State of Wyoming

Department of Health

Annual Report on Cancer in Wyoming - 2005

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Cancer in Wyoming - 2005

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Executive Summary

Cancer rates in Wyoming remained relatively stable from 2004 to 2005, and lower than comparable national rates. Incidence for all cancer sites combined for Wyoming continues to decrease to 384.0 per 100,000 in 2005 from 416.9 per 100,000 population in 2004. However, Wyoming is significantly lower than the 2004 national rate of 460.0 per 100,000 population. Mortality for all sites for Wyoming in 2005 was also down from the previous year to 170.1 per 100,000 population, which is also lower than the 2004 national rate of 184.1 per 100,000. The only other rate that was significantly different was the incidence rate for lung cancer in males, which was lower than the national rate. No other individual cancer site was significantly higher than national rates for incidence or mortality for males, females, or total population (males+females).

By using a 3-year average instead of single year data to track changes over time, the trends for many cancers appear to leveling out (all sites, bladder, colorectal, lung, non-hodgkin lymphoma, pancreas, and uterine). Some rates including kidney & renal pelvis, melanoma, and thyroid are on the increase. Still others (brain/CNS, female breast, leukemia, oral cavity, ovary, and prostate) show a decrease from previous years.

The top five cancer sites for incidence were the same as the previous year: prostate, female breast, lung/bronchus, colorectal and urinary bladder. The most common cancer for incidence by age groups were: brain/CNS (0-4 years), testis (20-24 years), cervix (25-29 years), testis (30-34 years), breast (35-54 years), prostate (55-84 years), and colorectal (85+ years).

The top five cancer sites for mortality were lung/bronchus, ill-defined, colorectal, pancreas, and breast. The most common cancers for mortality by age groups were: lung (40-44 years), breast (45-49 years) lung (50-85+ years).

INTRODUCTION

Cancer

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread of abnormal cells is not controlled, death can result. Many cancers are preventable and many can be cured if detected and treated early.

Causes of Cancer

Cancer is caused by both environmental and internal factors. Environmental causes include exposures to chemicals, radiation, or viruses, as well as exposures associated with life-styles (e.g., smoking, diet, and alcohol consumption). Internal causes include hormone levels, immune status, and inherited conditions. Causal factors may act together or in sequence to start or promote cancer. Ten or more years often pass between carcinogenic exposures and detectable cancer.

Prevention

Avoiding potential exposures such as tobacco use, severe sun exposure, and excessive dietary fat may prevent the onset or promotion of cancer. Also, increasing beneficial practices such as eating five servings of fruit or vegetables every day may help to prevent cancer. Early detection and treatment of cancer through established screening practices such as mammography, prostate specific antigen (PSA), and colorectal screening improves the survival rates and decreases mortality.

Wyoming Cancer Surveillance Program

Cancer is a reportable disease in Wyoming. State statute requires that physicians, hospitals and laboratories report all cases of cancer they diagnose or treat in Wyoming to the Cancer Surveillance Program (WCSP), which serves as the state's central cancer registry. The purpose of the registry is to gather data to determine cancer incidence, mortality, treatment, and survival in Wyoming. Through special interstate agreements, information on Wyoming residents diagnosed or treated in other states is included in the program's database.

Insuring accurate data is one of the most important roles of the cancer registry. The WCSP established procedures for both automated and manual methods of checking the quality of data. The data is stored in the Rocky Mountain Cancer Data Systems software which has a built-in system to immediately check data when a new case is entered into the database. Each case submitted is reviewed for accuracy and completenss in compliance with data collection standards from the National Program of Central Cancer Registries and the American College of Surgeons.

The data is used by a variety of medical professionals and others concerned about cancer. Within the State Department of Health, the data is used to monitor early detection, to determine year-to-year trends that develop, and to determine how Wyoming compares to the rest of the nation. The Department of Health also uses the data to plan and evaluate the effectiveness of its cancer control programs such as the Breast and Cervical Cancer Early Detection Program. Outside of the Department of Health, the data is used by physicians, hospital administrators, legislators, nonprofit organizations, and the general public. If you have a concern about cancer and would like more information about cancer in your community, please feel free to call the Wyoming Cancer Surveillance Program's Epidemiologist at 307-777-8654. Written correspondence should be addressed to 6101 Yellowstone Rd., Suite 259A, Cheyenne, WY 82002. You may also visit our web site at: http://wdhfs.state.wy.us/cancer.

METHODOLOGY and DEFINITIONS

Data Sources

Incidence

Definition -- Incidence is defined as the number of *new* cases diagnosed during a set time period in a defined population. Incidence is not a representation of risk. The defined time period for this report is 2003 except for the 12-year incidence trend, which used 3-year averages (e.g., 98-00 for 1999 or 00-02 for 2001). The defined population is the state of Wyoming, counties, and Cancer Health Districts (CHD) (see page 13).

Wyoming Data -- The Wyoming Cancer Surveillance Program (WCSP) gathers data on Wyoming residents diagnosed and treated for invasive and in situ tumors. The data is sent to the program's registry by every hospital in the state. Data is also collected from pathology laboratories, clinics, and physician offices throughout the state. The registry has several data exchange agreements with other state registries to enable collection of data on Wyoming residents diagnosed and/or treated outside of Wyoming. Wyoming data for this report includes 2005 cancer cases of Wyoming residents received by WCSP as of August 10, 2007.

National Data -- The National Cancer Institute (NCI) updates cancer statistics annually in a publication called the SEER Cancer Review, also available on SEER STAT, an interactive CD-ROM. NCI monitors cancer statistics to assess progress and to identify population subgroups and geographic areas where cancer control efforts need to be concentrated. Cancer incidence rates are calculated using SEER (Surveillance, Epidemiology, and End Results) software. WCSP used SEER*STAT for this report. **The national SEER rates presented in this report were calculated using 2004 data for whites.** See Appendix A for reference source.

Mortality

Definition -- Mortality is defined as the number of persons who have died during a set time period in a defined population. The time period for this report is the calendar year 2005 for Wyoming rates. The defined population is the state of Wyoming, counties, and Cancer Health Districts (see page 13).

Wyoming Data -- Mortality data is derived from death certificates filed with Wyoming Vital Records Services. By state statute, the certification of the cause of death on the death certificate is completed by the attending physician or by the coroner with the assistance of a physician. Although a number of medical conditions may be listed on the certificate, statistics presented here are based solely on the underlying cause of death. This is defined as the disease or injury that initiated the sequence of events leading directly to death or as the circumstances of the accident or violence that produced the fatal injury. The underlying cause is selected and classified based upon the regulations of the World Health Organization.

National Data -- The National Center for Health Statistics (NCHS), a division of the Centers for Disease Control and Prevention, provides statistical information including the number of cancer deaths in the United States. United States cancer mortality data is available from SEER STAT, an interactive CD-ROM. WCSP used SEER STAT for this report. **The national SEER rates presented in this report were calculated using 2004 data for whites.** See Appendix A for reference source.

Population

Wyoming Data -- Population estimates for Wyoming state and counties were obtained from the Wyoming Department of Administraiton and Information - Economic Analysis Division. Population data for 2005 are estimates for the July 1, 2005 county populations by age, sex, race, and Hispanic origin. Because cancer rates are calculated by dividing the number of cancer cases by a census-generated denominator, rates can be heavily influenced by changes or uncertainties in census counts.

Rates

Age-Adjusted Incidence Rates

Incidence rates include 2005 invasive cases of Wyoming residents, except for bladder cancer which also includes in situ cases. Incidence rates presented are calculated for total cases and separately for males and females. The incidence rates are age-adjusted to the 2000 U.S. standard population using 5-year age groups, and are per 100,000 population. Age-adjustment allows rates to be compared over different time frames and allows rates from one geographic area to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.

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
- basal and squamous cell skins
- cases with unknown age
- cases with unknown gender

Age-Adjusted Mortality Rates

Mortality rates presented are calculated for total cases and separately for males and females. The mortality rates are age-adjusted to the 2000 U.S. standard population using 5-year age groups, and are per 100,000 population. Age-adjustment allows rates to be compared over different time frames and allows rates from one geographic area to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.

Age-Specific Incidence Rates

An age-specific rate is the rate of cancer found within a certain age group. Age-specific incidence rates were calculated using 5-year age groups and total population (both sexes combined). They are reported per 100,000 population.

Statistical Significance

Z-Statistic

A Z-statistic is used to compare two different rates. This is called "The Difference Between Two Population Proportions." Statistical significance was found if the calculated Z-statistic was found to be greater than 1.65. This provides the equivalence of a 95% confidence interval (see below) and is indicated in the report as "statistically significant" or "significant." The formula used can be found in most statistics books or by calling the WCSP Epidemiologist at (307)777-8654.

Confidence Intervals

A confidence interval is a way of telling how confident we are in the accuracy of a cancer rate. For example, we will often say that the rate of cancer in an area is 130 per 100,000 people and that the confidence interval is 120 to 140 per 100,000. This means that even though we calculated the rate at 130 per 100,000 we would feel better talking about the rate as being between 120 and 140 per 100,000.

Confidence intervals are also used as another way to test statistical significance. If the confidence intervals of two different rates overlap one another, then there is no difference between the two rates. However, if the confidence intervals do not overlap one another then there is statistical significance. This is indicated in the report as "statistically significant" or "significant."

Staging

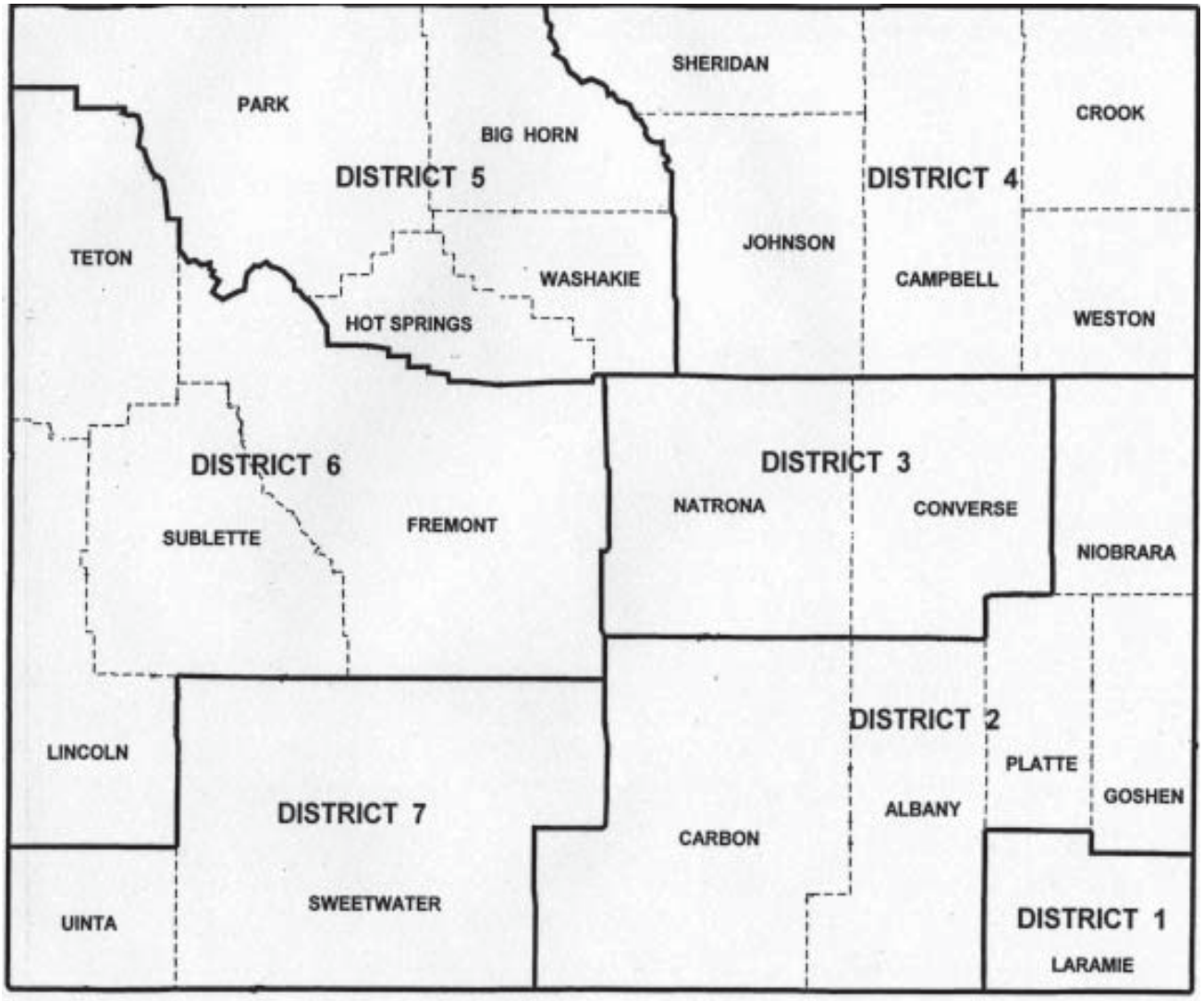
In Situ	cancer has not invaded the organ.
Local Stage	cancer has invaded the organ of origin.
Regional Stage	cancer has invaded beyond the organ of origin by direct extension to adjacent organs/ tissues and/or regional lymph nodes.
Distant Stage	direct extension beyond adjacent organs or tissues or metastases to distant site(s) or distant lymph nodes.
Unstaged	extent of disease or primary site cannot be determined.

Note: Starting in 2004 the WCSP as well as other cancer registries belonging to the National Data Standard setters adopted and began using the Collaborative Staging Method for staging cancer cases. This method uses a new type of algorithm that provides more information concerning the size and extent of the cancer as well as the number of nodes involved.

Cancer Health District

Cancer Health Districts (CHD) were chosen based on geographic location, similarities in geography such as frontier vs. rural, and by total population size. Also taken into consideration were areas of the state that are routinely grouped for data requests and/or cancer cluster studies. This created seven CHDs that were similar in population size thereby eliminating some of the discrepancies in rate calculations that are caused from population size differences. CHDs are used when county data is too sparse to calculate accurate rates.

CHD 1 Laramie County
CHD 2 Albany County, Carbon County, Goshen County, Niobrara County, Platte County
CHD 3 Converse County, Natrona County
CHD 4 Campbell County, Crook County, Johnson County, Sheridan County, Weston County
CHD 5 Big Horn County, Hot Springs County, Park County, Washakie County
CHD 6 Fremont County, Lincoln County, Sublette County, Teton County
CHD 7 Sweetwater County, Uinta County



State of Wyoming - 2005

Cancer Incidence and Mortality by Gender and Age (All Sites)
Cancer Incidence and Mortality by Race and Ethnicity (Top 15 Sites)

Wyoming Incidence[1] for 2005: Cases by Gender and Age (All Sites)

	Male	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	4	3	7	0	0	0	0	0	0	0
Bladder	102	29	131	0	0	0	0	0	0	0
Bones and Joints	4	2	6	0	0	0	1	2	0	0
Brain/CNS	20	11	31	2	0	1	0	1	1	2
Breast	4	293	297	0	0	0	0	0	1	1
Cervix	0	16	16	0	0	0	0	0	3	2
Colorectal	120	115	235	0	0	0	0	1	0	1
Esophagus	16	3	19	0	0	0	0	0	0	0
Eye	3	1	4	0	0	0	0	0	0	0
Gallbladder	2	1	3	0	0	0	0	0	0	0
Hodgkin	8	4	12	0	0	1	2	2	0	1
Ill-Defined	33	29	62	0	1	1	0	0	0	0
Kidney	44	18	62	4	0	0	0	0	0	0
Larynx	14	1	15	0	0	0	0	0	0	0
Leukemia	20	12	32	0	0	0	1	0	1	0
Liver	7	3	10	0	0	0	0	0	0	0
Lung	131	137	268	0	0	0	0	0	0	2
Melanoma	52	46	98	0	0	0	1	1	2	2
Myeloma	14	7	21	0	0	0	0	0	0	0
Nasal	2	1	3	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	56	38	94	0	0	1	0	1	0	0
Oral Cavity	26	17	43	0	0	1	0	0	0	1
Other Biliary	6	5	11	0	0	0	0	0	0	0
Other Digestive	1	3	4	0	0	0	0	0	0	0
Other Endocrine including Thymus	2	2	4	1	0	0	0	0	0	0
Other Female	0	11	11	0	0	0	0	0	0	0
Other Male	2	0	2	0	0	0	0	0	0	0
Other Skin	4	3	7	0	0	0	0	0	1	0
Other Respiratory	2	1	3	0	0	0	0	0	0	0
Other Urinary	3	0	3	0	0	0	0	0	0	0
Ovary	0	35	35	0	0	0	0	0	1	0
Pancreas	16	26	42	0	0	0	0	0	0	0
Prostate	359	0	359	0	0	0	0	0	0	0
Small Intestine	6	3	9	0	0	0	0	0	0	0
Soft Tissue including Heart	13	5	18	0	0	1	1	1	1	0
Stomach	20	12	32	0	0	0	0	0	0	0
Testis	16	0	16	0	0	0	1	3	2	3
Thyroid	10	47	57	0	0	0	0	1	2	2
Uterine	0	59	59	0	0	0	0	0	1	0
Mesothelioma	2	0	2	0	0	0	0	0	0	0
All sites	1,144	999	2,143	7	1	6	7	13	16	17

[1]See page 10 for a definition of incidence.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	0	1	0	1	2	0	1	1	1	0
Bladder	0	3	4	7	12	17	19	24	17	17	11
Bones and Joints	0	0	1	0	1	0	0	0	0	0	1
Brain/CNS	0	2	2	4	3	3	0	3	2	4	1
Breast	7	16	36	43	35	39	38	28	24	17	12
Cervix	0	1	3	1	1	2	0	2	1	0	0
Colorectal	1	7	11	20	19	19	40	31	32	24	29
Esophagus	0	0	0	2	1	1	5	8	1	0	1
Eye	0	0	1	0	0	0	2	0	0	0	1
Gallbladder	0	0	0	0	0	0	0	0	1	1	1
Hodgkin	0	2	1	1	0	0	1	0	1	0	0
Ill-Defined	1	1	1	3	6	11	7	9	7	7	7
Kidney	2	3	5	0	5	11	14	3	7	6	2
Larynx	0	0	2	1	3	1	4	2	1	1	0
Leukemia	1	0	0	4	3	5	1	3	4	5	4
Liver	1	0	0	4	2	1	0	1	1	0	0
Lung	4	5	8	16	29	37	42	50	36	25	14
Melanoma	5	5	8	16	11	13	11	6	7	5	5
Myeloma	0	2	1	0	3	4	3	3	2	3	0
Nasal	0	1	0	0	0	0	1	1	0	0	0
Non-Hodgkin Lymphoma	1	1	3	7	12	14	11	12	14	10	7
Oral Cavity	0	3	5	7	4	7	3	5	6	1	0
Other Biliary	0	0	0	1	2	1	1	1	1	2	2
Other Digestive	0	0	1	0	1	0	0	1	0	0	1
Other Endocrine including Thymus	0	0	1	0	0	0	1	1	0	0	0
Other Female	0	1	2	0	0	1	1	0	3	2	1
Other Male	0	0	0	0	0	1	0	0	0	0	1
Other Skin	0	0	1	1	0	0	0	0	3	0	1
Other Respiratory	1	0	1	0	0	0	1	0	0	0	0
Other Urinary	0	0	0	0	0	0	1	0	1	1	0
Ovary	1	3	2	4	4	5	4	4	1	4	2
Pancreas	1	0	1	6	6	1	10	7	3	4	3
Prostate	0	1	8	27	41	53	91	60	47	26	5
Small Intestine	0	0	1	1	2	1	1	2	0	0	1
Soft Tissue including Heart	0	1	0	3	2	3	0	1	2	1	1
Stomach	0	1	1	8	4	2	3	5	4	3	1
Testis	5	1	0	1	0	0	0	0	0	0	0
Thyroid	6	5	8	3	12	4	7	3	4	0	0
Uterine	0	2	4	8	8	8	7	11	8	1	1
Mesothelioma	0	0	1	0	1	0	0	0	0	0	0
All sites	37	67	125	199	234	267	330	288	242	171	116

Wyoming Mortality[1] for 2005: Deaths by Gender and Age (All Sites)

	Male	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	0	1	1	0	0	0	0	0	0	0
Bladder	15	9	24	0	0	0	0	0	0	0
Bones and Joints	5	1	6	0	0	1	1	0	0	0
Brain/CNS	10	10	20	0	1	0	0	0	0	1
Breast	0	60	60	0	0	0	0	0	0	0
Cervix	0	5	5	0	0	0	0	0	0	0
Colorectal	33	37	70	0	0	0	0	0	0	1
Esophagus	25	4	29	0	0	0	0	0	0	0
Eye	1	0	1	0	0	0	0	0	0	0
Gallbladder	0	3	3	0	0	0	0	0	0	0
Hodgkin	0	3	3	0	0	0	0	0	0	0
Ill-Defined	38	34	72	0	0	0	0	0	0	1
Kidney	16	4	20	0	0	0	0	0	0	0
Larynx	6	2	8	0	0	0	0	0	0	0
Leukemia	18	20	38	0	0	0	0	0	0	0
Liver	9	7	16	0	0	0	0	0	0	0
Lung	132	120	252	0	0	0	0	0	0	0
Melanoma	7	7	14	0	0	0	0	0	0	1
Myeloma	17	6	23	0	0	0	0	0	0	0
Nasal	0	1	1	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	21	23	44	0	0	0	0	0	0	0
Oral Cavity	5	4	9	0	0	0	0	0	0	0
Other Biliary	3	3	6	0	0	0	0	0	0	0
Other Digestive	0	1	1	0	0	0	0	0	0	0
Other Endocrine including Thymus	0	0	0	0	0	0	0	0	0	0
Other Female	0	2	2	0	0	0	0	0	0	0
Other Male	1	0	1	0	0	0	0	0	0	0
Other Skin	3	3	6	0	0	0	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0
Other Urinary	1	0	1	0	0	0	0	0	0	0
Ovary	0	23	23	0	0	0	0	0	0	0
Pancreas	32	30	62	0	0	0	0	0	0	0
Prostate	34	0	34	0	0	0	0	0	0	0
Small Intestine	1	0	1	0	0	0	0	0	0	0
Soft Tissue including Heart	6	1	7	0	0	0	0	0	0	0
Stomach	9	5	14	0	0	0	0	0	0	0
Testis	0	0	0	0	0	0	0	0	0	0
Thyroid	1	2	3	0	0	0	0	0	0	0
Uterine	0	9	9	0	0	0	0	0	0	1
Mesothelioma	5	1	6	0	0	0	0	0	0	0
All sites	454	441	895	0	1	1	1	0	0	5

[1]See page 10 for definition of mortality.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	0	0	0	1	0	0	0	0	0	0
Bladder	0	1	0	1	3	3	1	1	5	5	4
Bones and Joints	0	0	1	1	0	1	0	0	0	0	1
Brain/CNS	0	0	1	1	3	4	2	2	2	2	1
Breast	1	2	2	7	6	5	2	13	8	11	3
Cervix	0	2	3	0	0	0	0	0	0	0	0
Colorectal	0	3	2	4	6	4	7	7	13	10	13
Esophagus	0	0	1	1	4	2	7	5	4	3	2
Eye	0	0	0	0	1	0	0	0	0	0	0
Gallbladder	0	0	0	0	0	0	0	0	0	1	2
Hodgkin	0	0	1	0	0	0	0	0	0	1	1
Ill-Defined	2	0	3	1	3	13	5	10	9	12	13
Kidney	0	0	0	1	2	4	1	2	2	5	3
Larynx	0	0	0	0	1	1	2	1	2	1	0
Leukemia	1	0	0	2	2	3	5	3	6	6	10
Liver	0	0	0	5	1	0	0	5	2	0	3
Lung	0	3	5	10	24	31	42	44	35	33	25
Melanoma	0	2	0	1	1	1	2	1	2	2	1
Myeloma	0	0	0	2	2	2	5	1	7	3	1
Nasal	0	0	0	1	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	0	1	1	2	6	2	6	6	7	6	7
Oral Cavity	1	0	1	1	0	2	1	0	0	2	1
Other Biliary	0	0	0	1	2	1	1	0	0	1	0
Other Digestive	0	0	0	0	1	0	0	0	0	0	0
Other Endocrine including Thymus	0	0	0	0	0	0	0	0	0	0	0
Other Female	0	0	0	0	0	0	0	0	0	1	1
Other Male	0	0	1	0	0	0	0	0	0	0	0
Other Skin	0	0	0	0	1	1	0	2	0	1	1
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	1	0	0	0	0	0	0
Ovary	0	1	0	2	3	1	0	5	2	5	4
Pancreas	1	0	1	1	8	5	11	8	8	9	10
Prostate	0	0	0	1	3	0	1	4	5	12	8
Small Intestine	0	0	0	0	1	0	0	0	0	0	0
Soft Tissue including Heart	0	0	1	0	0	0	0	2	1	2	1
Stomach	0	0	0	2	2	2	0	2	1	2	3
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	1	0	1	0	0	0	1	0
Uterine	0	0	0	0	1	1	2	2	0	1	1
Mesothelioma	0	0	0	0	1	2	1	1	1	0	0
All sites	6	15	24	49	90	92	104	127	122	138	120

Wyoming Incidence for 2005: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic
All Sites Combined	2,078	1,982	15	8	8	56	81
Bladder (Urinary)	131	126	1	0	2	2	2
Brain/CNS	31	29	2	0	0	0	0
Breast (Female)	297	282	2	3	3	7	12
Colorectal	235	221	3	3	2	6	8
Kidney	62	57	1	0	0	4	1
Leukemia	32	30	0	0	0	2	3
Lung and Bronchus	268	257	3	0	0	8	6
Melanoma	98	92	0	0	0	6	0
Non-Hodgkin Lymphoma	94	87	0	0	1	6	3
Oral Cavity	43	40	1	0	0	2	2
Ovary	35	35	0	0	0	0	4
Pancreas	42	42	0	0	0	0	1
Prostate	359	348	2	0	0	9	18
Thyroid	57	54	0	2	0	1	2
Uterine	59	56	0	0	0	3	4

Wyoming Mortality for 2005: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic
All Sites Combined	895	884	4	5	1	1	25
Bladder (Urinary)	24	24	0	0	0	0	2
Brain/CNS	20	20	0	0	0	0	0
Breast (Female)	60	60	0	0	0	0	1
Colorectal	70	70	0	0	0	0	1
Kidney	20	20	0	0	0	0	2
Leukemia	38	38	0	0	0	0	1
Lung and Bronchus	252	247	2	3	0	0	6
Melanoma	14	14	0	0	0	0	0
Non-Hodgkin Lymphoma	44	43	0	0	1	0	3
Oral Cavity	9	9	0	0	0	0	0
Ovary	23	23	0	0	0	0	0
Pancreas	62	62	0	0	0	0	0
Prostate	34	34	0	0	0	0	0
Thyroid	3	2	1	0	0	0	0
Uterine	9	8	1	0	0	0	0

State of Wyoming - 2005

Top Cancer Sites by Gender and Age - Incidence and Mortality

Top Incidence Cancer Sites by Gender - 2005

Total		**Male**		**Female**	
Prostate	359	Prostate	359	Breast	293
Breast	297	Lung	131	Lung	137
Lung	268	Colorectal	120	Colorectal	115
Colorectal	235	Bladder	102	Uterine	59
Bladder	131	Non-Hodgkin	56	Thyroid	47

Top Incidence Sites by Age **(Case count included only if more than 1 case per cancer)**

0-4		**5-9**		**10-14**		**15-19**		**20-24**	
Kidney	4	All Cancers have 1 or less count		All Cancers have 1 or less count		Hodgkin Lymphoma	2	Testis	3
Brain/CNS	2							Hodgkin	2
								Bone & Joint	2
25-29		**30-34**		**35-39**		**40-44**		**45-49**	
Cervix	3	Testis	3	Breast	7	Breast	16	Breast	36
Melenoma	2	Brain	2	Thyroid	6	Colorectal	7	Colorectal	11
Testis	2	Breast	2	Melanoma	5	Lung	5	Lung	8
Thyroid	2	Lung	2	Testis	5	Melanoma	5	Melanoma	8
		Melanoma	2	Lung	4	Thyroid	5	Thyroid	8
50-54		**55-59**		**60-64**		**65-69**		**70-74**	
Breast	43	Prostate	41	Prostate	53	Prostate	91	Prostate	60
Prostate	27	Breast	35	Breast	39	Lung	42	Lung	50
Colorectal	20	Lung	29	Lung	37	Colorectal	40	Colorectal	31
Lung	16	Colorectal	19	Colorectal	19	Breast	38	Breast	28
Melanoma	16			Bladder	17	Bladder	19	Bladder	24
75-79		**80-84**		**85+**					
Prostaste	47	Prostaste	26	Colorectal	29				
Lung	36	Lung	25	Lung	14				
Colorectal	32	Colorectal	24	Breast	12				
Breast	24	Breast	17	Bladder	11				
Bladder	17	Bladder	17						

Top Mortality Cancer Sites by Gender - 2005

Total		Male		Female	
Lung	252	Lung	132	Lung	120
Ill-Defined	72	Ill-Defined	38	Breast	60
Colorectal	70	Prostate	34	Colorectal	37
Pancreas	62	Colorectal	33	Ill-Defined	34
Breast	60	Pancreas	32	Pancreas	30

Top Mortality Sites by Age (Mortality count included only if more than 1 case per cancer)

0-4		5-9		10-14		15-19		20-24	
All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count	
25-29		**30-34**		**35-39**		**40-44**		**45-49**	
All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count		Ill-Defined	2	Lung	5	Breast	4
						Cervix	3	Brain/CNS	3
						Ill-Defined	3	Lung	3
						Breast	2	Pancreas	3
						Colorectal	2		
50-54		**55-59**		**60-64**		**65-69**		**70-74**	
Lung	10	Lung	18	Lung	31	Lung	42	Lung	44
Breast	7	Pancreas	8	Ill-Defined	13	Pancreas	11	Breast	13
Liver	5	Breast	6	Breast	5	Colorectal	7	Ill-Defined	10
Colorectal	4	Colorectal	6	Pancreas	5	Esophagus	7	Pancreas	8
		Non-Hodgkin	6			Non-Hodgkin	6	Colorectal	7
75-79		**80-84**		**85+**					
Lung	35	Lung	33	Lung	25				
Colorectal	13	Ill-Defined	12	Colorectal	13				
Ill-Defined	9	Prostate	12	Ill-Defined	13				
Breast	8	Breast	11	Leukemia	10				
Pancreas	8	Colorectal	10	Pancreas	10				

Wyoming Counties - 2005

Incidence and Mortality (All Sites)

Wyoming County Incidence Cases -- 2005 (All Sites)

	Albany	Big Horn	Campbell	Carbon	Converse	Crook	Fremont	Goshen	Hot Springs	Johnson	Laramie	Lincoln
Anus	0	0	0	0	1	0	1	1	1	0	0	0
Bladder	6	2	7	0	5	0	7	11	0	2	28	4
Bones and Joints	0	0	1	0	0	0	0	0	1	0	0	0
Brain/CNS	0	2	4	2	1	0	1	1	1	0	7	1
Breast	14	5	23	9	9	5	28	11	5	5	58	2
Cervix	0	2	0	1	1	0	2	1	1	0	4	0
Colorectal	7	8	9	4	11	1	24	7	4	9	38	11
Esophagus	1	0	0	0	1	0	1	1	1	0	6	1
Eye	0	0	0	0	0	0	2	0	0	0	0	0
Gallbladder	0	0	0	1	0	0	0	0	0	1	0	0
Hodgkin	2	0	1	0	0	0	1	1	0	0	2	0
Ill-Defined	3	3	0	5	2	1	6	6	1	1	11	0
Kidney	2	2	3	4	1	2	5	1	2	1	11	1
Larynx	0	1	1	0	0	1	1	1	1	0	2	0
Leukemia	1	1	1	0	0	0	0	2	0	1	8	2
Liver	0	0	1	1	0	0	2	2	0	0	1	1
Lung	10	9	13	3	10	3	20	6	4	8	44	5
Melanoma	2	3	6	3	1	0	4	2	0	4	13	4
Myeloma	0	1	0	0	1	0	4	1	0	0	6	0
Nose	0	0	0	0	0	0	0	0	1	0	0	0
NHL	2	3	6	1	5	2	4	2	3	4	19	2
Oral Cavity	0	7	2	0	3	0	5	2	2	0	10	0
Other Biliary	1	0	0	1	0	0	1	1	0	1	2	0
Other Digestive	0	0	0	0	0	0	0	0	0	0	2	0
Other Endocrine including Thymus	1	0	0	0	0	0	1	0	0	0	0	0
Other Female	0	0	0	0	0	0	0	1	0	0	4	1
Other Male	0	0	0	0	0	0	0	0	0	0	1	0
Other Skin	0	1	0	0	0	0	0	1	0	0	3	0
Other Respiratory	0	0	0	0	0	0	1	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0	1	0
Ovary	1	0	1	0	0	0	2	0	0	0	15	0
Pancreas	1	1	1	2	4	3	3	4	0	1	9	0
Prostate	21	4	17	9	9	5	20	7	7	5	76	18
Small Intestine	0	0	0	0	0	0	3	0	0	0	2	1
Soft Tissue including Heart	1	1	0	1	1	0	1	1	0	0	4	1
Stomach	0	0	2	5	0	0	2	3	1	1	4	0
Testis	2	3	0	1	1	0	1	0	0	1	3	0
Thyroid	2	1	0	3	3	1	4	3	3	1	17	1
Uterine	4	1	2	1	1	0	4	1	1	2	12	4
Mesothelioma	0	0	1	0	0	0	0	0	0	0	0	0
All Sites	84	61	102	57	71	24	161	81	40	48	423	60

	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweet water	Teton	Uinta	Washakie	Weston
Anus	1	0	0	1	0	0	0	0	0	0	1
Bladder	17	2	4	5	13	6	5	3	3	1	0
Bones and Joints	0	0	0	1	1	0	0	0	1	1	0
Brain/CNS	4	0	3	0	2	0	0	0	1	0	1
Breast	36	0	22	3	13	2	17	11	5	6	8
Cervix	3	0	0	0	1	0	0	0	0	0	0
Colorectal	24	1	14	8	26	6	9	3	3	4	3
Esophagus	3	0	2	0	1	0	0	0	1	0	0
Eye	1	0	0	1	0	0	0	0	0	0	0
Gallbladder	1	0	0	0	0	0	0	0	0	0	0
Hodgkin	1	0	0	1	0	0	1	2	0	0	0
Ill-Defined	7	1	1	4	2	1	2	3	1	1	0
Kidney	12	0	1	1	4	0	4	2	0	2	1
Larynx	4	0	0	0	1	0	1	0	0	0	1
Leukemia	5	0	4	2	3	0	1	0	0	0	1
Liver	0	0	0	0	0	0	0	1	0	1	0
Lung	52	0	13	8	25	5	10	3	3	7	6
Melanoma	14	0	5	1	7	3	17	3	4	2	0
Myeloma	3	0	1	1	1	0	1	0	0	0	1
Nose	2	0	0	0	0	0	0	0	0	0	0
NHL	9	0	9	6	3	1	3	4	0	2	4
Oral Cavity	5	0	3	1	1	0	1	1	0	0	0
Other Biliary	3	0	1	0	0	0	0	0	0	0	0
Other Digestive	2	0	0	0	0	0	0	0	0	0	0
Other Endocrine including Thymus	2	0	0	0	0	0	0	0	0	0	0
Other Female	2	0	1	0	1	0	1	0	0	0	0
Other Male	0	0	1	0	0	0	0	0	0	0	0
Other Skin	1	0	1	0	0	0	0	0	0	0	0
Other Respiratory	1	0	0	1	0	0	0	0	0	0	0
Other Urinary	2	0	0	0	0	0	0	0	0	0	0
Ovary	6	0	4	1	3	0	2	0	0	0	0
Pancreas	8	0	1	2	0	0	1	1	0	0	0
Prostate	32	5	17	7	30	4	24	19	10	6	4
Small Intestine	2	0	1	0	0	0	0	0	0	0	0
Soft Tissue including Heart	3	0	1	0	1	1	1	0	0	0	0
Stomach	4	0	1	1	2	1	1	0	2	0	1
Testis	1	2	0	0	0	0	1	0	0	0	0
Thyroid	5	0	1	0	7	0	1	1	1	1	1
Uterine	9	1	4	2	2	0	4	0	1	1	2
Mesothelioma	1	0	0	0	0	0	0	0	0	0	0
All Sites	288	12	116	58	150	30	108	57	36	35	35

Wyoming County Mortality Counts -- 2005 (All Sites)

	Albany	Big Horn	Campbell	Carbon	Converse	Crook	Fremont	Goshen	Hot Springs	Johnson	Laramie	Lincoln
Anus	0	1	0	0	0	0	0	0	0	0	0	0
Bladder	0	0	0	0	1	1	0	3	0	0	10	0
Bones and Joints	0	0	0	0	0	0	0	0	0	0	1	1
Brain/CNS	0	1	0	0	0	0	0	0	0	1	5	0
Breast	1	1	2	0	0	0	3	0	0	0	12	1
Cervix	0	1	0	0	0	0	0	0	0	0	0	0
Colorectal	4	2	3	1	4	0	6	1	0	2	9	1
Esophagus	0	2	1	1	1	0	1	0	0	1	4	0
Eye	1	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	0	0	0	0	0	0	1	0
Hodgkin	0	0	0	0	0	0	0	0	0	0	1	0
Ill-Defined	3	2	1	1	0	3	4	1	2	2	10	1
Kidney	3	0	0	0	0	0	0	1	0	0	6	2
Larynx	1	0	0	0	1	0	0	0	1	0	1	0
Leukemia	1	0	1	1	0	0	1	1	1	0	10	0
Liver	0	1	1	1	0	0	1	1	0	0	3	0
Lung	9	9	10	2	4	2	13	2	2	13	55	4
Melanoma	1	0	2	0	0	0	1	0	0	1	2	1
Myeloma	1	3	1	0	0	0	1	1	0	0	6	1
Nasal	0	0	1	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	1	3	2	1	0	1	3	1	2	2	8	0
Oral Cavity	1	0	0	1	0	0	1	0	0	0	0	0
Other Biliary	0	1	0	0	1	0	0	0	0	0	0	0
Other Digestive	0	0	1	0	0	0	0	0	0	0	0	0
Other Endocrine including Thymus	0	0	0	0	0	0	0	0	0	0	0	0
Other Female	0	0	0	0	0	0	0	0	0	0	1	0
Other Male	0	0	0	0	0	0	0	0	0	0	1	0
Other Skin	1	0	0	0	0	0	0	0	0	0	1	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0	0	0
Ovary	1	0	1	0	0	0	2	0	0	0	7	0
Pancreas	3	2	1	0	1	2	9	3	0	1	8	1
Prostate	2	2	0	1	0	2	0	0	0	2	9	1
Small Intestine	0	0	0	0	0	0	0	0	0	0	1	0
Soft Tissue including Heart	1	0	0	0	0	0	0	0	0	0	2	0
Stomach	0	0	0	0	0	2	2	0	0	0	5	0
Testis	0	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	0	0	0	0	0	0	0	2	0
Uterine	0	0	1	0	0	0	0	0	0	0	0	0
Mesothelioma	0	0	0	0	0	1	0	0	0	0	1	0
All Sites	35	31	29	10	13	14	48	15	8	25	182	14

	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweet water	Teton	Uinta	Washakie	Weston
Anus	0	0	0	0	0	0	0	0	0	0	0
Bladder	2	0	1	0	1	0	1	0	0	1	2
Bones and Joints	0	0	0	0	1	0	1	2	0	0	0
Brain/CNS	3	0	1	1	2	0	2	1	0	0	0
Breast	6	1	8	2	9	2	4	2	3	0	0
Cervix	1	0	1	1	0	0	1	0	0	0	0
Colorectal	13	0	4	1	3	0	4	1	4	0	1
Esophagus	6	0	1	0	1	0	3	0	1	1	1
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	1	0	0	0	0	0	1	0	0	0	0
Hodgkin	2	0	0	0	0	0	0	0	0	0	0
Ill-Defined	13	0	4	2	4	0	5	0	2	0	5
Kidney	4	0	0	0	1	0	1	0	0	0	0
Larynx	3	0	0	0	0	0	1	0	0	0	0
Leukemia	6	0	3	1	3	0	2	0	2	0	0
Liver	2	0	0	0	2	0	0	0	0	1	2
Lung	47	0	13	2	19	2	13	4	4	7	3
Melanoma	0	0	0	0	1	0	0	2	0	0	0
Myeloma	3	0	0	0	2	0	1	0	1	0	0
Nasal	0	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	5	0	4	0	3	0	0	2	0	1	0
Oral Cavity	1	0	1	0	1	0	0	1	1	0	0
Other Biliary	2	0	0	0	0	0	0	0	1	0	0
Other Digestive	0	0	0	0	0	0	0	0	0	0	0
Other Endocrine including Thymus	0	0	0	0	0	0	0	0	0	0	0
Other Female	1	0	0	0	0	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0	0
Other Skin	0	0	0	0	1	0	1	0	0	1	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0	0
Ovary	6	0	0	0	0	0	1	2	1	0	2
Pancreas	11	1	4	3	2	0	3	1	2	0	1
Prostate	5	1	3	0	1	0	5	0	0	0	0
Small Intestine	0	0	0	0	0	0	0	0	0	0	0
Soft Tissue including Heart	2	0	0	1	0	0	0	0	0	0	0
Stomach	2	0	0	0	1	0	0	1	0	0	1
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	1	0	0	0	0	0	0	0	0	0	0
Uterine	4	0	0	0	2	1	0	0	0	0	0
Mesothelioma	1	0	0	0	0	0	0	0	0	1	0
All Sites	153	3	48	14	60	5	50	19	22	13	18

Summary of
All Cancer Sites Combined
and
Top 15 Sites

2005 Wyoming Incidence and Mortality Rates

All Sites Combined

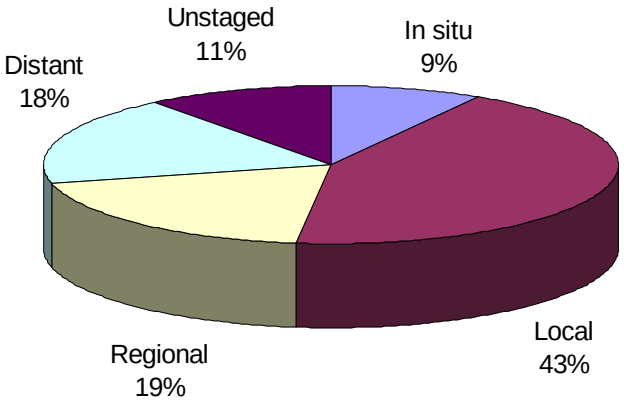
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	1,093	985	2,078
# In situ Cases	90	117	207
Wyo Incidence	430.0*	348.8*	384.0*
US Incidence	531.4	411.2	460.0
# Cancer Deaths	454	441	895
Wyo Mortality	193.5	153.4	170.1
US Mortality	224.8	156.43	184.1

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



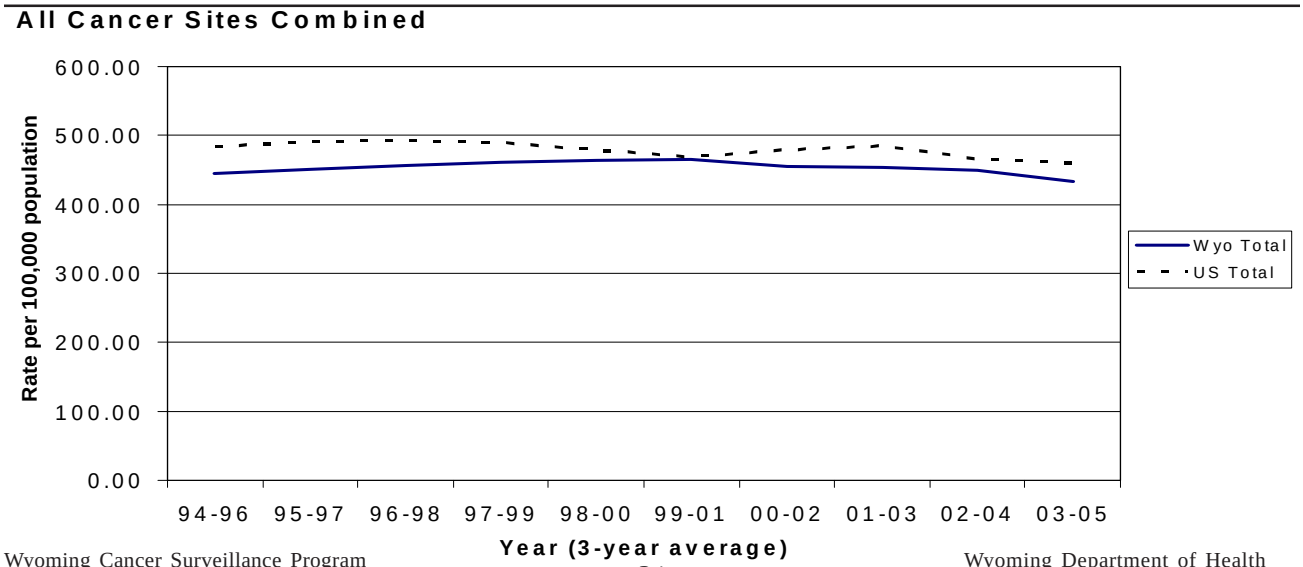
The incidence rates in Wyoming males, females, and total population for all cancer sites were all significantly lower than the United States rate. All three mortality rates in Wyoming were also lower than the national rates, but were not significant.

The 12-year incidence trend shows that all-site cancer incidence may be decreasing a little since 02-04. The U.S rate also appears to be decreasing slightly since 01-03.

The percent of cancer for each stage of diagnosis was virtually unchanged from 2004.

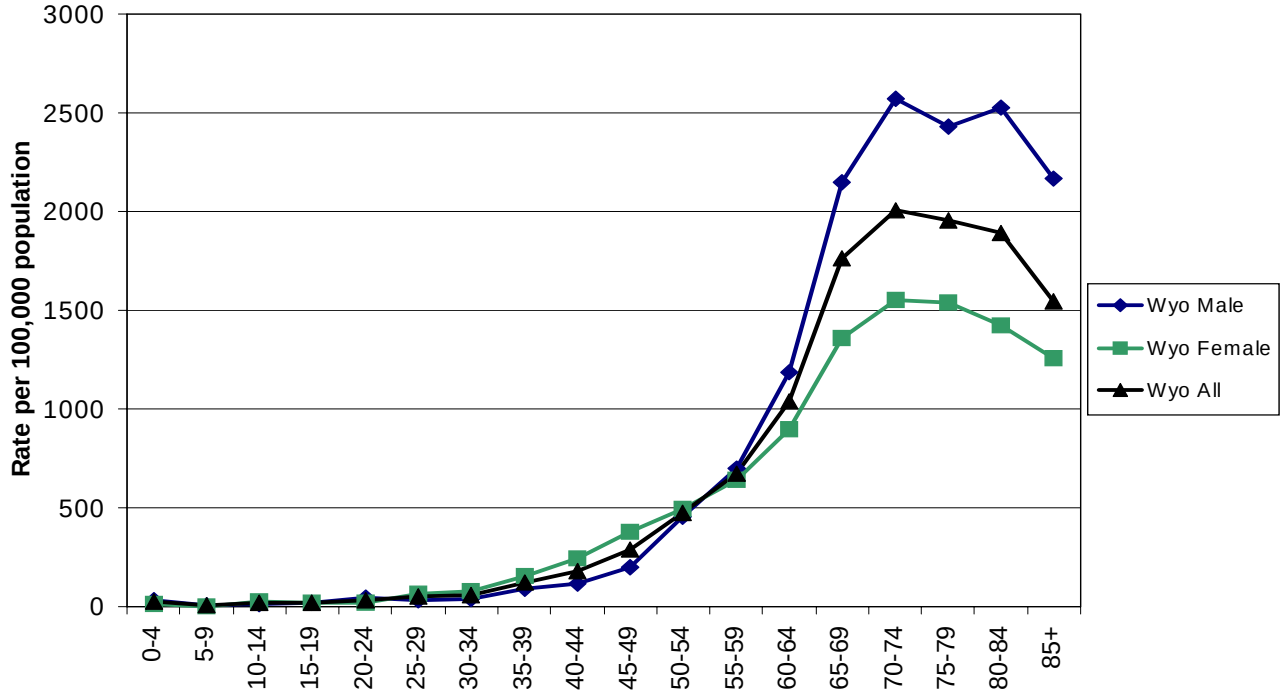
The incidence rate for Cancer Health District (CHD) 7 (358.20) was significantly lower and the rate for CHD 1 was significantly higher (498.70) than the state rate (439.50) for 2001-2005. For mortality rates, CHD1 (200.20) was significantly higher and CHD6 (137.80) was significantly lower than the state rate (167.70)

12-Year Incidence Trend



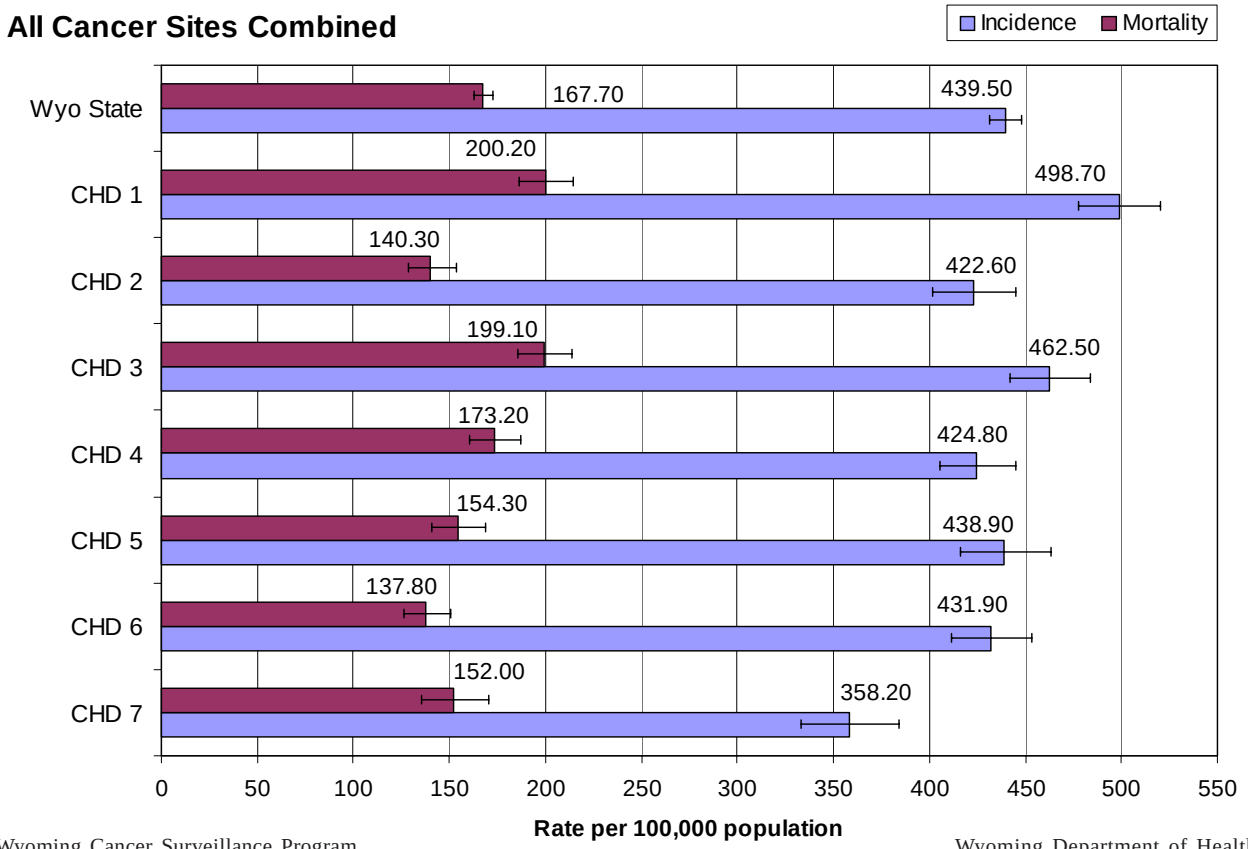
Age-Specific Incidence Rates - 2005

All Cancer Sites Combined



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

All Cancer Sites Combined



Bladder (Urinary)

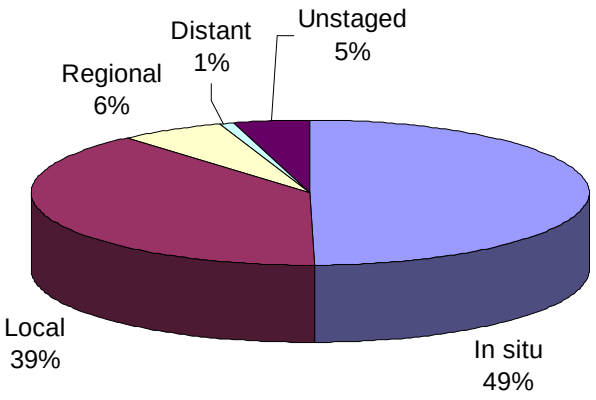
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	50	15	65
# In situ Cases	52	14	66
Wyo Incidence	42.4	10.1	24.7
US Incidence	40.6	10.2	23.2
# Cancer Deaths	15	9	24
Wyo Mortality	6.9	3.1	4.5
US Mortality	8.0	2.2	4.5

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



The incidence rates in Wyoming for bladder cancer in males and total population were higher than the national rates in 2005, while the female rate was slightly lower. The mortality rate for Wyoming males was lower than the national rates, the rate for females was higher than the national rate, and total population rate was the same as the national rate. None of these differences were significant.

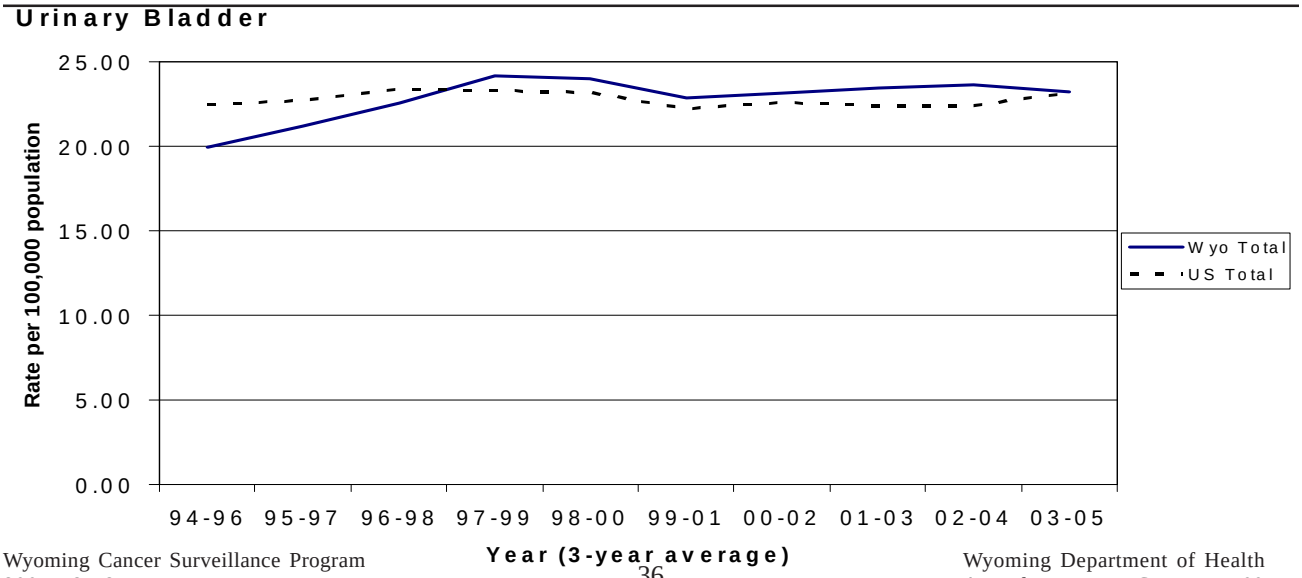
The 12-year incidence trend for bladder cancer in Wyoming and the US seems to have plateaued since 99-01.

While the percent of bladder cancers diagnosed as In situ increased by 10%, the percentage of diagnoses in the other stages were basically unchanged from 2004 to 2005.

No statistically significant differences were found between CHD's and state rate for incidence or mortality.

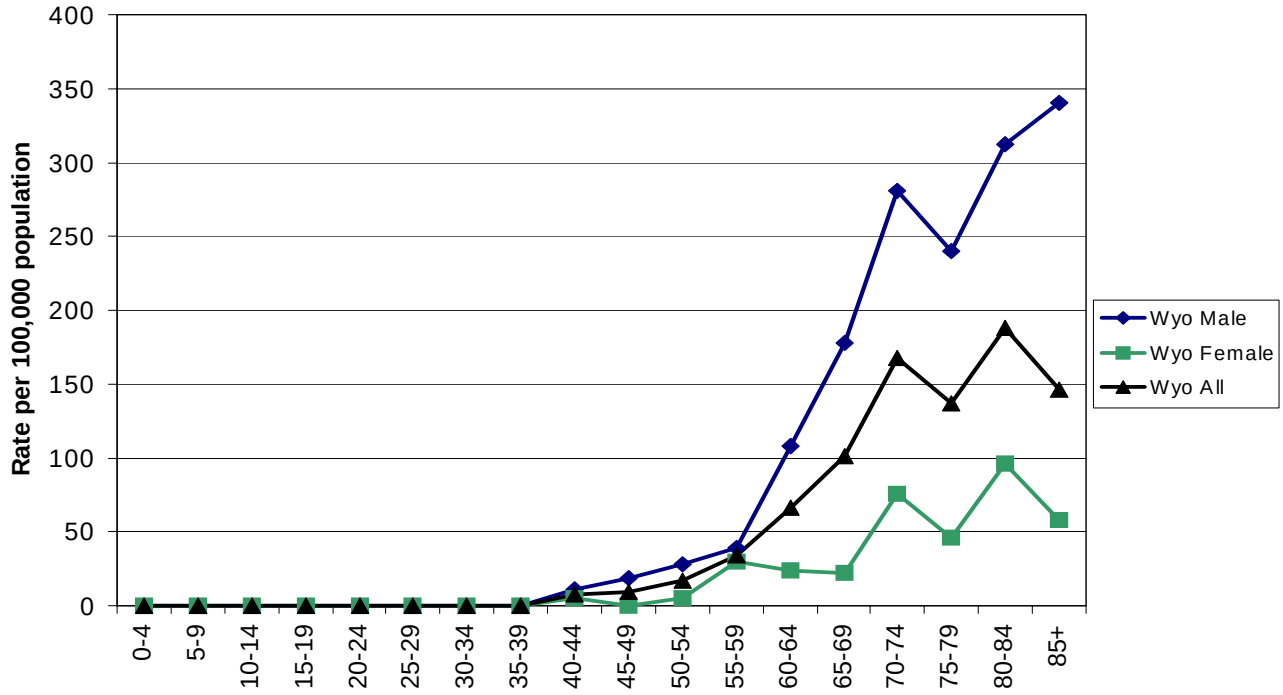
(Note: Rates for Bladder Cancer includes in situ cases.)

12-Year Incidence Trend



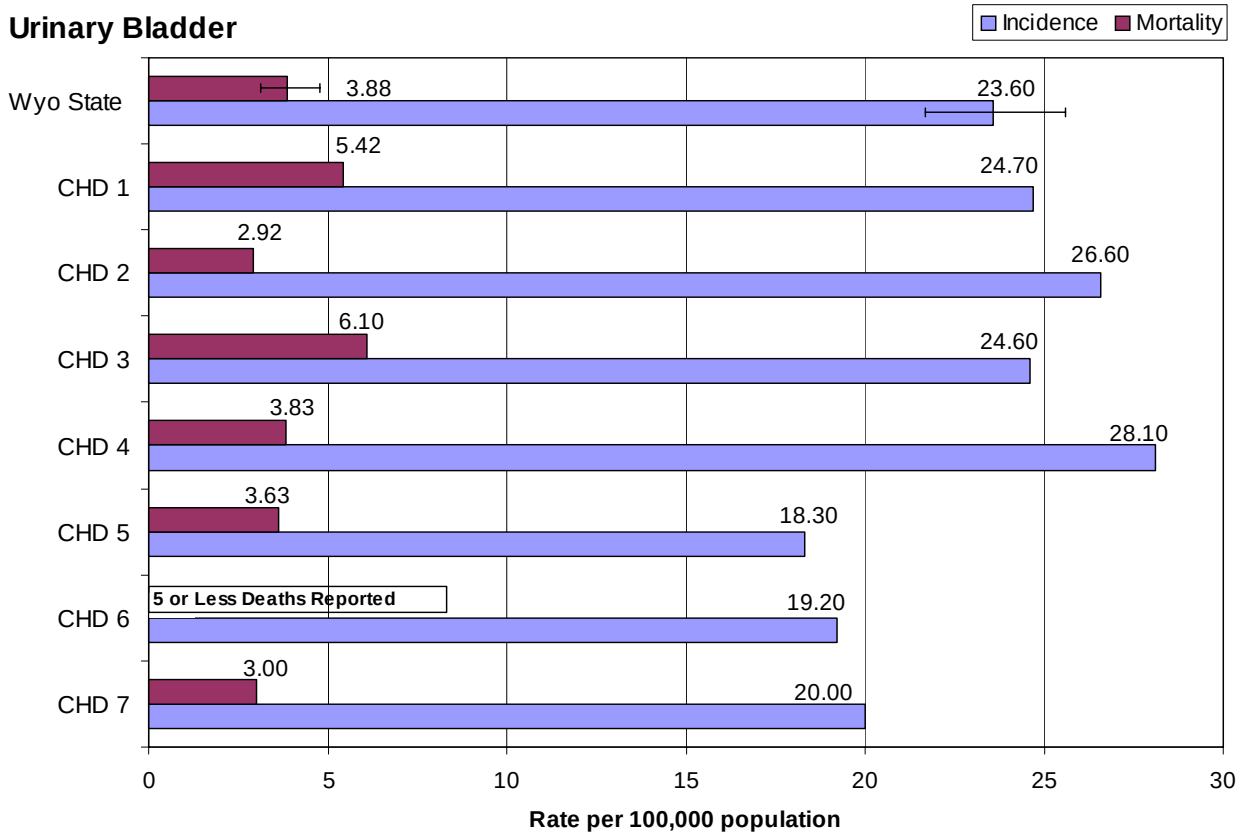
Age-Specific Incidence Rates - 2005

Bladder (Urinary)



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Urinary Bladder



Brain/CNS

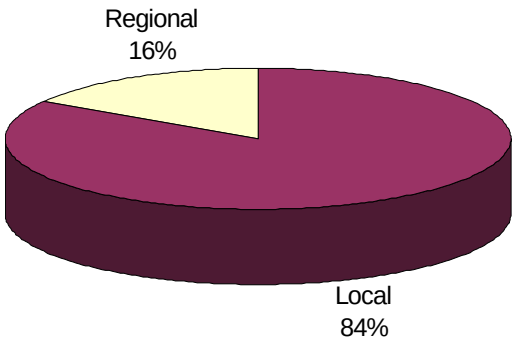
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	20	11	31
Wyo Incidence	7.8	4.4	5.8
US Incidence	8.3	5.9	7.0
# Cancer Deaths	10	10	20
Wyo Mortality	4.0	3.5	3.7
US Mortality	5.6	3.8	4.6

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



The incidence and mortality rates of brain/CNS cancer for males, females, and total population were all slightly lower than the national rates. None of these differences were significant.

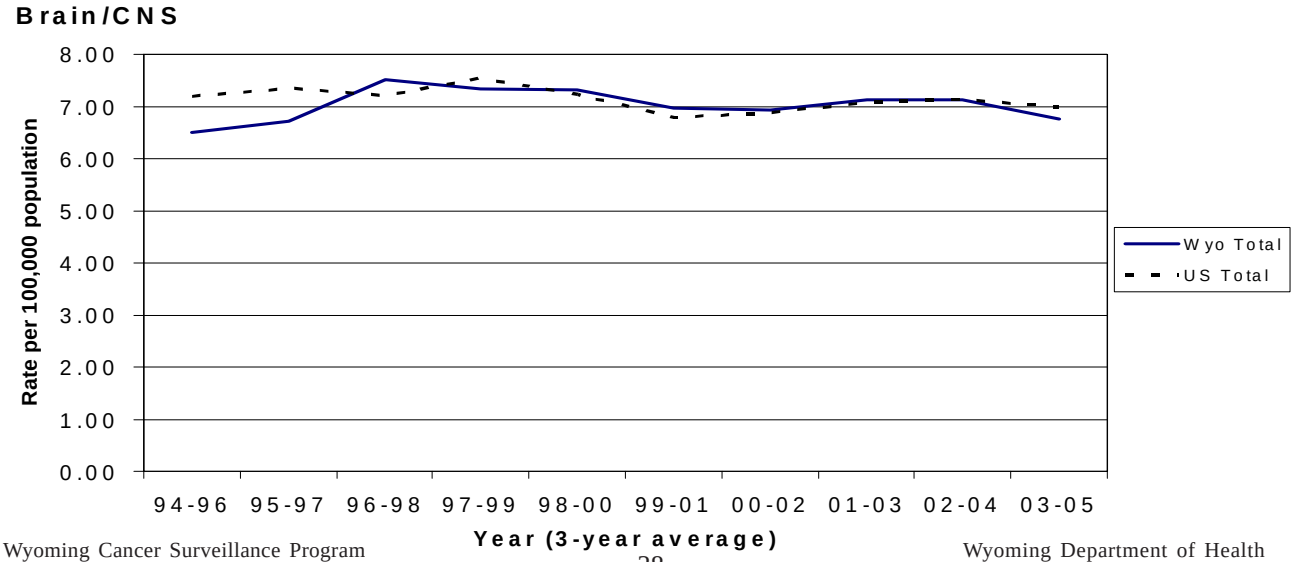
The 12-year trend shows a slight decrease of the incidence of brain/CNS cancer 02-04 to 03-05.

A larger percentage of brain/CNS cancers were diagnosed as local in 2005 than in 2004 (69%), and significantly more cancers were diagnosed as regional in 2005 than in 2004 (4%).

No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

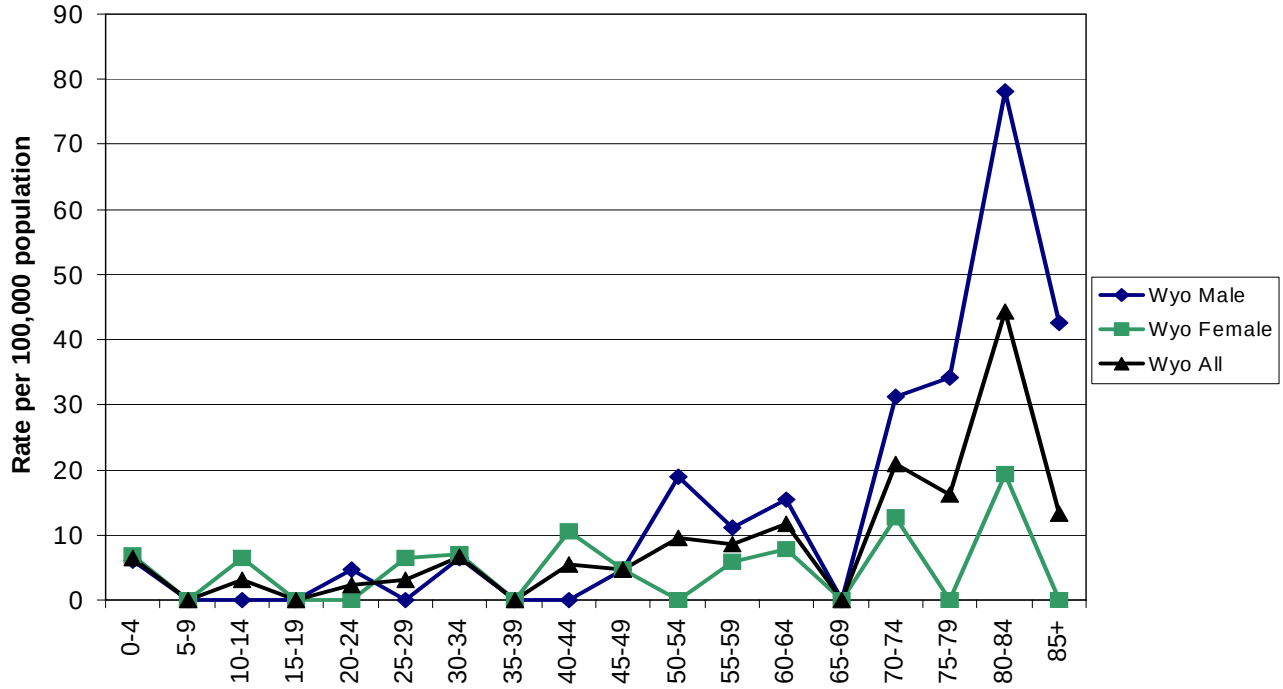
(CNS=Central Nervous System)

12-Year Incidence Trend



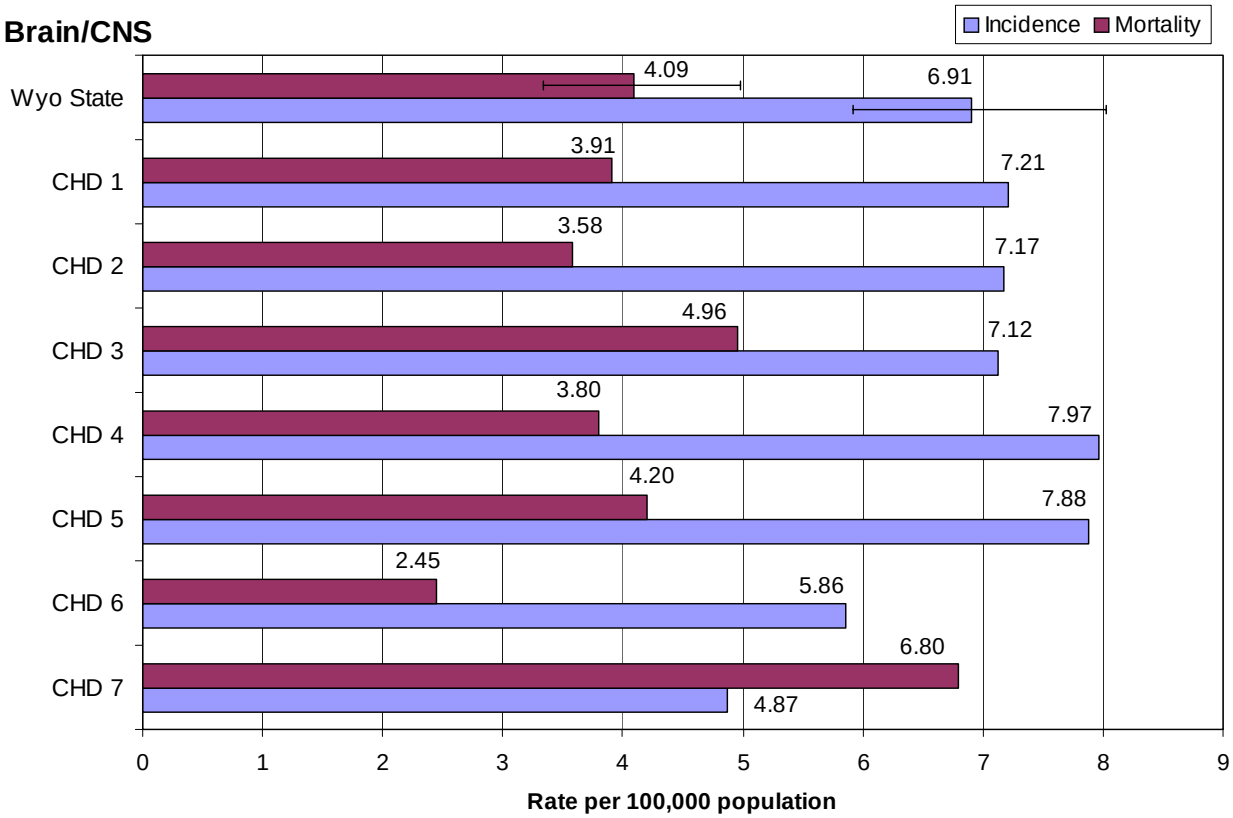
Age-Specific Incidence Rates - 2005

Brain/CNS



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Brain/CNS



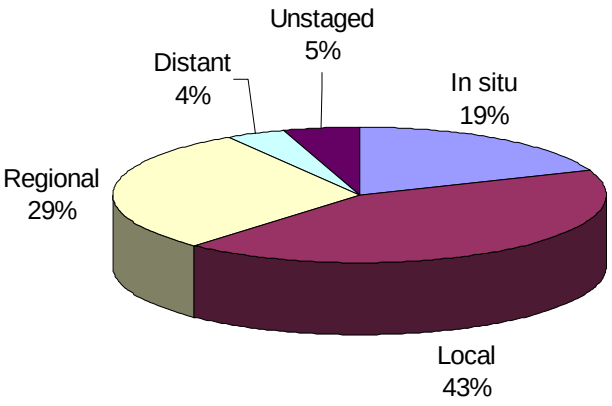
Breast (Female Only)

Incidence and Mortality Summary

	Female
# Invasive Cases	293
# In situ Cases	70
Wyo Incidence	101.6
US Incidence	124.9
# Cancer Deaths	60
Wyo Mortality	21.3
US Mortality	23.8

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



The incidence and mortality rates of female breast cancer in Wyoming were both lower than the United States rates. However, these differences were not statistically significant.

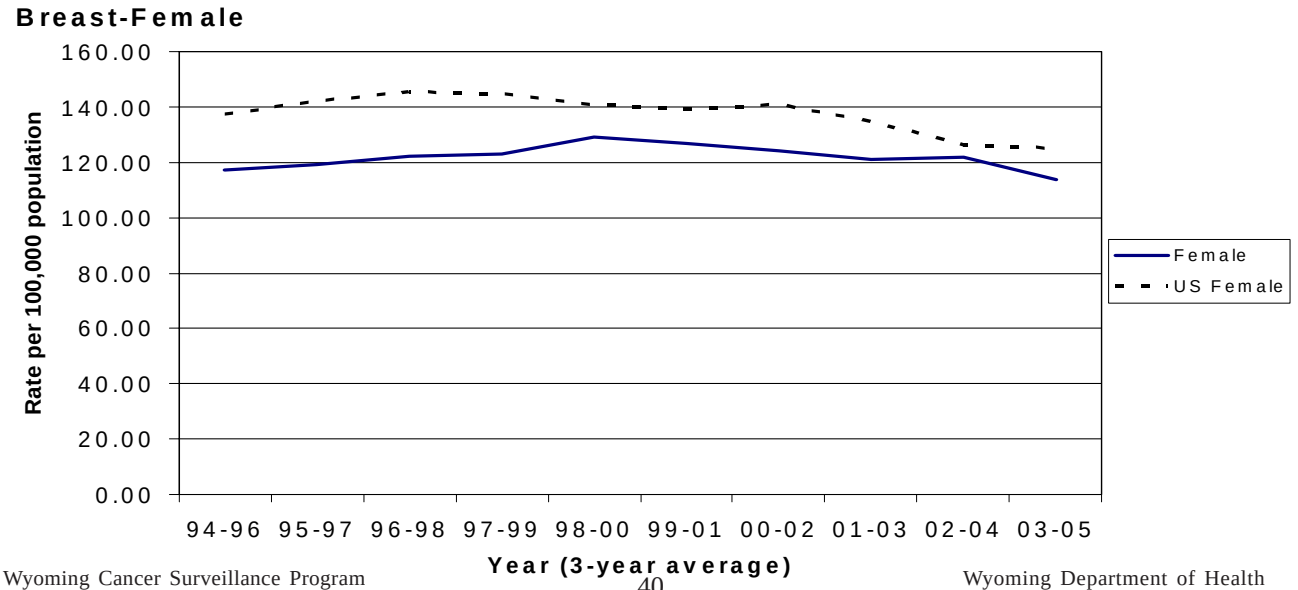
The 12-year incidence trend shows a possible decrease in the Wyoming rate starting in 02-04. The national rate also appears to be experiencing a slight decrease since 00-02.

The percent of breast cancers diagnosed at each stage in 2005 is virtually unchanged from 2004.

The incidence of breast cancer in females in CHD 7 was significantly lower (90.60) than the state rate (115.55) from 2001-2005. No statistically significant differences were found for mortality.

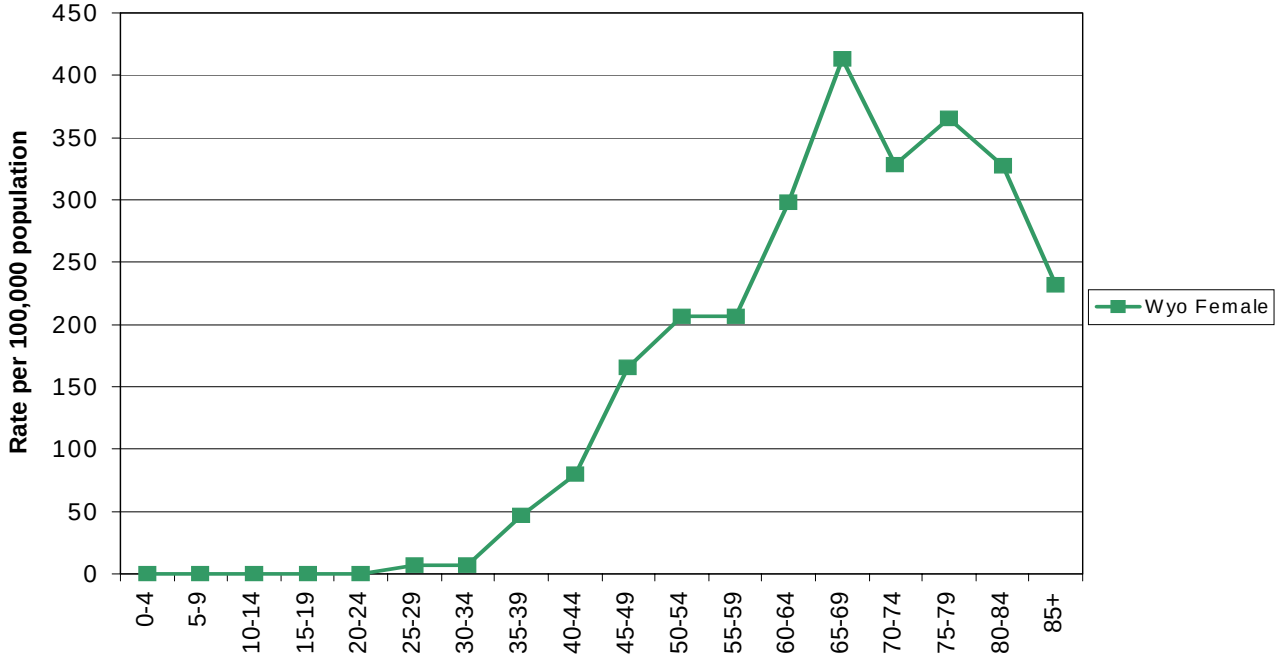
There were 4 cases of male breast cancer reported in Wyoming in 2005.

12-Year Incidence Trend



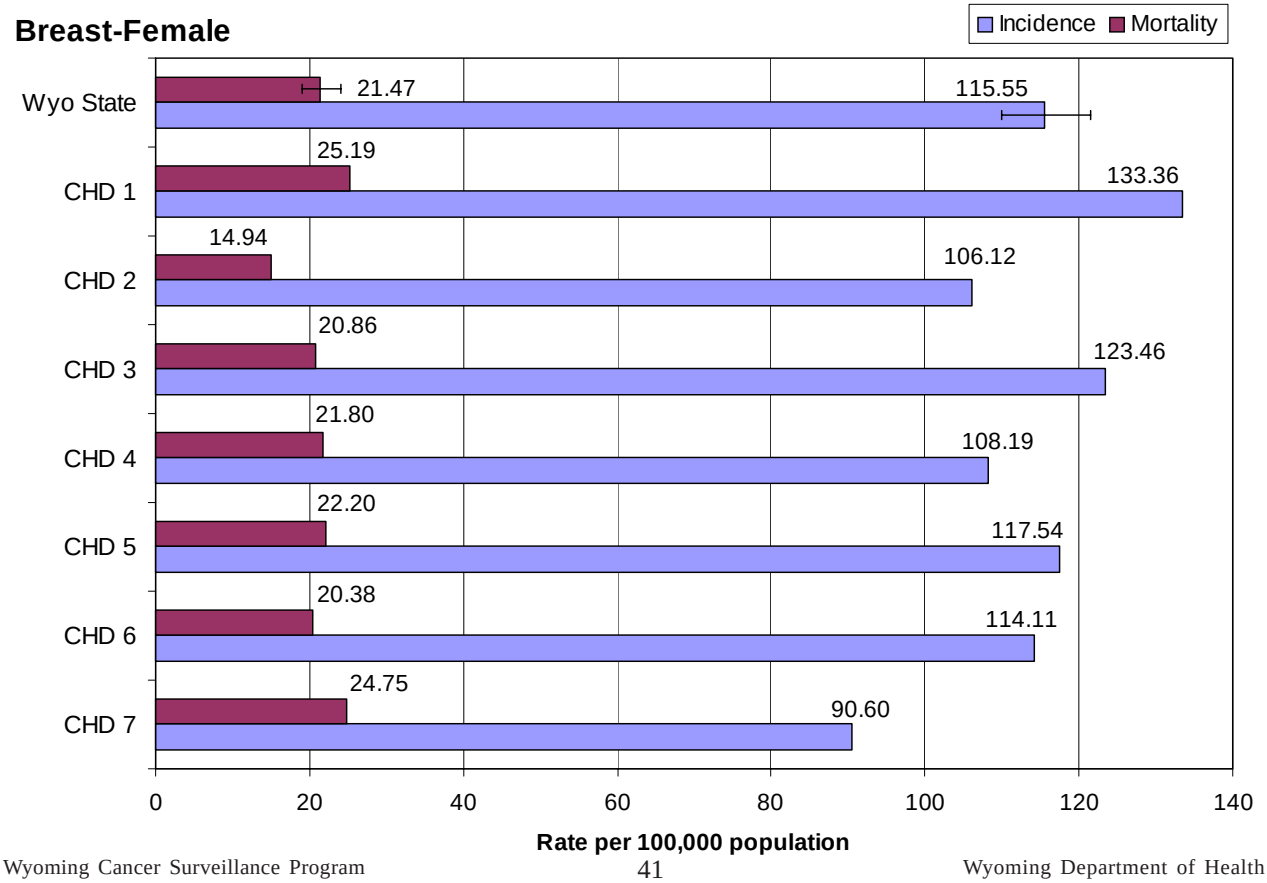
Age-Specific Incidence Rates, 2005

Breast-Female



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Breast-Female



Colorectal

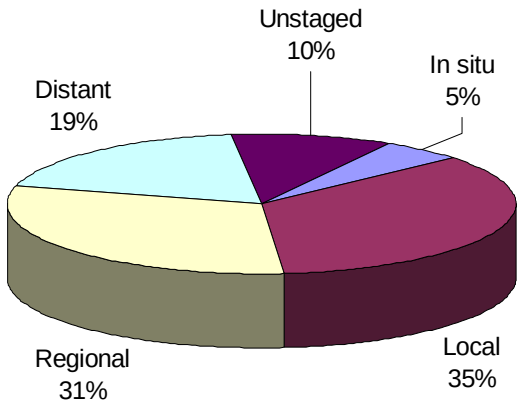
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	120	115	235
# In situ Cases	10	6	16
Wyo Incidence	50.0	40.4	44.4
US Incidence	55.7	41.0	47.4
# Cancer Deaths	33	37	70
Wyo Mortality	15.1	12.9	13.6
US Mortality	21.1	14.7	17.4

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



The Wyoming incidence and mortality rates for males, females, and total population were all lower than the national rates for colorectal cancer. None of these differences were statistically significant.

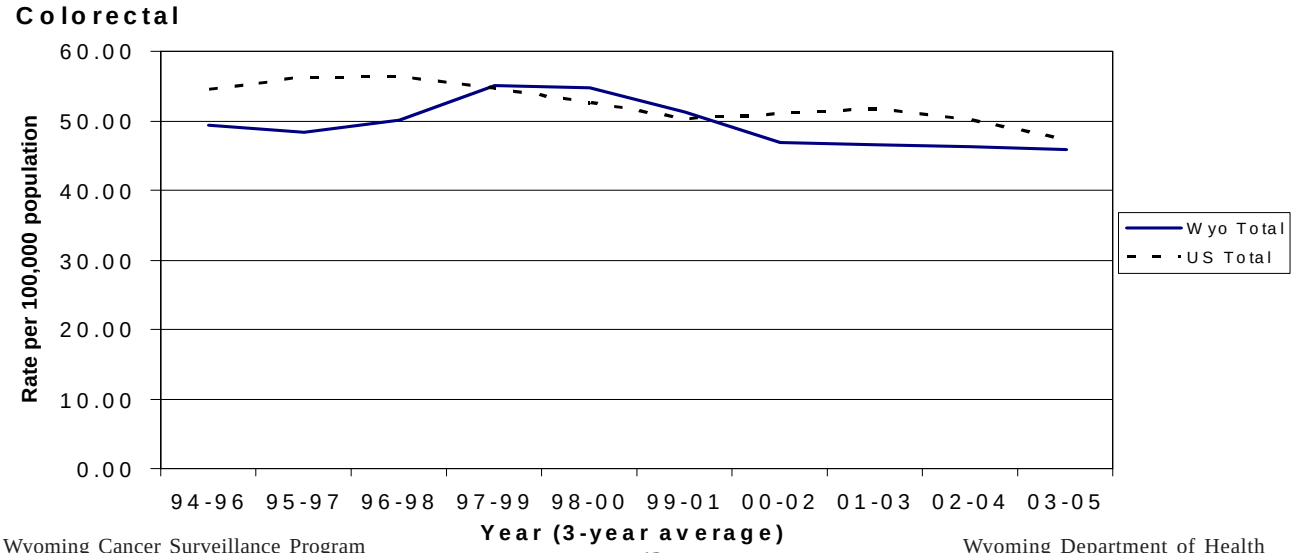
The incidence rates for Wyoming appear to have basically plateaued after a small decrease that started in 98-00. Nationally, the rates also seem to decreasing slightly since 01-03.

The precentage of colorectal cases diagnosed at each stage in 2005 was virtually unchanged from 2004.

No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

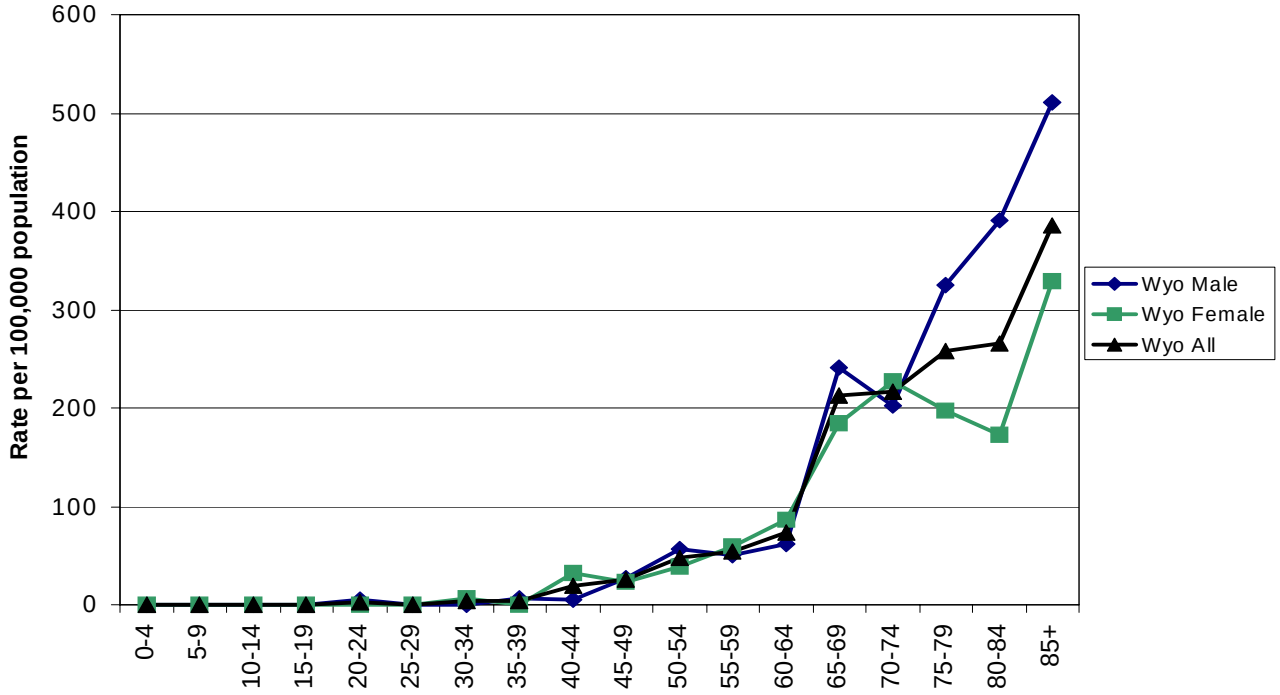
(Colorectal = Colon and rectum combined.)

12-Year Incidence Trend



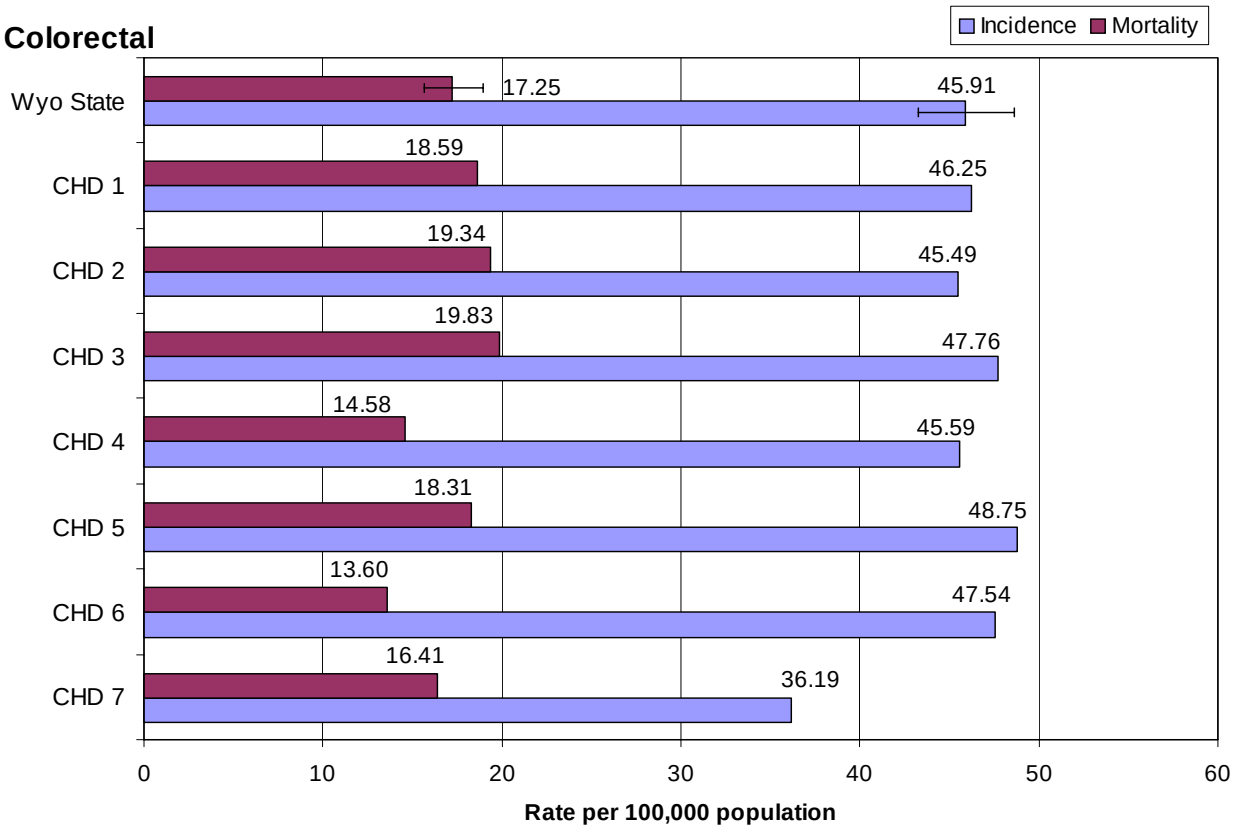
Age-Specific Incidence Rates - 2005

Colorectal



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Colorectal



Kidney/Renal Pelvis

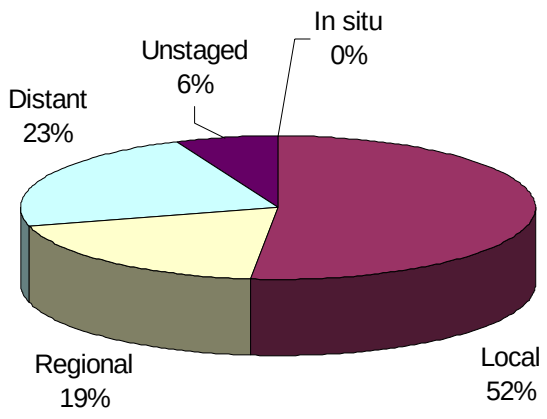
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	44	18	62
Wyo Incidence	16.9	6.9	11.6
US Incidence	18.8	9.7	13.8
# Cancer Deaths	16	4	20
Wyo Mortality	6.6	1.2	3.7
US Mortality	6.1	2.8	4.2

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



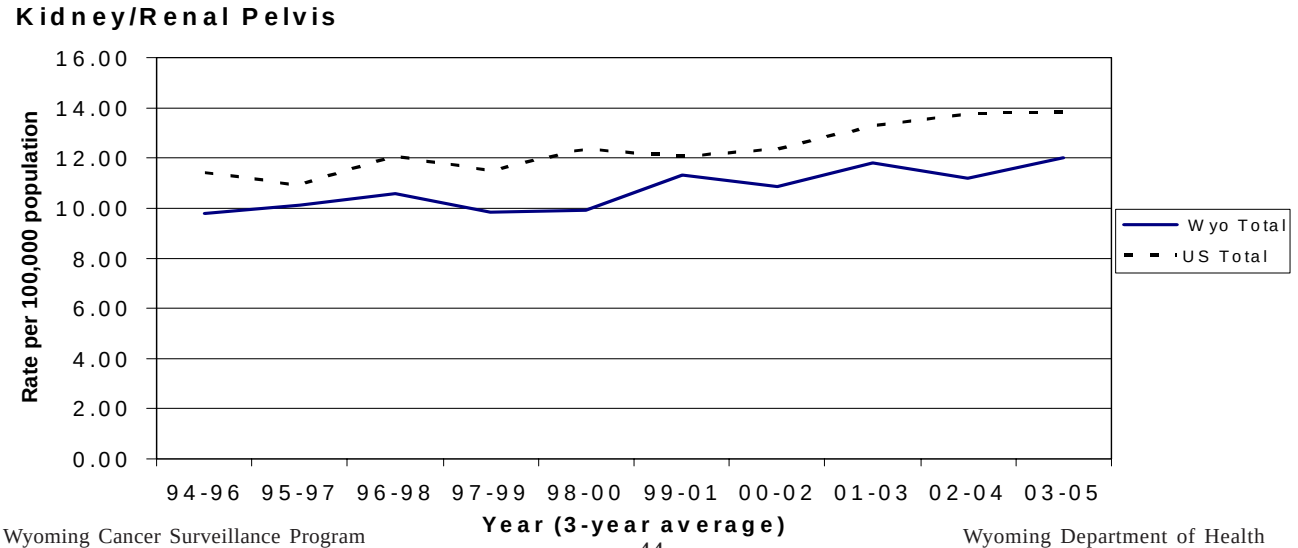
The incidence rates for kidney/renal pelvis cancer were lower in Wyoming males, females, and total population. The mortality rates for females and total population were lower than the national rates, while the male mortality rate was just slightly higher than the national rate. None of these differences were statistically significant.

The 12-year trend shows an increase in incidence from 02-04 to 03-05. The national rate seems to be on the increase since 00-02.

The percent of kidney/renal pelvis cases diagnosed at each stage in 2005 was the same as 2004.

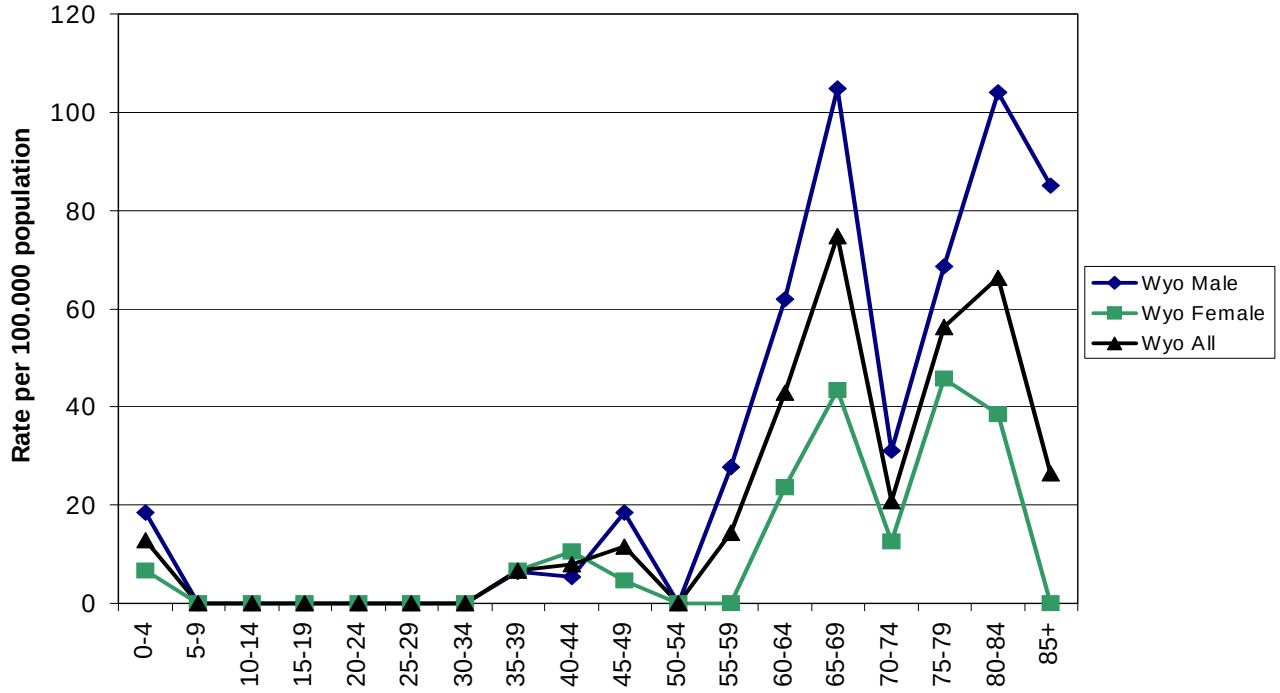
No statistically significant differences were found between CHD's and the state rate for incidence or mortality.

12-Year Incidence Trend



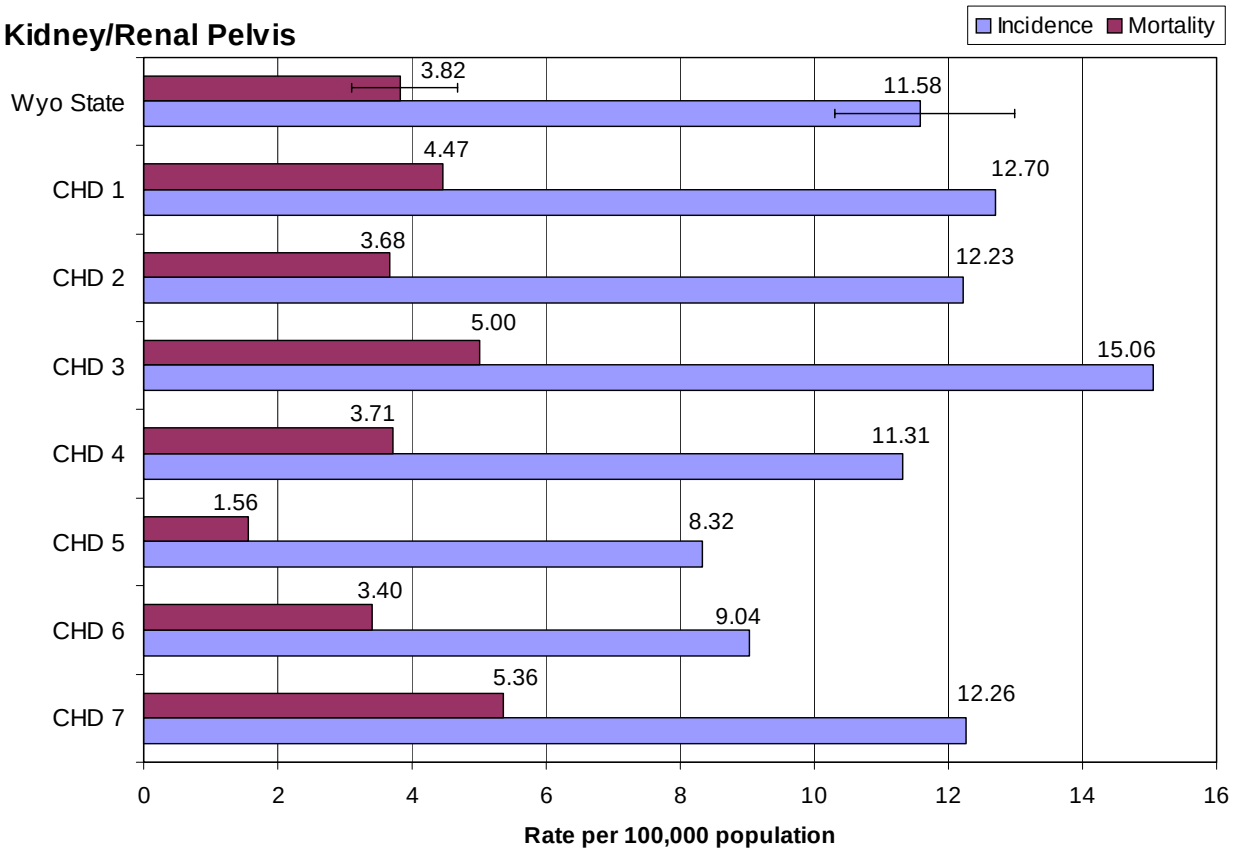
Age-Specific Incidence Rates - 2005

Kidney/Renal Pelvis



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Kidney/Renal Pelvis



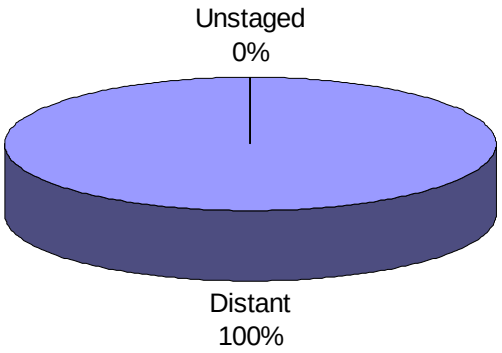
Leukemia

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	20	12	32
Wyo Incidence	7.8	4.0	6.0
US Incidence	15.4	9.2	11.9
# Cancer Deaths	18	20	38
Wyo Mortality	8.1	6.8	7.4
US Mortality	9.9	5.6	7.4

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



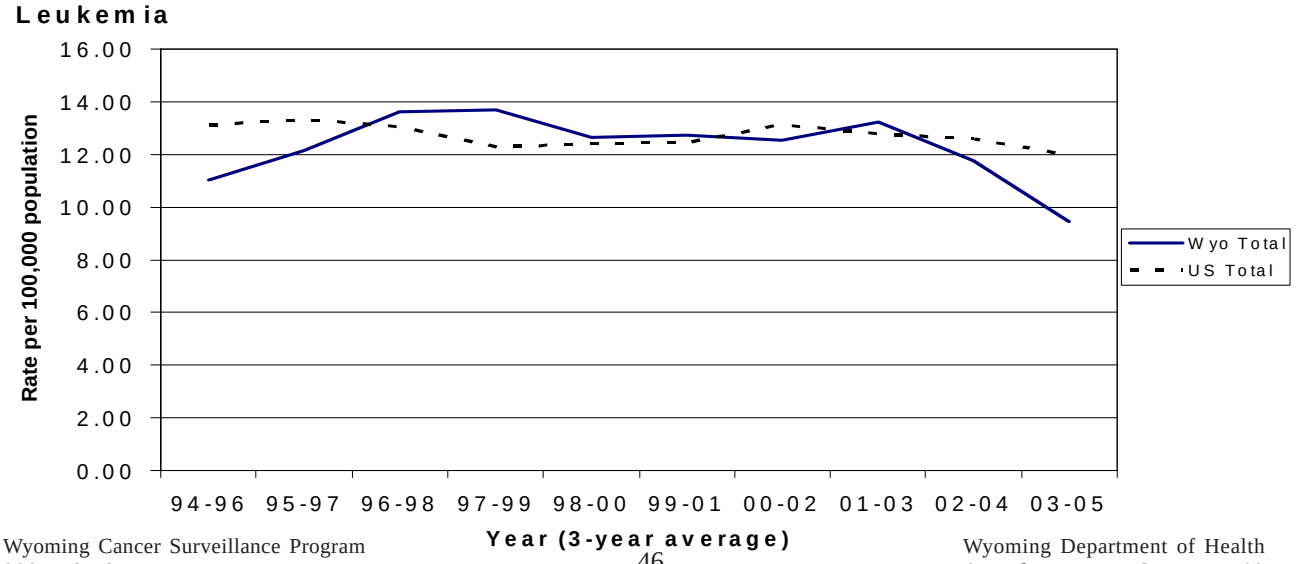
Note: Leukemia is systemic and therefore only diagnosed at the distant stage.

Incidence rates in Wyoming for leukemia were lower than the national rates for males, females, and total population. For mortality, Wyoming males were lower while females were higher and total population was the same as the national rates. None of these differences were statistically significant.

The incidence trend for Wyoming continues on a decreasing trend that started in 01-03. The national trend also appears to be decreasing as well.

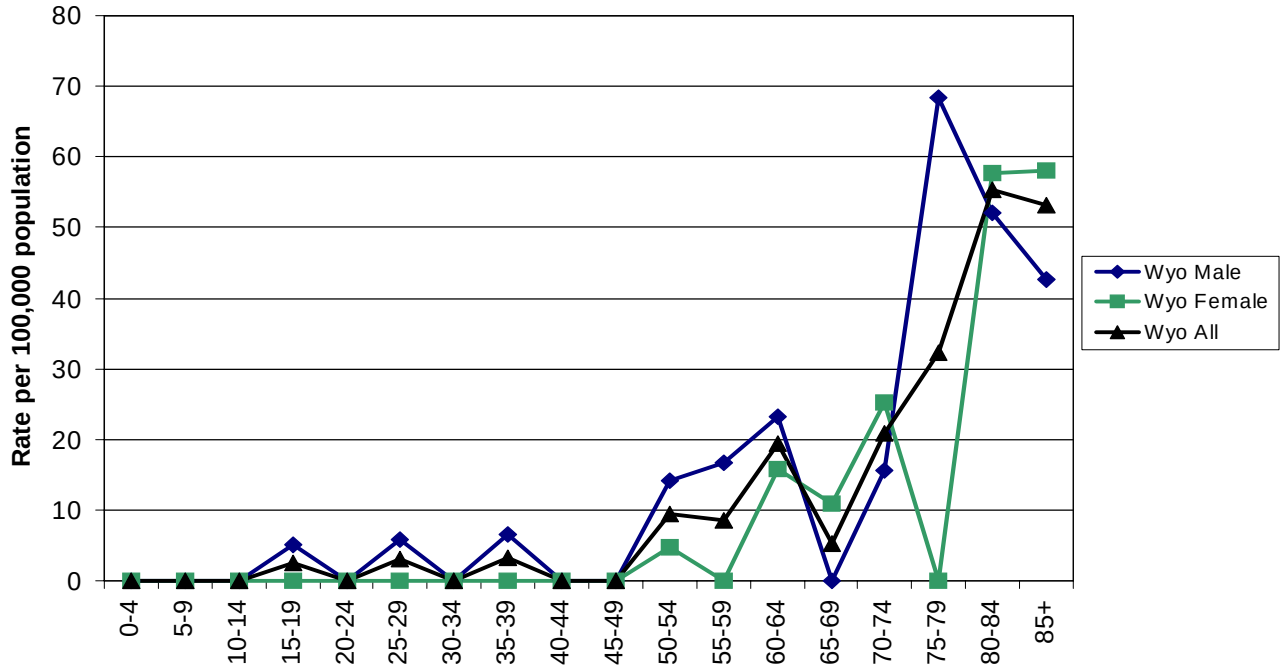
There were no differences between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



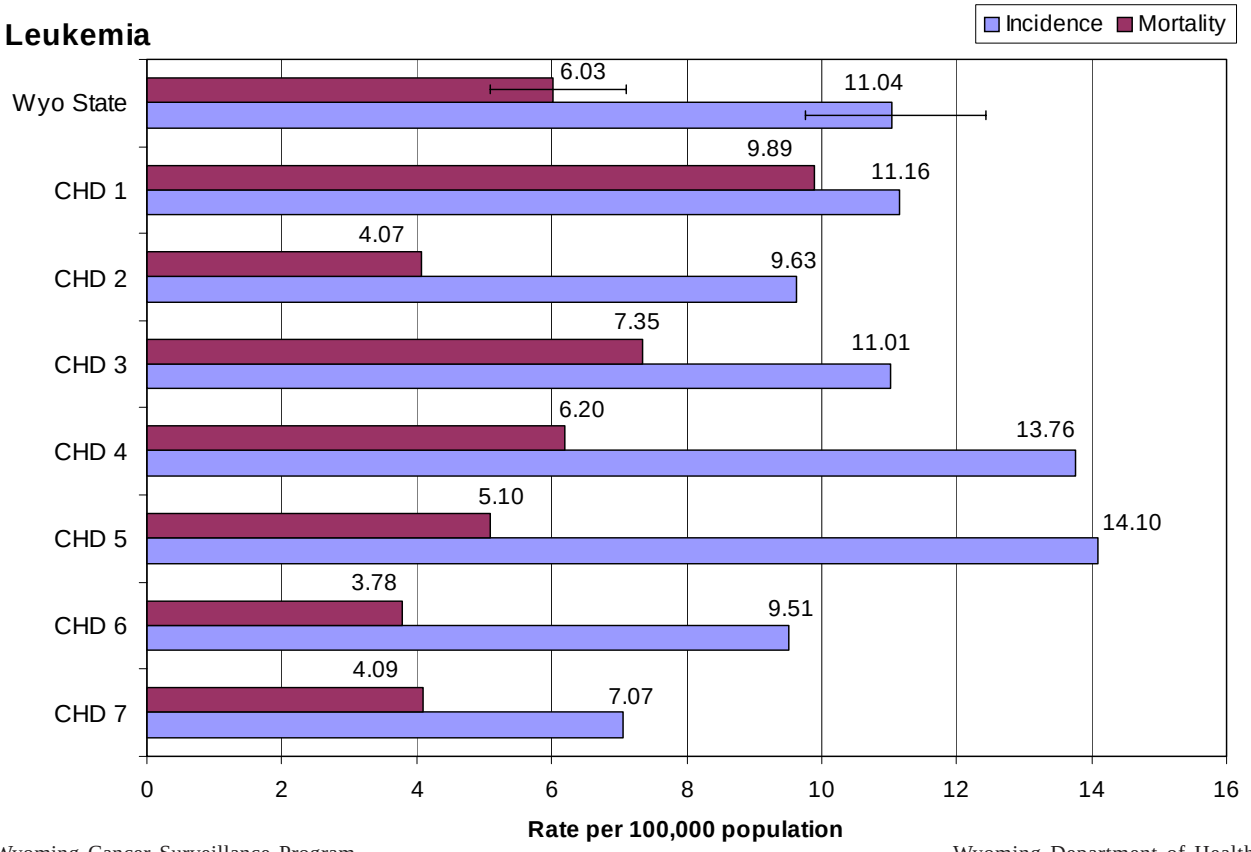
Age-Specific Incidence Rates - 2005

Leukemia



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Leukemia



Lung and Bronchus

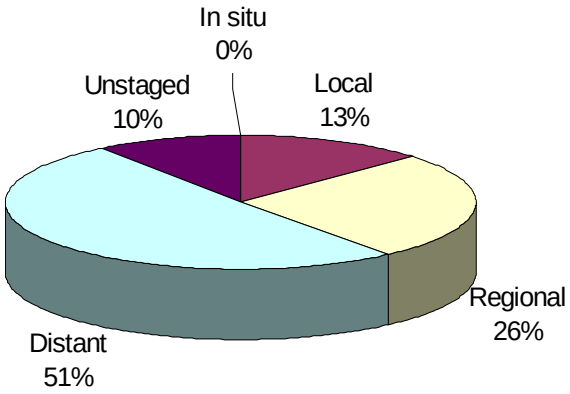
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	131	137	268
Wyo Incidence	52.9	49.4	50.4
US Incidence	75.5	53.1	62.5
# Cancer Deaths	132	120	252
Wyo Mortality	54.2	42.3	47.7
US Mortality	69.6	41.9	53.6

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



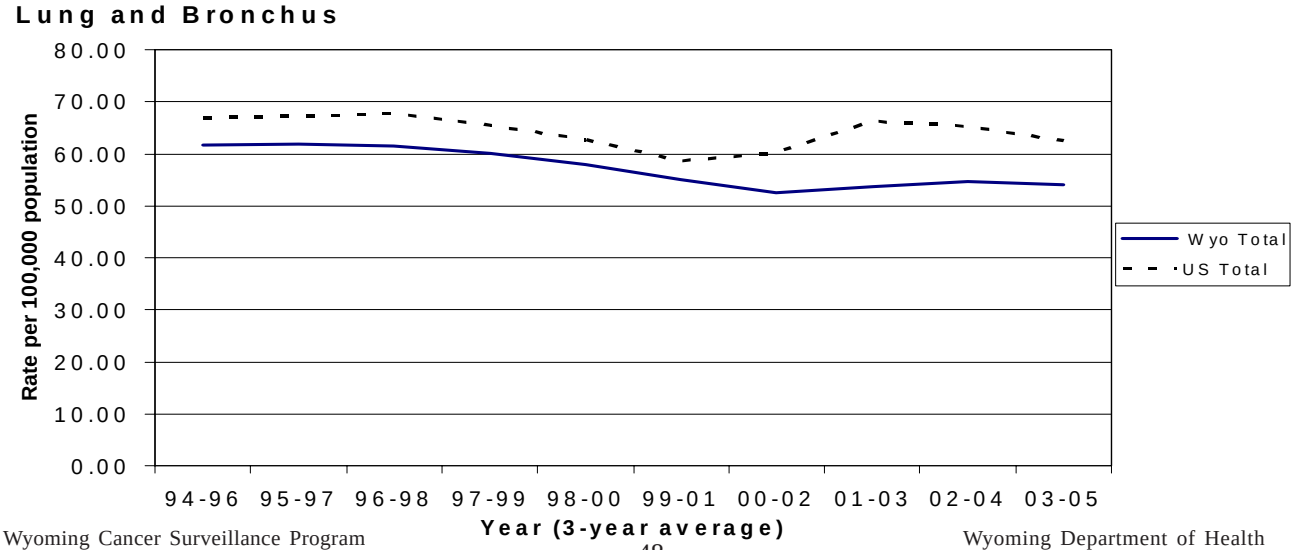
Lung cancer incidence rates in Wyoming males, females, and total population were all lower than the national rates. In mortality, the male and total population rates were lower, while the female rates were slightly higher than the national rates. However, none of the differences were significant.

Incidence rates for lung cancer in Wyoming shows a leveling off since 00-02. Nationally, the rate seems to be decreasing slightly since 01-03.

The percentages at each stage of diagnosis were very similar to the percentages seen in 2004.

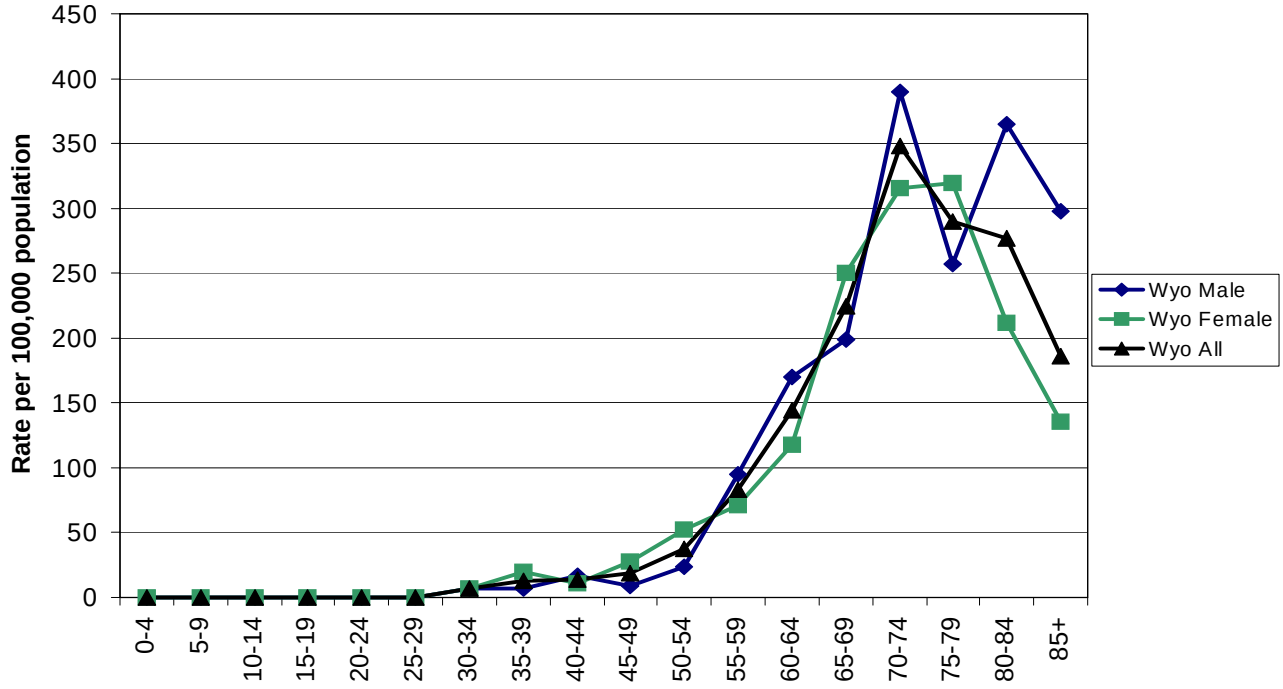
There were no signficant differences between CHD's and the state rate for incidence or mortality.

12-Year Incidence Trend



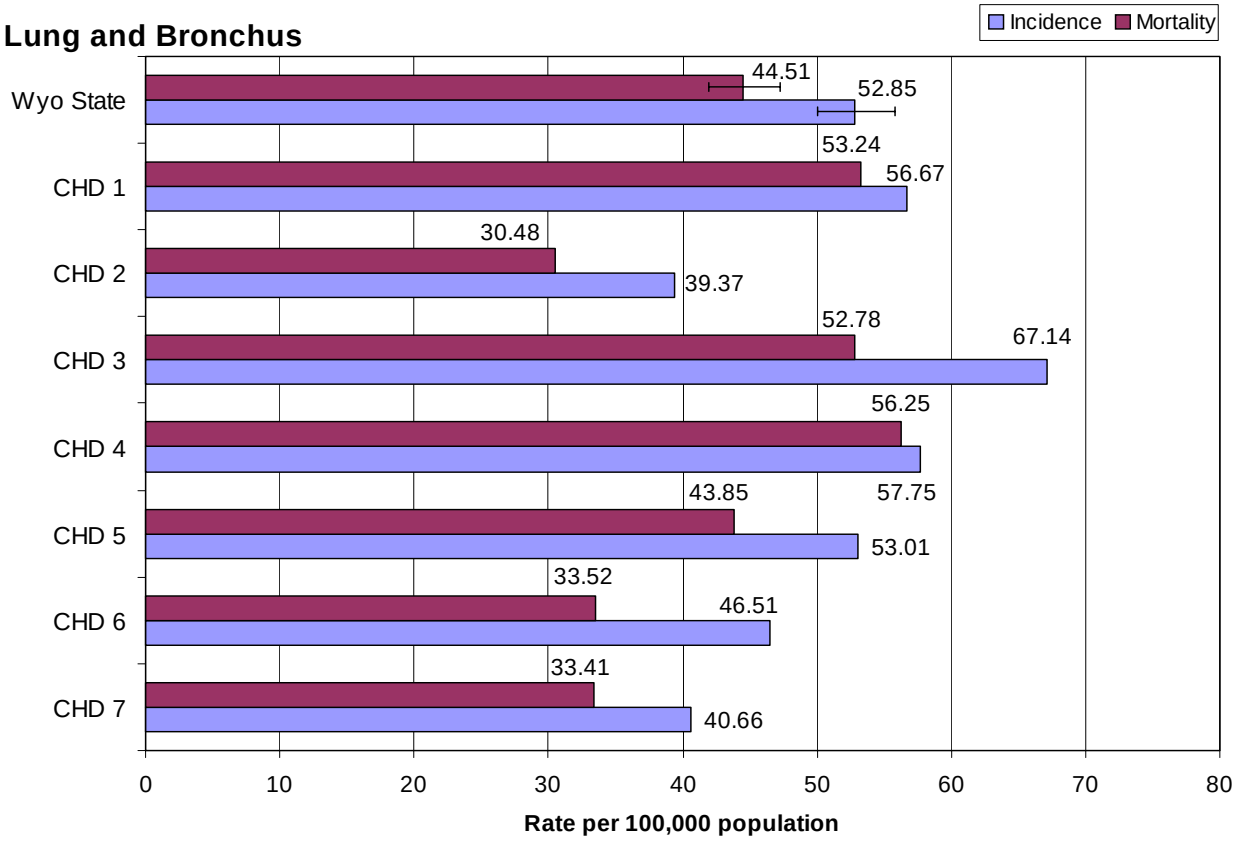
Age-Specific Incidence Rates - 2005

Lung and Bronchus



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Lung and Bronchus



Melanoma (of the skin)

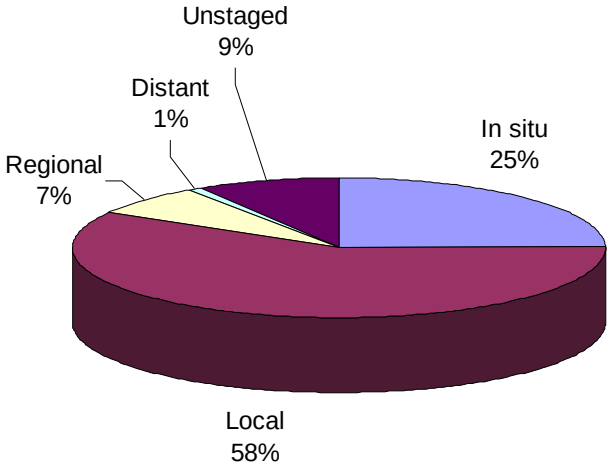
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	52	46	98
# In situ Cases	20	20	40
Wyo Incidence	20.2	16.4	17.7
US Incidence	28.5	18.1	22.4
# Cancer Deaths	7	7	14
Wyo Mortality	3.0	2.7	2.7
US Mortality	4.5	1.9	3.0

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



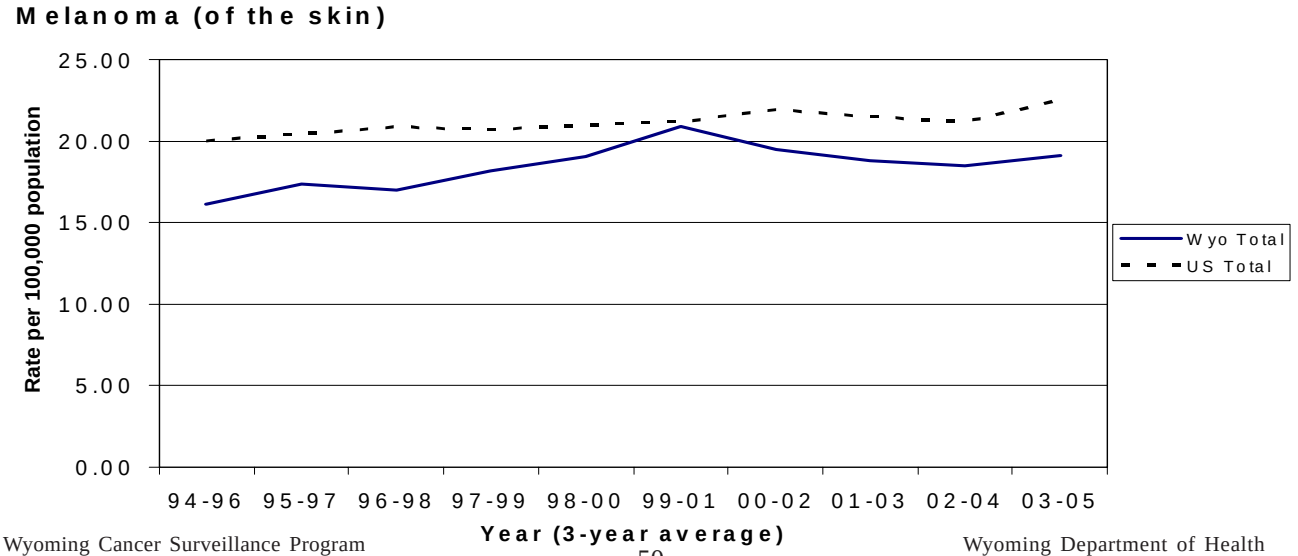
Incidence rates for melanoma of the skin in Wyoming for males, females, and total population were all lower than the national rates. The mortality rates for females was higher than the national, but males and total population rates were just a bit lower. None of the differences were statistically significant.

The decrease in melanoma incidence that began in 99-01 appears to be leveling off or perhaps increasing slightly in 03-05. Nationally, the rate seems to be increasing a little since 02-04.

The percent of cases diagnosed at the In situ stage increased from 16% in 2004, while the percentage of cases diagnosed at the local stage decreased from 66%.

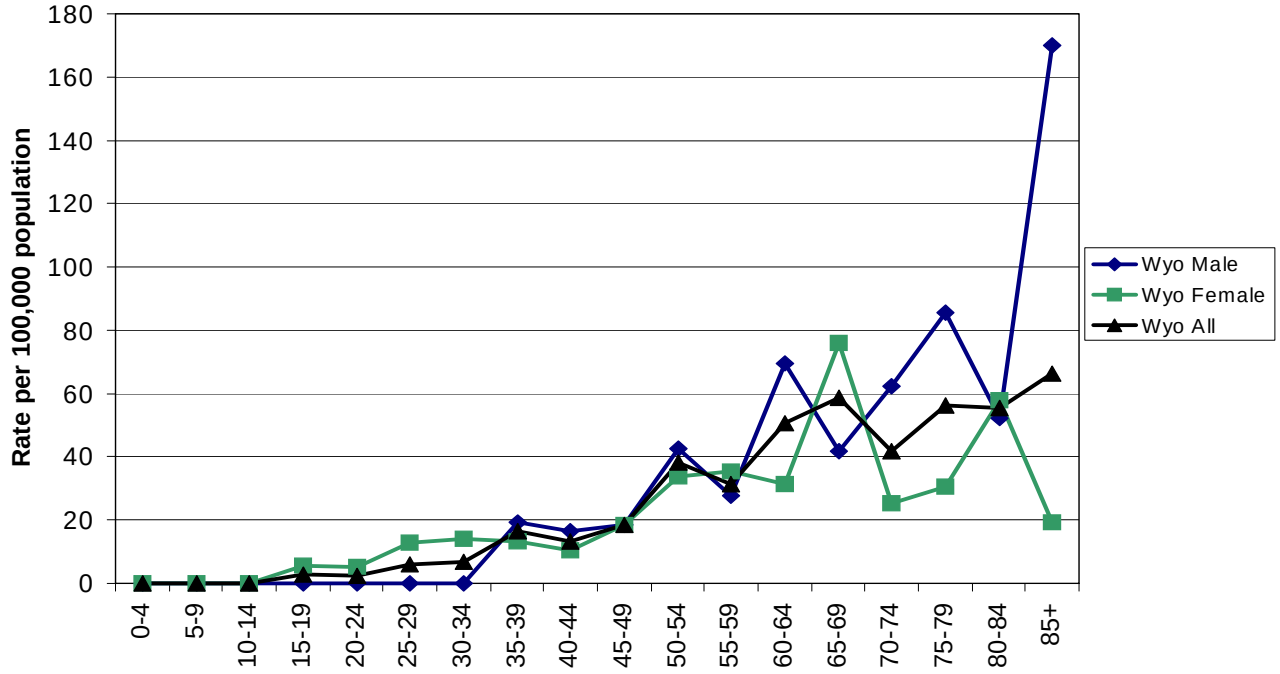
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



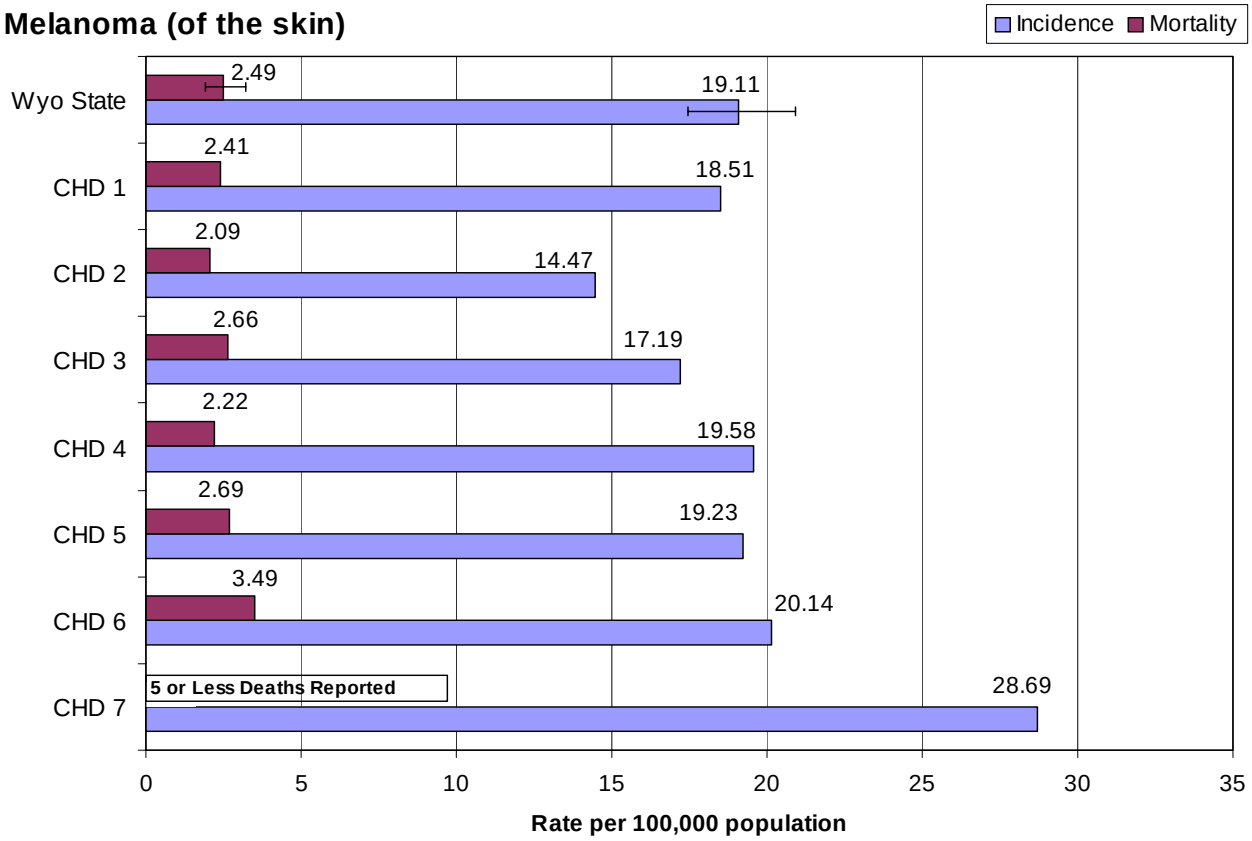
Age-Specific Incidence Rates - 2005

Melanoma (of the skin)



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Melanoma (of the skin)



Non-Hodgkin Lymphoma

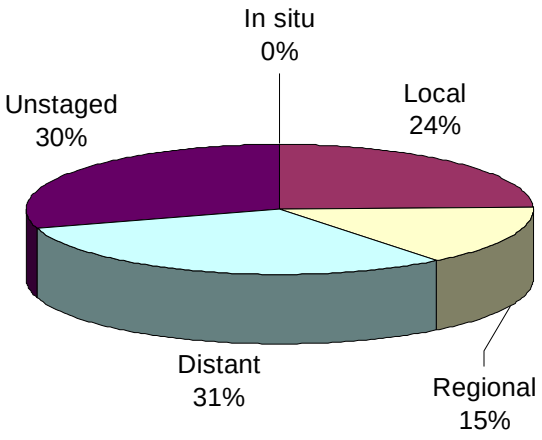
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	56	38	94
Wyo Incidence	22.0	13.0	17.3
US Incidence	24.1	17.1	20.2
# Cancer Deaths	21	23	44
Wyo Mortality	9.2	7.7	8.4
US Mortality	9.2	5.9	7.8

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



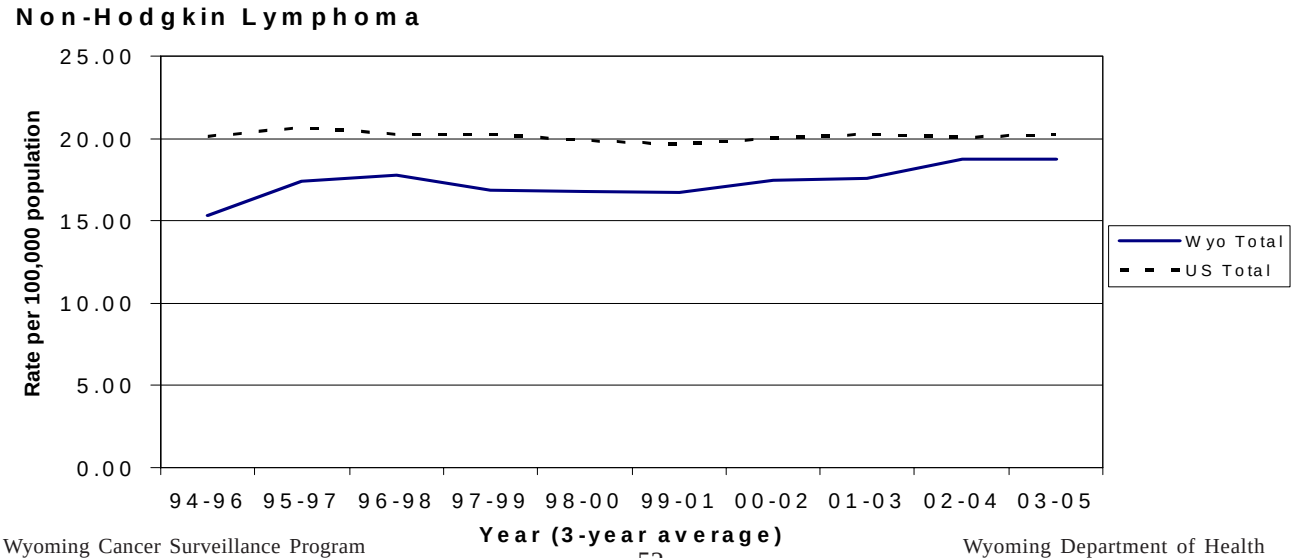
The incidence rate for males, females, and total population in Wyoming were all lower than the national rates. The mortality rate for females and total population in Wyoming was higher than the national rate, while the mortality rate for males in Wyoming and nationally were the same. None of these differences were statistically significant.

The increasing incidence trend that started in 01-03 seems to have plateaued in 03-05.

The percent of cancers diagnosed at each stage in 2005 were very similar to the percentages in 2004.

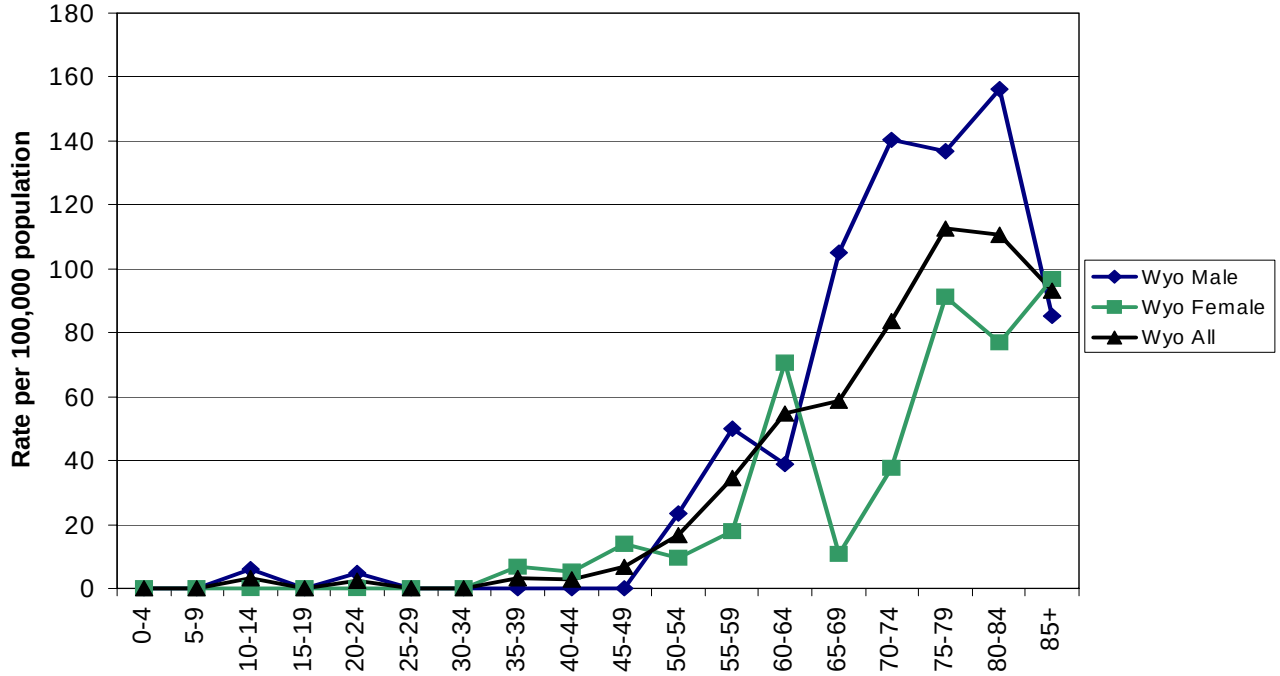
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



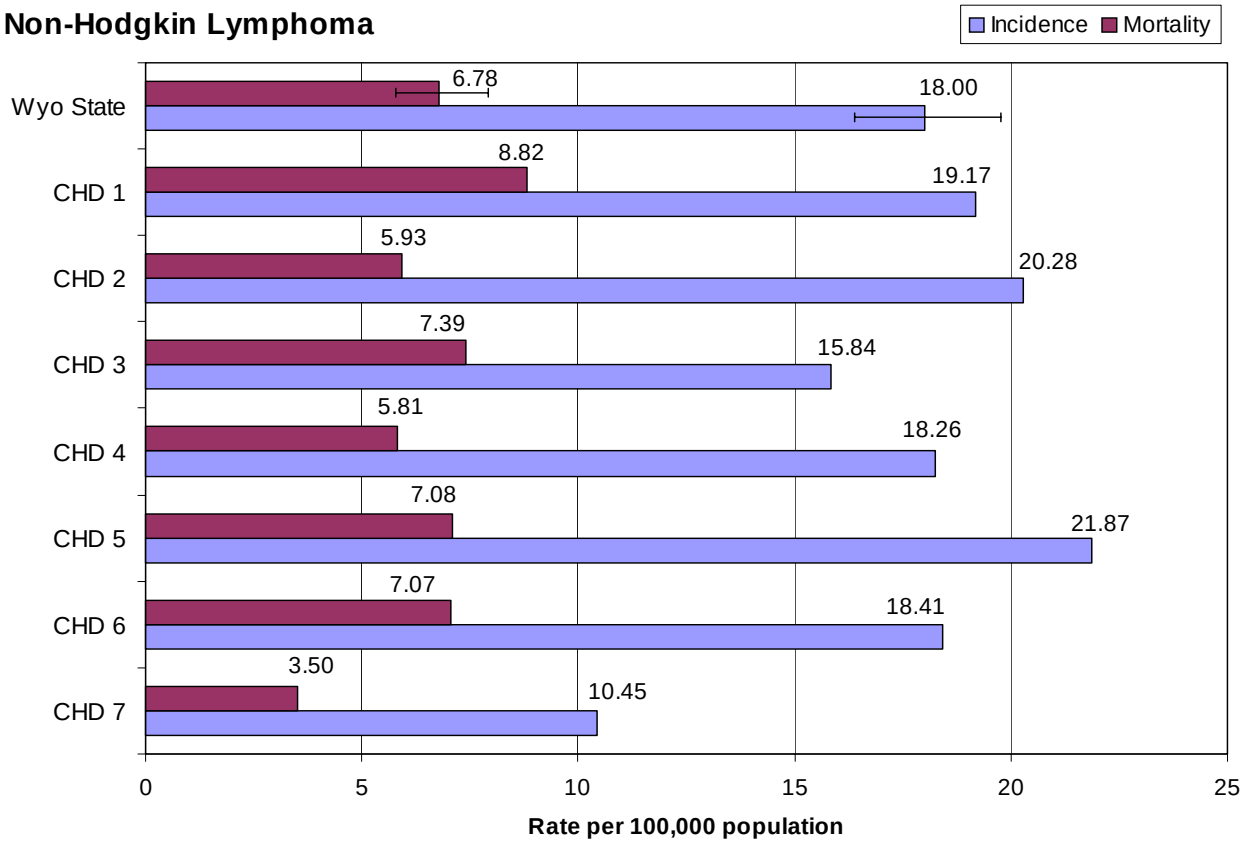
Age-Specific Incidence Rates - 2005

Non-Hodgkin Lymphoma



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Non-Hodgkin Lymphoma



Oral Cavity and Pharynx

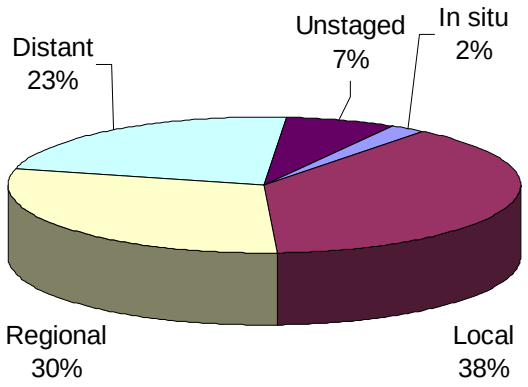
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	26	17	43
# In situ Cases	0	1	1
Wyo Incidence	9.3	6.4	7.8
US Incidence	15.5	6.0	10.4
# Cancer Deaths	5	4	9
Wyo Mortality	1.9	1.4	1.7
US Mortality	3.7	1.5	2.5

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



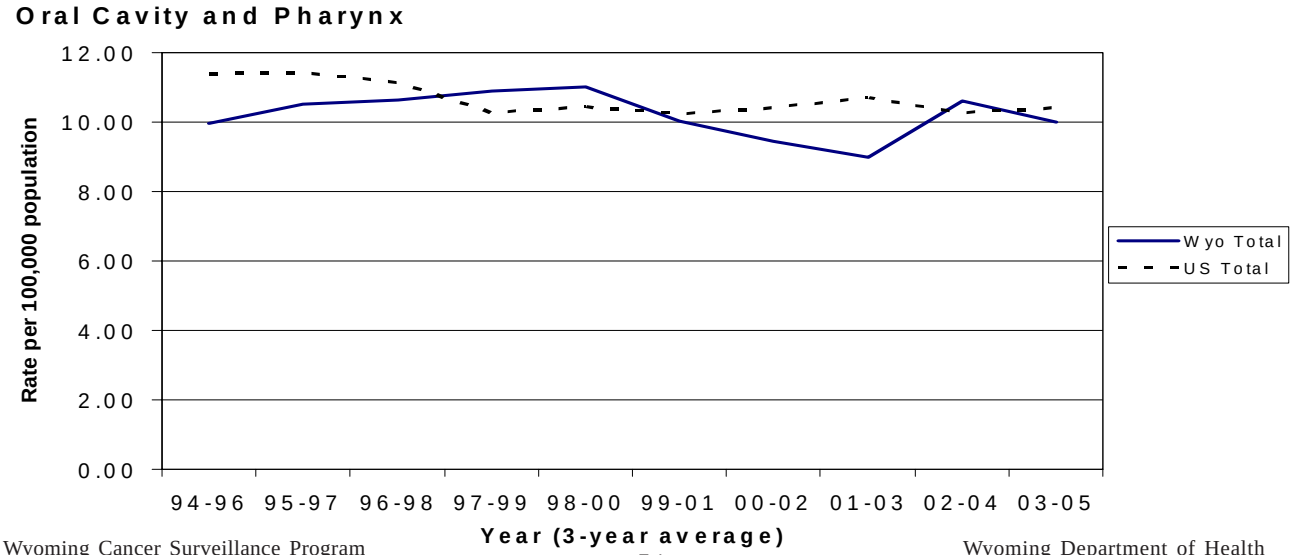
Incidence rates for cancer of the oral cavity and pharynx in males and total population was lower than the national rate, while the rates for females were higher, though not significantly. All three mortality rates were lower than the national rates, again not significantly.

The 12-Year incidence trend appears to be decreasing from 02-04 to 03-05 after a period of increase starting in 01-03. Nationally, the trend shows a slight bump in rates in 01-03.

Significantly more cases were diagnosed as distant in 2005 than in 2004 (6%). Additionally, fewer cases were staged as local in 2005 than in 2004 (45%).

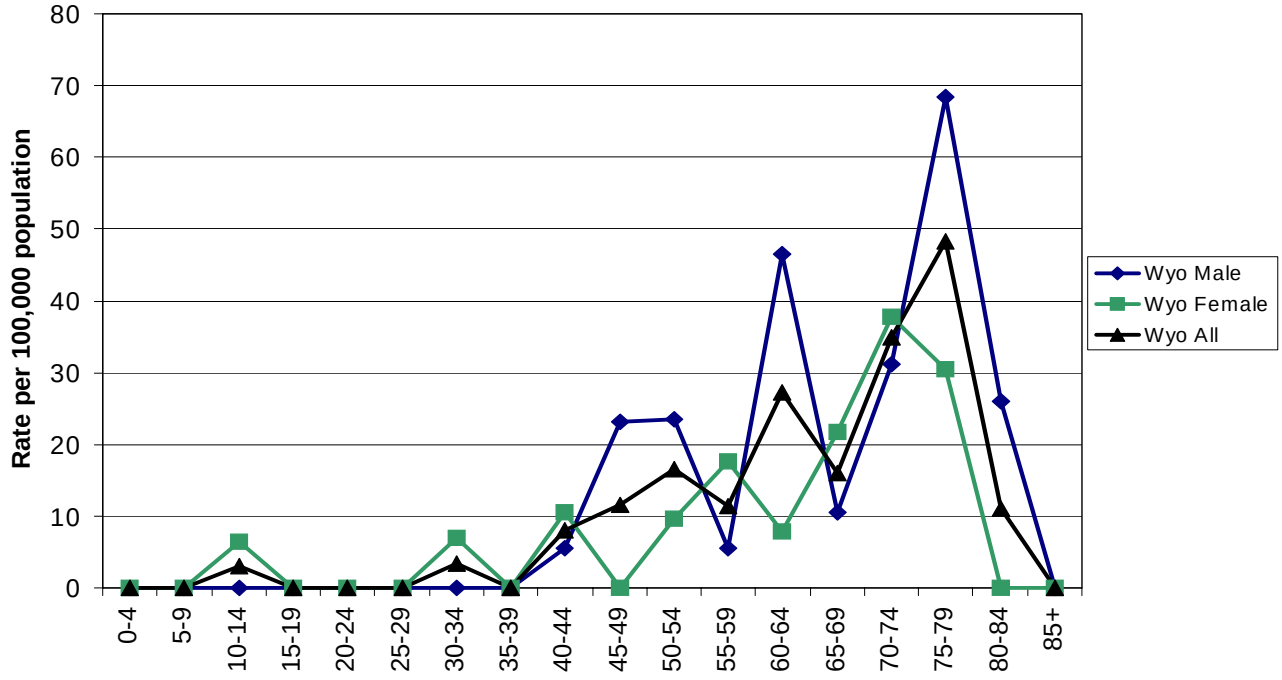
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



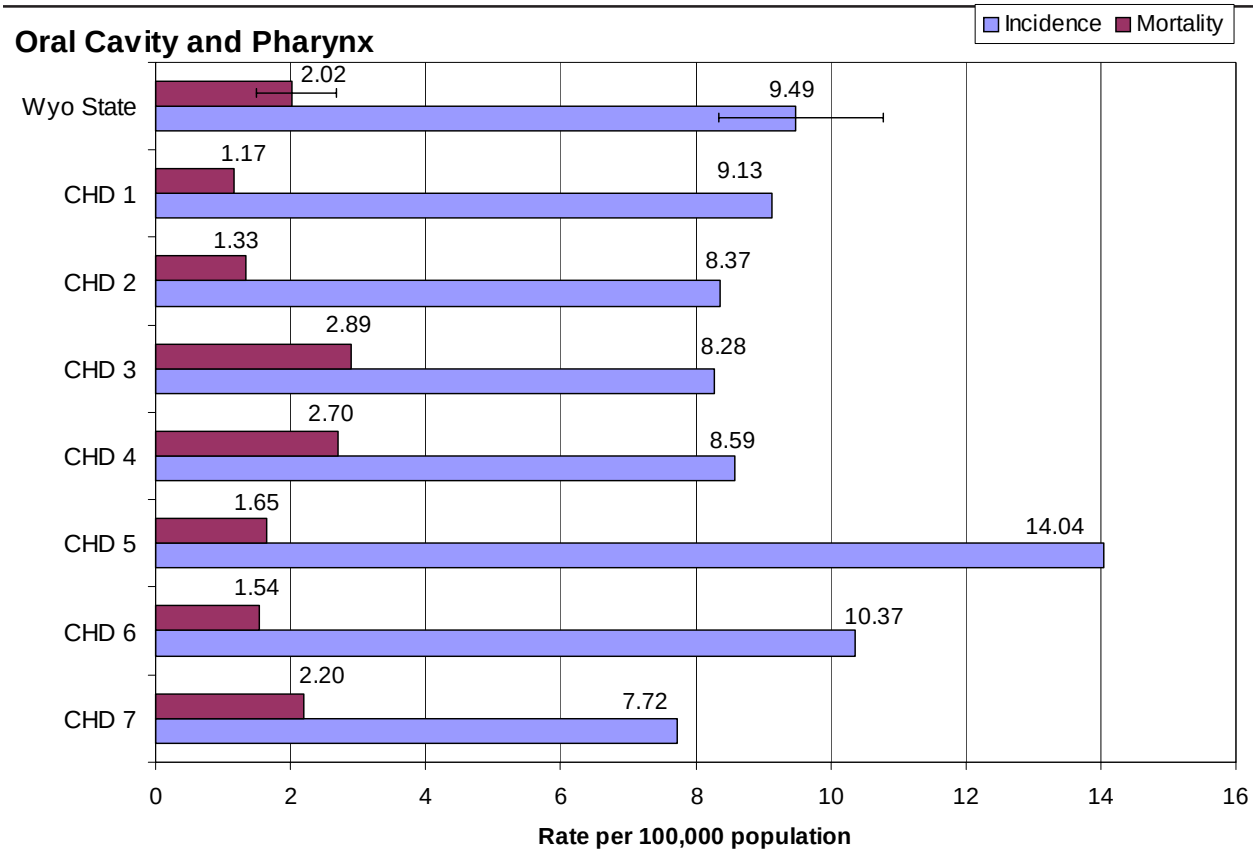
Age-Specific Incidence Rates - 2005

Oral Cavity and Pharynx



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Oral Cavity and Pharynx



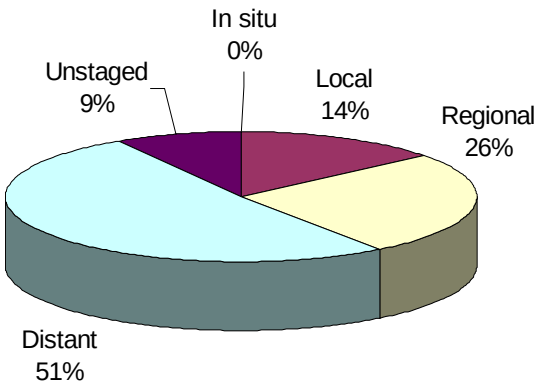
Ovary

Incidence and Mortality Summary

	Female
# Invasive Cases	35
Wyo Incidence	12.3
US Incidence	13.3
# Cancer Deaths	23
Wyo Mortality	7.9
US Mortality	9.1

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



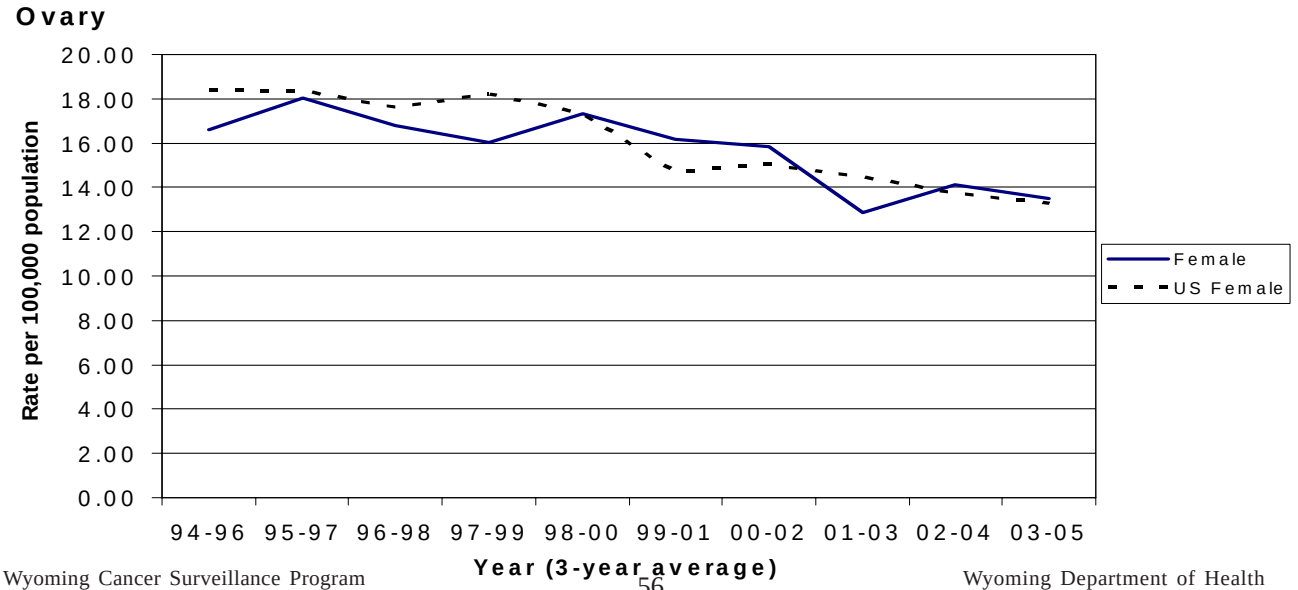
The incidence and mortality rates in Wyoming females for ovarian cancer were both slightly lower than the national rates. However, neither difference was statistically significant.

The 12-year incidence trend shows an apparent decrease after an increase from 01-03 to 02-04. The national rate shows a slight decrease since 00-02.

The percent of cases diagnosed as distant was down slightly while the rest of the percentages were essentially the same as the percentages in 2004.

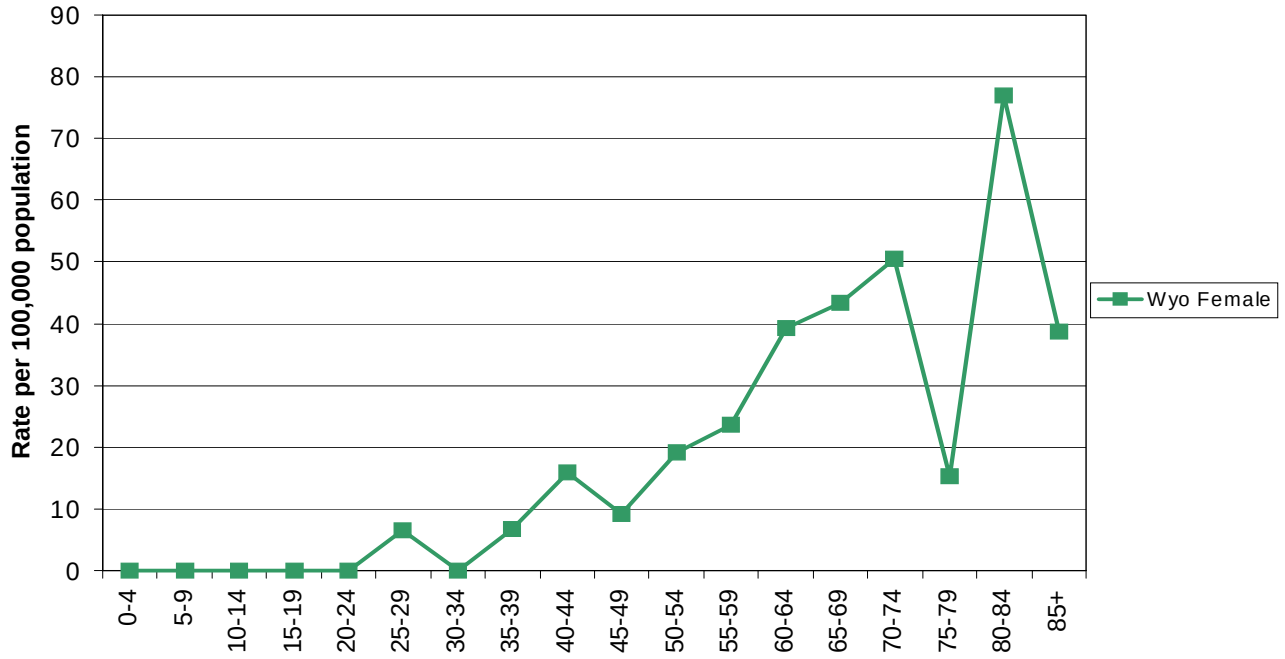
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



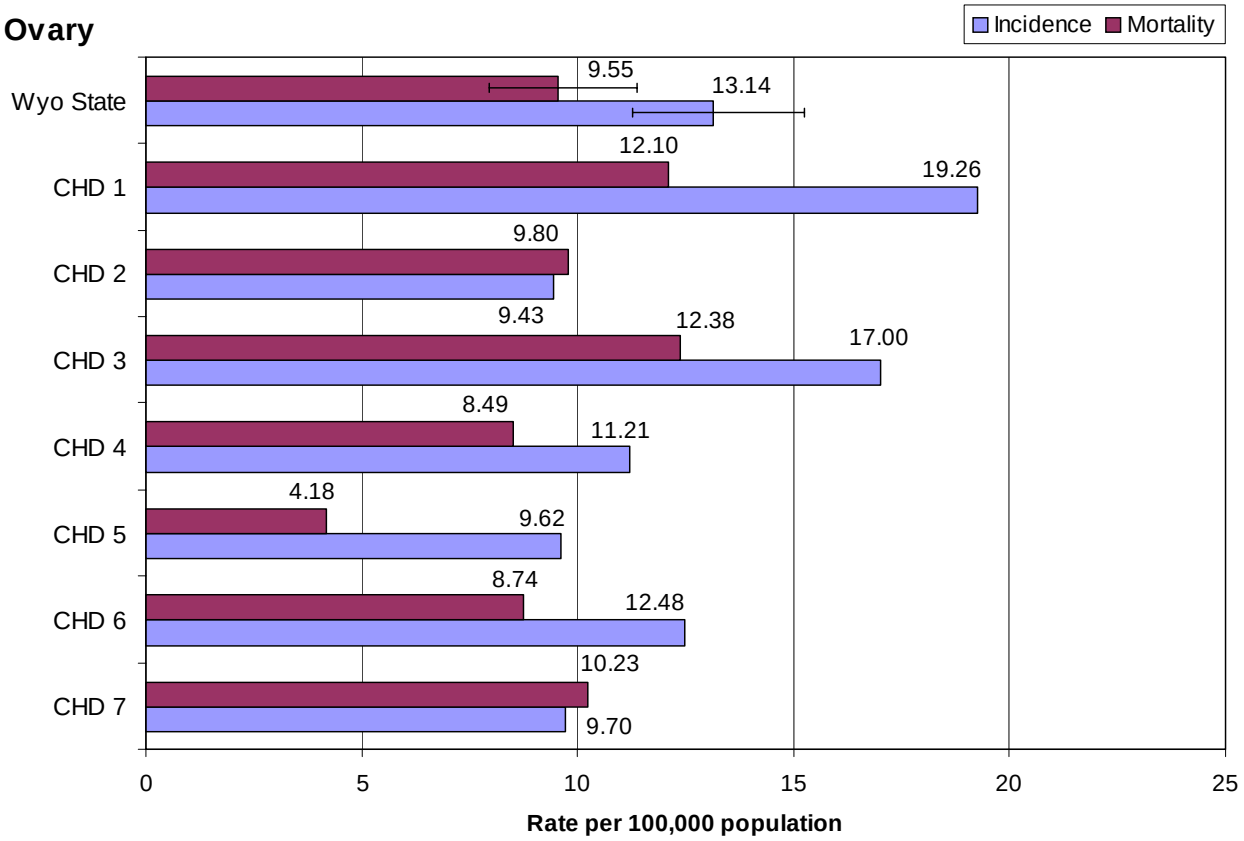
Age-Specific Incidence Rates, 2005

Ovary



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Ovary



Pancreas

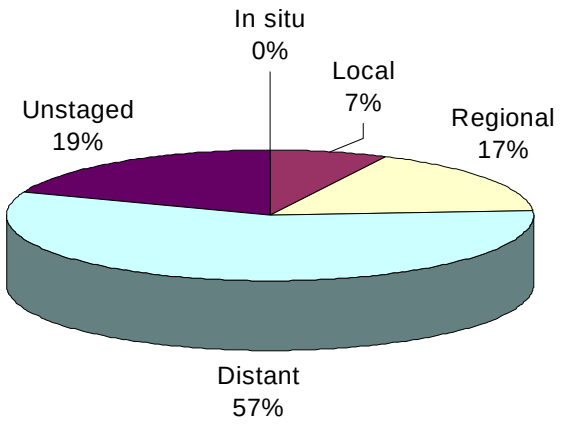
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	16	26	42
Wyo Incidence	6.2	9.2	7.8
US Incidence	12.7	9.9	11.1
# Cancer Deaths	32	30	62
Wyo Mortality	14.3	10.3	11.8
US Mortality	12.2	9.0	10.5

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



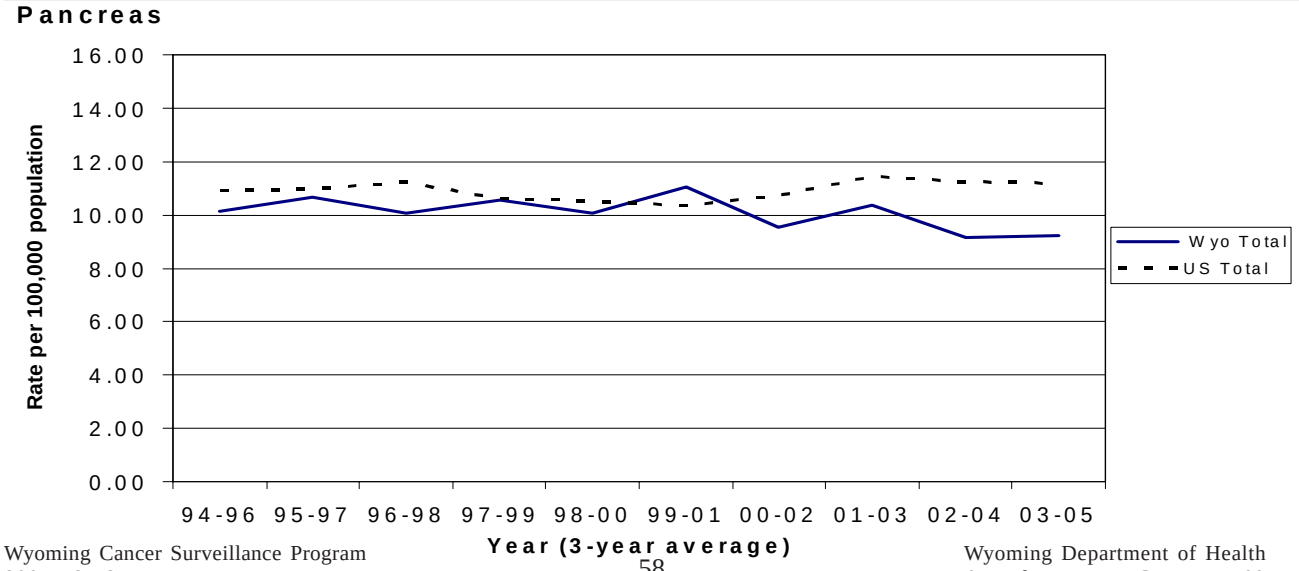
The incidence rates of cancer of the pancreas in Wyoming males, females, and the total population were all lower than the national rates. The mortality rate for males, females and total population were all slightly higher than the national rate. None of the differences were statistically significant.

Wyoming's trend shows a leveling off after a decrease from 01-03 to 02-04. Nationally, the rate also appears to be leveling off after a slight increase that started in 99-01.

A significantly lower percent of pancreas cancers were staged as regional in 2005 than in 2004 (17%), while a significantly higher percentage unstaged in 2005 than in 2004 (9%).

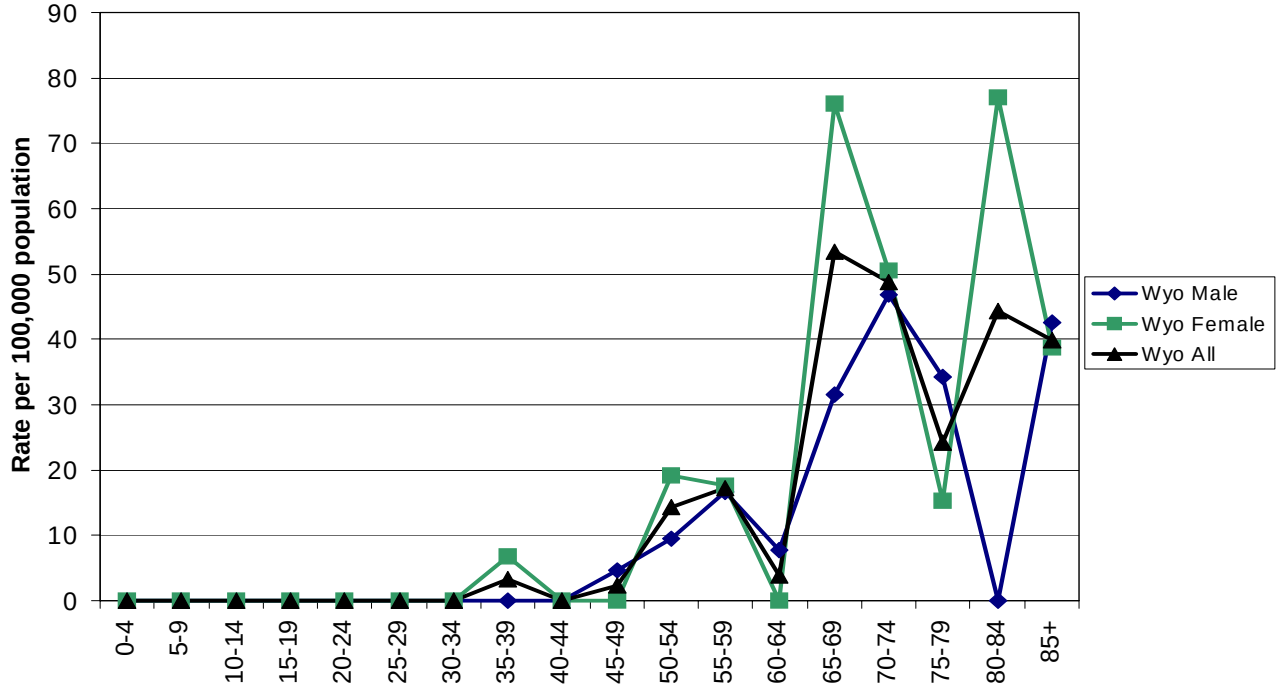
No statistically significant differences were found between the CHD's and state rates for incidence or mortality.

12-Year Incidence Trend



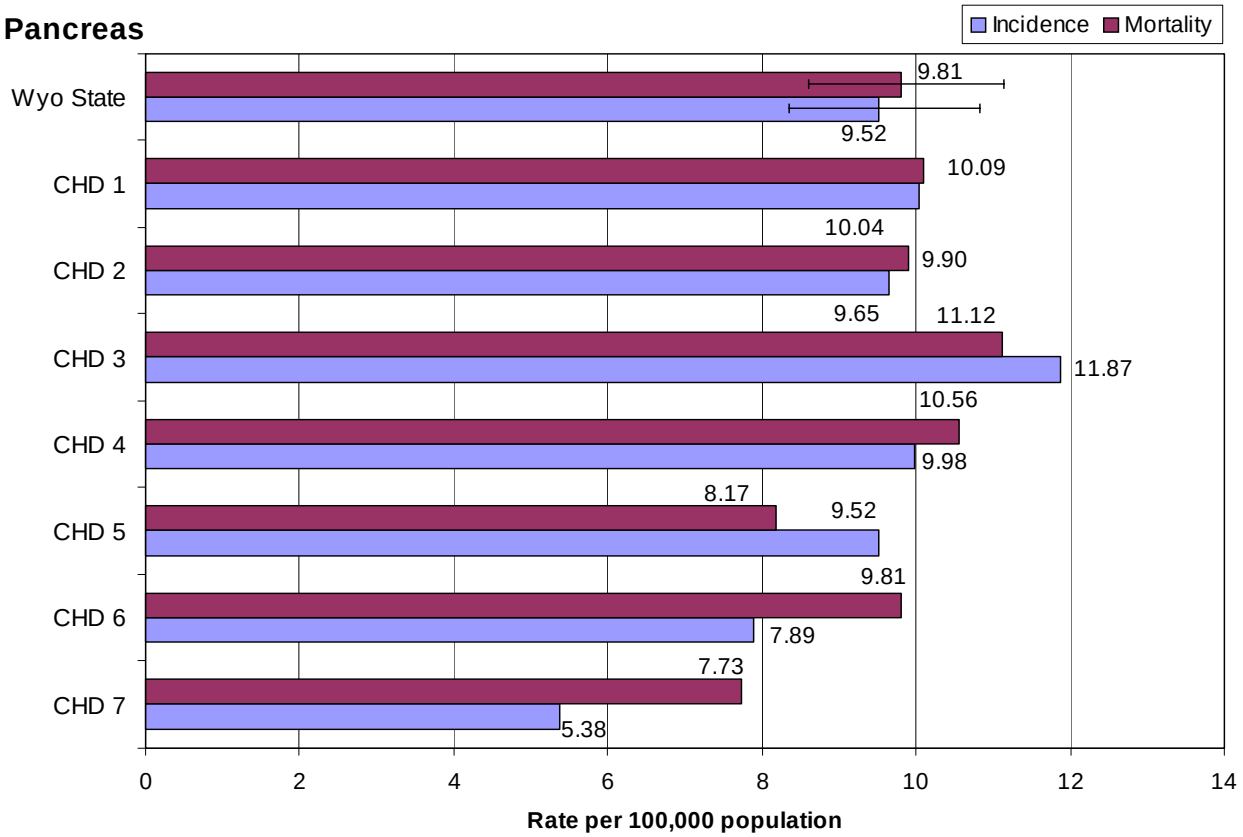
Age-Specific Incidence Rates - 2005

Pancreas



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Pancreas



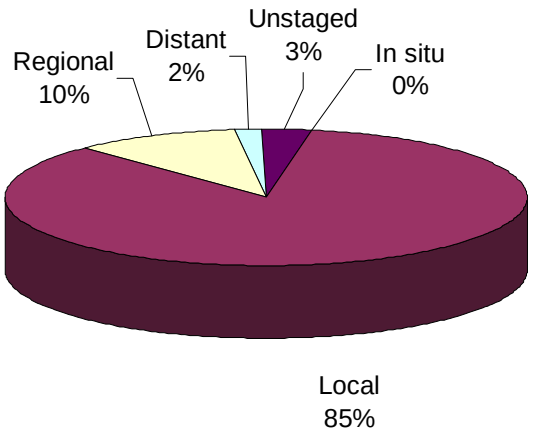
Prostate

Incidence and Mortality Summary

	Male
# Invasive Cases	359
Wyo Incidence	137.6
US Incidence	147.5
# Cancer Deaths	34
Wyo Mortality	16.6
US Mortality	23.4

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



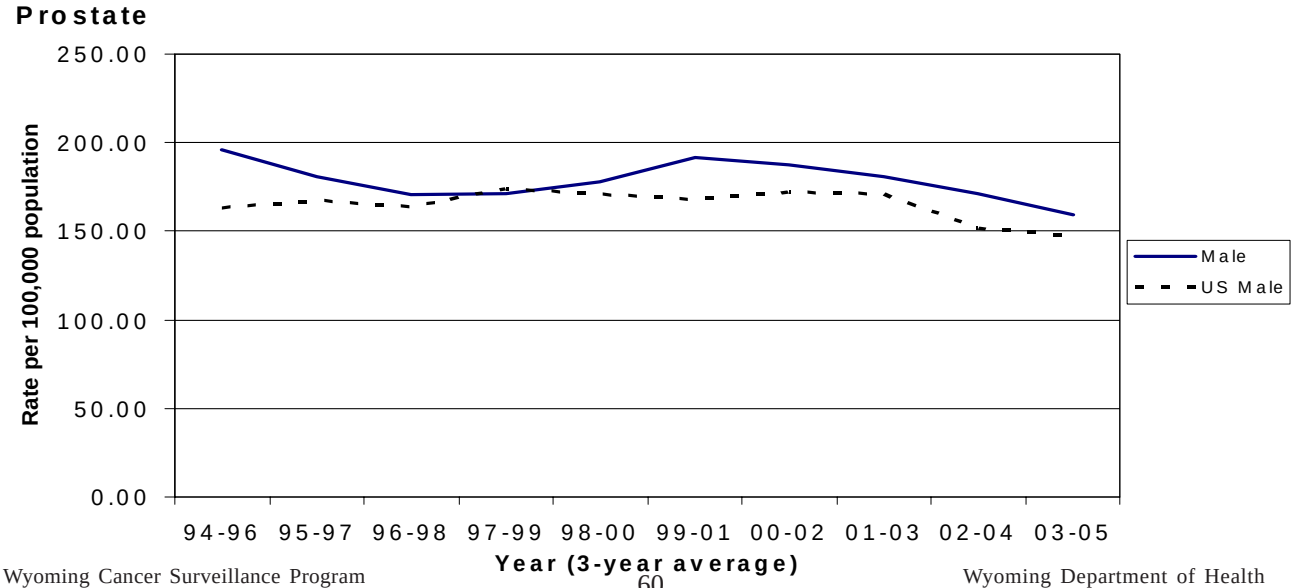
The incidence and mortality rate for prostate cancer in Wyoming males were lower than the national rate, though not significantly.

The modest decline in the incidence rate that started in 99-01 appears to be continuing through 03-05. The national rate is also on the decline since 01-03.

The percent of cases diagnosed at each stage in 2005 is essentially the same as in 2004.

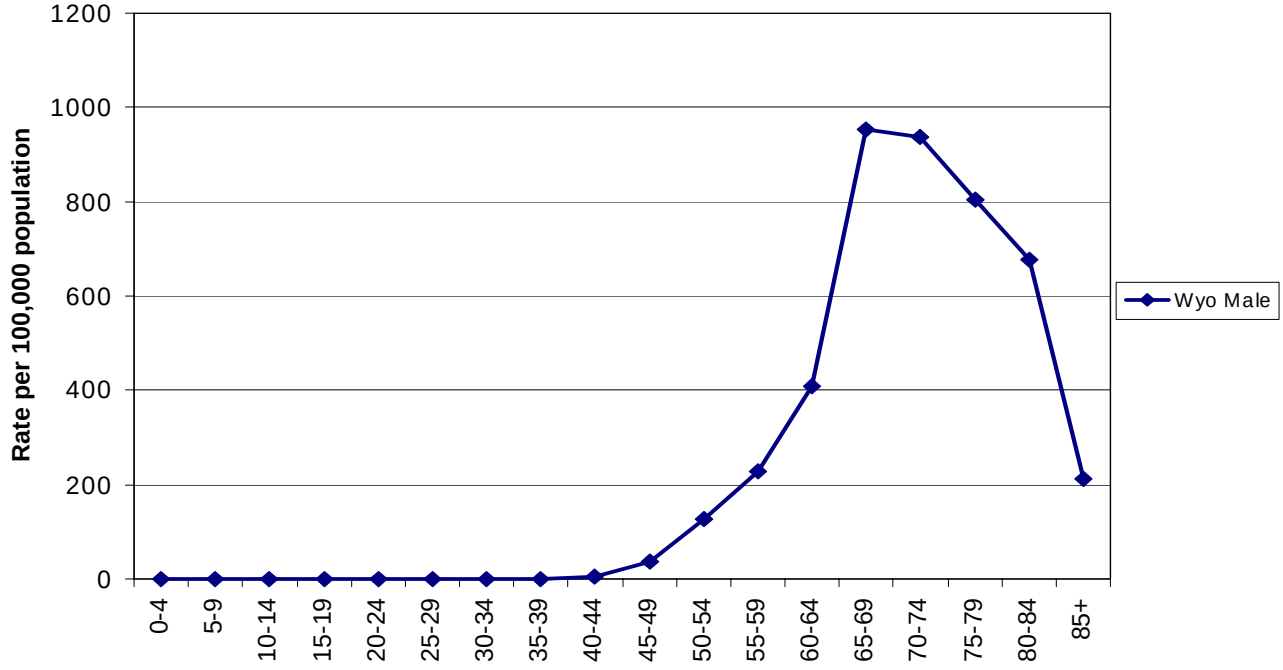
The incidence rate in CHD 1 was significantly higher than the state incidence rate from 2001 to 2005. Additionally, CHD 7 has a significantly lower mortality rate than the state from 2001 to 2005.

12-Year Incidence Trend



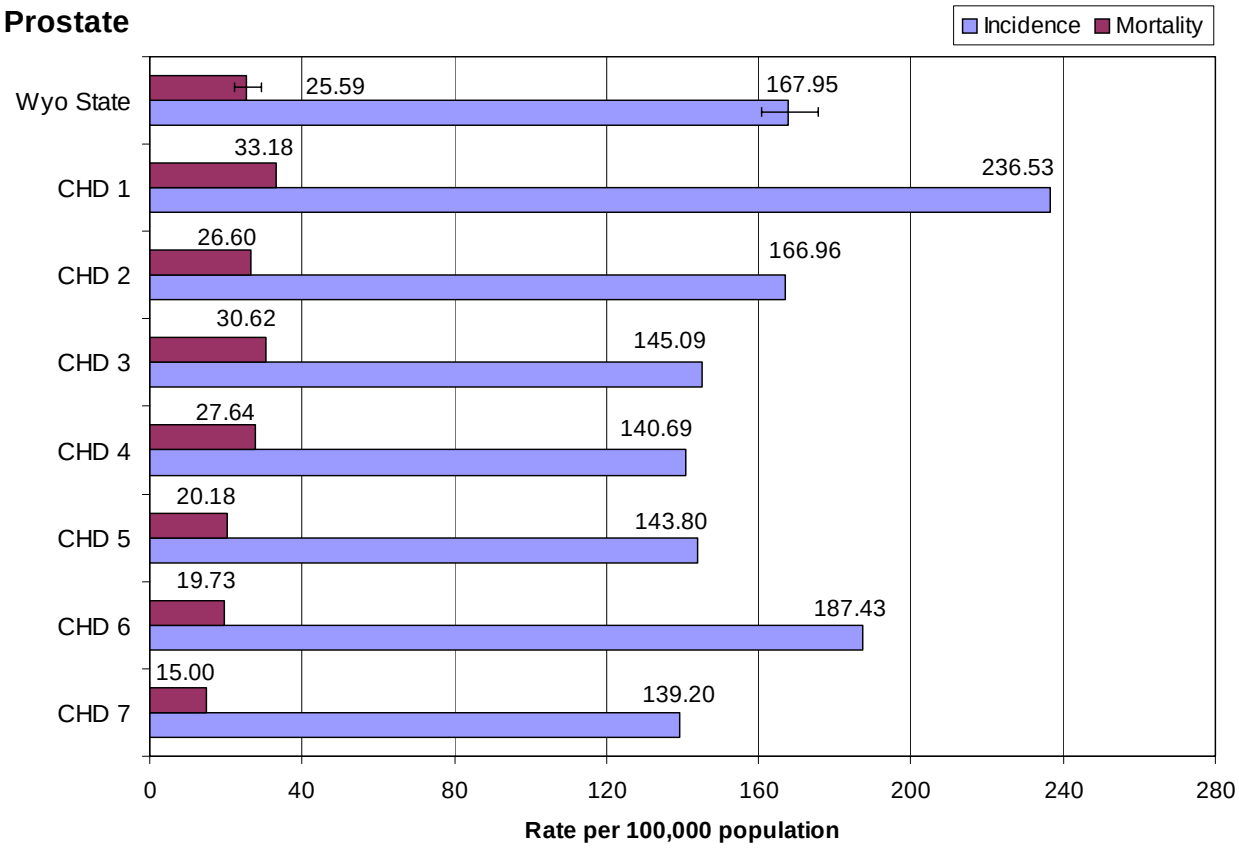
Age-Specific Incidence Rates, 2005

Prostate



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Prostate



Thyroid

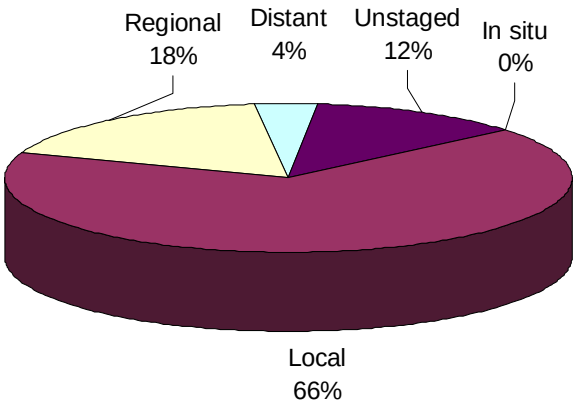
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	10	47	57
Wyo Incidence	3.7	17.7	10.6
US Incidence	5.0	14.9	9.9
# Cancer Deaths	1	2	3
Wyo Mortality	NC	NC	NC
US Mortality	0.5	0.5	0.5

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



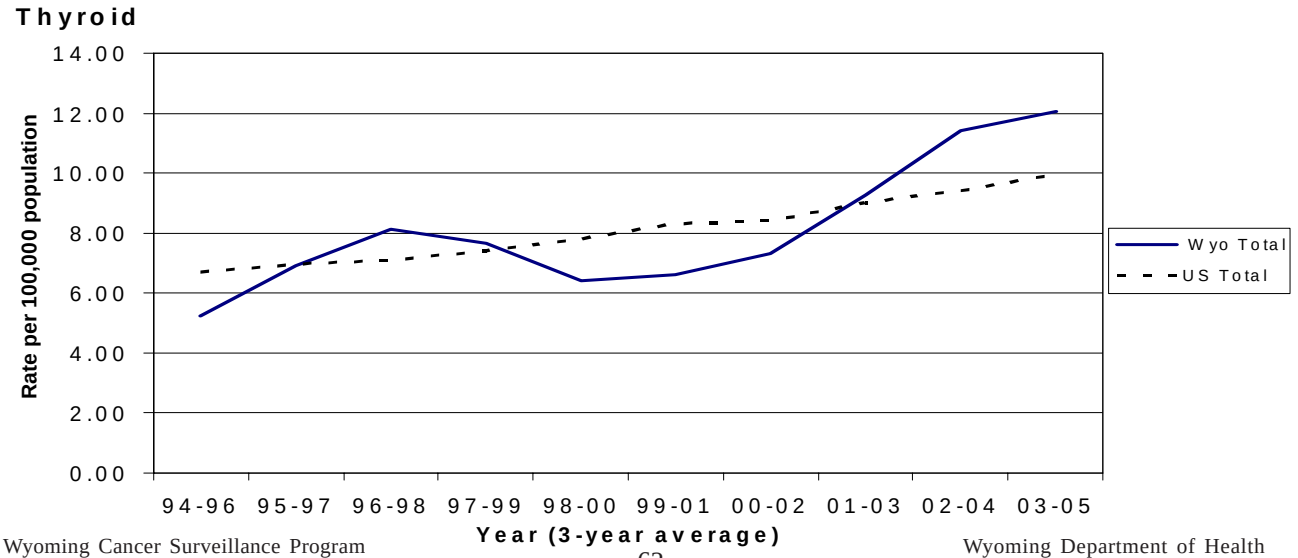
Incidence rates for thyroid cancer in Wyoming were higher than the national rates for females and total population, but a little lower in males. These differences were not statistically significant.

The trend for thyroid cancer in Wyoming shows a continuation of an increase that started in 00-02. The national rate also appears to be on the increase, though at a more modest pace.

The percentage of cases at each stage were basically the same in 2005 as in 2004.

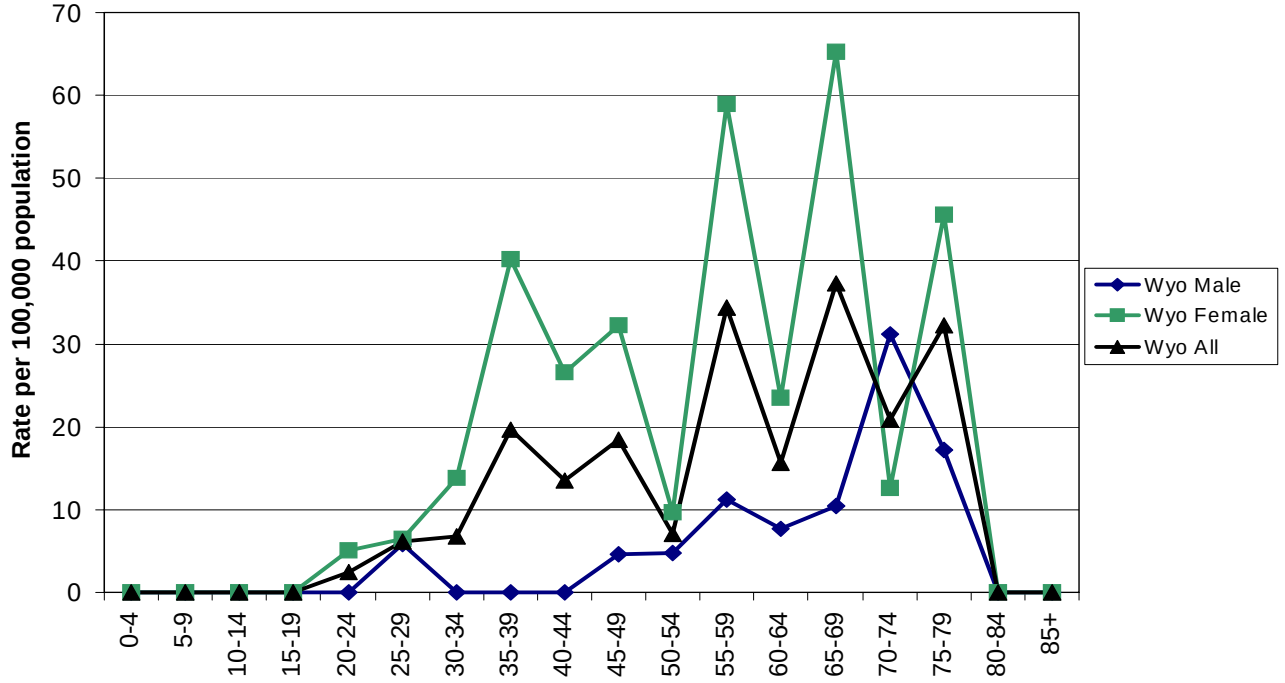
No statistically significant differences were found between the CHD's and state rate for incidence. Additionally, no region reported more than 5 deaths due to thyroid cancer from 2001-2005.

12-Year Incidence Trend



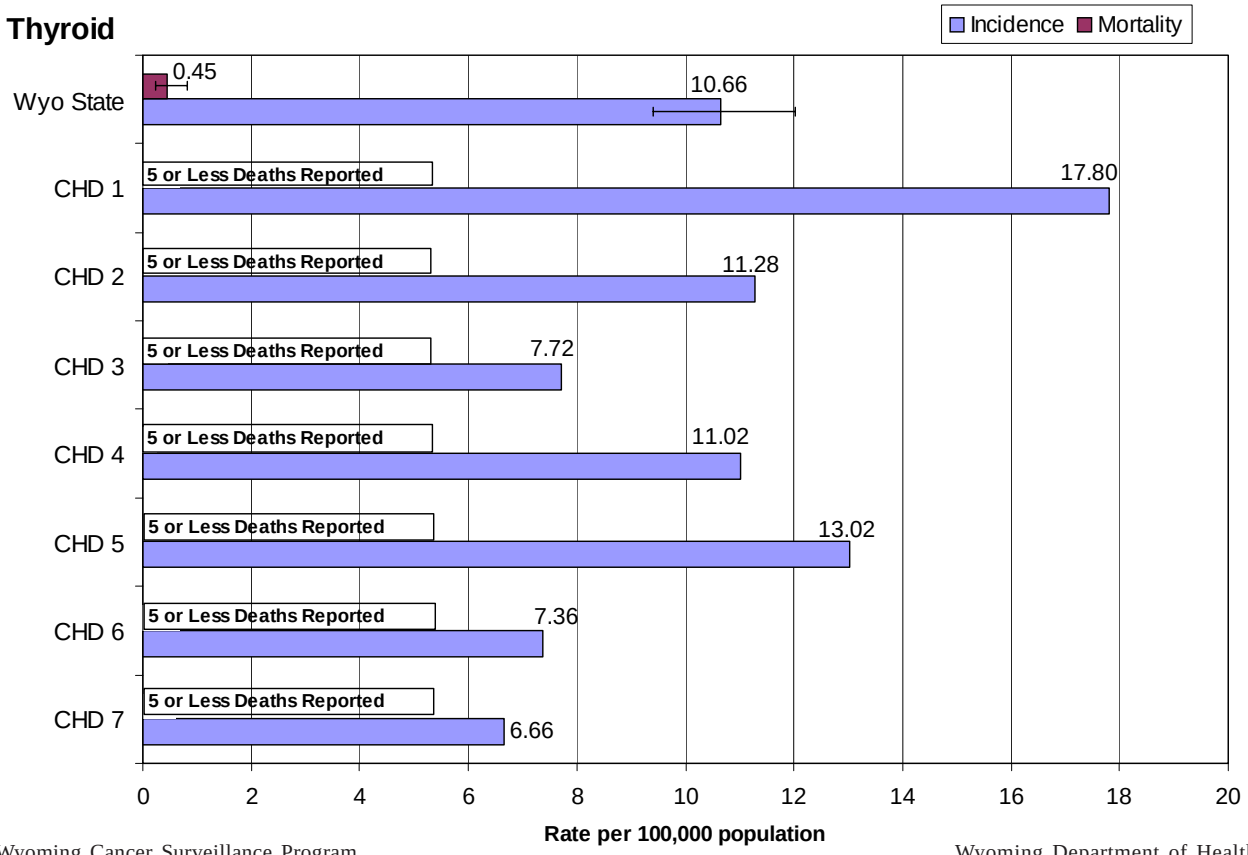
Age-Specific Incidence Rates - 2005

Thyroid



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Thyroid



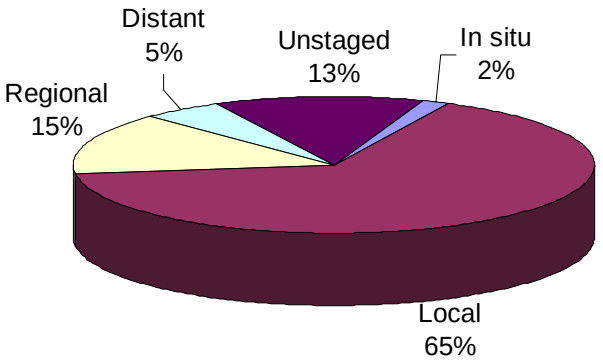
Uterine (Corpus Uteri & Uterus)

Incidence and Mortality Summary

	Female
# Invasive Cases	59
Wyo Incidence	20.7
US Incidence	23.8
# Cancer Deaths	9
Wyo Mortality	3.3
US Mortality	3.9

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



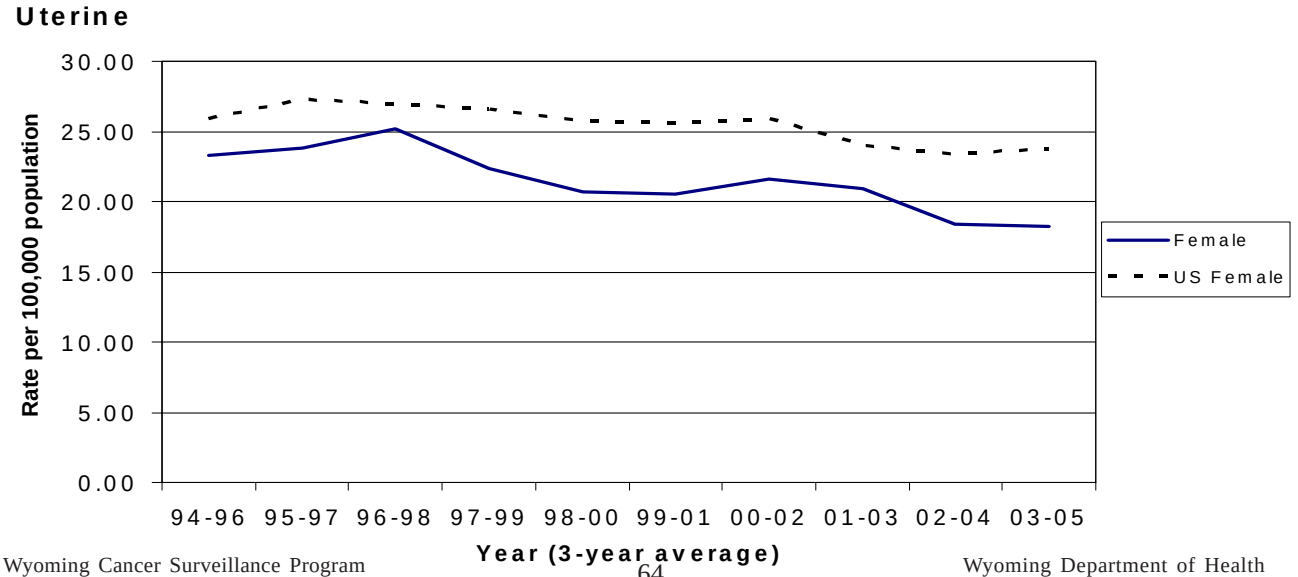
The incidence and mortality rates in Wyoming females for uterine cancer are both lower than the national rates, though not significantly.

There appears to be a leveling off of the incidence of uterine cancer from 02-04 to 03-05 after a decrease from 00-02 to 02-04. The incidence trend for the nation also shows a leveling off starting in 02-04.

The percentage of cases in each stage were basically unchanged from 2004.

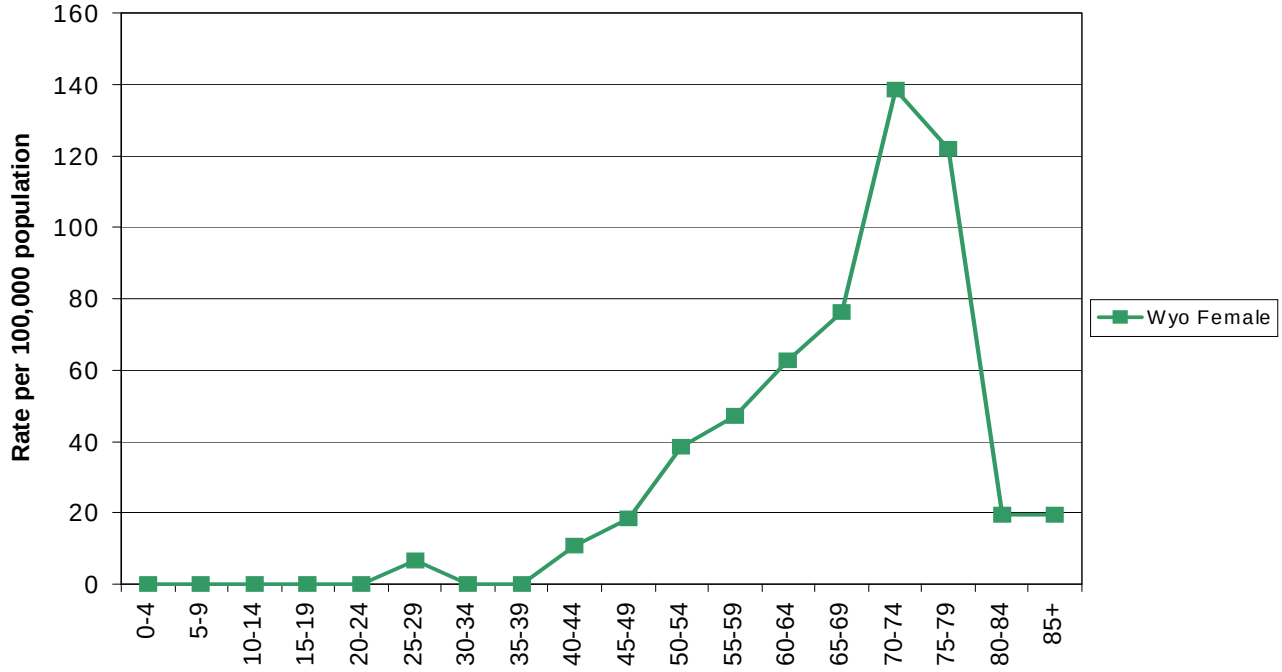
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



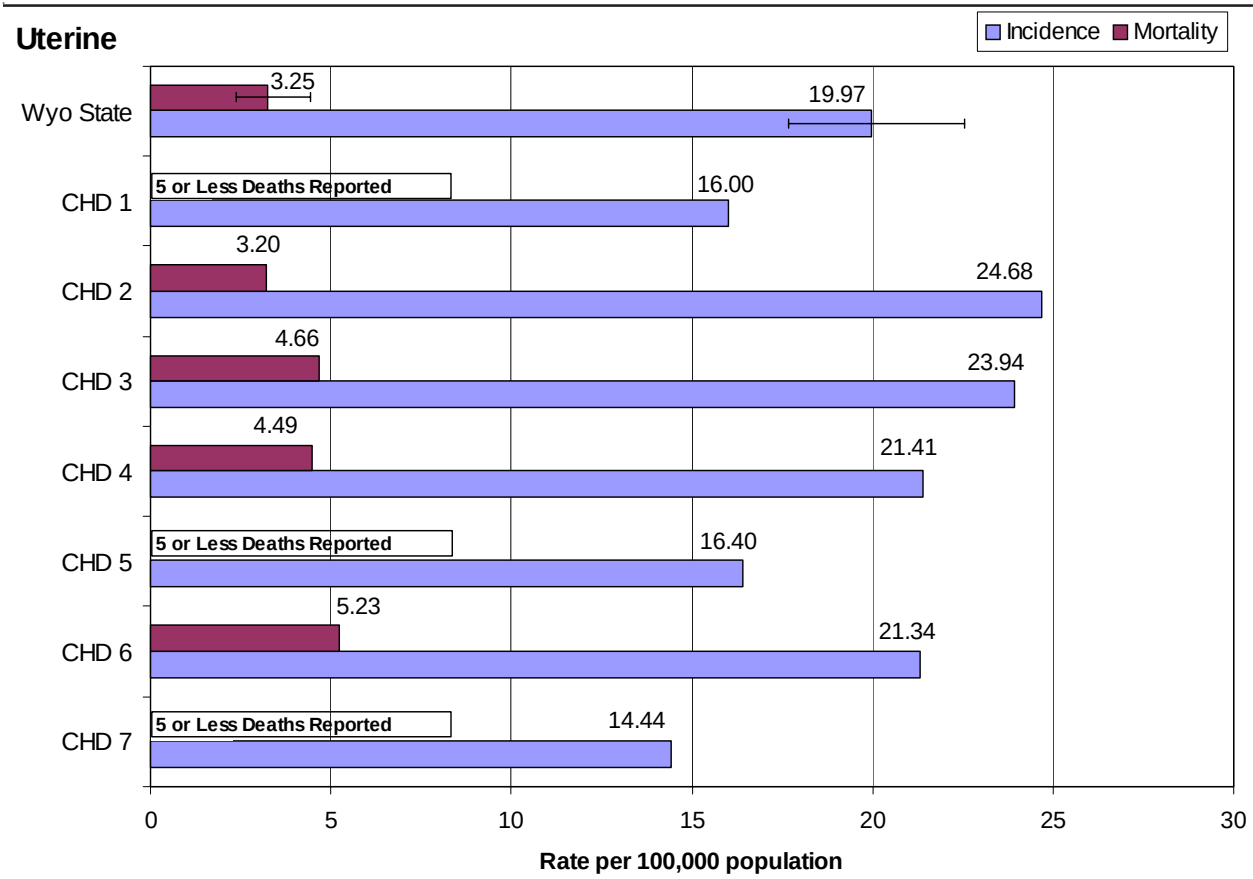
Age-Specific Incidence Rates, 2005

Uterine



Cancer Health District Incidence and Mortality
5-Year Average, 2001-2005

Uterine



Appendix A

References

Centers for Disease Control and Prevention. CDC Wonder. (http://www.cdc.gov)

Surveillance, Epidemiology, and End Results (SEER) Program Public-Use Data (1969-2003) (SEER*STAT,Version 6.2.4), National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2006, based on November 2005 submissions.

Wyoming Department of Administration and Information, Economic Analysis Division. Wyoming State and County Population. (http://eadiv.state.wy.us/eahome.htm)

Surveillance, Epidemiology, and End Results (SEER) U.S. Population Data, National Cancer Institute (http://seer.cancer.gov/popdata/)

Age-Adjustment

Previous to data year 1999, the Wyoming Cancer Surveillance Program (WCSP) performed age-adjustment of cancer mortality rates using the 1940 standard population and a 10-year age group, or the 1970 standard population using 5-year age groups. Starting with the data year 1999, WCSP began using the Year 2000 standard population with 5-year age groups to calculate cancer mortality and cancer incidence rates.

The decision to use 5-year age groups was made to keep WCSP data calculations "in-line" with the national cancer reports published through SEER and the National Cancer Institute. The 5-year age group also enables cancer prevention programs to use Wyoming reports (e.g., Vital Records) as printed versus requesting specially calculated rates.

"Age-adjusted rates should be used for comparative purposes only and should not be interpreted as the absolute risk of the disease or death." As can be seen in Chart A (below) and Chart B, (following page), the change in standard population affects the magnitude of the age-adjusted rates but not the trends of the rates. In general, the age-adjusted rate is only appropriate to track trends over time or to make comparisons among groups using the same population standard.

Chart A:

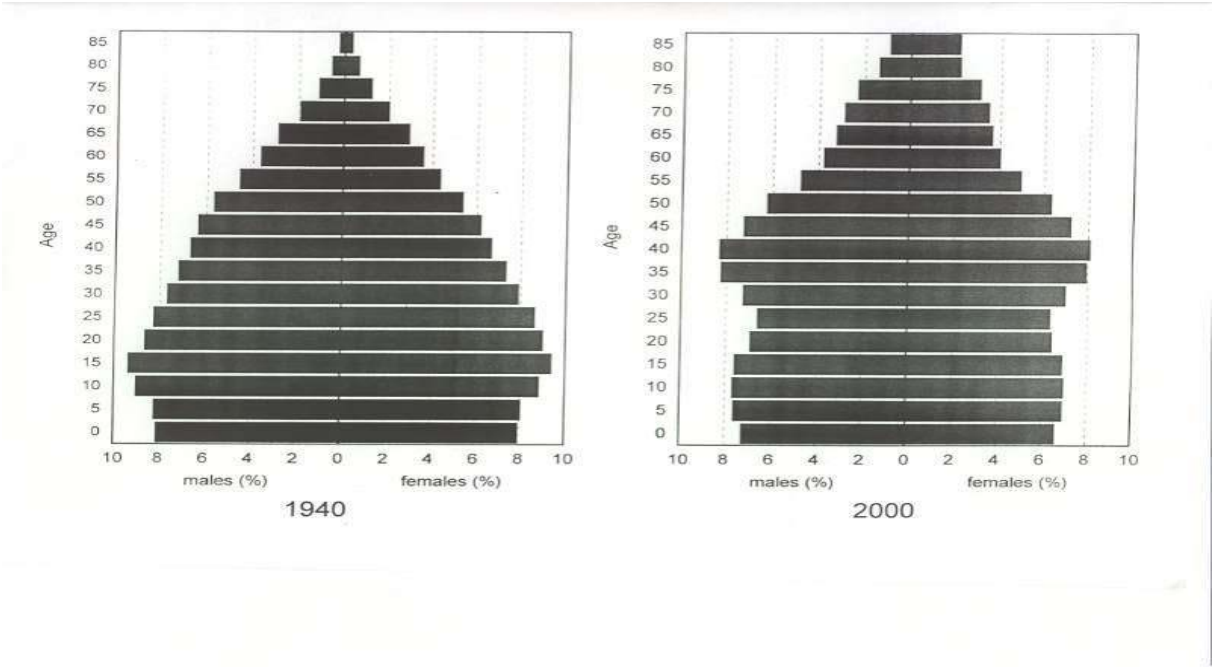
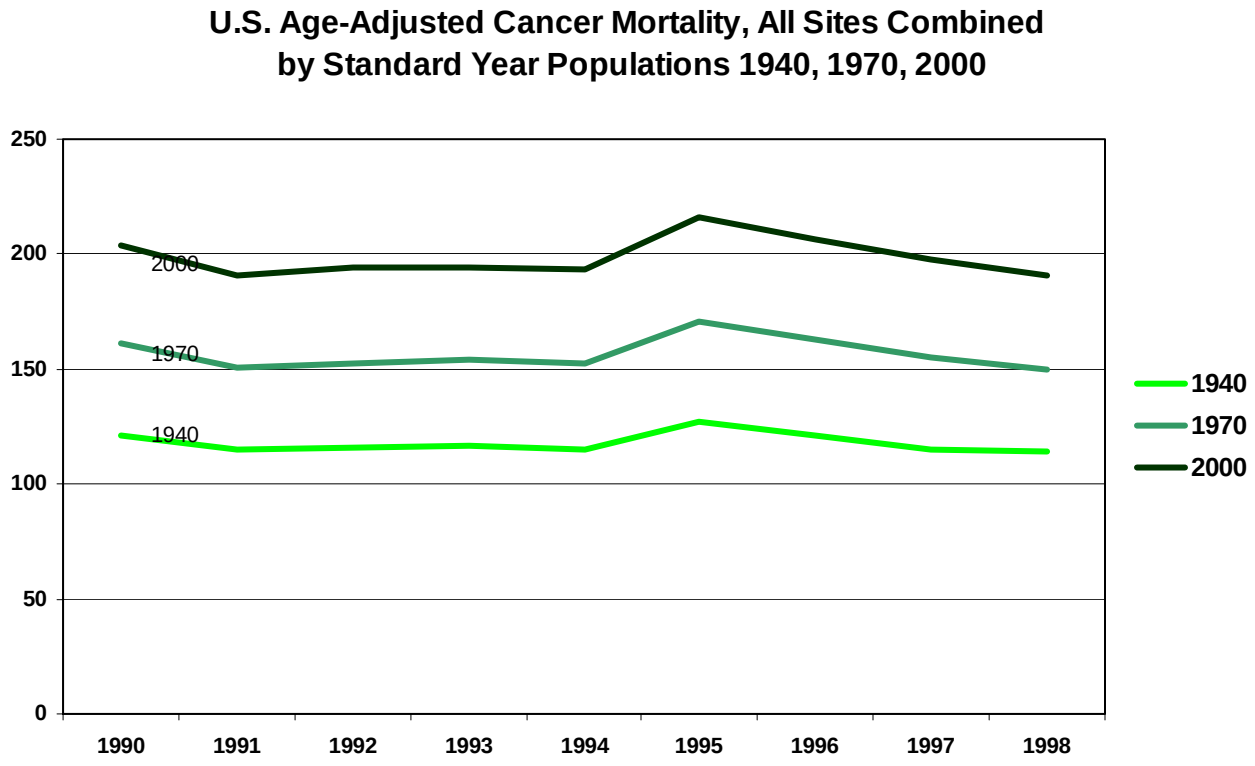


Chart B:


U.S. Age-Adjusted Cancer Mortality, All Sites Combined
by Standard Year Populations 1940, 1970, 2000
250
200
150
100
50
0
2000
1970
1940
1990
1991
1992
1993
1994
1995
1996
1997
1998
1940
1970
2000