State of Wyoming

Department of Health

Annual Report on Cancer in Wyoming - 2008

Brent D. Sherard, M.D., M.P.H., F.A.C.P., Director

October 2010

State of Wyoming
Department of Health

Annual Report on
Cancer in Wyoming - 2008

Annual Report on Cancer in Wyoming - 2008
is published by the
Wyoming Cancer Surveillance Program
Preventive Health and Safety Division
Tracy Murphy, M.D.
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://wdh.state.wy.us/wcsp/index.asp

This publication was supported by Grant/Cooperative Agreement
Number U58/DP000801-04 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

Cancer rates in Wyoming continue to be generally lower than the comparable national rates. Incidence for all cancer sites combined for Wyoming did increase to 439.8 per 100,000 in 2008 from 411.0 per 100,000 population in 2007. However, Wyoming cancer rates are still lower than the national rate of 464.6 per 100,000 population. Mortality for all sites dropped to 159.1 per 100,000 population in 2008, again lower than the national rate of 177.1 per 100,000. No other incidence or mortality rates were significantly different from the national rates, though most rates were lower than the national rates.

Looking at the incidence rates over a twelve year period (12 year Incidence graphs), several rates seems to be holding steady or leveling off (all sites, brain, kidney, melanoma, pancreas, and uterine). Other rates (bladder, colorectal, non-Hodgkin lymphoma, and cancer of the ovary) are trending downward. Only a few rates (female breast, leukemia, oral cavity, prostate, and thyroid) are on the increase from previous years.

The top five cancer sites for incidence were the same as the previous year: prostate, female breast, lung/bronchus, colorectal and urinary bladder. The most common cancer for incidence by age groups were: leukemia (0-14 years), Hodgkin lymphoma (15-19), melanoma (20-24 years), thyroid (25-34 years), breast (35-54 years), prostate (55-79 years), lung, (80-84), and breast (85+ years).

The top six cancer sites for mortality were lung/bronchus, colorectal, ill-defined, cancer of the pancreas, breast and prostate. Breast and prostate were tied for fifth leading cause of cancer death with 52 deaths each. The most common cancers for mortality by age groups were: lung (45-49), breast (50-54), and lung (55-85+ years). There were fewer than two deaths per cancer site for all age groups from 0 to 44 years.

INTRODUCTION

Cancer

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

Causes of Cancer

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

Prevention

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

Wyoming Cancer Surveillance Program

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

Insuring accurate data is one of the most important roles of the cancer registry. The WCSP established procedures for both automated and manual methods of checking the quality of data. The data is stored in the Rocky Mountain Cancer Data Systems software which has a built-in system to immediately check data when a new case is entered into the database. Each case submitted is reviewed for accuracy and 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, and the Wyoming Colorectal Cancer Early Detection Program. Outside of the Department of Health, the data is used by physicians, hospital administrators, legislators, nonprofit organizations, and the general public. If you have a concern about cancer and would like more information about cancer in your community, please feel free to call the Wyoming Cancer Surveillance Program's Epidemiologist at 307-777-8654. Written correspondence should be addressed to 6101 Yellowstone Rd., Suite 259A, Cheyenne, WY 82002. You may also visit our web site at: http://wdhfs.state.wy.us/cancer.

METHODOLOGY and DEFINITIONS

Data Sources

Incidence

Definition -- Incidence is defined as the number of *new* cases diagnosed during a set time period in a defined population. Incidence is not a representation of risk. The defined time period for this report is 2008 except for the 12-year incidence trend, which used 3-year averages (e.g., 98-00 for 1999 or 00-02 for 2001). The defined population is the state of Wyoming, counties, and Cancer Health Districts (CHD) (see page 13).

Wyoming Data -- The Wyoming Cancer Surveillance Program (WCSP) gathers data on Wyoming residents diagnosed and treated for invasive and in situ tumors. The data is sent to the program's registry by every hospital in the state. Data is also collected from pathology laboratories, clinics, and physician offices throughout the state. The registry has several data exchange agreements with other state registries to enable collection of data on Wyoming residents diagnosed and/or treated outside of Wyoming. Wyoming data for this report includes 2008 cancer cases of Wyoming residents received by WCSP as of August 1, 2010.

National Data -- The National Cancer Institute (NCI) updates cancer statistics annually in a publication called the SEER Cancer Review, also available on SEER STAT, an interactive CD-ROM. NCI monitors cancer statistics to assess progress and to identify population subgroups and geographic areas where cancer control efforts need to be concentrated. Cancer incidence rates are calculated using SEER (Surveillance, Epidemiology, and End Results) software. WCSP used SEER*STAT for this report. **The national SEER rates presented in this report were calculated using 2007 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 2007 for Wyoming rates. The defined population is the state of Wyoming, counties, and Cancer Health Districts (see page 13).

Wyoming Data -- Mortality data is derived from death certificates filed with Wyoming Vital Records Services. By state statute, the certification of the cause of death on the death certificate is completed by the attending physician or by the coroner with the assistance of a physician. Although a number of medical conditions may be listed on the certificate, statistics presented here are based solely on the underlying cause of death. This is defined as the disease or injury that initiated the sequence of events leading directly to death or as the circumstances of the accident or violence that produced the fatal injury. The primary 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 2007 data for whites.** See Appendix A for reference source.

Population

Wyoming Data -- Population estimates for Wyoming state and counties were obtained from the Wyoming Department of Administration and Information - Economic Analysis Division. Population data for 2008 are estimates for the July 1, 2008 county populations by age, gender, race, and Hispanic origin. Because cancer rates are calculated by dividing the number of cancer cases by a census-generated denominator, rates can be heavily influenced by changes or uncertainties in census counts.

Rates

Age-Adjusted Incidence Rates

Incidence rates include 2008 invasive cases of Wyoming residents, except for bladder cancer which also includes in situ cases. Incidence rates presented are calculated for total cases and separately for males and females. The incidence rates are age-adjusted to the 2000 U.S. standard population using 5-year age groups, and are per 100,000 population. Age-adjustment allows rates to be compared over different time frames and allows rates from one geographic area to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.

In conformity with the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program guidelines, the incidence rates excluded the following:

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

Age-Adjusted Mortality Rates

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

Age-Specific Incidence Rates

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

Statistical Significance

Z-Statistic

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

Confidence Intervals

A confidence interval indicates the confidence level in the accuracy of a cancer rate. For example, say I calculate a cancer rate for a particular year as 130 cases per 100,000 people, with a confidence interval of 120 to 140 cases per 100,000. This means that I am 95% sure that the rate of cancer for that particular year lies somewhere between 120 to 140 cases per 100,000 people. The rate of 130 cases I calculated may be correct, but I have more confidence that the "true" rate lies between 120 to 140 cases.

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

Staging

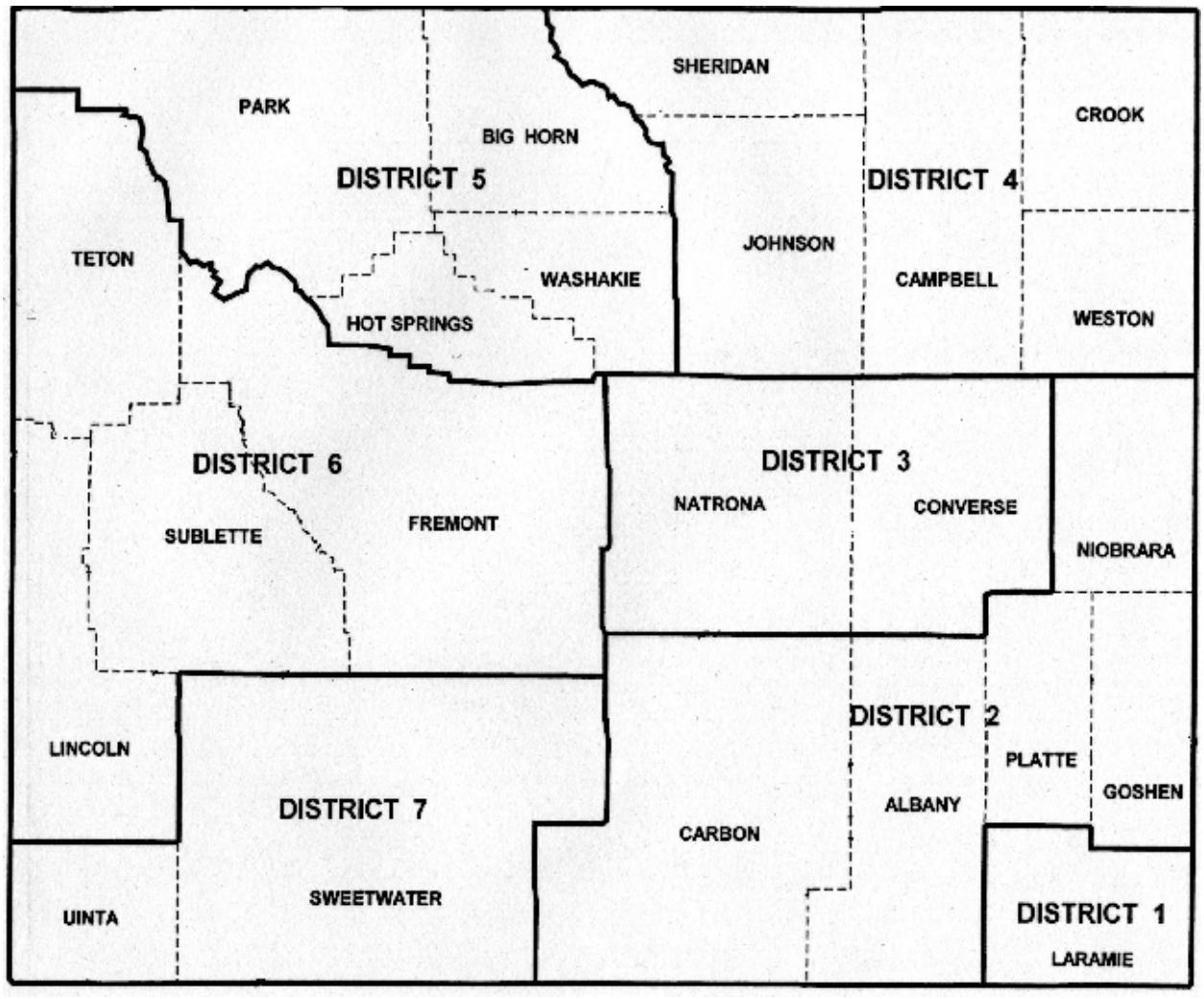
In Situ	cancer has not invaded the organ.
Local Stage	cancer has invaded the organ of origin.
Regional Stage	cancer has invaded beyond the organ of origin by direct extension to adjacent organs/tissues and/or regional lymph nodes.
Distant Stage	direct extension beyond adjacent organs or tissues or metastases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

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

Cancer Health District

Cancer Health Districts (CHD) were chosen based on geographic location, similarities in geography and by 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 CHD's that were similar in population size thereby eliminating some of the discrepancies in rate calculations that are caused from population size differences. CHD's 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 - 2008

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

Wyoming Incidence[1] for 2008: 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	3	2	5	0	0	0	0	0	0	0
Bladder w/ in situ	93	37	130	0	0	0	0	0	0	0
Bones and Joints	0	3	3	0	0	0	0	0	0	0
Brain	19	14	33	1	1	0	0	1	1	1
Breast	9	334	343	0	0	0	0	0	0	2
Cervix	0	24	24	0	0	0	0	1	2	2
Colorectal	122	100	222	0	0	0	0	0	1	1
Esophagus	14	8	22	0	0	0	0	0	0	0
Eye	4	2	6	0	0	0	0	0	1	0
Gallbladder	1	3	4	0	0	0	0	0	0	0
Hodgkin	12	5	17	0	0	0	2	0	1	3
Ill-Defined	53	49	102	0	0	0	0	0	0	0
Kidney	53	22	75	1	0	0	0	0	0	2
Larynx	12	4	16	0	0	0	0	0	0	0
Leukemia	37	17	54	2	0	4	0	0	1	0
Liver	21	6	27	0	0	0	0	0	0	0
Lung	155	136	291	0	0	0	0	0	1	0
Melanoma	63	61	124	0	0	0	1	3	2	0
Myeloma	15	8	23	0	0	0	0	0	0	0
Nose	1	4	5	0	0	0	1	0	0	0
Non-Hodgkin Lymphoma	56	34	90	0	0	0	0	2	1	0
Oral Cavity	66	15	81	0	0	0	0	0	0	0
Other Biliary	7	4	11	0	0	0	0	0	0	0
Other Digestive	1	4	5	0	0	0	0	0	0	0
Other Endocrine	4	2	6	0	0	0	0	1	0	0
Other Female	1	11	12	0	0	0	0	0	0	0
Other Male	1	0	1	0	0	0	0	0	0	0
Other Skin	2	2	4	0	0	0	0	0	0	0
Other Respiratory	0	1	1	0	0	0	0	0	0	0
Other Urinary	3	2	5	0	0	0	0	0	0	0
Ovary	0	29	29	0	0	0	0	0	2	2
Pancreas	33	23	56	0	0	0	0	0	0	0
Prostate	452	1	453	0	0	0	0	0	0	0
Small Intestine	2	1	3	0	0	0	0	0	0	0
Soft Tissue including Heart	10	7	17	0	0	0	0	1	2	0
Stomach	20	5	25	0	0	0	0	0	0	0
Testis	13	0	13	0	0	0	0	2	2	1
Thyroid	21	50	71	0	0	0	0	2	3	3
Uterine	3	63	66	0	0	0	0	0	0	1
Mesothelioma	5	1	6	0	0	0	0	0	0	0
All Sites	1,387	1,094	2,481	4	1	4	4	13	20	18

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

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	0	0	0	0	5	0	0	0	0	0
Bladder w/ in situ	1	1	2	3	12	14	20	22	28	18	9
Bones and Joints	0	0	0	1	0	1	0	0	0	0	1
Brain	1	1	4	1	4	4	6	1	5	1	0
Breast	12	17	39	47	44	46	38	25	20	31	22
Cervix	2	5	2	3	1	3	2	0	1	0	0
Colorectal	1	4	9	14	33	23	28	36	32	21	19
Esophagus	0	2	1	2	1	2	3	2	2	4	3
Eye	0	0	0	1	0	2	0	0	0	2	0
Gallbladder	0	0	0	0	0	2	0	0	1	1	0
Hodgkin	2	1	1	0	4	0	1	2	0	0	0
Ill-Defined	0	1	3	9	8	9	15	16	15	7	19
Kidney	3	2	5	10	15	7	8	6	8	5	3
Larynx	1	0	1	2	4	3	2	1	2	0	0
Leukemia	0	2	2	4	4	12	2	6	8	4	3
Liver	1	1	1	1	8	3	3	1	4	3	1
Lung	1	1	6	23	28	31	52	49	43	40	16
Melanoma	8	8	11	15	11	14	15	9	5	12	10
Myeloma	0	0	2	3	2	0	3	3	4	4	2
Nose	0	0	0	0	0	1	1	1	0	1	0
Non-Hodgkin Lymphoma	1	4	4	5	13	9	8	10	16	5	12
Oral Cavity	3	3	6	10	17	9	8	9	5	7	4
Other Biliary	0	0	0	1	0	2	3	2	1	1	1
Other Digestive	0	0	1	0	1	0	2	0	0	0	1
Other Endocrine	0	0	1	0	2	0	0	0	1	1	0
Other Female	1	2	1	1	0	1	2	1	1	1	1
Other Male	0	0	0	0	0	0	0	1	0	0	0
Other Skin	0	0	0	0	0	0	1	0	1	0	2
Other Respiratory	0	0	0	1	0	0	0	0	0	0	0
Other Urinary	0	0	0	1	1	0	1	0	1	0	1
Ovary	0	2	0	5	4	2	3	2	3	2	2
Pancreas	0	1	2	5	4	8	8	6	6	8	8
Prostate	0	3	8	27	67	68	118	70	59	19	14
Small Intestine	0	0	0	0	1	0	1	0	0	0	1
Soft Tissue including Heart	1	0	0	3	3	4	0	2	0	1	0
Stomach	1	0	1	1	5	2	5	1	1	6	2
Testis	1	3	1	1	1	1	0	0	0	0	0
Thyroid	7	9	6	11	7	7	7	3	3	1	2
Uterine	0	2	3	9	13	6	14	3	6	5	4
Mesothelioma	0	0	0	0	0	0	1	2	2	1	0
All Sites	48	75	123	220	318	301	381	292	284	212	163

Wyoming Mortality[1] for 2008: 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	1	1	2	0	0	0	0	0	0	0
Bladder w/ in situ	21	6	27	0	0	0	0	0	0	0
Bones and Joints	0	1	1	0	0	0	0	0	0	0
Brain	13	11	24	1	0	0	0	0	1	0
Breast	2	50	52	0	0	0	0	0	0	0
Cervix	0	7	7	0	0	0	0	0	0	0
Colorectal	49	38	87	1	0	0	0	0	0	0
Esophagus	11	5	16	0	0	0	0	0	1	0
Eye	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	3	3	0	0	0	0	0	0	0
Hodgkin	0	1	1	0	0	0	0	0	0	0
Ill-Defined	40	33	73	0	0	0	0	0	0	0
Kidney	13	5	18	0	0	0	0	0	0	0
Larynx	1	2	3	0	0	0	0	0	0	0
Leukemia	21	15	36	0	0	0	0	0	0	1
Liver	15	1	16	0	0	0	0	0	0	0
Lung	118	106	224	1	0	0	0	0	0	0
Melanoma	12	6	18	0	0	0	0	0	0	0
Myeloma	7	3	10	0	0	0	0	0	0	0
Nose	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	18	17	35	0	0	0	0	0	0	0
Oral Cavity	12	7	19	0	0	0	1	0	0	0
Other Biliary	6	8	14	0	0	0	0	0	0	0
Other Digestive	2	2	4	0	0	0	0	0	0	0
Other Endocrine	1	0	1	0	0	0	0	0	0	0
Other Female	0	3	3	0	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0
Other Skin	2	1	3	0	0	0	0	0	0	0
Other Respiratory	1	0	1	0	0	0	0	0	0	0
Other Urinary	0	1	1	0	0	0	0	0	0	0
Ovary	0	18	18	0	0	0	0	0	0	0
Pancreas	30	29	59	0	0	0	0	0	0	0
Prostate	50	2	52	0	0	0	0	0	0	0
Small Intestine	3	0	3	0	0	0	0	0	0	0
Soft Tissue including Heart	2	5	7	0	0	0	0	0	0	0
Stomach	9	5	14	0	0	0	0	0	0	0
Testis	1	0	1	0	0	0	0	0	0	1
Thyroid	0	5	5	0	0	0	0	0	0	0
Uterine	0	10	10	0	0	0	0	0	0	0
Mesothelioma	6	1	7	0	0	0	0	0	0	0
All Sites	467	408	875	3	0	0	1	0	2	2

[1]See page 10 for definition of mortality.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	1	0	0	0	0	0	1	0	0	0
Bladder w/ in situ	0	1	0	1	1	3	6	3	4	2	6
Bones and Joints	0	0	1	0	0	0	0	0	0	0	0
Brain	1	0	1	1	2	3	3	2	4	4	1
Breast	0	1	2	11	4	5	3	9	5	5	7
Cervix	0	1	1	2	0	1	0	1	1	0	0
Colorectal	0	0	3	5	10	8	14	15	10	12	9
Esophagus	0	0	0	0	2	4	1	1	4	2	1
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	1	1	0	0	1	0	0
Hodgkin	0	0	0	1	0	0	0	0	0	0	0
Ill-Defined	1	0	3	7	4	3	15	11	9	9	11
Kidney	0	0	1	1	1	4	1	2	3	1	4
Larynx	0	0	0	0	0	0	2	0	1	0	0
Leukemia	0	0	1	4	2	3	3	3	9	6	4
Liver	1	0	1	1	2	2	4	1	1	2	1
Lung	0	1	5	7	10	21	39	35	47	30	28
Melanoma	0	0	2	3	2	2	2	2	4	0	1
Myeloma	0	0	1	1	0	1	3	0	3	0	1
Nose	0	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	1	0	0	2	1	4	2	5	8	8	4
Oral Cavity	0	0	0	1	5	1	3	3	1	1	3
Other Biliary	0	0	1	0	2	2	1	2	3	1	2
Other Digestive	0	0	0	0	2	0	1	0	0	0	1
Other Endocrine	0	0	0	0	1	0	0	0	0	0	0
Other Female	0	0	0	0	0	0	1	0	0	2	0
Other Male	0	0	0	0	0	0	0	0	0	0	0
Other Skin	0	0	0	0	1	0	0	0	2	0	0
Other Respiratory	0	0	0	0	0	0	1	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	1	0
Ovary	1	0	1	1	4	1	1	2	1	0	6
Pancreas	0	0	1	8	5	7	4	8	9	12	5
Prostate	0	0	0	0	3	3	1	6	11	12	16
Small Intestine	0	0	0	0	1	0	0	0	0	2	0
Soft Tissue including Heart	0	0	0	1	0	0	0	1	1	2	2
Stomach	0	0	1	0	2	2	2	0	2	4	1
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	1	0	0	0	2	1	0	0	1
Uterine	0	0	0	0	0	5	0	1	3	0	1
Mesothelioma	0	0	0	0	0	2	0	4	0	1	0
All Sites	5	5	27	58	68	88	115	119	147	119	116

Wyoming Incidence for 2008: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic/Latino
All Sites	2,481	2,424	11	22	11	2	0
Bladder	130	128	1	1	0	0	71
Brain	33	82	0	0	1	1	1
Breast (Female)	343	339	0	2	2	0	3
Colorectal	222	208	4	7	0	0	12
Kidney	75	73	0	2	0	0	13
Leukemia	54	53	0	1	0	0	2
Lung	291	282	2	4	0	0	0
Melanoma	124	124	0	0	0	0	2
Non-Hodgkin Lymphoma	90	90	0	0	0	0	0
Oral Cavity	81	77	1	0	1	1	5
Ovary	29	29	0	0	0	0	2
Pancreas	56	55	0	0	0	0	0
Prostate	453	442	2	4	3	0	2
Thyroid	71	68	1	0	2	0	10
Uterine	66	66	0	0	0	0	1

Wyoming Mortality for 2008: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic/Latino
All Sites	875	848	7	10	5	5	26
Bladder	27	26	0	1	0	0	0
Brain/CNS	24	23	0	0	1	0	0
Breast (Female)	52	49	1	1	1	0	2
Colorectal	87	82	2	1	0	2	4
Kidney	18	17	0	1	0	0	2
Leukemia	36	36	0	0	0	0	1
Lung	224	219	1	3	1	0	3
Melanoma	18	18	0	0	0	0	0
Non-Hodgkin Lymphoma	35	34	0	0	1	0	1
Oral Cavity	19	19	0	0	0	0	0
Ovary	18	18	0	0	0	0	1
Pancreas	59	56	0	1	0	2	2
Prostate	52	51	1	0	0	0	0
Thyroid	5	5	0	0	0	0	0
Uterine	10	10	0	0	0	0	0

State of Wyoming - 2008

Top Cancer Sites by Gender and Age - Incidence and Mortality

Top Incidence Cancer Sites by Gender - 2008

Total		Male		Female	
Prostate	453	Prostate	453	Breast	334
Breast	343	Lung	155	Lung	136
Lung	291	Colorectal	122	Colorectal	100
Colorectal	222	Bladder	93	Uterine	63
Bladder	130	Oral Cavity	66	Melanoma	63

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	
Leukemia	2	All Cancers have 1 or less to count		Leukemia	4	Hodgkin	2	Melanoma	3
								Non-Hodgkin	2
								Testis	2
								Thyroid	2
25-29		**30-34**		**35-39**		**40-44**		**45-49**	
Thyroid	3	Thyroid	3	Breast	12	Breast	17	Breast	39
Cervix	2	Hodgkin	3	Melanoma	8	Thyroid	9	Melanoma	11
Melanoma	2			Thyroid	7	Melanoma	8	Colorectal	9
Ovary	2			Kidney	3	Cervix	5	Prostate	8
Testis	2			Oral Cavity	3				
50-54		**55-59**		**60-64**		**65-69**		**70-74**	
Breast	47	Prostate	67	Prostate	68	Prostate	118	Prostate	70
Prostate	27	Breast	44	Breast	46	Lung	52	Lung	49
Lung	23	Colorectal	33	Lung	31	Breast	38	Colorectal	36
Melanoma	15	Lung	28	Colorectal	23	Colorectal	28	Breast	25
Colorectal	14	Oral Cavity	17			Bladder	20	Bladder	22
75-79		**80-84**		**85+**					
Prostate	59	Lung	40	Breast	22				
Lung	43	Breast	31	Colorectal	19				
Colorectal	32	Colorectal	21	Ill-Defined	19				
Bladder	28	Prostate	19	Lung	16				
Breast	20	Bladder	18	Prostate	14				

Top Mortality Cancer Sites by Gender - 2008

Total		Male		Female	
Lung	224	Lung	118	Lung	106
Colorectal	87	Prostate	52	Breast	50
Ill-Defined	73	Colorectal	49	Colorectal	38
Pancreas	59	Ill-Defined	40	Ill-Defined	33
Breast & Prostate	52	Pancreas	30	Pancreas	29

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

0-4		5-9		10-14		15-19		20-24	
All Cancers have 1 or less to count		All Cancers have 1 or less to count		All Cancers have 1 or less to count		All Cancers have 1 or less to count		All Cancers have 1 or less to count	
25-29		**30-34**		**35-39**		**40-44**		**45-49**	
All Cancers have 1 or less to count		All Cancers have 1 or less to count		All Cancers have 1 or less to count		All Cancers have 1 or less to count		Lung	5
								Ill-Defined	3
								Melanoma	2
50-54		**55-59**		**60-64**		**65-69**		**70-74**	
Breast	11	Lung	10	Lung	21	Lung	39	Lung	35
Pancreas	8	Colorectal	10	Colorectal	8	Ill-Defined	15	Colorectal	15
Lung	7	Pancreas	5	Pancreas	7	Colorectal	14	Ill-Defined	11
Ill-Defined	7	Oral Cavity	5	Breast	5	Bladder	6	Breast	9
Colorectal	5			Uterine	5			Pancreas	8
75-79		**80-84**		**85+**					
Lung	47	Lung	30	Lung	28				
Prostate	11	Colorectal	12	Prostate	16				
Colorectal	10	Pancreas	12	Ill-Defined	11				
Leukemia	9	Prostate	12	Colorectal	9				
Pancreas	9	Ill-Defined	9	Breast	7				

Wyoming Counties - 2008

Incidence and Mortality (All Sites)

Wyoming County Incidence Cases -- 2008 (All Sites)

	Albany	Big Horn	Campbell	Carbon	Converse	Crook	Fremont	Goshen	Hot Springs	Johnson	Laramie	Lincoln
Anus	0	0	0	0	0	0	1	1	0	0	0	0
Bladder	2	2	5	4	2	1	9	8	1	4	26	5
Bones and Joints	0	0	0	0	0	0	0	0	0	0	1	0
Brain	2	1	2	0	0	0	2	0	0	0	10	1
Breast	22	12	18	9	11	4	21	6	2	5	69	11
Cervix	0	2	1	0	0	0	3	1	0	0	3	1
Colorectal	6	6	6	9	4	3	27	6	5	5	40	6
Esophagus	1	0	1	1	0	0	2	0	0	2	3	1
Eye	0	0	0	1	1	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	0	0	0	0	0	0	0	0
Hodgkin	1	0	1	0	1	0	1	0	0	0	2	0
Ill-Defined	4	2	7	4	4	1	7	3	2	4	22	2
Kidney	6	2	4	3	0	0	11	2	3	1	10	2
Larynx	2	2	1	0	1	0	0	1	0	0	4	0
Leukemia	5	3	5	3	0	2	2	2	1	1	7	0
Liver	0	0	0	4	0	0	2	1	1	0	4	0
Lung	7	9	29	9	9	6	21	9	3	6	48	5
Melanoma	4	1	10	6	9	3	7	1	3	1	8	5
Myeloma	1	0	0	1	2	0	0	0	0	0	6	0
Nose	0	0	1	0	0	0	1	0	0	0	1	0
Non-Hodgkin	3	3	7	2	2	0	4	1	1	4	15	2
Oral Cavity	2	2	1	2	4	3	3	2	1	2	15	2
Other Biliary	2	0	0	0	0	0	2	0	0	0	2	0
Other Digestive	0	0	0	0	0	0	0	0	0	0	1	0
Other Endocrine	1	0	0	0	0	0	1	0	1	0	1	0
Other Female	0	0	2	0	0	0	0	1	0	0	1	0
Other Male	0	0	0	0	0	0	0	0	0	0	0	0
Other Skin	1	0	0	0	0	0	0	0	0	0	0	0
Other Respiratory	0	0	1	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	1	0	0	0	0	0	0	0	4	0
Ovary	1	0	3	0	1	0	0	0	2	0	8	0
Pancreas	4	0	4	1	2	0	3	3	1	2	9	1
Prostate	18	11	18	14	13	4	34	13	7	9	70	23
Small Intestine	0	0	0	0	1	0	1	0	0	0	0	0
Soft Tissue including Heart	0	1	2	0	1	0	3	2	0	0	0	0
Stomach	0	0	2	0	0	1	0	3	0	1	5	0
Testis	1	0	0	1	0	0	0	0	0	0	3	0
Thyroid	4	0	5	1	2	1	3	1	0	0	14	3
Uterine	5	0	2	5	0	0	3	2	0	3	10	0
Mesothelioma	0	0	0	0	0	0	2	0	0	0	0	0
All Sites	105	59	139	80	70	29	176	69	34	50	422	70

	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweet-water	Teton	Uinta	Washakie	Weston
Anus	0	0	0	0	0	0	1	0	0	2	0
Bladder	24	0	7	2	5	2	7	3	2	8	1
Bones and Joints	1	0	0	0	0	0	0	0	0	1	0
Brain	5	0	1	0	4	0	3	1	0	1	0
Breast	59	0	25	7	14	4	16	13	8	4	3
Cervix	5	1	2	0	0	0	2	0	1	1	1
Colorectal	35	0	15	6	12	3	11	6	3	4	4
Esophagus	6	0	2	0	1	0	1	0	1	0	0
Eye	2	0	0	0	0	0	0	2	0	0	0
Gallbladder	2	0	0	1	1	0	0	0	0	0	0
Hodgkin	4	0	1	2	1	0	2	1	0	0	0
Ill-Defined	7	0	11	2	6	2	4	4	2	2	0
Kidney	11	1	2	0	5	2	5	2	3	0	0
Larynx	3	0	1	0	1	0	0	0	0	0	0
Leukemia	10	0	3	2	0	1	3	1	1	2	0
Liver	5	0	4	0	3	0	1	0	1	1	0
Lung	48	1	15	8	21	4	12	5	4	7	5
Melanoma	15	0	6	1	15	1	5	16	1	4	2
Myeloma	4	0	2	1	2	1	1	2	0	0	0
Nose	0	0	0	0	1	0	1	0	0	0	0
Non-Hodgkin	15	0	7	3	1	2	4	6	2	1	5
Oral Cavity	14	0	4	3	5	1	4	3	4	3	1
Other Biliary	1	0	0	0	0	1	0	1	1	1	0
Other Digestive	1	0	1	0	0	0	0	0	1	0	1
Other Endocrine	1	0	0	0	0	1	0	0	0	0	0
Other Female	3	0	0	0	3	0	1	1	0	0	0
Other Male	0	0	0	0	0	1	0	0	0	0	0
Other Skin	1	0	1	0	1	0	0	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0	0
Ovary	5	0	1	0	0	1	2	3	1	0	1
Pancreas	11	0	6	0	4	1	2	1	0	1	0
Prostate	51	1	37	14	32	7	35	16	15	3	7
Small Intestine	0	0	0	0	1	0	0	0	0	0	0
Soft Tissue including Heart	1	0	4	0	1	0	1	0	1	0	0
Stomach	5	0	0	0	3	0	2	0	2	1	0
Testis	0	0	1	1	2	2	1	1	0	0	0
Thyroid	11	0	4	1	10	3	4	1	0	0	3
Uterine	10	0	5	2	6	2	5	3	1	0	2
Mesothelioma	0	0	0	0	0	1	1	0	0	1	1
All Sites	376	4	168	56	161	43	137	92	55	48	37

Wyoming County Mortality Counts -- 2008 (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	1	0
Bladder	1	4	0	0	1	0	4	0	0	0	3	2
Bones and Joints	0	0	0	0	0	0	0	0	0	0	0	0
Brain/CNS	1	0	3	2	0	0	2	1	0	0	5	2
Breast	4	3	5	0	2	0	6	4	0	1	8	1
Cervix	0	0	0	0	0	0	0	0	0	0	1	1
Colorectal	3	3	5	2	5	1	9	4	0	4	12	1
Esophagus	3	0	2	0	0	1	0	0	0	0	1	1
Eye	0	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	0	0	0	0	0	1	0	0
Hodgkin	0	0	0	0	0	0	0	0	0	0	0	0
Ill-Defined	3	2	2	7	3	0	6	1	1	4	10	1
Kidney	1	0	0	0	0	0	0	1	1	0	4	0
Larynx	0	0	0	0	0	0	0	0	0	0	0	0
Leukemia	0	2	4	1	2	0	3	0	1	0	5	1
Liver	0	0	0	2	0	0	1	2	1	1	1	0
Lung	10	10	16	5	5	2	12	7	4	8	37	3
Melanoma	1	0	2	0	0	0	1	1	0	1	2	0
Myeloma	1	0	0	0	0	0	1	0	0	1	0	0
Nasal	0	0	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin	1	2	3	2	0	1	0	2	0	0	6	1
Oral Cavity	1	0	0	2	2	1	0	0	1	0	3	0
Other Biliary	0	0	0	0	0	0	2	0	0	0	3	0
Other Digestive	0	0	1	0	1	0	0	0	0	0	1	0
Other Endocrine	0	0	0	0	0	0	0	0	0	0	1	0
Other Female	1	0	0	0	0	0	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0	0	0
Other Skin	0	0	0	0	0	0	1	0	0	0	1	0
Other Respiratory	0	0	0	0	1	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0	0	0
Ovary	0	1	0	0	0	0	2	0	1	0	3	0
Pancreas	3	2	6	0	2	1	3	3	1	2	10	0
Prostate	2	1	0	2	1	0	7	1	0	0	5	1
Small Intestine	0	0	0	0	1	0	0	0	0	2	0	0
Soft Tissue including Heart	0	1	0	0	0	0	0	0	0	0	2	0
Stomach	1	0	0	1	0	0	0	1	0	0	3	0
Testis	0	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	1	0	0	0	0	0	0	0	0	1	0
Uterine	0	1	0	0	1	1	2	0	0	0	2	0
Mesothelioma	0	0	0	0	0	0	1	0	0	0	2	0
All Sites	37	33	49	26	27	8	63	28	11	25	133	15

	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweet-water	Teton	Uinta	Washakie	Weston
Anus	0	0	0	0	0	0	0	1	0	0	0
Bladder	8	0	1	0	2	0	1	0	0	0	0
Bones and Joints	0	0	0	0	0	0	1	0	0	0	0
Brain/CNS	1	1	1	0	0	1	2	1	1	0	0
Breast	3	0	5	1	2	0	3	1	1	1	1
Cervix	1	1	0	0	0	0	2	0	0	0	1
Colorectal	13	0	5	3	7	2	3	1	1	2	1
Esophagus	3	0	1	1	0	1	2	0	0	0	0
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	1	1	0	0	0	0	0	0	0
Hodgkin	1	0	0	0	0	0	0	0	0	0	0
Ill-Defined	7	1	3	2	6	0	7	2	1	1	3
Kidney	7	0	2	0	1	0	0	1	0	0	0
Larynx	0	0	1	0	1	0	1	0	0	0	0
Leukemia	9	0	3	1	2	0	2	0	0	0	0
Liver	4	0	0	0	0	0	2	1	0	1	0
Lung	22	2	18	6	23	1	14	1	8	3	7
Melanoma	2	0	0	0	1	0	1	2	3	1	0
Myeloma	1	0	1	1	3	0	1	0	0	0	0
Nasal	0	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin	7	0	2	0	1	0	2	1	3	1	0
Oral Cavity	5	0	1	0	2	0	0	0	0	1	0
Other Biliary	1	0	1	1	4	1	0	0	0	0	0
Other Digestive	0	0	1	0	0	0	0	0	0	0	0
Other Endocrine	0	0	0	0	0	0	0	0	0	0	0
Other Female	0	0	1	0	1	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0	0
Other Skin	1	0	0	0	0	0	0	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	1	0	0	0	0
Ovary	5	0	0	1	1	0	0	1	1	2	0
Pancreas	12	0	5	0	2	0	3	0	2	2	0
Prostate	7	0	4	2	5	2	6	1	3	1	1
Small Intestine	0	0	0	0	0	0	0	0	0	0	0
Soft Tissue including Heart	2	0	1	0	0	0	0	1	0	0	0
Stomach	2	0	1	0	1	0	1	0	3	0	0
Testis	1	0	0	0	0	0	0	0	0	0	0
Thyroid	1	0	1	0	1	0	0	0	0	0	0
Uterine	0	0	1	0	1	1	0	0	0	0	0
Mesothelioma	0	0	2	0	0	0	0	1	0	0	1
All Sites	126	5	63	20	67	9	55	16	27	16	15

Summary of
All Cancer Sites Combined
and
Top 15 Sites

2008 Wyoming Incidence and Mortality Rates

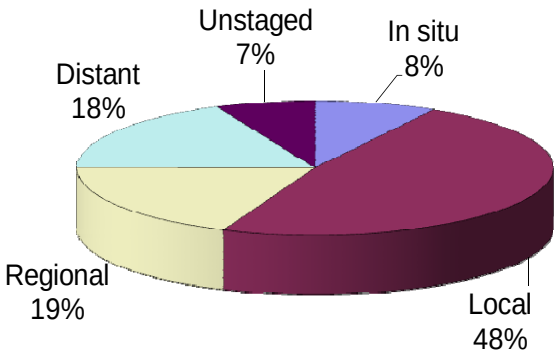
All Sites Combined

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	1,388	1,094	2,482
# In situ Cases	103	117	220
WY Incidence	516.2	376.4	439.8
US Incidence	534.5	415.8	464.6
# Cancer Deaths	467	408	875
WY Mortality	186.2	138.4	159.1
US Mortality	215.2	150.6	177.1

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

Stage at Diagnosis



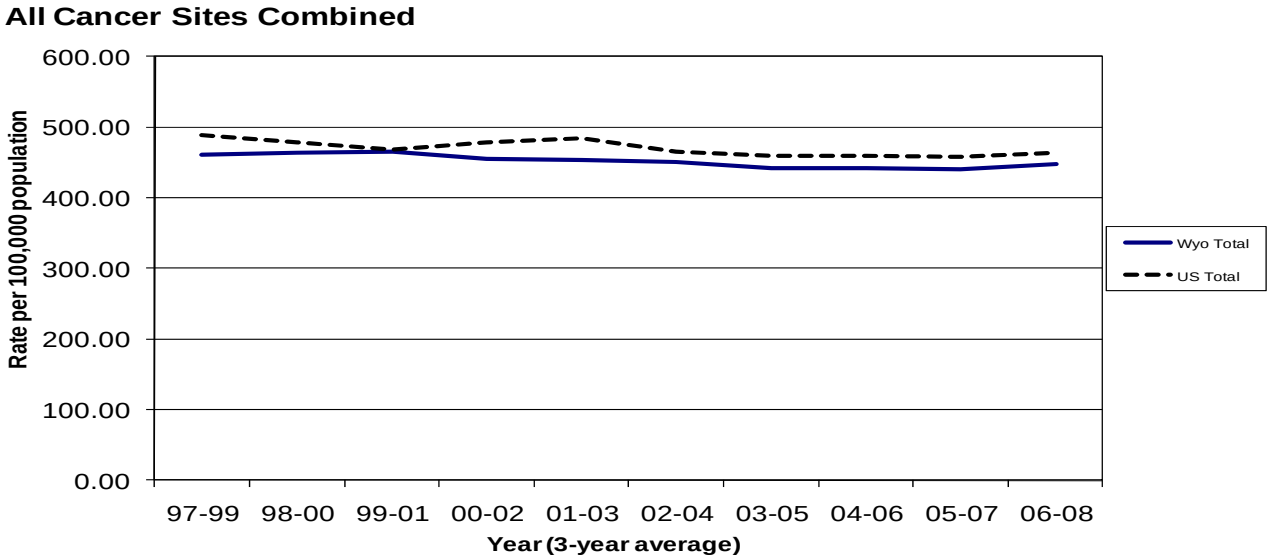
The incidence rates in Wyoming males, females, and total population for all cancer sites were lower than the United States rates, though not significantly. All three mortality rates in Wyoming were also lower than the national rates, but were not statistically significant.

The 12-year incidence trend shows that all-site cancer incidence has leveled off since 03-05. The U.S. rate all appears to be holding steady since 02-04.

The percent of cancer for each stage of diagnosis was virtually unchanged from 2007.

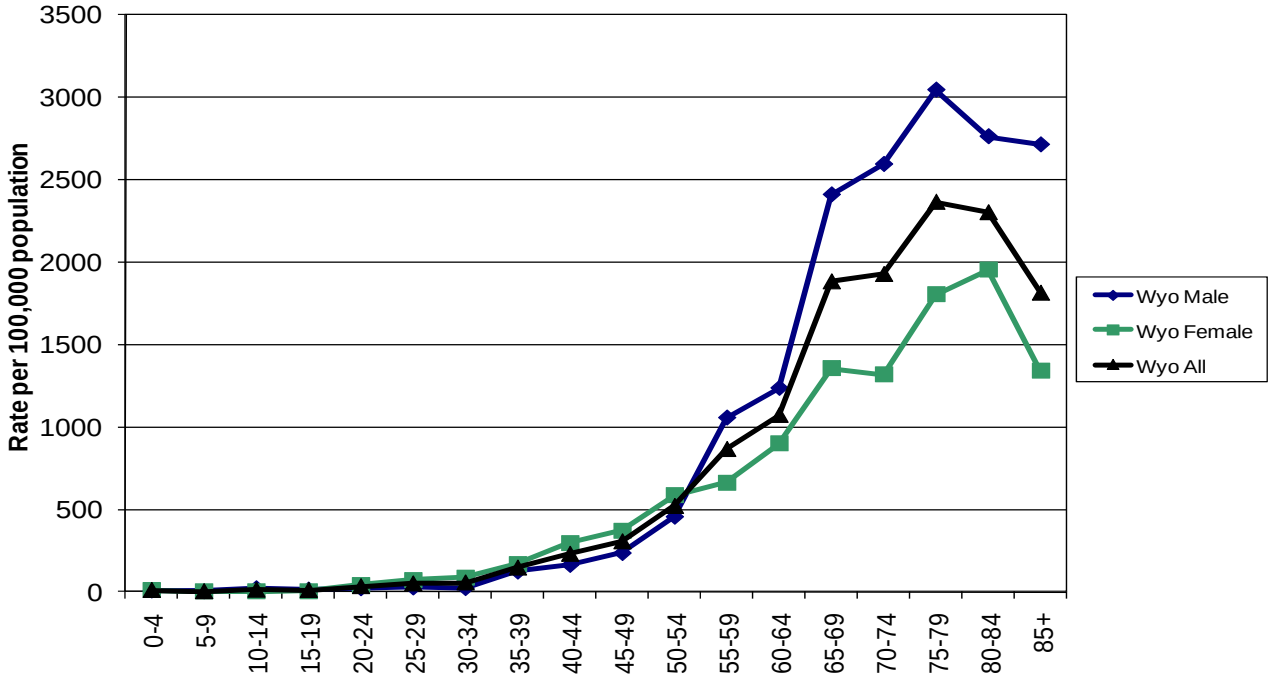
The incidence rate for Cancer Health District (CHD) 7 (369.40) was significantly lower and the rate for CHD 1 was significantly higher (496.84) than the state rate (441.79) for 2004-2008. CHD 6 (131.40) was significantly lower than the state mortality rate (161.81).

12-Year Incidence Trend



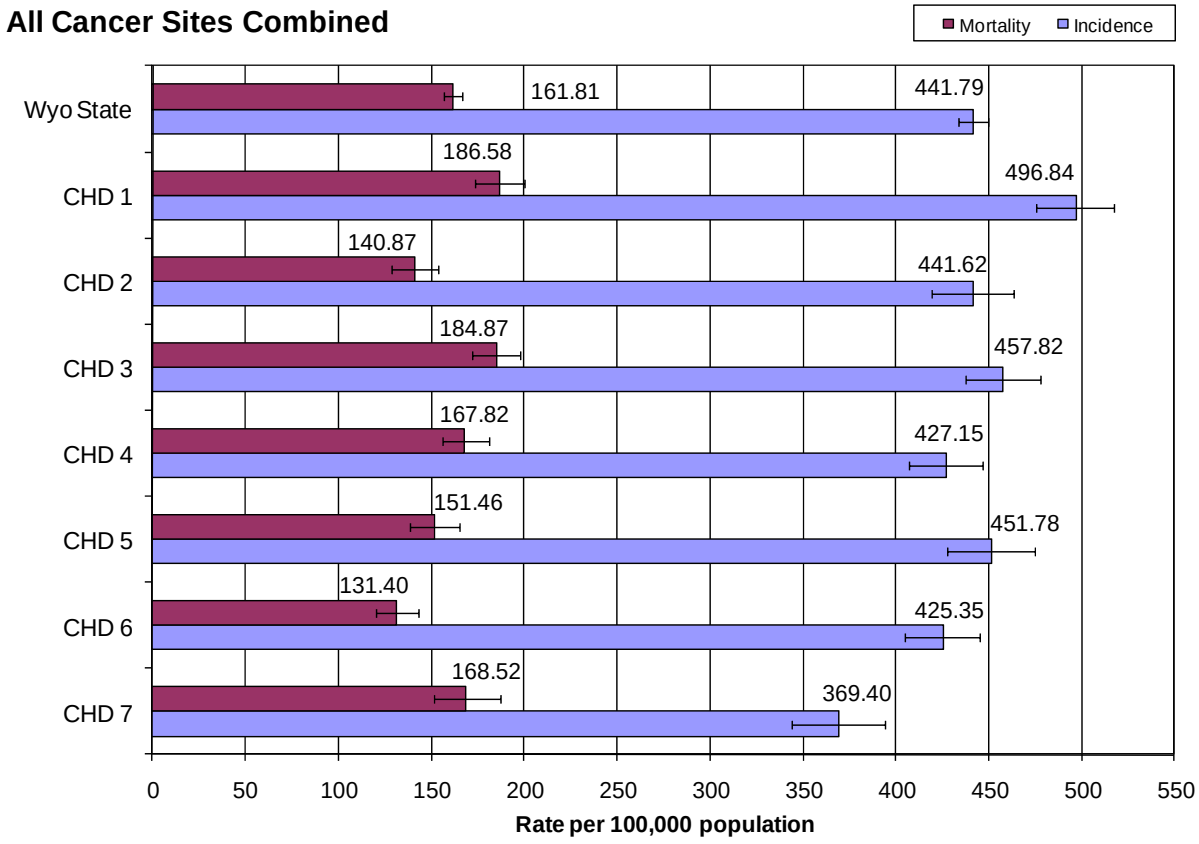
Age-Specific Incidence Rates - 2008

All Cancer Sites Combined



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

All Cancer Sites Combined



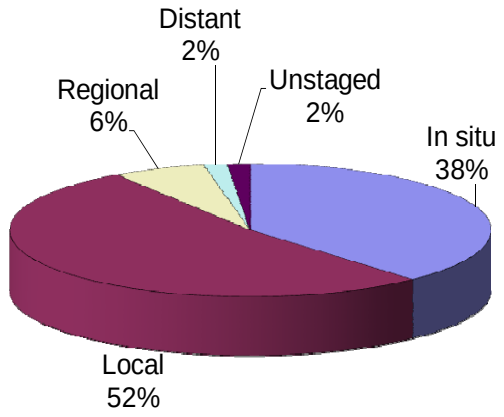
Bladder (Urinary)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	56	23	79
# In situ Cases	37	14	51
WY Incidence	37.0	12.8	21.1
US Incidence	39.1	9.4	22.2
# Cancer Deaths	21	6	27
WY Mortality	8.5	2.1	4.9
US Mortality	8.0	2.2	4.5

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

Stage at Diagnosis



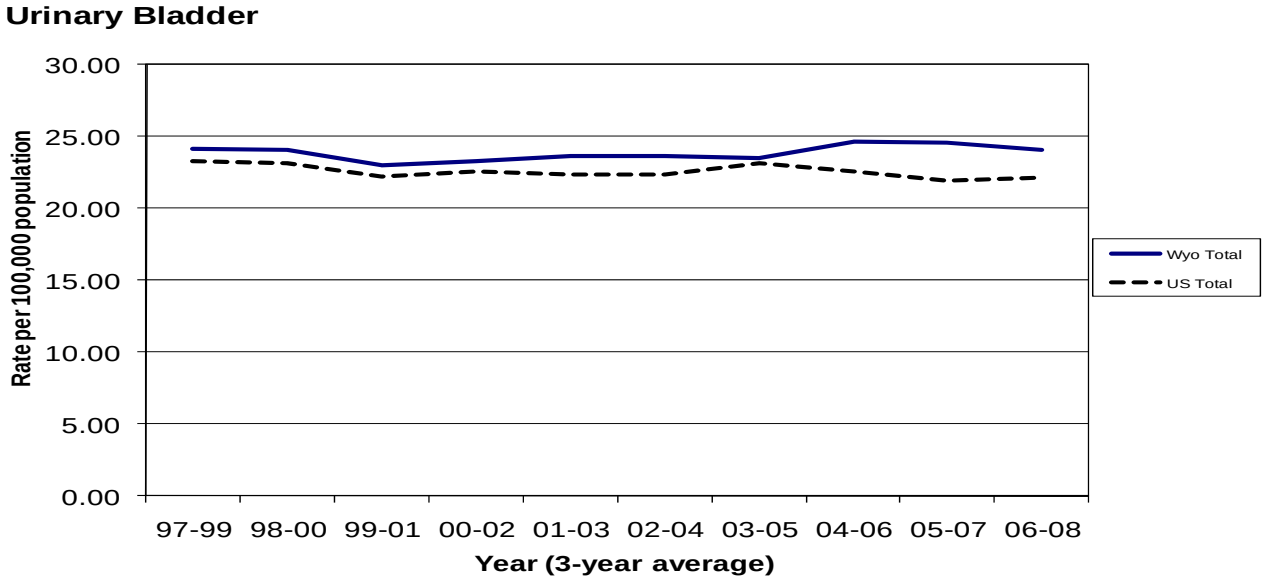
The incidence rates in Wyoming for bladder cancer in males and total population were both lower the national rates in 2008. The incidence rate for females was higher than the national rate, but as not significant. The mortality rates for males and total population were a bit higher than the national rate, while females were one-tenth lower. None of these difference were significant.

The 12-year incidence trend for bladder cancer in Wyoming shows a small decrease from 05-07 to 06-08, while the US rate shows a slight increase from 05-07.

The percent of bladder cancers diagnosed as local increase significantly from 36% in 2007, while the percentage diagnosed as In-situ dropped from 45% in 2007. The other stages were unchanged.

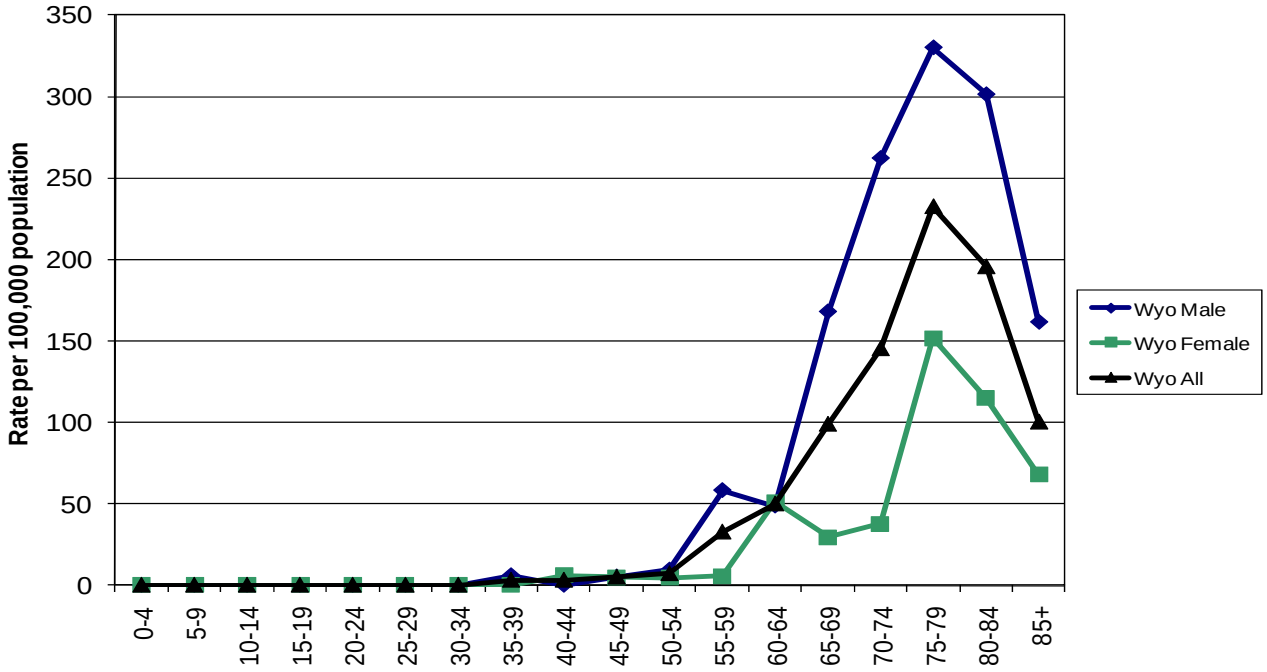
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



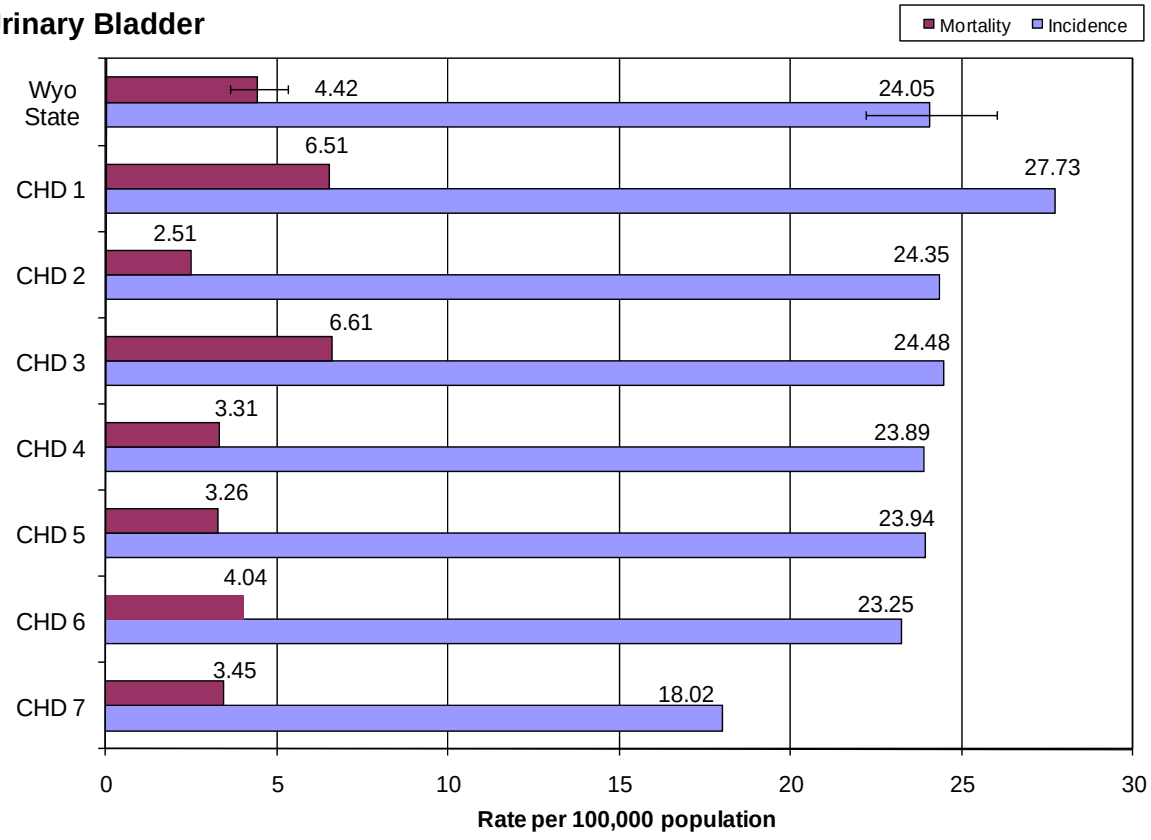
Age-Specific Incidence Rates - 2008

Urinary Bladder



Cancer Health District Incidence and Mortality

Urinary Bladder



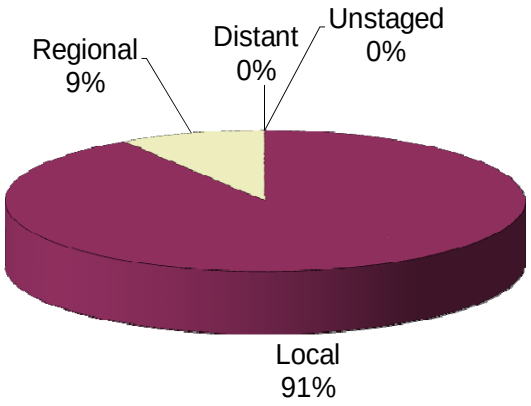
Brain/CNS

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	19	14	33
WY Incidence	6.7	5.2	5.9
US Incidence	8.3	5.9	7.0
# Cancer Deaths	13	11	24
WY Mortality	4.7	3.8	4.4
US Mortality	5.5	3.8	4.6

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

Stage at Diagnosis



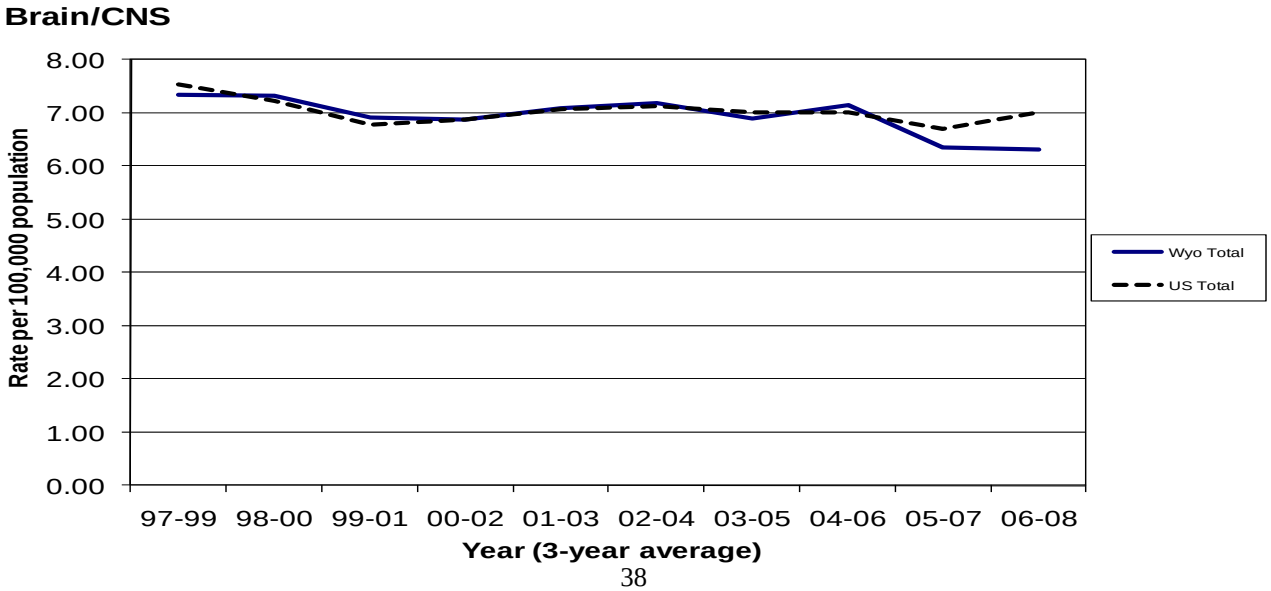
The incidence and mortality rates of brain/CNS cancer for males, females, and total population were all lower or the same as the national rates; however, none of these differences were significant.

The 12-year trend shows a leveling off from a decrease in the incidence of brain/CNS cancer that started in 04-06. The national trend also shows a slight increase beginning in 05-07.

The percentage of cases diagnosed as local rose significantly from 56% in 2007 to 91% in 2008. Additionally, a significantly lower percentage of cases were diagnosed at the regional stage in 2008 than in 2007 (26%).

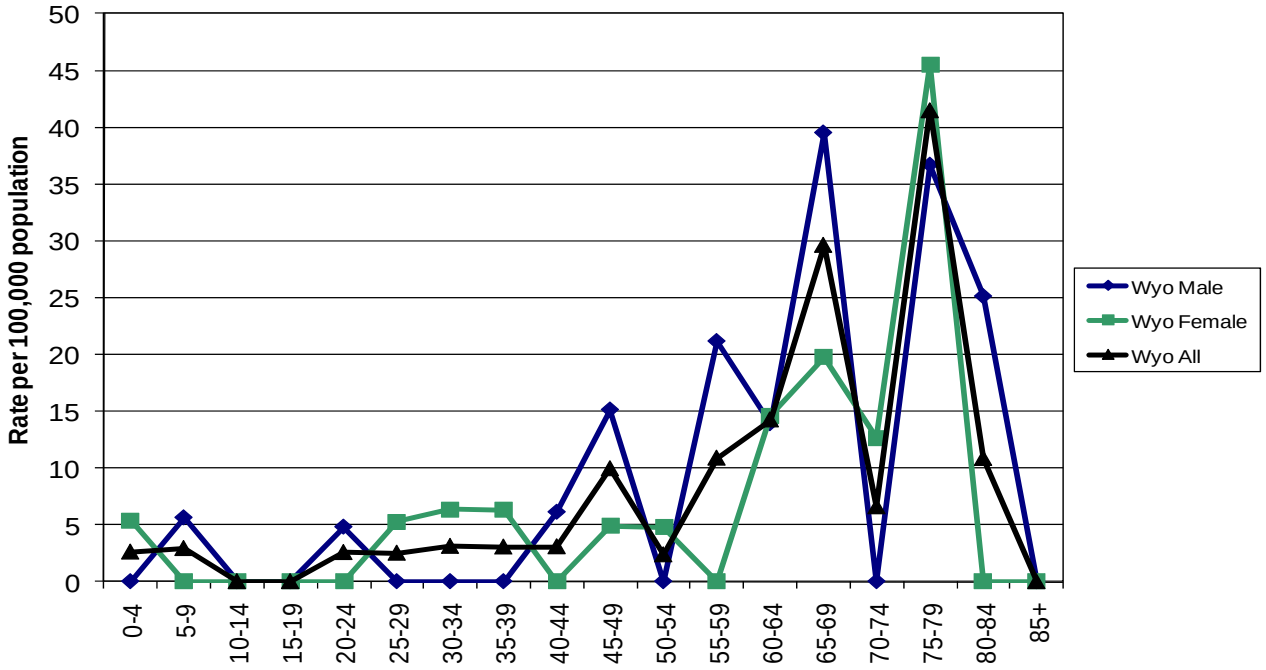
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



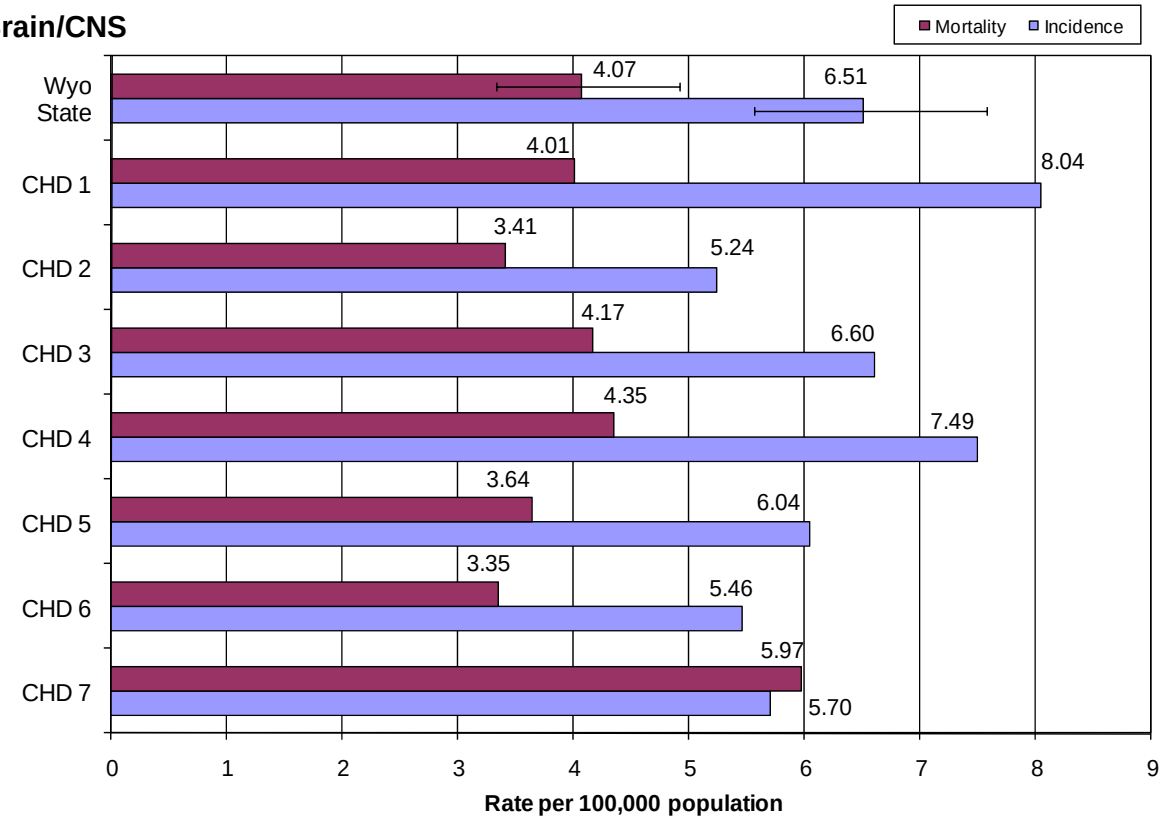
Age-Specific Incidence Rates - 2008

Brain/CNS



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Brain/CNS



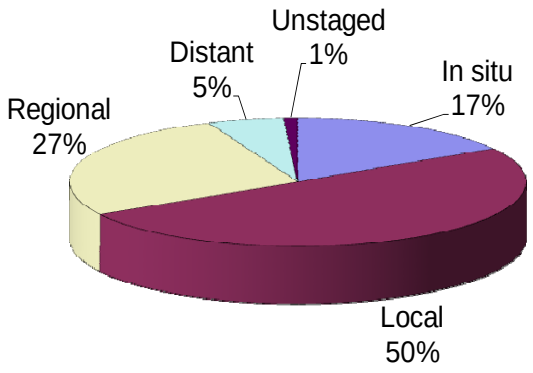
Breast (Female Only)

Incidence and Mortality Summary

# Invasive Cases	334
# In situ Cases	66
WY Incidence	113.1
US Incidence	126.3
# Cancer Deaths	50
WY Mortality	16.6
US Mortality	22.2

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

Stage at Diagnosis



The incidence and mortality rates of female breast cancer in Wyoming continued to be lower than the United States rate in 2008, but not significantly.

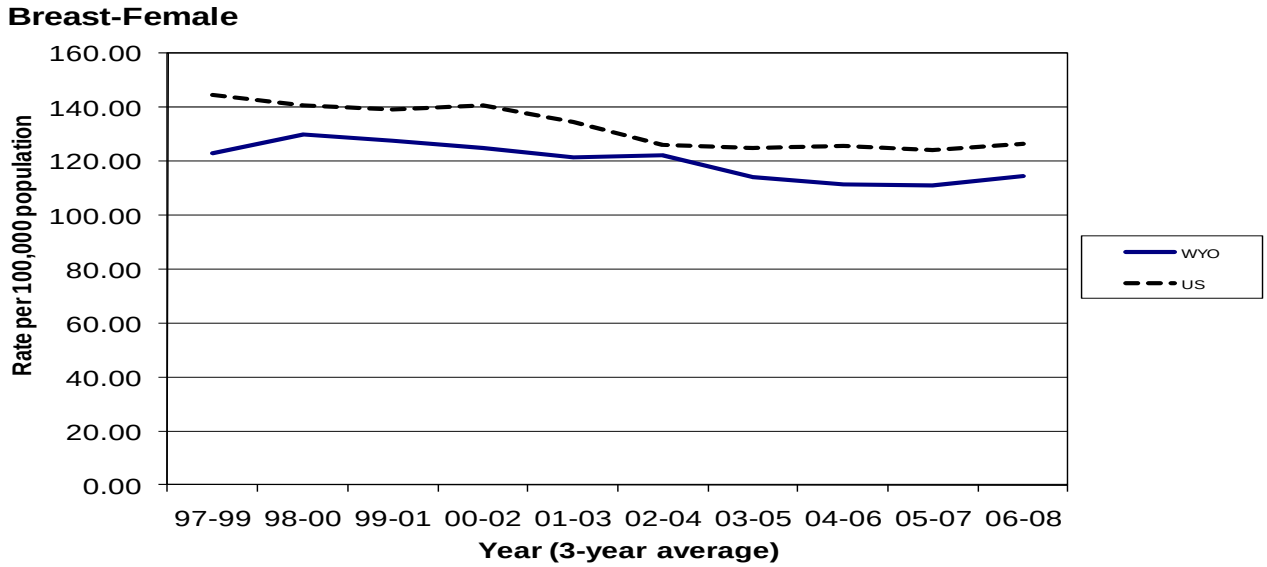
The 12-year incidence trend shows a possible increase starting in 05-07, the same potential increase is shown in the national rate.

The percentage of diagnoses in each stage in 2008 was essentially the same as in 2007.

The incidence of breast cancer in females in CHD 7 was significantly lower (83.47) than the state rate (112.49) from 2004-2008. No statistically significant differences were found for mortality.

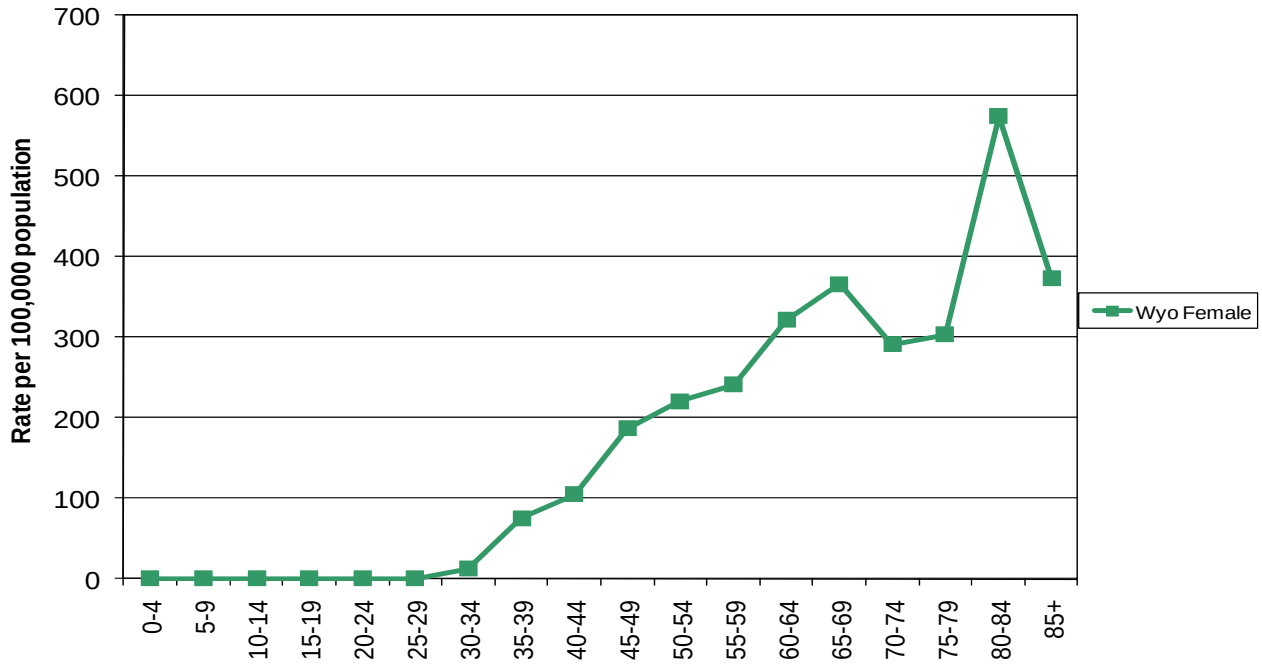
There were 9 case of male breast cancer reported in Wyoming in 2008, which is the highest number of cases reported for one year in Wyoming ever.

12-Year Incidence Trend



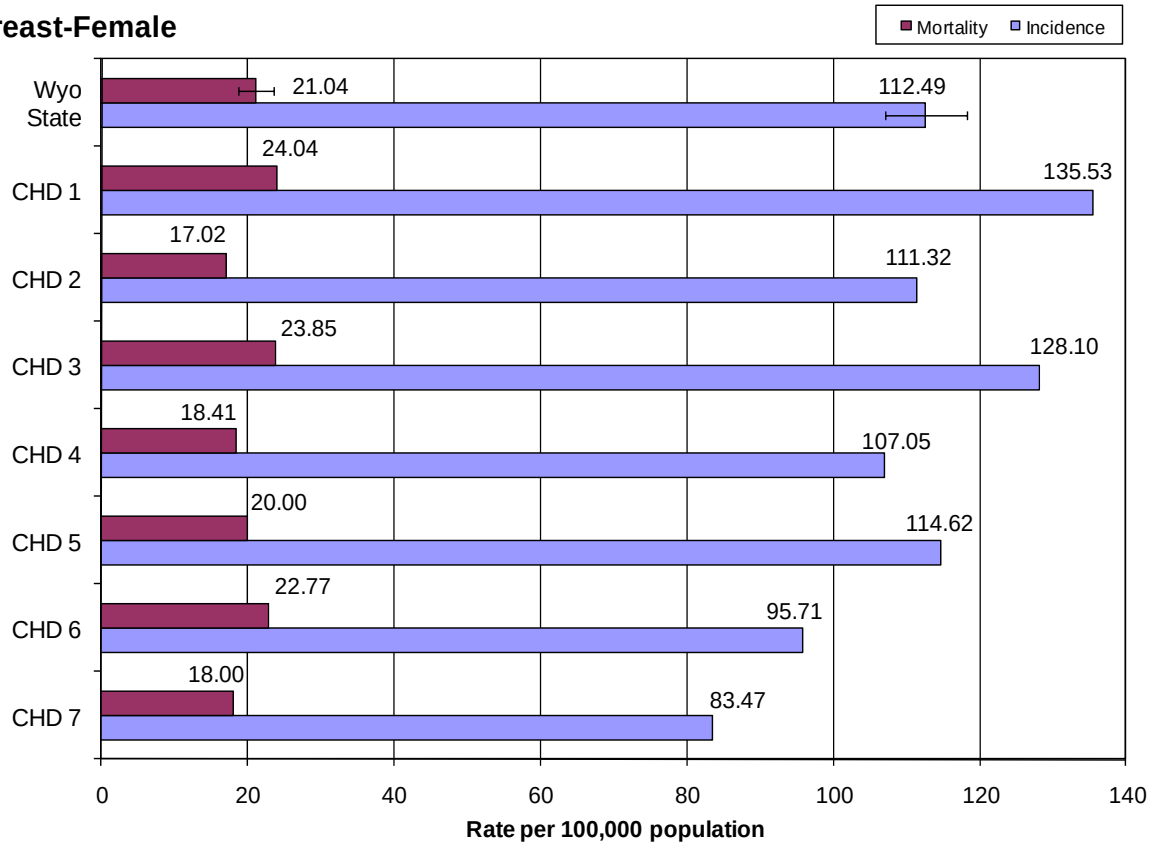
Age-Specific Incidence Rates - 2008

Breast-Female



Cancer Health District Incidence and Mortality

Breast-Female



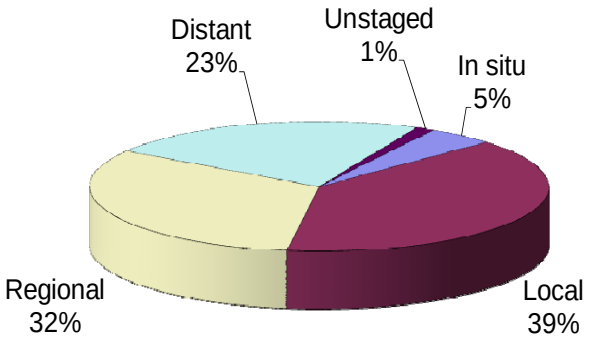
Colorectal

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	122	100	222
# In situ Cases	7	4	11
WY Incidence	45.5	34.8	39.7
US Incidence	52.1	38.8	44.7
# Cancer Deaths	49	38	87
WY Mortality	19.1	12.7	15.5
US Mortality	19.5	13.7	16.2

* 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 and mortality rates for males, females, and total population were lower than the national rates. None of these differences were statistically significant.

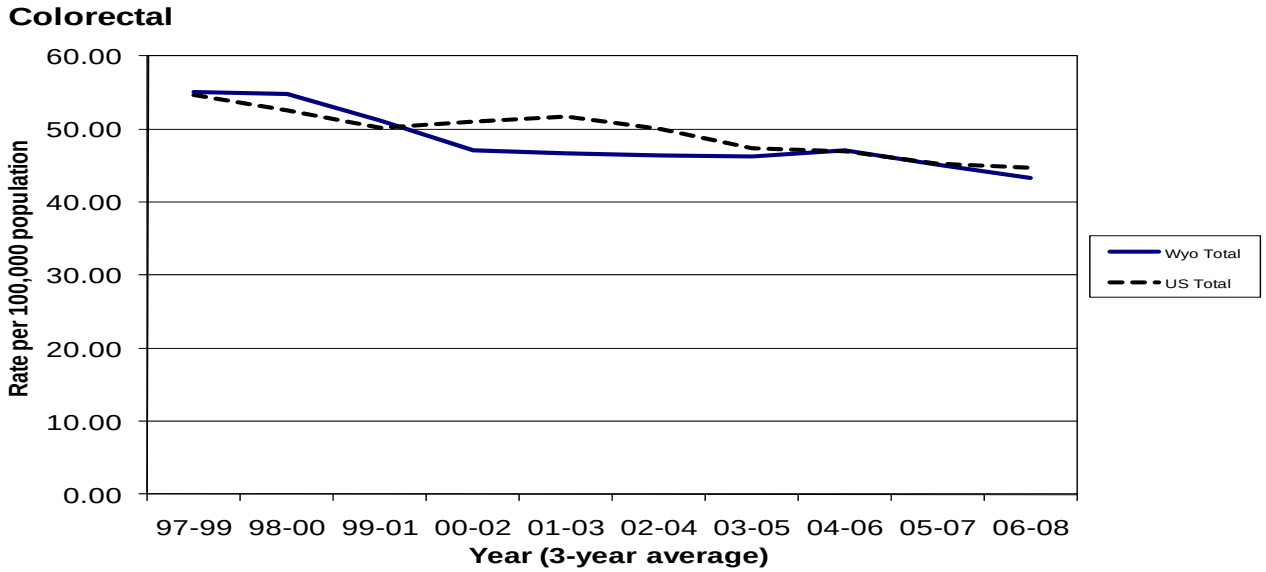
The incidence rates for Wyoming and the U.S. appear to be decreased a little since 04-06.

The percentage of colorectal cases diagnosed at the local stage decreased from 48% in 2007, while the regional percentage increased from 26% in 2007 . The percentages for the other stages were essentially the same as in 2007.

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

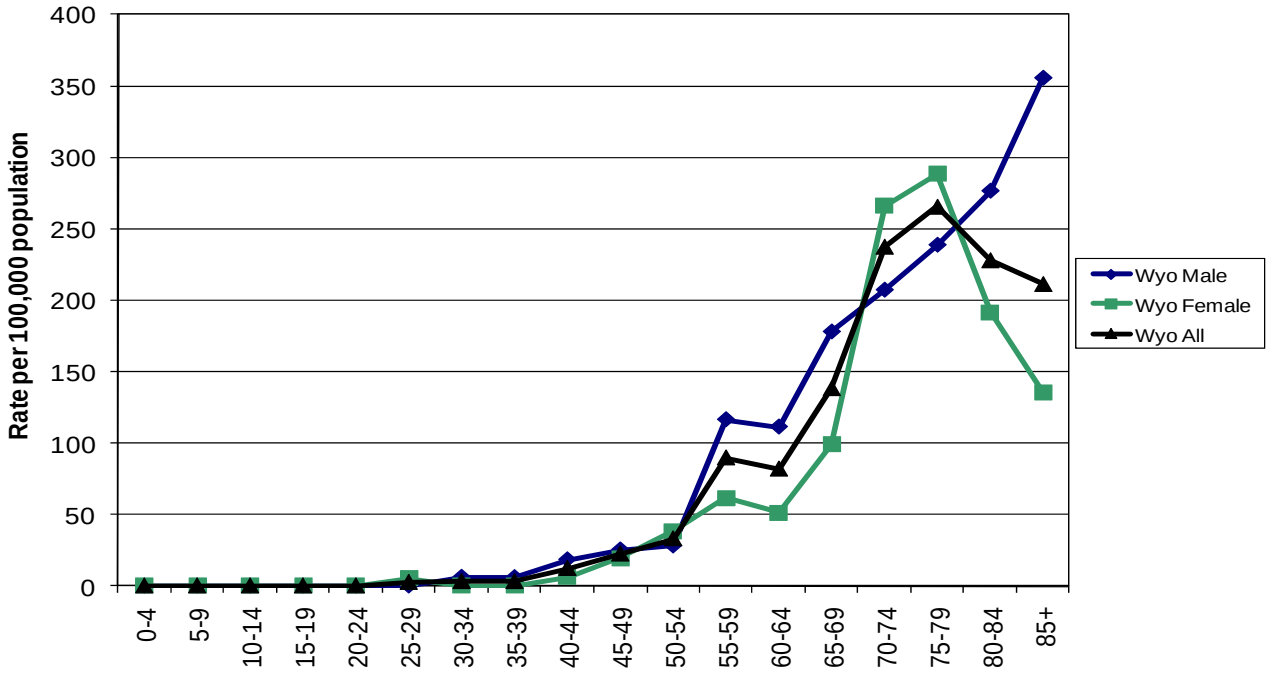
(Colorectal = Colon and rectum combined)

12-Year Incidence Trend



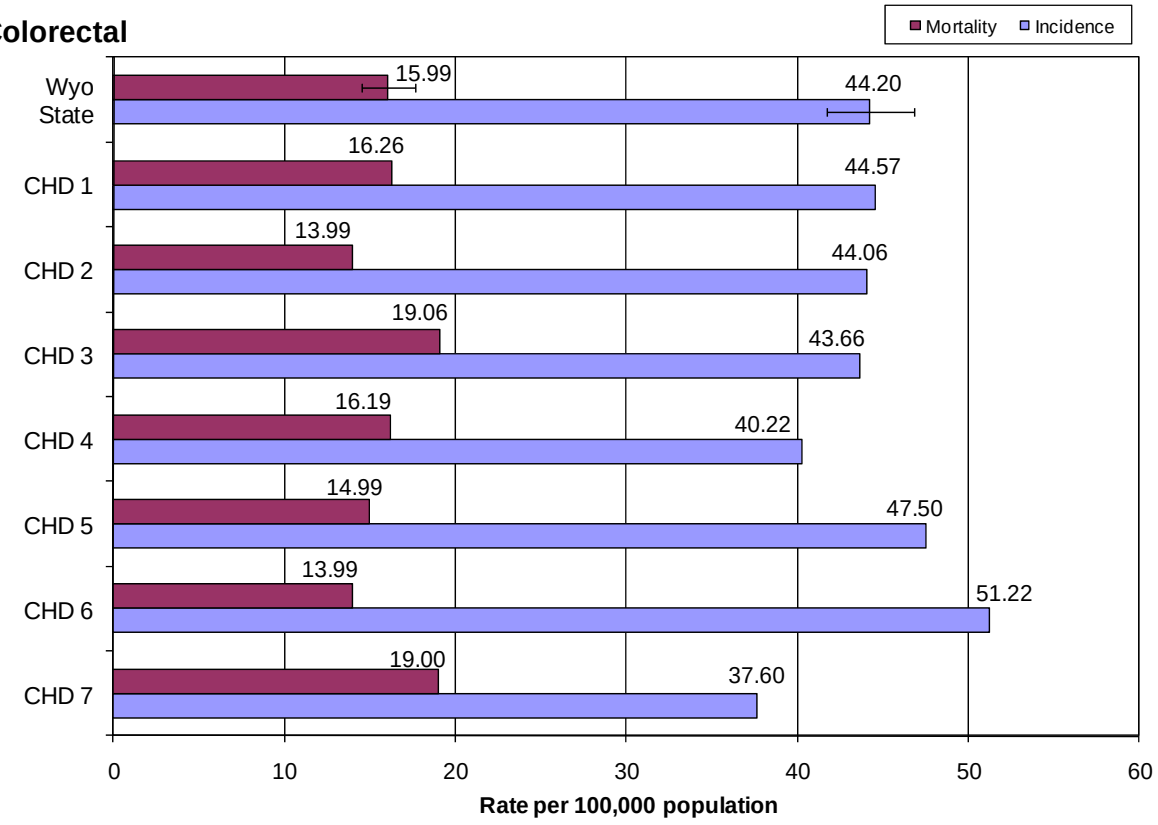
Age-Specific Incidence Rates - 2008

Colorectal



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Colorectal



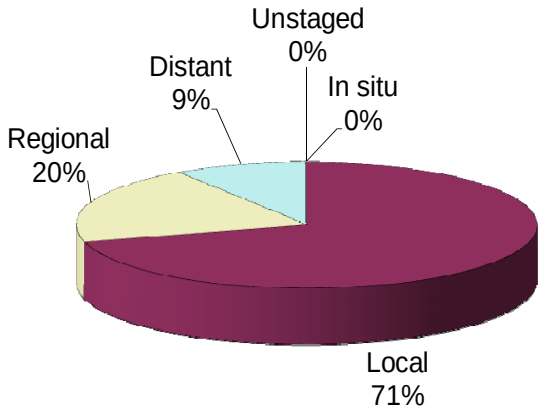
Kidney/Renal Pelvis

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	53	22	75
WY Incidence	19.4	7.2	13.1
US Incidence	20.5	10.6	15.1
# Cancer Deaths	13	5	18
WY Mortality	5.1	1.5	3.2
US Mortality	5.9	2.7	4.1

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

Stage at Diagnosis



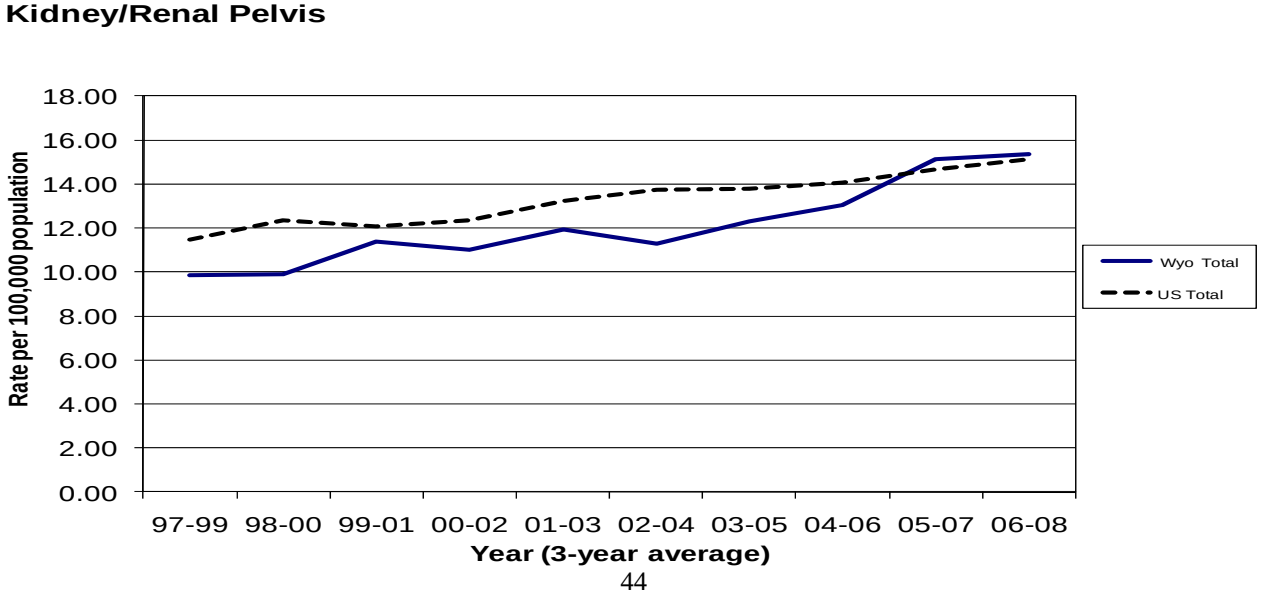
The incidence and mortality rates for kidney/renal pelvis cancer in Wyoming males, females and the total population were lower than the national rates in 2008. None of these differences were statistically significant.

The 12-year trend shows a potential leveling-off from 05-07 to 06-08 after an increase that started in 02-04. The national rate seems to be continuing to increase.

The percent of kidney/renal pelvis cases diagnosed as local was higher in 2008 than in 2007 (55%), while the percentage diagnosed as regional dropped slightly from 27% in 2007.

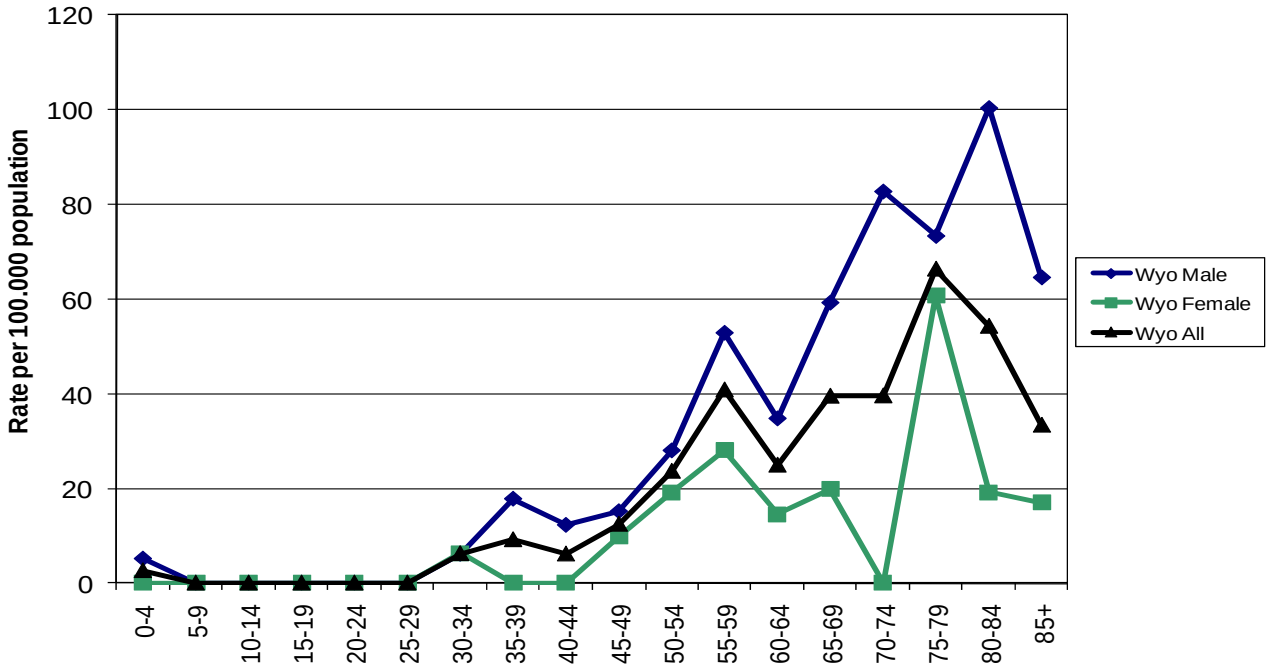
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



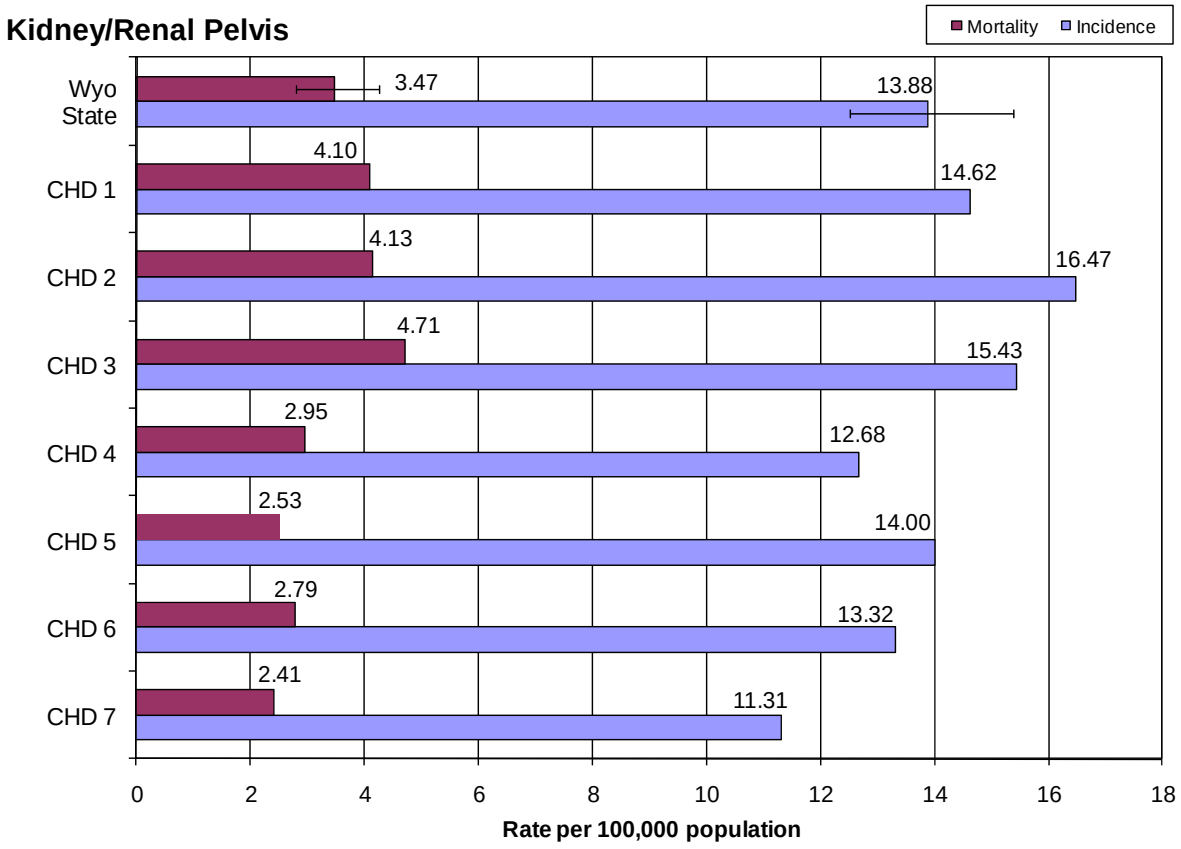
Age-Specific Incidence Rates - 2008

Kidney/Renal Pelvis



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Kidney/Renal Pelvis



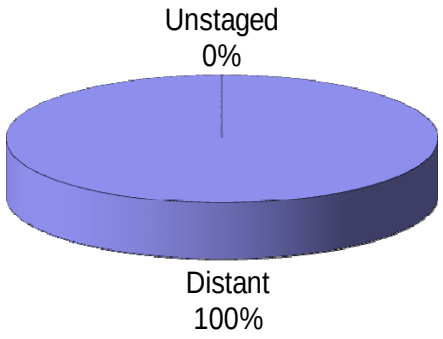
Leukemia

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	37	17	54
WY Incidence	14.1	5.8	9.7
US Incidence	16.0	9.8	12.5
# Cancer Deaths	21	15	36
WY Mortality	8.4	5.1	6.7
US Mortality	9.8	5.4	7.2

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

Stage at Diagnosis

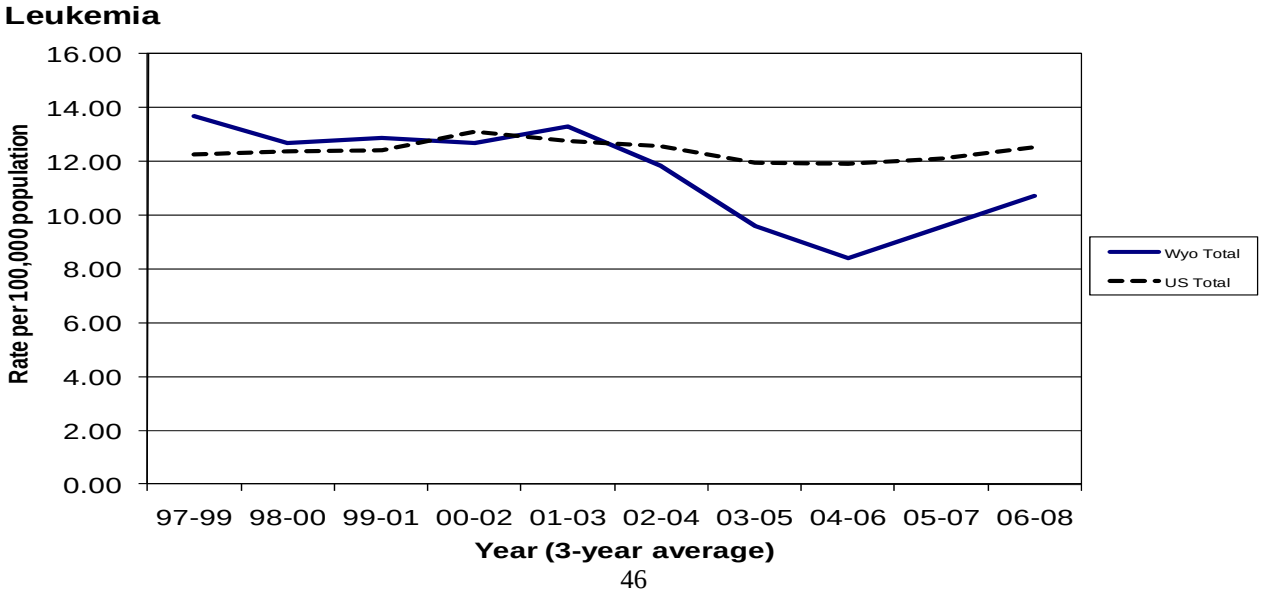


Incidence and mortality rates in Wyoming for leukemia were lower than the national rates for males, females, and total population. None of the differences were statistically significant.

The incidence trend for Wyoming shows an increase from 04-06 to 06-08 after a significant decrease from 01-03 to 04-06. The national trend appears to be increasing slightly from 05-07 to 06-08.

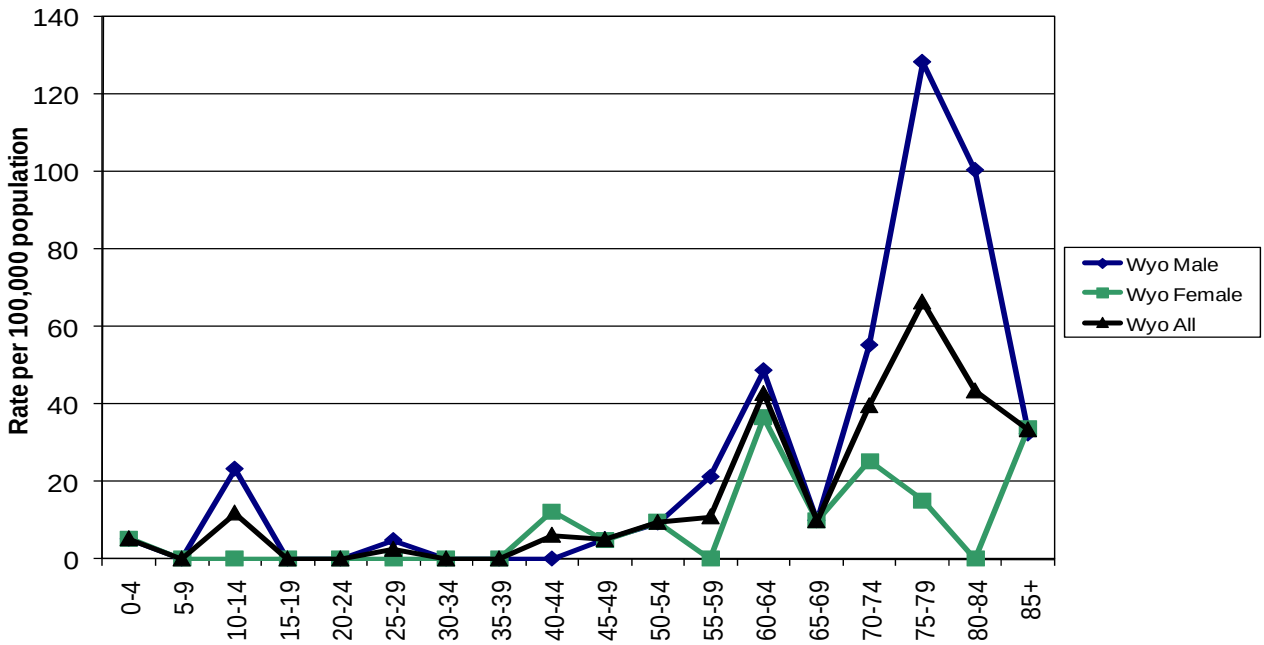
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



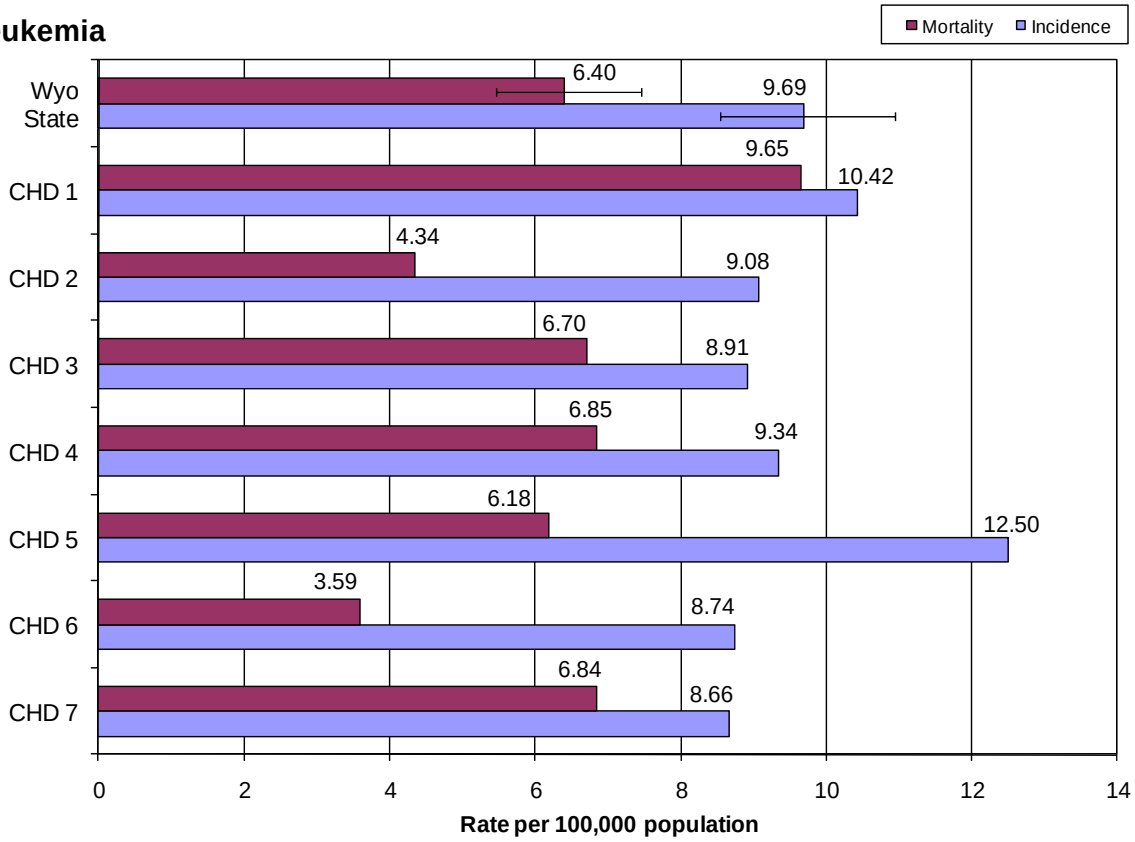
Age-Specific Incidence Rates - 2008

Leukemia



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Leukemia



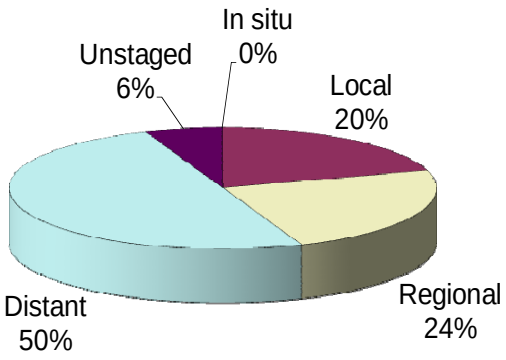
Lung and Bronchus

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	155	136	291
WY Incidence	59.5	46.9	52.4
US Incidence	72.1	53.8	61.5
# Cancer Deaths	118	106	224
WY Mortality	47.6	36.8	41.7
US Mortality	64.8	41.1	51.2

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

Stage at Diagnosis



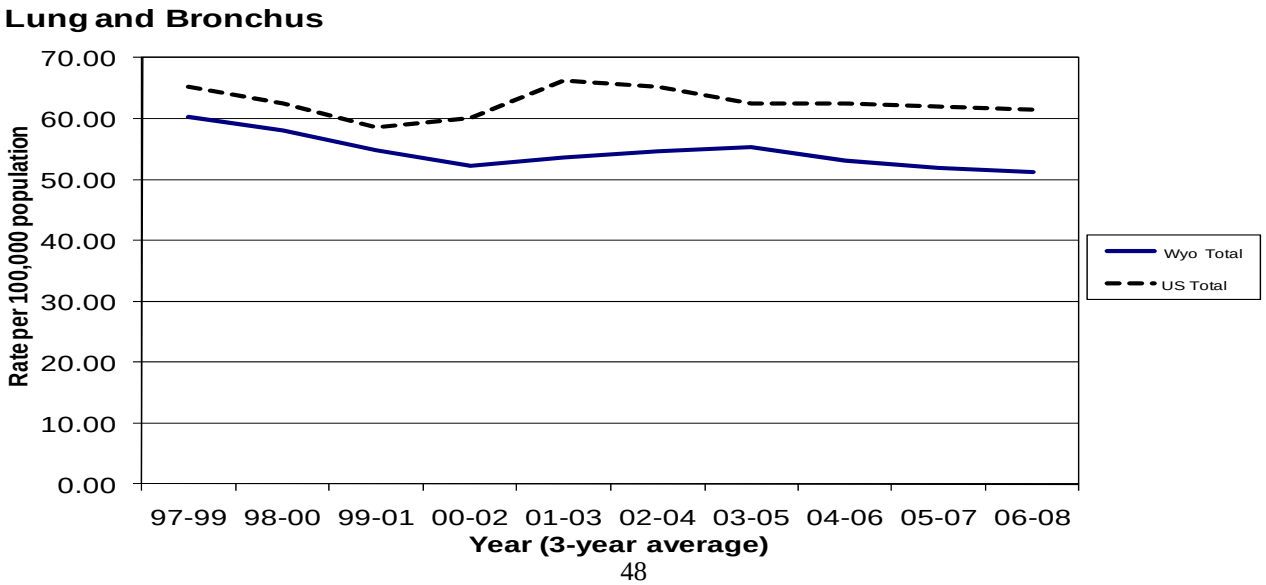
Lung cancer incidence and mortality rates in Wyoming males, females, and total population were lower than the national rates, though not significantly.

The 12 year incidence trend shows the rates for lung cancer in Wyoming continuing a decrease that began in 03-05. The national rate appears to remain basically level since 03-05.

The percentage of cases diagnoses at each stage was essentially unchanged from 2007 to 2008.

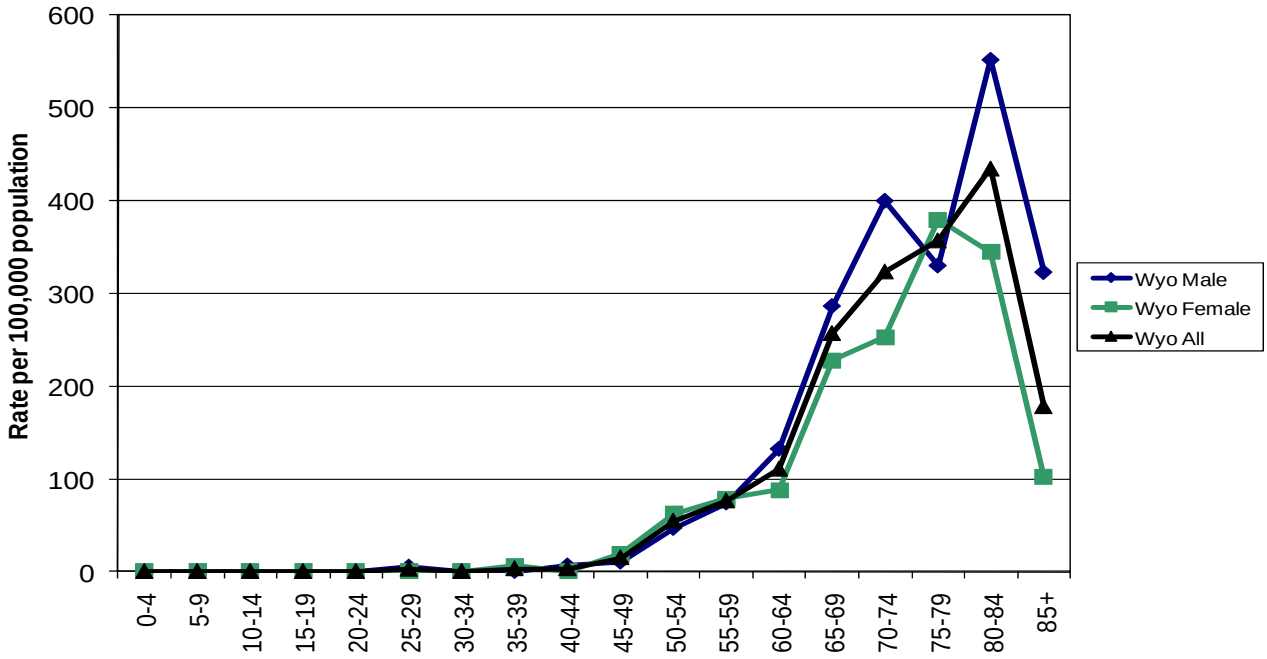
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



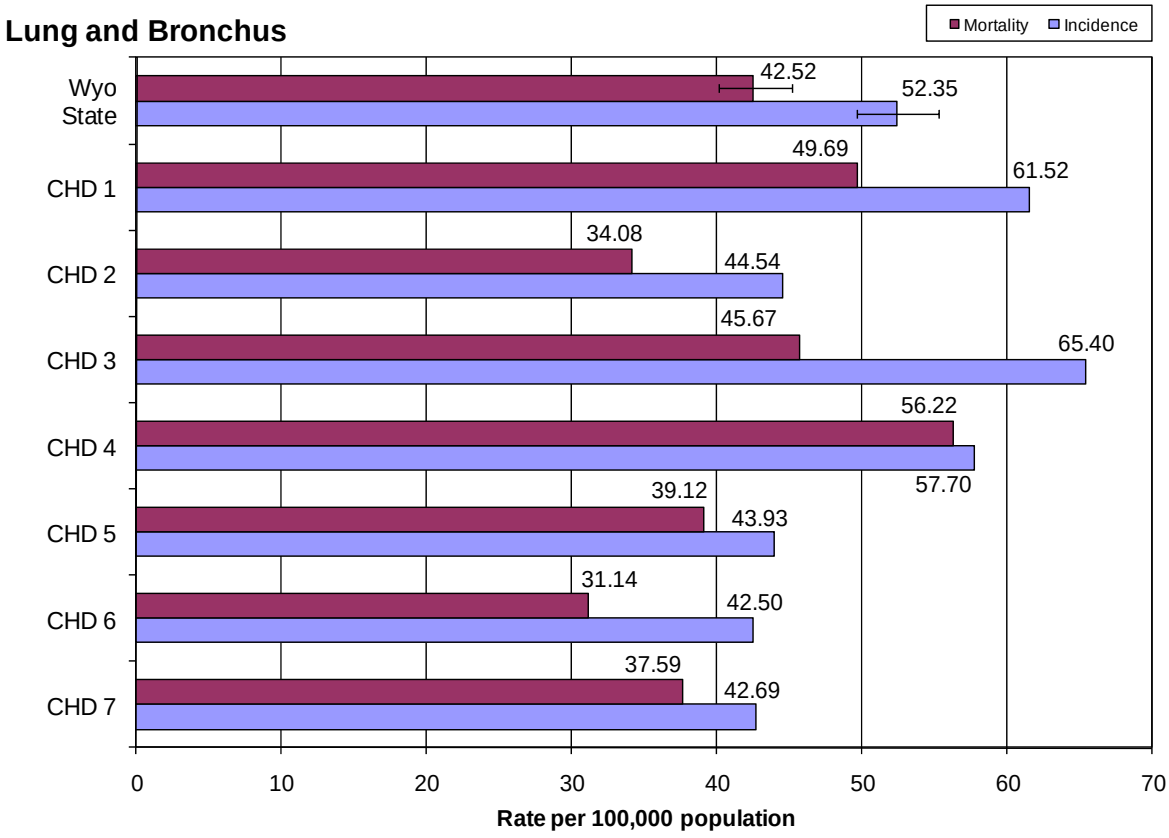
Age-Specific Incidence Rates - 2008

Lung and Bronchus



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Lung and Bronchus



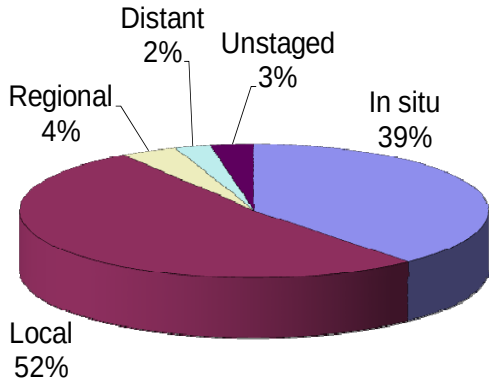
Melanoma (of the skin)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	63	61	124
# In situ Cases	51	27	78
WY Incidence	24.2	21.2	22.2
US Incidence	29.9	19.3	23.6
# Cancer Deaths	12	6	18
WY Mortality	4.8	1.9	3.2
US Mortality	4.5	1.9	3.0

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

Stage at Diagnosis



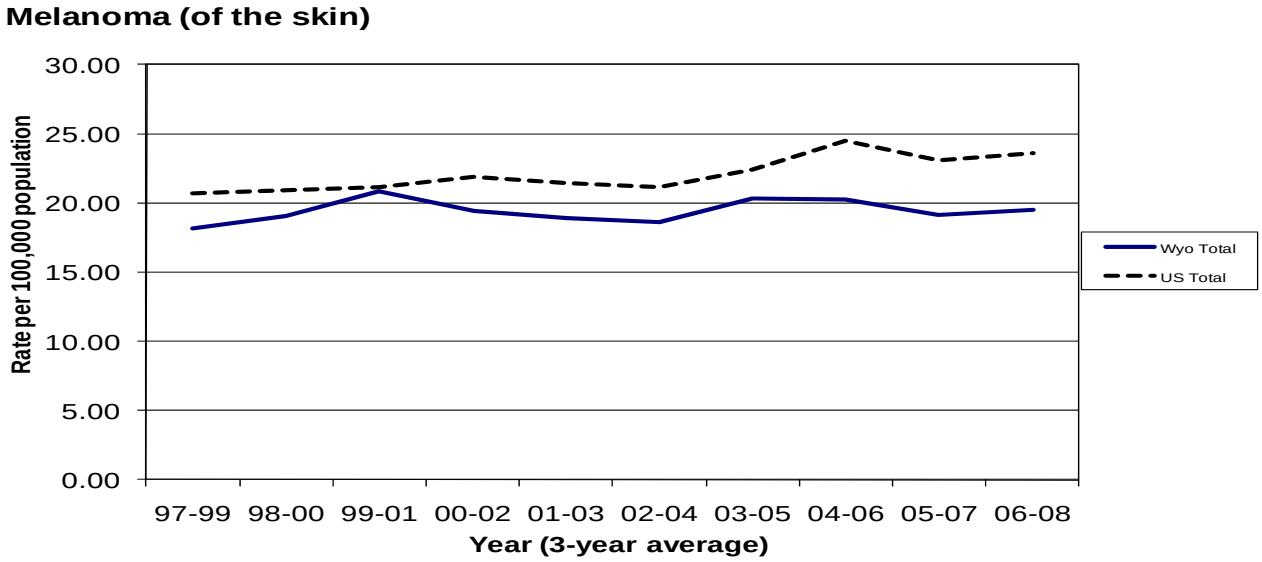
Incidence rates for melanoma of the skin for Wyoming males and total population were lower than the national rates, while the rate for Wyoming women was slightly higher. The mortality rates for males and total population were higher than the national, while the female rate was the same. None of the incidence or mortality differences were statistically significant.

The decrease in melanoma incidence that began in 04-06 appears to be leveling off since 05-07. Nationally, the rate has also leveled off since a decrease in 04-06.

The percent of cases diagnosed at each stage in 2008 was essentially the same as in 2007.

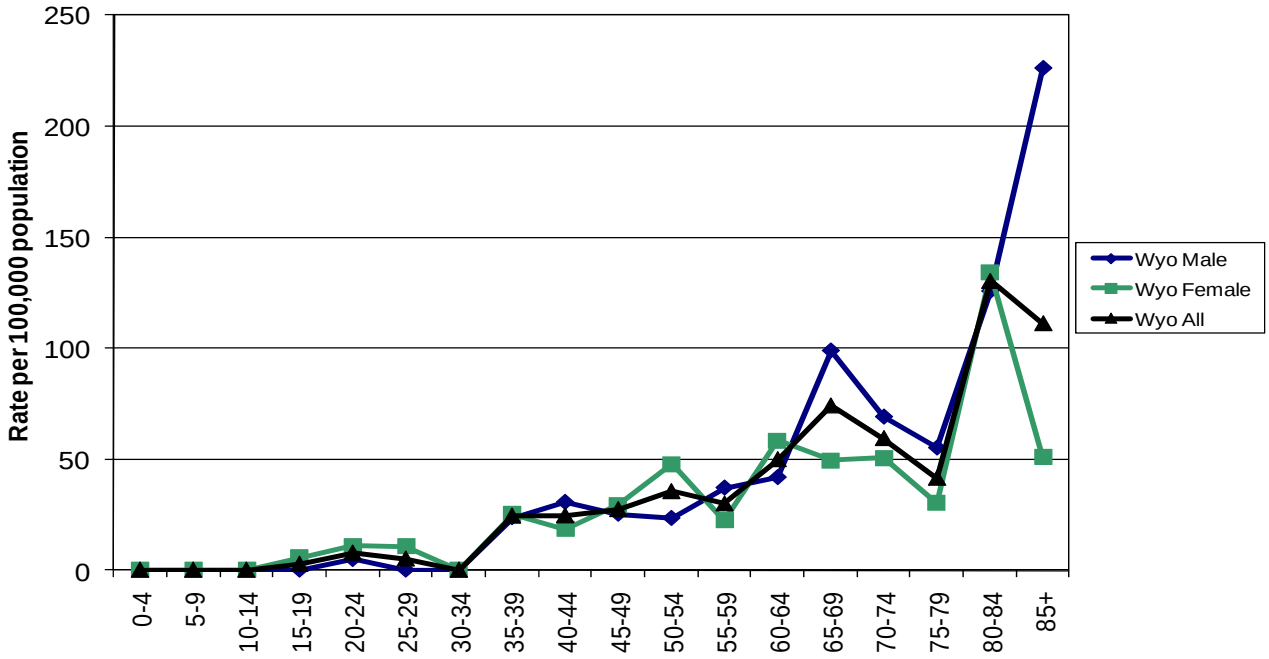
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



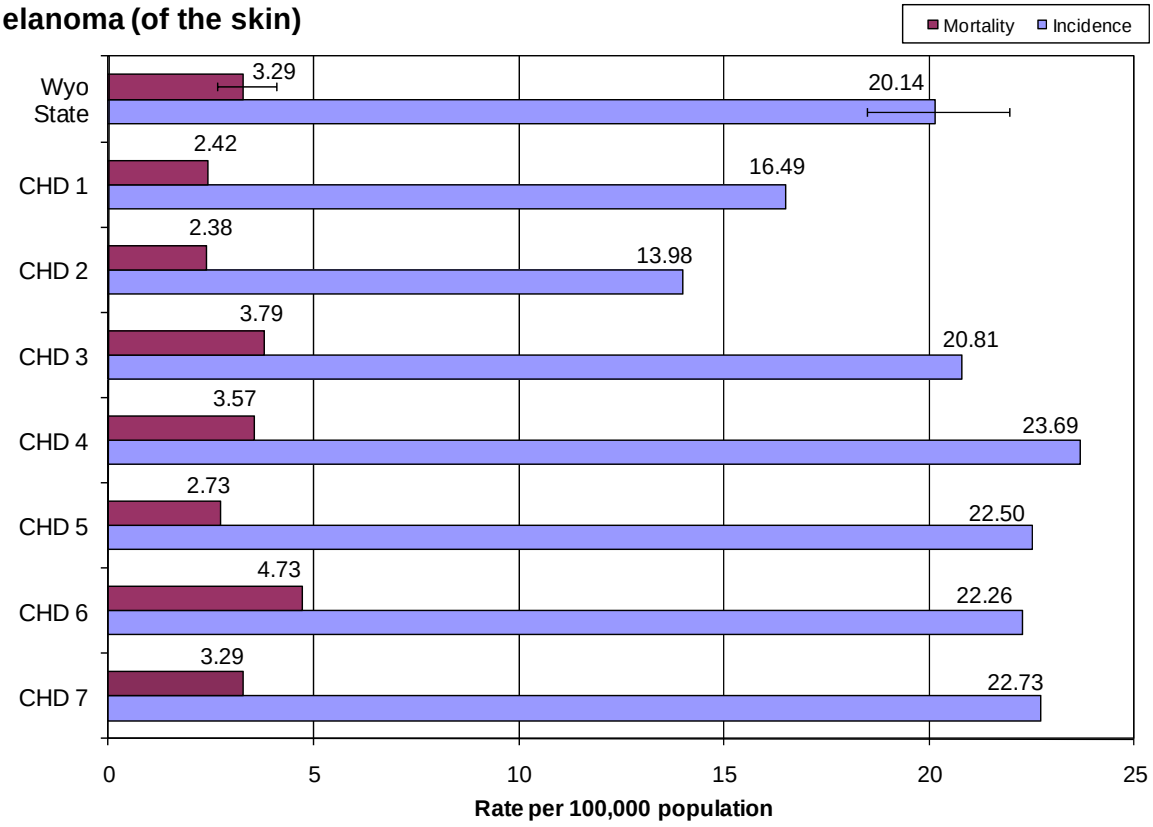
Age-Specific Incidence Rates - 2008

Melanoma (of the skin)



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Melanoma (of the skin)



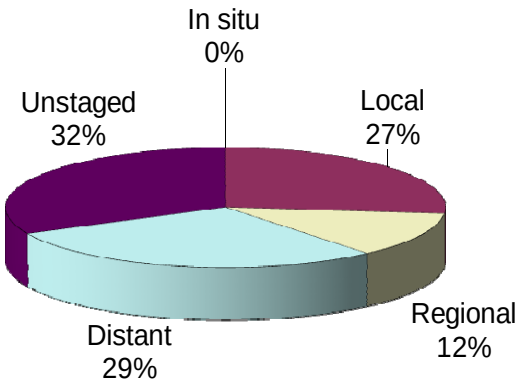
Non-Hodgkin Lymphoma

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	56	34	90
WY Incidence	21.7	11.8	16.3
US Incidence	24.5	16.8	20.3
# Cancer Deaths	18	17	35
WY Mortality	7.6	5.8	6.7
US Mortality	8.6	5.4	6.8

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

Stage at Diagnosis



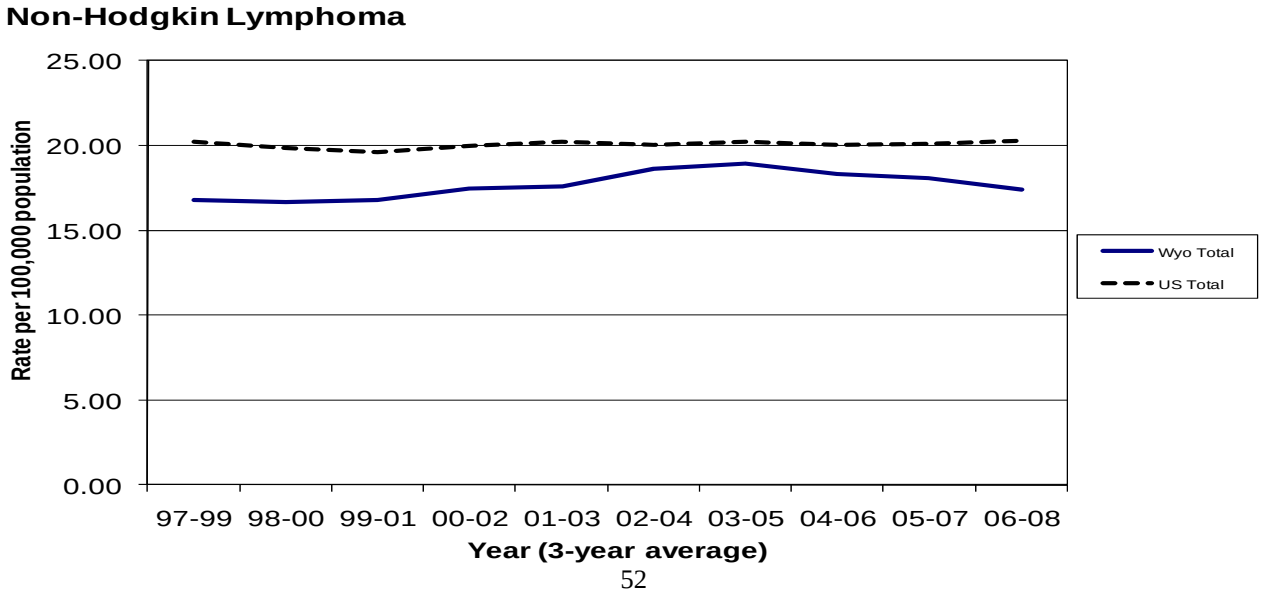
The incidence rates for males, females, and total population in Wyoming were lower than the national rates. The mortality rates for males and total population were also lower than the national rates, while female rate was slightly higher. None of the differences were statistically significant.

The incidence trend seems to be continuing a slight decrease that began 03-05, while the national trend has been level for many years.

The percent of cancers diagnosed at each stage in 2008 was very similar to the percentages seen in 2007.

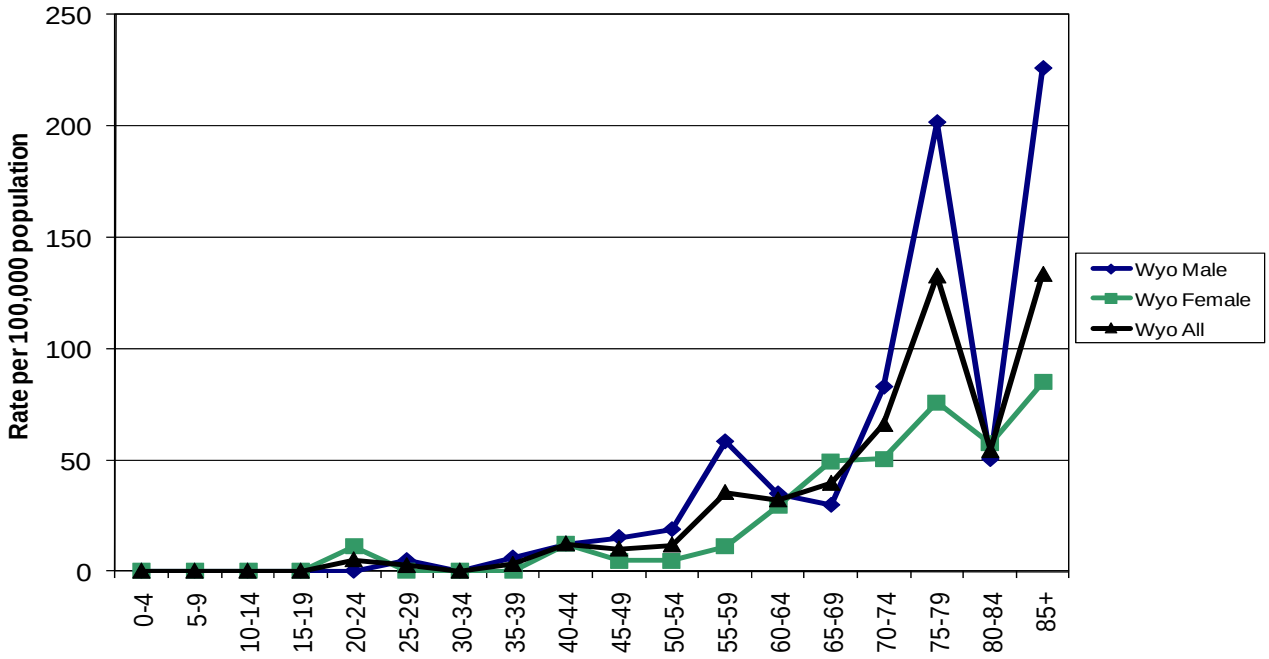
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



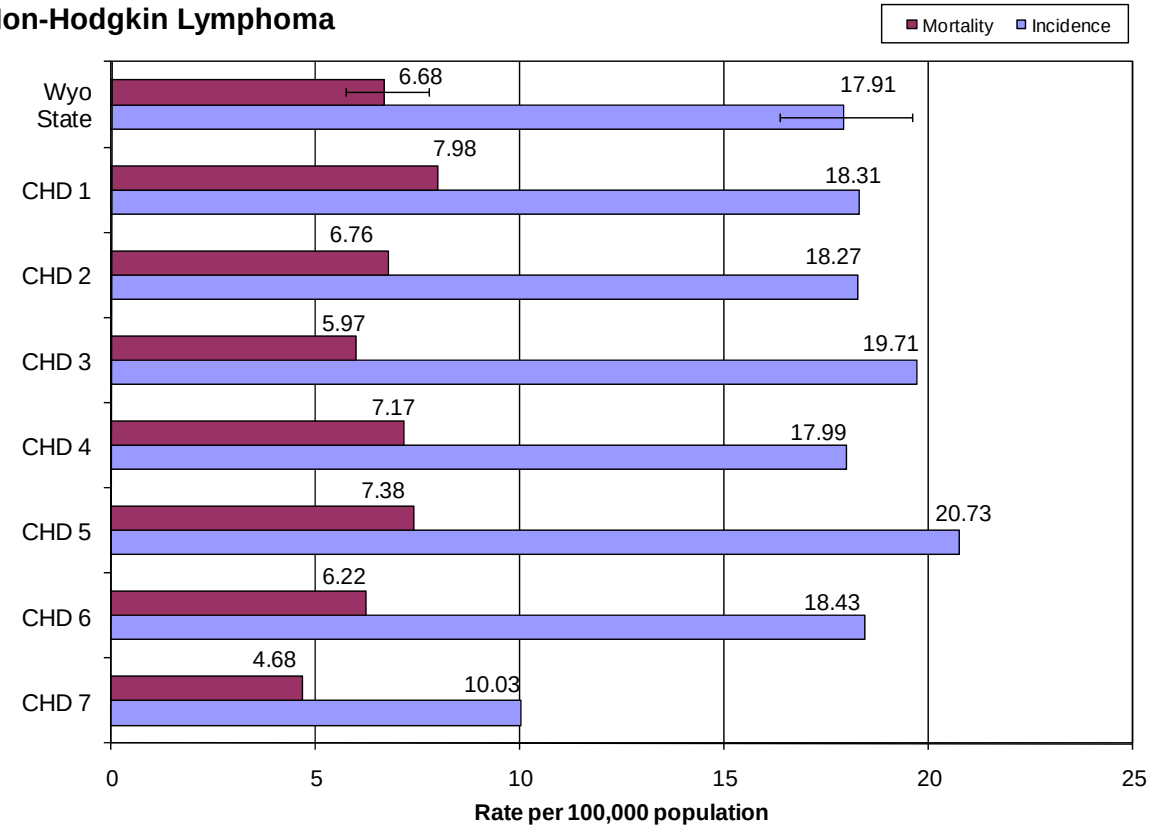
Age-Specific Incidence Rates - 2008

Non-Hodgkin Lymphoma



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Non-Hodgkin Lymphoma



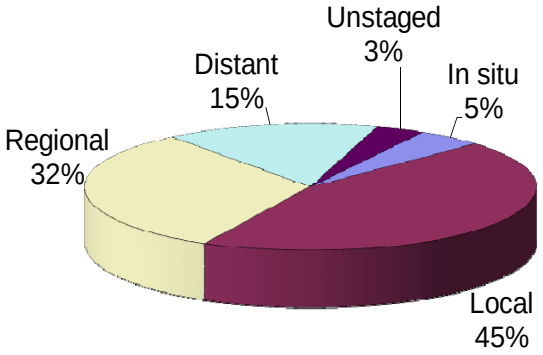
Oral Cavity

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	66	15	81
# In situ Cases	4	0	4
WY Incidence	23.4	5.3	14.0
US Incidence	15.8	6.0	10.6
# Cancer Deaths	12	7	19
WY Mortality	4.4	2.2	3.2
US Mortality	3.7	1.4	2.4

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

Stage at Diagnosis



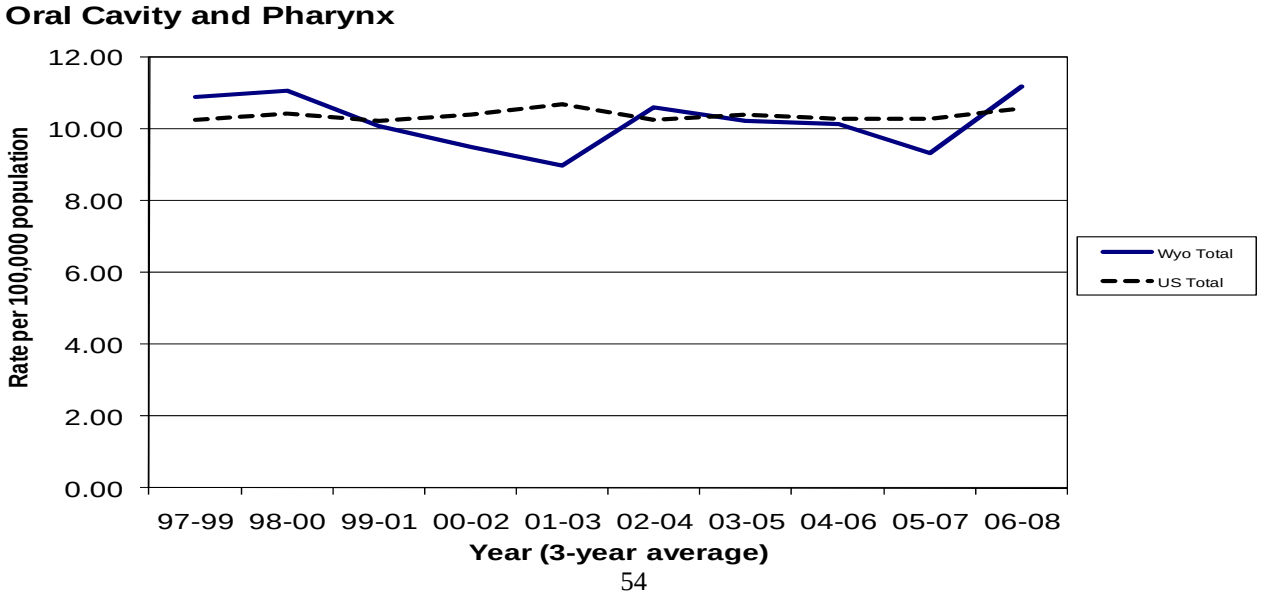
Incidence and mortality rates for cancer of the oral cavity and pharynx in Wyoming females were lower than the national rate, while rates for males and total population were higher. None of the differences were statistically significant.

The incidence trend shows a steeper increase from 05-07 to 06-08. Nationally, the trend has been basically level since 02-04.

Significantly fewer cases were diagnosed as un-staged in 2008 than in 2007 (9%). The percentages in the other stages were similar to the percentages seen in 2007.

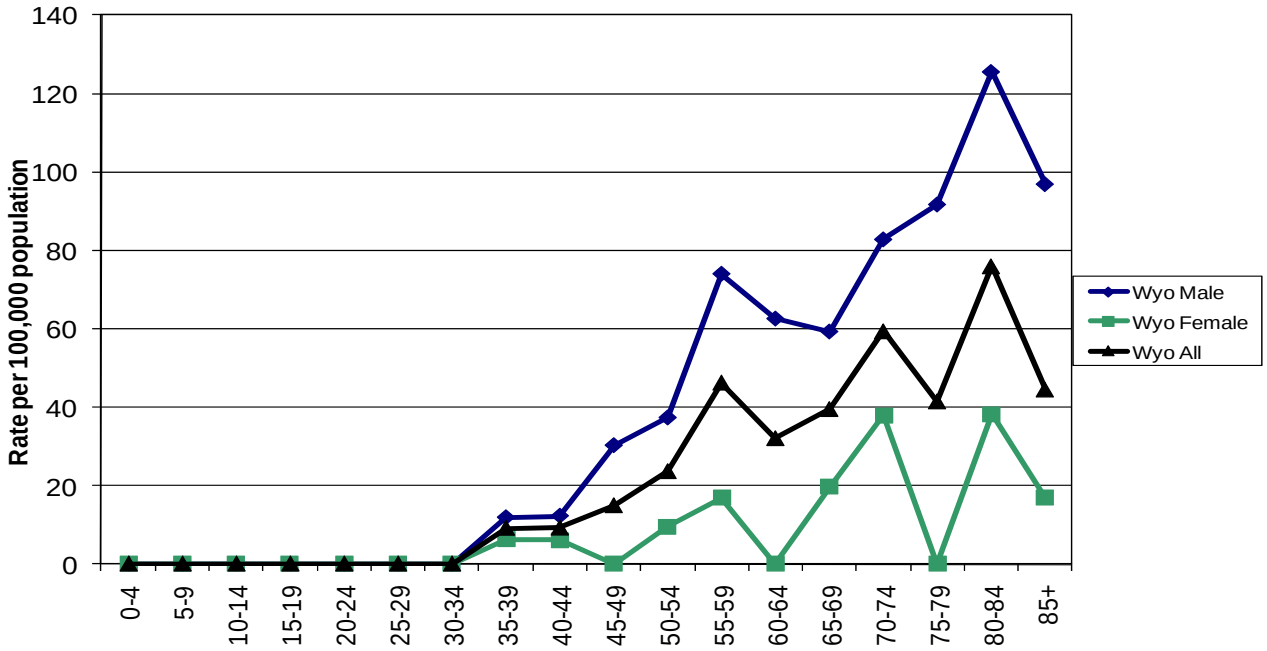
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



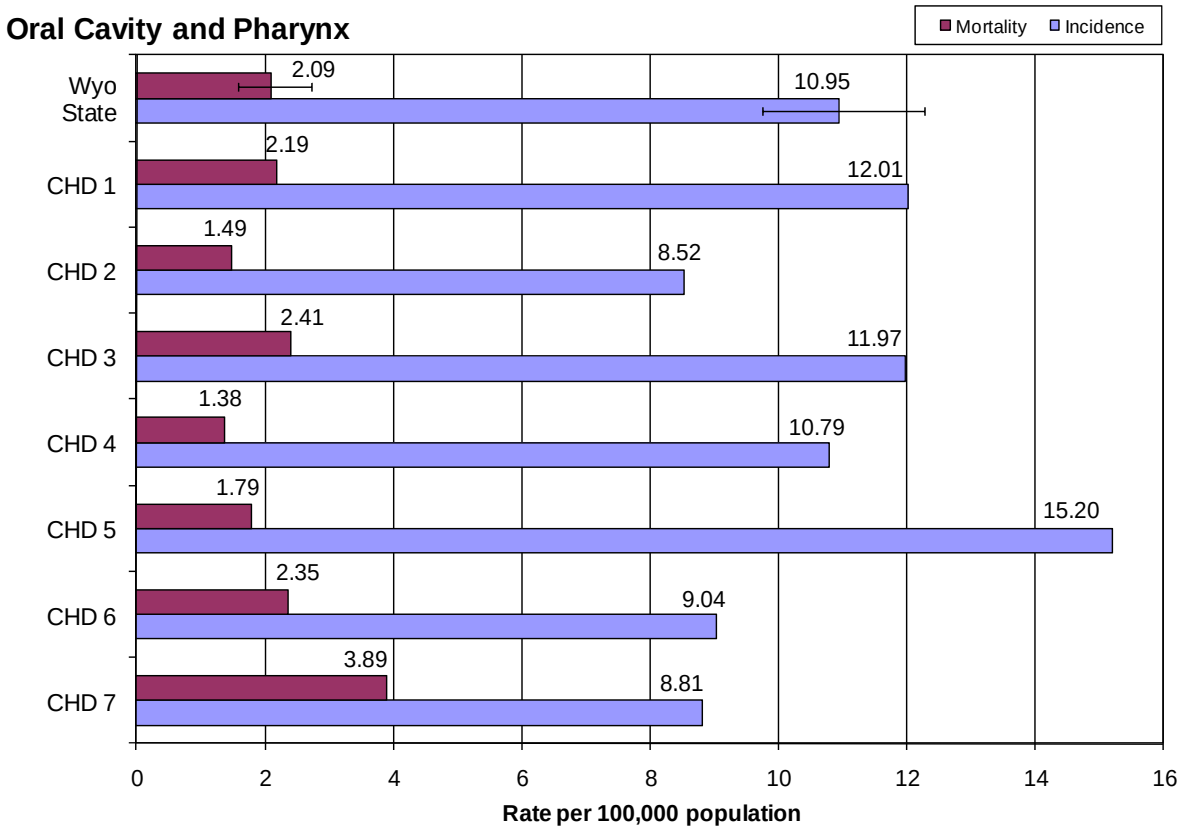
Age-Specific Incidence Rates - 2008

Oral Cavity and Pharynx



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Oral Cavity and Pharynx



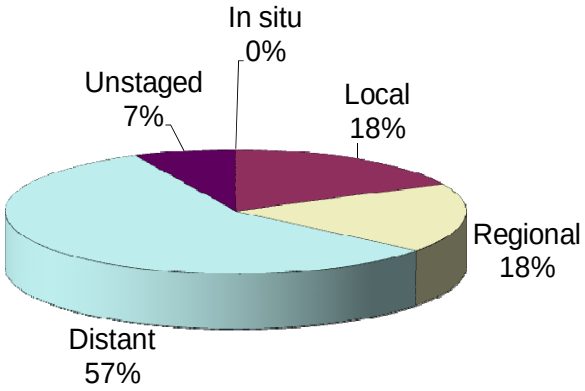
Ovary

Incidence and Mortality Summary

	Female
# Invasive Cases	29
WY Incidence	10.0
US Incidence	12.9
# Cancer Deaths	18
WY Mortality	5.7
US Mortality	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



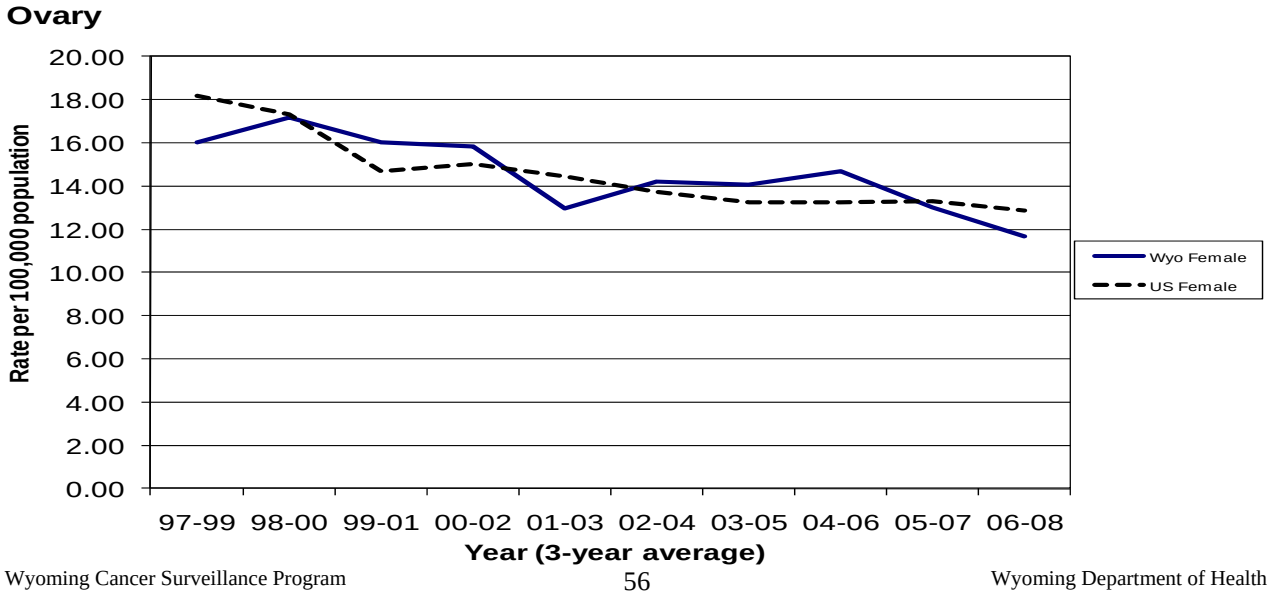
The incidence and mortality rates in Wyoming females for ovarian cancer were lower than the national rates. However, neither difference was statistically significant.

The 12-year incidence trend shows a steep decrease starting in 04-06. The national rate appears to also be in a decline, though not as dramatic.

The percentages at each stage in 2008 were similar to the percentages seen in 2007.

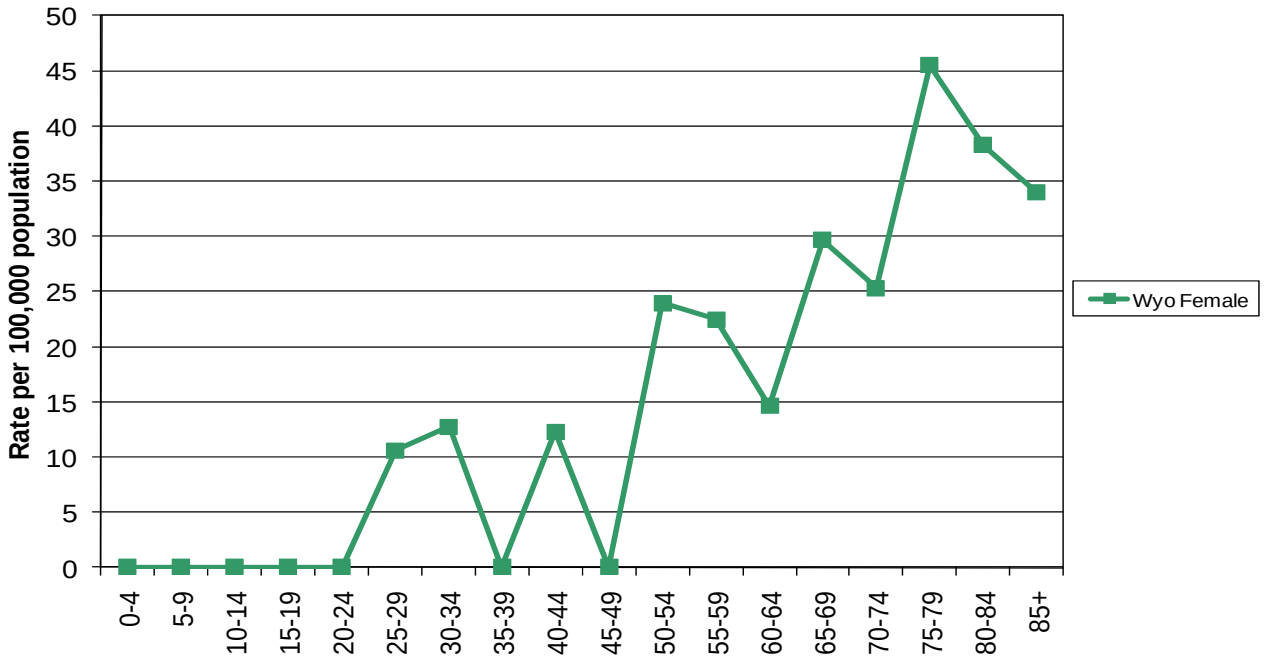
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



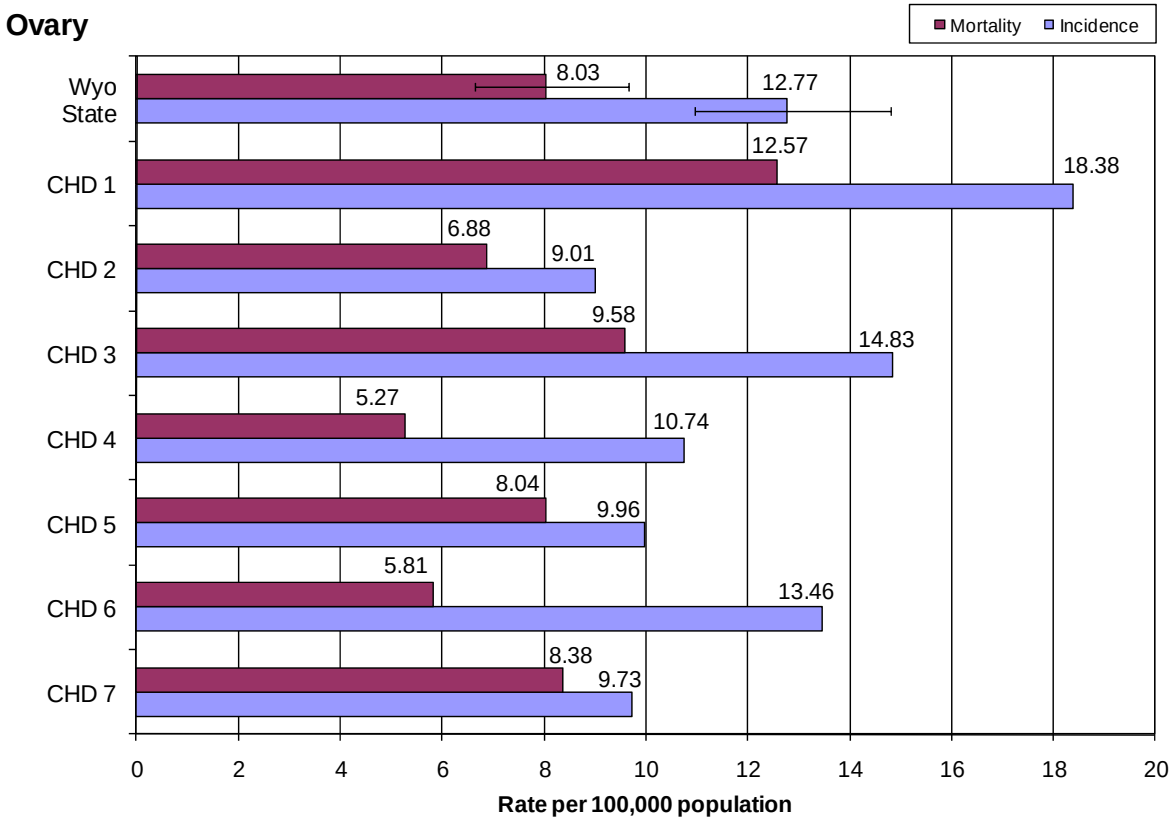
Age-Specific Incidence Rates - 2008

Ovary



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Ovary



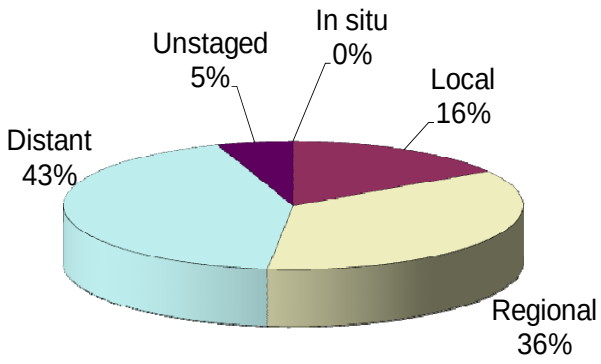
Pancreas

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	33	23	56
WY Incidence	12.2	7.6	9.9
US Incidence	13.3	10.2	11.6
# Cancer Deaths	30	29	59
WY Mortality	10.9	9.8	10.6
US Mortality	12.4	9.1	10.6

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

Stage at Diagnosis



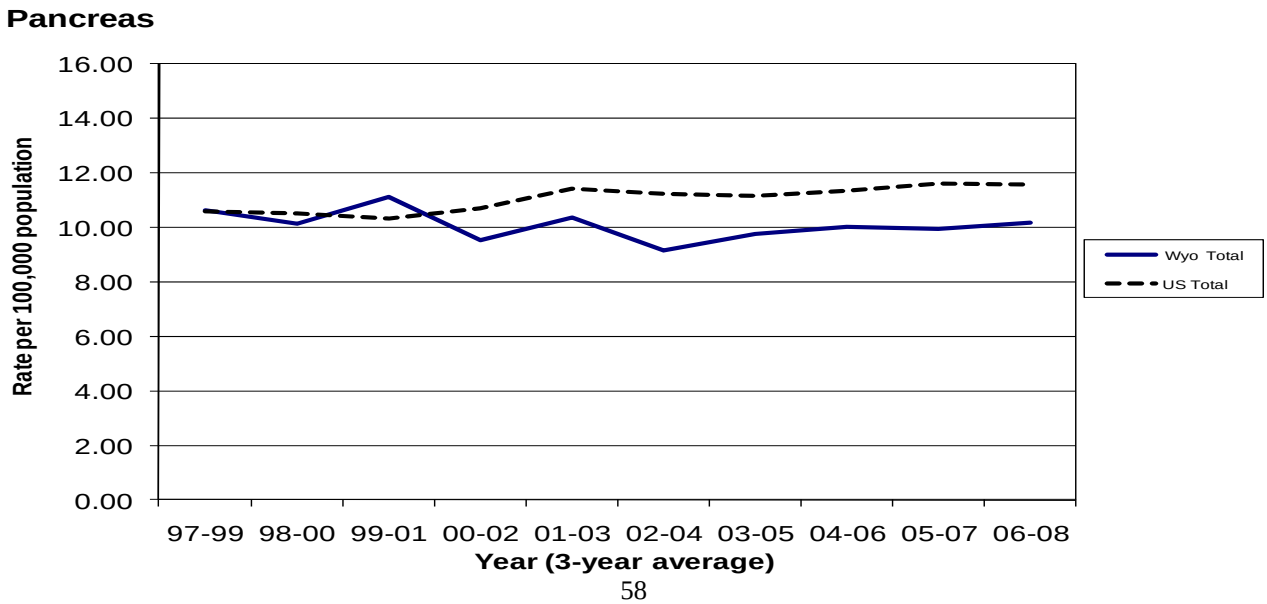
The incidence rates of cancer of the pancreas in Wyoming males, females and the total population were all lower than the national rates. The mortality rate for females was slightly higher, while males mortality rates were lower and the total population rate was the same as the national rate. None of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

Wyoming's trend shows a leveling off from 03-05 to 06-08. The national rate also appears to be maintaining stability since 03-05.

A significantly lower percent of pancreatic cancers were staged as un-staged in 2008 than in 2007 (21%). All other percentages were similar to 2007.

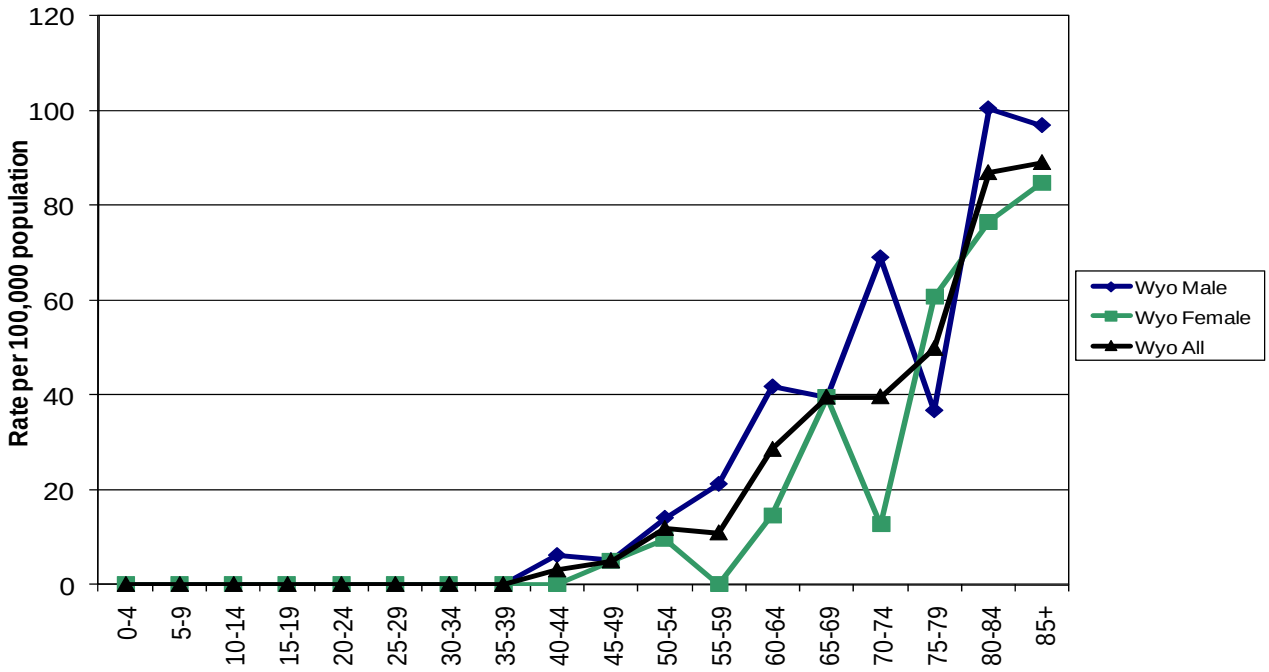
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



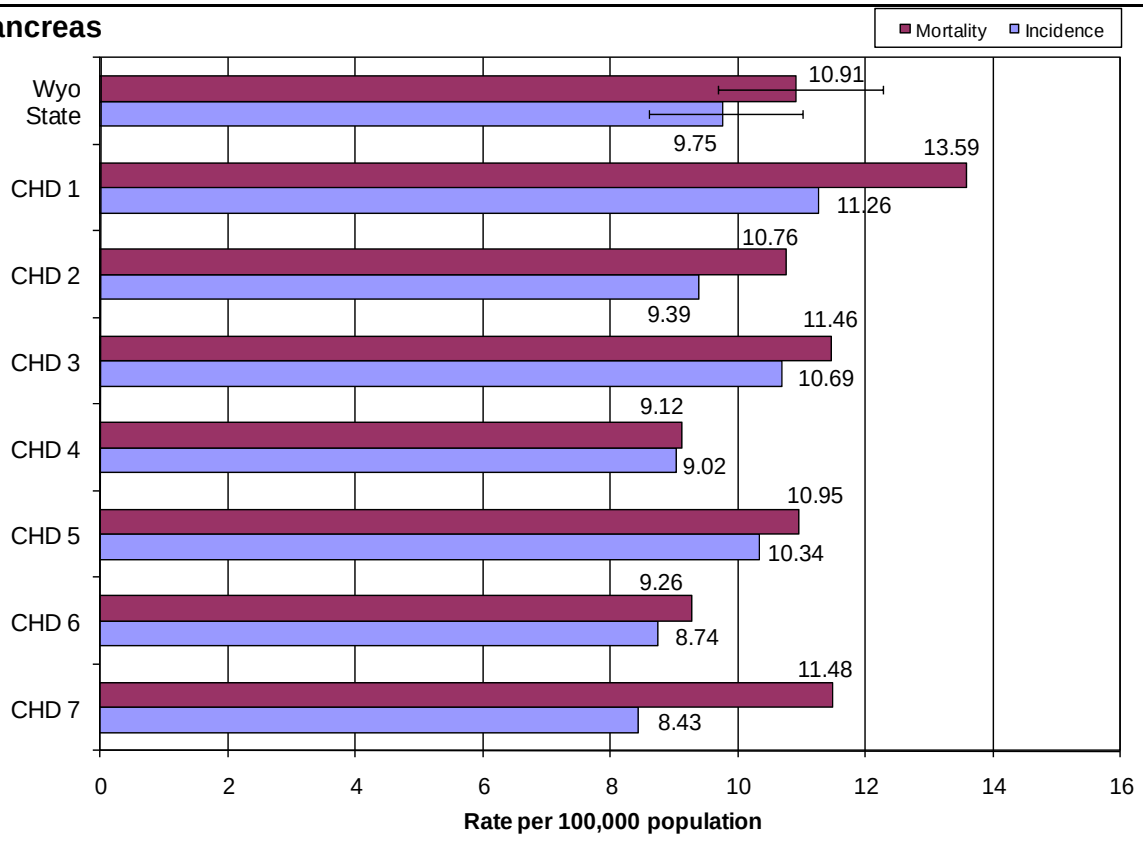
Age-Specific Incidence Rates - 2008

Pancreas



Cancer Health District Incidence and Mortality

Pancreas



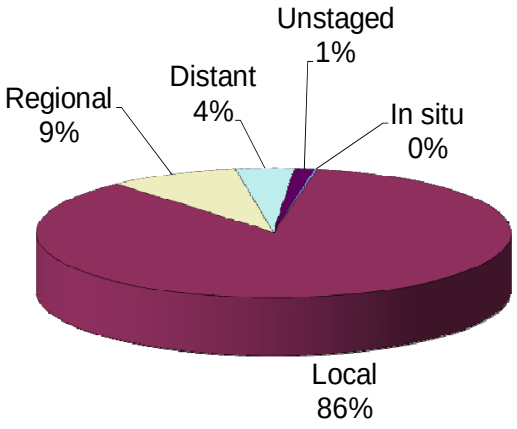
Prostate

Incidence and Mortality Summary

	Male
# Invasive Cases	452
WY Incidence	162.9
US Incidence	151.9
# Cancer Deaths	52
WY Mortality	22.7
US Mortality	21.6

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

Stage at Diagnosis



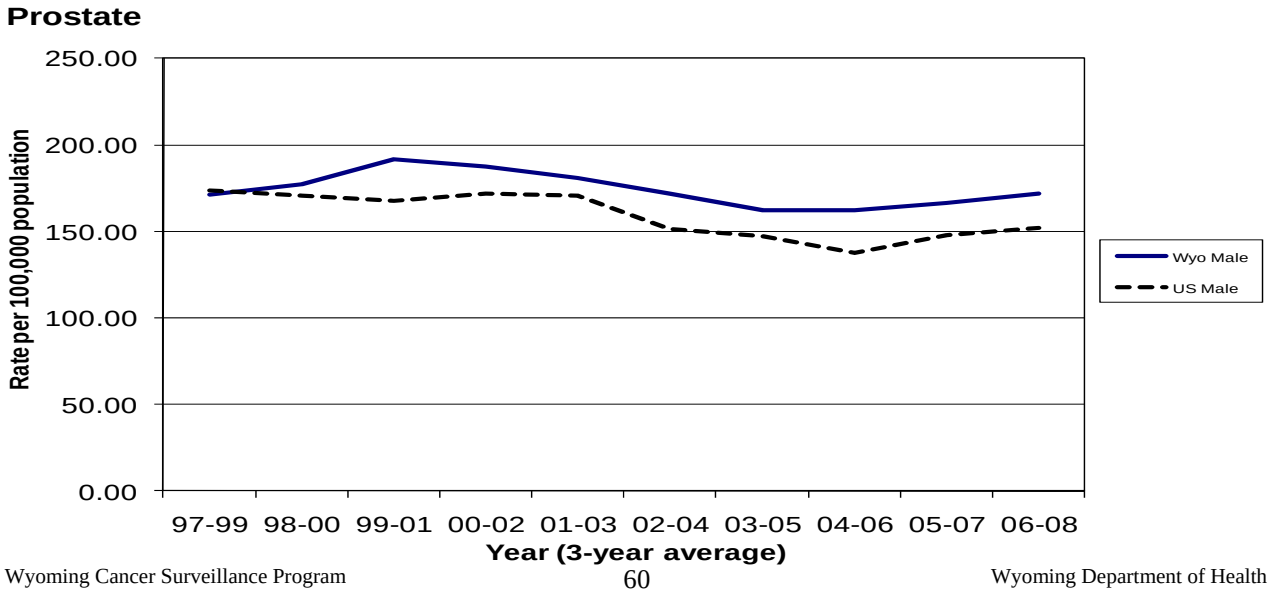
The incidence and mortality rates for prostate cancer in Wyoming males were higher than the national rate; however, these differences were not statistically significant.

The incidence rate that started in in Wyoming men appears to be increasing slightly since 03-05. Similarly, the national rate shows an increase starting in 04-06.

The percent of cases diagnosed at each stage in 2008 is essentially the same as in 2007.

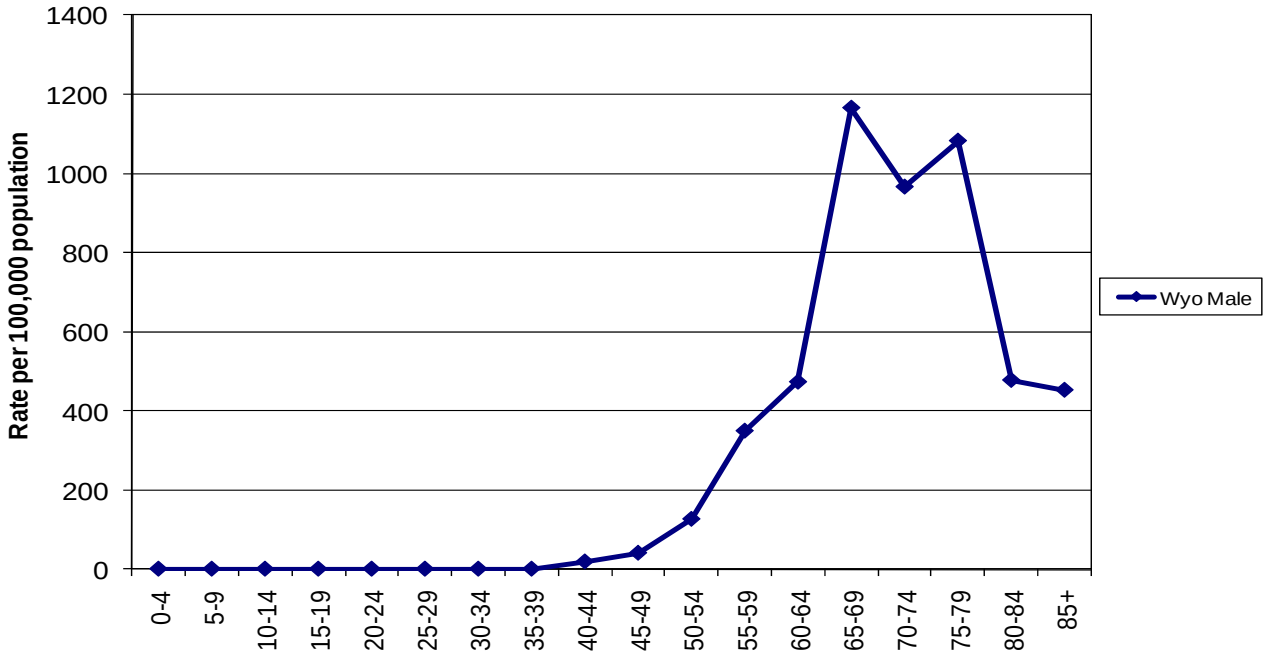
For the first time in many years no statistically significant differences were found between the CHD's rates and state rate for incidence or mortality for prostate cancer.

12-Year Incidence Trend



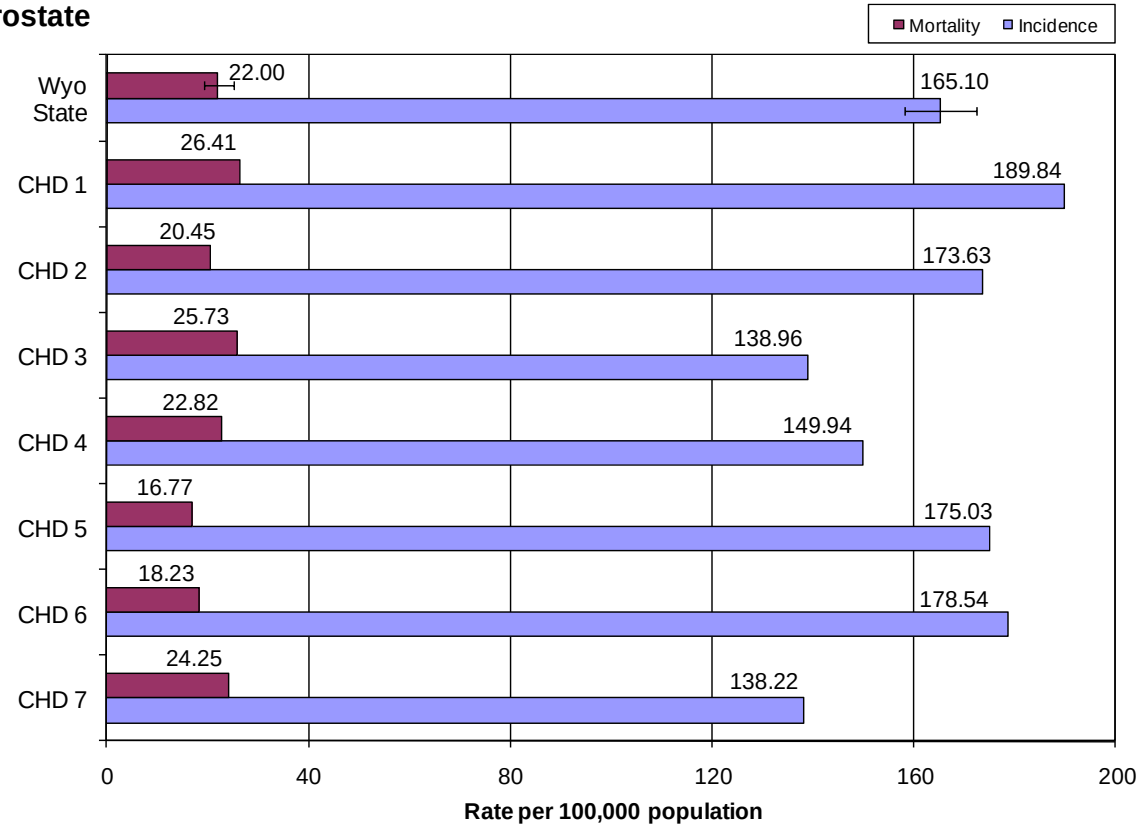
Age-Specific Incidence Rates - 2008

Prostate



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Prostate



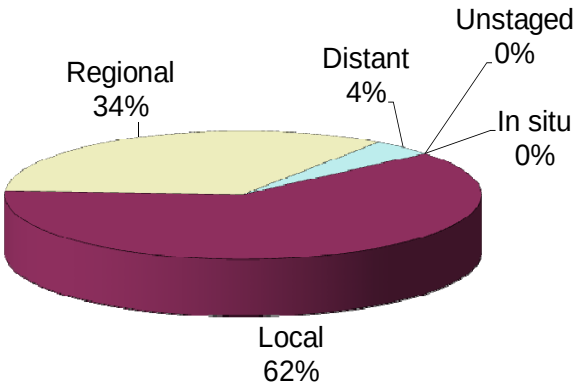
Thyroid

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	21	50	71
WY Incidence	7.8	18.7	13.1
US Incidence	5.9	18.0	11.9
# Cancer Deaths	0	5	5
WY Mortality	NC	1.7	0.9
US Mortality	0.5	0.5	0.5

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

Stage at Diagnosis



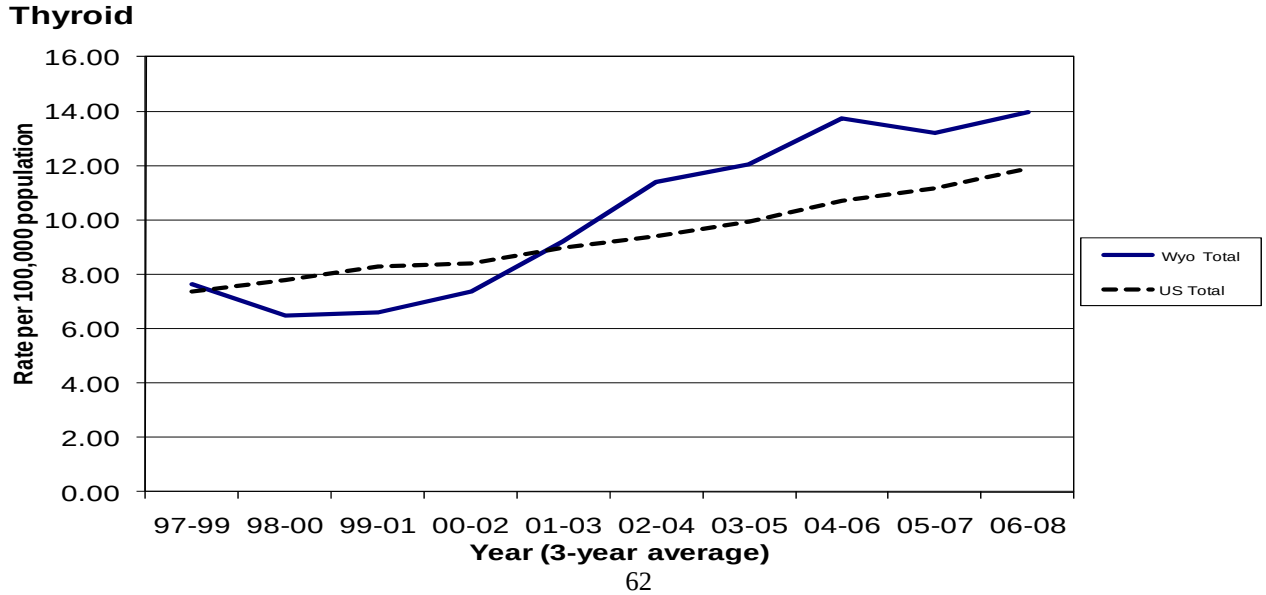
Incidence rates for thyroid cancer in Wyoming were higher than the national rates for males, females, and total population; however, the differences were not statistically significant. Due to low numbers of deaths, mortality rates were not compared to the national rates.

The trend for thyroid cancer in Wyoming shows an potential increase after a slight decrease from 04-06 to 05-07. The national rate continues an increasing trend that started in 97-99.

The percentage of cases diagnosed at the local stage was lower in 2008 than 2007 (72%), although this difference was not significant. The percentages for the other stages were very similar to the percentages seen in 2007.

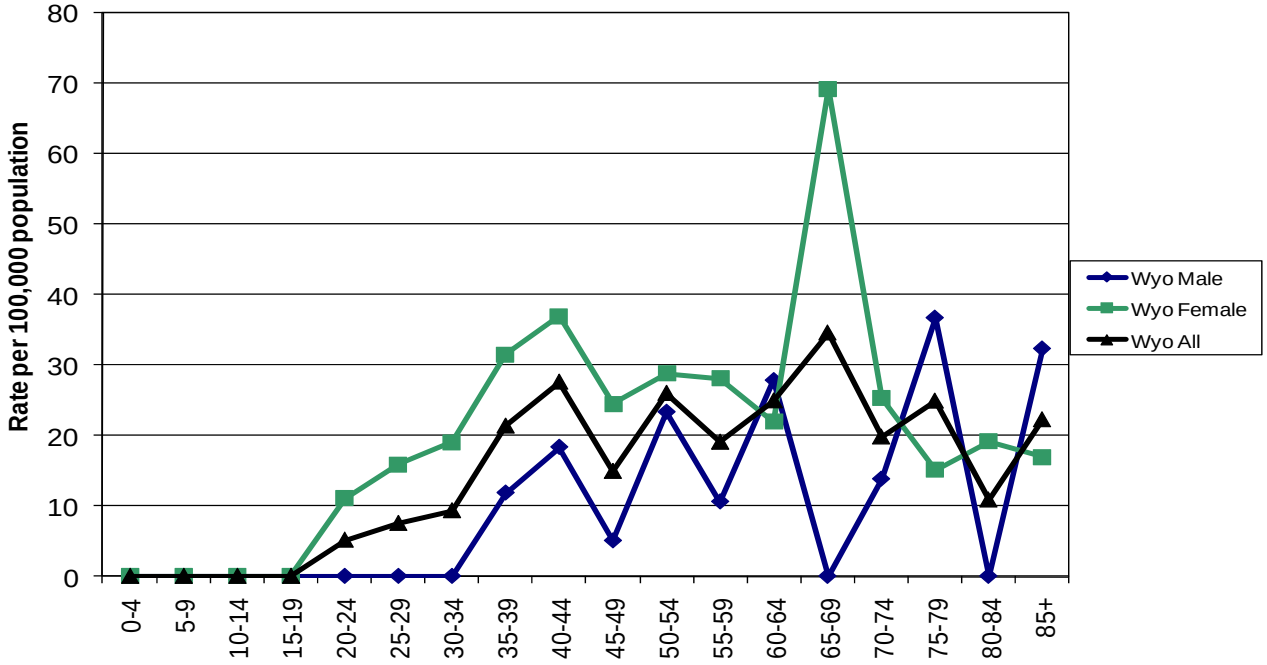
No statistically significant differences were found between the CHD's rates and state rate for incidence. Only one region reported more than 5 deaths due to thyroid cancer from 2004-2008.

12-Year Incidence Trend



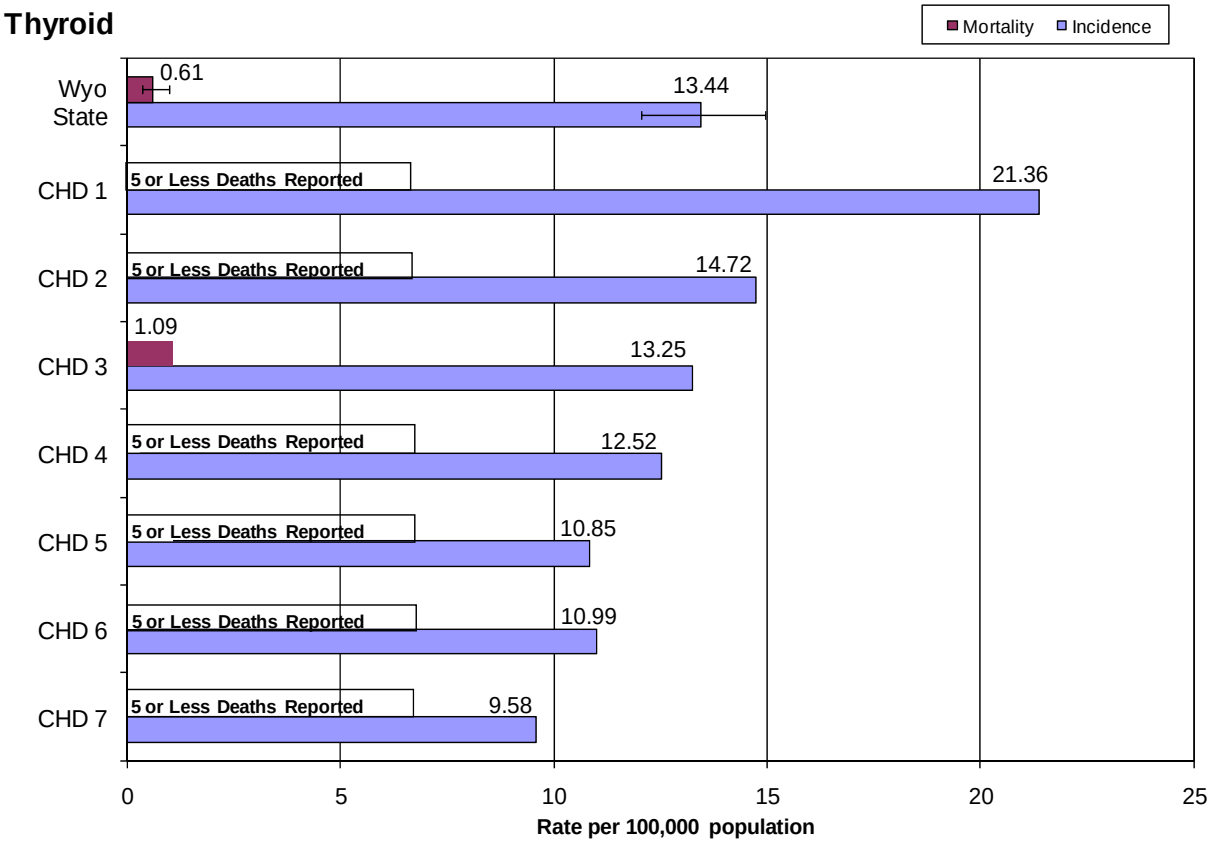
Age-Specific Incidence Rates - 2008

Thyroid



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Thyroid



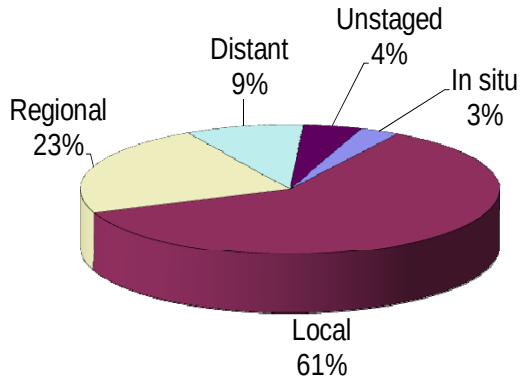
Uterine (Corpus Uteri & Uterus)

Incidence and Mortality Summary

	Female
# Invasive Cases	63
WY Incidence	20.5
US Incidence	24.7
# Cancer Deaths	10
WY Mortality	3.3
US Mortality	3.9

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

Stage at Diagnosis



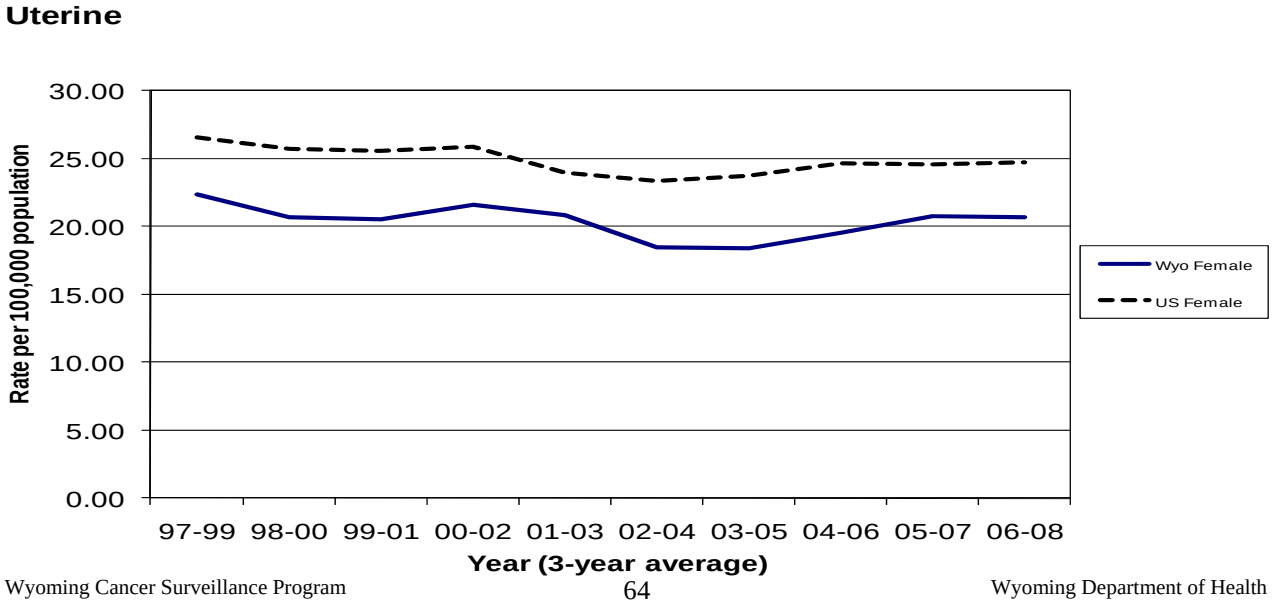
The incidence and mortality rate in Wyoming females for uterine cancer were lower than the national rate, though not significantly.

The Wyoming incidence rate is possibly leveling off after a increase from 03-05 to 05-07. The national trend has been level since 04-06.

Significantly fewer cases of uterine cancer were staged as un-staged in 2008 than in 2007 (16%). There were no other significant difference in the percentages of each stage as compared to 2007.

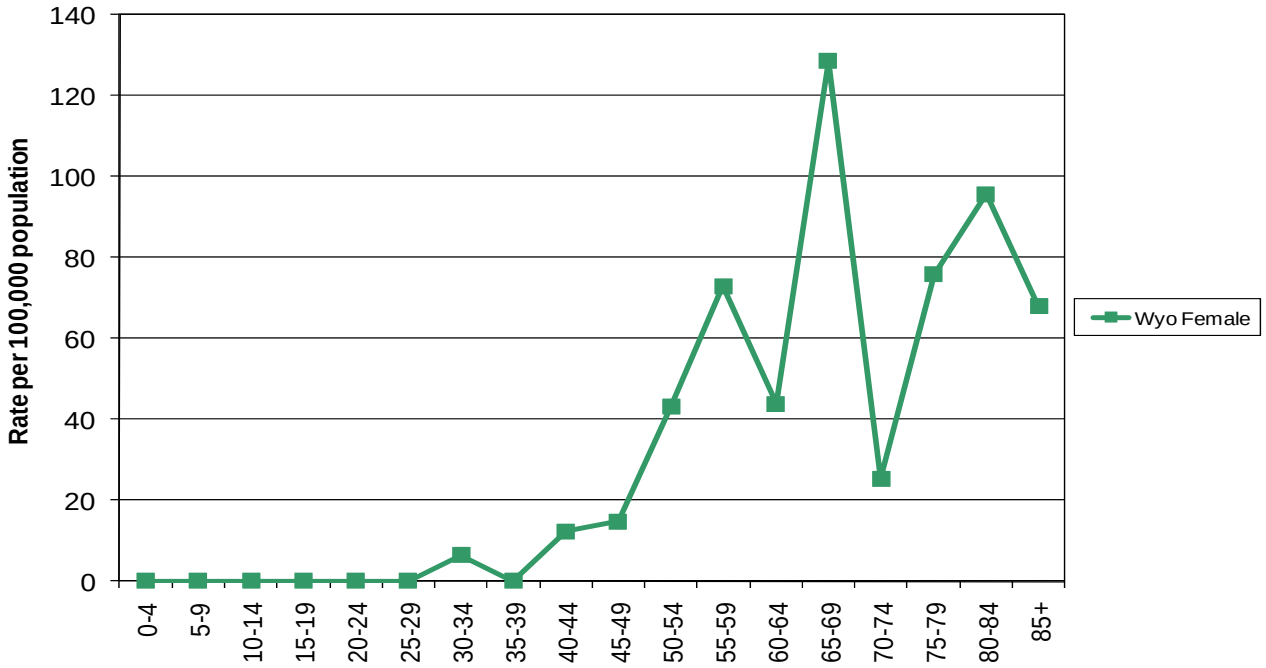
No statistically significant differences were found between the CHD's rates and the state rate for incidence or mortality.

12-Year Incidence Trend



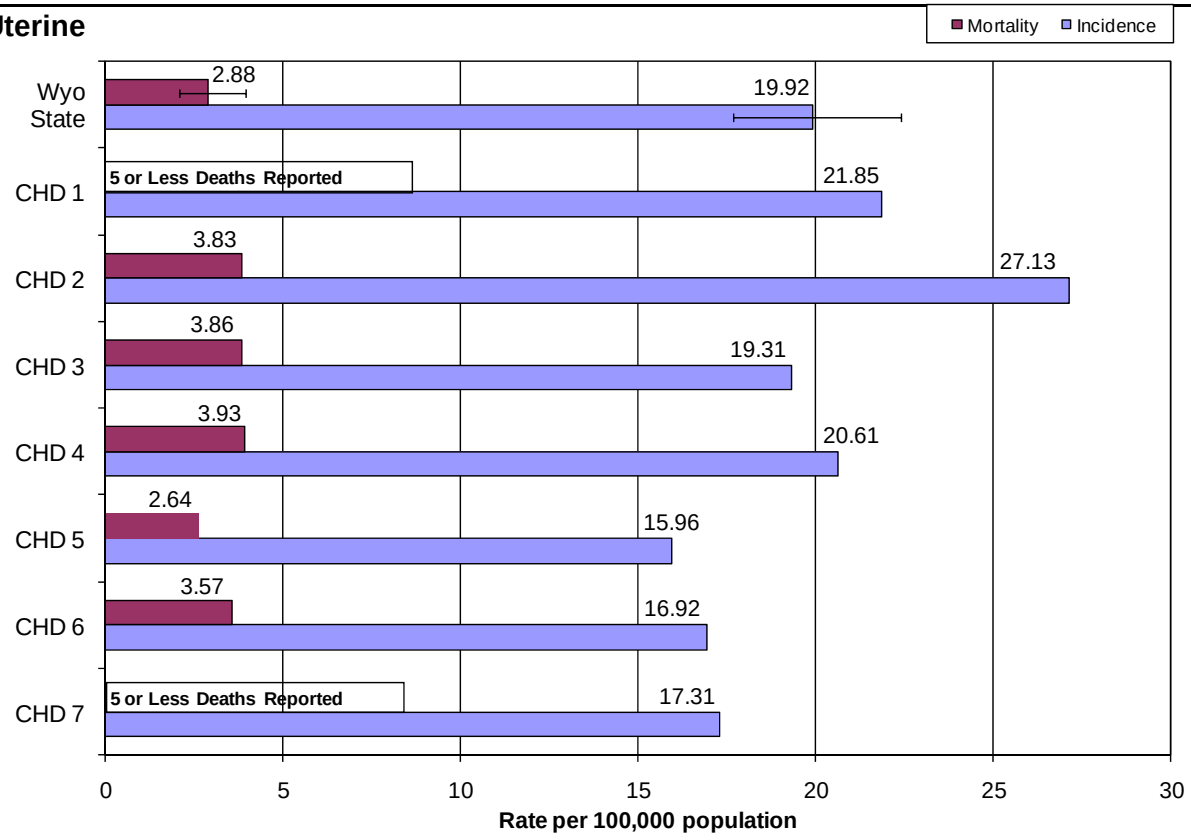
Age-Specific Incidence Rates - 2008

Uterine



Cancer Health District Incidence and Mortality
5-Year Average, 2004-2008

Uterine



Appendix A

References

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

Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 17 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2009 Sub (2000-2007) <Katrina/Rita Population Adjustment> - Linked To County Attributes - Total U.S., 1969-2007 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2010, based on the November 2009 submission.

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

Age-Adjustment

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

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

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

Chart A:

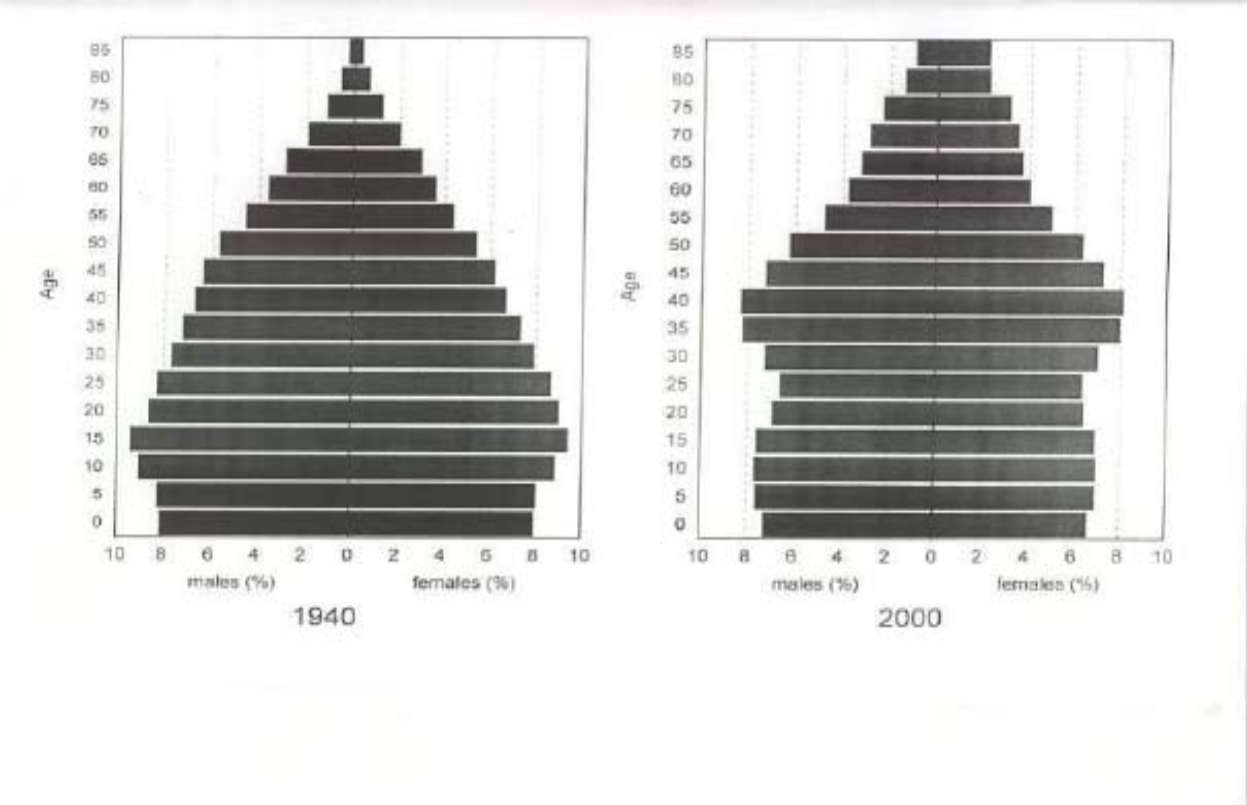
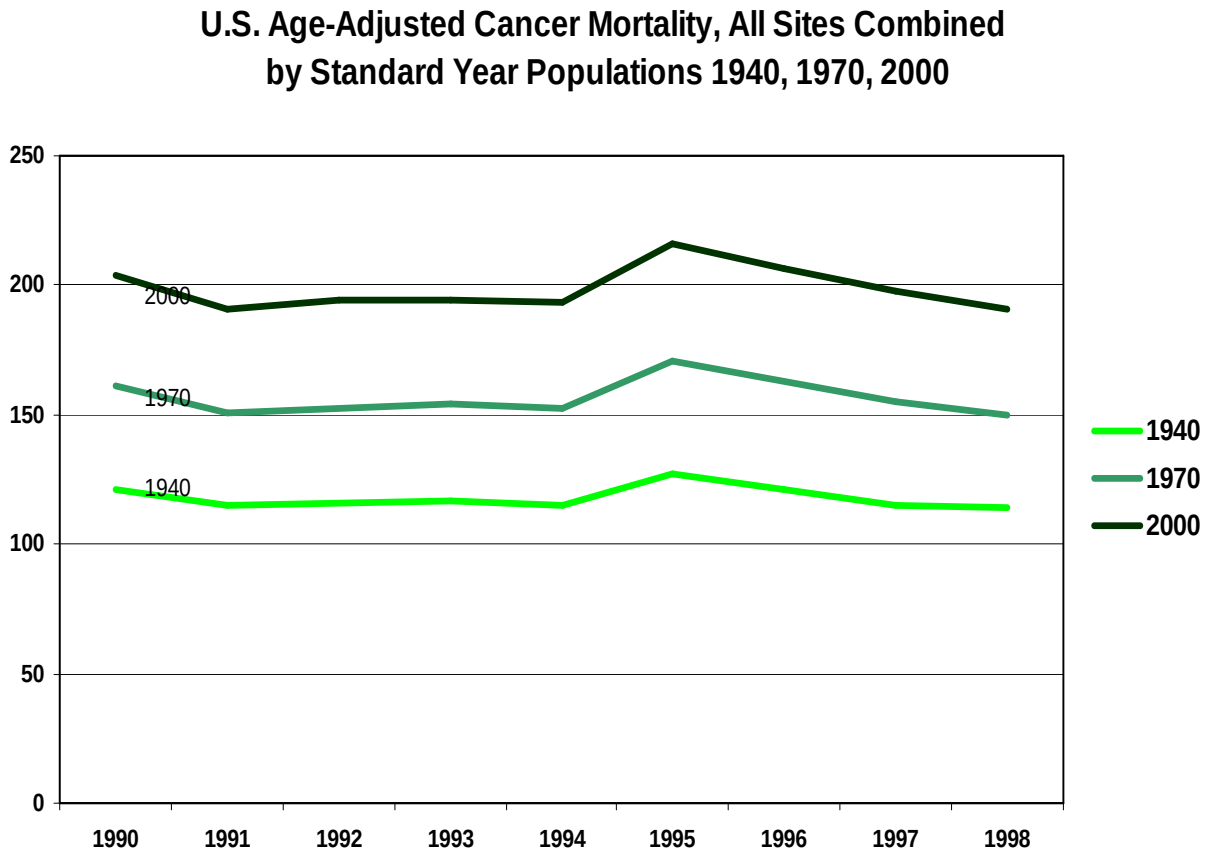


Chart B:


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