# State of Wyoming



# **Department of Health**

Annual Report on Cancer in Wyoming - 2000

Deborah K. Fleming, Ph.D., Director

### State of Wyoming Department of Health

# Annual Report on Cancer in Wyoming - 2000

Annual Report on Cancer in Wyoming - 2000 is published by the Wyoming Cancer Surveillance Program Preventive Health and Safety Division Karl Musgrave, D.V.M., M.P.H. State Epidemiologist

Additional information and copies may be obtained from:
 Judy Brockhouse, M.P.H.

Wyoming Cancer Surveillance Program
6101 Yellowstone Rd., Suite 259A
Cheyenne, WY 82002
(307) 777-7951 telephone
(800) 458-5847 telephone
(307) 777-8604 fax
jbrock@state.wy.us
http://wdhfs.state.wy.us/cancer/

This pulication was supported by a Grant/Cooperatvie Agreement
Number U55/CCU821964 from the Centers for Disease Control and Prevention.
Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention

This document is available in alternative format upon request.

# **Table of Contents**

Executive Summary	7
Introduction	
Methodology	10
CHD Map	13
Wyoming Incidence for 1999 Cases	
by Gender/Age	16
Wyoming Mortality for 1999 Deaths	
by Gender/Age	18
Wyoming Incidence for 1999 Cases	
by Race/Ethnicity	20
Wyoming Mortality for 1999 Cases	
by Race/Ethnicity	21
Top Incidence Cancer Sites	24
Top Mortality Cancer Sites	
Wyoming County Incidence Cases	28
Wyoming County Mortality Counts	30
Summaries of All Cancer Sites Combined and the Top 15 Cancer Sites	S
All Sites Combined	32
Bladder (Urinary)	36
Brain/CNS	38
Breast (Female)	40
Colorectal	42
Kidney/Renal Pelvis	44
Leukemia	46
Lung/Bronchus	48
Melanoma (of the skin)	50
Non-Hodgkin's Lymphoma	52
Oral Cavity/Pharynx	54
Ovary	56
Pancreas	
Prostate	
Thyroid	
Uterine	
Appendix A: References	

### **Executive Summary-change**

Cancer rates in Wyoming held steady for the most part in 2000, and are still significantly lower than comparable national rates. Incidence for all cancer sites combined for Wyoming in 2000 were 424.47 per 100,000 population compared to the 1999 national rate of 478.3 per 100,000 population. Mortality for Wyoming in 2000 was down slightly to 186.5 per 100,000 population, this is also lower than the national rate of 197.8 per 100,000 for the year 2000. The Wyoming mortality rate is not statistically different than the national mortality rate.

There were no cancers that were significantly higher than national rates for incidence or mortality. Only male lung/bronchus had significantly lower incidence rates. None of the mortality rates were significantly lower than 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, female breast, melanoma of the skin, and ovarian suggest a possible increase. Still others: brain/CNS, colorectal, kidney/renal pelvis, leukemia, lung and bronchus, pancreas, and thyroid show a possible decrease from the past few years.

The top 5 cancer sites for incidence were the same as the previous year: prostate, female breast, lung/bronchus, colorectal, and bladder. The most common cancer for incidence in age groups were: 35-59 breast, 60-79 prostate, 80-84 colorectal, and 85+ female breast.

The top 5 cancer sites for mortality were: lung/bronchus, colorectal, breast, prostate, and pancreas. The most common cancer for mortality in age groups were: 40-44 breast, 45-49 brain/ CNS 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 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 see 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 Cancer Epidemiologist, Judy Brockhouse, M.P.H., at 307-777-3477. 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**

<u>Definition</u> -- Incidence is the number of *new* cases that were 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 2000 except for the 10-year incidence trend, which used 3-year averages (e.g., 96-98 for 1997 & 97-99 for 1998). The defined population was the state of Wyoming, counties, and Cancer Health Districts (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 2000 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 SEER rates presented in this report is 2000 data for whites. See Appendix A for reference source.

#### Mortality

<u>Definition</u> -- Mortality is 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 2000 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 SEER rates presented in this report is 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 <u>US Census Bureau's Population Estimates Program</u>, with support from the NCI 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 2000 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.

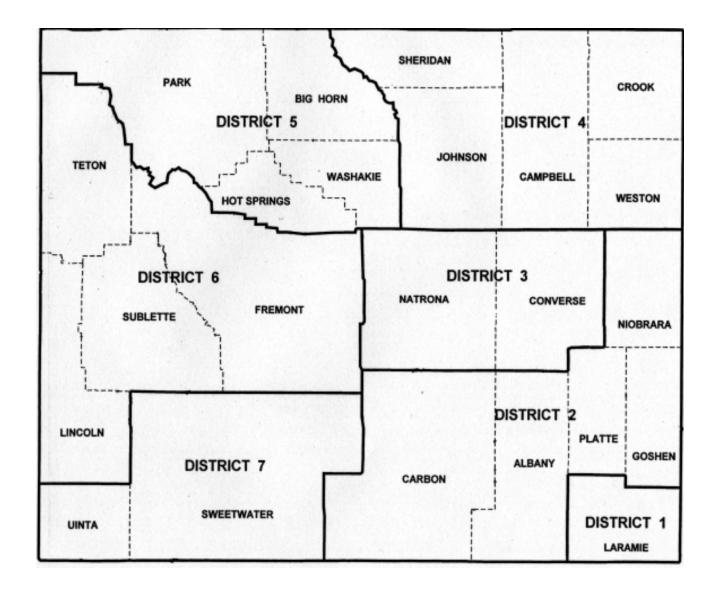
Regional Stage cancer has invaded beyond the organ of origin by direct extension to adjacent organs/

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 - 2000**

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

### Wyoming Incidence<sup>1</sup> for 2000: Cases by Gender and Age (All Sites)

	M ale	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	2	5	7	0	0	0	0	0	0	0
Other Biliary	7	3	10	0	0	0	0	0	0	0
Urinary Bladder	63	26	89	0	0	0	0	0	0	1
Bones and	3	1	4	0	0	1	1	2	0	0
Joints Brain/CNS	20	9	29	2	1	1	2	2	1	0
Breast	20	328	330	0	0	0	0	0	0	4
Cervix Uteri	0	21	21	0	0	0	0	0	2	0
Colorectal	101	96	197	0	0	0	0	2	1	0
Esophagus	2 1	6	2 7	0	0	0	0	0	0	0
Eye and Orbit	0	2	2	0	0	0	0	0	0	0
Gallbladder	1	0	1	0	0	0	0	0	0	0
Hodgkin	10	5	1 5	0	0	1	1	1	1	2
Ill-D e fine d	27	2 5	5 2	0	0	0	0	0	0	0
Kidney	27	2 1	48	1	1	0	0	0	0	2
Larynx	11	5	16	0	0	0	0	0	0	0
Leukemia	2 5	1 7	42	1	2	0	1	2	0	1
Liver	10	5	1 5	0	0	0	0	0	1	0
Lung	123	96	219	0	0	0	0	0	1	1
M elanoma	5 2	3 3	8 5	0	0	0	2	2	2	4
M ultiple M yeloma	15	1 2	27	0	0	0	0	0	0	0
Nasal Cavity	6	2	8	0	0	0	0	0	0	0
N on-H odgkin Lymphom a	3 6	47	83	0	0	0	0	2	1	1
Oral Cavity	3 2	1 8	5 0	0	0	0	0	0	0	0
Other Digestive	1	3	4	0	0	0	0	0	0	0
Other Endocrine	1	1	2	1	0	0	0	0	0	0
Other Female	0	9	9	0	0	0	0	0	0	0
Other Respiratory	3	2	5	0	0	0	0	0	0	0
Other Skin	3	4	7	0	0	0	0	1	1	0
Other Urinary	2	1	3	0	0	0	0	0	0	0
Ovary	0	4 8	4 8	0	0	0	0	0	1	4
Pancreas	1 3	1 7	3 0	0	0	0	0	0	0	0
Other Male	1	0	1	0	0	0	0	0	0	0
Prostate	406	0	406	0	0	0	0	0	0	0
Small Intestine	7	3	10	0	0	0	0	0	0	0
Soft Tissue/Heart	9	4	1 3	1	0	0	0	0	1	0
Stom a ch	16	11	2 7	0	0	0	0	0	0	0
Testis	19	0	19	0	0	0	0	2	4	5
Thyroid	3	19	2 2	0	0	0	0	2	1	2
Uterine	0	4 8	4 8	0	0	0	0	0	0	0
M esothelioma	2	0	2	0	0	0	0	0	0	0
Total	1080	953	2033	6	4	3	7	18	18	27

<sup>&</sup>lt;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	1	1	0	0	0	1	1	1	1	1
Other Biliary	0	0	0	0	2	2	0	0	2	2	2
Urinary Bladder	0	2	4	7	5	8	13	17	15	10	7
Bones and Joints	0	0	0	0	0	0	0	0	0	0	0
Brain/CNS	1	1	1	3	3	2	3	2	1	2	1
Breast	10	22	32	41	46	41	31	35	29	19	20
Cervix Uteri	5	2	1	1	4	2	1	2	0	1	0
Colorectal	0	2	7	14	15	23	24	30	32	31	16
Esophagus	0	2	2	4	4	2	2	3	3	3	2
Eye and Orbit	0	0	0	1	0	0	0	0	0	1	0
Gallbladder	0	0	0	0	0	0	1	0	0	0	0
Hodgkin	4	1	1	0	1	0	2	0	0	0	0
Ill-D e fine d	1	0	0	5	3	3	10	11	6	10	3
Kidney	2	2	4	2	5	8	8	4	1	5	3
Larynx	0	0	2	2	0	1	3	3	4	1	0
Leukemia	1	2	1	2	5	1	2	1	7	4	9
Liver	0	0	1	6	0	1	2	4	0	0	0
Lung	0	3	4	6	19	25	43	51	36	20	10
M e la no ma	9	9	4	7	7	7	7	6	10	5	4
M ultiple M yeloma	1	1	1	1	4	2	2	4	1	5	5
Nasal Cavity	0	1	0	0	1	1	1	1	3	0	0
Non-Hodgkin Lymphoma	1	2	5	8	6	7	1 <b>7</b> 17	12	7	7	7
Oral Cavity	0	3	6	5	6	7	5	4	9	3	2
Other Digestive	0	0	0	1	0	0	1	1	1	0	0
Other	0	0	0	0	0	0	0	1	0	0	0



	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	1	0	0	0	0
Biliary	1	0	0	0	2	1	1	1	1	2	1
Bladder	0	0	0	1	0	0	3	1	2	8	3
Bones and Joints	0	0	0	0	0	0	0	0	1	1	0
Brain/CNS	0	0	5	2	2	3	1	4	1	0	3
Breast	0	4	2	5	4	7	6	7	12	7	10
Cervix	0	1	1	0	1	0	1	2	0	0	0
Colorectal	1	0	2	2	9	4	14	9	13	22	13
Esophagus	0	3	1	3	1	1	2	2	1	1	1
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	2	1	0	2	0	0	0
Hodgkin	0	0	0	0	0	0	0	0	0	0	0
Ill-Defined	0	2	1	3	3	6	12	9	15	5	10
Kidney	0	1	0	2	0	0	2	3	5	4	2
Larynx	0	0	0	0	0	2	3	1	1	0	0
Leukemia	0	1	0	0	2	4	0	4	6	1	9
Liver	0	0	0	2	1	2	2	0	0	0	0
Lung	0	3	3	9	12	35	32	64	29	27	18
M e la noma	0	1	1	3	4	1	1	3	0	4	0
M yeloma	0	0	0	1	1	2	3	5	5	3	4
Nasal Cavity	0	0	0	1	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	0	1	1	1	2	2	19	1	6	5	3
Oral Cavity	0	0	0	0	1	3	0	4	2	2	2
Other Digestive	0	0	0	0	0	0	0	0	1	0	0
Other Endocrine	0	1	0	1	0	0	1	0	1	0	0
Other Female	0	0	0	0	1	0	0	1	2	2	0

Wyoming Incidence for 2000: Cases by Race and Ethnicity (Tops15 Sites Only)

### Wyoming Mortality for 2000: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic
All Sites Combined	871	850	2	14	2	3	30
Bladder (Urinary)	18	18	0	0	0	0	0
Brain/CNS	26	26	0	0	0	0	2
Breast (Female)	64	64	0	0	0	0	1
Colorectal	89	88	0	1	0	0	4
Kidney	19	19	0	0	0	0	0
Leukemia	27	26	0	0	1	0	1
Lung and Bronchus	232	226	1	4	1	0	5
M elanoma	18	18	0	0	0	0	1
Non-Hodgkin Lymphoma	27	27	0	0	0	0	1
Oral Cavity	14	14	0	0	0	0	1
Ovary	25	25	0	0	0	0	1
Pancreas	39	39	0	0	0	0	2
Prostate	61	60	0	1	0	0	3
Thyroid	1	1	0	0	0	0	0
Uterine	10	10	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	406	Prostate	406	Breast	328
Breast	328	Lung	123	Colorectal	96
Lung	219	Colorectal	101	Lung	96
Colorectal	197	Bladder	63	Uterine	48
Bladder	89	Melanoma	52	Ovary	48

### 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	
Brain/CNS	2	Leukemia	2			Brain	2	Bones & Joints	2
						Melanoma	2	Brain	2
								Colorectal	2
								Leukemia	2
								Melanoma	2
25-29		30-34		35-39		40-44		45-49	
Testis	4	Testis	5	Breast	10	Breast	22	Breast	32
Cervix	2	Breast	4	Melanoma	9	Melanoma	9	Colorectal	7
Melanoma	2	Melonoma	4	Cervix	5	Ovary	4	Oral Cavity	6
		Ovary	4	Hodgkin	4	Uterine	4	Prostate	6
50-54		55-59		60-64		65-69		70-74	
Breast	41	Breast	46	Prostate	57	Prostate	77	Prostate	92
Prostate	24	Prostate	44	Breast	41	Lung	43	Lung	51
Colorectal	14	Lung	19	Lung	25	Breast	31	Breast	31
Non-Hodgkin	8	Colorectal	15	Colorectal	23	Colorectal	24	Colorectal	30
Melanoma	7	Melanoma	7			Non-Hodgkin	17	Bladder	17
75-79		80-84		85+					
Prostate	57	Colorectal	31	Breast	20				
Lung	36	Prostate	31	Prostate	17				
Colorectal	32	Lung	20	Colorectal	16				
Breast	29	Breast	19	Lung	10				
Bladder	15	Bladder	10						

Top Mortality Cancer Sites by Gender (Mortality Count Included)

Total		Male		Female	
Lung	232	Lung	135	Lung	97
Colorectal	89	Prostate	61	Breast	64
Breast	64	Colorectal	37	Colorectal	52
Prostate	61	Pancreas	23	Ill-Defined	34
Pancreas	39	Leukemia	17	Ovary	25

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

0-4		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		20-24	
All Cancers Have 1 or Less Count		Brain	2	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	<b>D</b>	40-44		<u>45-49</u>	
All Cancers Have 1 or Less Count	6	All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count		Breast	4	Brain	5
ω.						Esophagus	3	Lung	3
		(				Lung	3	Breast	2
								Colorectal	2
				<b>第</b> 2 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8					
50-54		<u>55-59</u>		60-64		<u>65-69</u>		70-74	
Lung	9	Lung	12	Lung	35	Lung	32	Lung	64
Breast	5	Colorectal	9	Breast	7	Colorectal	14	Colorectal	9
Pancreas	4	Pancreas	4	Ill-Defined	6	Ill-Defined	12	Ill-Defined	9
Esophagus	3	Breast	4	Leukemia	4	Breast	6	Prostate	8
Ill-Defined	3	Melanoma	4	Pancreas	4	Stomach	5	Breast	7
									999
75-79		80-84		<u>85+</u>					
Lung	29	Lung	27	Lung	18				
Ill-Defined	15	Colorectal	22	Prostate	17				
Prostate	15	Prostate	15	Colorectal	13				
Colorectal	13	Bladder	8	Breast	10				
Breast	12	Breast	7	Ill-Defined	10				

# **Wyoming Counties - 2000**

Cancer Incidence by Gender and Age (All Sites) Cancer Mortality by Gender and Age (All Sites) **Wyoming County Incidence Cases -- 2000 (All Sites)** 

	I	<u> </u>				T	a .				***
	Natrona	N io bra ra	Park	Platte	Sheridan	Sublette	Sweetw- ater	Teton	Uinta	Washakie	Weston
Anus	2	0	0	0	0	0	0	0	0	0	1
Biliary	1	0	0	1	0	0	1	0	0	0	0
Bladder	11	0	8	0	7	1	3	0	3	4	2
Bones and Joints	0	0	0	0	0	0	0	1	0	0	0
Brain/CNS	5	0	1	0	1	1	2	1	0	2	0
Breast	4.5	1	14	6	25	4	22	8	16	6	6
Cervix	6	0	1	0	1	0	0	0	0	0	0
Colorectal	26	1	14	5	12	5	14	2	7	1	3
Esophagus	7	0	1	1	3	0	1	1	0	0	0
Eye	1	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	0	0	0	0	0	0	0
Hodgkin	5	0	1	0	0	0	1	0	1	1	0
Ill-D e fin e d	7	1	5	2	4	3	3	2	1	0	1
Kidney	6	0	1	2	1	1	2	1	0	1	1
Larynx	1	0	0	2	0	0	2	0	0	0	0
Leukemia	4	0	2	3	4	0	2	0	0	0	2
Liver	3	0	0	1	3	0	0	0	1	1	0
Lung	3 5	2	5	7	15	1	9	5	8	0	4
M e la noma	18	1	4	0	2	2	5	6	1	3	0
M yeloma	4	2	2	1	1	2	0	1	2	0	1
Nasal	2	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	14	1	1	1	5	1	4	1	0	2	2
Oral Cavity	8	1	1	1	6	0	29 3	0	3	2	0
Other Digestive Organs	1	0	0	0	1	0	1	0	0	0	0
Other Endocrine including Thymus	1	0	0	0	0	0	0	0	0	0	0
Other Female Genital Organs	1	0	0	0	2	0	1	0	0	0	0

### **Wyoming County Mortality Counts -- 2000 (All Sites)**

	Natrona	N io bra ra	Park	Platte	Sheridan	Sublette	Sweetw- ater	Teton	Uinta	Washakie	Weston
Anus	0	0	0	0	0	0	0	0	0	0	0
Biliary	0	0	0	1	0	0	0	0	0	0	0
Bladder	2	0	1	1	3	0	1	0	0	0	0
Bones and Joints	2	0	0	0	0	0	0	0	0	0	0
Brain/CNS	2	0	3	0	2	1	0	1	1	0	0
Breast	7	1	4	0	9	1	6	2	1	1	1
Cervix	2	0	0	0	0	0	0	0	0	0	0
Colorectal	11	1	5	3	6	1	3	0	1	1	3
Esophagus	1	1	0	1	2	1	1	0	0	0	0
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	1	0	0	0	0	0	0	0	2	0	0
Hodgkin	0	0	0	0	0	0	0	0	0	0	0
Ill-D e fine d	14	2	0	2	8	2	2	1	3	2	1
Kidney	2	0	0	2	0	0	2	0	1	0	1
Larynx	1	0	0	0	0	0	2	0	0	0	0
Leukemia	3	0	1	0	2	0	0	1	0	1	2
Liver	0	0	0	0	0	0	0	0	1	1	0
Lung	35	1	13	9	12	2	11	3	8	3	2
M e la noma	5	0	0	0	2	0	1	0	2	1	0
M yeloma	1	1	2	0	1	1	3	0	2	0	0
Nasal	0	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	4	1	2	0	4	0	4	1	0	0	0
Oral Cavity	1	0	0	0	3	0	1	0	0	0	0
Other Digestive Organs	1	0	0	0	0	0	0	0	0	0	0
Other Endocrine including Thymus	1	0	0	1	0	0	0	0	0	0	0
Other Female Genital Organs	1	0	0	0	1	0	1	0	0	0	0
Other Respiratory	0	0	0	1	0	0	0	0	0	0	0
Other Non- Epithelial Skin	2	0	0	0	0	0	0	0	0	0	0
Other Urinary Organs	1	0	0	0	0	0	0	0	0	0	0
Ovary	4	1	1	0	1	1	0	0	3	0	1
Pancreas	6	0	2	1	5	0	3	1	1	0	0
Other Male	0	0	0	0	0	0	0	0	0	0	0
Prostate	6	0	6	2	5	0	0	0	2	2	3
Small Intestine	0	0	0	0	0	0	0	1	0	0	0
Soft Tissue including Heart	1	0	0	0	0	0	2	0	0	0	0
Stomach	2	0	0	0	0	0	1	0	0	0	0
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	0	0	0	0	0	0	0	0
U te rine	2	0	1	1	0	0	0	0	0	0	1
M esothelioma	1	0	0	2	0	0	0	0	0	0	1
All sites	122	9	41	27	31	10	44	11	28	12	16

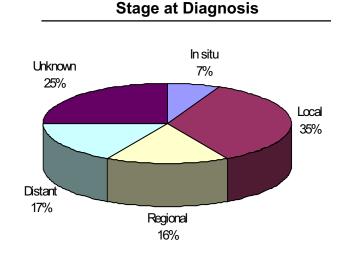
## Summary of All Cancer Sites Combined and Top 15 Sites

**2000 Wyoming Incidence and Mortality** 

### **All Sites Combined**

#### **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	1,080	953	2,033
# In situ Cases	37	110	147
Wyo Incidence	490.83*	374.92*	424.47*
US Incidence	551.3	430.3	478.3
# Cancer Deaths	447	424	871
Wyo Mortality	222.1	164.7	186.5
US Mortality	247.1	165.9	197.8

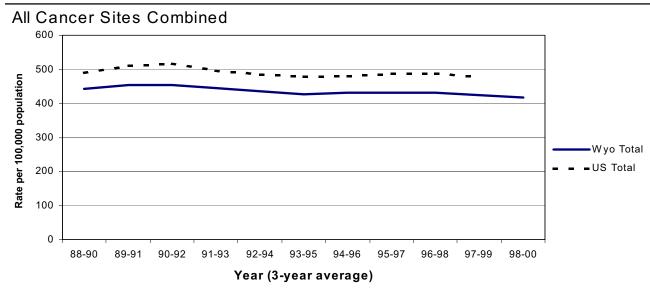


The incidence rates in Wyoming for all cancer sites combined were significantly lower than the United States national rate for males, females, and total population. The mortality rates in Wyoming, although lower than the national rates, were not significantly lower.

The 10-year incidence trend shows that all-site cancer incidence has held relatively steady for the Wyoming population since 1995.

There were no significant differences in incidence or mortality rates bewteen any of the seven Cancer Health Districts and the state for the 5-year period.

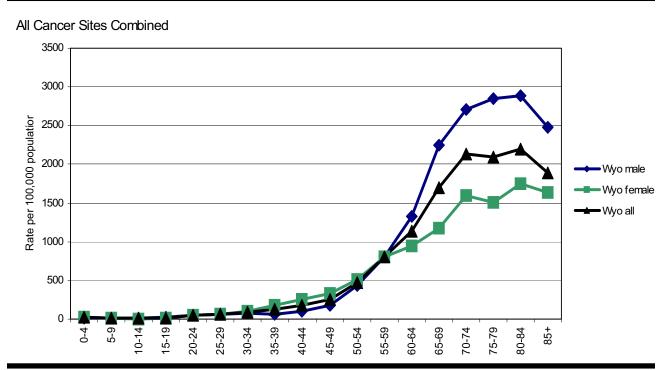
#### 10-Year Incidence Trend



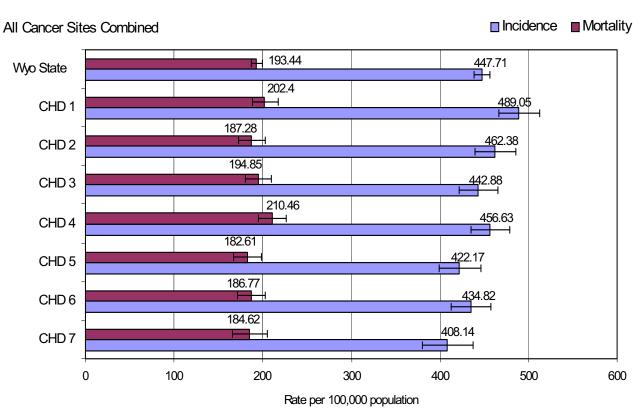
 $<sup>\</sup>ensuremath{^{\star}}$  indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

### Age-Specific Incidence Rates, 1999



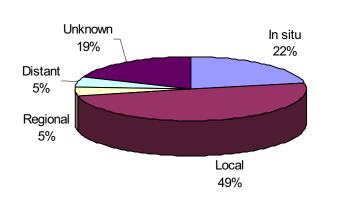
Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



### Bladder (Urinary)

### **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	48	21	69
# In situ Cases	15	5	20
Wyo Incidence	30.0	10.2	18.9
US Incidence	39.9	10.2	22.8
# Cancer Deaths	13	5	18
Wyo Mortality	7.4	1.9	4.0
US Mortality	8.0	2.2	4.5



Stage at Diagnosis

NC = rate not calculated for under 5 cases/deaths

The incidence rates in Wyoming for bladder cancer, although lower than the national rates, were not significantly lower for males or total population. The incidence rate for wyoming females was exactly the same as the national rate for females. The mortality rates in Wyoming showed no significant difference from the national rates.

The 10-year incidence trend shows an apparent decrease in Wyoming for bladder cancer after a moderate increase, while the national rates have remained relatively unchanged.

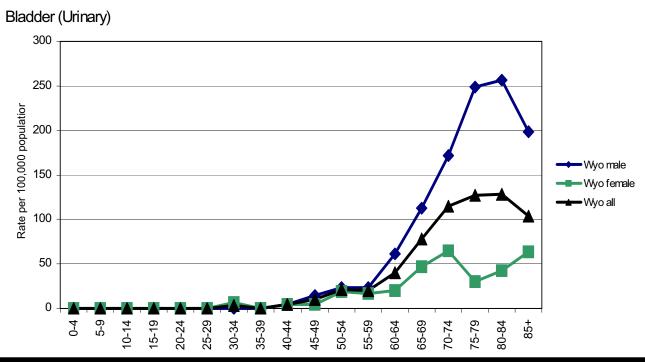
No statistically significant difference was found between CHD and state rates for incidence or mortality.

Note: Rates for Bladder Cancer includes in situ.

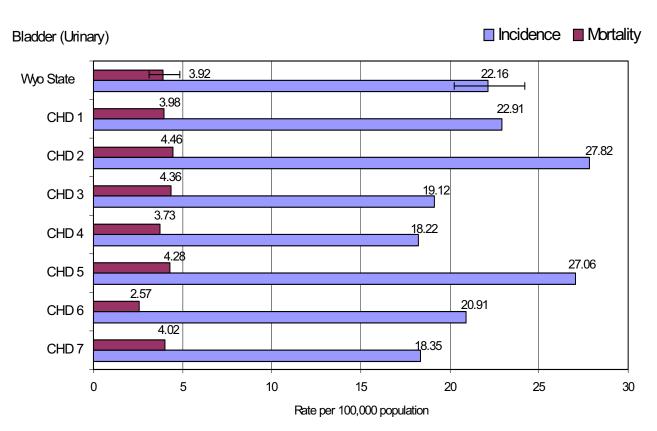
### 10-Year Incidence Trend Bladder 30 25 Rate per 100,000 population 20 W yo Total 15 - US Total 10 5 0 92-94 93-95 94-96 95-97 96-98 97-99 88-90 89-91 90-92 91-93 Year (3-year average)

<sup>\*</sup> indicates the state rate is significantly different than the national rate

### Age-Specific Incidence Rates, 1999



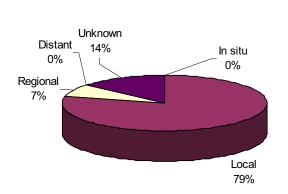
Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



### **Brain/CNS**

#### **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	20	9	29
Wyo Incidence	8.1	3.6	5.9
US Incidence	9.1	6.1	7.5
# Cancer Deaths	11	15	26
Wyo Mortality	4.3	5.8	5.3
US Mortality	6.0	4.1	5.0



Stage at Diagnosis

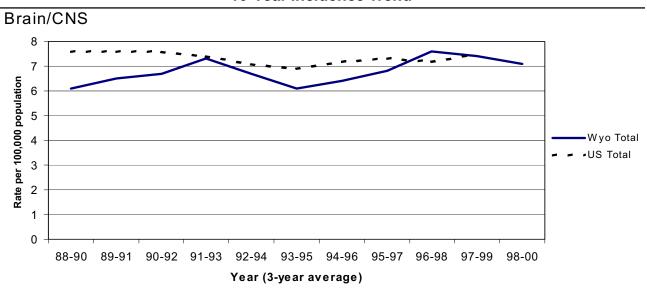
Wyoming incidence and mortality rates were lower than the national rates, for males, females, and total population; however, these rates are not significantly different.

The slight decrease in the 10-year incidence trend that began in the 96-98 time period has continued through 98-00.

The percentage of unknown stage at diagnosis decreased significantly from 42% in 1999 to only 14% in 2000, and localized stage increased significantly from 47% in 1999 to 79% in 2000.

No statistically significant difference was found between the CHD and state rates for incidence or mortality. CNS=Central Nervous System

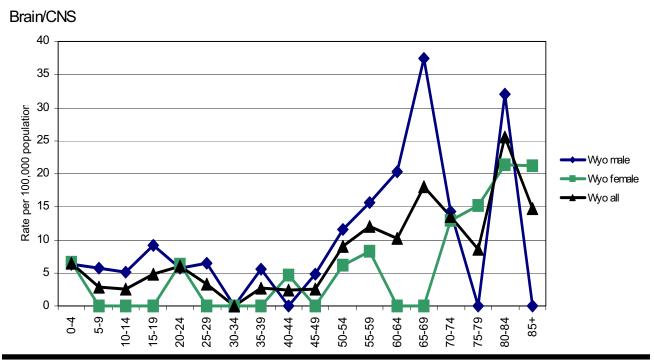
#### 10-Year Incidence Trend



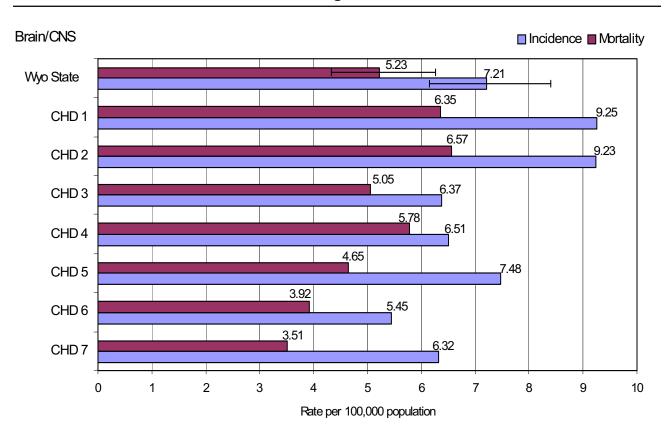
<sup>\*</sup> indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

### Age-Specific Incidence Rates, 1999



Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



# **Breast** (Female Only)

#### **Incidence and Mortality Summary**

Stage	at	Diad	no	eie
Juaye	aι	Diay	110	313

	Female
# Invasive Cases	328
# In situ Cases	59
Wyo Incidence	128.5
US Incidence	143.0
# Cancer Deaths	64
Wyo Mortality	24.7
US Mortality	26.0

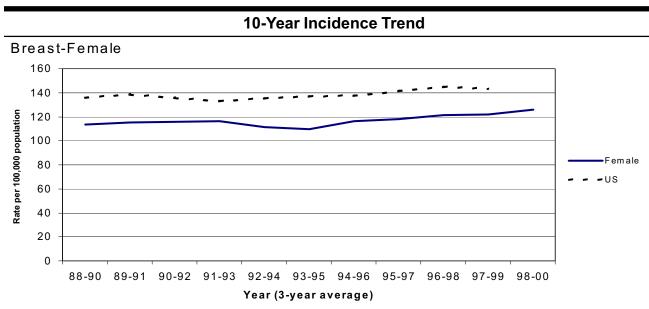
<sup>\*</sup> indicates the state rate is significantly different than the national rate

Incidence of female breast cancer remains lower in Wyoming than in the United States, although this rate is not significantly lower. There remains no statistically significant difference for mortality.

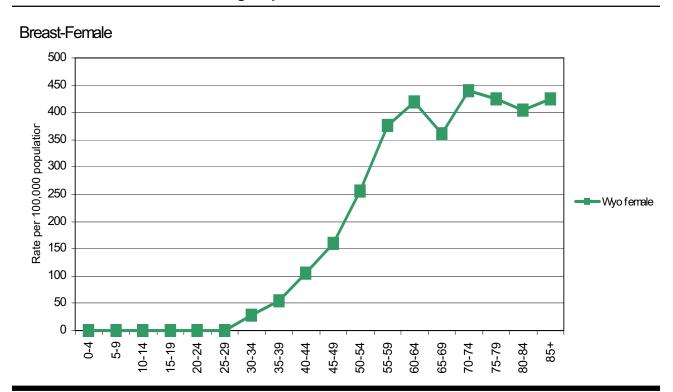
Stage at diagnosis for 2000 remained relatively unchanged from 1999.

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

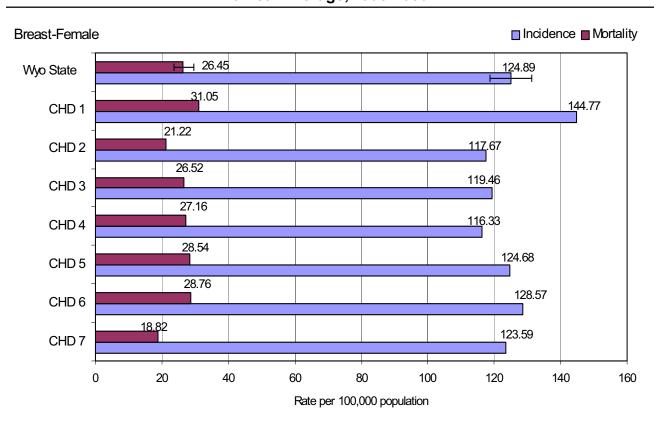
In 2000, two cases for male breast cancer were reported.



NC = rate not calculated for under 5 cases/deaths



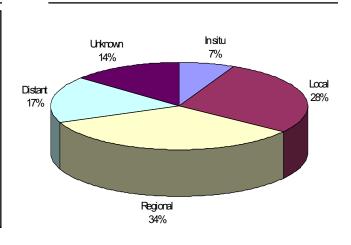
Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



# **Colorectal**

#### **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	101	96	197
# In situ Cases	9	7	16
Wyo Incidence	47.2	37.2	41.8
US Incidence	63.6	46.2	53.8
# Cancer Deaths	37	52	89
Wyo Mortality	19.0	20.0	19.3
US Mortality	25.0	17.2	20.4



Stage at Diagnosis

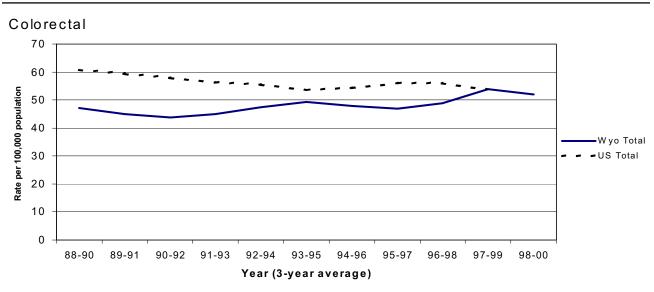
While the Wyoming incidence and mortality for colorectal cancer were lower than the national rates, they were not significantly different.

The incidence rates for Wyoming appear to be decreasing 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.

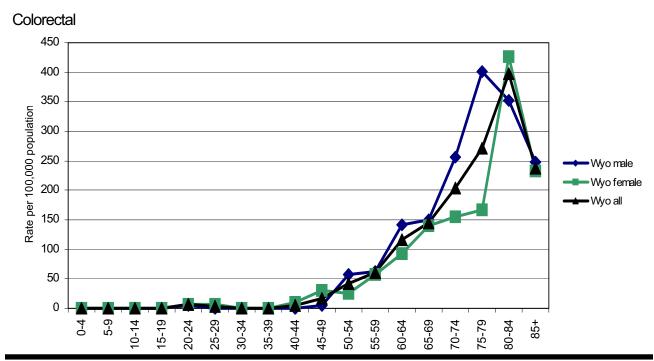
Colorectal = Colon and rectum combined.

#### 10-Year Incidence Trend

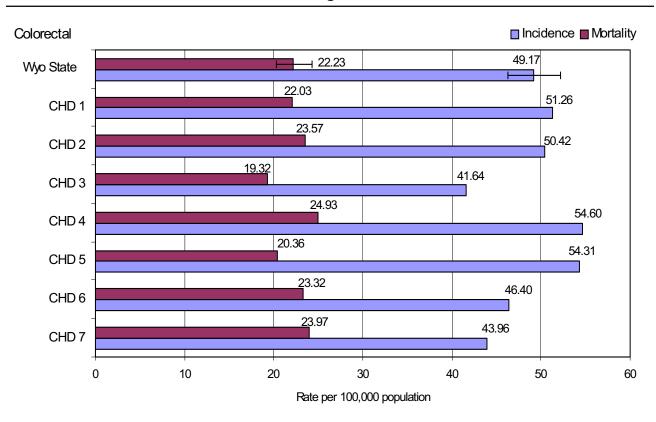


<sup>\*</sup> indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths



Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000

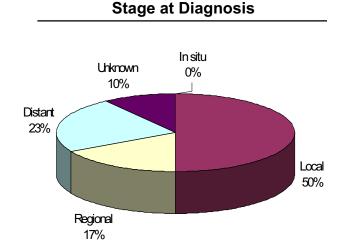


# **Kidney/Renal Pelvis**

## **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	27	21	48
Wyo Incidence	11.4	8.3	10.0
US Incidence	15.3	7.7	11.2
# Cancer Deaths	13	6	19
Wyo Mortality	6.6	2.3	4.1
US Mortality	6.0	2.7	4.1

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



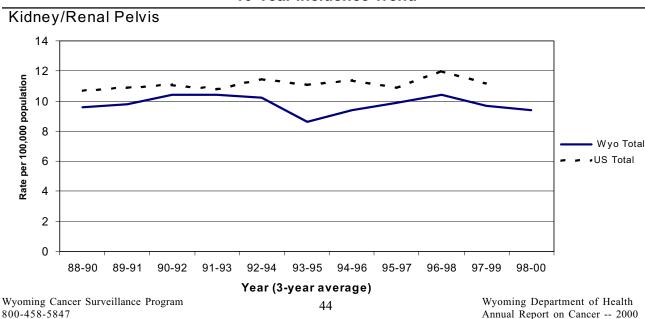
Overall and for males, Kidney/Renal Pelvis cancer remains lower in Wyoming than in the national population, however the rate for females in Wyoming is slightly higher than the national rate. These differences are not statistically significant.

The 10-year trend shows a decline in recent years for Wyoming residents after a moderate increase from 93-95 to 96-98. The national rates mirror this increase and subsequent decrease in Wyoming's population.

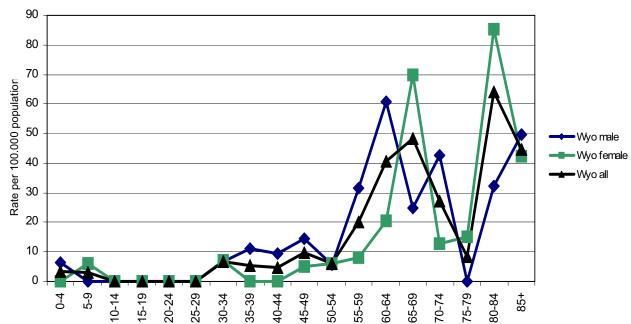
In 2000, unknown stage at diagnosis decreased to 10% from 24% in 1999, while the localized stage increased from 38% in 1999 to 50% in 2000; however, neither change was significant.

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

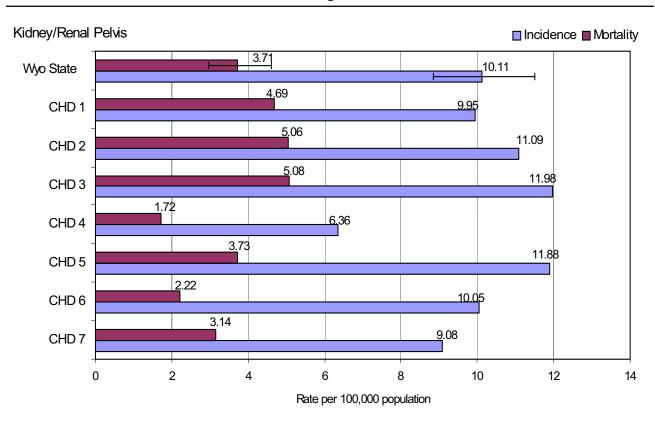
#### 10-Year Incidence Trend



# Kidney/Renal Pelvis



Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



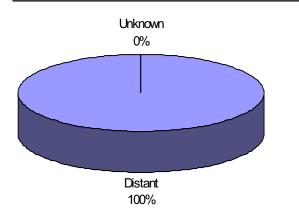
# Leukemia

#### **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	25	17	42
Wyo Incidence	12.6	6.7	9.0
US Incidence	15.1	8.6	11.4
# Cancer Deaths	17	10	27
Wyo Mortality	9.4	3.7	5.9
US Mortality	10.5	6.1	7.9
US WORKING	10.5	0.1	7.9

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

#### Stage at Diagnosis



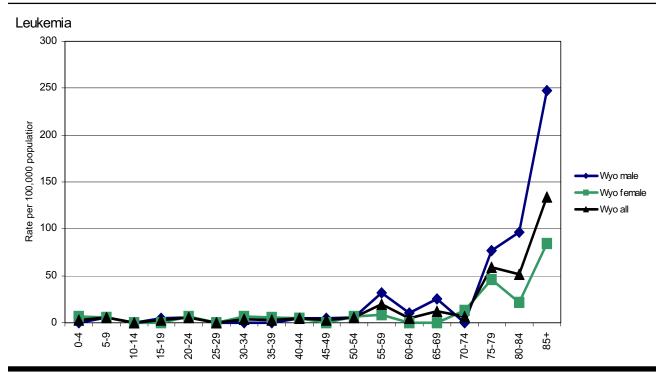
Note: Leukemia is systemic and therefore only diagnosed at the distant stage.

Incidence rates in Wyoming for Leukemia were lower than national rates for males, females, and total population. Mortality rates in Wyoming were also lower than national rates for male, females and total population. None of these differences were statistically significant.

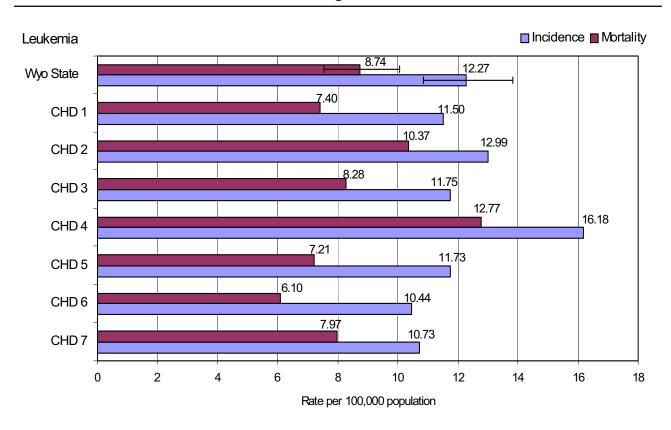
The trend for Wyoming began to decrease after plateauing during 96-98 and 97-99. The national trend continues a decrease started in 1997. Remember that the trend line is using a combination of three years of data, so while it appears higher than the national average the 2000 incidence in Wyoming is actually lower than the national average.

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





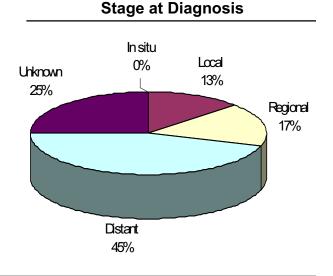
Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



# **Lung and Bronchus**

## **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	123	96	219
Wyo Incidence	57.1*	38.2	46.5
US Incidence	79.4	52.3	63.5
# Cancer Deaths	135	97	232
Wyo Mortality	64.8	38.2	49.4
US Mortality	75.7	40.9	55.3

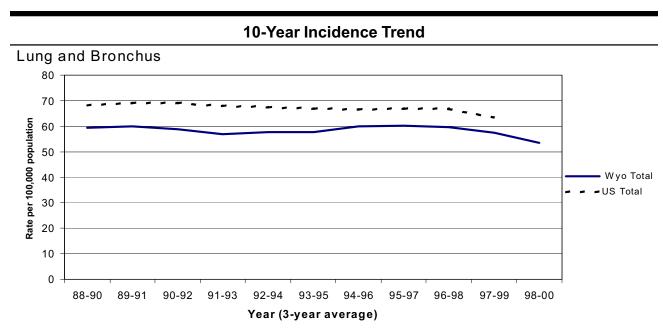


NC = rate not calculated for under 5 cases/deaths

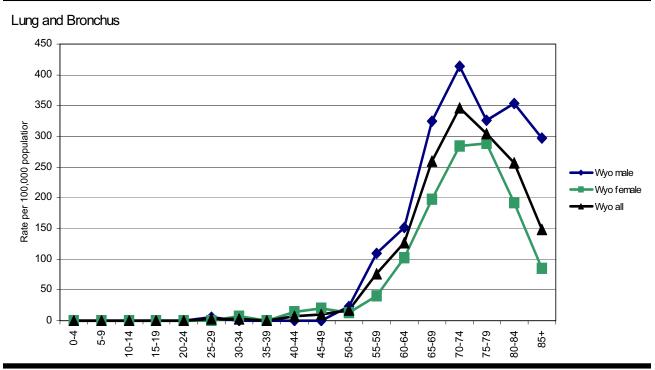
Incidence rates in Wyoming for males, females, and total population are lower than the national rates. Only the male incidence rate is statistically lower than the male national rate. Mortality rates for males, females, and total population are all lower than the national rates. The Wyoming mortality rates are not statistically different than the national rates.

Incidence rates for Lung Cancer are continuing to decline in Wyoming. For 98-00, the total populaiton rate (53.4/100,000) is the lowest it has been in the past 13 years.

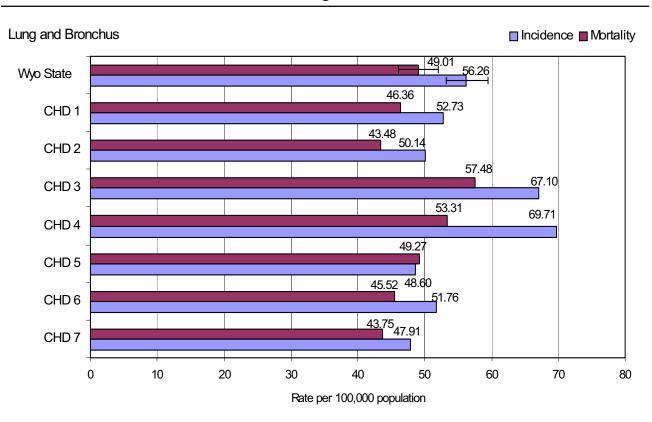
No statistically significant difference was found between CHD and state rates for incidence or mortality.



<sup>\*</sup> indicates the state rate is significantly different than the national rate



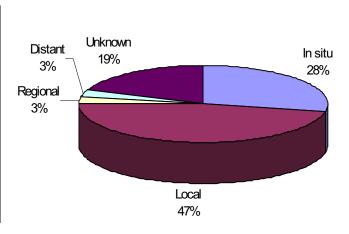
Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



# Melanoma (of the skin)

#### **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	52	33	85
# In situ Cases	10	22	32
Wyo Incidence	23.0	13.4	17.7
US Incidence	24.9	16.8	20.1
# Cancer Deaths	11	7	18
Wyo Mortality	4.7	2.7	3.7
US Mortality	4.3	2.0	3.0



Stage at Diagnosis

NC = rate not calculated for under 5 cases/deaths

Incidence rates for melanoma of the skin in Wyoming for males, females, and total poulaiton were lower, but not significantly different from the national incidence rates. The mortality rates, while slightly higher than the national rates, were also not statistically significant.

The recent increasing trend in incidence for Wyoming residents seems to have leveled off in 98-00.

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

## 10-Year Incidence Trend Melanoma (of the skin) 25 20 Rate per 100,000 population 15 Wyo Total - US Total 5 0 89-91 90-92 91-93 93-95 95-97 96-98 Year (3-year average)

<sup>\*</sup> indicates the state rate is significantly different than the national rate

# Melanoma (of the skin) 140 120 100 100 80 Wyo male Wyo female Wyo all

Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000

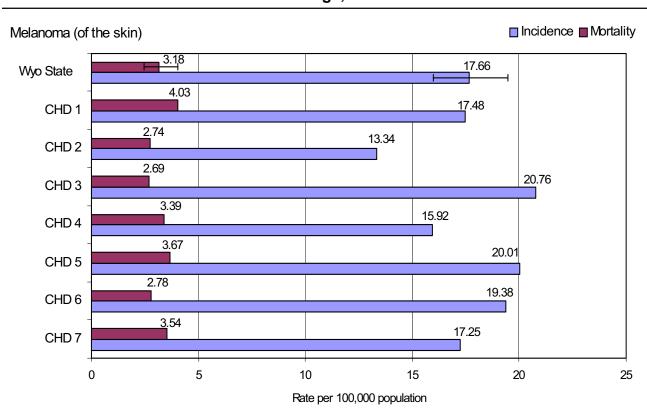
55-59

50-54

75-79

70-74

85+



20

15-19

20-24

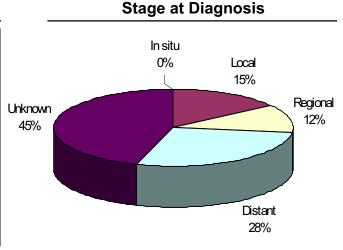
25-29

35-39

# Non-Hodgkin Lymphoma

## **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	36	47	83
Wyo Incidence	15.6	18.3	17.3
US Incidence	23.9	16.3	19.7
# Cancer Deaths	16	11	27
Wyo Mortality	7.5	4.2	5.8
US Mortality	10.7	7.2	8.7



NC = rate not calculated for under 5 cases/deaths

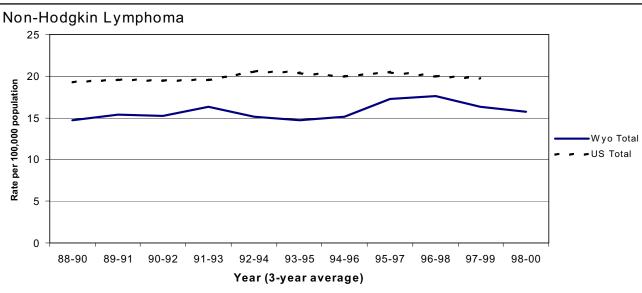
The incidence rates in Wyoming for Non-Hodgkin's Lymphoma for males and total population were lower, although not significantly, than the national rates for males and total population. The incidence rate for females was only slightly higher than the national rate. The mortality rate for males, females, and total population in Wyoming were all lower than the national rates, though not significantly.

The percentage of cases that were staged as unknown increased significantly from 23% in 1999, to 45% in 2000.

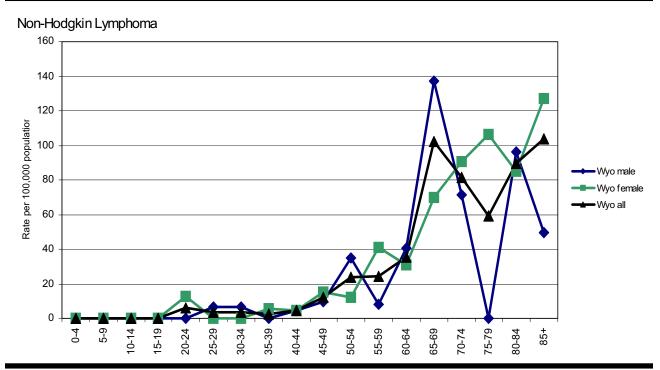
The 10-year incidence trend shows a possible continuation of the decrease that began in 97-99.

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

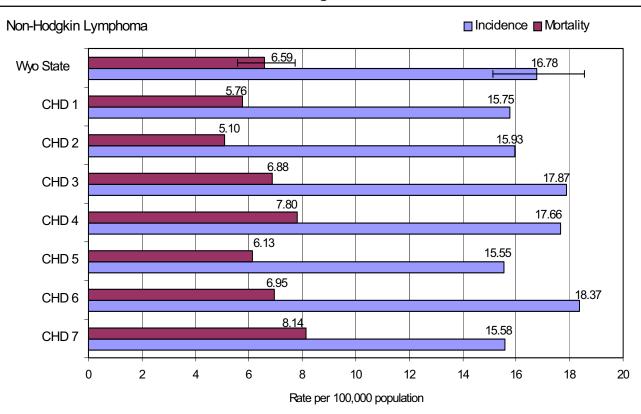
#### 10-Year Incidence Trend



<sup>\*</sup> indicates the state rate is significantly different than the national rate



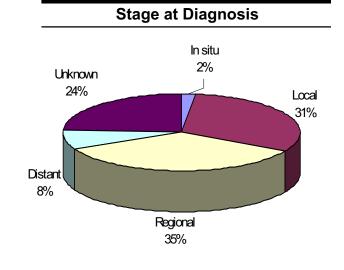
Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



# **Oral Cavity and Pharynx**

Incidence and Mortality Summary	Incidence	and	<b>Mortality</b>	Summary
---------------------------------	-----------	-----	------------------	---------

	Male	Female	Total
# Invasive Cases	32	18	50
# In situ Cases	1	0	1
Wyo Incidence	13.6	6.9	10.2
US Incidence	14.9	6.1	10.1
# Cancer Deaths	7	7	14
Wyo Mortality	3.3	2.7	3.0
US Mortality	3.8	1.5	2.6



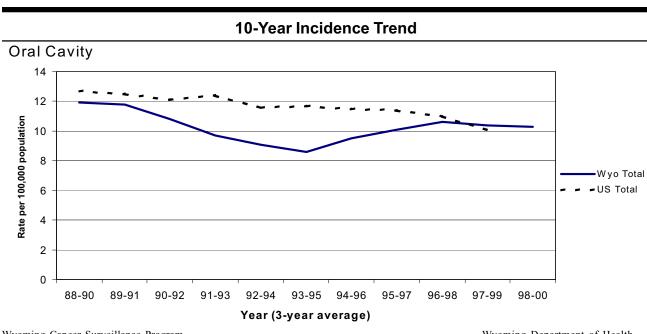
NC = rate not calculated for under 5 cases/deaths

Incidence and mortality rates in Wyoming showed no statistically significant difference with the national rates.

The decrease for Wyoming that started in 96-98 continued through 98-00. Nationally, cancer of the oral cavity and pharynx continues a downward trend, while Wyoming's trend seems to have reached a plateau.

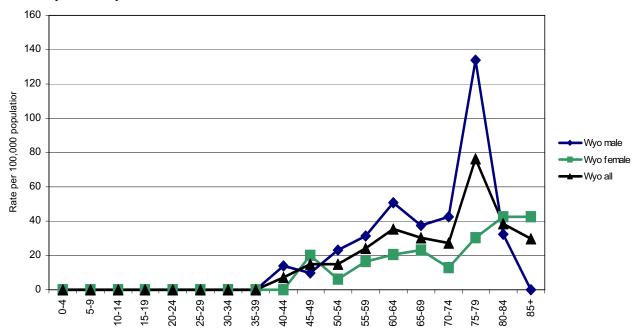
Significantly more cases of cancer of the oral cavity and pharynx were staged as unknown in 2000 (24%), than in 1999 (12%).

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

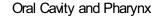


 $<sup>\</sup>ensuremath{^{\star}}$  indicates the state rate is significantly different than the national rate

## Oral Cavity and Pharynx



Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



Wyo State

CHD 1

CHD 2

CHD3

CHD4

CHD 5

CHD<sub>6</sub>

CHD7

2.37

2.64

<u>2</u>.69

1.97

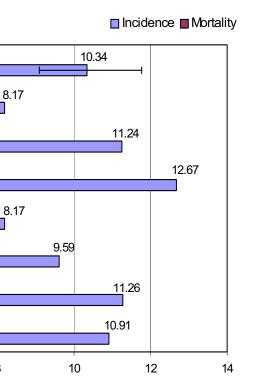
<u>1.</u>69

**1**.65

5 or Less Deaths Reported

2

4.11



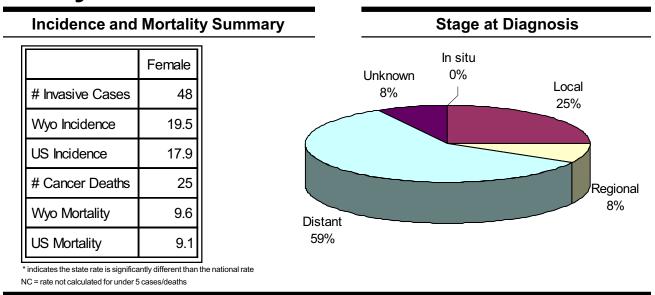
0

6

8

Rate per 100,000 population

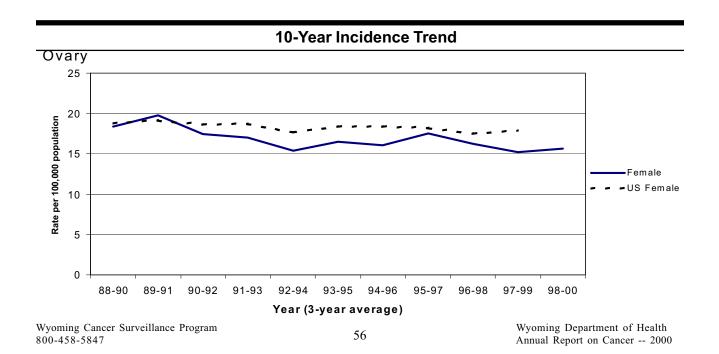
# **Ovary**

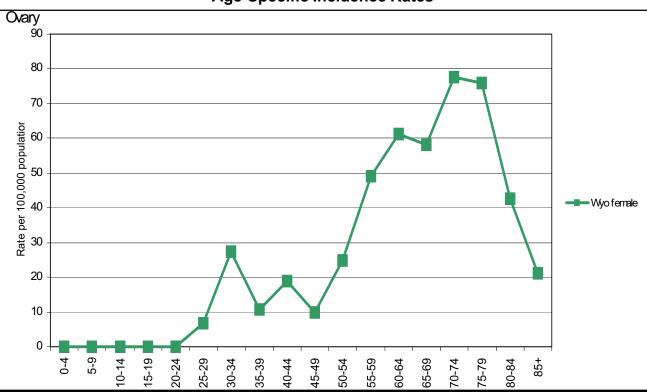


The incidence and mortality rates in Wyoming for Ovarian Cancer were both slightly higher than the national rate, but not significant.

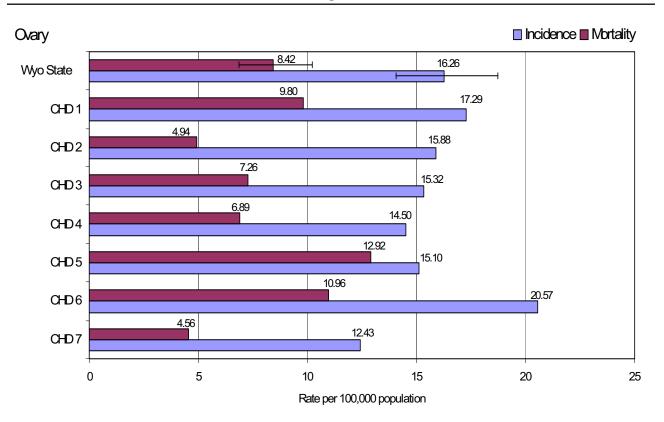
The 10-year incidence trend shows a slight increase in 98-00 after several years of decline, while the national rate appears to have remained relatively steady.

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





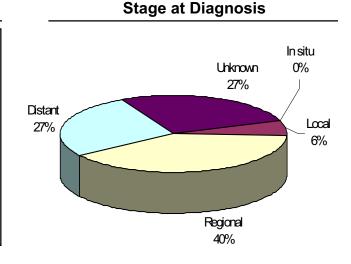
Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



# **Pancreas**

#### **Incidence and Mortality Summary**

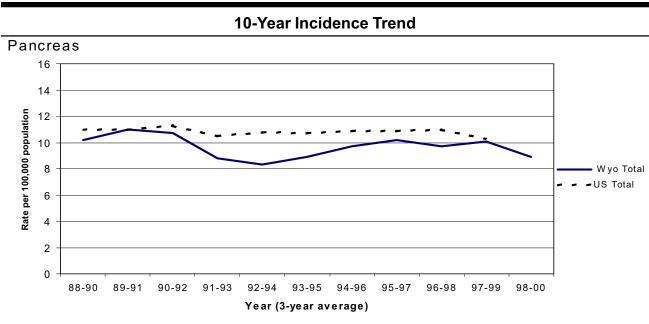
	Male	Female	Total
# Invasive Cases	13	17	30
Wyo Incidence	6.7	6.7	6.5
US Incidence	11.7	9.0	10.3
# Cancer Deaths	23	16	39
Wyo Mortality	11.1	6.1	8.3
US Mortality	12.1	9.0	10.4



Incidence and mortality rates for Pancreatic Cancer in Wyoming, while lower, were not statistically different than the national rates.

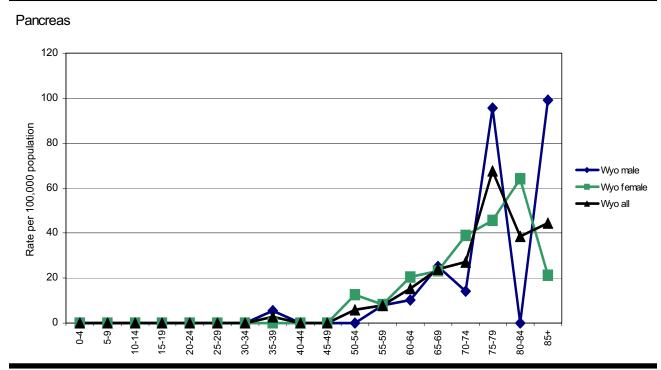
The national trend has been relatively unchanged over the past 10 years, while Wyoming's trend has possibly begun to decrease.

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

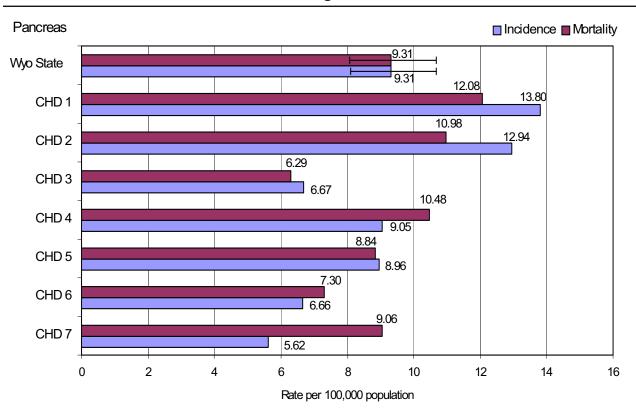


<sup>\*</sup> indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths



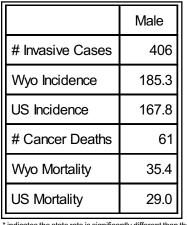
Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000

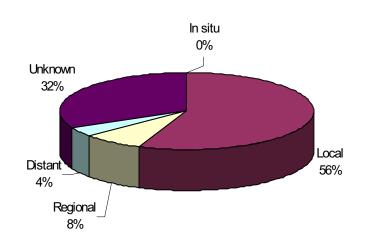


# **Prostate**

#### **Incidence and Mortality Summary**

#### **Stage at Diagnosis**





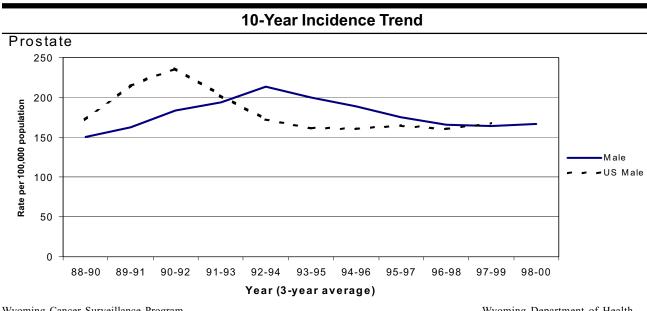
<sup>\*</sup> indicates the state rate is significantly different than the national rate NC = rate not calculated for under 5 cases/deaths

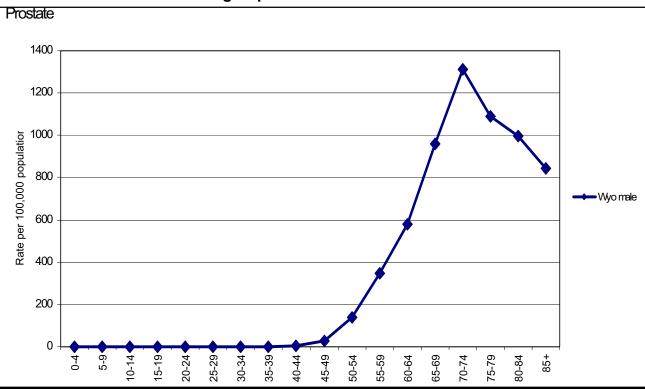
Incidence and mortality rates in Wyoming were not significantly different than the national rates for Prostate Cancer.

Stage at diagnosis has stayed relatively unchanged.

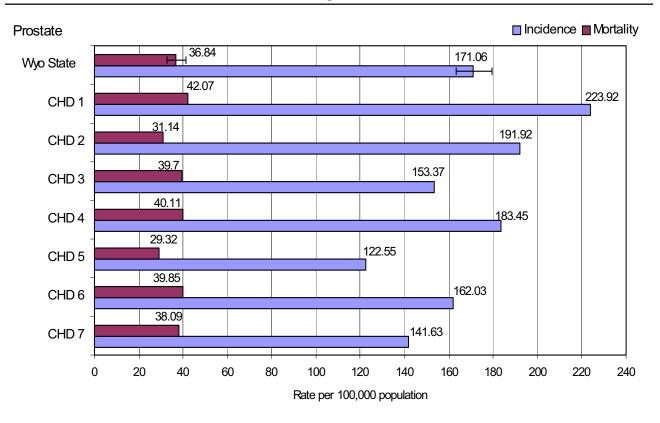
The decreasing trend in Prostate Cancer in Wyoming since 92-94 has appeared to level off starting in 96-98. The national rate has also remained steady for the last several years.

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 5 and CHD 7 were significantly lower than the state rate for the 5-year period.





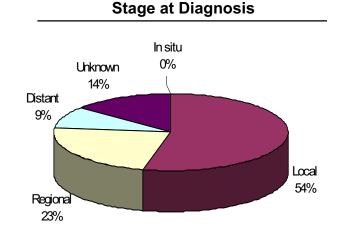
Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



# **Thyroid**

#### **Incidence and Mortality Summary**

	Male	Female	Total
# Invasive Cases	NC	19	22
Wyo Incidence	NC	7.7	4.5
US Incidence	4.0	10.6	7.4
# Cancer Deaths	0	1	1
Wyo Mortality	NC	NC	NC
US Mortality	0.5	0.4	0.5

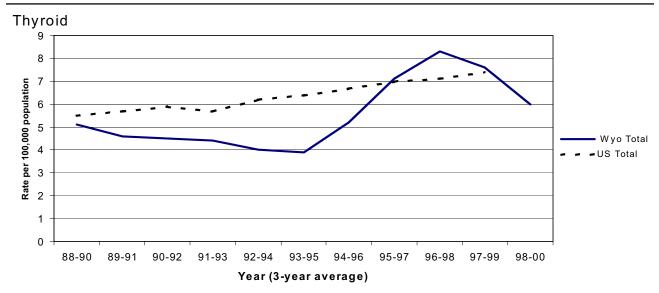


Incidence rates in Wyoming are lower for females and total population than the national incidence rates. However, these differences are not statistically significant.

The decreasing trend for Thyroid Cancer in Wyoming that started in 96-98 continues and is now below the national rate.

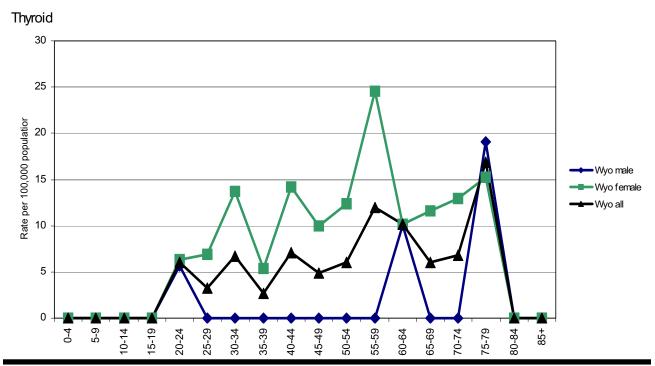
No statistically significant difference was found between the CHD and state rates for incidence or mortality.

#### 10-Year Incidence Trend

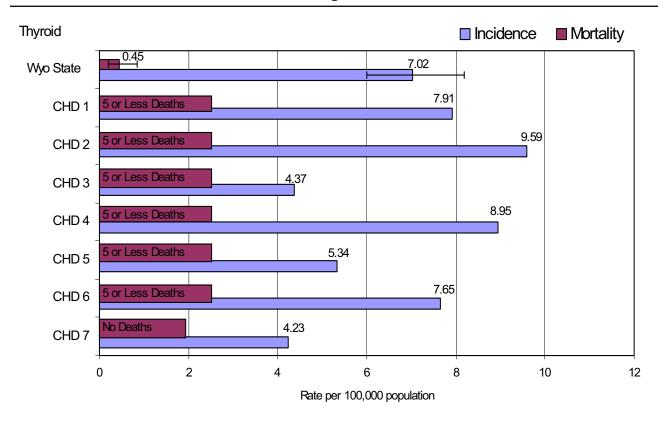


<sup>\*</sup> indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths



Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



# **Uterine** (Corpus Uteri & Uterus)

#### **Incidence and Mortality Summary**

#### Stage at Diagnosis

	Female
# Invasive Cases	48
Wyo Incidence	18.7
US Incidence	26.3
# Cancer Deaths	10
Wyo Mortality	4.0
US Mortality	3.9

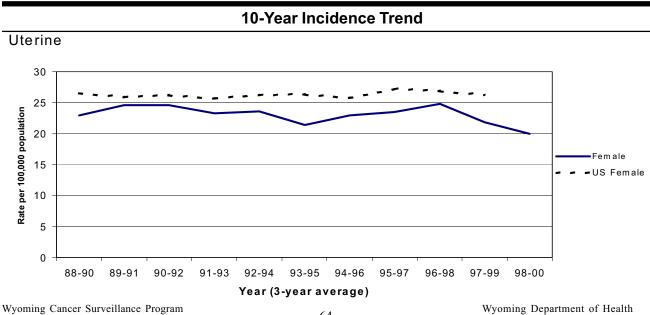
<sup>\*</sup> indicates the state rate is significantly different than the national rate

The incidence and mortality rates in Wyoming for Uterine Cancer were not significantly different than the national rates.

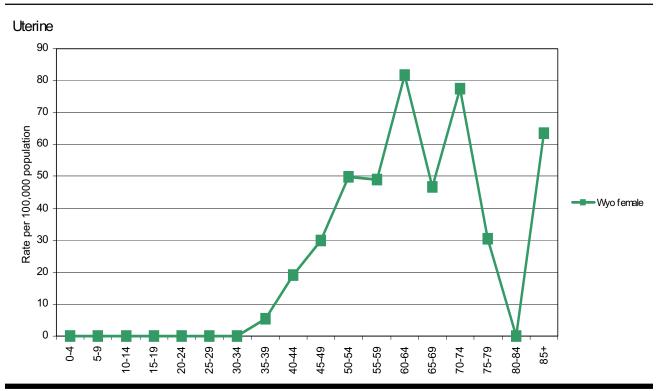
The decrease in incidence from that started in 96-98 continues through 98-00. The incidence trend for the nation, has remained relatively unchanged.

There was a significant increase in the percentage of cases staged as unknown in 2000 (41%) as compared to 1999 (17%), while significantly fewer cases were staged as localized in 2000 (37%) than in 1999 (56%).

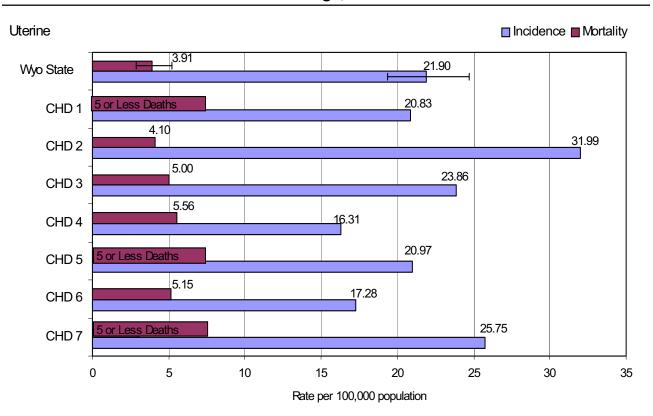
No statistically significant difference was found between the CHD and state rates for incidence or mortality.



NC = rate not calculated for under 5 cases/deaths



Cancer Health District Incidence and Mortality 5-Year Average, 1996-2000



# 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 (1973-1999) (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://eadiv.state.wy.us/eahome.htm)

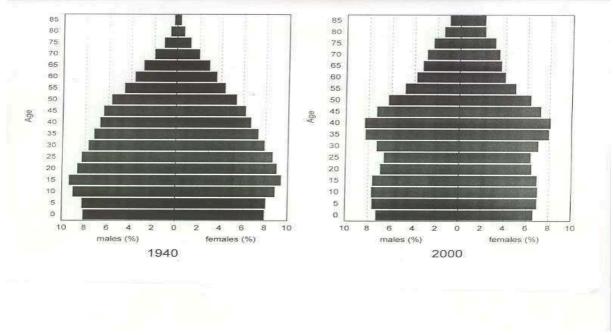
Surveillance, Epidemiology, and End Results (SEER) U.S. Population Data, National Cancer Institute (http://seer.cancer.gov/popdata/)

Previous to data year 1999, the Wyoming Cancer Surveillance Program (WCSP) performed age-adjustment of cancer mortality rates by using the 1940 standard population and a 10-year age group, while using the 1970 standard population using 5-year age groups. Starting with the data year 1999, WCSP will use the Year 2000 standard population will be used with the 5-year age groups for calculating 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 will be published through SEER and the National Cancer Institute. The 5-year age group also enables cancer prevention programs to use Wyoming reports 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 from the following Chart B (next 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

