

# State of Wyoming



## Department of Health

### Annual Report on Cancer in Wyoming - 2001

Deborah K. Fleming, Ph.D., Director

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# **State of Wyoming Department of Health**

## **Annual Report on Cancer in Wyoming - 2001**

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Karl Musgrave, D.V.M., M.P.H.  
State Epidemiologist

Additional information and copies may be obtained from:  
Wyoming Cancer Surveillance Program  
6101 Yellowstone Rd., Suite 259A  
Cheyenne, WY 82002  
(307) 777-7951 telephone  
(800) 458-5847 telephone  
(307) 777-8604 fax  
<http://wdhfs.state.wy.us/cancer/>

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## Executive Summary

Cancer rates in Wyoming remained relatively steady for the most part in 2001, and are still lower than comparable national rates. Incidence for all cancer sites combined for Wyoming in 2001 were up slightly to 442.20 per 100,000 population compared to the 2000 national rate of 478.9 per 100,000 population. Mortality for all sites for Wyoming in 2001 was up to 239.2 per 100,000 population, which is also lower than the national rate of 244.6 per 100,000 for the year 2000. Only the incidence rate for females for all cancer sites was significantly different (lower) than the national rate.

There were no individual cancers that were significantly higher than national rates for incidence or mortality. The incidence rates for female breast and for male non-hodgkin lymphoma were significantly lower than the national rates. No mortality rates were significantly different from the national rate.

By using a 3-year average instead of single year data to track changes over time the trends for most cancers flattened out somewhat. However, some rates including kidney & renal pelvis, melanoma of the skin, pancreas, and prostate suggest a possible increase. Still others (bladder - urinary, oral cavity, and ovarian) show the beginning of a possible decrease from previous years.

Four of the top five (5) cancer sites for incidence were the same as the previous year: prostate, female breast, lung/bronchus, and colorectal. Melanoma of the skin has replaced bladder cancer as the fifth most common cancer in the state. The most common cancer for incidence by age groups were 35-54 breast, 55-79 prostate, and 80-85+ colorectal.

The top 5 cancer sites for mortality were lung/bronchus, colorectal, prostate, ill-defined, and breast. The most common cancer for mortality in age groups were 35-39 breast, 40-44 brain/CNS, 45-49 breast, and 50-85+ lung.



## 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 and prostate specific antigen (PSA) improves the survival rates and decreases mortality.

### Wyoming Cancer Surveillance Program

Cancer is a reportable disease in Wyoming. State law requires physicians, hospitals and laboratories to report information on all cases of cancer they diagnose or treat in Wyoming to the Cancer Surveillance Program, 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. A Certified Tumor Registrar reviews each case submitted for accuracy and completeness 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 307-777-7951. 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 2001 except for the 12-year incidence trend, which used 3-year averages (e.g., 96-98 for 1997 and 97-99 for 1998). The defined population was 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 also is 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 2001 cancer cases of Wyoming residents received by WCSP as of June 21, 2002.

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 are collected by the SEER Program (Surveillance, Epidemiology, and End Results). WCSP used SEER STAT for this report. **The national SEER rates presented in this report were calculated using 2000 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 2001 for Wyoming rates. The defined population is the state of Wyoming, counties, and Cancer Health Districts (see page 13).

Wyoming Data -- Mortality data was 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 2000 data for whites.** See Appendix A for reference source.

## Population

Wyoming Data -- Population estimates for Wyoming state and counties were obtained from SEER STAT at <http://seer.cancer.gov>. These estimates represent a modification of the annual time series of July 1 county population estimates by age, sex, race, and Hispanic origin produced by the US Census Bureau's Population Estimates Program, with support from the National Cancer Institute through an interagency agreement. Because NCI 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 2001 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 US 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 US 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”, “statistically”, or “significant”. The formula used can be found in most statistics books or by calling the WCSP Epidemiologist at (800) 458-5847.

### 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 intersection one another, then there is no difference between the two rates. However, if the confidence intervals do not intersect one another then there is statistical significance. This is indicated in the report as “statistically significant”, “statistically”, or “significant”.

## Staging

<u>Distant Stage</u>	direct extension beyond adjacent organs or tissues or metastases to distant site(s) or distant lymph nodes.
<u>Early Stage</u>	includes In Situ and Local Stage cases.
<u>Invasive</u>	cancer has infiltrated surrounding tissue.
<u>In Situ</u>	cancer has not invaded the organ.
<u>Late Stage</u>	includes Regional Stage and Distant Stage cases.
<u>Local Stage</u>	cancer has invaded the organ of origin.
<u>Regional Stage</u>	cancer has invaded beyond the organ of origin by direct extension to adjacent organs/ tissues and/or regional lymph nodes.

## 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

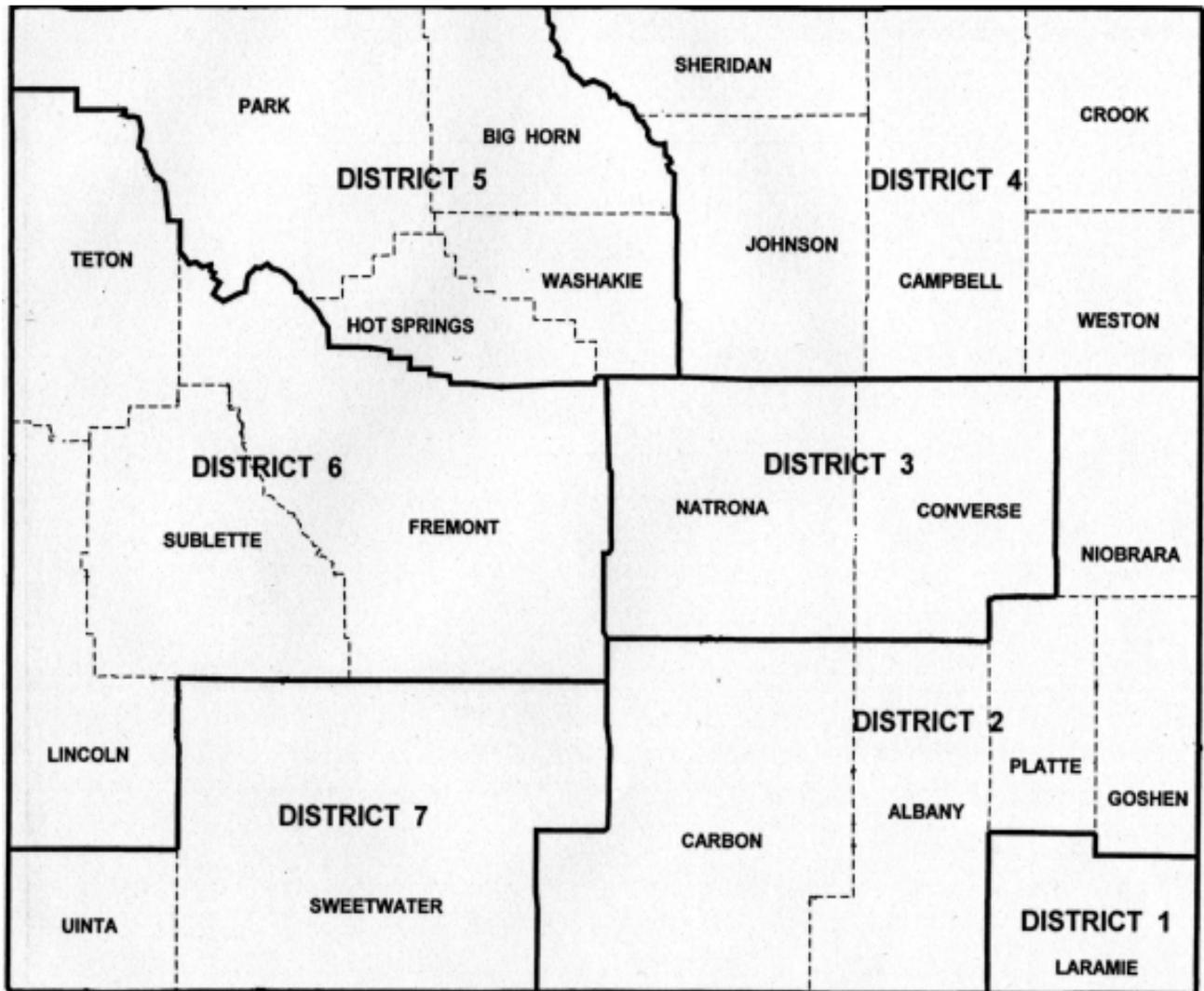
CHD 3 Converse County, Natrona County

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 - 2001**

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

## Wyoming Incidence<sup>1</sup> for 2001: 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	80	17	97	0	0	0	0	0	0	1
Bones and Joints	3	2	5	0	0	2	0	1	0	0
Brain/CNS	26	9	35	2	0	1	0	1	2	1
Breast	7	283	290	0	0	0	0	1	1	2
Cervix	0	16	16	0	0	0	0	0	0	2
Colorectal	109	108	217	0	0	0	1	0	0	2
Esophagus	19	10	29	0	0	0	0	0	0	0
Eye	7	1	8	0	0	0	0	0	0	1
Gallbladder	1	7	8	0	0	0	0	0	0	0
Hodgkin	9	9	18	0	0	2	2	2	0	2
Ill-Defined	32	26	58	0	0	0	0	0	1	1
Kidney	36	27	63	1	0	0	0	0	0	1
Larynx	9	2	11	0	0	0	0	0	0	0
Leukemia	40	22	62	0	2	0	1	1	2	2
Liver	2	5	7	0	0	0	0	0	0	0
Lung	136	101	237	0	0	0	0	0	0	0
Melanoma	72	44	116	0	0	0	0	5	1	2
Myeloma	13	8	21	0	0	0	0	0	0	0
Nasal	2	1	3	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	31	41	72	0	0	0	1	0	1	0
Oral Cavity	27	11	38	0	0	0	0	0	1	0
Other Biliary	3	3	6	0	0	0	0	0	0	0
Other Digestive Organs	1	7	8	0	0	0	0	0	0	0
Other Endocrine including Thymus	1	3	4	1	0	0	0	0	1	0
Other Female	0	10	10	1	0	0	0	0	0	0
Other Male	4	0	4	0	0	0	0	0	0	0
Other Non-Epithelial Skin	5	4	9	0	0	0	0	0	1	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0
Other Urinary Organs	4	1	5	0	0	0	0	0	0	0
Ovary	0	24	24	0	0	0	0	1	0	0
Pancreas	27	30	57	0	0	0	0	0	0	0
Prostate	428	0	428	0	0	0	0	0	0	0
Small Intestine	4	5	9	0	0	0	0	0	0	0
Soft Tissue including Heart	8	4	12	1	1	0	0	0	1	1
Stomach	11	11	22	0	0	0	0	0	0	0
Testis	21	0	21	0	0	0	1	3	3	5
Thyroid	10	27	37	0	0	0	0	2	4	7
Uterine	0	61	61	0	0	0	0	0	0	0
Mesothelioma	4	1	5	0	0	0	0	0	0	0
All sites	1196	944	2140	6	3	5	6	17	19	30

<sup>1</sup>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	0	0	0	2	2	1	0	0	2
Bladder	0	1	3	4	5	11	17	18	19	15	3
Bones and Joints	0	0	0	0	0	0	0	1	1	0	0
Brain/CNS	3	3	1	4	1	1	6	3	4	0	2
Breast	9	21	20	44	30	42	34	36	20	15	15
Cervix	2	3	1	0	2	0	2	1	2	0	1
Colorectal	0	5	8	11	21	29	22	30	30	32	26
Esophagus	0	2	1	1	2	2	5	3	5	4	4
Eye	1	0	2	1	0	0	0	1	0	2	0
Gallbladder	0	0	0	0	1	1	1	1	0	2	2
Hodgkin	1	3	1	1	1	2	0	1	0	0	0
Ill-Defined	1	1	3	3	3	6	12	12	8	5	2
Kidney	1	4	3	8	3	7	7	10	7	7	4
Larynx	1	0	0	1	3	1	2	1	1	1	0
Leukemia	0	3	5	2	5	8	13	8	4	5	1
Liver	0	0	0	0	0	1	1	1	2	0	2
Lung	1	2	4	20	21	30	41	46	33	27	12
Melanoma	3	7	13	14	12	9	14	13	10	5	8
Myeloma	0	0	1	2	2	0	3	7	4	2	0
Nasal	1	0	1	0	1	0	0	0	0	0	0
Non-Hodgkin Lymphoma	4	3	1	3	7	7	10	18	6	6	5
Oral Cavity	0	3	2	6	3	4	7	4	3	3	2
Other Biliary	0	0	0	0	0	0	0	2	3	1	0
Other Digestive Organs	0	0	1	0	0	1	3	1	1	1	0
Other Endocrine including Thymus	0	1	0	0	0	0	0	1	0	0	0
Other Female	1	0	1	0	0	0	3	1	0	1	2
Other Male	0	0	0	1	0	0	1	1	0	1	0
Other Non-Epithelial Skin	0	0	1	1	0	2	1	0	1	1	1
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary Organs	0	0	0	0	0	0	0	1	3	0	1
Ovary	0	0	2	2	3	3	3	2	4	0	4
Pancreas	1	1	1	6	2	11	9	11	9	3	3
Prostate	0	0	5	22	35	72	92	83	72	30	17
Small Intestine	0	0	0	0	1	2	1	4	0	1	0
Soft Tissue including Heart	1	2	0	1	0	1	0	3	0	0	0
Stomach	0	0	1	1	1	4	1	4	2	4	4
Testis	1	4	2	2	0	0	0	0	0	0	0
Thyroid	5	6	1	3	1	1	3	1	3	0	0
Uterine	1	6	4	4	10	7	8	11	4	4	2
Mesothelioma	0	0	0	0	1	0	2	2	0	0	0
All sites	38	81	89	168	177	267	326	344	261	178	125

## Wyoming Mortality<sup>1</sup> for 2001: 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	14	6	20	0	0	0	0	0	0	0
Bones and Joints	2	1	3	0	0	0	1	0	1	0
Brain/CNS	15	4	19	0	0	0	0	0	0	0
Breast	0	60	60	0	0	0	0	1	0	1
Cervix	0	9	9	0	0	0	0	0	0	0
Colorectal	50	50	100	0	0	0	0	0	0	0
Esophagus	21	3	24	0	0	0	0	0	0	0
Eye	0	0	0	0	0	0	0	0	0	0
Gallbladder	2	2	4	0	0	0	0	0	0	0
Hodgkin	3	2	5	0	0	0	0	1	0	0
Ill-Defined	31	30	61	0	0	0	0	0	0	0
Kidney	12	11	23	0	0	1	0	0	0	0
Larynx	4	3	7	0	0	0	0	0	0	0
Leukemia	21	16	37	0	1	1	0	0	0	0
Liver	9	7	16	0	0	0	0	0	0	1
Lung	133	98	231	0	0	0	0	0	0	2
Melanoma	6	2	8	0	0	0	0	0	0	0
Myeloma	9	14	23	0	0	0	0	0	0	0
Nasal	0	1	1	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	14	17	31	0	0	0	0	0	0	0
Oral Cavity	9	4	13	0	0	0	0	0	0	0
Other Biliary	6	11	17	0	0	0	0	0	0	0
Other Digestive Organs	2	0	2	0	0	0	0	0	0	0
Other Endocrine including Thymus	1	0	1	0	0	0	0	0	0	0
Other Female	0	5	5	0	0	0	0	0	0	0
Other Male	2	0	2	0	0	0	0	0	0	0
Other Non-Epithelial Skin	0	0	0	0	0	0	0	0	0	0
Other Respiratory	5	0	5	0	0	0	0	0	0	0
Other Urinary Organs	1	2	3	0	0	0	0	0	0	0
Ovary	0	26	26	0	0	0	0	0	0	1
Pancreas	30	22	52	0	0	0	0	0	0	0
Prostate	68	0	68	0	0	0	0	0	0	0
Small Intestine	2	0	2	0	0	0	0	0	0	0
Soft Tissue including Heart	5	3	8	0	0	0	0	0	0	2
Stomach	10	9	19	0	0	0	0	0	0	0
Testis	1	0	1	0	0	0	0	1	0	0
Thyroid	2	2	4	0	0	0	0	0	0	0
Uterine	0	8	8	0	0	0	0	0	0	0
Mesothelioma	4	0	4	0	0	0	0	0	0	0
All sites	494	429	923	0	1	2	1	3	1	7

<sup>1</sup>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	0	0	0	0	1	0	0
Bladder	0	0	0	0	1	1	2	4	7	2	3
Bones and Joints	0	0	0	0	0	0	0	1	0	0	0
Brain/CNS	0	2	1	1	0	0	7	4	2	1	1
Breast	3	1	5	4	10	6	4	5	6	7	7
Cervix	0	1	0	1	1	1	3	1	0	0	1
Colorectal	0	1	2	10	7	7	12	12	16	15	18
Esophagus	1	0	1	0	2	1	2	2	7	5	3
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	0	0	1	0	0	1	2
Hodgkin	0	0	1	0	0	1	0	1	0	0	1
Ill-Defined	1	1	3	4	2	4	5	10	8	12	11
Kidney	0	1	0	3	0	3	1	5	4	3	2
Larynx	1	0	1	0	0	0	0	2	0	3	0
Leukemia	0	0	1	1	2	5	3	6	2	6	9
Liver	0	0	0	3	0	2	2	2	3	3	0
Lung	0	0	3	12	17	25	34	42	46	27	23
Melanoma	0	0	0	2	2	1	0	2	0	1	0
Myeloma	0	0	0	0	0	1	4	6	5	3	4
Nasal	0	0	0	0	0	0	0	0	1	0	0
Non-Hodgkin Lymphoma	0	1	0	2	3	3	1	5	10	3	3
Oral Cavity	1	1	0	2	0	2	2	1	0	3	1
Other Biliary	0	0	1	0	0	2	0	4	3	3	4
Other Digestive Organs	0	0	0	0	0	0	0	0	2	0	0
Other Endocrine including Thymus	0	0	0	0	0	0	0	1	0	0	0
Other Female	0	0	1	1	0	0	0	1	0	1	1
Other Male	0	0	0	1	0	0	1	0	0	0	0
Other Non-Epithelial Skin	0	0	0	0	0	0	0	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	1	0	3	1
Other Urinary Organs	0	0	0	0	0	0	0	0	1	0	2
Ovary	0	0	2	3	2	3	2	4	5	1	3
Pancreas	1	0	0	4	2	8	6	9	13	4	5
Prostate	0	0	0	0	1	5	8	2	12	24	16
Small Intestine	0	0	0	1	0	0	1	0	0	0	0
Soft Tissue including Heart	0	1	1	1	0	0	2	1	0	0	0
Stomach	0	1	0	1	2	1	2	1	4	5	2
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	0	0	2	0	0	0	0	2
Uterine	1	0	1	0	1	1	0	0	2	1	1
Mesothelioma	0	0	0	0	1	0	0	3	0	0	0
All sites	9	11	24	57	56	85	105	138	160	137	126

## Wyoming Incidence for 2001: Cases by Race and Ethnicity (Tops15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic
<b>All Sites Combined</b>	2,123	2,089	8	23	3	1	57
<b>Bladder (Urinary)</b>	97	95	1	1	0	0	0
<b>Brain/CNS</b>	35	35	0	0	0	0	1
<b>Breast (Female)</b>	291	287	1	3	0	0	8
<b>Colorectal</b>	218	212	2	3	1	0	10
<b>Kidney</b>	63	62	0	0	1	0	3
<b>Leukemia</b>	62	62	0	0	0	0	2
<b>Lung and Bronchus</b>	237	235	0	2	0	0	0
<b>Melanoma</b>	116	115	0	0	1	0	1
<b>Non-Hodgkin Lymphoma</b>	71	69	0	2	0	0	3
<b>Oral Cavity</b>	39	39	0	0	0	0	0
<b>Ovary</b>	24	24	0	0	0	0	2
<b>Pancreas</b>	57	57	0	0	0	0	1
<b>Prostate</b>	428	426	1	1	0	0	13
<b>Thyroid</b>	37	36	1	0	0	0	3
<b>Uterine</b>	61	58	0	3	0	0	0

## Wyoming Mortality for 2001: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic
<b>All Sites Combined</b>	923	901	3	15	3	1	26
<b>Bladder (Urinary)</b>	20	20	0	0	0	0	0
<b>Brain/CNS</b>	19	19	0	0	0	0	0
<b>Breast (Female)</b>	60	59	1	0	0	0	1
<b>Colorectal</b>	100	99	0	1	0	0	5
<b>Kidney</b>	23	22	0	1	0	0	0
<b>Leukemia</b>	37	37	0	0	0	0	1
<b>Lung and Bronchus</b>	231	227	0	4	0	0	4
<b>Melanoma</b>	8	8	0	0	0	0	0
<b>Non-Hodgkin Lymphoma</b>	31	30	0	1	0	0	2
<b>Oral Cavity</b>	13	13	0	0	0	0	0
<b>Ovary</b>	26	25	0	1	0	0	1
<b>Pancreas</b>	52	52	0	0	0	0	1
<b>Prostate</b>	68	67	1	0	0	0	2
<b>Thyroid</b>	4	4	0	0	0	0	0
<b>Uterine</b>	8	8	0	0	0	0	0



## **Top Cancer Sites by Gender and Age**

### **Incidence and Mortality**

### Top Incidence Cancer Sites by Gender (Case Count Included)

Total		Male		Female	
Prostate	428	Prostate	428	Breast	283
Breast	290	Lung	136	Colorectal	108
Lung	237	Colorectal	109	Lung	101
Colorectal	217	Bladder	80	Uterine	61
Melanoma	116	Melanoma	72	Melanoma	44

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

<u>0-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>20-24</u>	
Brain/CNS	2	Leukemia	2	Bone and Joint	2	Hodgkin	2	Melanoma	5
				Hodgkin	2			Testis	3
								Thyroid	2
								Hodgkin	2
<u>25-29</u>		<u>30-34</u>		<u>35-39</u>		<u>40-44</u>		<u>45-49</u>	
Thyroid	4	Thyroid	7	Breast	9	Breast	21	Breast	20
Testis	3	Testis	5	Thyroid	5	Melanoma	7	Melanoma	13
Leukemia	2			Non-Hodgkin	4	Thyroid	6	Colorectal	8
Brain/CNS	2			Brain/CNS	3	Uterine	6	Leukemia	5
				Melanoma	3	Colorectal	5	Prostate	5
<u>50-54</u>		<u>55-59</u>		<u>60-64</u>		<u>65-69</u>		<u>70-74</u>	
Breast	44	Prostate	35	Prostate	72	Prostate	92	Prostate	83
Prostate	22	Breast	30	Breast	42	Lung	41	Lung	46
Lung	20	Lung	21	Lung	30	Breast	34	Breast	36
Melanoma	14	Colorectal	21	Colorectal	29	Colorectal	22	Colorectal	30
Colorectal	11	Melanoma	12			Bladder	17	Bladder	18
<u>75-79</u>		<u>80-84</u>		<u>85+</u>					
Prostate	72	Colorectal	32	Colorectal	26				
Lung	33	Prostate	30	Prostate	17				
Colorectal	30	Lung	27	Breast	15				
Breast	20	Breast	15	Lung	12				
Bladder	19	Bladder	15	Bladder	8				

### Top Mortality Cancer Sites by Gender (Mortality Count Included)

Total		Male		Female	
Lung	231	Lung	133	Lung	98
Colorectal	100	Prostate	68	Breast	60
Prostate	68	Colorectal	50	Colorectal	50
Ill-Defined	61	Ill-Defined	31	Ill-Defined	30
Breast	60	Pancreas	30	Ovary	26

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

<u>0-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>20-24</u>	
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	
<u>25-29</u>		<u>30-34</u>		<u>35-39</u>		<u>40-44</u>		<u>45-49</u>	
All Cancers Have 1 or Less Count		Lung	2	Breast	3	Brain/CNS	2	Breast	5
		Soft Tissue	2					Lung	3
								Ill-Defined	3
								Colorectal	2
								Ovary	2
<u>50-54</u>		<u>55-59</u>		<u>60-64</u>		<u>65-69</u>		<u>70-74</u>	
Lung	12	Lung	17	Lung	25	Lung	34	Lung	42
Colorectal	10	Breast	10	Pancreas	8	Colorectal	12	Colorectal	12
Breast	4	Colorectal	7	Colorectal	7	Prostate	8	Ill-Defined	10
Pancreas	4	Pancreas	4	Breast	6	Brain/CNS	7	Pancreas	9
Ill-Defined	4					Ill-Defined	5		
<u>75-79</u>		<u>80-84</u>		<u>85+</u>					
Lung	46	Lung	27	Lung	23				
Colorectal	16	Prostate	24	Colorectal	18				
Pancreas	13	Colorectal	15	Prostate	16				
Prostate	12	Ill-Defined	12	Ill-Defined	11				
Non-Hodgkin	10	Breast	7	Leukemia	9				



## **Wyoming Counties - 2001**

### **Incidence and Mortality (All Sites)**

## Wyoming County Incidence Cases -- 2001 (All Sites)

	Albany	Bighorn	Campbell	Carbon	Converse	Crook	Fremont	Goshen	Hot Springs	Johnson	Laramie	Lincoln
Anus	1	0	0	2	1	0	0	0	0	0	1	0
Bladder	8	1	4	1	3	0	3	4	3	2	18	1
Bones and Joints	0	0	0	0	0	0	1	0	0	0	0	1
Brain/CNS	3	2	2	0	2	0	4	0	0	0	5	0
Breast	9	8	15	9	12	0	23	8	4	2	55	5
Cervix	0	0	1	0	0	0	3	0	0	0	6	0
Colorectal	17	7	5	7	7	3	16	13	1	9	35	6
Esophagus	1	1	0	2	1	1	3	1	1	0	5	0
Eye	1	1	0	0	1	0	2	1	0	0	0	0
Gallbladder	0	0	0	1	0	0	1	2	0	0	1	0
Hodgkin	0	0	2	0	0	0	2	0	0	0	4	0
Ill-Defined	1	0	0	2	1	0	5	1	0	1	12	5
Kidney	4	1	1	2	0	0	5	5	2	1	14	0
Larynx	0	0	1	1	0	1	0	0	0	0	2	0
Leukemia	3	0	3	2	1	1	6	2	1	1	10	0
Liver	0	0	0	0	0	0	1	2	0	0	1	0
Lung	9	4	18	6	7	2	17	4	5	8	50	2
Melanoma	4	1	4	1	3	2	7	1	2	3	17	3
Myeloma	2	3	1	0	2	0	3	0	0	0	5	0
Nasal	0	0	0	0	0	0	0	0	0	0	1	1
Non-Hodgkin Lymphoma	6	2	4	3	3	1	7	5	0	1	7	2
Oral Cavity	1	1	0	0	2	1	2	1	2	0	3	2
Other Biliary	0	0	0	0	1	0	1	0	1	0	0	0
Other Digestive Organs	2	0	0	0	0	0	0	0	0	0	1	0
Other Endocrine including Thymus	0	0	0	0	0	0	0	0	0	0	0	0
Other Female	0	0	0	1	1	0	2	0	0	0	3	1
Other Male	0	0	0	0	0	0	0	0	0	0	0	0
Other Non-Epithelial Skin	1	0	0	0	0	0	1	0	1	0	1	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0	0
Other Urinary Organs	0	0	0	0	0	0	1	1	0	0	0	0
Ovary	2	0	0	1	1	2	1	0	0	0	8	0
Pancreas	3	0	3	3	5	1	5	2	1	0	12	2
Prostate	21	10	9	6	14	0	44	16	4	9	101	18
Small Intestine	1	0	0	0	1	0	0	0	0	0	1	0
Soft Tissue including Heart	0	0	1	1	0	0	1	0	0	0	0	0
Stomach	2	0	0	1	0	1	1	2	0	0	1	0
Testis	1	0	0	0	1	0	2	1	0	0	6	0
Thyroid	3	1	1	0	2	1	1	1	1	1	10	0
Uterine	3	3	2	3	1	1	4	3	0	0	8	4
Mesothelioma	0	1	0	1	0	0	1	0	0	0	1	0
All sites	109	47	77	56	73	18	176	76	29	38	405	53

	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweetwater	Teton	Uinta	Washakie	Weston
Anus	1	0	0	0	0	0	0	0	0	0	0
Bladder	13	2	2	0	13	1	9	2	2	1	1
Bones and Joints	2	0	0	0	0	0	0	1	0	0	0
Brain/CNS	6	1	1	2	2	1	2	0	1	0	0
Breast	53	1	21	8	13	1	21	8	6	5	1
Cervix	2	0	2	0	1	0	0	1	0	0	0
Colorectal	32	2	11	6	14	2	9	3	3	4	1
Esophagus	6	0	1	3	2	0	0	0	0	0	0
Eye	0	0	1	0	0	0	0	0	0	1	0
Gallbladder	2	0	1	0	0	0	0	0	0	0	0
Hodgkin	4	0	2	0	1	0	0	1	0	0	0
Ill-Defined	8	1	7	2	3	0	3	3	0	1	0
Kidney	14	1	2	0	3	0	4	0	2	0	0
Larynx	2	0	0	0	0	0	2	1	0	0	0
Leukemia	9	0	3	1	11	0	3	2	1	1	0
Liver	1	0	1	0	0	0	1	0	0	0	0
Lung	43	1	17	1	11	2	7	4	3	6	1
Melanoma	10	1	11	2	12	0	7	14	5	2	0
Myeloma	1	0	1	0	0	0	1	1	0	0	0
Nasal	0	0	0	0	0	0	1	0	0	0	0
Non-Hodgkin Lymphoma	6	0	5	6	3	1	2	2	1	3	1
Oral Cavity	4	0	2	1	7	0	2	1	0	4	0
Other Biliary	0	0	1	2	0	0	0	0	0	0	0
Other Digestive Organs	3	0	0	0	1	0	0	1	0	0	0
Other Endocrine including Thymus	2	0	0	0	0	0	0	0	0	2	0
Other Female	1	0	0	0	0	0	0	0	0	1	0
Other Male	0	0	1	0	0	0	1	1	0	0	0
Other Non-Epithelial Skin	2	0	1	0	1	0	1	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary Organs	2	0	0	1	0	0	0	0	0	0	0
Ovary	3	0	2	0	0	0	1	2	0	0	0
Pancreas	12	0	1	1	2	0	1	2	0	1	0
Prostate	53	5	10	10	22	8	17	17	8	9	0
Small Intestine	4	0	0	0	0	0	0	1	0	1	0
Soft Tissue including Heart	4	1	0	0	1	1	1	1	0	0	0
Stomach	2	0	4	2	1	0	2	1	0	1	0
Testis	3	0	1	1	0	0	3	0	1	0	0
Thyroid	5	0	2	0	2	1	3	0	1	1	0
Uterine	13	0	1	3	5	0	3	2	1	1	0
Mesothelioma	0	0	0	0	0	0	1	0	0	0	0
All sites	328	16	115	52	131	18	108	72	35	45	5

## Wyoming County Mortality Counts -- 2001 (All Sites)

	Albany	Big Horn	Campbell	Carbon	Converse	Crook	Fremont	Goshen	Hot Springs	Johnson	Laramie	Lincoln
Anus	0	0	0	0	0	0	0	0	0	0	0	0
Bladder	0	0	0	0	2	0	0	1	2	1	5	0
Bones and Joints	0	0	0	0	0	0	1	0	0	0	0	0
Brain/CNS	3	1	1	0	1	0	2	0	0	0	4	0
Breast	4	2	4	2	2	2	4	0	3	0	15	0
Cervix	0	1	0	0	0	0	0	0	0	0	2	0
Colorectal	5	3	1	7	4	2	10	5	1	2	14	3
Esophagus	0	0	0	0	2	0	0	1	0	0	4	0
Eye	0	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	1	0	0	0	0	0	0	0	0	0	0	0
Ill-Defined	2	1	0	4	0	0	5	2	3	0	11	2
Kidney	0	0	1	1	1	0	2	1	0	0	4	0
Larynx	0	0	0	0	0	0	0	0	0	0	4	0
Leukemia	1	1	3	0	1	1	3	1	1	0	9	1
Liver	0	1	0	0	0	0	2	1	0	0	3	0
Lung	9	9	13	7	2	2	29	7	1	4	50	1
Melanoma	1	0	0	1	0	0	0	1	0	0	0	1
Myeloma	0	1	1	0	0	0	2	1	0	0	7	0
Nasal	0	0	0	0	0	0	0	0	0	0	0	1
Non-Hodgkin Lymphoma	2	1	1	1	3	0	3	0	2	0	4	2
Oral Cavity	0	1	2	0	0	1	1	0	0	0	0	0
Other Biliary	1	1	1	0	0	0	1	3	1	0	3	0
Other Digestive Organs	0	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	0
Other Female	0	0	0	0	0	0	0	1	0	1	1	0
Other Male	0	0	0	0	0	0	1	0	0	0	0	0
Other Non-Epithelial Skin	0	0	0	0	0	0	0	0	0	0	0	0
Other Respiratory	1	0	0	0	0	0	0	0	1	0	0	1
Other Urinary Organs	0	0	0	0	0	0	0	0	0	0	0	0
Ovary	6	0	0	3	2	0	1	0	0	1	2	1
Pancreas	2	0	4	4	2	2	5	3	1	0	12	1
Prostate	4	4	1	3	1	2	8	2	0	1	12	6
Small Intestine	0	1	0	0	0	0	0	0	0	0	0	0
Soft Tissue including Heart	0	0	0	1	0	0	2	1	0	0	1	0
Stomach	0	0	0	0	1	0	1	2	0	0	3	3
Testis	1	0	0	0	0	0	0	0	0	0	0	0
Thyroid	1	0	0	0	0	0	0	0	0	0	1	0
Uterine	2	0	0	0	0	0	0	0	0	0	0	0
Mesothelioma	0	0	0	0	0	0	0	0	0	0	0	0
All sites	46	28	33	34	24	12	83	33	16	10	172	23

	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweetwater	Teton	Uinta	Washakie	Weston
Anus	1	0	0	0	0	0	0	0	0	0	0
Bladder	5	1	1	0	1	0	0	0	0	1	0
Bones and Joints	1	0	0	0	1	0	0	0	0	0	0
Brain/CNS	2	0	1	0	1	0	2	0	1	0	0
Breast	7	0	2	0	3	2	3	2	0	2	1
Cervix	3	0	1	0	0	0	0	0	1	1	0
Colorectal	15	0	4	2	5	2	7	3	2	2	1
Esophagus	6	0	2	2	4	0	1	1	1	0	0
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	1	0	0	0	1	0	1	0	0	0	0
Hodgkin	1	0	1	1	0	0	0	1	0	0	0
Ill-Defined	9	0	4	2	6	0	5	3	0	1	1
Kidney	5	0	2	0	1	0	2	2	1	0	0
Larynx	1	1	1	0	0	0	0	0	0	0	0
Leukemia	3	1	3	0	5	2	0	0	0	0	1
Liver	1	0	3	1	1	0	1	1	1	0	0
Lung	35	1	19	2	11	0	13	1	6	4	5
Melanoma	1	0	1	0	1	0	0	0	0	1	0
Myeloma	0	0	2	2	3	0	1	1	2	0	0
Nasal	0	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	6	1	1	1	1	0	1	0	1	0	0
Oral Cavity	4	0	0	0	2	0	1	0	0	0	1
Other Biliary	1	0	2	1	0	0	1	1	0	0	0
Other Digestive Organs	1	0	0	0	0	1	0	0	0	0	0
Other Endocrine including Thymus	1	0	0	0	0	0	0	0	0	0	0
Other Female	1	0	1	0	0	0	0	0	0	0	0
Other Male	0	0	0	0	1	0	0	0	0	0	0
Other Non-Epithelial Skin	0	0	0	0	0	0	0	0	0	0	0
Other Respiratory	0	0	0	1	0	0	0	0	0	0	1
Other Urinary Organs	2	0	0	0	1	0	0	0	0	0	0
Ovary	4	0	1	0	1	1	0	1	2	0	0
Pancreas	2	0	1	0	5	0	0	3	1	1	3
Prostate	7	3	3	1	7	1	0	0	1	1	0
Small Intestine	0	0	1	0	0	0	0	0	0	0	0
Soft Tissue including Heart	2	0	0	0	0	0	0	1	0	0	0
Stomach	1	0	1	0	2	0	2	0	2	1	0
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	0	0	0	1	1	0	0	0
Uterine	2	0	1	0	1	0	1	1	0	0	0
Mesothelioma	0	0	1	0	1	0	2	0	0	0	0
All sites	131	8	60	16	66	9	45	23	22	15	14



**Summary of  
All Cancer Sites Combined  
and  
Top 15 Sites**

**2001 Wyoming Incidence and Mortality**

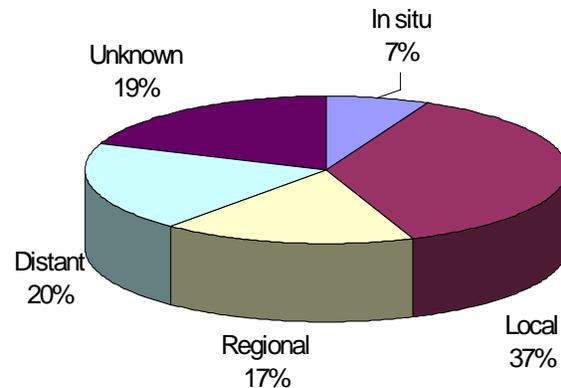
# All Sites Combined

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	1,153	931	2,084
# In situ Cases	61	94	155
Wyo Incidence	533.5	367.8	442.2
US Incidence	558.0	426.8	478.9
# Cancer Deaths	494	429	923
Wyo Mortality	239.2	163.8	194.9
US Mortality	244.6	165.5	197.1

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

## Stage at Diagnosis



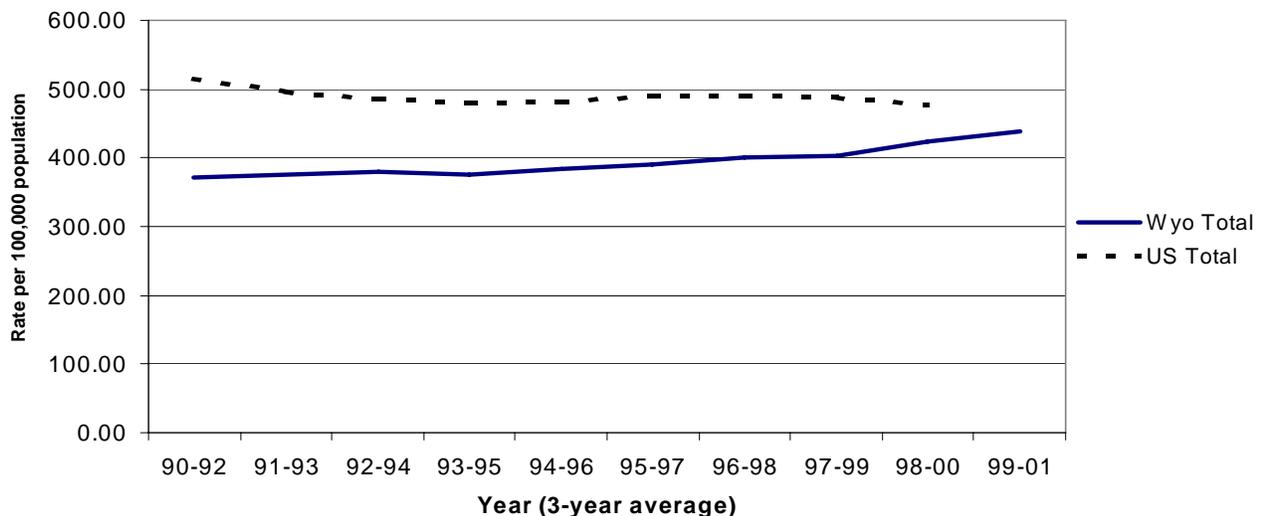
The incidence rate in Wyoming females for all cancer sites was significantly lower than the United States rate. The rates for males and total population, while lower than the national rates, were not significantly lower. The mortality rates in Wyoming were slightly lower than the national rates, but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

The 12-year incidence trend shows that all-site cancer incidence appears to be increasing slightly since 98-00, while the U.S rate has remained steady.

The incidence rate for Cancer Health District (CHD) 7 (340.55) was significantly lower than the state rate (403.86) from 1997-2001. There were no significant differences between CHD rates and the state rate for mortality.

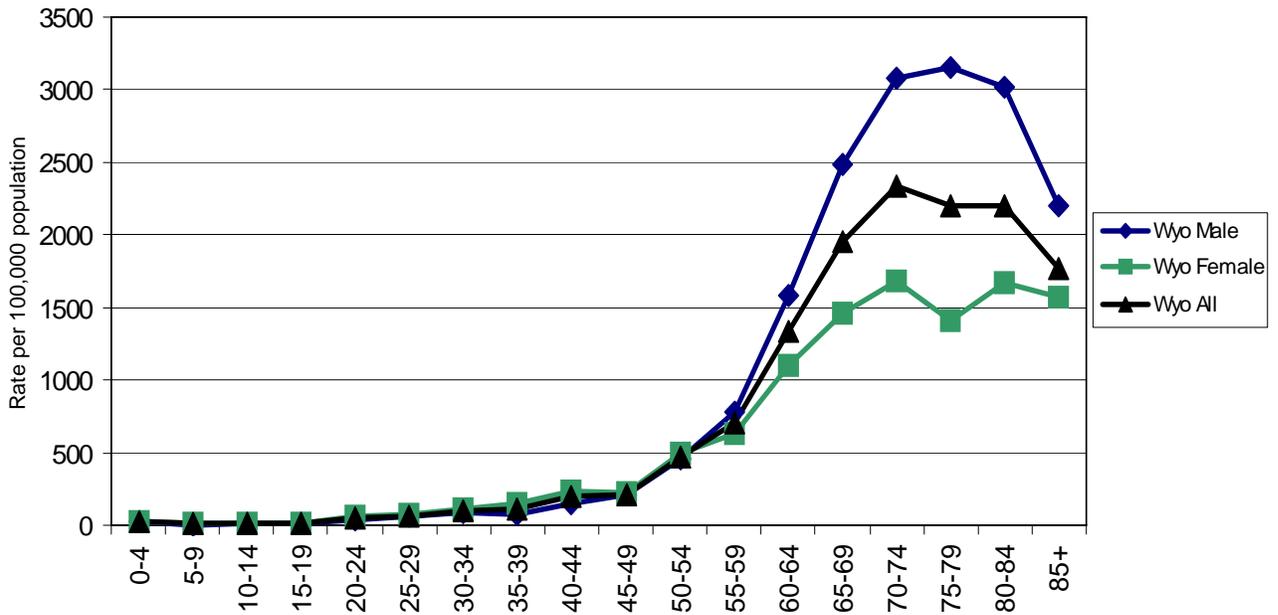
## 12-Year Incidence Trend

### All Cancer Sites Combined



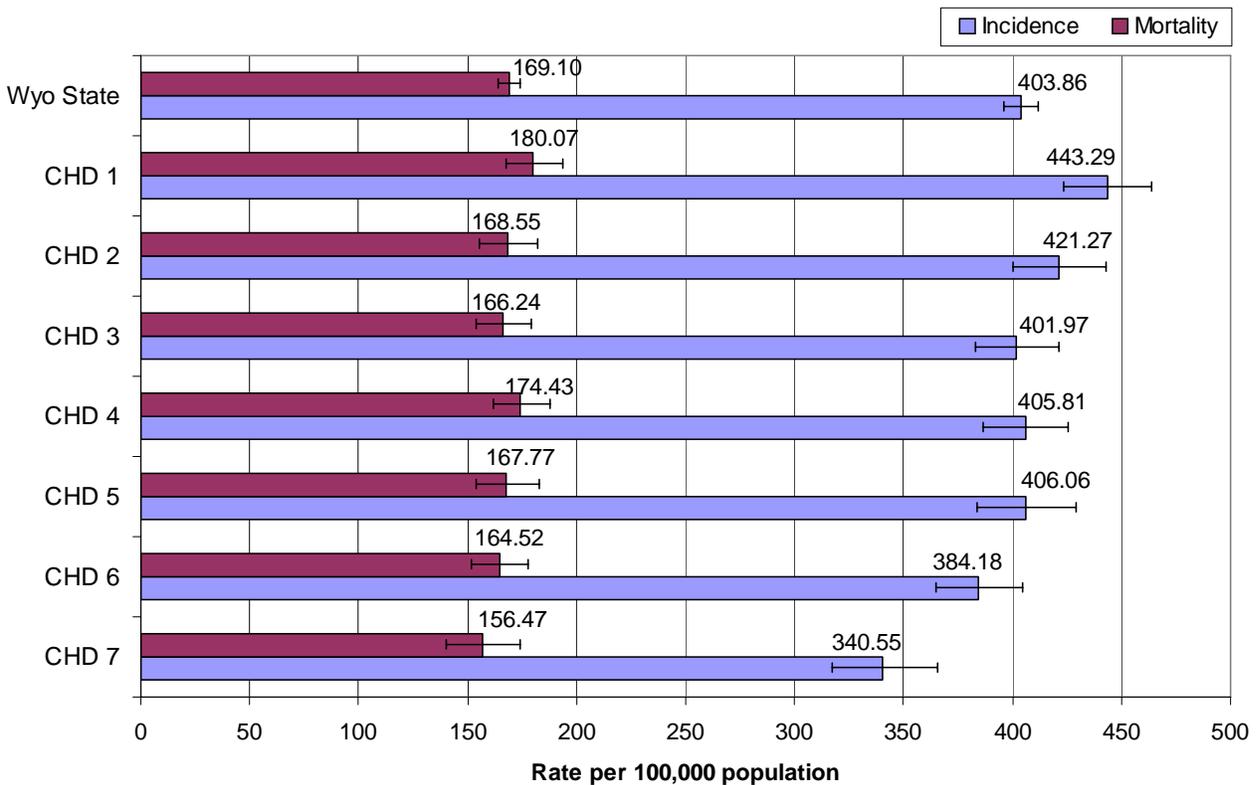
## Age-Specific Incidence Rates, 2001

### All Cancer Sites Combined



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### All Cancer Sites Combined



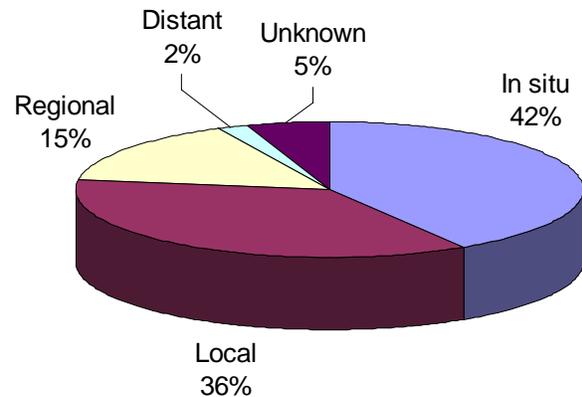
# Bladder (Urinary)

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	46	11	57
# In situ Cases	34	6	40
Wyo Incidence	36.7	6.5	18.9
US Incidence	41.1	10.1	23.1
# Cancer Deaths	14	6	20
Wyo Mortality	7.0	2.3	4.4
US Mortality	8.0	2.3	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, females, and total population, although lower than the national rates, were not significantly lower. The mortality rates in Wyoming showed no significant difference from the national rates.

The 12-year incidence trend shows a continuation of an apparent decrease in Wyoming for bladder cancer that started during the 98-00 time period, while the national rates have remained steady.

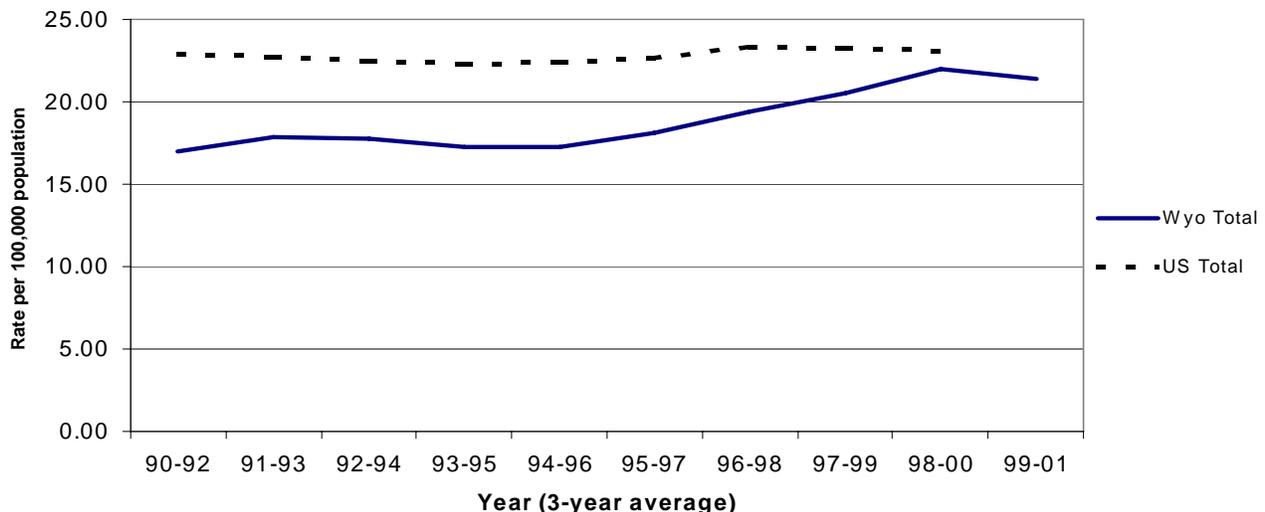
The percentage of in situ cases of bladder cancer was up significantly (42%) from 2000 (22%).

No statistically significant difference was found between CHD and state rates for incidence or mortality.

Note: Rates for Bladder Cancer includes in situ.

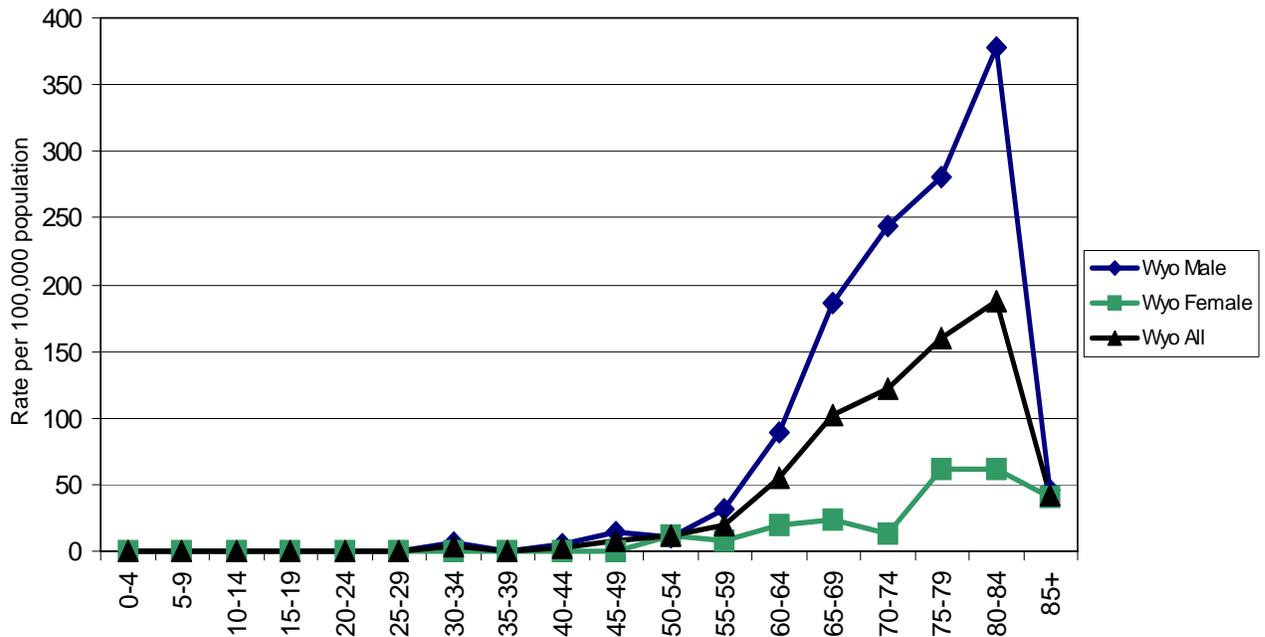
## 12-Year Incidence Trend

### Urinary Bladder



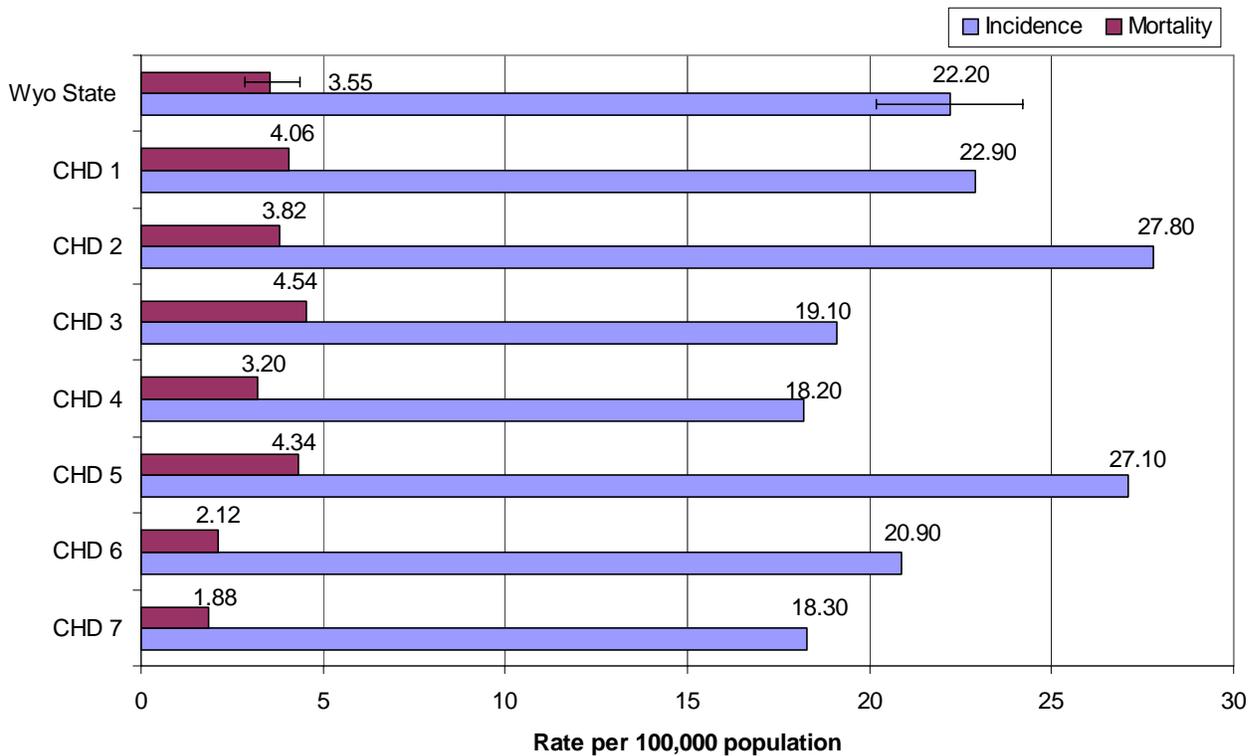
## Age-Specific Incidence Rates, 2001

### Bladder (Urinary)



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Bladder (Urinary)



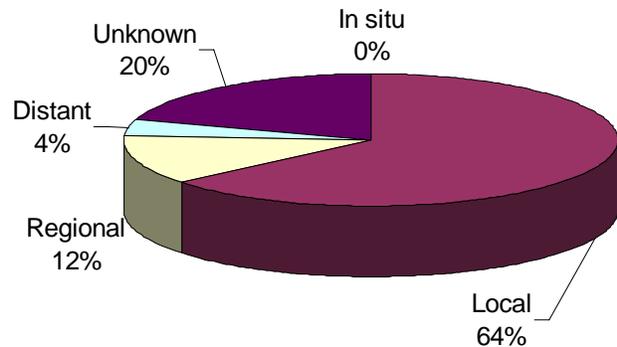
# Brain/CNS

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	26	9	35
Wyo Incidence	11.2	3.8	7.3
US Incidence	8.8	5.9	7.2
# Cancer Deaths	15	4	19
Wyo Mortality	6.8	1.6	3.9
US Mortality	6.0	3.9	4.9

\* 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 of brain/CNS cancer for males and total population were slightly higher than the national rates, while the incidence rate for females was lower than the national rate. The mortality rates for females and total population were lower than the national rates; however, the mortality rate for males was a bit higher. None of the rate differences were significant.

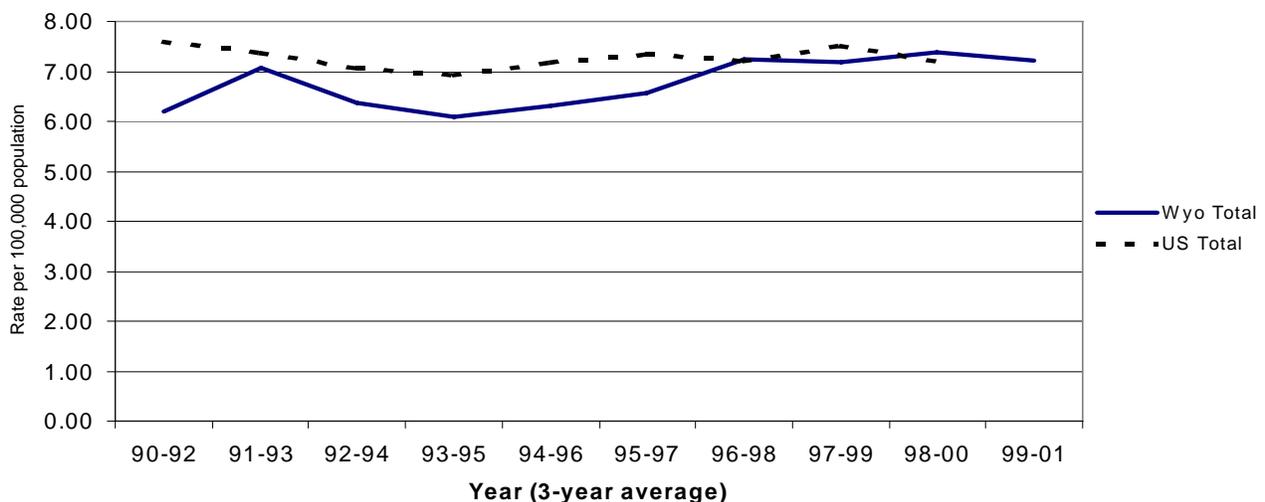
The 12-year trend shows a leveling-off of the incidence of brain/CNS cancer since 96-98.

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

CNS=Central Nervous System

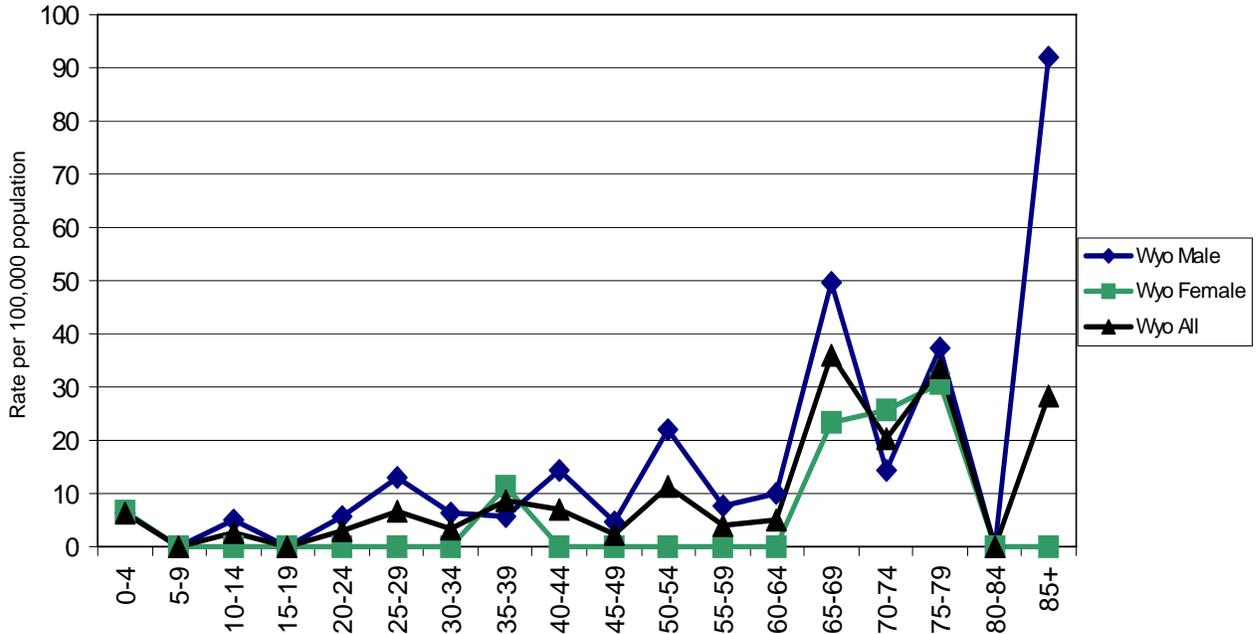
## 12-Year Incidence Trend

### Brain/CNS



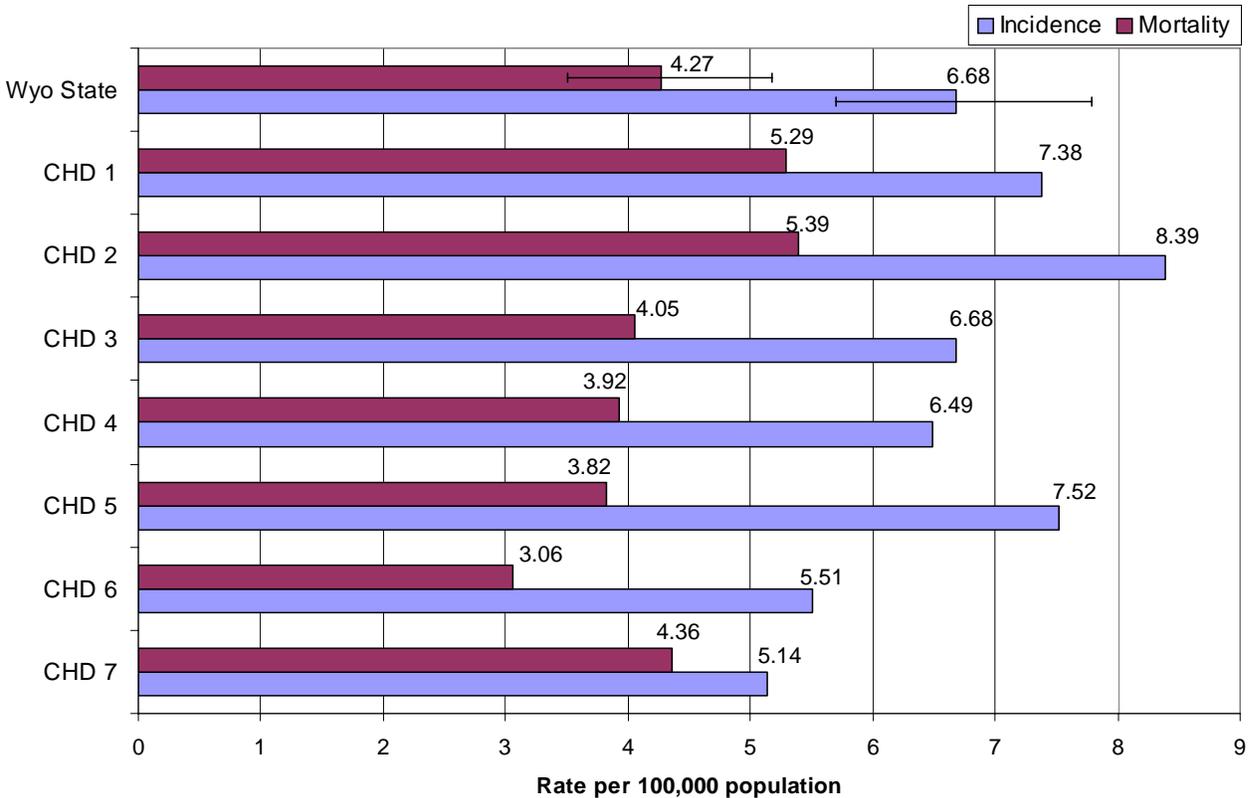
## Age-Specific Incidence Rates, 2001

### Brain/CNS



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Brain/CNS



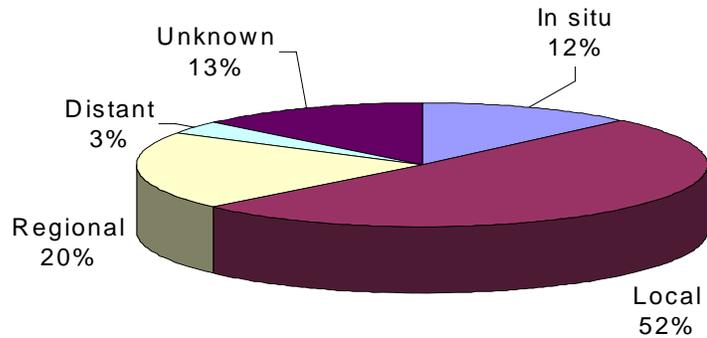
# Breast (Female Only)

## Incidence and Mortality Summary

	Female
# Invasive Cases	283
# In situ Cases	39
Wyo Incidence	110.1
US Incidence	140.9
# Cancer Deaths	60
Wyo Mortality	23.1
US Mortality	26.3

\* 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 of female breast cancer in Wyoming was significantly lower than the United States rate. There was no statistically significant difference for mortality.

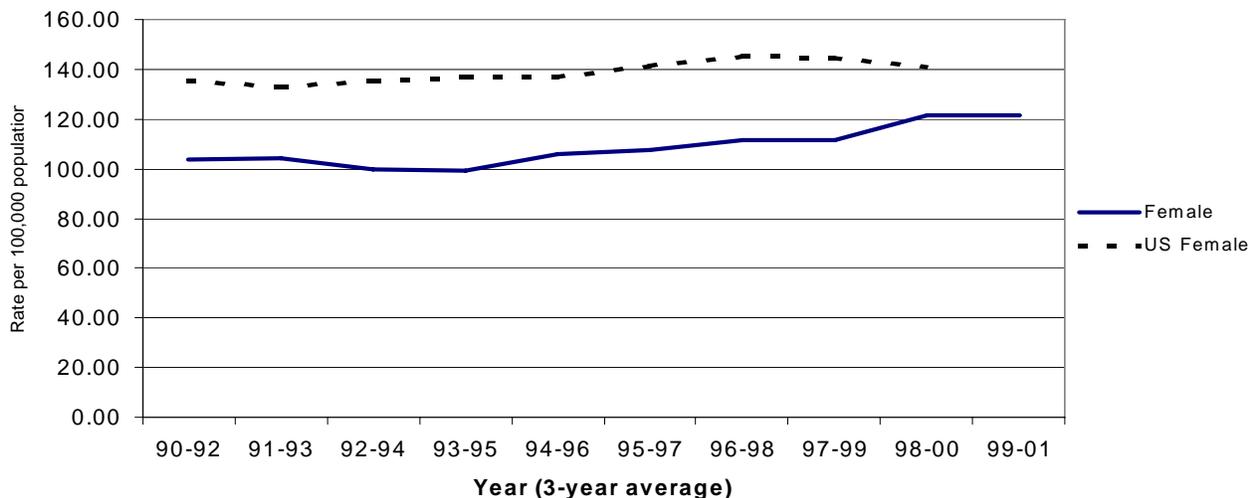
Stage at diagnosis showed a significant increase from 2000 (43%) in the number of cases diagnosed as local.

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

No cases for male breast cancer were reported in Wyoming during 2001.

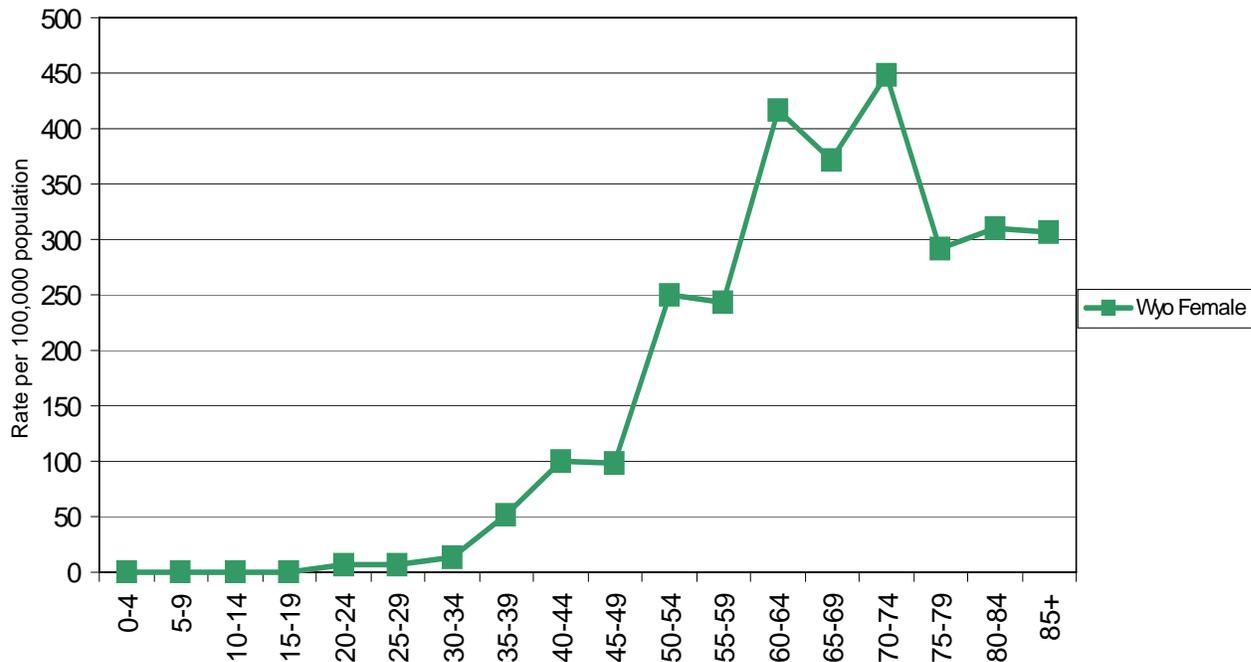
## 12-Year Incidence Trend

### Breast-Female

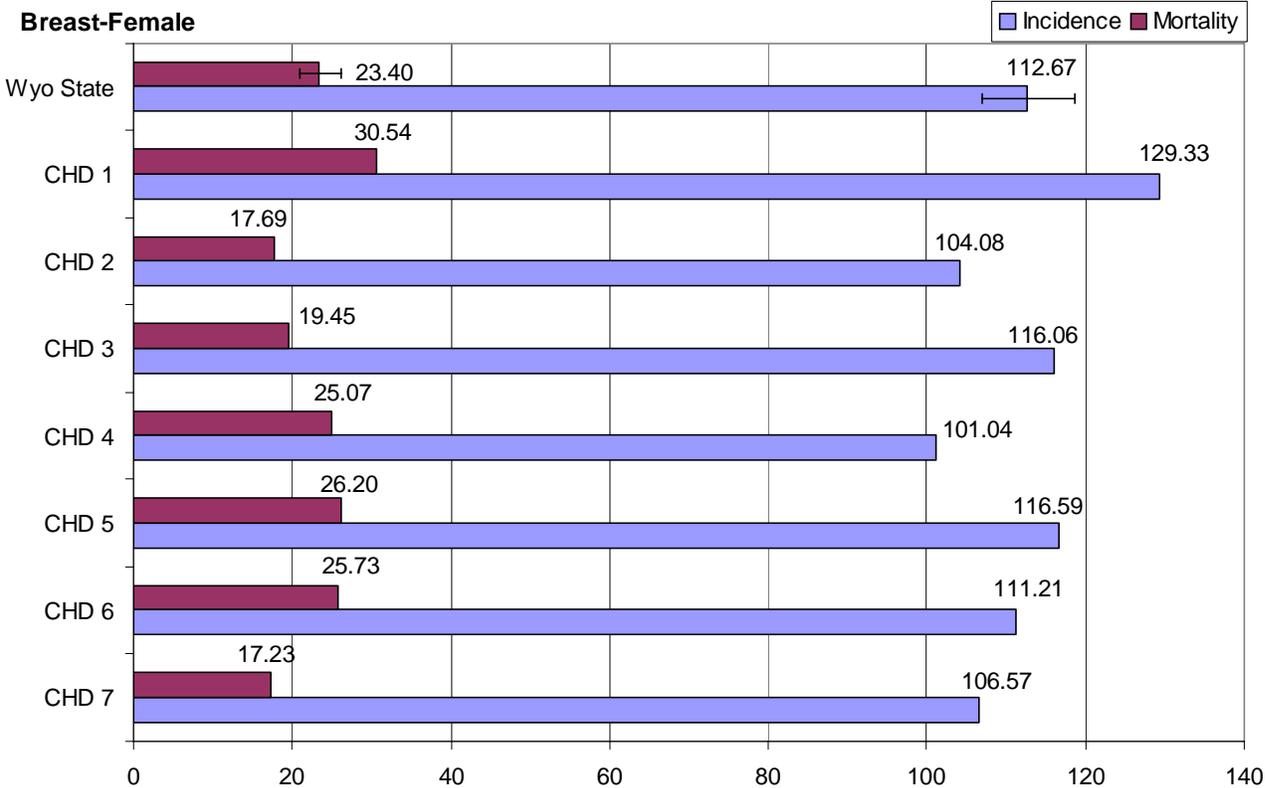


## Age-Specific Incidence Rates

### Breast-Female



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001



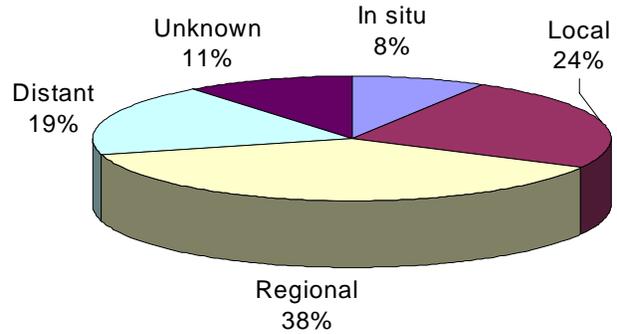
# Colorectal

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	109	108	217
# In situ Cases	11	9	20
Wyo Incidence	48.5	41.3	45.5
US Incidence	61.6	45.4	52.5
# Cancer Deaths	50	50	100
Wyo Mortality	23.1	18.4	21.0
US Mortality	24.6	17.1	20.2

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

## Stage at Diagnosis



The Wyoming incidence rates for colorectal cancer were lower than the national rates, but not significantly. The mortality rate for females was slightly higher than the national rate, while the rates for males and total population were both slightly lower than the national rate.

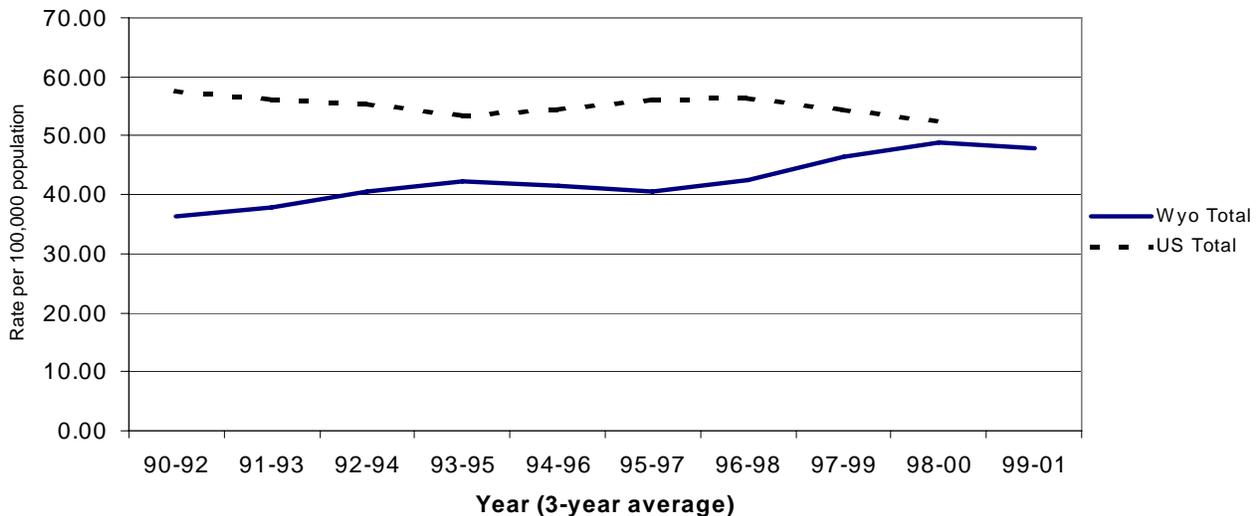
The incidence rates for Wyoming appears to have plateaued in 99-01 after peaking in the 97-99 time period. Nationally the rates have been decreasing since 1996.

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

Colorectal = Colon and rectum combined.

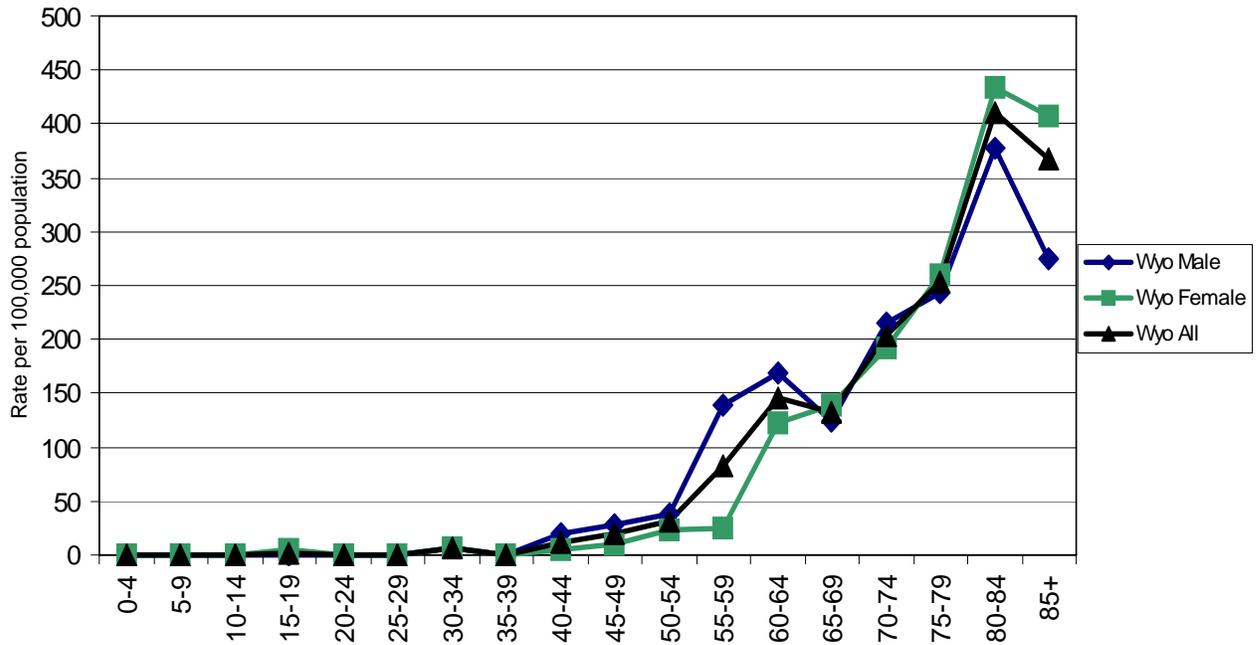
## 12-Year Incidence Trend

### Colorectal



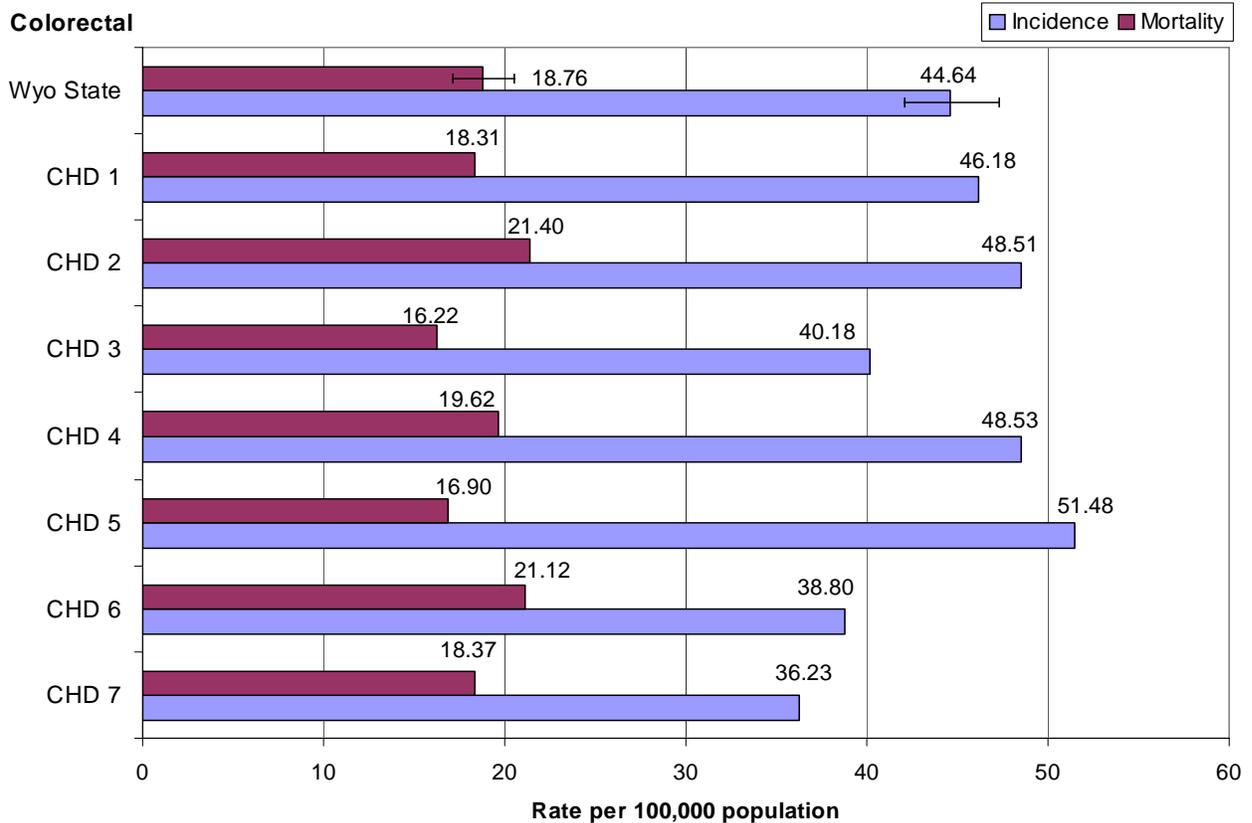
## Age-Specific Incidence Rates, 2001

### Colorectal



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Colorectal



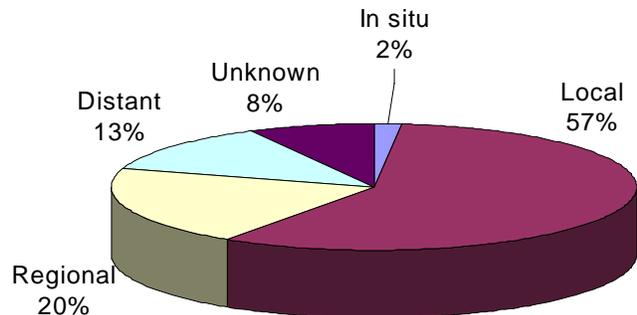
# Kidney/Renal Pelvis

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	36	27	63
Wyo Incidence	14.9	10.5	13.0
US Incidence	17.3	8.3	12.3
# Cancer Deaths	12	11	23
Wyo Mortality	5.1	4.2	4.8
US Mortality	6.3	2.9	4.3

\* 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 for kidney/renal pelvis cancer remained lower in Wyoming males than in the national population. However, the rates for females and total population was slightly higher than the national rate. These differences are not statistically significant.

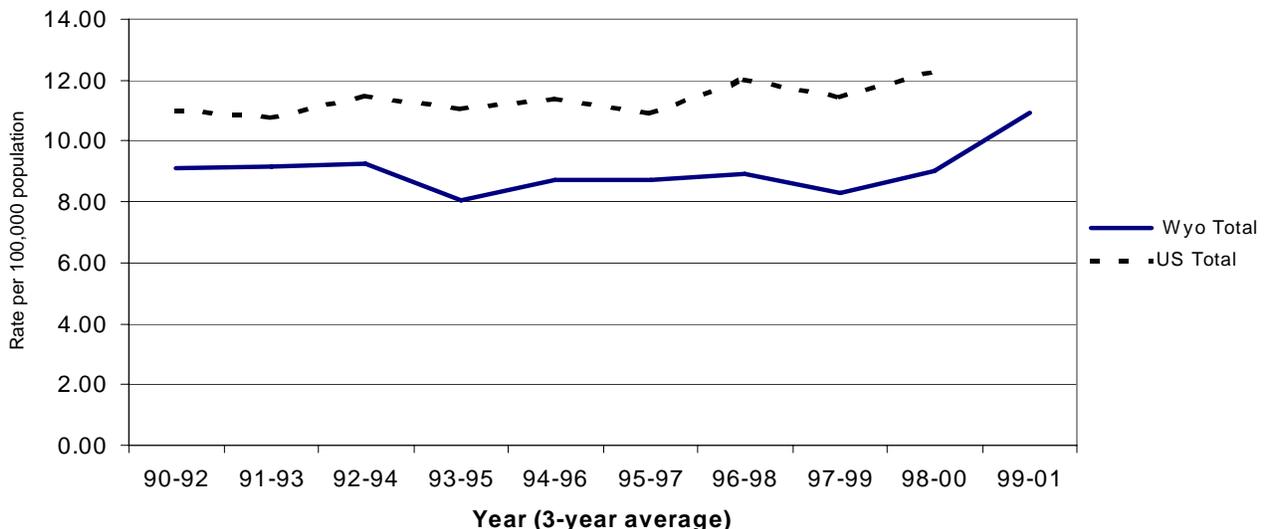
The 12-year trend shows an apparent increase beginning in 97-99 and continuing through 99-01. The national rates show the same apparent increase.

In 2001, the percentage of cases diagnosed at the distant stage decreased to 13% from 23% in 2000, while the percentage at the local stage increased from 50% in 2000 to 57%; however, neither change was significant.

No statistically significant difference was found between CHD and the state rates for incidence or mortality.

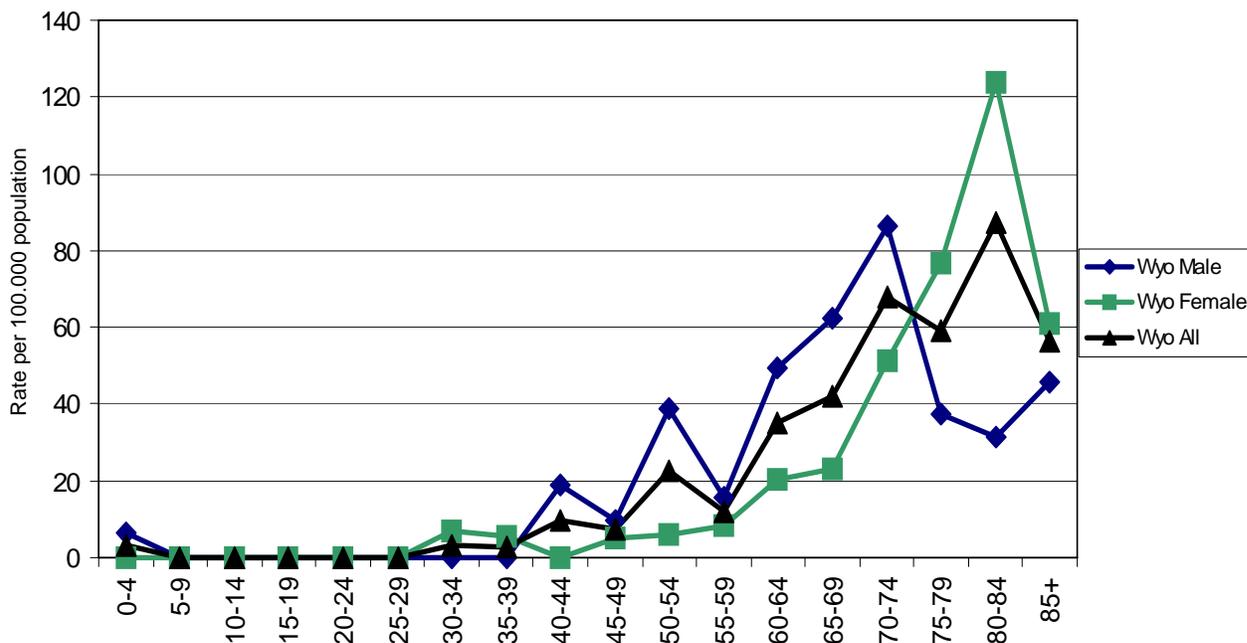
## 12-Year Incidence Trend

### Kidney/Renal Pelvis



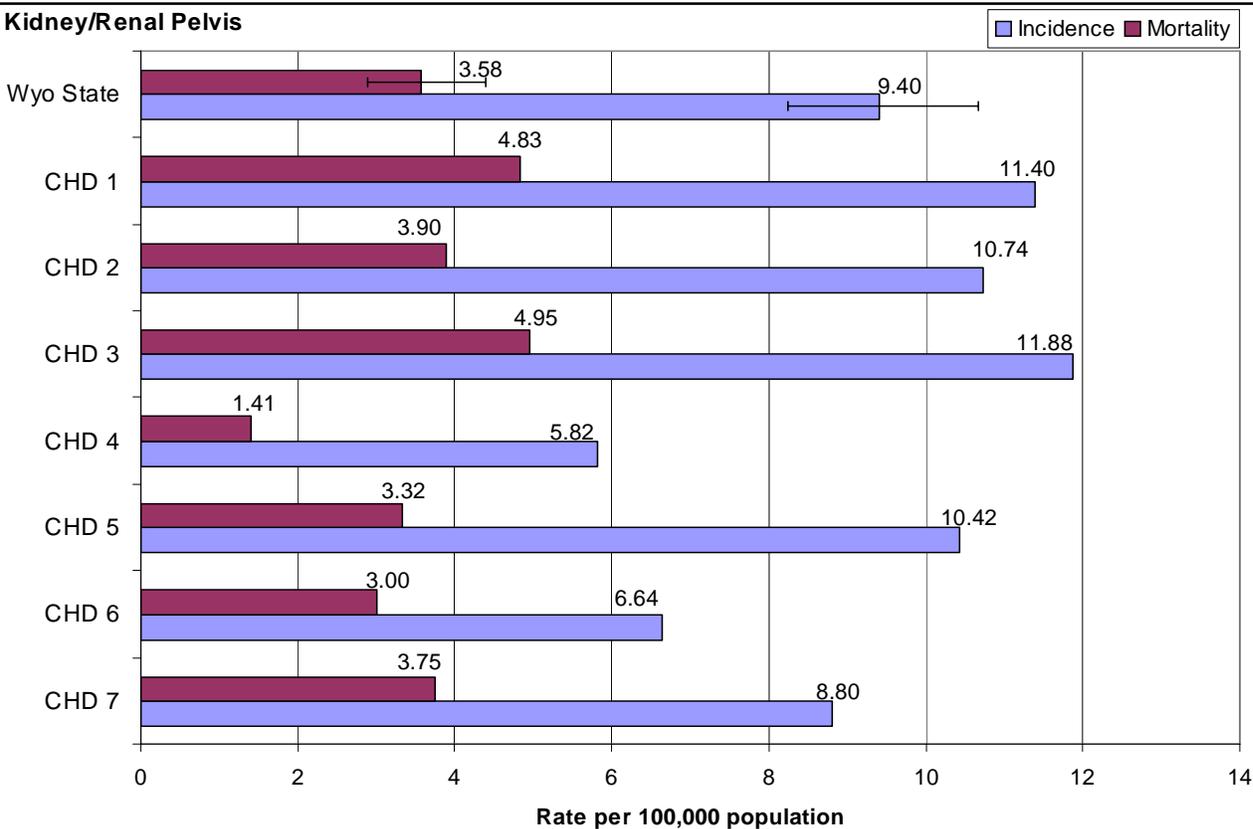
## Age-Specific Incidence Rates, 2001

### Kidney/Renal Pelvis



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Kidney/Renal Pelvis



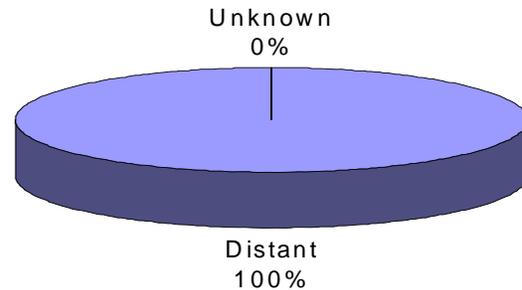
# Leukemia

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	40	22	62
Wyo Incidence	17.1	8.9	12.7
US Incidence	15.1	8.6	11.4
# Cancer Deaths	21	16	37
Wyo Mortality	10.4	5.8	7.8
US Mortality	10.6	6.1	7.9

\* 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.

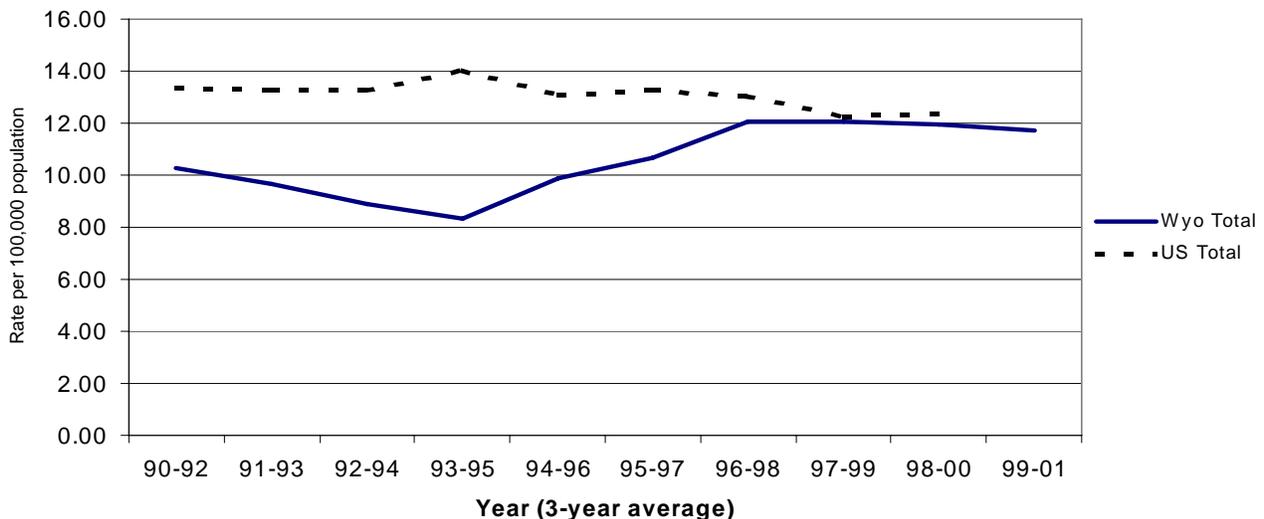
Incidence rates in Wyoming for leukemia were slightly higher than national rates, while mortality rates were slightly lower than national rates. Neither difference was statistically significant.

The incidence trend for Wyoming appears to have plateaued since 96-98 following an increase beginning in 93-95. The national trend also appears to have leveled-off after a small decrease started in 1997.

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

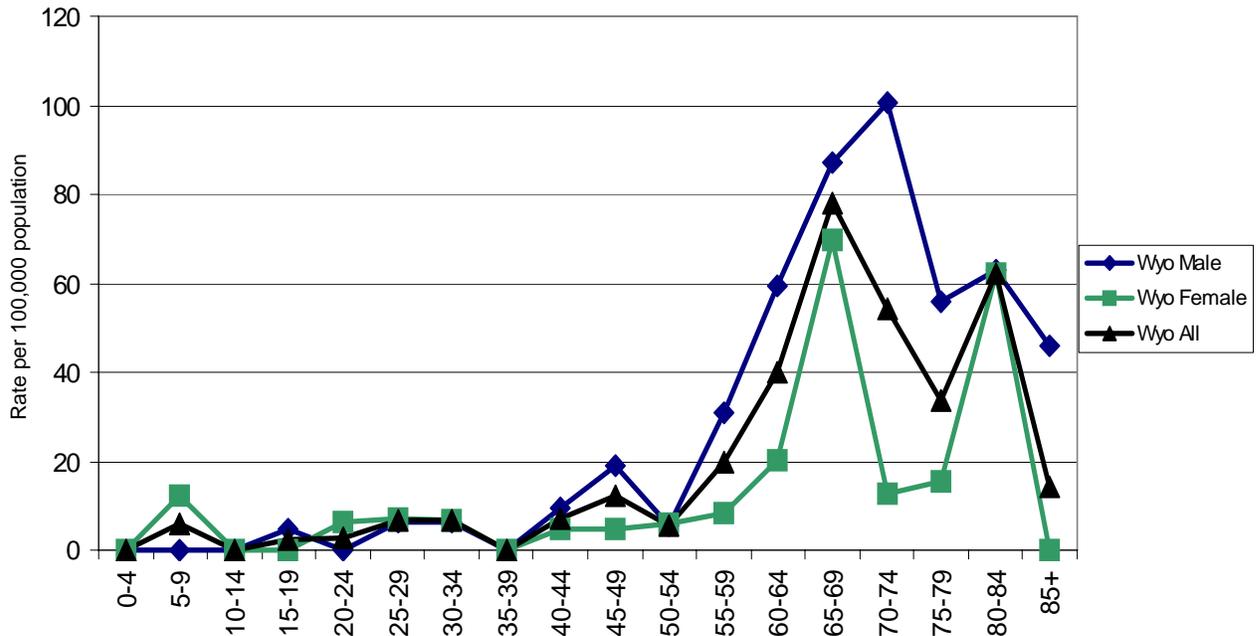
## 12-Year Incidence Trend

### Leukemia



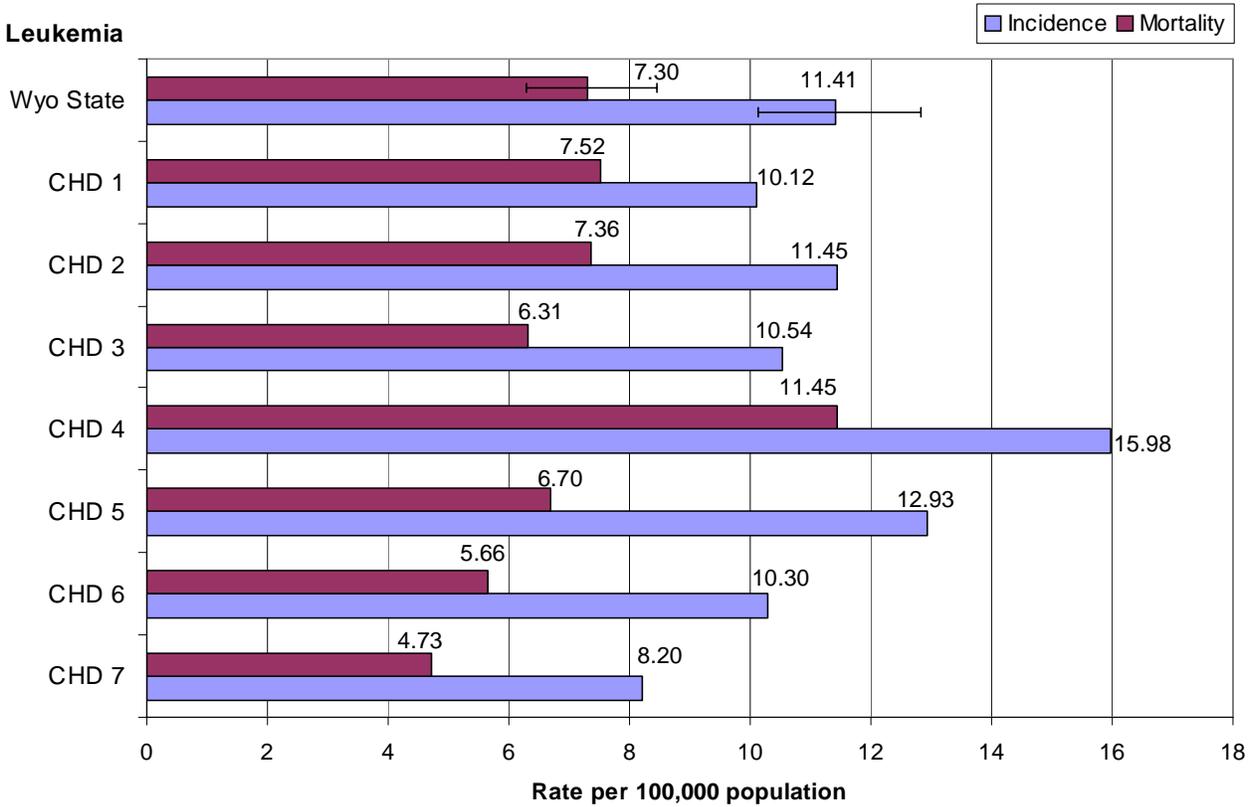
## Age-Specific Incidence Rates, 2001

### Leukemia



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Leukemia



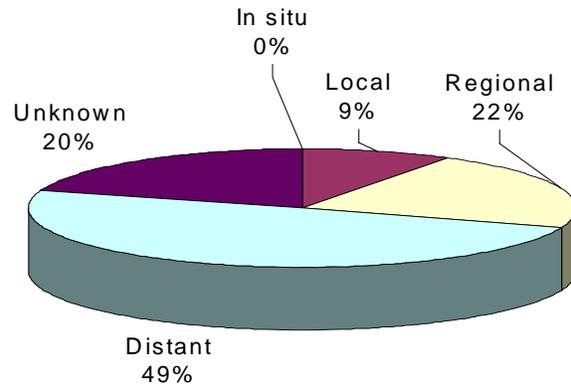
# Lung and Bronchus

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	136	101	237
Wyo Incidence	62.0	39.3	49.2
US Incidence	78.1	51.6	62.6
# Cancer Deaths	133	97	231
Wyo Mortality	63.2	38.0	48.8
US Mortality	75.8	42.2	56.2

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

## Stage at Diagnosis



Incidence and mortality rates in Wyoming for males, females, and total population were lower than the national rates for cancer of the lung & bronchus. However, none of the rates were statistically significant.

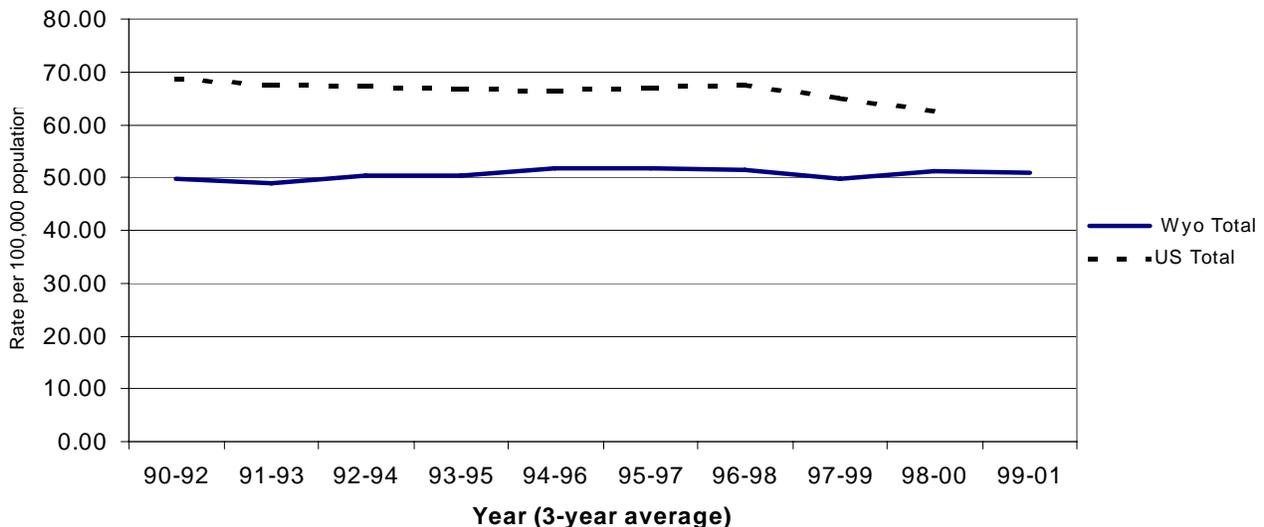
Incidence rates for lung cancer in Wyoming have been relatively steady since 1990. The national rate has been decreasing slightly since 1997.

The percentages at each stage of diagnosis are very similar to the percentages in 2000.

The incidence rate for CHD 7 of 33.32 was significantly lower than the state rate of 43.65 for the 5-year period. There were no significant differences between CHD rates and the state rate for mortality.

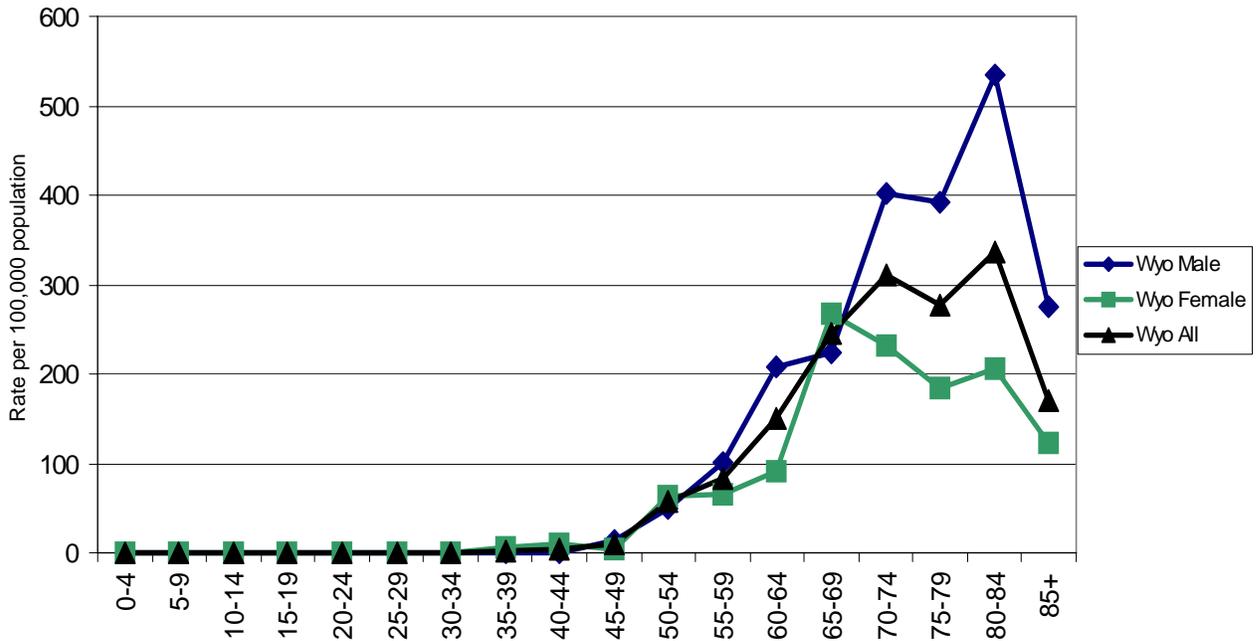
## 12-Year Incidence Trend

### Lung and Bronchus



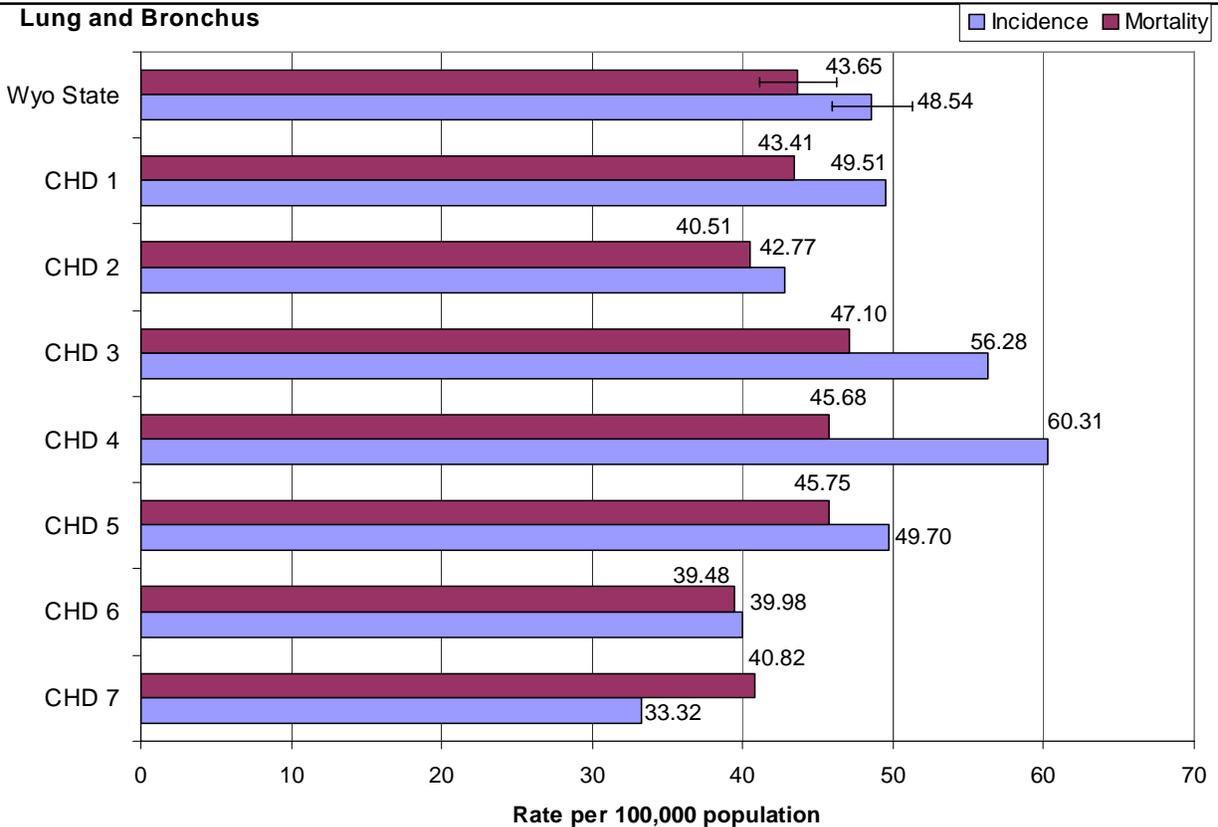
## Age-Specific Incidence Rates, 2001

### Lung and Bronchus



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Lung and Bronchus



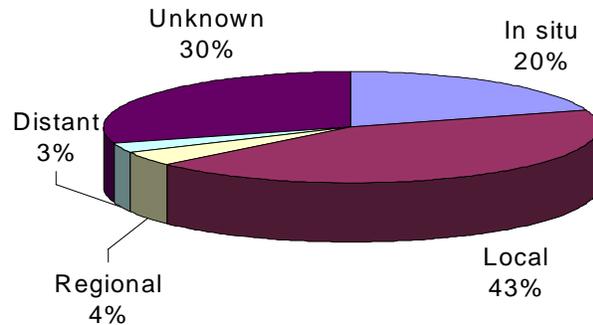
# Melanoma (of the skin)

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	72	44	116
# In situ Cases	9	20	29
Wyo Incidence	32.0	17.3	23.4
US Incidence	26.2	17.4	21.0
# Cancer Deaths	8	2	8
Wyo Mortality	2.4	NC	1.6
US Mortality	4.3	2.0	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 and total population were somewhat higher than the national rates, though not significantly. The female incidence rate for Wyoming was basically the same as the national rate. The mortality rates, while slightly lower than the national rates, were not statistically significant.

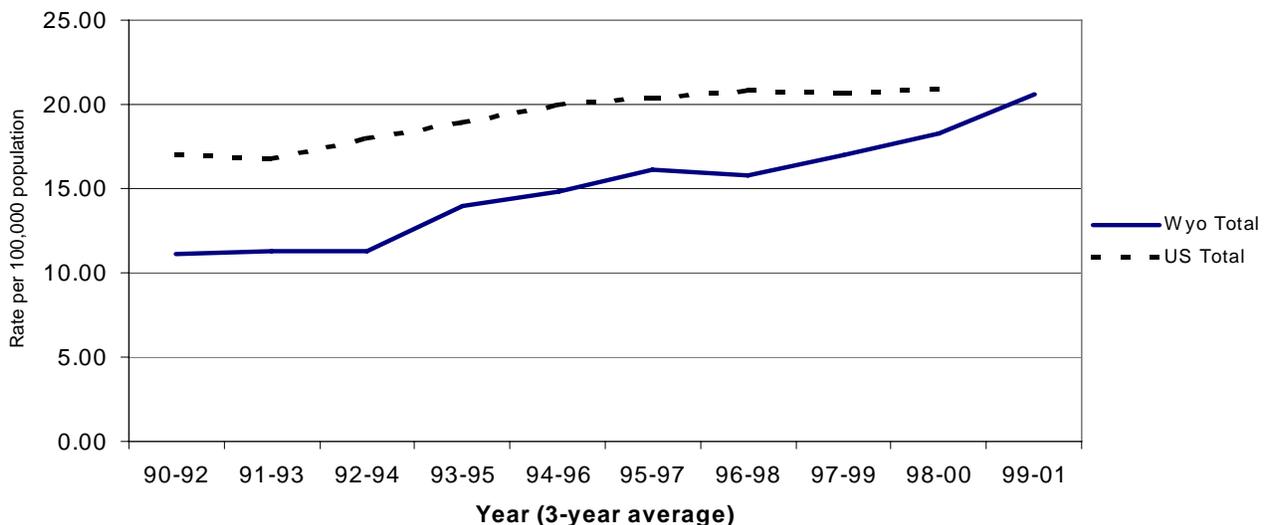
The recent increasing trend in melanoma incidence for Wyoming residents seems to be continuing into 99-01.

The percentage of cases diagnosed at the unknown stage increased from 19% in 2000 to 30% in 2001; however, this increase was not significant.

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

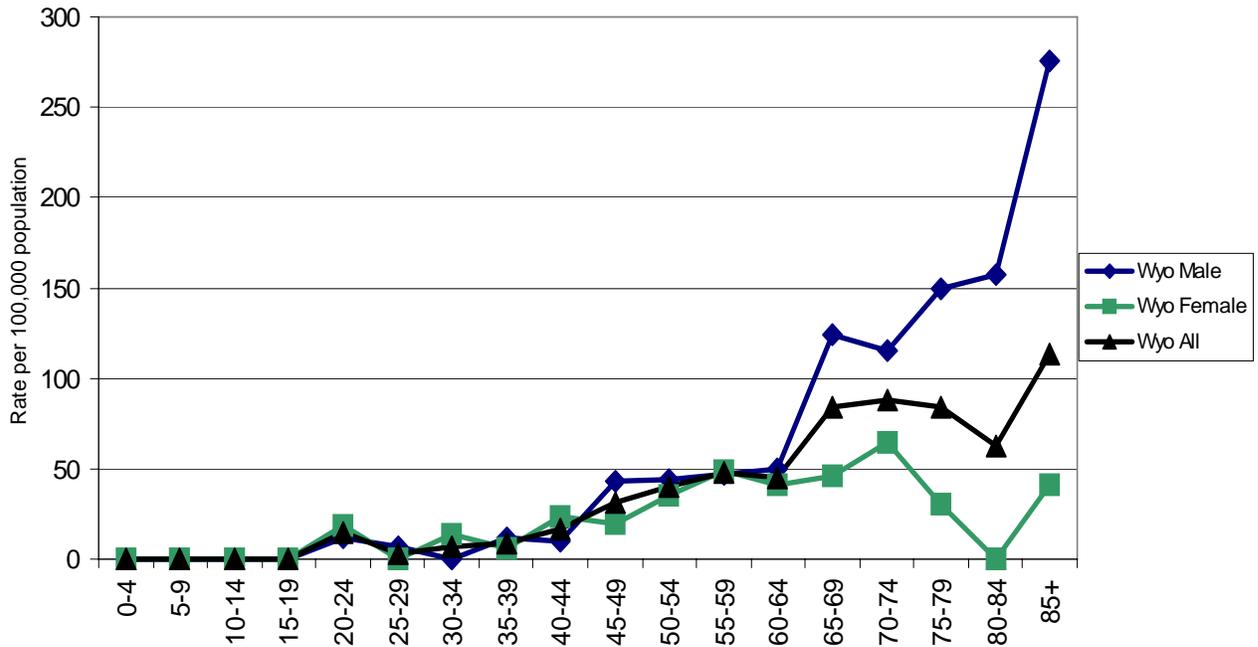
## 12-Year Incidence Trend

### Melanoma (of the skin)



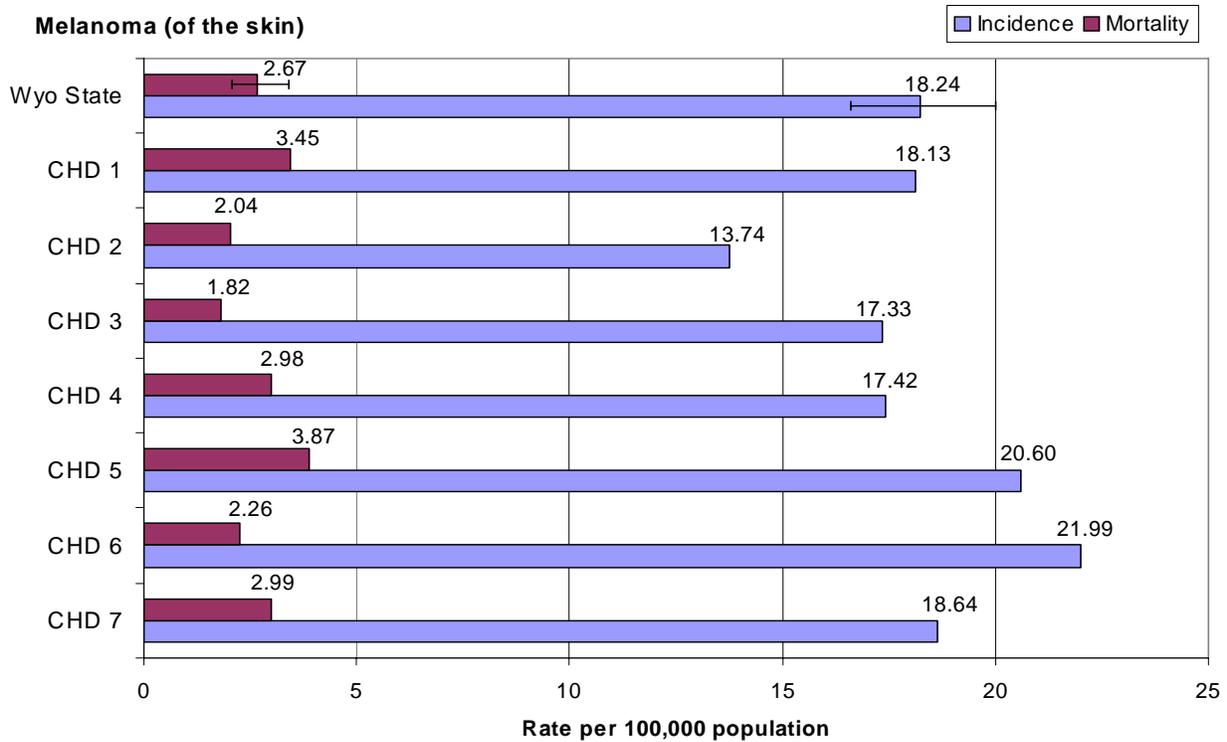
## Age-Specific Incidence Rates, 2001

### Melanoma (of the skin)



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Melanoma (of the skin)



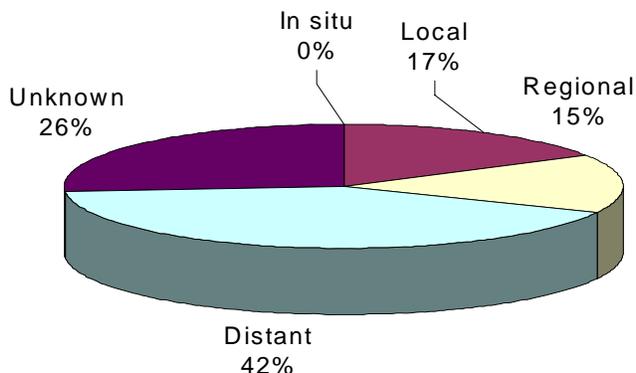
# Non-Hodgkin Lymphoma

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	31	40	71
Wyo Incidence	13.9	16.0	14.8
US Incidence	24.4	16.2	19.9
# Cancer Deaths	14	17	31
Wyo Mortality	6.8	6.7	6.6
US Mortality	10.7	7.0	8.6

\* 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 rate for males in Wyoming for non-Hodgkin's lymphoma was significantly lower than the national rate. The rates for females and total population were also lower than the national rates, though not significantly. The mortality rate for males, females, and total population in Wyoming were all lower than the national rates, although not significantly.

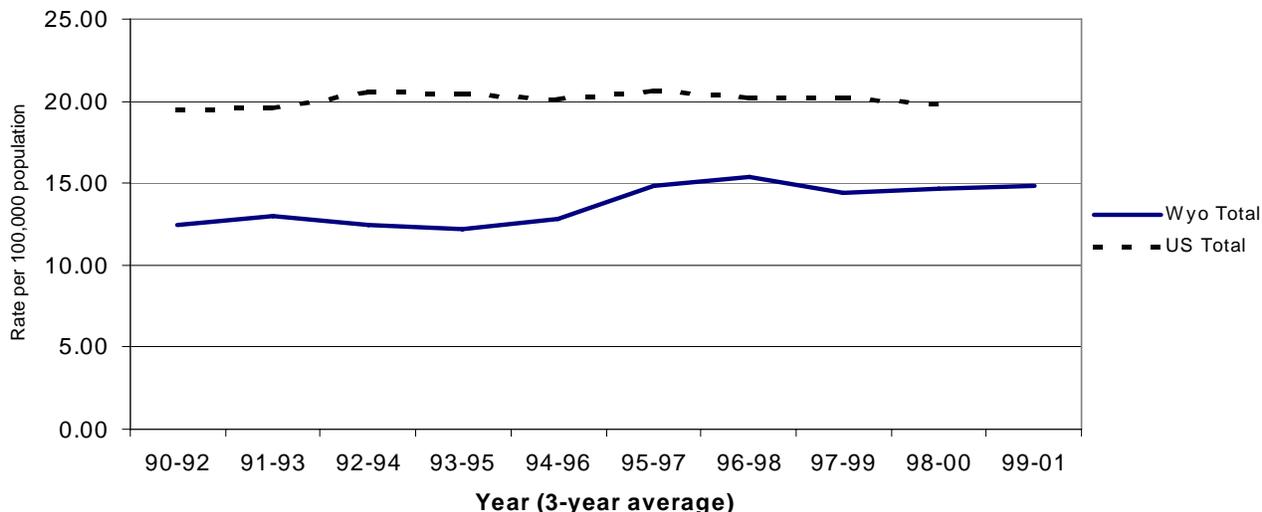
The percentage of cases that were staged as distant increased significantly from 28% in 2000 to 42% in 2001.

The 12-year incidence trend appears to have plateaued after a small decrease that began in 97-99.

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

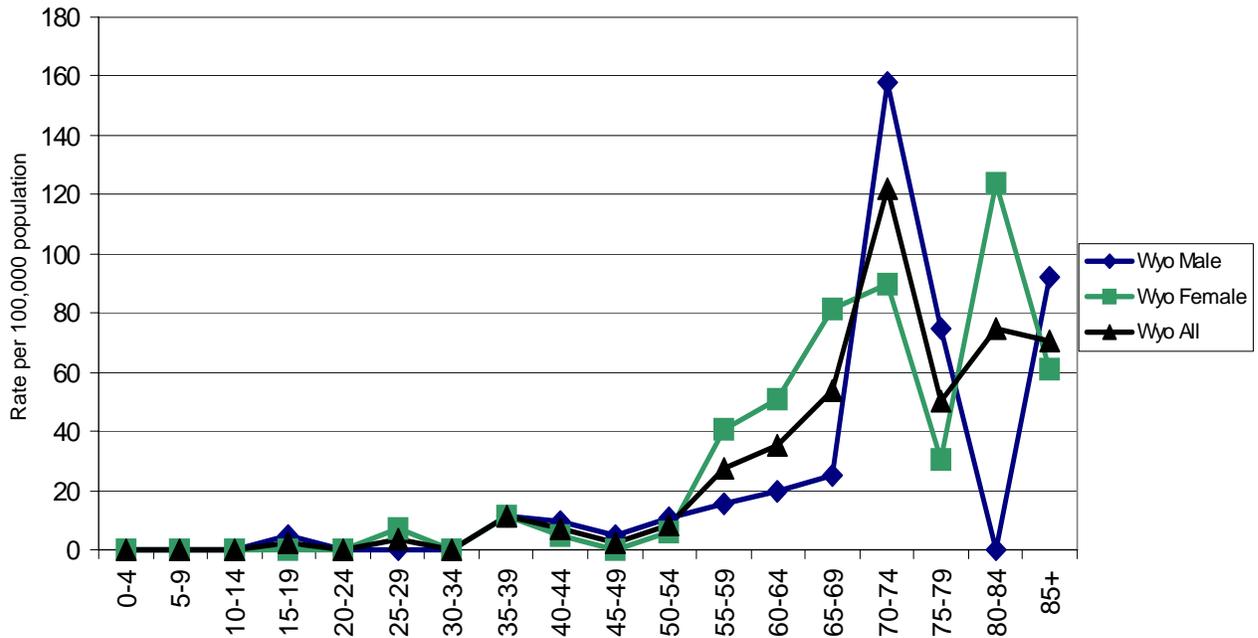
## 12-Year Incidence Trend

### Non-Hodgkin Lymphoma



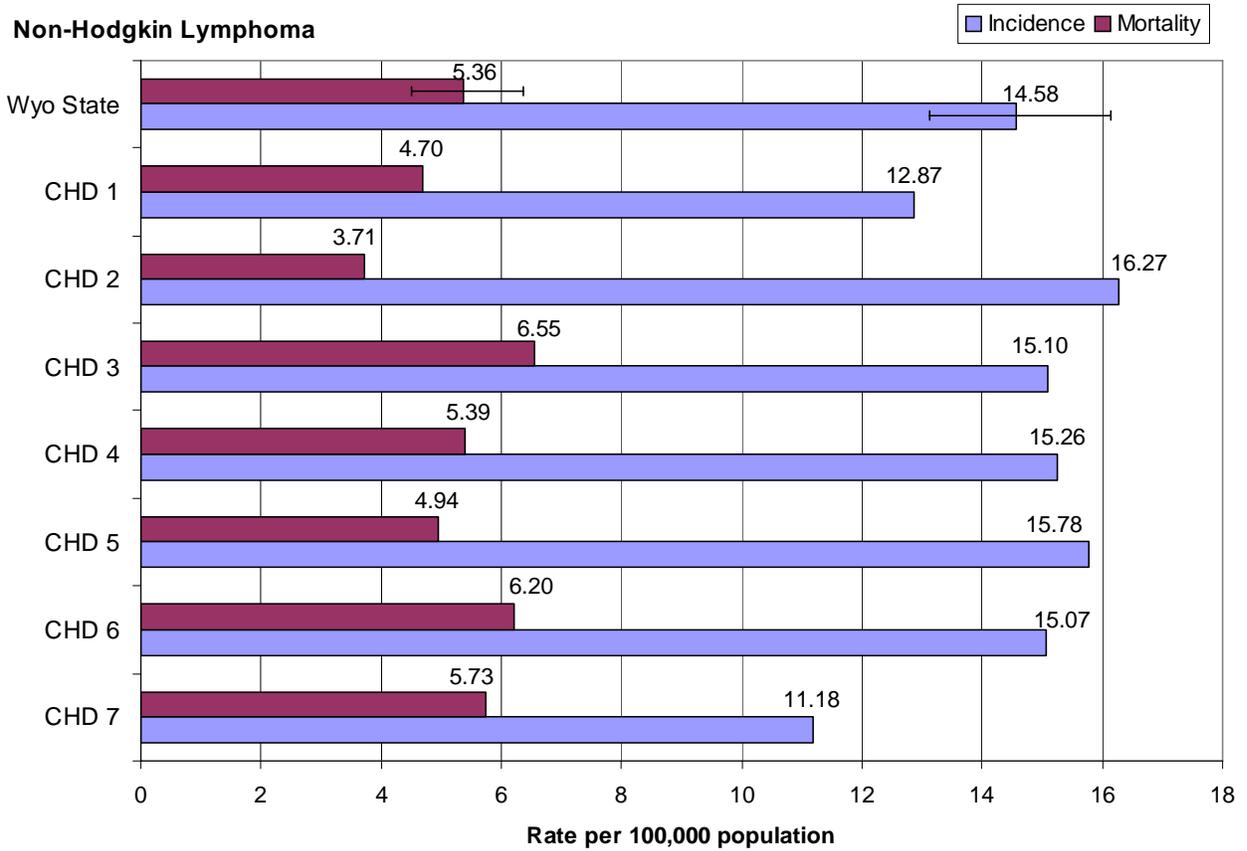
## Age-Specific Incidence Rates, 2001

### Non-Hodgkin Lymphoma



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Non-Hodgkin Lymphoma



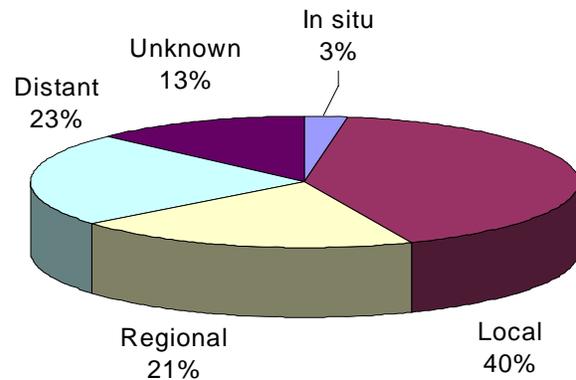
# Oral Cavity and Pharynx

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	27	12	39
# In situ Cases	1	0	1
Wyo Incidence	11.8	4.7	7.9
US Incidence	15.3	6.3	10.4
# Cancer Deaths	9	4	13
Wyo Mortality	4.0	1.4	2.7
US Mortality	3.7	1.6	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 & pharynx in Wyoming were lower, though not significantly, than the national rates. The mortality rates for males and total population were a little higher than the national rates, while the female rate was slightly lower; however, these differences were not statistically significant.

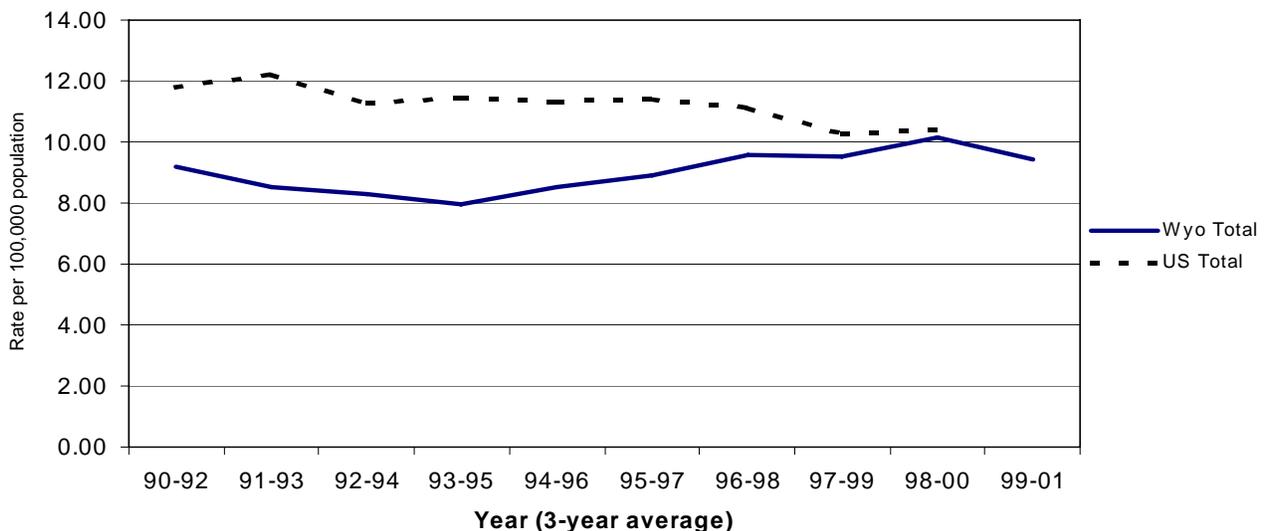
The decrease for Wyoming that started in 98-00 appears to have continued through 99-01. Nationally, cancer of the oral cavity and pharynx continues a downward trend.

Significantly more cases of cancer of the oral cavity and pharynx were staged as distant in 2001 (23%) than in 2000 (8%).

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

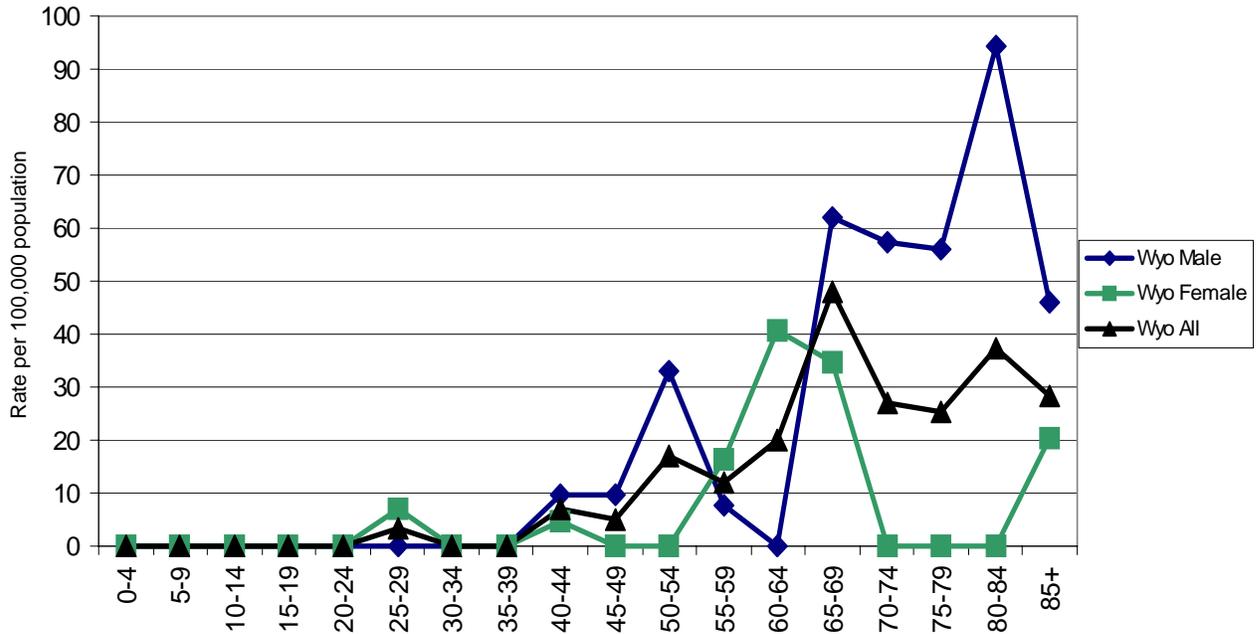
## 12-Year Incidence Trend

### Oral Cavity



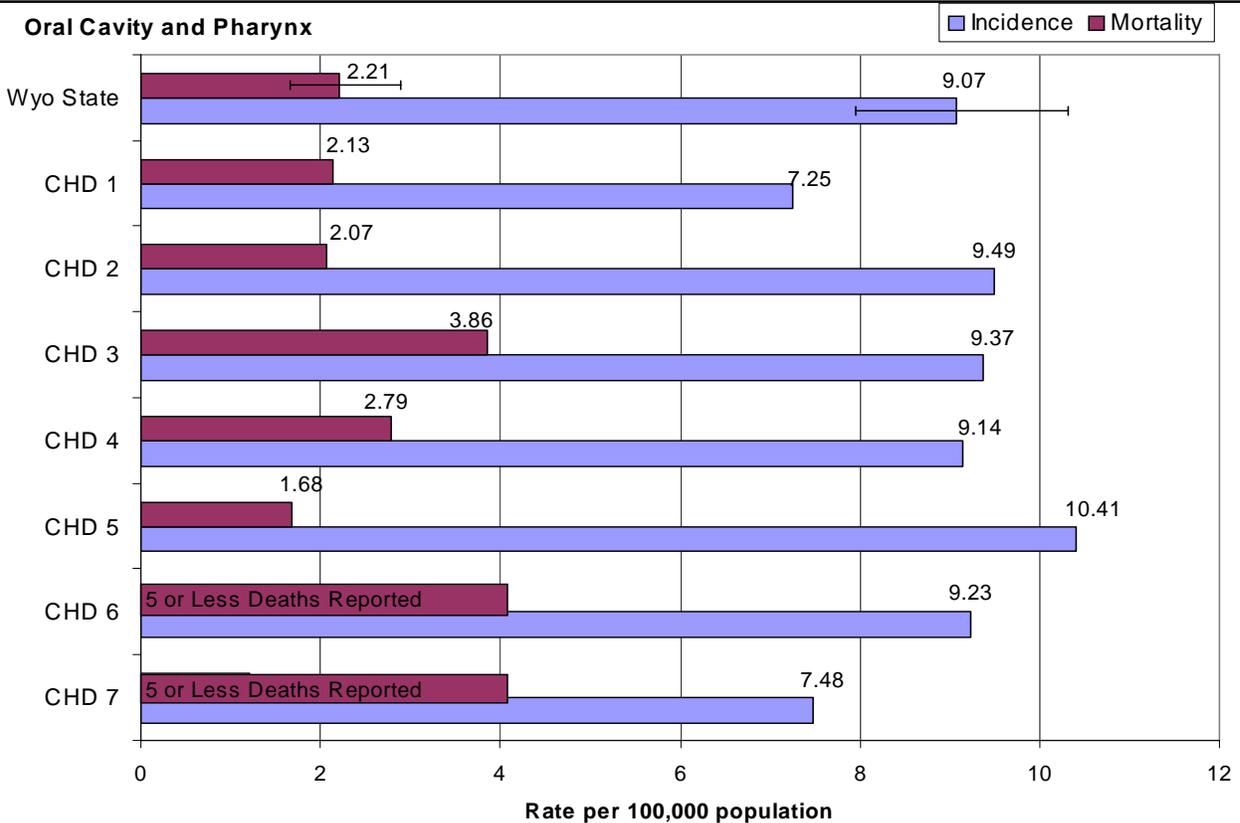
## Age-Specific Incidence Rates, 2001

### Oral Cavity and Pharynx



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Oral Cavity and Pharynx



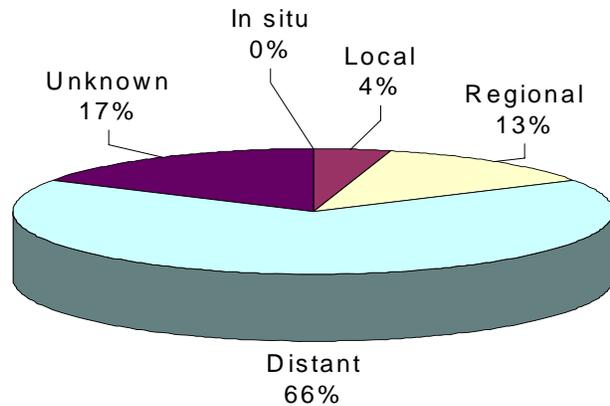
# Ovary

## Incidence and Mortality Summary

	Female
# Invasive Cases	24
Wyo Incidence	9.2
US Incidence	17.3
# Cancer Deaths	26
Wyo Mortality	10.1
US Mortality	9.3

\* 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 in Wyoming females for ovarian cancer was lower, while the mortality rate was slightly higher than the national rates. However, neither difference was significant.

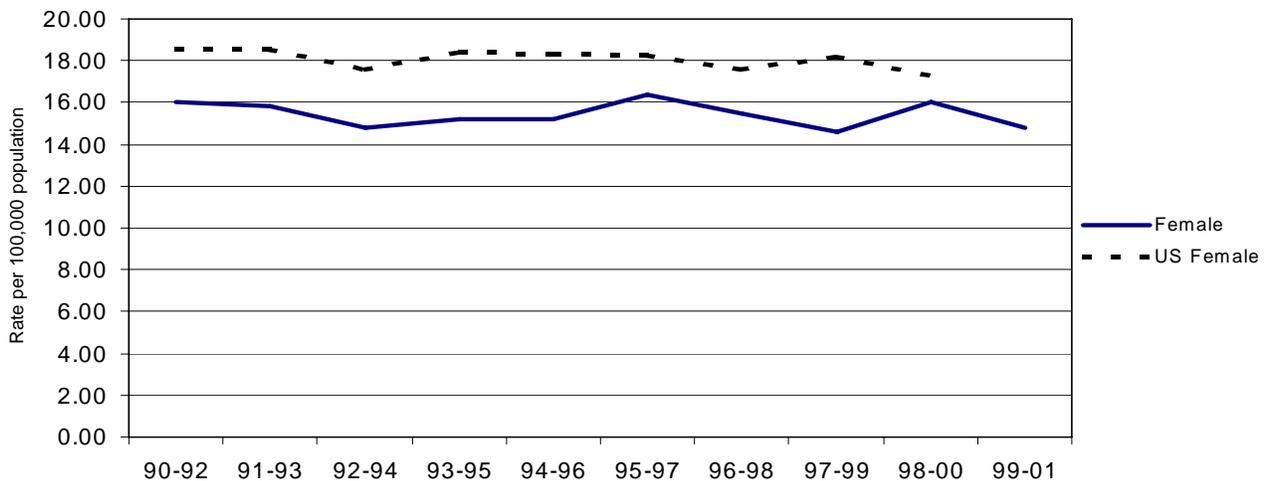
The 12-year incidence trend shows a slight decrease starting in 98-00 after a slight increase that began in 97-99. The national rate appears to have remained relatively steady.

Significantly fewer cases of ovarian cancer were diagnosed at the local stage in 2001 (4%) than in 2000 (25%).

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

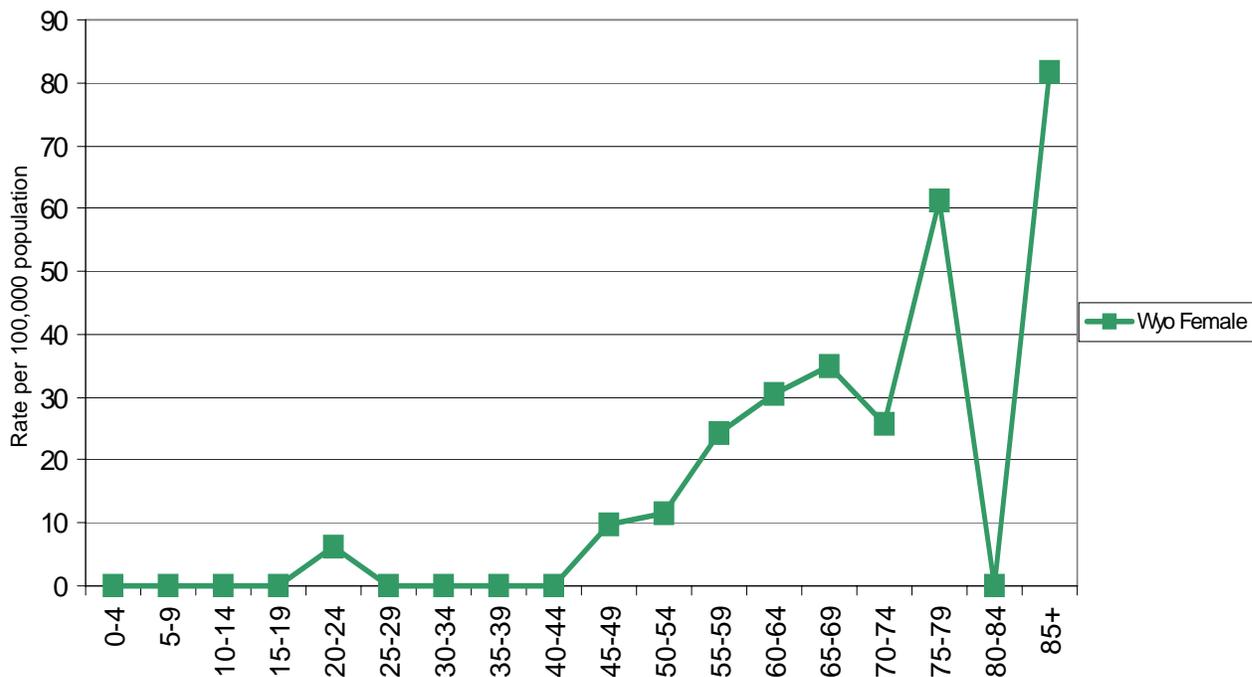
## 12-Year Incidence Trend

### Ovary



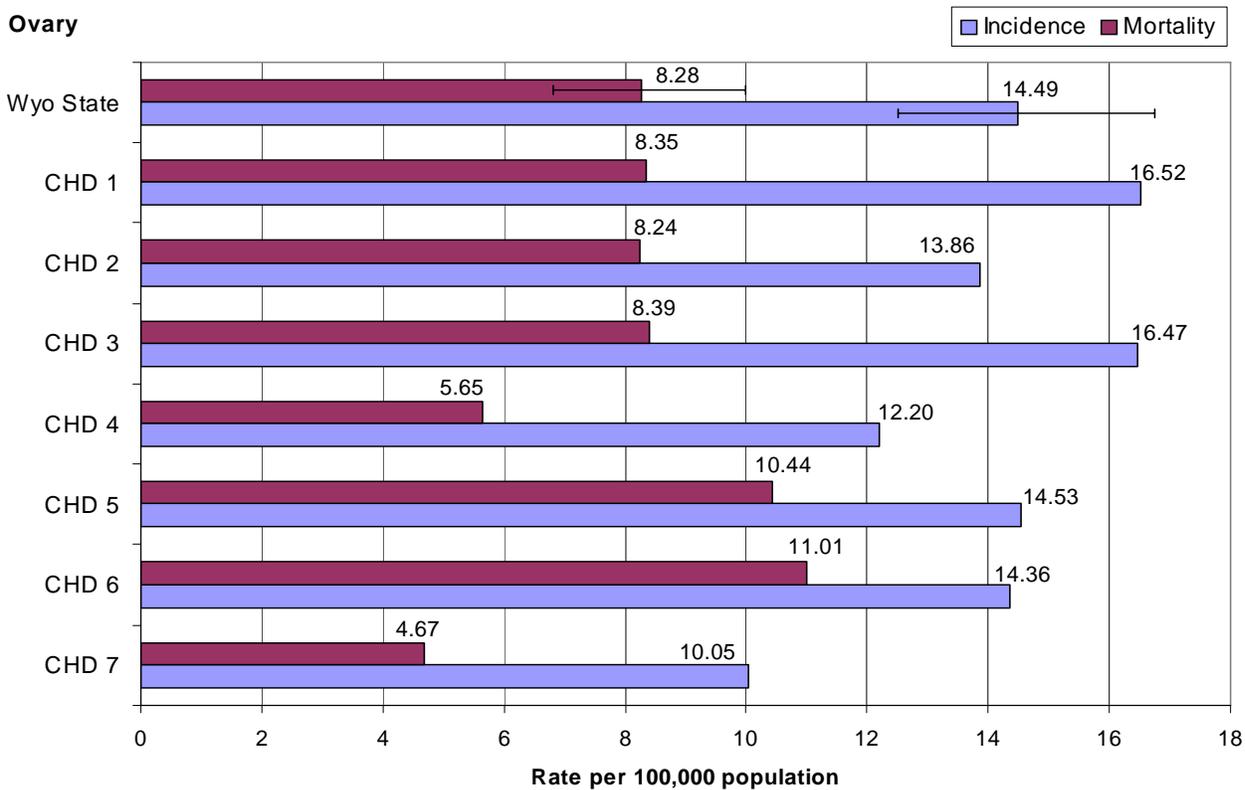
## Age-Specific Incidence Rates

### Ovary



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Ovary



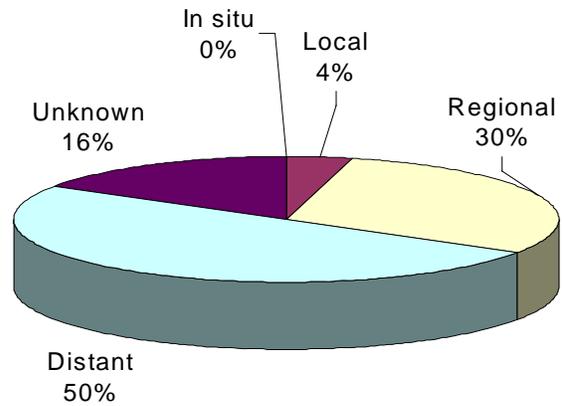
# Pancreas

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	27	30	57
Wyo Incidence	11.6	11.6	11.8
US Incidence	12.3	9.1	10.5
# Cancer Deaths	30	22	52
Wyo Mortality	13.9	8.5	11.0
US Mortality	12.0	9.0	10.4

\* 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 rates of cancer of the pancreas in Wyoming for females and the total population were somewhat higher than the national rates, while the rate for males was lower. For mortality, the male and total population rates were a little higher than the national rates, while the female rate was lower. None of these differences were statistically significant.

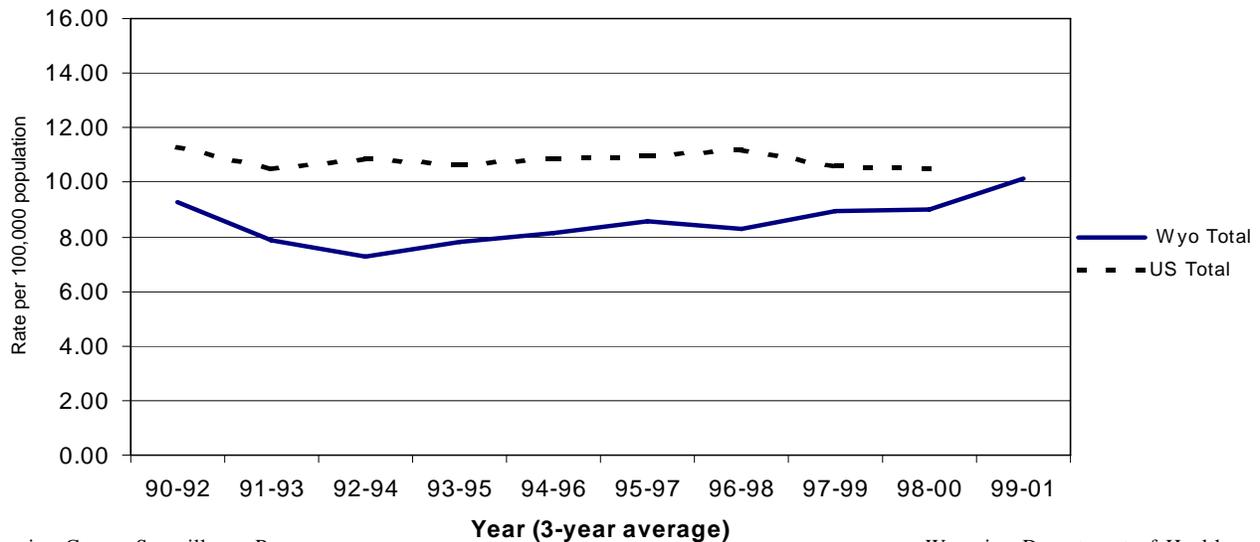
The national trend has remained relatively unchanged over the past 12 years, while Wyoming's trend shows a possible increase.

The percentage of cases diagnoses at the distant stage was up significantly in 2001 (50%) from 2000 (27%).

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

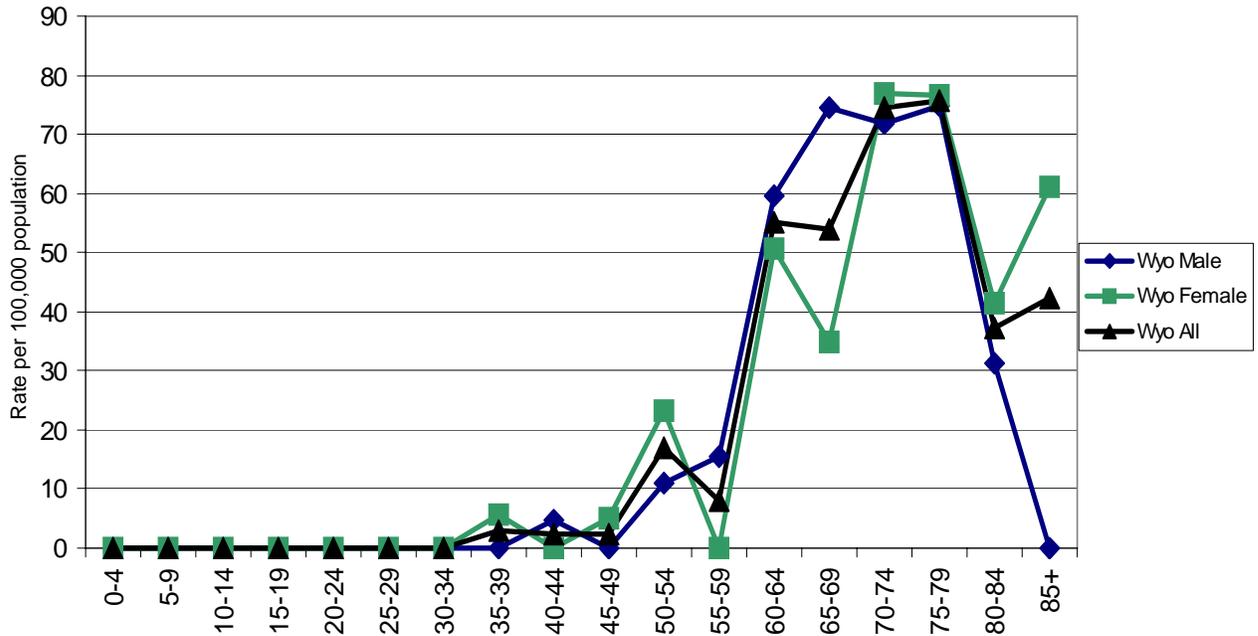
## 12-Year Incidence Trend

### Pancreas



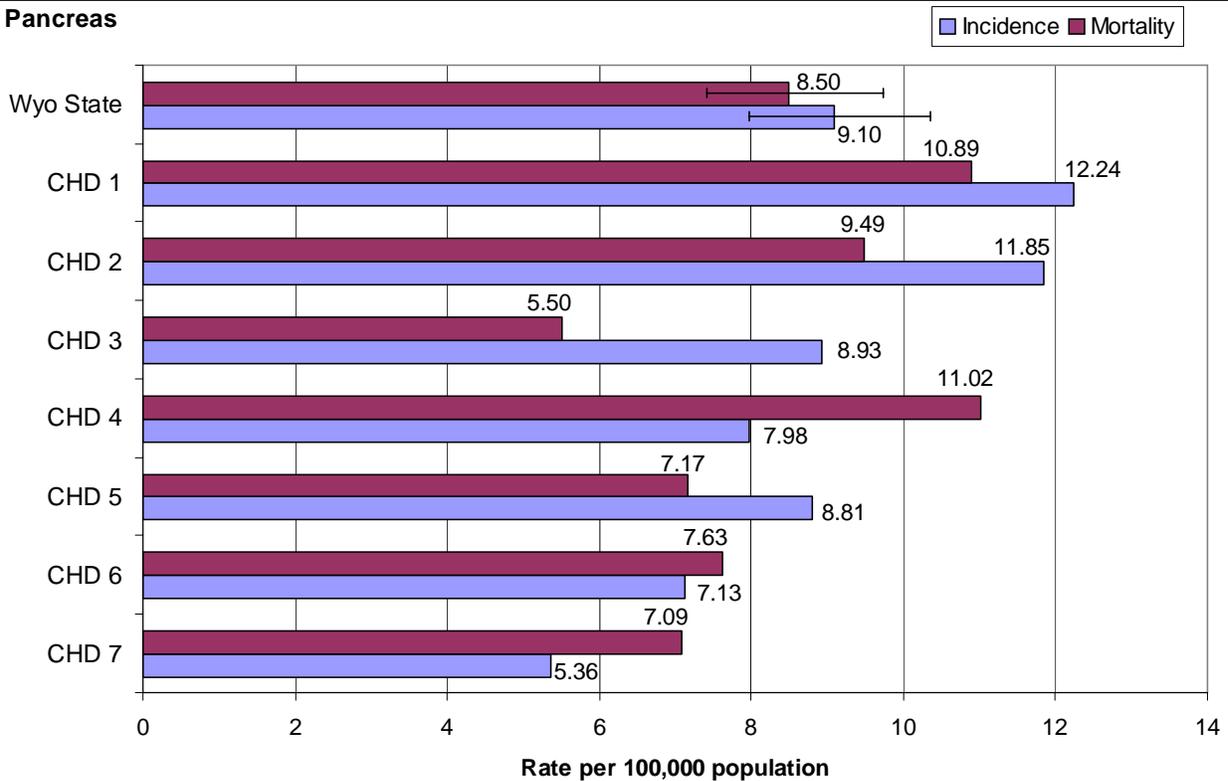
## Age-Specific Incidence Rates, 2001

### Pancreas



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Pancreas



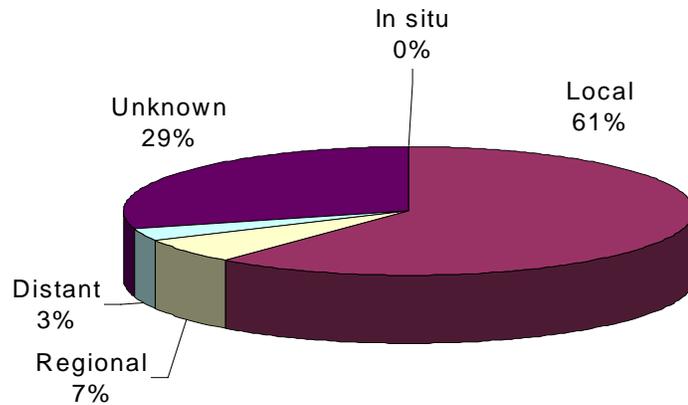
# Prostate

## Incidence and Mortality Summary

	Male
# Invasive Cases	428
Wyo Incidence	192.5
US Incidence	170.6
# Cancer Deaths	68
Wyo Mortality	37.5
US Mortality	28.0

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

## Stage at Diagnosis



Incidence and mortality rates for prostate cancer in Wyoming males, while higher than the national rates, were not significantly different.

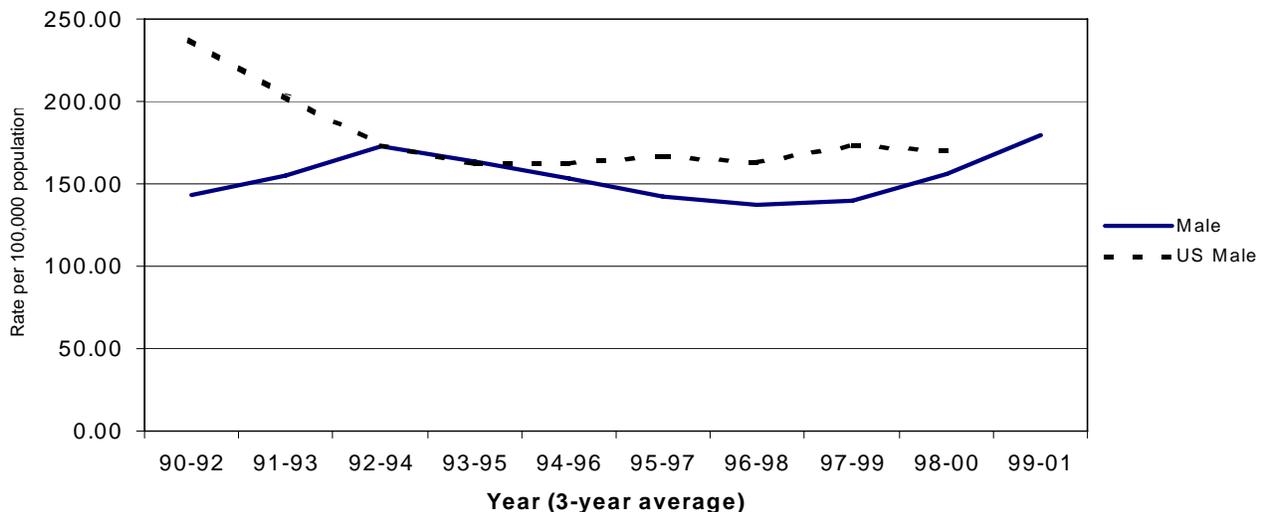
The percentage of cases diagnosed at each stage were basically unchanged from 2000.

There appears to be an upswing in prostate cancer starting in 97-99 after several years of decline. The national rate has remained steady for the last several years.

The incidence rate in CHD 1 was significantly higher than the state incidence rate for the 5-year period. However, the incidence rates in CHD 3, CHD 5, and CHD 7 were significantly lower than the state rate for the 5-year period.

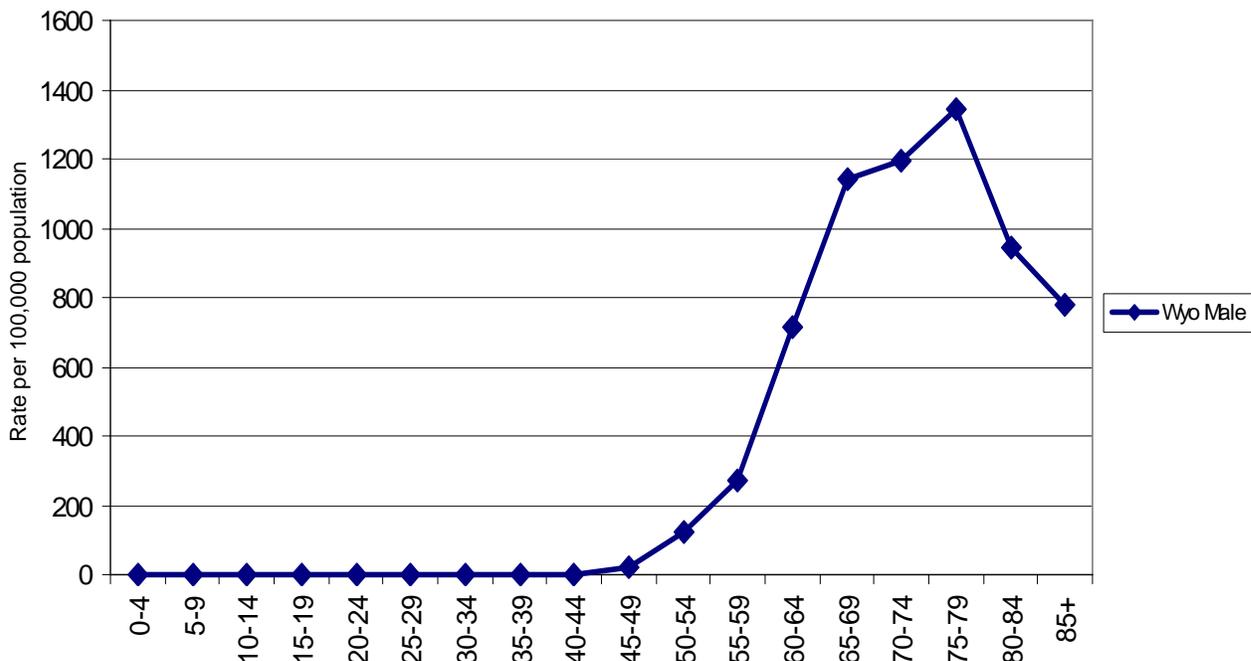
## 12-Year Incidence Trend

### Prostate



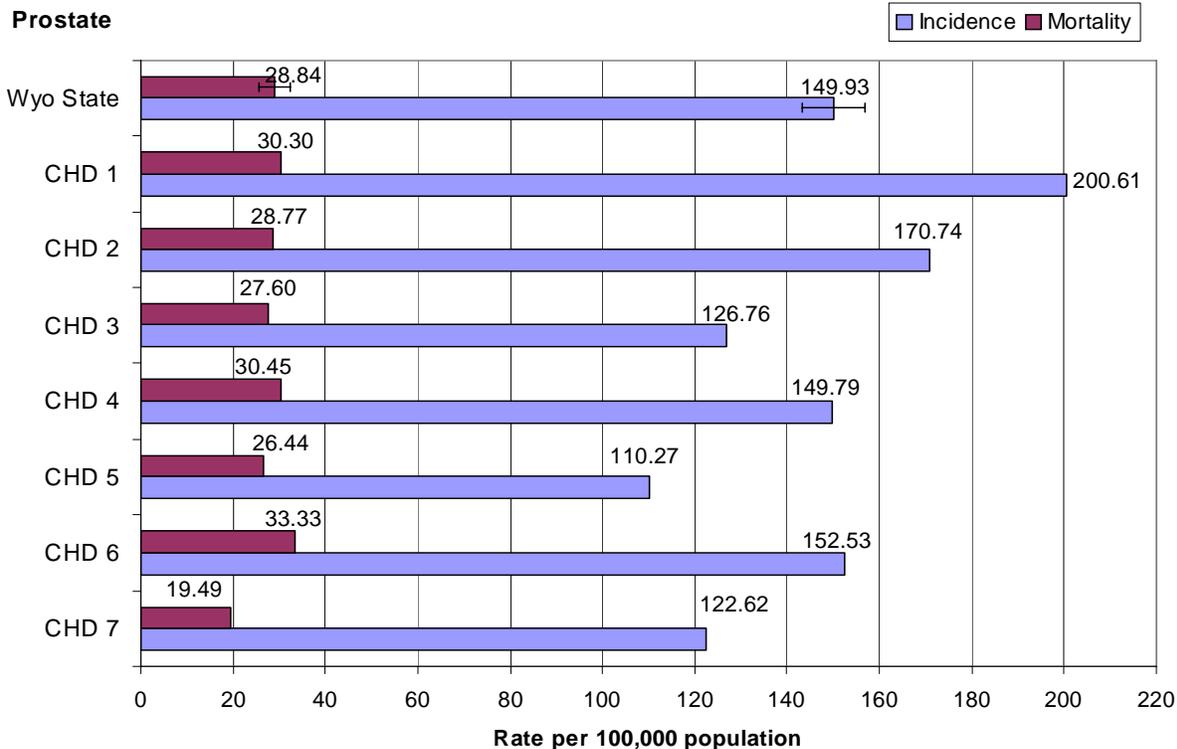
## Age-Specific Incidence Rates

### Prostate



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Prostate



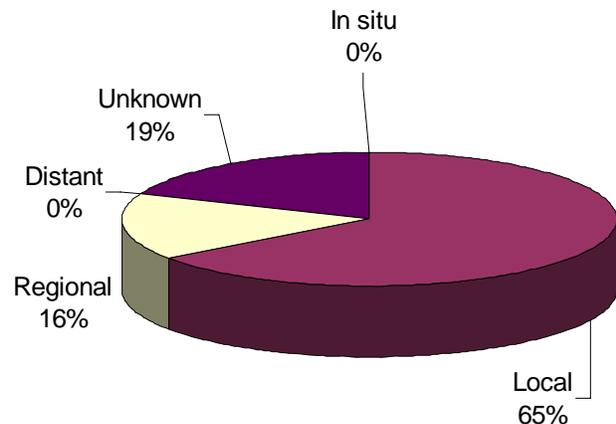
# Thyroid

## Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	10	27	37
Wyo Incidence	4.3	11.6	7.9
US Incidence	4.2	11.4	7.8
# Cancer Deaths	2	2	4
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 slightly higher than the national incidence rates for males, females, and total population. However, these differences are not statistically significant.

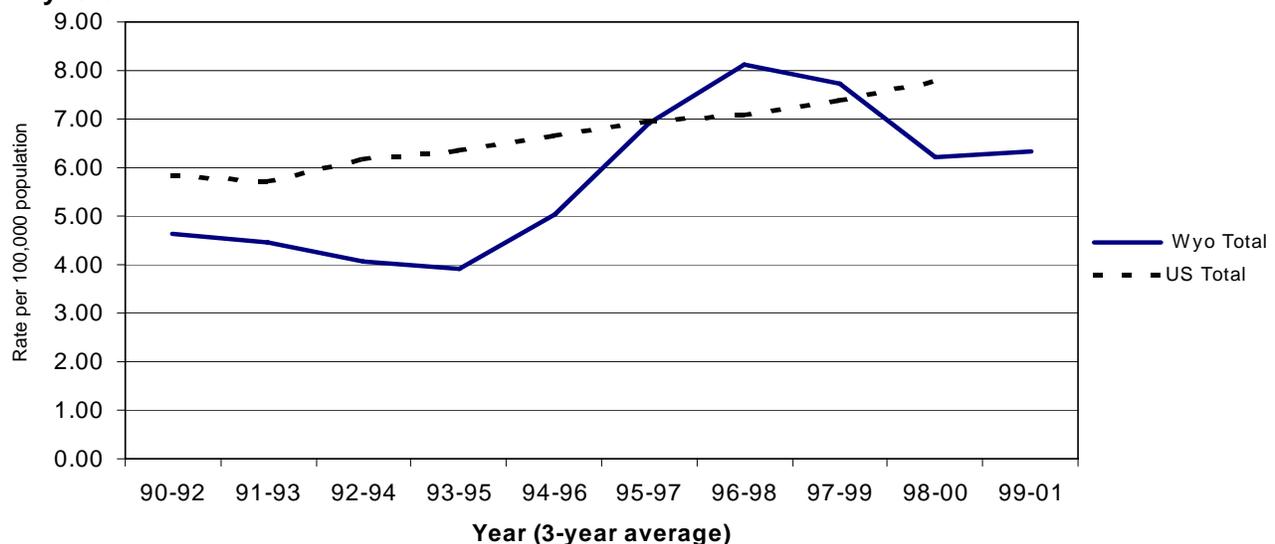
The decreasing trend for Thyroid Cancer in Wyoming that started in 96-98 appears to have plateaued.

The percentage of cases diagnosed at the regional stage is down from 23% in 2000 to 16% in 2001; while the percentage diagnosed as unknown in up slightly from 14% in 2000 to 19% in 2001. Neither change is significant.

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

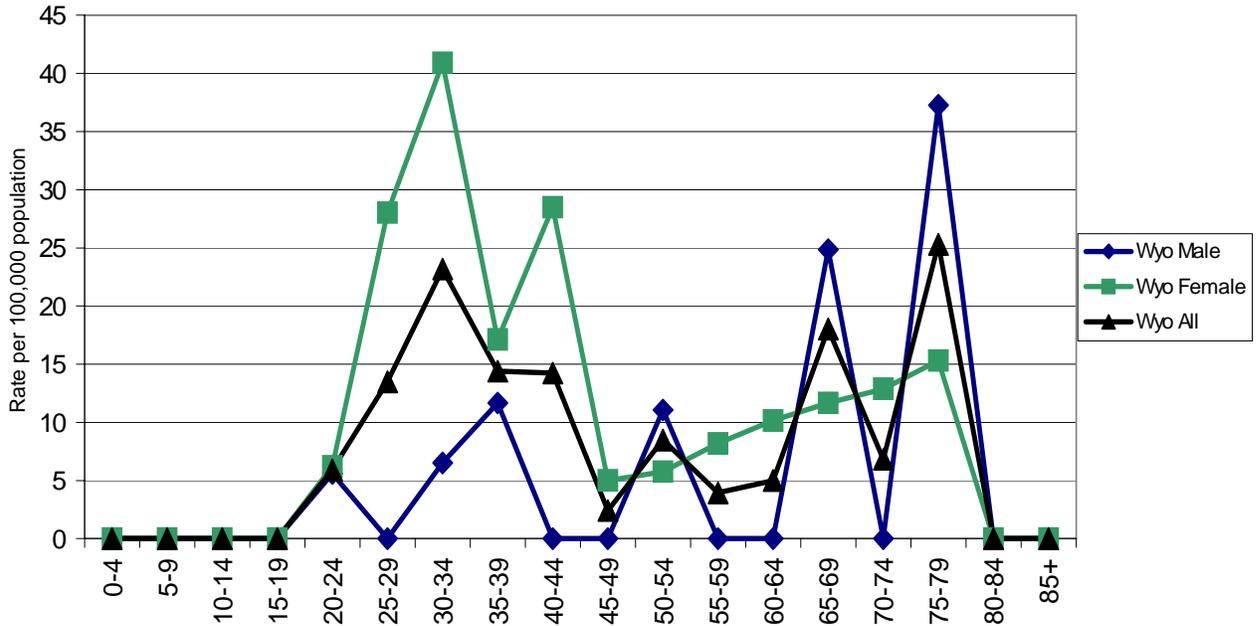
## 12-Year Incidence Trend

### Thyroid



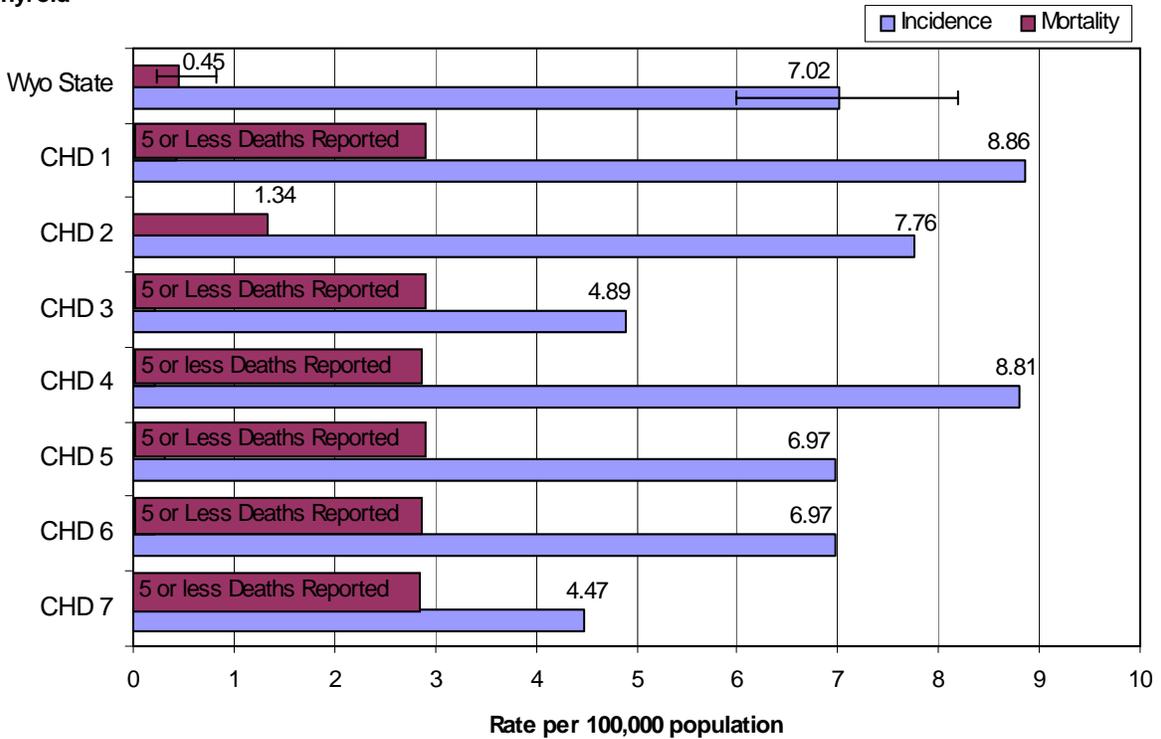
## Age-Specific Incidence Rates, 2001

### Thyroid



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### Thyroid



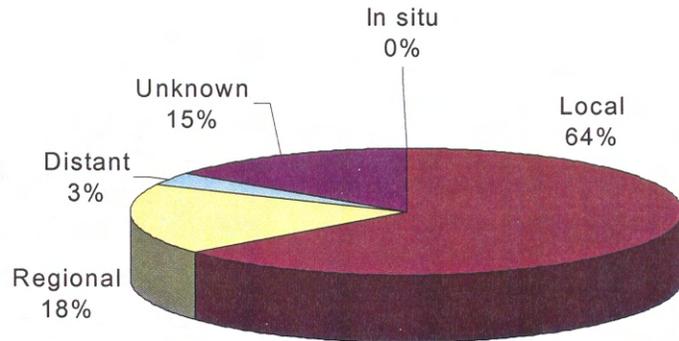
# Uterine (Corpus Uteri & Uterus)

## Incidence and Mortality Summary

	Female
# Invasive Cases	48
Wyo Incidence	18.7
US Incidence	26.3
# Cancer Deaths	10
Wyo Mortality	4.0
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 were not significantly different than the national rates.

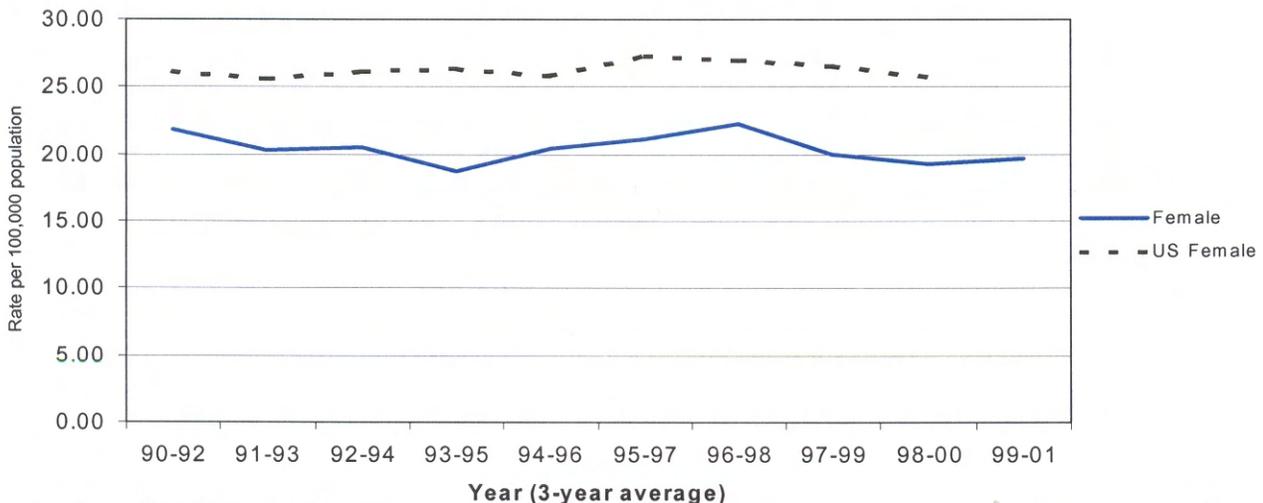
The decrease in incidence that started in 96-98 appears to have leveled off in 99-01. The incidence trend for the nation has remained relatively stable.

There was a significant decrease in the percentage of cases staged as unknown in 2001 (15%) as compared to 2000 (41%), while significantly more cases were staged as localized in 2001 (64%) than in 2000 (37%).

No statistically significant difference was found between the CHD and state rates for incidence or mortality.

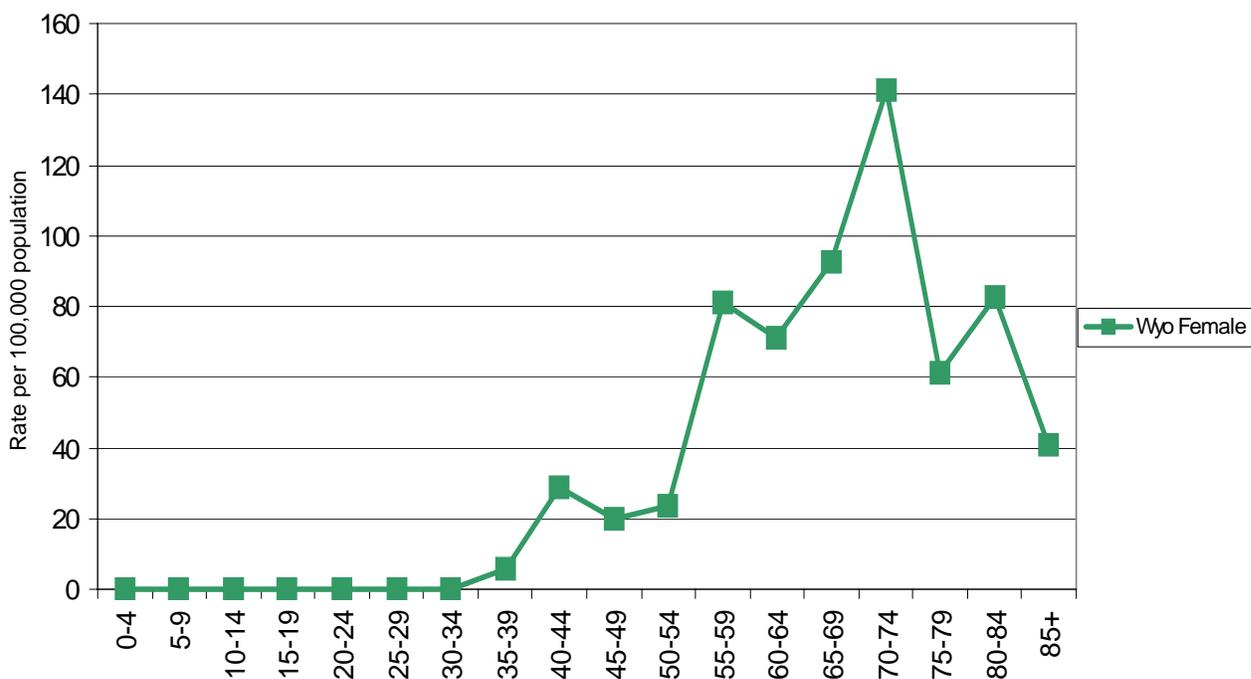
## 12-Year Incidence Trend

### Uterine



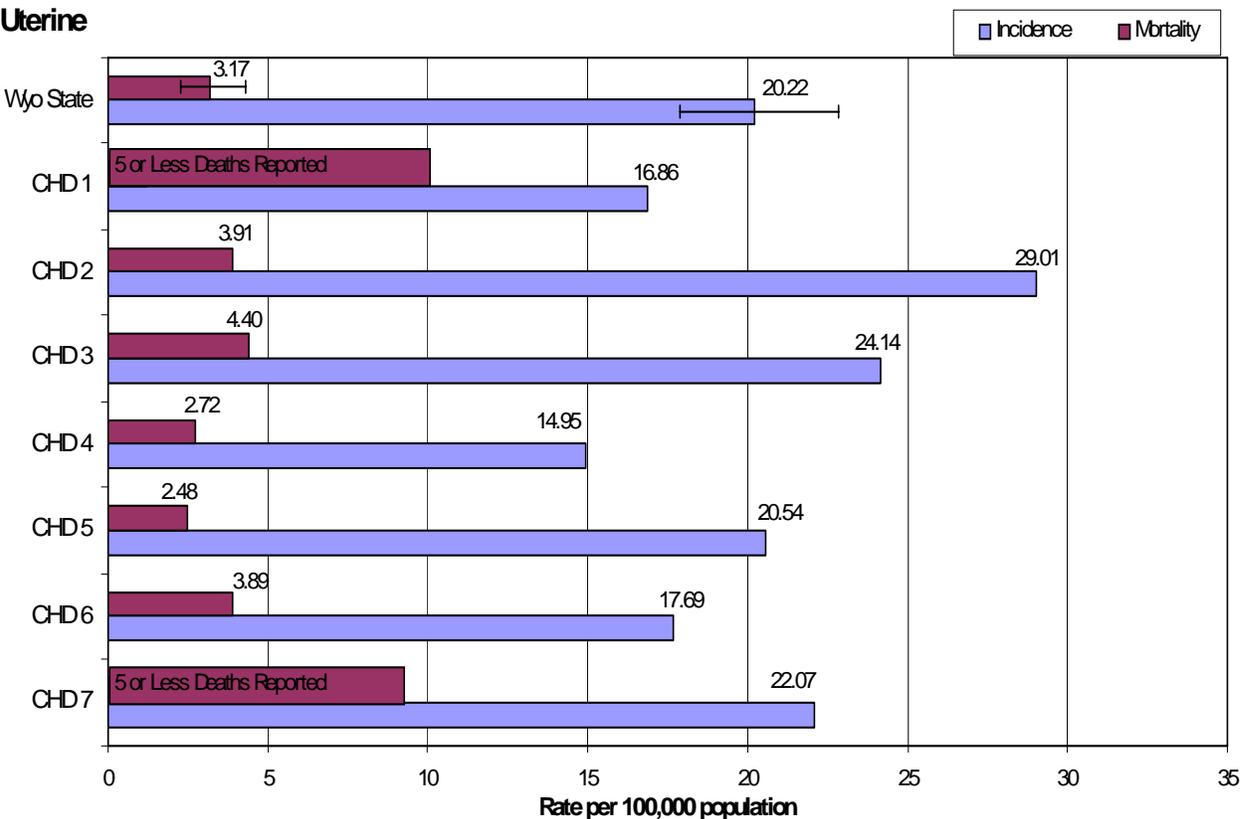
## Age-Specific Incidence Rates

### Uterine



## Cancer Health District Incidence and Mortality 5-Year Average, 1997-2001

### 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 (1973-2000)  
(SEER\*STAT, Version 4.2), National Cancer Institute, DCCPS, Surveillance Research Program,  
Cancer Statistics Branch, released April 2002, based on the November 2001 submission.

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

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

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 that 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:

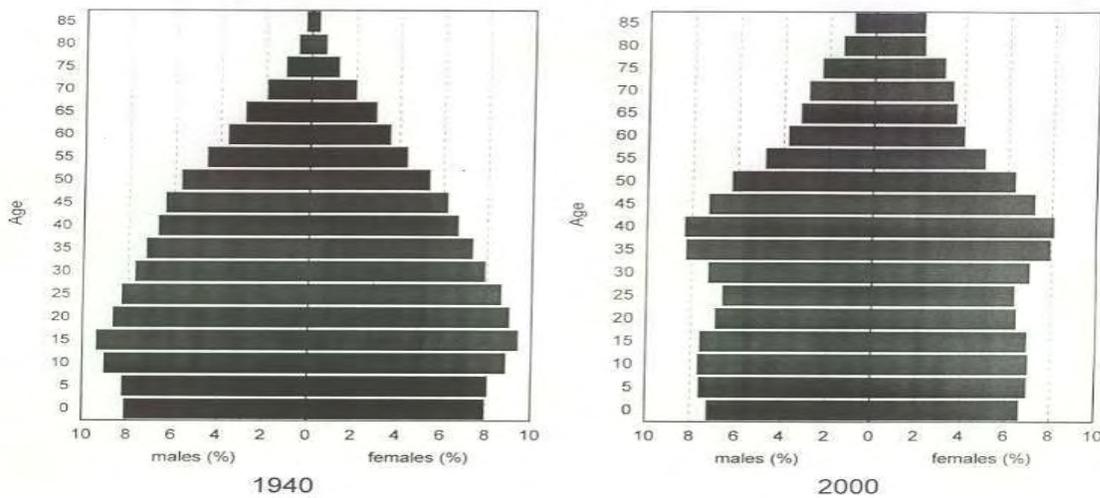


Chart B:

### U.S. Age-Adjusted Cancer Mortality, All Sites Combined by Standard Year Populations 1940, 1970, 2000

