Cancer Data Registry of Idaho

Annual Report

CDRI

Cancer in Idaho - 2002

April 2004

IDAHO HOSPITAL ASSOCIATION

CANCER DATA REGISTRY OF IDAHO

CANCER IN IDAHO - 2002

A Publication of the
Cancer Data Registry of Idaho

CANCER DATA
REGISTRY OF IDAHO

A Program of the
Idaho Hospital Association

IDAHO HOSPITAL
ASSOCIATION

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April 2004

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PREFACE

"*Cancer in Idaho - 2002*," the twenty-sixth annual report of the Cancer Data Registry of Idaho (CDRI), contains data on cancer cases diagnosed during 2002 among Idaho residents. These data can be used by public health officials, hospital administrators, physicians, 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 Idaho Bureau of Health Policy and Vital Statistics, the Bureau of Clinical and Preventive Services, the Bureau of Community and Environmental Health, and the Office of Epidemiology and Food Protection of the Idaho Department of Health and Welfare, Division of Health, for their continued partnership in using CDRI data as a tool in cancer control and prevention.

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BACKGROUND

Introduction to the Cancer Data Registry of Idaho (CDRI)

Purpose of the Registry

Population-based cancer registries are essential for assessing the extent of cancer burden in a specified geographic area. The Cancer Data Registry of Idaho (CDRI) is a population-based cancer registry that collects incidence and survival data on all cancer patients who 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 one percent of the cigarette tax to be dedicated to fund the statewide cancer registry. 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).

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

Reported cases contain the following data:

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

Primary site, behavior, grade, and histology were coded according to the *"International Classification of Diseases for Oncology, 3rd edition."*[1] Stage of disease variables were coded using *"SEER's Summary Staging Manual 2000"* and *"AJCC Manual for Staging of Cancer, 5th edition."*[2-3] All other variables were coded following the rules of the North American Association of Central Cancer Registries, the SEER program, and the American College of Surgeons.[4-6]

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 the North American Association of Central Cancer Registries, 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, or site/age combinations. In addition to computerized edits, each case is manually reviewed for errors.

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

Idaho data have qualified for inclusion in all volumes of NAACCR's publication of *"Cancer Incidence in North America*." In order to be included, states must meet standards for quality and completeness.

Executive Summary

Data Presentation

This report is comprised of six 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. 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. Section VI contains tables of age-specific risks of developing and dying from cancer for males and females.

Beginning with the 2002 annual report, colon and rectal cancers were combined into the category of colorectal to be more consistent with statistical reports from NAACCR and SEER. In addition, Section IV was expanded to contain age-specific rates for in-situ female breast cancer and Section V was expanded to include observed versus expected numbers for in-situ female breast cancer and pediatric cancers.

Population Description

The population of the state of Idaho on July 1, 2002 was estimated to be 1,341,131 (671,945 males and 669,186 females). Population estimates were obtained from the U.S. Bureau of the Census.[7] Idaho is comprised of 44 counties grouped into seven health districts. The composition of the health districts, as well as 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	91,592	92,735
District 2	Clearwater, Latah, Lewis, Idaho, Nez Perce	50,663	49,136
District 3	Adams, Canyon, Gem, Owyhee, Payette, Washington	102,369	103,350
District 4	Ada, Boise, Elmore, Valley	184,223	179,538
District 5	Blaine, Camas, Cassia, Gooding, Jerome, Lincoln, Minidoka, Twin Falls	82,844	82,445
District 6	Bannock, Bear Lake, Bingham, Butte, Caribou, Franklin, Oneida, Power	78,556	79,484
District 7	Bonneville, Clark, Custer, Fremont, Jefferson, Lemhi, Madison, Teton	81,698	82,498

Descriptive Summary by Gender and Race and Ethnicity

The data presented in this report cover those cases diagnosed among Idaho residents between January 1, 2002, and December 31, 2002. In this time frame, there were 6,205 cases of cancer diagnosed among Idaho residents (3,233 among males and 2,972 among females). By race and ethnicity, there were 5,393 cases among non-Hispanic whites, 154 among Hispanic whites, 7 cases among Blacks, 29 cases among Native Americans, 8 cases among Asians/Pacific Islanders, and 16 cases among other races. Race was missing for 22 cases. The majority of cases with missing race and/or ethnicity were reported by out-of-state sources. The number of cancer cases treated in outpatient settings and reported only by pathology laboratories has increased over the last several years. Many of such cases are reported with race missing, causing tabulations of cases by race to be skewed. CDRI is actively working to improve the data quality of cases reported by pathology laboratories only. 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*.[15]

Trends

There was a large increase in the number of reported cases from 2001 to 2002 (an increase of 452 cases from 2001 to 2002 as of one year after close of calendar year). Cancer sites with notable increases from 2001 to 2002 were brain, cervix, melanoma of the skin, pancreas, and stomach. There was a notable decrease from 2001 to 2002 in the number of Hodgkin's lymphoma cases.

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 to be compared with rates from other geographic areas 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 U.S. Bureau of the Census (see Appendix C).[7]

In conformity with 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 2002 (6,205), a total of 5,780 cases (5,629 invasive and 151 bladder in-situ) were used for calculating age-adjusted incidence rates. Of the 5,780 cases, 3,091 occurred among males and 2,689 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 the 1993 annual report of the Washington State Cancer Registry, the "American Cancer Society Textbook of Clinical Oncology," and the U.S. Department of Health and Human Services 9th Report on Carcinogens.[8-10] 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. This can result in substantial bias, and is the reason why race-specific rates are not published in this report. For more detailed statistics by race and ethnicity, see *Cancer in Idaho by Race and Ethnicity: 1990-2001*.[15]

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 and are adopted by NAACCR.[4,5] 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 for Section I were calculated using SEER*Stat.[11] For comparisons between Idaho and SEER rates, see the CDRI publication *Cancer Trends in Idaho, 1971-1988*.

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

Risks of Developing and Dying from Cancer

Cancer incidence and mortality risks were estimated using DEVCAN Version 4.2 software.[12] DEVCAN was used to calculate the probability of developing or dying of cancer using Idaho-specific cancer incidence and mortality data for the years 1998-2002. 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.

SECTION I

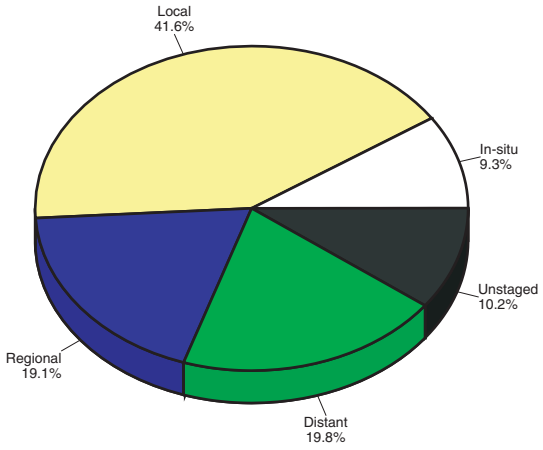
2002 SUMMARY ON ALL SITES COMBINED AND 23 MOST COMMON SITES

ALL SITES

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	460.0	537.0	400.0
# of new invasive cases	5,629	2,968	2,661
# of new in-situ cases	576	265	311
# of deaths	2,144	1,132	1,012

Stage at Diagnosis - All Sites



Total Cases By County

Ada	1,356	Cassia	97	Lewis	33
Adams	32	Clark	3	Lincoln	13
Bannock	313	Clearwater	59	Madison	49
Bear Lake	24	Custer	19	Minidoka	94
Benewah	51	Elmore	89	Nez Perce	250
Bingham	147	Franklin	32	Oneida	28
Blaine	74	Fremont	48	Owyhee	68
Boise	22	Gem	99	Payette	89
Bonner	223	Gooding	95	Power	18
Bonneville	297	Idaho	95	Shoshone	103
Boundary	41	Jefferson	84	Teton	23
Butte	21	Jerome	96	Twin Falls	353
Camas	7	Kootenai	640	Valley	51
Canyon	612	Latah	121	Washington	66
Caribou	35	Lemhi	51		

Risk and Associated Factors

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

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

Race & SES Rates are higher for African Americans than for Caucasians and other ethnic groups. 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.

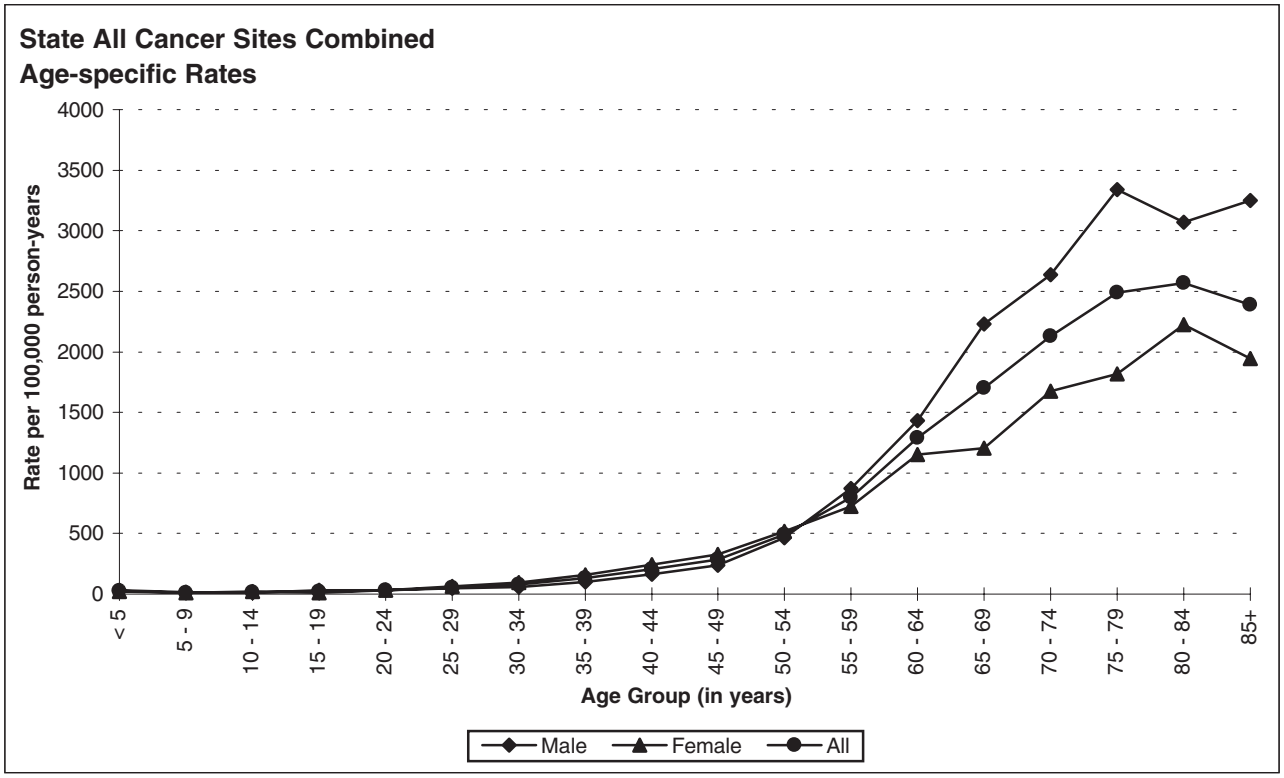
Diet Diets that are low in fresh fruits and vegetables have been associated with increased incidence of several cancers.

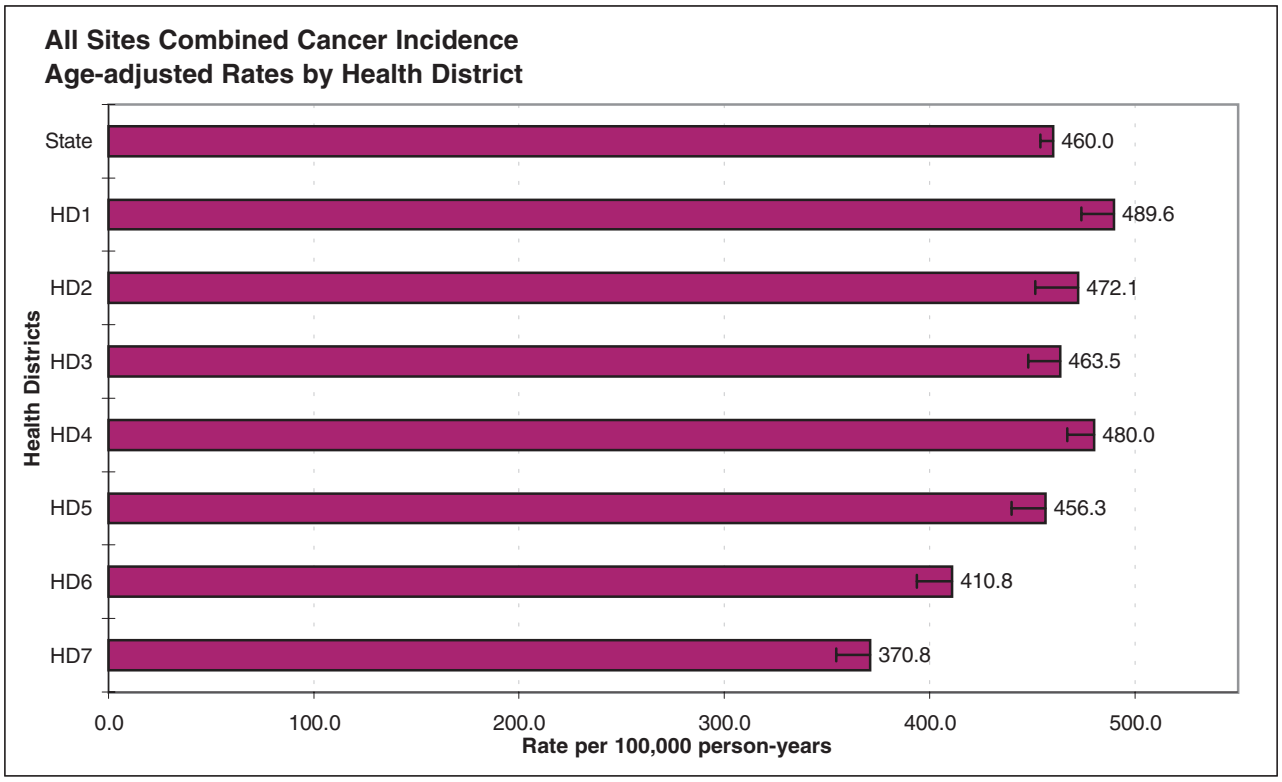
Other Tobacco use is the single most important risk factor for cancer incidence and mortality.

Special Notes

Mean age-adjusted incidence rate across health districts:	449.0
95% confidence interval on the mean age-adjusted incidence rate:	417.3 - 480.7
Median age-adjusted incidence rate of health districts:	463.5
Range of age-adjusted incidence rate for health districts:	370.8 - 489.6
SEER rate (2000, Whites):	478.9

The incidence rates for all cancers combined were similar for males and females in Idaho until approximately age 60-64, 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 75-79 for males and 80-84 for females. Health District 1 ($p<0.05$) had statistically significantly more cases of cancer than expected based upon rates for the remainder of Idaho, and Health Districts 6 ($p<0.01$) and 7 ($p<0.01$) had statistically significantly fewer cases than expected.


State All Cancer Sites Combined
Age-specific Rates
Rate per 100,000 person-years
4000
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

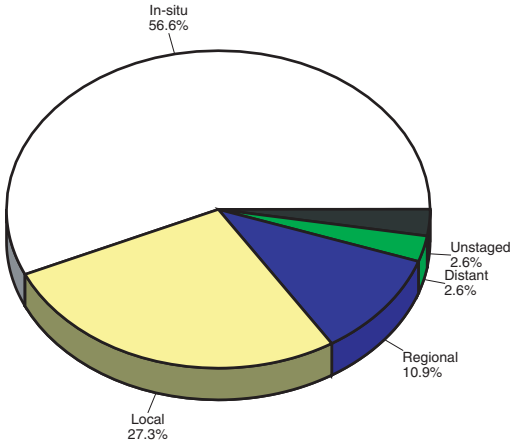

All Sites Combined Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
460.0
489.6
472.1
463.5
480.0
456.3
410.8
370.8
0.0
100.0
200.0
300.0
400.0
500.0
Rate per 100,000 person-years

BLADDER

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	21.4	39.8	7.1
# of new invasive cases	116	94	22
# of new in-situ cases	151	123	28
# of deaths	57	40	17

Stage at Diagnosis - Bladder



Total Cases By County

Ada	46	Cassia	6	Lewis	1
Adams	2	Clark	-	Lincoln	1
Bannock	11	Clearwater	2	Madison	1
Bear Lake	1	Custer	1	Minidoka	4
Benewah	1	Elmore	4	Nez Perce	12
Bingham	7	Franklin	-	Oneida	-
Blaine	2	Fremont	5	Owyhee	3
Boise	2	Gem	9	Payette	4
Bonner	9	Gooding	4	Power	1
Bonneville	12	Idaho	6	Shoshone	7
Boundary	2	Jefferson	3	Teton	-
Butte	-	Jerome	4	Twin Falls	21
Camas	-	Kootenai	29	Valley	3
Canyon	30	Latah	4	Washington	1
Caribou	2	Lemhi	3		

Risk and Associated Factors

Age Rates usually increase steadily with age.

Gender Males have substantially higher rates than females.

Race Incidence rates are slightly higher in African Americans.

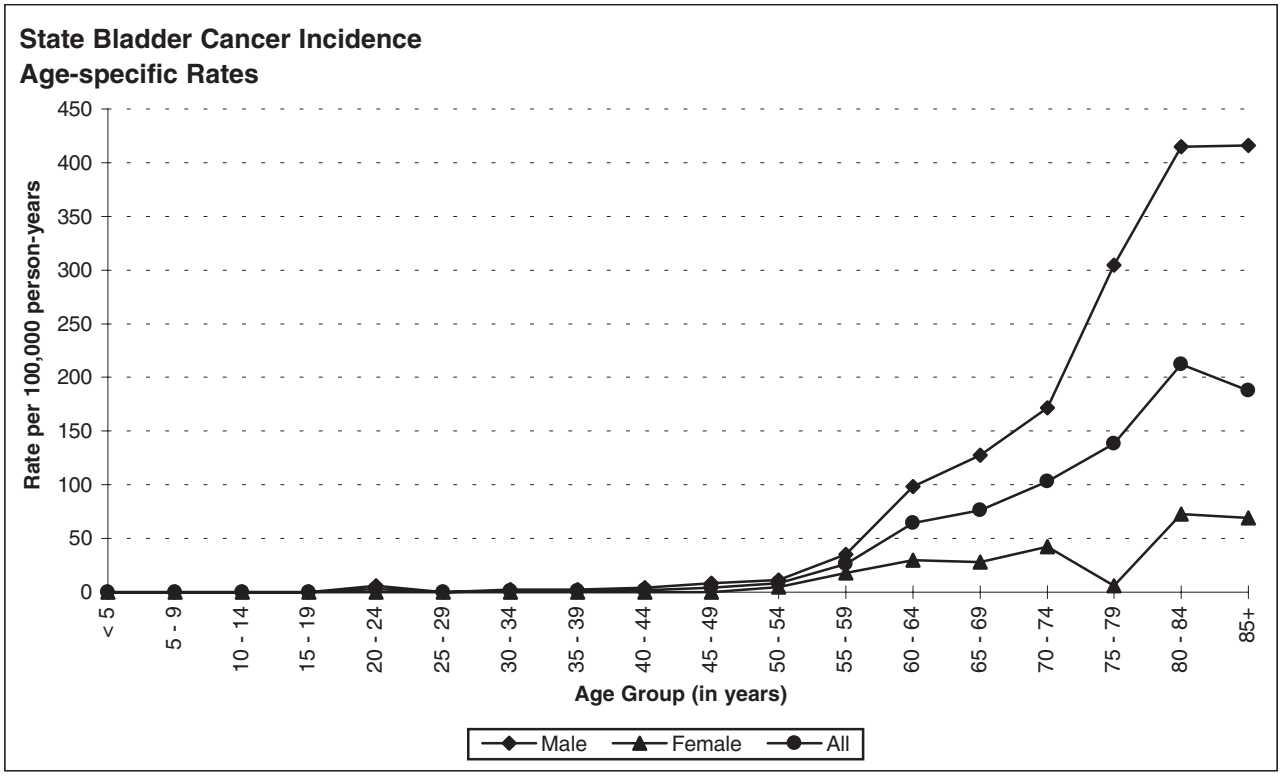
Occupation Occupational exposures, most prominently aniline dye used in textile, rubber, and cable industries, are associated with a large proportion of cases. Exposure to permanent hair dyes increases risk.

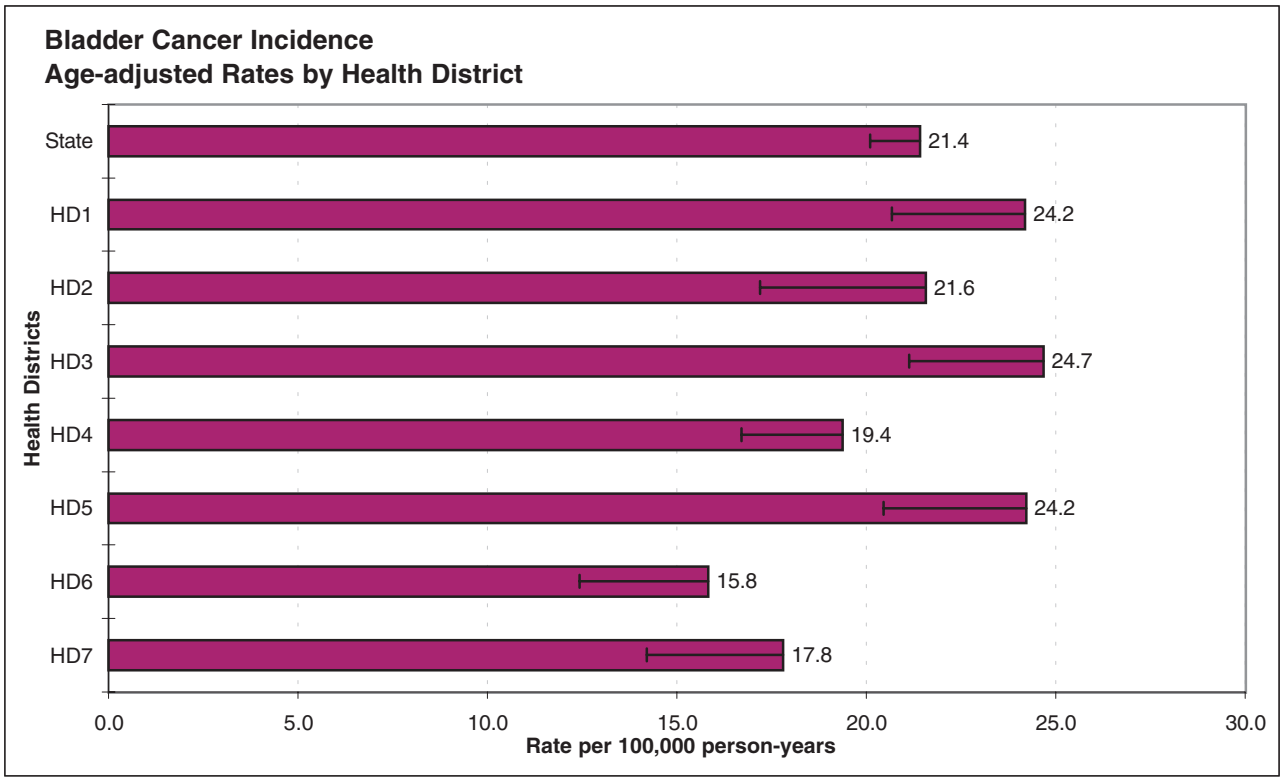
Other Tobacco consumption has been associated with a six-fold higher incidence of bladder tumor. Cyclophosphamide, a chemotherapeutic agent, and 4-amino-diphenyl are known human bladder carcinogens. Beta-naphthylamine and tobacco tar have been implicated in animal studies as possible causative factors. Chronic infections, calculus disease, and Schistosoma hematobium may also cause bladder tumors. Nitrate and arsenic in drinking water have each been shown to increase the risk of bladder cancer.

Special Notes

Mean age-adjusted incidence rate across health districts:	21.1
95% confidence interval on the mean age-adjusted incidence rate:	18.5 - 23.7
Median age-adjusted incidence rate of health districts:	21.6
Range of age-adjusted incidence rate for health districts:	15.8 - 24.7
SEER rate (2000, Whites):	23.1

There were few cases of bladder cancer among persons aged less than 40 years. Bladder cancer incidence rates increased with age, peaking in the age group 85+ for males and 80-84 for females. No health districts had statistically significantly more, or fewer, cases than expected based upon rates for the remainder of Idaho.


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

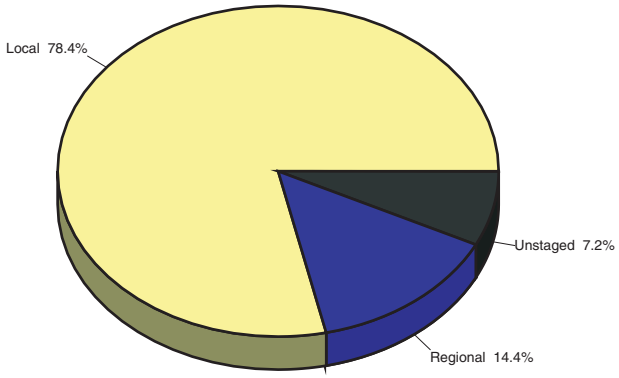

Bladder Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
21.4
24.2
21.6
24.7
19.4
24.2
15.8
17.8
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Rate per 100,000 person-years

BRAIN

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	7.4	8.9	6.0
# of new invasive cases	97	57	40
# of new in-situ cases	0	0	0
# of deaths	58	34	24

Stage at Diagnosis - Brain



Total Cases By County

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

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 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. Molecular tests that may be useful in screening for recurrences are being developed.

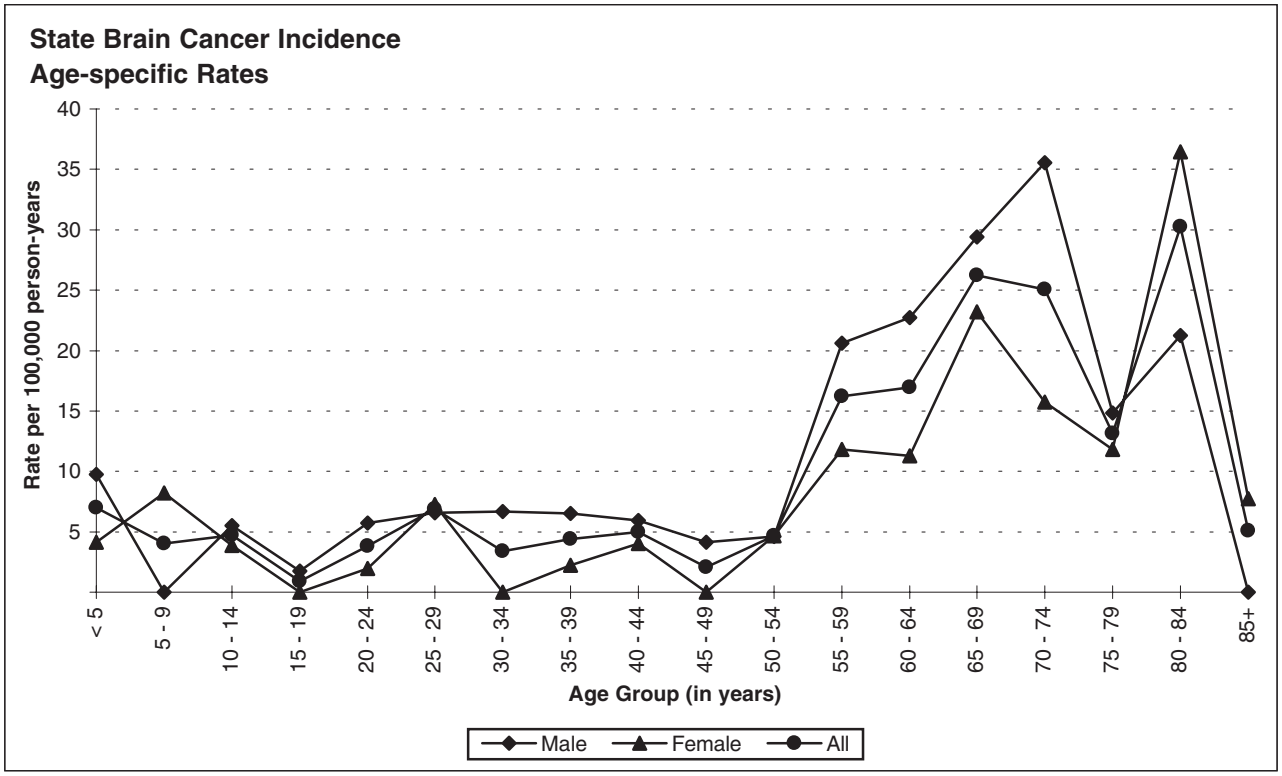
Occupation Vinyl chloride is a known human carcinogen, with exposure causing brain cancer and other types of cancer. Many occupational and environmental exposures have shown suggestive associations with elevated rates of brain cancer, including radiation, and agricultural chemicals. Roofers, sheet metal workers, and rubber and plastic workers may be at elevated risk. Studies about these associations are still inconclusive.

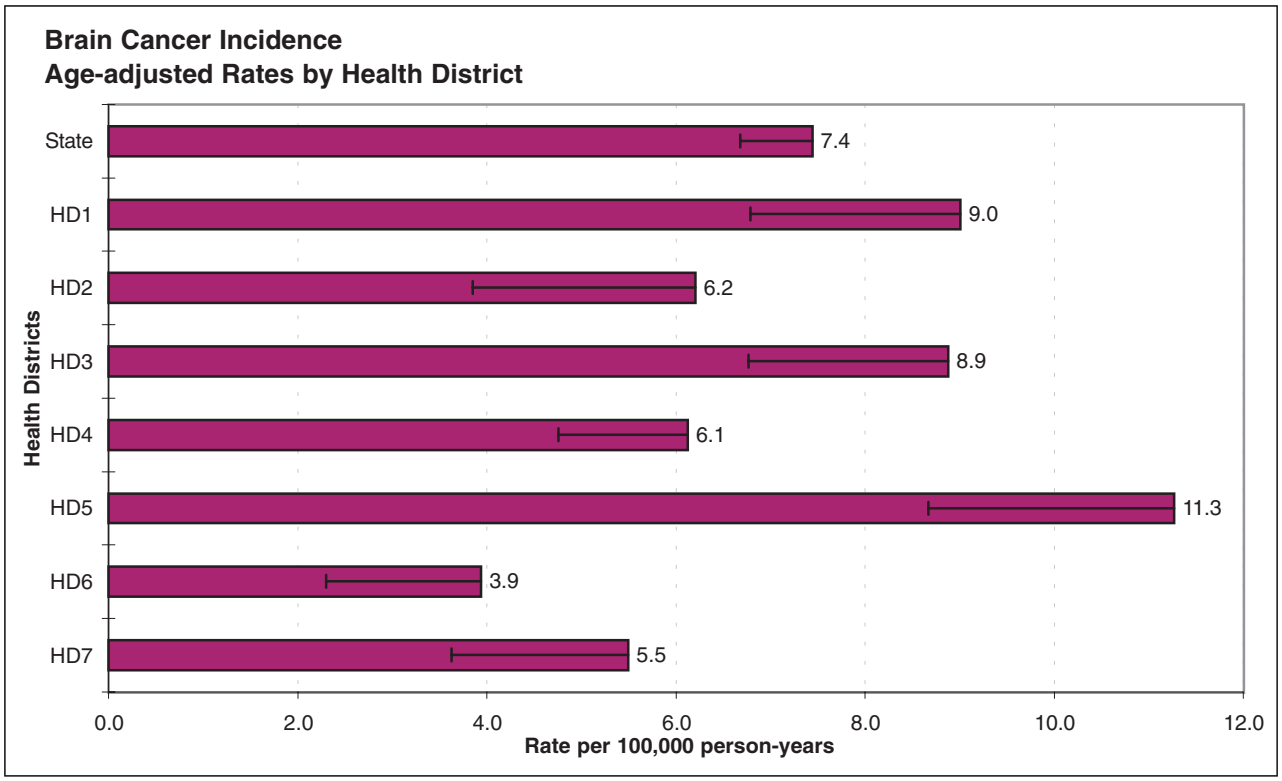
Other Human Immunodeficiency Virus (HIV) infected individuals have an increased risk of developing brain lymphoma.

Special Notes

Mean age-adjusted incidence rate across health districts:	7.3
95% confidence interval on the mean age-adjusted incidence rate:	5.4 - 9.1
Median age-adjusted incidence rate of health districts:	6.2
Range of age-adjusted incidence rate for health districts:	3.9 - 11.3
SEER rate (2000, Whites):	6.7

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
40
35
30
25
20
15
10
5
< 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

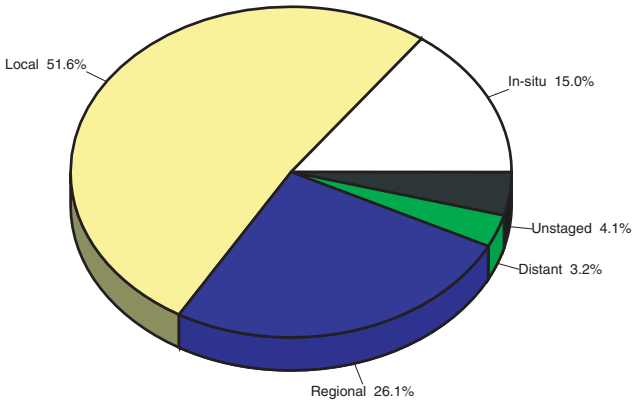

Brain Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
7.4
9.0
6.2
8.9
6.1
11.3
3.9
5.5
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Rate per 100,000 person-years

BREAST

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	70.0	2.0	131.2
# of new invasive cases	890	12	878
# of new in-situ cases	157	1	156
# of deaths	174	0	174

Stage at Diagnosis - Breast



Total Cases By County

Ada	261	Cassia	14	Lewis	2
Adams	8	Clark	-	Lincoln	2
Bannock	62	Clearwater	11	Madison	6
Bear Lake	2	Custer	4	Minidoka	17
Benewah	10	Elmore	9	Nez Perce	32
Bingham	17	Franklin	7	Oneida	9
Blaine	15	Fremont	7	Owyhee	9
Boise	1	Gem	16	Payette	14
Bonner	32	Gooding	12	Power	2
Bonneville	61	Idaho	12	Shoshone	13
Boundary	7	Jefferson	13	Teton	2
Butte	4	Jerome	15	Twin Falls	64
Camas	1	Kootenai	128	Valley	8
Canyon	81	Latah	19	Washington	6
Caribou	7	Lemhi	8		

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.

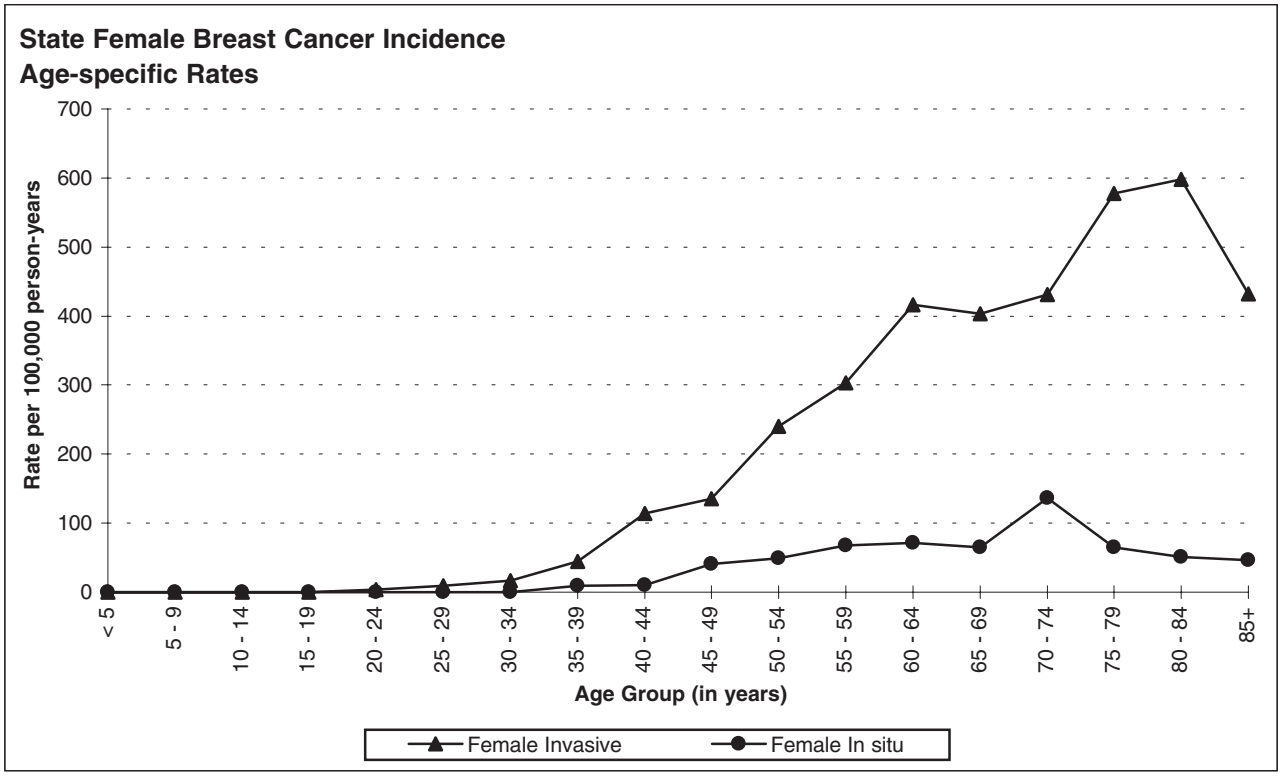
Hormonal There is evidence of hormonal influence in the risk of developing breast cancer. Longer intervals of menarche to the first full-term pregnancy and menarche to menopause, as well as menarche before age 13, have been associated with higher risks of breast cancer.

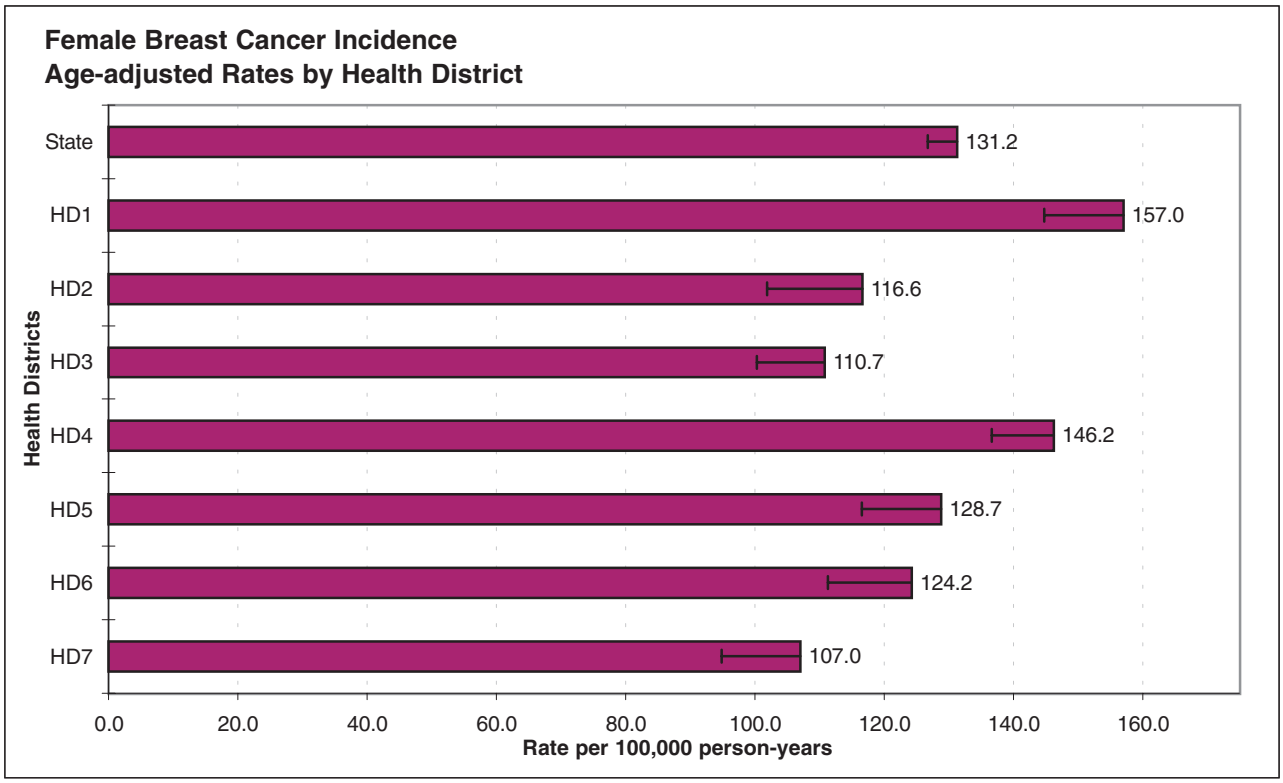
Other High dietary fat intake, obesity, sedentary life-style, and having a mother or sister with breast cancer have all been implicated as associated risk factors. Epstein-Barr virus may increase the risk of metastasis.

Special Notes

Mean age-adjusted incidence rate across health districts:	127.2
95% confidence interval on the mean age-adjusted incidence rate:	113.5 - 140.9
Median age-adjusted incidence rate of health districts:	124.2
Range of age-adjusted incidence rate for health districts:	107.0 - 157.0
SEER rate (2000, White females):	140.9

The vast majority of breast cancer cases occur among females. In Idaho during the year 2002, there were twelve cases of invasive breast cancer among males. The age-specific incidence rates of female breast cancer in Idaho in 2002 increased with age, peaking in the age group 80-84 for invasive cases and 70-74 for in situ. No cases were observed in women less than 25 years of age. Health Districts 1 ($p<0.05$) and 4 ($p<0.05$) had statistically significantly more cases of female breast cancer than expected based upon rates for the remainder of Idaho, and Health District 7 ($p<0.05$) had statistically significantly fewer cases than expected.


State Female Breast Cancer Incidence
Age-specific Rates
Rate per 100,000 person-years
700
600
500
400
300
200
100
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
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
131.2
157.0
116.6
110.7
146.2
128.7
124.2
107.0
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

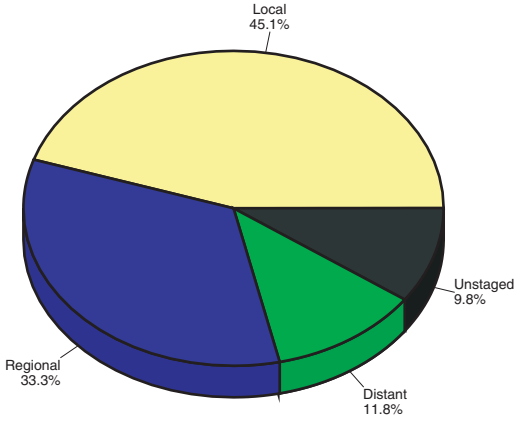
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	-	8.1
# of new invasive cases	-	-	51
# of new in-situ cases	-	-	n/a
# of deaths	-	-	18

Total Cases By County

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

Stage at Diagnosis - Cervix



(cervix in-situ not reported)

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.

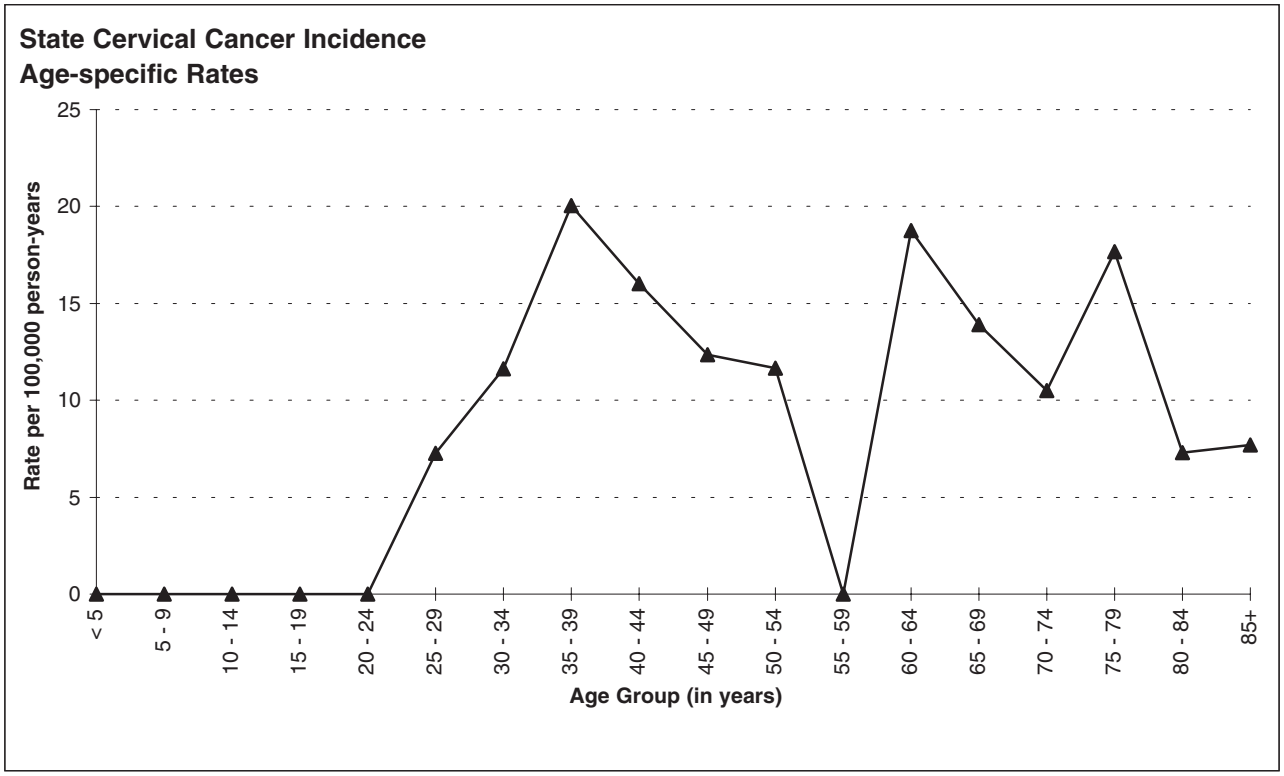
Race & SES African American females, as well as women in lower income groups, have been shown to experience higher rates.

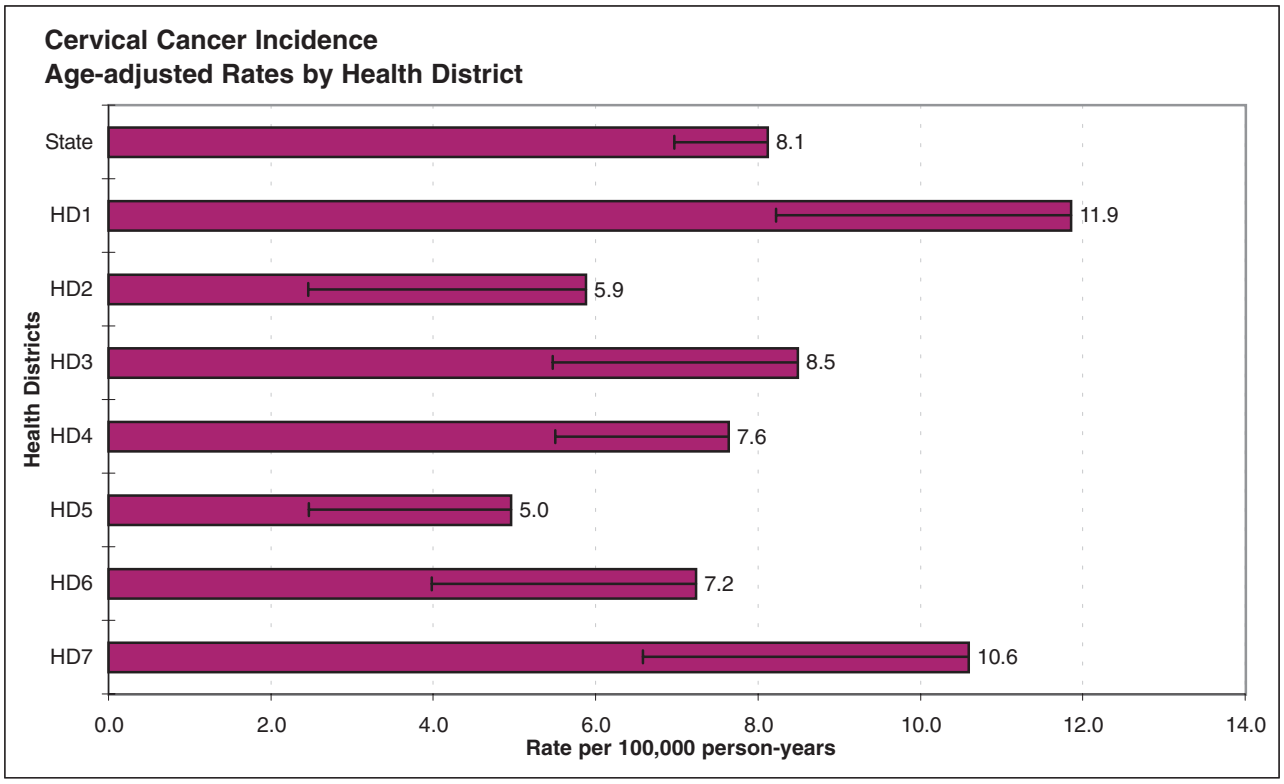
Other Strong risk factors for cervical cancer and its precursors include: early age at first intercourse (less than 16 years old), a history of multiple sexual partners, a large number of pregnancies, a history of genital human papilloma virus infection or other sexually transmitted disease, and the 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:	8.1
95% confidence interval on the mean age-adjusted incidence rate:	6.3 - 9.9
Median age-adjusted incidence rate of health districts:	7.6
Range of age-adjusted incidence rate for health districts:	5.0 - 11.9
SEER rate (2000, Whites):	7.2

No cases of invasive cervical cancer were diagnosed in females less than 20 years of age. 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)

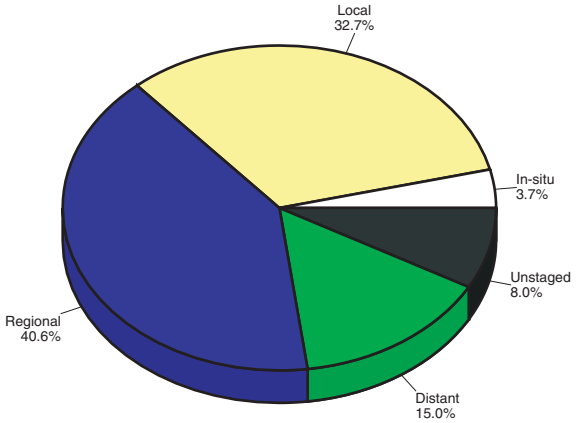

Cervical Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
8.1
11.9
5.9
8.5
7.6
5.0
7.2
10.6
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Rate per 100,000 person-years

COLORECTAL

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	43.3	54.0	33.8
# of new invasive cases	541	309	232
# of new in-situ cases	21	8	13
# of deaths	191	99	92

Stage at Diagnosis - Colorectal



Total Cases By County

Ada	124	Cassia	11	Lewis	-
Adams	1	Clark	-	Lincoln	2
Bannock	24	Clearwater	6	Madison	1
Bear Lake	3	Custer	1	Minidoka	15
Benewah	5	Elmore	8	Nez Perce	24
Bingham	10	Franklin	2	Oneida	2
Blaine	7	Fremont	3	Owyhee	4
Boise	1	Gem	13	Payette	9
Bonner	24	Gooding	6	Power	2
Bonneville	27	Idaho	7	Shoshone	12
Boundary	1	Jefferson	3	Teton	2
Butte	-	Jerome	14	Twin Falls	33
Camas	-	Kootenai	63	Valley	5
Canyon	55	Latah	10	Washington	12
Caribou	3	Lemhi	4		

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 Specific genetic alterations have been recognized in several hereditary conditions with high risk of colon cancer, such as familial polyposis. These conditions account for about six percent of colon cancer cases.

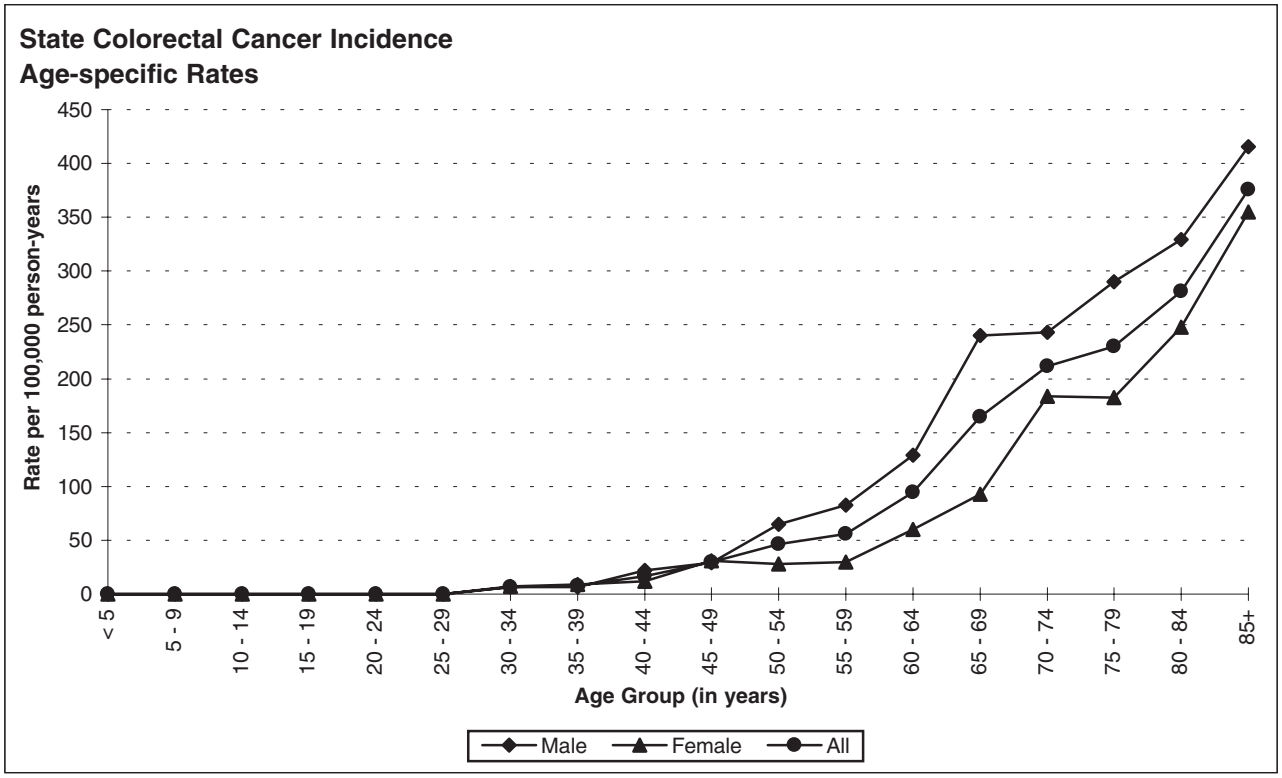
Diet Strong evidence that diets high in fat and low in fiber contribute to increased risk of colon cancer has been shown.

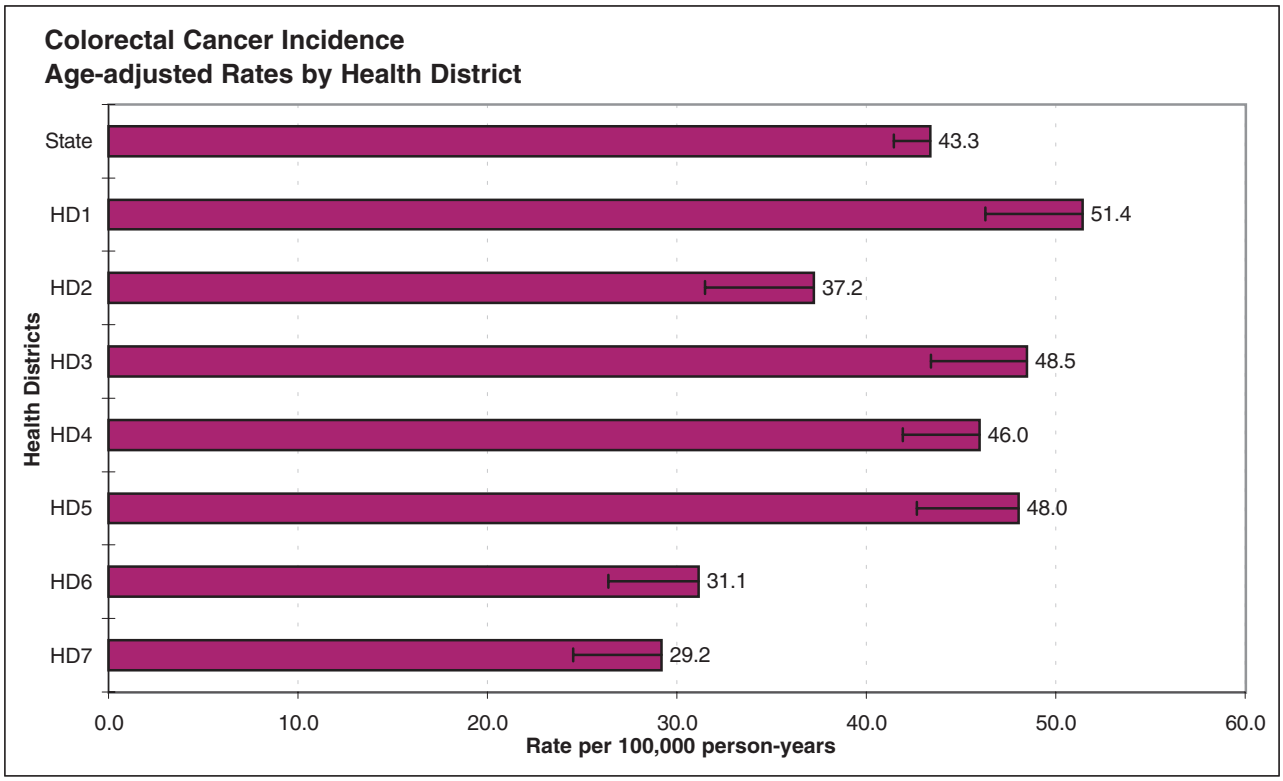
Other Individuals with a close family history of this cancer and those with a personal history of certain other cancers are at increased risk. Regular, moderate physical activity is associated with lower rates of this cancer.

Special Notes

Mean age-adjusted incidence rate across health districts:	41.6
95% confidence interval on the mean age-adjusted incidence rate:	34.9 - 48.3
Median age-adjusted incidence rate of health districts:	46.0
Range of age-adjusted incidence rate for health districts:	29.2 - 51.4
SEER rate (2000, Whites):	52.5

No cases of colorectal cancer were diagnosed in persons less than 30 years of age. There was a steep increase in age-specific incidence rates starting at age 55 and peaking in the age group 85+ for males and females. Health Districts 6 ($p<0.05$) and 7 ($p<0.01$) had statistically 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
450
400
350
300
250
200
150
100
50
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All

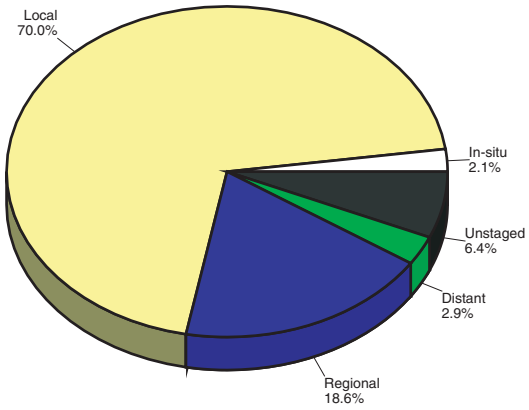

Colorectal Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
43.3
51.4
37.2
48.5
46.0
48.0
31.1
29.2
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Rate per 100,000 person-years

ENDOMETRIUM

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	-	20.5
# of new invasive cases	-	-	137
# of new in-situ cases	-	-	3
# of deaths	-	-	9

Stage at Diagnosis - Endometrium



Total Cases By County

Ada	31	Cassia	-	Lewis	1
Adams	-	Clark	-	Lincoln	-
Bannock	6	Clearwater	1	Madison	-
Bear Lake	2	Custer	-	Minidoka	1
Benewah	-	Elmore	1	Nez Perce	9
Bingham	2	Franklin	3	Oneida	-
Blaine	1	Fremont	-	Owyhee	3
Boise	-	Gem	1	Payette	7
Bonner	3	Gooding	2	Power	-
Bonneville	2	Idaho	3	Shoshone	4
Boundary	-	Jefferson	-	Teton	-
Butte	-	Jerome	1	Twin Falls	5
Camas	-	Kootenai	23	Valley	-
Canyon	21	Latah	2	Washington	1
Caribou	2	Lemhi	1		

Risk and Associated Factors

Age Occurs predominantly after menopause, with median age 58 and peaking at the 50 to 60 age group.

Race & SES Caucasian women have higher rates than African American women.

Genetics Familial tendency has been observed.

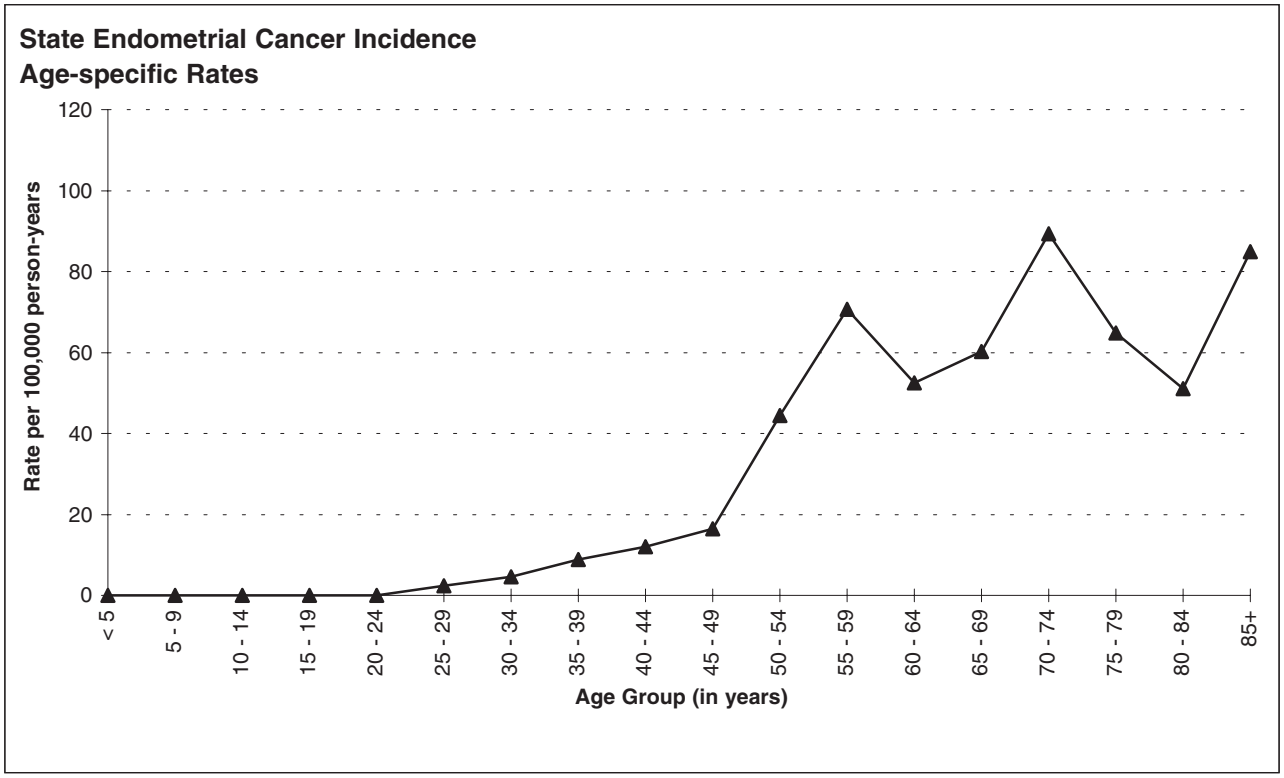
Diet Dietary fat may play a role in increased risk. Obesity and hypertension are common associated conditions of endometrial cancer.

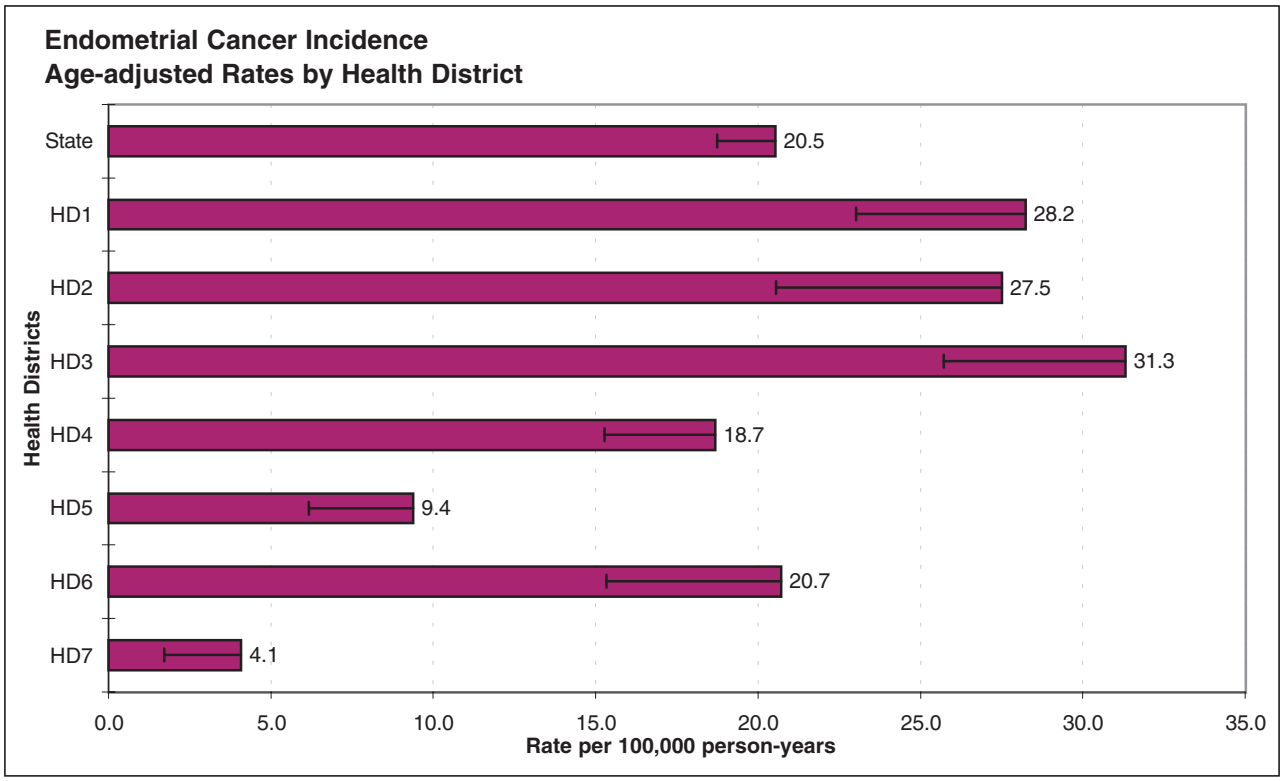
Hormonal Factors that elevate levels of estrogen or decrease progesterone levels enhance the risk. Women who have never carried a pregnancy to term are at a relatively high risk. Risk decreases as the number of pregnancies increases. An increased incidence of endometrial cancer has been found in association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

Special Notes

Mean age-adjusted incidence rate across health districts:	20.0
95% confidence interval on the mean age-adjusted incidence rate:	12.4 - 27.5
Median age-adjusted incidence rate of health districts:	20.7
Range of age-adjusted incidence rate for health districts:	4.1 - 31.3
SEER rate (2000, Whites):	26.2

No cases of endometrial cancer were diagnosed in persons less than 25 years of age. After age 49, there was a sharp increase in age-specific rates, peaking in the age group 70-74. Health District 3 ($p<0.01$) had statistically significantly more cases than expected based upon rates for the remainder of Idaho, and Health Districts 5 ($p<0.05$) and 7 ($p<0.01$) had statistically significantly fewer cases than expected.


State Endometrial 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)

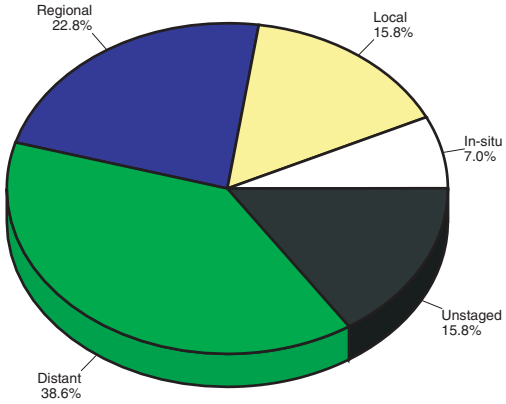

Endometrial Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
20.5
28.2
27.5
31.3
18.7
9.4
20.7
4.1
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Rate per 100,000 person-years

ESOPHAGUS

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	4.1	6.7	1.9
# of new invasive cases	53	40	13
# of new in-situ cases	4	3	1
# of deaths	67	51	16

Stage at Diagnosis - Esophagus



Total Cases By County

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

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.

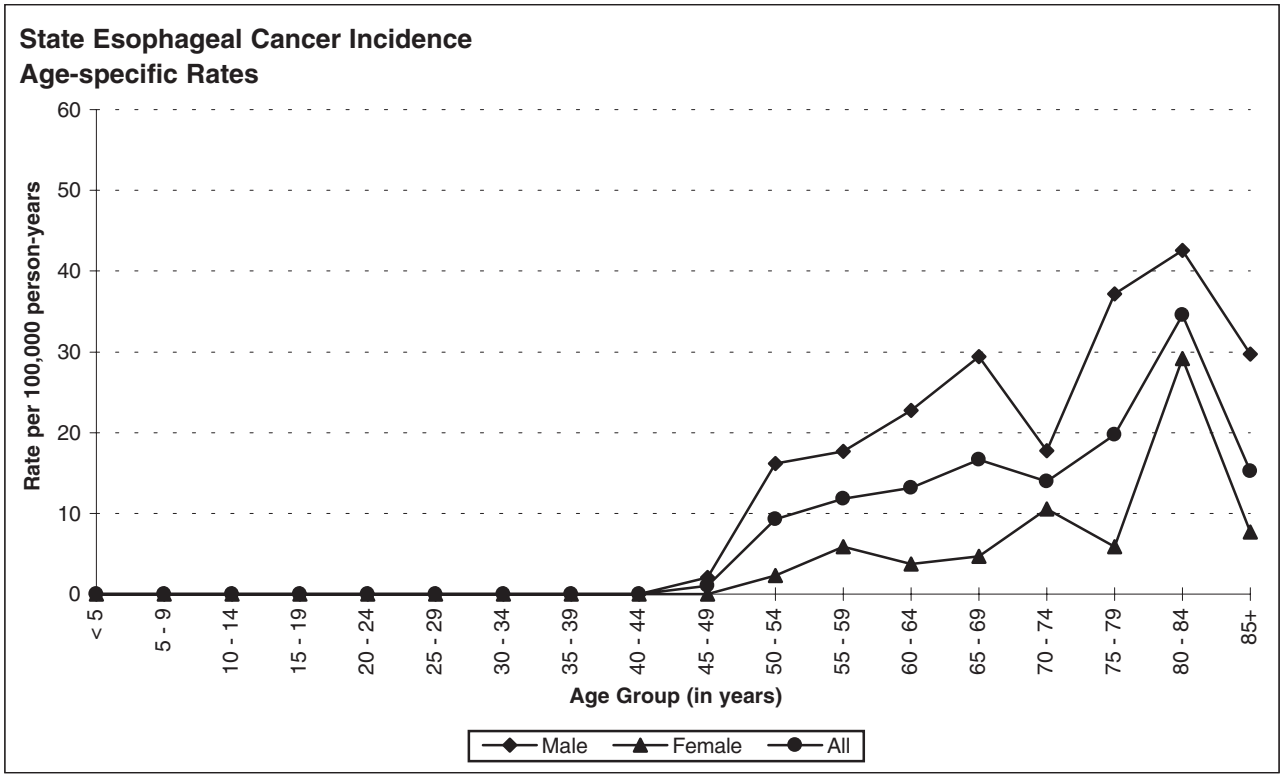
Occupation Chimney sweeps exposed to soot are at higher risk.

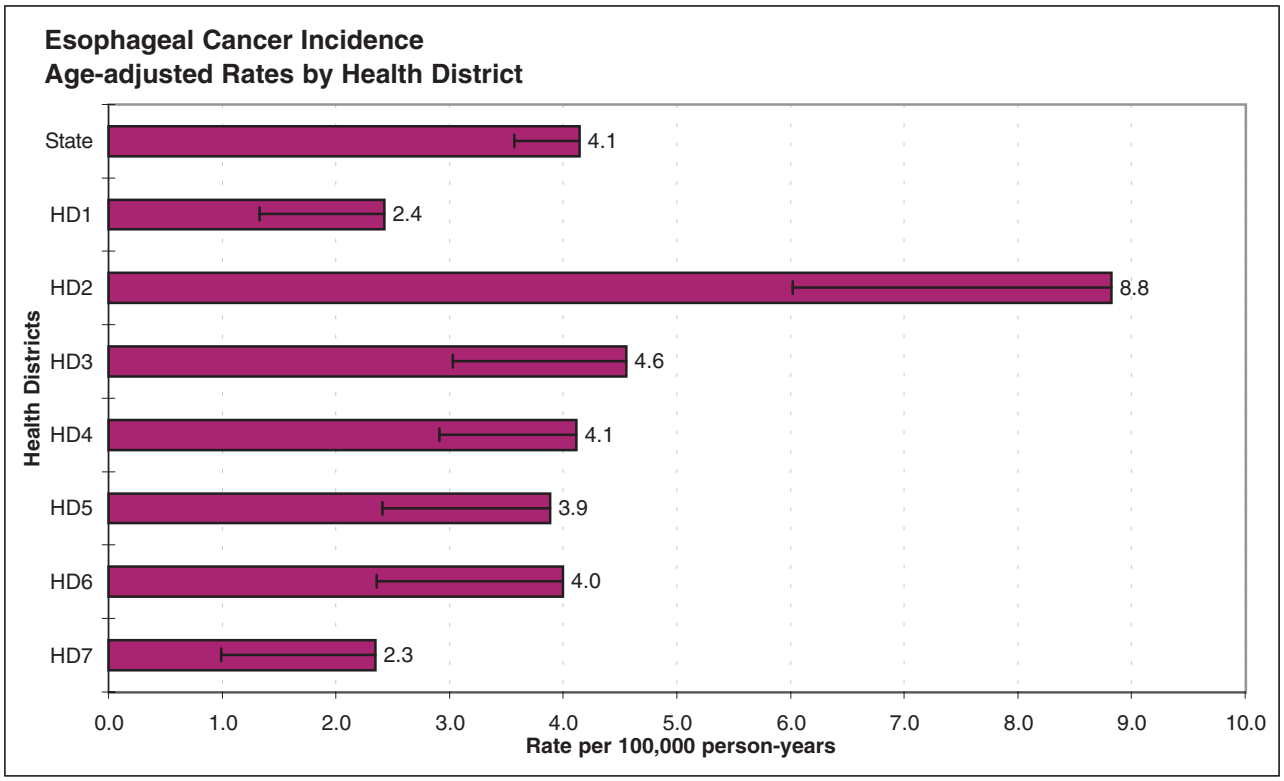
Other Tobacco use (cigarettes or spit tobacco) and heavy alcohol consumption are major risk factors for cancer of the esophagus. The risk is particularly increased when these two factors are both present.

Special Notes

Mean age-adjusted incidence rate across health districts:	4.3	
95% confidence interval on the mean age-adjusted incidence rate:	2.7 -	5.9
Median age-adjusted incidence rate of health districts:	4.0	
Range of age-adjusted incidence rate for health districts:	2.3 -	8.8
SEER rate (2000, Whites):	4.6	

No cases of esophageal cancer were diagnosed in person less than 40 years of age. The age-specific incidence rates peaked in the age group 80-84 for males and females. Health District 2 had statistically significantly more cases than expected based upon rates for the remainder of Idaho ($p<0.05$).


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
4.1
2.4
8.8
4.6
4.1
3.9
4.0
2.3
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Rate per 100,000 person-years

HODGKIN'S LYMPHOMA

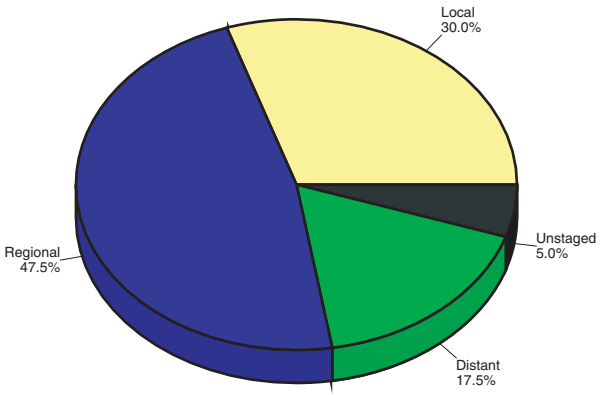
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	3.0	2.8	3.3
# of new invasive cases	40	18	22
# of new in-situ cases	0	0	0
# of deaths	5	4	1

Total Cases By County

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

Stage at Diagnosis - Hodgkins Lymphoma



(includes extranodal sites)

Risk and Associated Factors

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

Gender Males have higher rates than females.

Race & SES There is a lower incidence among African Americans. Hodgkin's lymphoma is more common in higher income groups.

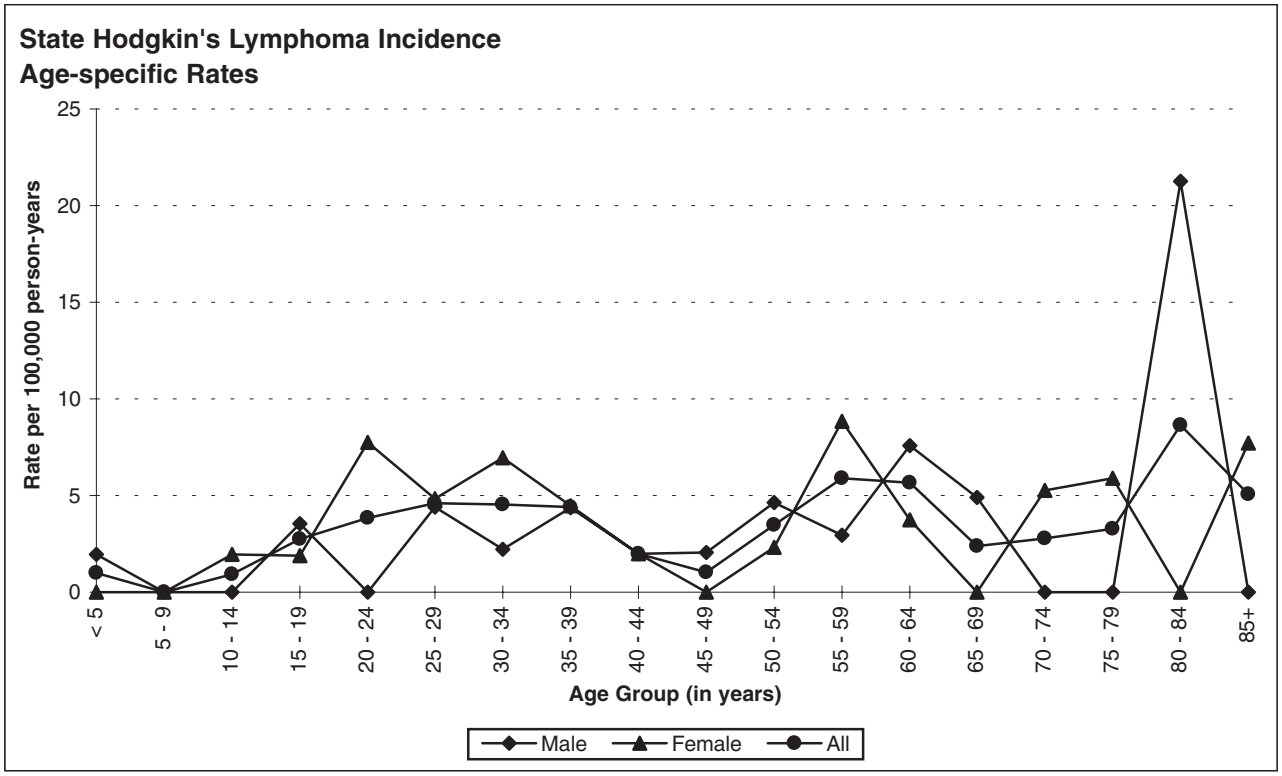
Genetics Genetic factors are thought to play an important role in the etiology of Hodgkin's lymphoma, but these are yet to be adequately defined.

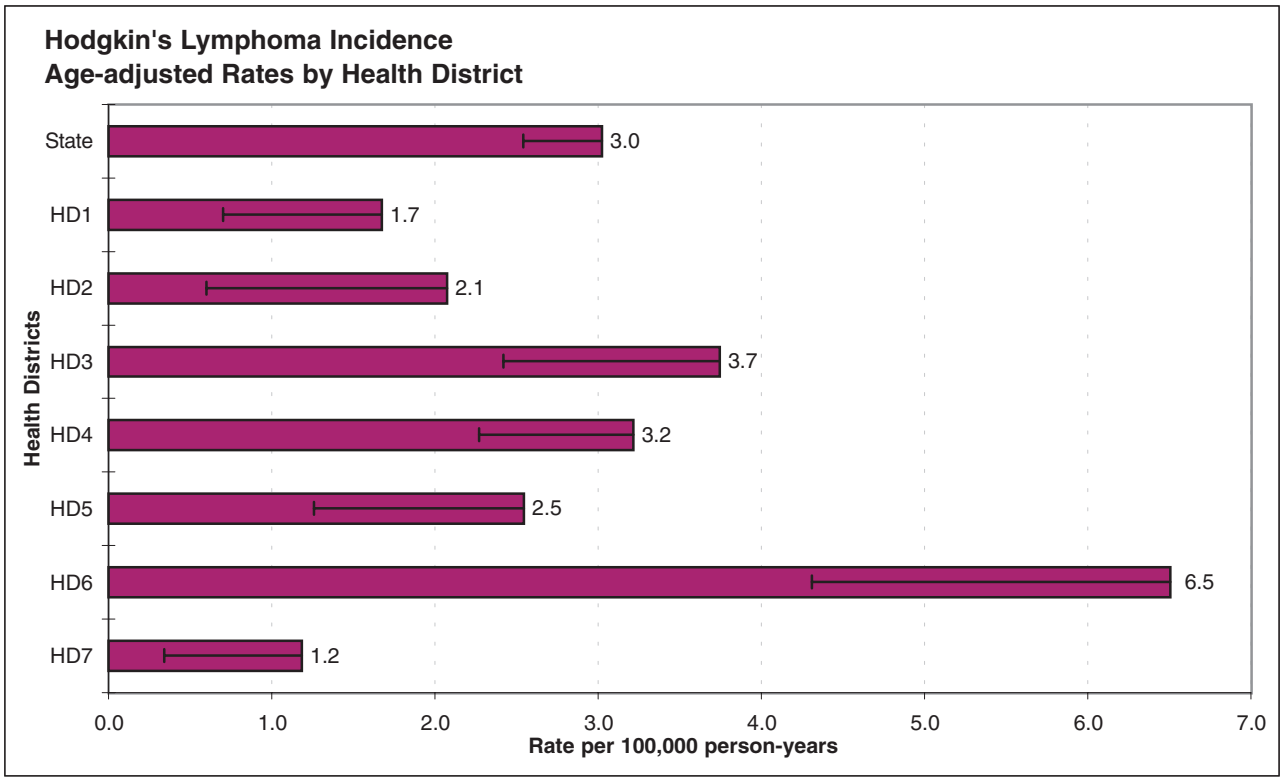
Other Certain viral infections are thought to also increase risk but no clear association has been established. With current treatment, Hodgkin's disease, which was once highly fatal, is among the most curable of all cancers.

Special Notes

Mean age-adjusted incidence rate across health districts:	3.0	
95% confidence interval on the mean age-adjusted incidence rate:	1.7 -	4.3
Median age-adjusted incidence rate of health districts:	2.5	
Range of age-adjusted incidence rate for health districts:	1.2 -	6.5
SEER rate (2000, Whites):	3.0	

The age-related incidence of Hodgkin's 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. Health District 6 had statistically significantly more cases than expected based upon rates for the remainder of Idaho ($p<0.05$).


State Hodgkin's Lymphoma 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)
Male
Female
All

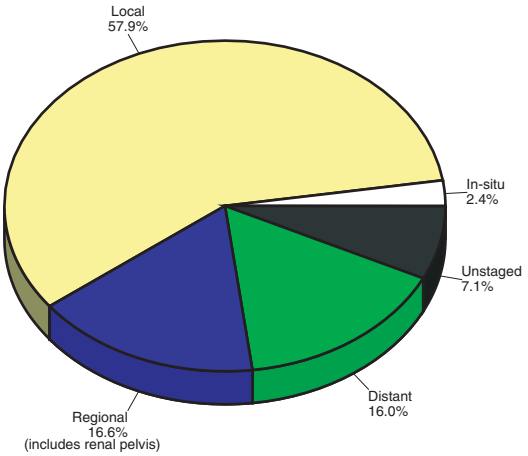

Hodgkin's Lymphoma Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
3.0
1.7
2.1
3.7
3.2
2.5
6.5
1.2
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
Rate per 100,000 person-years

KIDNEY

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	13.2	16.4	10.5
# of new invasive cases	165	95	70
# of new in-situ cases	4	1	3
# of deaths	56	39	17

Stage at Diagnosis - Kidney



Total Cases By County

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

Risk and Associated Factors

Age Both adults and children are at risk for kidney cancer. Renal cell carcinoma accounts for 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.

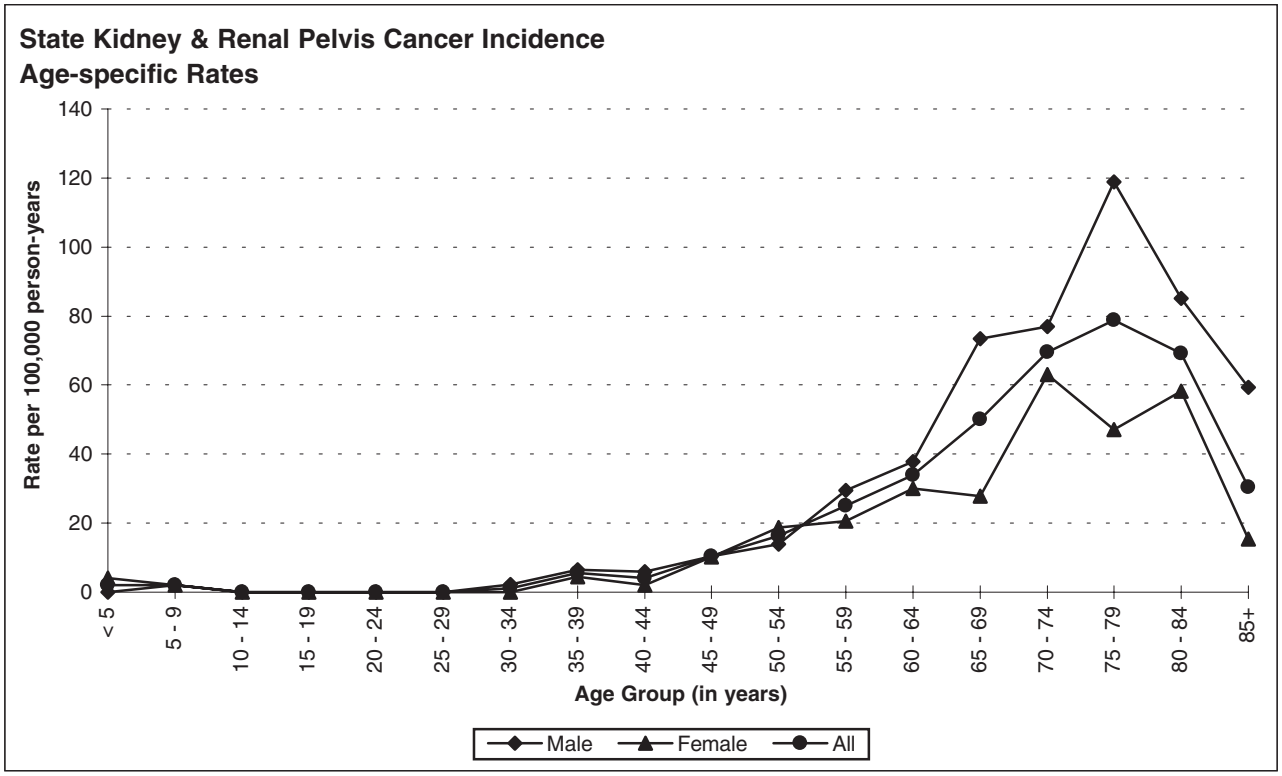
Occupation Certain occupations, such as laundry and leather workers, have an increased risk due to chemical exposure.

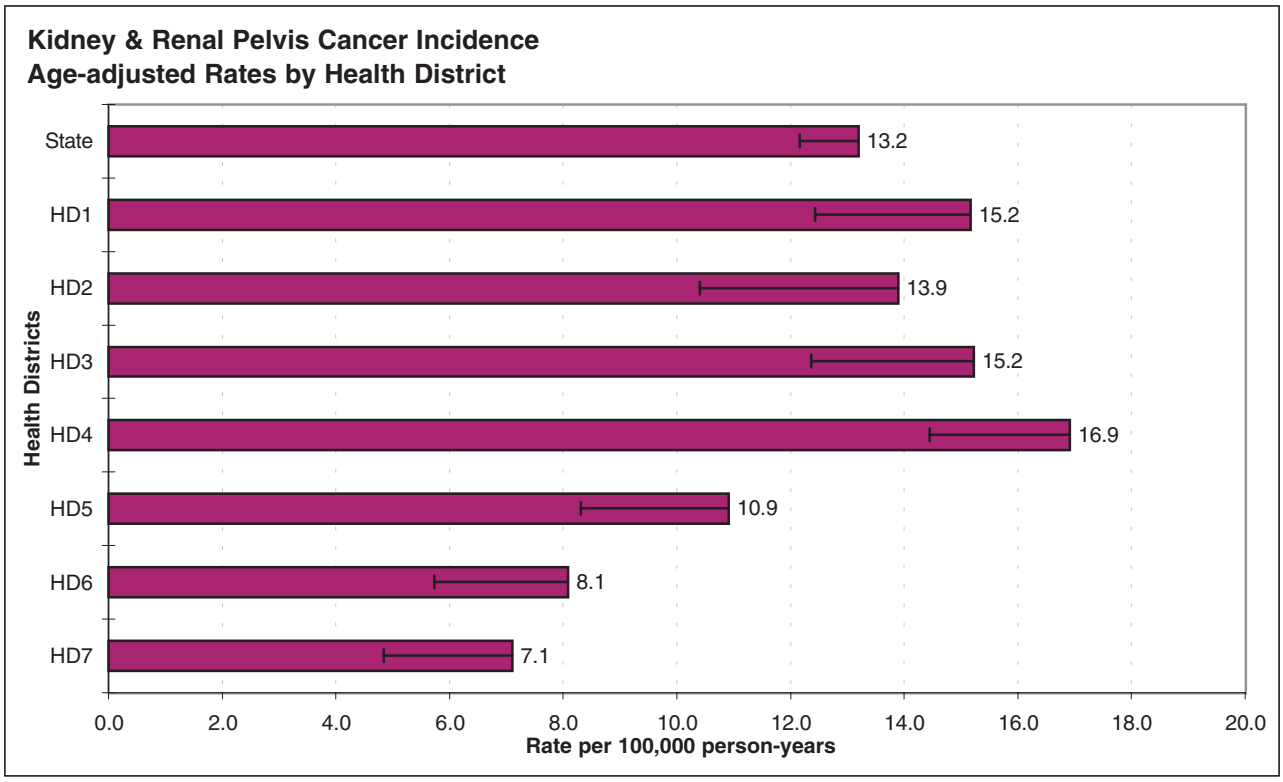
Other Cigarette smoking is strongly associated with adult kidney cancer. Smokers are at twice the risk of developing kidney cancer as non-smokers. Analgesic mixtures containing phenacetin increase the risk of kidney cancer.

Special Notes

Mean age-adjusted incidence rate across health districts:	12.5
95% confidence interval on the mean age-adjusted incidence rate:	9.6 - 15.3
Median age-adjusted incidence rate of health districts:	13.9
Range of age-adjusted incidence rate for health districts:	7.1 - 16.9
SEER rate (2000, Whites):	12.3

There were few cases of kidney or renal pelvis cancer among persons aged less than 35 years. The highest incidence among males was in the age group 75-79. The highest incidence among females was in the age group 70-74. Health District 7 had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho ($p<0.05$).


State Kidney & Renal Pelvis Cancer 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

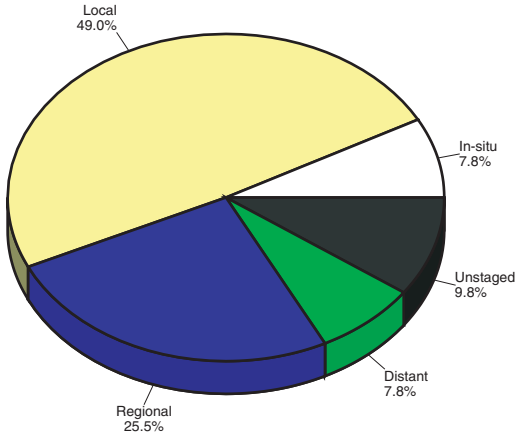

Kidney & Renal Pelvis Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
13.2
15.2
13.9
15.2
16.9
10.9
8.1
7.1
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
Rate per 100,000 person-years

LARYNX

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	3.6	6.2	1.5
# of new invasive cases	47	37	10
# of new in-situ cases	4	2	2
# of deaths	10	5	5

Stage at Diagnosis - Larynx



Total Cases By County

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

Risk and Associated Factors

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

Gender 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 such as asbestos and wood dust.

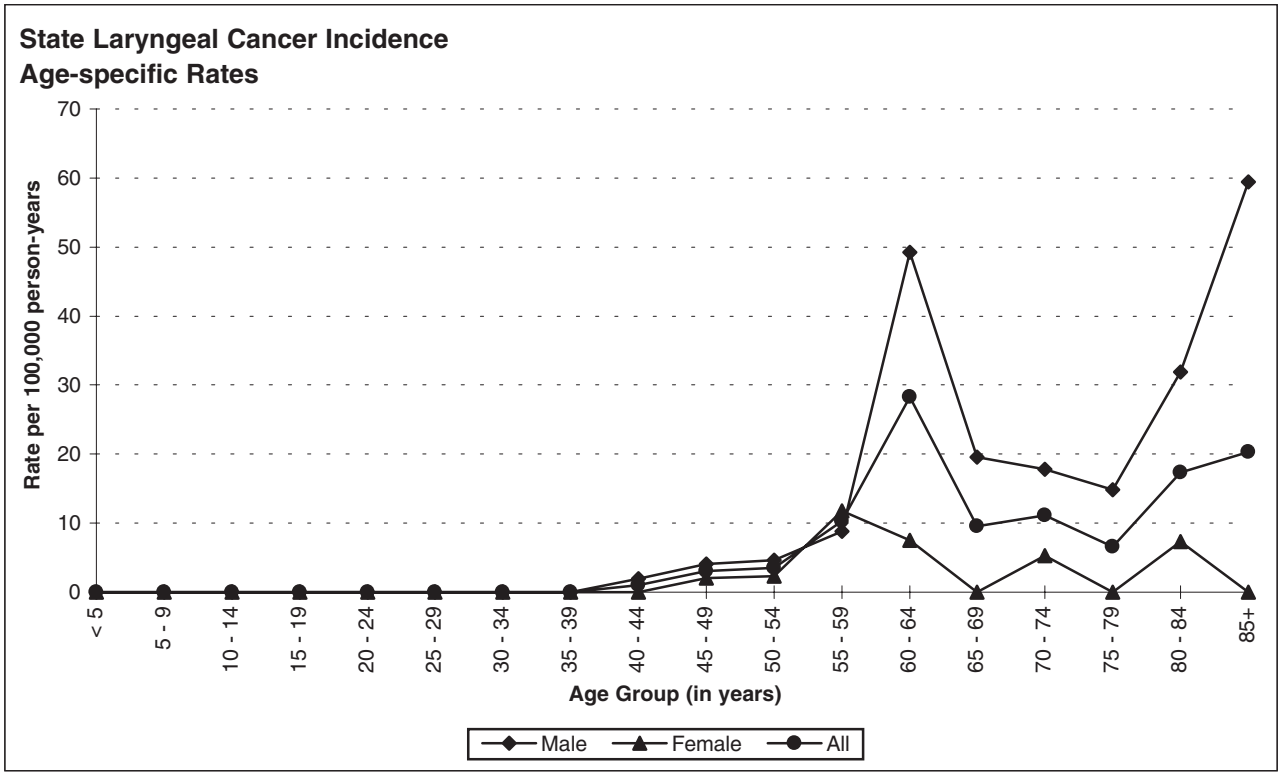
Diet Diets low in fresh fruits and vegetables may increase the risk.

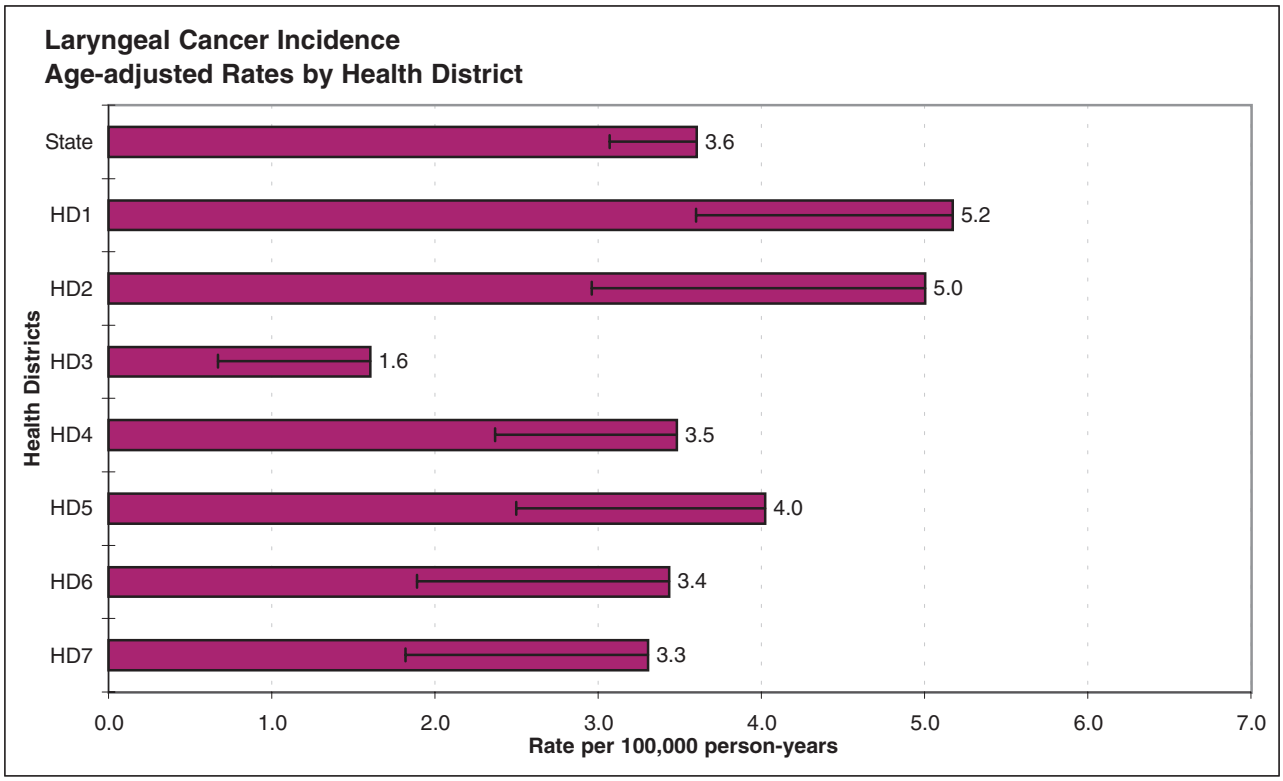
Other Cigarette smoking and alcohol use are both major risk factors. The combination of alcohol consumption and tobacco use (smoking or spit tobacco) acts greatly to increase the risk. A patient with a single laryngeal cancer who continues to smoke and drink alcohol has an enhanced risk of developing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

Special Notes

Mean age-adjusted incidence rate across health districts:	3.7	
95% confidence interval on the mean age-adjusted incidence rate:	2.8 -	4.6
Median age-adjusted incidence rate of health districts:	3.5	
Range of age-adjusted incidence rate for health districts:	1.6 -	5.2
SEER rate (2000, Whites):	4.0	

There were no cases of laryngeal cancer among persons aged less than 40 years. The age-specific incidence rates for males were more than twice those for females in most age groups. The highest incidence rate among males was in the age group 85+. The highest incidence rate among females was in the age group 55-59. 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
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

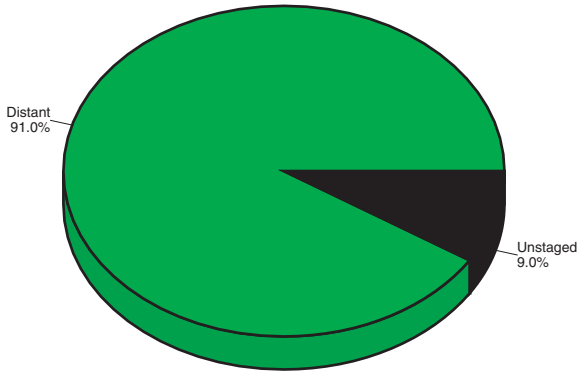

Laryngeal Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
3.6
5.2
5.0
1.6
3.5
4.0
3.4
3.3
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
Rate per 100,000 person-years

LEUKEMIA

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	13.9	16.1	12.0
# of new invasive cases	177	93	84
# of new in-situ cases	0	0	0
# of deaths	91	47	44

Stage at Diagnosis - Leukemia



Total Cases By County

Ada	34	Cassia	3	Lewis	1
Adams	-	Clark	-	Lincoln	-
Bannock	7	Clearwater	3	Madison	1
Bear Lake	-	Custer	1	Minidoka	1
Benewah	4	Elmore	2	Nez Perce	5
Bingham	5	Franklin	-	Oneida	1
Blaine	3	Fremont	2	Owyhee	1
Boise	-	Gem	3	Payette	4
Bonner	6	Gooding	3	Power	1
Bonneville	9	Idaho	1	Shoshone	2
Boundary	1	Jefferson	6	Teton	1
Butte	1	Jerome	2	Twin Falls	10
Camas	-	Kootenai	16	Valley	2
Canyon	22	Latah	5	Washington	2
Caribou	1	Lemhi	4		

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 a higher incidence 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.

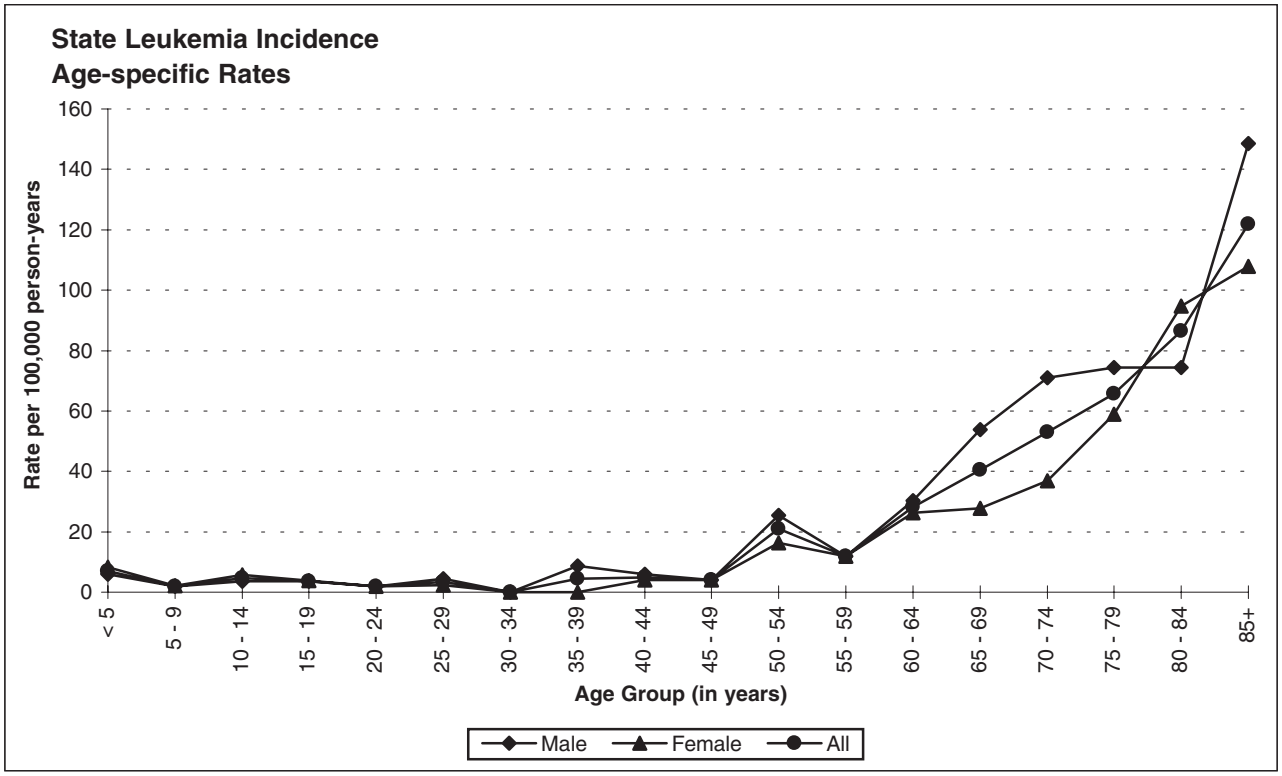
Occupation Benzene is a known cause of leukemia (predominantly acute myelogenous leukemia [AML]). Chimney sweeps exposed to soot are at higher risk.

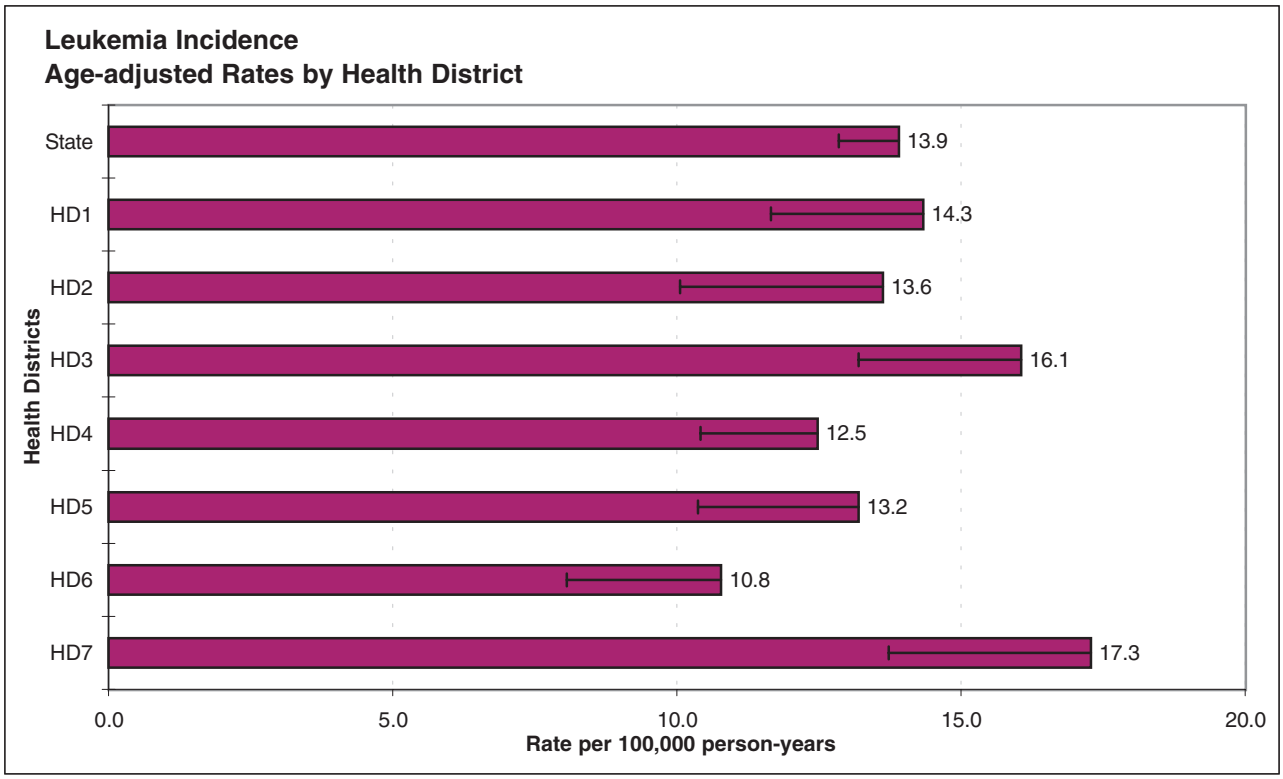
Other Ionizing radiation exposure increases the risk. Environmental exposure to low frequency, non-ionizing radiation and its association with leukemia incidence is being investigated. Treatment with some chemotherapeutic agents for other cancers increases the risk of leukemia. Exposure to herbicides used during the Vietnam War, including Agent Orange, has been associated with increased incidence of CLL.

Special Notes

Mean age-adjusted incidence rate across health districts:	14.0
95% confidence interval on the mean age-adjusted incidence rate:	12.3 - 15.6
Median age-adjusted incidence rate of health districts:	13.6
Range of age-adjusted incidence rate for health districts:	10.8 - 17.3
SEER rate (2000, Whites):	12.4

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


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

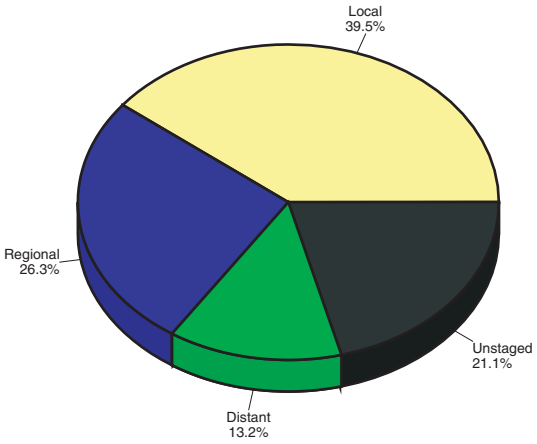

Leukemia Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
13.9
14.3
13.6
16.1
12.5
13.2
10.8
17.3
0.0
5.0
10.0
15.0
20.0
Rate per 100,000 person-years

LIVER AND BILE DUCT

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	3.0	3.9	2.2
# of new invasive cases	38	23	15
# of new in-situ cases	0	0	0
# of deaths	50	24	26

Stage at Diagnosis - Liver



Total Cases By County

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

Risk and Associated Factors

Age The incidence rate of liver cancer increases with age.

Gender Rates are usually higher in males than in females.

Race Incidence is higher in Asians and African Americans than for the rest 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.

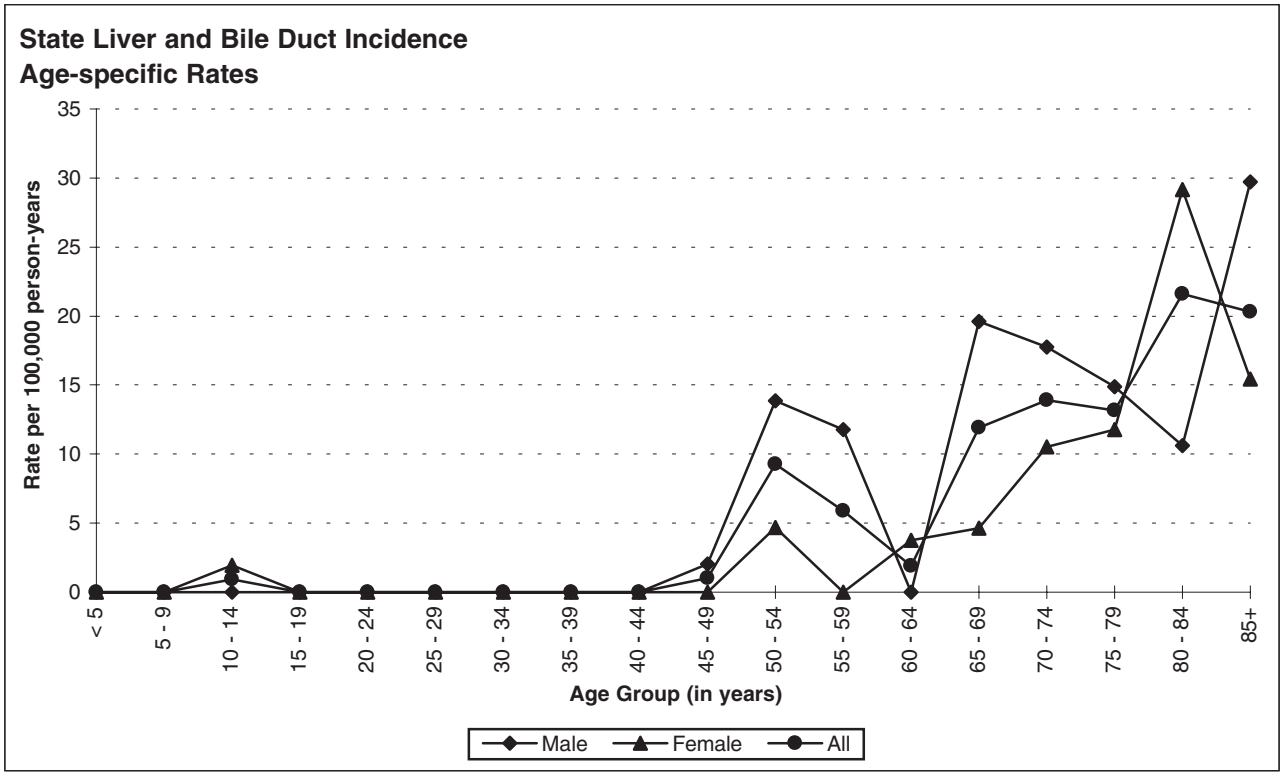
Occupation Thorium dioxide exposure increases liver cancer risk. Exposure to vinyl chloride used in plastic production is associated with an increased risk of angiosarcoma of the liver. Chimney sweeps exposed to soot are at higher risk.

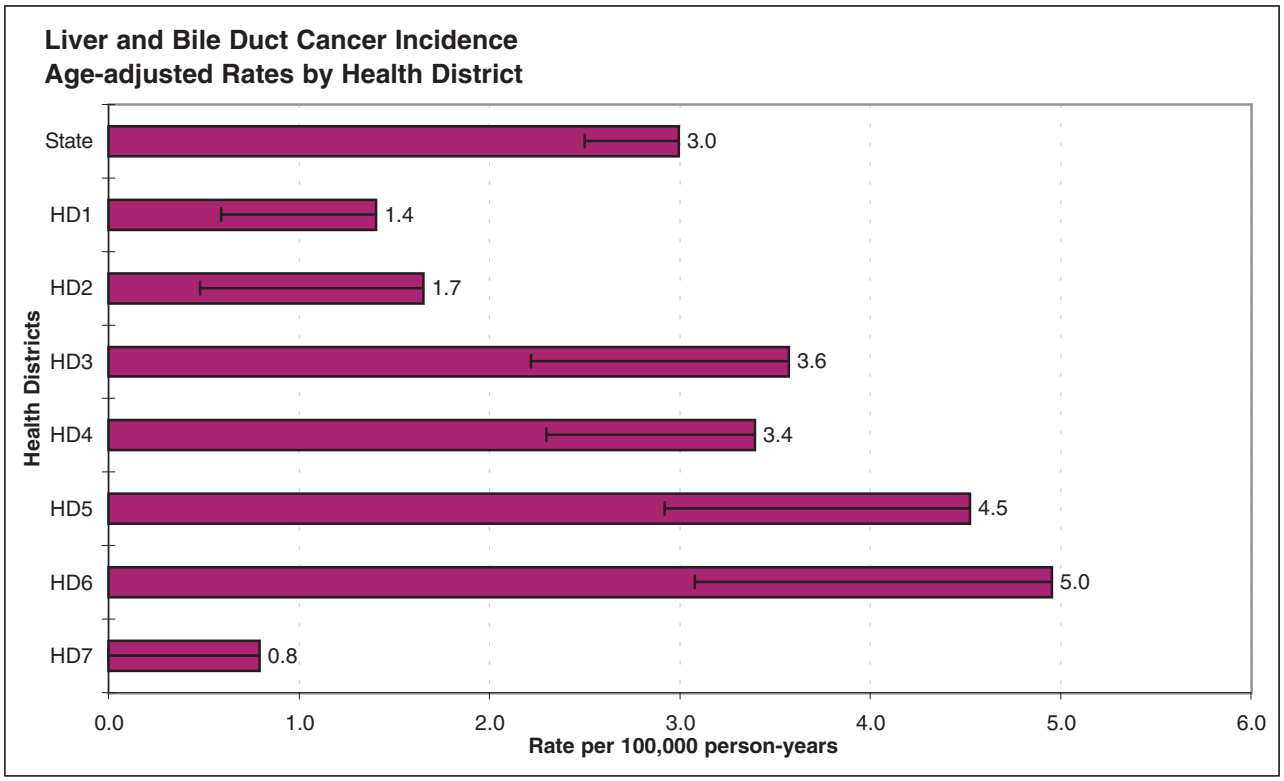
Other Cigarette smoking increases the risk. Hepatitis B and Hepatitis C infections are significant causes of hepatocellular carcinoma. Cirrhosis of the liver due to viral hepatitis, alcoholism, or toxic chemical exposure accounts for 50-80% of patients diagnosed with liver cancer.

Special Notes

Mean age-adjusted incidence rate across health districts:	2.9	
95% confidence interval on the mean age-adjusted incidence rate:	1.7 -	4.1
Median age-adjusted incidence rate of health districts:	3.4	
Range of age-adjusted incidence rate for health districts:	0.8 -	5.0
SEER rate (2000, Whites):	4.4	

There were few cases of liver cancer among persons less than 40 years of age. Age-specific incidence rates increased with age, peaking in the age group 85+ for males and 80-84 for females. No health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Liver and Bile Duct Incidence
Age-specific Rates
Rate per 100,000 person-years
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

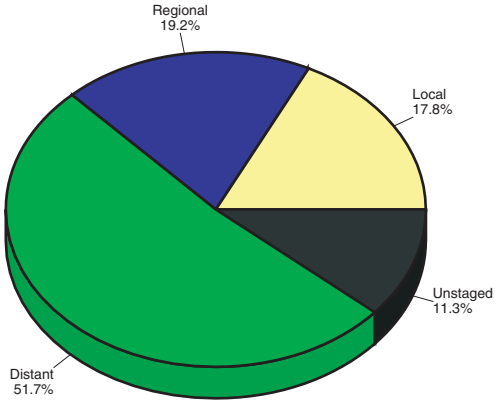

Liver and Bile Duct Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
3.0
1.4
1.7
3.6
3.4
4.5
5.0
0.8
0.0
1.0
2.0
3.0
4.0
5.0
6.0
Rate per 100,000 person-years

LUNG AND BRONCHUS

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	53.8	66.3	43.8
# of new invasive cases	663	371	292
# of new in-situ cases	0	0	0
# of deaths	538	318	220

Stage at Diagnosis - Lung and Bronchus



Total Cases By County

Ada	142	Cassia	8	Lewis	2
Adams	2	Clark	3	Lincoln	1
Bannock	31	Clearwater	9	Madison	3
Bear Lake	-	Custer	1	Minidoka	9
Benewah	8	Elmore	13	Nez Perce	43
Bingham	16	Franklin	-	Oneida	1
Blaine	6	Fremont	9	Owyhee	7
Boise	4	Gem	10	Payette	15
Bonner	26	Gooding	17	Power	3
Bonneville	18	Idaho	15	Shoshone	22
Boundary	7	Jefferson	3	Teton	1
Butte	3	Jerome	11	Twin Falls	43
Camas	-	Kootenai	54	Valley	7
Canyon	62	Latah	14	Washington	5
Caribou	2	Lemhi	7		

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 in 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.

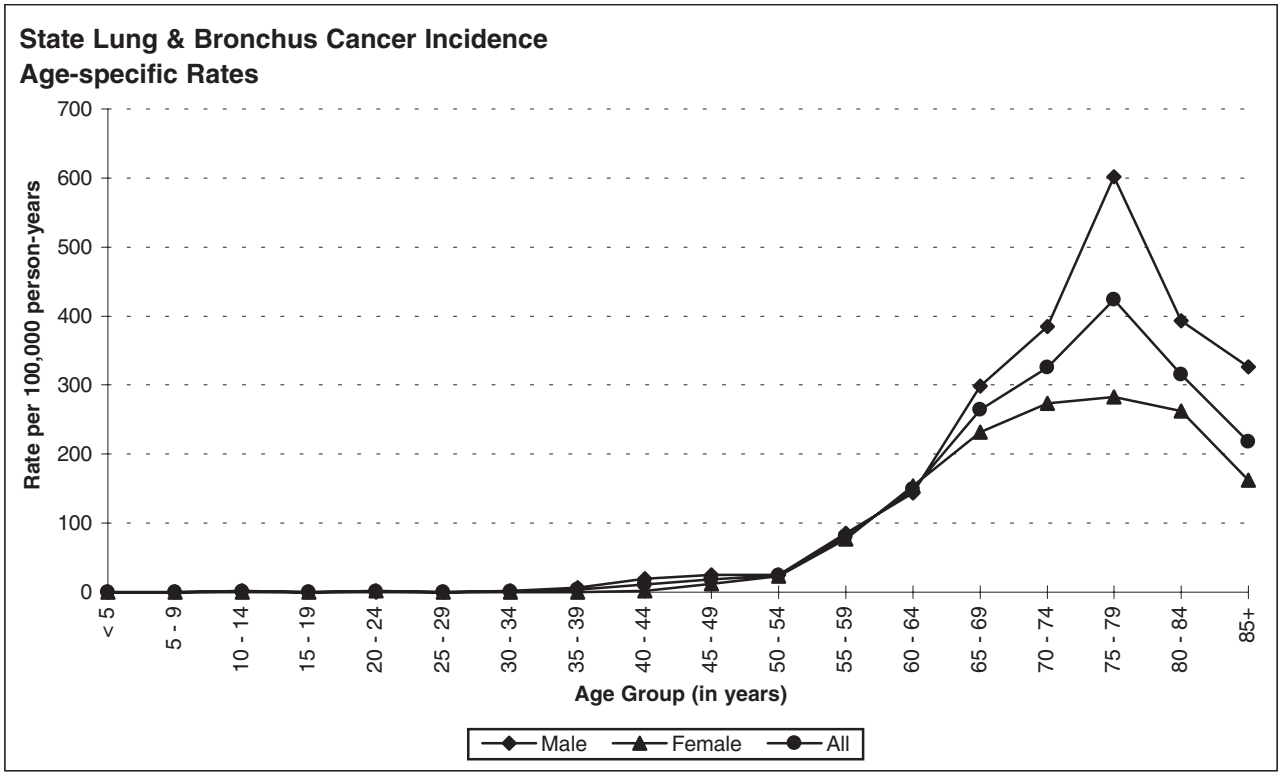
Occupation Occupational or environmental exposures to asbestos, cadmium, chromium, coal tars, crystalline silica dust, polycyclic aromatic hydrocarbons, radon, soot, and other substances increase the risk.

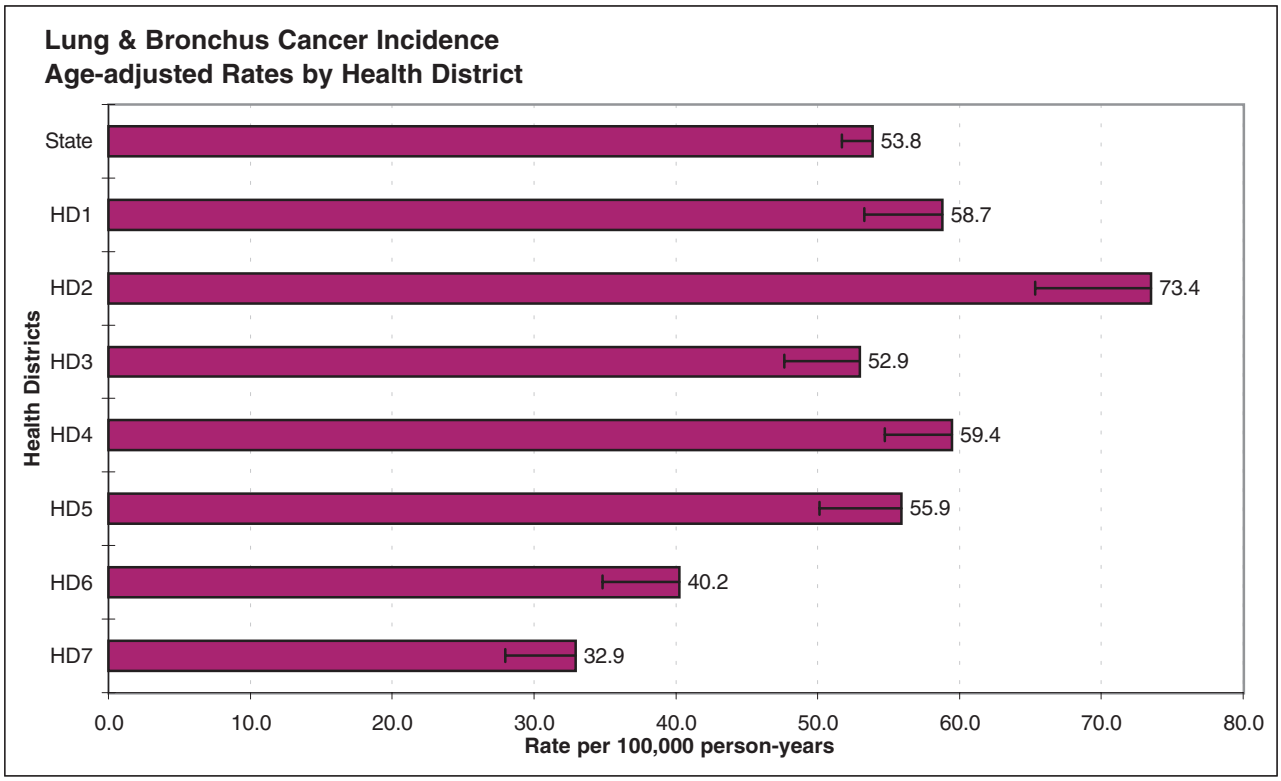
Other Cigarette smoking, including exposure to second-hand smoke, is the most important risk factor, accounting for over 85% of lung cancer deaths.

Special Notes

Mean age-adjusted incidence rate across health districts:	53.4
95% confidence interval on the mean age-adjusted incidence rate:	43.5 - 63.2
Median age-adjusted incidence rate of health districts:	55.9
Range of age-adjusted incidence rate for health districts:	32.9 - 73.4
SEER rate (2000, Whites):	62.6

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 60. The incidence rates increased with age, peaking in the age group 75-79 for males and females. Health District 2 ($p<0.01$) had statistically significantly more cases than expected based upon rates for the remainder of Idaho. Health Districts 6 ($p<0.05$) and 7 ($p<0.01$) 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
700
600
500
400
300
200
100
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All

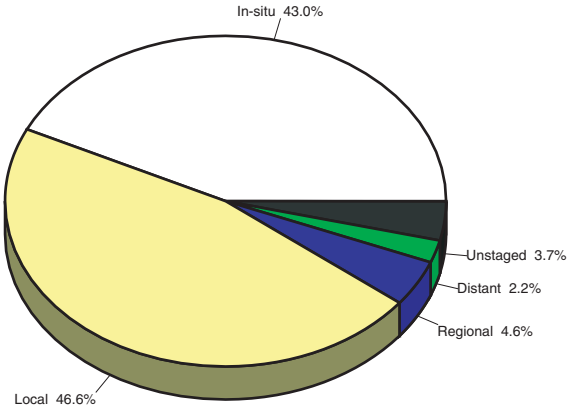

Lung & Bronchus Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
53.8
58.7
73.4
52.9
59.4
55.9
40.2
32.9
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Rate per 100,000 person-years

MELANOMA

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	20.5	26.9	14.7
# of new invasive cases	263	165	98
# of new in-situ cases	198	113	85
# of deaths	41	32	9

Stage at Diagnosis - Melanoma of Skin



Total Cases By County

Ada	94	Cassia	7	Lewis	2
Adams	1	Clark	-	Lincoln	-
Bannock	21	Clearwater	1	Madison	3
Bear Lake	1	Custer	-	Minidoka	-
Benewah	3	Elmore	3	Nez Perce	10
Bingham	8	Franklin	2	Oneida	1
Blaine	4	Fremont	3	Owyhee	8
Boise	2	Gem	6	Payette	2
Bonner	10	Gooding	7	Power	2
Bonneville	33	Idaho	3	Shoshone	6
Boundary	4	Jefferson	15	Teton	2
Butte	2	Jerome	3	Twin Falls	21
Camas	-	Kootenai	59	Valley	6
Canyon	55	Latah	3	Washington	2
Caribou	2	Lemhi	5		

Risk and Associated Factors

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

Gender It occurs more frequently in males than females.

Race & SES The incidence rate is highest in Caucasians and is uncommon in African Americans. It has an increased incidence in higher income groups.

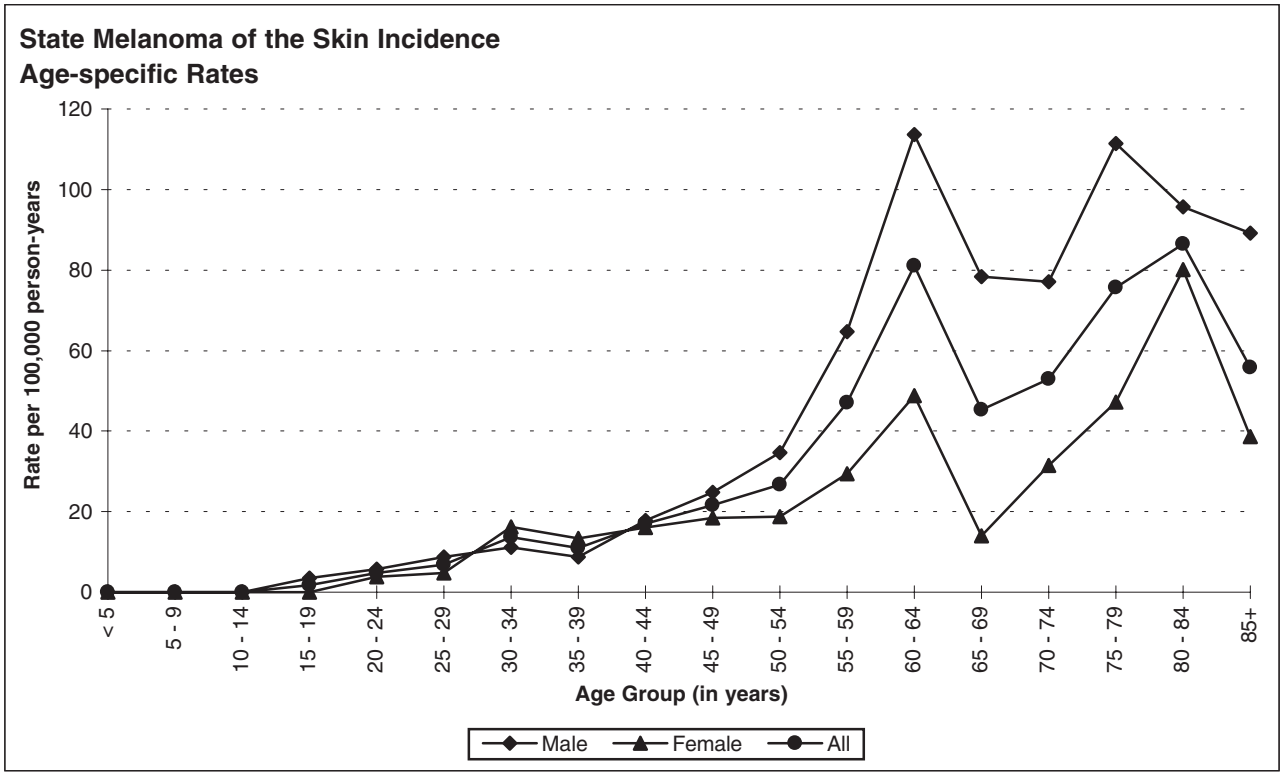
Occupation Persons working in occupations associated with increased sun exposure have a higher incidence.

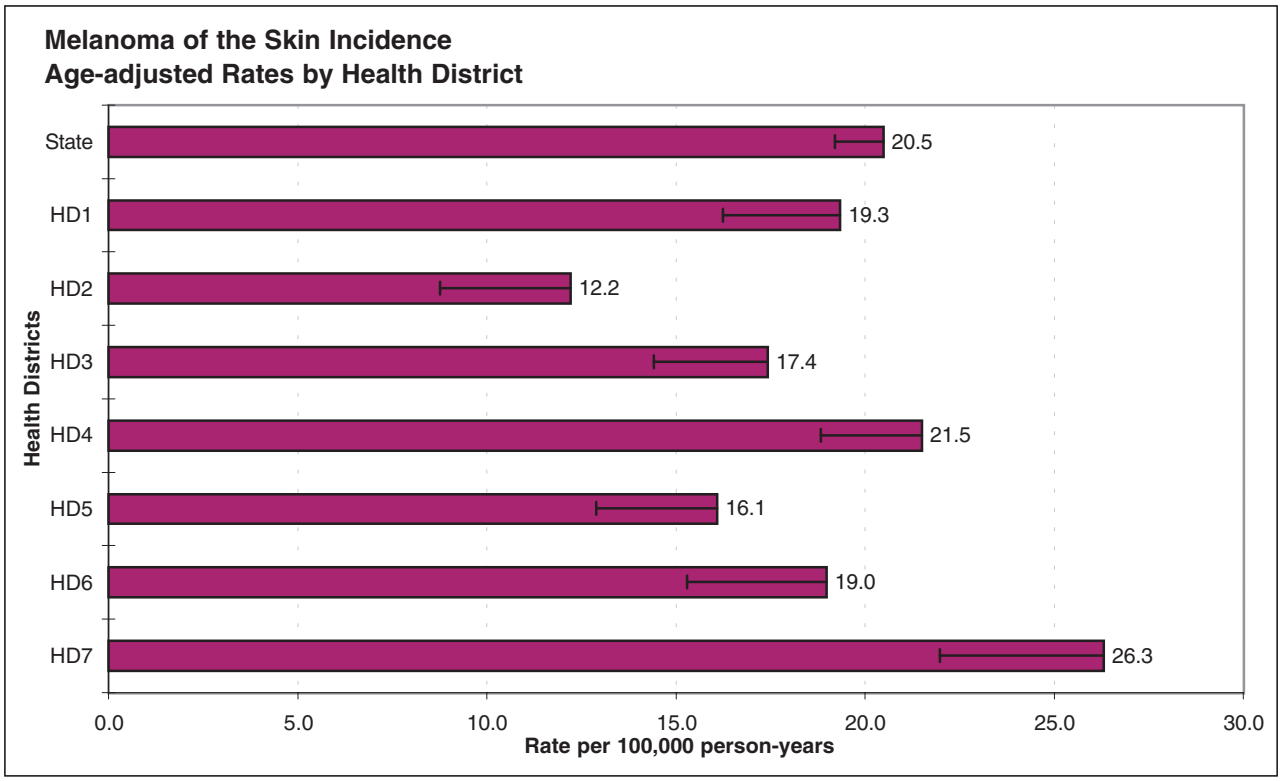
Other Ultra-violet light exposure, especially blistering sunburns during childhood, is a major risk factor. Melanoma has been on the increase nationally for several decades. People with light skin and individuals with numerous or atypical moles are at increased risk.

Special Notes

Mean age-adjusted incidence rate across health districts:	18.8
95% confidence interval on the mean age-adjusted incidence rate:	15.6 - 22.1
Median age-adjusted incidence rate of health districts:	19.0
Range of age-adjusted incidence rate for health districts:	12.2 - 26.3
SEER rate (2000, Whites):	21.0

There were few cases of melanoma of the skin among persons less than 30 years of age. The age-specific incidence rates were generally higher among males after age 50. Health District 2 ($p<0.05$) 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
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
20.5
19.3
12.2
17.4
21.5
16.1
19.0
26.3
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Rate per 100,000 person-years

MYELOMA

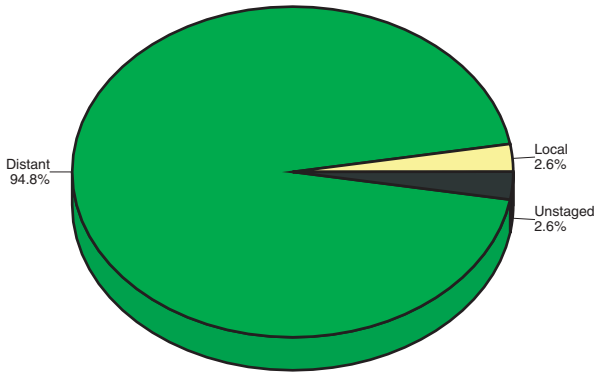
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	6.1	7.0	5.4
# of new invasive cases	76	40	36
# of new in-situ cases	0	0	0
# of deaths	42	20	22

Total Cases By County

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

Stage at Diagnosis - Myeloma



Risk and Associated Factors

Age Multiple myeloma is an age-dependent cancer. It increases with age and rarely occurs before age 40.

Gender Rates for males and females are usually similar.

Race African Americans have a higher incidence rate, sometimes twice the rate for Caucasians.

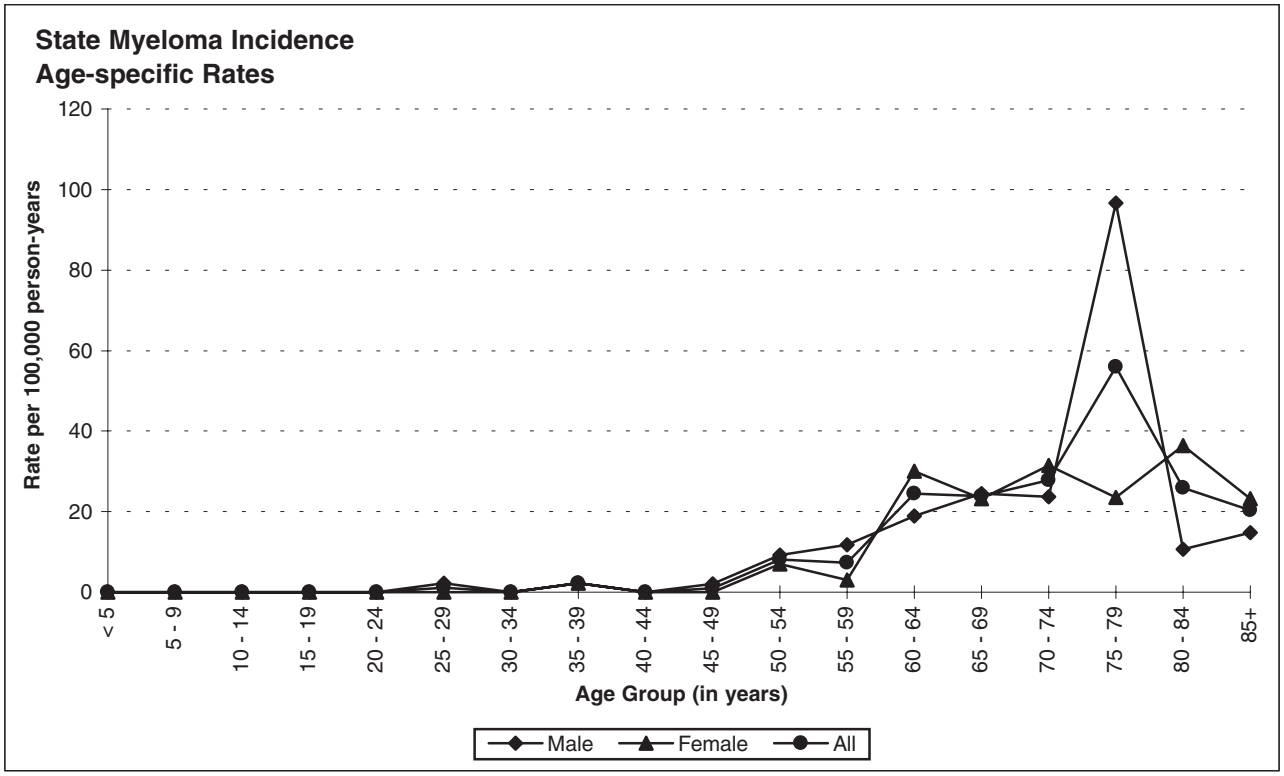
Genetics Genetic factors play an important role in its development but how so is not completely understood. Familial factors and chronic antigenic stimulation have also been implicated.

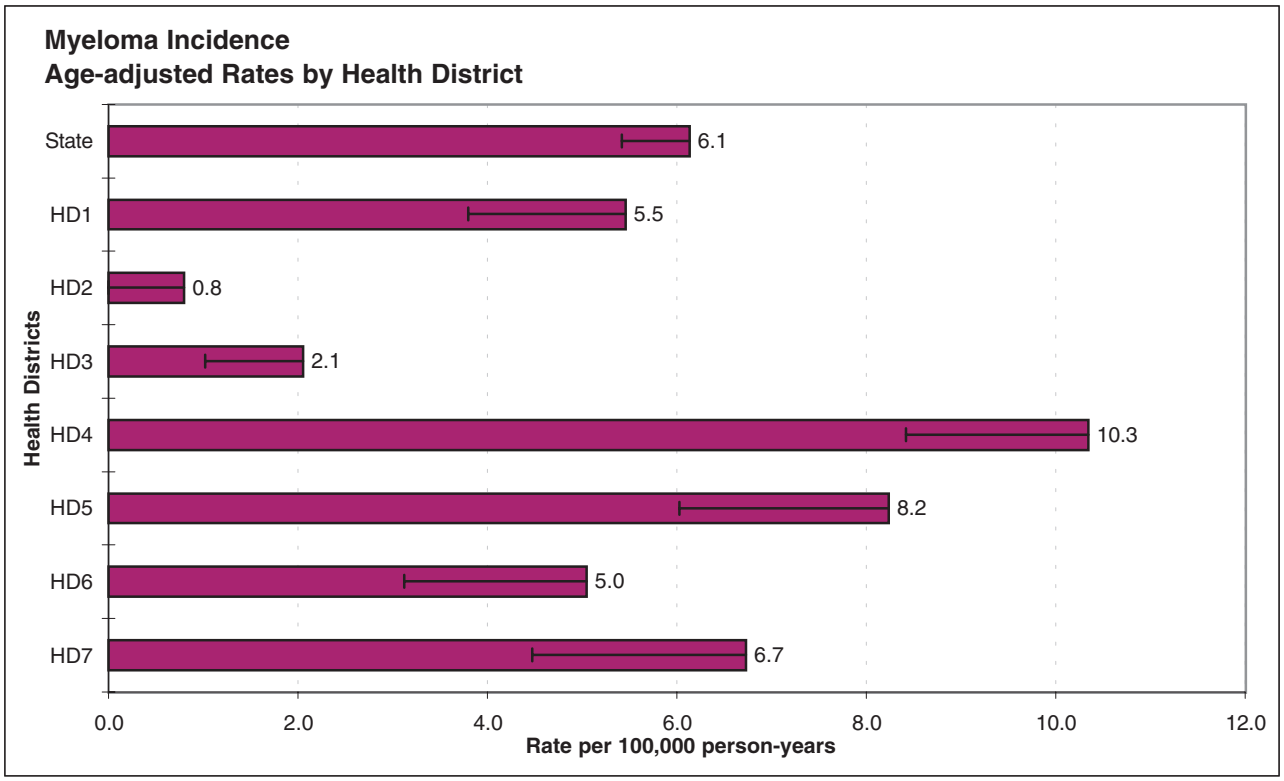
Other Multiple myeloma has been associated with lymphomas such as Burkitt's, and non-Hodgkin's lymphomas. Studies have suggested several possible viral etiologies, and multiple myeloma has been linked to radiation exposures of nuclear workers. Specific environmental exposures such as herbicides and radiation may also play an important role in the incidence of multiple myeloma.

Special Notes

Mean age-adjusted incidence rate across health districts:	5.5
95% confidence interval on the mean age-adjusted incidence rate:	3.0 - 8.0
Median age-adjusted incidence rate of health districts:	5.5
Range of age-adjusted incidence rate for health districts:	0.8 - 10.3
SEER rate (2000, Whites):	5.2

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. Health District 4 ($p<0.01$) had statistically significantly more cases than expected based upon rates for the remainder of Idaho. Health Districts 2 ($p<0.01$) and 3 ($p<0.01$) had statistically significantly fewer 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

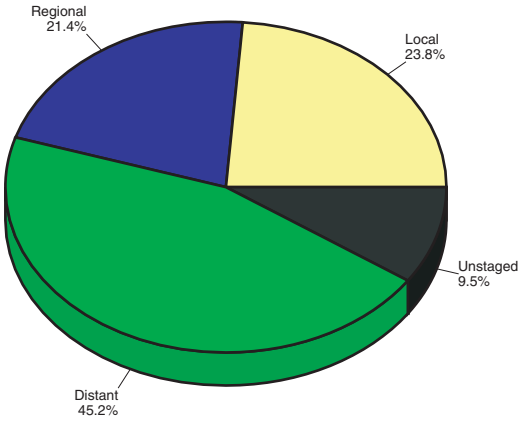

Myeloma Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
6.1
5.5
0.8
2.1
10.3
8.2
5.0
6.7
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Rate per 100,000 person-years

NON-HODGKIN'S LYMPHOMA

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	20.0	22.9	17.6
# of new invasive cases	252	135	117
# of new in-situ cases	0	0	0
# of deaths	75	39	36

Stage at Diagnosis - Non-Hodgkins Lymphoma



(includes extra-nodal sites)

Total Cases By County

Ada	62	Cassia	5	Lewis	-
Adams	1	Clark	-	Lincoln	1
Bannock	7	Clearwater	5	Madison	7
Bear Lake	2	Custer	3	Minidoka	2
Benewah	-	Elmore	4	Nez Perce	4
Bingham	5	Franklin	-	Oneida	-
Blaine	1	Fremont	2	Owyhee	6
Boise	1	Gem	6	Payette	3
Bonner	5	Gooding	4	Power	-
Bonneville	14	Idaho	1	Shoshone	3
Boundary	-	Jefferson	6	Teton	1
Butte	-	Jerome	3	Twin Falls	17
Camas	-	Kootenai	27	Valley	2
Canyon	23	Latah	7	Washington	6
Caribou	1	Lemhi	2		

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 slightly lower in African Americans. Rates are higher in upper income groups.

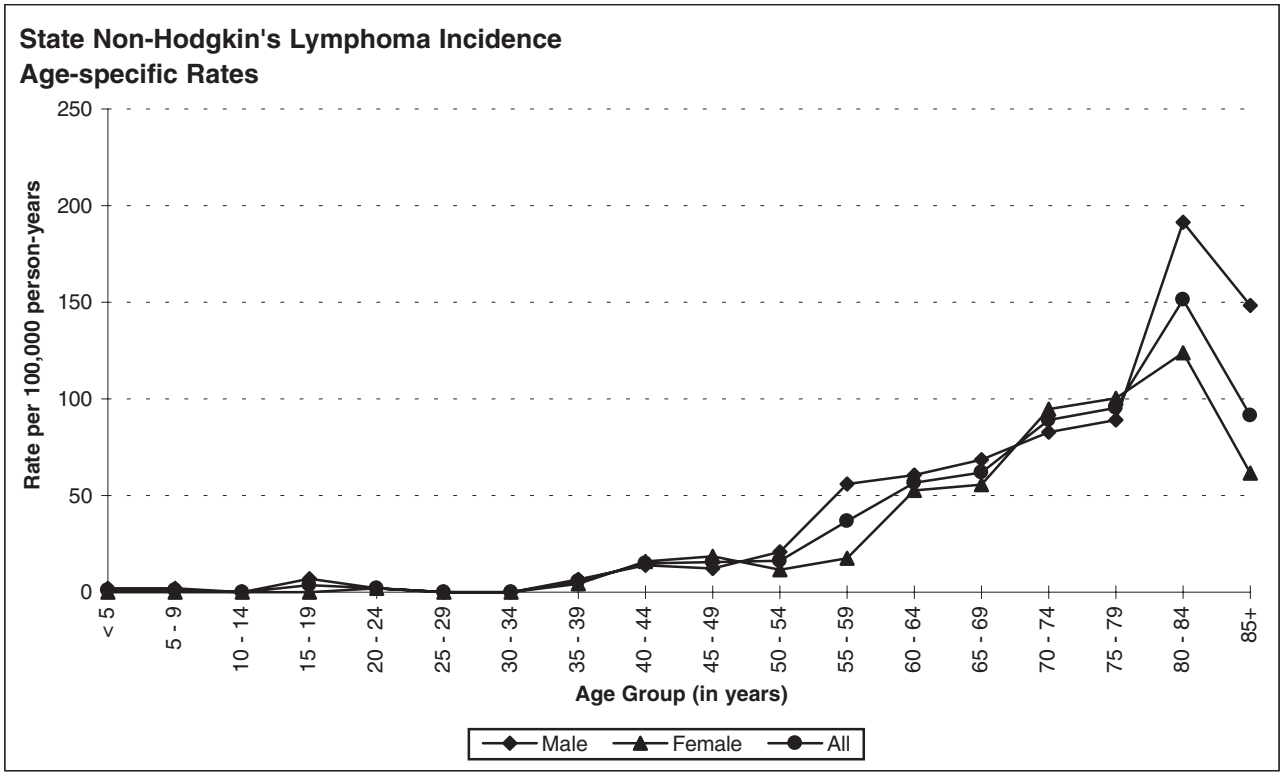
Occupation Ethylene oxide exposure at plants producing sterilized medical supplies and spices is a risk factor.

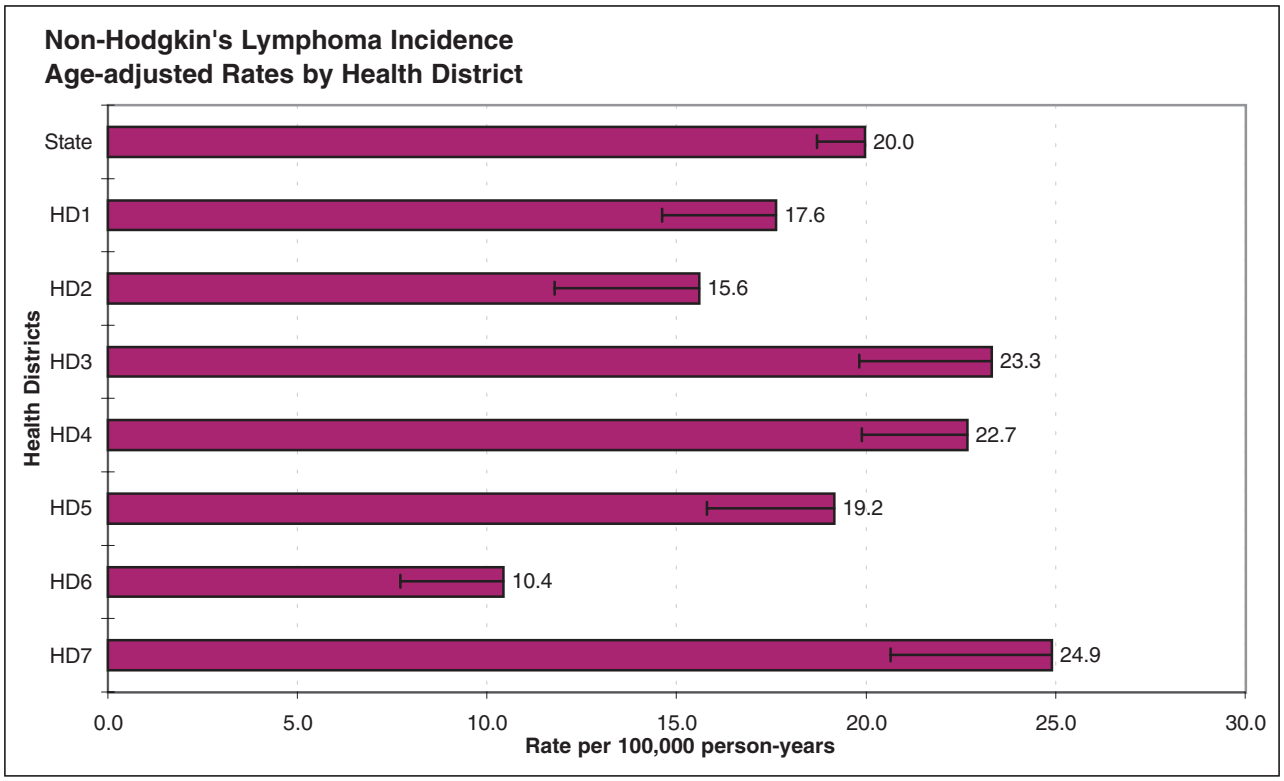
Other Non-Hodgkin's lymphoma (NHL) develops with increased frequency in individuals infected with certain viruses, particularly the human immunodeficiency virus (HIV), which causes acquired immunodeficiency syndrome (AIDS). Exposures to agricultural chemicals, PCBs, and high-dose radiation exposures have also been implicated. Treatment with some immunosuppressants increases the risk of NHL among organ transplant patients. Epstein-Barr virus may increase the risk of metastasis.

Special Notes

Mean age-adjusted incidence rate across health districts:	19.1
95% confidence interval on the mean age-adjusted incidence rate:	15.3 - 22.8
Median age-adjusted incidence rate of health districts:	19.2
Range of age-adjusted incidence rate for health districts:	10.4 - 24.9
SEER rate (2000, Whites):	19.9

The age-specific incidence rates of non-Hodgkin's lymphoma increased with age, peaking in the age group 80-84 for males and females. Health District 6 ($p<0.01$) had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho.


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

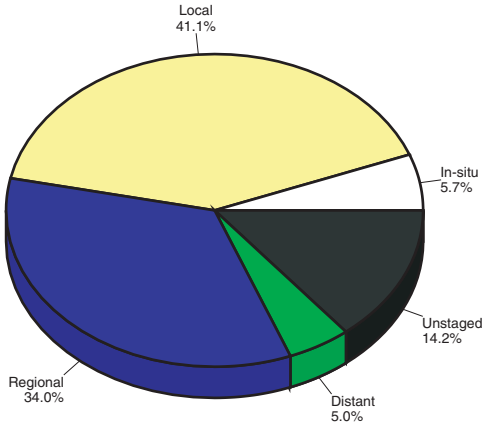

Non-Hodgkin's Lymphoma Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
20.0
17.6
15.6
23.3
22.7
19.2
10.4
24.9
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Rate per 100,000 person-years

ORAL CAVITY AND PHARYNX

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	10.5	13.4	7.8
# of new invasive cases	133	79	54
# of new in-situ cases	8	5	3
# of deaths	36	24	12

Stage at Diagnosis - Oral Cavity



Total Cases By County

Ada	30	Cassia	3	Lewis	1
Adams	3	Clark	-	Lincoln	-
Bannock	11	Clearwater	2	Madison	1
Bear Lake	-	Custer	1	Minidoka	3
Benewah	-	Elmore	2	Nez Perce	3
Bingham	4	Franklin	-	Oneida	-
Blaine	2	Fremont	1	Owyhee	1
Boise	1	Gem	-	Payette	3
Bonner	4	Gooding	1	Power	-
Bonneville	3	Idaho	1	Shoshone	1
Boundary	1	Jefferson	1	Teton	2
Butte	1	Jerome	2	Twin Falls	9
Camas	2	Kootenai	23	Valley	2
Canyon	7	Latah	5	Washington	1
Caribou	-	Lemhi	1		

Risk and Associated Factors

Age Most cases occur in people over age 60.

Gender Males have a higher incidence than females.

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

Diet Increased risk is associated with diets low in fresh fruit and vegetable consumption.

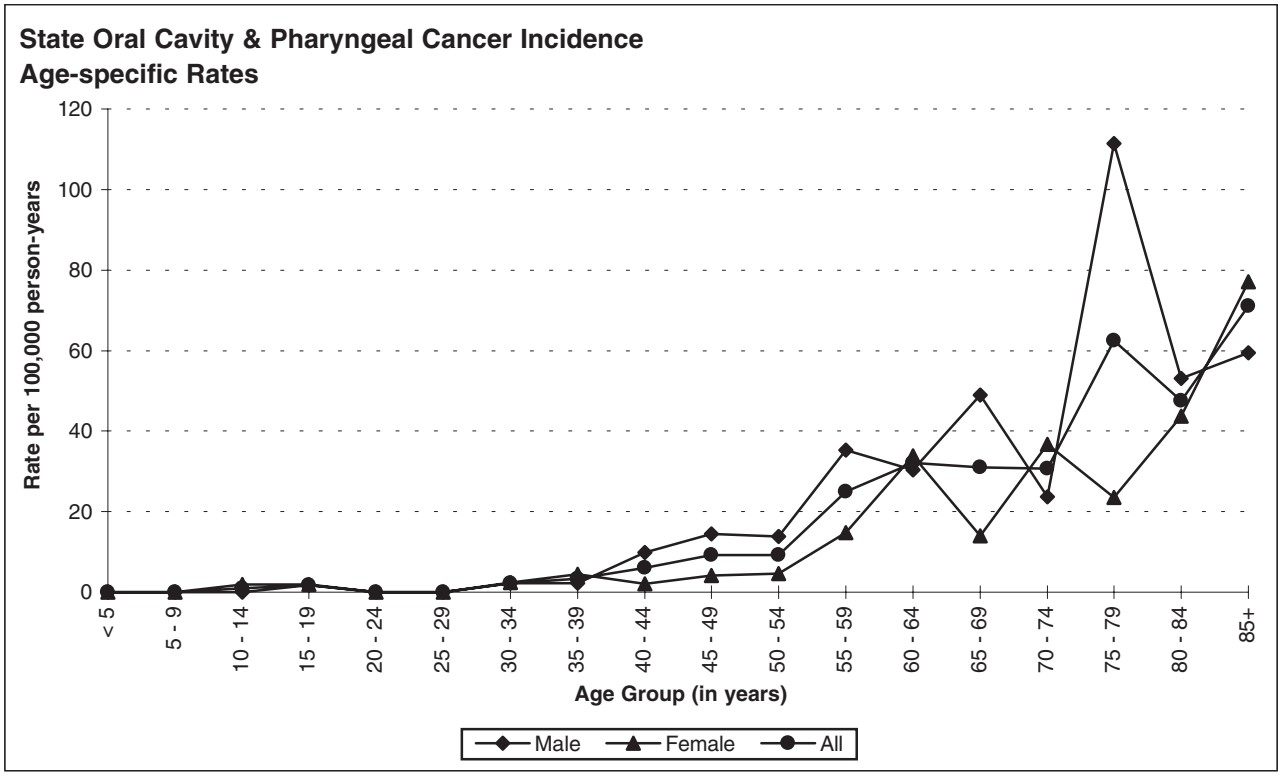
Occupation Increased risk with textile and leather manufacturing industries.

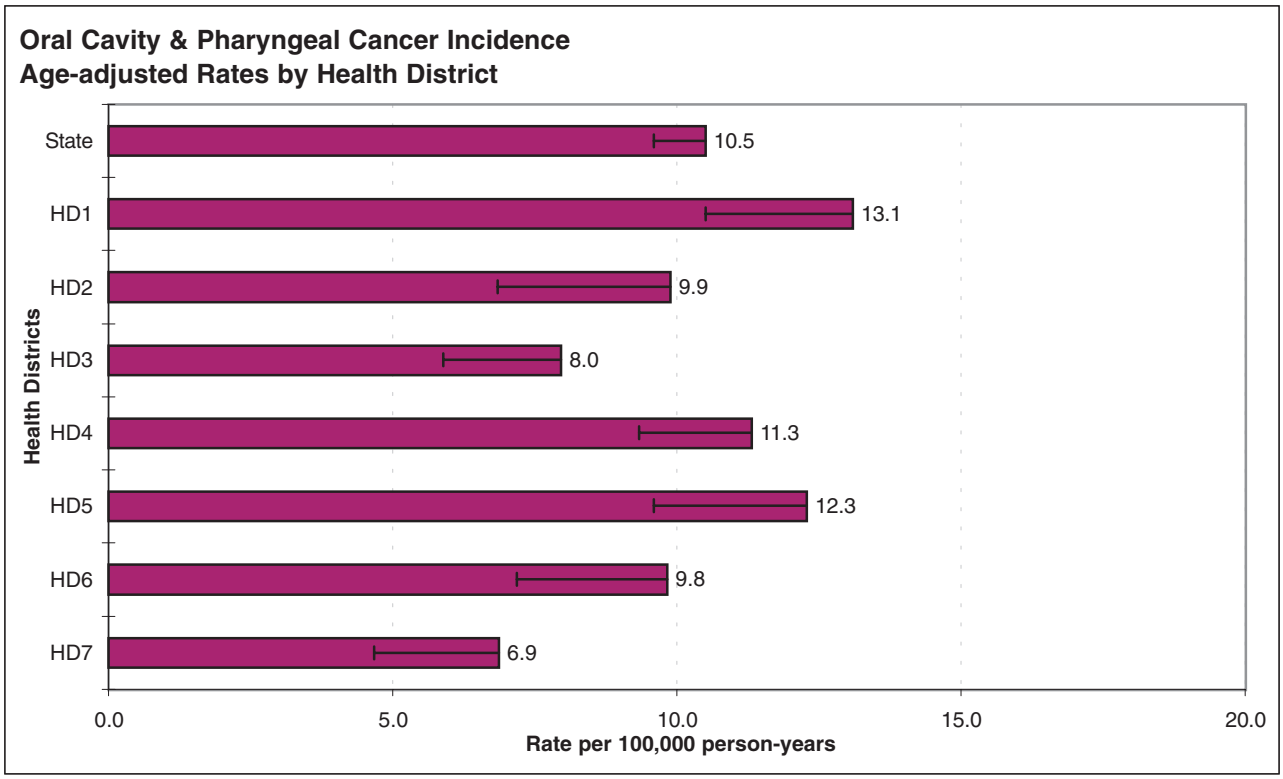
Other Smoking and spit tobacco are major risk factors for cancers of the oral cavity and pharynx. Over 90% of cases are associated with tobacco use. Alcohol use, especially excessive, is a major risk factor. Combined exposure to tobacco and alcohol results in substantially higher risk.

Special Notes

Mean age-adjusted incidence rate across health districts:	10.2
95% confidence interval on the mean age-adjusted incidence rate:	8.5 - 11.8
Median age-adjusted incidence rate of health districts:	9.9
Range of age-adjusted incidence rate for health districts:	6.9 - 13.1
SEER rate (2000, Whites):	10.5

There were few cases among persons less than 40 years of age. The age-specific incidence rates generally increased with age after age 50, 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
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

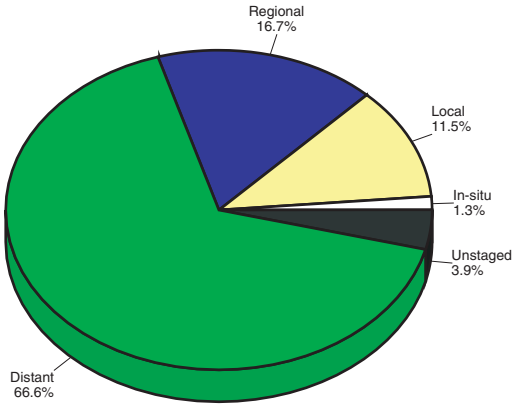

Oral Cavity & Pharyngeal Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
10.5
13.1
9.9
8.0
11.3
12.3
9.8
6.9
0.0
5.0
10.0
15.0
20.0
Rate per 100,000 person-years

OVARY

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	-	11.6
# of new invasive cases	-	-	77
# of new in-situ cases	-	-	1
# of deaths	-	-	63

Stage at Diagnosis - Ovary



Total Cases By County

Ada	14	Cassia	4	Lewis	-
Adams	-	Clark	-	Lincoln	-
Bannock	6	Clearwater	-	Madison	-
Bear Lake	-	Custer	-	Minidoka	4
Benewah	-	Elmore	-	Nez Perce	6
Bingham	3	Franklin	-	Oneida	-
Blaine	-	Fremont	1	Owyhee	-
Boise	-	Gem	1	Payette	-
Bonner	1	Gooding	2	Power	-
Bonneville	6	Idaho	1	Shoshone	-
Boundary	-	Jefferson	3	Teton	-
Butte	-	Jerome	-	Twin Falls	6
Camas	1	Kootenai	10	Valley	-
Canyon	5	Latah	1	Washington	1
Caribou	1	Lemhi	1		

Risk and Associated Factors

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

Race & SES Rates are slightly higher in Caucasian females than in African American females. The rate is 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.

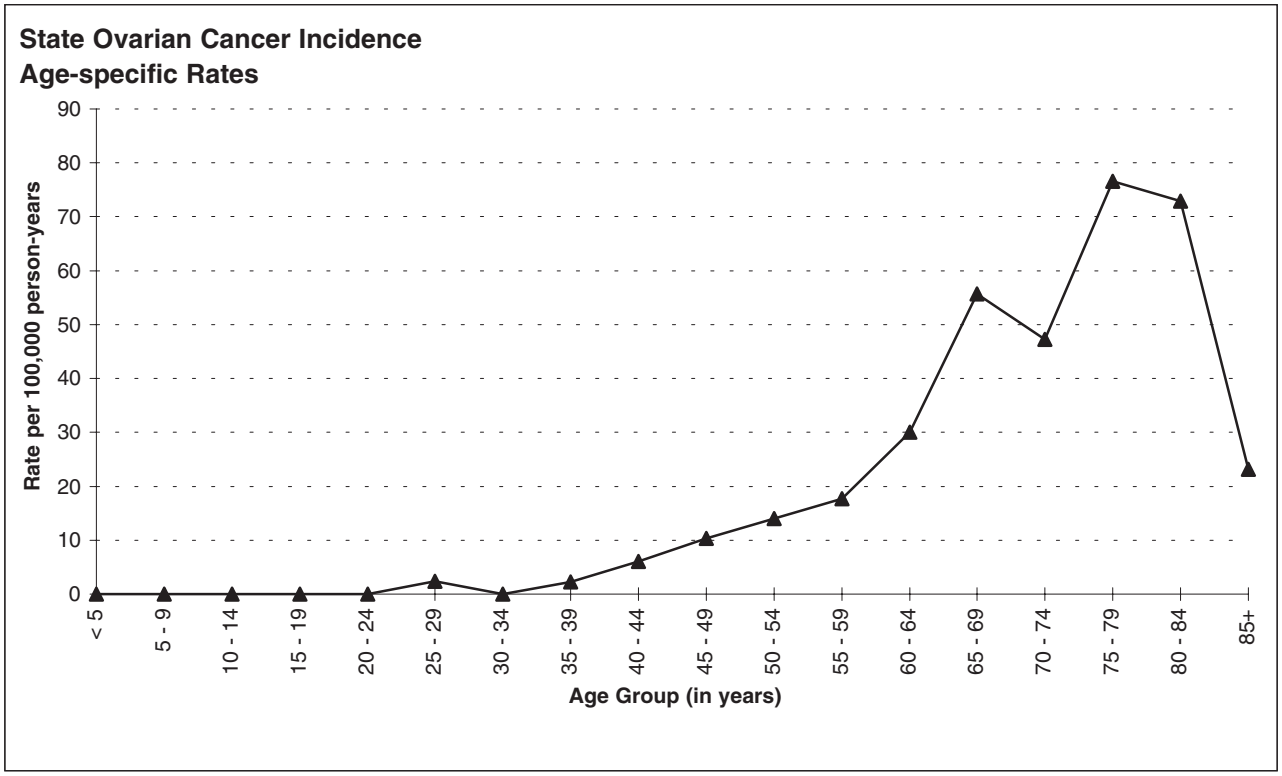
Hormonal Risk of ovarian cancer is significantly reduced among women having at least one live-born child, a history of breast-feeding, or sustained oral contraceptive use. Highest risk is in post-menopausal women. It is also associated with a personal history of breast, endometrial, and colon cancers.

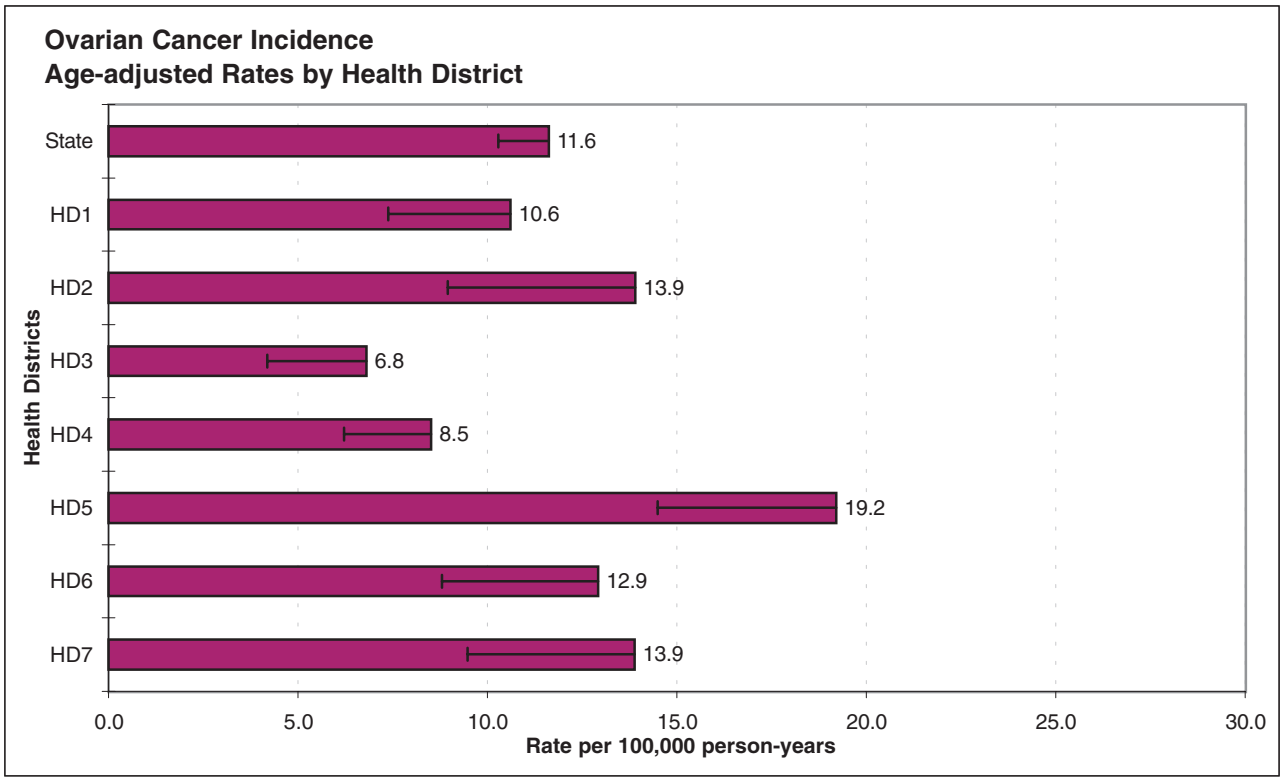
Diet Dietary fat may increase the risk.

Special Notes

Mean age-adjusted incidence rate across health districts:	12.2
95% confidence interval on the mean age-adjusted incidence rate:	9.2 - 15.3
Median age-adjusted incidence rate of health districts:	12.9
Range of age-adjusted incidence rate for health districts:	6.8 - 19.2
SEER rate (2000, Whites):	17.3

There were few cases of ovarian cancer among persons aged less than 40 years. The age-specific incidence rates of ovarian cancer increased with age starting in the 35-39 age group. The highest age-specific rate was for women aged 75-79. Health District 5 had statistically significantly more cases of ovarian cancer than expected based upon rates for the remainder of Idaho ($p<0.05$).


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)

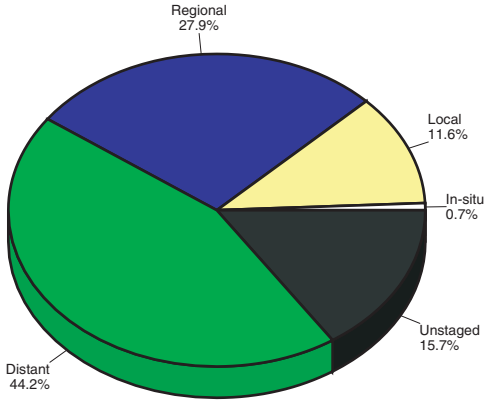

Ovarian Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
11.6
10.6
13.9
6.8
8.5
19.2
12.9
13.9
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Rate per 100,000 person-years

PANCREAS

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	11.8	13.6	10.0
# of new invasive cases	146	76	70
# of new in-situ cases	1	0	1
# of deaths	123	64	59

Stage at Diagnosis - Pancreas



Total Cases By County

Ada	30	Cassia	3	Lewis	2
Adams	-	Clark	-	Lincoln	2
Bannock	8	Clearwater	1	Madison	1
Bear Lake	3	Custer	-	Minidoka	1
Benewah	-	Elmore	2	Nez Perce	6
Bingham	2	Franklin	2	Oneida	1
Blaine	1	Fremont	1	Owyhee	-
Boise	1	Gem	1	Payette	2
Bonner	4	Gooding	1	Power	-
Bonneville	9	Idaho	2	Shoshone	-
Boundary	1	Jefferson	3	Teton	2
Butte	-	Jerome	2	Twin Falls	12
Camas	-	Kootenai	11	Valley	1
Canyon	18	Latah	5	Washington	3
Caribou	1	Lemhi	2		

Risk and Associated Factors

Age Rates increase with age. It is rare in people younger than 40 years old.

Gender Incidence is slightly higher in males.

Race In the United States, the incidence is higher in African Americans, Native Americans, and Hispanics, than in the population at large.

Diet High dietary fat intake has been implicated as a potential risk factor.

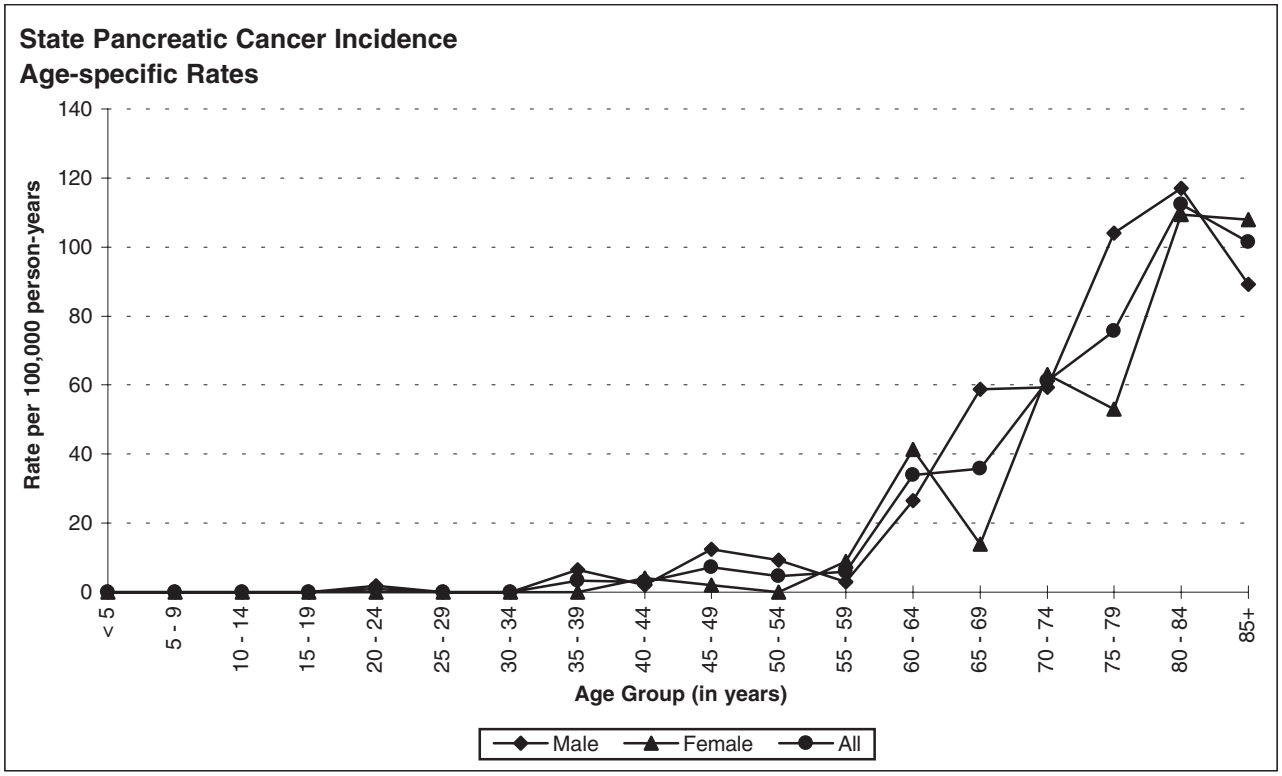
Occupation Persons in certain occupations are believed to be at higher risk, such as chemists, metal workers, and persons employed in the manufacture of benzidine and betanaphthylene.

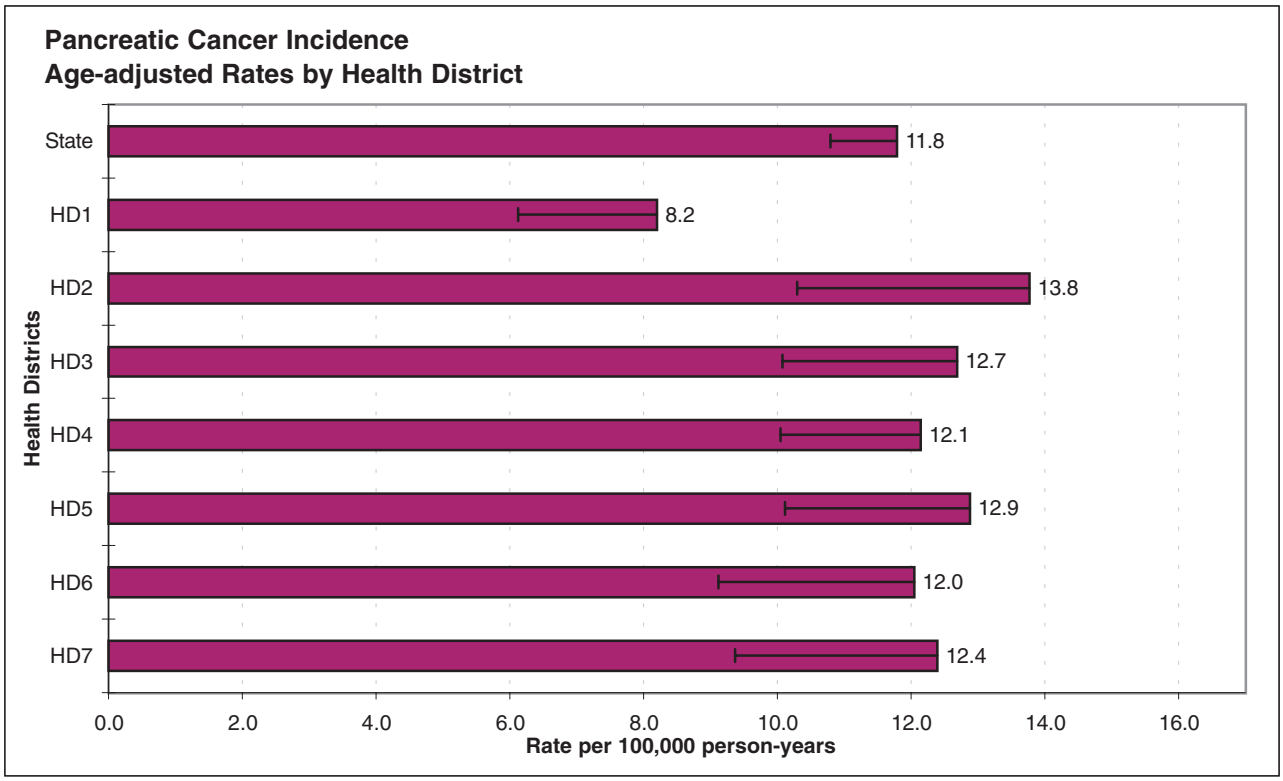
Other Pancreatic cancer is more common among smokers than non-smokers. Familial clustering has been observed in some studies. Pancreatic cancer usually progresses to an advanced stage before symptoms develop. It is rapidly fatal in over 90% of cases.

Special Notes

Mean age-adjusted incidence rate across health districts:	12.0
95% confidence interval on the mean age-adjusted incidence rate:	10.7 - 13.3
Median age-adjusted incidence rate of health districts:	12.4
Range of age-adjusted incidence rate for health districts:	8.2 - 13.8
SEER rate (2000, Whites):	10.5

There were few cases of pancreatic cancer among persons aged less than 45 years. The age-specific incidence rates of pancreatic cancer increased sharply after age 60. No health district had statistically significantly fewer or more cases than expected based upon rates for the remainder of Idaho.


State Pancreatic Cancer 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

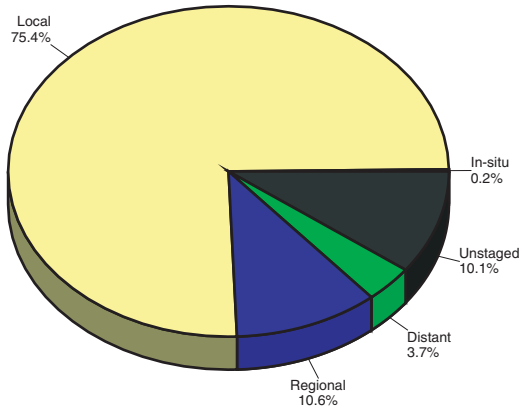

Pancreatic Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
11.8
8.2
13.8
12.7
12.1
12.9
12.0
12.4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
Rate per 100,000 person-years

PROSTATE

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	166.8	-
# of new invasive cases	-	957	-
# of new in-situ cases	-	2	-
# of deaths	-	152	-

Stage at Diagnosis - Prostate



Total Cases By County

Ada	188	Cassia	16	Lewis	16
Adams	6	Clark	-	Lincoln	1
Bannock	46	Clearwater	9	Madison	13
Bear Lake	6	Custer	2	Minidoka	17
Benewah	8	Elmore	15	Nez Perce	51
Bingham	23	Franklin	5	Oneida	5
Blaine	18	Fremont	9	Owyhee	14
Boise	3	Gem	13	Payette	13
Bonner	45	Gooding	12	Power	3
Bonneville	44	Idaho	20	Shoshone	14
Boundary	6	Jefferson	13	Teton	4
Butte	3	Jerome	14	Twin Falls	43
Camas	-	Kootenai	74	Valley	8
Canyon	89	Latah	22	Washington	12
Caribou	7	Lemhi	6		

Risk and Associated Factors

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

Race African American males have a substantially higher rate than Caucasian males.

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

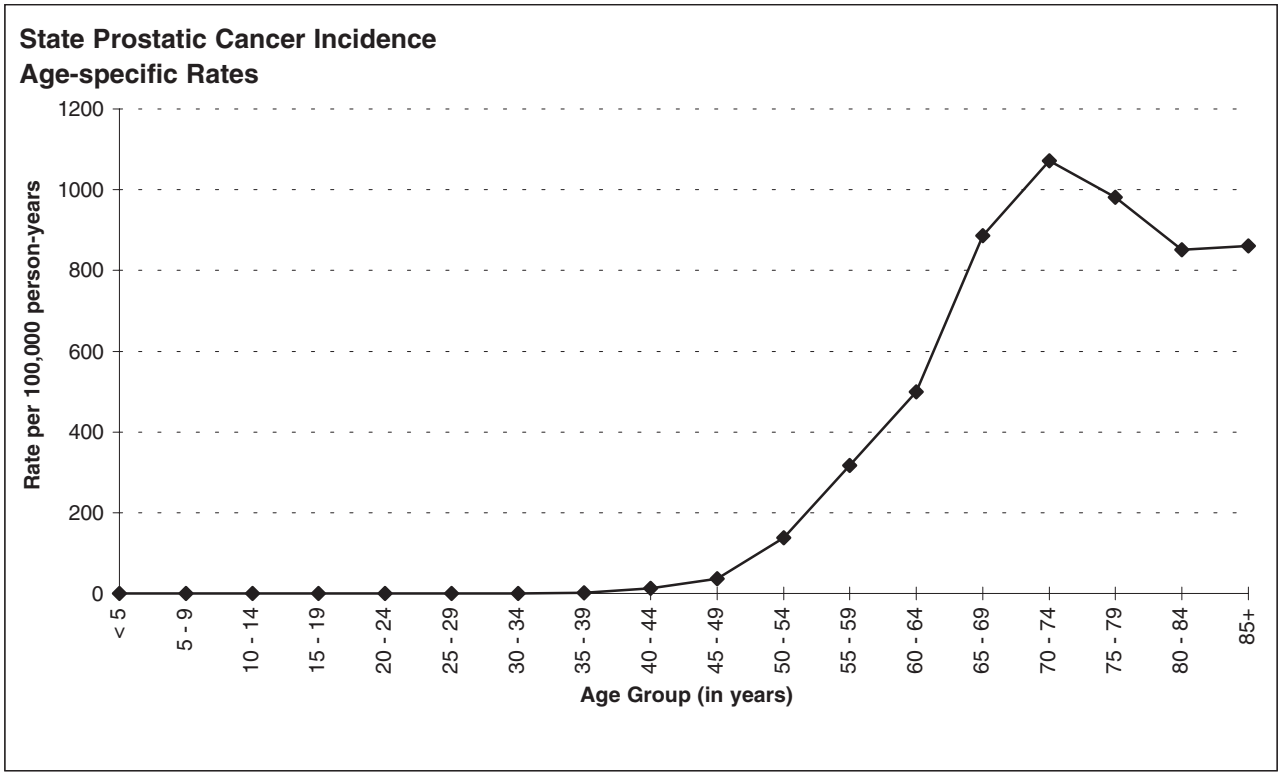
Diet Dietary fat has been implicated in some studies.

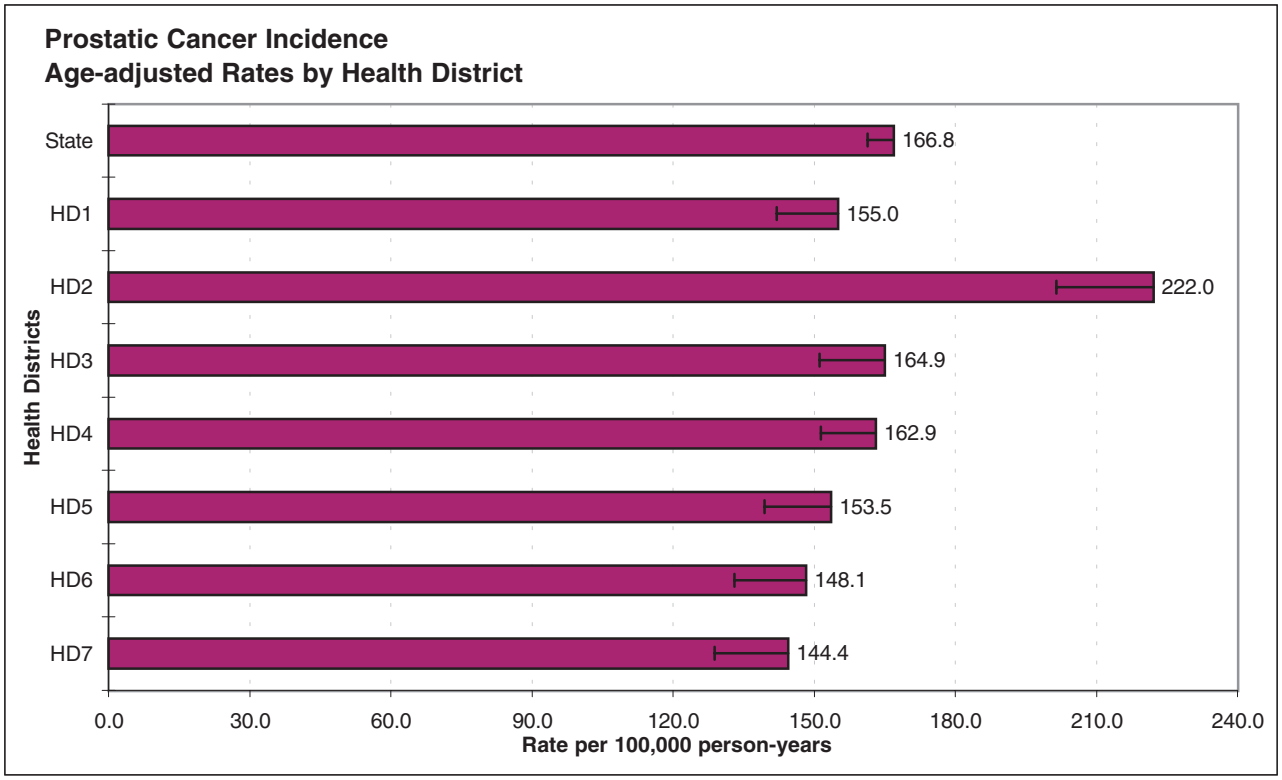
Other Environmental and familial factors may contribute to an increased incidence but no specific factor in these two groups of potential risk factors has been clearly identified. Three risk factors are well established: age, family history, and ethnic group/country of residence. Farming is the most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

Special Notes

Mean age-adjusted incidence rate across health districts:	164.4
95% confidence interval on the mean age-adjusted incidence rate:	144.8 - 184.0
Median age-adjusted incidence rate of health districts:	155.0
Range of age-adjusted incidence rate for health districts:	144.4 - 222.0
SEER rate (2000, Whites):	170.6

The age-specific incidence rate distribution of prostate cancer in Idaho in 2002 is similar to that reported by the National Cancer Institute's SEER program. There were no cases of prostate cancer among persons aged less than 40 years. The age-specific incidence rates of prostate cancer increased with age, peaking in the 70-74 age group. Health District 2 ($p<0.01$) had statistically significantly more cases of prostate cancer than expected based upon rates for the remainder of Idaho.


State Prostatic 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)

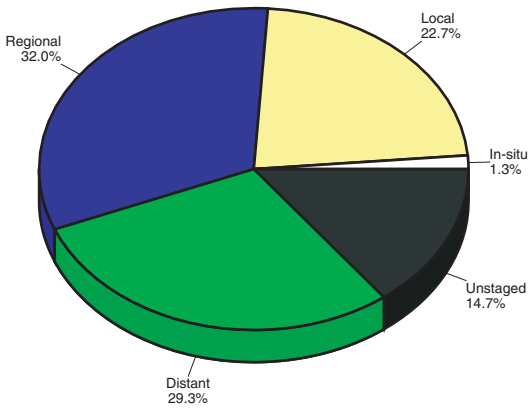

Prostatic Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
166.8
155.0
222.0
164.9
162.9
153.5
148.1
144.4
0.0
30.0
60.0
90.0
120.0
150.0
180.0
210.0
240.0
Rate per 100,000 person-years

STOMACH

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	5.9	7.3	4.3
# of new invasive cases	74	44	30
# of new in-situ cases	1	0	1
# of deaths	30	20	10

Stage at Diagnosis - Stomach



Total Cases By County

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

Risk and Associated Factors

Age Rates increase with age.

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

Race & SES There is a higher incidence in African Americans, as well as Asians, and incidence is also higher in lower income groups.

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

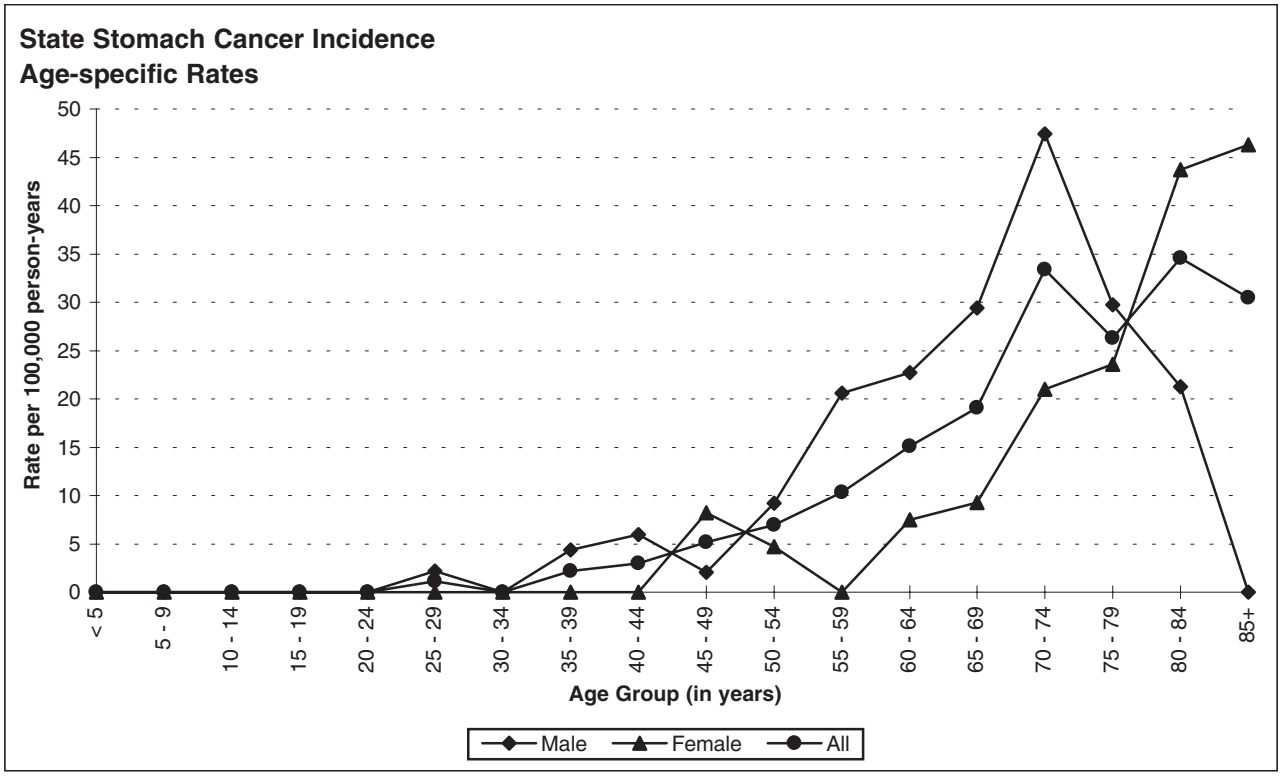
Occupation Elevated rates have been found in certain occupational groups, especially coal miners and asbestos workers.

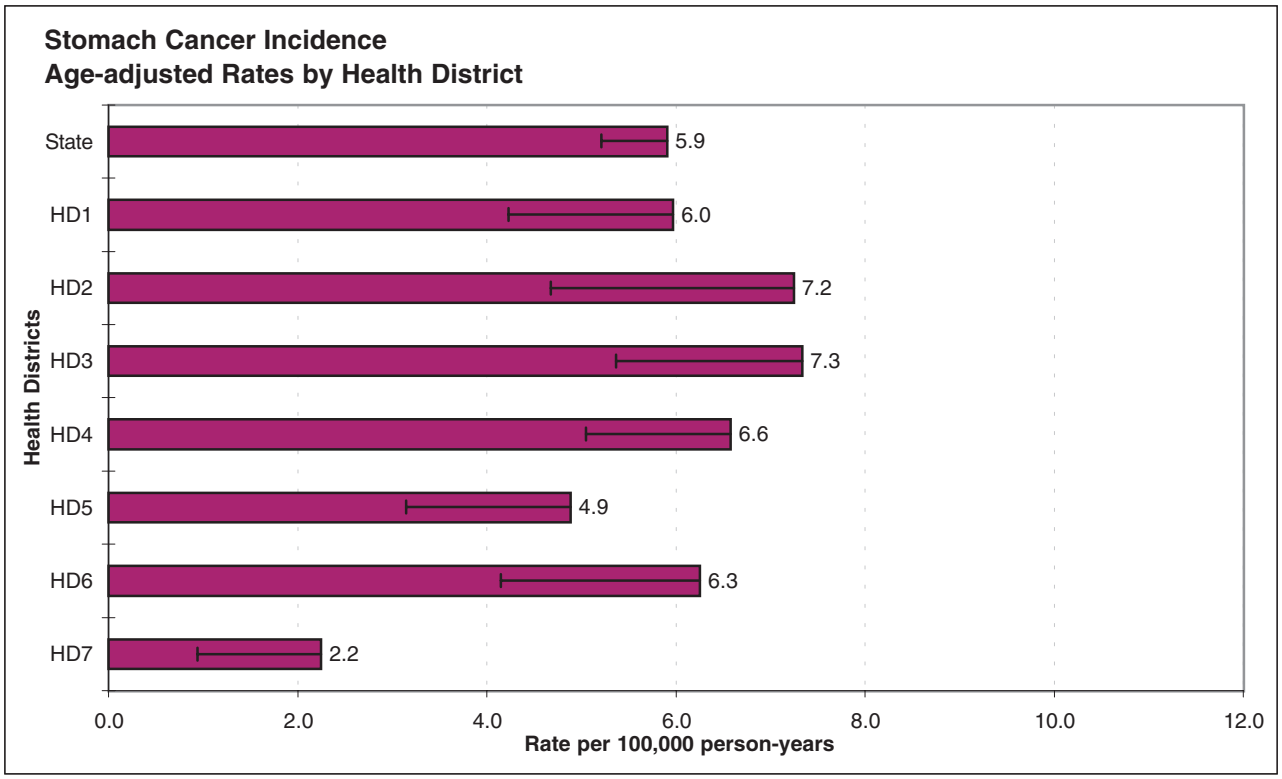
Other Stomach cancer has recently been linked to peptic ulcer disease and to certain bacteria associated with increased risk for both diseases.

Special Notes

Mean age-adjusted incidence rate across health districts:	5.8
95% confidence interval on the mean age-adjusted incidence rate:	4.5 - 7.1
Median age-adjusted incidence rate of health districts:	6.3
Range of age-adjusted incidence rate for health districts:	2.2 - 7.3
SEER rate (2000, Whites):	6.7

There were no cases of stomach cancer among persons aged less than 25 years. The age-specific incidence rates of stomach cancer increased with age, peaking in the 70-74 age group for males and 85+ for females. Health District 7 had statistically significantly fewer cases than expected based upon rates for the remainder of Idaho ($p<0.05$).


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


Stomach Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
5.9
6.0
7.2
7.3
6.6
4.9
6.3
2.2
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Rate per 100,000 person-years

TESTIS

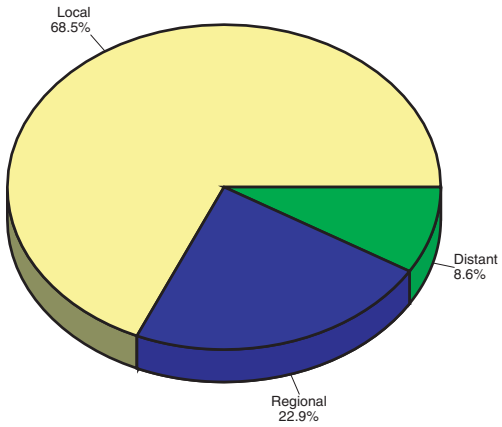
Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	-	5.4	-
# of new invasive cases	-	35	-
# of new in-situ cases	-	0	-
# of deaths	-	2	-

Total Cases By County

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

Stage at Diagnosis - Testis



Risk and Associated Factors

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

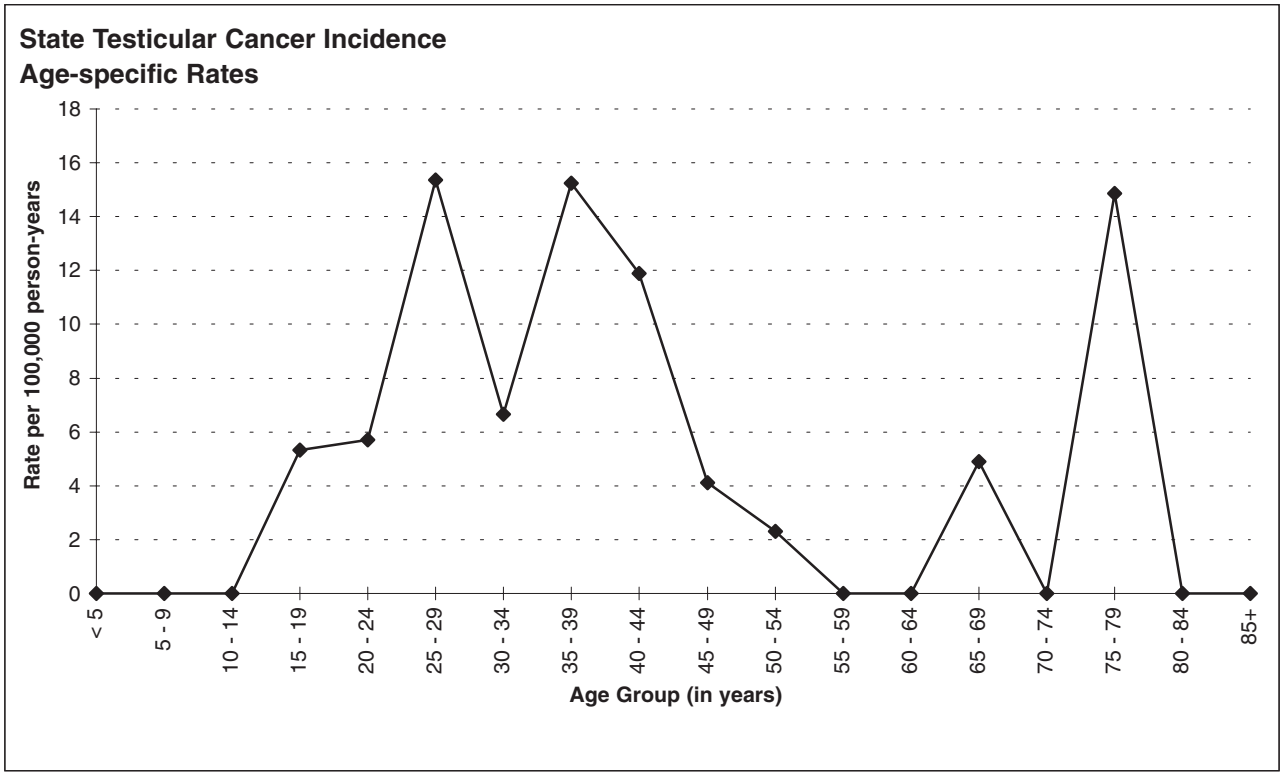
Race Incidence rates are substantially higher in Caucasian males than in African American males.

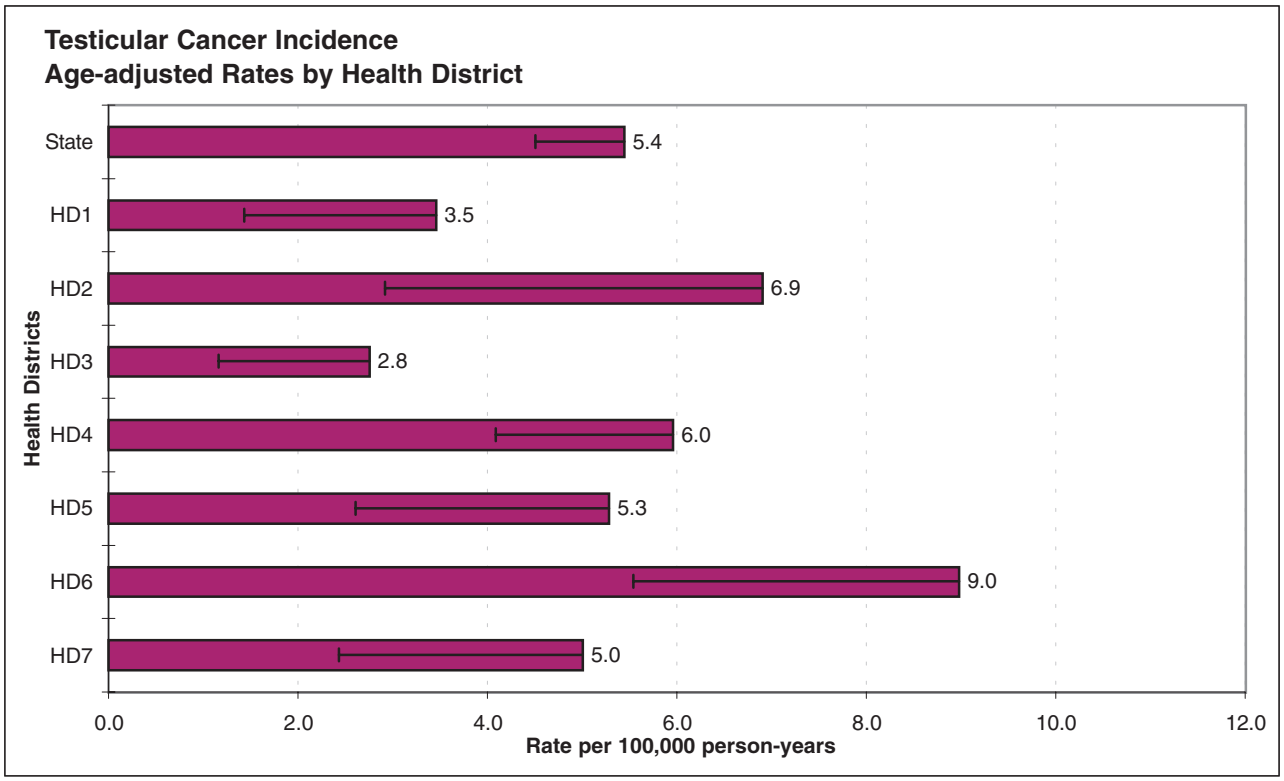
Other Undescended testis, a minor abnormality that can usually be detected and corrected with surgery in childhood, is responsible for a substantially high risk for testicular cancer when uncorrected. The extent to which surgical correction reduces cancer risk is unclear. Some evidence suggests that 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:	5.5
95% confidence interval on the mean age-adjusted incidence rate:	3.9 - 7.0
Median age-adjusted incidence rate of health districts:	5.3
Range of age-adjusted incidence rate for health districts:	2.8 - 9.0
SEER rate (2000, Whites):	6.6

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

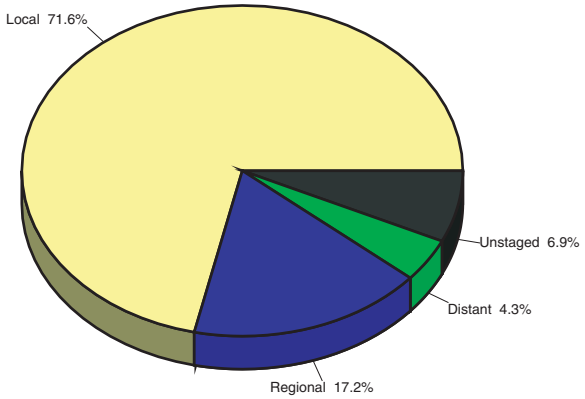

Testicular Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
5.4
3.5
6.9
2.8
6.0
5.3
9.0
5.0
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Rate per 100,000 person-years

THYROID

Incidence and Mortality Summary

	Total	Male	Female
Age-adjusted incidence rate per 100,000	9.0	4.4	13.8
# of new invasive cases	116	28	88
# of new in-situ cases	0	0	0
# of deaths	6	1	5

Stage at Diagnosis - Thyroid



Total Cases By County

Ada	34	Cassia	1	Lewis	1
Adams	-	Clark	-	Lincoln	-
Bannock	3	Clearwater	-	Madison	4
Bear Lake	-	Custer	1	Minidoka	1
Benewah	-	Elmore	1	Nez Perce	3
Bingham	3	Franklin	2	Oneida	-
Blaine	3	Fremont	-	Owyhee	-
Boise	-	Gem	-	Payette	1
Bonner	3	Gooding	2	Power	-
Bonneville	7	Idaho	3	Shoshone	-
Boundary	1	Jefferson	2	Teton	3
Butte	-	Jerome	1	Twin Falls	3
Camas	-	Kootenai	12	Valley	1
Canyon	15	Latah	-	Washington	1
Caribou	-	Lemhi	2		

Risk and Associated Factors

Age Though relatively unusual, it is still 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.

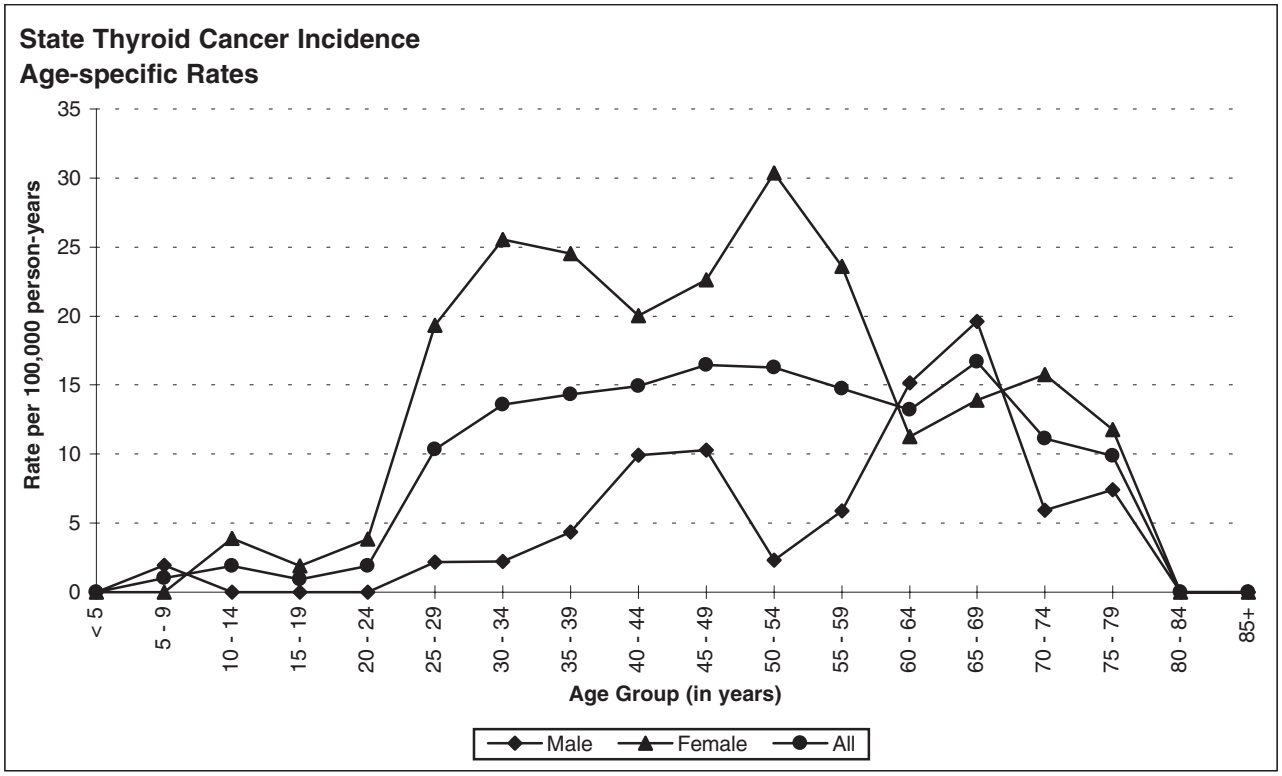
Hormonal Hormonal factors are believed to contribute to the increased risk in females. This is demonstrated by the sharp increase in incidence among women after menarche.

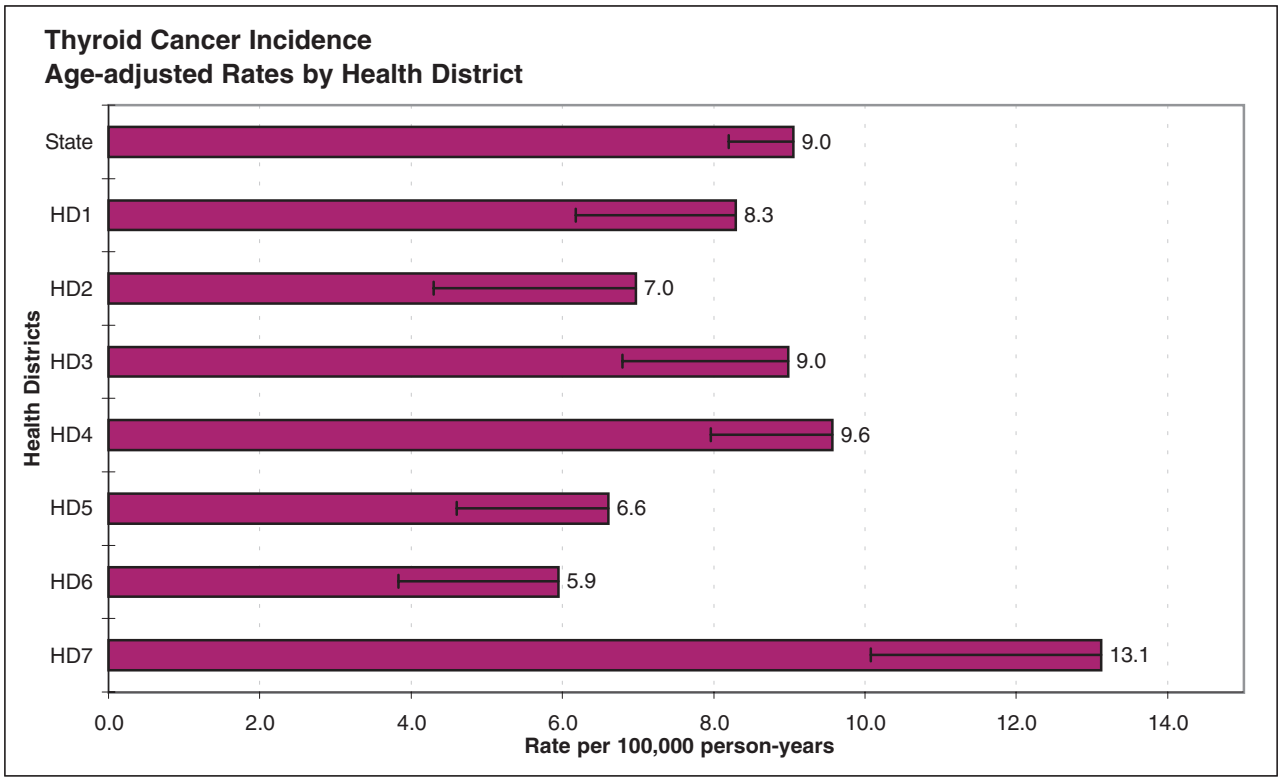
Other Occupational and environmental exposures to ionizing radiation have been associated with higher rates of thyroid cancer. Radiation exposure to the head and neck in childhood is a well-known risk factor. Family history of thyroid cancer substantially increases the risk. Death due to thyroid cancer under age 40 is rare. Prognosis worsens with each decade of age over 50.

Special Notes

Mean age-adjusted incidence rate across health districts:	8.5
95% confidence interval on the mean age-adjusted incidence rate:	6.7 - 10.3
Median age-adjusted incidence rate of health districts:	8.3
Range of age-adjusted incidence rate for health districts:	5.9 - 13.1
SEER rate (2000, Whites):	7.8

The age-specific incidence rates of thyroid cancer were typically higher for females than males. No health district had statistically significantly fewer or 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
35
30
25
20
15
10
5
0
< 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85+
Age Group (in years)
Male
Female
All


Thyroid Cancer Incidence
Age-adjusted Rates by Health District
Health Districts
State
HD1
HD2
HD3
HD4
HD5
HD6
HD7
9.0
8.3
7.0
9.0
9.6
6.6
5.9
13.1
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Rate per 100,000 person-years

SECTION II

STATE OF IDAHO - 2002
INCIDENCE DATA BY SITE AND GENDER

Idaho Resident Cancer Cases (invasive) - 2002

PRIMARY SITE OF CANCER	TOTAL	SEX	
		Male	Female
TOTAL NEW CANCER CASES (invasive)	5,629	2,968	2,661
BUCCAL CAVITY AND PHARYNX	133	79	54
Lip	31	20	11
Tongue	26	18	8
Major salivary glands	11	7	4
Gum and other mouth	27	12	15
Nasopharynx	4	1	3
Oropharynx	5	1	4
Hypopharynx	7	4	3
Tonsil and other buccal cavity	22	16	6
DIGESTIVE SYSTEM	931	528	403
Esophagus	53	40	13
Stomach	74	44	30
Small intestine	18	9	9
Colon excluding rectum	361	191	170
Rectum, rectosigmoid and anus	196	123	73
Liver & bile duct	38	23	15
Gallbladder and other biliary	30	15	15
Pancreas	146	76	70
Peritoneum and retroperitoneum	13	6	7
Other digestive	2	1	1
RESPIRATORY SYSTEM	725	419	306
Larynx	47	37	10
Lung and bronchus	663	371	292
Trachea, pleura, and other	15	11	4
SKIN	278	174	104
Melanoma of skin	263	165	98
Other skin cancers	15	9	6
BREAST	890	12	878
FEMALE GENITAL SYSTEM	289	n/a	289
Cervix uteri	51	n/a	51
Corpus uteri (endometrium)	137	n/a	137
Ovary	77	n/a	77
Vagina	4	n/a	4
Vulva	7	n/a	7
Uterus, NOS and other female genital organs	13	n/a	13
MALE GENITAL SYSTEM	997	997	n/a
Prostate gland	957	957	n/a
Testis	35	35	n/a
Penis and other male genital organs	5	5	n/a
URINARY SYSTEM	291	198	93
Urinary bladder	116	94	22
Kidney and renal pelvis	165	95	70
Ureter and other urinary organs	10	9	1
LYMPHATIC AND HEMATOPOIETIC TISSUE	545	286	259
Hodgkin's lymphoma	40	18	22
Non-Hodgkins lymphoma	252	135	117
Multiple myeloma	76	40	36
Acute lymphocytic leukemia	17	9	8
Chronic lymphocytic leukemia	58	31	27
Acute myeloid leukemia	48	24	24
Chronic myeloid leukemia	26	12	14
Other leukemia	28	17	11
OTHER OR UNKNOWN SITES	550	275	275
Eye	6	5	1
Brain	97	57	40
Other nervous system	8	5	3
Thyroid gland	116	28	88
Other endocrine	6	5	1
Bones and joints	10	7	3
Soft tissue (including heart)	41	22	19
Other sites, Ill-defined sites or unknown sites	266	146	120

Idaho Resident Cancer Cases (in-situ) - 2002

PRIMARY SITE OF CANCER	TOTAL	SEX	
		Male	Female
TOTAL NEW CANCER CASES (in-situ)	576	265	311
BUCCAL CAVITY AND PHARYNX	8	5	3
Lip	4	2	2
Tongue	3	2	1
Major salivary glands	0	0	0
Gum and other mouth	1	1	0
Nasopharynx	0	0	0
Oropharynx	0	0	0
Hypopharynx	0	0	0
Tonsil and other buccal cavity	0	0	0
DIGESTIVE SYSTEM	28	11	17
Esophagus	4	3	1
Stomach	1	0	1
Small intestine	0	0	0
Colon excluding rectum	13	4	9
Rectum, rectosigmoid and anus	8	4	4
Liver & bile duct	0	0	0
Gallbladder and other biliary	1	0	1
Pancreas	1	0	1
Peritoneum and retroperitoneum	0	0	0
Other digestive	0	0	0
RESPIRATORY SYSTEM	5	2	3
Larynx	4	2	2
Lung and bronchus	0	0	0
Trachea, pleura, and other	1	0	1
SKIN	198	113	85
Melanoma of skin	198	113	85
Other skin cancers	0	0	0
BREAST	157	1	156
FEMALE GENITAL SYSTEM	15	n/a	15
Cervix uteri	n/a	n/a	n/a
Corpus uteri (endometrium)	3	n/a	3
Ovary	1	n/a	1
Vagina	2	n/a	2
Vulva	9	n/a	9
Uterus, NOS and other female genital organs	0	n/a	0
MALE GENITAL SYSTEM	5	5	n/a
Prostate gland	2	2	n/a
Testis	0	0	n/a
Penis and other male genital organs	3	3	n/a
URINARY SYSTEM	158	126	32
Urinary bladder	151	123	28
Kidney and renal pelvis	4	1	3
Ureter and other urinary organs	3	2	1
LYMPHATIC AND HEMATOPOIETIC TISSUE	0	0	0
Hodgkin's lymphoma	0	0	0
Non-Hodgkins lymphoma	0	0	0
Multiple myeloma	0	0	0
Acute lymphocytic	0	0	0
Chronic lymphocytic	0	0	0
Acute Myeloid	0	0	0
Chronic Myeloid	0	0	0
Other	0	0	0
OTHER OR UNKNOWN SITES	2	2	0
Eye	2	2	0
Brain	0	0	0
Other nervous system	0	0	0
Thyroid gland	0	0	0
Other endocrine	0	0	0
Bones and joints	0	0	0
Soft tissue (including heart)	0	0	0
Other sites, Ill-defined sites or unknown sites	0	0	0

SECTION III

STATE OF IDAHO - 2002
MORTALITY DATA BY SITE AND GENDER

Idaho Resident Cancer Deaths - 2002

ICD-10 CODE	SITE OF MALIGNANT NEOPLASM	TOTAL	SEX	
			Male	Female
C00-C97	TOTAL MALIGNANT NEOPLASM DEATHS	2,144	1,132	1,012
C00-C14	LIP, ORAL CAVITY AND PHARYNX	36	24	12
C00	Lip	2	1	1
C01-C02	Tongue	14	11	3
C10-C13, C14.0	Pharynx	6	4	2
C03-C09, C14.2-C14.8	Other and unspecified sites within the lip, oral cavity, and pharynx	14	8	6
C15-C26	DIGESTIVE ORGANS	482	267	215
C15	Esophagus	67	51	16
C16	Stomach	30	20	10
C17	Small intestine	4	3	1
C18	Colon	162	83	79
C19-C20	Rectosigmoid junction and rectum	27	14	13
C21	Anus and anal canal	2	-	2
C22.0, C22.2-C22.9	Liver	37	20	17
C22.1	Intrahepatic bile duct	13	4	9
C23-C24	Gallbladder and extrahepatic bile ducts	11	4	7
C25	Pancreas	123	64	59
C26	Other and ill-defined digestive organs	6	4	2
C30-C39	RESPIRATORY AND INTRATHORACIC ORGANS	554	327	227
C30-C31	Nasal cavity, middle ear, and accessory sinuses	2	1	1
C32	Larynx	10	5	5
C33-C34	Trachea, bronchus, and lung	538	318	220
C37-C38	Thymus, heart, mediastinum, and pleura	4	3	1
C39	Other and ill-defined sites in the respiratory system and intrathoracic organs	-	-	-
C40-C41	BONE AND ARTICULAR CARTILAGE	6	2	4
C43-C44	MELANOMA AND OTHER MALIGNANT NEOPLASMS OF SKIN	53	39	14
C43	Melanoma of skin	41	32	9
C44	Other malignant neoplasms of skin	12	7	5
C45-C49	MESOTHELIAL AND SOFT TISSUE	33	21	12
C45	Mesothelioma	12	10	2
C46	Kaposi's sarcoma	-	-	-
C47-C49	Other mesothelial and soft tissue	21	11	10
C50	BREAST	174	-	174
C51-C58	FEMALE GENITAL ORGANS	105	-	105
C51-C52	Vulva and vagina	1	-	1
C53	Cervix uteri	18	-	18
C54-C55	Corpus uteri and uterus, part unspecified	21	-	21
C56	Ovary	63	-	63
C57	Other and unspecified female genital organs	2	-	2
C58	Placenta	-	-	-

Idaho Resident Cancer Deaths - 2002

ICD-10 CODE	SITE OF MALIGNANT NEOPLASM	TOTAL	SEX	
			Male	Female
C60-C63	MALE GENITAL ORGANS	158	158	-
C61	Prostate	152	152	-
C62	Testis	2	2	-
C60, C63	Penis and other and unspecified male genital organs	4	4	-
C64-C68	URINARY TRACT	116	81	35
C64-C65	Kidney and renal pelvis	56	39	17
C67	Bladder	57	40	17
C66, C68	Other and unspecified sites within the urinary tract	3	2	1
C69	EYE AND ADNEXA	4	2	2
C70-C72	MENINGES, BRAIN, AND OTHER PARTS OF CENTRAL NERVOUS SYSTEM	60	35	25
C71	Brain	58	34	24
C70, C72	Other parts of central nervous system	2	1	1
C73-C75	THYROID AND OTHER ENDOCRINE GLANDS	9	2	7
C76-C80, C97	OTHER MALIGNANT NEOPLASMS OF OTHER AND UNSPECIFIED SITES	138	62	76
C81-C96	LYMPHOID, HEMATOPOIETIC, AND RELATED TISSUE	216	112	104
C81	Hodgkin's disease	5	4	1
C82-C85	Non-Hodgkin's lymphoma	75	39	36
C88	Malignant immunoproliferative diseases	3	2	1
C90	Multiple myeloma and malignant plasma cell neoplasms	42	20	22
C91	Lymphoid leukemia	26	14	12
C92	Myeloid leukemia	43	23	20
C93	Monocytic leukemia	-	-	-
C94-C95	Other and unspecified leukemia	22	10	12
C96	Other and unspecified malignant neoplasms of lymphoid, hematopoietic, and related tissue	-	-	-

* Source: Idaho Bureau of Health Policy and Health Statistics, Idaho Department of Health and Welfare.[13]

The manner of coding the underlying cause of death changed in 1999 from the ninth revision (ICD-9) to the tenth revision of the International Classification of Diseases (ICD-10). The introduction of ICD-10 resulted in a major reclassification of all causes of death from a numeric classification to an alphanumeric classification. The tenth revision also resulted in new titles for causes, the inclusion of terms and titles from one category to another, regroupings of diseases, and modifications of the coding rules. The introduction of ICD-10 created discontinuities in trend data for some causes of death; therefore, the numbers of deaths in 1999 and later years by site of malignant neoplasm may not be comparable to previously published data for numbers of deaths by site for years prior to 1999. The extent of the discontinuity is measured using a comparability ratio. The National Center for Health Statistics has constructed comparability ratios for the leading causes of death to measure the discontinuity between the data tabulated by the tenth revision and data tabulated by the ninth revision. The comparability ratio for malignant neoplasms based on ICD-10 (codes C00-C97) to ICD-9 (codes 140-208) is 1.01. For more information on ICD, comparability ratios, or Idaho cancer mortality trends, contact the Bureau of Health Policy and Vital Statistics, Idaho Department of Health and Welfare, at (208) 334-6658.

SECTION IV

2002 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** **2002**

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	25.0	13.1	16.0	22.8	33.6	55.2	77.1	130.0	204.3	283.1	489.9	799.6	1291.1	1703.4	2127.1	2488.3	2568.7	2390.7
Male	29.3	13.7	11.0	33.7	34.3	48.3	59.8	100.2	164.5	237.1	464.0	873.9	1431.0	2228.2	2636.4	3337.1	3072.5	3252.2
Female	20.5	12.4	21.4	11.3	32.9	62.8	95.2	160.5	244.5	329.1	516.0	725.1	1152.5	1206.2	1675.6	1815.2	2223.2	1943.4
Bladder																		
All	0.0	0.0	0.0	0.0	2.9	0.0	1.1	1.1	2.0	4.1	8.1	26.5	64.1	76.2	103.0	138.1	211.9	187.8
Male	0.0	0.0	0.0	0.0	5.7	0.0	2.2	2.2	4.0	8.3	11.5	35.3	98.4	127.3	171.8	304.7	414.6	415.8
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	17.7	30.0	27.8	42.0	5.9	72.9	69.4
Brain																		
All	7.0	4.0	4.7	0.9	3.8	6.9	3.4	4.4	5.0	2.1	4.6	16.2	17.0	26.2	25.1	13.2	30.3	5.1
Male	9.8	0.0	5.5	1.8	5.7	6.6	6.7	6.5	6.0	4.1	4.6	20.6	22.7	29.4	35.6	14.9	21.3	0.0
Female	4.1	8.2	3.9	0.0	1.9	7.3	0.0	2.2	4.0	0.0	4.7	11.8	11.3	23.2	15.8	11.8	36.5	7.7
Breast																		
Female Invasive	0.0	0.0	0.0	0.0	3.9	9.7	16.3	44.6	114.2	135.8	240.5	303.6	416.7	403.6	430.7	577.6	597.7	431.9
Female In situ	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9	10.0	41.1	49.0	67.8	71.3	65.0	136.6	64.8	51.0	46.3
Cervix Uteri																		
Female	0.0	0.0	0.0	0.0	0.0	7.3	11.6	20.1	16.0	12.3	11.7	0.0	18.8	13.9	10.5	17.7	7.3	7.7
Colorectal																		
All	0.0	0.0	0.0	0.0	0.0	0.0	6.8	7.7	16.9	29.9	46.4	56.0	94.2	164.4	211.6	230.1	281.1	375.6
Male	0.0	0.0	0.0	0.0	0.0	0.0	6.7	6.5	21.8	28.9	64.6	82.4	128.7	240.0	242.9	289.9	329.6	415.8
Female	0.0	0.0	0.0	0.0	0.0	0.0	7.0	8.9	12.0	30.9	28.0	29.5	60.1	92.8	183.8	182.7	247.8	354.8
Endometrium																		
Female	0.0	0.0	0.0	0.0	0.0	2.4	4.6	8.9	12.0	16.5	44.4	70.7	52.6	60.3	89.3	64.8	51.0	84.8
Esophagus																		
All	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	9.3	11.8	13.2	16.7	13.9	19.7	34.6	15.2
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	16.2	17.7	22.7	29.4	17.8	37.2	42.5	29.7
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	5.9	3.8	4.6	10.5	5.9	29.2	7.7
Hodgkin's Lymphoma																		
All	1.0	0.0	0.9	2.7	3.8	4.6	4.5	4.4	2.0	1.0	3.5	5.9	5.7	2.4	2.8	3.3	8.7	5.1
Male	2.0	0.0	0.0	3.5	0.0	4.4	2.2	4.4	2.0	2.1	4.6	2.9	7.6	4.9	0.0	0.0	21.3	0.0
Female	0.0	0.0	1.9	1.9	7.7	4.8	7.0	4.5	2.0	0.0	2.3	8.8	3.8	0.0	5.3	5.9	0.0	7.7

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Kidney & Renal Pelvis																		
All	2.0	2.0	0.0	0.0	0.0	0.0	1.1	5.5	4.0	10.3	16.3	25.0	33.9	50.0	69.6	78.9	69.2	30.5
Male	0.0	2.0	0.0	0.0	0.0	0.0	2.2	6.5	6.0	10.3	13.9	29.4	37.9	73.5	77.0	118.9	85.1	59.4
Female	4.1	2.1	0.0	0.0	0.0	0.0	0.0	4.5	2.0	10.3	18.7	20.6	30.0	27.8	63.0	47.2	58.3	15.4
Larynx																		
All	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.1	3.5	10.3	28.3	9.5	11.1	6.6	17.3	20.3
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	4.1	4.6	8.8	49.2	19.6	17.8	14.9	31.9	59.4
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.3	11.8	7.5	0.0	5.3	0.0	7.3	0.0
Leukemia																		
All	7.0	2.0	4.7	3.7	1.9	3.5	0.0	4.4	5.0	4.1	20.9	11.8	28.3	40.5	52.9	65.7	86.5	121.8
Male	5.9	2.0	3.7	3.5	1.9	4.4	0.0	8.7	6.0	4.1	25.4	11.8	30.3	53.9	71.1	74.3	74.4	148.5
Female	8.2	2.1	5.8	3.8	1.9	2.4	0.0	0.0	4.0	4.1	16.3	11.8	26.3	27.8	36.8	58.9	94.8	108.0
Liver & Bile Duct																		
All	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	1.0	9.3	5.9	1.9	11.9	13.9	13.2	21.6	20.3
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	13.9	11.8	0.0	19.6	17.8	14.9	10.6	29.7
Female	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	3.8	4.6	10.5	11.8	29.2	15.4
Lung & Bronchus																		
All	0.0	0.0	0.9	0.0	1.0	0.0	1.1	3.3	11.0	18.5	24.4	81.0	148.9	264.4	325.8	424.0	315.7	218.3
Male	0.0	0.0	1.8	0.0	0.0	0.0	2.2	6.5	19.8	24.7	25.4	85.3	143.9	298.7	385.1	602.0	393.4	326.7
Female	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	2.0	12.3	23.4	76.6	153.9	232.0	273.1	282.9	262.4	162.0
Melanoma of the Skin																		
All	0.0	0.0	0.0	1.8	4.8	6.9	13.6	11.0	16.9	21.6	26.7	47.1	81.1	45.3	52.9	75.6	86.5	55.8
Male	0.0	0.0	0.0	3.5	5.7	8.8	11.1	8.7	17.8	24.7	34.6	64.7	113.6	78.4	77.0	111.5	95.7	89.1
Female	0.0	0.0	0.0	0.0	3.9	4.8	16.3	13.4	16.0	18.5	18.7	29.5	48.8	13.9	31.5	47.2	80.2	38.6
Myeloma																		
All	0.0	0.0	0.0	0.0	0.0	1.2	0.0	2.2	0.0	1.0	8.1	7.4	24.5	23.8	27.8	55.9	26.0	20.3
Male	0.0	0.0	0.0	0.0	0.0	2.2	0.0	2.2	0.0	2.1	9.2	11.8	18.9	24.5	23.7	96.6	10.6	14.9
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	7.0	3.0	30.0	23.2	31.5	23.6	36.5	23.1
Non-Hodgkin's Lymphoma																		
All	1.0	1.0	0.0	3.7	1.9	0.0	0.0	5.5	15.0	15.4	16.3	36.8	56.6	61.9	89.1	95.3	151.4	91.4
Male	2.0	2.0	0.0	7.1	1.9	0.0	0.0	6.5	13.9	12.4	20.8	55.9	60.6	68.6	82.9	89.2	191.4	148.5
Female	0.0	0.0	0.0	0.0	1.9	0.0	0.0	4.5	16.0	18.5	11.7	17.7	52.6	55.7	94.6	100.2	123.9	61.7

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Oral Cavity & Pharynx																		
All	0.0	0.0	0.9	1.8	0.0	0.0	2.3	3.3	6.0	9.3	9.3	25.0	32.0	31.0	30.6	62.5	47.6	71.1
Male	0.0	0.0	0.0	1.8	0.0	0.0	2.2	2.2	9.9	14.4	13.9	35.3	30.3	49.0	23.7	111.5	53.2	59.4
Female	0.0	0.0	1.9	1.9	0.0	0.0	2.3	4.5	2.0	4.1	4.7	14.7	33.8	13.9	36.8	23.6	43.7	77.1
Ovary																		
Female	0.0	0.0	0.0	0.0	0.0	2.4	0.0	2.2	6.0	10.3	14.0	17.7	30.0	55.7	47.3	76.6	72.9	23.1
Pancreas																		
All	0.0	0.0	0.0	0.0	1.0	0.0	0.0	3.3	3.0	7.2	4.6	5.9	33.9	35.7	61.3	75.6	112.4	101.5
Male	0.0	0.0	0.0	0.0	1.9	0.0	0.0	6.5	2.0	12.4	9.2	2.9	26.5	58.8	59.3	104.1	117.0	89.1
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	2.1	0.0	8.8	41.3	13.9	63.0	53.0	109.3	108.0
Prostate																		
Male	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	11.9	37.1	138.5	317.8	499.7	886.4	1072.3	981.1	850.5	861.3
Stomach																		
All	0.0	0.0	0.0	0.0	0.0	1.2	0.0	2.2	3.0	5.2	7.0	10.3	15.1	19.1	33.4	26.3	34.6	30.5
Male	0.0	0.0	0.0	0.0	0.0	2.2	0.0	4.4	6.0	2.1	9.2	20.6	22.7	29.4	47.4	29.7	21.3	0.0
Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	4.7	0.0	7.5	9.3	21.0	23.6	43.7	46.3
Testis																		
Male	0.0	0.0	0.0	5.3	5.7	15.4	6.7	15.3	11.9	4.1	2.3	0.0	0.0	4.9	0.0	14.9	0.0	0.0
Thyroid																		
All	0.0	1.0	1.9	0.9	1.9	10.4	13.6	14.3	15.0	16.5	16.3	14.7	13.2	16.7	11.1	9.9	0.0	0.0
Male	0.0	2.0	0.0	0.0	0.0	2.2	2.2	4.4	9.9	10.3	2.3	5.9	15.1	19.6	5.9	7.4	0.0	0.0
Female	0.0	0.0	3.9	1.9	3.9	19.3	25.5	24.5	20.0	22.6	30.4	23.6	11.3	13.9	15.8	11.8	0.0	0.0

SECTION V

2002 OBSERVED VS. EXPECTED NUMBERS BY HEALTH DISTRICT

2002 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	982	911.2 +	529	513.4	895	884.0	1,431	1363.2	776	783.3	586	665.2 *	519	654.7 *
Bladder	48	41.6	25	25.0	49	40.3	55	62.4	42	36.5	22	31.5	25	29.7
Brain	17	13.9	7	7.8	18	14.5	21	25.9	19	11.4	6	12.0	9	11.6
Breast	168	137.6 +	66	79.0	118	137.1	241	211.0 +	116	119.2	98	100.6	79	100.9 +
Breast (insitu)	23	26.1	11	13.8	19	24.1	41	38.0	25	20.1	16	17.9	22	16.9
Cervix	11	7.0	3	4.0	8	7.5	13	15.0	4	6.7	5	5.7	7	5.5
Colorectal	102	83.7	43	49.9	93	81.7	134	124.9	82	73.1	44	63.6 +	40	61.5 *
Endometrium	30	20.5	16	11.5	32	18.5 *	31	34.5	9	19.5 +	15	15.4	3	16.6 *
Esophagus	5	9.3	10	4.3 +	9	7.9	12	12.8	7	7.2	6	6.0	3	6.2
Hodgkin's lymphoma	3	6.0	2	3.3	8	5.8	12	10.4	4	5.1	9	4.1 +	2	5.2
Kidney & renal pelvis	31	25.6	16	14.3	29	24.5	49	36.9	18	22.9	12	19.6	10	19.4 +
Larynx	11	7.0	6	4.0	3	7.8	10	11.7	7	6.3	5	5.3	5	5.3
Leukemia	29	26.9	15	15.7	32	26.5	38	43.8	22	24.5	16	21.0	24	19.4
Liver & bile duct	3	6.7	2	3.5	7	5.6	10	8.7	8	4.7	7	4.0	1	4.6
Lung & bronchus	117	106.2	83	58.4 *	101	102.9	166	147.6	95	91.1	56	78.1 +	45	76.5 *
Melanoma of skin	40	41.2	13	23.3 +	34	40.7	68	66.6	26	35.8	27	29.9	38	28.3
Myeloma	11	12.7	1	7.4 *	4	13.1 *	30	13.8 *	14	9.8	7	8.8	9	8.3
N-H Lymphoma	35	41.0	17	23.0	45	37.4	69	57.0	33	34.2	15	30.5 *	35	27.1
Oral cavity & pharynx	26	20.4	11	11.8	15	21.3	34	31.5	21	17.6	14	15.2	10	15.3
Ovary	11	12.7	8	6.7	7	12.6	14	19.5	17	9.4 +	10	8.6	10	8.3
Pancreas	16	24.7	16	13.3	24	22.5	34	33.8	22	20.1	17	16.6	17	15.8
Prostate	147	159.5	118	83.8 *	146	147.4	214	221.0	121	132.4	98	110.4	90	107.5
Stomach	12	11.8	8	6.5	14	10.8	19	17.7	8	10.3	9	8.3	3	8.8 +
Testis	3	4.8	3	2.6	3	5.7	11	9.8	4	4.2	7	3.6	4	4.1
Thyroid	16	17.2	7	9.1	17	17.3	36	30.4	11	14.6	8	13.6	19	12.3
Pediatric (age 0-19)	3	11.0 *	2	5.3	15	12.5	18	21.7	13	9.6	14	9.8	15	10.2

+ 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.

2002 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	520	501.0	297	282.5	485	466.9	714	714.4	437	419.6	334	354.3	263	356.2 *
Bladder	42	33.8	17	21.4	41	32.2	44	48.5	36	29.8	18	25.6	18	24.9
Brain	11	8.1	4	4.7	10	8.4	15	14.3	10	6.8	3	7.0	4	7.0
Breast	1	2.2	1	1.1	3	1.5	2	3.1	1	1.7	4	1.0 +	0	1.5
Breast (insitu)	0	0.2	0	0.1	0	0.2	1	0.0 *	0	0.2	0	0.1	0	0.1
Cervix	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Colorectal	53	50.3	29	28.5	55	45.3	74	70.7	44	42.0	34	35.1	18	36.4 *
Endometrium	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Esophagus	5	6.9	6	3.4	6	6.0	10	9.4	6	5.3	5	4.5	2	4.8
Hodgkin's lymphoma	2	2.6	0	1.6	1	3.0	4	5.1	3	2.2	6	1.6 +	2	2.1
Kidney & renal pelvis	19	14.8	7	8.7	16	14.1	25	21.8	13	12.9	6	11.4	9	10.8
Larynx	9	5.6	5	3.2	3	6.0	9	8.4	5	5.1	5	4.1	1	4.5
Leukemia	19	13.8	11	8.0	14	14.2	14	24.8 +	11	12.9	12	10.5	12	10.4
Liver & bile duct	2	4.2	2	2.1	5	3.1	5	5.6	2	3.3	6	2.2 +	1	2.7
Lung & bronchus	65	60.4	47	33.5 +	57	56.8	84	82.5	60	50.1	34	43.6	24	43.5 *
Melanoma of skin	29	25.6	5	15.4 *	23	24.9	37	42.9	22	21.8	19	18.6	19	18.6
Myeloma	8	6.3	0	4.0 +	4	6.4	17	6.9 *	7	5.1	3	4.8	1	4.9
N-H Lymphoma	18	22.2	8	12.7	23	19.9	42	28.6 +	17	18.6	8	16.2 +	19	14.7
Oral cavity & pharynx	17	12.0	5	7.2	6	12.9	20	18.5	17	9.7 +	6	9.3	6	9.3
Ovary	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pancreas	10	12.8	8	7.0	18	10.4 +	14	18.7	9	10.8	6	9.0	11	8.2
Prostate	147	163.3	118	86.2 *	146	145.3	214	214.2	121	132.8	98	110.7	90	108.6
Stomach	7	7.3	3	4.0	8	6.3	11	11.0	7	5.6	6	4.9	2	5.3
Testis	3	4.7	3	2.7	3	5.7	11	10.0	4	4.2	7	3.5	4	4.1
Thyroid	4	4.3	1	2.4	6	3.8	9	6.7	6	3.2	1	3.4	0	3.6
Pediatric (age 0-19)	3	6.3	2	3.2	7	7.6	11	12.5	8	5.6	10	5.5	6	6.5

+ 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.

2002 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	462	414.5 +	232	233.4	410	415.9	717	638.5 *	339	364.6	252	311.7 *	256	300.0 +
Bladder	6	8.2	8	4.2	8	7.9	11	11.9	6	7.1	4	5.9	7	5.2
Brain	6	5.8	3	3.2	8	6.0	6	11.7	9	4.6	3	4.9	5	4.5
Breast	167	134.4 *	65	76.3	115	137.1	239	210.1	115	117.1	94	99.6	79	98.6 +
Breast (insitu)	23	25.6	11	13.4	19	24.2	40	38.3	25	19.9	16	17.8	22	16.7
Cervix	11	7.1	3	4.0	8	7.6	13	14.7	4	6.7	5	5.8	7	5.5
Colorectal	49	33.9 +	14	21.7	38	36.1	60	53.6	38	31.1	10	28.4 *	22	25.3
Endometrium	30	20.3	16	11.3	32	18.8 *	31	34.8	9	19.5 +	15	15.5	3	16.6 *
Esophagus	0	2.4	4	0.9 +	3	1.9	2	3.4	1	1.9	1	1.5	1	1.4
Hodgkin's lymphoma	1	3.4	2	1.7	7	2.7 +	8	5.1	1	2.9	3	2.5	0	3.2
Kidney & renal pelvis	12	10.8	9	5.6	13	10.3	24	14.9 +	5	10.1	6	8.2	1	8.6 *
Larynx	2	1.5	1	0.8	0	1.8	1	3.1	2	1.2	0	1.3	4	0.8 +
Leukemia	10	13.2	4	7.7	18	12.3	24	18.9	11	11.6	4	10.5 +	12	9.1
Liver & bile duct	1	2.6	0	1.5	2	2.4	5	3.1	6	1.4 *	1	1.8	0	1.8
Lung & bronchus	52	45.9	36	25.3	44	46.0	82	63.8 +	35	41.2	22	34.7 +	21	33.2 +
Melanoma of skin	11	15.8	8	8.1	11	15.7	31	23.3	4	14.0 *	8	11.4	19	9.8 +
Myeloma	3	6.3	1	3.4	0	6.7 *	13	6.9 +	7	4.6	4	4.1	8	3.5
N-H Lymphoma	17	18.8	9	10.4	22	17.4	27	28.3	16	15.8	7	14.1	16	12.5
Oral cavity & pharynx	9	8.3	6	4.7	9	8.4	14	12.8	4	7.9	8	5.9	4	6.1
Ovary	11	12.5	8	6.6	7	12.8	14	19.9	17	9.4 +	10	8.6	10	8.2
Pancreas	6	11.9	8	6.3	6	12.1	20	15.1	13	9.3	11	7.6	6	7.7
Prostate	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Stomach	5	4.6	5	2.5	6	4.5	8	6.9	1	4.7	3	3.5	1	3.5
Testis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thyroid	12	13.1	6	6.6	11	13.6	27	23.3	5	11.5	7	10.3	19	8.8 *
Pediatric (age 0-19)	0	4.7 +	0	2.2	8	4.9	7	9.2	5	4.0	4	4.3	9	3.7 +

+ 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 82	1 in 23	1 in 9.5	1 in 4.8	1 in 3	1 in 2.2
40		1 in 32	1 in 11	1 in 5	1 in 3	1 in 2.2
50			1 in 15	1 in 5.6	1 in 3.2	1 in 2.3
60				1 in 8.2	1 in 3.7	1 in 2.5
70					1 in 5.5	1 in 2.9
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 615	1 in 133	1 in 41	1 in 15	1 in 8	1 in 5.1
40		1 in 169	1 in 43	1 in 16	1 in 8	1 in 5.1
50			1 in 57	1 in 17	1 in 8.3	1 in 5.1
60				1 in 23	1 in 9.3	1 in 5.4
70					1 in 14	1 in 6.3
80						1 in 8.6*

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 135	1 in 39	1 in 11	1 in 4.3	1 in 2.4	1 in 1.9
40		1 in 54	1 in 12	1 in 4.3	1 in 2.4	1 in 1.8
50			1 in 15	1 in 4.5	1 in 2.4	1 in 1.8
60				1 in 5.8	1 in 2.6	1 in 1.9
70					1 in 3.4	1 in 2
80						1 in 2.4*

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 761	1 in 152	1 in 41	1 in 14	1 in 6.7	1 in 4.3
40		1 in 188	1 in 42	1 in 14	1 in 6.7	1 in 4.3
50			1 in 53	1 in 15	1 in 6.8	1 in 4.2
60				1 in 19	1 in 7.3	1 in 4.3
70					1 in 9.9	1 in 4.7
80						1 in 5.9*

Note: * Risks are not precise - best estimates are shown.

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 273	1 in 60	1 in 23	1 in 13	1 in 8.7	1 in 7.1
40		1 in 76	1 in 25	1 in 13	1 in 8.9	1 in 7.2
50			1 in 37	1 in 16	1 in 9.8	1 in 7.7
60				1 in 25	1 in 13	1 in 9.1
70					1 in 21	1 in 12
80						1 in 21*

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 2726	1 in 460	1 in 152	1 in 80	1 in 48	1 in 32
40		1 in 549	1 in 160	1 in 81	1 in 49	1 in 33
50			1 in 222	1 in 94	1 in 53	1 in 34
60				1 in 156	1 in 66	1 in 38
70					1 in 103	1 in 46
80						1 in 61*

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 16009	1 in 505	1 in 44	1 in 13	1 in 6.9	1 in 5.5
40		1 in 514	1 in 44	1 in 12	1 in 6.8	1 in 5.4
50			1 in 46	1 in 12	1 in 6.7	1 in 5.3
60				1 in 15	1 in 7.1	1 in 5.5
70					1 in 11	1 in 6.8
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 47927	1 in 1645	1 in 239	1 in 70	1 in 27
40		1 in 47243	1 in 1622	1 in 236	1 in 69	1 in 27
50			1 in 1632	1 in 230	1 in 68	1 in 26
60				1 in 252	1 in 66	1 in 25
70					1 in 76	1 in 23
80						1 in 22*

Note: * Risks are not precise - best estimates are 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 2043	1 in 517	1 in 168	1 in 63	1 in 31	1 in 19
40		1 in 686	1 in 181	1 in 64	1 in 31	1 in 19
50			1 in 242	1 in 70	1 in 32	1 in 19
60				1 in 94	1 in 36	1 in 20
70					1 in 51	1 in 22
80						1 in 29*

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 7324	1 in 3072	1 in 652	1 in 229	1 in 103	1 in 49
40		1 in 5247	1 in 710	1 in 235	1 in 104	1 in 49
50			1 in 807	1 in 241	1 in 104	1 in 49
60				1 in 330	1 in 114	1 in 50
70					1 in 156	1 in 52
80						1 in 59*

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 2021	1 in 452	1 in 129	1 in 46	1 in 25	1 in 18
40		1 in 574	1 in 135	1 in 46	1 in 25	1 in 18
50			1 in 172	1 in 49	1 in 25	1 in 18
60				1 in 64	1 in 28	1 in 19
70					1 in 41	1 in 22
80						1 in 30*

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 15441	1 in 1612	1 in 430	1 in 150	1 in 71	1 in 44
40		1 in 1774	1 in 436	1 in 149	1 in 71	1 in 43
50			1 in 562	1 in 158	1 in 71	1 in 43
60				1 in 207	1 in 77	1 in 44
70					1 in 103	1 in 47
80						1 in 56*

Note: * Risks are not precise - best estimates are shown.

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 716	1 in 296	1 in 174	1 in 113	1 in 84	1 in 68
40		1 in 501	1 in 227	1 in 133	1 in 94	1 in 74
50			1 in 408	1 in 178	1 in 113	1 in 85
60				1 in 303	1 in 150	1 in 103
70					1 in 263	1 in 138
80						1 in 219*

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 23414	1 in 7968	1 in 2551	1 in 1517	1 in 740	1 in 497
40		1 in 11980	1 in 2840	1 in 1609	1 in 758	1 in 504
50			1 in 3657	1 in 1826	1 in 795	1 in 516
60				1 in 3498	1 in 975	1 in 577
70					1 in 1206	1 in 616
80						1 in 948*

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 758	1 in 287	1 in 135	1 in 77	1 in 56	1 in 46
40		1 in 456	1 in 162	1 in 84	1 in 60	1 in 49
50			1 in 244	1 in 100	1 in 66	1 in 53
60				1 in 159	1 in 85	1 in 63
70					1 in 155	1 in 87
80						1 in 130*

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 5272	1 in 1674	1 in 894	1 in 440	1 in 285	1 in 217
40		1 in 2418	1 in 1062	1 in 474	1 in 297	1 in 223
50			1 in 1840	1 in 573	1 in 329	1 in 239
60				1 in 780	1 in 376	1 in 258
70					1 in 616	1 in 326
80						1 in 451*

Note: * Risks are not precise - best estimates are shown.

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APPENDICES

APPENDIX A

STANDARD SITE ANALYSIS CATEGORIES

SITE CATEGORY Categories in SMALL CAPITALS are aggregated from the groups indented under them	PRIMARY SITE CODE EXCLUDES histologic types 9590-9989
BUCCAL 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 Buccal 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 - 49.9

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's Disease		
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's Disease		
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 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, and 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 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". American Association of Central Cancer Registries, September 2002. [14]

APPENDIX B

2000 U.S. STANDARD POPULATION

AGE GROUP	United States 2000 Standard Million Population
0-4	69,135
5-9	72,533
10-14	73,032
15-19	72,169
20-24	66,478
25-29	64,529
30-34	71,044
35-39	80,762
40-44	81,851
45-49	72,118
50-54	62,716
55-59	48,454
60-64	38,793
65-69	34,264
70-74	31,773
75-79	26,999
80-84	17,842
85 +	15,508
Total	1,000,000

Source: SEER Program, National Cancer Institute, 2003. [11]

APPENDIX C

2002 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	5,972	2,792	8,382	13,958	6,443	6,888	6,820	51,255
5 to 9	6,330	2,930	8,743	13,709	6,221	6,452	6,579	50,964
10 to 14	7,454	3,295	8,806	13,953	6,910	6,900	7,270	54,588
15 to 19	7,231	4,473	8,596	13,589	7,202	7,333	8,007	56,431
20 to 24	5,764	4,822	7,529	13,952	5,912	6,353	8,199	52,531
25 to 29	4,611	3,725	7,192	14,595	5,003	5,308	5,121	45,555
30 to 34	5,382	3,075	7,328	15,414	4,983	4,571	4,384	45,137
35 to 39	5,949	2,951	6,950	15,262	5,401	4,482	4,916	45,911
40 to 44	7,072	3,559	7,181	15,223	6,186	5,495	5,741	50,457
45 to49	7,277	3,768	6,546	13,675	6,048	5,590	5,603	48,507
50 to 54	7,164	3,525	5,881	11,916	5,203	4,819	4,807	43,315
55 to 59	5,544	2,824	4,903	8,902	4,291	3,673	3,848	33,985
60 to 64	4,643	2,369	3,880	6,028	3,502	2,940	3,053	26,415
65 to 69	3,636	1,905	3,091	4,421	2,786	2,361	2,220	20,420
70 to 74	3,007	1,604	2,555	3,571	2,289	2,001	1,852	16,879
75 to 79	2,156	1,316	2,162	2,756	1,939	1,597	1,529	13,455
80 to 84	1,336	1001	1,514	1,996	1,451	1,065	1043	9,406
85+	1064	729	1,130	1,303	1074	728	706	6,734
Total	91,592	50,663	102,369	184,223	82,844	78,556	81,698	671,945

	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	STATE
Females								
< 5	5,740	2,670	8,153	13,419	6,107	6,355	6,251	48,695
5 to 9	6,034	2,693	8,393	13,062	5,988	6,149	6,270	48,589
10 to 14	6,803	3,192	8,382	13,169	6,561	6,611	6,805	51,523
15 to 19	6,701	4,051	8,155	12,768	6,765	7,053	7,747	53,240
20 to 24	5,464	4,367	7,239	12,787	5,226	6,701	9,875	51,659
25 to 29	4,731	2,917	6,937	12,852	4,559	5,062	4,326	41,384
30 to 34	5,514	2,704	7,099	13,987	4,813	4,538	4,425	43,080
35 to 39	6,152	2,948	6,722	13,838	5,356	4,854	4,990	44,860
40 to 44	7,393	3,654	7,080	14,477	6,010	5,583	5,698	49,895
45 to49	7,779	3,624	6,587	13,691	5,950	5,484	5,504	48,619
50 to 54	7,058	3,326	6,006	11,607	5,276	4,761	4,797	42,831
55 to 59	5,599	2,812	5,091	8,610	4,366	3,691	3,756	33,925
60 to 64	4,453	2,332	4,036	6,290	3,527	2,929	3,072	26,639
65 to 69	3,585	1,909	3,364	4,883	2,943	2,555	2,316	21,555
70 to 74	3,054	1,722	3,010	4,184	2,701	2,202	2,165	19,038
75 to 79	2,798	1,560	2,691	3,796	2,413	1,870	1,840	16,968
80 to 84	1,977	1,260	2,284	3,244	1,955	1,634	1,365	13,719
85+	1,900	1,395	2,121	2,874	1,929	1,452	1296	12,967
Total	92,735	49,136	103,350	179,538	82,445	79,484	82,498	669,186

Total	184,327	99,799	205,719	363,761	165,289	158,040	164,196	1,341,131

Source: U.S. Census Bureau, 2003.