

State of Wyoming



Department of Health

Annual Report on Cancer in Wyoming - 2011

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Director

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Annual Report on Cancer in Wyoming—2011

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Executive Summary

In general, the cancer rates (incidence and mortality) in Wyoming continue to be lower than the comparable national rates. The incidence rates for all sites and lung cancer in Wyoming males and total population were the only rates that were significantly different from the national rates. The incidence rate for all cancer sites combined for Wyoming in 2011 (403.3/100,000) was down from 2010 (444.2/100,000). The 2011 mortality rate for all cancers in Wyoming (154.8/100,000) was also lower than the mortality rate in 2010 (165.0/100,000).

The top five cancer sites for incidence in 2010 were: prostate, female breast, lung/bronchus, colorectal and bladder. The most common cancers for incidence by age group were melanoma (25-29 years); thyroid (30-39 years); breast cancer (40-54 years); prostate (55-79 years); lung (80-84 years); and colorectal cancer (85+ years).

The top five cancer sites for mortality were lung, colorectal, ill-defined, breast cancer, and cancer of the pancreas. The most common cancers associated with mortality by age group were melanoma (35-39 years); breast cancer (40-44 years); and lung cancer (45-85+ years). There were fewer than two deaths per cancer site for all age groups from 0 to 34 years.

The 5-year (60 months) survival rate in all Wyoming cancer patients is quite good at 66.40%. This means that just over sixty-six percent of all cancer patients in Wyoming are alive five years after diagnosis. Prostate cancer (99.90%) and cancer of the thyroid (95.60%) continue to have the highest survival rates among Wyoming residents. The survival rates for cancer of the pancreas (3.80%) and lung cancer (15.70%) are the lowest among Wyoming residents. Additionally, children/adolescents (00-19 years) have an excellent 5-year overall survival rate at 84.7%.

Note: Basal and squamous cell carcinoma, and in situ cervical cancer are not included in the calculation of All Sites Cancer incidence and Mortality rates.

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 lifestyles (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 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 Wyoming Department of Health (WDH), 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 WDH 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 Screening Program. Outside of the WDH, the data is used by physicians, hospital administrators, legislators, non-profit organizations, and the general public. Anyone with a concern about cancer or who would like more information about cancer in a community, should call the Wyoming Cancer Surveillance Program's Epidemiologist at 307-777-8654. Written correspondence should be addressed to 6101 Yellowstone Rd., Suite 510, Cheyenne, WY 82002. Information is also available at: <http://www.health.wyo.gov/PHSD/wcsp/index.html> .

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 2011 except for the 12-year incidence trend, which used 3-year averages (e.g., 01-03 for 2002 or 05-07 for 2006). 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 2011 cancer cases of Wyoming residents received by WCSP as of June 1, 2013.

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 2010 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 2010 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 U.S. Centers for Disease Control and Prevention (CDC), 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 2010 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 2010 by sex, age, 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 2011 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 skin cancer
- 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 defined as “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 WDH Chronic Disease Epidemiologist at (307) 777-8654.

Confidence Intervals

A confidence interval indicates the confidence level in the accuracy of a cancer rate. For example, if you 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 you are 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 may in fact be correct, but you 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

<u>In Situ</u>	cancer has not invaded the organ.
<u>Local Stage</u>	cancer has invaded the organ of origin.
<u>Regional Stage</u>	cancer has invaded beyond the organ of origin by direct extension to adjacent organs/tissues and/or regional lymph nodes.
<u>Distant Stage</u>	direct extension beyond adjacent organs or tissues or metastases to distant site(s) or distant lymph nodes.
<u>Unstaged</u>	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 (CHDs) 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 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

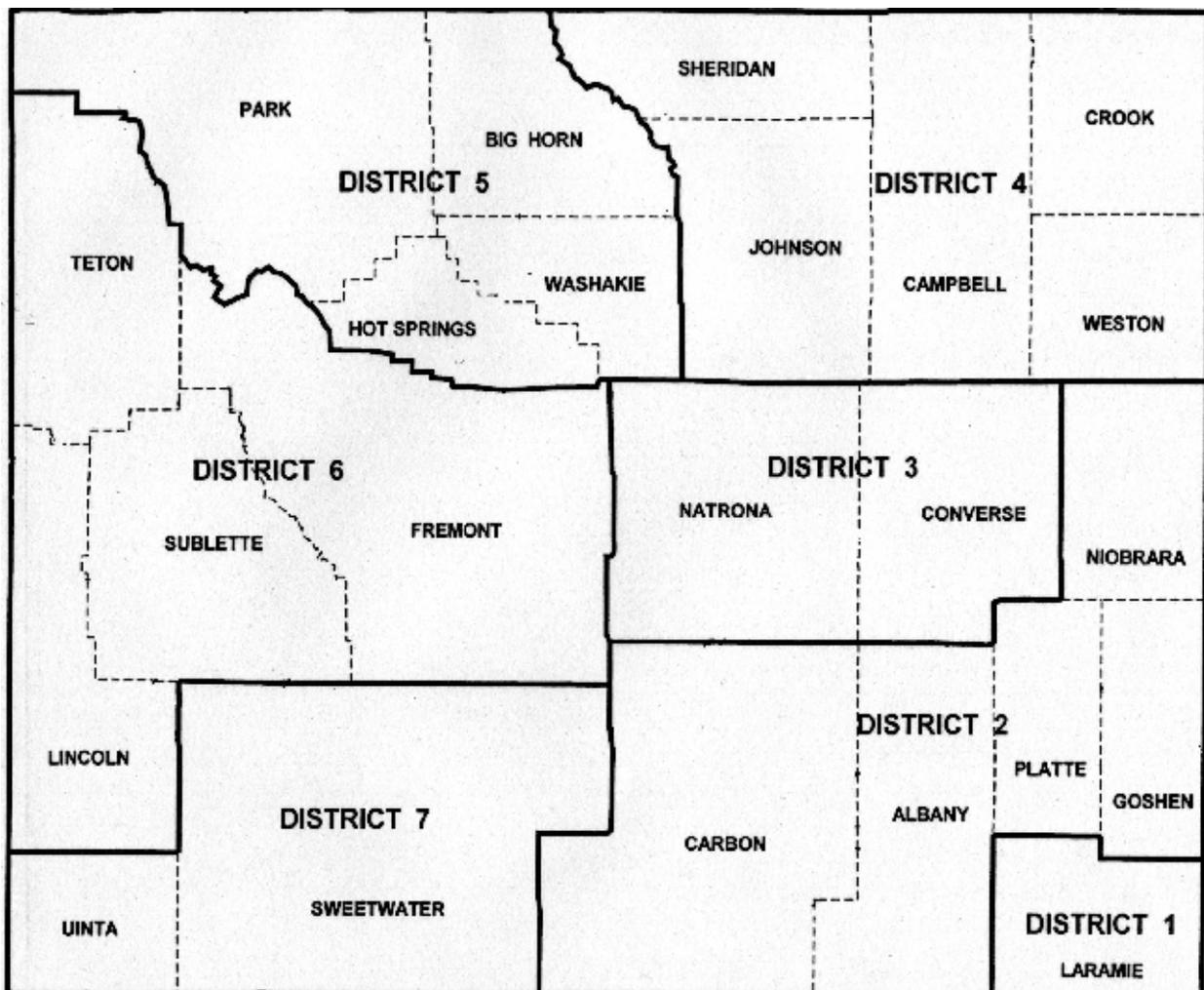
CHD 3 Converse County, Natrona County

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 - 2011

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

Wyoming Incidence¹ for 2011: 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	6	9	0	0	0	0	0	0	0
Bladder w/ in situ	107	38	145	0	0	0	0	0	0	1
Bones and Joints	4	2	6	0	0	0	1	1	0	0
Brain	20	13	33	1	0	0	1	0	1	1
Breast	4	356	360	0	0	0	1	0	2	3
Cervix	0	28	28	0	0	0	0	1	3	4
Colorectal	114	92	206	0	0	0	1	1	2	1
Esophagus	27	2	29	0	0	0	0	0	0	0
Eye	4	2	6	2	0	0	0	0	0	0
Gallbladder	2	1	3	0	0	0	0	0	0	0
Hodgkin	5	6	11	0	1	1	0	1	1	0
Ill-Defined	58	46	104	1	0	0	0	0	1	0
Kidney	60	44	104	2	0	0	0	0	0	1
Larynx	15	6	21	0	0	0	0	0	0	0
Leukemia	46	19	65	1	3	0	1	1	1	1
Liver	18	7	25	0	0	0	0	0	0	0
Lung	130	123	253	0	0	0	0	0	1	0
Melanoma	68	43	111	0	0	0	0	2	5	4
Myeloma	19	15	34	0	0	0	0	0	0	0
Nasal	1	3	4	0	0	0	0	0	0	1
Non-Hodgkin Lymphoma	55	35	90	0	0	0	1	1	1	0
Oral Cavity	45	23	68	0	0	0	0	0	0	1
Other Biliary	4	2	6	0	0	0	0	0	0	0
Other Digestive	2	5	7	0	0	0	0	0	0	0
Other Endocrine	1	3	4	0	1	0	0	0	0	0
Other Female	0	12	12	0	0	0	0	0	1	0
Other Male	5	0	5	0	0	0	0	0	0	0
Other Skin	9	0	9	0	0	0	0	0	0	0
Other Respiratory	1	1	2	0	0	0	0	1	0	0
Other Urinary	5	3	8	0	0	0	0	0	0	0
Ovary	0	35	35	0	0	0	0	0	0	0
Pancreas	26	26	52	0	0	0	0	0	0	0
Prostate	379	0	379	0	0	0	0	0	0	0
Small Intestine	10	3	13	0	0	0	0	0	0	1
Soft Tissue including Heart	21	7	28	0	1	0	0	1	2	2
Stomach	24	10	34	0	0	0	0	0	0	1
Testis	20	0	20	0	0	0	0	2	3	3
Thyroid	16	64	80	0	0	0	0	2	5	6
Uterine	0	68	68	0	0	0	0	0	0	0
Mesothelioma	8	2	10	0	0	0	0	0	0	0
All Sites	1,336	1,151	2,487	7	6	1	6	14	29	31

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	2	2	2	0	0	1	0	1	1
Bladder w/ in situ	1	2	3	4	16	17	24	26	25	15	11
Bones and Joints	1	0	0	0	0	0	1	1	0	0	1
Brain	1	3	1	1	3	4	3	7	4	2	0
Breast	5	19	25	47	52	48	50	38	35	17	18
Cervix	3	1	3	4	2	2	3	1	1	0	0
Colorectal	3	4	10	18	19	26	34	19	27	21	20
Esophagus	0	0	0	3	6	4	8	4	2	2	0
Eye	0	0	0	0	0	0	1	0	0	2	1
Gallbladder	0	0	0	0	0	1	1	0	1	0	0
Hodgkin	0	0	1	1	0	1	4	0	0	0	0
Ill-Defined	0	1	4	12	8	9	10	13	17	11	17
Kidney	3	4	6	4	11	20	15	15	12	8	3
Larynx	0	0	2	3	3	4	3	2	0	2	2
Leukemia	1	1	4	7	6	10	7	6	5	3	7
Liver	0	1	2	2	6	6	1	0	2	4	1
Lung	1	3	6	13	22	32	36	42	44	35	18
Melanoma	5	5	6	13	18	9	6	9	12	7	10
Myeloma	0	0	1	2	3	5	6	5	3	8	1
Nasal	0	0	1	0	0	0	1	0	0	1	0
Non-Hodgkin Lymphoma	3	2	3	5	7	10	15	12	11	13	6
Oral Cavity	1	1	4	11	8	12	13	8	4	2	3
Other Biliary	0	0	0	1	1	2	0	2	0	0	0
Other Digestive	0	0	0	0	1	1	1	1	1	0	2
Other Endocrine	0	0	0	0	0	0	0	2	1	0	0
Other Female	0	1	0	0	1	2	2	3	0	2	0
Other Male	0	0	0	0	0	3	0	2	0	0	0
Other Skin	0	0	0	1	1	0	0	1	1	1	4
Other Respiratory	0	0	0	0	0	0	1	0	0	0	0
Other Urinary	0	0	0	0	0	0	3	3	0	2	0
Ovary	0	3	2	2	5	5	3	5	5	4	1
Pancreas	0	1	1	1	7	8	12	5	4	7	6
Prostate	0	1	3	28	59	76	80	55	45	22	10
Small Intestine	1	0	0	1	1	4	2	1	1	0	1
Soft Tissue including Heart	0	1	1	3	3	3	3	2	3	2	1
Stomach	0	1	3	3	2	4	4	5	3	5	3
T... ..	0	0	0	0	0	0	0	1	0	0	0

Wyoming Mortality¹ for 2011: Deaths by Gender and Age (All Sites)

	Male	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	0	3	3	0	0	0	0	0	0	0
Bladder w/ in situ	20	9	29	0	0	0	0	0	0	0
Bones and Joints	2	0	2	0	0	0	1	0	0	0
Brain	18	13	31	1	0	0	1	0	0	0
Breast	0	69	69	0	0	0	0	0	0	0
Cervix	0	6	6	0	0	0	0	0	0	0
Colorectal	57	29	86	0	0	0	0	0	0	1
Esophagus	29	7	36	0	0	0	0	0	0	0
Eye	0	2	2	0	0	0	0	0	0	0
Gallbladder	0	1	1	0	0	0	0	0	0	0
Hodgkin	0	1	1	0	0	0	0	0	0	1
Ill-Defined	43	34	77	0	0	0	0	0	0	0
Kidney	11	5	16	0	0	0	0	0	0	0
Larynx	4	0	4	0	0	0	0	0	0	0
Leukemia	30	18	48	0	0	0	0	0	1	1
Liver	12	6	18	0	0	0	0	0	0	0
Lung	133	92	225	0	0	0	0	0	0	0
Melanoma	13	10	23	0	0	0	0	0	0	0
Myeloma	12	11	23	0	0	0	0	0	0	0
Nasal	2	0	2	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	14	15	29	0	0	0	0	0	0	0
Oral Cavity	15	5	20	0	0	0	0	0	0	0
Other Biliary	5	4	9	0	0	0	0	0	0	0
Other Digestive	0	3	3	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	1	0	1	0	0	0	0	0	0	0
Other Skin	3	0	3	0	0	0	0	0	0	0
Other Respiratory	1	0	1	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0
Ovary	0	16	16	0	0	0	0	0	0	0
Pancreas	24	24	48	0	0	0	0	0	0	0
Prostate	47	0	47	0	0	0	0	0	0	1
Small Intestine	0	0	0	0	0	0	0	0	0	0
Soft Tissue including Heart	4	4	8	0	0	0	0	0	0	0
Stomach	10	2	12	0	0	0	0	0	0	0
Testis	0	0	0	0	0	0	0	0	0	0
Thyroid	0	3	3	0	0	0	0	0	0	0
Uterine	0	11	11	0	0	0	0	0	0	0
Mesothelioma	9	3	12	0	0	0	0	0	0	0
All Sites	520	409	929	1	0	0	2	0	1	4

¹See page 10 for definition of mortality.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	0	0	0	1	1	1	0	0	0	0
Bladder w/ in situ	1	0	1	0	1	4	4	3	2	5	8
Bones and Joints	0	0	0	0	0	0	0	0	1	0	0
Brain	0	0	2	2	2	4	8	5	2	3	1
Breast	0	4	4	6	8	6	7	8	7	4	15
Cervix	1	0	0	2	0	0	1	1	0	0	1
Colorectal	0	1	2	6	7	15	7	13	10	13	11
Esophagus	1	0	2	3	4	3	8	4	6	2	3
Eye	0	0	0	0	0	0	1	1	0	0	0
Gallbladder	0	0	0	0	0	0	0	0	1	0	0
Hodgkin	0	0	0	0	0	0	0	0	0	0	0
III-Defined	1	1	1	4	3	11	8	14	13	10	11
Kidney	0	0	0	0	2	3	2	4	1	2	2
Larynx	0	0	0	1	0	0	0	0	1	2	0
Leukemia	0	0	1	1	2	4	9	4	5	12	8
Liver	0	0	1	2	1	6	3	1	0	3	1
Lung	1	0	5	7	16	23	30	30	41	39	33
Melanoma	2	1	1	1	5	1	2	2	3	2	3
Myeloma	0	1	0	0	2	3	2	5	3	2	5
Nasal	0	0	0	0	0	2	0	0	0	0	0
Non-Hodgkin Lymphoma	0	1	0	0	1	3	3	6	3	7	5
Oral Cavity	0	0	2	1	3	5	4	0	2	0	3
Other Biliary	0	1	1	0	1	1	1	0	0	3	1
Other Digestive	0	0	0	0	0	1	0	1	0	0	1
Other Endocrine	0	0	1	0	0	0	0	0	0	0	0
Other Female	0	1	0	0	0	1	0	0	0	0	1
Other Male	0	0	0	0	0	0	1	0	0	0	0
Other Skin	0	0	0	0	0	0	0	1	0	0	2
Other Respiratory	0	0	0	0	0	0	0	0	0	1	0
Other Urinary	0	0	0	0	0	0	0	0	0	0	0
Ovary	0	0	0	4	2	0	1	3	5	0	1
Pancreas	0	2	1	1	6	8	8	6	5	5	6
Prostate	0	0	0	0	0	2	3	7	6	8	20
Small Intestine	0	0	0	0	0	0	0	0	0	0	0
Soft Tissue including Heart	0	0	0	0	2	1	2	0	1	1	1
Stomach	0	0	1	2	0	2	1	1	0	3	2
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	0	1	0	0	0	0	2	0
Uterine	0	0	1	1	1	3	1	2	1	1	0
Mesothelioma	0	0	0	2	0	0	2	1	2	3	2
All Sites	7	13	27	46	71	113	120	123	121	133	147

Wyoming Incidence for 2011: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic/Latino
All Sites	2,491	2,212	7	17	12	1	73
Bladder	145	131	1	0	0	0	5
Brain	33	26	0	0	0	0	0
Breast (Female)	360	343	3	4	3	0	13
Colorectal	206	168	0	5	1	0	5
Kidney	104	95	0	0	0	0	9
Leukemia	65	60	0	0	0	0	6
Lung	253	204	0	1	0	0	4
Melanoma	111	105	0	0	0	0	1
Non-Hodgkin Lymphoma	90	79	0	0	0	0	5
Oral Cavity	68	64	0	1	1	0	1
Ovary	35	29	0	0	0	0	1
Pancreas	52	37	0	0	0	0	2
Prostate	379	364	0	0	2	1	7
Thyroid	80	78	0	0	0	0	1
Uterine	68	64	0	0	1	0	0

Wyoming Mortality for 2011: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic/Latino
All Sites	929	903	7	11	6	2	28
Bladder	29	29	0	0	0	0	1
Brain/CNS	31	31	0	0	0	0	0
Breast (Female)	69	68	0	1	0	0	2
Colorectal	86	80	2	3	1	0	6
Kidney	16	16	0	0	0	0	2
Leukemia	48	48	0	0	0	0	1
Lung	225	213	4	5	1	2	5
Melanoma	23	23	0	0	0	0	0
Non-Hodgkin Lymphoma	29	28	0	0	1	0	1
Oral Cavity	20	19	0	1	0	0	0
Ovary	16	16	0	0	0	0	0
Pancreas	48	48	0	0	0	0	0
Prostate	47	47	0	0	0	0	3
Thyroid	3	3	0	0	0	0	1
Uterine	11	11	0	0	0	0	0

State of Wyoming - 2010

Top Cancer Sites by Gender and Age - Incidence and Mortality

Top Incidence Cancer Sites by Gender - 2011

Total		Male		Female	
Prostate	379	Prostate	379	Breast	356
Breast	360	Lung	130	Lung	123
Lung	253	Colorectal	114	Colorectal	92
Colorectal	206	Bladder	107	Uterine	68
Bladder	145	Melanoma	68	Thyroid	64

Top Incidence Sites by Age (Case count included only if more than 2 cases per cancer)

<u>0-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>20-24</u>	
All Cancers have 2 or less									
<u>25-29</u>		<u>30-34</u>		<u>35-39</u>		<u>40-44</u>		<u>45-49</u>	
Melanoma	5	Thyroid	6	Thyroid	10	Breast	19	Breast	25
Thyroid	5	Cervix	4	Melanoma	5	Thyroid	7	Colorectal	10
Cervix	3	Melanoma	4	Breast	5	Testis	6	Thyroid	7
Testis	3	Breast	3			Melanoma	5		
		Testis	3						
<u>50-54</u>		<u>55-59</u>		<u>60-64</u>		<u>65-69</u>		<u>70-74</u>	
Breast	47	Prostate	59	Prostate	76	Prostate	80	Prostate	55
Prostate	28	Breast	52	Breast	48	Breast	50	Lung	42
Colorectal	18	Lung	22	Lung	32	Lung	36	Breast	38
Melanoma	13	Colorectal	19	Colorectal	26	Colorectal	34	Bladder	26
Lung	13	Melanoma	18	Kidney	20	Bladder	24	Colorectal	19
<u>75-79</u>		<u>80-84</u>		<u>85+</u>					
Prostate	45	Lung	35	Colorectal	20				
Lung	44	Prostate	22	Breast	18				
Breast	35	Colorectal	21	Lung	18				
Colorectal	27	Breast	17	Ill-Defined	17				
Bladder	25	Bladder	15	Bladder	11				

Top Mortality Cancer Sites by Gender - 2011

Total		Male		Female	
Lung	225	Lung	133	Lung	92
Colorectal	86	Colorectal	57	Breast	69
Ill-Defined	77	Prostate	47	Ill-Defined	34
Breast	69	Ill-Defined	43	Colorectal	29
Pancreas	48	Leukemia	30	Pancreas	24

Top Mortality Sites by Age (Mortality count included only if 2 or more cases per cancer)

<u>0-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>20-24</u>	
All Cancers have 1 or less 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	
<u>25-29</u>		<u>30-34</u>		<u>35-39</u>		<u>40-44</u>		<u>45-49</u>	
All Cancers have 1 or less to count		All Cancers have 1 or less to count		Melanoma	2	Breast	4	Lung	5
						Pancreas	2	Breast	4
<u>50-54</u>		<u>55-59</u>		<u>60-64</u>		<u>65-69</u>		<u>70-74</u>	
Lung	7	Lung	16	Lung	23	Lung	30	Lung	30
Breast	6	Breast	8	Colorectal	15	Leukemia	9	Ill-Defined	14
Colorectal	6	Colorectal	7	Ill-Defined	11	Brain/CNS	8	Colorectal	13
Ovary	4	Pancreas	6	Pancreas	8	Esophagus	8	Breast	8
Ill-Defined	4	Melanoma	5			Pancreas	8	Prostate	7
<u>75-79</u>		<u>80-84</u>		<u>85+</u>					
Lung	41	Lung	39	Lung	33				
Ill-Defined	13	Colorectal	13	Prostate	20				
Colorectal	10	Leukemia	12	Breast	15				
Breast	7	Ill-Defined	10	Colorectal	11				
Pancreas	6	Prostate	8	Ill-Defined	11				

**Relative Survival Rates State of Wyoming
2001-2011
All Sites and Top 15 Cancers**

Relative Survival by Cancer Type: 2001-2011 (All Ages Combined)

	12 months	24 months	36 months	48 months	60 months
All Sites	81.00%	74.30%	70.70%	68.30%	66.40%
Bladder w/in situ	91.00%	84.80%	82.20%	78.80%	76.80%
Brain/CNS	56.90%	41.50%	36.50%	32.90%	30.20%
Breast (Female)	96.80%	94.00%	91.50%	89.50%	86.90%
Colorectal	82.60%	73.20%	67.00%	63.10%	60.20%
Kidney	85.30%	78.10%	74.90%	72.10%	68.30%
Leukemia	76.50%	69.80%	65.70%	61.60%	57.90%
Lung	42.60%	26.30%	21.00%	17.80%	15.70%
Melanoma	96.30%	93.20%	91.80%	89.80%	89.30%
Non Hodgkin	83.30%	78.40%	75.80%	72.10%	70.60%
Oral Cavity	85.40%	77.20%	72.10%	67.50%	63.60%
Ovary	75.70%	64.70%	52.10%	46.40%	39.40%
Pancreas	26.90%	14.10%	7.40%	5.60%	3.80%
Prostate	99.90%	99.90%	99.90%	99.90%	99.90%
Thyroid	97.30%	97.10%	96.10%	95.90%	95.60%
Uterine	94.00%	89.30%	86.80%	86.60%	83.60%

Relative Survival by Cancer Type: 2001-2011 (Ages 00-19 years old)

	12 Months	24 Months	36 Months	48 Months	60 Months
All Sites	92.20%	88.90%	88.90%	86.90%	84.70%
Brain	80.80%	73.30%	73.30%	66.00%	62.10%
Leukemia	92.90%	90.70%	90.70%	90.70%	87.20%
Melanoma	80.00%	80.00%	80.00%	80.00%	80.00%
Non-Hodgkin	92.30%	84.00%	84.00%	84.00%	84.00%

Note: Recurrent percents across months are partly due to low numbers of cases in this age-group

Relative Survival: is a net survival measure representing cancer survival in the absence of other causes of death. It is defined as the ratio of the proportion of observed survivors in a cohort of cancer patients to the proportion of expected survivors in a comparable set of cancer-free individuals for a specific time period.

5-Year Survival: A 5-year (60 months) survival rate is important when discussing cancer because a person who is diagnosed with cancer (e.g., breast cancer) is considered “cured” if they can survive five years after treatment and they are found to have no other cancer. This does not mean that they may not develop another cancer after five years or even have a reoccurrence, but for that initial diagnosis they are considered “cured.”

Stage: Many factors play a part in the survival of a cancer patient including the stage at which the cancer is detected. Having a cancer diagnoses at an early stage (e.g., local or Stage I) generally results in a better survival prognosis that a cancer detected in its later stages (e.g., distant or Stage IV).

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

2011 Wyoming Incidence and Mortality Rates

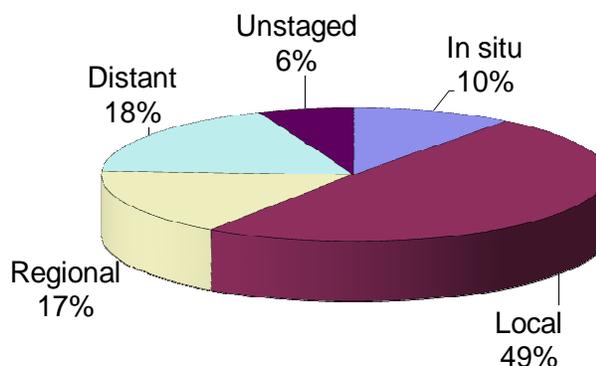
All Cancer Sites

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	1,289	1,135	2,424
# In situ Cases	143	140	283
WY Incidence	451.2*	369.1	403.8*
US Incidence	508.1	412.8	452.1
# Cancer Deaths	520	409	929
WY Mortality	189.7	129.3	154.8
US Mortality	207.1	145.9	171.3

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

Stage at Diagnosis



The incidence rates for Wyoming's total population and males were significantly lower than the United States rates. The incidence rates for females were also lower, though not significantly. The mortality rates for total population, males and females were all lower than the United States mortality rates. None of the mortality rate differences were statistically significant.

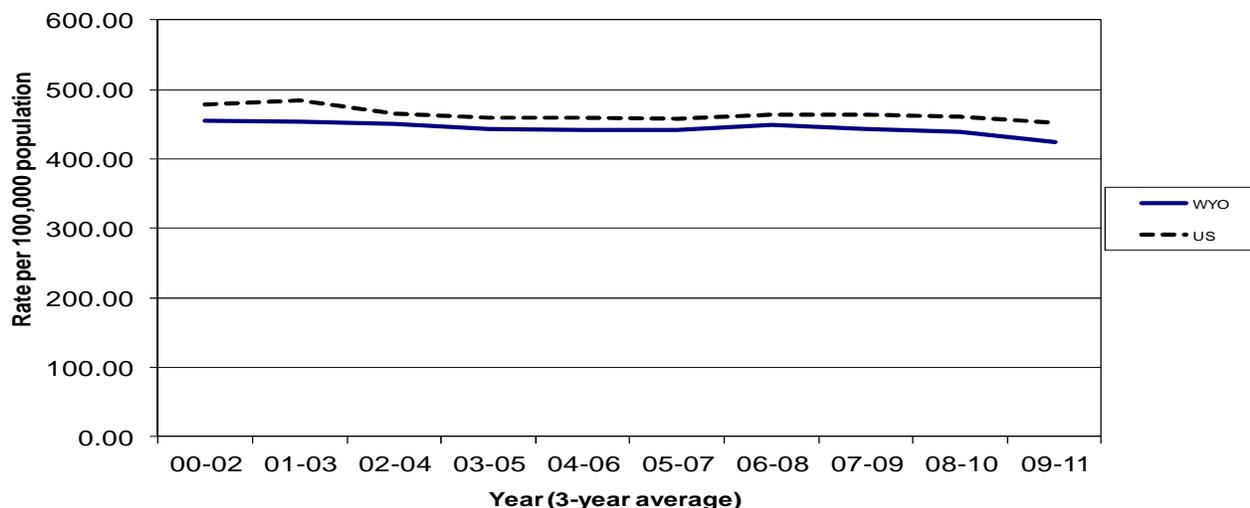
The 12-year incidence trend for Wyoming seems to be declining slightly while the U.S. trend appears steady.

There were no significant changes in the percentages of cancer diagnosed at each stage from 2010 to 2011.

The incidence rate for CHD 7 was significantly lower than the state incidence rate. There were no other significant differences between CHD rates for incidence or mortality.

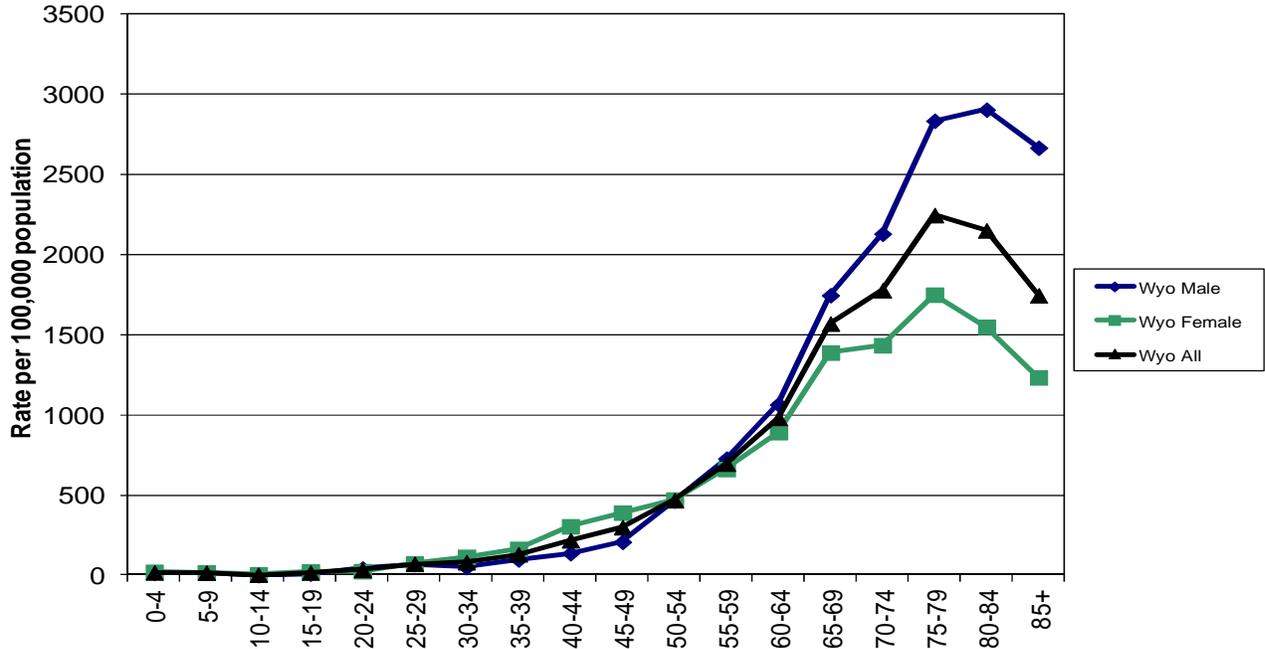
12-Year Incidence Trend

All Cancer Sites Combined



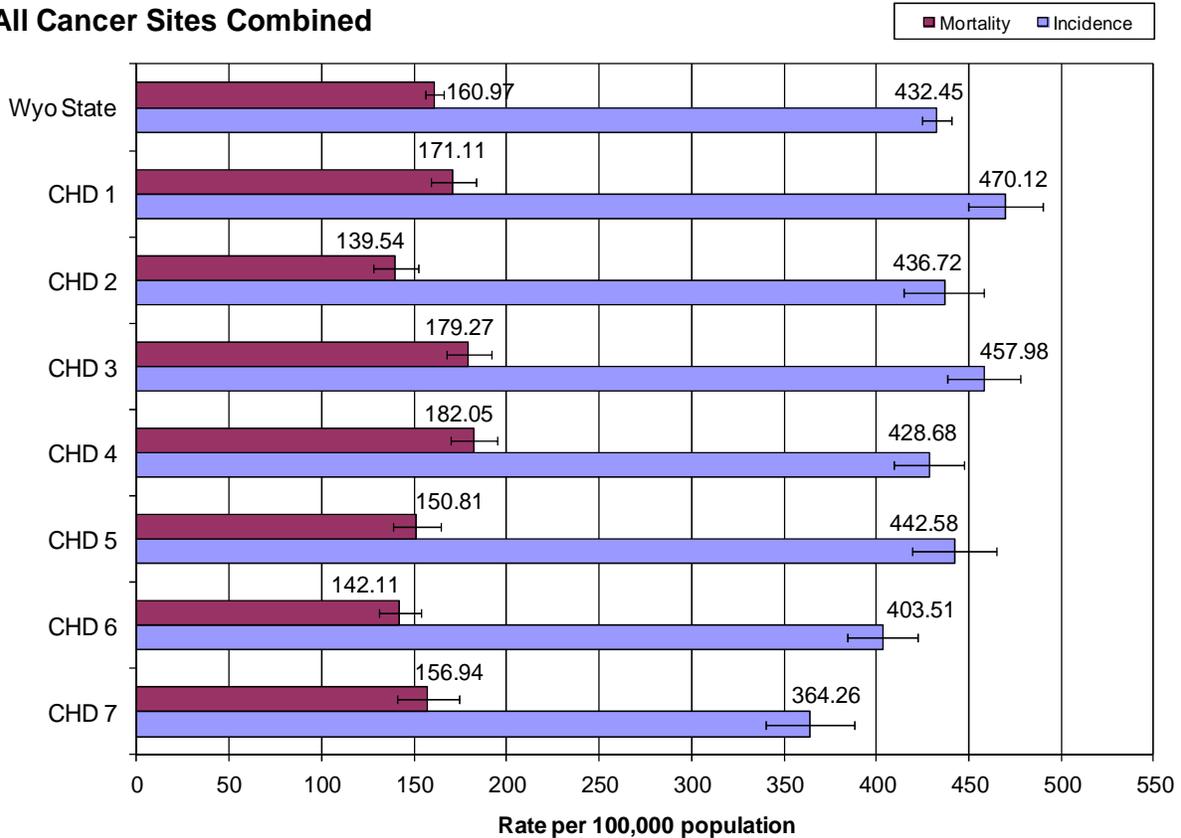
Age-Specific Incidence Rates - 2011

All Cancer Sites Combined



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

All Cancer Sites Combined



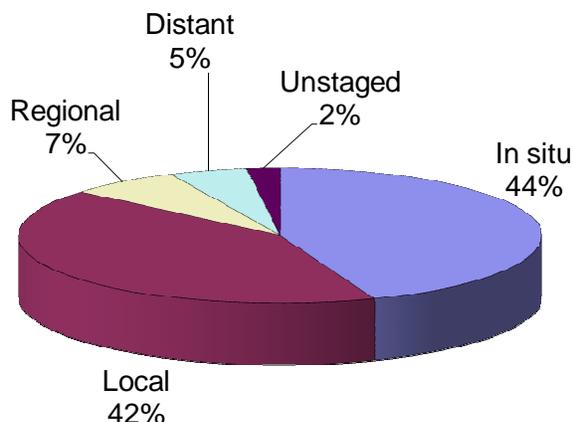
Bladder (Urinary)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	57	21	78
# In situ Cases	50	17	67
WY Incidence	37.7	12.1	24.1
US Incidence	38.8	9.2	22.0
# Cancer Deaths	20	9	29
WY Mortality	7.5	2.8	4.9
US Mortality	8.1	2.2	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 in Wyoming for bladder cancer in females and total population were slightly higher than the national rates, while males were a little lower. None of the difference were statistically significant.

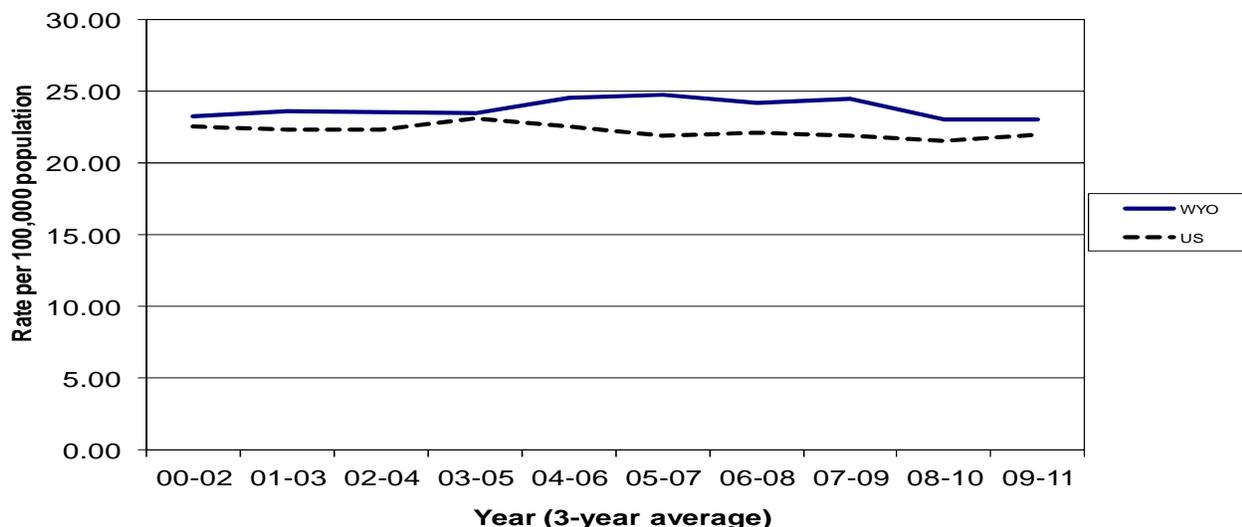
The 12-year incidence trend for bladder cancer in Wyoming was level from 08-10 to 09-11, while the US rate appears to be increasing slightly.

The percent of bladder cancers diagnosed at each stage in 2011 were basically unchanged from 2010.

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

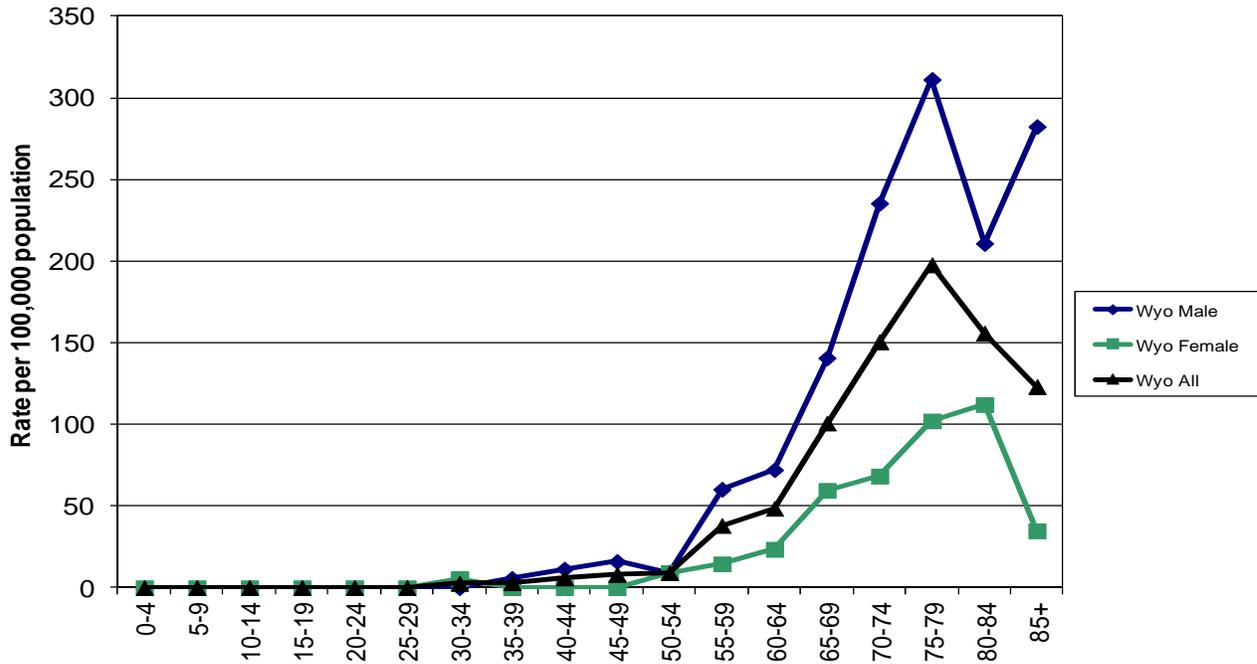
12-Year Incidence Trend

Urinary Bladder



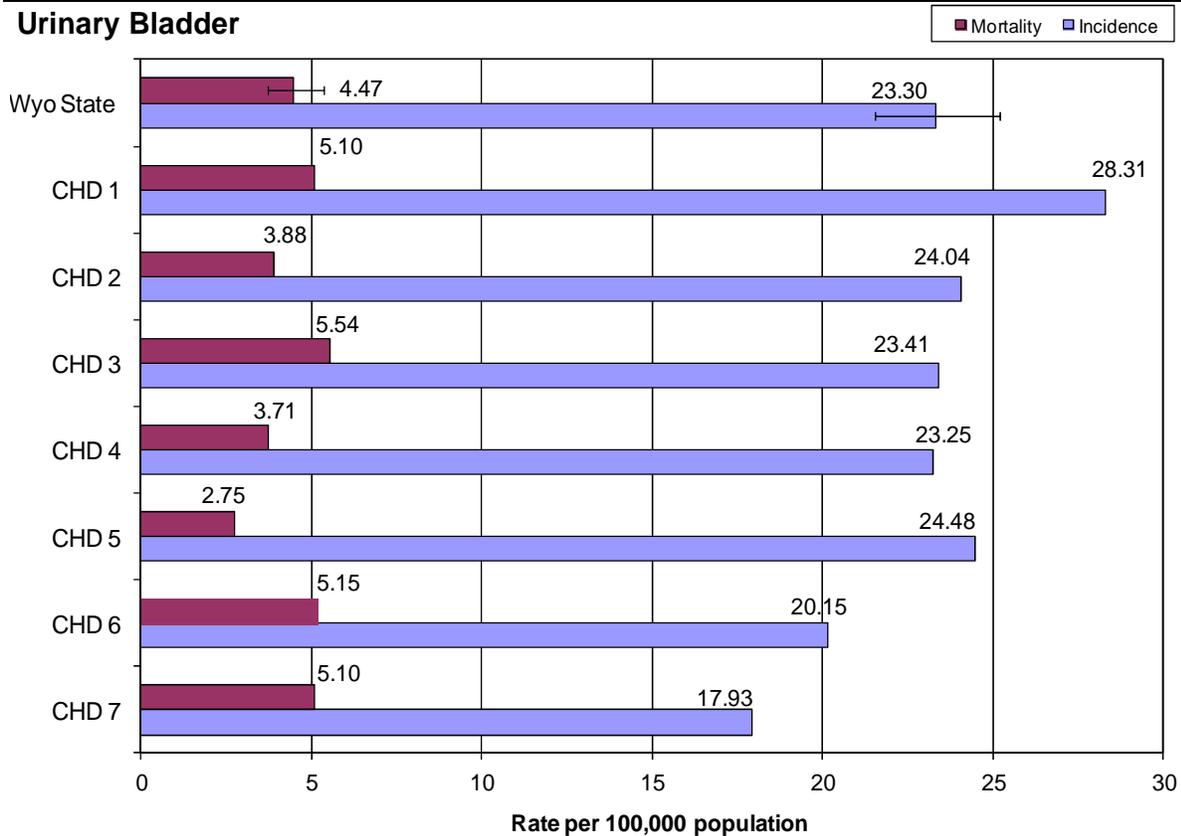
Age-Specific Incidence Rates - 2011

Urinary Bladder



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Urinary Bladder



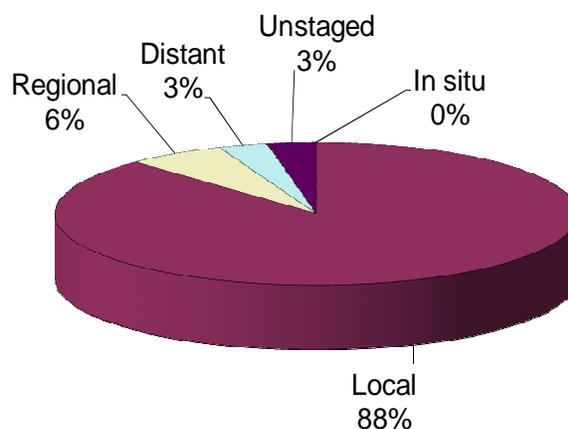
Brain/Central Nervous System (CNS)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	20	13	33
WY Incidence	7.2	4.4	5.8
US Incidence	8.1	5.8	6.9
# Cancer Deaths	18	13	31
WY Mortality	6.2	3.9	5.0
US Mortality	5.6	3.7	5.0

* 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 Brain/CNS cancer for males, females, and total population were all lower than the U.S. rates in 2011. The Wyoming mortality rates for males and females were a bit higher, while the total mortality rate was equal to the U.S. rates. None of these differences were significant.

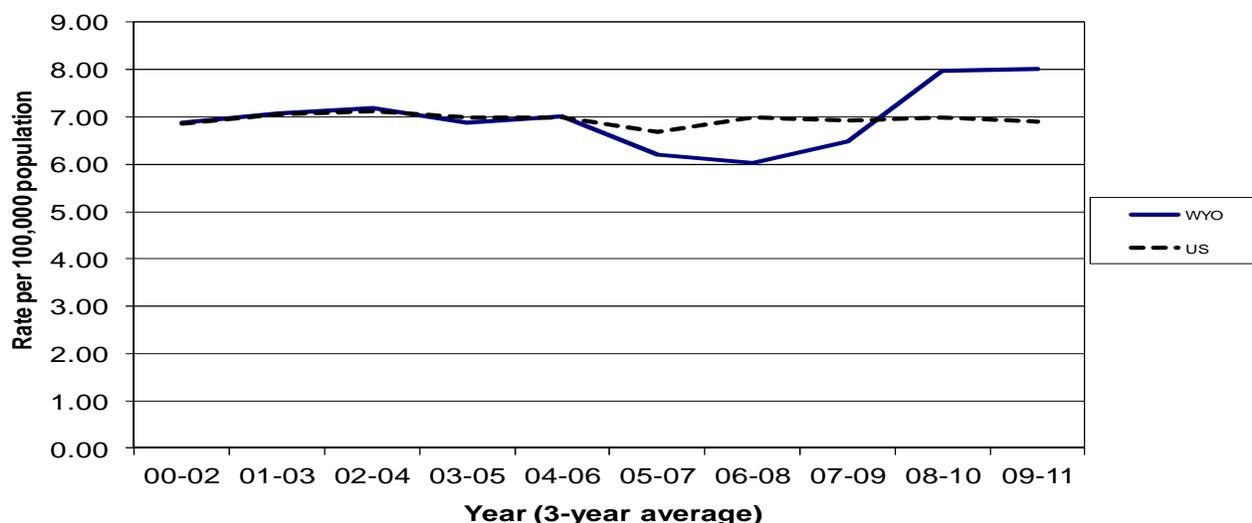
The 12-year Wyoming trend showed a leveling off after a sharp increase that started from 07-09.

The percentage of cases diagnosed at each stage was basically the same from 2010 to 2011.

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

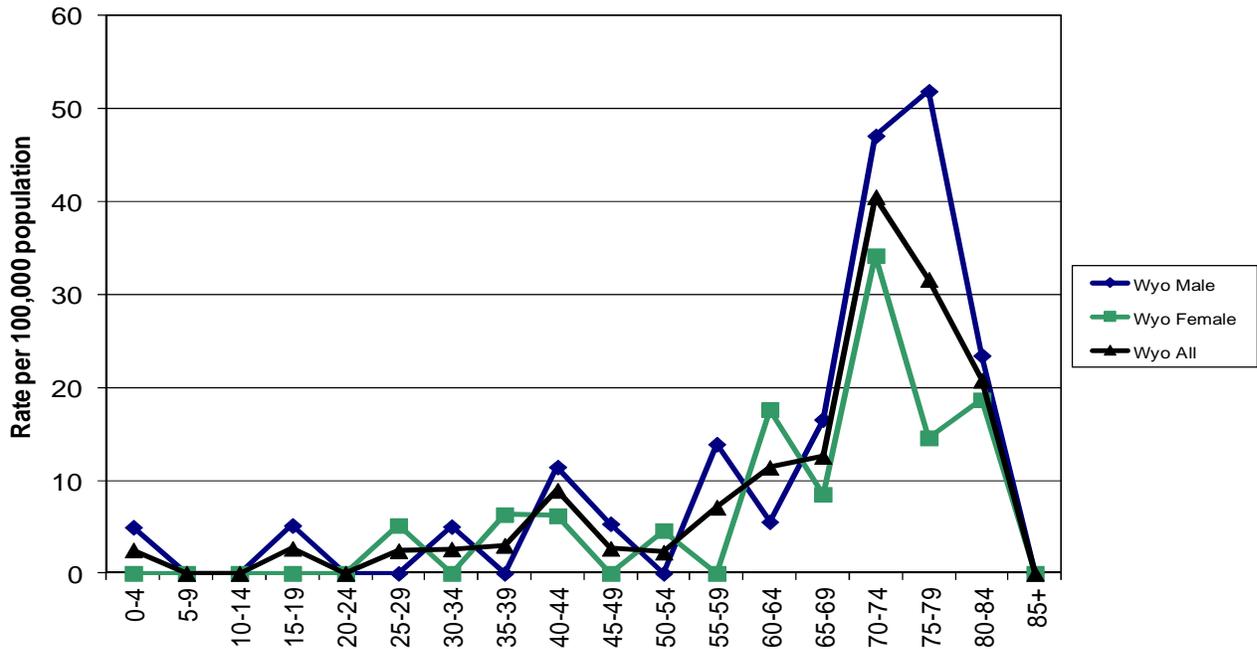
12-Year Incidence Trend

Brain/CNS



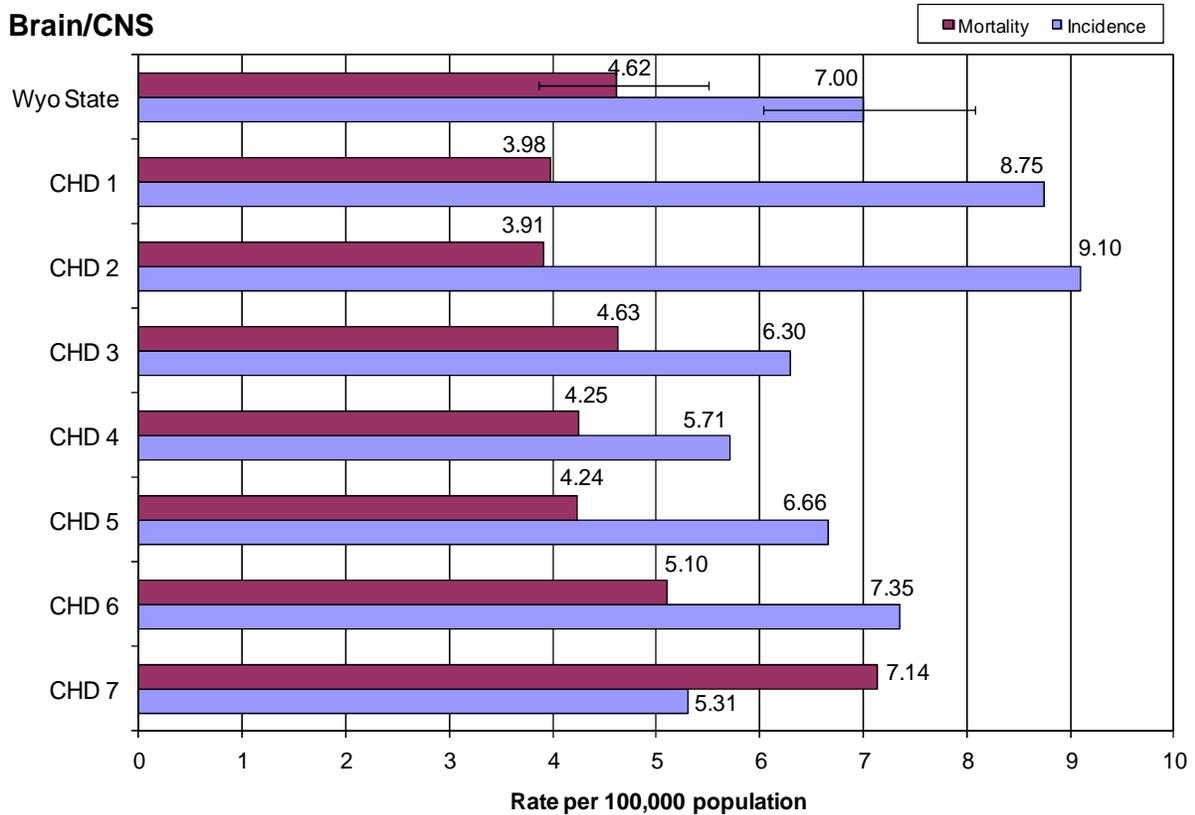
Age-Specific Incidence Rates - 2011

Brain/CNS



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Brain/CNS



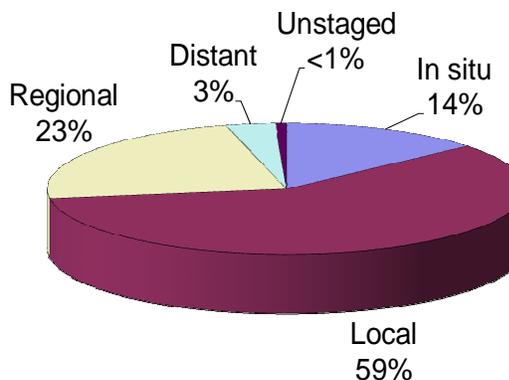
Breast (Female Only)

Incidence and Mortality Summary

	Female
# Invasive Cases	356
# In situ Cases	58
WY Incidence	112.5
US Incidence	124.1
# Cancer Deaths	69
WY Mortality	21.7
US Mortality	21.3

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

Stage at Diagnosis



The incidence rate of female breast cancer in Wyoming remained lower than the United States rate in 2011, but not significantly. The mortality rate for Wyoming is slightly higher than the national rate, but again not significantly.

The 12-year incidence trend for Wyoming continues a gentle decline that started in 06-08.

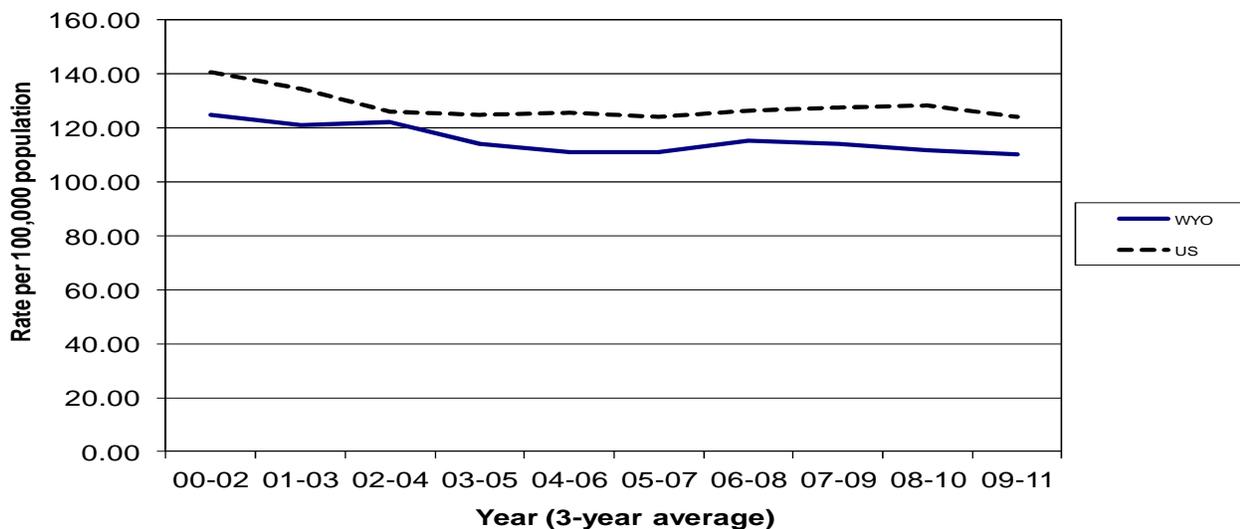
The percentage of diagnoses in each stage in 2011 were essentially the same as in 2010.

No statistically significant differences were found for incidence or mortality between CHDs.

There were 4 cases of male breast cancer reported in Wyoming in 2011.

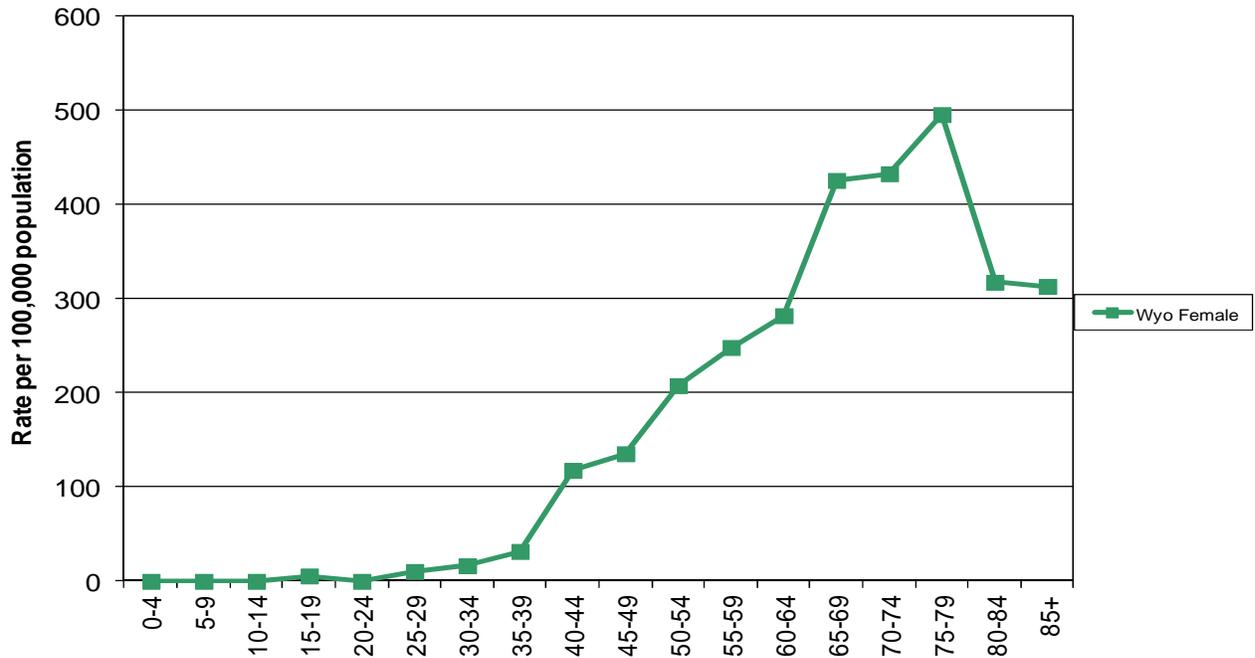
12-Year Incidence Trend

Breast-Female



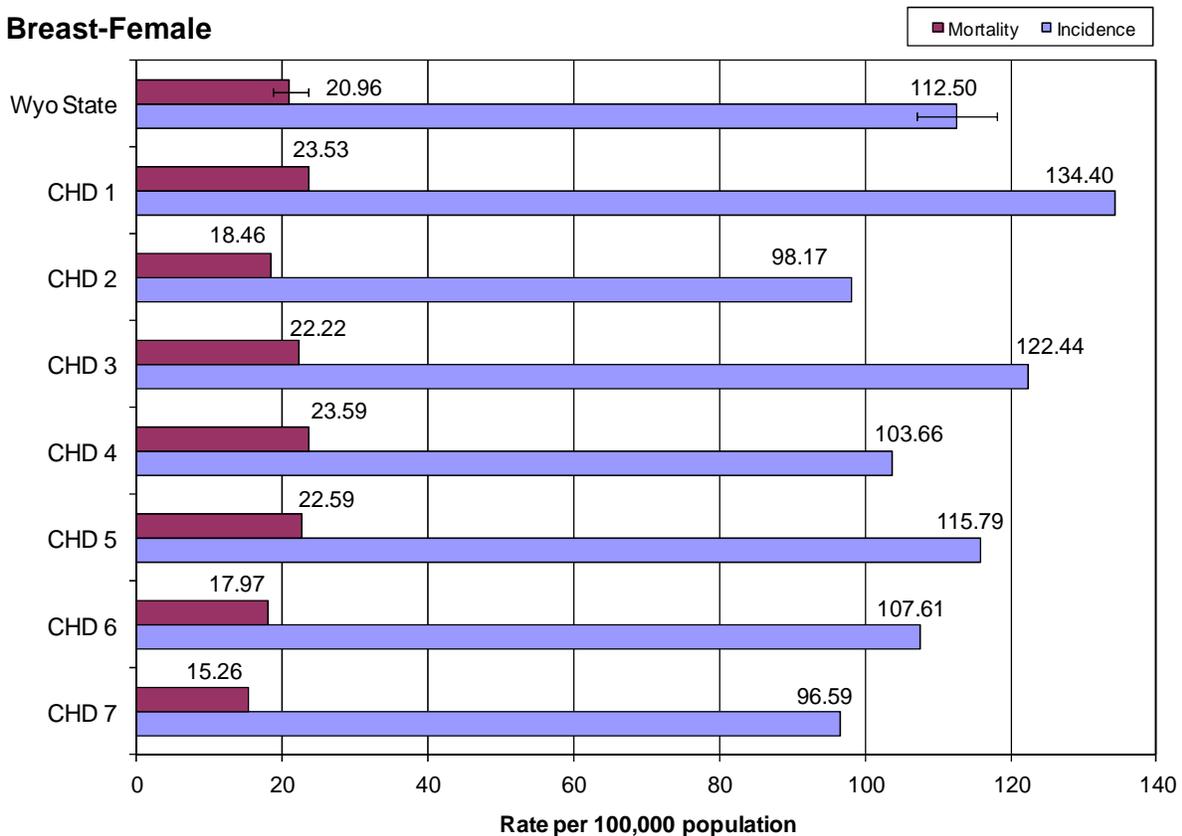
Age-Specific Incidence Rates - 2011

Breast-Female



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Breast-Female



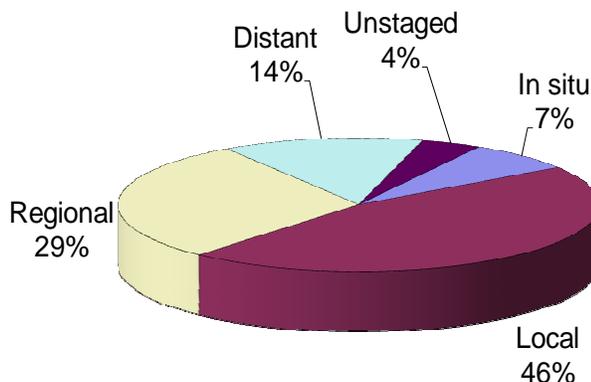
Colorectal

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	114	92	206
# In situ Cases	7	9	16
WY Incidence	39.2	29.0	33.7
US Incidence	46.6	35.3	40.4
# Cancer Deaths	57	29	86
WY Mortality	20.1	8.8	14.0
US Mortality	18.2	12.6	15.0

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

Stage at Diagnosis



The Wyoming incidence rates for males, females and total population were all lower than the national rates. The mortality rate for males was a bit higher than the national rate, but the female and total rates were both lower than the U.S. rate. None of these differences were statistically significant.

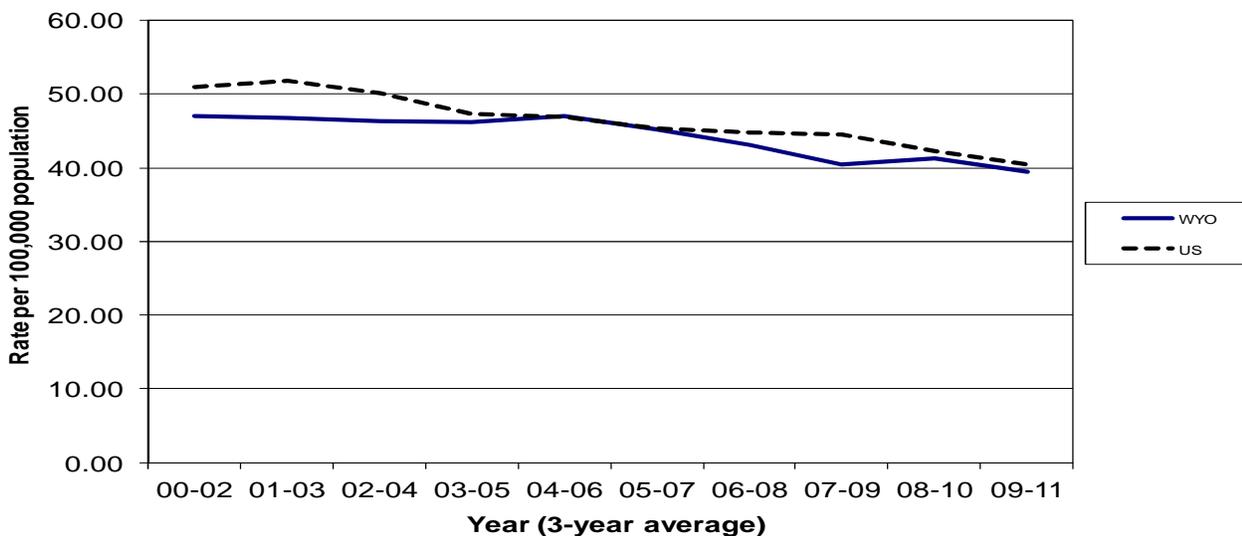
The 12-year incidence graph shows that rates in Wyoming decreased from 08-10 to 09-11.

The percentage of cancers diagnosed at the local stage in 2011 was up from 40% in 2010, while the percentage for regional was down from 2010 (35%). The rest were essentially the same as 2010.

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

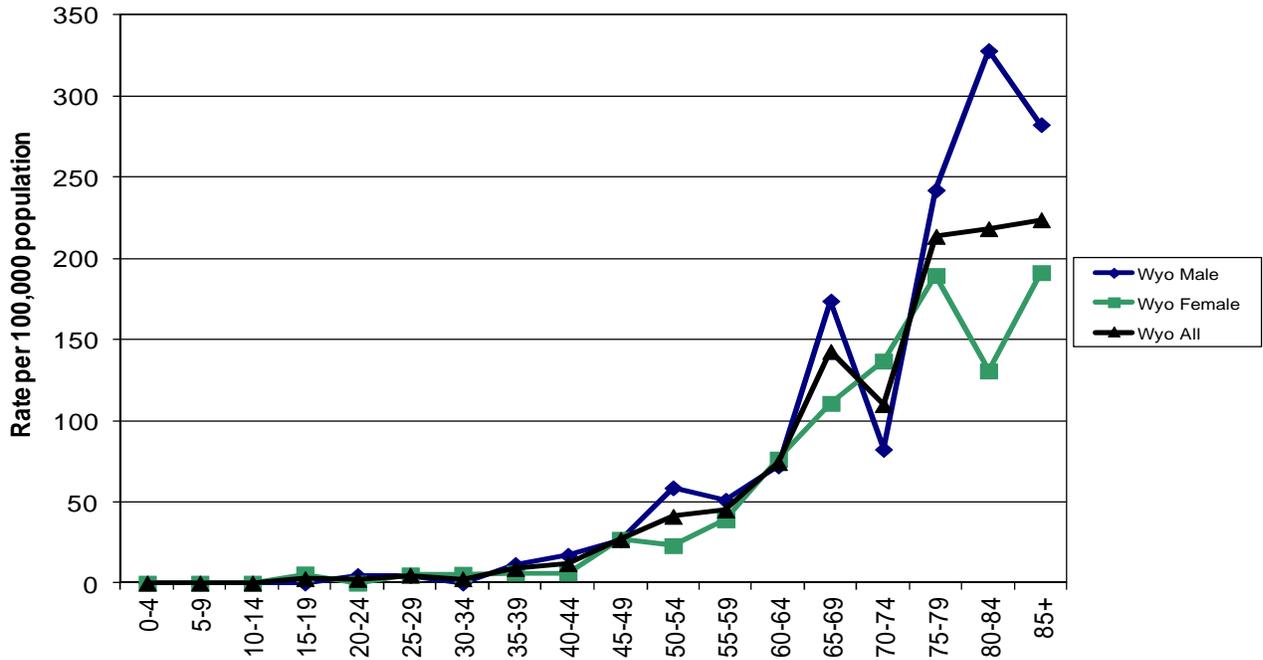
12-Year Incidence Trend

Colorectal



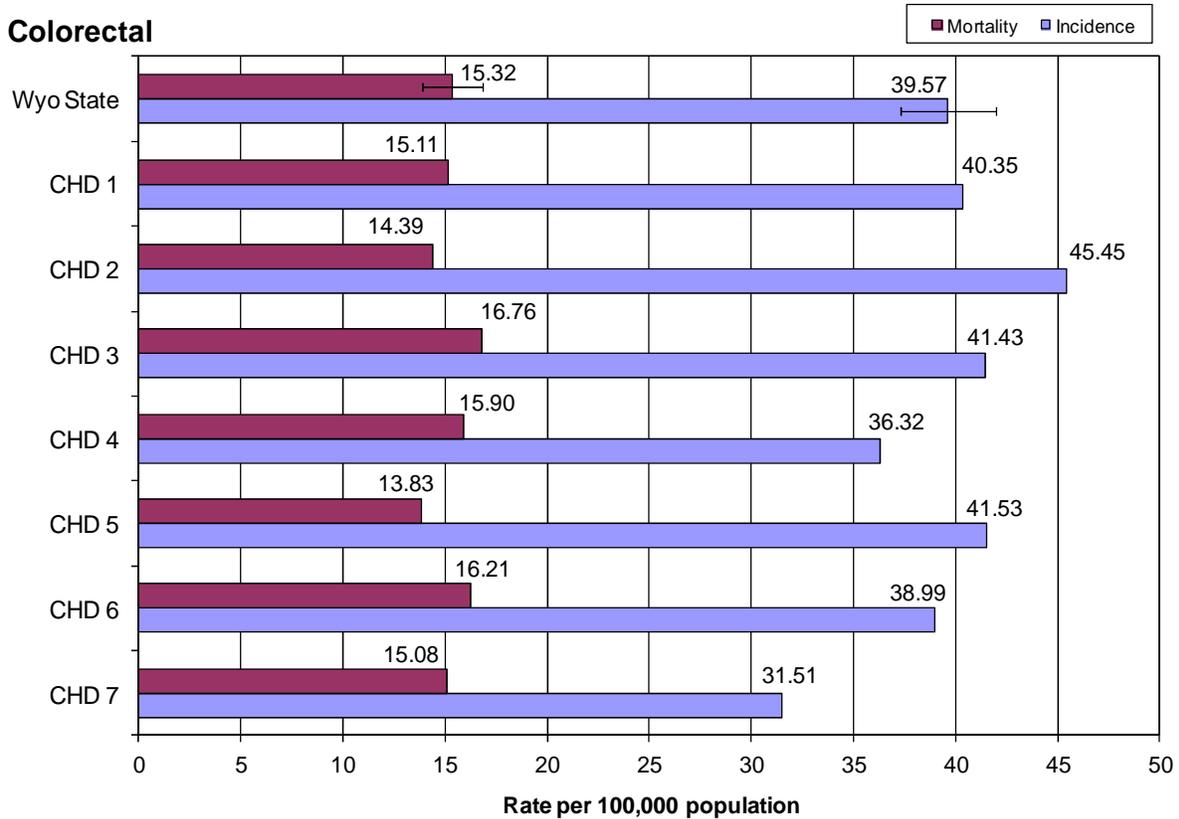
Age-Specific Incidence Rates - 2011

Colorectal



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Colorectal



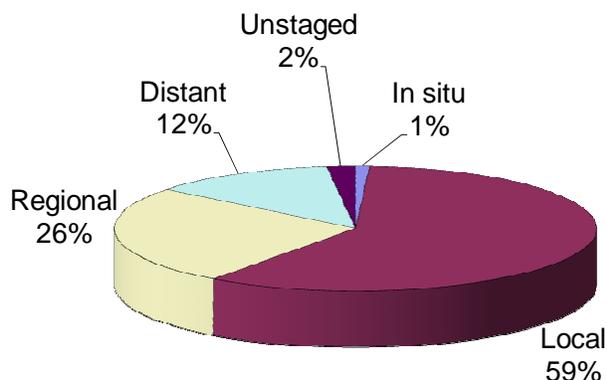
Kidney/Renal Pelvis

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	60	44	104
WY Incidence	20.2	14.3	17.0
US Incidence	20.1	10.5	15.3
# Cancer Deaths	11	5	16
WY Mortality	3.9	1.3	2.5
US Mortality	5.9	2.6	4.0

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

Stage at Diagnosis



The incidence rates for kidney/renal pelvis cancer in Wyoming males, females and the total population were all higher than the national rates in 2011. The mortality rates for all three groups were lower than the national rates. None of these differences were statistically significant.

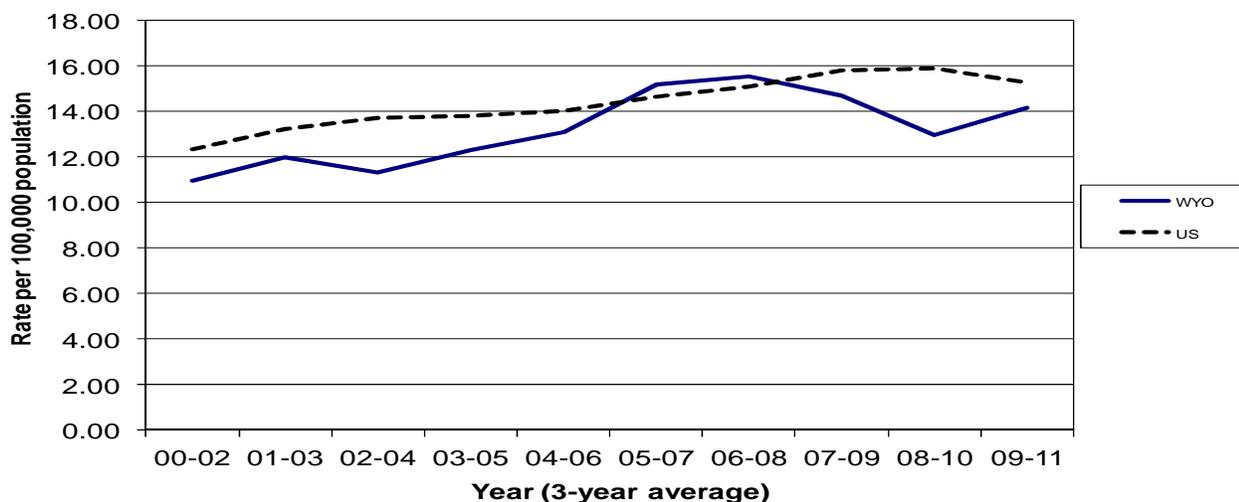
The 12-year trend showed a pointed increase between 08-10 to 09-11. The national rate started to decrease from 08-10 to 09-11.

The percent of kidney/renal pelvis cases diagnosed as local decreased from 2010 (67%), while the percents for the other stages were very similar to 2010.

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

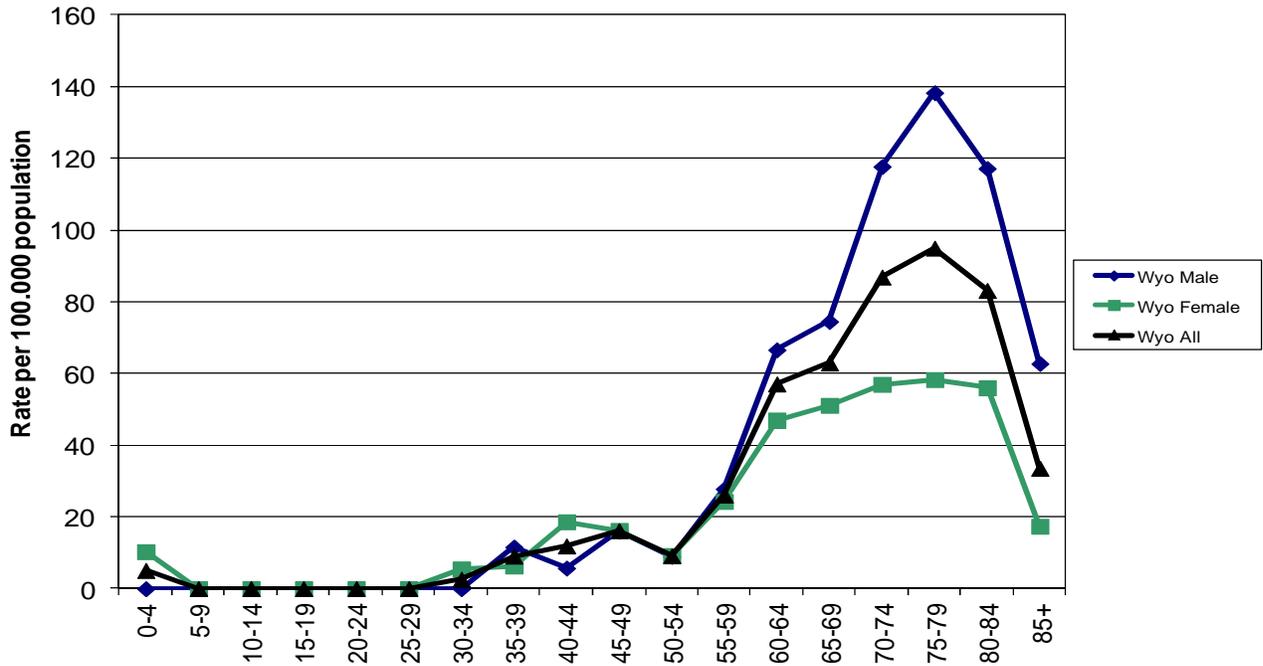
12-Year Incidence Trend

Kidney/Renal Pelvis



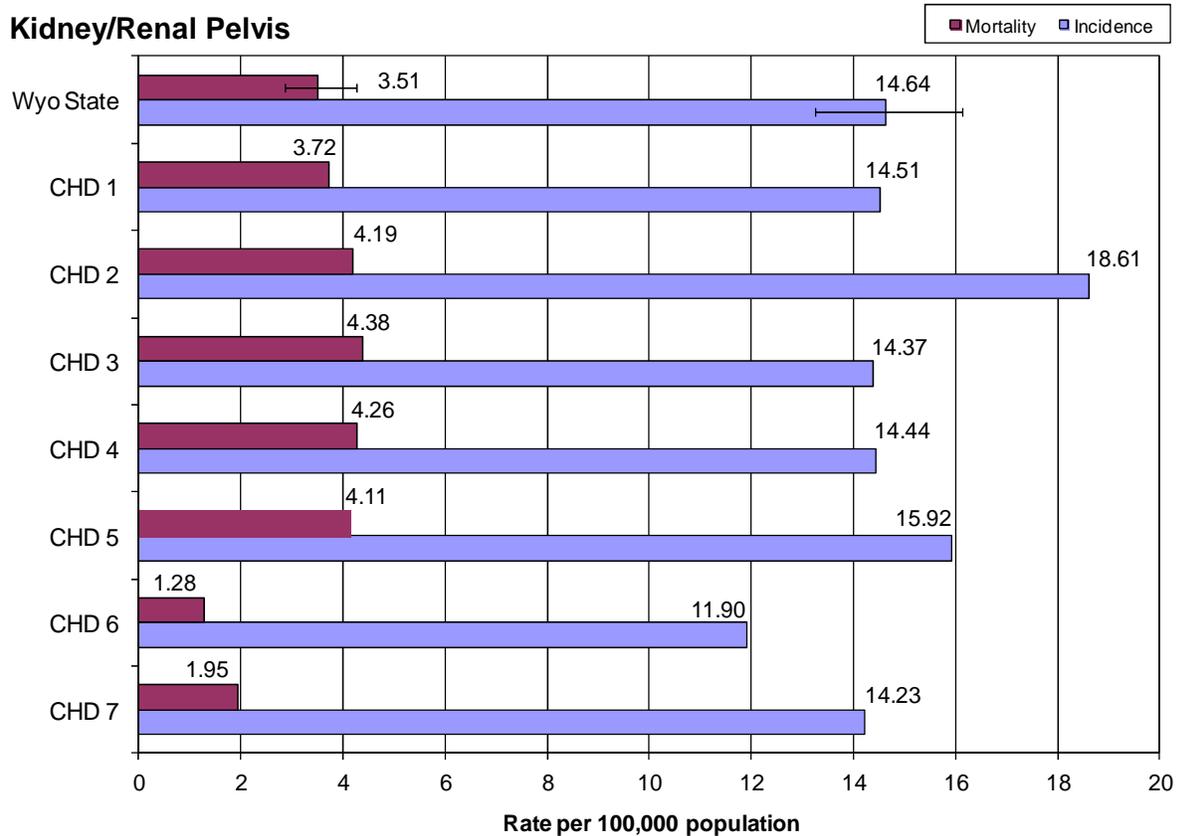
Age-Specific Incidence Rates - 2011

Kidney/Renal Pelvis



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Kidney/Renal Pelvis



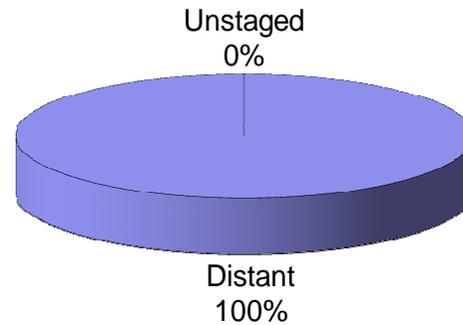
Leukemia

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	46	19	65
WY Incidence	15.7	6.1	10.5
US Incidence	17.2	10.4	13.4
# Cancer Deaths	30	18	48
WY Mortality	11.0	5.8	8.1
US Mortality	9.6	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



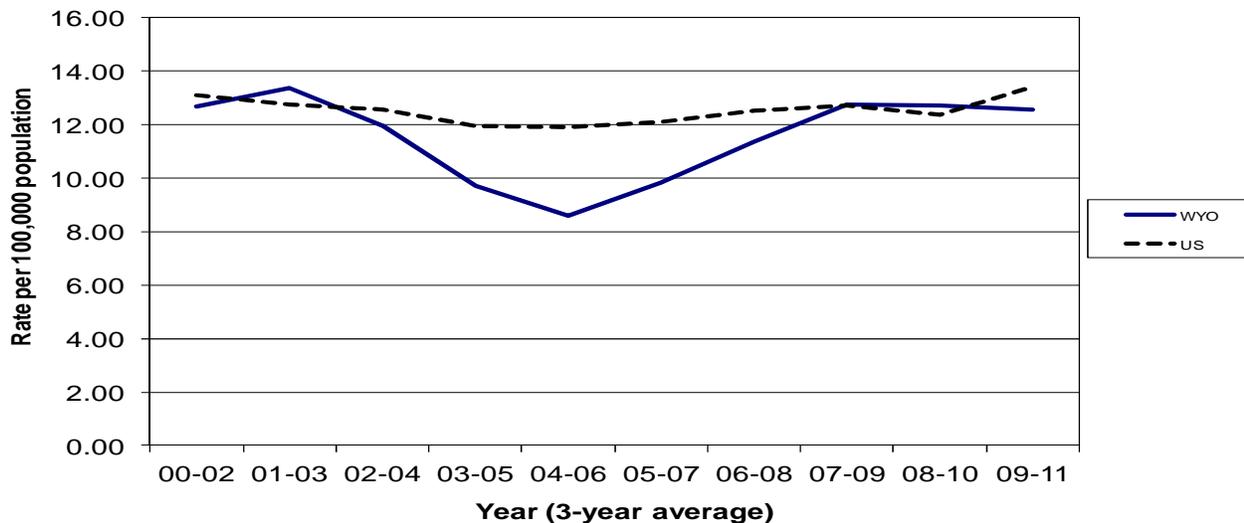
The incidence rates for leukemia in Wyoming for males, females and the total population were all lower than the national rates. However, the mortality for each was higher than the national rates in 2011. None of the differences were statistically significant.

The incidence trend for Wyoming showed a slight decrease that started in 07-09. While the national rate showed a somewhat sharp increase from 08-10 to 09-11.

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

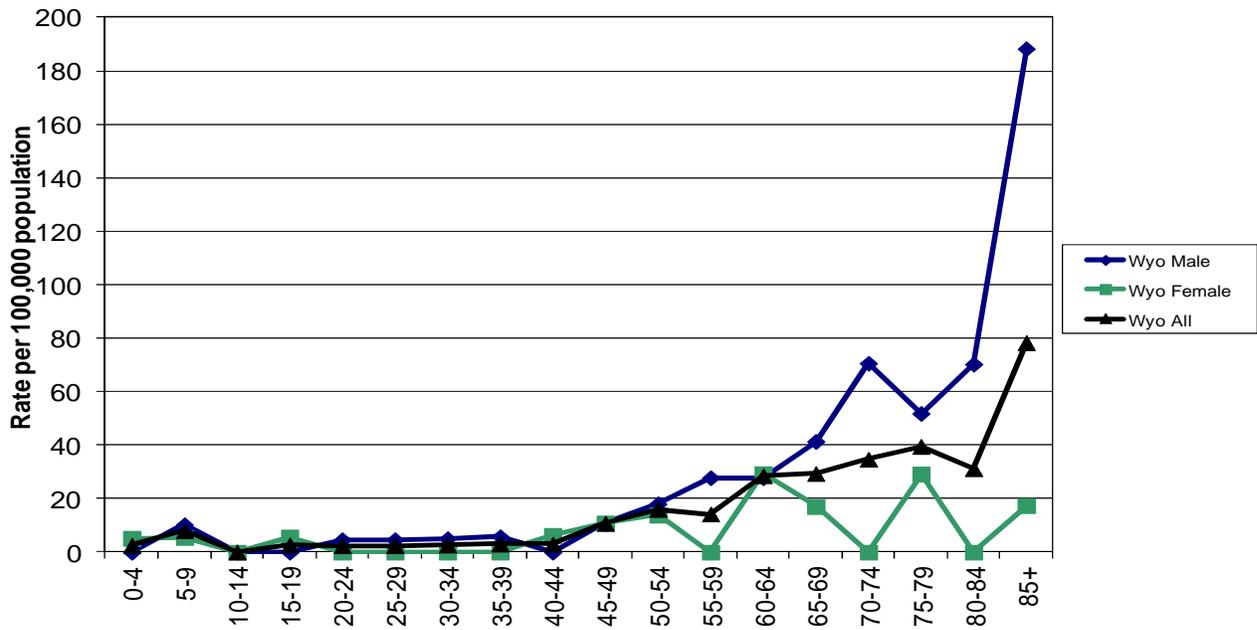
12-Year Incidence Trend

Leukemia



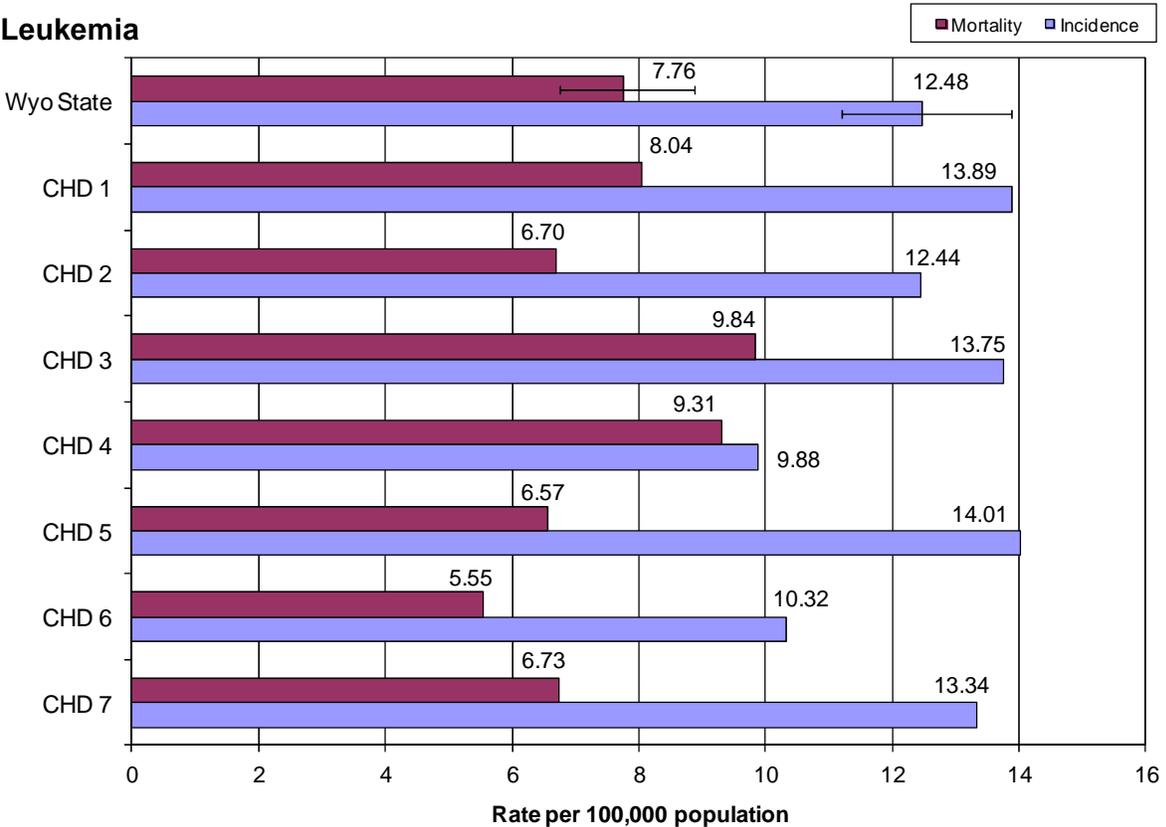
Age-Specific Incidence Rates - 2011

Leukemia



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Leukemia



Lung and Bronchus

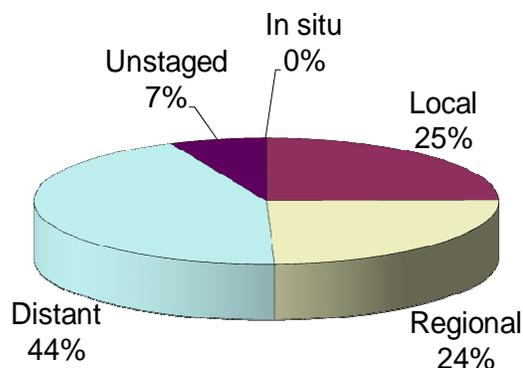
Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	130	123	253
WY Incidence	46.0*	39.8	42.2*
US Incidence	69.1	51.0	58.8
# Cancer Deaths	133	92	225
WY Mortality	49.1	29.2	38.2
US Mortality	59.9	39.2	48.1

* 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 all lower than the national rates. The male and total population incidences rate were significantly lower than the national rate.

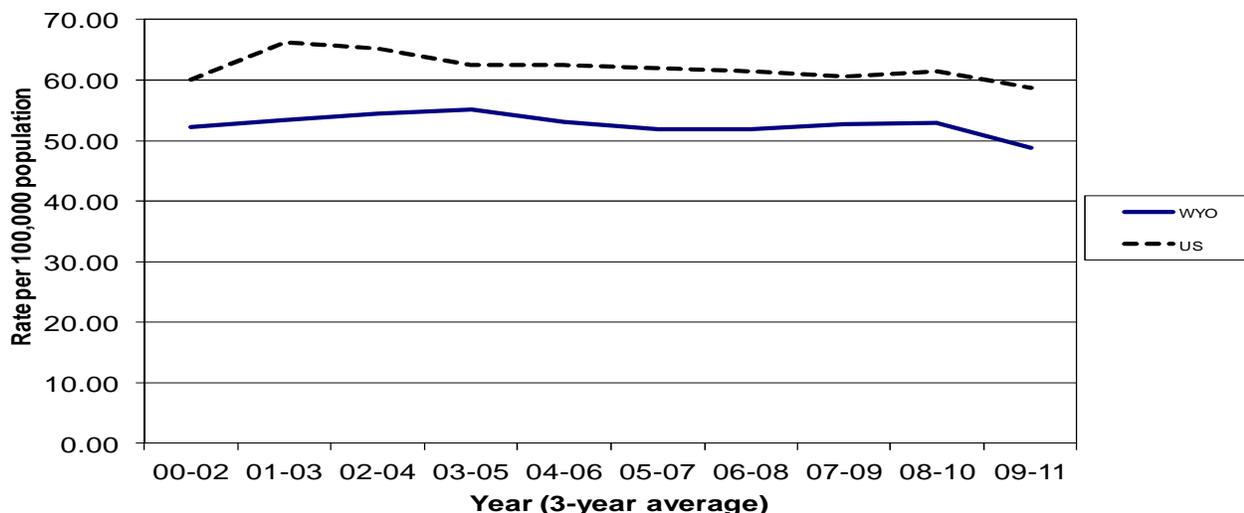
The 12 year incidence trend showed the rates for lung cancer in Wyoming and the U.S. decreased from 08-10 to 09-11.

The percentage of cases diagnosed at each stage in 2011 were basically the same as 2010.

The incidence of lung cancer in CHD 7 was significantly lower than the state rate in 2007-11. No other statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

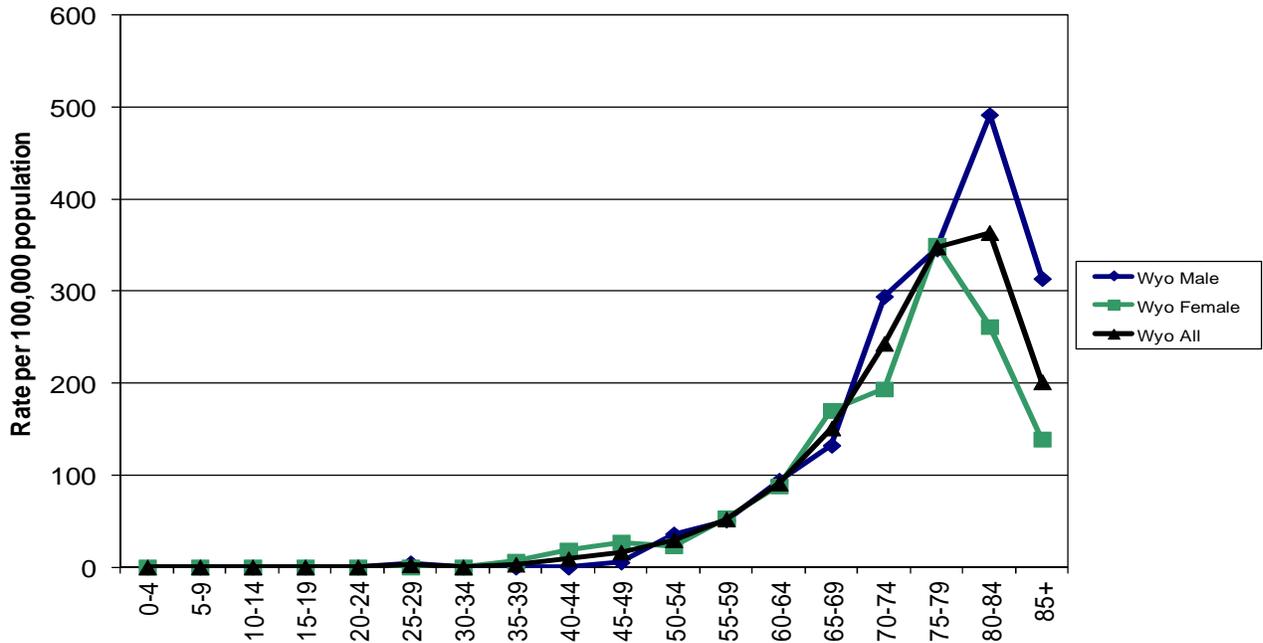
12-Year Incidence Trend

Lung and Bronchus



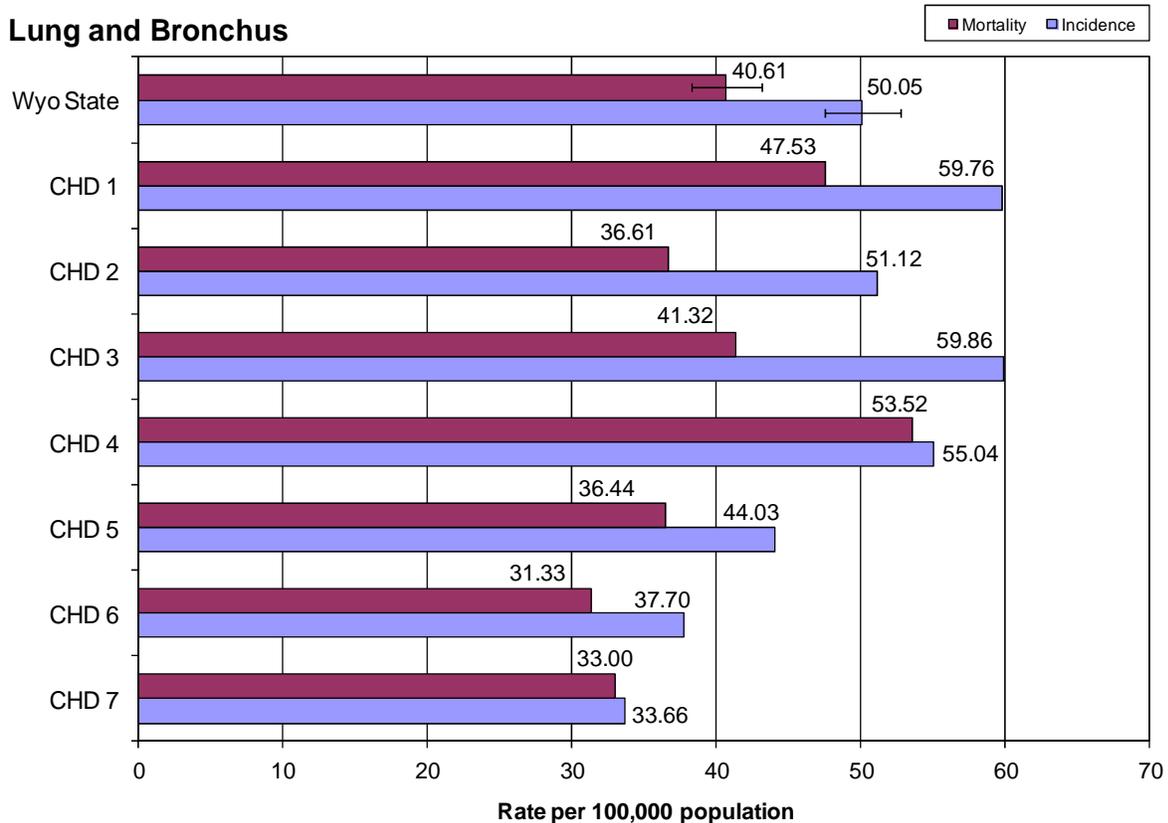
Age-Specific Incidence Rates - 2011

Lung and Bronchus



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Lung and Bronchus



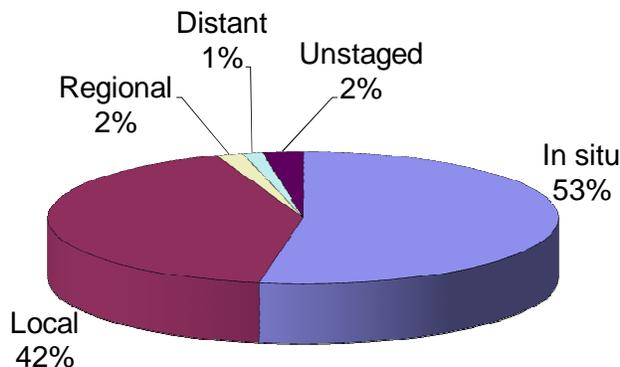
Melanoma (of the skin)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	68	43	111
# In situ Cases	76	48	124
WY Incidence	23.9	13.9	18.5
US Incidence	31.6	20.0	24.9
# Cancer Deaths	12	11	23
WY Mortality	4.5	3.4	3.9
US Mortality	4.7	2.0	3.2

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

Stage at Diagnosis



Incidence rates for melanoma of the skin for Wyoming males, females, and total population were all lower than the national rates in 2011. The mortality rates for Wyoming males was a little lower, while the rates for females and total population were each higher than the national rate. None of the differences were statistically significant.

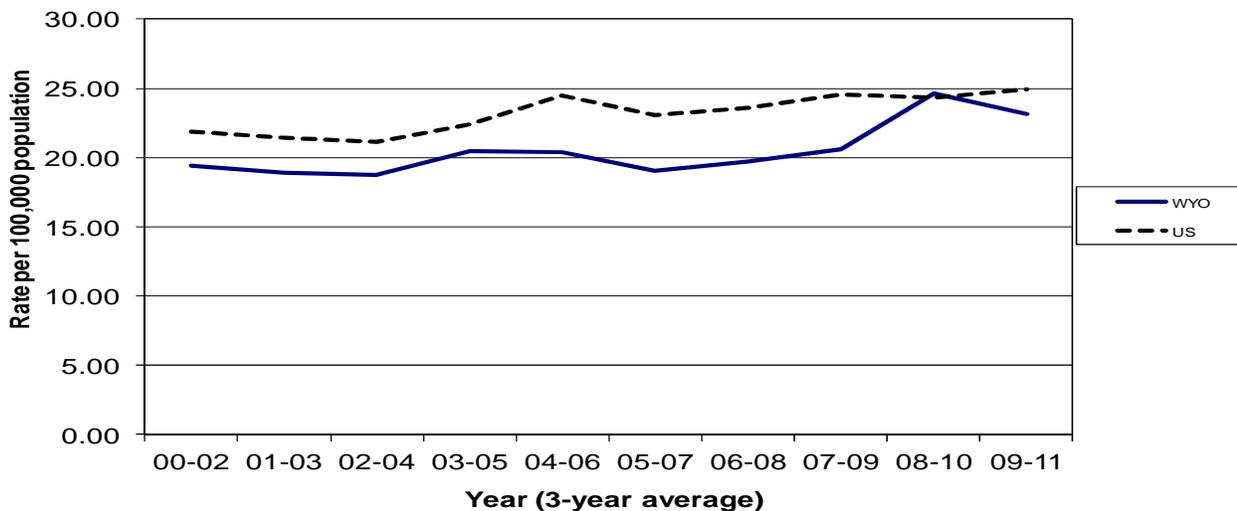
The marked increase in melanoma incidence for Wyoming from 07-09 to 08-10 seems to have ceased and the rate appears to be on the decline again.

The percent of cases diagnosed as In situ was up from 2010 (45%), while the other percentages were similar to the percentages in 2010.

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

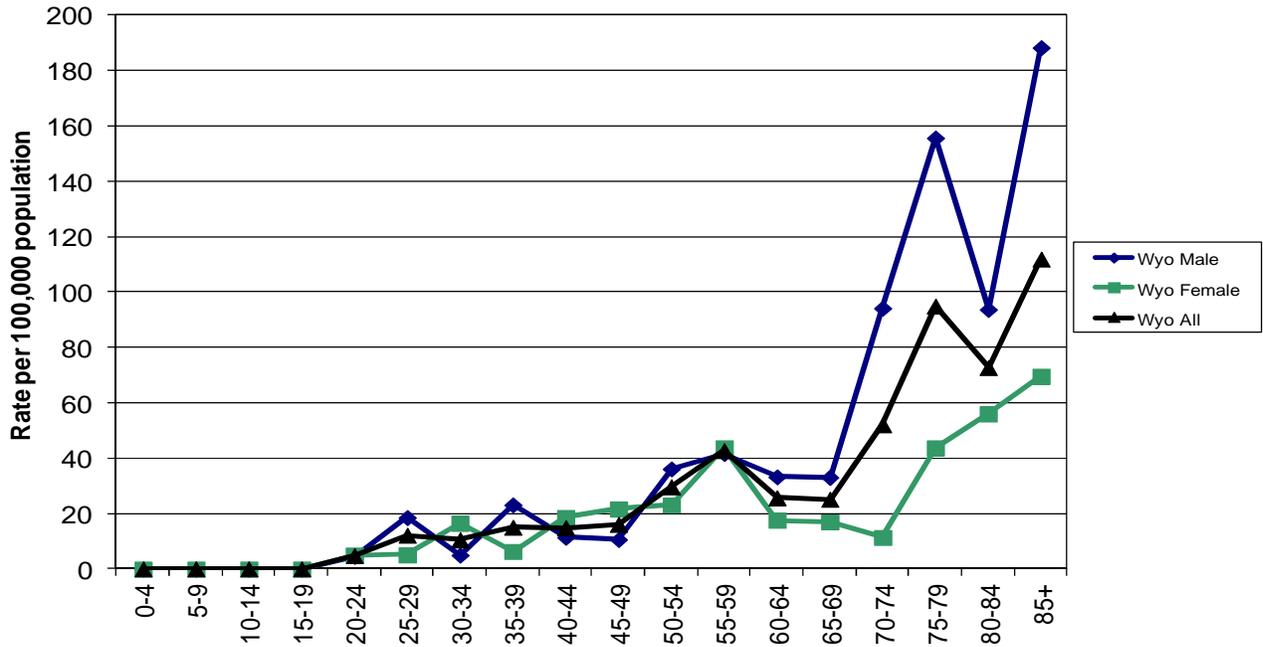
12-Year Incidence Trend

Melanoma (of the skin)



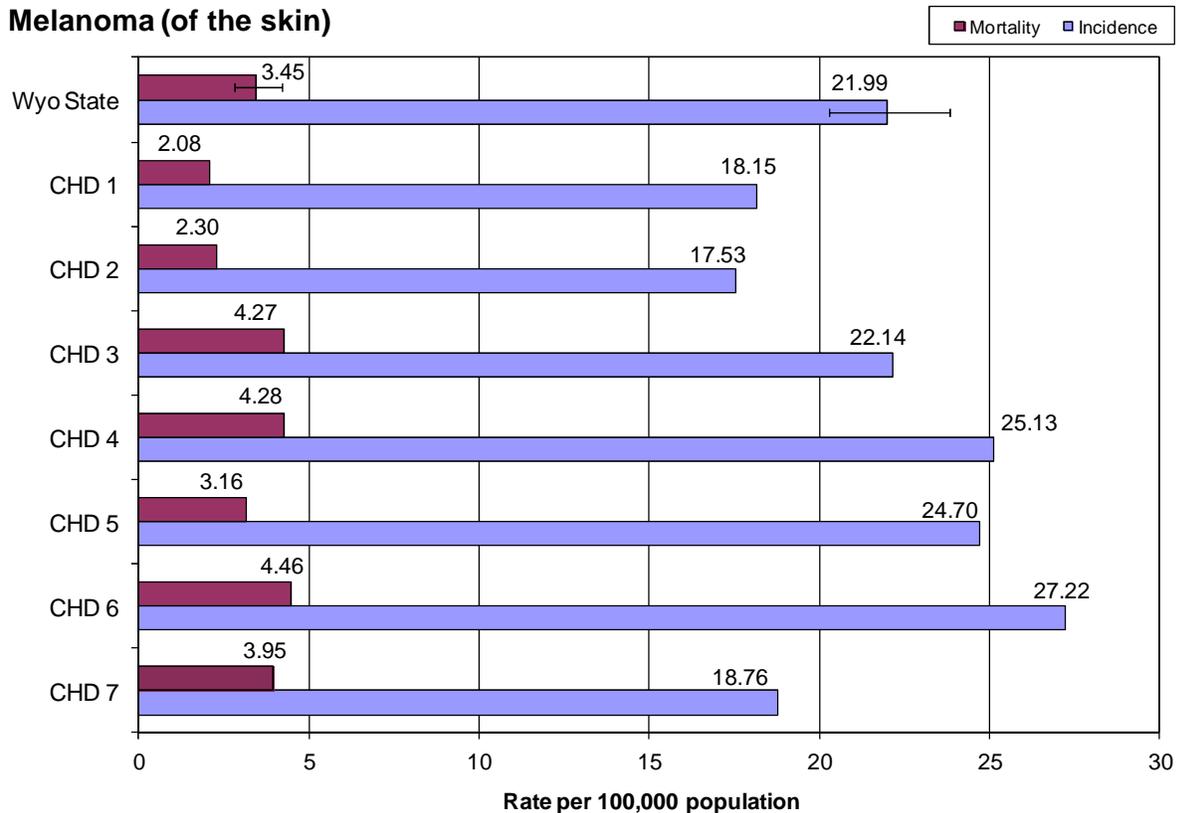
Age-Specific Incidence Rates - 2011

Melanoma (of the skin)



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Melanoma (of the skin)



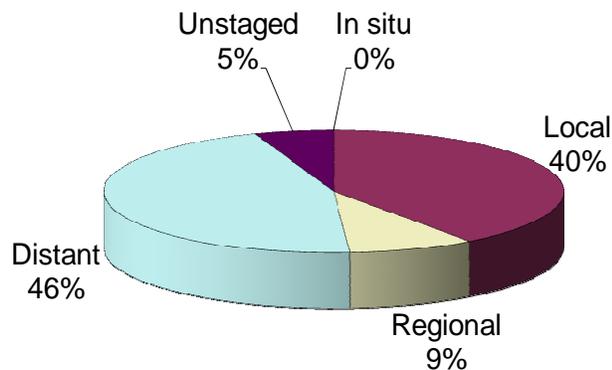
Non-Hodgkin Lymphoma

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	55	35	90
WY Incidence	20.1	10.9	15.1
US Incidence	24.4	17.0	20.3
# Cancer Deaths	14	15	29
WY Mortality	5.3	4.8	5.0
US Mortality	8.1	5.0	6.4

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

Stage at Diagnosis



The incidence and mortality rates for non-Hodgkin lymphoma in males, females, and total population in Wyoming were all lower than the national rates. None of the differences were statistically significant.

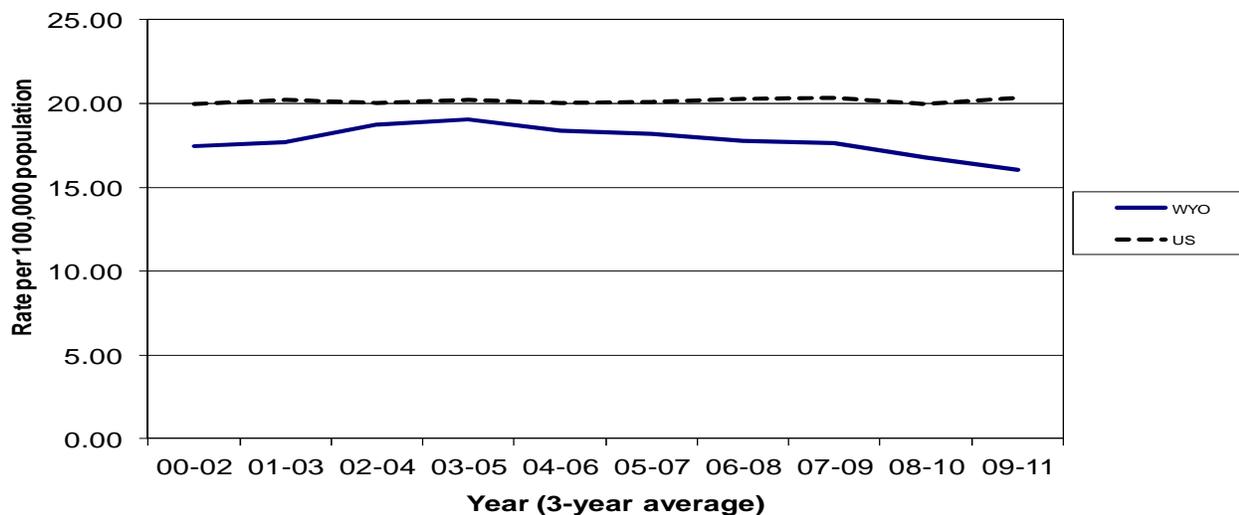
The incidence trends for Wyoming continues a decrease that started in 07-09, while the national rate remained basically flat.

The percent of cancers diagnosed at each stage were essentially unchanged from 2010.

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

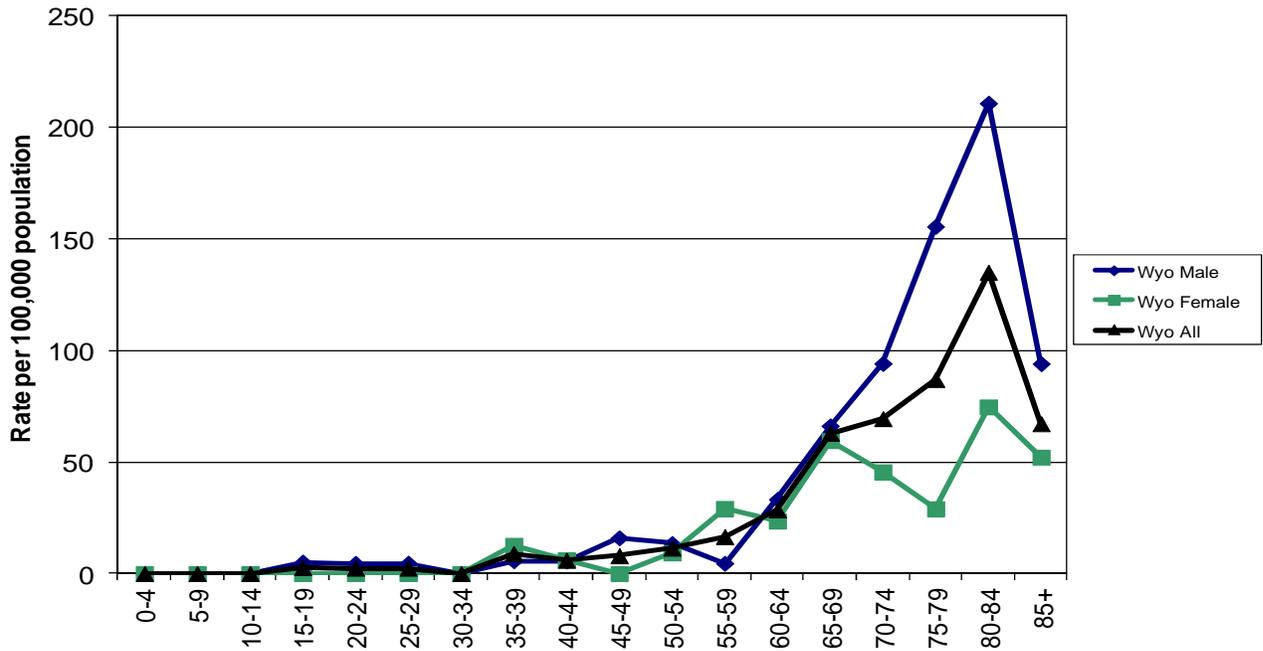
12-Year Incidence Trend

Non-Hodgkin Lymphoma



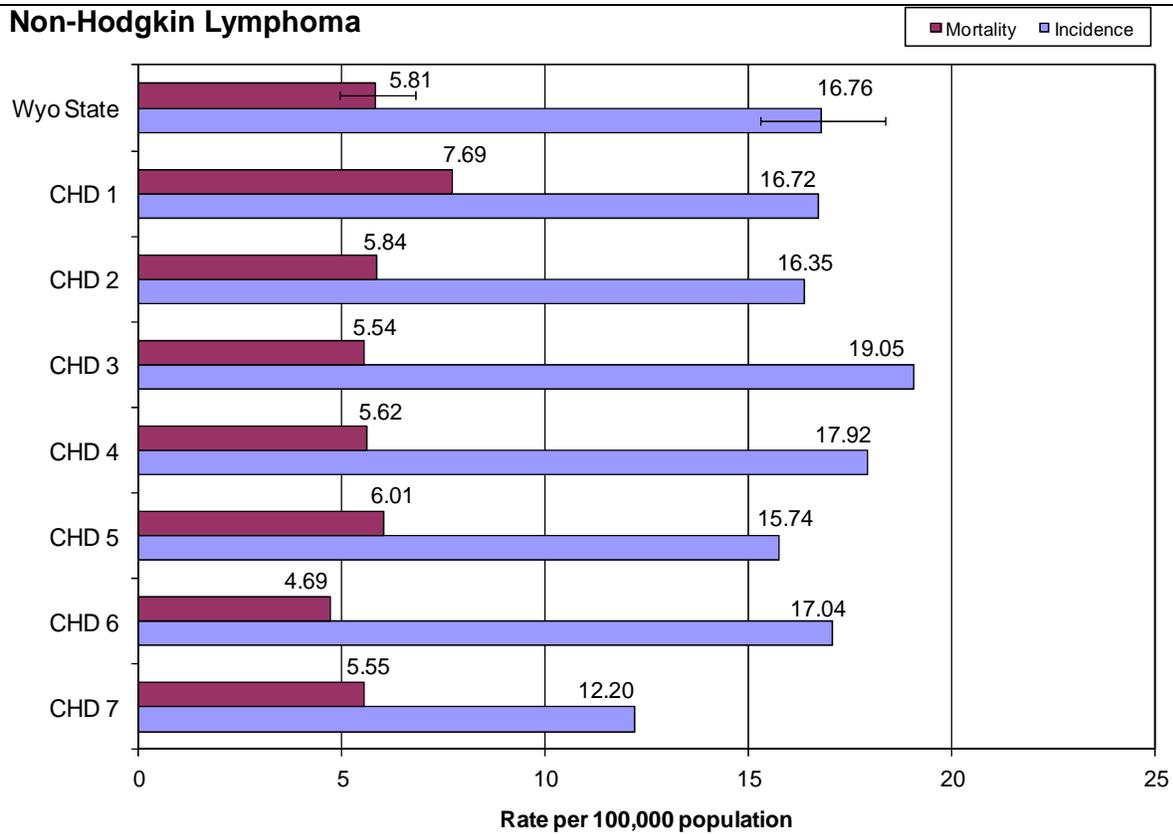
Age-Specific Incidence Rates - 2011

Non-Hodgkin Lymphoma



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Non-Hodgkin Lymphoma



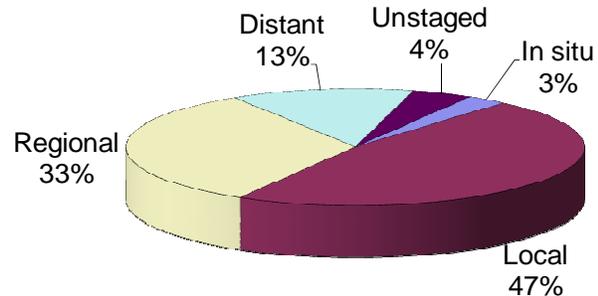
Oral Cavity and Pharynx

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	45	23	68
WY Incidence	13.8	6.9	10.4
US Incidence	16.5	6.2	11.0
# Cancer Deaths	15	5	20
WY Mortality	4.8	1.5	3.0
US Mortality	3.7	1.4	2.5

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

Stage at Diagnosis



Incidence rates for cancer of the oral cavity and pharynx in Wyoming females was a little higher than the national rate, while the male and total rates were lower. The mortality rates for all three populations were higher than the national rates. None of the differences were statistically significant.

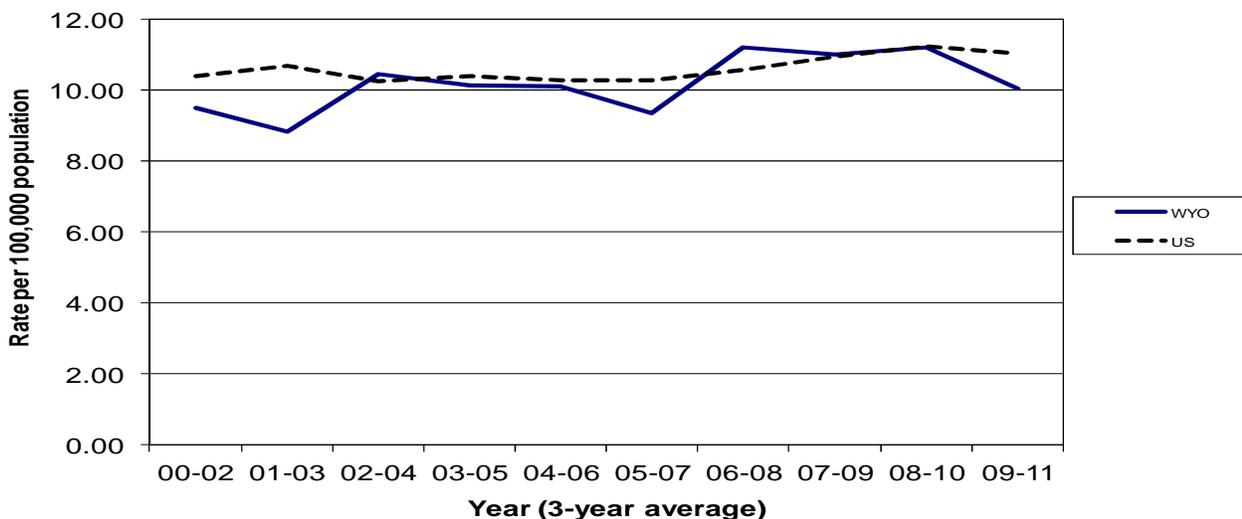
The incidence trend for Wyoming showed a decrease from 08-10 to 09-11. While the national rate appears to be leveling off.

The percent of cancers diagnosed at each stage were basically unchanged from 2010.

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

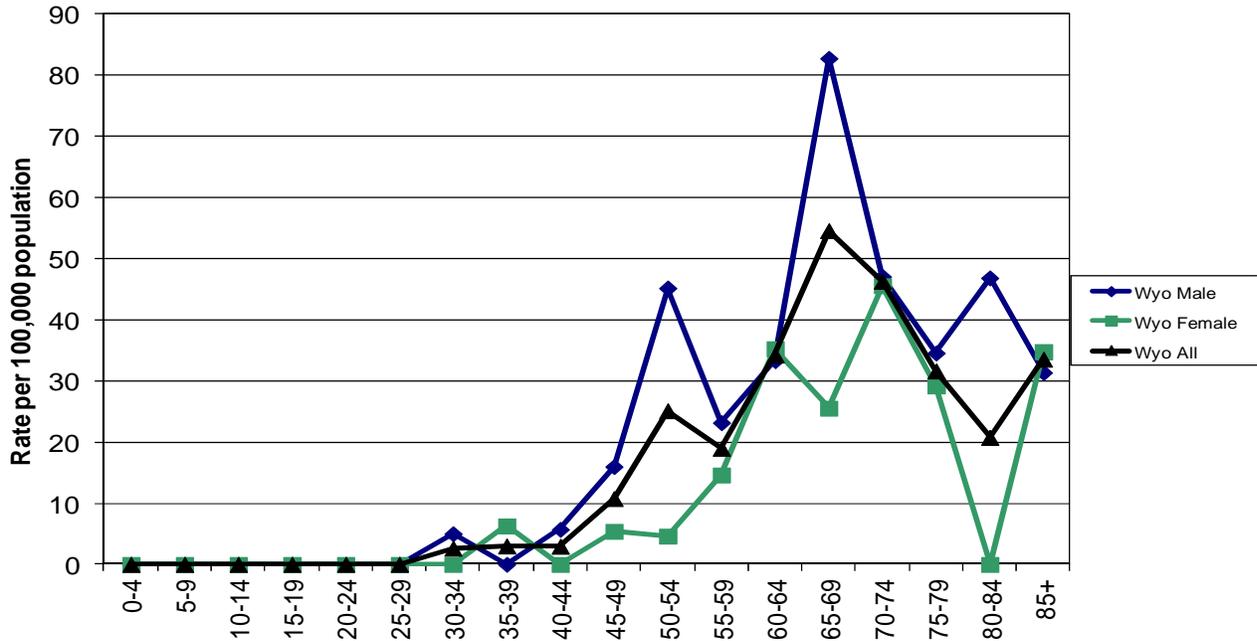
12-Year Incidence Trend

Oral Cavity and Pharynx



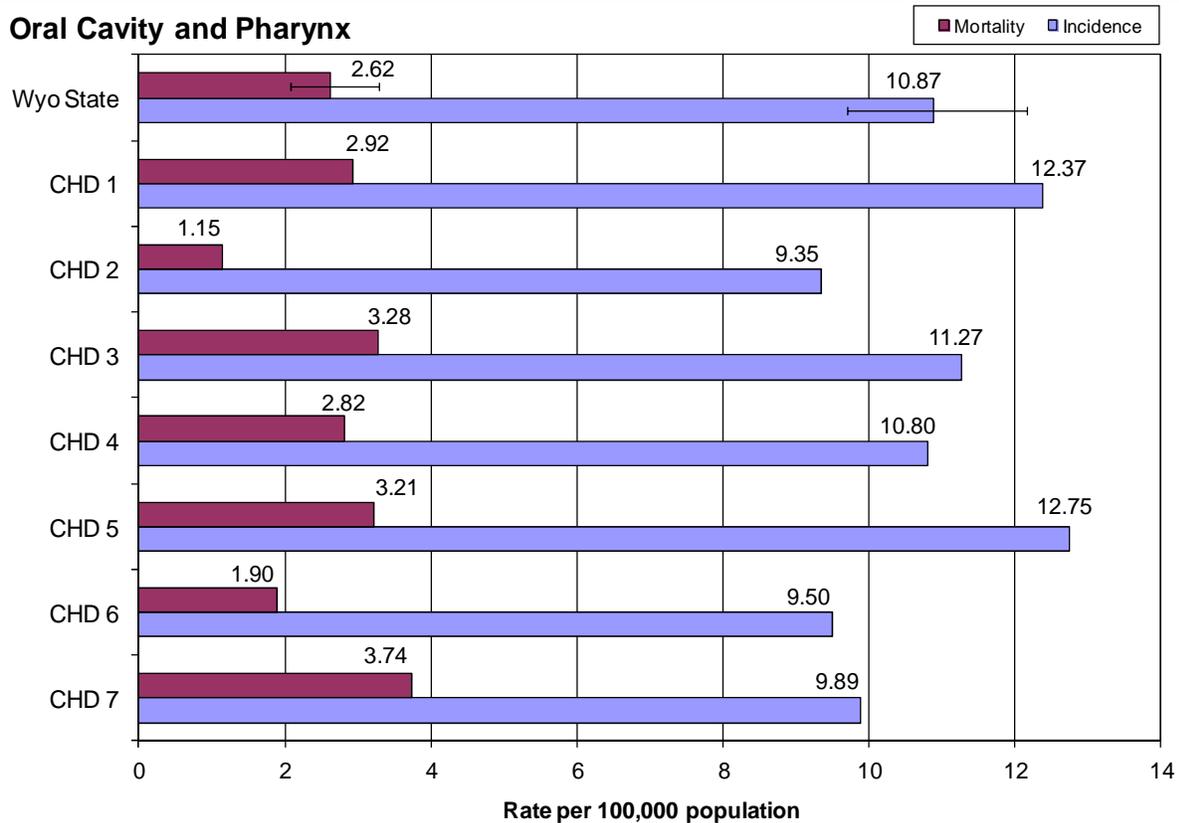
Age-Specific Incidence Rates - 2011

Oral Cavity and Pharynx



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Oral Cavity and Pharynx



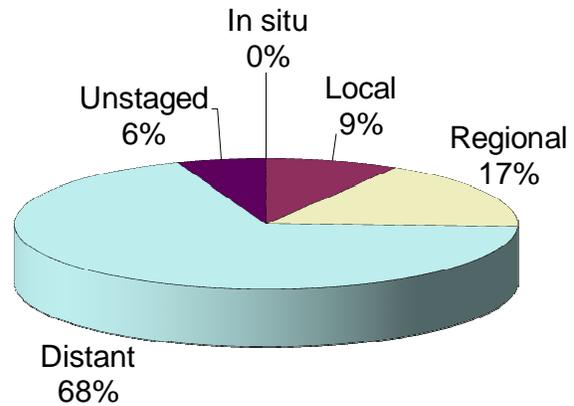
Ovary

Incidence and Mortality Summary

	Female
# Invasive Cases	35
WY Incidence	11.5
US Incidence	12.6
# Cancer Deaths	16
WY Mortality	5.3
US Mortality	8.1

* 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 rate in Wyoming females for ovarian cancer were both lower than the national rate in 2011. Neither difference was statistically significant.

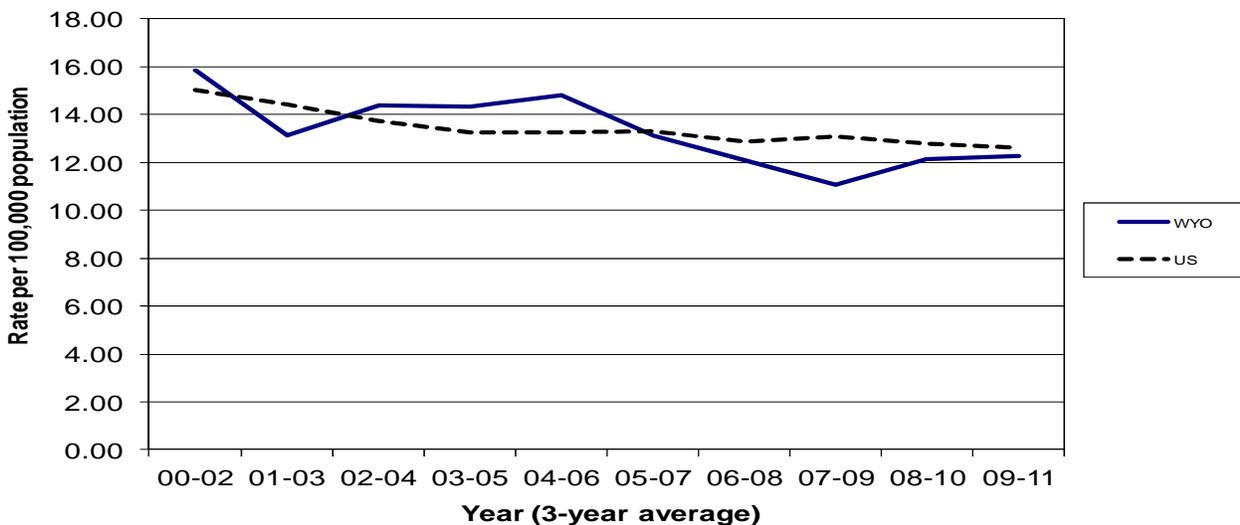
The 12-year incidence trend shows a very slight increase from 08-10 to 09-11, while the national incidence rate appears to be slowly decreasing.

There was a statistically significant increase in the percent of cancers diagnosed as distant from 2010 (49%), and a concomitant decrease in the percent diagnosed as regional from 2010 (31%) to 2011.

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

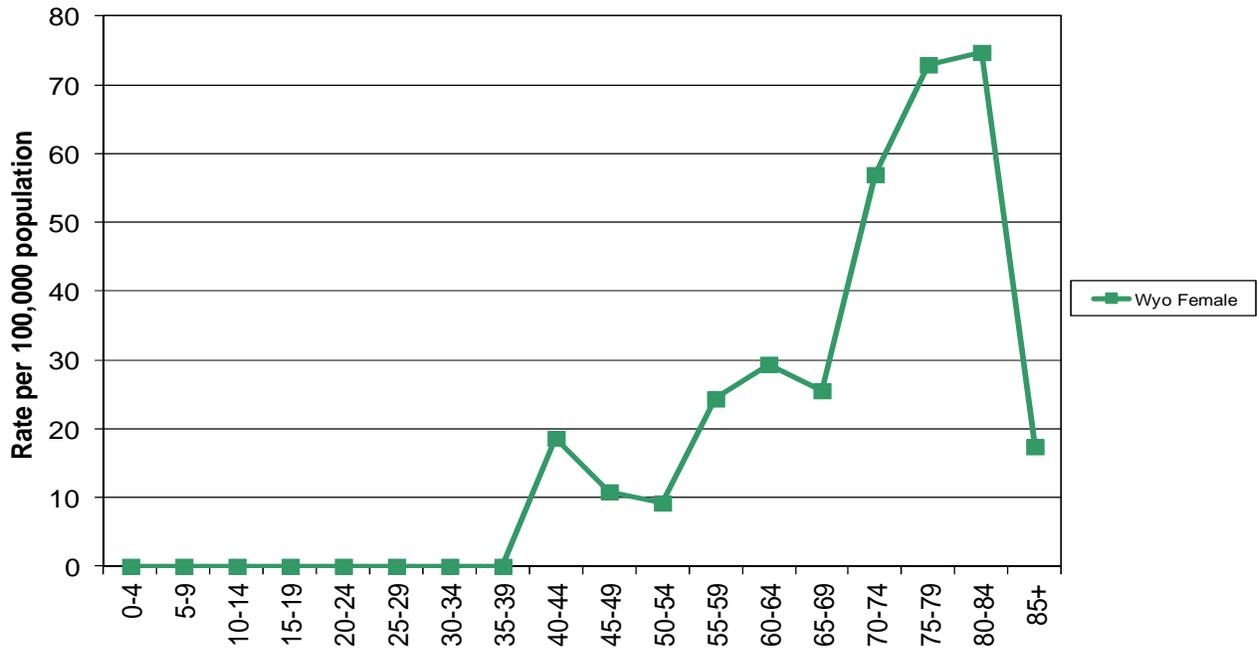
12-Year Incidence Trend

Ovary



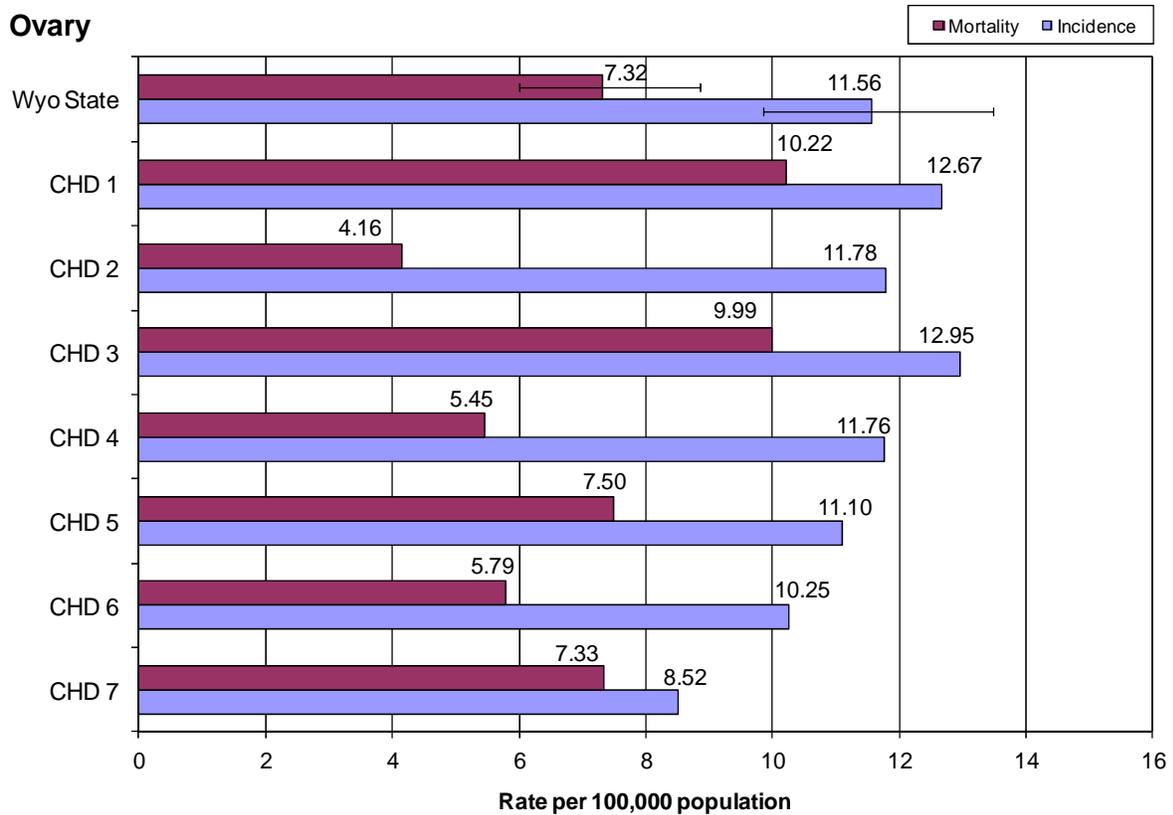
Age-Specific Incidence Rates - 2011

Ovary



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Ovary



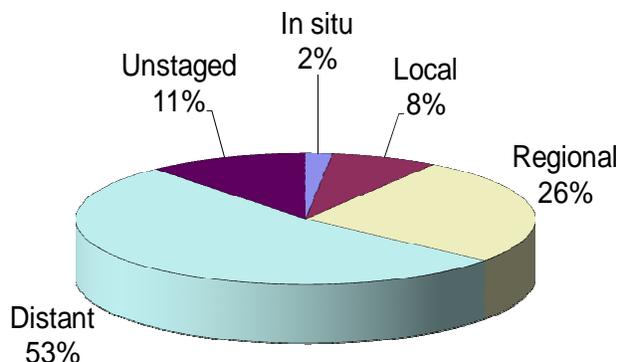
Pancreas

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	26	26	52
WY Incidence	8.5	7.9	8.1
US Incidence	13.5	10.6	12.0
# Cancer Deaths	24	24	48
WY Mortality	8.2	7.3	7.7
US Mortality	12.6	9.4	10.9

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

Stage at Diagnosis



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

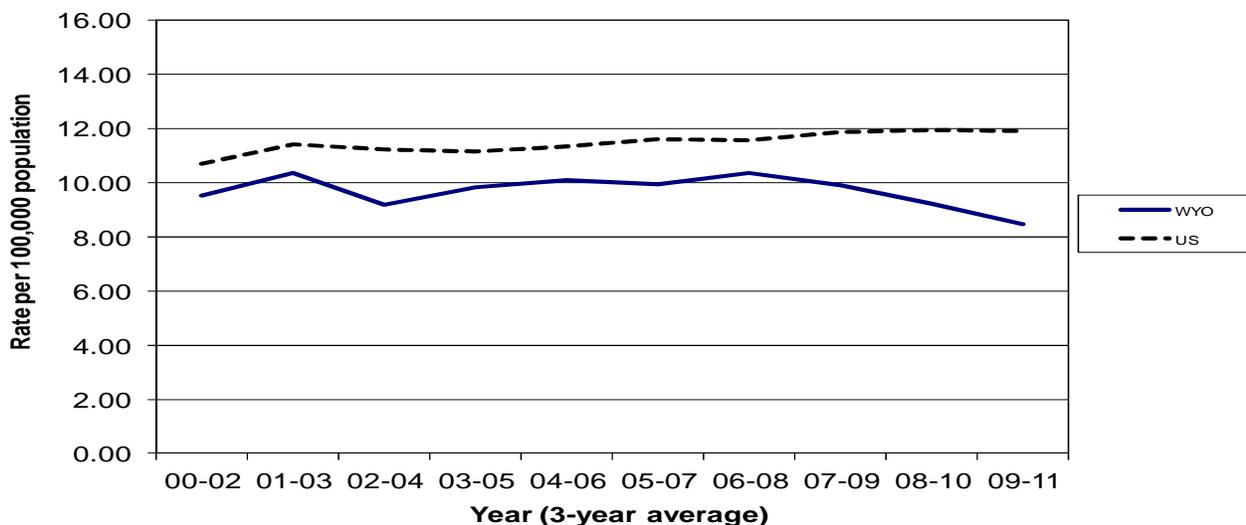
Wyoming's trend showed a continued decrease from 06-08, while the national rate remained level.

The percentage of cancer diagnosed at each stage were similar to the percentages seen in 2010.

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

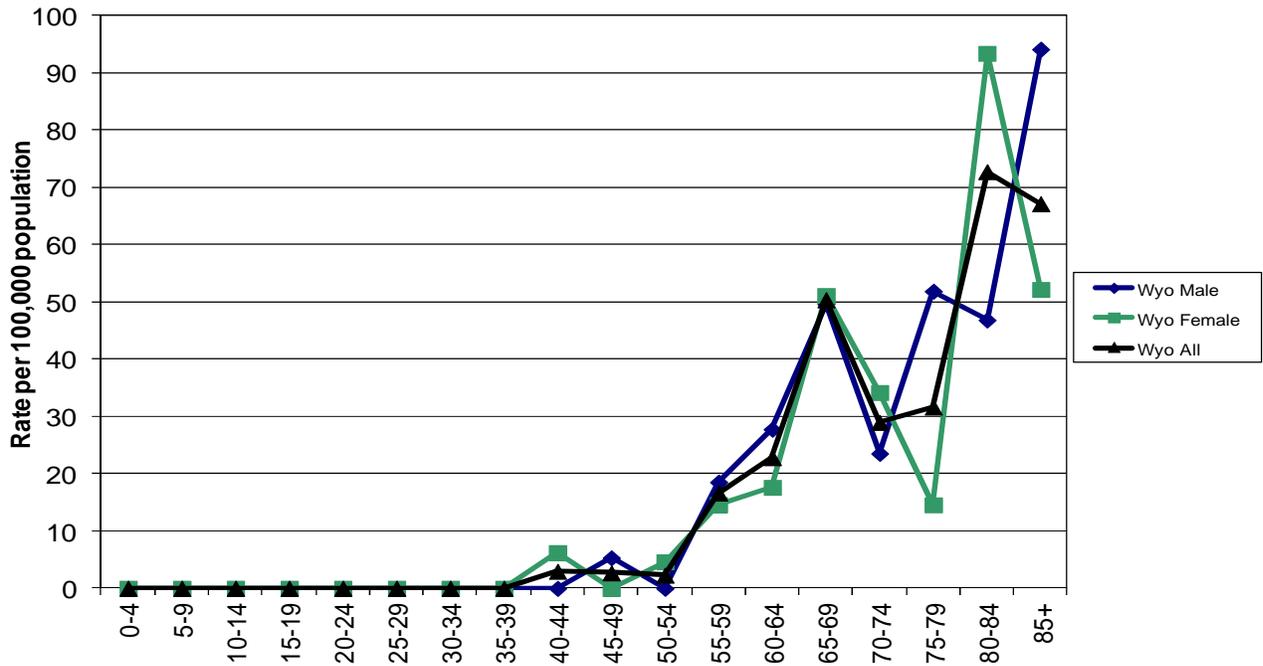
12-Year Incidence Trend

Pancreas



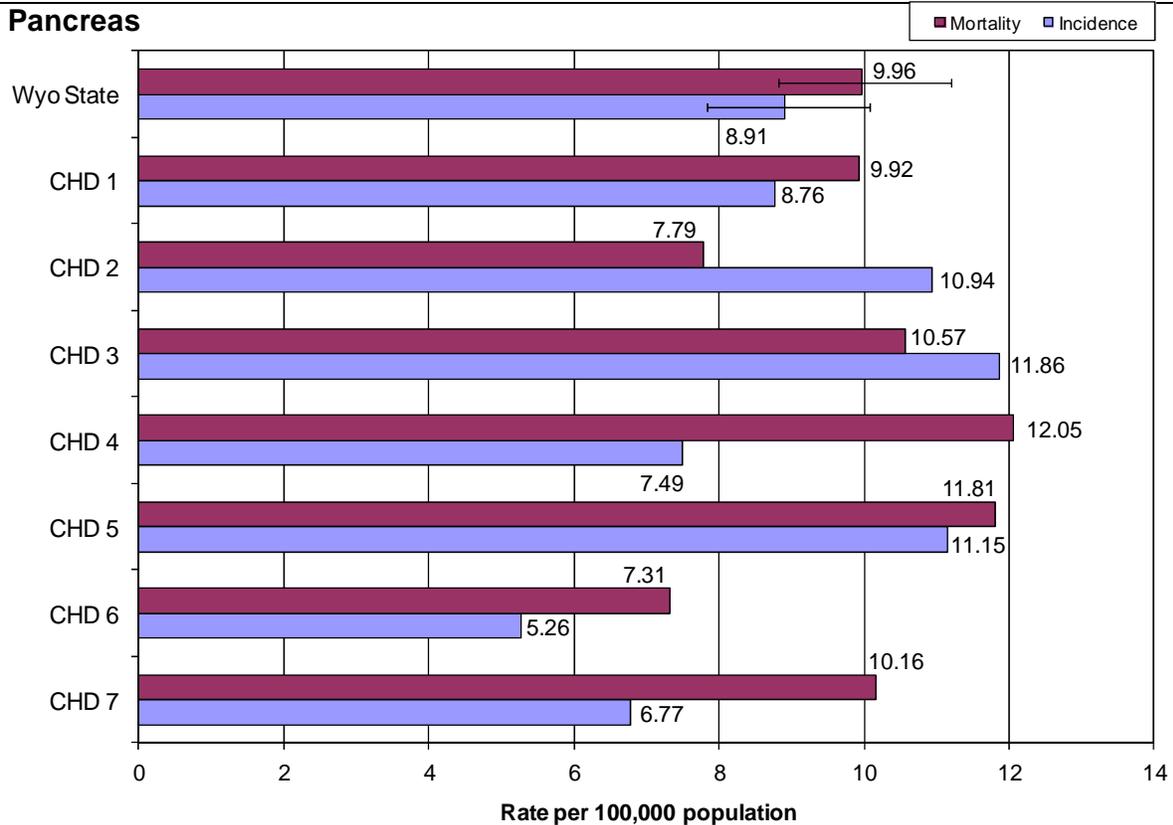
Age-Specific Incidence Rates - 2011

Pancreas



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Pancreas



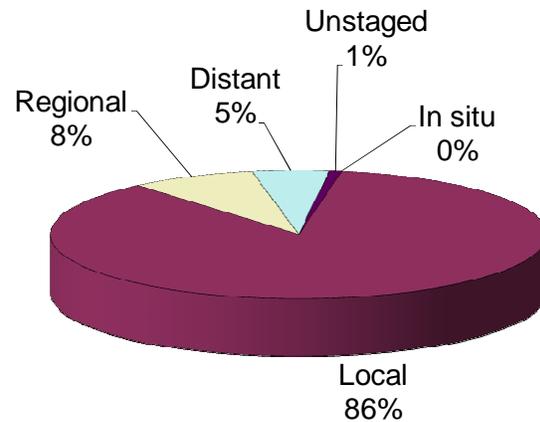
Prostate

Incidence and Mortality Summary

	Male
# Invasive Cases	379
WY Incidence	117.6
US Incidence	128.2
# Cancer Deaths	47
WY Mortality	20.1
US Mortality	20.1

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

Stage at Diagnosis



The incidence rate for prostate cancer in Wyoming males was lower than the national rate, while the state mortality rate was equal to the national. Neither difference was statistically significant.

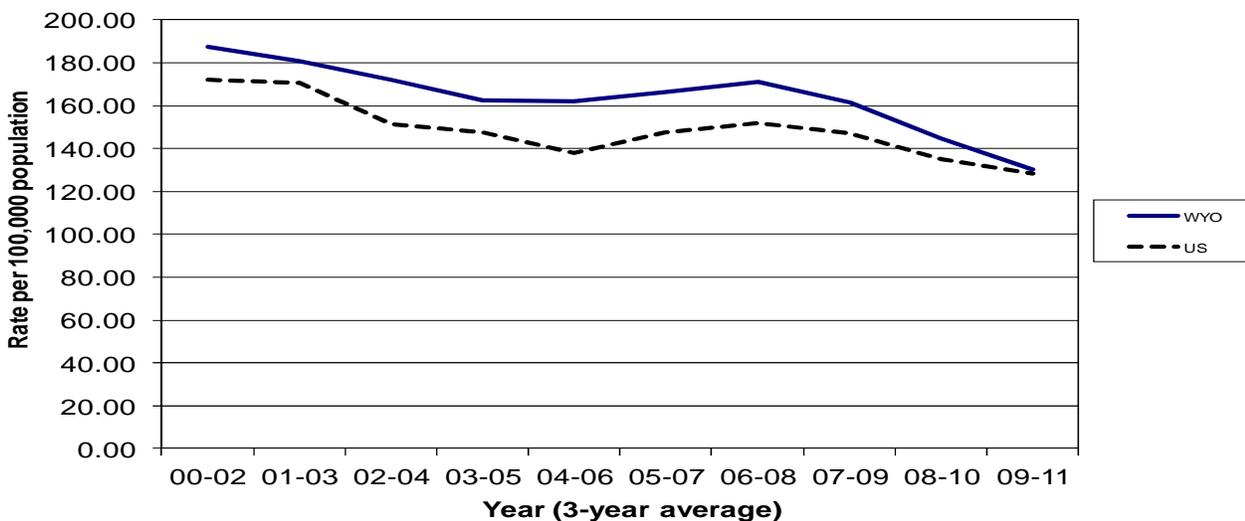
The incidence rate for both Wyoming and the U.S. show a continued decrease from 06-08.

The percent of cases diagnosed at each stage in 2011 were very similar to the percents in 2010.

There were no significant differences in incidence or mortality between the state and CHD rates.

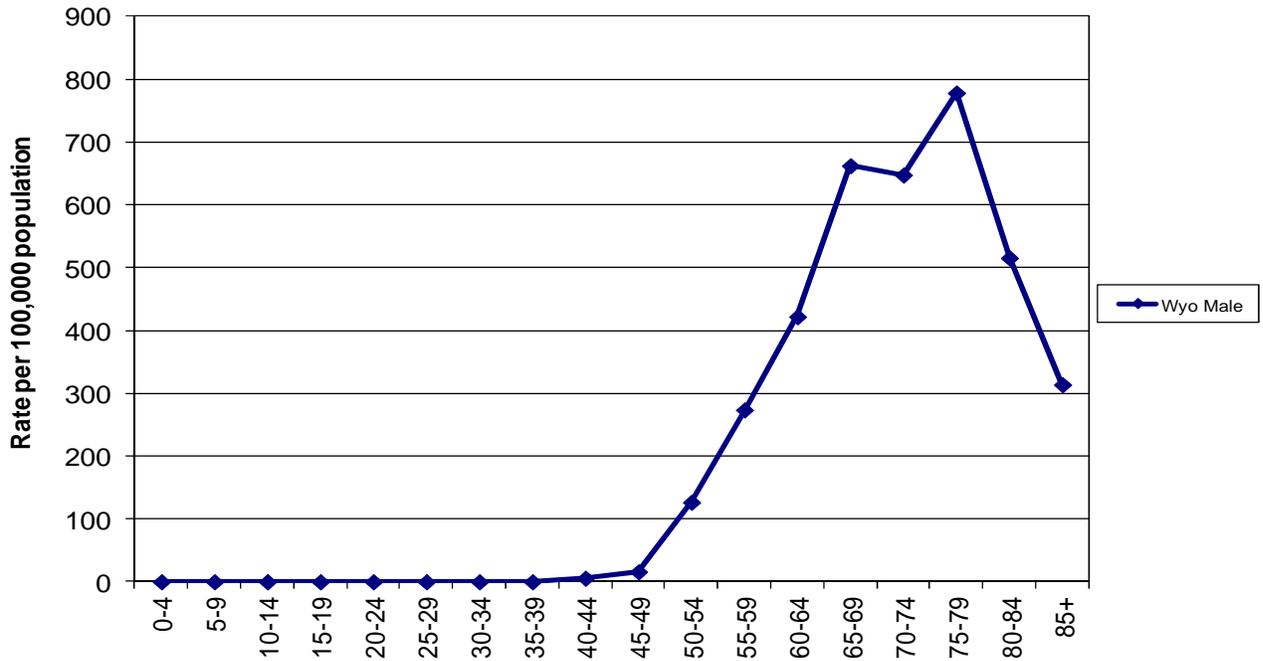
12-Year Incidence Trend

Prostate



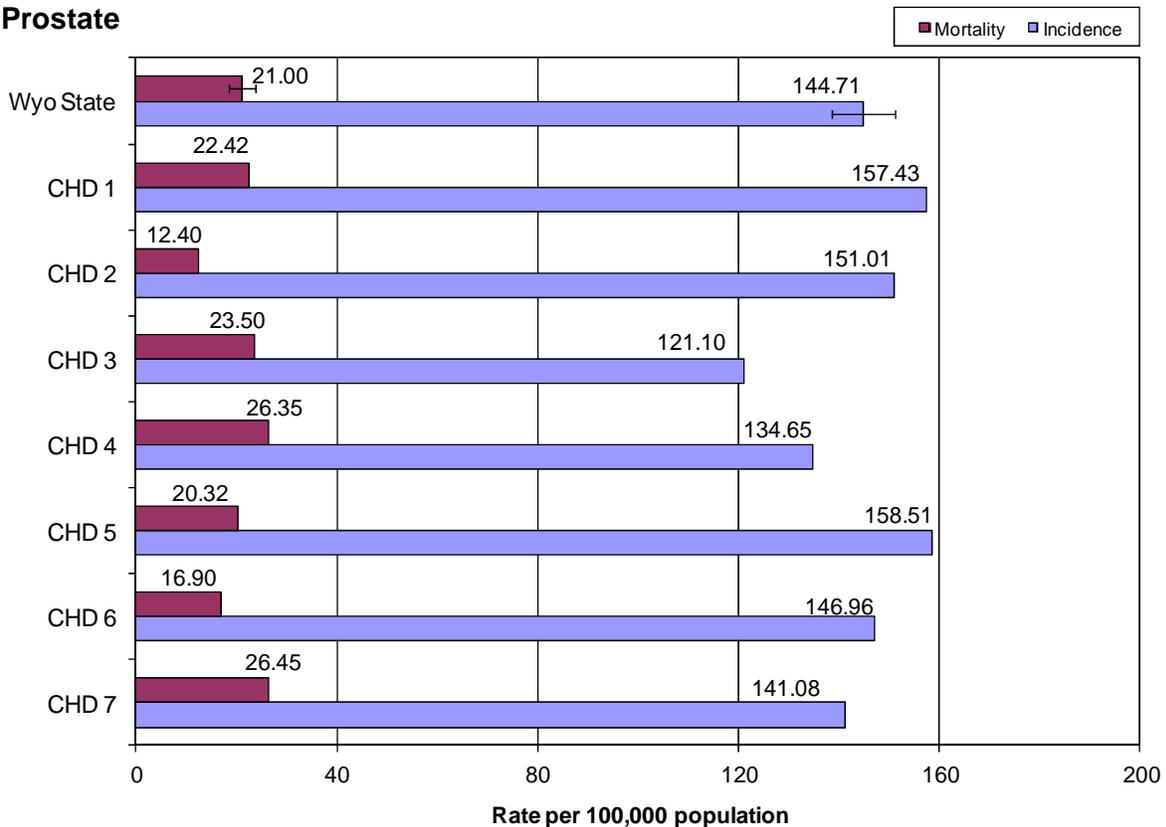
Age-Specific Incidence Rates - 2011

Prostate



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Prostate



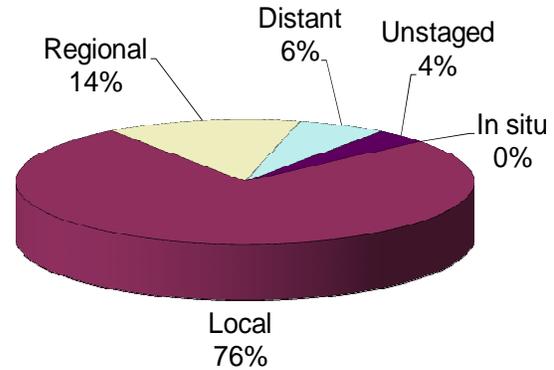
Thyroid

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	16	64	80
WY Incidence	5.1	23.5	14.1
US Incidence	7.0	20.9	13.6
# Cancer Deaths	0	<5	<5
WY Mortality	N/C	N/C	N/C
US Mortality	0.51	0.48	0.50

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

Stage at Diagnosis



The incidence rate for thyroid cancer in Wyoming males was lower than the national rate. The incidence rates for females and total population were both higher than the national rates. None of the differences were statistically significant. Due to low numbers of deaths, Wyoming mortality rates were not compared to the national rates.

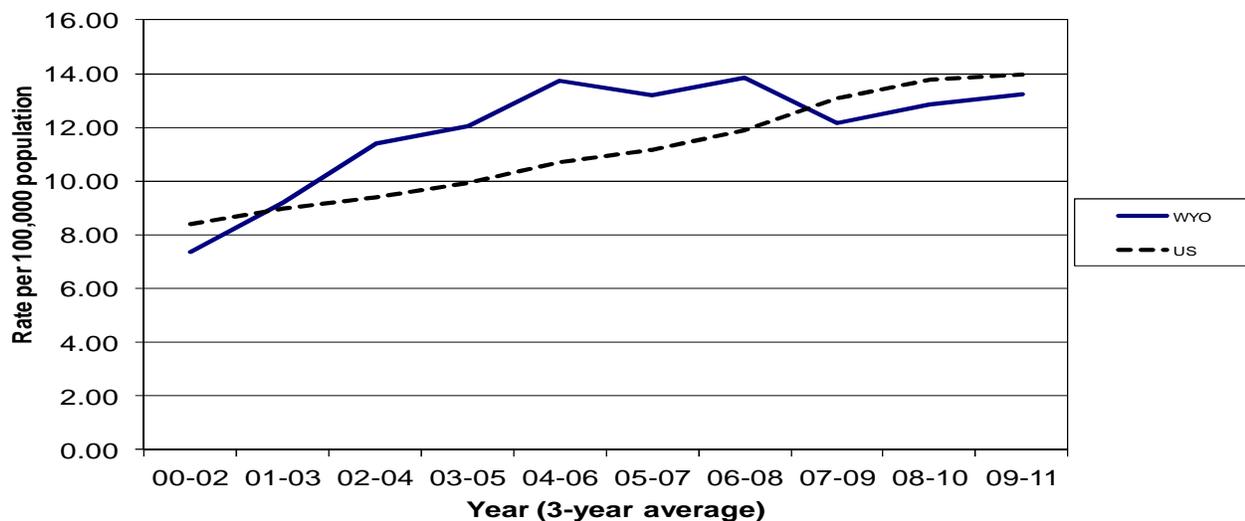
The trend for thyroid cancer in Wyoming showed an continued increase that started in 07-09. The national rate seems to be leveling off in 09-11.

The percentages for each stage were essentially the same as those seen in 2010.

No statistically significant differences were found between the CHD rates and state rate for incidence. No region reported more than 5 deaths due to thyroid cancer from 2007-2011.

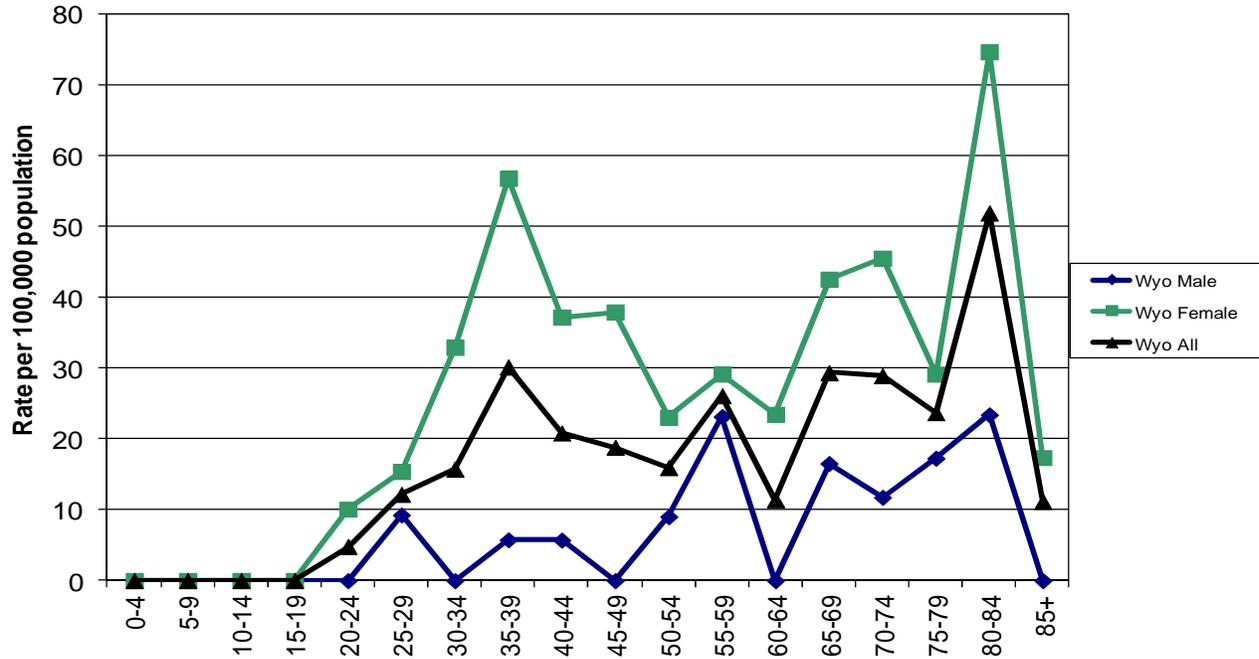
12-Year Incidence Trend

Thyroid



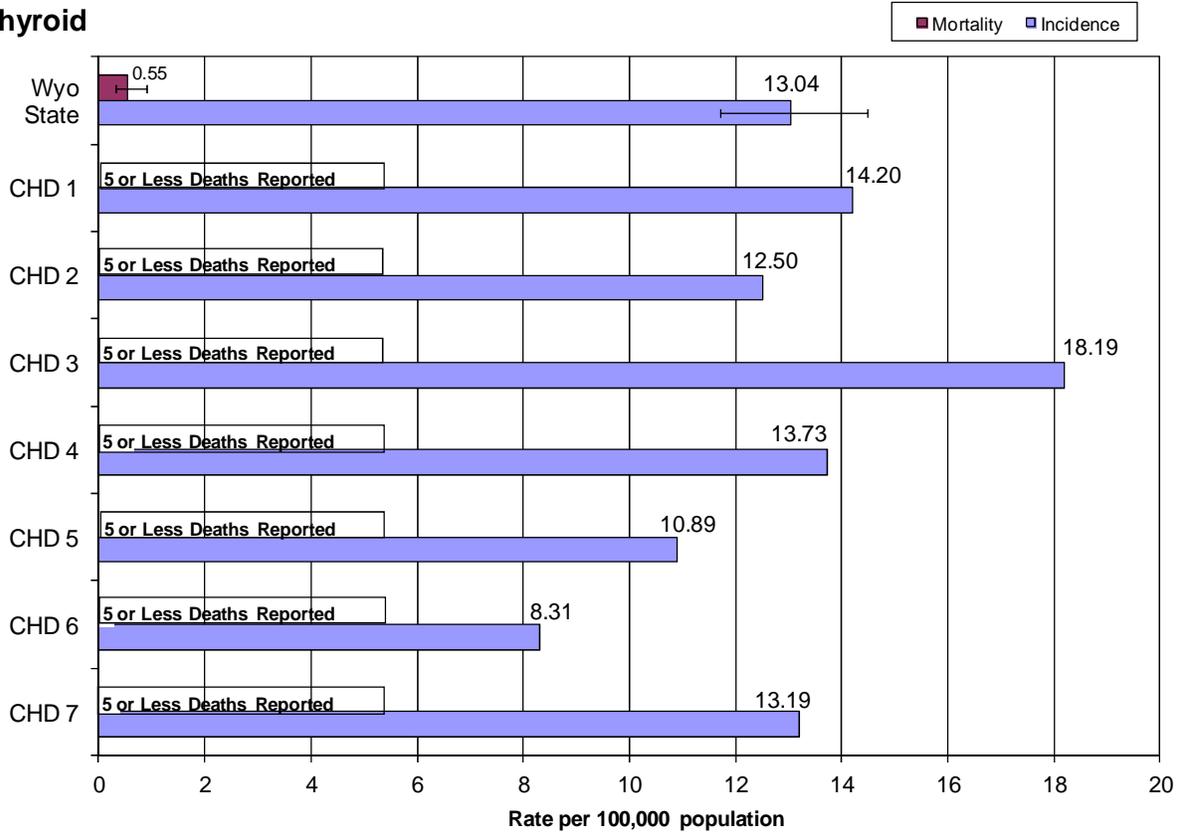
Age-Specific Incidence Rates - 2011

Thyroid



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Thyroid



Uterine

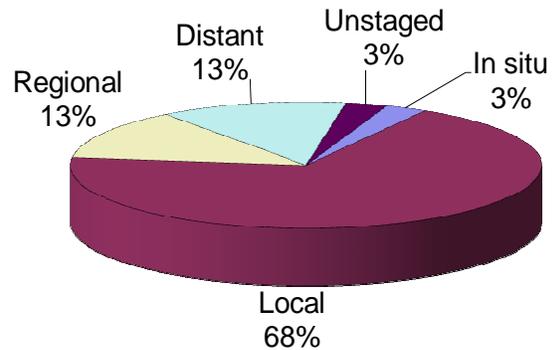
(Corpus Uteri + Uterus)

Incidence and Mortality Summary

	Female
# Invasive Cases	68
WY Incidence	21.3
US Incidence	25.6
# Cancer Deaths	11
WY Mortality	3.3
US Mortality	4.2

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

Stage at Diagnosis



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

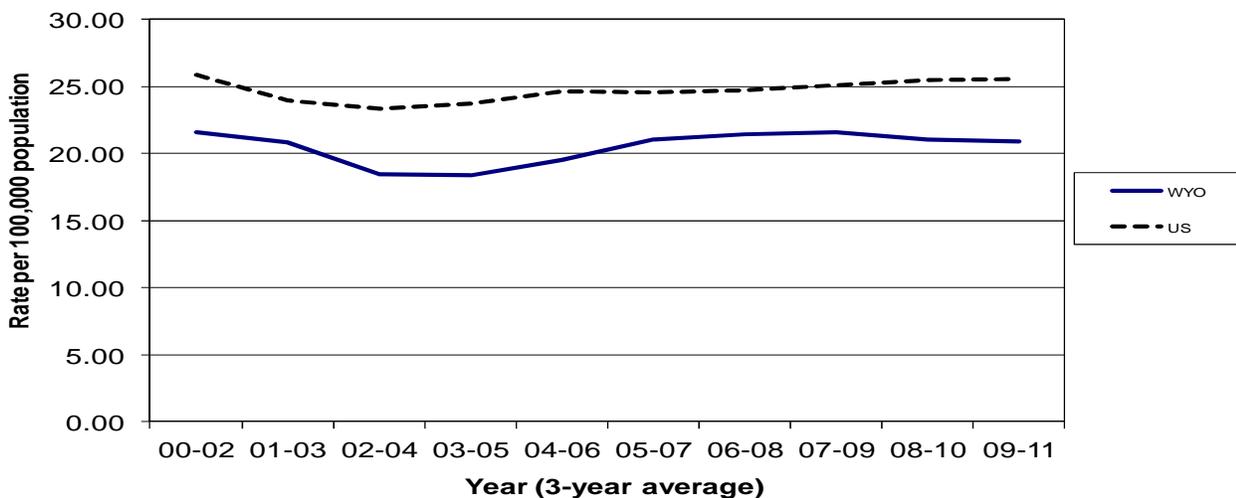
The Wyoming and national incidence rates remained relatively level in 09-11.

The percentage diagnosed at each stage were essentially the same as those seen in 2010.

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

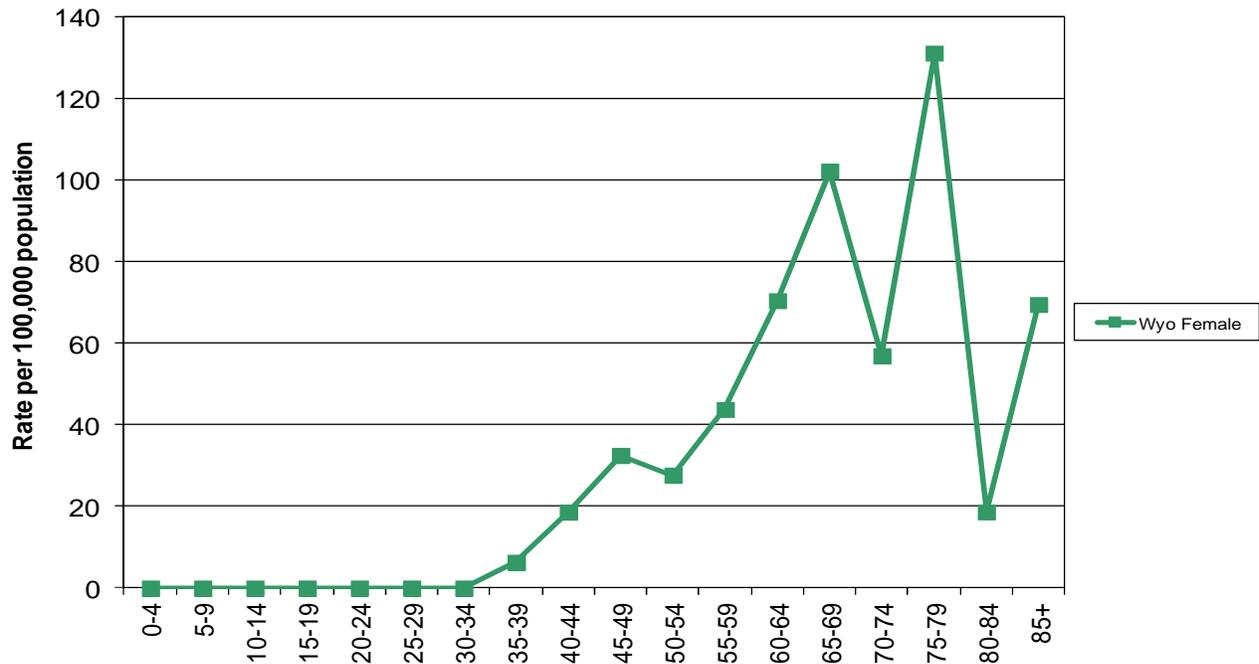
12-Year Incidence Trend

Uterine



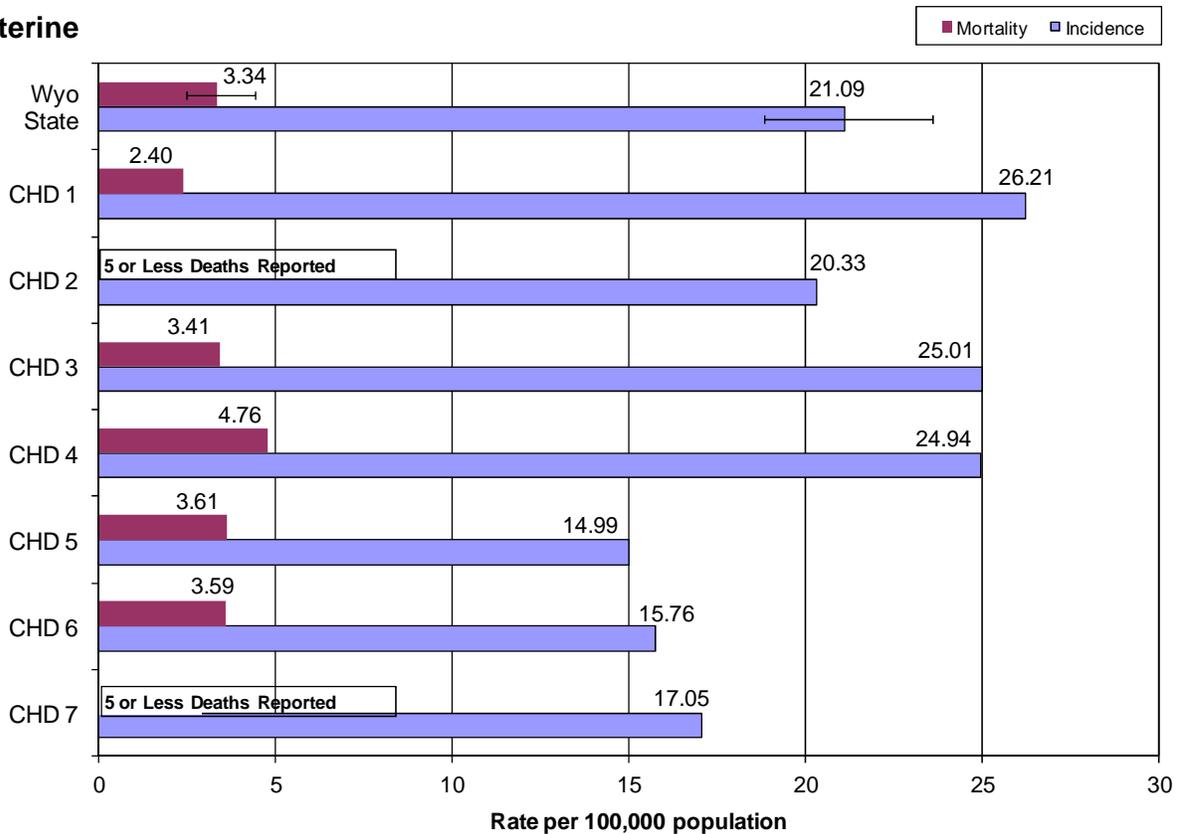
Age-Specific Incidence Rates - 2011

Uterine



Cancer Health District Incidence and Mortality 5-Year Average, 2007-2011

Uterine



Appendix A

References

Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov)
SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2012 Sub (2000-2010) <Katrina/Rita Population Adjustment> Linked To County Attributes - Total U.S., 1969-2011 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2013, based on the November 2012 submission.

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

Wyoming Vital Statistics Service, Wyoming Department of Health - (http://www.health.wyo.gov/rfhd/vital_records/index.html) (*Note: These data were supplied by the Vital Statistics Services, Wyoming Department of Health, Cheyenne, Wyoming. The Wyoming Vital Statistics Services was not involved in any analyses, interpretations, or conclusions.*)

Age-Adjustment

Prior 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 comparable to the national cancer reports published through SEER and the National Cancer Institute. The 5-year age group also enables cancer prevention programs to use Wyoming reports (e.g., Vital Records) as printed versus requesting specially calculated rates.

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

Chart A:

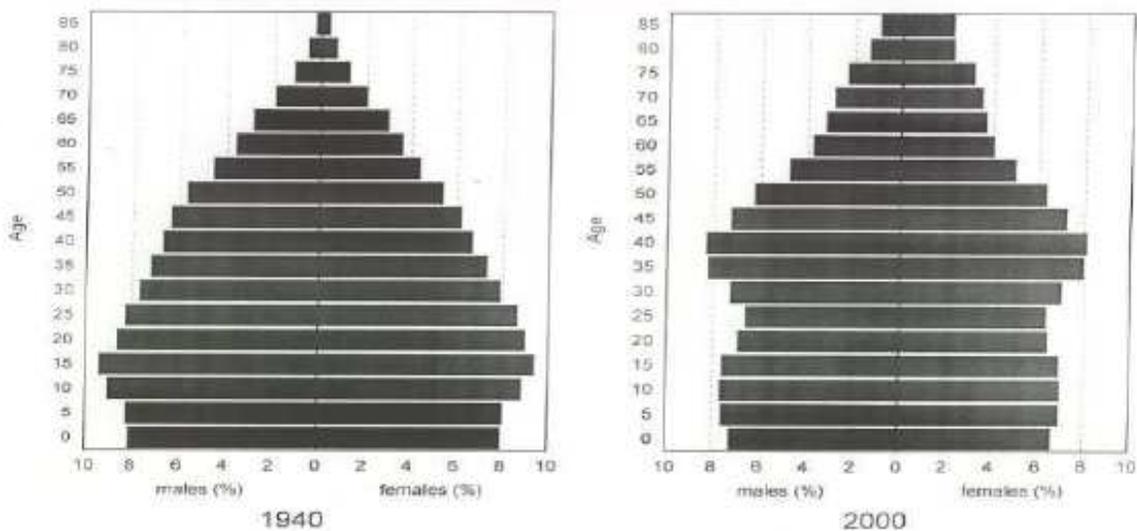


Chart B:

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

