Wisconsin Cancer Facts & Figures 2013-2014

American Cancer Society®

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Acknowledgements

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Cancer: Basic Facts

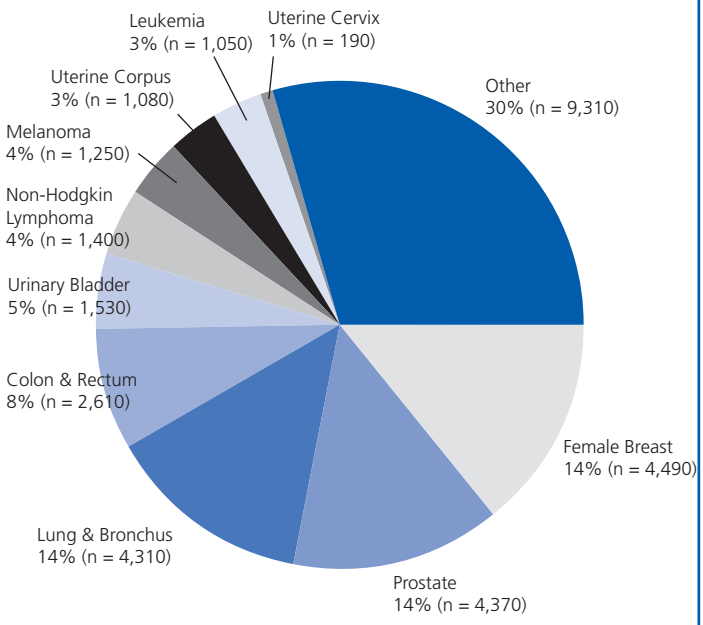
What is the Wisconsin Cancer Facts & Figures?

Wisconsin Cancer Facts & Figures is a publication designed to provide state and local cancer statistics along with cancer information and risk factors to individuals interested in cancer issues, community members, and public health and medical professionals.

What is Cancer?

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread is not controlled, it can result in death. Cancer is caused by both external factors (tobacco, chemicals, radiation, and infectious organisms) and internal factors (inherited mutations, hormones, immune conditions, and mutations that occur from metabolism). These causal factors may act together or in sequence to initiate or promote the development of cancer. Ten or more years often pass between exposures to external factors and detectable cancer. Cancer is treated with surgery, radiation, chemotherapy, hormone therapy, biological therapy, and targeted therapy.

Figure 1. Estimated Percentage and Number of New Cancer Cases in Wisconsin, 2013

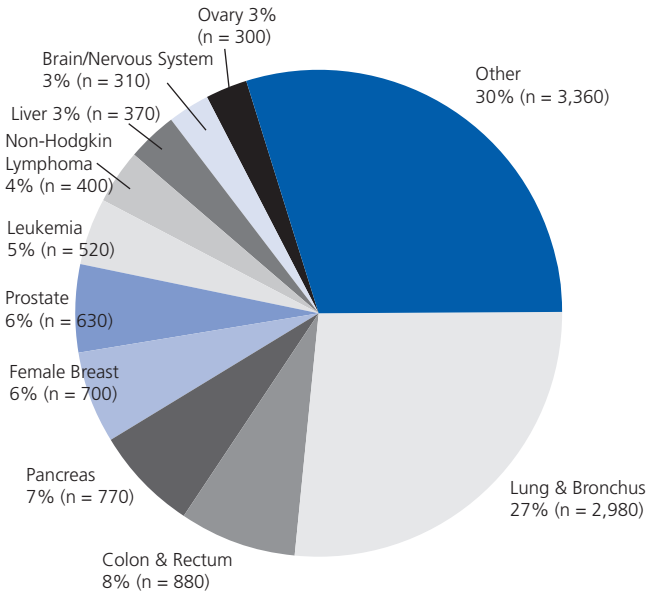


Source: American Cancer Society. Cancer Facts & Figures, 2013. Atlanta: American Cancer Society; 2013.

Who is at Risk of Cancer?

Anyone can develop cancer but the risk of developing cancer increases as people age. More than 77% of all cancers are diagnosed in persons 55 and older. In the United States, men have about a 1 in 2 chance of developing cancer during the course of a lifetime; for women the risk is about 1 in 3.

Figure 2. Estimated Percentage and Number of Cancer Deaths in Wisconsin, 2013



Source: American Cancer Society. Cancer Facts & Figures, 2013. Atlanta: American Cancer Society; 2013.

How Many New Cases of Cancer are Expected This Year?

In 2013, approximately 31,590 Wisconsin residents will be diagnosed with cancer. This means each day 87 people in Wisconsin will hear the words "you have cancer" (Figure 1).

How Many Cancer Deaths are Expected This Year?

In 2013, approximately 11,220 Wisconsin residents will die of cancer, which amounts to more than one person every hour (Figure 2).

How Many People Survive Cancer?

In 2012, it was estimated that there are 279,210 cancer survivors in Wisconsin. Nationwide, the 5-year relative survival rate for all invasive cancers diagnosed between 2003-2009 is 66%, up from 49% in 1975-1977.

Understanding Cancer Incidence and Mortality Rates

Cancer rates in this document represent the number of new cases of cancer per 100,000 population (incidence) or the number of cancer deaths per 100,000 population (mortality) during a specific time period. Cancer incidence and mortality rates can be adjusted for demographic variables such as race, age, and sex. The most commonly used adjustment for cancer rates is age.

Age-Adjusted Rates

Older age groups generally have higher cancer rates than younger age groups. For example, more than 77% of new cancer cases occur in those aged 55 and older. As a result, if one county's cancer incidence rate is higher than another, the first question asked is whether the county with a high rate has an older population.

To address this issue, all incidence and mortality rates presented in this booklet have been age-adjusted. This removes the disparity of different age distributions between populations and allows for direct comparison of those populations. Age-adjustment also allows for the comparison of rates within a single population over time.

All incidence and mortality rates in this publication, provided by the Wisconsin Cancer Reporting System, were age-adjusted using the direct method. The direct standardization method weights the age-specific rates for a given gender, race, or geographic area by the age distribution of the standard population. The 2000 United States standard million population was used for all rates provided in this booklet.

There are three major components used to calculate age-adjusted rates: the number of cases or deaths being reported, the population being reported, and a "standard" population. The rate (new cases or deaths per 100,000 population) is first computed for each age group, then weighted by multiplying it by the proportion of the 2000 US standard population for that same age group. The results from each age group are added to arrive at the age-adjusted rate for the total population.

An age-adjusted rate should only be compared with another age-adjusted rate using the same US standard population. Starting with all 1999 data, the National Center for Health Statistics (NCHS) and the National Cancer Institute (NCI) began using the year 2000 US standard million-population age distribution reported by the Census Bureau. Cancer incidence increases with age and because the 2000 population was older than the 1970 population, the change to the 2000 US standard population resulted in apparent higher rates for many cancers. Caution should be used when comparing the data in this report with cancer incidence rates adjusted to standard populations other than the 2000 US standard population.

The 2010 Census continued the option first started in the 2000 Census of allowing respondents the option of identifying themselves as more than one race. The priority of reducing disparities in cancer prevention and control means that states need to report long-term trends for each race. NCHS and the Census Bureau developed bridged 2010 population estimates as implemented in NCI SEER* Stat software used in this report. Documentation of the modifications made by NCI to Census Bureau estimates is available at: www.seer.cancer.gov/popdata/methods.html

Age-adjusted incidence and mortality rates are grouped by primary cancer site or the site of origin per 100,000 population. For cancers that occur only in one sex (prostate, uterine, cervical, female breast), sex-specific population denominators are used to calculate incidence and mortality rates. Incidence rates are for invasive cancers unless otherwise specified. The only exception is the incidence rate for urinary bladder, which includes both in situ and invasive cancers. Cancer incidence rates may include multiple primary cancers that occur in single patients; each cancer is counted as a separate case if a patient has more than one primary cancer.

Limitations and Caveats

To accurately represent the burden of cancer in Wisconsin, it is important that all newly diagnosed cancer cases be reported annually to the Wisconsin cancer registry, Wisconsin Cancer Reporting System (WCRS). The North American Association of Central Cancer Registries (NAACCR) certification process indicated that Wisconsin state data was at least 95% complete for every year represented in this report. This national standard for completeness is one measure of data quality. However, incidence data for certain sites and counties in 1995-2010, the years widely represented in this report, are not necessarily 95% complete. Data for cancers diagnosed and treated at non-hospital settings (such as melanoma, leukemia, and prostate cancers) are probably less complete than cancers primarily treated in hospitals (lung and colorectal cancers).

The primary reason for incomplete data is that there are some hospitals, laboratories, and out-patient diagnostic and treatment facilities that are not reporting their cancer cases to the WCRS or are not reporting cases in a timely manner. Incomplete and late reporting of cancer data may underestimate the true burden of cancer in Wisconsin and Wisconsin counties. Generally, the smaller areas are more subject to reporting variation and under-reporting.

Geographic Boundaries

The county variable in this report is based on the patient's residence at time of diagnosis for incidence data, and residence at time of death for mortality data. Therefore, assumptions about longitudinal environmental factors are limited.

Two major factors affect interpretation of geographic location tabulations. First, many Wisconsin counties have a very small number of new cancer diagnoses or deaths in a year, resulting

in site-specific frequencies in the single digits. Such small numbers may easily double or triple (or decrease by equivalent amounts) from year to year. When years of data or primary sites are combined to produce larger number of events, the rates become more stable. County data in this report are averaged over the five years to provide more stable rates. Even with multiple years of data, however, the numbers may still be small and some random fluctuation is expected. To provide guidance in assessing the stability of rates, all county tables show the upper and lower limits of the confidence interval for each rate, which will include the true value 95% of the time. A large confidence interval indicates high variability of the "true" rate, while a small confidence interval indicates greater stability of the rate.

Second, reporting completeness and/or timeliness may vary by region. The largest reporting variations relate to out-of-state diagnosis and treatment of patients who live in the sparsely populated counties along the Wisconsin/Minnesota border and are seen in Minnesota hospitals. Reporting by Minnesota hospitals to WCRS is a voluntary process (established through memoranda of understanding that protect patient confidentiality) and is not covered under Section 255.04, Wisconsin Statutes. The Wisconsin Cancer Reporting System currently receives cancer case reports for Wisconsin residents from 20 other state central cancer registries, but not from the Minnesota cancer registry. Eleven counties with significantly lower incidence rates (Map 1, page 10) are clustered in the northwestern area from which Wisconsin residents may travel to Minnesota facilities, such as the Mayo Clinic, to seek medical care. Those northwestern counties have lower than expected numbers of cancer cases reported to the Wisconsin Cancer Reporting System.

Patient Race and Ethnicity

Historically, differences among facilities in recording patient race (information not required in medical chart, entered by proxy, or patient self-reporting) have led to a number of ambiguous or unknown race codes. Data in this report reflect American Indian cases reported by facilities and also those identified through the linkage with the US Indian Health Service. Cancer cases incorrectly reported to the WCRS as white were identified as American Indian through linkage with US Indian Health Service lists. Data in this report include all American Indian cases identified through the linkage project for years 2006-2010.

For this report, the NAACCR Hispanic/Latino Algorithm Identification Algorithm (NHIA) assigned Hispanic/Latino ethnicity to cases, using variables of birthplace, marital status, gender, race and surname to increase the number of cases identified as Hispanic in the registry during the years covered in this report. For a complete description of NHIA, and other updates to reporting guidelines, visit the following web site: http://www.naaccr.org/Research/DataAnalysisTools.aspx

The application of the NHIA increased the number of Hispanic cancer cases beyond the number identified by reporting facilities. The NHIA was developed and tested by the NAACCR and endorsed by the Centers for Disease Control and Prevention to correct for documented underreporting of Hispanic/Latino cases by facilities. Caution should be used when comparing rates for Hispanics/Latinos with the rates for race groups because ethnicity and race are not mutually exclusive categories in this report. Hispanics/Latinos who identify themselves as white or any other racial group are included in the race category as well as in the Hispanic category.

Changes in Multiple Primary Rules

Starting with 2007 cases, all central state cancer registries received new rules and guidelines for counting and coding cases as primary tumors. For a complete discussion of the new rules, please see the web page: http://training.seer.cancer.gov/rules/changes/

Wisconsin Population Characteristics

The census population estimate for Wisconsin in 2012 is 5,726,398. Wisconsin's population increased by 0.7% from 2010 to 2012 compared to the national 1.7% increase. Of the state's 5.7 million residents, 88.4% are White, 6.5% are Black, 2.4% are Asian, 1.1% are Native American/Alaska Native and 6.1% the population are of Hispanic or Latino origin. By age, 14.4% of the population in Wisconsin is over 65 years old, compared to 13.7% nationally. Economically, Wisconsin has a median household income of $52,374 and a poverty rate of 12.0%, which is lower than the national average of 14.3%. Approximately 29.9% of Wisconsin residents live in rural locations compared to 19.3% of the national population. However, the rural population in Wisconsin has decreased by approximately 10% during the last decade.

Data Sources

American Cancer Society, Cancer Facts & Figures

The National Home Office of the American Cancer Society publishes the Cancer Facts & Figures annually. These reports provide the most current information about cancer, including the projected numbers of new cancer cases and deaths each year. These estimates are based on incidence data from the Surveillance, Epidemiology and End Results (SEER) Program and the Center for Disease Control and Prevention's National Program of Cancer Registries. Estimated deaths are based on mortality data are from the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention. Report available at: www.cancer.org

Wisconsin Cancer Incidence and Mortality

Cancer incidence data are from the Wisconsin Cancer Reporting System (WCRS), part of the Office of Health Informatics, Division of Public Health, Department of Health Services. The WCRS was established in 1976 to collect cancer incidence data on Wisconsin residents as mandated by chapter 255.04, Wisconsin Statutes. In 1994 WCRS became part of the National Program of Cancer Registries (NPCR) authorized and funded by the Centers for Disease Control and Prevention. Cancer mortality data are from the NCHS and are based on the underlying cause of death. The WCRS staff prepared all data for the cancer incidence and mortality rates per 100,000 age-adjusted to the 2000 US standard population. The SEER*Stat software package, from the National Cancer Institute, was used to calculate both incidence and mortality rates. Wisconsin cancer publications available at: www.dhs.wisconsin.gov/wcrs

National Cancer Data and Survival Trends

National cancer data and survival data are from the Surveillance, Epidemiology and End Results (SEER) Program of the National Cancer Institute. National incidence rates are based on 18 SEER registries reporting from geographic areas covering about 27.8% the population. National mortality rates are from the SEER*Stat public-use database for mortality (www.seer.cancer.gov/seerstat), with underlying mortality data provided by NCHS (www.cdc.gov/nchs). The SEER registry program is considered an authoritative source of cancer incidence and mortality in the United States. Available at: www.seer.cancer.gov

Behavioral Risk Factor Data

The Wisconsin Office of Health Informatics, Division of Public Health, annually conducts the Behavioral Risk Factor Survey through telephone interviews of randomly selected adults in Wisconsin. Respondents are asked to provide information about their health risk behaviors and health monitoring activities. The survey is done in cooperation with the Centers for Disease Control and Prevention (CDC) and is part of the Behavioral Risk Factor Surveillance System (BRFSS), which is conducted in all 50 states and four US territories. Available at: www.dhs.wisconsin.gov/stats/brfs.htm

Youth Smoking/Behavioral Risk Data

The Wisconsin Youth Risk Behavior Survey (YRBS) was conducted as part of the national survey efforts by CDC. The survey was designed to provide national, state and local prevalence estimates on health risk behaviors, such as tobacco use, unhealthy dietary behaviors and physical inactivity among youths who attend public and private schools. The YRBS is a biennial survey, which began in 1993. Available at: www.dpi.wi.gov/sspw/yrbsindx.html

Wisconsin Cancer Incidence and Mortality Data

Overview

In Wisconsin from 2006 to 2010, an average of 28,926 residents were diagnosed with invasive cancers each year, and more than 11,000 died of these diseases annually. Males have higher cancer incidence and mortality rates than females, and cancer rates increase with age, most dramatically after age 50. Figures 3 and 4 (pages 6 and 7) display the leading cancer sites by percentage of new invasive cases and cancer deaths among males and females, respectively. The overall cancer incidence and mortality rates in Wisconsin are similar to rates reported for the nation (Tables 1 and 2, pages 8 and 9).

Cancer Incidence

Prostate cancer is the most frequently diagnosed cancer among Wisconsin males, representing 30% of all cancers newly diagnosed. Breast cancer remains the most frequently diagnosed cancer in Wisconsin women, representing 31% of all female cancer diagnoses. Overall, lung cancer continues to be the most frequently diagnosed cancer in Wisconsin for both genders combined.

Table 1 provides 2006-2010 average annual new cases and age-adjusted incidence rates for 23 common cancers by gender with national comparisons. For all cancer sites combined, the incidence rate for Wisconsin (466.0 per 100,000) was slightly higher than the national rate (463.0 per 100,000). Among the four most common cancers, colorectal, breast, and prostate cancer incidence rates were lower, but lung cancer incidence was higher, in Wisconsin, compared to the national rates. The lung cancer incidence rate was 62.0 per 100,000 for Wisconsin, marginally higher than the national lung cancer incidence rate of 61.4 per 100,000.

Map 1 (page 10) shows total cancer incidence for all counties in Wisconsin for 2006-2010. Please note that low county rates may reflect underreporting for those counties. Eleven counties with significantly lower incidence rates are clustered in the northwestern area from which Wisconsin residents may travel to Minnesota facilities to seek medical care. Those northwestern counties have probable interstate health care that is not currently reported to the Wisconsin Cancer Reporting System. For additional county-level information about the border counties, and the number of newly diagnosed cases and age-adjusted rates for specific cancer sites, refer to the supplemental Table A, pages 47-51.

Cancer Mortality

Cancer is currently the leading cause of death in Wisconsin, with a 2010 mortality rate of 173.7. Heart disease is the second leading cause of death, with a mortality rate of 163.3 that same year. While mortality rates for both diseases are declining, heart disease mortality has dropped more quickly than cancer mortality in recent years. Nationally, heart disease remains the leading cause of death; the 2010 heart disease mortality was 177.2 and cancer mortality was 171.8.

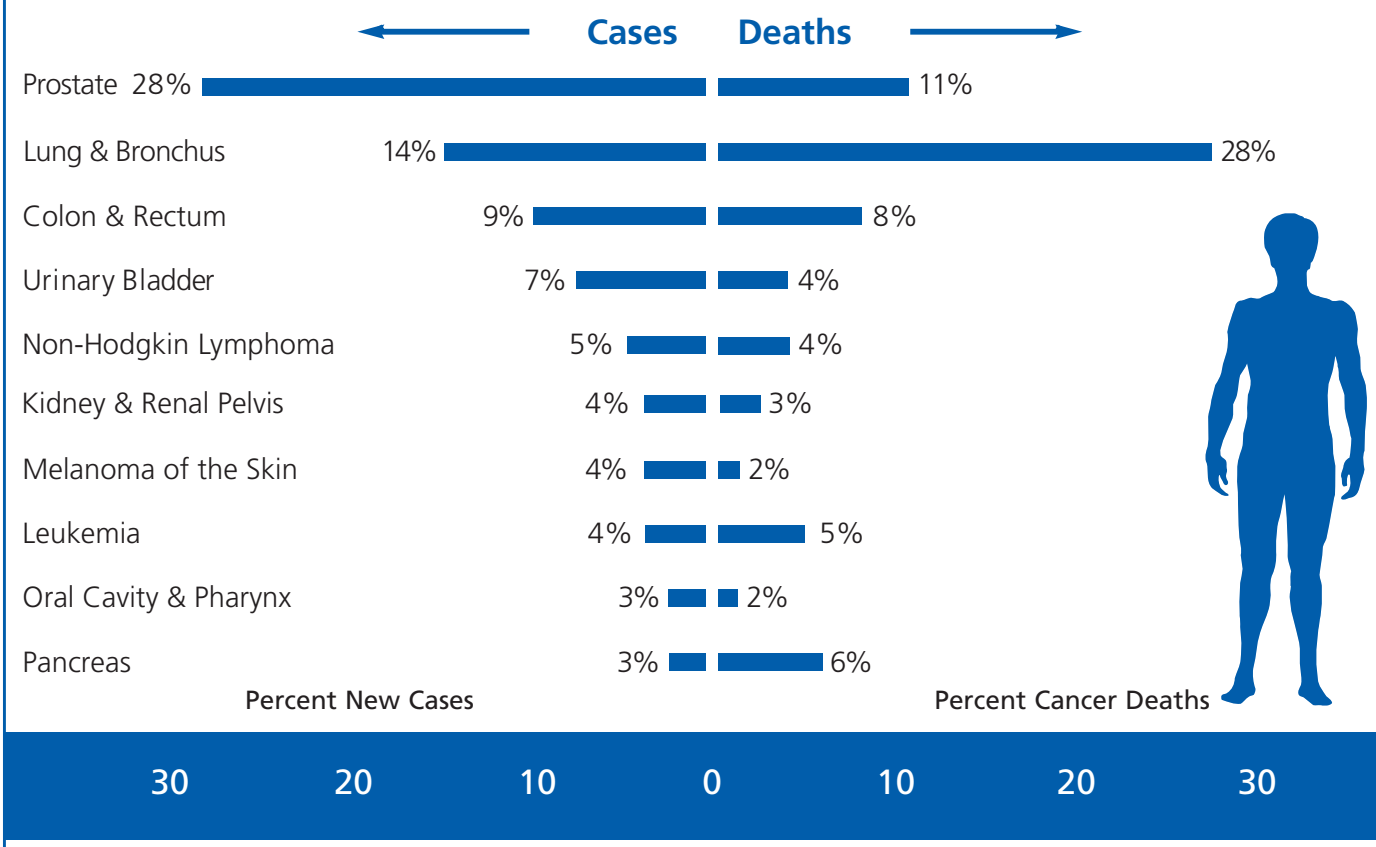
The 2006-2010 cancer mortality rate in Wisconsin for all sites was similar to the national rate (175.6 compared to 176.4). Lung cancer remains the leading cause of cancer deaths among both males and females in Wisconsin, with a yearly (2006-2010) average of 1,591 men and 1,316 women dying from the disease (Table 2, page 9).

Prostate cancer ranks as the second leading cause of cancer death for men (Figure 3), accounting for 11% of male cancer deaths, while breast cancer ranks as the second leading cause of cancer death for women at 14% (Figure 4).

Colorectal cancer is the second leading cause of cancer death in Wisconsin residents for males and females combined (Table 2). Wisconsin males have a higher mortality rate from colorectal cancer than do females (18.0 and 12.7, respectively).

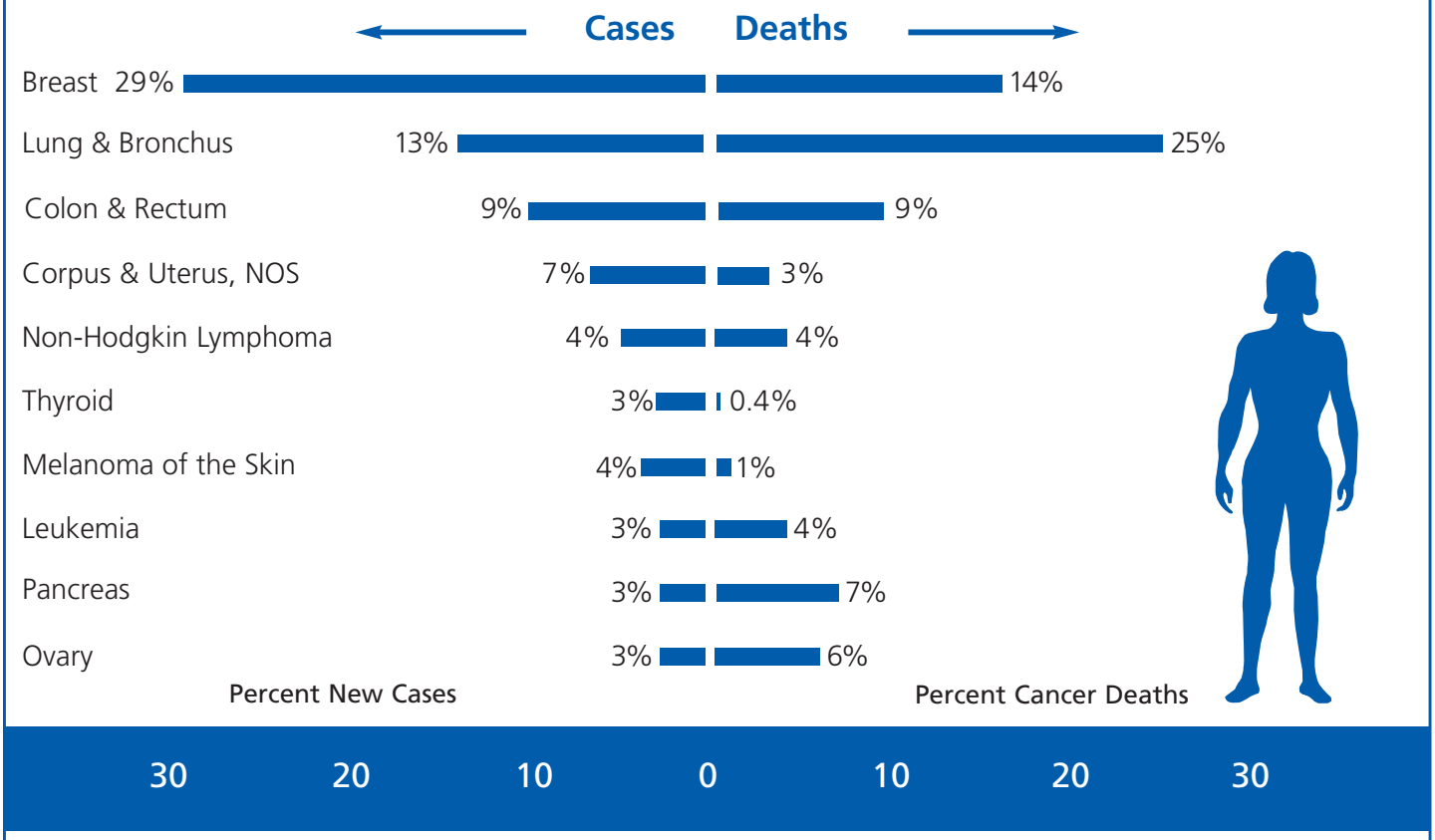
Map 2 (page 11), presents total mortality rates for all cancer in Wisconsin by county for 2006-2010. More detailed data on the number of deaths and the age-adjusted rates are provided in the supplemental Table B, pages 52-56.

Figure 3. Leading Cancer Sites: Percentage of New Cases and Deaths Among Males in Wisconsin, 2006-2010



Sources: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013 and the National Center for Health Statistics. Wisconsin Mortality data file 1995-2010, compiled from data provided through the Vital Statistics Cooperative Program, 2013.

Figure 4. Leading Cancer Sites: Percentage of New Cases and Deaths Among Females in Wisconsin, 2006-2010



Sources: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013 and the National Center for Health Statistics. Wisconsin Mortality data file 1995-2010, compiled from data provided through the Vital Statistics Cooperative Program, 2013.

Table 1 Average Annual Number of Cases and Age-Adjusted Incidence Rates* by Sex, Wisconsin and US, 2006-2010

Primary Cancer Site/Type	Males			Females			Total		
	WI Cases	WI Rate	US Rate	WI Cases	WI Rate	US Rate	WI Cases	WI Rate	US Rate
All Cancer	15,036	530.9	535.9	13,890	419.2	411.2	28,926	466.0	463.0
Brain and Other Nervous System	260	9.2	7.7	196	6.2	5.4	457	7.6	6.5
Cervix Uteri	-	-	-	169	5.8	7.9	-	-	-
Colon and Rectum	1,343	48.4	52.2	1,309	37.5	39.3	2,652	42.5	45.0
Corpus and Uterus, NOS	-	-	-	945	28.0	24.3	-	-	-
Esophagus	275	9.5	7.7	77	2.3	1.8	352	5.6	4.4
Female Breast	-	-	-	4,002	122.5	123.8	-	-	-
Hodgkin Lymphoma	101	3.6	3.2	85	3.0	2.4	186	3.3	2.8
Kidney and Renal Pelvis	629	21.8	21.0	389	11.8	10.6	1,019	16.5	15.3
Larynx	191	6.5	6.0	44	1.3	1.3	235	3.7	3.4
Leukemia	565	20.6	16.3	389	11.8	10.0	954	15.6	12.8
Liver and Intrahepatic Bile Duct	245	8.2	11.9	110	3.2	4.0	355	5.6	7.7
Lung and Bronchus	2,043	73.7	74.3	1,794	53.5	51.9	3,838	62.0	61.4
Melanoma of the Skin	627	22.1	27.4	487	15.9	16.7	1,114	18.4	21.1
Myeloma	215	7.8	7.5	168	4.9	4.8	383	6.1	5.9
Non-Hodgkin Lymphoma	678	24.3	23.9	584	17.3	16.4	1,262	20.5	19.7
Oral Cavity and Pharynx	456	15.2	16.2	221	6.7	6.2	678	10.7	10.8
Ovary	-	-	-	441	13.4	12.5	-	-	-
Pancreas	392	14.1	13.9	378	10.8	10.9	770	12.3	12.2
Prostate	4,207	143.0	152.0	-	-	-	-	-	-
Stomach	230	8.3	10.4	130	3.8	5.3	360	5.8	7.5
Testis	184	6.8	5.5	-	-	-	-	-	-
Thyroid	159	5.5	6.1	450	15.5	18.2	609	10.5	12.2
Urinary Bladder	1,057	39.2	36.6	339	9.7	8.9	1,396	22.4	20.7

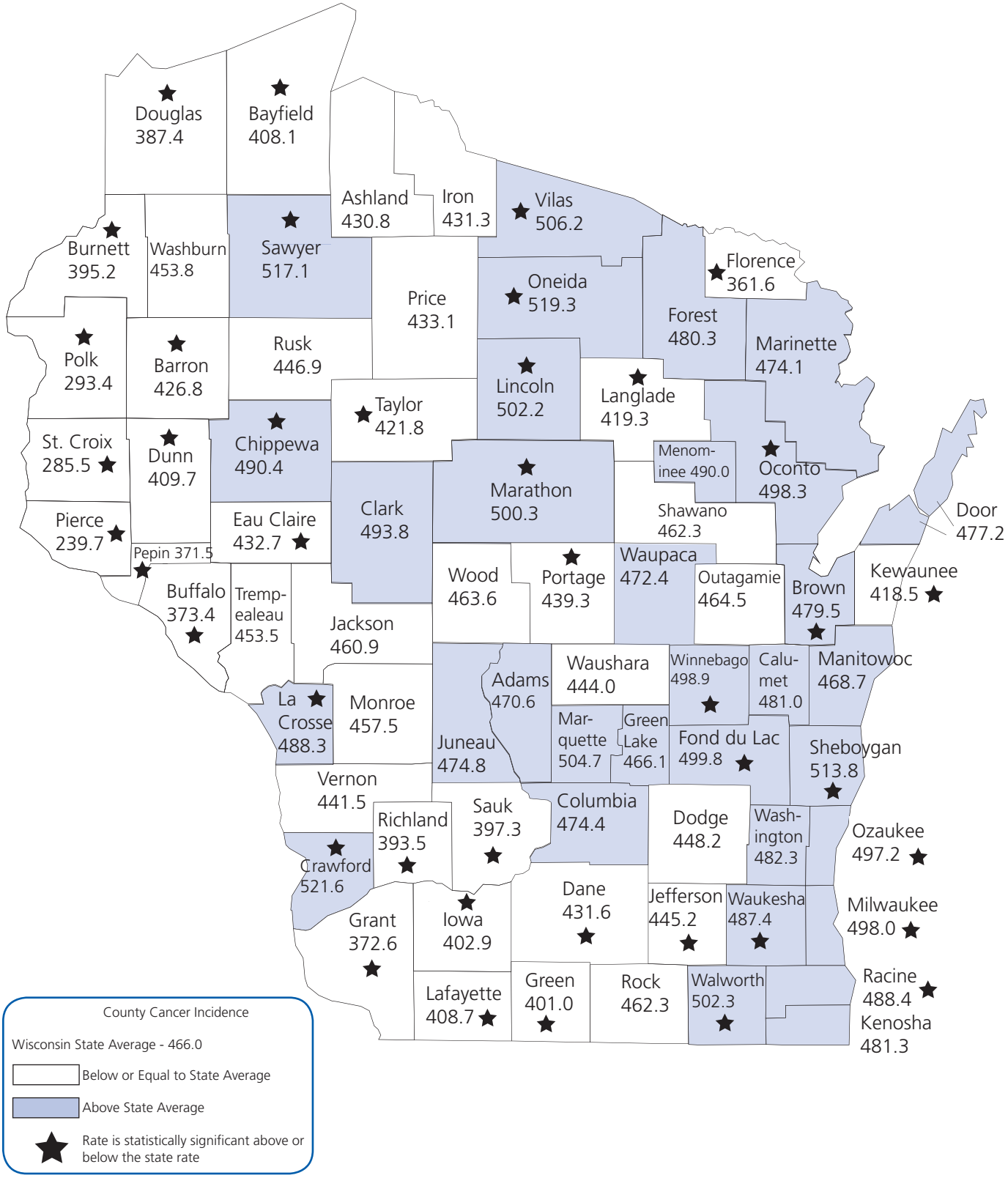
Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013 and Surveillance, Epidemiology and End Results (SEER) 18 areas.
*Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Table 2 Average Annual Number of Deaths and Age-Adjusted Mortality Rates* by Sex, in Wisconsin and US, 2006-2010

Primary Cancer Site/Type	Males			Females			Total		
	WI Deaths	WI Rate	US Rate	WI Deaths	WI Rate	US Rate	WI Deaths	WI Rate	US Rate
All Malignant Cancers	5,751	213.7	215.3	5,292	149.7	149.7	11,044	175.6	176.4
Brain and Other Nervous System	170	6.0	5.2	126	3.8	3.5	296	4.8	4.3
Cervix Uteri	-	-	-	50	1.6	2.4	-	-	-
Colon and Rectum	481	18.0	19.6	475	12.7	13.9	955	15.0	16.4
Corpus and Uterus, NOS	-	-	-	168	4.7	4.3	-	-	-
Esophagus	250	8.8	7.6	62	1.7	1.6	312	4.9	4.3
Female Breast	-	-	-	745	21.3	22.6	-	-	-
Hodgkin Lymphoma	15	0.6	0.5	12	0.4	0.3	27	0.5	0.4
Kidney and Renal Pelvis	177	6.4	5.8	101	2.8	2.6	278	4.4	4.0
Larynx	52	1.9	2.0	12	0.3	0.4	64	1.0	1.1
Leukemia	296	11.2	9.5	204	5.7	5.3	500	8.0	7.1
Liver and Intrahepatic Bile Duct	201	7.0	8.3	112	3.1	3.4	314	5.0	5.6
Lung and Bronchus	1,591	58.4	63.5	1,316	38.4	39.2	2,907	46.9	49.5
Melanoma of the Skin	110	3.9	4.1	56	1.6	1.7	166	2.6	2.7
Myeloma	124	4.7	4.3	106	2.9	2.7	231	3.7	3.4
Non-Hodgkin Lymphoma	238	9.0	8.2	204	5.5	5.1	441	7.0	6.4
Oral Cavity and Pharynx	96	3.4	3.8	55	1.6	1.4	151	2.4	2.5
Ovary	-	-	-	314	9.1	8.1	-	-	-
Pancreas	351	12.8	12.5	344	10.0	9.6	706	11.2	10.9
Prostate	610	24.5	23.0	-	-	-	-	-	-
Stomach	116	4.3	4.9	72	2.0	2.5	188	3.0	3.5
Testis	6	0.2	0.2	-	-	-	-	-	-
Thyroid	12	0.5	0.5	22	0.6	0.5	34	0.5	0.5
Urinary Bladder	210	8.2	7.7	89	2.3	2.2	299	4.7	4.4

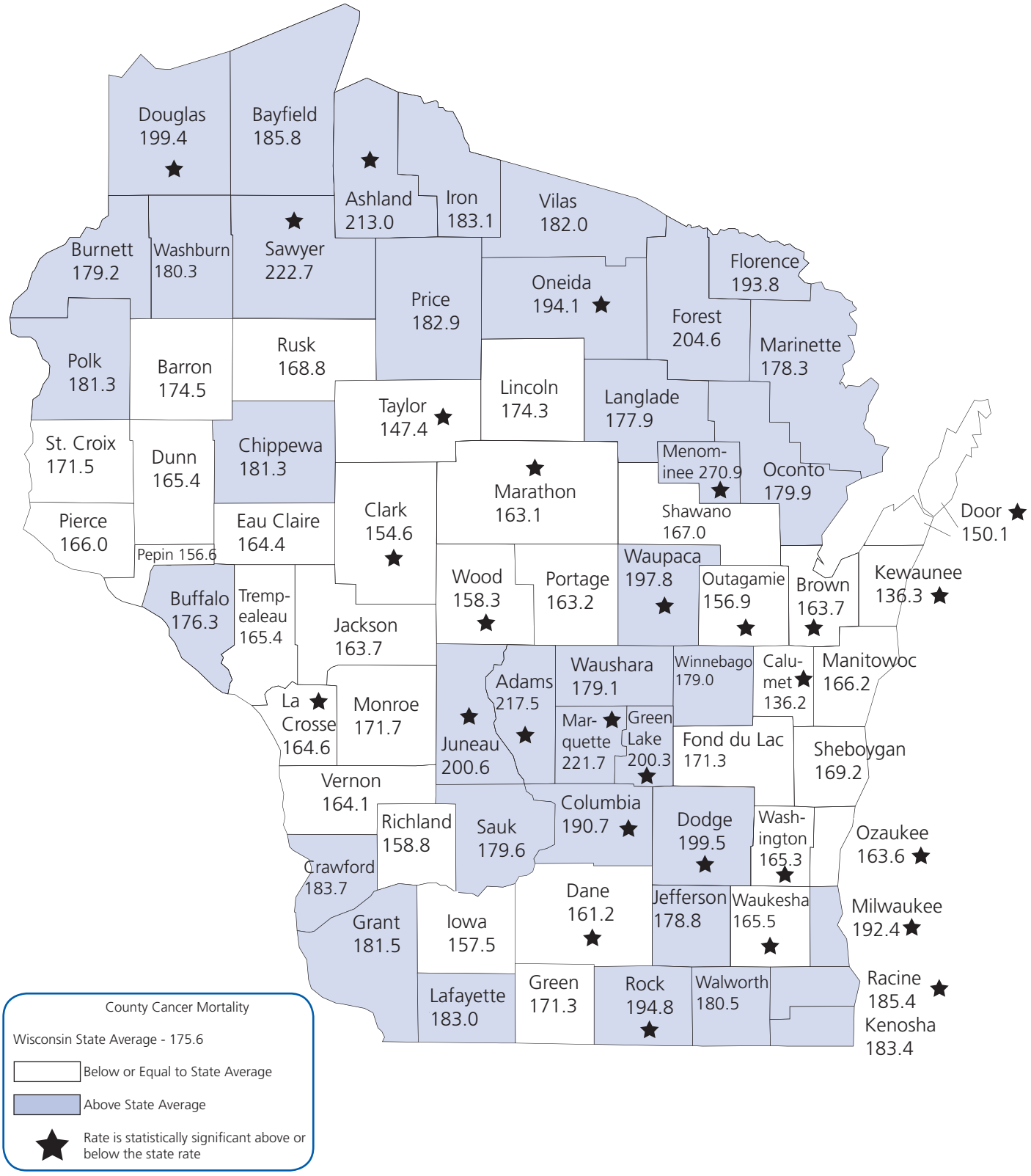
Source: National Center for Health Statistics. Wisconsin mortality data file 1995-2010, compiled from data provided through the Vital Statistics Cooperative Program, 2013.
*Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Map 1. Cancer Incidence Rates* for All Cancer by County in Wisconsin, 2006-2010



Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.
*Rates are per 100,000 and age-adjusted to the 2000 US standard population.
Note: Counties on Minnesota border are not adequately reported from all Minnesota facilities.

Map 2. Cancer Mortality Rates* for All Cancer by County in Wisconsin, 2006-2010



Source: National Center for Health Statistics. Wisconsin Mortality data file 1995-2010, compiled from data provided through Vital Statistics Cooperative Program, 2013.
*Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Trends in Cancer Incidence and Mortality in Wisconsin

1995-2010 Trends

Monitoring cancer trends is an important function of the Wisconsin Cancer Reporting System. Changes in the occurrence of cancer in a population may instigate research on potential contributors to the observed increase or decrease. Trends in cancer are also important in evaluating cancer screening or detection as well as determining priorities in cancer control programs.

Overall, the cancer incidence rates for both males and females in Wisconsin have declined from 1995 to 2010. Incidence rate for all cancers declined 12.5% for males from 1995 to 2010. Females experienced a much smaller decline of 2.7% in the overall incidence rate during this same time period (Table 3).

The cancer incidence rates have increased most dramatically for melanoma. For the period shown, male melanoma rates increased by 65.1% while female rates increased by 111.8%. The annual percent change (APC) for melanoma among females was an increase of 4.5%. The other major trends in incidence rates are found for colorectal cancer, declining by 40.8% for males and 37.6% for females and lung cancer declining 18.7% for men. Unfortunately, women have experienced an increase in lung cancer incidence by 11.7%, largely attributable to increased smoking. Trends for prostate cancer followed a pattern that is consistent with the introduction and widespread use of the prostate-specific antigen (PSA) test. In the early 1990s, a rapid increase in the incidence rate stabilized until around 2001 when rate began to decline (Figure 5).

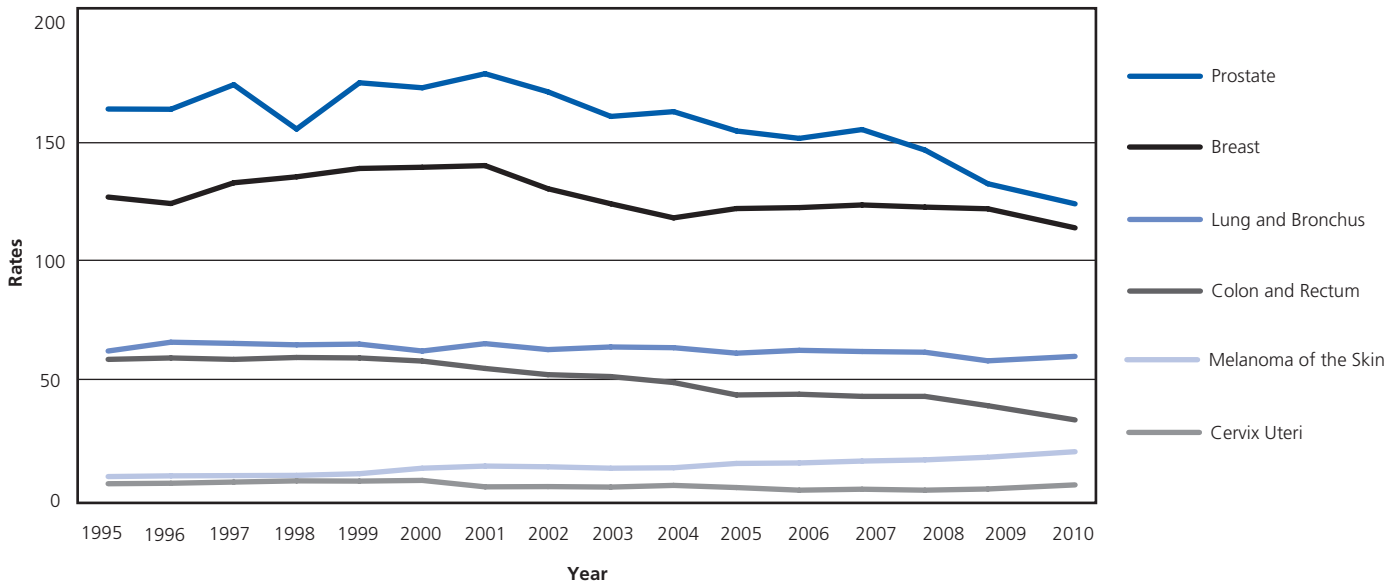
Starting in 2009, the number of cancer deaths exceeded the number of deaths due to heart disease in Wisconsin. Cancer has replaced heart disease as the leading cause of death among Wisconsin residents. In 2010, the cancer mortality rate was 173.7 compared with the heart disease mortality rate of 163.3.

The positive side, however, is that overall cancer mortality rates for both males and females have declined approximately 18.1% and 10.2%, respectively (Table 4) from 1995 to 2010. This decline in mortality is attributed to the decrease in incidence, increase in early detection, better treatments, and increased awareness of risk reduction behaviors.

Mortality rates declined for most major cancers in Wisconsin during the period between 1995 and 2010. Cervical cancer and female breast cancer mortality declined during the period by 48.8% and 27.9%, respectively. Prostate cancer mortality declined by 38.1%, with an annual percent change (APC) showing an annual decline of 3.3%.

Both males and females experienced similar lower mortality rates in colorectal cancer in 2010 than in 1995, with mortality rates declining by 36.4% and 35.0%, respectively. However, lung cancer mortality rates parallel the incidence rates and show a gender disparity; male mortality dropped by 19.6% while female mortality increased by 16.1%.

Figure 5. Trends in Incidence* for Selected Cancer Sites in Wisconsin, 1995-2010



Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.
*Rates are per 100,000 and age-adjusted to the 2000 US standard population.
Note: Rates are single-year rates.

Table 3. Trends for Leading Cancers: Incidence Rates,* by Gender, in Wisconsin 1995-2010

		1995 Rate	1998 Rate	2001 Rate	2004 Rate	2007 Rate	2010 Rate	1995-2010 APC	1995-2010 PC
All Sites	Total	476.4	482.4	506.1	477.6	477.5	444.8	-0.4^	-6.6
	Male	573.7	564.0	593.7	565.9	549.9	501.7	-0.8^	-12.5
	Female	414.2	429.2	446.5	413.1	424.5	403.1	-0.1	-2.7
Colorectal	Total	60.2	61.0	56.4	50.5	44.7	37.0	-3.2^	-38.6
	Male	71.5	71.8	67.6	58.8	50.9	42.4	3.6^	-40.8
	Female	51.8	52.2	47.9	43.7	39.6	32.3	-2.8^	-37.6
Lung	Total	63.7	66.3	66.8	65.1	63.5	60.1	-0.6^	-5.6
	Male	87.4	86.5	84.2	83.8	76.7	71.0	-1.7^	-18.7
	Female	46.6	51.8	54.7	51.7	54.0	52.0	0.6^	11.7
Melanoma	Total	11.1	11.6	15.5	14.8	17.6	20.4	4.0^	83.2
	Male	14.6	14.8	18.4	18.3	20.6	24.1	3.7^	65.1
	Female	8.5	9.4	13.4	12.0	15.7	18.0	4.5^	111.8
Female Breast		128.2	136.7	141.4	119.5	124.9	117.0	-0.8^	-8.7
Cervical		8.1	9.3	6.8	7.4	5.8	6.5	-3.3^	-19.7
Prostate		165.1	156.7	179.9	164.0	156.5	125.4	-1.6^	-24.1

Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.
*Rates are per 100,000 and age-adjusted to the 2000 US standard population.
Notes: APC = Annual Percent Change calculated using weighted least square method.
PC = Percent Change calculated using 1 year for each end period.
^ = APC is significantly different from zero (p<0.05).

Table 4. Trends for Leading Cancers: Mortality Rates,* by Gender, in Wisconsin 1995-2010

		1995 Rate	1998 Rate	2001 Rate	2004 Rate	2007 Rate	2010 Rate	1995-2010 APC	1995-2010 PC
All Sites	Total	200.5	199.5	191.0	184.6	177.3	173.7	-1.0^	-13.4
	Male	257.7	253.6	238.5	231.3	216.8	211.2	-1.4^	-18.1
	Female	164.5	166.4	160.1	153.8	150.8	147.7	-0.8^	-10.2
Colorectal	Total	22.3	20.6	19.8	16.9	15.1	14.4	-3.1^	-35.6
	Male	27.4	25.2	25.3	20.3	18.0	17.5	-3.4^	-36.4
	Female	18.7	17.2	16.0	14.2	12.9	12.1	-2.9^	-35.0
Lung	Total	48.5	51.7	49.2	50.0	48.2	46.2	-0.5^	-4.8
	Male	70.5	72.4	65.2	66.3	60.8	56.7	-1.5^	-19.6
	Female	33.1	37.8	37.8	38.2	38.7	38.4	0.6^	16.1
Melanoma	Total	2.7	2.6	2.7	2.4	2.6	3.0	0.2	10.0
	Male	4.0	3.8	3.8	3.6	3.8	4.3	0.4	8.2
	Female	1.8	1.7	1.7	1.4	1.6	1.9	-0.3	8.0
Female Breast		29.6	27.6	25.7	23.5	20.8	21.3	-2.2^	-27.9
Cervical		2.5	2.1	1.8	2.0	1.7	1.3	-3.8^	-48.8
Prostate		38.4	36.5	29.3	29.0	26.4	23.8	-3.3^	-38.1

Source: National Center for Health Statistics. Wisconsin mortality data file 1995-2010, compiled from data provided through the Vital Statistics Cooperative Program, 2013.
*Rates are per 100,000 and age-adjusted to the 2000 US standard population.
Note: APC = Annual Percent Change calculated using weighted least square method.
PC = Percent Change calculated using 1 year for each end period.
^ = The APC is significanlty different from zero (p<0.05).

Lung & Bronchus Cancer in Wisconsin

Overview

Lung cancer is the leading cause of cancer deaths. Cigarette smoking causes the majority of all lung cancer deaths in Wisconsin. Stopping the use of tobacco could eliminate most lung cancer. Quitting smoking reduces an individual's risk significantly, although former smokers remain at greater risk than those who never smoked.

Cancer Burden

More people die from lung cancer than from breast, prostate, and colorectal cancers combined. In Wisconsin, lung cancer killed an average of 2,906 residents per year during the five year period 2006 through 2010, and an average of 3,838 new cases of lung cancer were diagnosed each year.

Nationally, the incidence rate for men during the period of 2006-2010 averaged 74.3 per 100,000 population. For Wisconsin men, the lung cancer incidence rate for that same period was lower at 73.7 per 100,000. The national incidence rate for women during the 2006-2010 period was 51.9 per 100,000. The Wisconsin incidence rate for women during that period was higher at 53.5 per 100,000 (Table 1, page 8).

The national lung cancer mortality rates for 2006-2010 were 63.5 for men and 39.2 for women, per 100,000. The Wisconsin 2006-2010 mortality rates were lower – 58.4 for men and 38.4 for women, per 100,000 (Table 2, page 9). More women die each year of lung cancer than breast cancer.

Both gender and race are factors in lung cancer incidence and mortality rates. Lung cancer incidence and mortality rates are significantly higher among Wisconsin males than Wisconsin females. While men traditionally experienced higher lung cancer rates, the difference has decreased in recent years, largely as the result of continuing smoking rates among women. Wisconsin males have an average of 1,591 deaths from lung cancer each year, compared to an average of 1,316 deaths for Wisconsin females during 2006-2010 (Table 2). In Wisconsin, between 1995-2010, deaths from lung cancer among women increased by 16.1%, compared to a 19.6% decrease among men (Table 4, page 13).

African Americans and American Indians in Wisconsin are more likely than other races to die from lung cancer. The Wisconsin mortality rate for African Americans with lung cancer for the years of 2006-2010 was 70.4 per 100,000 and the mortality rate for American Indians was 85.9 per 100,000. The mortality rate for whites was 46.0, and Asian/Pacific Islanders had a mortality rate of 15.3 per 100,000 (Table 6, page 39).

Risk Factors

Cigarette smoking is the most important risk factor for lung cancer. Cigar and pipe smoking also increase risk.

Exposure to radon gas released by soil and building materials. (Estimated to be the second leading cause of lung cancer in North America.)

Environmental or occupational exposure to secondhand tobacco smoke, asbestos (particularly among smokers), certain metals (chromium, cadmium, arsenic), some organic chemicals, radiations, air pollution, diesel exhaust and paint.

Genetic susceptibility plays a contributing role in the development of lung cancer, especially in those who develop the disease at a young age.

Risk Reduction

Lung cancer is the most preventable cancer. Tobacco use is responsible for 87% of lung cancers. The risk of developing lung cancer is about 23 times higher in male smokers and 13 times higher in female smokers, compared to lifelong nonsmokers.

Screening/Early Detection

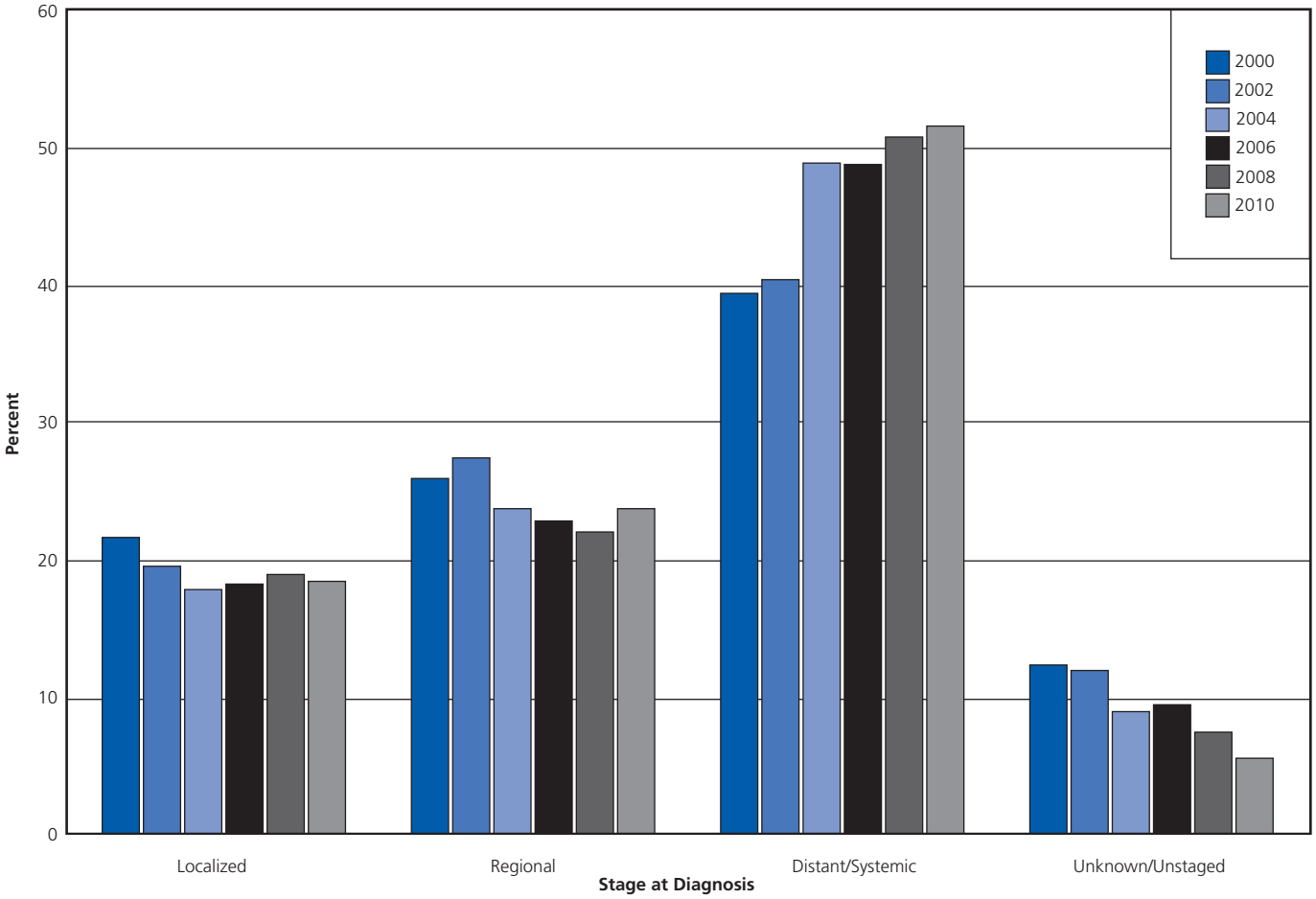
Based on the results of the National Cancer Institute's National Lung Screening Trial (NLST), the American Cancer Society issued guidelines for lung cancer screening in 2013. Results from the NLST showed 20% fewer lung cancer deaths among current and former heavy smokers who were screened with a spiral CT compared to standard chest x-ray. Annual screening with chest x-ray has not been shown to reduce lung cancer mortality. The Society recommends that clinicians with access to high-volume, high-quality lung cancer screening and treatment centers should initiate a discussion about lung cancer screening with spiral CT with apparently healthy patients 55 to 74 years of age who have at least a 30 pack-year smoking history, and who currently smoke or have quit within the past 15 years.

Smoking cessation counseling remains a high priority for clinical attention in discussions with current smokers, who should be informed of their continuing risk of lung cancer. Screening should not be viewed as an alternative to smoking cessation.

Stage at Diagnosis

Lung cancer in Wisconsin is most often diagnosed at the distant stage (51.8% of new cases in 2010), which negatively impacts the length of survival (Figure 6). The 5-year probability of survival is highest if lung cancer is diagnosed early, with a 53.5% five-year survival rate for lung cancers diagnosed at the localized stage. However, only 18.6% of lung cancers in Wisconsin were diagnosed at this early stage in 2010.

Figure 6. Trends in Lung Cancer Stage at Diagnosis in Wisconsin, 2000-2010



Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.

Colorectal Cancer in Wisconsin

Overview

Colon and rectal cancers have many features in common and are referred to as colorectal cancer. Cancer can develop in any part of the colon or rectum. Colorectal cancer develops slowly over a period of several years. Before cancer develops there are usually precancerous growths called polyps. Screening tests offer a powerful opportunity for the prevention, early detection and successful treatment of colorectal cancers. While people cannot change their genetic makeup or family health history, most people can reduce their risk of colorectal cancer by following screening guidelines, maintaining a healthy weight, increasing their level of physical activity, and limiting the intake of processed or red meats.

Cancer Burden

In Wisconsin, colorectal cancer is the second most common cancer diagnosed in men and women combined (Table 1, page 8).

Colorectal cancer incidence rates have been decreasing for most of the past two decades, which has largely been attributed to the increased use of colorectal screening tests that allow for the detection and removal of colorectal polyps before they progress to cancer. Mortality rates for colorectal cancer continue to decrease, due in part to the decline in colorectal cancer incidence and to improved cancer treatments.

From 2006-2010, an annual average of 2,652 Wisconsin residents were diagnosed with colorectal cancer and 955 residents died of the disease (Tables 1 and 2, pages 8 and 9). The incidence rate for both genders combined in Wisconsin was 42.5 per 100,000 population (2006-2010). Males had a higher incidence rate than females, 48.4 compared with 37.5, respectively. The Wisconsin colorectal cancer mortality rate was 15.0 per 100,000, with a rate of 18.0 per 100,000 for males and 12.7 per 100,000 for females. The colorectal mortality rate has dropped from 22.3 per 100,000 in 1995 to 14.4 per 100,000 in 2010 (Table 4, page 13).

Risk Factors

Several risk factors may contribute to the development of colorectal cancer. They include:

- Age (90% of colorectal cancer cases are diagnosed in individuals age 50 and older)

Hereditary and medical factors

- Personal history of colorectal polyps and/or chronic inflammatory bowel disease
- A family history of colorectal cancer and/or polyps
- Inherited genetic mutations (familial adenomatous polyposis [FAP] and hereditary non-polyposis colorectal cancer [HNPCC], also known as Lynch syndrome)

Studies have also found individuals with type 2 diabetes are at higher risk for colorectal cancer.

Modifiable risk factors

- Being sedentary or not physically active
- A diet that is high in red or processed meat
- Obesity
- Long-term smoking
- Alcohol consumption
- Possibly very low intake of fruits and vegetables

Risk Reduction

Screening tests that detect and remove adenomatous polyps are the most reliable method of preventing colorectal cancer.

Modifiable factors for reducing the risk of colorectal cancer include healthy eating, regular physical activity, maintaining suggested body weight, and avoiding smoking.

Screening/Early Detection

Early stage colorectal cancer does not typically have symptoms, so screening is usually necessary to detect this cancer at its earliest stage.

Although the number of individuals receiving a colorectal cancer screening is improving, (Figure 7, page 18) prevalence continues to lag behind mammography and Pap testing.

The American Cancer Society recommends screening beginning at age 50 for women and men who are at average risk for developing colorectal cancer. Screening can result in the detection and removal of colorectal polyps before they become cancerous. Screening can also find colorectal cancer early, when treatment can be most effective.

Individuals at increased risk of colorectal cancer should begin screening before age 50 and should discuss their screening options with their healthcare provider.

Symptoms of Advanced Colorectal Cancer

- Bleeding from rectum
- Blood in stool or in the toilet after a bowel movement
- A change in bowel habits
- Cramping pain in lower abdomen
- Decreased appetite or weight loss

Stage at Diagnosis

Survival from colorectal cancer is more than 90% when the cancer is diagnosed at the earliest stage before it has extended beyond the intestinal wall. In 2010, 41.1% of invasive colorectal cancers diagnosed in Wisconsin were at an early (localized) stage. Figure 8, page 18, displays stages at diagnosis for colorectal cancer and shows an increase in the percent of colorectal cancers detected early in Wisconsin from 2000-2010.

American Cancer Society Screening Recommendations for Colorectal Cancer

Beginning at age 50, men and women at average risk should follow one of the examination schedules below:

Tests that find polyps and cancer:	**When to get screening test:**
Flexible sigmoidoscopy*, or	Every 5 years, starting at age 50. Consideration can also be given to combining FSIG every 5 years with highly sensitive FOBT or FIT performed annually.
Colonoscopy, or	Every 10 years, starting at age 50.
Double-contrast barium enema (DCBE), or	Every 5 years, starting at age 50.
CT colonography (virtual colonoscopy), or	Every 5 years, starting at age 50. Colonoscopy should be done if test results are positive.
Tests that mainly find cancer:	
Fecal occult blood test (FOBT)* with at least 50% test sensitivity for cancer, or	Annually, starting at age 50. Colonoscopy should be done if test results are positive.
Fecal immunochemical test (FIT)* with at least 50% test sensitivity for cancer, or	Annually, starting at age 50. Colonoscopy should be done if test results are positive.
Stool DNA test (sDNA)**	Interval uncertain, starting at age 50.

*For FOBT or FIT used as a screening test, the take-home multiple sample method should be used. A FOBT or FIT done during a digital rectal exam in the doctor's office is not adequate for screening. Guaiac-based toilet bowl FOBT tests also are not recommended. In comparison with guaiac-based test for the detection of occult blood, immunochemical tests are more patient-friendly, and are likely to be equal or better in sensitivity and specificity.

**The stool DNA test approved for colorectal cancer screening in 2008 is no longer commercially available. New stool DNA test are presently undergoing evaluation and may become available at some future time.

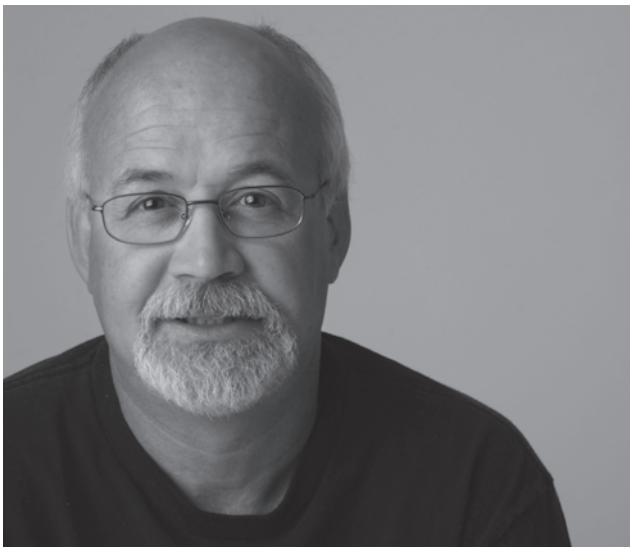
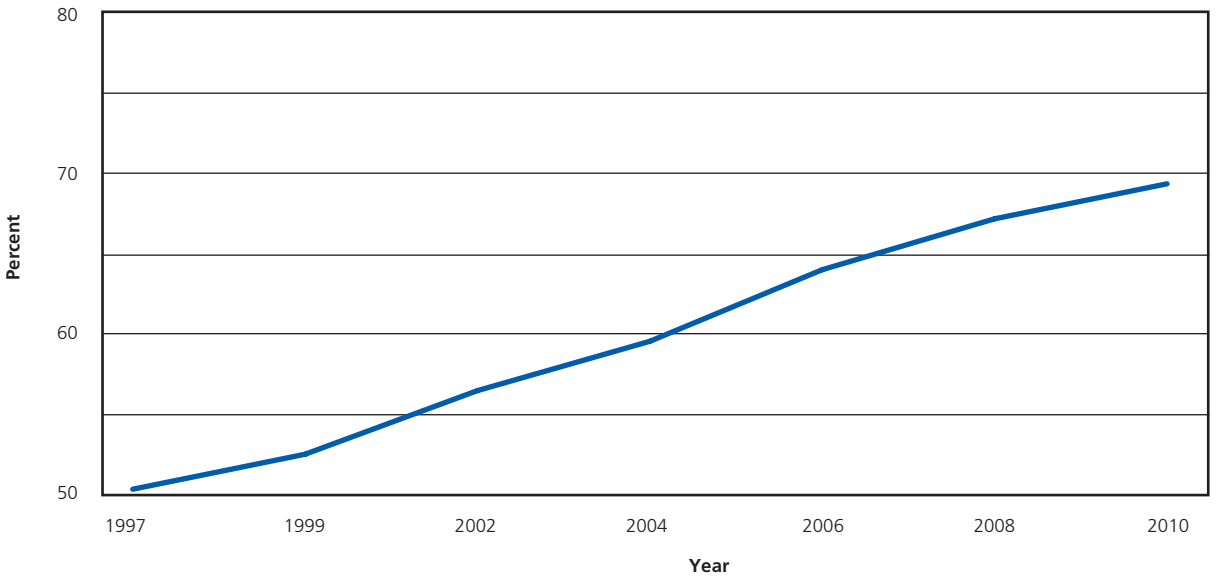
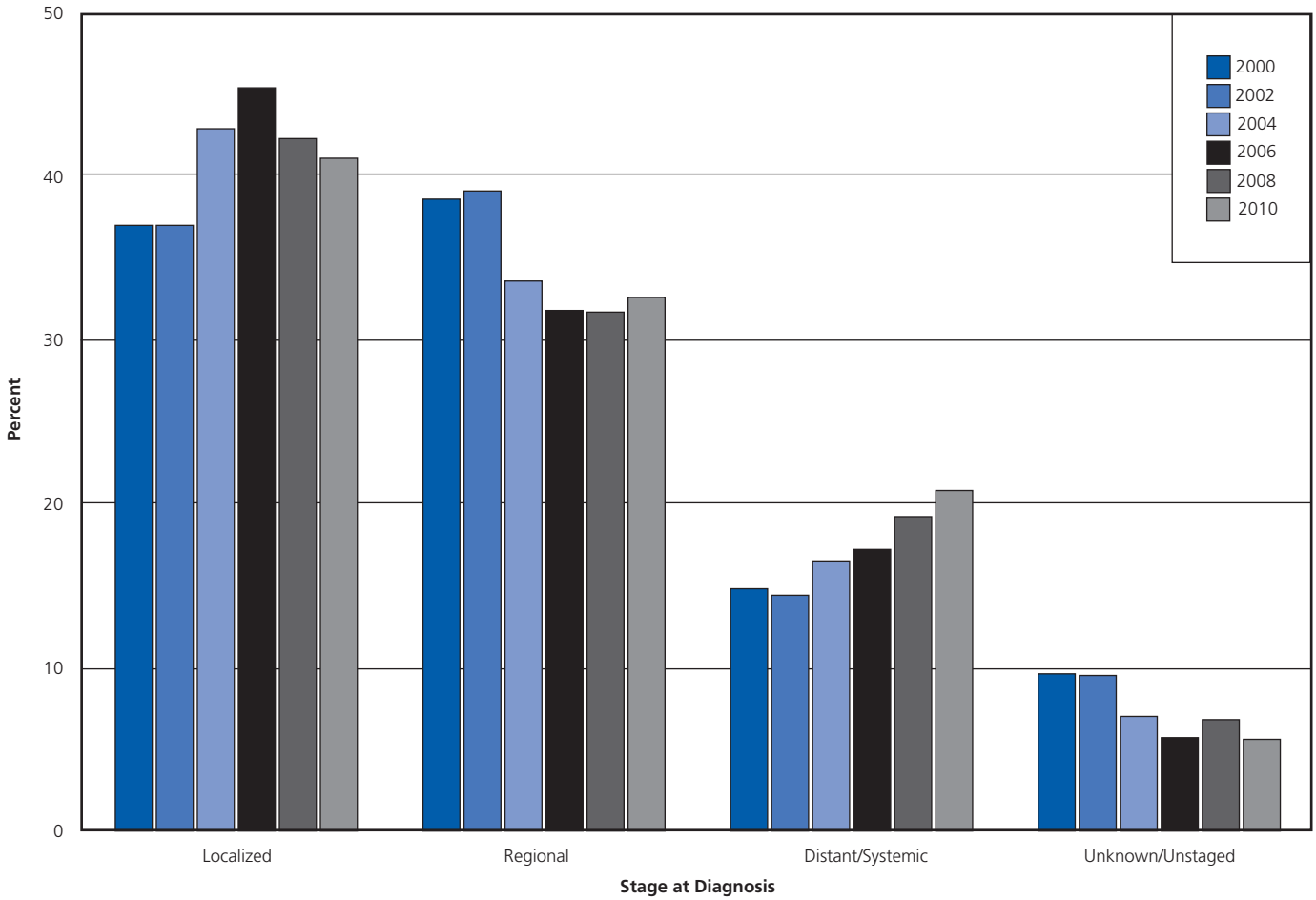


Figure 7. Trends in Persons Aged 50 Years and Older Who Have Ever Had a Sigmoidoscopy or Colonoscopy in Wisconsin, 1997-2010



Source: Wisconsin Behavior Risk Factor Surveillance System, 1997-2010, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.

Figure 8. Trends in Colorectal Cancer Stage at Diagnosis in Wisconsin, 2000-2010



Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.

Female Breast Cancer in Wisconsin

Overview

Excluding cancers of the skin, breast cancer is the most frequently diagnosed cancer in women. The majority of breast cancers can be treated successfully if detected early. An annual mammogram starting at age 40 is the most effective way to detect breast cancer at an early, curable stage. The American Cancer Society also recommends that women at increased risk of developing breast cancer (family history, genetic predisposition, history of the disease) may benefit from starting early detection practices at a younger age, having additional tests, or more frequent examinations.

Cancer Burden

Breast cancer is the most common cancer among women in Wisconsin regardless of race. Breast cancer accounts for nearly one-third of all cancers diagnosed among women. During 2006-2010, the age-adjusted incidence rate for female breast cancer was 122.5 per 100,000 population, representing an average of more than 4,000 newly diagnosed breast cancers annually (Table 1, page 8). The mortality rate for breast cancer in Wisconsin females during 2006-2010 was 21.3 per 100,000. This represents a total of 745 deaths from breast cancer annually from 2006-2010 (Table 2, page 9). Only lung cancer accounts for more cancer deaths in women.

The risk of developing breast cancer increases with age. Nationally, 95% of new cases and 97% of breast cancer deaths occur in women aged 40 and older. In Wisconsin, during the five year period from 2006-2010, approximately 96% of women who developed breast cancer were aged 40 and over, and 80% of women diagnosed with breast cancer were aged 50 and over. Of women who died from breast cancer in Wisconsin, 98% were over age 40 and 89% were aged 50 and older.

Earlier diagnosis and treatment have resulted in a reduction in mortality from breast cancer. Breast cancer mortality declined significantly from the 1995 rate of 29.6 per 100,000 to the 2010 rate of 21.3 per 100,000 (Table 4, page 13).

In Wisconsin, the female breast cancer incidence rate has dropped from 128.2 per 100,000 in 1995 to 117.0 per 100,000 in 2010 (Table 3, page 13). This decrease may reflect reductions in the use of menopausal hormone therapy (MHT), previously known as hormone replacement therapy, following the publication of results from the Women's Health Initiative in 2002, which linked combined estrogen plus progestin MHT use to increased risk of breast cancer and coronary heart disease.

Each year, approximately 2,200 men are diagnosed with the disease nationally. Clinically, breast cancer in men is very similar to breast cancer in women, but the prognosis is often worse for men because they tend to be diagnosed at a later stage than women.

Risk Factors

Increasing age is the most important risk factor for breast cancer, after being female.

Hereditary and Medical Factors

- Family history of breast cancer, particularly having one or more first degree relatives with breast cancer
- Inherited genetic mutations in the breast cancer susceptibility genes, including BRCA1 and BRCA2 (These mutations account for approximately 5%-10% of all breast cancer cases)
- Personal history with cancer in one breast has a greater risk of getting cancer in the other breast or in another part of the same breast
- Dense breasts – having more glandular tissue and less fatty tissue
- More menstrual cycles because they start early (before age 12) and/or end late in life (after age 55) – causes longer exposure to hormones
- Previous chest radiation – especially exposure between the ages of 10 and 30 years

Modifiable Risk Factors

- Being overweight or obese, especially after menopause
- Use of menopausal combined hormone therapy (both estrogen and progestin)
- Recent use of oral contraceptives or DMPA birth control
- Alcohol consumption, drinking one or more alcoholic beverages per day

Risk Reduction

Some breast cancer risk factors, such as family history, cannot be changed. However, a woman's risk of developing breast cancer may be reduced by staying physically active, maintaining a healthy body weight, and limiting alcohol use. Management of risk factors may help some women decrease their chances of being diagnosed with breast cancer. For women at high risk for breast cancer, two medications – tamoxifen and raloxifene – have been approved to reduce breast cancer risk.

Screening/Early Detection

Mammography can often detect breast cancer at an early stage, when treatment is more effective and a cure is more likely. Specific guidelines for clinical breast exams and breast examinations are also provided based on both age and level of risk. Steady declines in breast cancer mortality among women since 1990 have been attributed to a combination of early detection and improvements in treatment. A mammogram is able to detect the earliest sign of breast cancer before it can be seen or felt physically. Mammography is a very accurate screening tool for women at both average and increased risk; however, like any medical test, it is not perfect. Mammography will detect most, but not all, breast cancers in women without symptoms.

Figure 9 displays the upward trend in mammography rates, which increased from 63.8% in 1995 to 78.7% in 2010. Improved mammography screening to detect breast cancer early, along with better treatment options, have made breast cancer a more curable disease than it was 30 years ago.

Women at increased risk should talk to their health care provider about the benefits and limitations of beginning screening at an earlier age, and then make a decision about breast cancer screening.

Stage at Diagnosis

The national 5-year relative survival rate for women diagnosed with breast cancer at the localized stage is 99%. In Wisconsin, 50.2% of female breast cancers were diagnosed at the localized, invasive stage in 2010. During that same period, 20.4% of female breast cancers diagnosed were non-invasive or in situ (Figure 10, page 21).

American Cancer Society Screening Recommendations for Breast Cancer

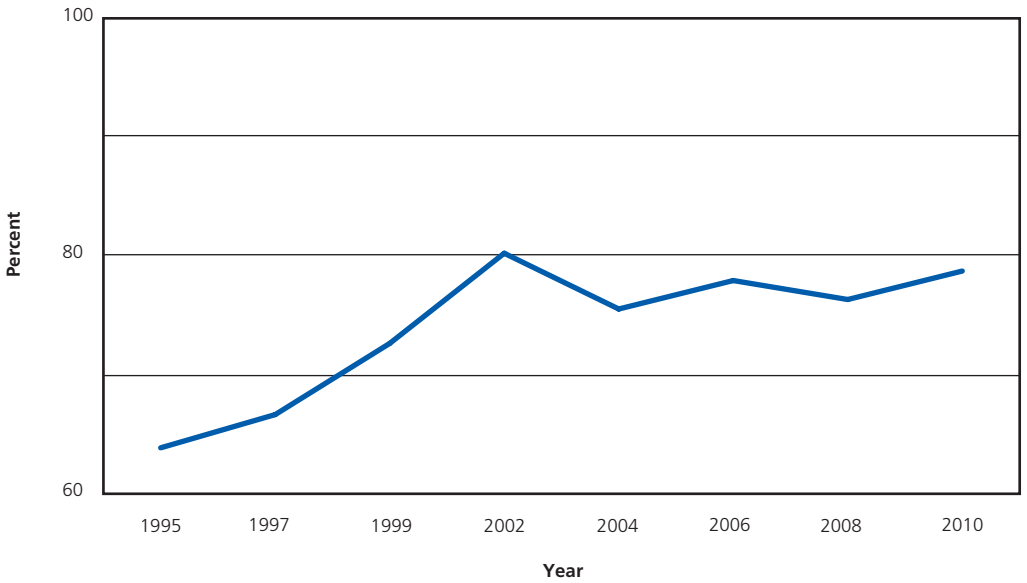
Women at average risk should follow the examination schedules below:

- Yearly mammograms starting at age 40 and continuing for as long as a woman is in good health.
- Clinical breast exams (CBE) should be part of a periodic health exam, preferably at least every three years for women in their 20s and 30s and every year for women 40 and older.
- Breast self-exam (BSE) is an option for women starting in their 20s and women should report any breast change promptly to their health care providers.

For women at high lifetime risk for breast cancer, an annual magnetic resonance imaging (MRI) in addition to mammography is recommended starting at age 30.

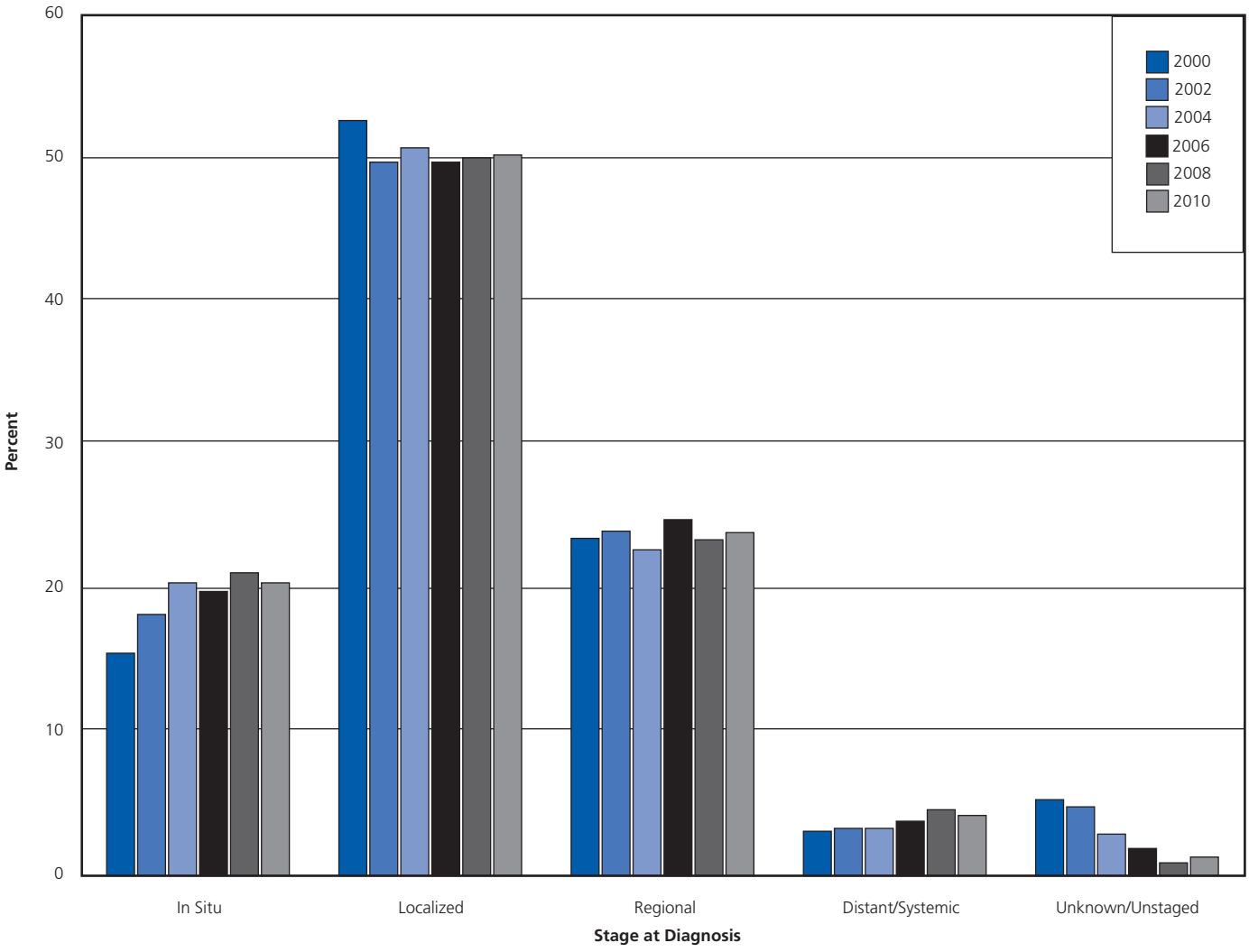
There is no specific upper age at which mammography screening should be discontinued. The decision to stop regular mammography screening should be made on an individual basis, taking into consideration a woman's overall health status.

Figure 9. Trends in Prevalence of Women aged 40+ who have had a mammogram within past 2 years in Wisconsin, 1995-2010



Source: Wisconsin Behavior Risk Factor Surveillance System, 1995-2010, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.

Figure 10. Trends in Female Breast Cancer Stage at Diagnosis in Wisconsin, 2000-2010



Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.

Prostate Cancer in Wisconsin

Overview

Prostate cancer is the most commonly diagnosed cancer among men, excluding skin cancer. Prostate cancer is typically a disease found among older men. Almost 2 out of 3 prostate cancers are found in men over 65. When prostate cancer is diagnosed at the localized or regional stage, the 5-year survival rate approaches 100%.

Cancer Burden

More men are diagnosed with prostate cancer than any other cancer and it remains the second leading cause of cancer death among men. From 2006-2010, the average number of newly diagnosed prostate cancers per year in Wisconsin was 4,207 (age-adjusted rate of 143.0 cases per 100,000 population) and the average number of deaths per year was 610 (age-adjusted rate of 24.5 deaths per 100,000). Nationally, the incidence rate was higher for that same period, 152.0 per 100,000. However, the national death rate, 23.0 per 100,000, was lower than Wisconsin's rate (Tables 1 and 2, pages 8 and 9).

Risk Factors

Although a specific cause is unknown, the American Cancer Society recognizes that several risk factors may contribute to the development of prostate cancer. They include:

- Increasing age
- Race (Incidence rates are 70% higher in African Americans than in whites)
- Family history (Having a father or brother with prostate cancer can double a man's risk of developing this disease)

Risk Reduction

The main risk factors for prostate cancer are not preventable (age, race, family history). About 60% of prostate cancers are diagnosed in men age 65 and older, and 97% of prostate cancers in men age 50 and older. For those at high risk of the disease, chemo prevention is an active area of research.

Screening/Early Detection

Most prostate cancers are diagnosed before symptoms develop through prostate specific antigen (PSA) screening or a digital rectal exam (DRE). The American Cancer Society recommends that asymptomatic men that have at least a 10-year life expectancy should have an opportunity to make an informed decision with their health care provider about screening for prostate cancer, after receiving information about the uncertainties, risks and potential benefits associated with prostate cancer screening. Men at average risk should receive this information beginning at age 50. Men at higher risk, including African-American men and men with a first-degree relative (father or brother) diagnosed with prostate cancer before age 65, should receive this information beginning at age 45. Men at even higher risk (because they have several close relatives diagnosed with prostate cancer at an early age) should have this discussion with their provider at age 40.

Stage at Diagnosis

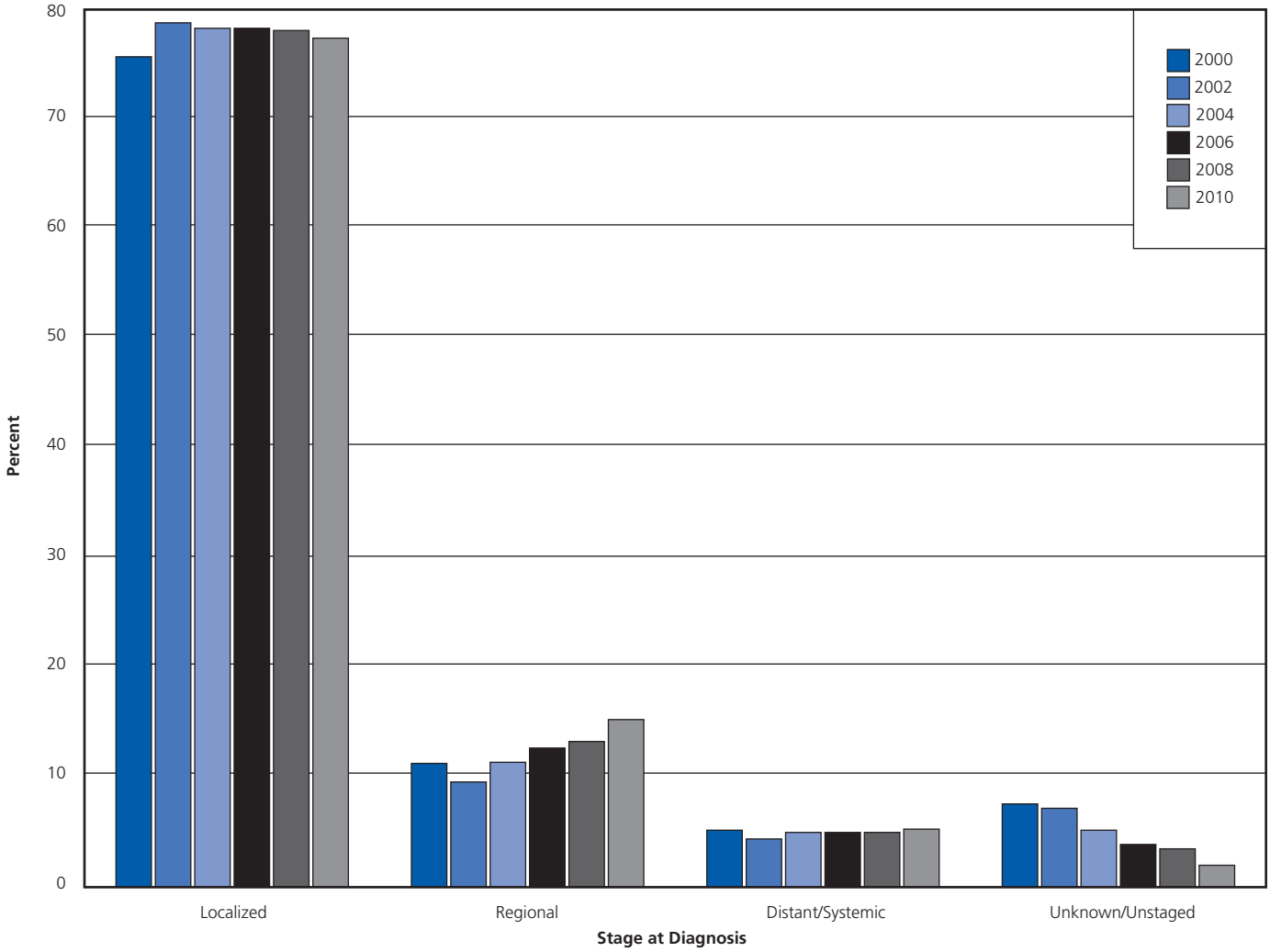
The majority of prostate cancers were diagnosed at the local stage (Figure 11). In Wisconsin, the percent of prostate cancer diagnosed at the local stage increased from 75.8% in 2000 to 77.5% in 2010. The national 5-year survival rate for locally and regionally diagnosed prostate cancers approaches 100%. However, the survival rate for prostate cancer diagnosed at the distant stage dropped to 28%.

American Cancer Society Screening Recommendations for Prostate Cancer

Asymptomatic men who have at least a 10-year life expectancy should have an opportunity to make an informed decision with their health care provider about screening for prostate cancer, including the prostate specific antigen (PSA) screening and digital rectal examination (DRE), after receiving information about the uncertainties, risks and potential benefits associated with prostate cancer screening.

- Men at average risk should receive this information beginning at age 50.
- Men at higher risk, including African-American men and men with a first-degree relative (father or brother) diagnosed with prostate cancer before age 65, should receive this information beginning at age 45.
- Men at appreciably higher risk (multiple family members diagnosed with prostate cancer before age 65) should receive this information beginning at age 40.

Figure 11. Trends in Prostate Cancer Stage at Diagnosis in Wisconsin, 2000-2010



Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.

Melanoma/Skin Cancer in Wisconsin

Overview

The number of melanoma cases in the United States, as well as Wisconsin, is increasing. From 1995-2010, the number of melanomas diagnosed annually in Wisconsin increased from 572 to 1,266. Although melanoma accounts for less than 5% of all skin cancers, it causes the vast majority of skin cancer deaths. Fortunately melanoma is often curable if detected and treated at an early stage.

Skin Cancer Definition

Skin cancer is the most common form of cancer in the United States. Most skin cancers are classified as nonmelanoma (basal cell or squamous cell) and develop on sun-exposed areas of the body. Although these cancers are highly curable if detected and treated early, basal cell and squamous cell carcinomas can cause considerable damage and disfigurement if left untreated.

Melanoma is a skin cancer that develops in melanocytes, the cells that produce our skin color. This type of cancer can spread quickly to other parts of the body. Even though melanoma is very curable when detected in its early stages, melanoma is far more dangerous than other skin cancers.

Cancer Burden

Every year, approximately 1,114 Wisconsin residents were diagnosed with melanoma, and 166 died from the disease between 2006-2010. The Wisconsin incidence rate for 2006-2010 was 18.4, per 100,000 population, lower than the national rate of 21.1 per 100,000 (Table 1, page 8). However, over the past 15 years the incidence rate has increased by 83%, from 11.1 per 100,000 in 1995 to 20.4 per 100,000 in 2010 (Table 3, page 13). The Wisconsin mortality rate has remained stable at around 2.6 per 100,000, close to the national rate of 2.7 for 2006-2010 (Table 2, page 9). Approximately 66% of the melanoma deaths occurred in men and 34% of the deaths occurred in women.

Risk Factors

Several risk factors may contribute to the development of melanoma. They include:

- Personal or family history of melanoma
- Presence of atypical or numerous moles (more than 50)

Risk Factors for the Development of all Types of Skin Cancer:

- Sun sensitivity (sunburns easily, difficulty tanning, natural blond or red hair color)
- A history of excessive sun exposure, including sunburns
- Use of tanning booths
- Personal history of skin cancer
- Diseases that suppress the immune system

Risk Reduction

Skin should be protected from intense sun exposure by covering with clothing and a hat, applying sunscreen that has a sun protection factor (SPF) of 30 or higher to uncovered skin, seeking shade (especially at midday, when the sun's rays are strongest), and avoiding sunbathing and indoor tanning. Children in particular should be protected from the sun because severe sunburns in childhood may greatly increase risk of melanoma in later life.

Screening/Early Detection

In order to detect skin cancer early, it is important to recognize changes in skin growths or the appearance of new growths. A new or unusual lesion should be evaluated promptly by a physician.

Signs and Symptoms of Skin Cancer

Key warning signs of melanoma include changes in size, shape, or color of a skin lesion or the appearance of a new growth on the skin. Basel cell carcinomas may appear as growths that are flat, or as small, raised, pink or red, translucent, shiny areas that may bleed following minor injury. Squamous cell cancer may appear as growing lumps, often with a rough surface, or as flat, reddish patches that grow slowly. Another sign of basal and squamous cell skin cancers is a sore that doesn't heal.

Stage at Diagnosis

Melanoma can spread to other parts of the body quickly, but is highly curable if detected early. The 5-year national survival rate for patients with melanoma is 91%. For localized melanoma, the national 5-year survival rate is 98%. About 84% of invasive melanomas in the US are diagnosed at the local stage. In Wisconsin, 83.3% of invasive melanomas were diagnosed at the local stage in 2010.

Figure 12 shows trends in stage at diagnosis of invasive melanomas in Wisconsin. The percent of melanomas diagnosed in Wisconsin at the localized stage has remained high during 2000-2010, ranging from 67% to 83% each year.

Early Detection of skin cancer:

A simple ABCD rule outlines the warning signs of melanoma:

A is for asymmetry: one half of the mole does not match the other half.

B is for border irregularity: the edges are ragged, notched, or blurred.

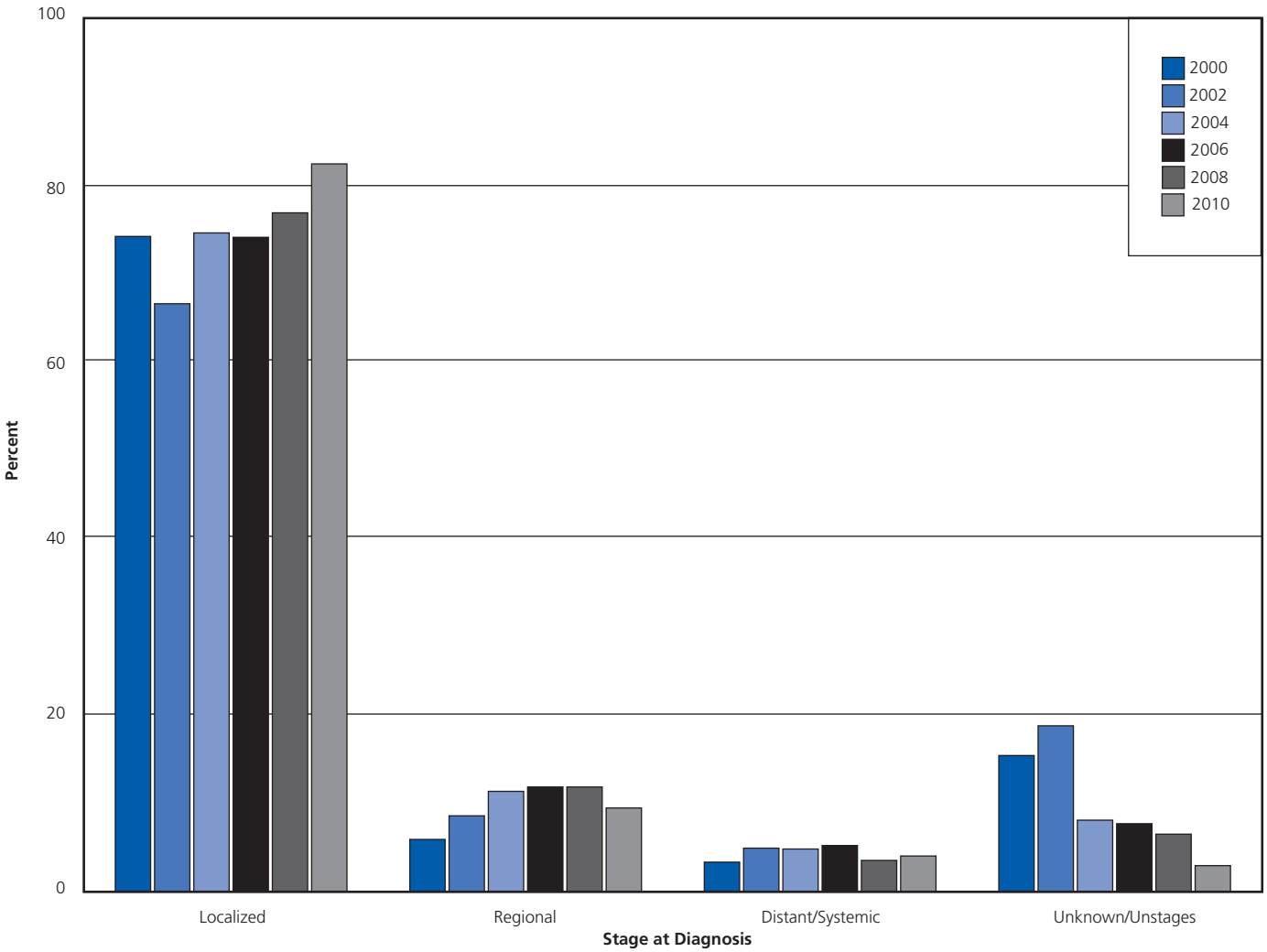
C is for color: the pigmentation is not uniform, with variable degrees of tan, brown or black.

D is for diameter greater than six millimeters: any sudden or progressive increase in size should be of concern.

American Cancer Society recommends the following for the prevention of skin cancer:

- Limit or avoid sun exposure during the midday hours (10:00 a.m. – 4:00 p.m.).
- Wear a hat that shades the face, neck and ears, as well as a long-sleeved shirt and long pants.
- Wear sunglasses to protect the eyes.
- Use sunscreen with a sun protection factor (SPF) of 30 or higher.
- Avoid indoor tanning booths and sunlamps.
- Sunburn protection should be emphasized in children; severe sunburns in childhood greatly increase the risk of melanoma in later life.

Figure 12. Trends in Melanoma Stage at Diagnosis in Wisconsin, 2000-2010



Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.

Cervical Cancer in Wisconsin

Overview

Cervical cancer begins in cells lining the cervix. Normal cells slowly change into pre-cancer cells that can then turn into cancer. These cell changes can be detected by the Pap test and treated to prevent cancer. That is why screening tests offer a powerful opportunity for the prevention, early detection and successful treatment of cervical cancer. Large declines in incidence rates over most of the past several decades have begun to taper off, particularly among younger women.

Cancer Burden

Between 2006-2010, an average of 169 Wisconsin women developed invasive cervical cancer each year and 50 women died of the disease. The incidence rate of cervical cancer in Wisconsin from 2006-2010 was 5.8 per 100,000 population and the mortality rate was 1.6 per 100,000. The national incidence rate for those same years was 7.9 per 100,000 and the national mortality rate was 2.4 per 100,000 (Tables 1 and 2, pages 8 and 9).

Risk Factors

The primary cause of cervical cancer is persistent infection with certain types of Human Papilloma Virus (HPV). While women who begin having sex at an early age or who have had many sexual partners are at increased risk for HPV infection and cervical cancer, a woman may be infected with HPV even if she has had only one sexual partner.

Risk Reduction

Cervical cancer is closely linked to sexual behavior and to sexually transmitted infections with certain types of Human Papilloma Virus (HPV). The Food and Drug Administration (FDA) has approved two vaccines for the prevention of the most common HPV infections that cause cervical cancer for use in females 9 to 26 years of age. The vaccines cannot protect against established infections, nor do they protect against all HPV types. To be most effective, the HPV vaccine should be given before a person becomes sexually active.

Screening/Early Detection

Screening can prevent cervical cancer by detecting precancerous lesions. As screening has become more common, pre-invasive lesions of the cervix are detected far more frequently than invasive cancer. Cervical cancer can be cured if detected early.

Invasive cervical cancer has decreased significantly during the past 25 years due to increased screening with Pap tests. Since 2001, the percentage of Wisconsin women who reported having had a Pap test within the past three years has declined (Figure 13). In 2001, 90% of Wisconsin women aged 18 and older reported having had a Pap test in the past three years. In 2010, 85% of adult women reported having Pap tests within that time frame.

Stage at Diagnosis

Early detection through Pap screening provides the best chance of discovering cervical cancer at a local stage. Early stage invasive cervical cancer is one of the most successfully treated cancers. In Wisconsin, the percent of invasive cervical cancers diagnosed at the localized stage was 51.6% (Figure 14) in 2010. The relative 5-year survival rate for women diagnosed at the local stage was 91%.

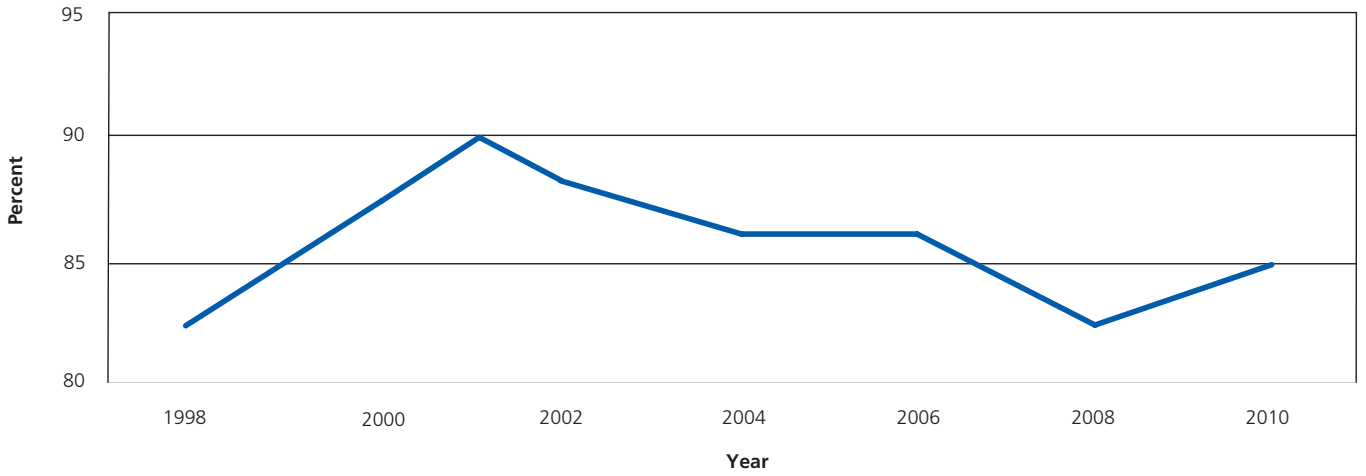
American Cancer Society Screening Recommendations for Cervical Cancer

Cervical cancer screening should begin at age 21. For women ages 21-29, screening should be done every 3 years with conventional or liquid-based Pap test. For women ages 30-65, screening should be done every 5 years with both the HPV test and the Pap test (preferred), or every 3 years with the Pap test alone (acceptable).

Women ages 65 and older who have had 2 consecutive negative HPV and Pap tests within the last 10 years, with the most recent test occurring within 5 years, and women who have had a total hysterectomy should stop cervical cancer screening.

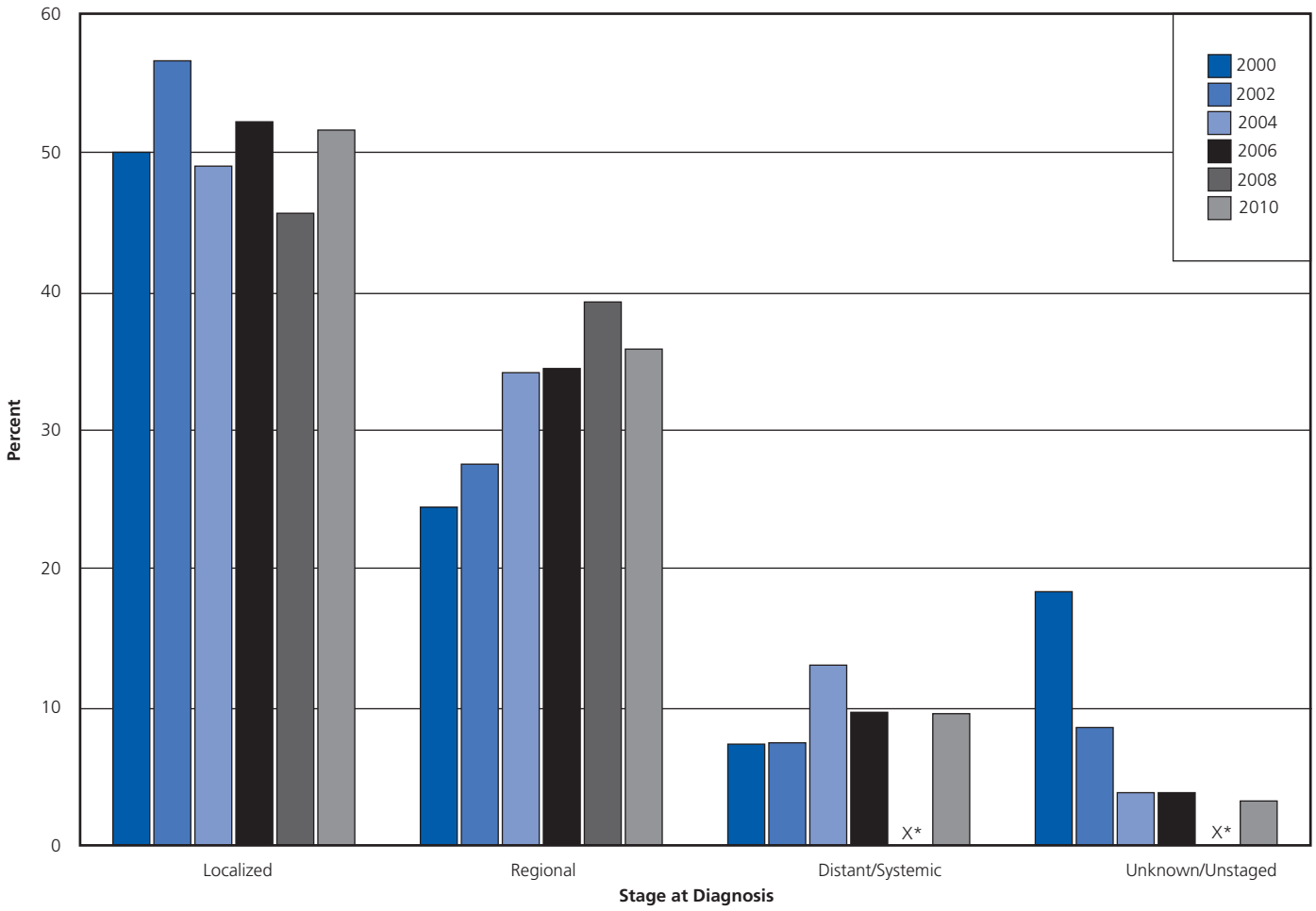
Women should not be screened annually by any method at any age.

Figure 13. Trends in Prevalence Among Women Aged 18 and Older Who Have Had a Pap Test Within the Past Three Years in Wisconsin, 1998-2010



Source: Wisconsin Behavior Risk Factor Surveillance System, 1998-2010, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.

Figure 14. Trends in Cervical Cancer Stage at Diagnosis in Wisconsin, 2000-2010



Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.
*An "X" indicates that one or more values within a row or column is less than 6 (but more than zero) and has been suppressed to protect confidentiality.

Childhood Cancer in Wisconsin

Overview

Childhood cancer is categorized by groupings based on histologic type and site rather than primary site alone as is widely used for adult cancers (see Glossary for International Classification of Childhood Cancer). For the leukemias and lymphomas, the categories are similar, but for solid tumors the categories can be quite different. Rates are presented per 100,000 children in this section to correspond to the rates used in the rest of this report. Rates for childhood cancer are also sometimes presented per million children.

The types of cancers that occur in children vary greatly from those seen in adults. The most common cancers are leukemia, brain and central nervous system tumors, and lymphomas, which together account for about 60 percent of all cases (Figure 15). Because of significant advances in therapy, 80% of these children will survive five years or more, an increase of 40% since the early 1970s. Despite its rarity and the impressive improvements in treatment, cancer is still the leading cause of death from disease in children under the age of 15. Encouragingly, childhood cancer mortality rates in the US declined 58% from 1975 to 2010; mortality for all childhood cancer was 4.9 per 100,000 population in 1975 compared with 2.2 per 100,000 in 2010.

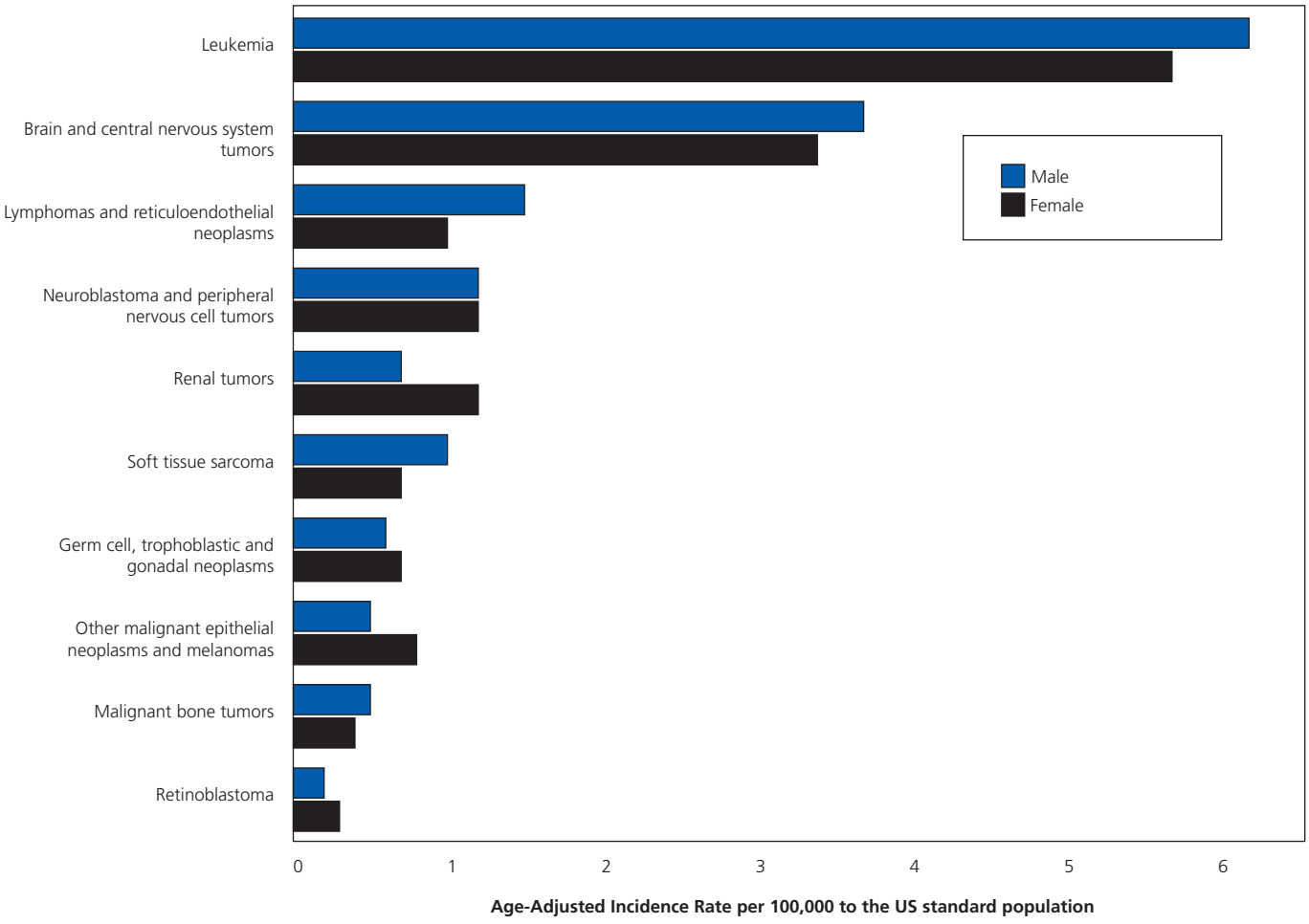
Burden of Childhood Cancer in Wisconsin

Each year in Wisconsin approximately 177 children under the age of 15 were diagnosed with cancer and 24 children died from the disease during 2006 -2010. The average age-adjusted incidence rate for childhood cancer was 16.0 per 100,000 population and the average cancer mortality rate was 2.2 per 100,000 population. In 2010, the most frequently diagnosed childhood cancers in Wisconsin were leukemia (37%), brain and central nervous system (22%), and lymphoma (8%).

Leading Childhood Cancers

Figure 15 shows the leading childhood cancers during 2006-2010 for Wisconsin. Among the major types of childhood cancers, leukemia and cancers of the brain and central nervous system account for more than half of all new cases. Over one-third of childhood cancers are leukemias and the most common type is acute lymphoblastic leukemia. The most common solid tumors are brain tumors, with other solid tumors being less common.

Figure 15. Ten Most Common Cancers in Children by Gender in Wisconsin, 2006-2010



Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.

Reducing the Risk of Cancer

Overview

Approximately one-third of the cancer deaths that occur in the US each year are due to poor nutrition and physical inactivity, including excess weight. For the majority of people, next to not smoking tobacco, healthy dietary choices and physical activity are the most important choices they can make to reduce their cancer risk. Excessive caloric intake combined with inadequate physical activity leads to obesity. Being overweight and obese are clearly associated with increased risk for developing many cancers. At the same time that evidence connecting excess weight to increased cancer risk has been accumulating, the rates of overweight and obesity have been increasing (Figure 16, page 30).

Physical activity indirectly reduces the risk of developing the many types of obesity-related cancers because of its role in helping to maintain a healthy weight. Being active is also thought to reduce cancer risk largely by improving energy metabolism and reducing circulating concentrations of estrogen, insulin, and insulin-like growth factors.

Modifiable Risk Factors

Factors that influence the risk of cancer such as age, gender, or family history cannot be modified and are classified as non-modifiable risk factors. Lifestyle factors that influence cancer risk, such as dietary and physical activity level and tobacco use, are modifiable. By changing these modifiable aspects of their lifestyle, people may reduce their risk of cancer.

Recommendations for Individual Choices

Achieve and maintain a healthy weight throughout life

Obesity has reached epidemic proportions in the United States and in Wisconsin. The percentage of overweight and obese adults has increased dramatically in Wisconsin over the last decade (Figure 16). Being overweight is defined as a Body Mass Index (BMI) of 25.0-29.9 kg/m2 and obesity is defined as a BMI equal to or greater than 30 kg/m2. According to the Wisconsin 2010 BRFSS, 37% of Wisconsin adults are overweight and an additional 27% are obese. The highest percentage of those that are obese are between the ages of 30-44 for males and ages 45-64 for females (Figure 17, page 31).

The percentage of obesity is highest among:

- Adults aged 45 to 64 (31%)
- Adults with an annual household income less than $15,000 (49%)
- Adults with some college/tech school (30%)
- Non-Hispanic African American women (50%) compared to non-Hispanic white women (23%)

Current behaviors such as eating meals away from home, reduced physical activity, and the increased availability of electronic entertainment contribute to lifestyles highly conducive to weight gain. If the environments where people live, work, go to school, and enjoy leisure time are not oriented to improve their eating and activity habits, efforts to decrease obesity will have limited success. Since excessive weight gain that begins during childhood often continues into adulthood. Obesity prevention for children and adolescents can create healthy diet and physical activity habits that will set the foundation for their behaviors as adults.

Consume a healthy diet, with an emphasis on plant sources

Individuals should choose foods and beverages in amounts that will help achieve and maintain a healthy weight. Read food labels to become more aware of portion sizes and calories consumed. Eat at least 2 ½ cups of vegetables and fruits each day. Choose brown rice and whole-grain breads, pasta, and cereals instead of white rice, breads, cereals, and pasta made from refined grains. Recommendations are also to limit consumption of processed and red meats and instead choose fish, poultry, or beans as an alternative.

Adopt a physically active lifestyle

Many Wisconsin adults live relatively inactive lifestyles. Regular physical activity can lower cancer risk by maintaining a healthy weight, since obesity is a risk factor for many types of cancer. Adults should engage in at least 150 minutes of moderate physical activity each week or 75 minutes of vigorous physical activity each week, preferably spread throughout the week. Doing any intentional physical activity above usual activities, no matter what one's level of activity, can have many health benefits.

Children and teens need to also have a physically active lifestyle. Youth should get at least 1 hour of moderate or vigorous activity each day, with vigorous activity at least 3 days a week.

From an extensive array of activities (whether gardening, dancing, pushing a stroller, sports or walking) everyone should engage in physical activities that are fun, easy, practical, and appropriate in relation to any health conditions.

In 2010, the highest percentage of no exercise was reported by following the groups of Wisconsin adults:

- Adults age 65 and older (29%)
- Adults with an annual household income of less than $15,000 (41%)
- Adults with less than high school education (39%)

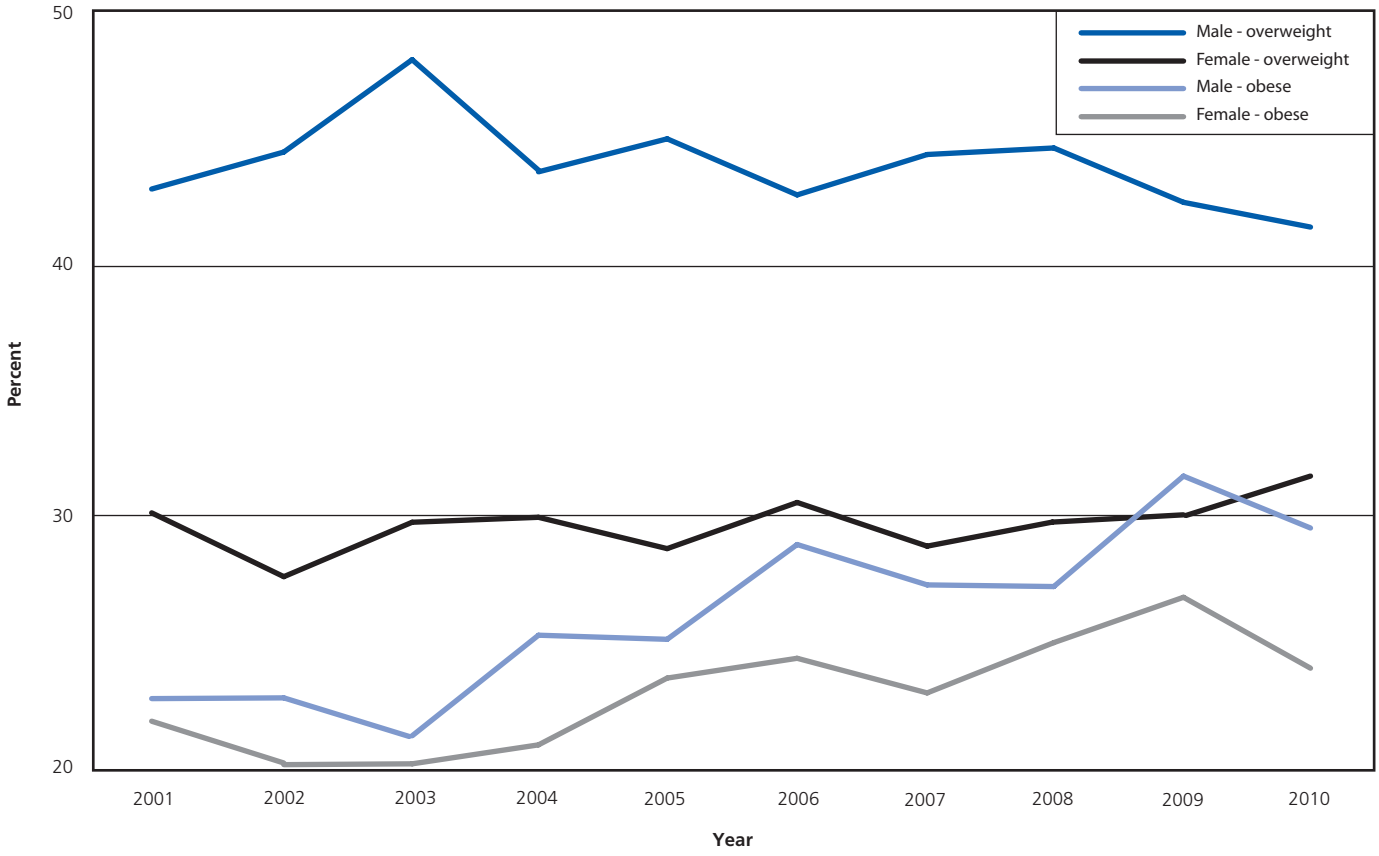
If you drink alcoholic beverages, limit consumption

Alcohol consumption increases the risk of cancers of the mouth, pharynx, larynx, esophagus, liver, breast, colon, and rectum. For each of these cancers, risk increases substantially with the intake of more than two drinks per day. The combination of

alcohol and tobacco significantly multiplies the risk for cancers of the mouth, larynx, and esophagus more than either alcohol or tobacco use alone.

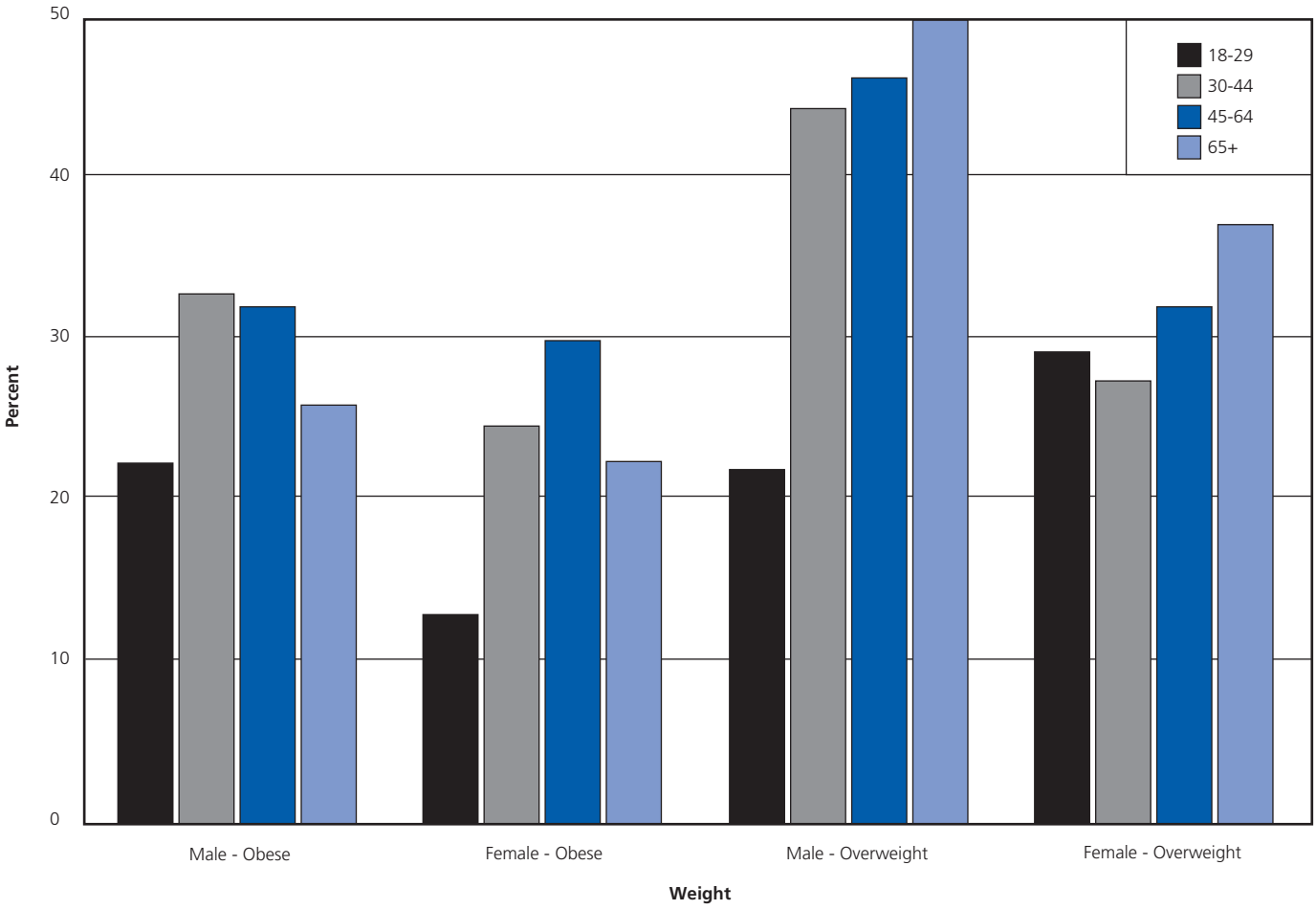
The American Cancer Society recommends people who drink alcohol should limit their intake to no more than two drinks per day for men and one drink a day for women.

Figure 16. Trends in Prevalence of Overweight and Obesity by Sex in Wisconsin, 2001-2010



Source: Wisconsin Behavior Risk Factor Surveillance System, 2001-2010, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.
Notes: Obesity is defined as Body Mass Index 30.0 or greater. Overweight is defined as Body Mass Index 25.0-29.9.

Figure 17. Prevalence of Overweight and Obesity by Age in Wisconsin, 2010



Source: Wisconsin Behavior Risk Factor Surveillance System, 2010, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.
Note: Obesity is defined as Body Mass Index 30.0 or greater. Overweight is defined as Body Mass Index 25.0-29.9.

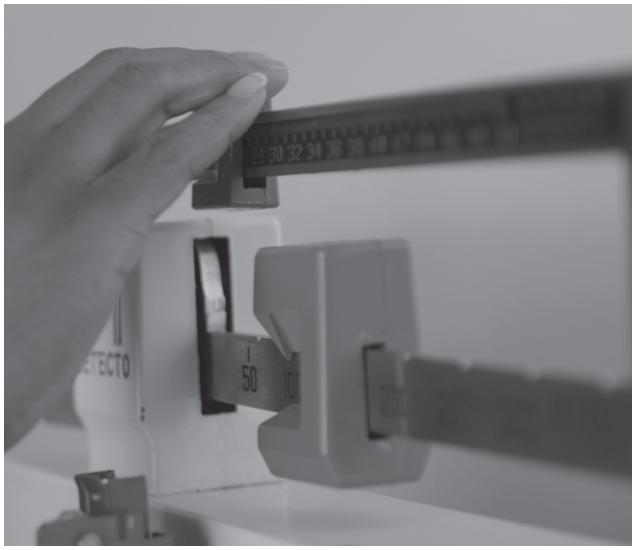
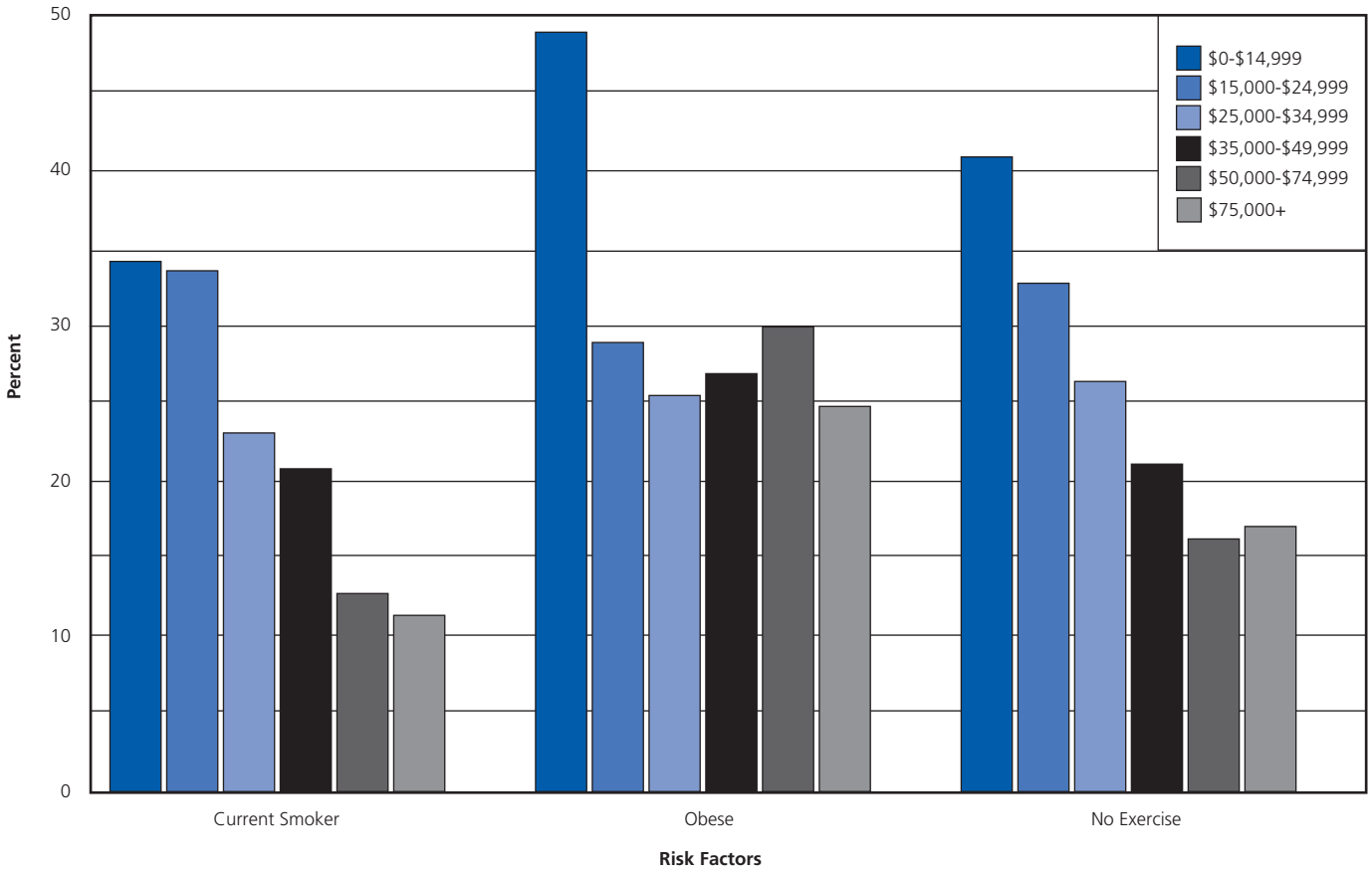


Figure 18. Prevalence of Smoking, Obesity, and Sedentary Lifestyle by Income in Wisconsin, 2010



Source: Wisconsin Behavior Risk Factor Surveillance System, 2010, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.
Notes: Obesity is defined as Body Mass Index 30.0 or greater.
Current Smoker is defined as smoking cigarettes either every day or some days.
No Exercise is defined as no participation in any leisure time physical activity during the past month.

Tobacco

Trends in Tobacco Use

The devastating effects of tobacco use in the health and welfare of society are now widely recognized. Tobacco use is the single largest preventable cause of disease and premature death in the United States. Studies have shown that smoking is not merely a bad habit but is an addiction, a chronic condition that may need treatment over an extended period of time.

Tobacco use accounts for about one-third of all cancer deaths and 87% of lung cancer deaths each year in the US. The best way to avoid lung cancer is to not start using tobacco or to quit if you do use it. Cigarette smoking also causes cancers of the mouth, nasal cavities, larynx, pharynx, esophagus, stomach, colorectum, liver, pancreas, kidney, bladder, uterine cervix and ovary, and myeloid leukemia. Cigar smoking increases the risk of cancers of the lung, oral cavity, larynx, esophagus, and probably pancreas.

The prevalence of smoking in Wisconsin has declined since 2000, but 19% of adults age 18 and older report current (2010) cigarette smoking. Figure 19 (page 34) depicts tobacco use by gender in Wisconsin in 2001-2010. The prevalence of smoking in 2001 was 21.89% for females and 25.4% for males, but by 2010 had declined to 17.5% among women and 20.9% among men. In 2010, for both sexes combined, the 18 to 29-year old age group had the highest percentage of smokers (Figure 20, page 34). The large number of younger adults smoking will cause a rise in lung cancer mortality in 20-30 years, unless smoking cessation efforts are successful.

According to the Wisconsin Youth Risk Behavior Survey (YRBS) for 2011, approximately 16% of male high school students and 14% of female high school students in Wisconsin reported smoking (Figure 21, page 35). The YRBS also reports a decline in the percentage of all high school students who are current smokers (smoked a cigarette at least one day out of the prior 30 days) from 38% in 1999 to 15% in 2011.

Smokeless tobacco products, including snus and dissolvables such as strips, orbs, and sticks, are part of a new series of emerging tobacco products currently being promoted by the tobacco industry as less harmful, more convenient, and more socially acceptable alternatives to traditional cigarettes. These products are marketed to encourage dual use (the use of two or more tobacco products) and reduce the incentive to quit. Small cigars which are similar in shape and size to cigarettes are not regulated like cigarettes, resulting in lower prices which can make them more appealing, especially to kids. In addition, while flavored cigarettes are now banned, similar restrictions are not placed on smokeless tobacco or cigars so many of these new products come in fruit flavors that appeal to children. Between 2000-2007, sales of small cigars increased by 115% and moist snuff products increased by 33% nationally, while cigarette sales decreased by 18%.

Policy Change Needed

Public policies and laws that make it less convenient and more expensive to use tobacco products, as well as help people quit, are extremely effective in reducing tobacco use rates. A comprehensive approach is needed to tackle tobacco use through policies that:

- Raise the price of tobacco products through regular and significant tobacco tax increases.
- Implement and protect comprehensive smoke-free policies.
- Fully fund and sustain evidence-based statewide tobacco prevention and cessation programs.

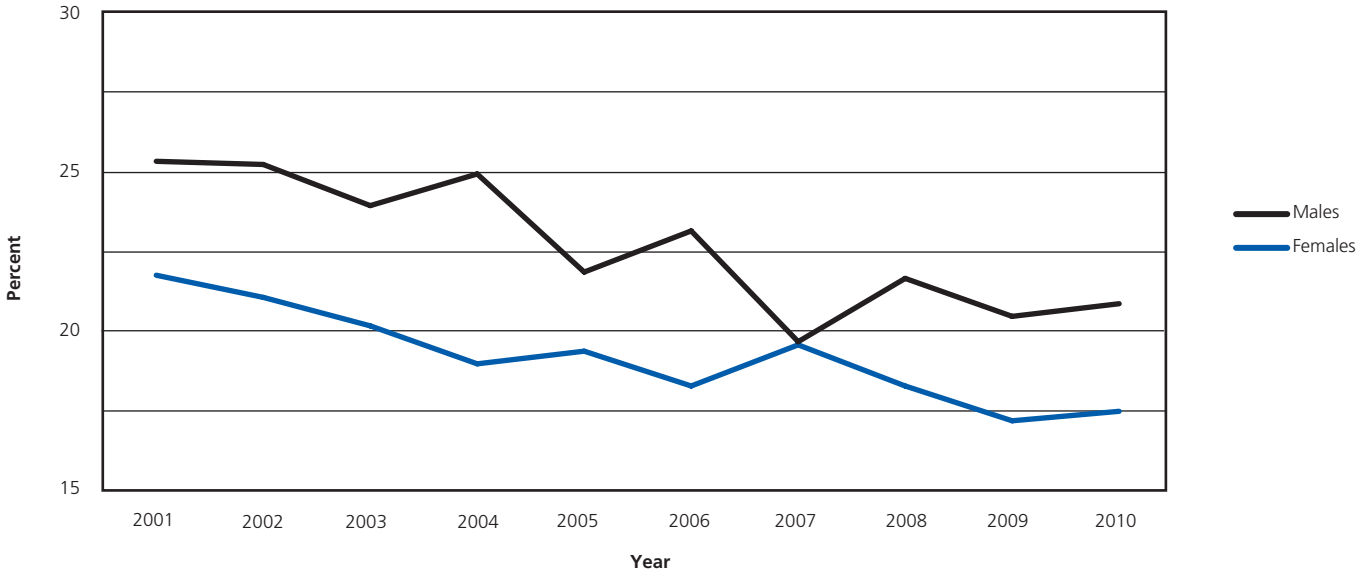
Like a three-legged stool, each component works in conjunction with the others and all three are necessary to overcome the tobacco epidemic effectively.

Quitting Smoking in Wisconsin

There are a number of treatments that can help tobacco users quit and thus reduce the incidence of lung and bronchus cancer. Tobacco users who are ready to quit can consult their physicians, who will conduct an intervention and prescribe an appropriate medication.

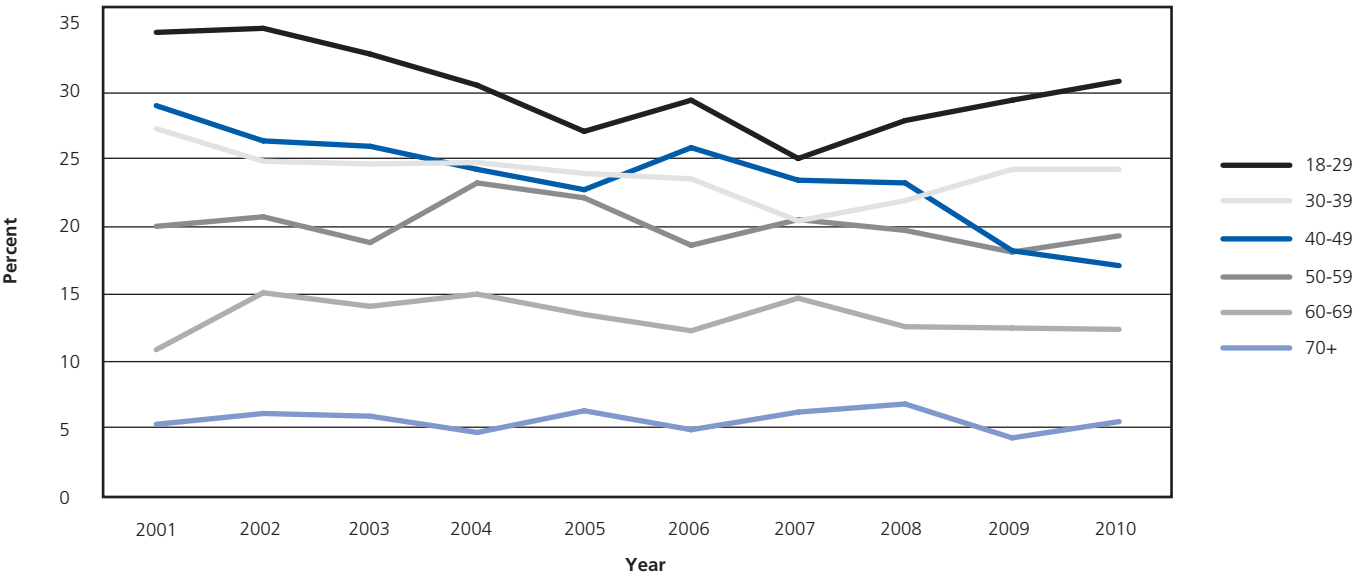
Medication combined with practical, individualized counseling provides effective nicotine dependence treatment. The counseling component can be obtained by calling the Wisconsin Tobacco Quit Line (1-800-QUIT-NOW or 1-800-784-8669). The Quit Line conducts an assessment and provides ongoing, practical advice on the process of quitting tobacco use. A number of local programs are also available in Wisconsin. Information can be obtained on local programs by calling the Quit Line.

Figure 19. Trends in Prevalence of Adult Current Cigarette Smoking by Sex in Wisconsin, 2001-2010



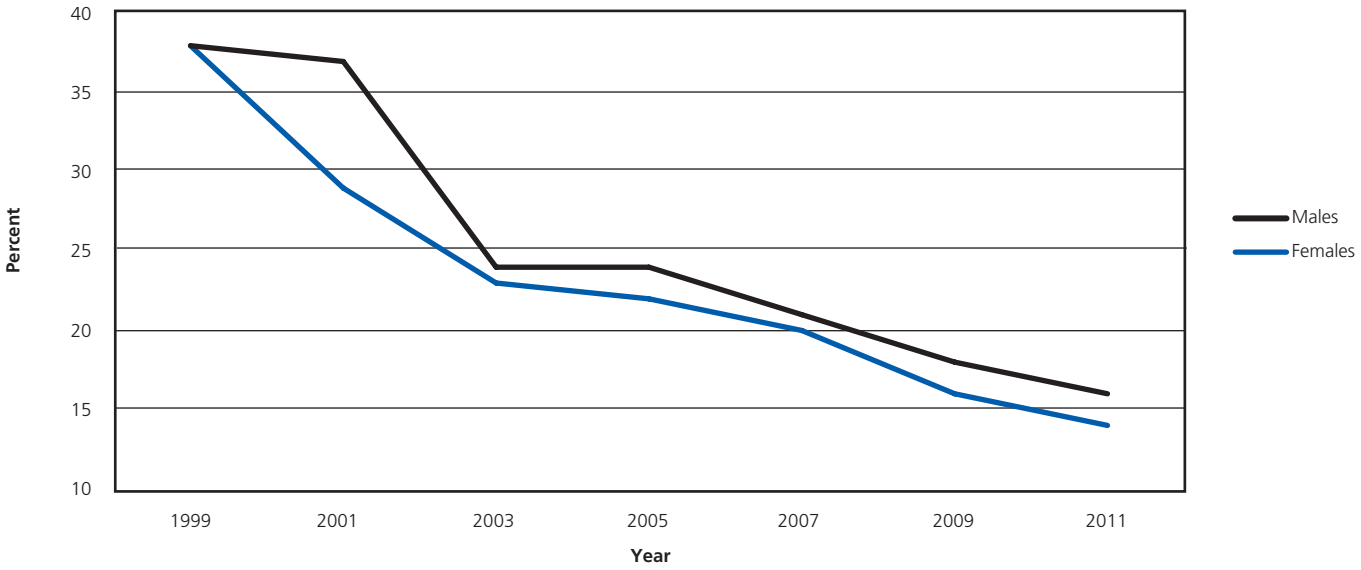
Source: Wisconsin Behavior Risk Factor Surveillance System, 2001-2010, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.
Note: Current cigarette smoking: persons who reported smoking every day or some days.

Figure 20. Trends in Prevalence of Adult Current Cigarette Smoking by Age in Wisconsin, 2001-2010



Source: Wisconsin Behavior Risk Factor Surveillance System, 2001-2010, Office of Health Informatices, Division of Public Health, Department of Health Services, 2013.
Note: Current cigarette smoking: persons who reported smoking every day or some days.

Figure 21. Trends in Prevalence of Current Cigarette Smoking Among High School Students by Sex in Wisconsin, 1999-2011



Source: Wisconsin Youth Risk Behavior Survey, 1999-2011, Wisconsin Department of Public Instruction, 2012.
Note: Cigarette Smoking: High school students who reported smoking a cigarette on one or more of the past thirty days.

Cancer in Diverse Populations

Cancer registry data on race/ethnicity are vital for understanding cancer patterns in population subgroups, as they inform public health policies for allocating resources and form the bases of etiologic hypotheses. However, accuracy of cancer registry data on race/ethnicity has not been systematically evaluated.

Diversity in the United States and Wisconsin

According to the US Census estimates for 2012, the nation's diverse populations included 13% African American, 5% Asian and Pacific Islander, 1% American Indian and Alaska Native. Also it was estimated that 17% percent of the population was Hispanic or Latino. Approximately 22% of the US population were racial minorities in 2012.

In 2012, approximately 12% of Wisconsin residents are racial minorities: 6% African American, 1% American Indian, 2% Asian. Including all races, 6% are of Hispanic or Latino ethnicity.

Disparities in Cancer Incidence and Mortality Rates

The risk of developing and dying from cancer varies by race. During 2006-2010, Wisconsin's age-adjusted incidence rate was 466.0 per 100,000 population. However, when examined by racial group, the incidence rates ranged from 285.0 for Asians to 527.6 for African Americans (Table 5). The incidence rate for Hispanics/Latinos of any race was 357.4. A similar divergent pattern was found for cancer mortality. The state mortality rate was 175.6 per 100,000 population, but the rates by racial group ranged from 98.5 for Asian/Pacific Islanders to 240.1 for African Americans (Table 6, page 39). Hispanics/Latinos of any race experienced the lowest rate of cancer mortality, 98.2 per 100,000 population.

For all cancer combined, incidence rates among African Americans were higher than the state average and highest of all racial groups during 2006-2010 (Figure 22, page 38). African Americans also had the highest incidence rates of the lung, colorectal, and prostate cancers. Mortality rates were also higher for all cancers combined and the major cancers profiled in this report (Figure 23, page 40). The largest disparity between white and African-American mortality rates occurs for prostate and lung cancers (African-American rates being 80% and 66% higher than the white rates, respectively).

Female Breast Cancer

While African-American women in Wisconsin are less likely to be diagnosed with breast cancer than white women (116.5 cases per 100,000 African-American women compared to 122.5 cases per 100,000 white women), they are more likely to die from the disease (29.1 per 100,000 African-American women compared to 21.3 per 100,000 white women). This may be due to diagnoses at later stages of the disease for African Americans and a higher frequency of more aggressive tumors.

Prostate Cancer

During 2006-2010, African-American males experienced higher prostate cancer incidence and mortality rates than whites (220.1 cases per 100,000 and 42.1 deaths per 100,000 African-American males as compared to 138.4 cases per 100,000 and 24.1 deaths per 100,000 for white males).

Lung Cancer

Lung cancer rates among African-American males were 77- 80% higher (124.1 incidence rate and 103.4 mortality rate, per 100,000 population) than rates among white males (70.0 incidence rate and 57.0 mortality rate). American Indian males also experienced high incidence and mortality rates of lung cancer (118.0 and 96.1, respectively, per 100,000 population) that exceeded comparable rates for white males.

Colorectal Cancer

African Americans and American Indians in Wisconsin experienced higher colorectal incidence rates than whites (57.1 and 56.2 compared with 41.3, respectively, per 100,000 population). African Americans also had higher colorectal mortality rates than whites (23.0 compared with 14.8, respectively, per 100,000 population).

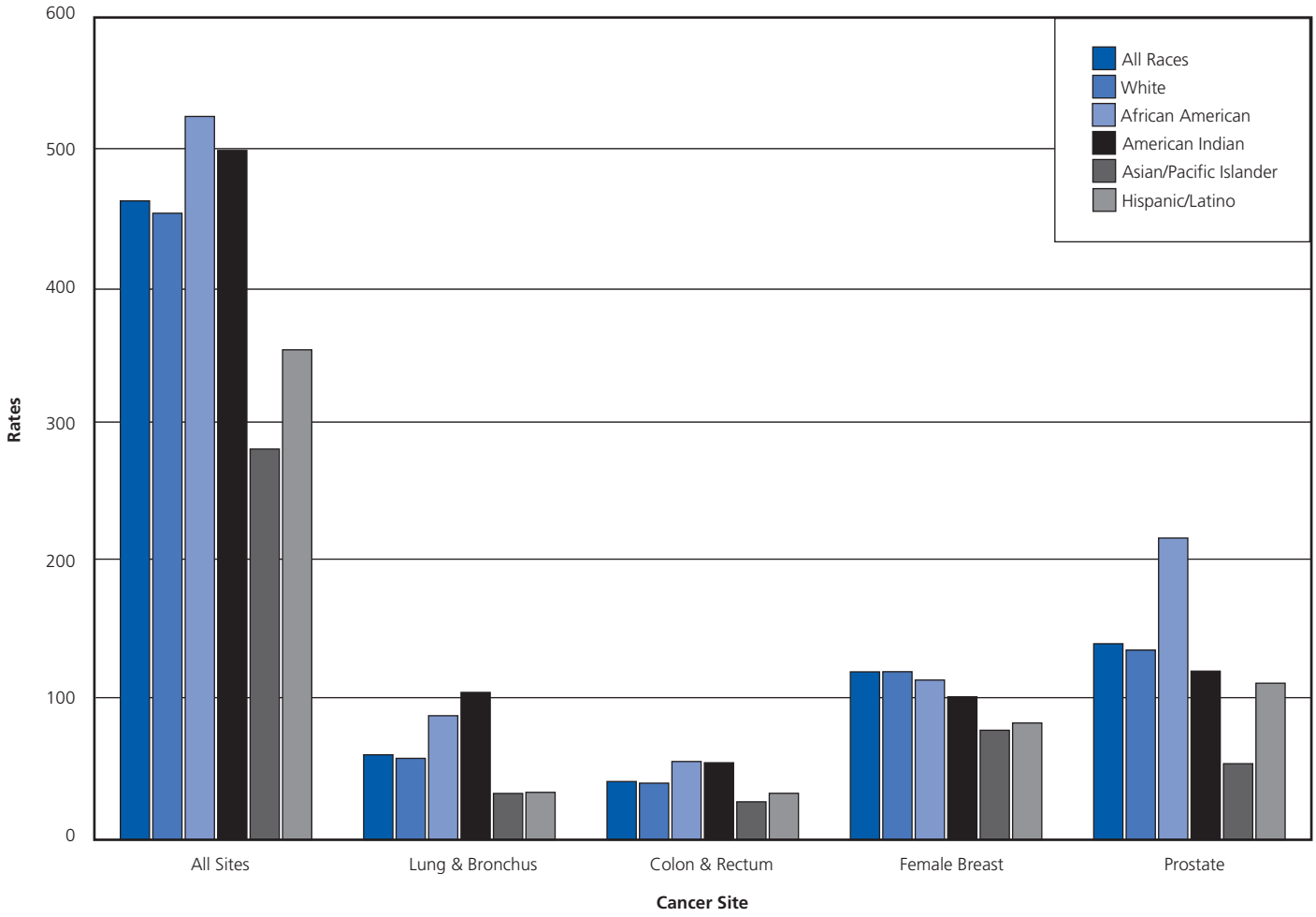
The reasons behind the incidence and mortality disparities between racial and ethnic groups are not clearly defined. Explanations vary from problems with accurate reporting of racial information on incidence reports and death certificates to differences among socioeconomic, lifestyle, environmental, genetic, occupational, and dietary factors. Access to care and timing of diagnoses (late stage diagnoses reduce treatment options and chances of long-term survival) are also important aspects in determining reasons for the disparities.

Table 5. Age-Adjusted Cancer Incidence Rates,* by Race/Ethnicity and Sex, in Wisconsin, 2006-2010

Site	All Races	White	African American	American Indian/ Alaska Native	Asian/Pacific Islander	Hispanic/ Latino
All Sites						
Male and female	466.0	457.0	527.6	502.8	285.0	357.4
Male	530.9	517.4	667.2	537.8	294.2	403.0
Female	419.2	413.7	429.7	483.5	286.2	326.3
Lung & Bronchus						
Male and female	62.0	59.4	90.5	107.5	33.8	34.6
Male	73.7	70.0	124.1	118.0	37.6	42.1
Female	53.5	51.7	67.2	101.2	31.9	28.4
Colorectal						
Male and female	42.5	41.3	57.1	56.2	27.7	33.9
Male	48.4	47.0	69.9	67.5	34.0	34.9
Female	37.5	36.4	48.8	46.4	24.5	31.9
Stomach						
Male and female	5.8	5.3	13.2	7.2^	18.0	10.1
Male	8.3	7.9	15.6	6.8^	23.3	15.1
Female	3.8	3.3	11.4	7.3^	15.0	5.9^
Pancreas						
Male and female	12.3	11.7	16.6	10.5^	6.0^	11.7
Male	14.1	13.5	20.9	12.2^	4.2^	14.7
Female	10.8	10.3	14.1	9.6^	7.4^	9.3
Liver						
Male and female	4.8	4.1	12.1	13.8	13.1	15.3
Male	7.4	6.4	20.2	15.7^	20.3	22.1
Female	2.5	2.1	5.1	11.2^	7.7^	9.1
Breast, Female	122.5	122.6	116.5	104.3	79.9	85.2
Cervical	5.8	5.3	9.8	18.6	6.9^	9.9
Prostate	143.0	138.4	220.1	123.0	55.5	114.2

Source: Wisconsin Cancer Reporting System, Office of Health Information, Division of Public Health, Department of Health Services, 2013.
*Rates are per 100,000 population and age-adjusted to the 2000 US standard population.
Hispanic Latino category includes all races.
^ = Rate based on small number of cases (fewer than 20) for the five-year period.

Figure 22. Age-Adjusted Cancer Incidence Rates* by Race and Ethnicity in Wisconsin, 2006-2010



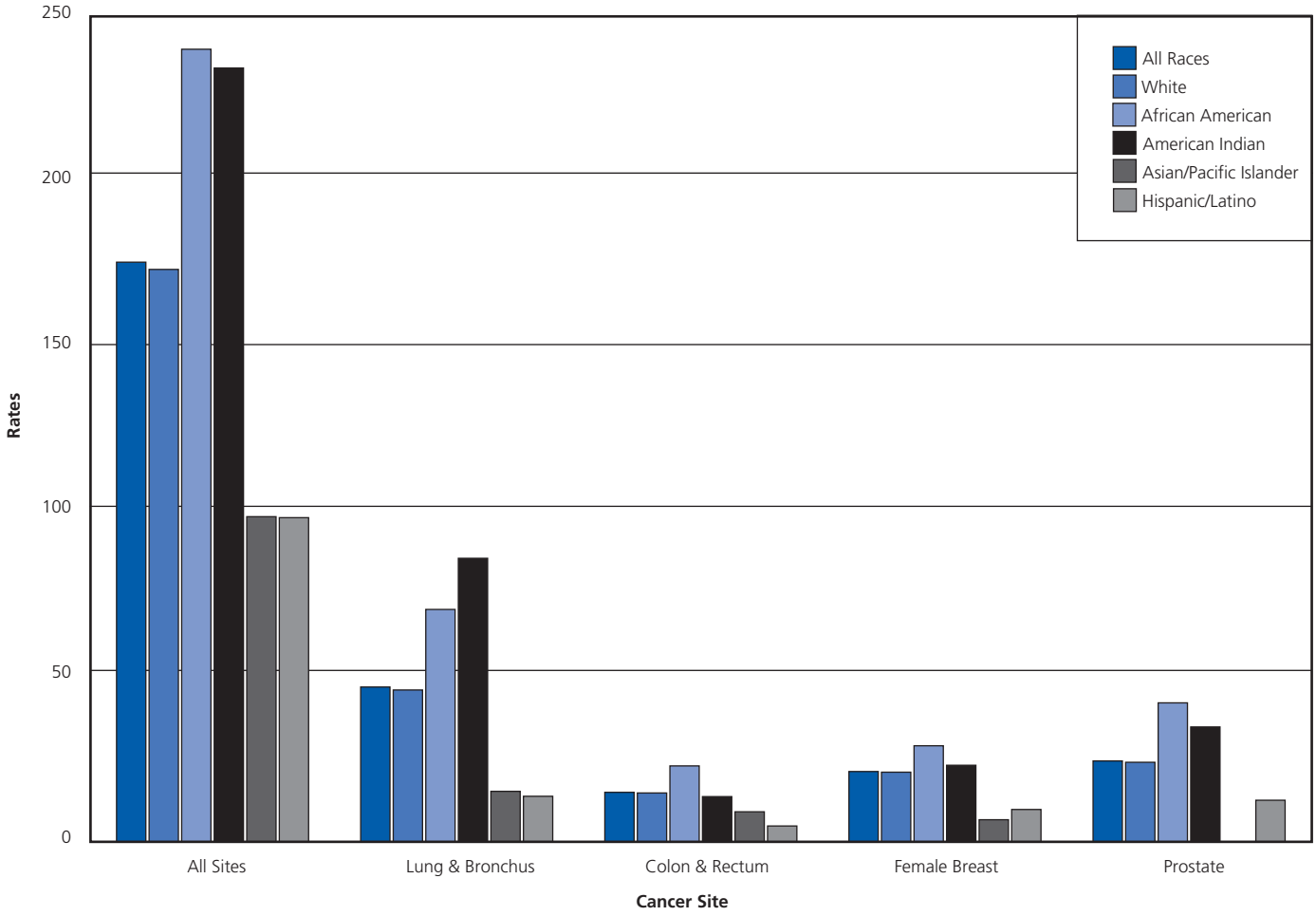
Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services, 2013.
*Rates are per 100,000 and age-adjusted to the 2000 US standard population.
Note: Hispanic/Latino category includes all races.

Table 6. Age-Adjusted Cancer Mortality Rates,* by Race/Ethnicity and Sex, in Wisconsin, 2006-2010

Site	All Races	White	African American	American Indian/ Alaska Native	Asian/Pacific Islander	Hispanic/ Latino
All Malignant Cancers						
Male and female	175.6	173.4	240.1	234.4	98.5	98.2
Male	213.7	210.7	309.4	287.3	112.4	123.7
Female	149.7	148.1	194.4	209.4	89.5	78.6
Lung & Bronchus						
Male and female	46.9	46.0	70.4	85.9	15.3	13.8
Male	58.4	57.0	103.4	96.1	20.3	17.6
Female	38.4	38.0	47.7	82.4	11.7	10.5
Colorectal						
Male and female	15.0	14.8	23.0	13.7	9.1	4.8
Male	18.0	17.7	26.0	19.4	18.1	5.6
Female	12.7	12.5	20.6	-	-	4.2
Stomach						
Male and female	3.0	2.7	8.7	-	9.4	4.6
Male	4.3	4.0	11.7	-	14.5	4.7
Female	2.0	1.8	6.2	-	-	4.4
Pancreas						
Male and female	11.2	11.1	15.9	9.6	5.8	9.0
Male	12.8	12.6	20.1	-	-	11.5
Female	10.0	9.9	13.6	-	-	7.5
Liver						
Male and female	3.3	3.0	8.4	6.1	8.0	8.2
Male	5.1	4.7	13.5	8.5	7.9	14.5
Female	1.7	1.6	4.0	-	7.5	-
Breast, Female	21.3	21.1	29.1	23.2	6.7	9.8
Cervical	1.6	1.4	4.0	-	-	-
Prostate	24.5	24.1	42.1	34.8	-	12.6

Source: National Center for Health Statistics. Wisconsin mortality data file 1995-2010, compiled from data provided through the Vital Statistics Cooperative Program, 2013.
*Rates are per 100,000 and age-adjusted to the 2000 US standard population.
Notes: Hispanic Latino category includes all races.
Race-specific rates based on fewer than 10 cases are not presented.

Figure 23. Age-Adjusted Cancer Mortality Rates* by Race and Ethnicity in Wisconsin, 2006-2010



Source: National Center for Health Statistics. Wisconsin mortality data file 1995-2010, compiled from data provided through the Vital Statistics Cooperative Program, 2013.
*Rates are per 100,000 population and are age-adjusted to the 2000 US standard population.
Notes: Hispanic/Latino category includes all races.
Race-specific rates based on fewer than 10 cases are not displayed.

Cancer Survivorship

How Many Cancer Survivors Are Alive in Wisconsin?

An estimated 279,210 cancer survivors were living in Wisconsin in 2012. Nationwide, it is estimated that there are over 13.7 million. These estimates do not include non-invasive cancers or basal cell/squamous cell skin cancers. Today, more than 65% of people are living five years or more after their initial cancer diagnosis.

What Defines a Cancer Survivor?

A cancer survivor is any person who has been diagnosed with cancer, from the time of diagnosis through the balance of life. The concept of survivorship many times is thought to begin when active treatment ends. However, survivorship includes a range of cancer experiences:

- Living cancer-free for the reminder of life
- Living cancer-free but experiencing one of more serious complications of treatment
- Living cancer-free for many years, but dying after a late recurrence
- Living cancer-free after the first cancer is treated, but developing a second cancer
- Living with intermittent periods of active disease requiring treatment
- Living with cancer continuously without a disease-free period

What Percentage of People Survive Cancer?

The 5-year relative survival rate for all cancers in the US diagnosed during 2003-2009 was 66%, up from 49% in 1975-1979. The survival rate varies for different types of cancer, as cancer sites vary in the rate of growth and likelihood of early detection. The 5-year relative survival rate represents persons who are living five years after diagnosis - whether disease free, in remission, or under treatment - after adjusting for normal life expectancy (factors such as dying of heart disease, accidents and diseases of old age). Although 5-year survival rates are useful in monitoring progress in detection and treatment of cancer, they do not represent the proportion of people who are permanently free of cancer since cancer deaths can occur beyond five years after diagnosis.

They also do not predict individual prognosis and should be interpreted with caution. The 5-year relative survival rates for the most recent time period are based on patients who were diagnosed from 2002-2008 and thus do not reflect the most recent advances in detection and treatment.

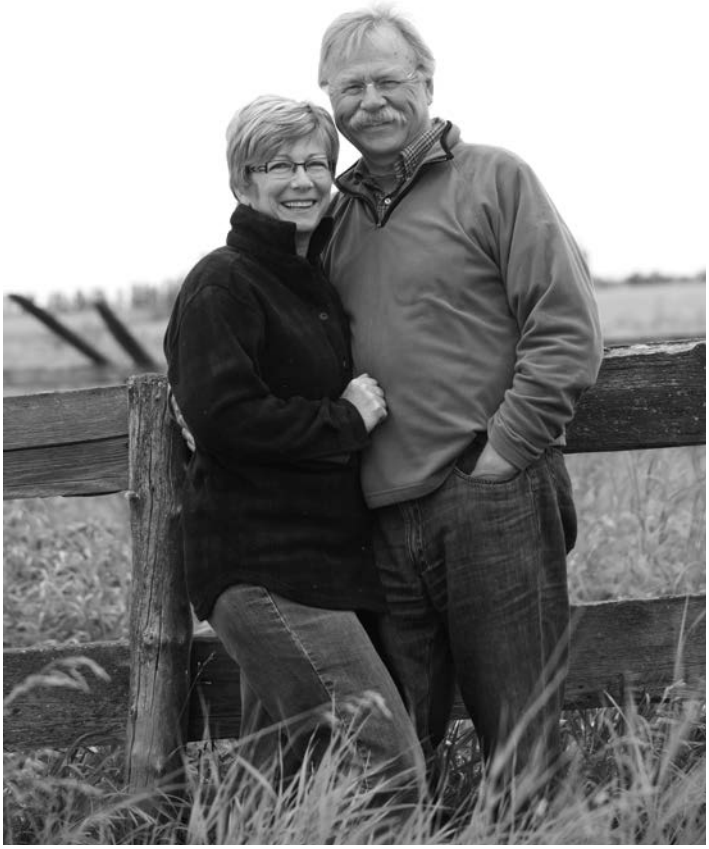
The overall 5-year relative survival rate for female breast cancer patients has improved from 63% in the early 1960s to 90% today. For persons with colorectal cancer, the 5-year survival rate is 64%. When colorectal cancer is detected at an early stage, the 5-year survival rate is 90%. Prostate cancer has a 5-year relative survival rate at almost 100% for all stages combined. The 10-year survival rate for prostate cancer is 98%. Melanoma has a 5-year relative survival rate of 91%, with a 5-year survival rate at 98% for localized melanoma. The overall 5-year survival rate for lung cancer is 52% for cases detected at a localized stage but only 19% of lung cancers are diagnosed at this early stage.

Improving Healthy Behaviors

Maintaining a healthy diet, exercising and not smoking may be especially important to cancer survivors due to their increased risk for recurrence and developing new cancer. These healthy behaviors may also improve their disease outcomes through increased quality of life, decreased fatigue, and improved heart and lung function.

Long-term Survivorship

Survivors are relieved to have completed treatment but may have to make physical, emotional, social, and spiritual adjustments to their lifestyle. Long–term symptoms arise during treatment and continue throughout life or late effects of treatment may occur months or years after treatments have been completed. These symptoms can include physical effects such as chronic pain, cognitive problems, damage to the heart, decreased bone density, fatigue, sexual problems, or infertility. Emotional long-term or late effects can include fear of cancer recurrence, anxiety, or depression.



American Cancer Society

Helping People Stay Well

Prevention: Healthy eating, regular physical activity and staying tobacco free can help lower your cancer risk. Along with being strong advocates for policy change in communities and schools, the Society provides tips, tools, and online resources to help people set goals and stay motivated to be healthy and maintain an active lifestyle.

Early detection: The American Cancer Society helps the public and health care professionals make informed decisions about the early detection of cancer by providing educational materials and establishing screening guidelines. In addition to providing information in the community, the Society focuses efforts on educating clinicians on guidelines for the screening and prevention of cancer. Through clinical journals, presentations, conferences and partnerships with local cancer centers in Wisconsin, the Society provides support to clinicians to help improve the quality of care to patients.

Helping People Get Well

The American Cancer Society is available anytime, day or night, to offer free information, programs, services, and community referrals to patients, survivors, and caregivers to help them make decisions through every step of a cancer experience. These resources are designed to help people facing cancer on their journey to getting well.

American Cancer Society's day-to-day help and emotional support includes:

- Help navigating the health care system with patient navigators located within medical facilities
- Transportation to treatment with the Society's volunteer driver program - Road To Recovery
- Lodging during treatment provided free at the Society's Hope Lodge facilities and at free or reduced cost at partner hotels throughout the country
- Help with appearance-related side effects of treatment with our Look Good Feel Better program and "tlc" magazine and product catalog
- Finding hope and inspiration through the Society's online Cancer Survivors Network

The American Cancer Society is at your fingertips 24 hours a day/seven days a week. By calling 1-800-227-2345 or visiting www.cancer.org we are able to link you with resources and information.

Finding Cures

Since 1946, the American Cancer Society has invested more than $3.9 billion in cancer research nationwide. The Society is also very proud that we have supported 46 investigators who went on to win the Nobel Prize, considered the highest accolade any scientist can receive.

The American Cancer Society's comprehensive research program:

- Extramural Grants
- Intramural Research
- Epidemiology
- Surveillance & Health Services Research
- International Tobacco Control Research
- Behavioral Research Center
- Statistics and Evaluation Center

Fighting Back

The American Cancer Society Cancer Action Network (ACS CAN) is the nonprofit, nonpartisan advocacy affiliate of the American Cancer Society. ACS CAN works every day to make cancer issues a national priority and empowers regular people to make their voices heard through effective public policy at the local, state and national level.

Wisconsin Well Woman Program

The Wisconsin Well Woman Program (WWWP) was established in 1993 as a state component of the Centers for Disease Control and Prevention's (CDC) National Breast and Cervical Cancer Early Detection Program (NBCCEDP). The WWWP is located with the other chronic disease programs, in the Wisconsin Division of Public Health's (DPH) Bureau of Community Health Promotion.

The program's primary goal is to reduce mortality from breast and cervical cancers by increasing the number of low-income women who are routinely screened, and by improving the quality of screening, referral and follow-up.

The primary population targeted by the WWWP is women ages 45-64 with low incomes. Women must have a gross household income at or below 250% of the current federal poverty level. A woman who is age and income eligible must be uninsured or underinsured. The program also has some exceptions to the age eligibility criteria for women 65 and older who are not eligible for Medicare or who cannot afford Medicare Part B. The program also has exceptions for women ages 35-44 referred from the Medicaid Family Planning Waiver or women in this age group who have breast symptoms.

The WWWP has been providing breast and cervical cancer screening services since June 1, 1994. On average, the WWWP provides screening services to 10,000 women each year.

Wisconsin Well Woman Program Web site:

www.dhs.wisconsin.gov/womenshealth/wwwp
Phone number: 608-266-8311

Wisconsin Cancer Reporting System

The Wisconsin Cancer Reporting System (WCRS), the central state registry established in 1976, collects cancer incidence data on Wisconsin residents newly diagnosed with pre-invasive and invasive cancers. Starting in 1994, WCRS became part of the Centers for Disease Control and Prevention's (CDC) National Program of Cancer Registries. In compliance with state law, hospitals, physicians, and clinics report cancer cases to the WCRS, in the Division of Public Health, Wisconsin Department of Health Services. Hospitals are required to report cases within six months of initial diagnosis or admission following a diagnosis elsewhere. Clinics and physicians are expected to report cases within three months of initial diagnosis or contact. All tumors with malignant cell types are reportable except basal cell and squamous cell carcinomas of the skin and in situ cervical cancer.

Quality control is essential for the approximately 28,900 newly diagnosed cancer cases reported each year. WCRS checks the accuracy of incoming data using nationally approved edits from CDC and additional edits designed by WCRS. Additionally, WCRS offers training to Wisconsin facilities through on-site visits, phone, mail, webcasts, and regional training sessions.

Cancer data are available from the online data query system, WISH (Wisconsin Interactive Statistics on Health), for a variety of requesters such as cancer researchers, hospital cancer registry personnel and governmental agencies (local, state, and federal). WCRS publications include Wisconsin Cancer Incidence and Mortality, the Health Counts in Wisconsin: Cancer series, WCRS Cancer Data Bulletins, and collaborative publications.

The WCRS contributes to:

- The understanding of cancer incidence and mortality in Wisconsin,
- The development of prevention and treatment programs, and
- The ultimate goal of reducing cancer mortality.

Wisconsin Cancer Reporting System Web site:

www.dhs.wisconsin.gov/wcrs

Wisconsin Comprehensive Cancer Control Plan

The Wisconsin Comprehensive Cancer Control Plan 2010-2015 (WI CCC Plan) was developed in collaboration with partners across Wisconsin. Strategies and action steps across the cancer continuum are presented throughout the WI CCC Plan for organizations to implement over the next five years to reduce the burden of cancer in the state.

Here are a few examples of strategies and action steps from the plan that could be implemented by you and/or your organization. In no way is this list exhaustive of all the possible ways you or your organization might work to reduce the burden of cancer. The complete WI CCC Plan 2010-2015, with all the proposed strategies and action steps, can be accessed at www.wicancer.org.

How Can You Use the Wisconsin Comprehensive Cancer Control Plan 2010-2015?

If you are a Community-Based Organization:

- Decrease youth tobacco use in your community through programs and policy.
- Create a local level action plan to eliminate barriers to cancer screenings.
- Provide community based educational forums to address specific and unique needs of cancer survivors.
- Work with health systems to improve health literacy resources for patients.
- Inform cancer patients that quality symptom management is an expected part of their cancer care.

If you are a State or Local Public Health Agency:

- Decrease youth tobacco use in your community through programs and policy.
- Promote physical activity and healthy balanced diets to those living in your community.
- Promote programs that cover recommended screenings for the underinsured or uninsured.
- Promote the use of existing cancer-related data and relevant reports.
- Collect data to measure emerging needs identified within the chapters of the WI CCC Plan.

If you are a Health Care System:

- Implement office based reminders that identify patients due for cancer prevention and screening services.
- Seek and apply for accreditation by the American College of Surgeons.
- Increase the availability of culturally appropriate patient navigation systems within your health system.
- Practice shared decision making between providers, patients and family at your health system.
- Put survivorship best practice models into practice system wide.
- Promote advanced directives conversations with providers, patients and families.
- Ensure all cancer cases are reported as mandated to the Wisconsin Cancer Reporting System.

If you are a Health Care Provider:

- Ask all your patients if they smoke and provide tobacco cessation interventions to patients who do smoke.
- Screen patients for obesity and work with those that are receiving treatment.
- Encourage patients to get their recommended cancer screenings.
- Follow nationally validated practice guidelines when treating a cancer patient.
- Provide cancer patients with a written synopsis of their coordinated care plan.
- Pursue continued education to increase understanding of survivor needs and available best practices.
- Talk with your patients about the benefits of palliative care.

If you are an Advocacy Organization:

- Advocate for full funding of the Wisconsin Tobacco Prevention & Control Program.
- Advocate for regulation of tanning beds.
- Support legislation to provide insurance coverage and funding for recommended cancer screenings.
- Advocate for legislation to increase funding for survivorship services, research and surveillance.
- Advocate for the completion of advance care documents for all cancer patients.
- Advocate for full funding of the Wisconsin Cancer Reporting System.

If you are a Legislator:

- Support full funding of the Wisconsin Tobacco Prevention & Control Program.
- Support the regulation of tanning beds.
- Support legislation that provides full insurance cover age and funding for recommended cancer screenings.
- Support legislation to improve funding for survivorship services, research and surveillance.
- Support full funding of the Wisconsin Cancer Reporting System.

If you are a Professional Organization:

- Inform professional members of the importance and benefits of providing cancer clinical trials.
- Educate professional members on survivor needs and available best practices.
- Support policy changes and increase funding for survivorship services.
- Train professional members on standard cancer symptom management.
- Partner with other professional organizations to provide cancer risk assessments and counseling.

If you are an Insurance Company or Payer:

- Provide full coverage for tobacco addiction treatments.
- Reimburse for nutrition and physical activity counseling and interventions.
- Provide full coverage for HPV vaccination services.
- Provide incentives to members who get recommended cancer screenings.
- Provide full coverage for recommended cancer screenings.
- Reimburse providers for their time to discuss the importance of advance directives with patients.
- Provide full coverage for cancer risk assessments and genetic testing.

If you are a Business and/or Employer:

- Provide a smoke-free work environment and access to tobacco addiction treatment for employees.
- Encourage employees to be physically active and eat a healthy balanced diet.
- Provide sun-protective gear or products to those working outside.
- Provide full coverage for recommended cancer screenings and time off for employees to get screened.
- Implement a cancer screening event at the workplace.
- Provide information on return to work transition issues to survivors and their co-workers.

If you are an Academic or Research Institution:

- Assess possible environmental issues as they relate to cancer.
- Increase awareness of the connection between alcohol consumption and cancer risk.
- Train professionals on how to address cancer survivorship issues.
- Identify indicators and useful sources of data for monitoring quality symptom management.
- Collect data to measure emerging needs identified within the chapters of WI CCC Plan.
- Create a database to capture data on Wisconsin survivors.

If you are an Educator or School:

- Promote healthy lifestyles behaviors to students and staff.
- Provide information on return to school transition issues to survivors and those in their school environment.

If you are a Survivor:

- Share your experience to help educate the public about the needs of survivors and co-survivors.
- Mentor survivors and co-survivors to be active participants in their medical decision making teams.
- Encourage employers or schools to provide information on transition issues to survivors and others.
- Consider joining an advocacy group or organization working to improve survivors' experiences.

If you are a Wisconsin Resident:

- Incorporate healthy lifestyles for you and your family.
- Get recommended cancer screenings.
- Complete an advance directive.

The Wisconsin Comprehensive Cancer Control Program

The WI Comprehensive Cancer Control Program is the state's cancer prevention and control program that promotes the implementation of the WI CCC Plan. The Wisconsin Comprehensive Cancer Control Plan 2010-2015 serves as the foundation for the WI CCC Program and as a common framework for action in cancer prevention and control. The goal of the WI CCC Program is to reduce the burden of cancer for all in Wisconsin by working collaboratively and comprehensively throughout the cancer care continuum.

The WI CCC Program and its partners implement projects that affect the whole continuum of cancer care, from prevention to palliative care. The Wisconsin Cancer Council, the partnership arm of the WI CCC Program, is the coalition of organizations dedicated to the development and coordination of the WI CCC Program. Each year, the projects are developed with the input of the WI Cancer Council Steering Committee. The WI CCC Program is funded through federal, state, and University of Wisconsin funds. The staff and infrastructure for these projects are housed at the UW Paul P. Carbone Comprehensive Cancer Center.

WI Comprehensive Cancer Control Web Site:

www.wicancer.org

Wisconsin Cancer Incidence and Mortality, by County, 2006-2010

The following Tables A and B present Wisconsin cancer incidence and mortality data from 2006-2010 by county. The number of cases/ deaths listed for each county is the total number of cancer cases or deaths for the entire 5-year period represented in these tables. Five year age-adjusted rates are also included in the tables; the rates represent the average number of cases or deaths, per 100,000 population, weighted to reflect the 2000 US standard population. Due to wide variances in county populations, rates are included to allow comparisons between counties. However, the number of cases/deaths should not be directly compared across counties.

The county variable in this report is based on the patient's residence at time of diagnosis for incidence data, and residence at time of death for mortality data. As with the race variable, age-adjusted rates by county were calculated for 2006-2010 combined years of data, because the annual number of cases in each county was often small.

The 95% confidence intervals (95% CI) are also included in the tables to facilitate county comparisons. The range between the lower and upper limits of the confidence interval defines where the "true" age-adjusted rate for the county or state actually falls, within 95% probability. Comparing two sets of confidence intervals can be equated to statistical significance testing of county rate differences. A narrow confidence interval (more common with larger populations) implies that the rate has been more accurately estimated whereas a wider interval implies less certainty that the calculated rate is the "true" rate for that respective county.

Border Counties

The Wisconsin Cancer Reporting System currently receives cancer case reports for Wisconsin residents from 20 other state central cancer registries, but not from the Minnesota cancer registry, the Minnesota Cancer Surveillance System. State statutes governing the Minnesota Cancer Surveillance System, as currently interpreted, do not allow data sharing with other state cancer registries.

Eleven counties with significantly lower incidence rates (as shown in Map 1, page 10) are clustered in the northwestern area from which Wisconsin residents may travel to Minnesota facilities, such as the Mayo Clinic, to seek medical care. Those northwestern counties have probable interstate health care and lower than expected numbers of cancer cases reported to the Wisconsin Cancer Reporting System. Therefore lower rates in the following counties are possibly due to lack of reporting: Barron, Bayfield, Buffalo, Burnett, Douglas, Dunn, Eau Claire, Pepin, Pierce, Polk, and St. Croix. This is also supported by data (Map 2, page 11) showing mortality rates for these eleven border counties not significantly lower than the state mortality rate, as would be consistent with lower incidence rates.

Please refer to Geographic Boundaries, under Caveats and Limitations (pages 2 and 3) for discussion of other limitations of county data.

Table A: Cancer Incidence, Total Number of Cases and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
All Counties	Cases	144,632	13,261	19,189	21,037	20,011
	Rate	466.0	42.5	62.0	143.0	122.5
	(95% CI)	(463.6 - 468.5)	(41.8 - 43.2)	(61.1 - 62.9)	(141.0 - 144.9)	(120.8 - 124.2)
Adams	Cases	795	68	162	102	71
	Rate	470.6	40.2	89.7	110.3	90.9
	(95% CI)	(436.9 - 506.6)	(30.9 - 52.0)	(75.9 - 105.8)	(89.3 - 135.9)	(69.6 - 117.9)
Ashland	Cases	426	47	72	55	69
	Rate	430.8	48.7	68.7	116.1	144.4
	(95% CI)	(390.0 - 474.8)	(35.6 - 65.4)	(53.7 - 87.1)	(87.3 - 152.0)	(111.3 - 184.5)
Barron	Cases	1,290	126	201	149	151
	Rate	426.8	39.6	64.8	99.5	96.4
	(95% CI)	(403.3 - 451.3)	(32.9 - 47.4)	(56.1 - 74.6)	(84.0 - 117.3)	(81.2 - 113.9)
Bayfield	Cases	446	47	69	57	66
	Rate	408.1	39.1	59.7	89.3	124.3
	(95% CI)	(368.5 - 451.3)	(28.5 - 53.3)	(46.2 - 76.7)	(67.1 - 118.2)	(94.4 - 162.1)
Brown	Cases	5,797	503	690	801	838
	Rate	479.5	41.7	58.4	141.0	128.0
	(95% CI)	(467.1 - 492.2)	(38.1 - 45.6)	(54.1 - 63.0)	(131.2 - 151.4)	(119.3 - 137.1)
Buffalo	Cases	339	33	46	55	33
	Rate	373.4	34.2	49.3	115.2	76.3
	(95% CI)	(333.8 - 416.7)	(23.5 - 48.7)	(35.9 - 66.4)	(86.6 - 151.4)	(51.6 - 109.3)
Burnett	Cases	505	51	84	83	73
	Rate	395.2	38.0	63.3	121.9	120.1
	(95% CI)	(359.9 - 433.7)	(28.1 - 51.2)	(50.1 - 79.8)	(96.4 - 153.7)	(92.1 - 155.1)
Calumet	Cases	1,140	105	127	165	148
	Rate	481.0	45.1	55.2	144.9	119.3
	(95% CI)	(453.2 - 510.2)	(36.8 - 54.7)	(45.9 - 65.8)	(123.2 - 169.4)	(100.7 - 140.4)
Chippewa	Cases	1,746	161	246	277	226
	Rate	490.4	45.4	68.6	157.5	121.7
	(95% CI)	(467.4 - 514.2)	(38.6 - 53.1)	(60.2 - 77.8)	(139.2 - 177.5)	(106.1 - 139.0)
Clark	Cases	995	101	124	154	115
	Rate	493.8	47.2	61.0	159.5	114.0
	(95% CI)	(463.0 - 526.1)	(38.3 - 57.6)	(50.7 - 73.0)	(135.2 - 187.0)	(93.6 - 137.7)
Columbia	Cases	1,557	151	240	207	214
	Rate	474.4	46.0	72.8	131.2	129.9
	(95% CI)	(450.8 - 498.9)	(38.9 - 54.1)	(63.8 - 82.7)	(113.6 - 150.8)	(112.7 - 149.0)
Crawford	Cases	599	49	89	103	66
	Rate	521.6	42.9	74.4	173.8	113.8
	(95% CI)	(479.7 - 566.5)	(31.5 - 57.6)	(59.6 - 92.3)	(141.4 - 212.1)	(87.0 - 147.0)
Dane	Cases	9,502	780	1,124	1,366	1,420
	Rate	431.6	36.3	54.2	131.2	119.2
	(95% CI)	(422.8 - 440.6)	(33.7 - 39.0)	(51.0 - 57.6)	(124.0 - 138.6)	(113.0 - 125.7)
Dodge	Cases	2,292	219	301	344	271
	Rate	448.2	42.2	58.8	140.7	103.7
	(95% CI)	(429.9 - 467.2)	(36.7 - 48.3)	(52.3 - 65.9)	(126.1 - 156.6)	(91.5 - 117.1)

Table A: Cancer Incidence, Total Number of Cases and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
Door	Cases	1,057	100	125	162	162
	Rate	477.2	42.6	54.0	143.3	143.2
	(95% CI)	(447.5 - 508.6)	(34.5 - 52.4)	(44.8 - 64.9)	(121.7 - 168.4)	(120.6 - 169.4)
Douglas	Cases	985	108	160	125	127
	Rate	387.4	41.5	62.8	105.4	97.7
	(95% CI)	(363.2 - 412.8)	(34.0 - 50.3)	(53.3 - 73.5)	(87.4 - 126.1)	(81.2 - 116.8)
Dunn	Cases	876	85	117	123	128
	Rate	409.7	39.3	54.6	118.3	118.0
	(95% CI)	(382.7 - 438.2)	(31.3 - 48.7)	(45.0 - 65.5)	(98.0 - 141.6)	(98.1 - 140.8)
Eau Claire	Cases	2,128	189	254	294	340
	Rate	432.7	37.7	52.2	127.7	131.2
	(95% CI)	(414.2 - 451.8)	(32.4 - 43.6)	(45.9 - 59.1)	(113.2 - 143.5)	(117.4 - 146.3)
Florence	Cases	126	9	22	24	17
	Rate	361.6	25.4	66.0	116.6	96.3
	(95% CI)	(299.6 - 434.9)	(11.5 - 52.8)	(41.1 - 103.6)	(74.3 - 182.3)	(55.8 - 163.0)
Fond du Lac	Cases	2,937	260	369	462	397
	Rate	499.8	43.7	62.9	168.5	125.5
	(95% CI)	(481.6 - 518.5)	(38.5 - 49.5)	(56.6 - 69.8)	(153.2 - 184.8)	(113.2 - 138.9)
Forest	Cases	335	37	59	52	32
	Rate	480.3	52.3	81.9	140.2	93.1
	(95% CI)	(429.3 - 536.3)	(36.6 - 73.5)	(62.2 - 106.8)	(104.3 - 186.7)	(63.2 - 134.3)
Grant	Cases	1,097	125	162	168	125
	Rate	372.6	41.4	53.6	119.1	85.1
	(95% CI)	(350.5 - 395.8)	(34.4 - 49.5)	(45.6 - 62.8)	(101.7 - 138.8)	(70.3 - 102.1)
Green	Cases	864	71	99	122	98
	Rate	401.0	32.8	45.5	118.5	87.4
	(95% CI)	(374.3 - 429.1)	(25.5 - 41.6)	(36.9 - 55.6)	(98.1 - 142.1)	(70.7 - 107.1)
Green Lake	Cases	629	62	84	77	97
	Rate	466.1	46.5	59.0	117.7	146.3
	(95% CI)	(429.5 - 505.3)	(35.4 - 60.3)	(47.0 - 73.7)	(92.7 - 148.1)	(117.5 - 180.6)
Iowa	Cases	547	57	70	85	83
	Rate	402.9	43.3	51.2	128.2	115.1
	(95% CI)	(369.4 - 438.8)	(32.7 - 56.4)	(39.8 - 65.1)	(101.8 - 159.5)	(91.3 - 143.4)
Iron	Cases	224	16	45	35	21
	Rate	431.3	28.5	78.8	129.0	90.3
	(95% CI)	(373.0 - 498.2)	(16.0 - 50.9)	(57.3 - 109.1)	(89.5 - 186.5)	(55.2 - 145.6)
Jackson	Cases	574	54	73	95	74
	Rate	460.9	43.5	57.8	145.3	123.3
	(95% CI)	(423.5 - 500.9)	(32.6 - 57.1)	(45.2 - 73.0)	(117.2 - 178.5)	(96.2 - 156.0)
Jefferson	Cases	1,984	181	246	338	285
	Rate	445.2	41.0	56.2	155.3	121.9
	(95% CI)	(425.6 - 465.5)	(35.2 - 47.5)	(49.4 - 63.8)	(138.9 - 173.2)	(108.0 - 137.1)
Juneau	Cases	830	88	143	112	95
	Rate	474.8	49.0	78.9	120.1	110.6
	(95% CI)	(442.5 - 509.1)	(39.2 - 60.8)	(66.4 - 93.2)	(98.7 - 145.3)	(89.0 - 136.4)

Table A: Cancer Incidence, Total Number of Cases and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
Kenosha	Cases	3,831	347	608	537	530
	Rate	481.3	43.3	78.5	145.6	121.6
	(95% CI)	(466.0 - 497)	(38.8 - 48.1)	(72.3 - 85.1)	(133.2 - 158.8)	(111.4 - 132.5)
Kewaunee	Cases	536	46	64	97	63
	Rate	418.5	33.0	48.1	151.4	100.7
	(95% CI)	(383.1 - 456.5)	(24.1 - 44.6)	(36.9 - 61.9)	(122.5 - 185.5)	(76.7 - 130.2)
La Crosse	Cases	2,923	252	350	494	439
	Rate	488.3	41.8	58.5	177.1	140.7
	(95% CI)	(470.5 - 506.6)	(36.7 - 47.4)	(52.4 - 65.0)	(161.6 - 193.7)	(127.6 - 154.9)
Lafayette	Cases	409	36	46	53	45
	Rate	408.7	35.8	43.7	108.8	89.0
	(95% CI)	(369.5 - 451.0)	(25.0 - 49.9)	(31.9 - 58.6)	(81.2 - 143.3)	(64.3 - 120.4)
Langlade	Cases	607	53	95	89	64
	Rate	419.3	34.8	63.2	123.5	92.7
	(95% CI)	(385.7 - 455.4)	(25.9 - 46.2)	(51.0 - 77.9)	(99.0 - 152.9)	(70.4 - 120.4)
Lincoln	Cases	974	117	119	130	125
	Rate	502.2	56.5	58.6	134.9	124.1
	(95% CI)	(470.4 - 535.8)	(46.7 - 68.2)	(48.5 - 70.5)	(112.6 - 160.8)	(102.6 - 149.2)
Manitowoc	Cases	2,443	213	288	324	313
	Rate	468.7	38.8	53.7	130.8	113.9
	(95% CI)	(449.9 - 488.1)	(33.6 - 44.5)	(47.6 - 60.4)	(116.8 - 146.1)	(101.2 - 127.8)
Marathon	Cases	3,718	308	417	613	562
	Rate	500.3	40.6	56.5	172.9	144.4
	(95% CI)	(484.1 - 516.9)	(36.2 - 45.5)	(51.1 - 62.3)	(159.3 - 187.4)	(132.5 - 157.1)
Marinette	Cases	1,396	108	197	234	176
	Rate	474.1	34.6	65.7	157.9	119.8
	(95% CI)	(448.8 - 500.6)	(28.3 - 42.2)	(56.7 - 75.9)	(138.1 - 180.1)	(102.0 - 140.1)
Marquette	Cases	577	56	95	75	65
	Rate	504.7	46.4	78.0	125.0	126.5
	(95% CI)	(462.7 - 549.9)	(35.0 - 61.1)	(62.9 - 96.4)	(97.8 - 158.7)	(95.8 - 164.7)
Menominee	Cases	95	8	21	15	^
	Rate	490.0	44.1	94.8	172.6	^
	(95% CI)	(390.6 - 606.8)	(17.8 - 89.9)	(58.5 - 147.2)	(90.7 - 294.5)	(^ - ^)
Milwaukee	Cases	22,895	2,199	3,251	3,047	3,282
	Rate	498.0	47.6	72.1	152.2	130.2
	(95% CI)	(491.5 - 504.6)	(45.6 - 49.6)	(69.7 - 74.7)	(146.7 - 157.8)	(125.7 - 134.8)
Monroe	Cases	1,147	101	159	196	140
	Rate	457.5	40.4	63.6	157.1	109.3
	(95% CI)	(431.0 - 485.2)	(32.8 - 49.3)	(54.0 - 74.4)	(135.5 - 181.3)	(91.6 - 129.4)
Oconto	Cases	1,164	107	172	178	124
	Rate	498.3	45.8	71.9	142.1	104.2
	(95% CI)	(469.6 - 528.4)	(37.4 - 55.6)	(61.4 - 83.7)	(121.7 - 165.3)	(86.4 - 124.9)
Oneida	Cases	1,451	134	217	248	179
	Rate	519.3	45.6	74.0	168.6	131.8
	(95% CI)	(492.1 - 547.9)	(38.2 - 54.4)	(64.4 - 84.9)	(148.1 - 191.8)	(112.3 - 154.2)

Table A: Cancer Incidence, Total Number of Cases and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
Outagamie	Cases	4,034	382	442	595	581
	Rate	464.5	43.8	52.6	149.6	123.7
	(95% CI)	(450.1 - 479.2)	(39.4 - 48.5)	(47.8 - 57.8)	(137.5 - 162.5)	(113.8 - 134.3)
Ozaukee	Cases	2,581	188	258	450	434
	Rate	497.2	35.2	49.7	177.7	156.2
	(95% CI)	(477.8 - 517.2)	(30.3 - 40.7)	(43.8 - 56.3)	(161.4 - 195.3)	(141.5 - 172.1)
Pepin	Cases	181	23	20	34	22
	Rate	371.5	47.6	39.0	133.8	84.2
	(95% CI)	(318.1 - 431.9)	(29.9 - 72.7)	(23.7 - 61.6)	(92.4 - 189.5)	(52.2 - 130.7)
Pierce	Cases	436	53	61	49	49
	Rate	239.7	29.8	34.6	52.5	50.2
	(95% CI)	(217.3 - 263.8)	(22.2 - 39.1)	(26.4 - 44.7)	(38.3 - 70.2)	(36.9 - 66.7)
Polk	Cases	806	79	115	140	91
	Rate	293.4	27.8	41.0	102.5	64.9
	(95% CI)	(273.2 - 314.8)	(22.0 - 34.9)	(33.8 - 49.5)	(86 - 121.5)	(52 - 80.3)
Portage	Cases	1,563	129	208	169	223
	Rate	439.3	36.5	59.4	94.7	119.2
	(95% CI)	(417.5 - 462.0)	(30.4 - 43.4)	(51.5 - 68.2)	(80.7 - 110.5)	(103.9 - 136.3)
Price	Cases	481	38	78	81	50
	Rate	433.1	34.0	69.9	142.2	90.3
	(95% CI)	(394.1 - 475.5)	(23.8 - 48.0)	(54.9 - 88.5)	(112.7 - 178.6)	(66.5 - 121.7)
Racine	Cases	5,124	455	732	773	729
	Rate	488.4	43.2	71.3	158.7	128.7
	(95% CI)	(475.0 - 502.1)	(39.3 - 47.4)	(66.2 - 76.7)	(147.5 - 170.5)	(119.4 - 138.6)
Richland	Cases	473	64	61	56	51
	Rate	393.5	51.0	47.7	94.5	80.8
	(95% CI)	(357.8 - 432.0)	(39.0 - 65.8)	(36.4 - 61.8)	(71.3 - 123.6)	(59.0 - 108.6)
Rock	Cases	3,988	347	625	485	520
	Rate	462.3	40.5	72.1	117.7	113.2
	(95% CI)	(448.0 - 477.0)	(36.3 - 45.1)	(66.5 - 78.0)	(107.3 - 128.9)	(103.5 - 123.5)
Rusk	Cases	469	46	72	65	42
	Rate	446.9	45.1	62.7	124.6	79.9
	(95% CI)	(406.0 - 491.2)	(32.6 - 61.4)	(49.0 - 79.7)	(95.9 - 160.1)	(56.8 - 110.3)
St. Croix	Cases	1,048	107	124	151	116
	Rate	285.5	29.8	34.9	93.9	59.6
	(95% CI)	(268.0 - 303.7)	(24.3 - 36.1)	(28.9 - 41.8)	(78.9 - 110.7)	(49.1 - 71.8)
Sauk	Cases	1,438	167	177	235	181
	Rate	397.3	45.7	48.5	136.5	95.3
	(95% CI)	(376.7 - 418.7)	(38.9 - 53.3)	(41.5 - 56.3)	(119.4 - 155.5)	(81.6 - 110.8)
Sawyer	Cases	628	57	87	90	89
	Rate	517.1	49.5	68.3	137.0	147.0
	(95% CI)	(475.8 - 561.5)	(37.1 - 65.2)	(54.5 - 85.2)	(109.5 - 170.6)	(116.7 - 183.7)
Shawano	Cases	1,267	136	165	206	146
	Rate	462.3	48.1	57.4	147.5	107.6
	(95% CI)	(436.7 - 489.2)	(40.3 - 57.2)	(48.9 - 67.1)	(128.0 - 169.5)	(90.4 - 127.4)

Table A: Cancer Incidence, Total Number of Cases and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
Sheboygan	Cases	3,410	374	381	549	486
	Rate	513.8	55.5	57.3	178.5	139.6
	(95% CI)	(496.5 - 531.5)	(50.0 - 61.5)	(51.7 - 63.5)	(163.7 - 194.3)	(127.3 - 152.9)
Taylor	Cases	529	54	69	79	61
	Rate	421.8	41.8	52.4	127.3	96.3
	(95% CI)	(386.0 - 460.2)	(31.3 - 55.0)	(40.7 - 66.7)	(100.6 - 159.3)	(72.9 - 125.1)
Trempealeau	Cases	793	84	82	161	100
	Rate	453.5	45.9	45.8	182.9	111.9
	(95% CI)	(422.0 - 486.8)	(36.4 - 57.1)	(36.3 - 57.1)	(155.5 - 214.1)	(90.5 - 137.0)
Vernon	Cases	818	61	110	156	98
	Rate	441.5	32.0	57.5	168.4	107.4
	(95% CI)	(411.2 - 473.6)	(24.4 - 41.4)	(47.2 - 69.6)	(142.8 - 197.6)	(86.5 - 131.9)
Vilas	Cases	952	88	140	164	124
	Rate	506.2	46.0	67.6	160.1	135.4
	(95% CI)	(472.5 - 542.1)	(36.4 - 57.9)	(56.8 - 80.6)	(136.2 - 188.3)	(111.3 - 164.4)
Walworth	Cases	2,752	242	354	393	364
	Rate	502.3	44.6	65.3	149.7	126.1
	(95% CI)	(483.5 - 521.7)	(39.1 - 50.7)	(58.6 - 72.6)	(135.0 - 165.7)	(113.3 - 140.0)
Washburn	Cases	535	70	80	73	70
	Rate	453.8	58.8	63.5	118.9	115.9
	(95% CI)	(414.4 - 496.4)	(45.4 - 75.5)	(50.1 - 80.1)	(92.5 - 151.7)	(89.2 - 149.1)
Washington	Cases	3,449	287	411	566	539
	Rate	482.3	40.9	58.3	166.2	138.4
	(95% CI)	(466.1 - 498.9)	(36.2 - 46.0)	(52.8 - 64.3)	(152.5 - 180.9)	(126.8 - 150.8)
Waukesha	Cases	10,864	953	1,297	1,596	1,664
	Rate	487.4	42.8	58.4	151.1	138.6
	(95% CI)	(478.2 - 496.8)	(40.1 - 45.7)	(55.3 - 61.7)	(143.6 - 158.9)	(131.9 - 145.6)
Waupaca	Cases	1,632	146	238	249	185
	Rate	472.4	40.0	67.7	143.8	110.7
	(95% CI)	(449.2 - 496.5)	(33.6 - 47.3)	(59.3 - 77.1)	(126.4 - 163.2)	(94.9 - 128.5)
Waushara	Cases	791	80	141	89	100
	Rate	444.0	43.6	74.8	93.7	122.7
	(95% CI)	(412.8 - 477.1)	(34.5 - 54.8)	(62.9 - 88.7)	(75.1 - 116.4)	(98.7 - 151.3)
Winnebago	Cases	4,430	388	632	513	667
	Rate	498.9	43.4	72.0	120.8	143.5
	(95% CI)	(484.2 - 514.0)	(39.2 - 48.0)	(66.4 - 77.9)	(110.4 - 131.9)	(132.6 - 155.1)
Wood	Cases	2,194	179	278	331	270
	Rate	463.6	36.4	58.2	147.1	109.9
	(95% CI)	(444.0 - 483.8)	(31.2 - 42.4)	(51.5 - 65.6)	(131.5 - 164.0)	(96.8 - 124.4)

*Rates are per 100,000 and age-adjusted to the 2000 US standard population; Confidence intervals (Tiwari mod) are 95% for rates.
Note: ^ Statistic not displayed due to fewer than 6 cases.
Source: Wisconsin Cancer Reporting System, Office of Health Informatics, Division of Public Health, Department of Health Services.

Table B: Cancer Mortality, Total Number of Deaths and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
All Counties	Deaths	55,218	4,777	14,534	3,048	3,724
	Rate	175.6	15.0	46.9	24.5	21.3
	(95% CI)	(174.1 - 177.1)	(14.6 - 15.4)	(46.1 - 47.7)	(23.6 - 25.4)	(20.6 - 22.0)
Adams	Deaths	358	33	123	14	21
	Rate	217.5	20.4	70.9	21.1	24.7
	(95% CI)	(194.8 - 242.4)	(13.9 - 29.6)	(58.7 - 85.5)	(11.2 - 36.8)	(15.2 - 40.0)
Ashland	Deaths	219	24	72	^	21
	Rate	213.0	23.1	69.5	^	42.7
	(95% CI)	(185.4 - 243.8)	(14.7 - 34.9)	(54.3 - 88.1)	(^ - ^)	(26.1 - 66.4)
Barron	Deaths	558	43	160	28	25
	Rate	174.5	13.2	50.7	21.5	12.7
	(95% CI)	(160.1 - 189.9)	(9.5 - 18.0)	(43.1 - 59.4)	(14.3 - 31.3)	(8.2 - 19.5)
Bayfield	Deaths	205	28	56	14	10
	Rate	185.8	24.7	48.3	29.3	22.3
	(95% CI)	(160.3 - 214.9)	(16.3 - 36.9)	(36.3 - 63.9)	(15.8 - 50.9)	(9.8 - 44.5)
Brown	Deaths	1,948	159	511	89	158
	Rate	163.7	13.3	43.3	20.5	23.2
	(95% CI)	(156.4 - 171.2)	(11.3 - 15.6)	(39.6 - 47.3)	(16.4 - 25.3)	(19.7 - 27.2)
Buffalo	Deaths	165	16	44	^	12
	Rate	176.3	16.3	47.8	^	25.5
	(95% CI)	(150 - 206.2)	(9.3 - 27.3)	(34.6 - 65.0)	(^ - ^)	(12.5 - 47.2)
Burnett	Deaths	227	17	69	15	17
	Rate	179.2	12.7	51.1	28.6	32.0
	(95% CI)	(156.0 - 205.6)	(7.4 - 21.6)	(39.6 - 65.8)	(15.6 - 49.3)	(17.7 - 54.4)
Calumet	Deaths	312	29	70	18	23
	Rate	136.2	12.7	30.6	19.5	18.1
	(95% CI)	(121.3 - 152.3)	(8.5 - 18.3)	(23.8 - 38.8)	(11.5 - 30.7)	(11.4 - 27.3)
Chippewa	Deaths	653	50	181	39	40
	Rate	181.3	13.7	50.7	26.0	21.9
	(95% CI)	(167.5 - 195.9)	(10.2 - 18.2)	(43.5 - 58.8)	(18.4 - 35.5)	(15.5 - 30.2)
Clark	Deaths	338	32	81	17	21
	Rate	154.6	14.0	38.9	16.5	17.1
	(95% CI)	(138.2 - 172.6)	(9.5 - 20.1)	(30.8 - 48.6)	(9.6 - 26.8)	(10.1 - 27.3)
Columbia	Deaths	633	60	171	33	39
	Rate	190.7	18.5	51.8	25.5	21.3
	(95% CI)	(176.0 - 206.3)	(14.1 - 23.9)	(44.3 - 60.3)	(17.5 - 35.9)	(15.0 - 29.6)
Crawford	Deaths	219	20	69	16	14
	Rate	183.7	17.1	56.4	31.5	23.1
	(95% CI)	(159.9 - 210.6)	(10.3 - 27.1)	(43.8 - 72.1)	(17.9 - 52.0)	(12.3 - 40.9)
Dane	Deaths	3,391	244	829	196	270
	Rate	161.2	11.5	40.4	25.3	21.9
	(95% CI)	(155.7 - 166.9)	(10.1 - 13.0)	(37.6 - 43.3)	(21.9 - 29.1)	(19.3 - 24.7)
Dodge	Deaths	1,061	92	271	71	63
	Rate	199.5	17.1	52.4	31.6	20.3
	(95% CI)	(187.5 - 212.0)	(13.7 - 21.0)	(46.3 - 59.1)	(24.7 - 39.9)	(15.5 - 26.4)

Table B: Cancer Mortality, Total Number of Deaths and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
Door	Deaths	351	32	86	22	23
	Rate	150.1	13.3	36.3	23.1	17.7
	(95% CI)	(134.4 - 167.5)	(9.1 - 19.5)	(29.0 - 45.4)	(14.4 - 35.9)	(11.0 - 28.3)
Douglas	Deaths	515	47	143	45	29
	Rate	199.4	17.7	56.3	43.5	21.3
	(95% CI)	(182.3 - 217.6)	(13.0 - 23.7)	(47.3 - 66.5)	(31.5 - 58.4)	(14.1 - 31.0)
Dunn	Deaths	359	37	90	21	18
	Rate	165.4	16.6	43.0	23.1	14.5
	(95% CI)	(148.5 - 183.8)	(11.6 - 23.0)	(34.5 - 53.0)	(14.2 - 35.2)	(8.4 - 23.4)
Eau Claire	Deaths	828	67	216	55	56
	Rate	164.4	13.0	43.6	28.8	20.7
	(95% CI)	(153.2 - 176.2)	(10.0 - 16.5)	(37.9 - 50.0)	(21.6 - 37.4)	(15.5 - 27.1)
Florence	Deaths	70	^	17	^	^
	Rate	193.8	^	49.4	^	^
	(95% CI)	(150.8 - 248.2)	(^ - ^)	(28.6 - 82.8)	(^ - ^)	(^ - ^)
Fond du Lac	Deaths	1,050	104	264	62	79
	Rate	171.3	17.3	44.5	25.1	22.3
	(95% CI)	(160.9 - 182.2)	(14.1 - 21.0)	(39.3 - 50.3)	(19.2 - 32.2)	(17.5 - 28.2)
Forest	Deaths	146	15	40	^	^
	Rate	204.6	22.4	54.6	^	^
	(95% CI)	(172.5 - 241.9)	(12.3 - 38.3)	(38.9 - 75.5)	(^ - ^)	(^ - ^)
Grant	Deaths	564	55	136	35	34
	Rate	181.5	17.2	44.1	28.3	20.6
	(95% CI)	(166.7 - 197.4)	(12.9 - 22.6)	(37.0 - 52.4)	(19.7 - 39.5)	(14.0 - 29.5)
Green	Deaths	389	39	76	27	29
	Rate	171.3	17.0	33.7	30.4	23.2
	(95% CI)	(154.6 - 189.5)	(12.0 - 23.4)	(26.5 - 42.4)	(20.0 - 44.3)	(15.4 - 33.8)
Green Lake	Deaths	286	31	66	17	14
	Rate	200.3	20.8	45.6	27.1	18.3
	(95% CI)	(177.2 - 226.0)	(14.0 - 30.2)	(35.2 - 58.7)	(15.7 - 44.4)	(9.6 - 32.8)
Iowa	Deaths	211	25	43	22	16
	Rate	157.5	18.4	31.9	40.8	22.6
	(95% CI)	(136.8 - 180.6)	(11.8 - 27.4)	(23.0 - 43.3)	(25.5 - 61.8)	(12.8 - 37.3)
Iron	Deaths	104	12	29	^	^
	Rate	183.1	20.2	51.8	^	^
	(95% CI)	(148.2 - 226.3)	(10.3 - 40.2)	(34.0 - 79.0)	(^ - ^)	(^ - ^)
Jackson	Deaths	211	17	60	10	18
	Rate	163.7	12.9	46.7	19.3	27.2
	(95% CI)	(142.2 - 187.7)	(7.5 - 21.0)	(35.6 - 60.5)	(9.2 - 35.6)	(15.8 - 44.3)
Jefferson	Deaths	787	64	199	40	47
	Rate	178.8	14.0	45.6	23.4	19.3
	(95% CI)	(166.4 - 191.8)	(10.7 - 17.9)	(39.4 - 52.5)	(16.7 - 31.9)	(14.1 - 25.8)
Juneau	Deaths	363	35	120	23	14
	Rate	200.6	18.7	66.0	30.8	15.3
	(95% CI)	(180.3 - 222.8)	(13.0 - 26.4)	(54.7 - 79.3)	(19.3 - 46.6)	(8.3 - 26.8)

Table B: Cancer Mortality, Total Number of Deaths and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
Kenosha	Deaths	1,436	117	444	67	90
	Rate	183.4	14.7	57.7	22.7	19.5
	(95% CI)	(173.9 - 193.3)	(12.1 - 17.6)	(52.4 - 63.4)	(17.5 - 28.7)	(15.6 - 24.0)
Kewaunee	Deaths	187	14	45	12	13
	Rate	136.3	10.0	34.3	20.3	16.5
	(95% CI)	(117.1 - 157.9)	(5.4 - 17.3)	(24.9 - 46.3)	(10.4 - 35.9)	(8.5 - 29.9)
La Crosse	Deaths	1,015	99	272	46	62
	Rate	164.6	15.5	45.6	19.1	18.2
	(95% CI)	(154.5 - 175.2)	(12.5 - 18.9)	(40.3 - 51.4)	(14.0 - 25.5)	(13.8 - 23.5)
Lafayette	Deaths	191	25	35	^	16
	Rate	183.0	23.7	33.5	^	27.5
	(95% CI)	(157.8 - 211.2)	(15.3 - 35.3)	(23.3 - 46.9)	(^ - ^)	(15.6 - 46.0)
Langlade	Deaths	275	20	81	18	11
	Rate	177.9	12.3	53.0	29.1	13.7
	(95% CI)	(157.2 - 201.0)	(7.5 - 19.6)	(42.0 - 66.4)	(17.2 - 46.7)	(6.5 - 26.6)
Lincoln	Deaths	358	40	84	20	30
	Rate	174.3	19.2	40.8	22.8	27.7
	(95% CI)	(156.4 - 193.8)	(13.6 - 26.6)	(32.5 - 50.8)	(13.9 - 35.8)	(18.2 - 40.9)
Manitowoc	Deaths	907	81	227	57	50
	Rate	166.2	14.4	42.0	25.9	16.8
	(95% CI)	(155.4 - 177.6)	(11.4 - 18.1)	(36.7 - 48.0)	(19.6 - 33.6)	(12.3 - 22.6)
Marathon	Deaths	1,245	100	306	82	79
	Rate	163.1	12.4	41.1	26.6	19.1
	(95% CI)	(154.0 - 172.5)	(10.1 - 15.2)	(36.5 - 46.0)	(21.1 - 33.0)	(15.0 - 24.0)
Marinette	Deaths	547	42	140	34	42
	Rate	178.3	12.8	45.4	26.3	27.0
	(95% CI)	(163.4 - 194.4)	(9.2 - 17.7)	(38.2 - 53.9)	(18.2 - 37.2)	(19.1 - 37.6)
Marquette	Deaths	261	26	69	12	16
	Rate	221.7	22.1	57.8	21.9	26.0
	(95% CI)	(195.2 - 251.3)	(14.4 - 33.3)	(44.7 - 74.1)	(10.9 - 40.6)	(14.8 - 44.4)
Menominee	Deaths	47	^	21	0	^
	Rate	270.9	^	109.7	0.0	^
	(95% CI)	(191.1 - 370.7)	(^ - ^)	(62.9 - 176.3)	(0 - 44.7)	(^ - ^)
Milwaukee	Deaths	8,979	762	2,423	437	614
	Rate	192.4	16.0	53.6	24.3	22.6
	(95% CI)	(188.4 - 196.5)	(14.9 - 17.2)	(51.4 - 55.8)	(22.1 - 26.7)	(20.8 - 24.5)
Monroe	Deaths	432	41	128	23	18
	Rate	171.7	15.9	50.8	21.5	12.8
	(95% CI)	(155.7 - 188.9)	(11.4 - 21.7)	(42.3 - 60.6)	(13.6 - 32.3)	(7.5 - 20.6)
Oconto	Deaths	419	37	120	28	32
	Rate	179.9	16.9	50.6	30.8	26.5
	(95% CI)	(163.0 - 198.3)	(11.9 - 23.6)	(41.9 - 60.7)	(20.3 - 44.8)	(18.1 - 37.9)
Oneida	Deaths	564	48	176	41	27
	Rate	194.1	16.7	60.4	33.5	17.4
	(95% CI)	(178.2 - 211.3)	(12.2 - 22.6)	(51.7 - 70.5)	(23.9 - 46.2)	(11.4 - 26.3)

Table B: Cancer Mortality, Total Number of Deaths and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
Outagamie	Deaths	1,340	111	331	71	92
	Rate	156.9	12.7	40.0	22.6	18.7
	(95% CI)	(148.5 - 165.6)	(10.4 - 15.3)	(35.7 - 44.6)	(17.6 - 28.5)	(15.0 - 23.0)
Ozaukee	Deaths	860	86	185	41	69
	Rate	163.6	15.9	35.4	19.8	23.4
	(95% CI)	(152.7 - 175.0)	(12.7 - 19.8)	(30.5 - 41.0)	(14.2 - 27.0)	(18.1 - 29.9)
Pepin	Deaths	80	^	21	^	^
	Rate	156.6	^	41.4	^	^
	(95% CI)	(123.3 - 196.9)	(^ - ^)	(25.4 - 64.7)	(^ - ^)	(^ - ^)
Pierce	Deaths	291	38	63	23	33
	Rate	166.0	22.4	36.4	34.1	32.5
	(95% CI)	(147.1 - 186.5)	(15.7 - 30.8)	(27.8 - 46.7)	(21.4 - 50.9)	(22.2 - 46.0)
Polk	Deaths	507	57	126	36	26
	Rate	181.3	20.5	44.6	30.8	16.1
	(95% CI)	(165.7 - 198.1)	(15.5 - 26.8)	(37.1 - 53.2)	(21.5 - 42.8)	(10.4 - 24.3)
Portage	Deaths	582	44	148	31	34
	Rate	163.2	12.3	41.5	22.1	17.8
	(95% CI)	(150.0 - 177.2)	(8.9 - 16.6)	(35.0 - 48.8)	(15.0 - 31.3)	(12.2 - 25.1)
Price	Deaths	213	22	49	14	^
	Rate	182.9	19.6	44.1	27.4	^
	(95% CI)	(158.5 - 210.7)	(12.0 - 31.1)	(32.5 - 59.3)	(15.0 - 47.9)	(^ - ^)
Racine	Deaths	1,938	156	539	101	141
	Rate	185.4	14.7	52.3	24.7	24.4
	(95% CI)	(177.2 - 194.0)	(12.4 - 17.2)	(47.9 - 56.9)	(20.1 - 30.0)	(20.5 - 28.9)
Richland	Deaths	207	23	47	16	12
	Rate	158.8	17.4	36.9	28.7	17.7
	(95% CI)	(137.4 - 183.0)	(10.9 - 26.7)	(27.0 - 49.7)	(16.3 - 47.2)	(8.6 - 33.2)
Rock	Deaths	1,685	139	496	89	116
	Rate	194.8	15.9	57.4	27.2	24.6
	(95% CI)	(185.6 - 204.4)	(13.4 - 18.8)	(52.4 - 62.7)	(21.8 - 33.5)	(20.2 - 29.5)
Rusk	Deaths	187	20	53	^	15
	Rate	168.8	16.8	46.9	^	27.7
	(95% CI)	(144.9 - 196.0)	(10.3 - 27.0)	(35.0 - 62.1)	(^ - ^)	(14.7 - 48.5)
St. Croix	Deaths	606	39	133	34	44
	Rate	171.5	10.9	39.1	25.7	21.5
	(95% CI)	(157.8 - 186.0)	(7.7 - 15.0)	(32.6 - 46.5)	(17.7 - 35.9)	(15.5 - 29.1)
Sauk	Deaths	677	67	161	44	42
	Rate	179.6	17.4	44.0	29.9	19.6
	(95% CI)	(166.1 - 194.0)	(13.4 - 22.2)	(37.4 - 51.5)	(21.7 - 40.2)	(14.0 - 27.0)
Sawyer	Deaths	276	26	63	20	17
	Rate	222.7	21.5	50.1	39.2	27.0
	(95% CI)	(196.6 - 251.7)	(13.9 - 32.4)	(38.3 - 65.0)	(23.7 - 61.9)	(15.6 - 45.1)
Shawano	Deaths	480	42	120	32	35
	Rate	167.0	14.5	41.8	26.3	24.9
	(95% CI)	(152.1 - 182.9)	(10.4 - 19.9)	(34.6 - 50.2)	(18.0 - 37.4)	(17.0 - 35.5)

Table B: Cancer Mortality, Total Number of Deaths and Averaged-Annual Age-Adjusted Rates* by County, 2006-2010

County	Statistic	All Sites	Colon & Rectum	Lung & Bronchus	Prostate	Female Breast
Sheboygan	Deaths	1,158	129	284	75	86
	Rate	169.2	18.4	42.1	26.7	22.6
	(95% CI)	(159.4 - 179.3)	(15.4 - 22.0)	(37.3 - 47.3)	(21.0 - 33.5)	(17.9 - 28.2)
Taylor	Deaths	196	18	47	12	14
	Rate	147.4	13.0	34.7	20.0	17.7
	(95% CI)	(127.1 - 170.1)	(7.6 - 21.0)	(25.4 - 46.5)	(10.3 - 35.4)	(9.3 - 31.4)
Trempealeau	Deaths	305	23	79	21	20
	Rate	165.4	11.1	43.5	27.4	19.9
	(95% CI)	(147.0 - 185.5)	(7.0 - 17.1)	(34.3 - 54.5)	(16.9 - 42.0)	(11.8 - 31.9)
Vernon	Deaths	320	27	86	23	21
	Rate	164.1	13.4	43.9	26.9	19.3
	(95% CI)	(146.4 - 183.5)	(8.8 - 19.8)	(35.1 - 54.5)	(17.0 - 40.7)	(11.7 - 30.5)
Vilas	Deaths	358	29	115	20	28
	Rate	182.0	14.3	55.5	21.0	29.9
	(95% CI)	(162.9 - 203.3)	(9.5 - 21.5)	(45.8 - 67.5)	(12.8 - 34.4)	(19.0 - 46.3)
Walworth	Deaths	997	90	227	53	66
	Rate	180.5	16.1	41.6	24.9	21.4
	(95% CI)	(169.4 - 192.2)	(12.9 - 19.9)	(36.3 - 47.5)	(18.6 - 32.6)	(16.5 - 27.5)
Washburn	Deaths	226	17	67	^	^
	Rate	180.3	13.4	51.9	^	^
	(95% CI)	(157.2 - 206.4)	(7.7 - 22.4)	(40.1 - 66.9)	(^ - ^)	(^ - ^)
Washington	Deaths	1,170	93	303	63	97
	Rate	165.3	13.1	43.3	23.1	24.5
	(95% CI)	(155.9 - 175.2)	(10.5 - 16.1)	(38.5 - 48.5)	(17.7 - 29.7)	(19.8 - 30.0)
Waukesha	Deaths	3,689	286	962	174	282
	Rate	165.5	12.8	43.7	20.2	22.0
	(95% CI)	(160.1 - 171.0)	(11.3 - 14.4)	(40.9 - 46.6)	(17.3 - 23.5)	(19.5 - 24.8)
Waupaca	Deaths	734	55	183	50	35
	Rate	197.8	13.7	50.9	28.9	19.2
	(95% CI)	(183.4 - 213.1)	(10.3 - 18.2)	(43.7 - 59.1)	(21.4 - 38.4)	(13.3 - 27.2)
Waushara	Deaths	332	32	110	10	13
	Rate	179.1	18.0	58.4	11.6	13.8
	(95% CI)	(160.1 - 200.0)	(12.2 - 26.1)	(47.9 - 70.8)	(5.4 - 22.5)	(7.3 - 25.0)
Winnebago	Deaths	1,619	138	454	91	92
	Rate	179.0	15.0	51.2	25.0	18.9
	(95% CI)	(170.3 - 188.1)	(12.5 - 17.7)	(46.6 - 56.2)	(20.1 - 30.7)	(15.2 - 23.3)
Wood	Deaths	801	78	219	42	41
	Rate	158.3	14.9	45.0	19.8	14.4
	(95% CI)	(147.4 - 169.9)	(11.7 - 18.8)	(39.2 - 51.5)	(14.2 - 26.8)	(10.3 - 19.9)

*Rates are per 100,000 and age-adjusted to the 2000 US standard population; Confidence intervals (Tiwari mod) are 95% for rates.
Note: ^ Statistic not displayed due to fewer than 10 cases.
Source: National Center for Health Statistics. Wisconsin mortality data file 1995-2010, compiled from data provided through the Vital Statistics Cooperative Program, 2013.

Glossary of Terms

Age-Adjusted Rate – Incidence or mortality rate adjusted to account for the different age distributions between populations. In this report, all rates are age-adjusted using the 2000 US standard population.

Annual Percent Change (APC) – The average annual percent change over several years. The APC is used to measure trends or the change in rates over time. The calculation involves fitting a straight line to the natural logarithm of the data when it is displayed by calendar year. For information on how this is calculated, go to: http://seer.cancer.gov/seerstat/WebHelp/Trend_Algorithms.htm

Benign – Noncancerous tumors.

Burden – Number of new cases and/or deaths from cancer or overall impact of cancer in the state or specified region.

Cancer Incidence – The number of new cancer cases that occur during a specified period for a population at risk for developing the disease, expressed as number of cases or as a rate, usually per 100,000 persons.

Cancer Mortality – Deaths from cancer that occur during a specified period of time for a particular population, expressed as number of deaths or as a rate, usually per 100,000 persons.

Colonoscopy – A screening/diagnostic procedure in which a health care professional views the entire colon through a flexible, lighted instrument called a colonoscope.

Computed Tomography Scan or CT scan – The scan shows a slice, or cross-section, of the body. The image shows bones, organs, and soft tissues more clearly than standard x-rays. Also called a CAT scan and spiral or helical CT.

Confidence Interval – A 95% confidence interval is commonly reported with rates and contains the true value 95% of the time. The range between the lower and upper confidence interval defines with 95% probability the "true" rate. The larger the confidence interval, the less precise the estimate.

Fecal Occult Blood Test (FOBT) or Fecal Immunochemical Test (FIT) – Tests that detects blood in the stool. For a positive test, a colonoscopy is needed to determine if polyps or cancers are present in the colon or rectum.

Five-year Survival – The percentage of people with a specified disease who are alive five years after their initial diagnosis.

Human Papilloma Virus (HPV) – HPVs are a large group of related viruses. Each HPV virus in the group is given a number, which is called an HPV type. Most HPV types cause warts on skin of the arms, chest, hands, and feet. Other types of genital HPV have been linked with cancers in both men and women. These types are called "high-risk" because they can cause cancer. Common high-risk HPV types include HPV 16 and 18.

Invasive – Malignant cancer or tumor that has invaded tissue or surrounding organs.

Malignant – Cancerous tumors.

Mammography – A screening and diagnostic technique that uses low-dose x-rays to find tumors in the breast.

Metastasis – The spread of the disease from one part of the body to another.

Pap Test or Pap Smear – Developed by American Cancer Society-funded researcher Dr. Papanicolaou and published in his landmark paper in 1941. It refers to the microscopic examination of cervical cells to detect precancerous lesions or cancer. This screening procedure has reduced the death rate from cervical cancer by 75% since the 1950s.

Percent Change – (PC) Percent change, computed for incidence and mortality rates, in this report is calculated using SEER Stat statistical software. The percent change (PC) in rates over a particular time period is calculated by taking the difference between the average rate of the first two years and the average rate of the last year.

Prevalence – The percentage of people exhibiting a behavior out of the total number at risk for the behavior. In this report, the prevalence is expressed as a percent of the population.

Prostate-Specific-Antigen (PSA) – A blood protein, the level of which is increased in many men who have prostate cancer or benign prostate hyperplasia (overgrowth of prostate cells).

Rates – The number of cancer cases or deaths per 100,000 population.

Risk Factors – Behaviors/conditions related to the occurrence of a disease. Risk factors can be lifestyle, environmental, or genetic. For example, smoking is a risk factor for lung cancer.

Sigmoidoscopy – A screening/diagnostic procedure in which a health care professional views the inside of the rectum and lower part of the colon through a flexible, lighted instrument called a sigmoidoscope.

Stage of Disease at Diagnosis:

In Situ – A small cancer confined to the cells in which the cancer began and has not invaded or penetrated the surrounding tissue.

Localized – An invasive tumor (penetrated the surrounding tissue) that is still confined to the organ of origin.

Regional – A tumor that has spread beyond the organ of origin to an adjacent organ, tissue or lymph nodes.

Distant – The tumor has spread beyond adjacent organs, tissue or lymph nodes, or has metastasized through the bloodstream or lymph system.

Unknown/Unstaged – Insufficient information is available to determine the stage or extent of the tumor at the time of diagnosis.

Childhood Cancer:

For a complete description of all childhood cancers see International Classification of Childhood Cancer : http://seer.cancer.gov/icc-who2008.html

Leukemia - Cancers of the bone marrow and blood, and are the most common childhood cancers. They account for about 34% of all cancers in children.

Brain and nervous system tumors - The second most common cancers in children, and make up about 27% of childhood cancers. There are many types of brain tumors, and the treatment and outlook for each is different. Most brain tumors in children start in the lower parts of the brain, such as the cerebellum or brain stem.

Neuroblastoma – A cancer that starts in early forms of nerve cells found in a developing embryo or fetus. It accounts for about 7% of childhood cancers. This type of cancer occurs in infants and young children. It is rarely found in children older than 10.

Lymphoma - These are cancers that start in certain cells of the immune system called lymphocytes. These cancers most often affect lymph nodes and other lymph tissues, like the tonsils or thymus. They can also affect the bone marrow and other organs, and can cause different symptoms depending on where the cancer is growing.

Retinoblastoma - A cancer of the eye. It accounts for about 3% of childhood cancers. It usually occurs in children around the age of 2, and is seldom found in children older than 6.

Notes

Notes

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