5.8	2	2.8	8	6.5	13	11.6	6	4.3	4	4.3	4	5.4
Thyroid	29	36.8	13	17.2	35	35.9	63	67.4	20	28.1	26	24.2	47	24.6 *
Pediatric (age 0-19)	8	10.2	1	5.1	12	14.5	29	19.1 +	7	10.0	7	10.0	18	11.5

+ Statistically significant difference at p=0.05 or less.
* Statistically significant difference at p=0.01 or less.

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

2007 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	558	621.3 +	327	308.6	596	547.3 +	932	892.1	478	456.4	324	389.4 *	342	413.1 *
Bladder	55	34.9 *	21	19.9	36	34.7	45	56.8	26	29.8	12	25.2 *	26	24.3
Brain	10	7.6	4	3.9	7	8.2	12	15.3	5	6.3	4	5.7	10	5.6
Brain & CNS non-Malignant	5	6.8	4	3.2	6	6.4	12	11.2	4	5.1	5	4.2	5	4.6
Breast	3	1.0	0	0.7	1	1.3	1	2.4	2	0.9	0	0.9	1	0.9
Breast (in-situ)	0	0.4	0	0.2	2	0.0 *	0	0.8	0	0.3	0	0.2	0	0.3
Cervix	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Colorectal	54	51.5	27	26.7	49	46.9	86	71.6	30	40.3	36	31.6	23	35.2 +
Corpus Uteri	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Esophagus	11	10.0	1	5.5	10	9.1	16	15.8	11	7.2	9	6.1	3	7.3
Hodgkin lymphoma	5	2.6	2	1.6	1	3.6	4	6.8	5	2.0	3	2.2	1	2.9
Kidney & renal pelvis	16	21.5	10	10.2	24	18.0	36	31.3	12	16.1	15	13.0	12	14.4
Larynx	5	6.1	1	3.0	6	5.1	8	9.6	8	3.8	1	4.0	6	3.7
Leukemia	19	20.0	11	9.9	29	16.7 *	27	29.9	12	15.7	12	12.7	9	14.2
Liver & bile duct	4	6.1	1	3.0	8	4.7	12	8.2	3	4.5	3	3.8	4	4.0
Lung & bronchus	67	74.6	45	37.3	76	63.9	104	100.7	63	54.1	35	46.3	36	48.3
Melanoma of skin	31	32.0	14	16.1	36	29.0	57	50.6	26	24.0	8	22.2 *	14	23.4
Myeloma	6	9.1	10	3.8 +	10	7.2	9	13.2	5	6.6	3	5.6	7	5.3
N-H Lymphoma	21	28.4	13	14.0	25	25.1	50	38.3	17	21.0	14	17.6	22	17.7
Oral cavity & pharynx	24	18.3	5	9.9	19	16.8	28	30.4	14	14.2	12	12.1	10	13.4
Ovary	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pancreas	14	15.8	10	7.7	13	13.9	19	23.8	24	9.9 *	8	9.8	3	11.1 *
Prostate	146	214.2 *	119	99.9	180	177.7	307	282.8	163	147.0	111	125.9	106	134.5 +
Stomach	6	9.1	2	4.7	12	7.1	13	11.6	7	6.5	3	5.6	6	5.3
Testis	4	5.7	2	2.9	8	6.4	13	11.9	6	4.4	4	4.2	4	5.3
Thyroid	8	8.6	3	4.3	9	8.2	9	17.8 +	7	6.4	6	5.7	13	5.5 *
Pediatric (age 0-19)	3	4.5	0	2.3	5	6.2	12	8.4	3	4.3	3	4.2	9	4.5

+ Statistically significant difference at p=0.05 or less.
* Statistically significant difference at p=0.01 or less.

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

2007 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	555	507.9 +	247	259.0	537	495.5	863	820.5	390	404.9	274	343.2 *	313	359.4 +
Bladder	19	8.8 *	11	5.2 +	4	11.9 +	11	17.6	4	9.3	7	6.8	8	6.7
Brain	12	7.1	4	3.9	3	9.5 +	12	14.2	7	6.5	9	5.1	5	6.0
Brain & CNS non-Malignant	21	13.8	12	7.2	12	15.1	31	22.5	7	12.5	5	10.4	6	11.2
Breast	154	155.1	72	75.8	149	146.3	266	246.2	125	117.7	88	101.3	94	107.6
Breast (in-situ)	28	28.3	16	13.4	28	26.2	58	42.2 +	14	22.5	9	19.5 +	20	19.8
Cervix	4	5.7	1	2.7	8	4.9	14	8.2	5	4.0	1	4.0	2	4.2
Colorectal	53	44.9	21	24.4	56	43.5	64	74.7	39	36.6	26	30.3	24	31.6
Corpus Uteri	29	30.8	11	15.3	39	26.8 +	48	48.4	22	23.6	13	20.2	23	20.4
Esophagus	4	1.4	0	1.0	2	1.6	2	3.1	2	1.3	1	1.2	0	1.4
Hodgkin lymphoma	3	2.5	1	1.4	3	3.0	5	4.7	1	2.3	2	1.9	3	2.2
Kidney & renal pelvis	17	13.1	9	6.5	14	13.3	20	22.8	11	10.7	5	9.4	9	9.4
Larynx	1	2.0	2	0.9	1	1.9	4	2.5	1	1.5	1	1.2	1	1.2
Leukemia	22	12.5 +	4	7.4	20	13.2	27	21.3	4	12.3 +	6	9.9	6	10.6
Liver & bile duct	6	3.3	3	1.9	1	4.1	5	5.9	5	2.6	2	2.5	1	2.7
Lung & bronchus	80	56.9 *	27	31.4	62	57.2	105	86.8	41	48.3	23	40.1 *	28	41.0 +
Melanoma of skin	25	21.5	11	10.8	28	21.2	41	39.3	18	17.3	11	15.7	6	17.8 *
Myeloma	4	5.2	1	2.7	7	4.3	4	8.6	5	3.7	2	3.3	7	2.8
N-H Lymphoma	15	21.7	12	10.4	25	19.3	31	32.9	15	16.6	16	13.1	11	14.1
Oral cavity & pharynx	8	8.0	5	3.9	6	8.3	14	12.6	7	6.2	3	5.5	6	5.5
Ovary	15	20.0	15	9.1	15	19.4	30	31.4	17	14.8	14	12.3	13	13.3
Pancreas	11	12.7	6	6.5	13	11.8	18	18.7	10	9.8	6	8.0	10	7.8
Prostate	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Stomach	6	3.8	1	2.2	4	4.2	6	6.8	5	3.0	2	2.8	2	2.9
Testis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thyroid	21	28.3	10	12.8	26	28.0	54	49.1	13	21.7	20	18.6	34	19.2 *
Pediatric (age 0-19)	5	5.7	1	2.8	7	8.3	17	10.7	4	5.7	4	5.8	9	7.0

+ Statistically significant difference at p=0.05 or less.
* Statistically significant difference at p=0.01 or less.

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

SECTION VI

RISKS OF DEVELOPING AND DYING FROM CANCER

Risks of Developing and Dying from Cancer

For Females

If your current age is:	Then your risk of developing cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 72	1 in 22	1 in 10	1 in 5	1 in 3	1 in 2
40		1 in 30	1 in 11	1 in 5	1 in 3	1 in 2
50			1 in 16	1 in 6	1 in 3	1 in 2
60				1 in 8	1 in 4	1 in 2
70					1 in 6	1 in 3
80						1 in 4

If your current age is:	Then your risk of dying from cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 702	1 in 137	1 in 46	1 in 17	1 in 8	1 in 5
40		1 in 169	1 in 48	1 in 18	1 in 8	1 in 5
50			1 in 66	1 in 19	1 in 9	1 in 5
60				1 in 26	1 in 10	1 in 5
70					1 in 14	1 in 6
80						1 in 8

For Males

If your current age is:	Then your risk of developing cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 127	1 in 35	1 in 11	1 in 4	1 in 2	1 in 2
40		1 in 48	1 in 12	1 in 4	1 in 2	1 in 2
50			1 in 15	1 in 5	1 in 2	1 in 2
60				1 in 6	1 in 3	1 in 2
70					1 in 3	1 in 2
80						1 in 2

If your current age is:	Then your risk of dying from cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 673	1 in 155	1 in 44	1 in 15	1 in 7	1 in 4
40		1 in 198	1 in 47	1 in 15	1 in 7	1 in 4
50			1 in 59	1 in 16	1 in 7	1 in 4
60				1 in 20	1 in 7	1 in 4
70					1 in 10	1 in 5
80						1 in 6

Risks of Developing and Dying from Cancer

Female Breast Cancer

If your current age is:	Then your risk of developing breast cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 259	1 in 61	1 in 27	1 in 14	1 in 10	1 in 8
40		1 in 80	1 in 29	1 in 15	1 in 10	1 in 8
50			1 in 45	1 in 18	1 in 11	1 in 9
60				1 in 28	1 in 14	1 in 10
70					1 in 24	1 in 14
80						1 in 24

If your current age is:	Then your risk of dying from breast cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 2253	1 in 521	1 in 206	1 in 99	1 in 57	1 in 36
40		1 in 671	1 in 225	1 in 103	1 in 58	1 in 36
50			1 in 332	1 in 119	1 in 62	1 in 38
60				1 in 179	1 in 73	1 in 41
70					1 in 112	1 in 48
80						1 in 63

Prostate Cancer

If your current age is:	Then your risk of developing prostate cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 14194	1 in 333	1 in 42	1 in 12	1 in 7	1 in 5
40		1 in 336	1 in 41	1 in 12	1 in 7	1 in 5
50			1 in 45	1 in 12	1 in 7	1 in 5
60				1 in 15	1 in 7	1 in 5
70					1 in 11	1 in 7
80						1 in 11

If your current age is:	Then your risk of dying from prostate cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in *	1 in 16668	1 in 1569	1 in 293	1 in 77	1 in 28
40		1 in 16416	1 in 1545	1 in 288	1 in 76	1 in 28
50			1 in 1654	1 in 284	1 in 74	1 in 27
60				1 in 322	1 in 72	1 in 26
70					1 in 80	1 in 24
80						1 in 23

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

Risks of Developing and Dying from Cancer

Colon/Rectal Cancer in Females

If your current age is:	Then your risk of developing colon/rectal cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 2066	1 in 403	1 in 145	1 in 60	1 in 32	1 in 21
40		1 in 496	1 in 154	1 in 62	1 in 32	1 in 21
50			1 in 219	1 in 69	1 in 34	1 in 21
60				1 in 96	1 in 38	1 in 22
70					1 in 57	1 in 26
80						1 in 36

If your current age is:	Then your risk of dying from colon/rectal cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 23803	1 in 1980	1 in 606	1 in 218	1 in 99	1 in 51
40		1 in 2142	1 in 617	1 in 218	1 in 99	1 in 51
50			1 in 850	1 in 238	1 in 102	1 in 51
60				1 in 318	1 in 111	1 in 52
70					1 in 154	1 in 56
80						1 in 66

Colon/Rectal Cancer in Males

If your current age is:	Then your risk of developing colon/rectal cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 1813	1 in 443	1 in 134	1 in 52	1 in 28	1 in 19
40		1 in 578	1 in 142	1 in 53	1 in 28	1 in 19
50			1 in 183	1 in 56	1 in 28	1 in 19
60				1 in 76	1 in 31	1 in 20
70					1 in 44	1 in 23
80						1 in 32

If your current age is:	Then your risk of dying from colon/rectal cancer by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 6638	1 in 1620	1 in 584	1 in 183	1 in 84	1 in 50
40		1 in 2111	1 in 631	1 in 185	1 in 84	1 in 50
50			1 in 872	1 in 197	1 in 85	1 in 49
60				1 in 239	1 in 88	1 in 49
70					1 in 120	1 in 53
80						1 in 64

Risks of Developing and Dying from Cancer

Melanoma in Females

If your current age is:	Then your risk of developing melanoma by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 520	1 in 224	1 in 133	1 in 93	1 in 69	1 in 57
40		1 in 389	1 in 178	1 in 112	1 in 79	1 in 63
50			1 in 320	1 in 154	1 in 97	1 in 73
60				1 in 282	1 in 134	1 in 91
70					1 in 229	1 in 121
80						1 in 193

If your current age is:	Then your risk of dying from melanoma by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 22775	1 in 5692	1 in 2633	1 in 1322	1 in 663	1 in 399
40		1 in 7526	1 in 2953	1 in 1392	1 in 677	1 in 402
50			1 in 4767	1 in 1675	1 in 730	1 in 417
60				1 in 2480	1 in 828	1 in 439
70					1 in 1122	1 in 481
80						1 in 636

Melanoma in Males

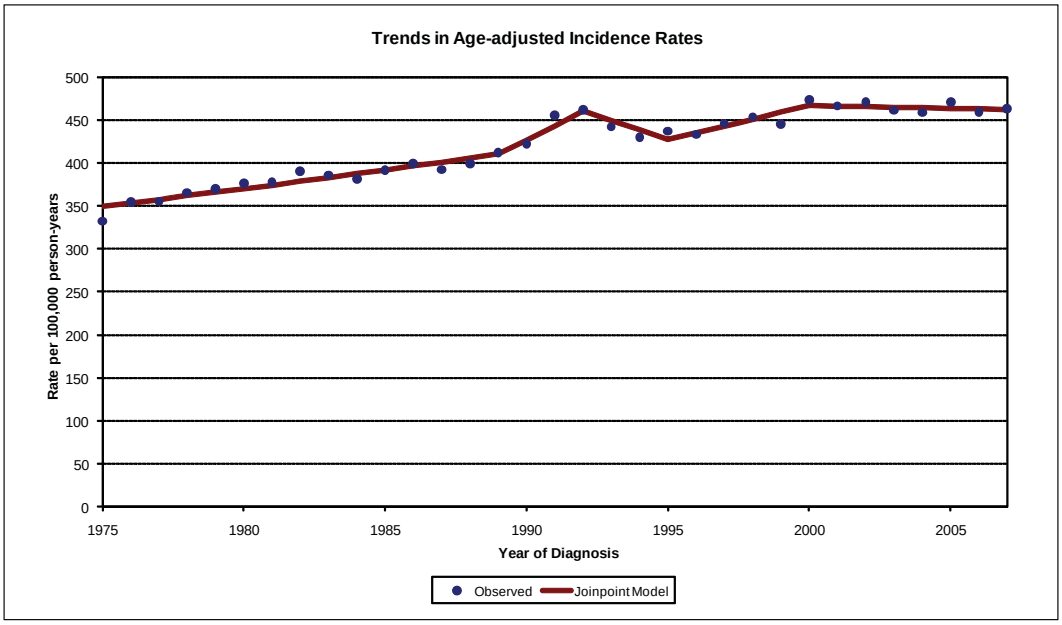
If your current age is:	Then your risk of developing melanoma by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 689	1 in 257	1 in 124	1 in 69	1 in 45	1 in 35
40		1 in 404	1 in 149	1 in 76	1 in 47	1 in 37
50			1 in 229	1 in 91	1 in 51	1 in 39
60				1 in 140	1 in 62	1 in 44
70					1 in 95	1 in 55
80						1 in 87

If your current age is:	Then your risk of dying from melanoma by a particular age is:					
	By age 40	By age 50	By age 60	By age 70	By age 80	Ever
30	1 in 4463	1 in 1974	1 in 1001	1 in 493	1 in 284	1 in 203
40		1 in 3486	1 in 1270	1 in 546	1 in 299	1 in 210
50			1 in 1938	1 in 627	1 in 317	1 in 216
60				1 in 870	1 in 355	1 in 228
70					1 in 515	1 in 266
80						1 in 370

SECTION VII

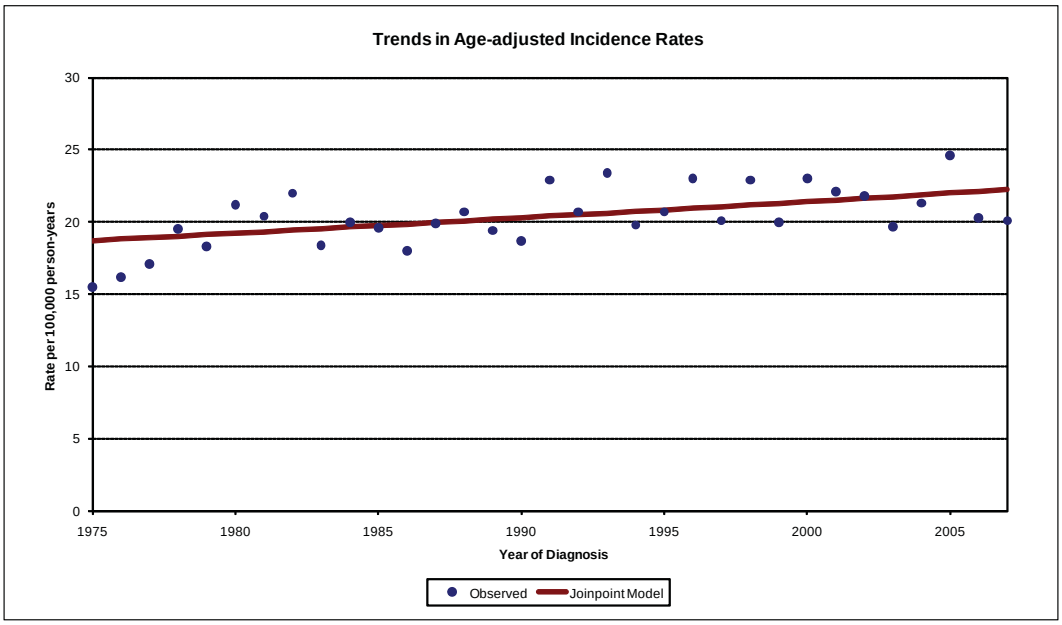
CANCER TRENDS IN IDAHO
1975-2007

All Sites



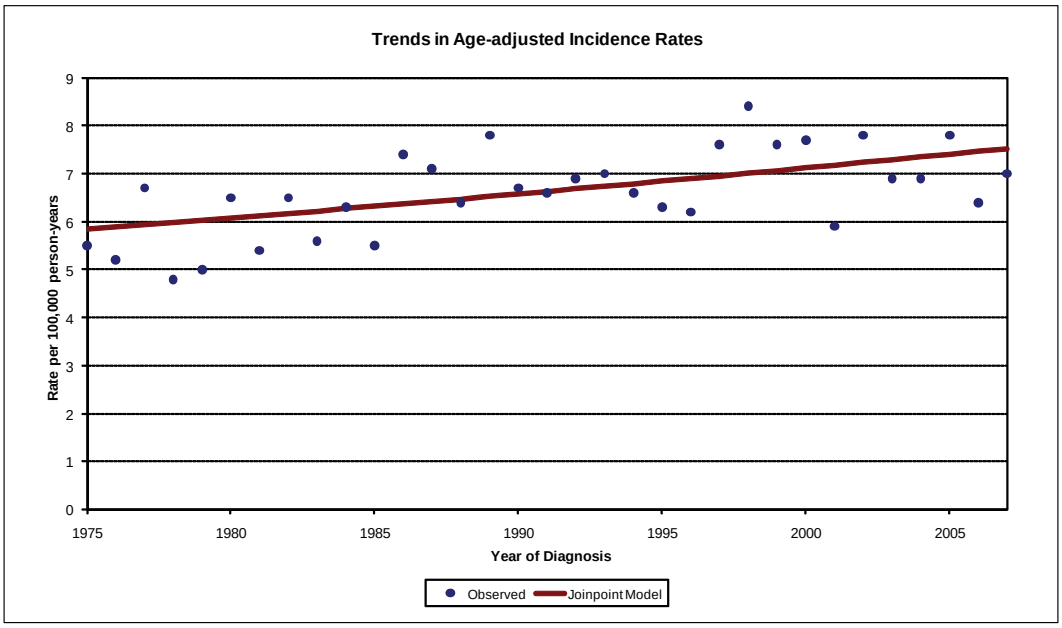
Cancer incidence increased at a rate of about 1.2% per year in Idaho from 1975 to 1989, and at a rate of about 1.8% per year from 1995 to 2000. Between 1989 and 1995, the trend was predominately influenced by prostate cancer incidence among males. Since 2000, the overall incidence trend has been stable. 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



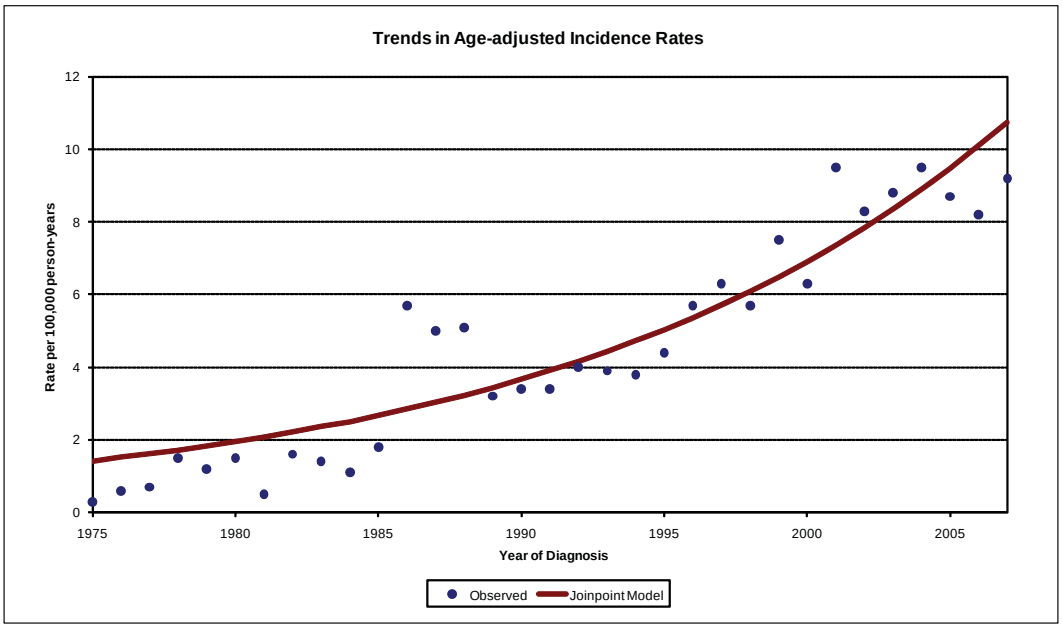
Bladder cancer incidence includes in-situ and invasive cases. Bladder cancer incidence increased at a rate of about 0.6% per year in Idaho from 1975 to 2007. Most of the increase in bladder cancer incidence is attributable to males, who have rates of bladder cancer incidence about 4-5 times those of females.

Brain



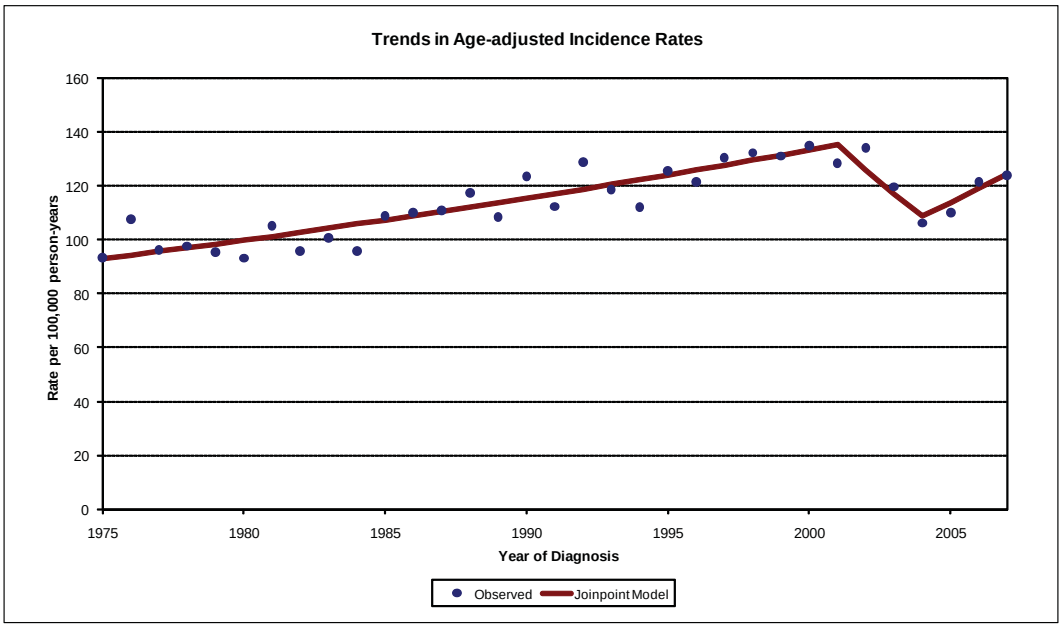
Malignant brain cancer incidence increased at a rate of about 0.8% per year in Idaho from 1975 to 2007. Most of the increase in malignant brain cancer incidence is attributable to males, whose rates increased about 1.7% per year until 2000, after which the rates decreased about 3.9% per year.

Brain and Other CNS, Non-Malignant



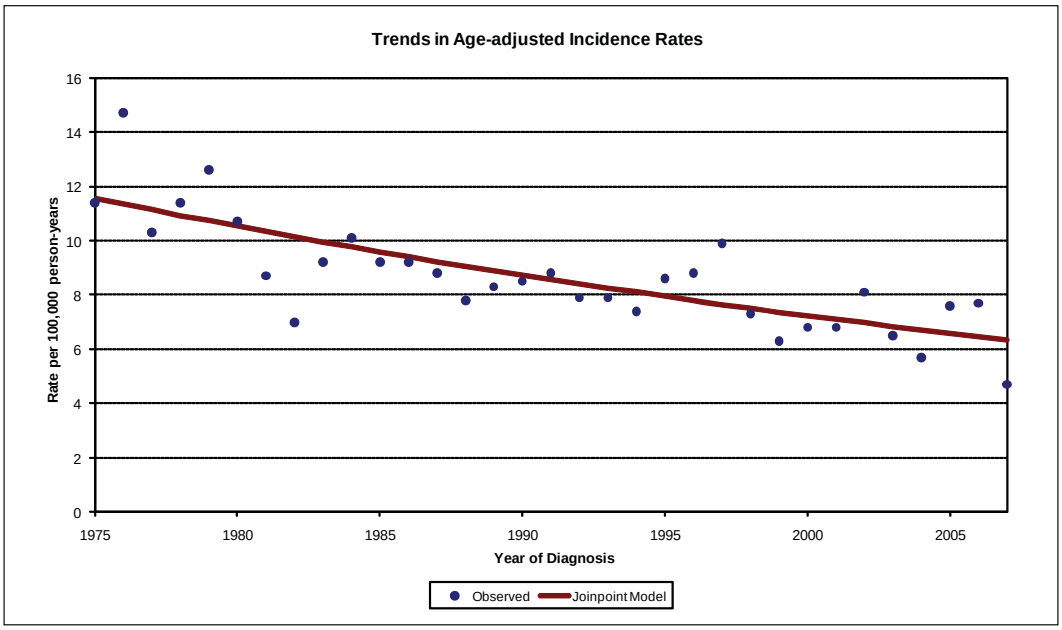
Non-malignant brain and other central nervous system tumors include those with benign and borderline behavior. Non-malignant brain and other CNS tumor incidence increased at a rate of about 6.5 % per year in Idaho from 1975 to 2007.

Breast Female



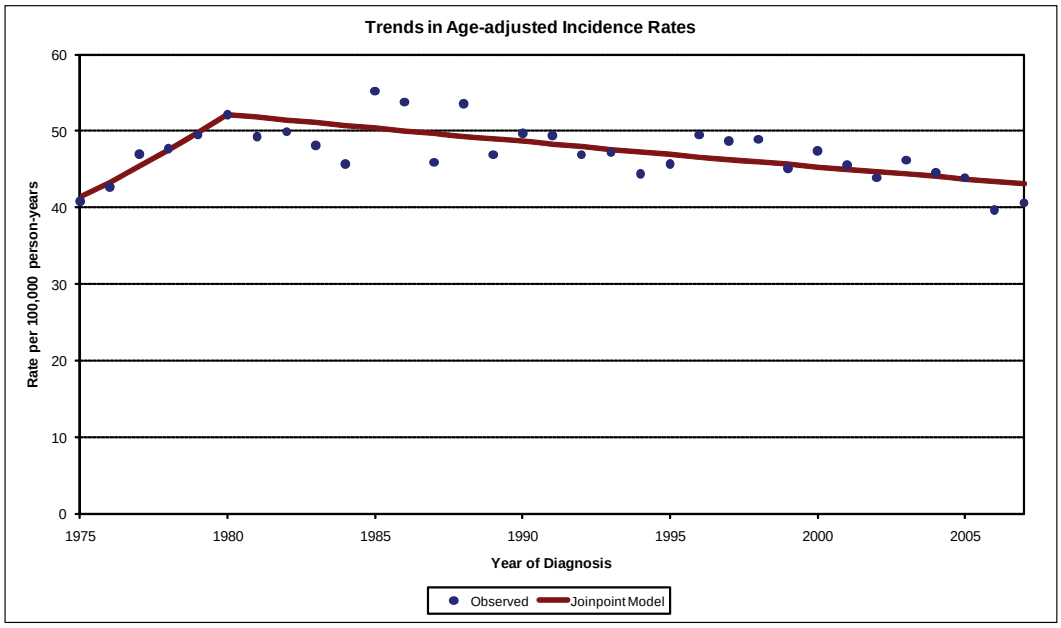
Invasive breast cancer incidence increased at a rate of about 1.5% per year among female Idahoans from 1975 to 2001, after which the rate decreased by about 7% per year until 2004, then increased by about 4.5% per year. The sharp decrease may have been due in part to a decrease in the use of hormone replacement therapy. In-situ breast cancer rates increased at a rate of about 14.6% per year from 1975 to 1990, after which the rate of increased slowed to about 2.2% per year (data not shown).

Cervix



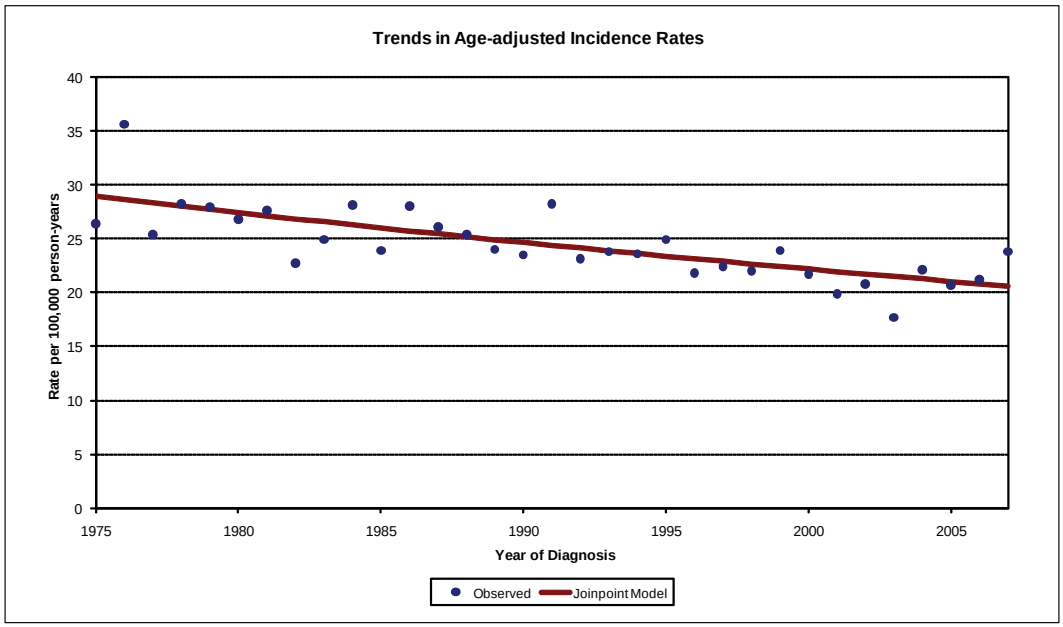
Invasive cervical cancer incidence has decreased about 1.9% per year in Idaho from 1975 to 2007.

Colorectal



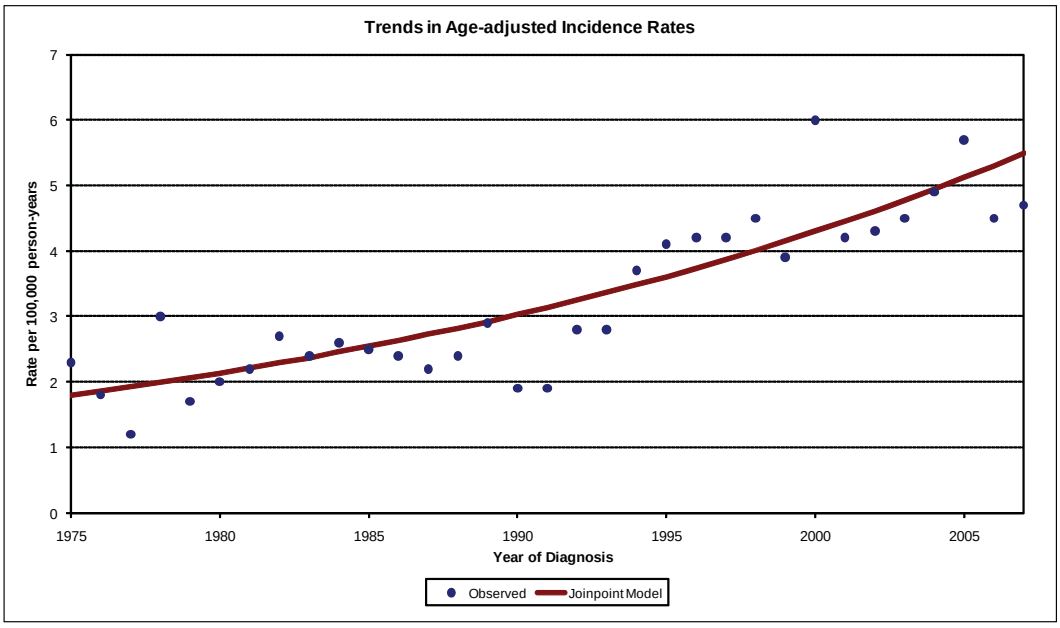
Colorectal cancer incidence increased at a rate of about 4.8% per year in Idaho from 1975 to 1980, after which the rate decreased about 0.7% per year. Colorectal cancer incidence trends over time were different for males and females. For males, rates increased from 1975 to 1988, then decreased. For females, rates decreased slowly across the entire time series.

Corpus Uteri



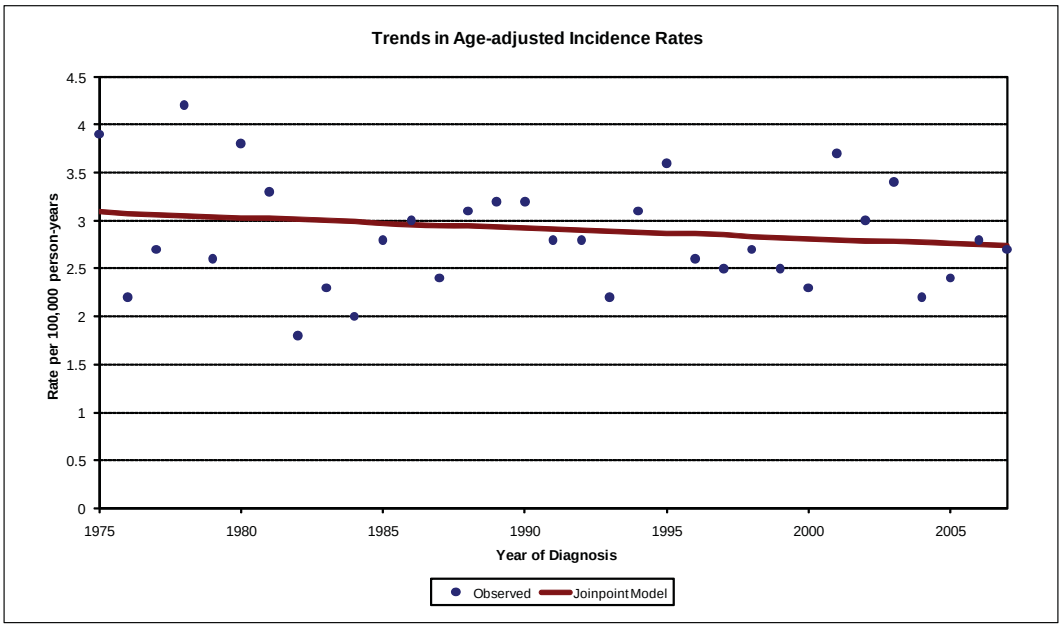
Corpus uteri cancer incidence decreased at a rate of about 1.1% per year among female Idahoans from 1975 to 2007.

Esophagus



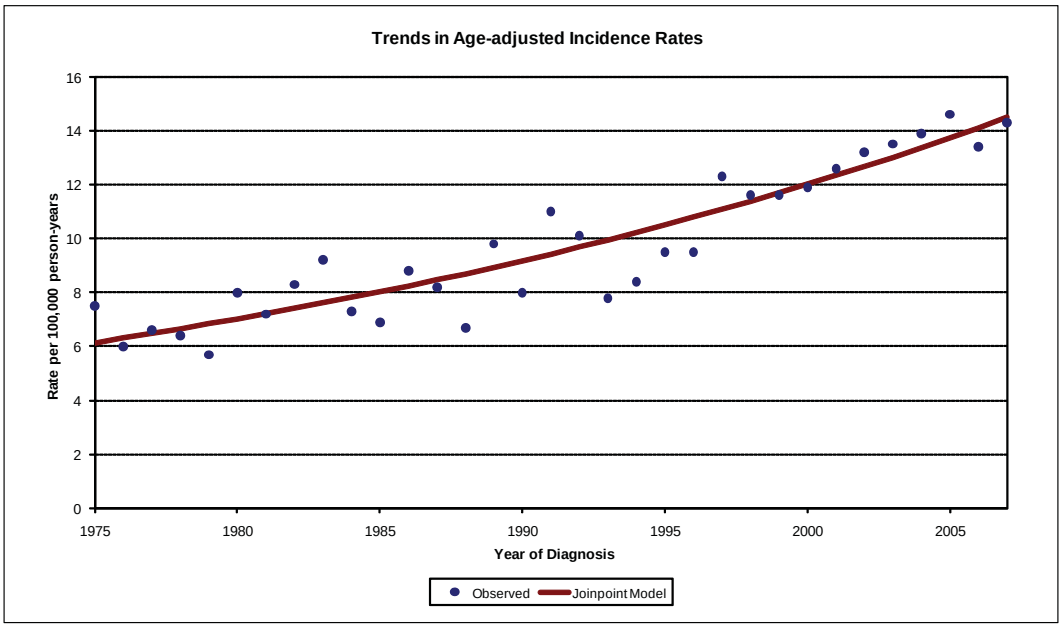
Esophageal cancer incidence increased at a rate of about 3.6% per year in Idaho from 1975 to 2007. The rate of increase was higher for males (3.8% per year) than for females (2.0% per year), and rates of esophageal cancers among males were about 3-4 times those among females.

Hodgkin Lymphoma



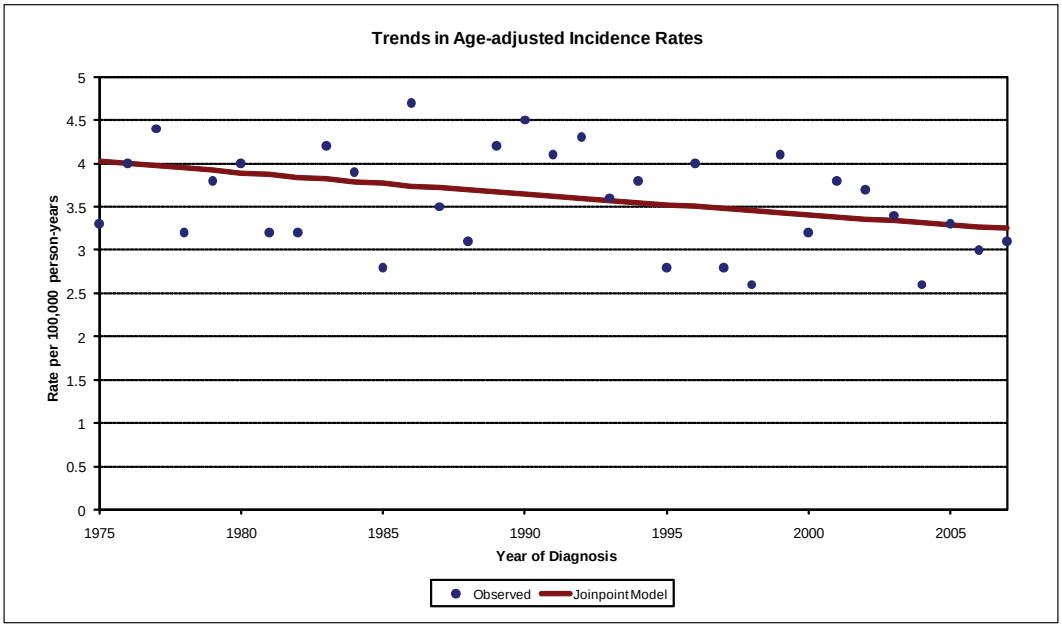
There was no statistically significant trend in Hodgkin lymphoma incidence in Idaho from 1975 to 2007; rates were stable but showed year-to-year variability due to the relatively small numbers of cases diagnosed annually.

Kidney and Renal Pelvis



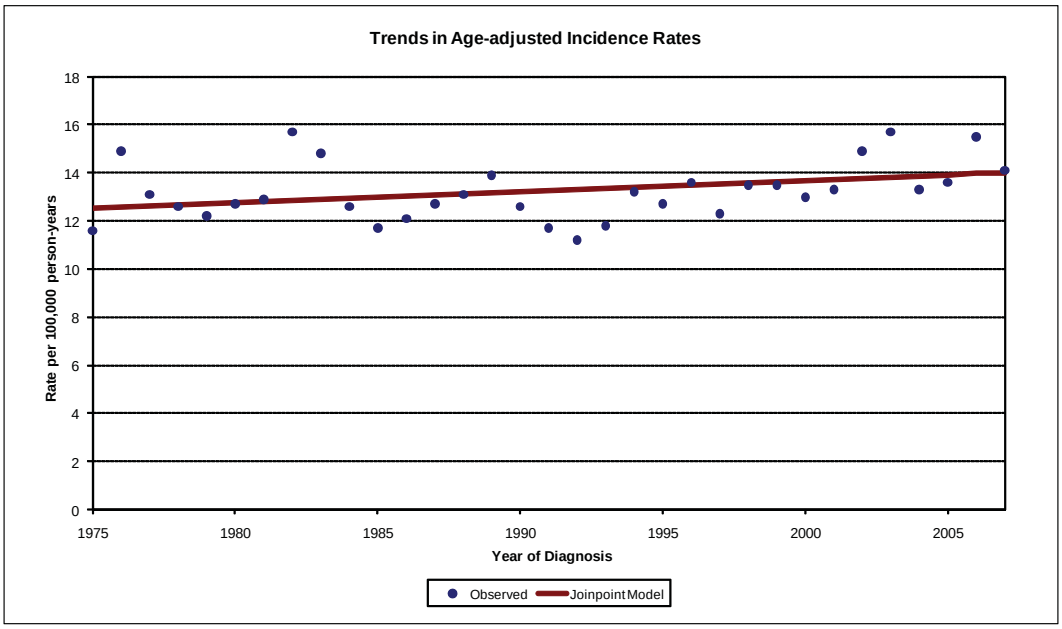
Kidney and renal pelvis cancer incidence increased at a rate of about 2.7% per year in Idaho from 1975 to 2007. The rate of increase was similar for males and females, although rates of kidney and renal pelvis cancers among males were about twice as high as among females.

Larynx



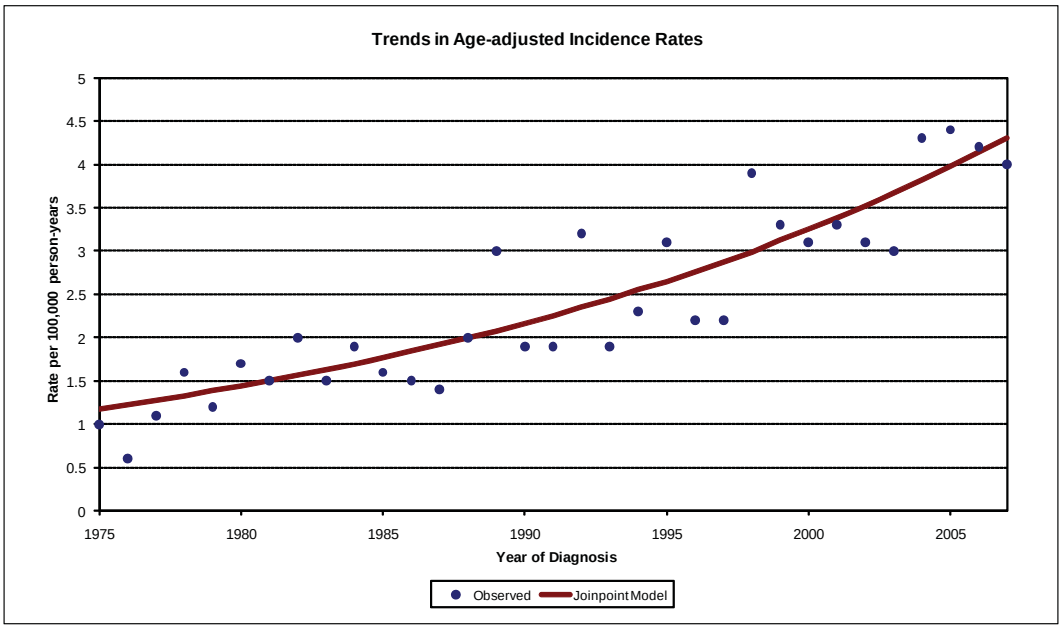
Laryngeal cancer incidence decreased about 0.7% per year in Idaho from 1975 to 2007; rates showed year-to-year variability due to the relatively small numbers of cases diagnosed annually. The rate of decrease was similar for males and females, although rates of laryngeal cancers among males were about 4 times as high as among females.

Leukemia



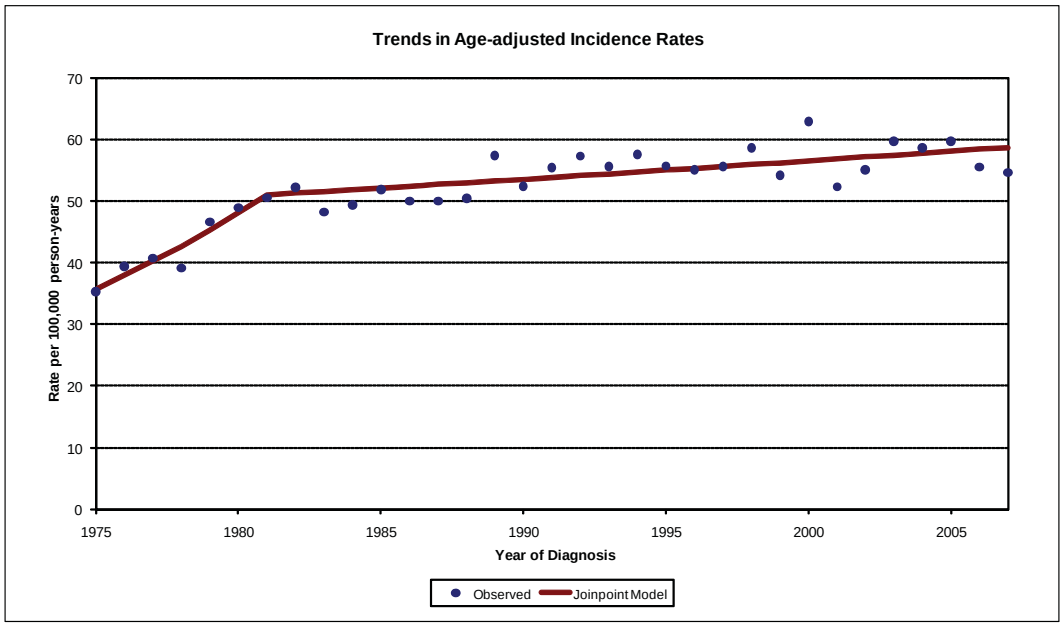
Leukemia incidence increased about 0.4% per year in Idaho from 1975 to 2007; rates showed year-to-year variability due to the relatively small numbers of cases diagnosed annually.

Liver and Bile Duct



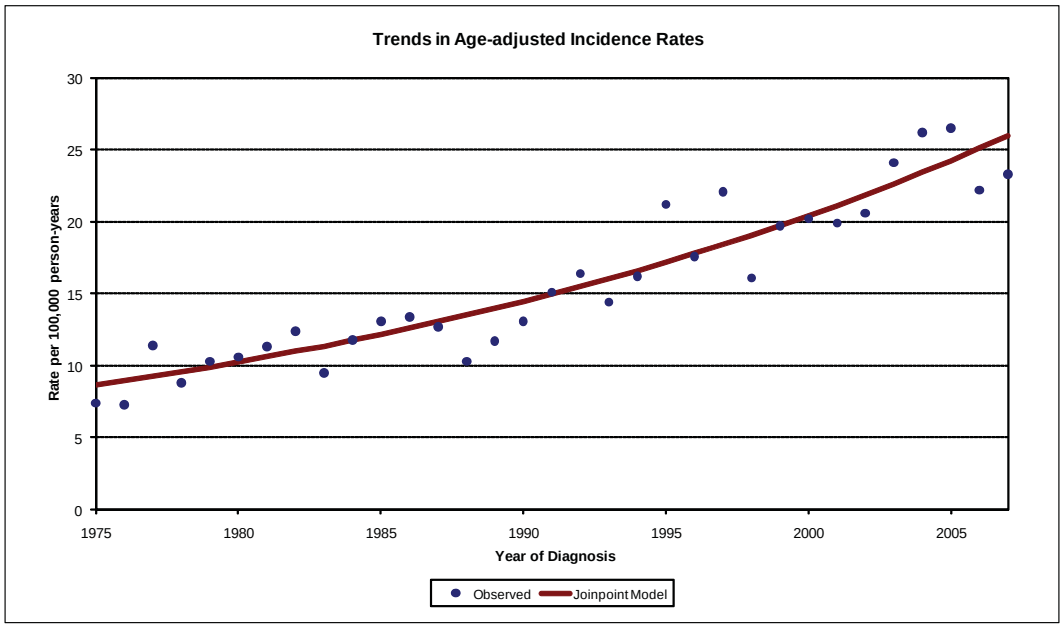
Liver cancer incidence increased at a rate of about 4.1% per year in Idaho from 1975 to 2007. The rate of increase was higher for males (4.9% per year) than for females (2.9% per year), and rates of liver cancers among males were about twice as high as among females.

Lung and Bronchus



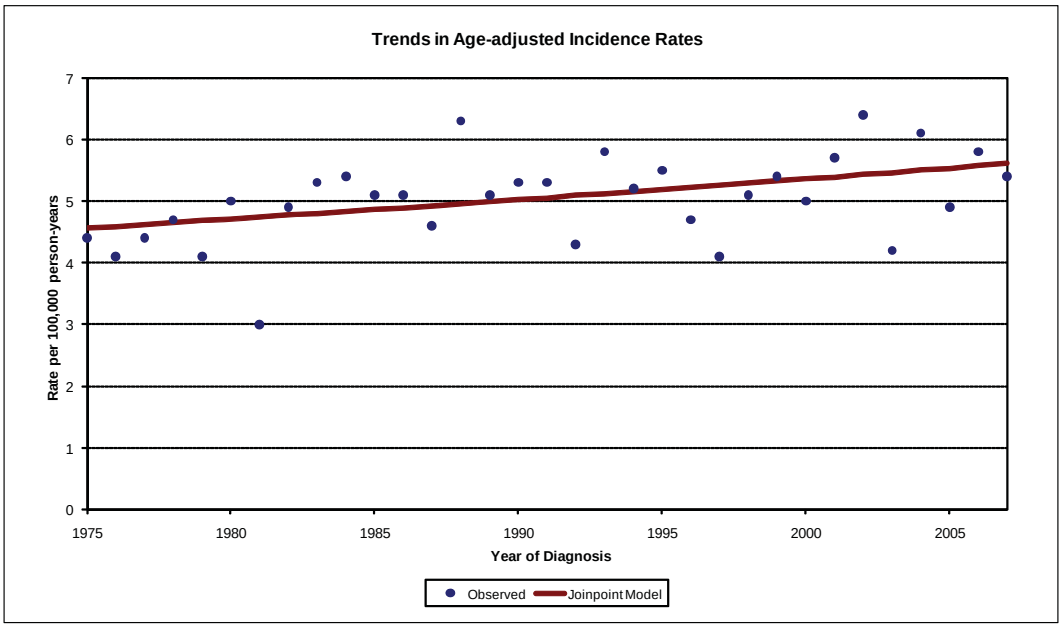
Lung cancer incidence increased at a rate of about 6.1% per year in Idaho from 1975 to 1981, after which the rate of increase lessened to about 0.5% per year. Lung cancer incidence trends over time were different for males and females. For males, lung cancer incidence increased at a rate of about 4.9% per year from 1975 to 1981, and then decreased by about 0.6% per year. For females, lung cancer incidence increased at a rate of about 5.9% per year from 1975 to 1989, after which the rate of increase lessened to about 1.6% 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



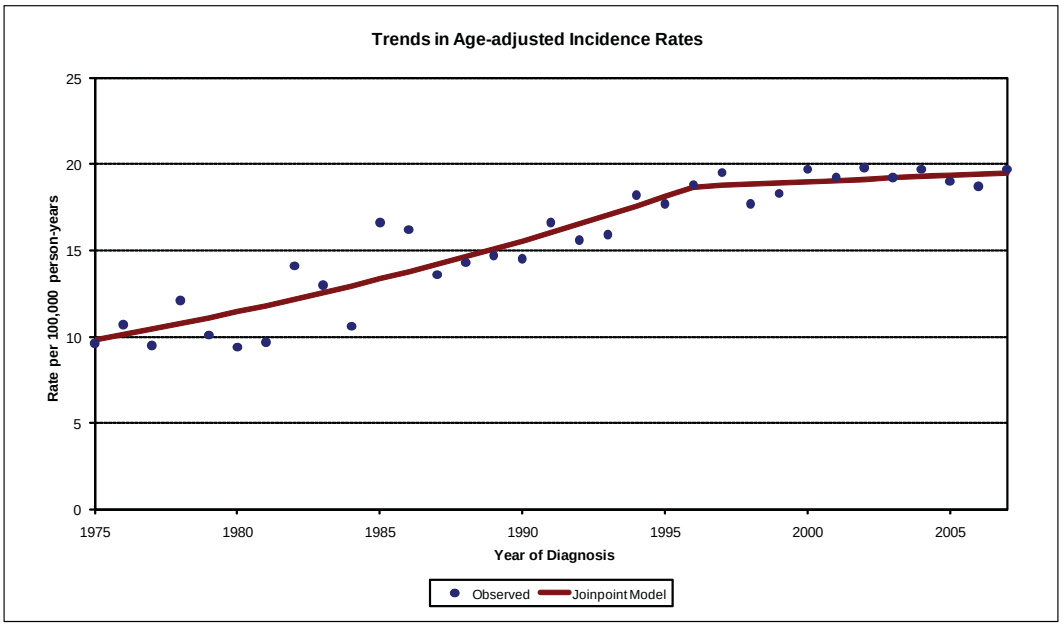
The incidence of melanoma of the skin increased at a rate of about 3.5% per year in Idaho from 1975 to 2007. The rate of increase was higher for males (4.1% per year) than for females (2.8% per year), and rates of melanoma incidence among males were higher than among females. The incidence of in-situ melanoma of the skin increased at a higher rate (9.2% per year from 1980 to 2007) than for the invasive cases depicted in the graph.

Myeloma



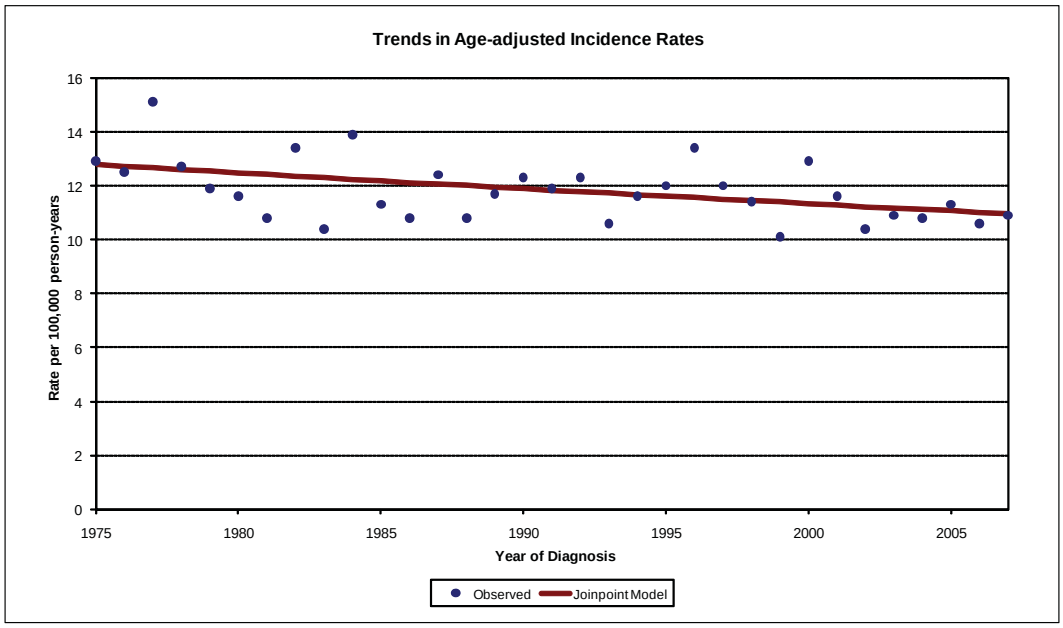
The incidence of myeloma increased at a rate of about 0.7% per year in Idaho from 1975 to 2007. The rate of increase was higher for males (1.2% per year) than for females (no significant trend), and rates of myeloma incidence among males were higher than among females.

Non-Hodgkin Lymphoma



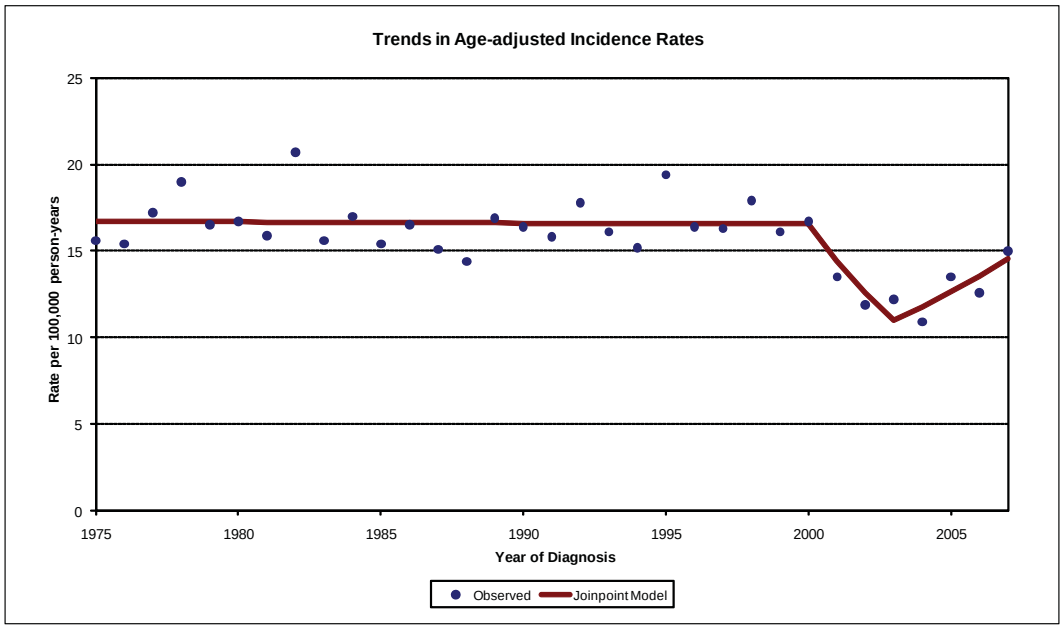
The incidence of non-Hodgkin lymphoma increased at a rate of about 3.1% per year in Idaho from 1975 to 1996, after which there has been no significant trend. Non-Hodgkin lymphoma incidence trends over time were different for males and females, and rates of non-Hodgkin lymphoma incidence among males were higher than among females. For males, non-Hodgkin lymphoma increased at a rate of about 1.9% per year from 1975 to 2007. For females, non-Hodgkin lymphoma increased at a rate of about 3.2% per year from 1975 to 2000, after which there has been no significant trend.

Oral Cavity and Pharynx



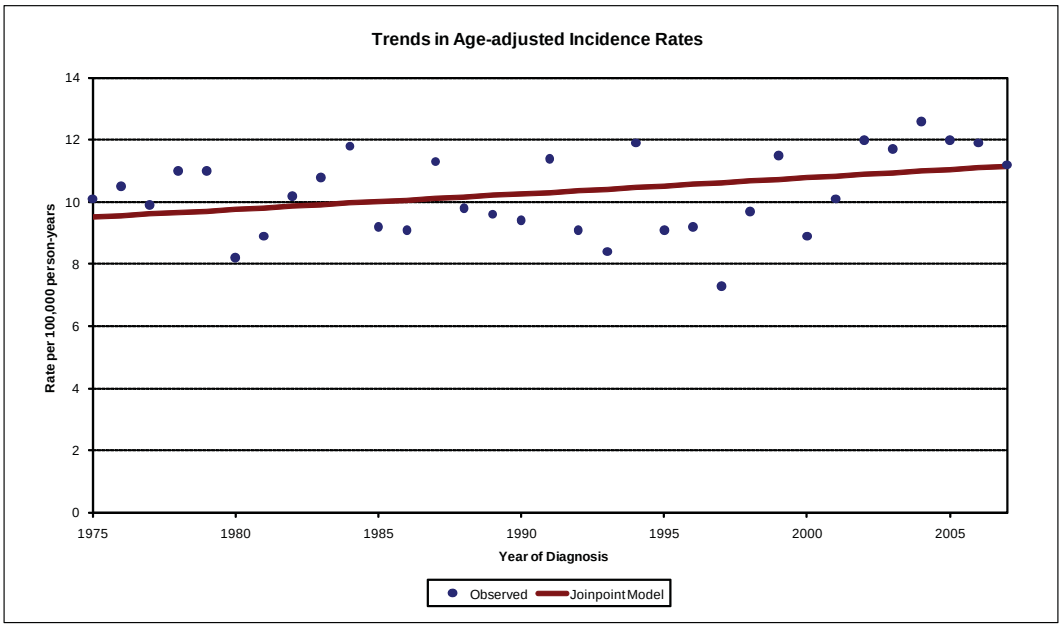
The incidence of cancers of the oral cavity and pharynx decreased at a rate of about 0.5% per year in Idaho from 1975 to 2007. The rate of decrease was higher for males (0.8% per year) than for females (no significant trend), and rates of cancers of the oral cavity and pharynx were about 3 times higher 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



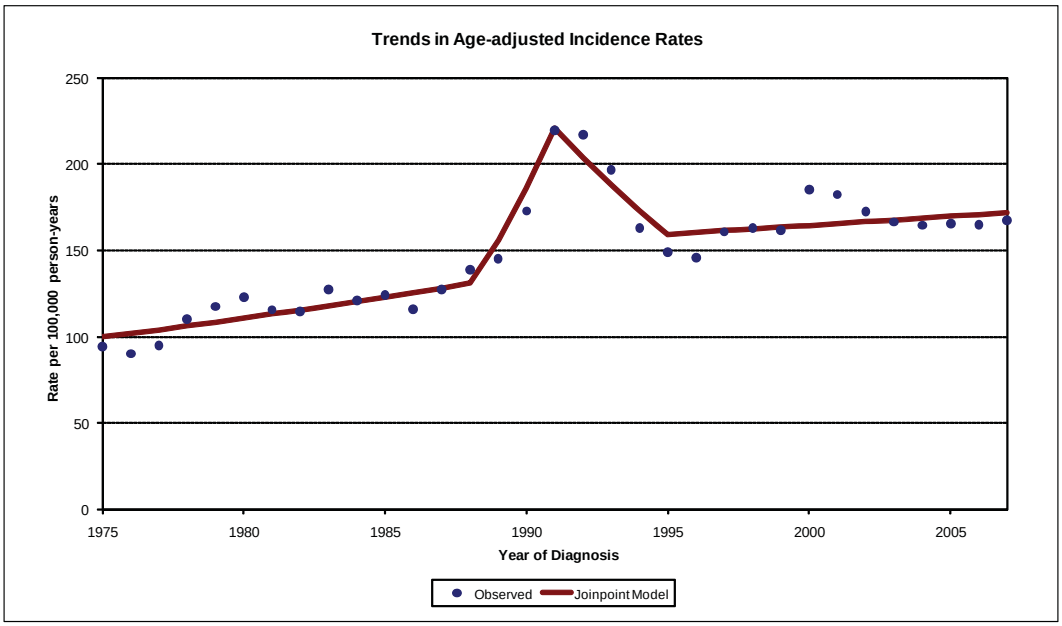
The incidence of ovarian cancer among females in Idaho was essentially stable from 1975 to 2000. From 2000 to 2003, the rate decreased by about 12.8% per year. Since 2003, the rate has increased by about 7.3% per year. The sharp decrease may have been due in part to a decrease in the use of hormone replacement therapy.

Pancreas



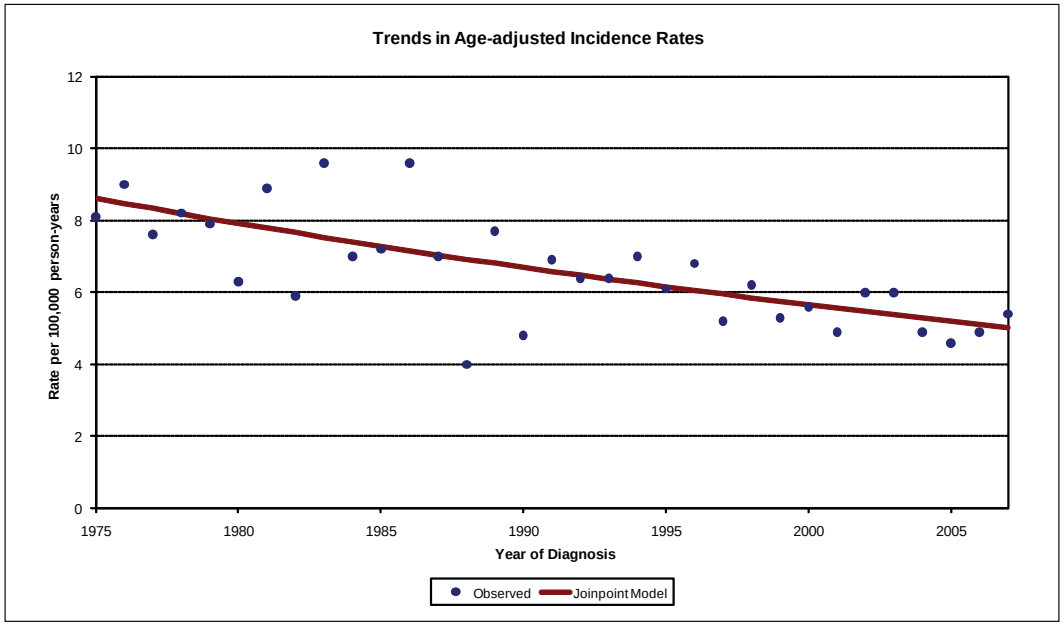
Pancreas cancer incidence increase at a rate of about 0.5% per year in Idaho from 1975 to 2007; rates showed year-to-year variability due to the relatively small numbers of cases diagnosed annually. The rate of increase was higher for females (1.1% per year) than for males (no significant trend), and rates of pancreas cancer incidence among males were higher than among females.

Prostate



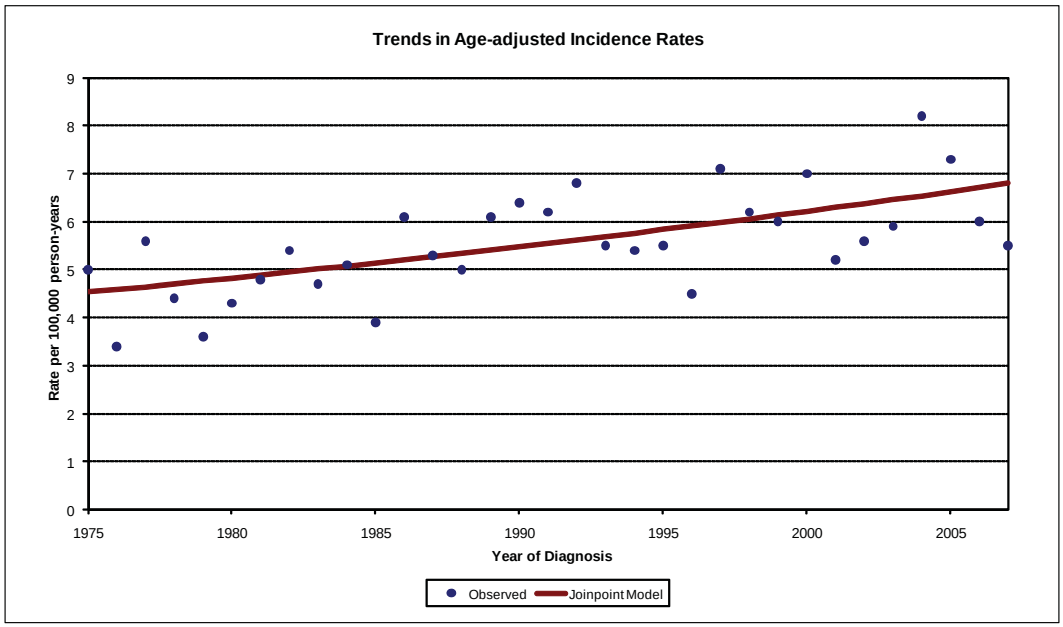
Trends in prostate cancer incidence are complicated, owing to the adoption of the Prostate-Specific Antigen (PSA) screening test in the late 1980s and early 1990s. From 1975 to 1988, prostate cancer incidence increased in Idaho at a rate of about 2.1% per year. From 1988 to 1991, prostate cancer incidence increased at a rate of about 19.1% per year. For the period 1995 to 2007, prostate cancer incidence rates had dropped to near the trend predicted from the 1975-1988 time series. Overall, there is an increasing trend in prostate cancer incidence punctuated by a large increase and concomitant decrease associated with widespread adoption of the PSA test, which likely detected many indolent cases.

Stomach



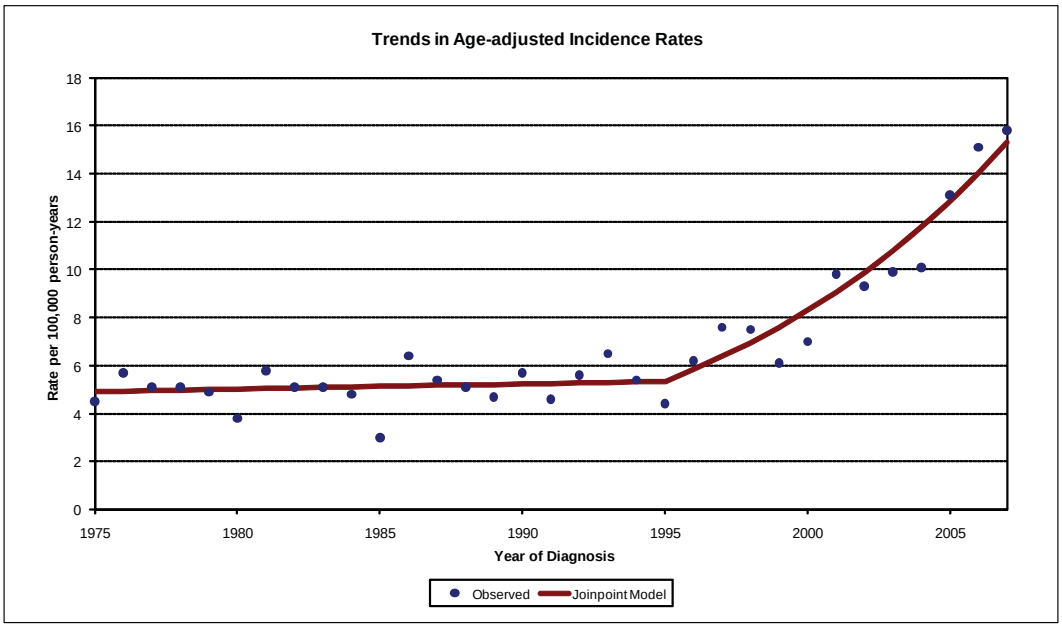
Stomach cancer incidence decreased at a rate of about 1.7% per year in Idaho from 1975 to 2007. Stomach cancer incidence trends over time were similar for males and females although stomach cancer incidence rates among males were about twice as high as among females.

Testis



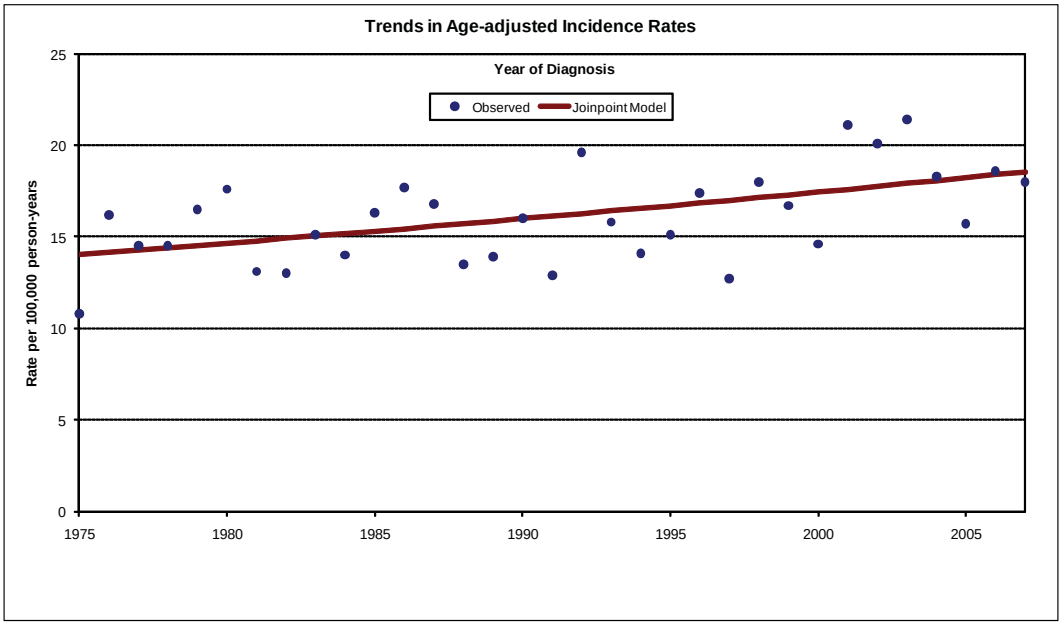
Testis cancer incidence increased at a rate of about 1.3% per year in Idaho from 1975 to 2007.

Thyroid



Thyroid cancer incidence was essentially stable in Idaho from 1975 to 1995, after which rates increased by about 9.2% per year. Thyroid cancer incidence trends over time were different for males and females. For males, thyroid cancer incidence increased at a rate of about 3.7% per year from 1975 to 2007. For females, thyroid cancer incidence was stable from 1975 to 1995, after which rates increased by about 9.8% per year. 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 0.9% per year in Idaho from 1975 to 2007. 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: http://www.idcancer.org/specialreports.html.

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APPENDICES

APPENDIX A

STANDARD SITE ANALYSIS CATEGORIES

SITE CATEGORY Categories in SMALL CAPITALS are aggregated from groups indented under them	PRIMARY SITE CODE EXCLUDES histologic types 9590-9989
ORAL CAVITY & PHARYNX	
Lip	C00.0 - C00.9
Tongue	C01.9 - C02.9
Salivary Glands	C07.9 - C08.9
Floor of Mouth	C04.0 - C04.9
Gum and Other Mouth	C03.0 - C03.9 C05.0 - C05.9 C06.0 - C06.9
Nasopharynx	C11.0 - C11.9
Tonsil	C09.0 - C09.9
Oropharynx	C10.0 - C10.9
Hypopharynx	C12.9 C13.0 - C13.9
Other Oral Cavity and Pharynx	C14.0 C14.2 - C14.8
DIGESTIVE SYSTEM	
Esophagus	C15.0 - C15.9
Stomach	C16.0 - C16.9
Small Intestine	C17.0 - C17.9
COLON (Excluding Rectum)	
Cecum	C18.0
Appendix	C18.1
Ascending Colon	C18.2
Hepatic Flexure	C18.3
Transverse Colon	C18.4
Splenic Flexure	C18.5
Descending Colon	C18.6
Sigmoid Colon	C18.7
Large Intestine, NOS	C18.8 – C18.9, C26.0

SITE CATEGORY Categories in SMALL CAPITALS are aggregated from the groups indented under them	PRIMARY SITE CODE EXCLUDES histologic types 9590-9989
RECTUM AND RECTOSIGMOID	
Rectosigmoid Junction	C19.9
Rectum	C20.9
Anus, Anal Canal, & Anorectum	C21.0 - C21.2 C21.8
Liver	C22.0
Intrahepatic Bile Duct	C22.1
Gallbladder	C23.9
Other Biliary	C24.0 - C24.9
Pancreas	C25.0 – C25.9
Retroperitoneum	C48.0
Peritoneum, Omentum, & Mesentery	C48.1 - C48.2
Other Digestive Organs	C26.8 – C26.9 C48.8
RESPIRATORY SYSTEM	
Nasal Cavity, Middle Ear, & Accessory Sinuses	C30.0 - C30.1 C31.0 - C31.9
Larynx	C32.0 - C32.9
Lung and Bronchus	C34.0 – C34.9
Pleura	C38.4
Trachea, Mediastinum, & Other Respiratory Organs	C33.9 C38.1 - C38.3 C38.8 C39.0 C39.8 C39.9
BONES AND JOINTS	C40.0 – C41.9
SOFT TISSUE (Including Heart)	C38.0 C47.0 – C47.9 C49.0 – C49.9

SITE CATEGORY Categories in SMALL CAPITALS are aggregated from the groups indented under them	PRIMARY SITE CODE EXCLUDES histologic types 9590-9989
SKIN (Excluding Basal and Squamous)	
Melanomas - Skin	C44.0 – C44.9 Histology Types 8720 - 8790 ONLY
Other Non - Epithelial	C44.0 – C44.9 Also Excluding Histology Types 8000 – 8004 8010 – 8045 8050 – 8082 8090 – 8110 8720 – 8790 9590 – 9989
BREAST	C50.0 – C50.9
FEMALE GENITAL SYSTEM	
Cervix Uteri	C53.0 – C53.9
Corpus Uteri	C54.0 – C54.9
Uterus, NOS	C55.9
Ovary	C56.9
Vagina	C52.9
Vulva	C51.0 – C51.9
Other Female Genital Organs	C57.0 – C58.9
MALE GENITAL SYSTEM	
Prostate	C61.9
Testis	C62.0 – C62.9
Penis	C60.0 – C60.9
Other Male Genital Organs	C63.0 – C63.9
URINARY SYSTEM	
Bladder	C67.0 – C67.9
Kidney and Renal Pelvis	C64.9 C65.9
Ureter	C66.9
Other Urinary Organs	C68.0 – C68.9
EYE AND ORBIT	C69.0 – C69.9

SITE CATEGORY Categories in SMALL CAPITALS are aggregated from the groups indented under them	PRIMARY SITE CODE EXCLUDES histologic types 9590-9989
BRAIN AND OTHER NERVOUS SYSTEM	
Brain	C71.0 – C71.9 Also excludes: 9530 - 9539 And 9590 – 9989
Other Nervous System	A) C71.0 – C71.9 (meningioma) Histologic Type: 9530- 9539 ONLY B) C70.0 - C70.9 C) C72.0 - C72.9
ENDOCRINE SYSTEM	
Thyroid	C73.9
Other Endocrine (Including Thymus)	C37.9 C74.0 - C74.9 C75.0 - C75.9

SITE CATEGORY Categories in SMALL CAPITALS are aggregated from the groups indented under them	PRIMARY SITE CODE	HISTOLOGY
LYMPHOMAS		
Hodgkin Lymphoma		
Nodal	C02.4, C09.8, C09.9, C11.1, C14.2, C37.9 C42.2 C77.0 - C77.9	Types: 9650 - 9667 ONLY
Extranodal	For All Other Sites Exclude Sites: C02.4, C09.8, C09.9, C11.1, C14.2, C37.9, C42.2 C77.0 - C77.9	Types: 9650 - 9667 ONLY
Non - Hodgkin Lymphoma		
Nodal	C02.4, C09.8, C09.9, C11.1, C14.2, C37.9, C42.2 C77.0 - C77.9	Types: 9590 - 9596 9670 – 9729, 9823, 9827 ONLY
Extranodal	For All Other Sites Excluding Sites: C02.4, C09.8, C09.9, C11.1, C14.2, C37.9, C42.2 C77.0 - C77.9	Types: 9590 - 9595 9670 - 9729 ONLY Types: 9823, 9827 For All Other Sites Except C42.0, C42.1, C42.4
MULTIPLE MYELOMA	For All Sites	Types: 9731 - 9732 ONLY

SITE CATEGORY Categories in SMALL CAPITALS are aggregated from the groups indented under them	HISTOLOGY
LEUKEMIAS	
Lymphocytic	
Acute Lymphocytic	Type: 9821, 9828, ONLY
Chronic Lymphocytic	Type: 9823 ONLY
Other Lymphocytic	Type: 9820, 9822, 9824, 9825, 9826, ONLY
Granulocytic (Myeloid)	
Acute Granulocytic	Type: 9840, 9861, 9866, 9867, 9871 - 9874 ONLY
Chronic Granulocytic	Type: 9863, 9868, ONLY
Other Granulocytic	Type: 9860, 9862, 9864, ONLY
Monocytic	
Acute Monocytic	Type: 9891 ONLY
Chronic Monocytic	Type: 9893 ONLY
Other Monocytic	Type: 9890, 9892, 9894,ONLY
Other	
Other Acute	Type: 9801, 9841, 9931, 9932 ONLY
Other Chronic	Type: 9803, 9842 ONLY
Aleukemic, Subleukemic, & NOS	Type: 9800, 9802, 9804,9830, 9850, 9870, 9880,9900, 9910, 9930, 9940, 9941 ONLY Type 9827 For Sites C42.0, C42.1, C42.4 ONLY

SITE CATEGORY Categories in SMALL CAPITALS are aggregated from the groups indented under them	PRIMARY SITE CODE EXCLUDES histologic types 9590-9989
ILL- DEFINED AND UNSPECIFIED SITES	A) Type: 9720 - 9723 9740 9741 9760 - 9764 9950 - 9989 ONLY For All Sites B) C76.0 - C76.8 C80.9 Type: 8000 - 9589 C) C42.0 - C42.4 Type 8000 - 9589 D) C77.0 - C77.9 Type 8000 - 9589
INVALID SITE	Site or histology code not within valid range or site code not found in this table.

Source: "Standards for Completeness, Quality, Analysis, and Management of Data, Vol III". North American Association of Central Cancer Registries, October 2004.[20]

APPENDIX B

2000 U.S. STANDARD POPULATION

Age Group	2000 US Standard Population (Census P25-1130)
0	3,794,901
1-4	15,191,619
5-9	19,919,840
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, 2008. [16]

APPENDIX C

2007 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	6,482	2,857	11,133	16,522	7,419	7,177	9,330	60,920
5 to 9	6,935	2,852	10,396	15,760	6,577	6,683	7,703	56,906
10 to 14	7,275	3,071	9,929	15,317	6,472	6,493	7,313	55,870
15 to 19	7,458	4,332	8,808	14,229	6,606	6,518	8,164	56,115
20 to 24	6,173	5,418	7,734	14,727	5,736	6,507	9,146	55,441
25 to 29	7,332	3,593	10,342	17,166	6,301	6,247	7,445	58,426
30 to 34	5,981	3,014	8,696	15,898	5,367	4,546	5,292	48,794
35 to 39	6,381	2,829	8,170	17,058	5,189	4,408	4,942	48,977
40 to 44	6,807	3,057	7,618	15,873	5,611	4,506	5,509	48,981
45 to 49	7,704	3,548	7,607	15,640	6,232	5,547	6,254	52,532
50 to 54	7,677	3,660	6,882	14,458	6,049	5,556	5,984	50,266
55 to 59	7,548	3,466	6,166	12,360	5,132	4,825	5,121	44,618
60 to 64	5,904	2,821	5,037	9,428	4,251	3,663	4,127	35,231
65 to 69	4,587	2,203	3,880	6,310	3,217	2,670	2,956	25,823
70 to 74	3,561	1,748	3,055	4,397	2,513	2,064	2,081	19,419
75 to 79	2,643	1,417	2,314	3,322	1,923	1,616	1,596	14,831
80 to 84	1,766	1033	1,731	2,308	1,464	1,170	1109	10,581
85+	1444	951	1,608	1,783	1402	850	875	8,913
Total	103,658	51,870	121,106	212,556	87,461	81,046	94,947	752,644
	HD 1	**HD 2**	**HD 3**	**HD 4**	**HD 5**	**HD 6**	**HD 7**	**STATE**
Females								
< 5	6,194	2,761	10,620	15,652	6,905	7,081	8,876	58,089
5 to 9	6,747	2,741	9,846	15,248	6,312	6,283	7,167	54,344
10 to 14	6,893	2,786	9,405	14,521	6,184	6,182	6,886	52,857
15 to 19	6,736	3,920	8,119	13,232	6,221	6,417	9,852	54,497
20 to 24	5,778	4,445	7,083	12,524	5,143	6,346	6,949	48,268
25 to 29	7,073	2,604	10,247	15,816	5,038	5,506	7,707	53,991
30 to 34	5,893	2,777	8,459	14,603	4,980	4,731	5,243	46,686
35 to 39	6,662	2,722	8,008	14,976	5,059	4,711	5,127	47,265
40 to 44	6,852	3,059	7,337	15,027	5,618	4,846	5,521	48,260
45 to 49	7,950	3,761	7,495	15,483	6,052	5,560	6,279	52,580
50 to 54	8,335	3,534	7,052	14,446	5,970	5,445	5,916	50,698
55 to 59	7,581	3,399	6,426	12,311	5,367	4,819	5,070	44,973
60 to 64	5,989	2,740	5,373	9,359	4,351	3,677	4,099	35,588
65 to 69	4,484	2,229	4,110	6,533	3,296	2,720	2,976	26,348
70 to 74	3,529	1,768	3,357	4,977	2,741	2,229	2,139	20,740
75 to 79	2,957	1,621	2,913	4,185	2,459	1,866	1,968	17,969
80 to 84	2,462	1,390	2,405	3,413	2,041	1,477	1,522	14,710
85+	2,312	1,538	2,844	3,627	2,237	1,679	1401	15,638
Total	104,427	49,795	121,099	205,933	85,974	81,575	94,698	743,501
Total	208,085	101,665	242,205	418,489	173,435	162,621	189,645	1,496,145

Source: National Center for Health Statistics, 2009.