

CANCER IN TENNESSEE

2006-2010

December 2013

Tennessee Department of Health
Division of Policy, Planning and Assessment



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The mission of the Tennessee Department of Health is to protect, promote and improve the health and prosperity of people in Tennessee.

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EXECUTIVE SUMMARY

BACKGROUND

Cancer is a group of more than 100 diseases characterized by uncontrolled growth and spread of abnormal cells. It is the second leading cause of death nationally and in Tennessee. About two-thirds of all cancer cases could potentially be prevented with better lifestyle choices (e.g. increasing physical activity, better nutrition, not using tobacco products). Diagnosing cancer early through regular cancer screening is also an important method of cancer prevention. Currently accepted screening practices, when performed on a regular basis and in a suitably targeted population, can successfully detect breast, colorectal, uterine cervix, prostate and melanoma skin cancers. This report presents cancer statistics for the State of Tennessee (TN) for the period 2006-2010.

TENNESSEE CANCER REGISTRY

The TN Cancer Registry (TCR) is legislatively mandated to collect all reportable cancer diagnoses in TN, including non-residents diagnosed in TN, and to provide a statistical report annually to the TN General Assembly on the cancer burden in TN. The TCR is currently a gold-certified registry, the highest level of certification by the North American Association of Central Cancer Registries. The TCR has met national standards of data completeness and quality since the 2004 diagnosis year. It should be noted that data collected during the 2004 diagnosis year was less than 95% complete, the level needed to attain gold-certified status, whereas 2005-2010 data exceeded the 95% completeness threshold level.

TENNESSEE RANKINGS

Nationally, TN had the 15th highest cancer incidence rate and the 5th highest cancer mortality rate for the overall population in 2010. Among blacks, TN had the 15th highest cancer

incidence and the 6th highest cancer mortality rate. Among whites, TN had the 15th highest cancer incidence and the 4th highest cancer mortality rate. Compared to residents of other states, TN residents experience a disproportionately higher share of the U.S. cancer burden in terms of both new cancer cases and cancer deaths.

CANCER INCIDENCE AND MORTALITY

During 2006-2010, a total of 163,043 new cases of invasive cancer were diagnosed among TN residents, resulting in an incidence rate of 479.9 per 100,000; this number excludes all *in situ* cases except for urinary bladder cancer. There were 66,148 deaths with cancer recorded as the underlying cause of death in TN residents during the same period, resulting in a mortality rate of 198.2 per 100,000.

Cancer incidence and mortality rates were generally higher in males than in females and higher in blacks than in whites. Cancer incidence rates remained stable, whereas cancer mortality rates decreased statistically significantly from 2006 to 2010.

IMPACT OF CANCER

Fifty-one percent of all cancer cases, or 56% of cancer cases with known stage information, were diagnosed at early stages, when treatment is usually more effective. About 558,000 years of potential life were lost in TN residents due to premature cancer deaths during the five-year reporting period; therefore, on average, each person who died of cancer during the five-year period died 8.4 years earlier than the average lifespan (75 years of age as used in this report). Nationally, in 2009, the estimated cost in lost lifetime wages due to premature death attributable to cancer was \$130 billion dollars, or about

\$229,000 per death due to cancer.¹ TN has about 13,230 cancer deaths each year, which translates into annual losses of about \$3 billion in lost lifetime wages for all cancer deaths combined.

REGIONAL AND COUNTY DIFFERENCES IN CANCER

Cancer incidence and mortality rates varied by region and county. The 95 counties in TN are grouped into 8 regions by the TN Department of Health (TDH): Northwest, Southwest, South Central, Mid-Cumberland, Upper Cumberland, Southeast, East and Northeast (see appendix VIII). The East region had the highest overall cancer incidence rates, whereas the Northeast, Northwest and Southwest regions displayed the lowest. The Northwest region displayed the highest overall cancer mortality rate, whereas the Mid-Cumberland and Southeast regions displayed the lowest. Males had higher incidence and mortality rates than females in all regions.

At the county level, Rhea, Fentress, Macon, Perry, and Monroe counties had the highest overall cancer incidence rates. The lowest overall cancer incidence rates were observed in Moore, Chester, Lake, Van Buren and Carter counties. The highest overall cancer mortality rates were observed in Lake, Smith, Fentress, Scott and Benton counties. The lowest overall cancer mortality rates were observed in Moore, Williamson, Bledsoe, Pickett and Chester counties.

TOP 10 CAUSES OF CANCER INCIDENCE

The 10 most common incident cancers, by number of new cases, in TN and the United States in 2006-2010 in decreasing order were:²

¹ NHLBI FY 2012 Fact Book, Chapter 4, p51 and NVSR 60(3), p5.

² U.S. data were queried from the Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2012 Sub (1973-2010 varying) - Linked To County Attributes - Total U.S., 1969-2011 Counties, National Cancer Institute, DCCPS,

Rank	Tennessee	United States
1	Lung and Bronchus	Prostate
2	Female Breast	Female Breast
3	Prostate	Lung and Bronchus
4	Colon and Rectum	Colon and Rectum
5	Melanoma of the Skin	Melanoma of the Skin
6	Urinary Bladder	Urinary Bladder
7	Non-Hodgkin Lymphoma	Non-Hodgkin Lymphoma
8	Kidney and Renal Pelvis	Kidney and Renal Pelvis
9	Oral Cavity and Pharynx	Corpus and Uterus, NOS
10	Leukemia	Leukemia

TOP 10 CAUSES OF CANCER MORTALITY

The following 10 cancers accounted for the greatest numbers of deaths, in decreasing order, in TN and the United States in 2006-2010:³

Rank	Tennessee	United States
1	Lung and Bronchus	Lung and Bronchus
2	Colon and Rectum	Colon and Rectum
3	Female Breast	Female Breast
4	Pancreas	Pancreas
5	Prostate	Prostate
6	Leukemia	Leukemia
7	Non-Hodgkin Lymphoma	Non-Hodgkin Lymphoma
8	Liver and Intrahepatic Bile Duct	Liver and Intrahepatic Bile Duct
9	Brain and Other Nervous System	Ovary
10	Ovary	Urinary Bladder

Surveillance Research Program, Surveillance Systems Branch, released April 2013, based on the November 2012 submission.

³ U.S. data were queried from the Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality - All COD, Aggregated With State, Total U.S. (1969-2010) <Katrina/Rita Population Adjustment>, National Cancer Institute, DCCPS, Surveillance Research Program, Surveillance Systems Branch, released April 2013. Underlying mortality data provided by NCHS (www.cdc.gov/nchs).

LUNG CANCER

Both lung cancer incidence and mortality rates decreased from 2006 to 2010 and the changes were statistically significant. TN had the 3rd highest incidence rate and the 4th highest mortality rate in the U.S in 2010. Lung cancer is the leading cause of cancer incidence and mortality in TN. Only 21% of lung cancer cases with known stage information were diagnosed in early stages. Males had higher incidence and mortality rates than females. White females had a higher incidence rate than black females and black males had a higher mortality than white males.

PROSTATE CANCER

Prostate cancer incidence rates increased from 2006 to 2007; however, there was a statistically significant drop in incidence from 2008 to 2010. Death rates remained stable from 2006 to 2010. TN had the 18th highest incidence rate and the 15th highest mortality rate in the U.S in 2010. Prostate cancer is the leading cause of new cases and the 3rd leading cause of cancer deaths in TN males. About 86% of cases with known stage information are diagnosed at early stages, which is probably partially attributable to prostate cancer screening and to the slow progressive course prostate cancer typically displays compared to most other cancers. Black males are disproportionately affected by this disease compared to white males; black men experience a mortality rate that is almost 3 times as high as that for white men.

FEMALE BREAST CANCER

Both female breast cancer incidence and mortality rates remained stable over the 5-year period covered by this report. TN females experienced the 34th highest breast cancer incidence rate and the 22nd highest breast cancer mortality rate in the U.S in 2010. It is the leading cause of new cancer cases

and the 2nd leading cause of cancer deaths in TN females. About 68% of new cases with known stage information are diagnosed at early stages when treatment is more effective. The high percentage of early stage disease is attributable to screening. Incidence rates tend to be comparable in black and white women; however, black women have a mortality rate that is 64% higher than that of white women.

COLORECTAL CANCER

Colorectal cancer incidence rates statistically significantly decreased from 2006 to 2010. Mortality rates remained stable. TN experienced the 20th highest incidence rate and the 9th highest mortality rate in the U.S. for colorectal cancer in 2010. Colorectal cancer is the 4th leading cause of cancer incidence and the 2nd leading cause of cancer deaths in TN. Colorectal cancer screening is recommended for the early detection of this cancer. Only 48% of cases with known stage information are diagnosed at early stages in TN. Blacks experience statistically significantly greater incidence and mortality rates for this cancer compared to whites.

MELANOMA OF THE SKIN

Melanoma incidence and mortality were generally stable over the 5-year period covered by this report; however, there was an unexplained decrease in incidence in 2008 compared to all other years. Melanoma is the 5th leading cause of new cancer cases in TN; however, mortality rates are low. TN experienced the 22nd highest incidence rate and the 8th highest mortality rate in the U.S in 2010 for this disease. Cancer screening is very effective at diagnosing melanoma in its early stages, and 90% of all new cases during 2006-2010 were diagnosed at early stages. Whites experience much higher incidence and mortality rates for this cancer than their black counterparts; however, blacks experience a much higher mortality-incidence ratio for this disease, i.e. black patients survive for a much shorter time

than white patients. This is at least partially attributable to the fact that blacks are almost three times more likely than whites to be diagnosed at late stages for this cancer.

PANCREATIC CANCER

Pancreatic cancer is the 12th leading cause of new cancer cases and the 4th leading cause of cancer deaths in TN. Incidence and mortality rates were stable from 2006-2010. TN experienced the 27th highest pancreatic cancer incidence rate and the 18th highest pancreatic cancer mortality rate in the U.S in 2010. It is one of the most deadly forms of cancer in the U.S. and currently there is no effective screening method. Only about 15% of cases with known stage information are diagnosed at early stages in TN. Blacks display statistically significantly higher pancreatic cancer incidence and mortality rates compared to whites.

CHILDHOOD CANCER

There were 1,417 new invasive cancer cases and 201 deaths due to cancer in children less than 20 years of age in TN during 2006-2010. TN experienced the 37th highest childhood cancer incidence rate and the 3rd highest childhood cancer mortality rate in the U.S in 2010.⁴ Only about 39% of all new cases with known stage information are diagnosed at early stages of the disease. There is currently no effective screening method/s for most childhood-related cancers. In general, white children tend to have a slightly higher cancer incidence rate compared to black children, but the difference is not statistically significant.

⁴ <http://statecancerprofiles.cancer.gov>. The mortality rate ranking was among the 32 states that had data available, while the incidence rate was ranked among 48 states and the District of Columbia.

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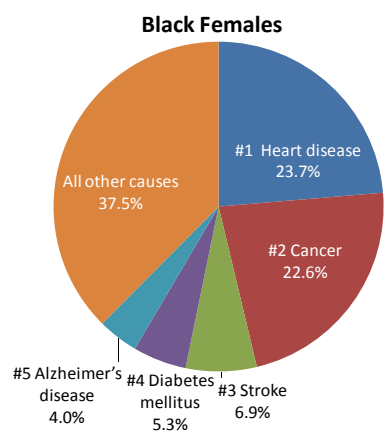
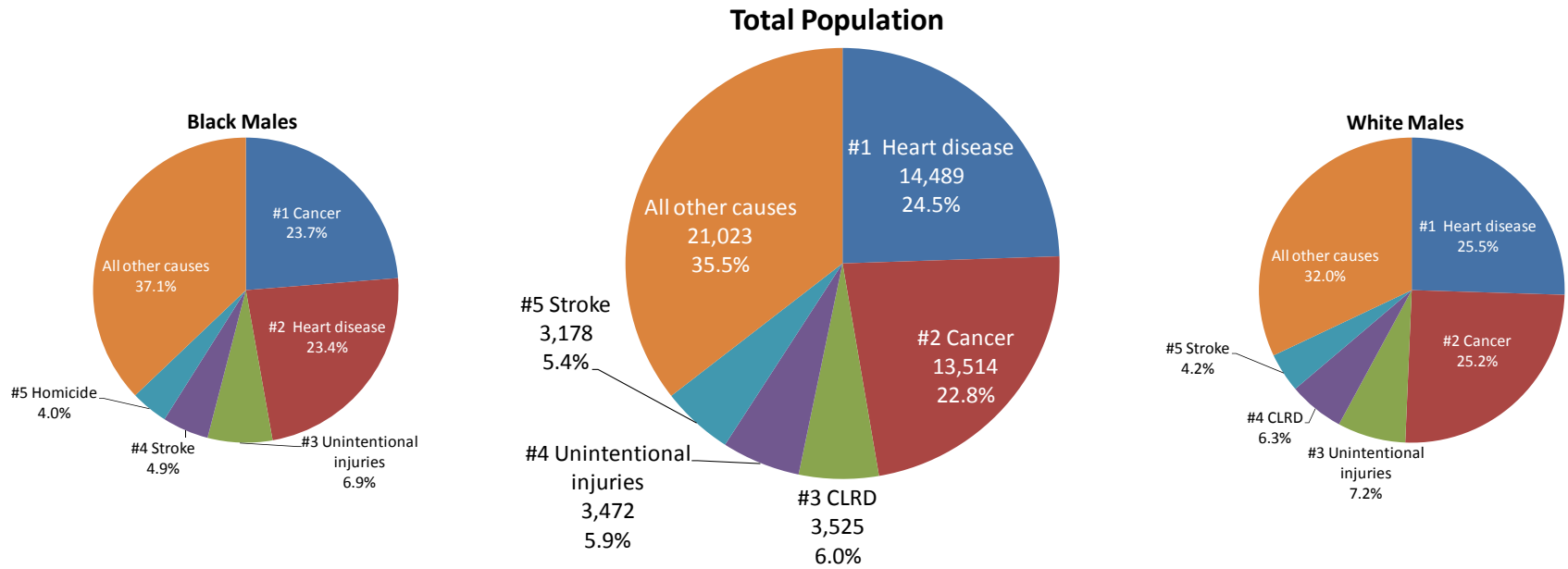
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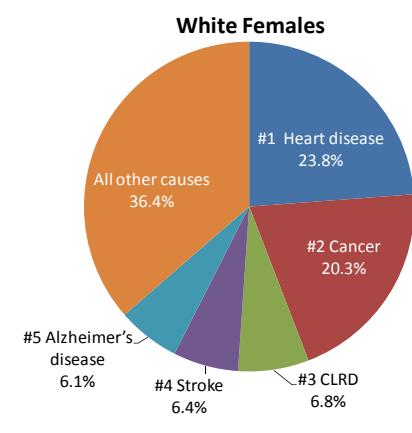
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TOP FIVE LEADING CAUSES OF DEATH IN TENNESSEE, 2010



- Heart disease was the 1st leading cause of death for all Tennesseans, claiming 14,489 lives in 2010
- Heart disease was the 1st leading cause of death among white males, white females and black females, and the 2nd leading cause among black males
- Cancer was the 2nd leading cause of death for all Tennesseans, claiming 13,514 lives in 2010
- Cancer was the 1st leading cause of death among black males, and the 2nd leading cause for white males, white females and black females

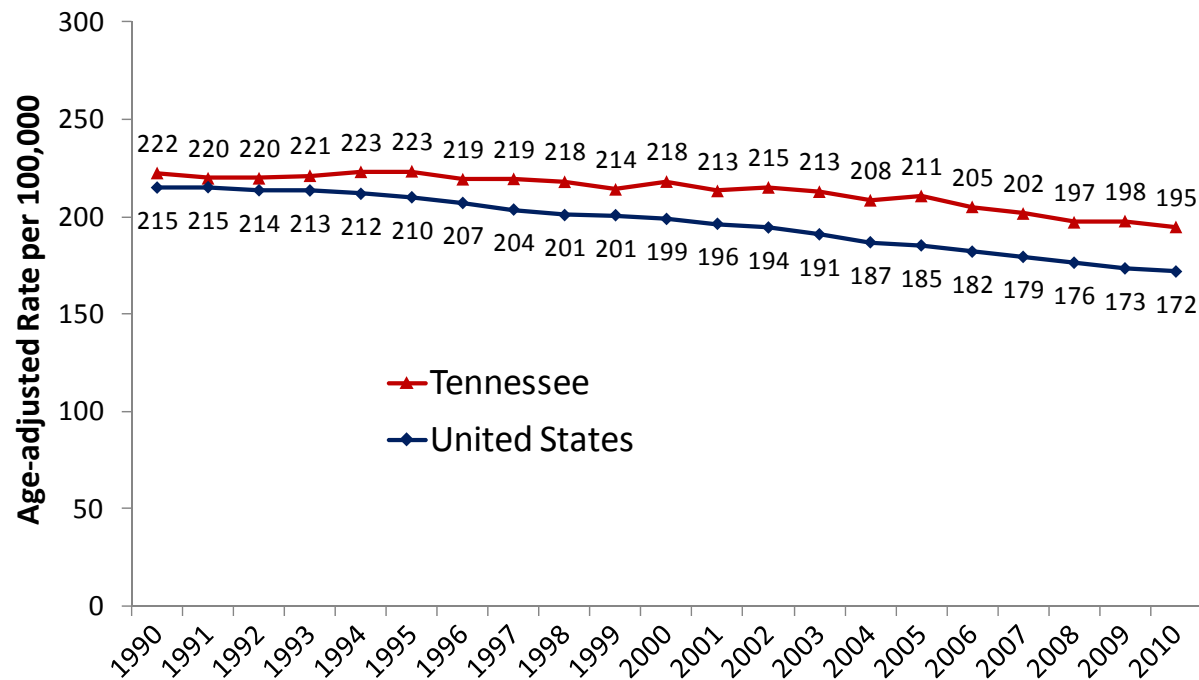


Note: CLRD stands for chronic lower respiratory diseases

TENNESSEE COMPARED TO THE UNITED STATES

CANCER MORTALITY TREND, 1990-2010

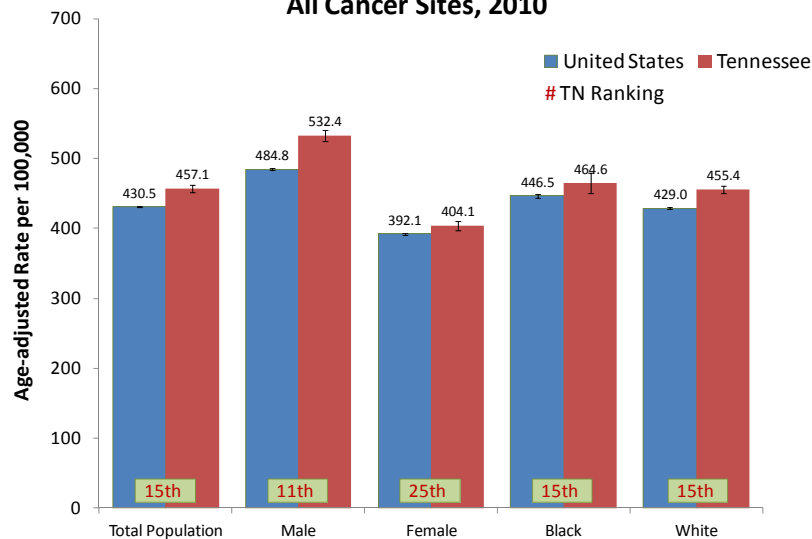
Cancer Mortality in Tennessee and the United States 1990-2010



Data source: statecancerprofiles.cancer.gov

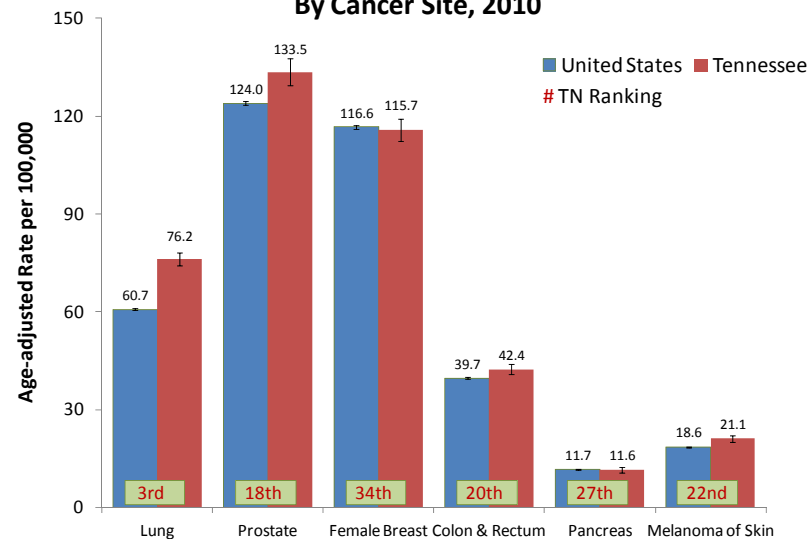
- The age-adjusted cancer mortality rate in Tennessee and the U.S. decreased over time, by 12% and 20%, respectively, from 1990 to 2010
- Cancer mortality in Tennessee was consistently higher than that in the U.S.
- The gap between Tennessee and the U.S. widened over time: cancer mortality in TN was 3% higher than in the U.S. in 1990 and 13% higher in 2010

**Incidence Rates for the United States and Tennessee
All Cancer Sites, 2010**



- The age-adjusted cancer incidence rate in Tennessee in 2010 was higher than that in the U.S. for the total population and for all gender and race groups examined; all differences were statistically significant (see Technical Notes for statistical method)
- Overall, the cancer incidence rate in Tennessee ranked 15th highest in the U.S.
- Tennessee males had the worst ranking, the 11th highest, among all gender and race groups examined

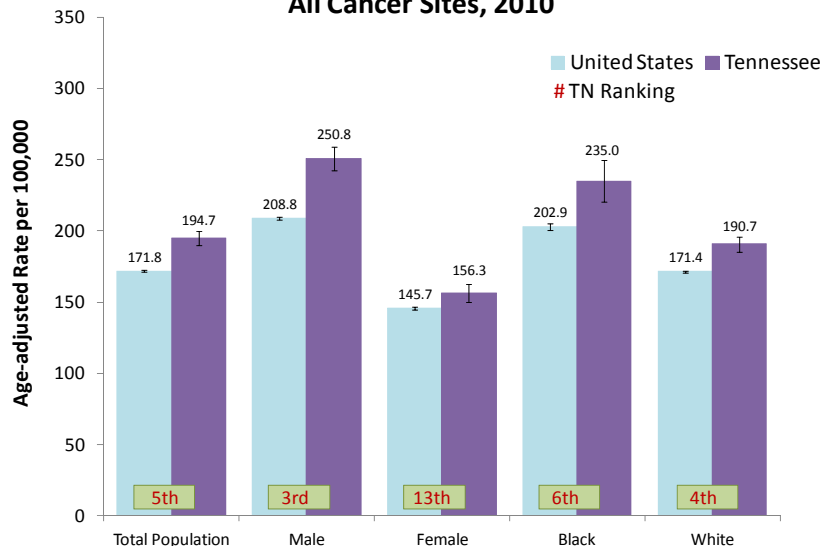
**Incidence Rates for the United States and Tennessee
By Cancer Site, 2010**



- Among common cancers, Tennessee had higher incidence rates of lung cancer, prostate cancer, colorectal cancer, and melanoma skin cancer than the U.S. average in 2010
- The lung cancer incidence rate in Tennessee ranked 3rd highest in the U.S.
- Prostate cancer ranked 18th highest
- Female breast cancer, colorectal cancer, pancreatic cancer and melanoma skin cancer ranked 34th, 20th, 27th, and 22nd, respectively

⁵ Data source for rankings: statecancerprofiles.cancer.gov

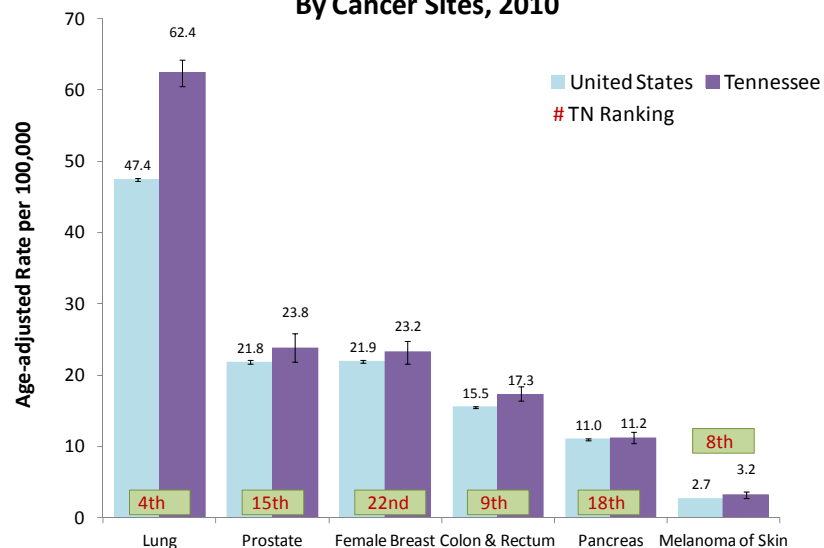
**Mortality Rates for the United States and Tennessee
All Cancer Sites, 2010**



- The age-adjusted cancer mortality rate in Tennessee in 2010 was higher than that in the U.S. for the total population and for all gender and race groups examined; all differences were statistically significant
- Tennessee ranked 5th highest in the U.S. for the total population, and between 3rd to 13th for all gender and race groups examined

- Tennessee’s lung cancer mortality rate ranked the 4th highest in the U.S. in 2010
- Tennessee ranked 8th highest for melanoma of the skin and 9th highest for colorectal cancer
- Prostate, pancreas and female breast cancer ranked 15th, 18th and 22nd, respectively

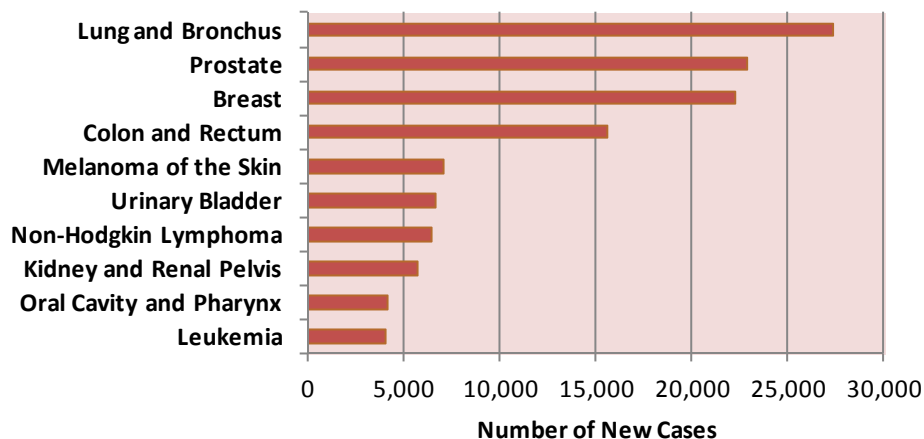
**Mortality Rates for the United States and Tennessee
By Cancer Sites, 2010**



TYPES OF CANCERS IN TENNESSEE

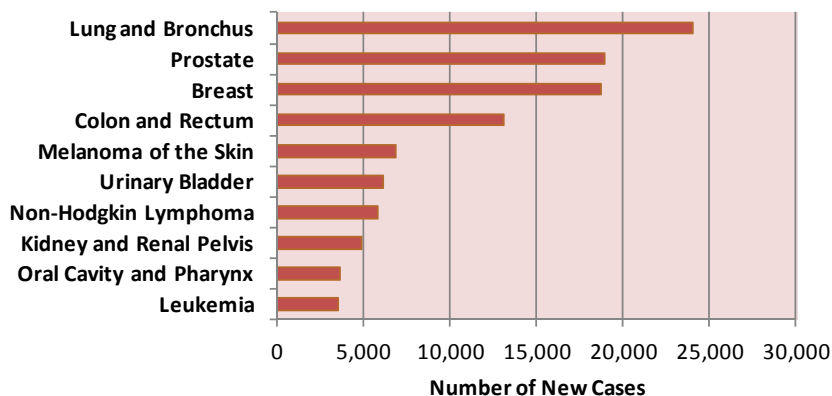
LEADING CAUSES OF CANCER INCIDENCE, 2006-2010

Total Population

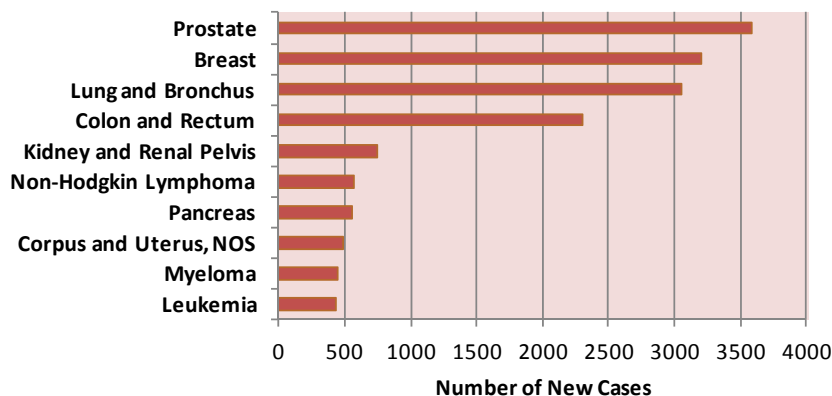


- Lung cancer was the 1st leading cause of cancer incidence in Tennessee in 2006-2010, followed by cancers of the prostate (2nd), breast (3rd, including cases among men and women), and colon and rectum (4th)
- Melanoma of the skin was the 5th leading cause of cancer incidence
- The order of leading causes among whites was the same as for the overall TN population
- Among blacks, prostate cancer was the 1st leading cause of cancer incidence, followed by cancers of the breast (2nd), lung (3rd), colon and rectum (4th), and kidney (5th)

White



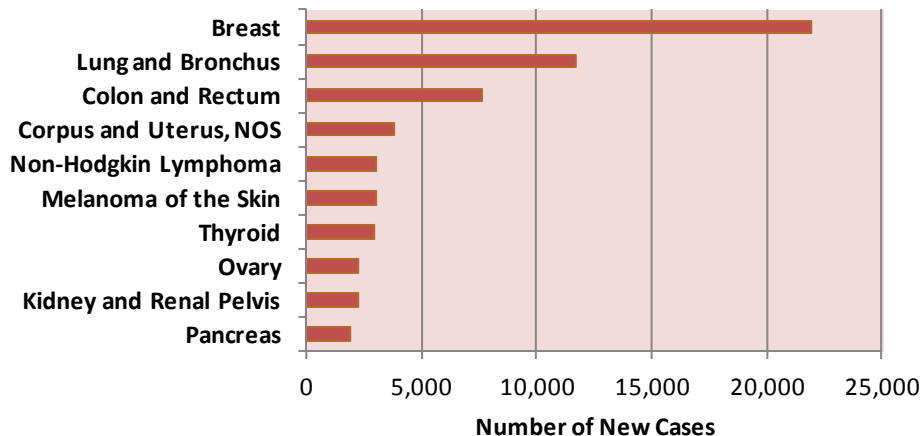
Black



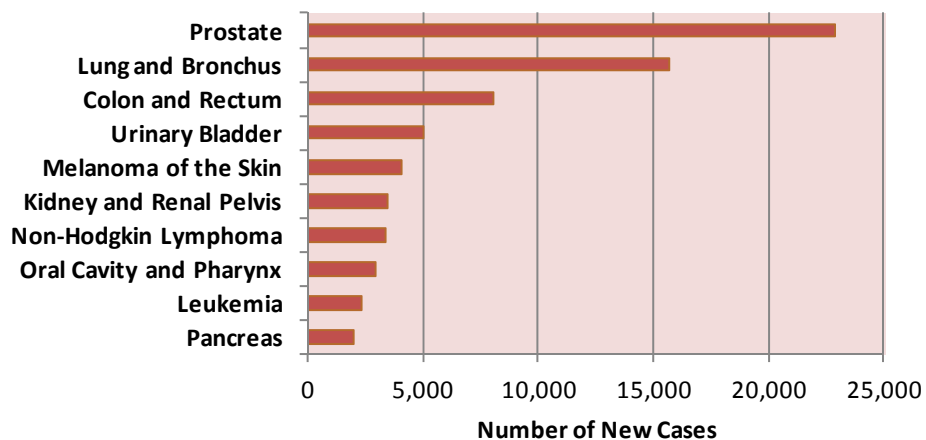
LEADING CAUSES OF CANCER INCIDENCE, 2006-2010 CONTINUED

- Breast cancer was the 1st leading cause of cancer incidence among Tennessee females in 2006-2010, accounting for almost one-third (29%) of total cancer cases among women
- Lung cancer was the 2nd leading cause, followed by colorectal cancer (3rd), uterus cancer (4th), and non-Hodgkin lymphoma (5th)

Female



Male

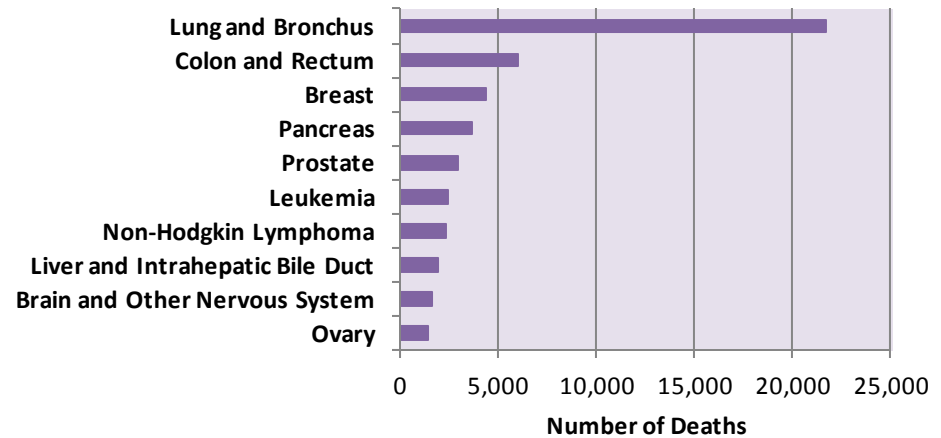


- Prostate cancer was the 1st leading cause of cancer incidence among Tennessee males in 2006-2010, accounting for 27% of total cancer cases among men
- Lung cancer was the 2nd leading cause, followed by colorectal cancer (3rd), bladder cancer (4th) and melanoma of the skin (5th)

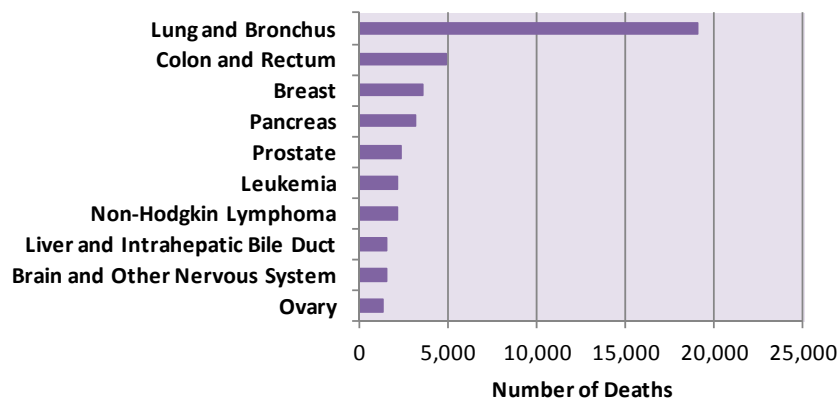
LEADING CAUSES OF CANCER MORTALITY, 2006-2010

- Lung cancer was the 1st leading cause of cancer mortality in the overall Tennessee population in 2006-2010. It was also the 1st leading cause of cancer mortality for whites, blacks, males and females
- Colorectal cancer was the 2nd leading cause of cancer death in Tennessee for the total population, whites, blacks and males. Among females, breast cancer was the 2nd leading cause.
- Breast cancer (including cases among men and women), pancreatic cancer and prostate cancer were the 3rd to 5th leading causes of cancer death, respectively, in Tennessee

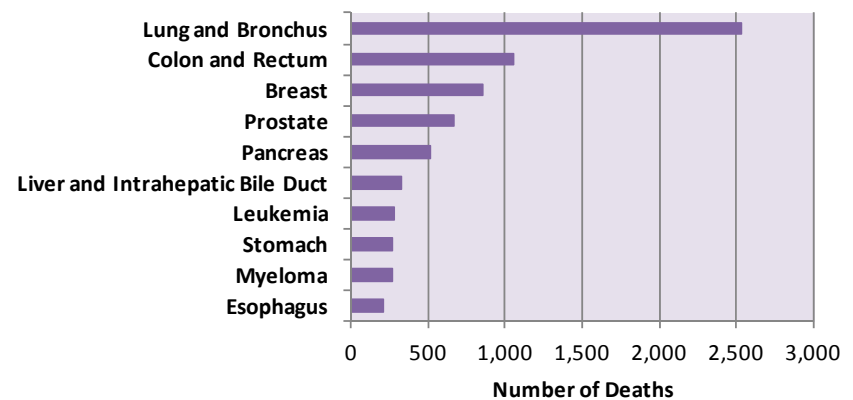
Total Population



White



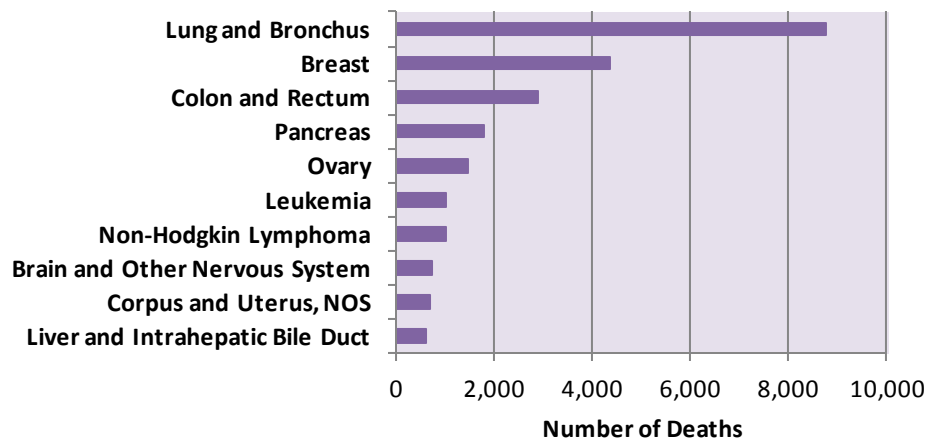
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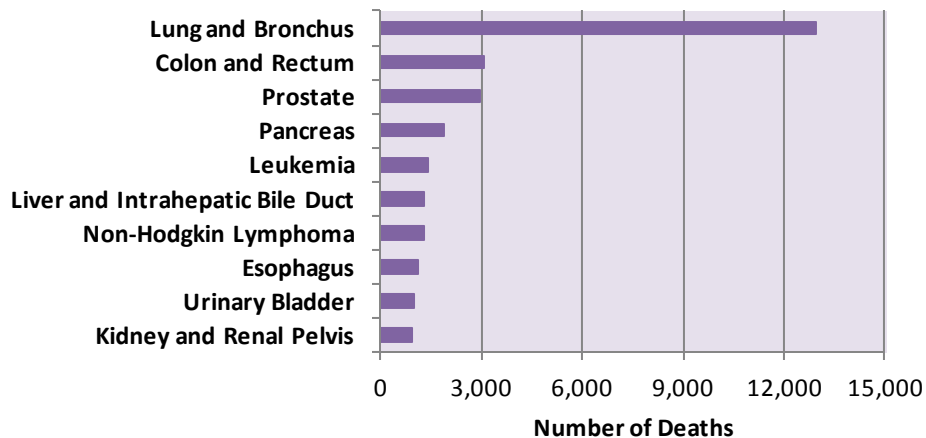
LEADING CAUSES OF CANCER MORTALITY, 2006-2010 CONTINUED

- Lung cancer was the 1st leading cause of cancer death among females in 2006-2010
- Breast cancer was the 2nd leading cause, followed by colorectal cancer (3rd), pancreatic cancer (4th), and ovarian cancer (5th)

Female



Male



- Lung cancer was the 1st leading cause of cancer death among males in 2006-2010
- Colorectal cancer was the 2nd leading cause, followed by prostate cancer (3rd), pancreatic cancer (4th), and leukemia (5th)

CANCER INCIDENCE AND MORTALITY IN TENNESSEE, 2006-2010

CANCER INCIDENCE AND MORTALITY, ALL SITES COMBINED

Cancer Incidence and Mortality, All Sites Combined, Tennessee, 2006-2010

		Incidence			Mortality			M:I Ratio [‡]
		Count**	Rate***	CI	Count**	Rate***	CI	
Gender Race								
Both*	All Races [†]	163,043	479.9	477.5 - 482.3	66,148	198.2	196.7 - 199.7	0.41
	Black	20,196	482.1	475.2 - 489.1	9,313	243.0	237.9 - 248.2	0.50
	White	140,632	478.9	476.4 - 481.5	56,504	193.4	191.8 - 195.1	0.40
Female	All Races [†]	77,099	419.4	416.4 - 422.4	30,098	159.4	157.6 - 161.3	0.38
	Black	9,997	408.8	400.7 - 417.1	4,457	193.1	187.3 - 198.9	0.47
	White	66,011	421.2	417.9 - 424.4	25,458	155.4	153.4 - 157.3	0.37
Male	All Races [†]	85,944	567.0	563.1 - 571.0	36,050	255.6	252.8 - 258.3	0.45
	Black	10,199	598.5	585.9 - 611.2	4,856	330.5	320.4 - 340.8	0.55
	White	74,621	561.8	557.6 - 565.9	31,046	248.7	245.9 - 251.6	0.44
Age at Diagnosis or Death								
0-19		1,417	17.0	16.1 - 17.9	201	2.4	2.1 - 2.8	0.14
20-44		12,360	122.4	120.2 - 124.5	2,137	21.3	20.4 - 22.2	0.17
45-64		63,595	731.3	725.6 - 737.1	20,240	230.3	227.1 - 233.5	0.31
65+		85,671	2120.5	2106.2 - 2134.8	43,570	1096.6	1086.2 - 1107.0	0.52
Year of Diagnosis or Death								
2006		30,943	477.9	472.6 - 483.3	13,007	204.4	200.8 - 207.9	0.43
2007		31,977	481.5	476.2 - 486.9	13,112	200.9	197.4 - 204.4	0.42
2008		32,813	481.9	476.7 - 487.2	13,108	196.3	192.9 - 199.8	0.41
2009		33,778	486.5	481.3 - 491.8	13,407	196.6	193.3 - 200.0	0.40
2010		33,532	472.2	467.0 - 477.3	13,514	193.6	190.3 - 197.0	0.41

*Excludes hermaphrodites and transsexuals

**Total counts from 2006-2010

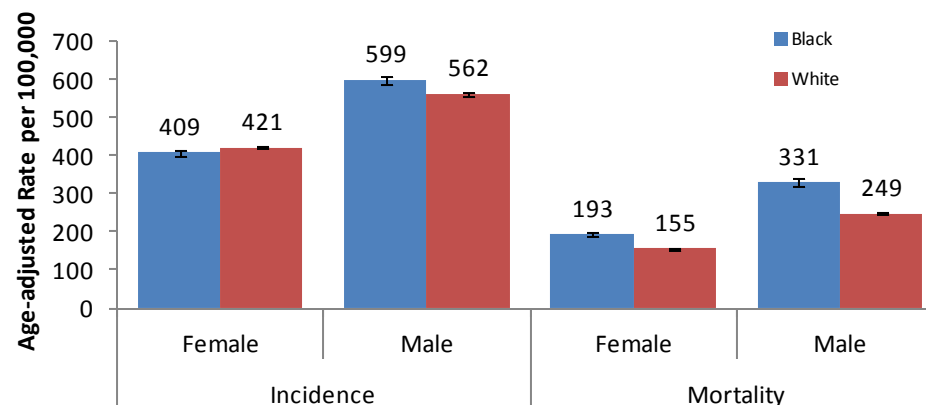
***Age-adjusted annual rate per 100,000

†Includes whites, blacks, other races and those missing race information

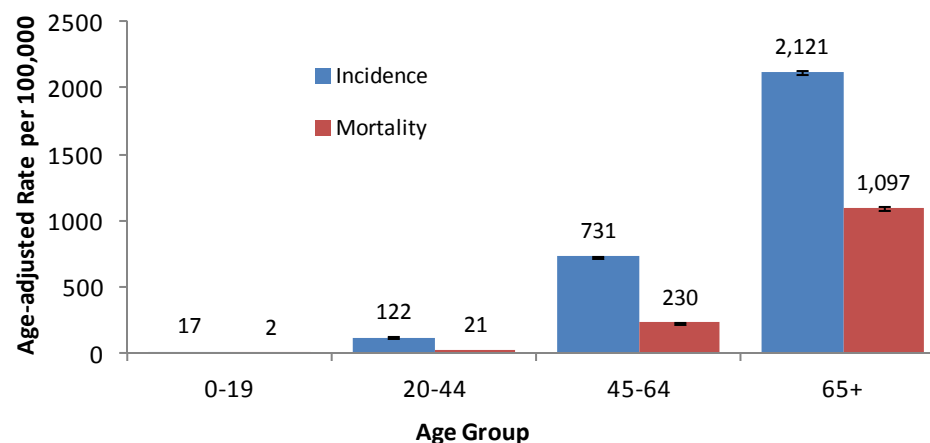
‡Mortality incidence ratio. See Technical Notes for details

- From 2006 to 2010, a total of 163,043 Tennesseans were newly diagnosed with cancer, an average of 32,609 each year or one case every 16 minutes
- During the same time period, 66,148 Tennesseans died from cancer, an average of 13,230 each year or one death every 40 minutes
- Males had higher incidence and mortality rates than females regardless of race (see Technical Notes for statistical method)
- Black females had a lower cancer incidence rate but a higher mortality rate than white females
- Black males had higher incidence and mortality rates than white males
- Both incidence and mortality rates of cancer increased with age, with the highest rates among people 65 years and older.
- The ratio of mortality and incidence rates also increased with age, from 0.14 for 0-19 year olds to 0.52 for those 65 years and older

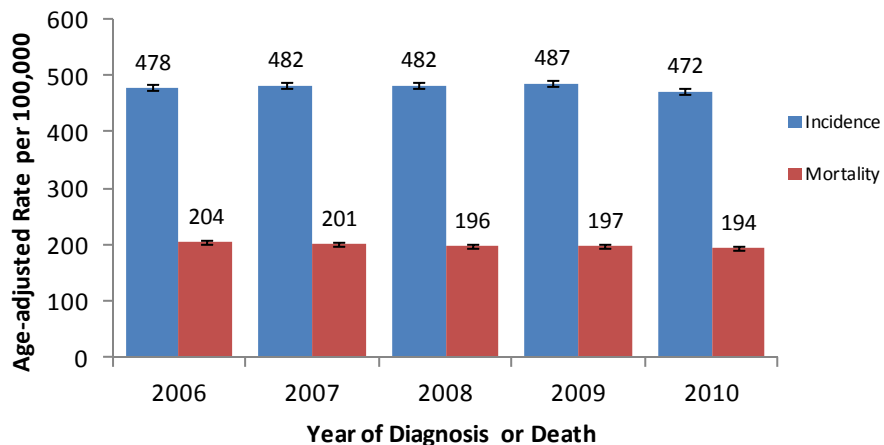
**Cancer Incidence and Mortality, All Sites Combined
By Gender and Race, Tennessee, 2006-2010**



**Cancer Incidence and Mortality, All Sites Combined
By Age Group, Tennessee, 2006-2010**



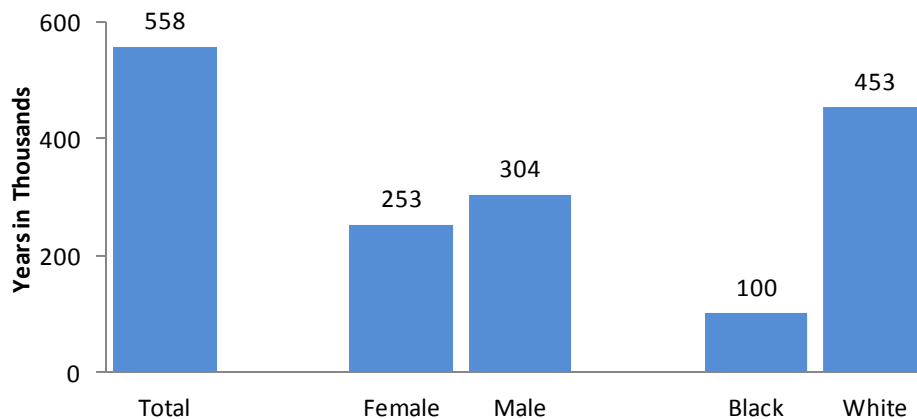
**Cancer Incidence and Mortality Time Trends
All Sites Combined, Tennessee, 2006-2010**



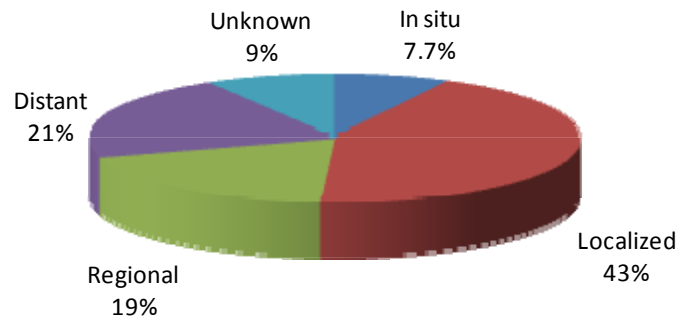
- The cancer incidence rate in Tennessee fluctuated slightly over time; however, this change was not statistically significant
- The cancer mortality rate in Tennessee decreased over time, from 204/100,000 in 2006 to 194/100,000 in 2010; this change was statistically significant

- In the five-year period from 2006-2010, a total of 558,000 years of potential life were lost (YPLL) due to premature cancer deaths (death before 75 years of age) for the total population; 253,000 years were lost for females and 304,000 for males; 100,000 years were lost for blacks and 453,000 for whites

**Years of Potential Life Lost to Cancer
Tennessee, 2006-2010**

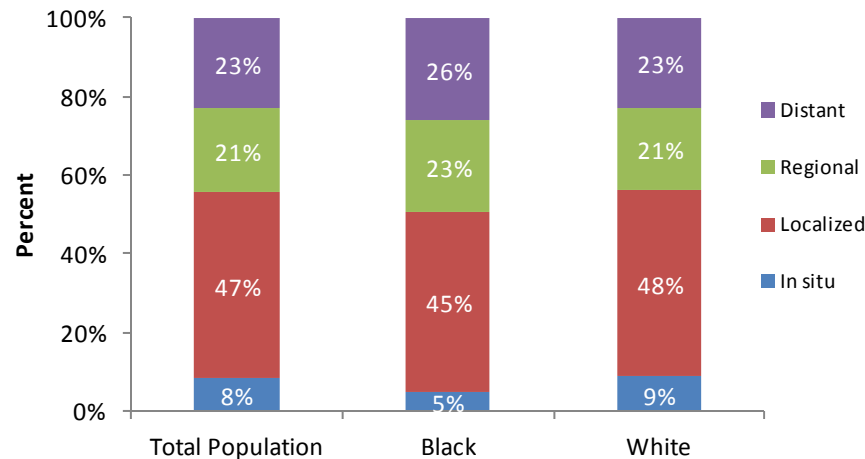


**Cancer Stage, All Sites Combined
Tennessee, 2006-2010**



- 7.7% of new cancer cases were diagnosed at an in situ stage; 43% at a localized stage; 19% at a regional stage, and 21% at a distant stage. 9% of cases did not have sufficient information on stage at diagnosis
- Among those with known stage information, 8%, 47%, 21% and 23% were diagnosed at the in situ, localized, regional and distant stage, respectively
- Black patients were more likely to be diagnosed at late stages (i.e. at the regional or distant stage) than whites: 49% at regional or distant stage in blacks compared to 44% in whites (see Technical Notes for statistical method)

**Cancer Stage, All Sites Combined
By Race, Tennessee, 2006-2010**

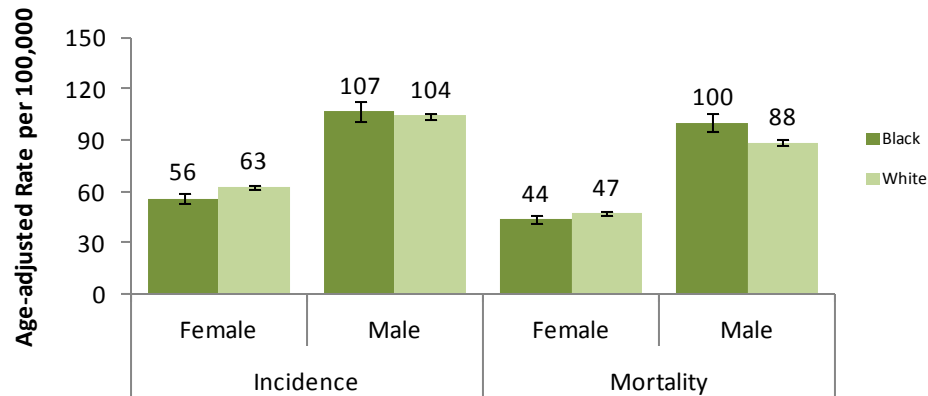


Cases with unknown stage were excluded. Numbers may not sum to 100% due to rounding errors

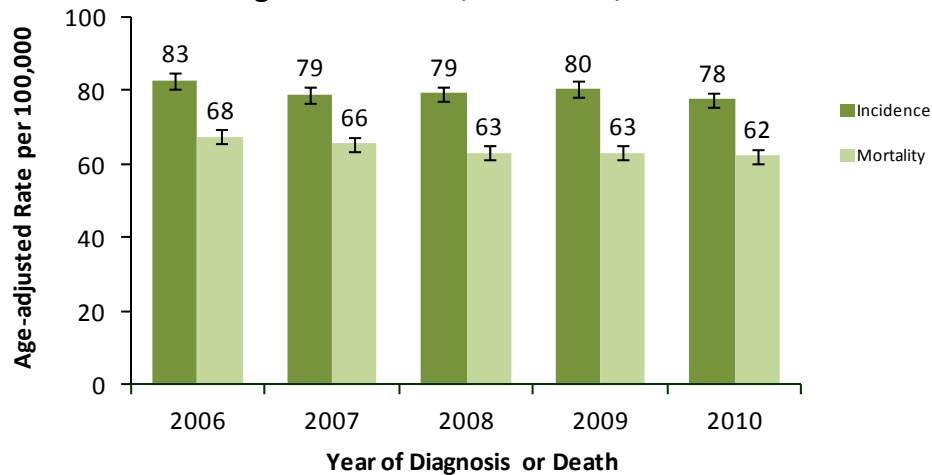
COMMON CANCERS IN TENNESSEE, 2006-2010

CANCER OF LUNG AND BRONCHUS

**Cancer Incidence and Mortality, Lung and Bronchus
By Gender and Race, Tennessee, 2006-2010**



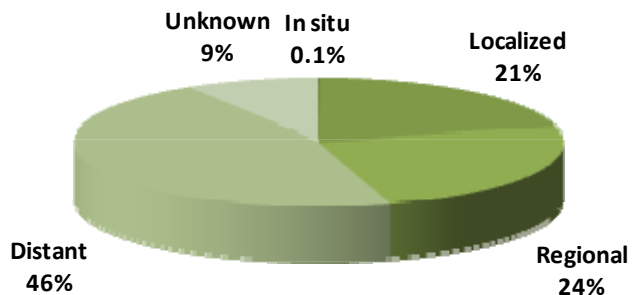
**Cancer Incidence and Mortality Time Trends
Lung and Bronchus, Tennessee, 2006-2010**



- There were 27,332 cases of newly diagnosed lung cancer in 2006-2010 among Tennesseans, resulting in an age-adjusted incidence rate of 79.8/100,000
- During the same time period, 21,728 Tennesseans died from lung cancer, with an age-adjusted mortality rate of 64.3/100,000
- Males had higher incidence and mortality rates than females regardless of race
- White females had a higher incidence rate than black females, but no statistically significant difference in incidence rate was found between race groups among males
- Black males had a higher mortality rate than white males, but no statistically significant difference in mortality rate was found between race groups among females

- Lung cancer incidence rates decreased slightly over time from 2006 to 2010 and this change was statistically significant
- Cancer mortality rates also decreased from 2006 to 2010 and this change was statistically significant

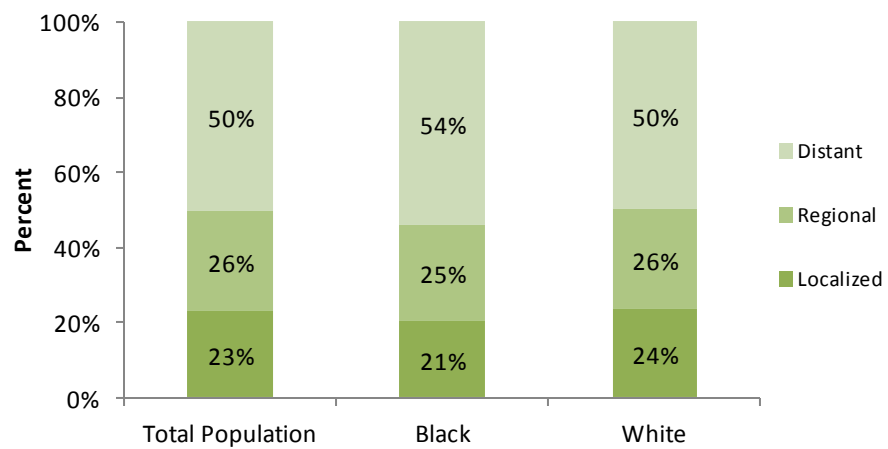
**Cancer Stage, Lung and Bronchus
Tennessee, 2006-2010**



- A very small proportion (0.1%) of lung cancer cases was diagnosed at the in situ stage
- About one in five cases (21%) was diagnosed at the localized stage
- About one in four (24%) was diagnosed at the regional stage
- Almost half of new cases (46%) were diagnosed at the distant stage
- 9% of cases had unknown stage information

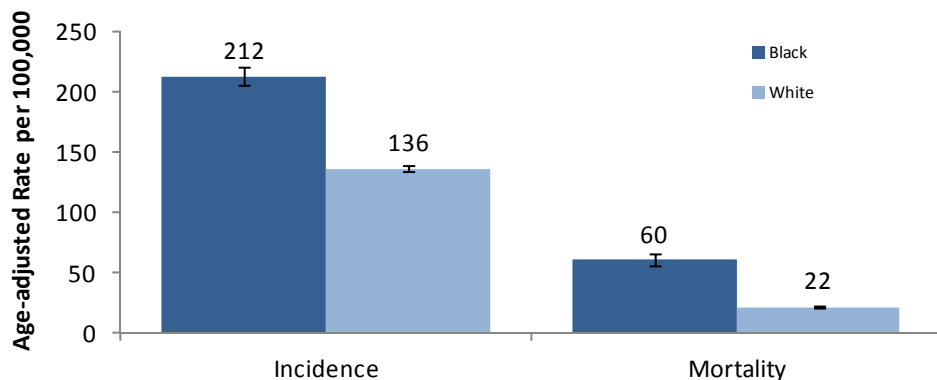
- Among cases with known stage information, three out of four (76%) were diagnosed at either the regional or distant stage, i.e. late stages
- A slightly higher percentage of black patients was diagnosed at late stages (79%) than whites (76%), and this difference was statistically significant

**Cancer Stage, Lung and Bronchus
By Race, Tennessee, 2006-2010**



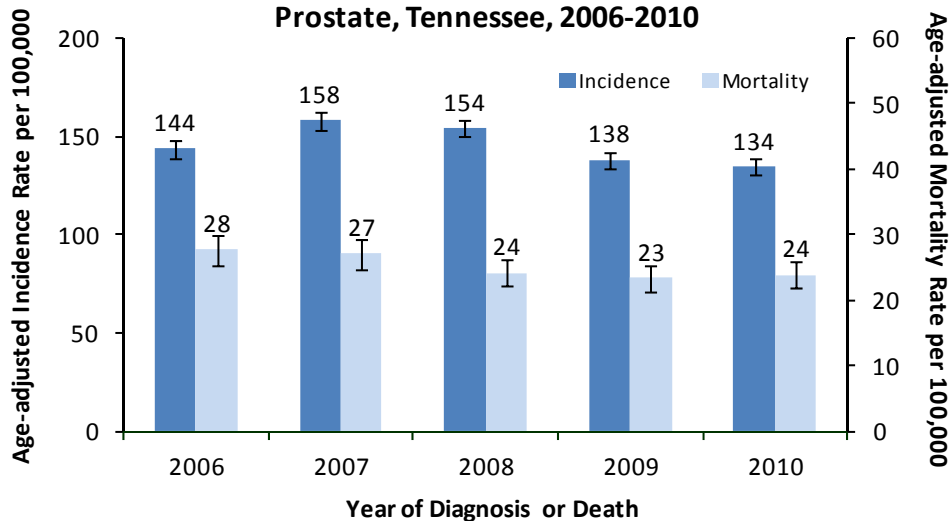
Cases with unknown stage were excluded. Numbers may not sum to 100% due to rounding errors

**Cancer Incidence and Mortality, Prostate
By Race, Tennessee, 2006-2010**



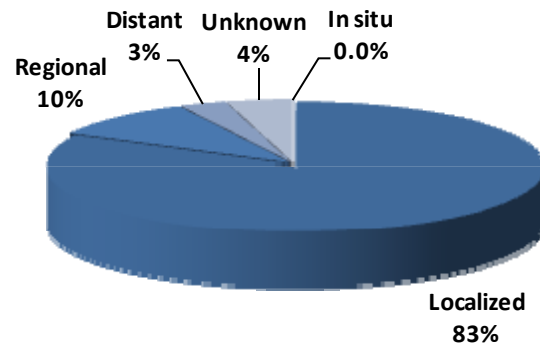
- A total of 22,882 newly diagnosed prostate cancer cases were reported among Tennessee men from 2006-2010, resulting in an age-adjusted incidence rate of 145.2/100,000
- During the same time period, 2,984 prostate cancer deaths were reported, giving an age-adjusted mortality rate of 25.1/100,000
- The mortality-to-incidence ratio for prostate cancer was 0.17, making it the 2nd least deadly cancer among the top 10 cancers (see Appendix I)
- Black men had higher incidence and mortality rates than white men

**Cancer Incidence and Mortality Time Trends
Prostate, Tennessee, 2006-2010**



- The prostate cancer incidence rate increased from 2006 to 2007 but decreased from 2008 to 2010.
- Prostate cancer mortality rates decreased slightly from 2006 to 2010, but this decrease was not statistically significant

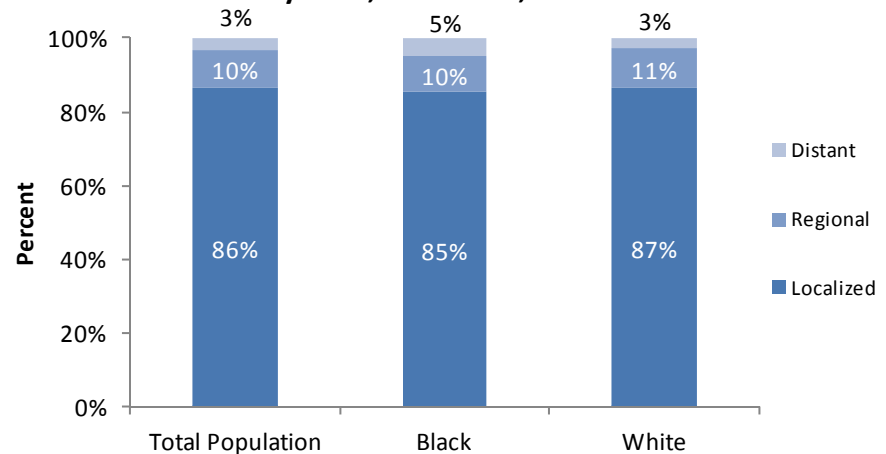
**Cancer Stage, Prostate
Tennessee, 2006-2010**



- Only 3 cases of prostate cancer were diagnosed at the in situ stage
- About four out of every five cases (83%) were diagnosed at the localized stage
- Another one in ten (10%) was diagnosed at the regional stage
- 3% of cases were diagnosed at the distant stage
- 4% of cases had unknown stage information

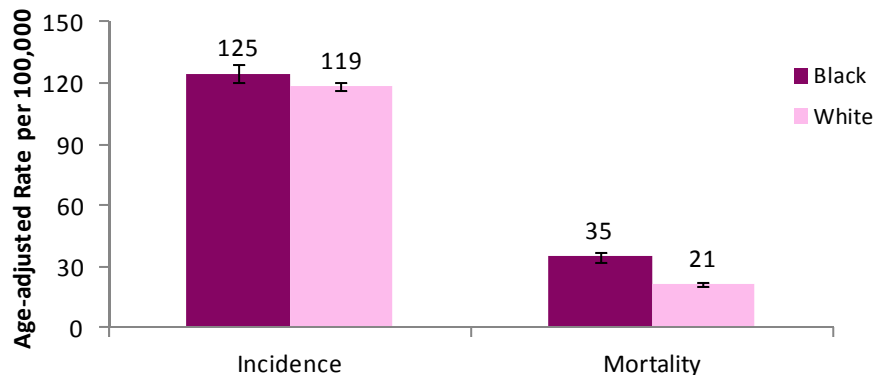
- Among cases with known stage information, only 13% were diagnosed at late stages (i.e. at the regional or distant stage)
- A slightly higher percentage of black patients were diagnosed at late stages (15%) than whites (14%), and this difference was statistically significant
- Early diagnosis of prostate cancer is believed to contribute to a low mortality-to-incidence ratio

**Cancer Stage, Prostate
By Race, Tennessee, 2006-2010**



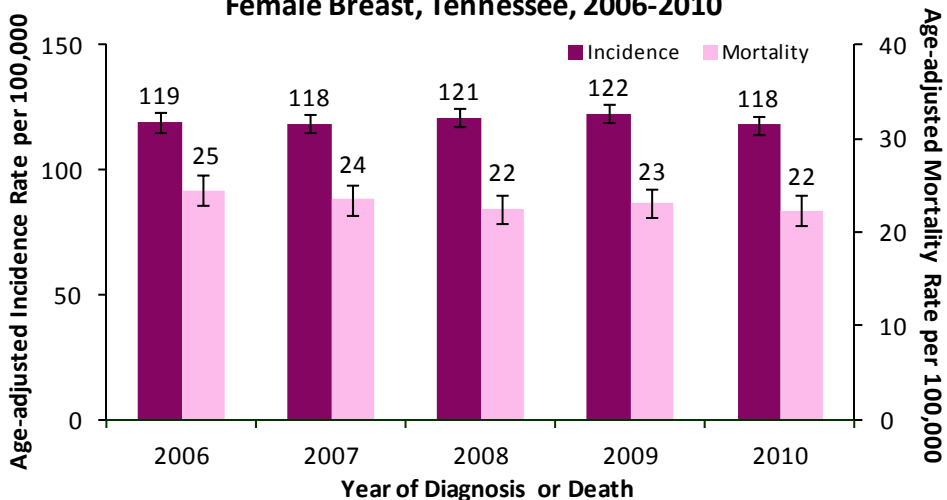
Cases with unknown stage were excluded. Numbers may not sum to 100% due to rounding errors

**Cancer Incidence and Mortality, Female Breast
Tennessee, 2006-2010**



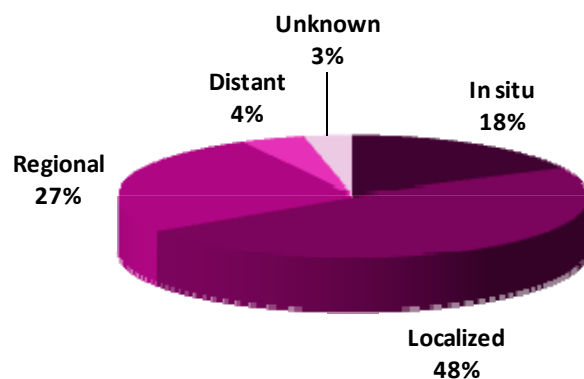
- A total of 21,979 new breast cancer cases were diagnosed among Tennessee women from 2006-2010, and the age-adjusted incidence rate was 119.7/100,000
- During the same time period, 4,357 Tennessee women died from breast cancer, giving an age-adjusted mortality rate of 23.1/100,000
- Black women had a slightly higher incidence rate than white women, but the difference was not statistically significant
- Black women had a much higher mortality rate (64% higher) than their white counterparts

**Cancer Incidence and Mortality Time Trends
Female Breast, Tennessee, 2006-2010**



- Female breast cancer incidence and mortality rates were stable from 2006 to 2010

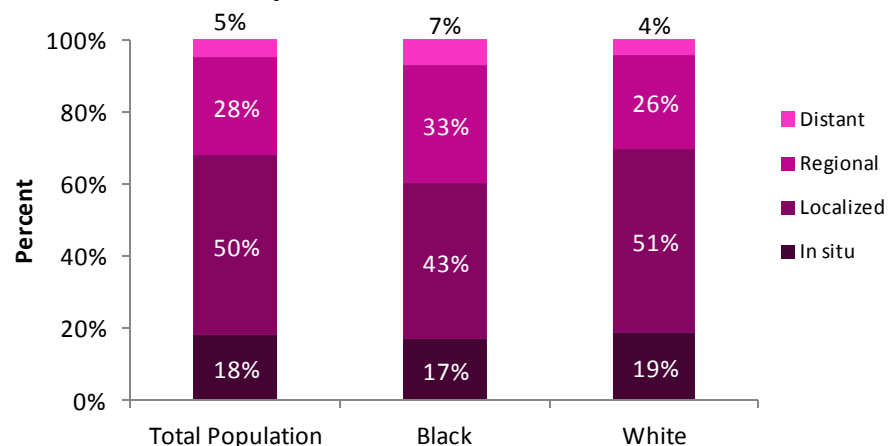
**Cancer Stage, Female Breast Cancer
Tennessee, 2006-2010**



- Almost one in five (18%) female breast cancer cases was diagnosed at the in situ stage
- Almost half of cases (48%) were diagnosed at the localized stage
- About one in four cases (27%) was diagnosed at the regional stage
- 4% of cases were diagnosed at the distant stage
- 3% of cases had unknown stage information

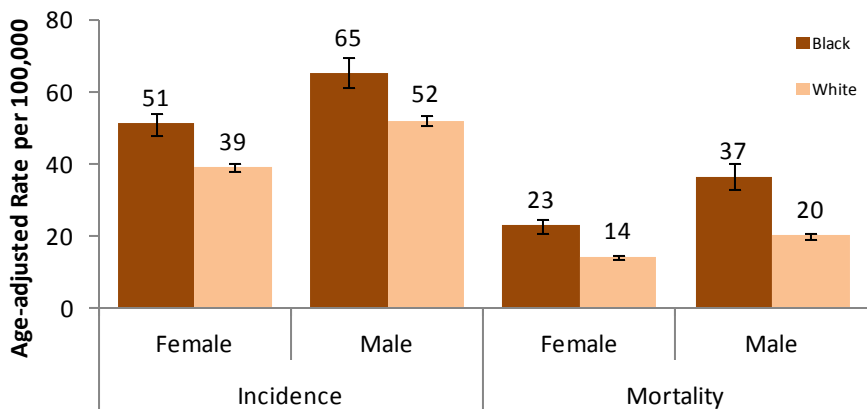
- Among those with known stage, one-third (33%) were diagnosed at late stages, either regional or distant
- Black women had a higher proportion (40%) of cases diagnosed at late stages than white women (30%). This may partially explain the higher breast cancer mortality among black women

**Cancer Stage, Female Breast
By Race, Tennessee, 2006-2010**

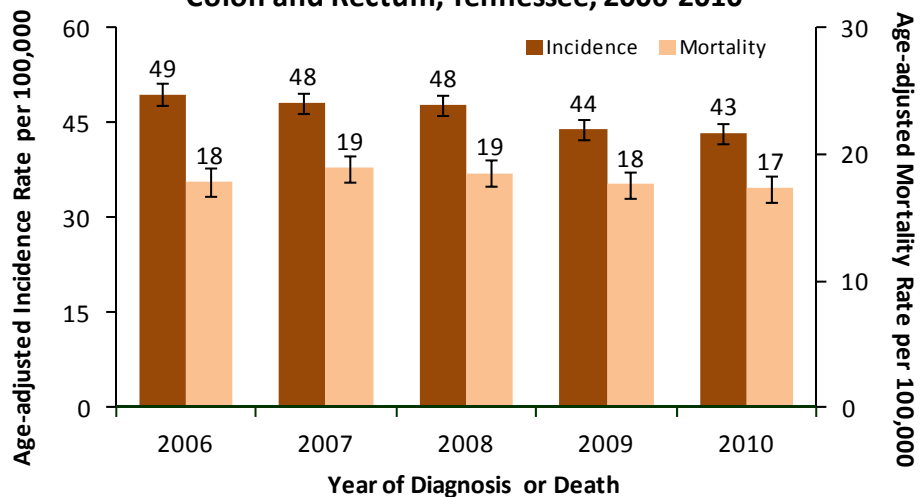


Cases with unknown stage were excluded. Numbers may not sum to 100% due to rounding errors

**Cancer Incidence and Mortality, Colon and Rectum
By Gender and Race, Tennessee, 2006-2010**



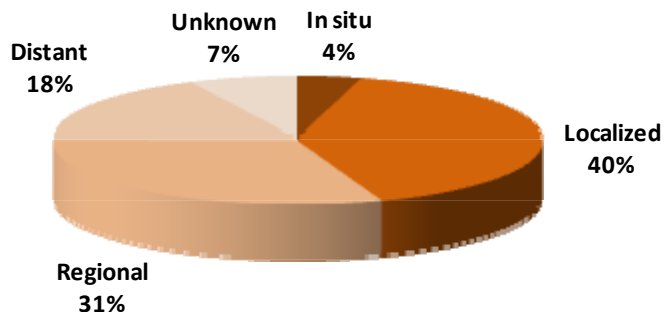
**Cancer Incidence and Mortality Time Trends
Colon and Rectum, Tennessee, 2006-2010**



- A total of 15,634 new cases of colorectal cancer were reported among Tennesseans from 2006-2010, and the age-adjusted incidence rate was 46.4/100,000
- During the same time period, 5,958 colorectal cancer deaths were reported, resulting in an age-adjusted mortality rate of 18.0/100,000
- Males had higher incidence and mortality rates than females regardless of race
- Blacks had higher incidence and mortality rates than whites regardless of gender
- Black males had the highest mortality rate among four gender-race groups while white females had the lowest; the same pattern was also observed for incidence rates

- The colorectal cancer incidence rate decreased statistically significantly from 2006 to 2010. Although the mortality rate also decreased, this change was not statistically significant

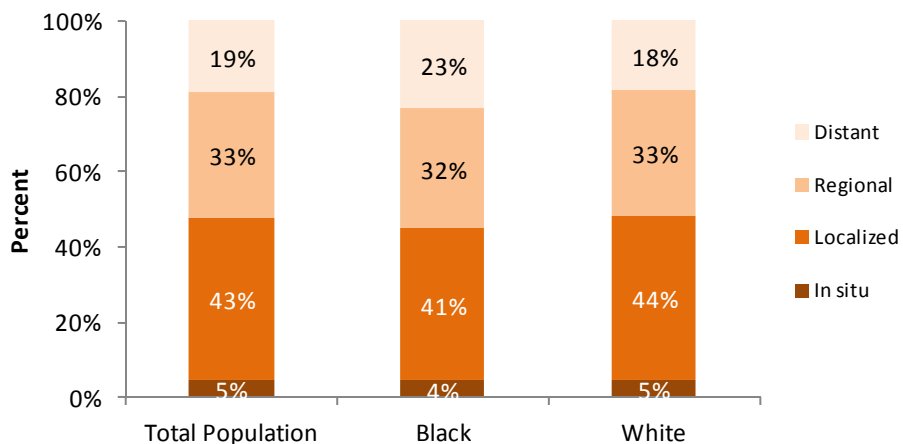
**Cancer Stage, Colon and Rectum
Tennessee, 2006-2010**



- 4% of the colorectal cancer incidence cases were diagnosed at the in situ stage
- 40% were diagnosed at the localized stage
- 31% were diagnosed at the regional stage
- 18% were diagnosed at the distant stage
- 7% of cases had unknown stage information

- Among those with known stage, 52% were diagnosed at either the regional or distant stage, i.e. late stages
- Black Tennesseans had a higher proportion (55%) of cases diagnosed at late stages than whites (51%)
- Almost one-fourth (23%) of blacks were diagnosed at the distant stage, compared to less than one-fifth (18%) of whites

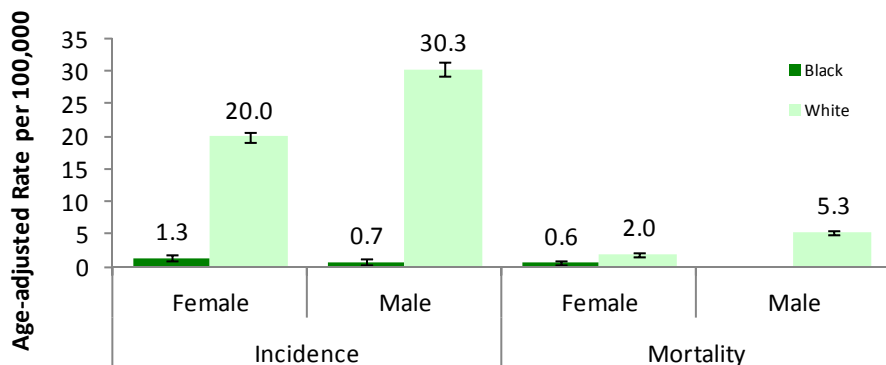
**Cancer Stage, Colon and Rectum
By Race, Tennessee, 2006-2010**



Cases with unknown stage were excluded. Numbers may not sum to 100% due to rounding errors

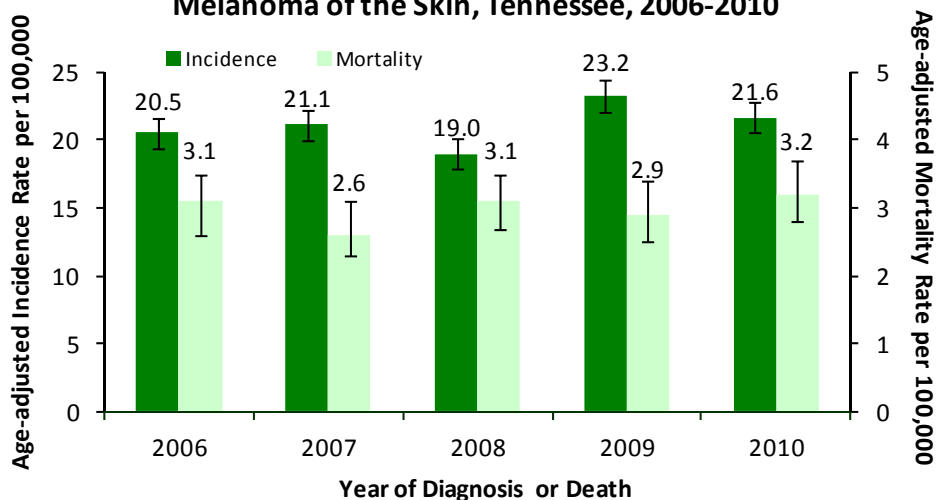
MELANOMA OF THE SKIN

**Cancer Incidence and Mortality, Melanoma of the Skin
By Gender and Race, Tennessee, 2006-2010**



Mortality data for black males were suppressed due to fewer than 10 cases

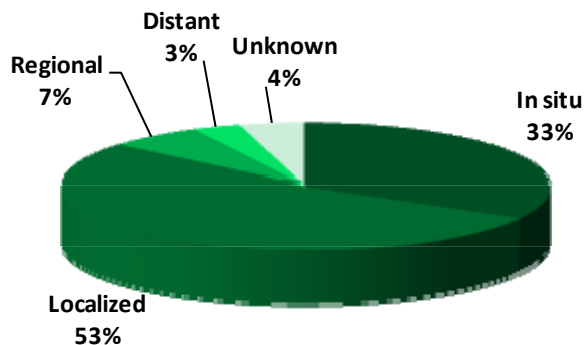
**Cancer Incidence and Mortality Time Trends
Melanoma of the Skin, Tennessee, 2006-2010**



- There were 7,015 newly diagnosed melanoma skin cancer cases among Tennesseans from 2006-2010, and the age-adjusted incidence rate was 21.1/100,000
- During the same time period, 994 melanoma skin cancer patients died, giving an age-adjusted mortality rate of 3.0/100,000
- The mortality-to-incidence ratio for melanoma skin cancer was 0.14 for the total population, making it the least deadly among the top 10 common cancers
- However, the mortality-to-incidence ratio for blacks was 0.64, more than four times as high as for whites (0.14) (see appendix I)
- Whites had a much higher melanoma skin cancer incidence rate than blacks regardless of gender
- White males had a higher incidence rate than white females
- White females had a higher mortality rate than black females

- The melanoma skin cancer incidence rate was lowest in 2008
- Melanoma skin cancer mortality rates did not change statistically significantly between 2006 and 2010

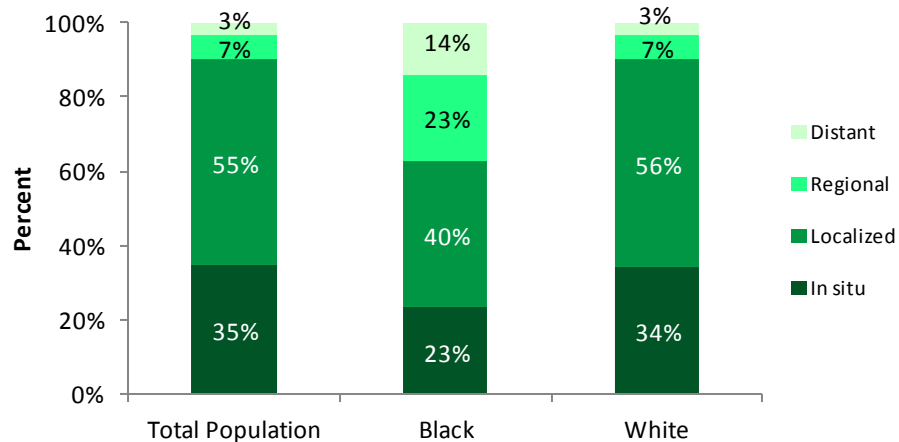
**Cancer Stage, Melanoma of the Skin
Tennessee, 2006-2010**



- One-third (33%) of melanoma skin cancer incident cases were diagnosed at the in situ stage
- Just over one-half of cases (53%) were diagnosed at the localized stage
- 7% of cases were diagnosed at the regional stage
- 3% of cases were diagnosed at distant stage
- 4% of cases had unknown stage information

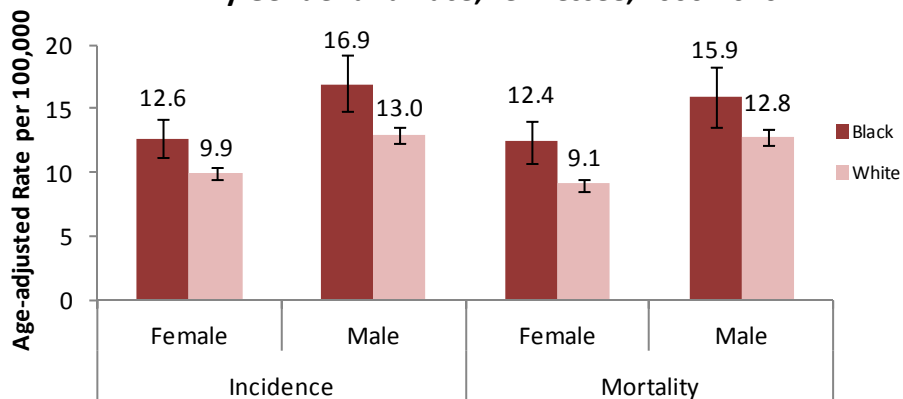
- Among those with known stage, only one in ten was diagnosed at the regional or distant stage, i.e. late stages, which may explain why melanoma skin cancer was least deadly among the top 10 common cancers
- There was a racial disparity in stage of diagnosis: almost four in ten (37%) cases among blacks were diagnosed at late stages, compared to one in ten (10%) among whites. This may have contributed to the much higher mortality-to-incidence ratio among blacks

**Cancer Stage, Melanoma of the Skin
By Race, Tennessee, 2006-2010**



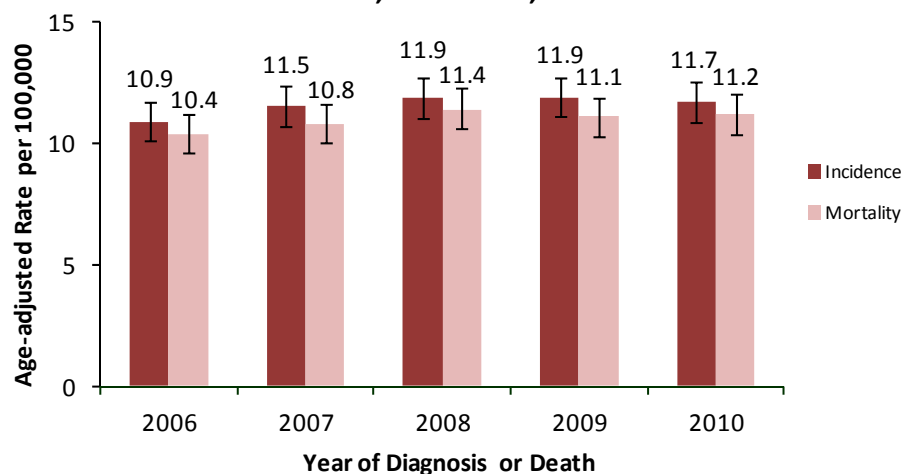
Cases with unknown stage were excluded. Numbers may not sum to 100% due to rounding errors

**Cancer Incidence and Mortality, Pancreas
By Gender and Race, Tennessee, 2006-2010**



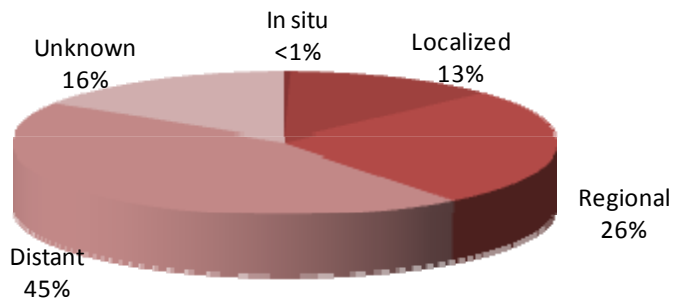
- From 2006-2010, there were 3,889 new pancreatic cancer cases among Tennesseans and the age-adjusted incidence rate was 11.6/100,000
- During the same time period, 3,651 deaths were reported, giving an age-adjusted mortality rate of 11.0/100,000
- Blacks had higher incidence and mortality rates than whites regardless of gender
- Males had higher incidence and mortality rates than females regardless of race
- The mortality-to-incidence ratio was 0.95, making pancreatic cancer the most deadly among the top 10 leading causes of cancer mortality in Tennessee

**Cancer Incidence and Mortality Time Trends
Pancreas, Tennessee, 2006-2010**



- There were no statistically significant changes in either pancreatic cancer incidence rates or mortality rates from 2006 to 2010

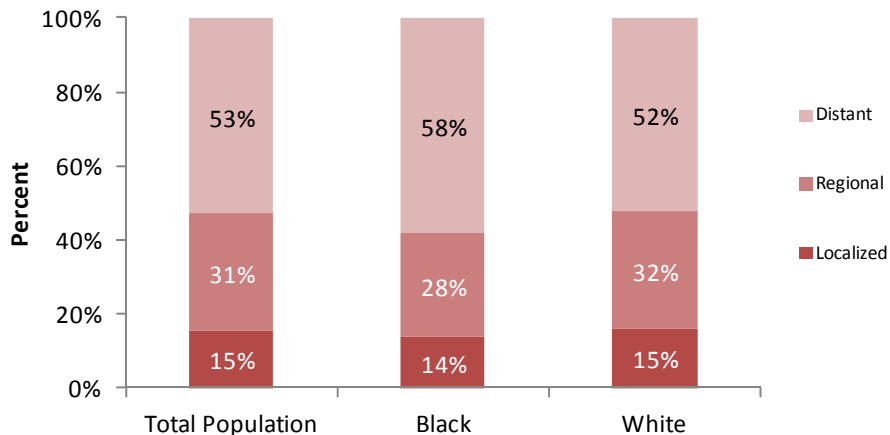
**Cancer Stage, Pancreas
Tennessee, 2006-2010**



- Only 15 pancreatic cancer cases (less than 1%) were diagnosed at the in situ stage
- 13% were diagnosed at the localized stage
- 26% were diagnosed at the regional stage
- 45% were diagnosed at the distant stage
- 16% of cases had unknown stage information

- Among cases with known stage, 84% were diagnosed at the regional or distant stage among the total population
- There was no statistically significant difference in percentage of cases diagnosed at late stages (i.e. the regional or distant stage) between blacks and whites

**Cancer Stage, Pancreas
By Race, Tennessee, 2006-2010**

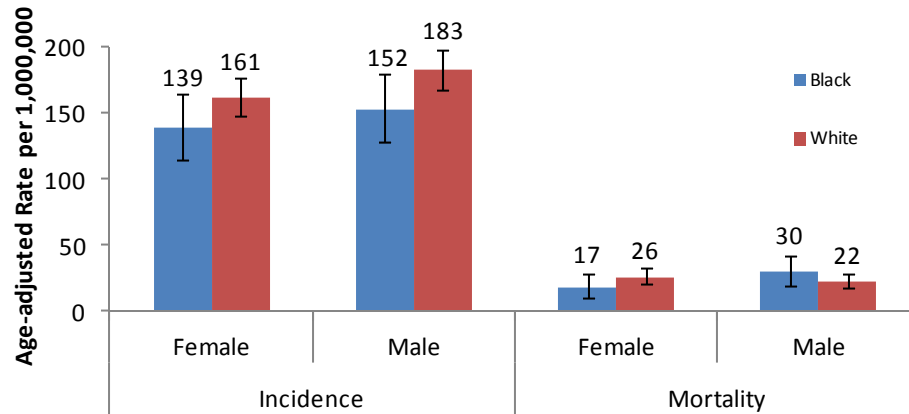


Cases with unknown stage were excluded. Numbers may not sum to 100% due to rounding errors

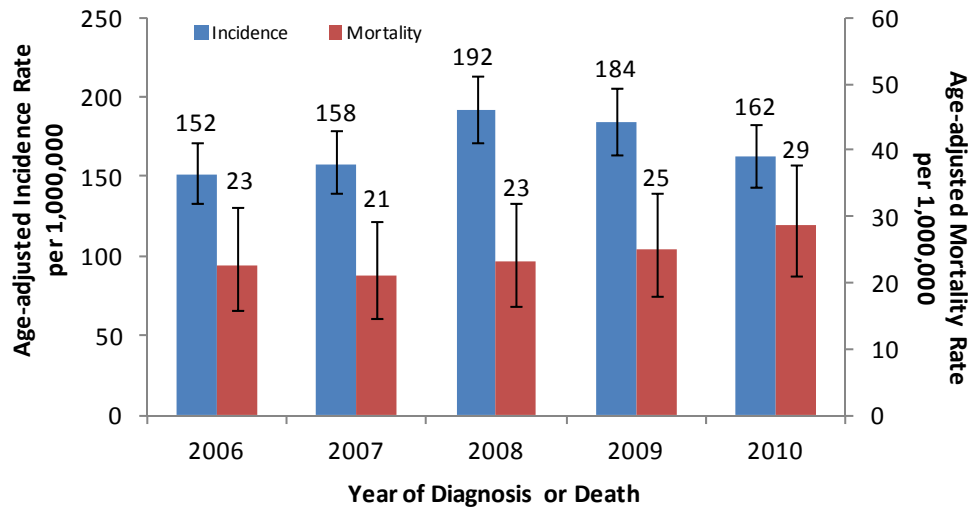
CHILDHOOD CANCER IN TENNESSEE, 2006-2010

CHILDHOOD CANCER BY GENDER AND RACE, AND TIME TREND

**Cancer Incidence and Mortality
Children 0-19 Years Old, Tennessee, 2006-2010**



**Cancer Incidence and Mortality Time Trends
Children 0-19 Years Old, Tennessee, 2006-2010**

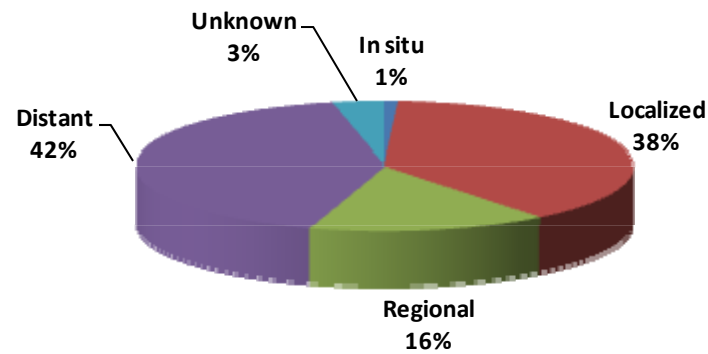


- A total of 1,417 new cancer cases in Tennessee were reported among children 19 years and younger from 2006-2010, and the age-adjusted incidence rate was 169.7/1,000,000
- A total of 201 children 19 years and younger died of cancer during that same five-year period, giving an age-adjusted mortality rate of 24.1/1,000,000
- There were no statistically significant differences between gender and/or race groups for either incidence or mortality rate
- There were no statistically significant changes in either childhood cancer incidence rates or mortality rates from 2006 to 2010

CHILDHOOD CANCER BY STAGE

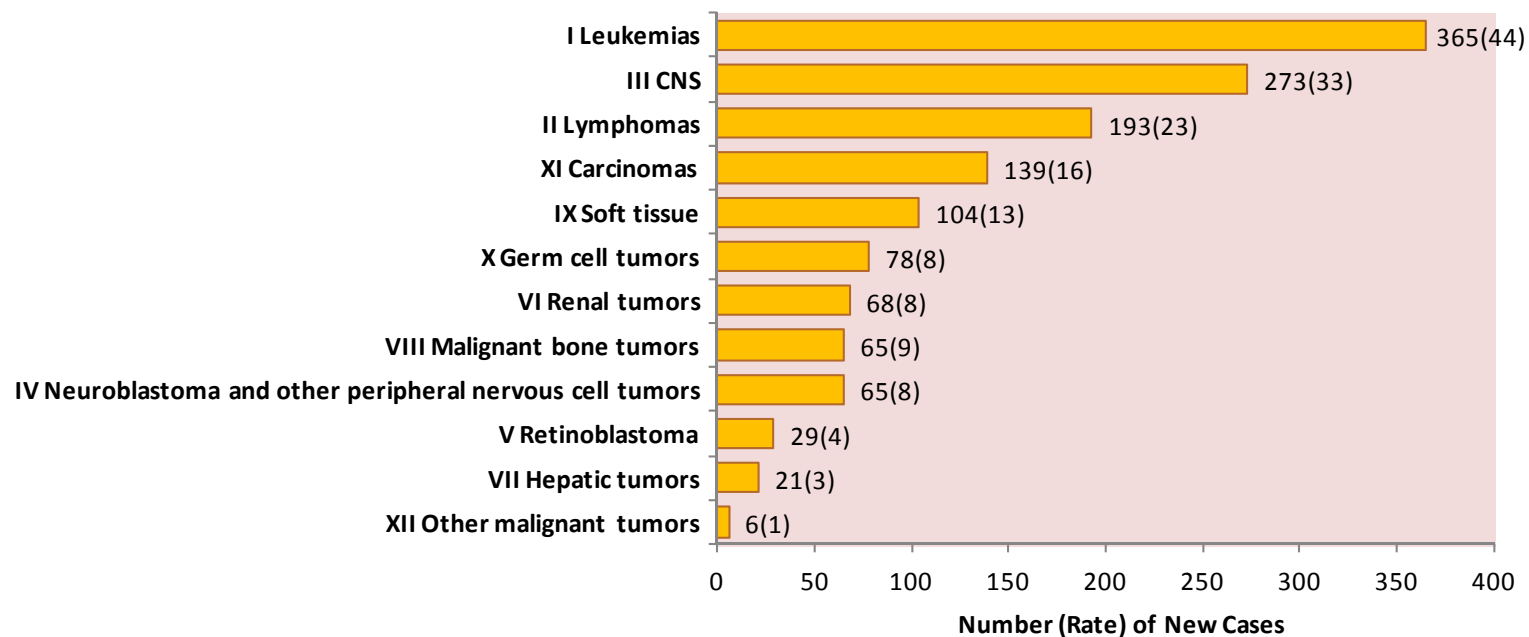
- Thirteen childhood cancer cases (1%) were diagnosed at the in situ stage
- 38% of cases were diagnosed at the localized stage
- 16% of cases were diagnosed at the regional stage
- 42% of cases were diagnosed at the distant stage
- 3% of cases had unknown stage information

**Cancer Stage, All Sites Combined
Children 0-19, Tennessee, 2006-2010**



LEADING CAUSES OF CHILDHOOD CANCER INCIDENCE

**Leading Causes of Cancer Incidence
Children 0-19 Years Old, Tennessee, 2006-2010**

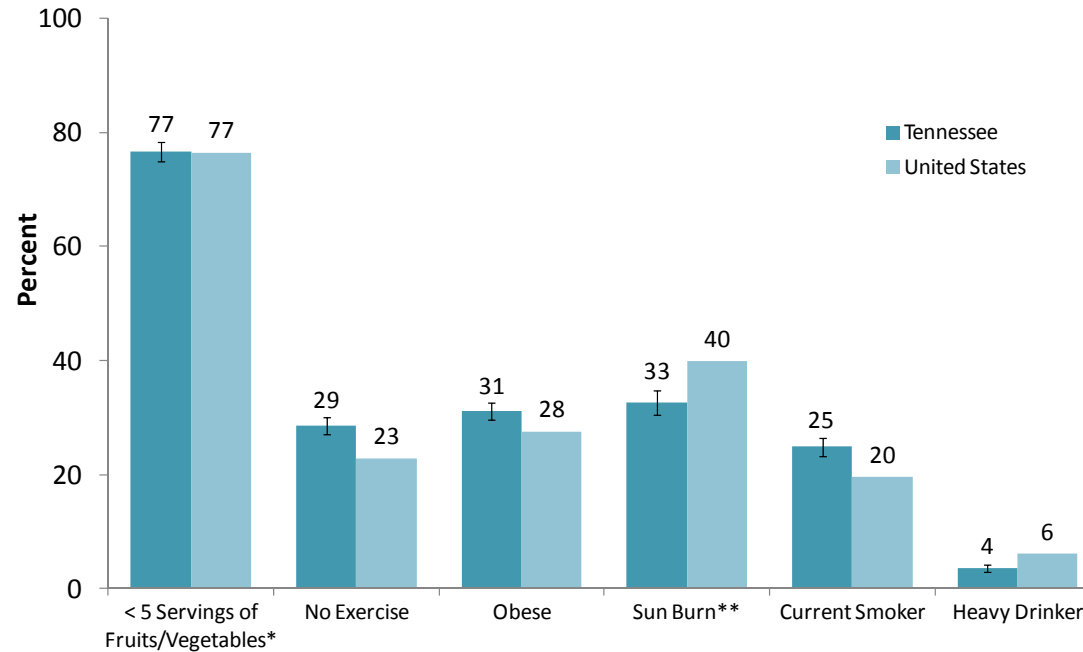


Note: Rate per 1,000,000. Excludes 11 cases not classified by International Classification of Childhood Cancers

- Leukemia was the 1st leading cause of cancer incidence among children in Tennessee
- The second leading cause was central nervous system cancer, followed by lymphomas (3rd), carcinomas (4th), and soft tissue tumors (5th)

CANCER RISK FACTOR PREVALENCE IN TENNESSEE, 2010

Prevalence of Risk Factors among Adults 18+ Years of Age
Tennessee and the United States, 2010



*Most current data on 5 servings of fruits and vegetables were for 2009

**Most current data on sunburn were for 2004

Data source: Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

- In 2009, 77% of adult Tennesseans did not eat a minimum of 5 fruit and vegetable servings a day, the same as nationally
- In 2010, 29% of adult Tennesseans did not exercise during the past month, compared to 23% nationwide
- 31% of adult Tennesseans were obese in 2010, compared to the U.S. median of 28%
- In 2004, the most current year for which state-level data are available, 33% of adult Tennesseans reported having had sunburns in the past 12 months, compared to the U.S. median of 40%
- 25% of adult Tennesseans were current cigarette smokers in 2010, compared to 20% nationally
- In 2010, 4% of Tennessee adults were heavy drinkers (i.e. adult men having more than two drinks per day and adult women having more than one drink per day), compared to the U.S. median of 6%

TECHNICAL NOTES

DEFINITION OF TERMS

Incidence Rate: The cancer incidence rate is the number of new cases of cancer diagnosed in a specified population during a specified time period, usually expressed as the number of new cases per 100,000 persons at risk. That is,

Incidence rate = (Number of new cases / Population at risk) * 100,000.

The numerator of the incidence rate is the number of newly diagnosed cancer cases; the denominator of the incidence rate is the size of the population at risk. The number of new cancers may include multiple primary cancers occurring in one patient. The primary site reported is the site of origin and not the metastatic site, the distant site to which the cancer has spread. In general, the incidence rate does not include recurrences. The incidence rate can be computed for a given type of cancer or for all cancers combined. Incidence rates presented in this report are for invasive cancers and both invasive and in situ bladder cancer only, unless otherwise specified. When cancer stage was considered, cases diagnosed at any stage, including the in situ stage, were included in the analyses.

Mortality Rate: The cancer mortality rate is the number of deaths with cancer as the underlying cause of death in a specified at-risk population in a given time period, usually expressed as the number of deaths due to cancer per 100,000 persons at risk. That is,

Mortality rate = (Number of cancer deaths / Population at risk) * 100,000.

Age-adjusted Rate: An age-adjusted incidence or mortality rate is a weighted average of the age-specific incidence or mortality rates, where the weights are the counts of persons in the corresponding age groups of a standard million population. Aging is an important risk factor for the development of cancer. Hence, if one population has a significantly greater proportion of older people than another population, one would expect a larger number of cancers in the older population. Therefore, rates need to be age-adjusted to remove the confounding effect of age before comparisons are made between populations with different age distributions. In this report, incidence and mortality rates are age-adjusted to the 2000 United States Standard Population with 19 age groups.

Mortality-to-Incidence Ratio (M:I): In this report, mortality-to-incidence ratio was calculated as the ratio of age-adjusted mortality and incidence rates. In a general sense, the higher the ratio, the higher fatality for the cancer or the lower the survival. However, for some cancers with very high fatality, e.g. pancreatic cancer, the M:I ratio may exceed 1 because the incidence and mortality cohorts are not exactly the same. In addition, the age-adjustment process may also make this possible because the age of a patient at death is likely greater than that at diagnosis; therefore, the patient may be accounted for at one age group for incidence and at an older age group for mortality.

Years of potential life lost: Years of potential life lost (YPLL) is another indicator often used to describe disease burden. It is an estimate of the years a person would have lived if he or she had not died prematurely. YPLL highlights the loss to society as a result of deaths in childhood, adolescence and early adulthood and is calculated as the number of years of potential life lost by each death occurring before a predetermined end point, set at age 75 years in this report.⁶

Confidence Interval: A confidence interval is a range of values that has a specified probability of containing the true rate of interest in the population. The width of a confidence interval reflects the amount of variability in the estimated rate. In this report, 95% confidence intervals were calculated using a

⁶ Premature Mortality in the United States: Public Health Issues in the Use of Years of Potential Life Lost. MMWR. 1986 Dec 19;35(2 Suppl.):1S-11S.

gamma distribution method developed by Fay and Feuer and modified by Tiwari, Clegg, and Zou.^{7,8}

Suppression of Rates and Counts: Due to concerns regarding statistical reliability, statistics were suppressed when there were 1-9 reported cases. Counts or rates that were suppressed in this report are denoted by “^”.

Cancer Coding: The Tennessee Cancer Registry uses the International Classification of Diseases for Oncology, 3rd Edition (ICD-O-3) to code site (topography), histology (morphology), and behavior (e.g. whether malignant or not) of incident cases.⁹ Cases are categorized according to the 2003 revised recodes of the Surveillance, Epidemiology and End Results (SEER) program of the National Cancer Institute (NCI). These recodes define standard groupings of primary cancer sites. Following CDC’s National Program of Cancer Registries (NPCR) and SEER cancer registries’ guidelines, the TCR considers as reportable all incident cases with a behavior code of 2 (in situ, noninvasive) or 3 (invasive, primary site only) in ICD–O–3 terminology with the exception of in situ cancer of the cervix. Benign brain tumors are also reportable but not included in this report. When reporting childhood cancers, the International Classification of Childhood Cancer, 3rd Edition

⁷ Fay MP, Feuer EJ. Confidence Intervals for Directly Standardized Rates: A Method Based on the Gamma Distribution. *Statistics in Medicine* 1997; 16(7):791-801.

⁸ Tiwari RC, Clegg LX, Zou Z. Efficient Interval Estimation for Age-adjusted Cancer Rates. *Statistical Methods in Medical Research* 2006; 15(6):547-69.

⁹ Young JL Jr, Roffers SD, Ries LAG, Fritz AG, Hurlbut AA (eds). SEER Summary Staging Manual - 2000: Codes and Coding Instructions, National Cancer Institute, NIH Pub. No. 01-4969, Bethesda, MD, 2001.

(ICCC-3) is used. For cancer mortality data, the International Classification of Diseases, 10th Revision (ICD-10), is used.

Cancer Staging: Stage provides a measure of disease progression, detailing the degree to which the cancer has advanced. The SEER summary stage method is used in this report, which describes cancers in five stages:¹⁰

- In situ: Abnormal cells are present only in the layer of cells in which they originated.
- Localized: Cancer is limited to the organ in which it began, without evidence of spread.
- Regional: Cancer has spread beyond the primary site to nearby lymph nodes or organs and tissues.
- Distant: Cancer has spread from the primary site to distant organs or distant lymph nodes.
- Unknown: There is not enough information to determine the stage.

Although in situ cancers are included in analyses of stage at diagnosis, these cancers (with the exception of in situ bladder cancer) are not included in incidence counts and rates.

Tennessee counties and regions: In this report, Tennessee's 95 counties are grouped into eight regions. Metropolitan counties are grouped into the regions where they are located.

¹⁰ SEER Program Coding and Staging Manual 2010. National Cancer Institute. <http://seer.cancer.gov/tools/codingmanuals/>.

STATISTICAL METHODS

SAS 9.2 was used to prepare the incidence and mortality data and SEER*Stat 8.1.2 was used for counting numbers of new cases and deaths due to cancer and calculating age-adjusted rates and confidence intervals.^{11,12}

Confidence intervals were used to test if the difference in incidence or mortality rates between two groups or two years, e.g. blacks vs. whites or 2006 vs. 2010, was statistically significant. If the 95% confidence intervals did not overlap, the difference was determined to be statistically significant at the 0.05 level. The comparison of confidence intervals method is a conservative test of statistical significance.^{13,14} Thus, findings of non-significant differences should be interpreted with caution, especially when two confidence intervals overlap only slightly.

Chi Square tests were used to test the differences in cancer stages, i.e. late stages (regional and distant combined) versus early stages (in situ and localized combined) between blacks and whites.

¹¹ SAS software is a trademark of SAS Institute Inc., 2011, SAS Campus Drive, Cary, North Carolina 27513, USA.

¹² Surveillance Research Program, National Cancer Institute SEER*Stat software (www.seer.cancer.gov/seerstat) version 7.1.0.

¹³ Fay MP, Feuer EJ. Confidence Intervals for Directly Standardized Rates: A Method Based on the Gamma Distribution. *Statistics in Medicine* 1997; 16(7):791-801.

¹⁴ Tiwari RC, Clegg LX, Zou Z. Efficient Interval Estimation for Age-adjusted Cancer Rates. *Statistical Methods in Medical Research* 2006; 15(6):547-69.

DATA SOURCES¹⁵

Tennessee Cancer Registry (TCR) Data: Cancer incidence data contain records of cases of primary cancer that were first diagnosed among Tennessee residents between January 1, 2006 and December 31, 2010, and were reported to the TCR as of July 2013. Six cases with unknown gender (1 case) or gender reported as hermaphrodite or transsexual (5 cases) were not included in this report. Cases with race other than white or black (1,161 cases) and unknown race (1,357 cases) were included in the “All Races” category. Five cases with unknown age were excluded from all analyses except the calculation of the leading causes of cancer incidence and cancer by stage. A total of 326 newly diagnosed cases that did not have information on resident county and region were included in the state level statistics.

Cancer Mortality Data: Record-level mortality data were from the Death Statistical System provided by the Office of Health Statistics, Tennessee Department of Health. There were no cases with missing age or gender information. 324 deaths were of race other than white and black and seven deaths had unknown race. These cases were included in the “All Races” category.

Behavioral Risk Factor Surveillance System (BRFSS) Data:

BRFSS is a CDC-funded, state-administered, random-digit-dialed telephone survey of the U.S. non-institutionalized population, 18 years of age and older that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury. BRFSS was established in 1984 by the Centers for Disease Control and Prevention (CDC); currently data are collected monthly in all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. Nationwide BRFSS data were the median for 50 states and Washington D.C.

State Cancer Profiles: State Cancer Profiles is a web-based, comprehensive, and interactive data query system provided by the National Cancer Institute (NCI) and the Centers for Disease Control & Prevention (CDC). Tennessee and United States cancer mortality trend data and Tennessee cancer rankings in incidence and mortality were based on age-adjusted rates of 50 states and Washington D.C. obtained online from the following website:

<http://statecancerprofiles.cancer.gov>.

¹⁵ Except where specified, data in all tables and graphs in this report are from the Tennessee Cancer Registry and/or the Death Statistical System as described above.

APPENDICIES

APPENDIX I. INCIDENCE AND MORTALITY OF COMMON CANCERS

1. CANCER INCIDENCE AND MORTALITY, LUNG AND BRONCHUS, TENNESSEE, 2006-2010

		Incidence			Mortality			M:I Ratio‡
		Count**	Rate***	CI	Count**	Rate***	CI	
Gender Race								
Both*	All Races†	27,332	79.8	78.8 - 80.7	21,728	64.3	63.4 - 65.1	0.81
	Black	3,048	76.2	73.4 - 79.1	2,538	65.6	63.0 - 68.3	0.86
	White	24,082	80.4	79.4 - 81.5	19,103	64.5	63.6 - 65.4	0.80
Female	All Races†	11,682	61.8	60.7 - 62.9	8,765	46.3	45.4 - 47.3	0.75
	Black	1,296	56.1	53.0 - 59.3	989	43.7	41.0 - 46.6	0.78
	White	10,295	62.9	61.7 - 64.2	7,725	47.0	46.0 - 48.1	0.75
Male	All Races†	15,650	104.4	102.7 - 106.1	12,963	89.2	87.6 - 90.8	0.85
	Black	1,752	106.7	101.3 - 112.2	1,549	100.4	95.1 - 106.0	0.94
	White	13,787	104.2	102.4 - 106.0	11,378	88.4	86.8 - 90.1	0.85
Age at Diagnosis or Death								
	0-19	^	^	^ - ^	0	0.0	0.0 - 0.0	^
	20-44	516	5.2	4.8 - 5.7	324	3.3	2.9 - 3.7	0.63
	45-64	9,649	109.0	106.8 - 111.2	6,796	76.6	74.8 - 78.4	0.70
	65+	17,163	424.4	418.0 - 430.8	14,608	364.4	358.5 - 370.4	0.86
Year of Diagnosis or Death								
	2006	5,402	83.0	80.8 - 85.2	4,358	67.6	65.6 - 69.7	0.81
	2007	5,278	79.1	76.9 - 81.2	4,325	65.5	63.6 - 67.5	0.83
	2008	5,448	79.2	77.0 - 81.3	4,281	63.2	61.3 - 65.2	0.80
	2009	5,649	80.3	78.2 - 82.5	4,364	63.1	61.3 - 65.1	0.79
	2010	5,555	77.6	75.5 - 79.7	4,400	62.2	60.3 - 64.1	0.80

*Excludes hermaphrodites and transsexuals

**Total counts from 2005-2009

***Age-adjusted annual rate per 100,000

†Includes whites, blacks, other races and those missing race information

‡Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

2. CANCER INCIDENCE AND MORTALITY, PROSTATE, TENNESSEE, 2006-2010

		Incidence			Mortality			M:I Ratio‡
		Count*	Rate**	CI	Count*	Rate**	CI	
Gender Race								
Male	All Races†	22,882	145.2	143.3 - 147.2	2,984	25.1	24.2 - 26.0	0.17
	Black	3,589	212.2	204.8 - 219.8	663	60.2	55.5 - 65.1	0.28
	White	18,956	136.3	134.3 - 138.3	2,309	21.7	20.8 - 22.6	0.16
Age at Diagnosis or Death								
0-19		^	^	^ - ^	0	0.0	0.0 - 0.1	^
20-44		133	2.7	2.3 - 3.3	^	^	^ - ^	^
45-64		9,243	212.3	207.9 - 216.6	344	7.7	6.9 - 8.6	0.04
65+		13,502	767.9	754.7 - 781.2	2,637	184.6	177.5 - 191.9	0.24
Year of Diagnosis or Death								
2006		4,203	143.6	139.1 - 148.1	601	27.6	25.3 - 29.9	0.19
2007		4,763	157.8	153.2 - 162.5	631	27.0	24.8 - 29.2	0.17
2008		4,873	153.9	149.5 - 158.5	571	24.1	22.1 - 26.3	0.16
2009		4,510	137.8	133.7 - 142.0	581	23.3	21.4 - 25.3	0.17
2010		4,533	134.1	130.1 - 138.2	600	23.8	21.8 - 25.8	0.18

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Includes whites, blacks, other races and those missing race information

‡Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

3. CANCER INCIDENCE AND MORTALITY, FEMALE BREAST, TENNESSEE, 2006-2010

		Incidence			Mortality			M:I
		Count*	Rate**	CI	Count*	Rate**	CI	Ratio‡
Gender Race								
Female	All Races†	21,979	119.7	118.1 - 121.3	4,357	23.1	22.4 - 23.8	0.19
	Black	3,158	124.6	120.2 - 129.1	852	35.0	32.7 - 37.5	0.28
	White	18,529	118.5	116.7 - 120.2	3,480	21.4	20.7 - 22.1	0.18
Age at Diagnosis or Death								
	0-19	0	0.0	0.0 - 0.1	0	0.0	0.0 - 0.1	^
	20-44	2,418	48.3	46.3 - 50.2	274	5.5	4.8 - 6.2	0.11
	45-64	10,406	236.9	232.4 - 241.6	1,678	37.6	35.8 - 39.5	0.16
	65+	9,155	391.5	383.5 - 399.6	2,405	101.1	97.1 - 105.3	0.26
Year of Diagnosis or Death								
	2006	4,193	118.9	115.3 - 122.6	885	24.5	22.9 - 26.2	0.21
	2007	4,259	118.3	114.8 - 122.0	873	23.5	21.9 - 25.1	0.20
	2008	4,433	120.7	117.1 - 124.4	847	22.4	20.9 - 24.0	0.19
	2009	4,575	122.4	118.9 - 126.1	882	23.1	21.5 - 24.7	0.19
	2010	4,519	118.0	114.5 - 121.6	870	22.3	20.8 - 23.9	0.19

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Includes whites, blacks, other races and those missing race information

‡Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

4. CANCER INCIDENCE AND MORTALITY, COLON AND RECTUM, TENNESSEE, 2006-2010

		Incidence			Mortality			M:I Ratio‡
		Count**	Rate***	CI	Count**	Rate***	CI	
Gender Race								
Both*	All Races†	15,634	46.4	45.6 - 47.1	5,958	18.0	17.5 - 18.5	0.39
	Black	2,305	56.9	54.5 - 59.3	1,053	28.0	26.3 - 29.8	0.49
	White	13,120	44.8	44.0 - 45.6	4,871	16.8	16.3 - 17.3	0.38
Female	All Races	7,625	40.6	39.7 - 41.5	2,903	15.2	14.6 - 15.8	0.37
	Black	1,217	51.1	48.2 - 54.1	520	22.8	20.9 - 24.9	0.45
	White	6,312	39.0	38.0 - 40.0	2,366	14.2	13.6 - 14.8	0.36
Male	All Races	8,009	53.7	52.5 - 55.0	3,055	21.7	20.9 - 22.5	0.40
	Black	1,088	65.4	61.2 - 69.8	533	36.5	33.2 - 40.0	0.56
	White	6,808	52.1	50.9 - 53.4	2,505	20.1	19.3 - 21.0	0.39
Age at Diagnosis or Death								
0-19		^	^	^ - ^	^	^	^ - ^	^
20-44		870	8.7	8.1 - 9.3	230	2.3	2.0 - 2.6	0.26
45-64		5,724	65.9	64.2 - 67.7	1,796	20.5	19.6 - 21.5	0.31
65+		9,033	225.7	221.1 - 230.5	3,931	99.5	96.4 - 102.7	0.44
Year of Diagnosis or Death								
2006		3,182	49.4	47.6 - 51.1	1,114	17.8	16.7 - 18.9	0.36
2007		3,176	48.1	46.4 - 49.8	1,229	18.9	17.8 - 19.9	0.39
2008		3,226	47.8	46.2 - 49.5	1,225	18.5	17.5 - 19.6	0.39
2009		3,011	43.8	42.3 - 45.5	1,189	17.6	16.6 - 18.6	0.40
2010		3,039	43.3	41.7 - 44.9	1,201	17.3	16.3 - 18.3	0.40

*Excludes hermaphrodites and transsexuals

**Total counts from 2006-2010

***Age-adjusted annual rate per 100,000

†Includes whites, blacks, other races and those missing race information

‡Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

5. CANCER INCIDENCE AND MORTALITY, MELANOMA OF THE SKIN, TENNESSEE, 2006-2010

		Incidence			Mortality			M:I
		Count**	Rate***	CI	Count**	Rate***	CI	Ratio‡
Gender Race								
Both*	All Races†	7,015	21.1	20.6 - 21.6	994	3.0	2.8 - 3.2	0.14
	Black	40	1.1	0.7 - 1.4	23	0.7	0.4 - 1.0	0.64
	White	6,846	24.2	23.6 - 24.7	969	3.4	3.2 - 3.6	0.14
Female	All Races	2,986	17.1	16.5 - 17.7	321	1.8	1.6 - 2.0	0.11
	Black	30	1.3	0.9 - 1.8	14	0.6	0.3 - 1.0	0.46
	White	2,886	20.0	19.2 - 20.7	305	2.0	1.7 - 2.2	0.10
Male	All Races	4,029	27.0	26.1 - 27.8	673	4.7	4.4 - 5.1	0.17
	Black	10	0.7	0.3 - 1.3	^	^	^ - ^	^
	White	3,960	30.3	29.3 - 31.3	664	5.3	4.9 - 5.7	0.17
Age at Diagnosis or Death								
0-19		43	0.5	0.4 - 0.7	0	0.0	0.0 - 0.0	0.00
20-44		1,205	11.8	11.2 - 12.5	85	0.8	0.7 - 1.0	0.07
45-64		2,811	33.1	31.9 - 34.4	351	4.1	3.6 - 4.5	0.12
65+		2,956	73.5	70.9 - 76.2	558	14.1	12.9 - 15.3	0.19
Year of Diagnosis or Death								
2006		1,307	20.5	19.4 - 21.6	195	3.1	2.6 - 3.5	0.15
2007		1,379	21.1	20.0 - 22.2	172	2.6	2.3 - 3.1	0.12
2008		1,260	19.0	17.9 - 20.1	204	3.1	2.7 - 3.5	0.16
2009		1,575	23.2	22.1 - 24.4	199	2.9	2.5 - 3.4	0.13
2010		1,494	21.6	20.5 - 22.8	224	3.2	2.8 - 3.7	0.15

*Excludes hermaphrodites and transsexuals

**Total counts from 2006-2010

***Age-adjusted annual rate per 100,000

†Includes whites, blacks, other races and those missing race information

‡Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

6. CANCER INCIDENCE AND MORTALITY, PANCREAS, TENNESSEE, 2006-2010

		Incidence			Mortality			M:I Ratio‡
		Count**	Rate***	CI	Count**	Rate***	CI	
Gender Race								
Both*	All Races†	3,889	11.6	11.2 - 11.9	3,651	11.0	10.6 - 11.3	0.95
	Black	550	14.4	13.1 - 15.6	513	13.8	12.6 - 15.1	0.96
	White	3,299	11.2	10.8 - 11.6	3,122	10.7	10.3 - 11.1	0.96
Female	All Races	1,920	10.2	9.7 - 10.7	1,782	9.4	9.0 - 9.8	0.92
	Black	287	12.6	11.2 - 14.2	274	12.4	11.0 - 14.0	0.98
	White	1,612	9.9	9.4 - 10.4	1,500	9.1	8.6 - 9.5	0.92
Male	All Races	1,969	13.4	12.7 - 14.0	1,869	13.1	12.4 - 13.7	0.98
	Black	263	16.9	14.8 - 19.3	239	15.9	13.8 - 18.3	0.94
	White	1,687	13.0	12.3 - 13.6	1,622	12.8	12.2 - 13.4	0.98
Age at Diagnosis or Death								
0-19		^	^	^ - ^	^	^	^ - ^	^
20-44		130	1.3	1.1 - 1.6	73	0.7	0.6 - 0.9	0.54
45-64		1,295	14.7	13.9 - 15.5	1,061	12.0	11.3 - 12.8	0.82
65+		2,462	61.9	59.4 - 64.4	2,516	63.5	61.0 - 66.0	1.03
Year of Diagnosis or Death								
2006		700	10.9	10.1 - 11.7	664	10.4	9.6 - 11.2	0.95
2007		754	11.5	10.7 - 12.4	699	10.8	10.0 - 11.6	0.94
2008		797	11.9	11.0 - 12.7	759	11.4	10.6 - 12.3	0.96
2009		807	11.9	11.1 - 12.7	750	11.1	10.3 - 11.9	0.93
2010		831	11.7	10.9 - 12.5	779	11.2	10.4 - 12.0	0.96

*Excludes hermaphrodites and transsexuals

**Total counts from 2006-2010

***Age-adjusted annual rate per 100,000

†Includes whites, blacks, other races and those missing race information

‡Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

APPENDIX II. CANCER INCIDENCE AND MORTALITY, BY SITE, TENNESSEE, 2006-2010

Primary Cancer Site	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
All Sites	163,043	479.9	477.5 - 482.3	66,148	198.2	196.7 - 199.7	0.41
Oral Cavity and Pharynx	4,115	11.8	11.4 - 12.2	1,033	3.0	2.8 - 3.2	0.25
Lip	243	0.7	0.7 - 0.8	13	0.0	0.0 - 0.1	0.00
Tongue	1,140	3.2	3.0 - 3.4	260	0.8	0.7 - 0.8	0.25
Salivary Gland	443	1.3	1.2 - 1.5	95	0.3	0.2 - 0.4	0.23
Floor of Mouth	242	0.7	0.6 - 0.8	16	0.0	0.0 - 0.1	0.00
Gum and Other Mouth	607	1.8	1.6 - 1.9	147	0.4	0.4 - 0.5	0.22
Nasopharynx	199	0.6	0.5 - 0.7	76	0.2	0.2 - 0.3	0.33
Tonsil	766	2.1	2.0 - 2.3	108	0.3	0.2 - 0.4	0.14
Oropharynx	166	0.5	0.4 - 0.5	83	0.2	0.2 - 0.3	0.40
Hypopharynx	224	0.6	0.5 - 0.7	29	0.1	0.1 - 0.1	0.17
Other Oral Cavity and Pharynx	85	0.2	0.2 - 0.3	206	0.6	0.5 - 0.7	3.00
Digestive System	27,752	82.0	81.0 - 83.0	14,788	44.2	43.5 - 45.0	0.54
Esophagus	1,623	4.7	4.4 - 4.9	1,411	4.1	3.9 - 4.3	0.87
Stomach	2,033	6.1	5.8 - 6.3	1,138	3.5	3.3 - 3.7	0.57
Small Intestine	747	2.2	2.0 - 2.4	134	0.4	0.3 - 0.5	0.18
Colon and Rectum	15,634	46.4	45.6 - 47.1	5,958	18.0	17.5 - 18.5	0.39
Colon excluding Rectum	11,264	33.6	33.0 - 34.2	4,843	14.7	14.2 - 15.1	0.44
Cecum	2,336	7.0	6.8 - 7.3	~	~	~ - ~	~
Appendix	251	0.8	0.7 - 0.9	~	~	~ - ~	~
Ascending Colon	2,319	6.9	6.7 - 7.2	~	~	~ - ~	~
Hepatic Flexure	538	1.6	1.5 - 1.7	~	~	~ - ~	~
Transverse Colon	955	2.9	2.7 - 3.1	~	~	~ - ~	~
Splenic Flexure	334	1.0	0.9 - 1.1	~	~	~ - ~	~
Descending Colon	713	2.1	1.9 - 2.3	~	~	~ - ~	~
Sigmoid Colon	2,883	8.5	8.2 - 8.8	~	~	~ - ~	~
Large Intestine, NOS	935	2.8	2.6 - 3.0	~	~	~ - ~	~
Rectum and Rectosigmoid Junction	4,370	12.8	12.4 - 13.2	1,115	3.3	3.1 - 3.5	0.26
Rectosigmoid Junction	1,219	3.6	3.4 - 3.8	~	~	~ - ~	~
Rectum	3,151	9.2	8.9 - 9.5	~	~	~ - ~	~
Anus, Anal Canal and Anorectum	645	1.9	1.7 - 2.0	99	0.3	0.2 - 0.4	0.16
Liver and Intrahepatic Bile Duct	2,070	5.9	5.7 - 6.2	1,873	5.5	5.2 - 5.7	0.93
Liver	1,913	5.5	5.2 - 5.7	1,511	4.4	4.2 - 4.6	0.80
Intrahepatic Bile Duct	157	0.5	0.4 - 0.5	362	1.1	1.0 - 1.2	2.20
Gallbladder	283	0.8	0.8 - 1.0	161	0.5	0.4 - 0.6	0.63
Other Biliary	472	1.4	1.3 - 1.5	149	0.5	0.4 - 0.5	0.36
Pancreas	3,889	11.6	11.2 - 11.9	3,651	11.0	10.6 - 11.3	0.95
Retroperitoneum	107	0.3	0.3 - 0.4	25	0.1	0.0 - 0.1	0.33
Peritoneum, Omentum and Mesentery	172	0.5	0.4 - 0.6	74	0.2	0.2 - 0.3	0.40
Other Digestive Organs	77	0.2	0.2 - 0.3	115	0.3	0.3 - 0.4	1.50

Continued on next page

Appendix II Continued

Primary Cancer Site	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Respiratory System	29,324	85.4	84.5 - 86.4	22,315	65.9	65.1 - 66.8	0.77
Nose, Nasal Cavity and Middle Ear	249	0.7	0.6 - 0.8	69	0.2	0.2 - 0.3	0.29
Larynx	1,692	4.8	4.6 - 5.0	489	1.4	1.3 - 1.5	0.29
Lung and Bronchus	27,332	79.8	78.8 - 80.7	21,728	64.3	63.4 - 65.1	0.81
Pleura	183	0.5	0.5 - 0.6	^	^	^ - ^	^
Trachea, Mediastinum and Other Respiratory Organs	47	0.1	0.1 - 0.2	25	0.1	0.0 - 0.1	1.00
Bones and Joints	303	1.0	0.8 - 1.1	139	0.4	0.4 - 0.5	0.40
Soft Tissue including Heart	1,027	3.1	2.9 - 3.3	442	1.3	1.2 - 1.5	0.42
Skin excluding Basal and Squamous	7,491	22.6	22.0 - 23.1	1,424	4.3	4.1 - 4.5	0.19
Melanoma of the Skin	7,015	21.1	20.6 - 21.6	994	3.0	2.8 - 3.2	0.14
Other Non-Epithelial Skin	476	1.5	1.3 - 1.6	430	1.3	1.2 - 1.4	0.87
Breast (Males Only)	256	1.7	1.5 - 1.9	4,400	13.1	12.7 - 13.5	7.71
Breast (Females Only)	21,979	119.7	118.1 - 121.3	4,357	23.1	22.4 - 23.8	0.19
Female Genital System	8,239	45.3	44.3 - 46.3	2,821	15.1	14.5 - 15.7	0.33
Cervix Uteri	1,435	8.7	8.2 - 9.2	463	2.6	2.4 - 2.9	0.30
Corpus and Uterus, NOS	3,791	20.2	19.6 - 20.9	693	3.6	3.4 - 3.9	0.18
Corpus Uteri	3,639	19.4	18.8 - 20.1	289	1.5	1.3 - 1.7	0.08
Uterus, NOS	152	0.8	0.7 - 1.0	404	2.1	1.9 - 2.4	2.63
Ovary	2,220	12.0	11.5 - 12.6	1,447	7.7	7.3 - 8.1	0.64
Vagina	171	0.9	0.8 - 1.1	63	0.3	0.3 - 0.4	0.33
Vulva	507	2.8	2.5 - 3.0	110	0.6	0.5 - 0.7	0.21
Other Female Genital Organs	115	0.6	0.5 - 0.8	45	0.2	0.2 - 0.3	0.33
Male Genital System	23,729	150.9	149.0 - 152.9	3,058	25.6	24.7 - 26.5	0.17
Prostate	22,882	145.2	143.3 - 147.2	2,984	25.1	24.2 - 26.0	0.17
Testis	709	4.8	4.4 - 5.2	38	0.2	0.2 - 0.3	0.04
Penis	118	0.8	0.7 - 1.0	31	0.2	0.2 - 0.3	0.25
Other Male Genital Organs	20	0.1	0.1 - 0.2	^	^	^ - ^	^
Urinary System	12,554	37.2	36.5 - 37.8	2,877	8.7	8.4 - 9.1	0.23
Urinary Bladder	6,619	19.8	19.4 - 20.3	1,364	4.2	4.0 - 4.5	0.21
Kidney and Renal Pelvis	5,668	16.5	16.1 - 17.0	1,425	4.2	4.0 - 4.5	0.25
Ureter	190	0.6	0.5 - 0.7	38	0.1	0.1 - 0.2	0.17
Other Urinary Organs	77	0.2	0.2 - 0.3	50	0.2	0.1 - 0.2	1.00
Eye and Orbit	353	1.1	0.9 - 1.2	46	0.1	0.1 - 0.2	0.09
Brain and Other Nervous System	2,283	7.0	6.7 - 7.2	1,622	4.8	4.6 - 5.1	0.69
Brain	2,179	6.6	6.3 - 6.9	~	~	~ - ~	~
Cranial Nerves Other Nervous System	104	0.3	0.3 - 0.4	~	~	~ - ~	~
Endocrine System	4,138	12.7	12.3 - 13.1	276	0.9	0.8 - 1.0	0.07
Thyroid	3,916	12.0	11.7 - 12.4	165	0.5	0.4 - 0.6	0.04
Other Endocrine including Thymus	222	0.7	0.6 - 0.8	111	0.4	0.3 - 0.4	0.57

Continued on next page

Appendix II Continued

Primary Cancer Site	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Lymphoma	7,229	21.8	21.3 - 22.3	2,419	7.4	7.1 - 7.7	0.34
Hodgkin Lymphoma	797	2.6	2.4 - 2.7	134	0.4	0.3 - 0.5	0.15
Hodgkin - Nodal	764	2.4	2.3 - 2.6	~	~	~ - ~	~
Hodgkin - Extranodal	33	0.1	0.1 - 0.1	~	~	~ - ~	~
Non-Hodgkin Lymphoma	6,432	19.2	18.8 - 19.7	2,285	7.0	6.7 - 7.3	0.36
NHL - Nodal	4,611	13.8	13.4 - 14.2	~	~	~ - ~	~
NHL - Extranodal	1,821	5.5	5.2 - 5.7	~	~	~ - ~	~
Myeloma	2,048	6.0	5.8 - 6.3	1,261	3.8	3.6 - 4.1	0.63
Leukemia	4,051	12.4	12.0 - 12.8	2,437	7.5	7.2 - 7.8	0.60
Lymphocytic Leukemia	1,969	6.0	5.7 - 6.3	750	2.3	2.2 - 2.5	0.38
Acute Lymphocytic Leukemia	439	1.5	1.3 - 1.6	151	0.5	0.4 - 0.5	0.33
Chronic Lymphocytic Leukemia	1,398	4.2	3.9 - 4.4	554	1.7	1.6 - 1.9	0.40
Other Lymphocytic Leukemia	132	0.4	0.3 - 0.5	45	0.1	0.1 - 0.2	0.25
Myeloid and Monocytic Leukemia	1,853	5.7	5.4 - 5.9	1,143	3.5	3.3 - 3.7	0.61
Acute Myeloid Leukemia	1,248	3.8	3.6 - 4.0	953	2.9	2.7 - 3.1	0.76
Acute Monocytic Leukemia	84	0.3	0.2 - 0.3	17	0.1	0.0 - 0.1	0.33
Chronic Myeloid Leukemia	443	1.3	1.2 - 1.5	112	0.4	0.3 - 0.4	0.31
Other Myeloid/Monocytic Leukemia	78	0.2	0.2 - 0.3	61	0.2	0.1 - 0.2	1.00
Other Leukemia	229	0.7	0.6 - 0.8	544	1.7	1.5 - 1.8	2.43
Other Acute Leukemia	89	0.3	0.2 - 0.3	230	0.7	0.6 - 0.8	2.33
Aleukemic, Subleukemic and NOS	140	0.4	0.4 - 0.5	314	1.0	0.9 - 1.1	2.50
Mesothelioma	260	0.8	0.7 - 0.9	233	0.7	0.6 - 0.8	0.88
Kaposi Sarcoma	67	0.2	0.2 - 0.3	^	^	^ - ^	^
Miscellaneous	5,830	17.6	17.2 - 18.1	4,552	13.7	13.3 - 14.1	0.78

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

~Corresponding disease categories not available in mortality data

Note that 179 pleura cancer incident cases were included with mesotheliomas, but these cases were not included in the respiratory system total

APPENDIX III. CANCER INCIDENCE AND MORTALITY, ALL SITES COMBINED, BY GENDER, RACE AND RESIDENT REGION, TENNESSEE, 2006-2010

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Total Population							
Tennessee	163,043	479.9	477.5 - 482.3	66,148	198.2	196.7 - 199.7	0.41
East Region	34,258	499.4	494.1 - 504.8	13,436	197.3	194.0 - 200.7	0.40
Mid-Cumberland Region	37,282	481.3	476.3 - 486.3	14,103	192.4	189.2 - 195.6	0.40
Northeast Region	14,884	465.2	457.6 - 472.9	6,448	199.7	194.8 - 204.8	0.43
Northwest Region	7,357	464.1	453.4 - 475.1	3,529	217.2	210.0 - 224.6	0.47
South Central Region	10,255	471.6	462.4 - 481.0	4,397	203.2	197.1 - 209.3	0.43
Southeast Region	18,708	488.3	481.2 - 495.5	7,184	187.9	183.5 - 192.3	0.38
Southwest Region	29,817	464.9	459.5 - 470.3	12,731	205.7	202.0 - 209.3	0.44
Upper-Cumberland Region	10,189	481.0	471.5 - 490.7	4,320	202.6	196.5 - 208.9	0.42
Female							
Tennessee	77,099	419.4	416.4 - 422.4	30,098	159.4	157.6 - 161.3	0.38
East Region	15,783	431.0	424.2 - 437.9	6,117	160.3	156.3 - 164.4	0.37
Mid-Cumberland Region	18,027	423.2	417.0 - 429.5	6,476	154.6	150.8 - 158.5	0.37
Northeast Region	7,215	426.2	416.2 - 436.5	2,931	163.4	157.4 - 169.5	0.38
Northwest Region	3,386	399.1	385.4 - 413.2	1,589	172.7	164.2 - 181.7	0.43
South Central Region	4,826	415.7	403.9 - 427.9	1,938	159.7	152.6 - 167.1	0.38
Southeast Region	8,706	423.0	414.0 - 432.2	3,139	145.9	140.7 - 151.1	0.34
Southwest Region	14,455	404.2	397.6 - 411.0	6,049	168.5	164.2 - 172.8	0.42
Upper-Cumberland Region	4,560	415.0	402.7 - 427.6	1,859	160.6	153.3 - 168.3	0.39
Male							
Tennessee	85,944	567.0	563.1 - 571.0	36,050	255.6	252.8 - 258.3	0.45
East Region	18,475	594.7	585.9 - 603.7	7,319	250.7	244.8 - 256.7	0.42
Mid-Cumberland Region	19,255	567.0	558.6 - 575.5	7,627	249.7	243.9 - 255.7	0.44
Northeast Region	7,669	522.6	510.6 - 534.7	3,517	252.9	244.4 - 261.7	0.48
Northwest Region	3,971	554.7	537.2 - 572.6	1,940	279.9	267.3 - 292.9	0.50
South Central Region	5,429	553.0	537.9 - 568.4	2,459	265.6	254.8 - 276.7	0.48
Southeast Region	10,002	582.8	571.1 - 594.7	4,045	250.2	242.3 - 258.3	0.43
Southwest Region	15,362	557.2	548.0 - 566.4	6,682	264.8	258.2 - 271.5	0.48
Upper-Cumberland Region	5,629	567.4	552.2 - 582.9	2,461	259.2	248.7 - 270.1	0.46
Black							
Tennessee	20,196	482.1	475.2 - 489.1	9,313	243.0	237.9 - 248.2	0.50
East Region	1,122	478.3	450.0 - 507.7	497	222.9	203.3 - 243.8	0.47
Mid-Cumberland Region	4,850	496.4	481.8 - 511.3	2,062	240.1	229.4 - 251.2	0.48
Northeast Region	212	393.7	340.8 - 452.2	99	200.7	162.0 - 245.3	0.51
Northwest Region	693	469.6	434.9 - 506.4	381	264.4	238.2 - 292.6	0.56
South Central Region	563	430.0	394.7 - 467.7	274	219.9	194.2 - 247.9	0.51
Southeast Region	1,828	501.3	478.0 - 525.3	726	211.2	195.7 - 227.4	0.42
Southwest Region	10,798	479.1	469.7 - 488.6	5,214	253.0	245.9 - 260.3	0.53
Upper-Cumberland Region	126	544.4	452.0 - 649.5	60	281.9	214.2 - 363.2	0.52
White							
Tennessee	140,632	478.9	476.4 - 481.5	56,504	193.4	191.8 - 195.1	0.40
East Region	32,788	500.0	494.5 - 505.5	12,887	197.3	193.8 - 200.8	0.39
Mid-Cumberland Region	31,839	481.4	476.1 - 486.8	11,910	187.7	184.3 - 191.2	0.39
Northeast Region	14,576	466.3	458.6 - 474.1	6,340	200.5	195.5 - 205.5	0.43
Northwest Region	6,593	461.0	449.7 - 472.5	3,143	213.3	205.8 - 221.0	0.46
South Central Region	9,616	473.9	464.4 - 483.6	4,107	202.5	196.3 - 208.9	0.43
Southeast Region	16,706	487.8	480.3 - 495.4	6,431	186.7	182.1 - 191.3	0.38
Southwest Region	18,444	453.6	447.0 - 460.3	7,438	182.9	178.7 - 187.1	0.40
Upper-Cumberland Region	10,002	480.2	470.7 - 490.0	4,248	202.4	196.2 - 208.7	0.42

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

Note that the number of cases by region may not sum up to the state total due to records with missing region information

APPENDIX IV. CANCER INCIDENCE AND MORTALITY, ALL SITES COMBINED, BY RESIDENT COUNTY, TENNESSEE, 2006-2010

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Tennessee	163,043	479.9	477.5 - 482.3	66,148	198.2	196.7 - 199.7	0.41
East Region	34,258	499.4	494.1 - 504.8	13,436	197.3	194.0 - 200.7	0.40
Anderson	2,494	515.5	495.1 - 536.6	1,076	212.0	199.3 - 225.3	0.41
Blount	3,713	500.9	484.7 - 517.6	1,341	180.3	170.7 - 190.4	0.36
Campbell	1,345	518.6	490.7 - 547.9	582	226.7	208.3 - 246.3	0.44
Claiborne	990	502.7	471.1 - 536.0	435	222.0	201.1 - 244.5	0.44
Cocke	1,064	469.9	441.3 - 499.9	460	206.6	187.7 - 227.1	0.44
Grainger	705	517.9	479.3 - 559.0	281	213.1	188.2 - 240.6	0.41
Hamblen	1,810	490.0	467.3 - 513.5	749	202.6	188.2 - 217.9	0.41
Jefferson	1,501	494.1	468.7 - 520.5	593	201.2	184.9 - 218.6	0.41
Knox	11,380	501.1	491.9 - 510.5	4,234	188.1	182.4 - 193.9	0.38
Loudon	1,613	463.2	439.8 - 487.8	603	176.6	162.3 - 191.9	0.38
Monroe	1,428	528.5	500.6 - 557.6	585	226.7	208.3 - 246.4	0.43
Morgan	632	518.1	477.6 - 561.2	263	228.0	200.7 - 258.1	0.44
Roane	1,853	497.9	474.9 - 521.9	797	210.1	195.5 - 225.5	0.42
Scott	612	506.9	466.8 - 549.5	288	241.1	213.6 - 271.2	0.48
Sevier	2,575	490.5	471.3 - 510.4	944	182.1	170.4 - 194.4	0.37
Union	543	511.3	467.8 - 557.8	205	196.1	169.3 - 226.1	0.38
Mid-Cumberland Region	37,282	481.3	476.3 - 486.3	14,103	192.4	189.2 - 195.6	0.40
Cheatham	1,001	524.7	491.3 - 559.6	355	201.0	179.7 - 224.1	0.38
Davidson	14,083	492.9	484.7 - 501.2	5,581	201.3	196.0 - 206.7	0.41
Dickson	1,311	502.5	475.3 - 530.9	518	204.8	187.2 - 223.5	0.41
Houston	239	440.5	385.1 - 502.1	111	201.1	165.0 - 243.5	0.46
Humphreys	592	505.7	464.8 - 549.4	241	205.7	180.1 - 234.2	0.41
Montgomery	2,857	456.0	438.9 - 473.5	1,172	203.8	191.9 - 216.1	0.45
Robertson	1,608	494.9	470.6 - 520.2	650	210.5	194.4 - 227.7	0.43
Rutherford	4,539	459.6	445.9 - 473.7	1,653	182.4	173.4 - 191.7	0.40
Stewart	412	502.1	453.7 - 554.6	167	203.8	173.7 - 238.1	0.41
Sumner	4,031	490.7	475.3 - 506.4	1,469	187.5	177.8 - 197.5	0.38
Trousdale	210	486.5	421.9 - 558.5	78	178.3	140.3 - 223.6	0.37
Williamson	3,697	461.1	445.7 - 476.9	1,099	153.5	144.2 - 163.2	0.33
Wilson	2,702	477.3	458.9 - 496.2	1,009	189.9	178.0 - 202.4	0.40
Northeast Region	14,884	465.2	457.6 - 472.9	6,448	199.7	194.8 - 204.8	0.43
Carter	1,519	411.9	391.0 - 433.6	721	193.7	179.6 - 208.6	0.47
Greene	2,060	471.8	451.2 - 493.2	938	215.6	201.8 - 230.1	0.46
Hancock	184	419.7	359.4 - 488.0	92	212.8	170.8 - 262.7	0.51
Hawkins	1,752	498.8	475.2 - 523.3	764	219.9	204.3 - 236.5	0.44
Johnson	495	417.4	380.5 - 457.0	237	203.8	178.3 - 232.2	0.49
Sullivan	5,135	490.7	477.0 - 504.6	2,092	195.2	186.8 - 203.9	0.40
Unicoi	572	442.5	406.0 - 481.6	285	211.0	187.0 - 237.7	0.48
Washington	3,167	452.2	436.4 - 468.5	1,319	187.3	177.2 - 197.8	0.41

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Appendix IV Continued

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Northwest Region	7,357	464.1	453.4 - 475.1	3,529	217.2	210.0 - 224.6	0.47
Benton	607	523.4	481.0 - 568.8	294	240.4	213.1 - 270.7	0.46
Carroll	919	495.2	463.0 - 529.2	427	221.9	201.0 - 244.5	0.45
Crockett	390	443.8	400.2 - 491.1	162	180.2	153.2 - 210.8	0.41
Dyer	912	416.5	389.5 - 444.9	431	199.7	181.1 - 219.8	0.48
Gibson	1,428	469.8	445.4 - 495.2	728	228.4	211.9 - 245.8	0.49
Henry	1,077	479.7	450.7 - 510.2	501	217.1	198.2 - 237.6	0.45
Lake	175	396.9	339.6 - 461.6	109	246.2	201.8 - 298.0	0.62
Obion	956	475.3	445.1 - 507.1	450	219.2	199.2 - 240.8	0.46
Weakley	893	447.2	417.9 - 478.1	427	210.0	190.4 - 231.3	0.47
South Central Region	10,255	471.6	462.4 - 481.0	4,397	203.2	197.1 - 209.3	0.43
Bedford	1,063	464.5	436.7 - 493.7	447	200.1	181.8 - 219.8	0.43
Coffee	1,499	485.9	461.3 - 511.5	651	209.5	193.6 - 226.4	0.43
Giles	850	462.2	431.0 - 495.1	347	183.9	164.8 - 204.7	0.40
Hickman	693	509.7	471.8 - 549.8	310	232.1	206.6 - 260.1	0.46
Lawrence	1,109	449.5	423.1 - 477.2	497	199.8	182.5 - 218.5	0.44
Lewis	365	495.2	444.6 - 550.4	161	220.5	187.2 - 258.4	0.45
Lincoln	932	447.4	418.7 - 477.6	421	200.5	181.6 - 220.9	0.45
Marshall	830	513.2	478.3 - 550.0	335	212.2	189.8 - 236.6	0.41
Maury	2,023	469.7	449.1 - 490.9	829	196.8	183.4 - 210.8	0.42
Moore	150	363.1	306.2 - 428.4	58	138.3	104.7 - 180.5	0.38
Perry	267	528.6	464.5 - 599.6	116	222.1	182.4 - 268.6	0.42
Wayne	474	460.3	419.4 - 504.5	225	221.2	193.0 - 252.6	0.48
Southeast Region	18,708	488.3	481.2 - 495.5	7,184	187.9	183.5 - 192.3	0.38
Bledsoe	337	430.1	384.1 - 480.3	117	155.0	127.3 - 187.1	0.36
Bradley	2,471	458.0	439.9 - 476.8	982	186.0	174.3 - 198.2	0.41
Franklin	1,269	488.6	461.6 - 516.9	487	183.9	167.8 - 201.3	0.38
Grundy	410	462.1	417.3 - 510.7	191	211.4	181.8 - 244.7	0.46
Hamilton	9,537	497.6	487.5 - 507.8	3,436	178.3	172.4 - 184.5	0.36
McMinn	1,469	450.2	427.1 - 474.4	648	197.0	181.9 - 213.0	0.44
Marion	886	509.1	475.2 - 544.9	372	219.7	197.4 - 244.0	0.43
Meigs	359	484.8	433.9 - 540.4	140	191.9	160.2 - 228.3	0.40
Polk	534	491.6	449.7 - 536.6	231	215.5	188.1 - 246.1	0.44
Rhea	1,102	595.7	560.3 - 632.9	394	212.2	191.4 - 234.8	0.36
Sequatchie	334	415.9	371.3 - 464.6	186	235.9	202.4 - 273.4	0.57
Southwest Region	29,817	464.9	459.5 - 470.3	12,731	205.7	202.0 - 209.3	0.44
Chester	357	384.3	345.1 - 427.0	158	167.7	142.4 - 196.3	0.44
Decatur	363	431.3	386.5 - 480.4	162	193.4	163.9 - 227.1	0.45
Fayette	1,056	475.3	446.2 - 505.8	404	188.6	170.1 - 208.6	0.40
Hardeman	760	483.5	449.3 - 519.7	345	222.0	198.9 - 247.0	0.46
Hardin	779	446.9	415.2 - 480.5	344	196.1	175.6 - 218.6	0.44
Haywood	483	450.0	410.3 - 492.7	215	200.9	174.8 - 230.1	0.45
Henderson	732	453.8	421.1 - 488.5	320	195.8	174.7 - 218.8	0.43
Lauderdale	654	459.9	424.9 - 497.1	318	228.7	204.0 - 255.6	0.50
McNairy	722	435.2	403.4 - 469.1	361	216.5	194.4 - 240.5	0.50
Madison	2,235	430.4	412.5 - 448.8	944	184.0	172.3 - 196.2	0.43
Shelby	20,222	471.4	464.8 - 478.1	8,559	209.2	204.7 - 213.8	0.44
Tipton	1,454	503.4	477.2 - 530.7	601	223.9	205.9 - 243.2	0.44

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Appendix IV Continued

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Upper-Cumberland Region	10,189	481.0	471.5 - 490.7	4,320	202.6	196.5 - 208.9	0.42
Cannon	386	459.2	413.9 - 508.4	152	182.8	154.5 - 215.0	0.40
Clay	245	439.1	383.9 - 500.8	105	191.3	155.8 - 233.3	0.44
Cumberland	2,266	504.5	482.4 - 527.5	799	172.1	159.8 - 185.2	0.34
DeKalb	501	443.6	405.0 - 485.0	237	208.3	182.3 - 237.1	0.47
Fentress	605	538.7	495.3 - 585.2	273	243.7	214.8 - 275.8	0.45
Jackson	355	457.9	410.0 - 510.3	145	184.9	155.3 - 219.1	0.40
Macon	643	531.2	490.3 - 574.7	284	238.1	210.8 - 267.9	0.45
Overton	658	474.5	438.0 - 513.3	306	219.1	194.8 - 245.8	0.46
Pickett	171	438.7	372.4 - 514.9	65	165.2	126.4 - 214.1	0.38
Putnam	1,836	471.4	449.8 - 493.7	787	202.3	188.3 - 217.1	0.43
Smith	507	478.4	437.0 - 522.8	253	243.8	214.3 - 276.3	0.51
Van Buren	144	400.0	334.1 - 476.1	63	181.0	137.3 - 235.1	0.45
Warren	1,091	474.3	446.2 - 503.7	523	227.6	208.4 - 248.3	0.48
White	781	477.5	443.9 - 513.1	328	198.3	177.1 - 221.4	0.42

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

Note that the number of cases by region may not sum up to the state total due to records with missing region information

APPENDIX V. LUNG AND BRONCHUS CANCER INCIDENCE AND MORTALITY BY RESIDENT COUNTY, TENNESSEE, 2006-2010

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Tennessee	27,332	79.8	78.8 - 80.7	21,728	64.3	63.4 - 65.1	0.81
East Region	6,108	86.7	84.5 - 89.0	4,672	67.0	65.1 - 69.0	0.77
Anderson	432	85.6	77.6 - 94.2	377	73.6	66.2 - 81.5	0.86
Blount	641	84.4	77.9 - 91.3	447	59.3	53.9 - 65.2	0.70
Campbell	304	111.7	99.3 - 125.4	242	91.4	80.1 - 104.0	0.82
Claiborne	217	105.9	92.0 - 121.5	176	86.0	73.5 - 100.2	0.81
Cocke	216	89.1	77.3 - 102.2	173	73.1	62.4 - 85.3	0.82
Grainger	123	85.4	70.6 - 102.5	102	71.4	57.8 - 87.3	0.84
Hamblen	327	85.7	76.5 - 95.7	267	70.9	62.5 - 80.1	0.83
Jefferson	265	81.1	71.4 - 91.8	195	61.3	52.8 - 70.9	0.76
Knox	1,863	82.0	78.3 - 85.8	1,369	60.6	57.4 - 64.0	0.74
Loudon	265	72.7	63.9 - 82.5	183	52.8	45.2 - 61.5	0.73
Monroe	299	105.5	93.6 - 118.7	214	77.4	67.1 - 88.9	0.73
Morgan	122	97.6	80.7 - 117.1	93	76.0	61.0 - 93.6	0.78
Roane	333	85.0	76.0 - 95.0	301	77.4	68.8 - 86.9	0.91
Scott	119	96.7	79.9 - 116.2	120	98.2	81.1 - 117.9	1.02
Sevier	478	86.8	79.0 - 95.2	338	62.3	55.6 - 69.5	0.72
Union	104	93.1	75.6 - 113.6	75	66.2	51.7 - 83.7	0.71
Mid-Cumberland Region	5,741	76.8	74.8 - 78.8	4,538	61.9	60.1 - 63.8	0.81
Cheatham	163	86.9	73.5 - 101.9	126	70.7	58.4 - 84.8	0.81
Davidson	2,168	78.1	74.8 - 81.5	1,750	63.8	60.8 - 66.9	0.82
Dickson	240	91.3	79.9 - 103.8	184	71.8	61.6 - 83.1	0.79
Houston	53	93.0	69.4 - 122.9	34	59.8	41.2 - 84.8	0.64
Humphreys	119	97.2	80.3 - 116.9	92	75.1	60.4 - 92.6	0.77
Montgomery	490	84.0	76.6 - 92.0	378	65.6	59.0 - 72.7	0.78
Robertson	270	83.7	73.8 - 94.5	216	68.5	59.5 - 78.4	0.82
Rutherford	667	72.4	66.8 - 78.3	547	60.8	55.6 - 66.3	0.84
Stewart	69	80.5	62.4 - 102.6	66	79.2	61.1 - 101.6	0.98
Sumner	618	75.2	69.3 - 81.6	484	60.8	55.4 - 66.6	0.81
Trousdale	44	95.4	69.0 - 129.2	31	68.5	46.2 - 98.2	0.72
Williamson	390	55.0	49.5 - 61.0	303	43.4	38.5 - 48.7	0.79
Wilson	450	81.4	73.8 - 89.6	327	60.7	54.0 - 67.8	0.75
Northeast Region	2,743	82.9	79.8 - 86.1	2,212	67.6	64.7 - 70.5	0.82
Carter	320	83.5	74.5 - 93.4	262	69.6	61.3 - 78.8	0.83
Greene	420	93.2	84.4 - 102.8	349	78.1	70.0 - 87.0	0.84
Hancock	29	59.9	39.9 - 87.7	32	68.9	46.9 - 98.9	1.15
Hawkins	346	95.9	85.9 - 106.9	270	76.4	67.4 - 86.3	0.80
Johnson	96	77.4	62.4 - 95.2	74	61.9	48.4 - 78.4	0.80
Sullivan	901	82.5	77.1 - 88.1	723	66.5	61.7 - 71.6	0.81
Unicoi	113	81.7	67.2 - 98.8	90	65.5	52.6 - 81.2	0.80
Washington	518	72.9	66.7 - 79.5	412	58.4	52.8 - 64.4	0.80

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Appendix IV Continued

	Incidence			Mortality			M:I
	Count*	Rate**	CI	Count*	Rate**	CI	Ratio†
Northwest Region	1,430	87.5	82.9 - 92.2	1,243	75.7	71.5 - 80.1	0.87
Benton	126	104.8	86.9 - 125.9	97	77.4	62.5 - 95.4	0.74
Carroll	160	83.1	70.5 - 97.4	168	87.1	74.3 - 101.8	1.05
Crockett	71	77.8	60.6 - 98.7	47	50.0	36.6 - 66.9	0.64
Dyer	180	79.3	67.9 - 92.0	149	68.2	57.5 - 80.3	0.86
Gibson	289	92.4	82.0 - 103.8	254	80.2	70.6 - 90.8	0.87
Henry	217	91.3	79.4 - 104.7	177	73.7	63.1 - 85.7	0.81
Lake	41	92.1	65.9 - 126.1	36	77.6	54.2 - 108.7	0.84
Obion	183	87.5	75.1 - 101.5	169	80.5	68.6 - 93.9	0.92
Weakley	163	80.7	68.6 - 94.4	146	72.8	61.3 - 85.8	0.90
South Central Region	1,885	84.6	80.8 - 88.5	1,516	69.0	65.5 - 72.6	0.82
Bedford	172	75.6	64.6 - 87.9	137	61.1	51.2 - 72.3	0.81
Coffee	270	84.9	75.0 - 95.8	220	69.3	60.4 - 79.2	0.82
Giles	154	80.3	67.9 - 94.4	130	69.2	57.6 - 82.5	0.86
Hickman	142	101.7	85.4 - 120.4	116	85.4	70.3 - 102.8	0.84
Lawrence	208	81.2	70.4 - 93.2	175	69.4	59.4 - 80.6	0.85
Lewis	73	95.4	74.5 - 120.8	61	81.1	61.7 - 105.2	0.85
Lincoln	167	76.7	65.4 - 89.5	139	64.4	54.0 - 76.2	0.84
Marshall	155	92.6	78.4 - 108.7	115	71.0	58.4 - 85.6	0.77
Maury	358	83.6	75.1 - 92.9	285	67.8	60.1 - 76.3	0.81
Moore	22	51.3	31.9 - 79.6	18	43.7	25.7 - 70.6	0.85
Perry	55	98.8	73.9 - 130.5	43	80.2	57.5 - 109.9	0.81
Wayne	109	103.2	84.6 - 125.1	77	73.1	57.6 - 91.9	0.71
Southeast Region	3,101	78.8	76.1 - 81.7	2,341	60.1	57.7 - 62.6	0.76
Bledsoe	65	81.1	62.1 - 104.4	47	58.8	42.7 - 79.3	0.73
Bradley	395	71.1	64.1 - 78.6	311	57.0	50.7 - 63.8	0.80
Franklin	223	82.2	71.7 - 94.0	157	57.7	49.0 - 67.7	0.70
Grundy	91	98.7	79.2 - 122.0	68	72.2	55.8 - 92.4	0.73
Hamilton	1,427	73.7	69.9 - 77.7	1,041	53.8	50.5 - 57.2	0.73
McMinn	259	75.8	66.7 - 85.8	236	70.3	61.5 - 80.1	0.93
Marion	174	94.6	80.7 - 110.3	126	71.1	59.0 - 85.1	0.75
Meigs	75	93.2	72.7 - 118.4	55	71.7	53.5 - 94.7	0.77
Polk	127	110.5	91.8 - 132.4	93	84.2	67.6 - 103.9	0.76
Rhea	206	108.1	93.5 - 124.3	143	75.7	63.6 - 89.5	0.70
Sequatchie	59	65.1	49.2 - 84.9	64	75.9	58.0 - 97.8	1.17
Southwest Region	4,408	70.1	68.0 - 72.2	3,690	59.7	57.7 - 61.6	0.85
Chester	56	58.1	43.8 - 75.7	46	50.1	36.6 - 67.1	0.86
Decatur	74	84.9	66.3 - 107.9	62	70.2	53.6 - 91.1	0.83
Fayette	153	66.6	56.2 - 78.4	127	57.7	47.8 - 69.1	0.87
Hardeman	138	86.4	72.4 - 102.4	111	69.4	56.9 - 83.9	0.80
Hardin	163	88.9	75.6 - 104.1	132	73.2	61.1 - 87.3	0.82
Haywood	92	86.0	69.2 - 105.7	76	70.5	55.4 - 88.5	0.82
Henderson	133	81.7	68.3 - 97.1	117	71.8	59.2 - 86.3	0.88
Lauderdale	135	93.9	78.5 - 111.4	115	82.0	67.6 - 98.7	0.87
McNairy	130	75.3	62.8 - 89.9	119	68.1	56.3 - 81.8	0.90
Madison	367	71.5	64.3 - 79.3	274	53.9	47.7 - 60.8	0.75
Shelby	2,707	65.6	63.1 - 68.2	2,309	57.0	54.7 - 59.4	0.87
Tipton	260	89.8	78.9 - 101.7	202	73.1	63.1 - 84.2	0.81

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Appendix IV Continued

	Incidence			Mortality			M:I
	Count*	Rate**	CI	Count*	Rate**	CI	Ratio†
Upper-Cumberland Region	1,905	85.7	81.8 - 89.7	1,516	68.9	65.4 - 72.5	0.80
Cannon	60	69.1	52.6 - 89.6	45	54.1	39.3 - 73.0	0.78
Clay	43	72.5	51.9 - 99.5	37	64.1	44.7 - 90.0	0.88
Cumberland	382	79.4	71.2 - 88.4	256	54.0	47.3 - 61.6	0.68
DeKalb	103	88.1	71.7 - 107.4	94	81.6	65.7 - 100.3	0.93
Fentress	123	102.5	84.7 - 123.3	101	83.9	67.9 - 102.9	0.82
Jackson	89	109.9	87.8 - 136.5	50	60.5	44.6 - 81.0	0.55
Macon	135	105.2	88.0 - 125.0	107	84.7	69.2 - 102.7	0.81
Overton	143	96.6	81.1 - 114.4	119	82.1	67.8 - 98.8	0.85
Pickett	44	109.5	78.3 - 151.2	28	69.5	45.5 - 104.1	0.63
Putnam	298	73.6	65.4 - 82.6	286	72.3	64.1 - 81.3	0.98
Smith	106	97.9	79.8 - 118.9	92	87.0	69.9 - 107.2	0.89
Van Buren	22	60.7	37.1 - 95.1	19	51.3	30.0 - 83.3	0.85
Warren	214	90.1	78.3 - 103.2	171	73.2	62.6 - 85.3	0.81
White	143	84.3	70.9 - 99.8	111	66.0	54.2 - 79.8	0.78

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

Note that the number of cases by region may not sum up to the state total due to records with missing region information

APPENDIX VI. PROSTATE CANCER INCIDENCE AND MORTALITY BY RESIDENT COUNTY, TENNESSEE, 2006-2010

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Tennessee	22,882	145.2	143.3 - 147.2	2,984	25.1	24.2 - 26.0	0.17
East Region	4,986	152.0	147.6 - 156.4	518	21.2	19.4 - 23.2	0.14
Anderson	380	169.5	152.7 - 187.8	43	21.2	15.3 - 28.7	0.13
Blount	513	146.7	133.9 - 160.3	60	22.3	16.9 - 28.9	0.15
Campbell	186	148.5	127.0 - 172.7	22	24.0	14.6 - 36.8	0.16
Claiborne	130	133.9	110.6 - 160.8	14	21.8	11.2 - 37.5	0.16
Cocke	145	127.0	106.2 - 151.0	18	19.3	10.8 - 31.8	0.15
Grainger	94	134.3	106.7 - 167.1	15	36.0	19.1 - 60.6	0.27
Hamblen	234	136.6	119.1 - 156.1	25	19.6	12.4 - 29.3	0.14
Jefferson	192	121.1	103.8 - 140.6	24	23.4	14.3 - 35.7	0.19
Knox	1,733	167.9	159.9 - 176.1	168	20.8	17.7 - 24.2	0.12
Loudon	306	165.1	146.3 - 186.0	21	18.6	11.4 - 28.7	0.11
Monroe	182	135.4	115.4 - 158.0	19	21.0	12.4 - 33.1	0.16
Morgan	83	131.1	103.7 - 164.0	10	24.2	11.0 - 44.9	0.18
Roane	276	150.5	132.8 - 170.1	32	21.8	14.8 - 31.2	0.14
Scott	71	129.6	99.7 - 165.5	^	^	^ - ^	^
Sevier	377	145.2	130.2 - 161.5	33	17.7	12.0 - 25.1	0.12
Union	84	156.4	122.3 - 197.2	^	^	^ - ^	^
Mid-Cumberland Region	5,161	149.3	145.0 - 153.6	633	25.0	23.1 - 27.1	0.17
Cheatham	131	140.2	115.7 - 168.2	10	13.7	6.2 - 25.6	0.10
Davidson	1,910	157.7	150.5 - 165.2	272	28.1	24.8 - 31.7	0.18
Dickson	165	140.3	118.8 - 164.5	24	26.6	16.7 - 39.9	0.19
Houston	35	139.2	95.4 - 197.2	^	^	^ - ^	^
Humphreys	58	102.0	76.5 - 133.7	^	^	^ - ^	^
Montgomery	352	129.5	115.7 - 144.3	57	28.3	21.0 - 37.1	0.22
Robertson	217	141.3	122.4 - 162.3	33	29.5	20.0 - 41.6	0.21
Rutherford	683	157.2	144.9 - 170.2	57	19.5	14.5 - 25.4	0.12
Stewart	54	131.7	98.0 - 174.1	^	^	^ - ^	^
Sumner	592	157.5	144.5 - 171.4	56	20.1	14.9 - 26.4	0.13
Trousdale	35	188.0	129.1 - 264.2	^	^	^ - ^	^
Williamson	585	147.7	135.2 - 161.2	54	21.8	16.2 - 28.6	0.15
Wilson	344	128.1	114.1 - 143.3	40	23.5	16.4 - 32.3	0.18
Northeast Region	1,738	110.6	105.3 - 116.0	270	23.1	20.4 - 26.1	0.21
Carter	158	88.1	74.6 - 103.6	33	25.1	17.1 - 35.5	0.28
Greene	217	103.6	89.6 - 119.3	48	34.4	24.9 - 46.0	0.33
Hancock	35	165.7	113.0 - 236.0	^	^	^ - ^	^
Hawkins	222	126.0	109.4 - 144.6	28	22.7	14.7 - 33.1	0.18
Johnson	44	68.1	49.0 - 93.0	^	^	^ - ^	^
Sullivan	633	123.4	113.8 - 133.7	80	20.0	15.8 - 25.1	0.16
Unicoi	46	70.4	51.0 - 95.7	15	29.6	16.1 - 50.1	0.42
Washington	383	113.1	101.8 - 125.4	54	21.0	15.7 - 27.4	0.19

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Appendix VI Continued

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Northwest Region	932	124.5	116.4 - 132.9	150	24.5	20.7 - 28.8	0.20
Benton	79	138.7	108.9 - 175.2	12	23.7	12.0 - 42.9	0.17
Carroll	110	122.6	100.4 - 148.6	15	19.8	11.0 - 33.0	0.16
Crockett	38	92.2	64.6 - 128.0	^	^	^ - ^	^
Dyer	90	89.9	71.7 - 111.3	18	23.9	13.9 - 38.0	0.27
Gibson	160	115.7	98.3 - 135.3	35	28.3	19.7 - 39.5	0.24
Henry	185	169.6	145.3 - 197.3	24	28.2	17.7 - 42.7	0.17
Lake	21	92.4	56.2 - 144.2	^	^	^ - ^	^
Obion	117	120.9	99.4 - 145.9	18	24.7	14.4 - 39.3	0.20
Weakley	132	140.2	116.9 - 166.9	21	27.7	17.0 - 42.4	0.20
South Central Region	1,262	124.7	117.7 - 132.0	186	23.9	20.5 - 27.7	0.19
Bedford	118	107.7	88.7 - 129.7	22	25.5	15.6 - 38.9	0.24
Coffee	205	145.1	125.5 - 166.9	27	23.8	15.5 - 34.8	0.16
Giles	97	112.2	90.2 - 138.2	12	17.3	8.7 - 30.7	0.15
Hickman	88	135.6	107.8 - 168.5	10	21.6	9.9 - 40.0	0.16
Lawrence	123	107.4	88.9 - 128.8	23	25.3	15.8 - 38.2	0.24
Lewis	47	130.8	94.9 - 176.7	^	^	^ - ^	^
Lincoln	106	109.4	89.0 - 133.5	16	23.5	13.1 - 38.5	0.21
Marshall	98	129.9	104.4 - 159.9	11	20.9	10.3 - 37.1	0.16
Mauzy	271	139.2	122.5 - 157.5	38	25.5	17.8 - 35.2	0.18
Moore	22	113.5	70.8 - 175.8	^	^	^ - ^	^
Perry	38	160.6	109.5 - 227.8	^	^	^ - ^	^
Wayne	49	98.3	72.0 - 131.2	11	29.3	14.3 - 52.5	0.30
Southeast Region	2,675	148.0	142.3 - 153.9	361	25.5	22.9 - 28.4	0.17
Bledsoe	58	147.4	109.1 - 195.1	^	^	^ - ^	^
Bradley	279	109.6	96.7 - 123.9	34	21.2	14.4 - 29.8	0.19
Franklin	184	144.4	123.9 - 167.5	26	25.2	16.3 - 37.2	0.17
Grundy	44	98.5	70.7 - 134.6	^	^	^ - ^	^
Hamilton	1,533	174.7	165.9 - 183.9	210	29.0	25.1 - 33.2	0.17
McMinn	193	124.8	107.3 - 144.5	25	20.1	12.8 - 30.0	0.16
Marion	113	133.5	108.9 - 162.4	27	43.6	27.9 - 64.6	0.33
Meigs	46	121.9	86.7 - 167.8	^	^	^ - ^	^
Polk	56	97.8	72.3 - 130.3	^	^	^ - ^	^
Rhea	129	137.7	114.2 - 164.9	13	16.6	8.6 - 29.0	0.12
Sequatchie	40	102.1	71.5 - 141.8	^	^	^ - ^	^
Southwest Region	4,645	164.4	159.5 - 169.4	701	33.1	30.6 - 35.7	0.20
Chester	32	75.8	51.3 - 108.0	^	^	^ - ^	^
Decatur	43	104.8	75.3 - 143.5	^	^	^ - ^	^
Fayette	184	169.0	144.5 - 196.8	18	23.6	13.4 - 38.0	0.14
Hardeman	108	140.9	114.5 - 171.5	16	31.8	17.9 - 51.4	0.23
Hardin	77	87.3	68.3 - 110.7	^	^	^ - ^	^
Haywood	75	163.8	127.9 - 206.7	16	45.3	25.5 - 73.5	0.28
Henderson	80	107.5	84.6 - 134.8	^	^	^ - ^	^
Lauderdale	83	132.3	104.2 - 165.4	18	38.1	22.2 - 59.9	0.29
McNairy	88	103.3	82.3 - 128.5	19	29.8	17.3 - 47.7	0.29
Madison	331	142.8	127.4 - 159.5	48	26.9	19.7 - 35.7	0.19
Shelby	3,329	182.5	176.1 - 189.1	513	37.4	34.1 - 40.8	0.20
Tipton	215	161.3	139.2 - 185.9	20	21.4	12.5 - 33.5	0.13

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Appendix VI Continued

	Incidence			Mortality			M:I
	Count*	Rate**	CI	Count*	Rate**	CI	Ratio†
Upper-Cumberland Region	1,431	136.2	129.0 - 143.6	165	20.3	17.2 - 23.8	0.15
Cannon	50	122.1	90.1 - 162.6	^	^	^ - ^	^
Clay	29	94.6	62.5 - 140.1	^	^	^ - ^	^
Cumberland	417	170.8	154.1 - 189.1	34	16.3	11.2 - 23.5	0.10
DeKalb	57	108.9	81.7 - 142.6	^	^	^ - ^	^
Fentress	96	172.2	137.4 - 213.7	^	^	^ - ^	^
Jackson	42	99.0	70.6 - 136.7	^	^	^ - ^	^
Macon	65	119.6	91.2 - 154.0	14	33.2	17.7 - 55.8	0.28
Overton	79	112.3	88.2 - 141.4	^	^	^ - ^	^
Pickett	14	68.6	36.1 - 123.5	^	^	^ - ^	^
Putnam	248	133.7	117.3 - 151.8	34	23.1	15.9 - 32.4	0.17
Smith	56	113.3	84.6 - 148.8	^	^	^ - ^	^
Van Buren	19	104.5	59.5 - 172.5	^	^	^ - ^	^
Warren	134	125.0	104.2 - 148.8	21	24.7	15.0 - 38.0	0.20
White	125	154.0	127.7 - 184.5	15	23.0	12.6 - 38.4	0.15

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

Note that the number of cases by region may not sum up to the state total due to records with missing region information

APPENDIX VII. FEMALE BREAST CANCER INCIDENCE AND MORTALITY BY RESIDENT COUNTY, TENNESSEE, 2006-2010

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Tennessee	21,979	119.7	118.1 - 121.3	4,357	23.1	22.4 - 23.8	0.19
East Region	4,402	120.3	116.7 - 124.0	814	21.4	20.0 - 23.0	0.18
Anderson	310	119.9	106.6 - 134.5	57	19.8	14.8 - 26.1	0.17
Blount	500	123.9	113.1 - 135.6	81	19.5	15.4 - 24.5	0.16
Campbell	162	121.1	102.7 - 142.1	28	21.5	14.1 - 31.7	0.18
Claiborne	119	117.2	96.6 - 141.2	29	28.0	18.6 - 40.9	0.24
Cocke	111	95.4	78.1 - 115.6	27	22.7	14.8 - 33.7	0.24
Grainger	79	115.7	91.0 - 145.3	24	33.2	21.1 - 50.3	0.29
Hamblen	211	104.1	90.2 - 119.6	53	25.0	18.6 - 33.0	0.24
Jefferson	174	107.4	91.7 - 125.2	29	18.1	12.1 - 26.4	0.17
Knox	1,613	130.6	124.2 - 137.3	256	20.0	17.6 - 22.7	0.15
Loudon	198	109.7	94.2 - 127.5	31	18.5	12.3 - 27.1	0.17
Monroe	177	123.5	105.5 - 143.9	30	21.8	14.6 - 31.5	0.18
Morgan	75	123.7	96.9 - 156.2	24	40.1	25.4 - 60.6	0.32
Roane	250	129.2	113.1 - 147.1	51	23.2	17.2 - 31.0	0.18
Scott	70	108.4	84.0 - 137.8	15	22.8	12.6 - 38.3	0.21
Sevier	291	105.2	93.3 - 118.4	68	23.2	18.0 - 29.7	0.22
Union	62	111.1	84.8 - 143.4	11	17.8	8.8 - 32.9	0.16
Mid-Cumberland Region	5,246	121.4	118.1 - 124.7	946	22.0	20.6 - 23.5	0.18
Cheatham	124	117.3	97.1 - 140.5	20	19.8	12.0 - 31.0	0.17
Davidson	2,066	129.2	123.7 - 135.0	406	24.5	22.2 - 27.1	0.19
Dickson	141	100.6	84.5 - 118.9	23	17.0	10.7 - 25.7	0.17
Houston	21	83.0	50.3 - 129.8	^	^	^ - ^	^
Humphreys	68	113.1	87.1 - 145.0	^	^	^ - ^	^
Montgomery	386	108.8	98.1 - 120.4	71	20.9	16.2 - 26.4	0.19
Robertson	211	119.9	104.1 - 137.4	35	20.1	14.0 - 28.1	0.17
Rutherford	607	109.2	100.5 - 118.4	114	21.5	17.6 - 25.9	0.20
Stewart	43	105.5	75.7 - 143.9	^	^	^ - ^	^
Sumner	552	121.9	111.8 - 132.6	96	22.0	17.8 - 27.0	0.18
Trousdale	25	107.5	69.0 - 160.7	^	^	^ - ^	^
Williamson	614	129.6	119.3 - 140.6	72	15.9	12.3 - 20.2	0.12
Wilson	388	124.7	112.4 - 138.0	79	25.9	20.4 - 32.4	0.21
Northeast Region	1,938	115.3	110.1 - 120.7	398	22.7	20.5 - 25.2	0.20
Carter	187	97.5	83.7 - 113.2	35	18.0	12.4 - 25.4	0.18
Greene	273	116.4	102.7 - 131.6	56	23.5	17.6 - 30.8	0.20
Hancock	21	98.2	59.0 - 155.0	^	^	^ - ^	^
Hawkins	202	110.2	95.2 - 127.0	54	28.8	21.5 - 37.9	0.26
Johnson	51	88.4	64.7 - 118.6	13	25.1	13.1 - 44.2	0.28
Sullivan	672	120.5	111.3 - 130.3	130	22.3	18.5 - 26.7	0.19
Unicoi	77	117.1	91.4 - 148.5	19	23.8	14.3 - 39.0	0.20
Washington	455	123.9	112.6 - 136.2	83	21.5	17.1 - 26.9	0.17

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Appendix VII Continued

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Northwest Region	884	106.4	99.3 - 113.9	194	21.9	18.8 - 25.3	0.21
Benton	68	115.2	88.3 - 148.5	16	23.7	13.2 - 40.7	0.21
Carroll	112	116.2	94.9 - 141.3	24	23.2	14.4 - 35.8	0.20
Crockett	66	144.7	111.3 - 185.4	14	31.7	16.9 - 54.4	0.22
Dyer	109	92.0	75.3 - 111.5	19	15.8	9.5 - 25.0	0.17
Gibson	184	112.8	96.6 - 131.0	48	27.0	19.7 - 36.2	0.24
Henry	108	91.6	74.6 - 111.8	21	15.1	9.3 - 23.9	0.16
Lake	19	94.0	54.8 - 153.1	^	^	^ - ^	^
Obion	101	95.6	77.4 - 117.2	23	21.9	13.7 - 33.5	0.23
Weakley	117	112.0	92.1 - 135.1	22	19.5	12.0 - 30.2	0.17
South Central Region	1,294	111.7	105.6 - 118.1	267	22.3	19.7 - 25.3	0.20
Bedford	151	122.4	103.4 - 144.0	25	20.4	13.1 - 30.3	0.17
Coffee	157	96.5	81.7 - 113.2	46	26.8	19.6 - 36.1	0.28
Giles	106	106.7	86.9 - 129.9	17	15.7	9.0 - 25.9	0.15
Hickman	82	119.0	94.2 - 148.6	16	20.5	11.6 - 34.1	0.17
Lawrence	132	98.4	82.0 - 117.3	28	19.5	12.8 - 28.7	0.20
Lewis	48	123.2	90.0 - 165.4	^	^	^ - ^	^
Lincoln	114	103.9	85.3 - 125.7	21	18.7	11.4 - 29.1	0.18
Marshall	108	126.5	103.4 - 153.2	26	29.1	18.9 - 43.1	0.23
Maury	287	119.8	106.2 - 134.8	61	25.7	19.6 - 33.2	0.21
Moore	17	78.3	44.6 - 129.8	^	^	^ - ^	^
Perry	31	123.2	82.3 - 178.9	^	^	^ - ^	^
Wayne	61	118.1	89.8 - 153.4	12	24.3	12.3 - 44.0	0.21
Southeast Region	2,500	122.2	117.3 - 127.2	458	21.5	19.5 - 23.6	0.18
Bledsoe	34	82.3	56.7 - 117.0	^	^	^ - ^	^
Bradley	330	114.2	102.1 - 127.5	79	26.6	21.0 - 33.3	0.23
Franklin	142	108.5	90.8 - 128.8	35	25.8	17.7 - 36.6	0.24
Grundy	53	111.5	82.4 - 148.4	16	31.5	17.9 - 53.0	0.28
Hamilton	1,306	125.2	118.3 - 132.3	232	21.1	18.4 - 24.1	0.17
McMinn	199	115.5	99.6 - 133.2	28	15.1	9.9 - 22.2	0.13
Marion	125	135.3	112.0 - 162.4	22	23.9	14.8 - 37.0	0.18
Meigs	46	124.7	90.2 - 169.0	^	^	^ - ^	^
Polk	56	101.2	75.9 - 132.9	10	17.2	8.2 - 33.1	0.17
Rhea	172	177.9	151.5 - 207.7	18	18.5	10.8 - 29.8	0.10
Sequatchie	37	86.9	60.6 - 121.4	^	^	^ - ^	^
Southwest Region	4,433	123.3	119.7 - 127.1	1,035	28.4	26.7 - 30.2	0.23
Chester	65	134.7	103.4 - 172.7	12	20.8	10.7 - 37.5	0.15
Decatur	46	115.0	82.2 - 157.3	^	^	^ - ^	^
Fayette	153	131.7	111.2 - 155.1	34	28.7	19.7 - 40.7	0.22
Hardeman	101	133.1	107.7 - 162.9	26	32.6	21.1 - 48.6	0.24
Hardin	108	121.8	99.1 - 148.5	22	22.8	14.2 - 35.4	0.19
Haywood	55	91.3	68.4 - 119.8	19	31.4	18.7 - 50.0	0.34
Henderson	99	112.0	90.7 - 137.0	28	29.0	19.2 - 42.5	0.26
Lauderdale	81	107.0	84.7 - 133.6	21	27.3	16.7 - 42.2	0.26
McNairy	96	113.2	91.1 - 139.5	29	33.9	22.4 - 49.6	0.30
Madison	309	107.6	95.8 - 120.5	66	22.1	17.0 - 28.3	0.21
Shelby	3,140	127.3	122.8 - 131.9	735	29.8	27.6 - 32.0	0.23
Tipton	180	112.6	96.6 - 130.6	34	22.4	15.5 - 31.4	0.20

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Appendix VII Continued

	Incidence			Mortality			M:I
	Count*	Rate**	CI	Count*	Rate**	CI	Ratio†
Upper-Cumberland Region	1,248	115.1	108.6 - 121.9	245	21.8	19.1 - 24.8	0.19
Cannon	30	66.5	44.4 - 96.7	^	^	^ - ^	^
Clay	32	122.4	81.7 - 177.5	^	^	^ - ^	^
Cumberland	257	117.9	102.6 - 135.0	45	18.3	13.1 - 25.4	0.16
DeKalb	75	124.1	97.0 - 156.9	20	34.0	20.7 - 53.3	0.27
Fentress	67	113.8	87.5 - 146.2	10	18.0	8.4 - 34.4	0.16
Jackson	40	102.6	72.0 - 142.9	13	30.8	15.9 - 55.6	0.30
Macon	107	174.2	142.2 - 211.3	13	20.6	10.8 - 35.7	0.12
Overton	75	100.5	78.6 - 127.1	17	21.8	12.5 - 36.1	0.22
Pickett	14	65.2	34.4 - 118.4	^	^	^ - ^	^
Putnam	232	113.5	99.2 - 129.5	47	21.9	16.0 - 29.3	0.19
Smith	65	115.6	88.8 - 148.2	19	34.8	20.7 - 55.0	0.30
Van Buren	27	147.6	94.9 - 221.7	^	^	^ - ^	^
Warren	133	109.8	91.6 - 130.7	26	20.0	13.0 - 29.7	0.18
White	94	112.4	90.2 - 138.8	15	17.7	9.8 - 30.1	0.16

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

Note that the number of cases by region may not sum up to the state total due to records with missing region information

APPENDIX VIII. COLORECTAL CANCER INCIDENCE AND MORTALITY BY RESIDENT COUNTY, TENNESSEE, 2006-2010

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Tennessee	15,634	46.4	45.6 - 47.1	5,958	18.0	17.5 - 18.5	0.39
East Region	3,002	44.1	42.5 - 45.8	1,097	16.4	15.4 - 17.4	0.37
Anderson	255	52.6	46.2 - 59.6	104	20.3	16.5 - 24.7	0.39
Blount	300	40.6	36.1 - 45.6	117	15.6	12.9 - 18.8	0.38
Campbell	110	42.9	35.1 - 52.0	51	20.8	15.4 - 27.5	0.48
Claiborne	103	52.1	42.3 - 63.6	30	16.0	10.7 - 23.1	0.31
Cocke	99	43.9	35.4 - 53.8	35	16.3	11.3 - 23.0	0.37
Grainger	67	50.7	39.0 - 64.9	27	22.1	14.4 - 32.5	0.44
Hamblen	166	45.5	38.7 - 53.2	75	20.4	16.0 - 25.7	0.45
Jefferson	131	45.0	37.4 - 53.7	43	14.3	10.3 - 19.5	0.32
Knox	943	41.9	39.2 - 44.7	321	14.4	12.9 - 16.1	0.34
Loudon	107	30.6	24.9 - 37.3	42	12.5	8.9 - 17.2	0.41
Monroe	129	48.9	40.6 - 58.5	44	18.1	13.1 - 24.5	0.37
Morgan	60	50.2	38.0 - 65.2	28	24.2	15.9 - 35.5	0.48
Roane	170	44.5	38.0 - 52.0	63	17.0	13.0 - 22.0	0.38
Scott	75	63.2	49.4 - 79.5	28	24.8	16.3 - 36.0	0.39
Sevier	235	45.2	39.5 - 51.5	68	13.5	10.4 - 17.2	0.30
Union	52	50.5	37.3 - 66.9	21	20.7	12.5 - 32.2	0.41
Mid-Cumberland Region	3,505	46.3	44.7 - 47.8	1,279	17.5	16.5 - 18.5	0.38
Cheatham	115	65.8	53.9 - 79.5	30	17.9	11.8 - 25.8	0.27
Davidson	1,322	47.0	44.4 - 49.6	496	17.8	16.3 - 19.5	0.38
Dickson	152	59.3	50.1 - 69.7	52	20.5	15.2 - 27.0	0.35
Houston	34	64.3	44.2 - 91.1	^	^	^ - ^	^
Humphreys	63	51.3	39.2 - 66.2	23	20.6	12.9 - 31.5	0.40
Montgomery	279	45.8	40.5 - 51.7	119	20.5	16.9 - 24.7	0.45
Robertson	162	50.8	43.2 - 59.5	53	18.2	13.5 - 23.8	0.36
Rutherford	400	41.9	37.7 - 46.3	157	17.6	14.9 - 20.7	0.42
Stewart	47	56.4	41.2 - 75.9	17	21.6	12.4 - 35.3	0.38
Sumner	349	43.6	39.1 - 48.5	129	16.5	13.7 - 19.6	0.38
Trousdale	21	50.3	30.8 - 77.7	^	^	^ - ^	^
Williamson	295	37.2	32.9 - 41.9	90	12.3	9.8 - 15.2	0.33
Wilson	266	48.0	42.2 - 54.3	97	18.4	14.8 - 22.6	0.38
Northeast Region	1,279	40.0	37.8 - 42.3	553	17.3	15.9 - 18.8	0.43
Carter	124	33.7	27.9 - 40.4	66	17.9	13.8 - 22.9	0.53
Greene	188	43.4	37.3 - 50.3	70	16.3	12.7 - 20.8	0.38
Hancock	13	29.6	15.5 - 52.4	^	^	^ - ^	^
Hawkins	151	43.5	36.7 - 51.2	62	18.1	13.8 - 23.4	0.42
Johnson	48	40.4	29.6 - 54.3	16	13.4	7.6 - 22.4	0.33
Sullivan	425	40.6	36.8 - 44.8	177	16.5	14.2 - 19.2	0.41
Unicoi	54	40.6	30.3 - 53.7	15	10.6	5.9 - 18.2	0.26
Washington	276	39.1	34.5 - 44.0	138	19.7	16.6 - 23.4	0.50

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Appendix VIII Continued

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Northwest Region	839	52.3	48.7 - 56.0	363	22.0	19.8 - 24.5	0.42
Benton	57	47.8	35.9 - 62.9	22	17.9	11.0 - 28.1	0.37
Carroll	99	51.7	41.9 - 63.3	44	22.1	16.0 - 30.0	0.43
Crockett	50	55.5	41.0 - 73.7	22	23.0	14.4 - 35.4	0.41
Dyer	107	48.6	39.7 - 58.9	46	20.7	15.1 - 27.7	0.43
Gibson	159	50.9	43.2 - 59.7	83	25.2	20.1 - 31.4	0.50
Henry	110	49.6	40.6 - 60.2	43	19.0	13.7 - 25.9	0.38
Lake	18	41.0	24.2 - 65.7	^	^	^ - ^	^
Obion	125	63.7	52.9 - 76.2	47	22.8	16.7 - 30.6	0.36
Weakley	114	55.0	45.3 - 66.4	47	22.2	16.3 - 29.8	0.40
South Central Region	1,026	47.2	44.3 - 50.2	386	18.0	16.2 - 19.9	0.38
Bedford	101	44.4	36.0 - 54.0	35	16.0	11.1 - 22.3	0.36
Coffee	156	49.9	42.3 - 58.5	49	16.1	11.9 - 21.4	0.32
Giles	101	55.4	44.9 - 67.6	32	16.6	11.3 - 23.8	0.30
Hickman	58	44.4	33.6 - 57.7	23	17.7	11.1 - 26.8	0.40
Lawrence	102	40.7	33.1 - 49.6	47	19.4	14.2 - 26.0	0.48
Lewis	34	45.5	31.3 - 64.4	13	18.3	9.7 - 31.9	0.40
Lincoln	128	61.2	51.0 - 73.1	56	27.1	20.4 - 35.4	0.44
Marshall	76	47.0	36.9 - 59.0	30	18.6	12.5 - 26.8	0.40
Maury	178	42.1	36.1 - 48.9	66	15.5	11.9 - 19.7	0.37
Moore	16	37.8	21.4 - 63.3	^	^	^ - ^	^
Perry	28	52.4	34.3 - 77.6	10	18.7	8.8 - 36.1	0.36
Wayne	48	46.9	34.5 - 62.6	18	18.6	11.0 - 29.7	0.40
Southeast Region	1,750	45.7	43.6 - 47.9	616	16.3	15.0 - 17.6	0.36
Bledsoe	29	36.7	24.2 - 53.7	11	16.4	8.0 - 30.0	0.45
Bradley	256	47.1	41.5 - 53.4	86	16.2	12.9 - 20.2	0.34
Franklin	142	53.0	44.6 - 62.8	50	19.2	14.2 - 25.4	0.36
Grundy	43	51.1	36.8 - 69.5	14	16.0	8.6 - 27.6	0.31
Hamilton	858	44.6	41.6 - 47.7	284	14.8	13.1 - 16.7	0.33
McMinn	135	41.1	34.4 - 48.9	57	17.7	13.4 - 23.1	0.43
Marion	78	48.2	37.8 - 60.6	35	21.6	14.9 - 30.5	0.45
Meigs	30	43.3	28.7 - 63.1	11	16.1	7.8 - 30.0	0.37
Polk	52	48.9	36.2 - 64.9	22	20.8	12.9 - 32.1	0.43
Rhea	96	52.9	42.6 - 64.9	34	17.9	12.3 - 25.3	0.34
Sequatchie	31	41.9	28.3 - 60.0	12	16.8	8.6 - 29.7	0.40
Southwest Region	3,223	50.8	49.0 - 52.6	1,292	20.9	19.7 - 22.1	0.41
Chester	38	41.0	28.9 - 56.5	16	16.7	9.5 - 27.4	0.41
Decatur	40	45.8	32.4 - 63.5	13	16.4	8.6 - 29.1	0.36
Fayette	123	56.4	46.7 - 67.7	36	16.8	11.6 - 23.5	0.30
Hardeman	72	47.6	37.1 - 60.2	33	21.7	14.9 - 30.7	0.46
Hardin	86	48.5	38.5 - 60.5	28	15.1	9.9 - 22.2	0.31
Haywood	56	50.9	38.3 - 66.5	26	24.8	16.1 - 36.5	0.49
Henderson	91	56.2	45.1 - 69.4	30	17.5	11.7 - 25.3	0.31
Lauderdale	74	51.7	40.4 - 65.1	31	22.3	15.1 - 31.8	0.43
McNairy	68	40.6	31.4 - 52.0	31	19.2	12.9 - 27.7	0.47
Madison	255	49.1	43.2 - 55.6	90	17.4	13.9 - 21.4	0.35
Shelby	2,155	50.9	48.7 - 53.1	895	21.9	20.5 - 23.4	0.43
Tipton	165	58.4	49.6 - 68.3	63	23.5	17.9 - 30.3	0.40

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Appendix VIII Continued

	Incidence			Mortality			M:I
	Count*	Rate**	CI	Count*	Rate**	CI	Ratio†
Upper-Cumberland Region	1,003	47.5	44.6 - 50.6	372	17.9	16.1 - 19.9	0.38
Cannon	44	50.2	36.3 - 68.0	16	18.1	10.3 - 30.1	0.36
Clay	26	45.4	29.3 - 68.3	17	30.5	17.6 - 50.4	0.67
Cumberland	189	41.9	35.8 - 48.8	59	12.6	9.5 - 16.7	0.30
DeKalb	60	53.0	40.3 - 68.6	19	16.5	9.9 - 26.2	0.31
Fentress	63	59.4	45.4 - 76.7	33	31.3	21.2 - 44.7	0.53
Jackson	25	31.9	20.4 - 48.3	15	20.0	11.0 - 34.1	0.63
Macon	64	55.4	42.5 - 71.0	28	25.1	16.6 - 36.4	0.45
Overton	74	54.0	42.1 - 68.4	21	15.7	9.6 - 24.5	0.29
Pickett	18	46.6	27.3 - 76.8	11	28.7	14.1 - 54.8	0.62
Putnam	185	47.1	40.5 - 54.4	57	15.2	11.5 - 19.7	0.32
Smith	61	59.9	45.6 - 77.4	20	19.8	12.0 - 30.7	0.33
Van Buren	11	28.1	13.4 - 54.0	^	^	^ - ^	^
Warren	107	46.3	37.9 - 56.2	42	18.4	13.2 - 25.0	0.40
White	76	47.6	37.3 - 60.0	30	17.9	12.0 - 25.9	0.38

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

Note that the number of cases by region may not sum up to the state total due to records with missing region information

APPENDIX IX. MELANOMA OF THE SKIN INCIDENCE AND MORTALITY BY RESIDENT COUNTY, TENNESSEE, 2006-2010

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Tennessee	7,015	21.1	20.6 - 21.6	994	3.0	2.8 - 3.2	0.14
East Region	1,847	28.0	26.7 - 29.3	225	3.3	2.9 - 3.8	0.12
Anderson	113	23.7	19.4 - 28.7	18	3.8	2.2 - 6.1	0.16
Blount	207	28.6	24.7 - 32.8	27	3.7	2.4 - 5.4	0.13
Campbell	51	20.7	15.3 - 27.5	^	^	^ - ^	^
Claiborne	52	28.5	21.1 - 37.7	^	^	^ - ^	^
Cocke	50	23.5	17.3 - 31.3	^	^	^ - ^	^
Grainger	39	31.6	22.2 - 43.6	^	^	^ - ^	^
Hamblen	135	38.8	32.4 - 46.1	13	3.3	1.8 - 5.8	0.09
Jefferson	89	30.4	24.3 - 37.7	13	4.7	2.4 - 8.1	0.15
Knox	659	29.6	27.4 - 32.0	67	2.9	2.3 - 3.7	0.10
Loudon	88	25.6	20.2 - 32.0	^	^	^ - ^	^
Monroe	65	24.3	18.6 - 31.3	17	7.0	4.0 - 11.4	0.29
Morgan	26	20.8	13.5 - 31.0	^	^	^ - ^	^
Roane	80	24.0	18.8 - 30.2	12	3.2	1.6 - 5.8	0.13
Scott	28	23.3	15.4 - 33.9	^	^	^ - ^	^
Sevier	144	28.3	23.8 - 33.5	14	2.7	1.4 - 4.6	0.10
Union	21	19.3	11.7 - 30.0	^	^	^ - ^	^
Mid-Cumberland Region	1,498	19.0	18.0 - 20.0	228	3.1	2.7 - 3.5	0.16
Cheatham	33	16.2	11.0 - 23.0	^	^	^ - ^	^
Davidson	467	16.0	14.6 - 17.5	79	2.9	2.3 - 3.6	0.18
Dickson	47	17.9	13.1 - 23.9	13	4.8	2.5 - 8.3	0.27
Houston	^	^	^ - ^	0	0.0	0.0 - 9.0	^
Humphreys	25	24.6	15.7 - 36.8	^	^	^ - ^	^
Montgomery	110	16.8	13.7 - 20.3	29	4.7	3.1 - 6.8	0.28
Robertson	87	27.7	22.1 - 34.2	11	3.7	1.8 - 6.6	0.13
Rutherford	170	16.1	13.7 - 18.8	25	2.6	1.7 - 3.9	0.16
Stewart	17	21.8	12.4 - 35.8	^	^	^ - ^	^
Sumner	208	26.2	22.7 - 30.0	26	3.3	2.2 - 4.9	0.13
Trousdale	^	^	^ - ^	0	0.0	0.0 - 9.8	^
Williamson	227	28.1	24.4 - 32.2	16	2.1	1.1 - 3.4	0.07
Wilson	96	17.5	14.1 - 21.5	18	3.0	1.7 - 4.8	0.17
Northeast Region	868	28.9	27.0 - 30.9	94	3.0	2.4 - 3.7	0.10
Carter	72	20.3	15.8 - 25.8	^	^	^ - ^	^
Greene	89	21.9	17.5 - 27.1	14	3.2	1.8 - 5.6	0.15
Hancock	^	^	^ - ^	^	^	^ - ^	^
Hawkins	123	37.3	30.9 - 44.8	11	3.5	1.7 - 6.4	0.09
Johnson	23	19.3	12.1 - 29.7	^	^	^ - ^	^
Sullivan	330	33.8	30.2 - 37.8	33	3.4	2.3 - 4.8	0.10
Unicoi	38	33.0	23.0 - 46.1	^	^	^ - ^	^
Washington	186	28.0	24.1 - 32.4	20	2.8	1.7 - 4.3	0.10

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Appendix IX Continued

	Incidence			Mortality			M:I
	Count*	Rate**	CI	Count*	Rate**	CI	Ratio†
Northwest Region	187	12.6	10.8 - 14.6	64	4.3	3.3 - 5.5	0.34
Benton	11	10.2	4.9 - 19.3	^	^	^ - ^	^
Carroll	27	15.7	10.2 - 23.2	^	^	^ - ^	^
Crockett	12	14.3	7.3 - 25.3	^	^	^ - ^	^
Dyer	22	9.8	6.1 - 15.0	^	^	^ - ^	^
Gibson	32	11.4	7.7 - 16.3	14	4.6	2.5 - 7.9	0.40
Henry	25	12.4	7.8 - 18.8	15	7.5	4.1 - 12.7	0.60
Lake	^	^	^ - ^	^	^	^ - ^	^
Obion	31	16.2	10.9 - 23.2	^	^	^ - ^	^
Weakley	24	13.1	8.3 - 19.7	^	^	^ - ^	^
South Central Region	398	18.7	16.9 - 20.7	73	3.4	2.7 - 4.3	0.18
Bedford	52	23.4	17.4 - 30.8	^	^	^ - ^	^
Coffee	42	14.5	10.4 - 19.8	14	4.8	2.6 - 8.2	0.33
Giles	36	19.6	13.6 - 27.6	^	^	^ - ^	^
Hickman	28	20.4	13.5 - 29.8	^	^	^ - ^	^
Lawrence	46	19.5	14.2 - 26.2	11	4.3	2.1 - 7.9	0.22
Lewis	^	^	^ - ^	^	^	^ - ^	^
Lincoln	40	18.9	13.4 - 26.0	^	^	^ - ^	^
Marshall	38	22.3	15.7 - 30.9	^	^	^ - ^	^
Maury	71	16.9	13.1 - 21.4	13	3.1	1.6 - 5.3	0.18
Moore	11	24.1	11.8 - 45.6	^	^	^ - ^	^
Perry	11	24.2	11.7 - 44.8	^	^	^ - ^	^
Wayne	16	16.1	9.1 - 26.6	^	^	^ - ^	^
Southeast Region	915	24.9	23.3 - 26.6	113	3.0	2.4 - 3.6	0.12
Bledsoe	15	18.6	10.1 - 31.9	^	^	^ - ^	^
Bradley	100	19.2	15.6 - 23.5	14	2.6	1.4 - 4.5	0.14
Franklin	45	18.0	13.0 - 24.4	^	^	^ - ^	^
Grundy	25	30.7	19.6 - 46.0	^	^	^ - ^	^
Hamilton	537	29.2	26.8 - 31.8	46	2.3	1.7 - 3.1	0.08
McMinn	67	21.6	16.6 - 27.6	15	4.5	2.5 - 7.6	0.21
Marion	33	20.1	13.7 - 28.6	^	^	^ - ^	^
Meigs	^	^	^ - ^	^	^	^ - ^	^
Polk	17	15.9	9.0 - 26.4	^	^	^ - ^	^
Rhea	50	28.2	20.7 - 37.5	^	^	^ - ^	^
Sequatchie	19	26.6	15.8 - 42.0	^	^	^ - ^	^
Southwest Region	839	13.1	12.3 - 14.1	127	2.0	1.7 - 2.4	0.15
Chester	^	^	^ - ^	^	^	^ - ^	^
Decatur	11	14.3	6.9 - 26.8	^	^	^ - ^	^
Fayette	43	20.9	14.9 - 28.4	^	^	^ - ^	^
Hardeman	15	10.0	5.5 - 16.6	^	^	^ - ^	^
Hardin	27	14.7	9.6 - 22.0	^	^	^ - ^	^
Haywood	11	10.5	5.2 - 19.0	^	^	^ - ^	^
Henderson	22	14.8	9.2 - 22.6	^	^	^ - ^	^
Lauderdale	15	11.3	6.3 - 18.7	^	^	^ - ^	^
McNairy	23	14.1	8.8 - 21.7	^	^	^ - ^	^
Madison	52	10.2	7.6 - 13.4	15	3.0	1.6 - 4.9	0.29
Shelby	575	13.2	12.2 - 14.4	67	1.6	1.2 - 2.0	0.12
Tipton	37	12.4	8.7 - 17.2	^	^	^ - ^	^

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Appendix IX Continued

	Incidence			Mortality			M:I
	Count*	Rate**	CI	Count*	Rate**	CI	Ratio†
Upper-Cumberland Region	409	20.6	18.6 - 22.8	70	3.5	2.7 - 4.4	0.17
Cannon	21	24.1	14.8 - 37.6	^	^	^ - ^	^
Clay	^	^	^ - ^	^	^	^ - ^	^
Cumberland	112	27.5	22.2 - 33.8	^	^	^ - ^	^
DeKalb	14	12.8	6.9 - 21.9	^	^	^ - ^	^
Fentress	18	15.9	9.2 - 26.0	^	^	^ - ^	^
Jackson	16	24.8	13.9 - 41.0	^	^	^ - ^	^
Macon	19	16.1	9.6 - 25.4	^	^	^ - ^	^
Overton	21	16.6	10.1 - 25.8	^	^	^ - ^	^
Pickett	^	^	^ - ^	0	0.0	0.0 - 15.8	^
Putnam	77	21.1	16.6 - 26.4	13	3.4	1.8 - 5.8	0.16
Smith	24	24.2	15.4 - 36.2	^	^	^ - ^	^
Van Buren	^	^	^ - ^	^	^	^ - ^	^
Warren	37	16.9	11.8 - 23.4	11	5.3	2.6 - 9.5	0.31
White	31	19.3	13.0 - 27.7	^	^	^ - ^	^

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

Note that the number of cases by region may not sum up to the state total due to records with missing region information

APPENDIX X. PANCREATIC CANCER INCIDENCE AND MORTALITY BY RESIDENT COUNTY, TENNESSEE, 2006-2010

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Tennessee	3,889	11.6	11.2 - 11.9	3,651	11.0	10.6 - 11.3	0.95
East Region	781	11.3	10.5 - 12.1	732	10.7	9.9 - 11.5	0.95
Anderson	46	9.1	6.6 - 12.3	51	10.1	7.5 - 13.4	1.11
Blount	70	9.3	7.2 - 11.8	60	8.2	6.3 - 10.7	0.88
Campbell	25	10.0	6.4 - 15.0	19	7.4	4.4 - 11.9	0.74
Claiborne	19	9.7	5.8 - 15.4	20	10.1	6.1 - 15.9	1.04
Cocke	22	9.8	6.1 - 15.1	21	9.8	6.0 - 15.3	1.00
Grainger	15	11.0	6.0 - 18.7	14	10.6	5.6 - 18.2	0.96
Hamblen	52	14.0	10.5 - 18.5	53	14.6	10.9 - 19.2	1.04
Jefferson	30	9.9	6.6 - 14.3	33	11.0	7.5 - 15.7	1.11
Knox	285	12.3	10.9 - 13.9	256	11.2	9.9 - 12.7	0.91
Loudon	44	11.4	8.2 - 15.7	39	10.3	7.3 - 14.5	0.90
Monroe	39	14.4	10.1 - 19.9	32	12.1	8.2 - 17.3	0.84
Morgan	11	10.0	4.9 - 18.1	11	10.1	4.9 - 18.2	1.01
Roane	34	8.8	6.0 - 12.5	37	9.4	6.6 - 13.1	1.07
Scott	16	13.4	7.6 - 22.0	14	11.7	6.3 - 19.8	0.87
Sevier	56	10.5	7.9 - 13.8	63	11.9	9.1 - 15.3	1.13
Union	17	14.9	8.6 - 24.3	^	^	^ - ^	^
Mid-Cumberland Region	901	12.2	11.4 - 13.0	790	10.9	10.1 - 11.7	0.89
Cheatham	22	12.9	7.8 - 19.8	21	12.4	7.5 - 19.3	0.96
Davidson	365	13.4	12.0 - 14.8	319	11.9	10.6 - 13.3	0.89
Dickson	31	12.3	8.3 - 17.5	41	16.7	11.9 - 22.7	1.36
Houston	^	^	^ - ^	^	^	^ - ^	^
Humphreys	13	10.2	5.4 - 18.1	17	13.7	7.9 - 22.6	1.34
Montgomery	68	11.6	8.9 - 14.7	55	9.3	6.9 - 12.1	0.80
Robertson	37	11.3	7.9 - 15.7	32	10.0	6.8 - 14.2	0.88
Rutherford	119	13.1	10.7 - 15.7	87	9.5	7.5 - 11.7	0.73
Stewart	11	13.4	6.6 - 24.8	^	^	^ - ^	^
Sumner	83	10.7	8.5 - 13.3	85	11.1	8.8 - 13.7	1.04
Trousdale	^	^	^ - ^	^	^	^ - ^	^
Williamson	80	10.4	8.2 - 13.1	66	8.9	6.8 - 11.4	0.86
Wilson	65	11.0	8.4 - 14.2	52	9.4	6.9 - 12.4	0.85
Northeast Region	404	12.3	11.1 - 13.6	374	11.4	10.2 - 12.6	0.93
Carter	42	10.8	7.7 - 14.8	40	10.4	7.4 - 14.4	0.96
Greene	64	14.7	11.3 - 19.0	68	15.5	12.0 - 19.8	1.05
Hancock	^	^	^ - ^	^	^	^ - ^	^
Hawkins	46	12.4	9.0 - 16.7	44	11.8	8.5 - 16.1	0.95
Johnson	11	9.9	4.9 - 18.2	11	10.2	5.1 - 18.6	1.03
Sullivan	136	12.9	10.8 - 15.3	111	10.3	8.4 - 12.4	0.80
Unicoi	21	15.6	9.6 - 24.5	20	15.5	9.4 - 24.7	0.99
Washington	82	11.2	8.8 - 13.9	77	10.5	8.3 - 13.2	0.94

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Appendix X Continued

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Northwest Region	189	11.7	10.1 - 13.5	193	11.9	10.3 - 13.7	1.02
Benton	19	16.7	9.9 - 27.1	21	17.4	10.7 - 27.4	1.04
Carroll	19	9.8	5.8 - 15.5	19	9.7	5.8 - 15.5	0.99
Crockett	13	13.8	7.3 - 24.1	11	12.0	6.0 - 22.0	0.87
Dyer	29	13.3	8.8 - 19.3	26	12.0	7.8 - 17.7	0.90
Gibson	33	10.2	7.0 - 14.5	36	11.1	7.8 - 15.6	1.09
Henry	27	12.0	7.9 - 17.9	25	11.1	7.1 - 16.8	0.93
Lake	^	^	^ - ^	^	^	^ - ^	^
Obion	23	11.0	7.0 - 16.8	27	13.0	8.5 - 19.2	1.18
Weakley	20	10.1	6.1 - 15.8	19	10.1	6.0 - 15.9	1.00
South Central Region	235	10.9	9.5 - 12.4	227	10.5	9.1 - 11.9	0.96
Bedford	33	14.4	9.9 - 20.4	28	12.6	8.3 - 18.2	0.88
Coffee	41	13.3	9.5 - 18.1	39	12.4	8.8 - 17.1	0.93
Giles	17	9.1	5.2 - 15.0	15	8.0	4.4 - 13.5	0.88
Hickman	18	13.6	8.0 - 21.8	18	13.8	8.1 - 22.1	1.01
Lawrence	19	7.7	4.6 - 12.1	21	8.5	5.2 - 13.1	1.10
Lewis	^	^	^ - ^	^	^	^ - ^	^
Lincoln	21	9.7	6.0 - 15.1	21	9.6	5.9 - 14.9	0.99
Marshall	16	10.3	5.8 - 16.8	19	12.4	7.4 - 19.4	1.20
Maury	44	10.4	7.6 - 14.1	41	9.8	7.0 - 13.3	0.94
Moore	^	^	^ - ^	^	^	^ - ^	^
Perry	^	^	^ - ^	^	^	^ - ^	^
Wayne	10	9.4	4.5 - 17.8	11	10.2	5.1 - 18.9	1.09
Southeast Region	396	10.3	9.3 - 11.4	400	10.5	9.5 - 11.6	1.02
Bledsoe	^	^	^ - ^	^	^	^ - ^	^
Bradley	53	10.1	7.5 - 13.3	54	10.4	7.7 - 13.6	1.03
Franklin	25	9.4	6.1 - 14.1	25	9.5	6.1 - 14.3	1.01
Grundy	^	^	^ - ^	10	11.7	5.5 - 22.2	^
Hamilton	193	10.0	8.6 - 11.5	193	10.2	8.8 - 11.8	1.02
McMinn	46	13.7	10.0 - 18.4	42	12.5	9.0 - 17.1	0.91
Marion	21	12.6	7.7 - 19.6	21	12.0	7.3 - 18.8	0.95
Meigs	^	^	^ - ^	^	^	^ - ^	^
Polk	^	^	^ - ^	^	^	^ - ^	^
Rhea	18	9.6	5.7 - 15.4	22	12.1	7.5 - 18.5	1.26
Sequatchie	^	^	^ - ^	10	14.2	6.7 - 26.3	^
Southwest Region	741	11.9	11.0 - 12.8	715	11.7	10.8 - 12.6	0.98
Chester	^	^	^ - ^	^	^	^ - ^	^
Decatur	^	^	^ - ^	^	^	^ - ^	^
Fayette	26	12.1	7.8 - 18.0	27	13.2	8.6 - 19.4	1.09
Hardeman	23	14.3	9.0 - 21.7	18	11.5	6.8 - 18.4	0.80
Hardin	14	8.2	4.5 - 14.2	18	10.7	6.3 - 17.3	1.30
Haywood	^	^	^ - ^	^	^	^ - ^	^
Henderson	15	9.8	5.5 - 16.4	13	8.1	4.3 - 14.1	0.83
Lauderdale	16	11.3	6.4 - 18.4	21	15.2	9.3 - 23.3	1.35
McNairy	18	11.0	6.4 - 17.8	20	12.9	7.8 - 20.3	1.17
Madison	52	10.1	7.5 - 13.2	57	10.8	8.2 - 14.1	1.07
Shelby	519	12.7	11.6 - 13.9	477	12.0	10.9 - 13.1	0.94
Tipton	37	13.0	9.0 - 18.0	43	15.7	11.3 - 21.4	1.21

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Appendix X Continued

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Upper-Cumberland Region	241	11.4	10.0 - 13.0	220	10.4	9.0 - 11.9	0.91
Cannon	^	^	^ - ^	^	^	^ - ^	^
Clay	^	^	^ - ^	^	^	^ - ^	^
Cumberland	53	10.9	8.0 - 14.7	50	9.6	7.1 - 13.0	0.88
DeKalb	^	^	^ - ^	11	9.4	4.6 - 17.3	^
Fentress	18	18.1	10.6 - 29.1	18	17.8	10.4 - 28.7	0.98
Jackson	^	^	^ - ^	^	^	^ - ^	^
Macon	12	10.1	5.1 - 17.8	12	10.6	5.4 - 18.8	1.05
Overton	14	10.8	5.8 - 18.4	15	12.2	6.8 - 20.3	1.13
Pickett	^	^	^ - ^	^	^	^ - ^	^
Putnam	37	9.7	6.8 - 13.5	27	7.2	4.7 - 10.6	0.74
Smith	13	12.8	6.8 - 22.2	15	15.4	8.6 - 25.5	1.20
Van Buren	^	^	^ - ^	^	^	^ - ^	^
Warren	32	13.5	9.2 - 19.3	31	13.3	9.0 - 19.1	0.99
White	20	12.8	7.8 - 20.2	15	8.7	4.9 - 14.8	0.68

*Total counts from 2006-2010

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

Note that the number of cases by region may not sum up to the state total due to records with missing region information

APPENDIX XI. CANCER INCIDENCE AND MORTALITY, CHILDREN 0-19 YEARS, BY RESIDENT COUNTY, TENNESSEE, 2006-2010

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Tennessee	1,413	169.2	160.5 - 178.2	201	24.1	20.9 - 27.7	0.14
East Region	260	178.8	157.7 - 201.9	36	25.0	17.5 - 34.6	0.14
Anderson	19	207.0	124.6 - 323.7	^	^	^ - ^	^
Blount	23	152.9	96.9 - 229.6	^	^	^ - ^	^
Campbell	10	200.6	96.2 - 369.0	0	0.0	0.0 - 74.2	0.00
Claiborne	^	^	^ - ^	^	^	^ - ^	^
Cocke	^	^	^ - ^	^	^	^ - ^	^
Grainger	^	^	^ - ^	0	0.0	0.0 - 133.9	^
Hamblen	16	200.9	114.8 - 325.8	0	0.0	0.0 - 45.2	0.00
Jefferson	14	215.3	117.5 - 361.8	^	^	^ - ^	^
Knox	89	165.1	132.6 - 203.3	14	26.2	14.3 - 43.9	0.16
Loudon	17	315.8	183.8 - 505.7	^	^	^ - ^	^
Monroe	^	^	^ - ^	^	^	^ - ^	^
Morgan	^	^	^ - ^	^	^	^ - ^	^
Roane	10	157.7	75.5 - 291.1	^	^	^ - ^	^
Scott	^	^	^ - ^	0	0.0	0.0 - 118.0	^
Sevier	17	155.9	90.8 - 249.8	^	^	^ - ^	^
Union	^	^	^ - ^	0	0.0	0.0 - 143.1	^
Mid-Cumberland Region	414	177.3	160.6 - 195.2	57	24.9	18.8 - 32.2	0.14
Cheatham	^	^	^ - ^	^	^	^ - ^	^
Davidson	136	171.7	143.9 - 203.4	16	21.5	12.2 - 34.9	0.13
Dickson	15	218.9	122.5 - 361.2	^	^	^ - ^	^
Houston	^	^	^ - ^	0	0.0	0.0 - 338.3	^
Humphreys	^	^	^ - ^	^	^	^ - ^	^
Montgomery	37	139.1	97.7 - 192.1	^	^	^ - ^	^
Robertson	^	^	^ - ^	^	^	^ - ^	^
Rutherford	63	168.8	129.7 - 216.0	10	27.5	13.2 - 50.4	0.16
Stewart	^	^	^ - ^	0	0.0	0.0 - 229.3	^
Sumner	46	213.5	156.3 - 284.9	^	^	^ - ^	^
Trousdale	^	^	^ - ^	^	^	^ - ^	^
Williamson	53	198.6	148.6 - 260.1	^	^	^ - ^	^
Wilson	36	239.3	167.6 - 331.4	^	^	^ - ^	^
Northeast Region	101	170.7	139.0 - 207.5	12	20.2	10.4 - 35.4	0.12
Carter	12	176.4	91.0 - 309.2	0	0.0	0.0 - 56.1	0.00
Greene	13	159.2	84.6 - 272.7	^	^	^ - ^	^
Hancock	^	^	^ - ^	^	^	^ - ^	^
Hawkins	10	144.5	69.2 - 266.0	^	^	^ - ^	^
Johnson	^	^	^ - ^	^	^	^ - ^	^
Sullivan	34	187.8	129.9 - 262.6	^	^	^ - ^	^
Unicoi	^	^	^ - ^	^	^	^ - ^	^
Washington	17	117.0	68.0 - 187.8	^	^	^ - ^	^

Continued on next page

Appendix XI Continued

	Incidence			Mortality			M:I
	Count*	Rate**	CI	Count*	Rate**	CI	Ratio†
Northwest Region	72	223.0	174.4 - 281.0	^	^	^ - ^	^
Benton	^	^	^ - ^	^	^	^ - ^	^
Carroll	11	301.4	150.0 - 540.7	0	0.0	0.0 - 102.7	0.00
Crockett	^	^	^ - ^	^	^	^ - ^	^
Dyer	^	^	^ - ^	^	^	^ - ^	^
Gibson	15	228.9	128.1 - 377.4	0	0.0	0.0 - 55.9	0.00
Henry	12	306.7	158.4 - 536.2	^	^	^ - ^	^
Lake	^	^	^ - ^	0	0.0	0.0 - 531.6	^
Obion	10	251.0	120.0 - 463.5	0	0.0	0.0 - 95.7	0.00
Weakley	^	^	^ - ^	^	^	^ - ^	^
South Central Region	76	149.6	117.9 - 187.3	16	31.4	18.0 - 51.1	0.21
Bedford	11	171.7	85.7 - 306.6	0	0.0	0.0 - 55.8	0.00
Coffee	^	^	^ - ^	^	^	^ - ^	^
Giles	^	^	^ - ^	^	^	^ - ^	^
Hickman	^	^	^ - ^	^	^	^ - ^	^
Lawrence	^	^	^ - ^	0	0.0	0.0 - 63.6	^
Lewis	^	^	^ - ^	^	^	^ - ^	^
Lincoln	14	330.7	180.8 - 554.7	^	^	^ - ^	^
Marshall	10	245.2	117.6 - 451.3	^	^	^ - ^	^
Maury	^	^	^ - ^	^	^	^ - ^	^
Moore	^	^	^ - ^	0	0.0	0.0 - 513.9	^
Perry	^	^	^ - ^	^	^	^ - ^	^
Wayne	^	^	^ - ^	^	^	^ - ^	^
Southeast Region	133	161.4	135.1 - 191.3	17	20.4	11.9 - 32.7	0.13
Bledsoe	^	^	^ - ^	0	0.0	0.0 - 244.2	^
Bradley	18	140.7	83.4 - 222.5	^	^	^ - ^	^
Franklin	15	282.0	157.2 - 467.9	^	^	^ - ^	^
Grundy	^	^	^ - ^	0	0.0	0.0 - 209.8	^
Hamilton	72	173.7	135.9 - 218.9	^	^	^ - ^	^
McMinn	^	^	^ - ^	^	^	^ - ^	^
Marion	^	^	^ - ^	^	^	^ - ^	^
Meigs	^	^	^ - ^	0	0.0	0.0 - 265.4	^
Polk	^	^	^ - ^	0	0.0	0.0 - 183.8	^
Rhea	^	^	^ - ^	0	0.0	0.0 - 90.1	^
Sequatchie	^	^	^ - ^	0	0.0	0.0 - 202.1	^
Southwest Region	289	152.3	135.2 - 170.9	48	25.5	18.8 - 33.8	0.17
Chester	^	^	^ - ^	0	0.0	0.0 - 167.1	^
Decatur	^	^	^ - ^	0	0.0	0.0 - 273.0	^
Fayette	^	^	^ - ^	^	^	^ - ^	^
Hardeman	^	^	^ - ^	0	0.0	0.0 - 112.4	^
Hardin	^	^	^ - ^	0	0.0	0.0 - 118.3	^
Haywood	^	^	^ - ^	0	0.0	0.0 - 137.9	^
Henderson	^	^	^ - ^	^	^	^ - ^	^
Lauderdale	12	319.2	164.9 - 557.3	^	^	^ - ^	^
McNairy	^	^	^ - ^	^	^	^ - ^	^
Madison	19	133.4	80.1 - 209.0	^	^	^ - ^	^
Shelby	210	152.1	132.2 - 174.1	42	30.7	22.1 - 41.4	0.20
Tipton	11	124.3	61.9 - 222.5	^	^	^ - ^	^

Continued on next page

Appendix XI Continued

	Incidence			Mortality			M:I Ratio†
	Count*	Rate**	CI	Count*	Rate**	CI	
Upper-Cumberland Region	68	160.6	124.7 - 203.7	^	^	^ - ^	^
Cannon	^	^	^ - ^	0	0.0	0.0 - 218.4	^
Clay	^	^	^ - ^	0	0.0	0.0 - 394.9	^
Cumberland	10	164.9	79.0 - 304.0	^	^	^ - ^	^
DeKalb	^	^	^ - ^	0	0.0	0.0 - 155.1	^
Fentress	^	^	^ - ^	^	^	^ - ^	^
Jackson	^	^	^ - ^	0	0.0	0.0 - 283.8	^
Macon	^	^	^ - ^	0	0.0	0.0 - 119.0	^
Overton	^	^	^ - ^	^	^	^ - ^	^
Pickett	0	0.0	0.0 - 669.5	0	0.0	0.0 - 669.5	~
Putnam	15	154.8	86.1 - 257.4	^	^	^ - ^	^
Smith	^	^	^ - ^	0	0.0	0.0 - 147.7	^
Van Buren	0	0.0	0.0 - 593.1	0	0.0	0.0 - 593.1	~
Warren	12	229.4	118.5 - 400.4	^	^	^ - ^	^
White	^	^	^ - ^	^	^	^ - ^	^

*Total counts from 2006-2010

**Age-adjusted annual rate per 1,000,000

†Mortality incidence ratio. See Technical Notes for details

^Cell suppressed due to fewer than 10 cases

Note that the number of cases by region may not sum up to the state total due to records with missing region information

APPENDIX XII. INCIDENCE AND MORTALITY OF COMMON CANCERS, THREE-YEAR MOVING AVERAGE, TENNESSEE, 2006-2010

Cancer Site	Year	Incidence			Mortality			M:I Ratio†
		Count*	Rate**	CI	Count*	Rate**	CI	
All Sites	2006-2008	95,733	480.5	477.4 - 483.6	39,227	200.4	198.4 - 202.4	0.42
	2007-2009	98,568	483.3	480.2 - 486.3	39,627	197.9	195.9 - 199.9	0.41
	2008-2010	100,123	480.1	477.1 - 483.1	40,029	195.5	193.6 - 197.4	0.41
Lung and Bronchus	2006-2008	16,128	80.4	79.1 - 81.6	12,964	65.4	64.3 - 66.6	0.81
	2007-2009	16,375	79.5	78.3 - 80.8	12,970	63.9	62.8 - 65.1	0.80
	2008-2010	16,652	79.0	77.8 - 80.2	13,045	62.8	61.8 - 63.9	0.79
Female Breast	2006-2008	12,885	119.3	117.3 - 121.4	2,605	23.5	22.6 - 24.4	0.20
	2007-2009	13,267	120.5	118.4 - 122.6	2,602	23.0	22.1 - 23.9	0.19
	2008-2010	13,527	120.4	118.3 - 122.5	2,599	22.6	21.7 - 23.5	0.19
Prostate	2006-2008	13,839	151.9	149.3 - 154.5	1,803	26.2	25.0 - 27.5	0.17
	2007-2009	14,146	149.6	147.1 - 152.2	1,783	24.8	23.6 - 26.0	0.17
	2008-2010	13,916	141.8	139.3 - 144.2	1,752	23.7	22.6 - 24.9	0.17
Colon and Rectum	2006-2008	9,584	48.4	47.4 - 49.4	3,568	18.4	17.8 - 19.0	0.38
	2007-2009	9,413	46.5	45.6 - 47.5	3,643	18.3	17.7 - 18.9	0.39
	2008-2010	9,276	44.9	44.0 - 45.9	3,615	17.8	17.2 - 18.4	0.40
Melanoma of the Skin	2006-2008	3,946	20.2	19.5 - 20.8	571	2.9	2.7 - 3.2	0.14
	2007-2009	4,214	21.1	20.5 - 21.8	575	2.9	2.7 - 3.1	0.14
	2008-2010	4,329	21.3	20.6 - 21.9	627	3.1	2.8 - 3.3	0.15
Pancreas	2006-2008	2,251	11.4	11.0 - 11.9	2,122	10.9	10.4 - 11.3	0.96
	2007-2009	2,358	11.8	11.3 - 12.2	2,208	11.1	10.6 - 11.6	0.94
	2008-2010	2,435	11.8	11.3 - 12.3	2,288	11.2	10.8 - 11.7	0.95

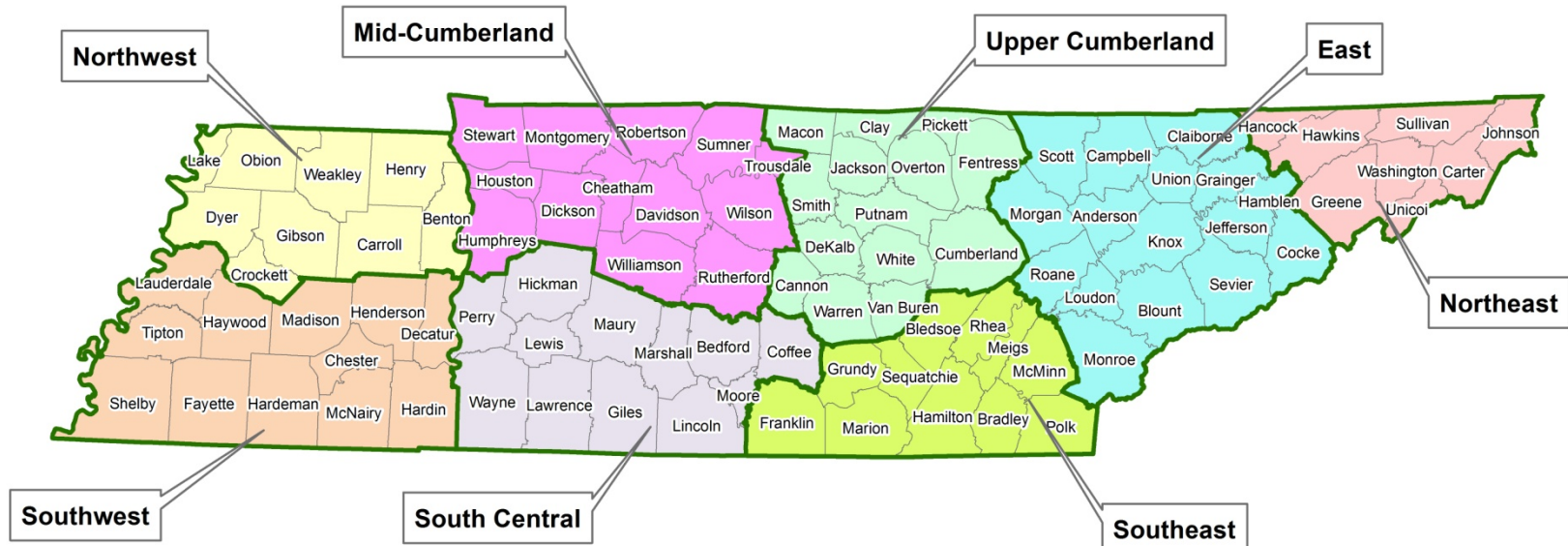
*Total counts in three years

**Age-adjusted annual rate per 100,000

†Mortality incidence ratio. See Technical Notes for details

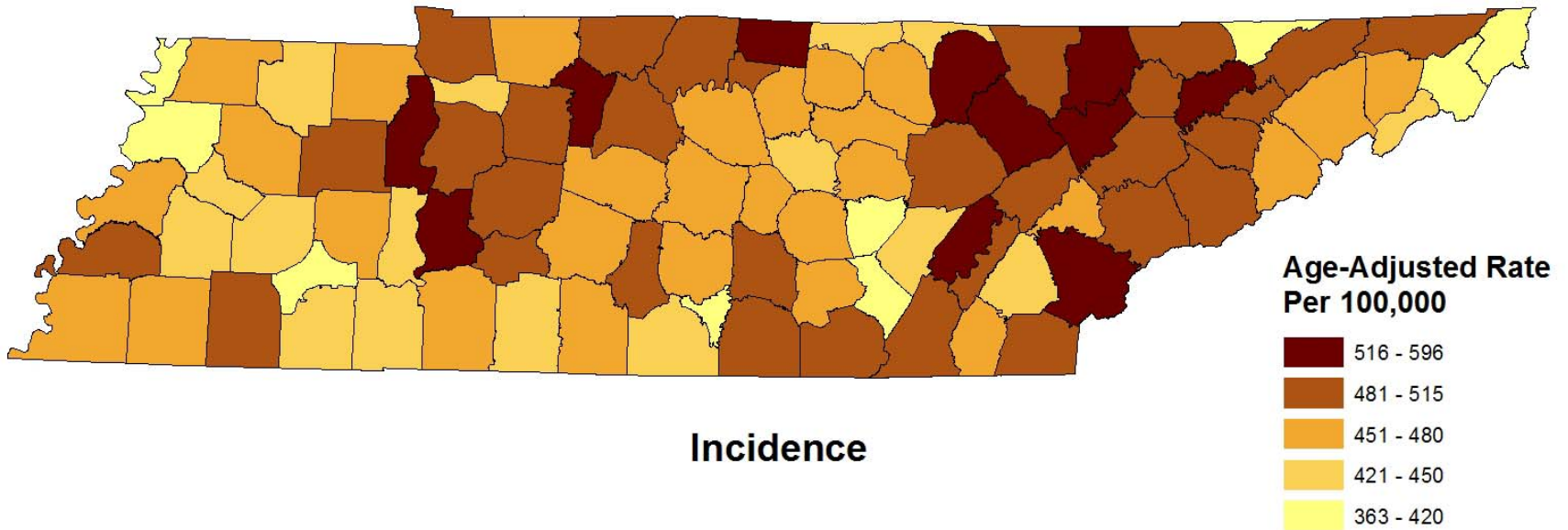
APPENDIX XIII. COUNTY MAPS OF INCIDENCE AND MORTALITY RATES OF ALL CANCERS AND COMMON CANCERS

1. TENNESSEE COUNTIES AND REGIONAL GROUPINGS

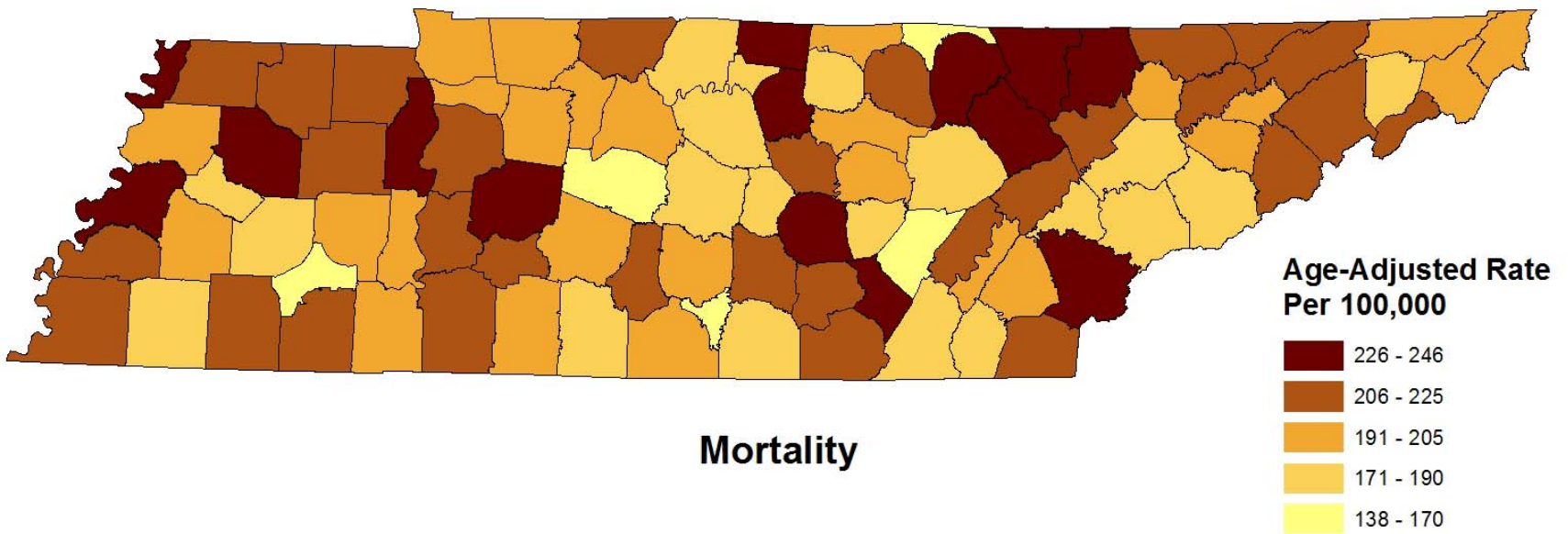


Northwest	Southwest	Mid-Cumberland	South Central	Upper-Cumberland	Southeast	East	Northeast
Benton	Chester	Cheatham	Bedford	Cannon	Bledsoe	Anderson	Carter
Carroll	Decatur	Davidson	Coffee	Clay	Bradley	Blount	Greene
Crockett	Fayette	Dickson	Giles	Cumberland	Franklin	Campbell	Hancock
Dyer	Hardeman	Houston	Hickman	DeKalb	Grundy	Claiborne	Hawkins
Gibson	Hardin	Humphreys	Lawrence	Fentress	Hamilton	Cocke	Johnson
Henry	Haywood	Montgomery	Lewis	Jackson	McMinn	Grainger	Sullivan
Lake	Henderson	Robertson	Lincoln	Macon	Marion	Hamblen	Unicoi
Obion	Lauderdale	Rutherford	Marshall	Overton	Meigs	Jefferson	Washington
Weakley	McNairy	Stewart	Maury	Pickett	Polk	Knox	
	Madison	Sumner	Moore	Putnam	Rhea	Loudon	
	Shelby	Trousdale	Perry	Smith	Sequatchie	Monroe	
	Tipton	Williamson	Wayne	Van Buren		Morgan	
		Wilson		Warren		Roane	
				White		Scott	
						Sevier	
						Union	

2. AGE-ADJUSTED CANCER INCIDENCE AND MORTALITY RATES BY RESIDENT COUNTY, ALL SITES COMBINED, TENNESSEE, 2006-2010

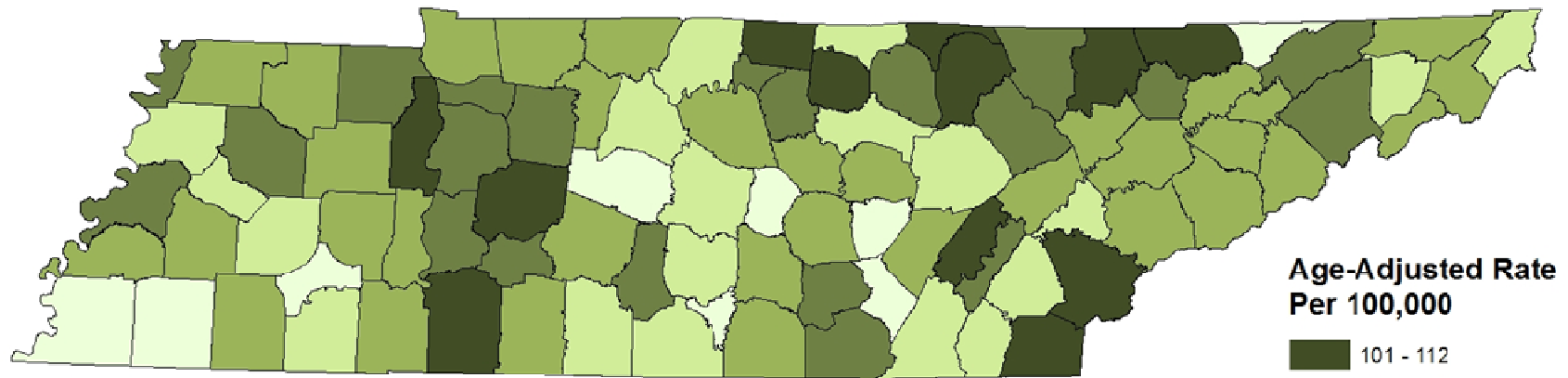


Incidence



Mortality

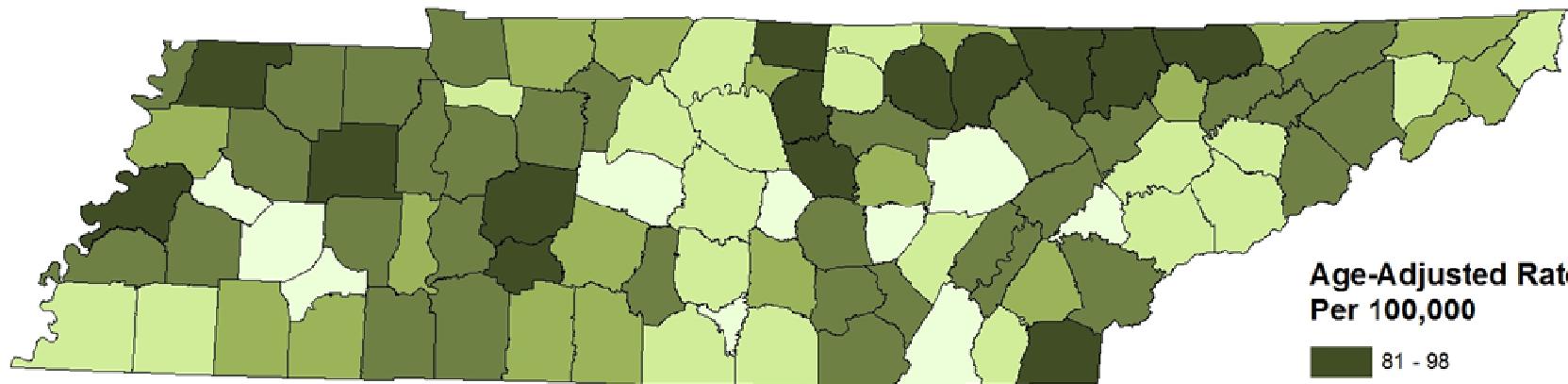
3. AGE-ADJUSTED CANCER INCIDENCE AND MORTALITY RATES BY RESIDENT COUNTY, LUNG AND BRONCHUS, TENNESSEE, 2006-2010



Incidence

**Age-Adjusted Rate
Per 100,000**

- 101 - 112
- 91 - 100
- 81 - 90
- 71 - 80
- 51 - 70

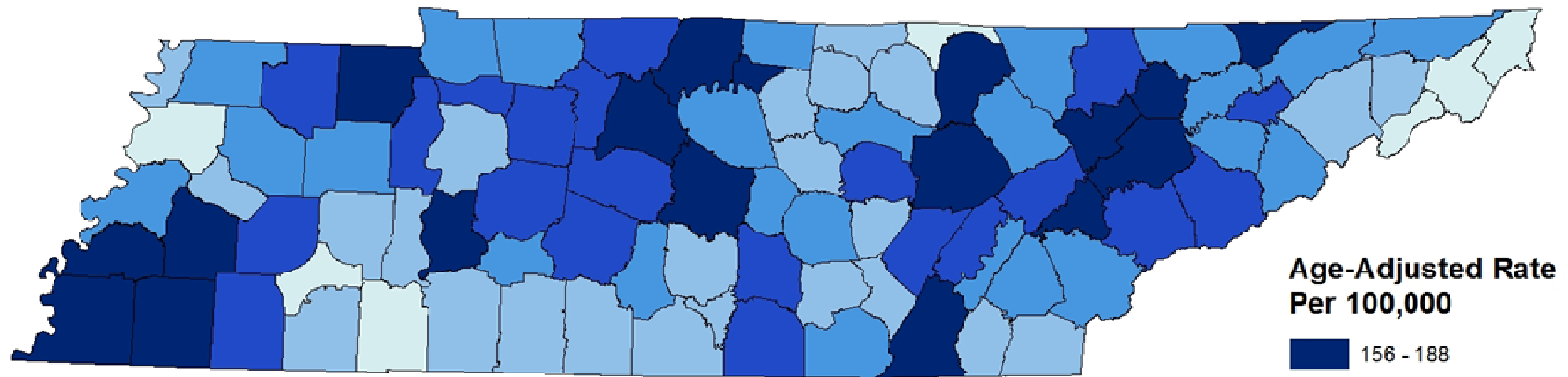


Mortality

**Age-Adjusted Rate
Per 100,000**

- 81 - 98
- 71 - 80
- 66 - 70
- 56 - 65
- 43 - 55

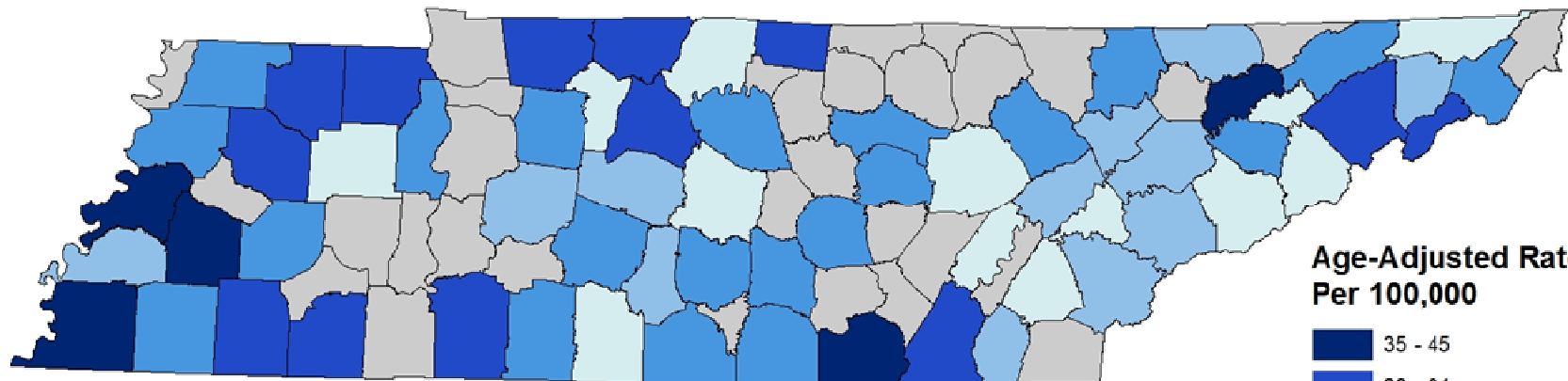
4. AGE-ADJUSTED CANCER INCIDENCE AND MORTALITY RATES BY RESIDENT COUNTY, PROSTATE, TENNESSEE, 2006-2010



Incidence

**Age-Adjusted Rate
Per 100,000**

- 156 - 188
- 136 - 155
- 116 - 135
- 91 - 115
- 68 - 90

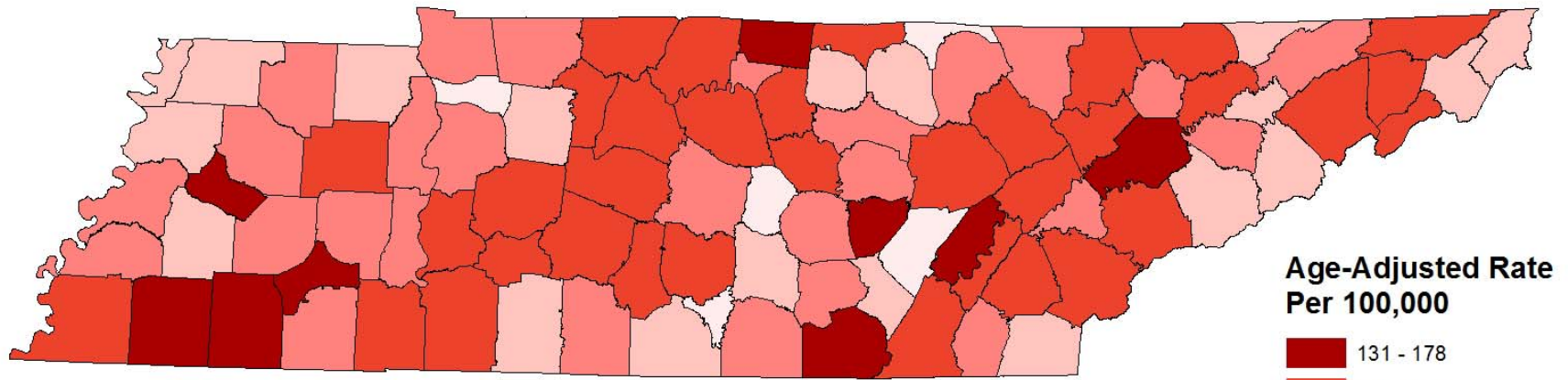


Mortality

**Age-Adjusted Rate
Per 100,000**

- 35 - 45
- 28 - 34
- 23 - 27
- 21 - 22
- 14 - 20
- Data Suppressed

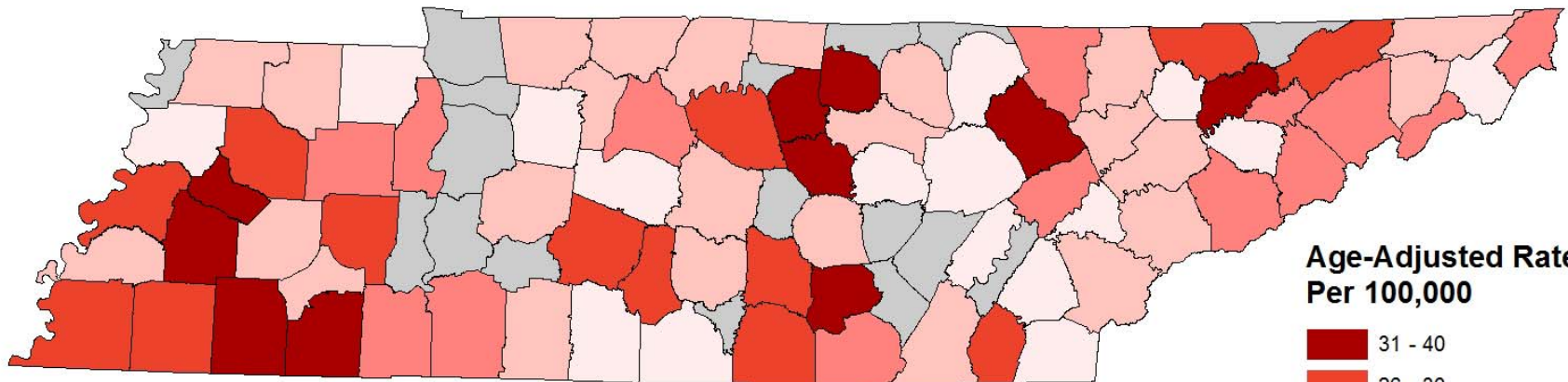
5. AGE-ADJUSTED CANCER INCIDENCE AND MORTALITY RATES BY RESIDENT COUNTY, FEMALE BREAST, TENNESSEE, 2006-2010



Incidence

**Age-Adjusted Rate
Per 100,000**

- 131 - 178
- 116 - 130
- 106 - 115
- 86 - 105
- 65 - 85

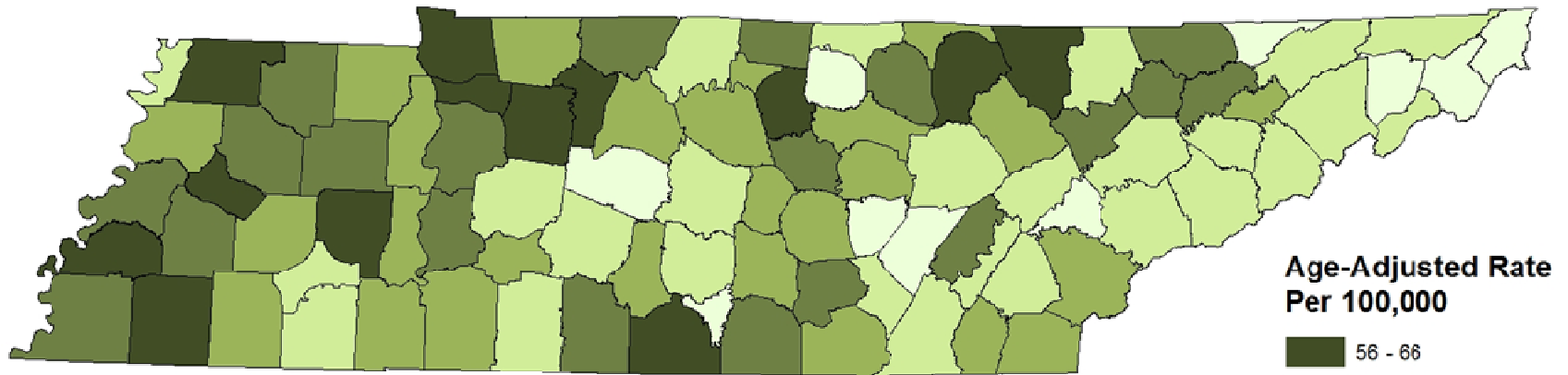


Mortality

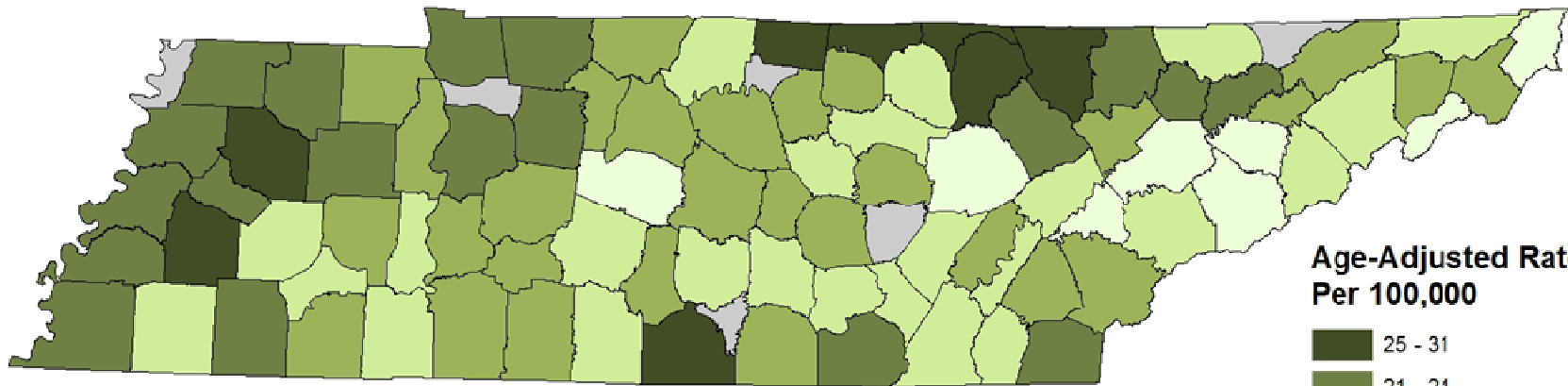
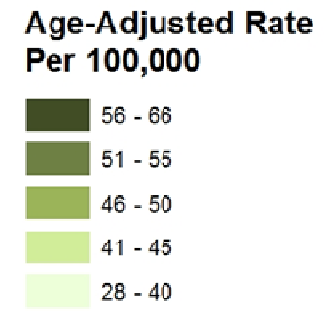
**Age-Adjusted Rate
Per 100,000**

- 31 - 40
- 26 - 30
- 23 - 25
- 20 - 22
- 15 - 19
- Data Suppressed

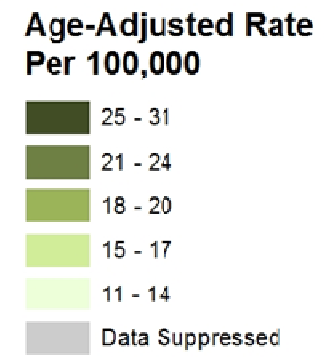
6. AGE-ADJUSTED CANCER INCIDENCE AND MORTALITY RATES BY RESIDENT COUNTY, COLON AND RECTUM, TENNESSEE, 2006-2010



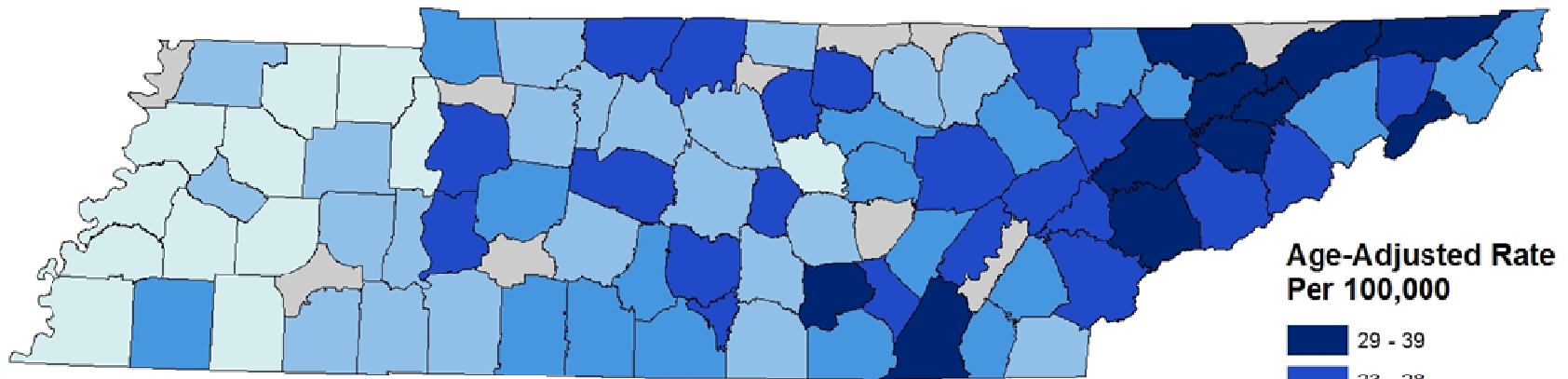
Incidence



Mortality

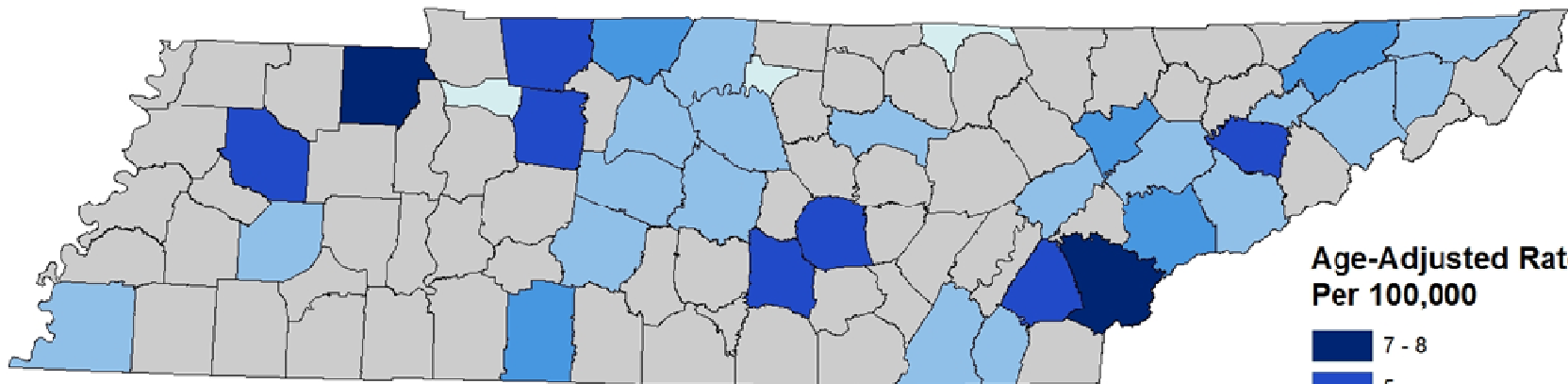
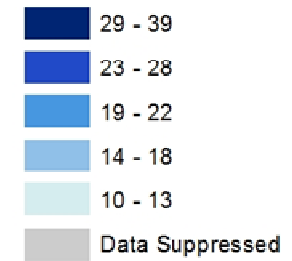


7. AGE-ADJUSTED CANCER INCIDENCE AND MORTALITY RATES BY RESIDENT COUNTY, MELANOMA OF THE SKIN, TENNESSEE, 2006-2010



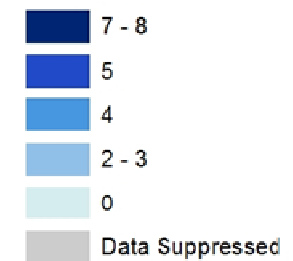
Incidence

**Age-Adjusted Rate
Per 100,000**

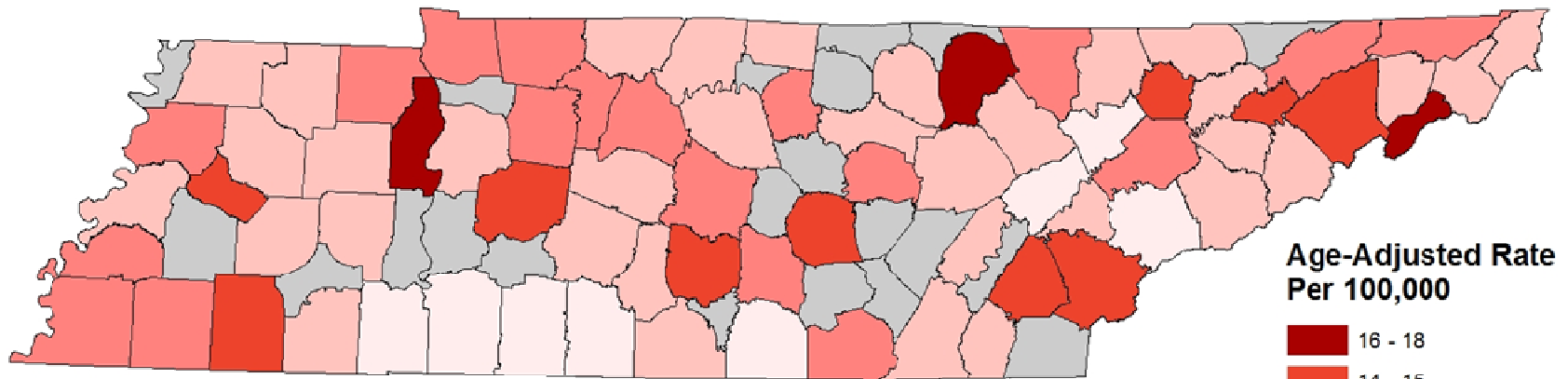


Mortality

**Age-Adjusted Rate
Per 100,000**

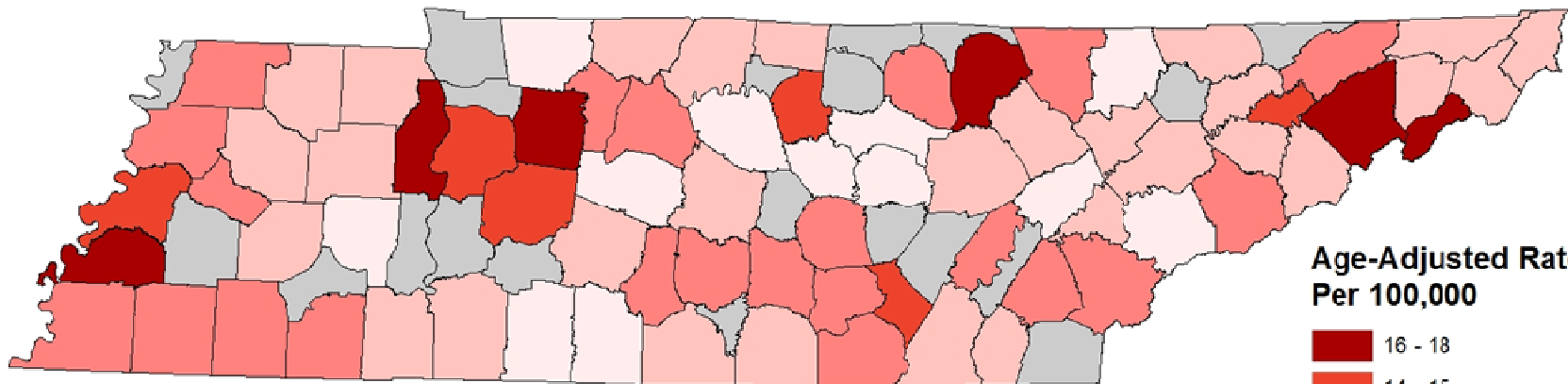
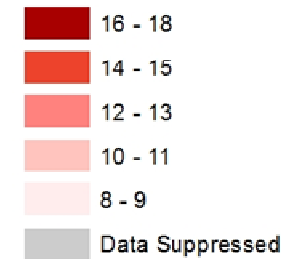


8. AGE-ADJUSTED CANCER INCIDENCE AND MORTALITY RATES BY RESIDENT COUNTY, PANCREAS, TENNESSEE, 2006-2010



Incidence

**Age-Adjusted Rate
Per 100,000**



Mortality

**Age-Adjusted Rate
Per 100,000**

