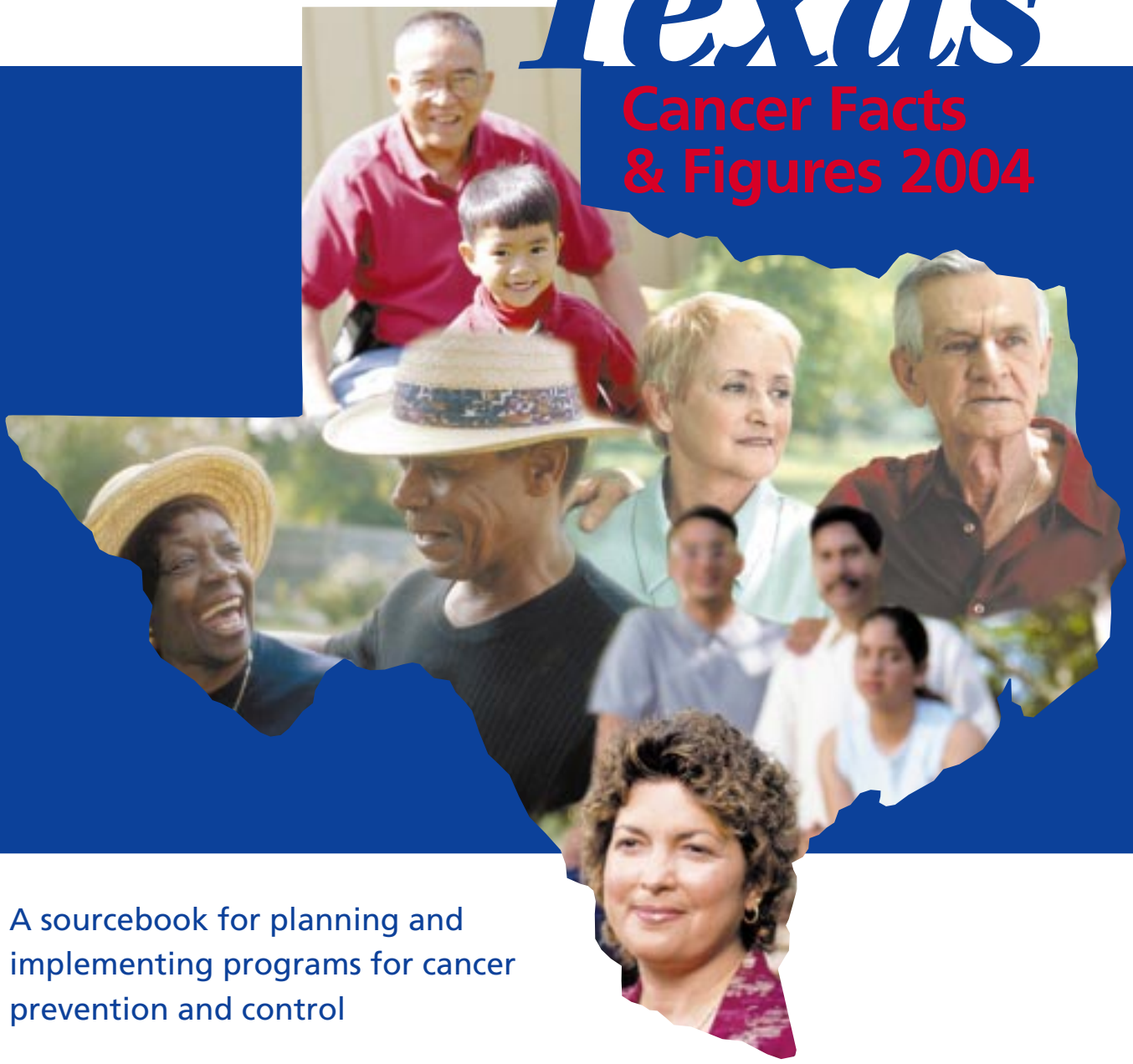
Texas

Cancer Facts & Figures 2004



A sourcebook for planning and implementing programs for cancer prevention and control

American Cancer Society®

Texas Division, Inc.

Hope.Progress.Answers.

TEXAS Department of State Health Services

TEXAS CANCER REGISTRY

Texas Cancer Council

THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER

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Texas Cancer Data Center

Acknowledgements

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American Cancer Society, Texas Division, Inc.

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Texas Cancer Council

Texas Cancer Data Center, The University of Texas M.D. Anderson Cancer Center

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** At the time* Texas Cancer Facts & Figures 2004 *went to press, the Texas Department of Health (TDH) was in the process of merging with the Texas Department of Mental Health and Mental Retardation mental health services, the Texas Commission on Alcohol and Drug Abuse, and the Texas Health Care Information Council to create the Texas Department of State Health Services, effective September 1, 2004. For additional information, updates, and links to Web site addresses of Texas Department of Health Departments referenced in this publication, please refer to the newly created Department of State Health Services Web site* (www.dshs.state.tx.us).

Dear Reader

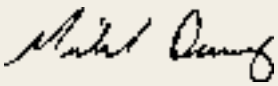
The American Cancer Society, the Texas Cancer Registry and Center for Health Statistics of the Texas Department of State Health Services, Texas Cancer Council, and Texas Cancer Data Center are pleased to present the 2004 edition of *Texas Cancer Facts & Figures*. This partnership publication was developed to assist healthcare organizations, health professionals, community groups, and others who are working to reduce the cancer burden in Texas. It may also be of interest to policy-makers, advocates, and news organizations who seek detailed, easy-to-read information about the burden of cancer in Texas. The challenge of cancer is clear. It is the second leading cause of death in the state and nation. Thousands of families in Texas are affected each year. Progress and hope, however, are also evident. For the first time in history, we see a sustained decline in overall age-adjusted cancer mortality rates in the U.S. As for hope, in addition to the striking advances in research and treatment, much can be accomplished at the state level and in local communities to save lives, decrease cancer incidence and mortality rates, and improve the quality of life for all cancer survivors.

Even as we are encouraged by the progress already achieved, we are mindful that much work remains to be done. It will require collaboration of many organizations such as ours along with many community partners and volunteers to achieve this ambitious goal, and to improve the quality of life for all those touched by cancer.

The American Cancer Society; the Texas Cancer Registry and Center for Health Statistics of the Texas Department of State Health Services; Texas Cancer Council; Texas Cancer Data Center, and other partners are committed to reducing the burden of cancer in our state. Providing accurate, unbiased information is a critical responsibility. We are therefore pleased that *Texas Cancer Facts & Figures* affirms the spirit of collaboration between our organizations.

This document, created by public health officials and partners, is primarily intended to serve the public. It can serve as a companion piece to the *Texas Cancer Plan* and other publications intended to facilitate outcomes-based, data-driven cancer control planning. We hope you find *Texas Cancer Facts & Figures* a useful tool in planning and implementing collaborative programs aimed at reducing the burden of cancer in Texas.

Sincerely,



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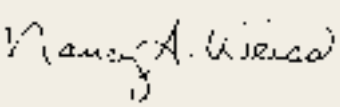

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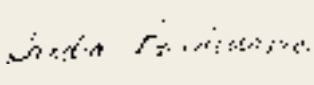

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Cancer in Texas: An Overview

What Is Cancer?

Cancer is a large group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread is not controlled, it can result in death. Cancer can be caused by external (chemicals, tobacco smoke, radiation, viruses), internal (hormones, immune conditions, genetics), and lifestyle (tobacco and alcohol use, unprotected sun exposure, poor nutrition, physical inactivity) factors. Many cancers can be cured if detected and treated promptly, and many others can be prevented by lifestyle changes, especially avoidance of tobacco.

How Many New Cases and Deaths Are Expected to Occur This Year?

It is estimated that more than 1.3 million people in the United States will be diagnosed with cancer in 2004. In Texas alone, it is estimated that approximately 85,000 individuals will be diagnosed with cancer in 2004, and another 37,000 will die from the disease (Table 1). Table 2 provides an overview of the average annual number of new cases (incidence) and deaths (mortality) for standard cancer sites in Texas.

As is true for the United States as a whole, four cancer sites account for more than half of Texas' cancer burden. These include lung and bronchus, colon and rectum (also referred to as colorectal), breast (female), and prostate cancer. Each year, these sites together account for close to 41,900 new cases of cancer diagnosed and 16,900 cancer deaths in Texans (Figure 1). It is interesting to note that the total number of lung and bronchus cancer ***deaths*** each year exceeds deaths from breast, prostate, and colorectal cancers combined.

Cancer is the second leading cause of death in the United States and is expected to become the leading cause of death within the next decade. Cancer also is the second leading cause of death in Texas (Figure 2).

Among adults below the age of 65, cancer is already the leading cause of death. When comparing leading causes of death to "actual" causes of death—defined as lifestyle and behavioral factors that contribute to disease—smoking, poor nutrition, and physical inactivity are responsible for more than one-third of all deaths and two-thirds of cancer deaths (Table 3).

Progress and hope, however, also are evident. In Texas, over a ten year period, total cancer mortality (percent change) has declined in both males and females. However, some cancer sites were significantly increasing in cancer mortality, including cancer of the rectum in both males and females (Figure 3). For additional information on cancer incidence and mortality in Texas, including trends, see *Cancer Incidence in Texas* and *Cancer Mortality in Texas* reports produced by the Texas Cancer Registry, Texas Department of State Health Services (*www.dshs.state.tx.us/tcr*).

Can More People be Saved?

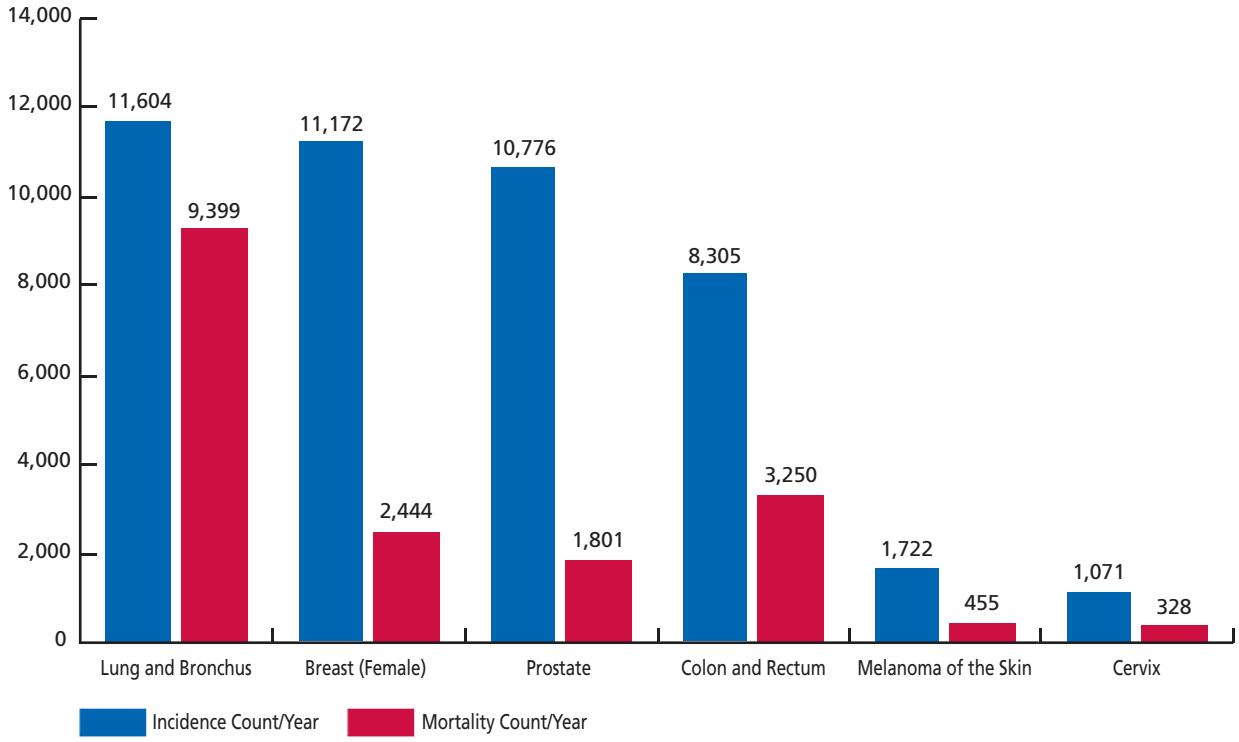
Many cancers can be cured if detected and treated promptly, while others can be controlled for many years with appropriate treatment. In addition, many cancers can be prevented by lifestyle changes. All cancers caused by cigarette smoking and heavy use of alcohol can be prevented completely. Of the nearly 33,000 lives lost to cancer in Texas each year between 1997 and 2001, it is estimated that 10,500 (approximately 30 percent of total) were lost because of tobacco use. Scientific evidence suggests that it may be possible to reduce cancer deaths by up to one-third by improving nutrition and physical activity behaviors, and by maintaining a body weight within the recommended range. Many of the new cases of and deaths from colon and rectum cancers are preventable by such improvements in nutrition and physical activity and by timely use of existing colorectal cancer screening tests.

Table 1. Projected Number of New Cancer Cases and Deaths, Selected Cancer Sites, Texas, 2004

Cancer Sites	Incidence Counts (New Cases)	Percentage of Total Cancer Incidence	Mortality Counts (Deaths)	Percentage of Total Cancer Mortality
Breast (Female)	13,590	16.0	2,722	7.4
Cervix	1,150	1.4	374	1.0
Colon and Rectum	9,168	10.8	3,647	9.9
Lung and Bronchus	11,431	13.4	10,505	28.5
Melanoma of the Skin	2,944	3.5	503	1.4
Prostate	12,284	14.4	2,047	5.6
All Sites	**85,031**	**100.0**	**36,823**	**100.0**

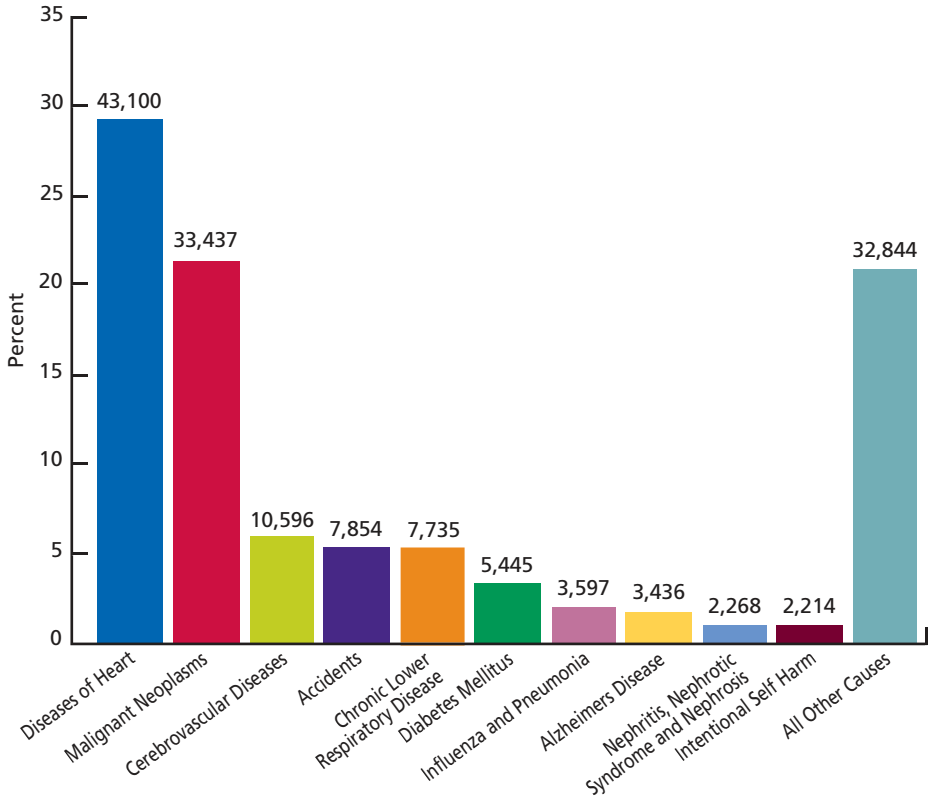
All sites includes all malignant cancers and in situ bladder cancer. Projected 2004 Cancer Cases (malignant cancers and in situ bladder cancer) are estimated by applying California 1995-1999 age-, sex-, and race/ethnic-specific average annual incidence rates to the 2004 Texas population. Projected 2004 cancer deaths are estimated by applying Texas 1997-2001 age-, sex-, and race/ethnic-specific average annual mortality rates to the 2004 Texas population.
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003 and Bureau of Vital Statistics, Texas Department of State Health Services.

Figure 1. Average Annual Incidence (New Cases) and Mortality (Deaths) Counts for Selected Cancers, Texas, 1997-2001



Notes: Average annual cases and deaths are rounded to the nearest whole. Melanoma cases are under-reported.
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003 and Bureau of Vital Statistics, Texas Department of State Health Services.

Figure 2. Ten Leading Causes of Death for Residents of Texas, 2001



Source: Bureau of Vital Statistics, Texas Department of State Health Services.

Understanding Cancer Incidence And Mortality Rates

What are Cancer Incidence and Mortality Rates?

Cancer rates represent the number of new cases of cancer per 100,000 population (incidence) or the number of cancer deaths per 100,000 population (mortality) during a specific time period.

For example, if a county's colorectal cancer incidence rate is 40.0, that means 40 new cases of colorectal cancer were diagnosed for every 100,000 people. If the county's population is 25,000, then an incidence rate of 40.0 means 10 new cases of colorectal cancer were diagnosed in that county that year:

$$\frac{\text{40 new cases diagnosed in one year}}{\text{100,000 population}} = \frac{\text{10 new cases diagnosed in one year}}{\text{25,000 population}}$$

Rates provide a useful way to compare the cancer burden irrespective of the actual population size. Rates can be used to compare demographic groups (e.g. males have higher lung cancer rates than females), racial/ethnic groups (e.g. African American males have higher prostate cancer rates than non-Hispanic whites and Hispanics), or geographic areas (e.g. Hispanic females along the Texas-Mexico border have higher cervical cancer incidence rates than Hispanic females in other regions of the state).

What are Age-adjusted Rates?

Epidemiologists use a statistical method called "age-adjustment" to compare groups of people with different age compositions. As is well known, older age groups generally have higher cancer rates than younger groups. For example, without adjusting for age, it would be inaccurate to compare the cancer rates of the state of Florida, which has a large elderly population, to that of Alaska, which has a younger population. Without adjusting for age, it would appear that the cancer rates for Florida are much higher than Alaska. However, once the ages are adjusted, it appears their rates are similar. This, in effect, removes the impact of different age-distributions between populations and allows for a direct comparison of those populations. It also allows for a comparison of rates within a single population over time. An age-adjusted rate is not a real measure of the burden of the disease on a population, but rather an artificial measure that is used for comparison purposes.

Age-adjusting to the 2000 United States Standard Population

Texas Cancer Facts & Figures 2004 uses the 2000 United States standard population for age-adjusting data. The purpose of shifting to the 2000 U.S. Standard is to more accurately reflect contemporary incidence and mortality rates, given the aging of the U.S. population. On average, Americans are living longer because of the decline in infectious and cardiovascular diseases. Our longer life span is allowing us to reach the age where cancer and other chronic diseases become more common. Using the 2000 U.S. Standard in age-adjustment instead of the 1970 or 1940 U.S. standards allows age-adjusted rates to be closer to the actual, unadjusted rate in the population.

Data comparisons should be limited to data adjusted to the same standard populations. Due to use of the 2000 U.S. standard population in *Texas Cancer Facts & Figures 2004*, comparisons to previous years' publications (e.g. *Texas Facts & Figures 2000*) should be avoided because age-adjustments in previous publications used the 1970 U.S. standard population. Comparisons of data age-adjusted according to different standards would lead to erroneous conclusions.

Table 2. Average Annual Incidence and Mortality Counts and Rates, Texas, 1997-2001

	INCIDENCE					MORTALITY				
	Male Rate	Male Cases Avg./Yr.	Female Rate	Female Cases Avg./Yr.	Total Cases Avg./Yr.	Male Rate	Male Deaths Avg./Yr.	Female Rate	Female Deaths Avg./Yr.	Total Deaths Avg./Yr.
All Sites	**533.4**	**39,127**	**382.3**	**36,048**	**75,175**	**256.4**	**17,425**	**162.3**	**15,347**	**32,771**
Oral Cavity and Pharynx	16.2	1,255	5.9	553	1,809	4.9	361	1.7	159	520
Esophagus	7.4	547	1.8	167	715	7.0	502	1.6	147	649
Stomach	10.7	760	5.3	497	1,258	7.0	478	3.7	353	831
Small Intestine	2.0	145	1.4	130	275	0.5	33	0.3	31	64
Colon and Rectum	60.4	4,301	42.4	4,004	8,305	24.8	1,670	16.5	1,580	3,250
Anus, Anal Canal and Anorectum	1.1	87	1.5	138	225	0.2	13	0.2	21	34
Liver and Intra-hepatic Bile Duct	9.6	726	3.6	344	1,070	9.0	649	3.8	361	1,010
Gallbladder	0.9	61	1.6	147	208	0.5	34	1.0	90	123
Other Biliary	1.6	112	1.1	106	218	0.7	42	0.5	46	88
Pancreas	12.2	868	9.3	874	1,743	12.2	845	8.8	836	1,681
Larynx	8.6	650	1.6	148	798	2.8	199	0.5	46	245
Lung and Bronchus	96.2	6,864	51.0	4,741	11,604	81.9	5,689	39.7	3,711	9,399
Pleura	0.1	4	0.0	3	7	0.2	13	0.1	7	19
Bones and Joints	1.1	108	0.9	85	193	0.7	58	0.4	39	97
Soft Tissue including Heart	3.1	259	2.3	223	482	1.6	126	1.3	125	251
Melanomas of the Skin	13.0	1,006	7.5	717	1,722	4.0	289	1.7	167	455
Breast	1.8	132	119.3	11,172	11,304	0.3	17	25.9	2,444	2,462
Cervix	~	~	11.1	1,071	1,071	~	~	3.4	328	328
Corpus and Uterus, NOS	~	~	19.1	1,780	1,780	~	~	3.9	364	364
Ovary	~	~	13.7	1,300	1,300	~	~	8.1	762	762
Vagina	~	~	0.9	86	86	~	~	0.3	24	24
Vulva	~	~	1.9	178	178	~	~	0.4	34	34
Prostate	149.5	10,776	~	~	10,776	31.6	1,801	~	~	1,801
Testis	4.7	493	~	~	493	0.3	28	~	~	28
Penis	1.1	81	~	~	81	0.2	18	~	~	18
Urinary Bladder	30.0	2,066	7.4	698	2,764	6.5	402	2.1	198	601
Kidney and Renal Pelvis	18.6	1,420	9.6	900	2,321	7.2	508	3.2	298	807
Eye and Orbit	0.9	73	0.6	56	129	0.1	9	0.1	6	15
Brain and Other Nervous System	7.9	677	5.9	570	1,247	5.8	455	4.0	385	840
Thyroid	3.7	317	8.9	867	1,184	0.4	29	0.5	46	75
Hodgkins Lymphoma	2.9	276	2.0	203	479	0.7	53	0.4	36	89
Non-Hodgkins Lymphoma	20.7	1,575	14.6	1,381	2,956	10.1	700	6.8	648	1,349
Myeloma	6.7	479	4.7	444	923	5.0	335	3.5	332	667
Leukemias	15.5	1,187	9.1	885	2,073	10.6	730	5.8	562	1,292
Miscellaneous	16.9	1,185	11.9	1,129	2,314	15.3	1,039	9.9	943	1,982

Notes: Rates are average annual rates per 100,000 and age-adjusted to the 2000 U.S. standard population. Average annual cases and deaths are rounded to the nearest whole. All sites includes in-situ bladder, all other in-situ cases are excluded. Melanoma is under reported. ~Statistic not displayed if site is sex-specific. NOS = Not otherwise specified.
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003 and Bureau of Vital Statistics mortality file, 02/07/2003, Texas Department of State Health Services.

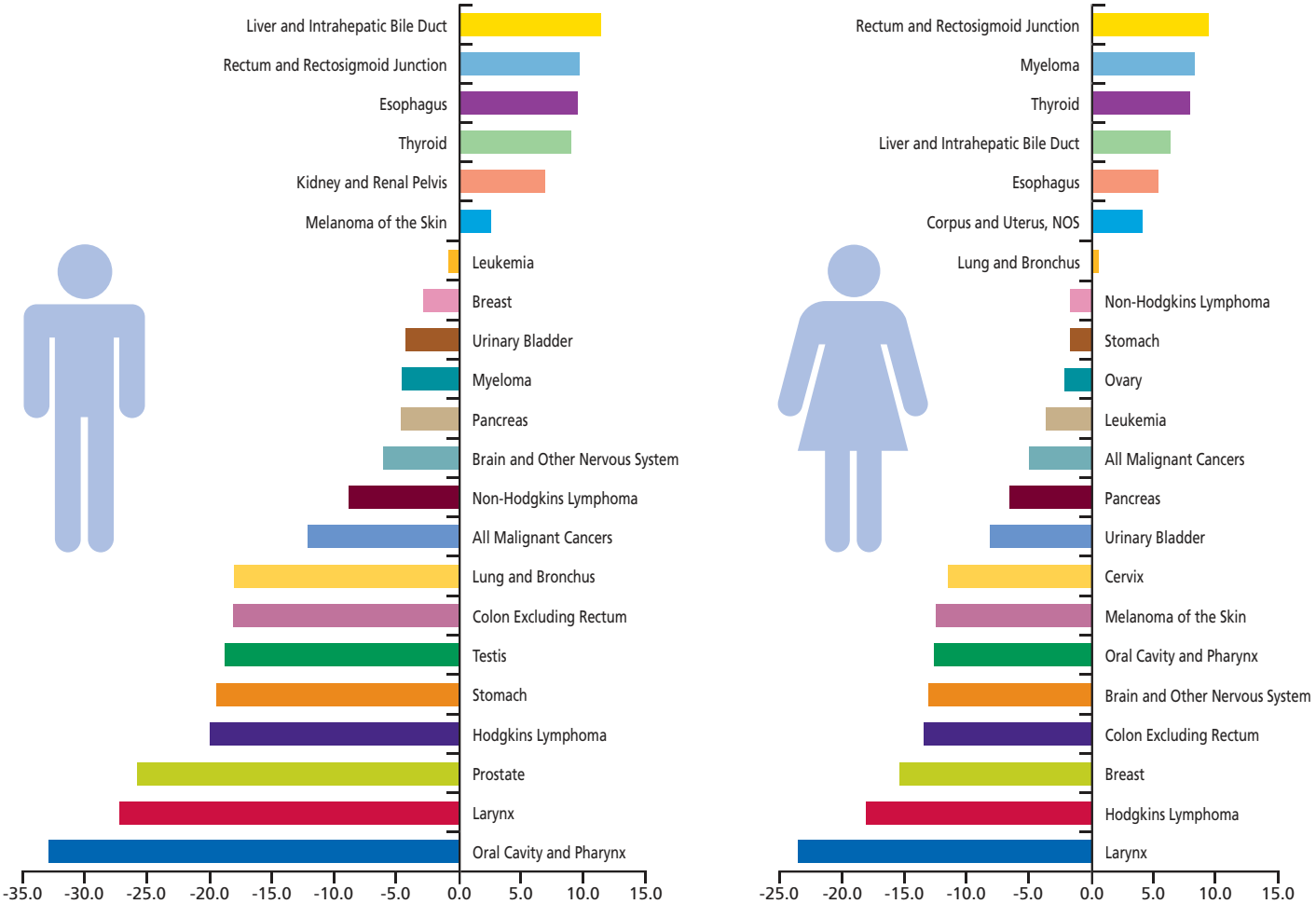
Table 3. Leading Causes of Death and Actual Causes of Death in the United States, 2000

Leading Causes of Death* United States, 2000	Percentage (of all deaths)	Actual Causes of Death† United States, 2000	Percentage (of all deaths)
Heart Disease	30.0	**Tobacco**	**18.1**
Cancer	23.0	**Poor Diet/Physical Inactivity**	**16.6**
Stroke	7.0	Alcohol consumption	3.5
Chronic lower respiratory disease	5.0	Microbial agents (e.g., influenza, pneumonia)	3.1
Unintentional Injuries	4.0	Toxic agents (e.g., pollutants, asbestos)	2.3
Diabetes	3.0	Motor-vehicles	1.8
Pneumonia/influenza	3.0	Firearms	1.2
Alzheimer's disease	2.0	Sexual behavior	0.8
Kidney disease	2.0	Illicit drug use	0.7

Close to 40 percent of all deaths are due to tobacco and poor diet/ physical inactivity/ obesity

*Miniño AM, Arias E, Kochanek KD, Murphy SL, Smith BL. Deaths: final data for 2000. National Vital Statistics Reports 2002; 50(15):1–120.
†Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual causes of death in the United States, 2000. JAMA. 2004;291(10):1238-1246. As published by Centers for Disease Control and Prevention, Chronic Disease Prevention Fact Sheet, *www.cdc.gov/nccdphp/factsheets/*

Figure 3. Total Percent Change, Age-Adjusted Mortality Rates for Selected Sites, All Races, Texas 1992-2001



Notes: Rates are per 100,000 and age-adjusted to the 2000 U.S. standard population. Percent changes were calculated using 2 years for each end point; NOS = Not otherwise specified.
Source: Texas Cancer Registry and Bureau of Vital Statistics, Texas Department of State Health Services.

Survival by Cancer Stage of Disease at Diagnosis

One of the strongest predictors of survival is the degree to which the cancer has spread when discovered, referred to as the stage at diagnosis. Cancer staging, based on a summary classification developed by the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) program, refers to the extent of disease categorized as in situ, localized, regional, and distant (see definitions below). Today, when normal life expectancy is taken into consideration (factors such as dying of heart disease, accidents, and diseases of old age), a "relative five-year survival" of 63 percent is seen for all cancers combined.

Generally, the earlier the stage, the better the five-year relative survival rate for most cancers (Table 4). Among Texas residents, the number of cancers diagnosed at early stage (in situ and localized) differ between racial/ethnic groups, with non-Hispanic whites being diagnosed more often at the earliest stage of cancer. Staging by racial/ethnic groups for leading cancer sites are provided in cancer site sections to follow. We have made significant progress in helping individuals survive cancer through prevention, early detection, and treatment. However, we still have a long way to go. Following screening guidelines for cancer prevention and early detection (page 43) could help save many lives lost to cancer.

Table 4. Five-Year Relative Survival (%) by Stage at Diagnosis, SEER, 1992-1999

	All Stages	Localized	Regional	Distant
Breast (FEMALE)	87	97	79	23
Colon and Rectum	62	90	66	9
Uterine corpus	84	96	65	26
Esophagus	14	29	13	2
Kidney	62	89	61	9
Larynx	65	83	48	20
Liver	7	16	6	2
Lung & Bronchus	15	49	16	2
Melanoma of the Skin	90	97	60	14
Oral Cavity	57	82	48	26
Ovary	53	95	72	31
Pancreas	4	17	7	2
Prostate **	98	100	**	34
Stomach	23	59	22	3
Testis	96	99	95	73
Thyroid	96	99	96	60
Urinary Bladder	82	94	48	6
Uterine cervix	71	92	51	17
Uterine corpus	84	96	65	26

Note: Rates are adjusted for normal life expectancy and are based on cases diagnosed from 1992-1999, followed through 2000. Percentages, rounded to the nearest whole, are from NCI data and are not specific to Texas survival data. These rates provide some indication about the average survival experience of cancer patients in a given population. They are less useful in predicting individual progress and should be applied with caution.
**The rate for local stage for Prostate represents local and regional stages combined
Source: National Surveillance, Epidemiology, and End Results (SEER) Program, 1973-1998, Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD 2001. American Cancer Society Surveillance Research, National Home Office; *Cancer Facts and Figures 2004.*

Understanding Cancer Stage of Disease

A cancer's stage is based on the primary tumor's size and whether it has spread to other areas of the body.
In situ - describes a neoplasm that is "non-invasive" and confined to a small circumscribed area within the tissue of origin. The tumors have not invaded beyond the basement membrane. An in situ lesion can only be diagnosed by microscopic examination.
Localized - indicates a neoplasm that has not spread beyond the organ of origin. The tumor may be widely invasive within the organ of origin (primary site) and may even show metastasis with the organ of origin. It can still be considered "localized" as long as there is no extension beyond the outer limits of the primary organ and no evidence of metastasis elsewhere within the body.
Regional - indicates a tumor that has spread to adjacent organs or tissues or to lymph nodes surrounding the primary organ. Remote spread must be reasonably ruled out.
Distant - refers to a neoplasm that has extended to remote areas from the primary tumor by metastasis either through the blood system, distant lymph nodes, or by implantation metastasis.
Unstaged or Unknown - used when there is insufficient information to determine the stage or extent of the disease at diagnosis.

The Impact of Gender, Age, and Race/Ethnicity

Cancer strikes men, women, and children of all ages and races. However, variations in leading cancer sites are seen among individuals due to gender, age, and racial/ethnic differences.

When comparing the overall cancer burden among males and females, men in Texas account for approximately 52 percent of all newly diagnosed cancers in Texas, and have an age-adjusted cancer mortality rate almost 1.6 times higher than the rate for females. Prostate cancer is the most commonly diagnosed cancer among all males in Texas, followed by lung and bronchus and colorectal cancer (Figure 4). Breast cancer is the most commonly diagnosed cancer among all females in Texas, followed by lung and bronchus and colorectal cancers (Figure 4). Lung and bronchus cancer is the leading cause of cancer deaths for both men and women in the state, all races combined (Figure 5). The second and third leading causes of cancer deaths among men, all races combined, are prostate and colorectal cancers. For women, all races combined, the second leading cause of cancer deaths is breast cancer, followed third by colorectal cancers.

Age is another factor in the amount and type of cancer seen. Cancer occurs more frequently with advancing age, and the risk of dying from cancer increases significantly. Two-thirds of the approximately 75,000 new cases of cancer diagnosed among Texans each year occur in residents aged 60 years and older. The impact of age varies with cancer sites. For example, more than 80 percent of prostate cancers occur at age 60 and above. On the other hand, less than 30 percent of cervical cancers are diagnosed in women age 60 and older (see cancer site sections for information on diagnosis by age). Childhood cancers (ages 0-14) are grouped according to a different classification scheme and are discussed in a later section.

A third factor in the amount and type of cancer seen is race/ethnicity. Incidence and mortality rates (the number per 100,000 population adjusted by age) vary widely due to this factor. Nationwide, African American males have 2.0 - 2.4 times the mortality rates as white males for the following cancer sites (in descending order): larynx, prostate, stomach, myeloma, and oral cavity and pharynx. Consistent with national patterns, African Americans in Texas also bear a disproportionate amount of the overall cancer burden. African Americans in Texas have cancer mortality rates approximately 1.5 times higher than mortality rates for non-Hispanic whites, and approximately 2.0 times higher than mortality rates for Hispanics (Table 5). Overall, Texas Hispanics and other racial/ethnic groups, including Asian/Pacific Islanders and American Indians, have lower cancer incidence and mortality rates when compared to non-Hispanic whites and African Americans in the state. However, exceptions are seen in some cancer sites. Incidence rates for stomach, liver, gallbladder, and cervical cancers are higher among Hispanics compared to non-Hispanic whites. In addition, mortality rates for stomach and liver cancer are two to three times higher in Hispanic males and females compared to non-Hispanic whites.

Table 5. Average Annual Cancer Incidence and Mortality Rates and Counts by Sex and Race/Ethnicity, All Sites Combined, Texas, 1997-2001

	INCIDENCE				MORTALITY			
	Male Rate	Male Cases Avg./Yr.	Female Rate	Female Cases Avg./Yr.	Male Rate	Male Deaths Avg./Yr.	Female Rate	Female Deaths Avg./Yr.
Non-Hispanic White	555.5	28,779	405.6	26,171	259.6	12,609	166.9	11,189
African American	663.5	4,149	396.5	3,674	383.7	2,225	210.6	1,880
Hispanic	396.2	5,468	291.2	5,438	195.9	2,416	123.8	2,114
Other	395.7	563	310.1	613	127.3	167	89.4	158
Total, All Races	533.4	39,127	382.3	36,048	256.4	17,425	162.3	15,347

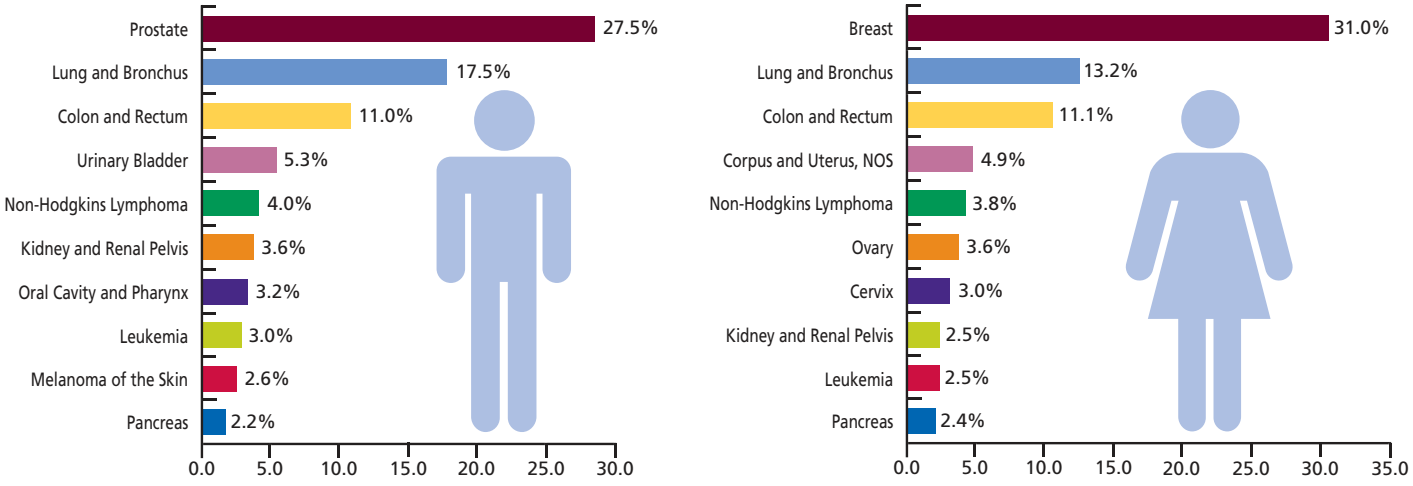
Notes: Rates are average annual rates per 100,000 and age-adjusted to the 2000 U.S. standard population. Average annual cases are rounded to the nearest whole. All sites includes in-situ bladder, all other in-situ cases are excluded.
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003, and Bureau of Vital Statistics, Texas Department of State Health Services.

The five most frequently diagnosed cancers and leading cancer deaths also will vary by race/ethnicity (Table 6). For example, there are differences among racial/ethnic groups in lung and bronchus cancer incidence. Whereas lung and bronchus cancer is the second most commonly diagnosed cancer among males of all race/ethnicities and non-Hispanic white females, it is the third most commonly diagnosed cancer in African American, Hispanic, and other females.

In terms of cancer deaths by race/ethnicity, lung and bronchus cancer is the leading cause of cancer deaths among Texas males and females of all race/ethnicities, with the exception of Hispanic females. Among Texas Hispanic females, breast cancer is the leading cause of cancer deaths. Among all female racial/ethnic groups, reproductive tract cancers are common. However, Hispanic females, especially those residing along the Texas-Mexico Border, have a two-fold higher rate of cervical cancer deaths compared to non-Hispanic whites. *For comprehensive information on cancer incidence and mortality by race/ethnicity, see reports and data presentation tables available from the Cancer Registry, Texas Department of State Health Services (*www.dshs.state.tx.us/tcr*).*

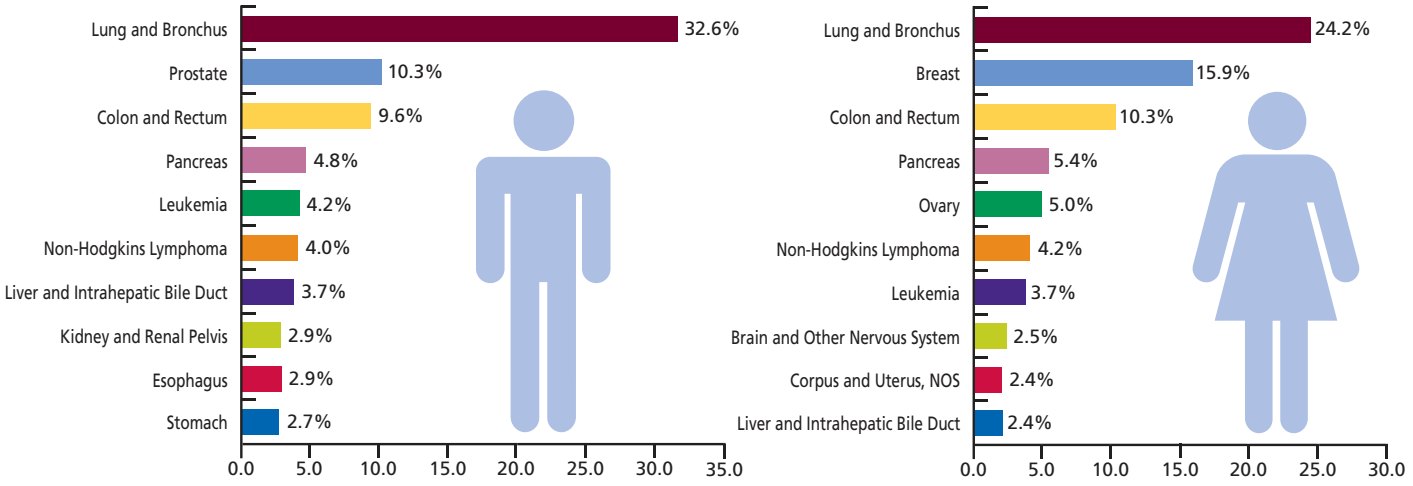
Differences in cancer incidence and mortality by gender, age, and race/ethnicity are all factors associated with cancer disparities. Additional factors are provided in the following section.

Figure 4. Ten Leading Sites of Cancer Incidence, Texas, 1997-2001



Notes: Percentages are based on unrounded counts and totals.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Figure 5. Ten Leading Sites of Cancer Mortality, Texas, 1997-2001



Notes: Percentages are based on unrounded counts and totals. NOS = Not otherwise specified.
Source: Texas Cancer Registry and Bureau of Vital Statistics, Texas Department of State Health Services.

Table 6. Five Most Frequently Diagnosed Cancers and Five Leading Cancer Deaths by Sex and Race/Ethnicity, Texas 1997-2001

MALE INCIDENCE

Non-Hispanic White

Site	Avg. Annual Cases	Percent of Total
Prostate	7,975	27.7
Lung and Bronchus	5,278	18.3
Colon and Rectum	3,123	10.9
Urinary Bladder	1,741	6.0
Non-Hodgkins Lymphoma	1,151	4.0
All Sites	**28,779**	**100.0**

African American

Site	Avg. Annual Cases	Percent of Total
Prostate	1,294	31.2
Lung and Bronchus	852	20.5
Colon and Rectum	469	11.3
Kidney and Renal Pelvis	136	3.3
Oral Cavity and Pharynx	126	3.0
All Sites	**4,149**	**100.0**

Hispanic

Site	Avg. Annual Cases	Percent of Total
Prostate	1,295	23.7
Lung and Bronchus	657	12.0
Colon and Rectum	628	11.5
Kidney and Renal Pelvis	272	5.0
Non-Hodgkins Lymphoma	269	4.9
All Sites	**5,468**	**100.0**

Other Races

Site	Avg. Annual Cases	Percent of Total
Prostate	142	25.3
Lung and Bronchus	72	12.8
Colon and Rectum	67	11.9
Liver and Intrahepatic Bile Duct	39	7.0
Oral Cavity and Pharynx	25	4.5
All Sites	**563**	**100.0**

MALE MORTALITY

Non-Hispanic White

	Avg. Annual Deaths	Percent of Total
Lung and Bronchus	4,375	34.7
Prostate	1,247	9.9
Colon and Rectum	1,180	9.4
Pancreas	588	4.7
Leukemias	543	4.3
All Sites	**12,609**	**100.0**

African American

	Avg. Annual Deaths	Percent of Total
Lung and Bronchus	744	33.4
Prostate	328	14.7
Colon and Rectum	225	10.1
Pancreas	111	5.0
Stomach	85	3.8
All Sites	**2,225**	**100.0**

Hispanic

	Avg. Annual Deaths	Percent of Total
Lung and Bronchus	522	21.6
Colon and Rectum	251	10.4
Prostate	217	9.0
Liver & Intrahepatic Bile Duct	200	8.3
Stomach	144	6.0
All Sites	**2,416**	**100.0**

Other Races

	Avg. Annual Deaths	Percent of Total
Lung and Bronchus	46	27.4
Liver & Intrahepatic Bile Duct	23	13.9
Colon and Rectum	13	8.0
Stomach	11	6.3
Leukemia	8	4.8
All Sites	**167**	**100.0**

Notes: Average annual cases and deaths are rounded to the nearest whole. Percentages are based on unrounded counts and totals. NOS = Not otherwise specified
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003 and Bureau of Vital Statistics, Texas Department of State Health Services.

Table 6. Five Most Frequently Diagnosed Cancers and Five Leading Cancer Deaths by Sex and Race/Ethnicity, Texas 1997-2001, Continued

FEMALE INCIDENCE

Non-Hispanic White

Site	Avg. Annual Cases	Percent of Total
Breast	8,273	31.6
Lung and Bronchus	3,873	14.8
Colon and Rectum	2,913	11.1
Corpus and Uterus, NOS	1,280	4.9
Non-Hodgkins Lymphoma	1,003	3.8
All Sites	**26,171**	**100.0**

African American

Site	Avg. Annual Cases	Percent of Total
Breast	1,083	29.5
Colon and Rectum	508	13.8
Lung and Bronchus	464	12.6
Corpus and Uterus, NOS	174	4.7
Cervix	145	3.9
All Sites	**3,674**	**100.0**

Hispanic

Site	Avg. Annual Cases	Percent of Total
Breast	1,563	28.7
Colon and Rectum	506	9.3
Lung and Bronchus	348	6.4
Cervix	344	6.3
Corpus and Uterus, NOS	289	5.3
All Sites	**5,438**	**100.0**

Other Races

Site	Avg. Annual Cases	Percent of Total
Breast	194	31.6
Colon and Rectum	67	10.9
Lung and Bronchus	51	8.3
Thyroid	40	6.5
Corpus and Uterus, NOS	29	4.8
All Sites	**613**	**100.0**

FEMALE MORTALITY

Non-Hispanic White

	Avg. Annual Deaths	Percent of Total
Lung and Bronchus	3,047	27.2
Breast	1,705	15.2
Colon and Rectum	1,149	10.3
Pancreas	583	5.2
Ovary	577	5.2
All Sites	**11,189**	**100.0**

African American

	Avg. Annual Deaths	Percent of Total
Lung and Bronchus	384	20.5
Breast	355	18.9
Colon and Rectum	235	12.5
Pancreas	111	5.9
Stomach	66	3.5
All Sites	**1,880**	**100.0**

Hispanic

	Avg. Annual Deaths	Percent of Total
Breast	360	17.0
Lung and Bronchus	246	11.6
Colon and Rectum	184	8.7
Pancreas	134	6.3
Ovary	112	5.3
All Sites	**2,114**	**100.0**

Other Races

	Avg. Annual Deaths	Percent of Total
Lung and Bronchus	31	19.8
Breast	23	14.3
Colon and Rectum	13	8.5
Liver & Intrahepatic Bile Duct	13	8.2
Pancreas	9	5.6
All Sites	**158**	**100.0**

Notes: Average annual cases and deaths are rounded to the nearest whole. Percentages are based on unrounded counts and totals. NOS = Not otherwise specified
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003 and Bureau of Vital Statistics, Texas Department of State Health Services.

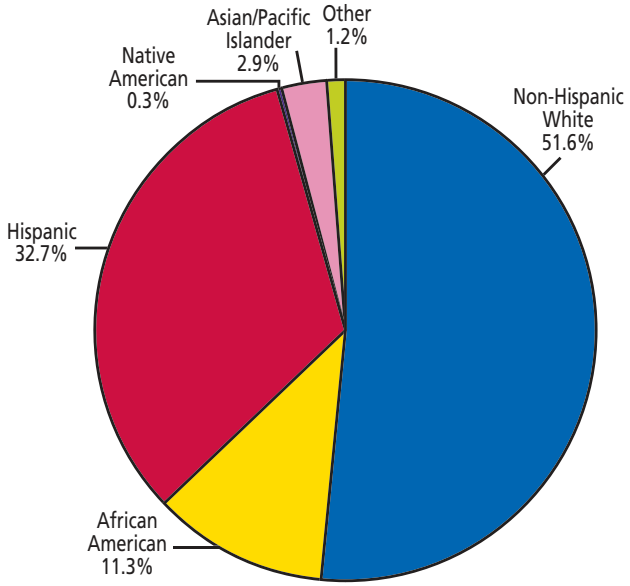
Cancer Disparities: Meeting the Needs of Texas' Diverse Population

Texas is a large and diverse state in both its geography and demographics. According to 2003 projections based on the 2000 U.S. Census, there are currently more than 22 million Texans, with approximately 52 percent non-Hispanic white, 11 percent African American, 33 percent Hispanic, and 4 percent all other races combined (Figure 6). Population demographics vary throughout the state. Table 7 provides population demographics by race/ethnicity of Texas' ten most populous counties.

According to projections of the Texas State Data Center, the state's population will continue to grow rapidly. By 2010 the Texas population may be close to 25 million. Dramatic changes also are expected in the racial/ethnic and age compositions of the state's population. By 2020, it is estimated that Hispanics will outnumber all other race/ethnic groups in Texas. The state will maintain a significant number of younger individuals, primarily of Hispanic and non-white race/ethnicity, while markedly increasing its aging population in the coming decades. Currently, close to 30 percent of Texas' population is under 18 years of age (Figure 7). By 2040, the number of Texans under the age of 18 is expected to increase by 84 percent. However, the number of Texans over the age of 75 is expected to increase by more than 300 percent. The aging of the overall population is consistent with nationwide trends. Because cancer is a disease primarily of older individuals, this state and nationwide trend has implications for the burden of cancer in Texas. *See the Texas State Data Center's web site for detailed information and analysis on Texas population demographics* (www.txsdc.tamu.edu).

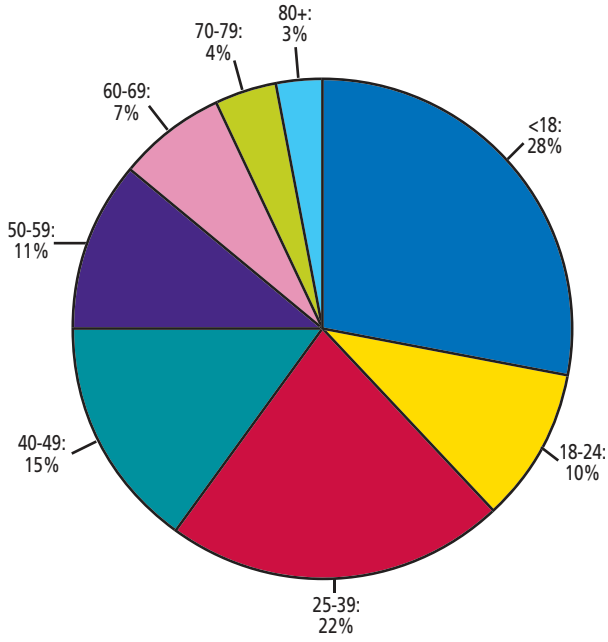
It is important to be aware of the population distribution and demographic make-up of different areas of the state, as the cancer burden will vary based on county size and demographics. Table 8 provides an overview of cancer incidence, all sites, by race/ethnicity for the state's 10 most populous counties. Figure 8 compares urban and rural county cancer incidence rates by race/ethnicity. *For additional county-level cancer data, see comprehensive reports and data presentation tables available from the Texas Cancer Registry, Texas Department of State Health Services* (www.dshs.state.tx.us/tcr).

Figure 6. Population by Race/Ethnicity, Texas, 2003



Notes: Texas totals may vary from other reports due to rounding. 2003 Population projections based on U.S. Census 2000.
Source: Thomson Medstate, Copyright ©2004, Claritas Inc., Copyright ©2004. ALL RIGHTS RESERVED.

Figure 7. Population by Age, Texas, 2003



Note: 2003 Projections based on U.S. Census 2000.
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Table 7. Population by Race/Ethnicity, Texas and Ten Most Populous Counties, Texas, 2003

	2003 Total Population	Non-Hispanic White Population		African American Population		Hispanic Population		Other (includes AI and A/PI) Population	
	Total	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Texas (Total)	**22,086,674**	**11,396,950**	**51.6**	**2,497,038**	**11.3**	**7,215,014**	**32.7**	**977,672**	**4.4**
Harris	3,569,161	1,449,966	40.6	647,344	18.1	1,222,951	34.3	248,900	7.0
Dallas	2,311,851	976,565	42.2	467,645	20.2	729,544	31.6	138,097	6.0
Tarrant	1,539,333	932,321	60.6	197,224	12.8	317,717	20.6	92,071	6.0
Bexar	1,456,787	509,474	35.0	101,689	7.0	798,126	54.8	47,498	3.3
Travis	884,916	490,991	55.5	78,959	8.9	256,131	28.9	58,835	6.6
El Paso	707,569	111,513	15.8	19,349	2.7	562,144	79.4	14,563	2.1
Hidalgo	619,824	61,746	10.0	2,155	0.3	550,223	88.8	5,700	0.9
Collin	576,619	435,169	75.5	27,690	4.8	60,488	10.5	53,272	9.2
Denton	499,375	374,662	75.0	29,671	5.9	63,725	12.8	31,317	6.3
Fort Bend	398,655	181,642	45.6	77,802	19.5	84,701	21.2	54,510	13.7

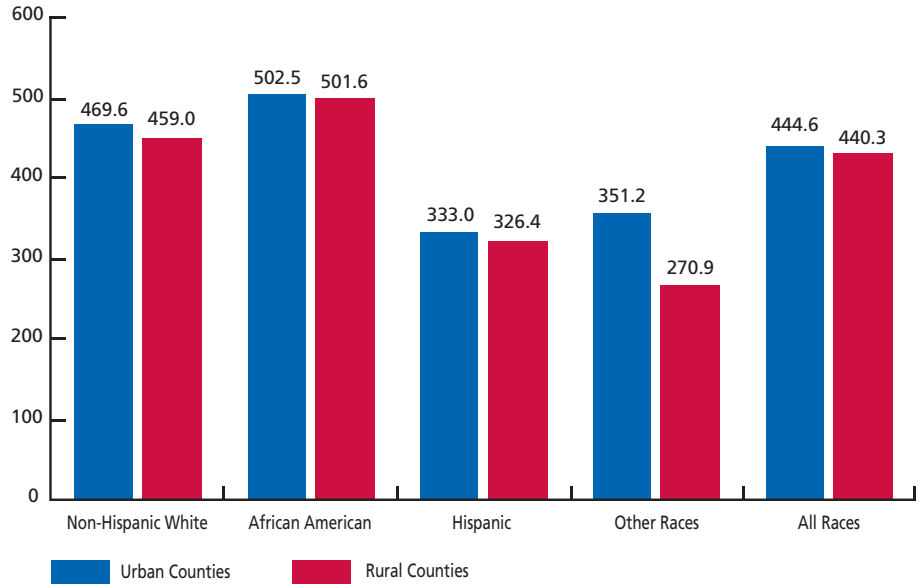
AI = American Indian
A/PI = Asian/Pacific Islander
"Other" includes (all Non-Hispanic): Asians, American Indian, Alaskan Natives, Native Hawaiian or other Pacific Islander,
Texas totals may vary from other reports due to rounding. 2003 Population projections based on U.S. Census 2000.

Table 8. Average Annual Cancer Incidence Rates by Race/Ethnicity, All Sites, 10 Most Populous Counties, 1997-2001

	ALL RACES		NON-HISPANIC WHITE		AFRICAN AMERICAN		HISPANIC		OTHER	
Counties	Male Rate	Female Rate	Male Rate	Female Rate	Male Rate	Female Rate	Male Rate	Female Rate	Male Rate	Female Rate
Bexar	556.6	383.2	633.0	445.5	713.7	391.0	429.0	307.4	483.5	315.9
Collin	431.1	341.4	430.4	340.7	611.8	378.5	346.8	226.7	269.5	304.4
Dallas	528.2	409.8	535.0	421.6	672.8	429.2	316.3	286.7	421.2	360.6
Denton	398.3	319.2	416.5	334.1	389.4	277.5	201.7	163.6	^	^
El Paso	539.7	352.9	576.8	407.0	627.2	348.1	525.0	331.6	^	^
Fort Bend	470.3	352.1	513.6	397.9	487.0	302.3	352.2	231.1	387.1	321.2
Harris	558.4	401.7	578.8	434.2	707.2	409.9	348.5	267.8	485.9	348.0
Hildago	426.0	288.8	578.2	371.1	^	^	371.4	269.8	^	^
Tarrant	520.7	399.7	530.4	414.0	614.8	395.9	337.7	288.2	392.8	283.7
Travis	537.2	431.4	541.9	446.8	671.0	420.7	418.1	345.6	532.3	551.8

Rates are average annual rates per 100,000, and are age-adjusted to the 2000 U.S. standard population.
^ Rates are suppressed if the average annual number of cases was less than 10.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Figure 8. Average Annual Incidence Rates, All Sites, by Race/Ethnicity, Compared by Urban and Rural Counties, Texas, 1997-2001



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Urban/rural designations by the U.S. Office of Management and Budget, 1993. All Sites includes all malignant cancers plus in situ bladder cancer. All other in situ cases are excluded.
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2004, Texas Department of State Health Services.

Urban or Metro Counties*

Archer	Brazos	Coryell	Fort Bend	Harris	Hunt	McLennan	Potter	Taylor	Webb
Bastrop	Caldwell	Dallas	Galveston	Harrison	Jefferson	Midland	Randall	Tom Green	Wichita
Bell	Cameron	Denton	Grayson	Hays	Johnson	Montgomery	Rockwall	Travis	Williamson
Bexar	Chambers	Ector	Gregg	Henderson	Kaufman	Nueces	San Patricio	Upshur	Wilson
Bowie	Collin	El Paso	Guadalupe	Hidalgo	Liberty	Orange	Smith	Victoria	
Brazoria	Comal	Ellis	Hardin	Hood	Lubbock	Parker	Tarrant	Waller	

Urban/rural designations by the U.S. Office of Management and Budget, 1993.
*Rural county designations would be all other counties not listed here. Texas has 58 counties designated as urban or metro and 196 counties designated as rural.

The Economic Cost of Cancer in Texas*

Cancer is the most costly illness in the United States. The National Institutes of Health estimate that, nationwide, the cost for cancer in 2001 was close to $157 billion. Costs include both direct medical costs and indirect costs from lost productivity. In Texas alone, costs in 1998 were estimated to be $13.9 billion. That's billion! According to research conducted by The University of Texas LBJ School of Public Affairs on behalf of the Texas Department of Health's Comprehensive Cancer Control Program, four leading cancer sites accounted for more than $5 billion of the $13.9 billion in direct and indirect cost. Breakdown of the total cost estimates by major sites were approximately:

Lung and Bronchus Cancer	$2.2 billion
Colon and Rectum Cancer	$1.2 billion
Breast Cancer	$1.2 billion
Prostate Cancer	$445 million

** The publication* The Cost of Cancer in Texas *can be obtained online at the Texas Department of State Health Services, Comprehensive Cancer Control Program Web site* www.dshs.state.tx.us/tcccp/, *or by calling 512-458-7534.*

Cancer health disparities are differences in the incidence, prevalence, mortality, and burden of cancer and related adverse health conditions that exist among population groups in the United States. These population groups may be characterized by gender, age, ethnicity, income, social class, disability, geographic location, or sexual orientation. *National Cancer Institute, Division of Cancer Control and Population Sciences, 2004.*

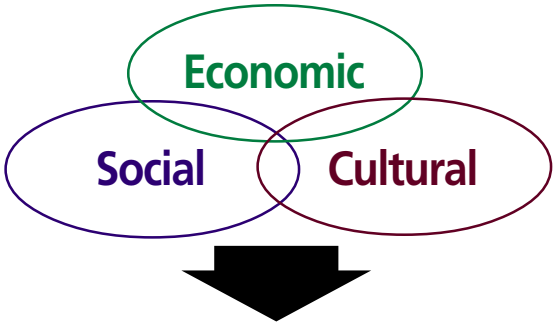
Cancer Disparities

Disparities occur when members of certain population groups do not enjoy the same health status as other groups[1]. Age, sex, and race/ethnicity, as discussed in the previous section, are demographic characteristics associated with such disparities. Additional population groups which experience disparities may be defined by income, geography (urban/rural), education/literacy level, and other factors. Disparities may be disease specific or may be differences in disease risk factors (i.e. cigarette smoking, overweight, physical inactivity). Whenever a population group has a worse cancer experience or poorer health status than the population as a whole, disparities exist. Unfortunately, serious disparities exist in the United States and Texas.

Disparities research has identified a complex interaction of economic, social, and cultural factors that influence individual and community health (Figure 9). [2]

Poverty is the most critical factor affecting health. It is estimated that, statewide, close to one-third of Texas households have an annual income less than $25,000 (Figure 10). According to the U.S. Census Bureau, *Current Population Survey* (CPS), approximately 3.4 million Texans lived below the poverty line in 2002 [3] (defined as having a yearly income of $18,392 for a family of four—add $3,020 for each additional person). This translates to an overall state poverty rate of approximately 15.6 percent. Hispanics represent a disproportionate number of Texans living in poverty. Hispanics make up nearly 60 percent of the 3.4 million Texans living in poverty, followed by non-Hispanic whites (22 percent of the poverty population), African Americans (13 percent of the poverty population) and other racial/ethnic groups (5 percent of the poverty population). [3] High poverty levels are associated with a lower proportion of cancers diagnosed at early-stage disease, when prognosis for survival is most favorable.

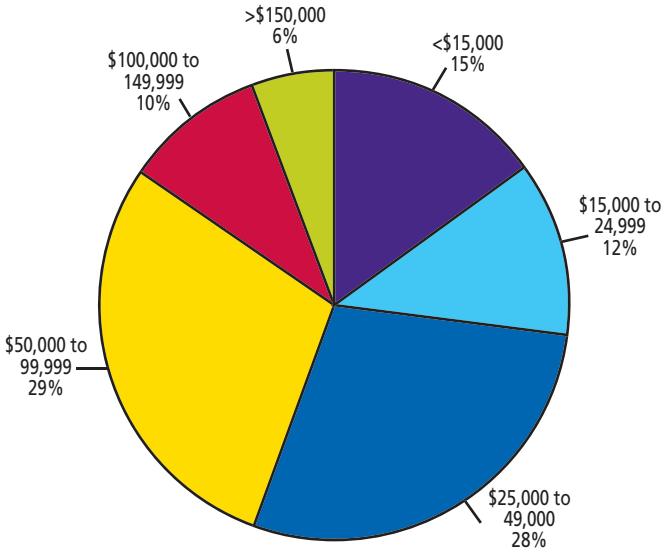
Figure 9. Economic, Social and Cultural Factors



Prevention	Early Detection	Diagnosis/ Incidence	Treatment	Post-Treatment Quality of Life	Survival and Mortality

Source: *Cancer Facts & Figures, 2004.* American Cancer Society, Inc. Adapted from: Freeman, HP; Commentary on the meaning of race in science and society. Cancer Epidemiol Biomarkers Prev 2003; 12:232S-6S and Institute of Medicine, 2003.

Figure 10. Population by Income, Texas, 2003



Notes: Texas totals may vary from other reports due to rounding. 2003 Population projections based on U.S. Census 2000.
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Access to appropriate early detection screening and treatment may also be limited due to lack of health insurance coverage. A recent study by Robert Wood Johnson Foundation found that individuals without medical coverage are less likely to get preventive care such as mammograms.[4] The same study revealed that Texas leads the nation in the percentage of working people who have no health insurance. Certain racial/ethnic groups are at greater risk for not having coverage. Hispanics, African Americans, and other racial/ethnic groups, compared to non-Hispanic whites, are less likely to have health insurance (Table 9). The problem is especially acute among Hispanics (53 percent report not having health insurance) and those with less than a high school diploma (63 percent report not having health insurance).

Based on the definition provided in the recent Institutes of Medicine report, *The Unequal Burden of Cancer in Special Populations*, special populations refer collectively to ethnic and medically underserved groups. Ethnicity is broadly defined by a combination of features that cause one to be defined by others or oneself as part of a group, such as common ancestry or history, religion, language, customs, occupation or region. Medically underserved cuts across ethnic groups to refer to individuals with insufficient or no health insurance or who have little education, reside in rural or inner-city areas, are unemployed, or are of low socioeconomic status, all factors associated with poor health and increased cancer burden.

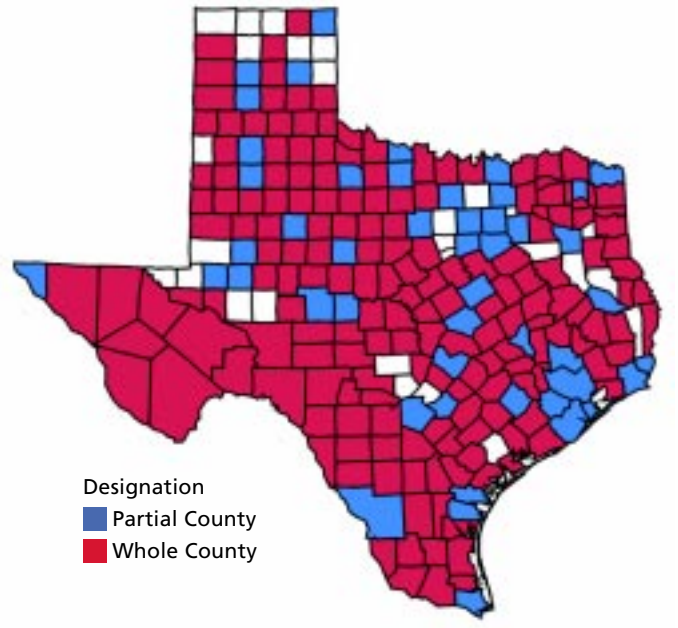
Access to appropriate early detection screening and treatment may also be limited due to transportation difficulties and/or inadequate numbers of facilities and providers in certain areas of the state. Many of the more than 3 million Texans who live in one of the state's 190+ rural counties may be considered medically underserved, a federal designation used to identify an area with inadequate access to personal health services (Figure 11). In such areas there is often an older population with a higher than average need combined with a lower than average provider base. In addition, more than half of Texas' 254 counties are designated primary care Health Professional Shortage Areas, which are areas with less than one primary care physician per 3,500 people (Figure 12). The majority of counties in western and southern areas of the state do not have hospital-based cancer programs or freestanding cancer centers (Figure 13). The number of counties with physicians who specialize in oncology are even further limited. As of May 2004, nearly three quarters of the physicians who reported specialties in oncology to the Texas Cancer Data Center were located in five urban counties: Harris, Dallas, Bexar, Tarrant and Travis. *(See the Texas Cancer Data Center Web site for additional information* www.txcancer.org*).*

Table 9. Prevalence Rate of Adults (Ages 18 to 64 Years) Without Health Insurance, Texas, 2003 and United States, 2002

	Texas 2003 Rate (%)	U.S. 2002 Rate (%)
Total	31	18
Sex		
Male	30	19
Female	31	16
Race/Ethnicity		
Non-Hispanic White	18	13
African-American	29	22
Hispanic	53	35
Other	24	18
Low Education*	63	40

For a complete report, including confidence interval ranges at 95% probability, contact the Community Assessment Team, Center for Health Statistics, *www.dshs.state.tx.us/chs/*.
*Adults with less than a high school diploma.
Prepared by: Community Assessment Team, Center for Health Statistics, Texas Department of State Health Services.
Source: Texas Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2002, 2003.

Figure 11. Federally Designated Medically Underserved Areas



Prepared by: Texas Cancer Data Center.
Source: Texas Department of Health, Center for Health Statistics, Health Professions Resource Center, Designation as of March 9, 2004.

Certain barriers to optimal cancer screening, diagnosis, and treatment may exist regardless of economic status, health insurance status, or provider base. Health care disparities also arise from social and cultural factors. Cultural factors, including language, beliefs, values, and traditions, can influence underlying risk factors, health behaviors, beliefs about illness, and approaches to treatment. According to a recent Institutes of Medicine (IOM) report, such disparities "are complex and rooted in historic and contemporary inequities and involve many participants at several levels, including health systems, their administrative and bureaucratic processes, utilization managers, healthcare professionals, and patients." [5]

Social inequities, such as the legacy of racial discrimination in the United States, can influence interactions between physicians and patients and can affect patient's receipt of timely and accurate diagnosis, optimal treatment, and follow-up. Disparities may be compounded by the institutional environment (legal, financial, and policy) and by the under-representation of racial and ethnic minorities among health professionals. Awareness of such factors can assist in developing programs and services to best meet needs.

Portions of the above are excerpted from Cancer Facts & Figures 2004*, American Cancer Society, Inc., Atlanta, GA. Full text is available on the American Cancer Society Web site* www.cancer.org*. Additional information on racial and ethnic disparities in health care can be found in publications of the Intercultural Cancer Council,* www.icc.bcm.tmc.edu.

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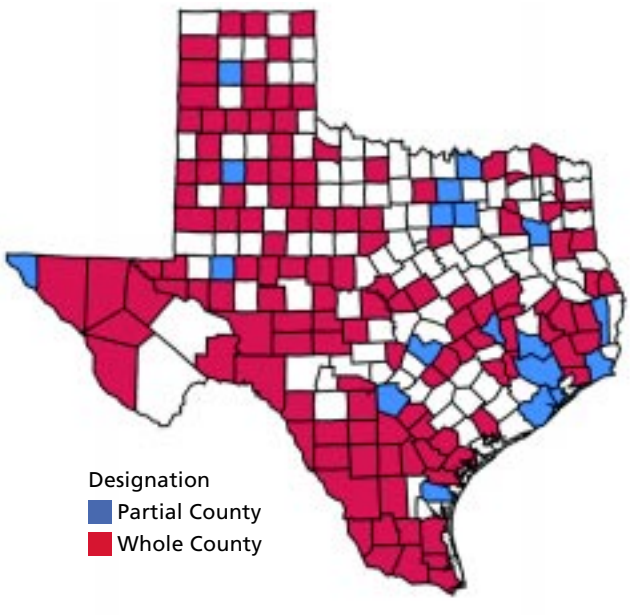
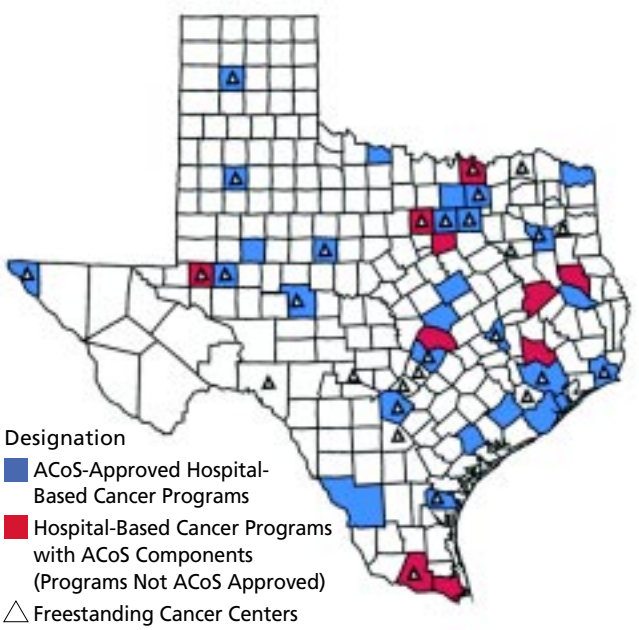
3. Health and Human Services Commission, *Texas Demographic and Socioeconomic Status Indicators*, March 2003 CPS report using 2002 data, per interview with Edli Colberg, July 2004.
4. Robert Wood Johnson Foundation, May 2004 (*http://www.rwjf.org/research/*).
5. Institute of Medicine. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: National Academy Press, 2002, *http://www.nap.edu/books*.

Figure 12. Federally Designated Primary Medical Care Health Professional Shortage Areas



Prepared by: Texas Cancer Data Center.
Source: Texas Department of Health, Center for Health Statistics, Health Professions Resource Center, Designation as of February 27, 2004.

Figure 13. Texas Counties With Hospital-Based Cancer Programs and/or Freestanding Cancer Centers



Note: ACoS = American College of Surgeons
Source: Texas Cancer Data Center, May, 2004.

Quality of Life: Issues Affecting Individuals Touched by Cancer

The diagnosis of cancer affects many aspects of individual existence and identity. The essence of one's quality of life, regardless of the status of life or state of health, is the individual's capability to make personal, meaningful decisions that satisfy one's innermost needs.

Significant improvement in the quality of life of those affected by cancer, the newly diagnosed, longer-term survivors, family members, and caregivers, can be achieved if our collective efforts focus on enhancing the individual's personal capacity to provide for those aspects of life encompassing the most essential elements of meaningful existence and to minimize the impact of cancer on life. It also means addressing the problem from the time of diagnosis and for the balance of life.

Approximately 85,000 Texans will be diagnosed with cancer in 2004 (Table 1). From the time of diagnosis and until the end of life, the quality of life for every cancer survivor is affected in some way. Long-term survivorship is a realistic expectation for roughly 60 percent of those diagnosed with cancer today. While some are "disease free," others continue to struggle with chronic, active disease, and many are affected by long-term and late side effects.

Because health and social systems are complex and fragmented, cancer survivors and families need assistance in accessing services and resources. Needs are often greatest at "crisis points". Common issues include: financial, insurance, transportation, housing, medication, emotional distress, and support issues.

The American Alliance of Cancer Pain Initiatives

Pain is the most feared complication of cancer and is generally inadequately treated. At diagnosis and intermediate stages of cancer, 30-45 percent of survivors report moderate to severe pain, while on average, 75 percent with advanced cancer report pain. Despite the fact that pain can be controlled effectively in roughly 90 percent of cancer survivors through simple means, pain is frequently under treated. To address this serious concern, the *American Alliance of Cancer Pain Initiatives* (AACPI), a national network of state-based Pain Initiatives, works to disseminate accurate pain management information, educate healthcare professionals, raise public and patient awareness of the cancer pain problem, promote institutional and practice change, and advance for the removal of regulatory and legislative barriers to pain management. *(For more information on AACPI, visit* www.aacpi.org*).*

There is a need for a comprehensive network by which Texas can address the needs of cancer survivors and their families throughout the disease trajectory.

The number of people directly affected by someone else's cancer (family, friends, etc.) is an emerging concern. Defining someone as a cancer survivor "from the time of discovery and for the balance of life" stresses the importance of quality in the quantity of life and the many impacts of the disease on families, friends and caregivers.

Fatigue is a prevalent side effect that disrupts multiple aspects of daily life, impairs the overall sense of well-being and contributes to anxiety and depression. Sleep disorders, sleeping too much or too little, can aggravate mental state and decrease the overall sense of well-being. Changes in appearance resulting in low self-esteem, where survivors view themselves as damaged and unattractive, also can lead to isolation at a time when love, friendship, and support is critically important.

Long-term and late effects of treatment aside from initial acute problems include incontinence, sexual dysfunction, dental problems, lymphedema, loss of appetite, and difficulty in participating in normal activities such as going to the office or managing a household. The disease process and its treatment can lead to severe protein-calorie malnutrition, the single most common secondary diagnosis in the cancer patient. It has been estimated that up to 20 percent of people with cancer may die of the effects of cancer including treatment-related malnutrition.

Lack of or insufficient access to medical care and treatment, community programs and social services, employment and insurance, and social opportunity can be barriers to the cancer survivor and family achieving full quality of life. The link between poor access to care and poor health outcomes is well established. Close to one in three Texans lacks health insurance, surpassing the national average (18 percent in that same year) in most population segments (Table 9).

The cost of cancer treatment, loss of earning power, and physical or emotional disability can result in economic stress. The impact of treatment associated medical expenses is especially acute in low to middle income families who may find that they are no longer able to meet basic living expenses. Some survivors are

denied health or life insurance because of a history of cancer. Others are asked to waive coverage of cancer in order to get health insurance.

Many survivors fear discrimination in the work place as a result of their cancer. Some survivors report problems with employers or supervisors such as discrimination in promotions and salary increases or experience involuntary separation.

People confronted with cancer diagnosis and treatment often feel a loss of control over their lives, as if the disease itself has assumed control, and may not fully comprehend their rights to understand, consent to, and participate in treatment decisions. Cancer survivors suffer from anxiety and clinical depression at a much higher rate than the general population. These are serious conditions that require treatment.

Cancer is a family disease on many levels. Family members may need psychosocial support as they deal with changing roles. Children, who often feel they are somehow responsible for their loved one's illness, need special help. Compassion fatigue, i.e., caregiver burnout, may be a contributing factor to a number of issues, including higher divorce rates, suicide, drug and alcohol abuse, caffeine and nicotine addictions, and shorter life expectancy. Of particular concern is the survivor who does not have a support system. The reciprocal relationship between quality of life of survivors and that of family and caregivers is well documented. When family distress from cancer is reduced, quality of life is increased. Despite this, insufficient attention has been given to addressing family and caregiver quality of life and to creating supportive programs and services.

Cancer is a life-altering experience that can influence perceptions of life and its transience. Thoughts of death and concepts of afterlife gain new meaning and importance. Many survivors speak of deriving special meaning from having cancer, a heightened sense of vulnerability once given the diagnosis, a greater valuation of personal relationships in life itself, and gaining new inner strength.

Cancer survivors often struggle to find meaning in what has happened to them and to regain a sense of hopefulness and purpose in life. Some call upon their connection with a church or religious community, while others derive hope from their own personal spirituality. When spiritual issues are resolved, survivors and their families report an improved quality of life. Cancer survivors and families must be enabled to articulate where they are in the healing process. This is critical to the survivor's coping and growth and to the health care provider's understanding of the spiritual issues and healing process.

Transition from curative care to comfort care often requires supportive intervention. If the end of life becomes inevitable, both the person with cancer and family members need support and assistance in dealing with special end of life issues. Death is a natural process of life which should be accompanied by dignity and meaning. Understanding the necessity of going through the grief process, which may include denial, anger, and depression, can help. The dying person should be allowed the process as well as those who attend. Being encouraged to share remembered experiences with one another could be a means of healing and preparation for death. While the tendency is to want to numb all senses at this time, acceptance and healing are better served by trying to understand and work through the emotions that accompany end of life and the bereavement issues that follow.

Advancing Public Health Strategies for Cancer Survivorship*

There are 9.8 million cancer survivors in the United States. Survivorship is not limited to the person diagnosed with cancer, but it includes the loved ones and caregivers who share the cancer experience. It is an experience that begins with the cancer diagnosis and continues for a lifetime.

In response to the growing number of cancer survivors in the United States, many organizations are involved in survivorship issues. Recently, the Centers for Disease Control and Prevention (CDC) and the Lance Armstrong Foundation (LAF) released a *National Plan for Cancer Survivorship: Advancing Public Health Strategies*. The plan, developed in partnership with numerous organizations, survivors, and researchers, is designed to help guide the public health community in their efforts to address cancer survivorship. In addition to the CDC/LAF publication, the National Cancer Institute (NCI) in partnership with CDC and the President's Cancer Panel released the report, *Living Beyond Cancer: Finding a New Balance*. The report highlights the growing need to promote health and ensure the social, psychological, and economic well-being of cancer survivors and their families.

* The *National Plan for Cancer Survivorship: Advancing Public Health Strategies* can be obtained online at *www.laf.org* and *www.cdc.gov/cancer/survivorship*. The report *Living Beyond Cancer: Finding a New Balance* can be obtained online at *http://deainfo.nci.nih.gov/ADVISORY/pcp/pcp.htm*. For additional information on the Lance Armstrong Foundation's efforts to develop and sustain innovative programs that enhance the quality of life for cancer survivors and their loved ones through community-centered cancer survivorship grants and programs, visit *www.laf.org*.

Breast Cancer

Female Breast Cancer, Texas, 1997-2001

	Avg. Count/Yr.	Avg. Rate/Yr.
Incidence	11,172	119.3
Mortality	2,444	25.9

Source: Texas Cancer Registry incidence files as of 12/02/2003 and Bureau of Vital Statistics mortality file, Texas Department of State Health Services.

Approximately 11,200 new cases of female invasive breast cancer are diagnosed in Texas each year. Another 2,444 deaths are caused by the disease. This does not include in situ breast cancers that have not invaded or penetrated surrounding tissues. Breast cancer is the most common cancer among women in Texas, regardless of race/ethnicity. Among Texas females, it accounts for nearly one-third of all cancer cases, but only 16 percent of the cancer deaths. Most female breast cancer incidence (more than 75 percent) occurs in women age 50 and older (Table 10). Men are not immune to breast cancer, although it is rare. Approximately 17 Texas men die from cancer of the breast each year.

Texas exhibits a common pattern in which non-Hispanic white females are diagnosed with breast cancer at higher rates than other racial/ethnic groups, but African American females die at higher rates -nearly twice that of Hispanic females with breast cancer (Figure 14). This means, although African American women are less likely to develop breast cancer than non-Hispanic white women, they are more likely to die from the disease. This finding may suggest major differences in early diagnosis, treatment, and other risk factors influencing this disease.

The risk of breast cancer is higher in women who have a personal or family history of breast cancer, biopsy-confirmed atypical hyperplasia, increased breast density, a long menstrual history, obesity after menopause, recent use of oral contraceptives or post-menopausal estrogen and progestin, who have never had children or had their first child after age 30, or who consume one or more alcoholic beverages per day. Incidence rates appear to correlate with variations in diet, especially fat intake, while vigorous physical activity and maintenance of a healthy body weight are associated with lower risk. Between 1992 and 2001, age-adjusted mortality rates for female breast cancer, all races combined, have declined almost 16 percent (Figure 3).

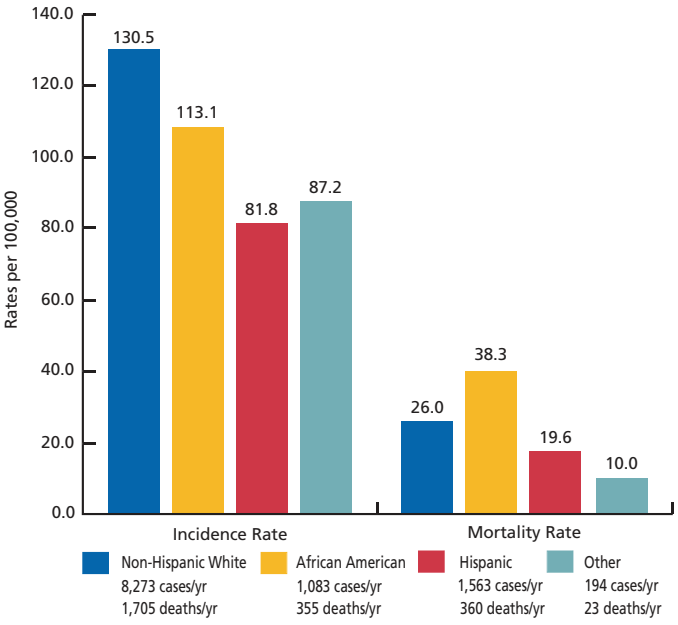
For additional information on the burden of breast cancer in Texas, see information and publications available through the Texas Cancer Registry and Breast and Cervical Cancer Control Program, Texas Department of State Health Services.

Table 10. Female Breast Cancer Incidence Rates, Counts, and Percentage of Total New Cancers By Age of Diagnosis, Texas, 1997-2001

	Age Specific Rates	Total Cases	Average Annual Cases	% of Newly Diagnosed Breast Cancer Cases
0-29	1.7	394	79	0.7
30-39	41.7	3,269	654	5.9
40-49	139.9	10,251	2,050	18.4
50-59	253.0	12,756	2,551	22.8
60-69	352.5	11,939	2,388	21.4
70-79	413.6	11,077	2,215	19.8
80+	372.0	6,175	1,235	11.1
Total			**11,172**	**100.0**

Note: Incidence counts are 5 year average annual, rounded to the nearest whole. Rates are age-specific annual rates per 100,000.
Incidence includes invasive cancers only. In situ cases are excluded.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Figure 14. Female Breast Cancer Incidence and Mortality Counts and Rates by Race/Ethnicity, Texas, 1997-2001



Notes: Rates are average annual rates per 100,000 and are age-adjusted to the 2000 U.S. standard population. Cases and deaths are average annual, rounded to the nearest whole.
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003 and Bureau of Vital Statistics, Texas Department of State Health Services.

Breast Cancer Early Detection And Screening

When breast cancer is diagnosed at its earliest stage, survival is excellent. When detected at a local stage, the 5-year relative survival is 97 percent. That rate falls to 79 percent when the cancer is detected at a regional stage, and 23 percent when detected at a distant stage (see page 9 definitions and SEER stage chart). Approximately six of every ten cases of female breast cancer in Texas are detected at early stage (in situ and localized). Stage of diagnosis varies among different racial/ethnic groups in Texas, with non-Hispanic whites and other races (Asian and American Indian combined) more likely to be diagnosed when the disease is at its earliest stage, compared to African American and Hispanic females (Table 11).

A breast health program of annual mammograms starting at age 40 and clinical breast examinations as part of a periodic health exam are the most important actions a woman can take to detect breast cancer at its earliest stage. Breast self exam is an option for women starting in their 20s. Women at increased risk (e.g. family history, genetic tendency, past breast cancer) should speak with their doctors about benefits and limitations of more frequent and/or additional tests. In 2002, 52 percent of Texas women age 40 and older reported having had a mammogram in the past year. As in other areas of the nation, differences in screening behaviors in Texas are seen among women of different age, race, and educational attainment. Hispanic females and women with less than a high school education report the lowest screening prevalence (Table 12). Screening rates are also influenced by the availability of mammography facilities. As of May 2004, nearly half of Texas counties (122) did not have fixed mammography facilities (Figure 15).

Table 11. Female Breast Cancer Total Number of Cases and Percent of Total by Stage at Diagnosis, Texas, 1997-2001

Breast (Female)	Total Cases	% Early Staged	% Late Staged	% Unknown
Non-Hispanic White	49,043	64.7	26.7	8.6
African American	6,309	51.5	37.9	10.6
Hispanic	9,029	55.4	35.0	9.6
Other Races	1,197	63.4	27.7	8.9

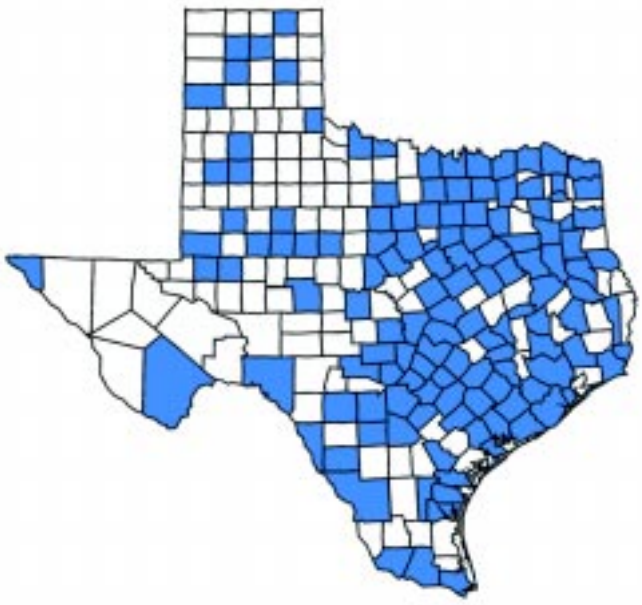
Notes: Early = in situ + local. Late = regional + distant. Number of cases is a five year total. Cases diagnosed in persons of unknown race are not included in above race/ethnicity breakdowns. Percentages are based on unrounded counts and totals.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Table 12. Prevalence Rate of Women (Ages 40 Years and Older) Who Have Had a Mammogram in the Past Year, Texas and United States, 2002.

	Texas Rate (%)	U.S. Rate (%)
Total	**52**	**62**
Age Groups (Years)		
40 to 64	52	60
65+	54	64
Race/Ethnicity		
Non-Hispanic white	54	62
African American	49	63
Hispanic	47	57
Other	58	55
Low Education*	37	53

For a complete report, including confidence interval ranges at 95% probability, contact the Community Assessment Team, Center for Health Statistics, *www.dshs.state.tx.us/chs/*
* Women with less than a high school diploma
Prepared by: Community Assessment Team, Center for Health Statistics, Texas Department of State Health Services.
Source: Texas Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2002

Figure 15. Texas Counties with On-Site Mammography Programs Accredited by the American College of Radiology and/or the State of Texas



Source: Texas Cancer Data Center, May 2004

Cervical Cancer

Approximately 1,100 women in Texas are diagnosed with invasive cervical cancer each year. Another 300 die from the disease. As cervical cancer screening has become more prevalent, pre-invasive lesions of the cervix are detected far more frequently than invasive cancer. Invasive cervical cancer represents approximately 3 percent of all female cancer incidence and 2 percent of all female cancer mortality in Texas. More than half of all new cases of invasive cervical cancer are diagnosed in women below the age of 50 (Table 13). For mortality, however, this is reversed. Approximately two of every three cervical cancer deaths occur among women age 50 and older. This is due in part to the fact that cervical cancer in older women is much more likely to be diagnosed at a later stage.

Invasive Cervical Cancer, Texas, 1997-2001

	Avg. Count/Yr.	Avg. Rate/Yr.
Incidence	1,071	11.1
Mortality	328	3.4

Source: Texas Cancer Registry incidence files as of 12/02/2003 and Bureau of Vital Statistics mortality file, Texas Department of State Health Services.

When considering all racial/ethnic groups in Texas, cervical cancer ranked seventh among the leading cancers diagnosed in women. However, among Hispanic females statewide, cervical cancer is the fourth most common cancer site. Hispanic females living along the Texas-Mexico border have higher cervical cancer incidence rates when compared to Hispanics living in non-Border counties. *For additional information on the burden of cervical cancer in Texas, see information and publications available through the Texas Cancer Registry and the Breast and Cervical Cancer Control Program, Texas Department of State Health Services.*

Hispanic females living along the Texas-Mexico border also have higher cervical cancer mortality rates compared to Hispanic females living in non-Border counties. However, African American women have the highest cervical cancer mortality rates among all race/ethnic groups. In Texas, African American women have 1.4 times the mortality rate of Hispanic women, and 2.6 times the cervical cancer mortality rate of non-Hispanic white women in the state (Figure 16). As with disparities in breast cancer mortality, this finding may suggest major differences in early detection, treatment, and other risk factors influencing this disease.

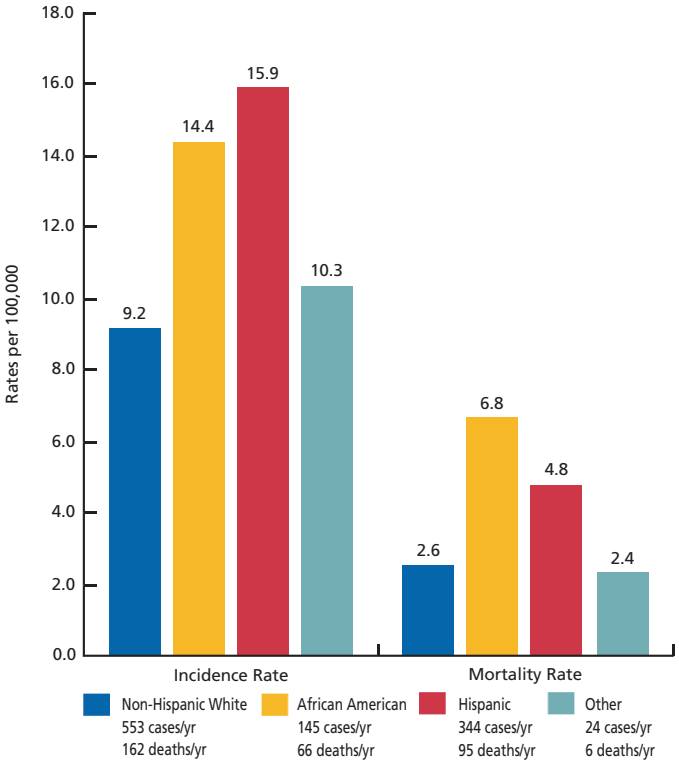
Between 1992 and 2001, age-adjusted rates for cervical cancer for all races combined have declined 12 percent (Figure 3).

Table 13. Cervical Cancer Incidence Rates, Counts, and Percentage of Total New Cancers By Age of Diagnosis, Texas, 1997-2001

	Age Specific Rates	Total Cases	Average Annual Cases	% of Newly Diagnosed Cervical Cancer Cases
0-29	1.6	375	75	7.0
30-39	16.0	1,253	251	23.4
40-49	19.2	1,405	281	26.2
50-59	17.8	899	180	16.8
60-69	18.8	638	128	11.9
70-79	18.1	485	97	9.1
80+	18.1	301	60	5.6
Total			**1,071**	**100.0**

Note: Incidence counts are 5 year average annual, rounded to the nearest whole. Rates are age-specific annual rates per 100,000.
Incidence includes invasive cancers only. In situ cases are excluded.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Figure 16. Cervical Cancer Incidence and Mortality Counts and Rates by Race/Ethnicity, Texas, 1997-2001



Notes: Rates are average annual rates per 100,000 and are age-adjusted to the 2000 U.S. standard population. Cases and deaths are average annual, rounded to the nearest whole.
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003 and Bureau of Vital Statistics, Texas Department of State Health Services.

Cervical Cancer Prevention, Early Detection, And Screening

Of all cancers, cervical cancer is among the most amenable to prevention and early detection through screening. Most cervical cancers can be prevented in two ways. The first way is to prevent pre-cancers. In many cases this can be done by avoiding multiple sexual partners, by young women delaying their first sexual experience until they are older, and by not smoking. In addition, using a condom during sexual intercourse may provide some protection from infection by human papilloma virus (HPV), a virus that is strongly linked to development of cervical cancer. The second way to prevent cervical cancer is to have regular Pap tests, which can detect pre-cancers and infection by HPV (see screening guidelines on page 43). Treating these problems can stop cervical cancer before it fully develops.

The 10-year survival rates for in situ cervical cancers is 99 percent. These rates drop sharply—to less than 50 percent—if the cancer has spread by the time it is detected. In any age group, Hispanic and African American women were more likely to be diagnosed at a later stage of invasive of cervical cancer (Table 14). Over the past 25 years, the high prevalence of Pap screening has led to a significant reduction in the incidence of invasive cervical cancer. Texas women of other races (which includes Asian/Pacific Islanders and American Indians) and women with less than a high school education had lower cervical cancer screening rates when compared to state or U.S. median (Table 15).

Table 14. Cervical Cancer Total Number of Cases and Percent of Total by Stage at Diagnosis, Texas, 1997-2001

Cervix	Total Cases	% Early Staged	% Late Staged	% Unknown
Non-Hispanic White	2,763	51.9	32.0	16.0
African American	724	42.4	39.8	17.8
Hispanic	1,722	47.7	36.7	15.6
Other Races	121	55.4	26.4	18.2

Notes: Early = local. Late = regional + distant. Number of cases is a five year total. Cases diagnosed in persons of unknown race are not included in above race/ethnicity breakdowns. Percentages are based on unrounded counts and totals. In-situ cervical cancer is not reportable, therefore is not included in cervix.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Table 15. Prevalence Rate of Women (Ages 18 Years and Older) Who Have Had a Pap Test Within the Past Three Years, Texas and United States, 2002.

	Texas Rate (%)	U.S. Rate (%)
Total	**82**	**83**
Age Groups (Years)		
18 to 44	86	88
45 to 64	83	85
65+	65	67
Race/Ethnicity		
Non-Hispanic White	82	83
African American	90	89
Hispanic	82	82
Other	63	74
Low Education*	77	73

For a complete report, including confidence interval ranges at 95% probability, contact the Community Assessment Team, Center for Health Statistics, *www.dshs.state.tx.us/chs/*
* Women with less than a high school diploma
Prepared by: Community Assessment Team, Center for Health Statistics, Texas Department of State Health Services.
Source: Texas Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2002.

Colon and Rectum Cancer

Approximately 8,300 new cases of cancers of the colon and rectum combined (hereafter referred to as colorectal cancer) are diagnosed in Texas each year. Another 3,200 deaths are caused by the disease. Colorectal cancer accounts for approximately 11 percent of all cancer incidence and 10 percent of all cancer mortality in Texas, males and females combined. When considering the total number of newly diagnosed cancer cases among men and women, colorectal cancer is the third most common cancer among males (following prostate and lung) and third among females (following lung and breast). For both sexes combined, colorectal cancer is second (following lung) in the number of total cancer deaths in the state, both sexes combined (Figure 5). The risk of colorectal cancer increases significantly with age. Three of every four Texas residents who develop colorectal cancer are age 60 or older at the time of diagnosis (Table 16).

Colon and Rectum Cancer, Texas, 1997-2001

	MALE		FEMALE		TOTAL
	Avg. Count/Yr.	Avg. Rate/Yr.	Avg. Count/Yr.	Avg. Rate/Yr.	Avg. Count/Yr.
Incidence	4,301	60.4	4,004	42.4	8,305
Mortality	1,670	24.8	1,580	16.5	3,250

Source: Texas Cancer Registry incidence files as of 12/02/2003 and Bureau of Vital Statistics mortality file, Texas Department of State Health Services.

Overall, incidence rates for colorectal cancer in Texas are highest among African American males and lowest among Hispanic females (Figure 17). Mortality rates are highest among African American males and lowest among males and females of other races (Figure 18). Differences in incidence rates among different racial/ethnic groups may be due, in part, to dietary and physical activity patterns. In terms of mortality, studies suggest a number of reasons for the disparity, including, in the United States as a whole, African Americans tend to be diagnosed at later stages, when their cancer is less likely to be successfully treated.

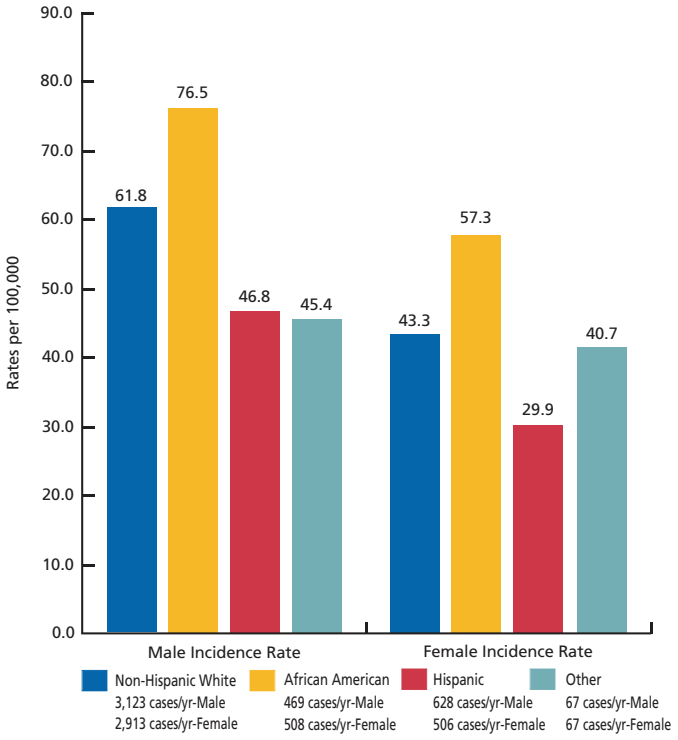
Between 1992 and 2001, age-adjusted mortality rates for colon (excluding rectum) cancer declined 17.8 and 13.9 percent among Texas males and females respectively (Figure 3). However, rectal cancer mortality rates increased more than nine percent in both males and females during the same time period (Figure 3).

Table 16. Colon and Rectum Cancer Incidence Rates, Counts, and Percentage of Total New Cancers By Age of Diagnosis, Texas, 1997-2001

	Male Age Specific Rates	Male Average Annual Cases	% of Newly Diagnosed Male Colon & Rectum Cancer Cases	Female Age Specific Rates	Female Average Annual Cases	% of Newly Diagnosed Female Colon & Rectum Cancer Cases
0-29	0.5	25	0.6	0.5	22	0.5
30-39	5.6	90	2.1	5.8	91	2.3
40-49	23.1	335	7.8	21.5	315	7.9
50-59	76.5	738	17.2	53.7	542	13.5
60-69	189.4	1,131	26.3	115.8	784	19.6
70-79	319.4	1,277	29.7	213.8	1,145	28.6
80+	429.8	705	16.4	333.0	1,106	27.6
Total		**4,301**	**100.0**		**4,004**	**100.0**

Note: Incidence counts are 5 year average annual, rounded to the nearest whole. Rates are age-specific annual rates per 100,000.
Incidence includes invasive cancers only. In situ cases are excluded.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Figure 17. Cancers of the Colon and Rectum Incidence Counts and Rates by Race/Ethnicity, Texas, 1997-2001



Notes: Rates are average annual rates per 100,000 and are age-adjusted to the 2000 U.S. standard population. Cases are average annual, rounded to the nearest whole.
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003, Texas Department of State Health Services.

Colorectal Cancer Prevention, Early Detection And Screening

Approximately 90 percent of all colorectal cancer cases and deaths are thought to be preventable. Screening tests that detect occult blood in the stool or identify adenomatous polyps can prevent the occurrence of colorectal cancers by allowing the detection and removal of pre-cancerous lesions. Beginning at age 50, men and women should follow a colorectal screening examination schedule as recommended by their doctors, including fecal occult blood testing (FOBT) and flexible sigmoidoscopy, or colonoscopy (see screening guidelines on page 43). Potentially modifiable factors include healthy dietary patterns, regular physical activity, and avoidance of obesity and smoking. Non-modifiable risk factors include a strong family history of colon cancer or adenomatous polyps. However, almost 75 percent of all colon cancers occur in people with no known predisposing factors.

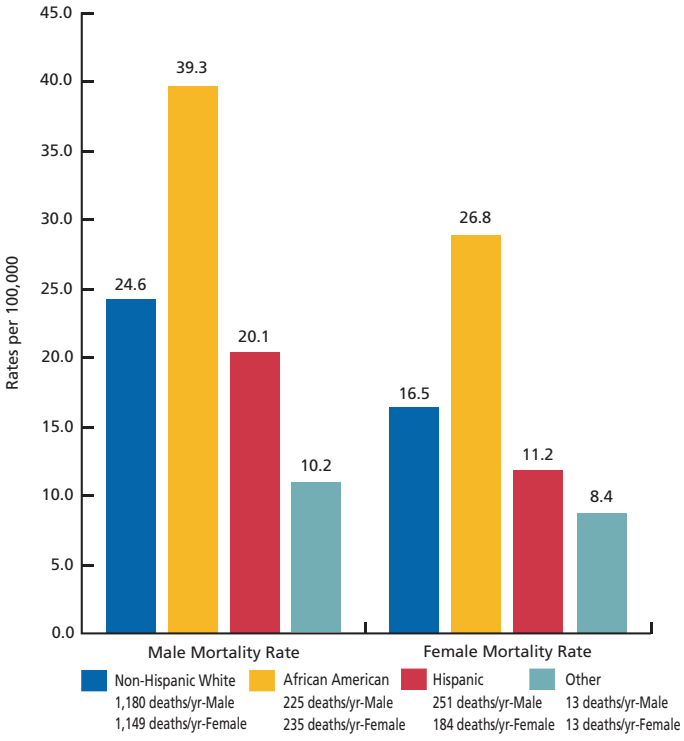
For men and women combined, colorectal cancer is the second leading cause of cancer deaths in Texas.

Survival from colorectal cancer is more than 90 percent when the cancer is diagnosed before it has extended beyond the intestinal wall.

On average, only about 36 percent of the more than 8,300 cases of colorectal cancers diagnosed in Texas were early stage. Non-Hispanic whites, compared to other racial/ethnic groups in Texas, were more frequently diagnosed with early stage colorectal cancers (Table 17).

Continued

Figure 18. Colon and Rectum Cancer Mortality Counts and Rates by Race/Ethnicity, Texas, 1997-2001



Notes: Rates are average annual rates per 100,000 and are age-adjusted to the 2000 U.S. standard population. Deaths are average annual, rounded to the nearest whole.
Prepared by: Texas Cancer Registry, Texas Department of State Health Services.
Source: Bureau of Vital Statistics, Texas Department of State Health Services.

Table 17. Colon and Rectum Cancer Total Number of Cases and Percent of Total by Stage at Diagnosis, Texas, 1997-2001

Colon and Rectum	Total Cases	% Early Staged	% Late Staged	% Unknown
Non-Hispanic White	31,903	36.8	49.5	13.7
African American	5,159	30.8	54.1	15.2
Hispanic	5,938	33.3	54.6	12.1
Other Races	702	34.9	49.3	15.8

Notes: Early = in situ + local. Late = regional + distant. Number of cases is a five year total. Cases diagnosed in persons of unknown race are not included in above race/ethnicity breakdowns. Percentages are based on unrounded counts and totals.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

In a survey of more than 2,200 Texans age 50 and older, close to 40 percent reported having the recommended screening exams within the past 5 years. Only 16 percent reported having a Fecal Occult Blood Test (FOBT) in the past year (Table 18). Screening rates are affected by the availability of endoscopic screening facilities and providers. Of the 161 counties where colonoscopy or flexible sigmoidoscopy service providers were identified, 146 had fewer than 10 providers in the county. The majority of the providers identified (56.6 percent) were in the 15 counties identified as having 10 or more providers. These counties are Harris, Dallas, Tarrant, Bexar, Travis, Nueces, El Paso, Lubbock, Brazos, Cameron, Collin, McLennan, Denton, Smith, and Bell. It should be noted that there may be overlap in the number of providers per county if a physician who performed a service and the hospital or freestanding service where he practiced both indicated that they offered the service (Figure 19).

Polyp Man colon cancer awareness campaign.

The campaign tone is humorous, but the message is serious: Finding and removing colon polyps through early detection can save lives. ***Get the test. Get the polyp. Get the cure.***

Table 18. Prevalence Rate of Adults (Ages 50 Years and Older) Who Had Blood Stool Test Within the Past Year or a Sigmoidoscopy or Colonoscopy Within the Past Five Years, Texas, 2002.

	Blood Stool Test Within the Past Year Rate (%)	Sigmoidoscopy or Colonoscopy Within the Past 5 Years Rate (%)
Total	**16**	**38**
Age Groups (Years)		
50 to 64	15	31
65+	19	49
Males	18	37
50 to 64	16	30
65+	20	49
Females	15	39
50 to 64	13	32
65+	18	48
Race/Ethnicity		
Non-Hispanic white	19	41
African American	13	36
Hispanic	9	25
Other	7	41
Low Education*	9	26

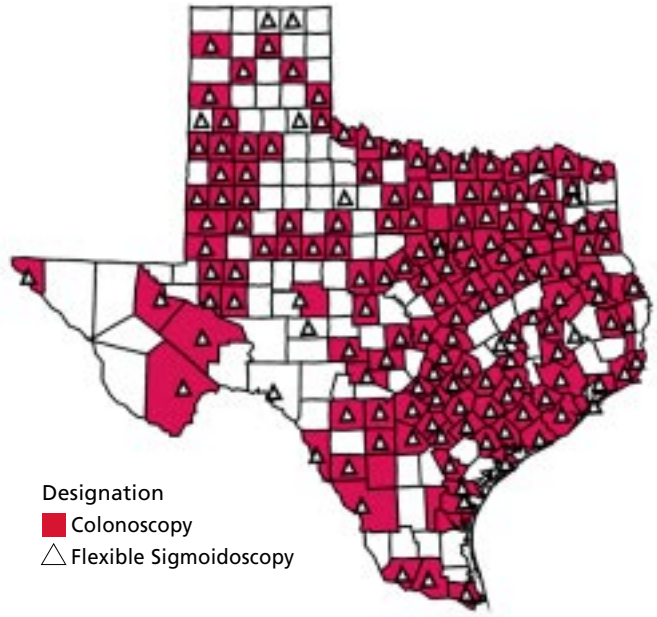
For a complete report, including confidence interval ranges at 95% probability, contact the Community Assessment Team, Center for Health Statistics, *www.dshs.state.tx.us/chs/*

* Adults with less than a high school diploma

Prepared by: Community Assessment Team, Center for Health Statistics, Texas Department of State Health Services.

Source: Texas Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2002.

Figure 19. Texas Counties with Endoscopic Screening Services for Colorectal Cancer



Source: Texas Cancer Data Center, May 2004
Data from surveys of physicians, hospitals and freestanding cancer centers.

Lung And Bronchus Cancer

Approximately 11,600 new cases of lung and bronchus cancer (hereafter referred to as lung cancer) are diagnosed in Texas each year. Nearly 9,400 residents die from the disease. Lung cancer is the second most common cancer diagnosed among Texas men and women. It is first, however, in the number of cancer-related deaths among both men and women, all racial/ethnic groups combined. The risk of lung cancer increases significantly with age. Close to 80 percent of Texas residents who develop lung cancer are age 60 or older at the time of diagnosis (Table19).

Sex and race/ethnicity also are factors in lung cancer incidence and mortality rates. Lung cancer incidence and mortality rates in Texas males are close to twice that of Texas females. This is similar to national trends. Also similar to national trends is the disproportionate cancer burden borne by African American males. Lung cancer mortality rates in African American males are nearly 1.4 times higher than those of non-Hispanic white males, and almost three times higher than for Hispanic males. Among Texas females, lung cancer incidence and mortality rates are highest among non-Hispanic whites (Figures 20 and 21). Between 1992 and 2001, age-adjusted mortality rates for males, all races, decreased 17.6 percent partly because of decreased smoking rates over the past 30 years. However, decreasing smoking patterns among women lag behind those of men and the age-adjusted lung cancer mortality rates for females, all races, increased 0.2 between 1992 and 2001 (Figure 3).

Continued

Lung and Bronchus Cancer, Texas, 1997-2001

	MALE		FEMALE		TOTAL
	Avg. Count/Yr.	Avg. Rate/Yr.	Avg. Count/Yr.	Avg. Rate/Yr.	Avg. Count/Yr.
Incidence	6,864	96.2	4,741	51.0	11,604
Mortality	5,689	81.9	3,711	39.7	9,399

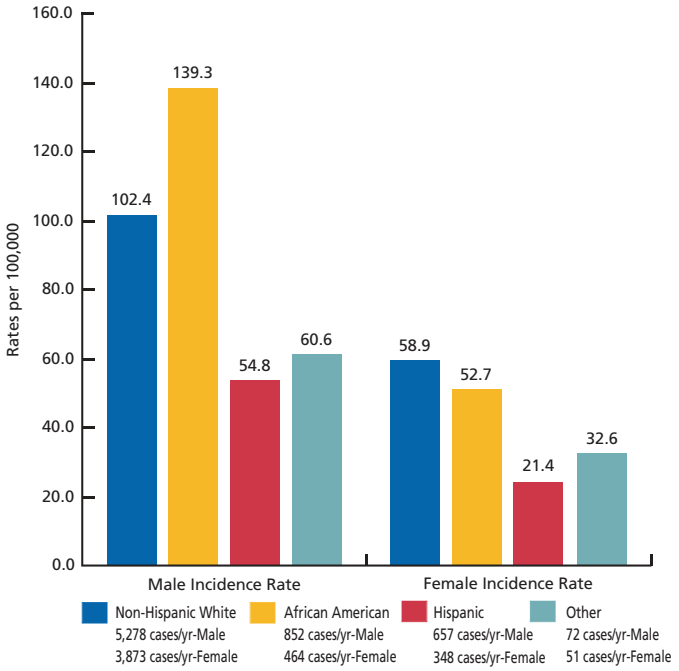
Source: Texas Cancer Registry incidence files as of 12/02/2003 and Bureau of Vital Statistics mortality file, Texas Department of State Health Services.

Table 19. Lung and Bronchus Cancer Incidence Rates, Counts, and Percentage of Total New Cancers By Age of Diagnosis, Texas, 1997-2001

	Male Age Specific Rates	Male Average Annual Cases	% of Newly Diagnosed Male Lung & Bronchus Cancer Cases	Female Age Specific Rates	Female Average Annual Cases	% of Newly Diagnosed Female Lung & Bronchus Cancer Cases
0-29	0.2	10	0.1	0.2	9	0.2
30-39	3.1	49	0.7	2.9	46	1.0
40-49	23.9	348	5.1	17.4	256	5.4
50-59	107.6	1,038	15.1	68.1	686	14.5
60-69	350.9	2,094	30.5	194.3	1,316	27.8
70-79	593.4	2,371	34.5	307.0	1,644	34.7
80+	581.4	953	13.9	236.1	784	16.5
Total		**6,864**	**100.0**		**4,741**	**100.0**

Note: Incidence counts are 5 year average annual, rounded to the nearest whole. Rates are age-specific annual rates per 100,000.
Incidence includes invasive cancers only. In situ cases are excluded.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Figure 20. Lung and Bronchus Cancer Incidence Counts and Rates by Race/Ethnicity, Texas, 1997-2001



Notes: Rates are average annual rates per 100,000 and are age-adjusted to the 2000 U.S. standard population. Cases are average annual, rounded to the nearest whole.
Source: Texas Cancer Registry, 1995-2001 incidence file as of 12/02/2003, Texas Department of State Health Services.

The Human And Economic Toll Of Tobacco Use

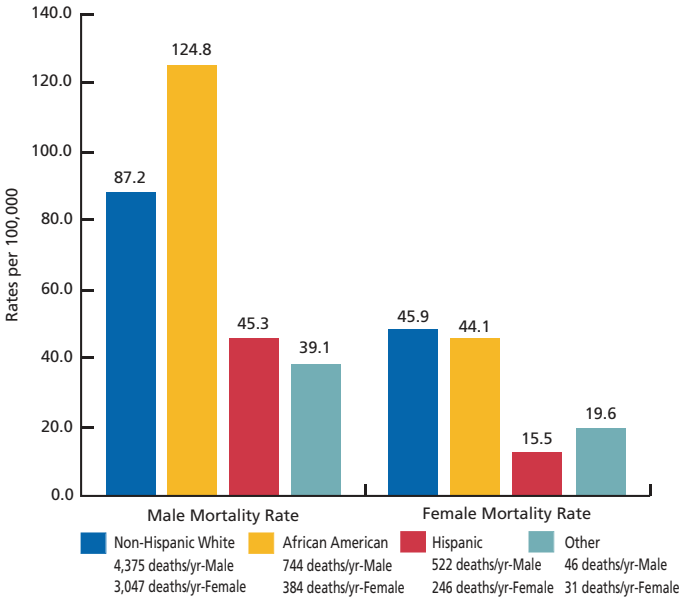
Smoking is the leading preventable cause of death and disease in our society. However, new estimates from the Centers for Disease Control and Prevention (CDC) detail the human and economic toll tobacco continues to place on Texas and the nation. There are an estimated 90 million current and former smokers in the United States. According to the Centers for Disease Control and Prevention, men who smoke increase their risk of death from lung cancer by more than 22 times. Women who smoke increase their risk of death from lung cancer by nearly 12 times. More people die of lung cancer in the United States than cancers of the breast, prostate, colon, and pancreas combined. This is due, in part, to the majority of lung cancers being diagnosed at late stage (Table 20). In Texas alone, it is estimated that more than 27,000 individuals lose their lives to tobacco each year. ***That's close to 500 Texans every week!***

Smoking is responsible for at least 30 percent of all cancer deaths and nearly 90 percent of lung cancers. According to the U.S. surgeon general, smoking "damages nearly every cell in your body" (for full report see *www.cdc.gov/tobacco*). In addition, smoking during pregnancy causes about 1,000 infant deaths nationwide each year. Secondhand smoke also contains numerous carcinogens. Nationwide, secondhand smoke causes approximately 3,000 lung cancer deaths and 35,000 - 45,000 deaths from heart disease in nonsmoking adults. In children, ETS is responsible for up to 300,000 lower respiratory infections each year and causes an increase in asthma attacks in about 200,000 to 1 million asthmatic children.

Everyone pays for tobacco use...

The economic toll tobacco places on Texas is staggering. Each year, direct medical expenditures and lost productivity costs due to tobacco costs the state of Texas over $10 billion dollars...that's close to $500 per year for every man, woman, and child in Texas! These estimates are attributable to cigarette smoking only. In essence, everyone pays for tobacco use...either with our health, our pocketbooks, or both. To reverse the devastating economic and human toll of smoking, the Centers for Disease and Control and Prevention (CDC), recommends that Texas invest between $100 to $300 million/year in tobacco control Best Practices. Unfortunately, for FY 2004-2005, Texas will spend just $7.4 million on tobacco prevention. This is a drop from the $12.5 million Texas spent in FY 2003, when it ranked 39th among 50 states.

Figure 21. Lung and Bronchus Cancer Mortality Counts and Rates by Race/Ethnicity, Texas, 1997-2001



Notes: Rates are average annual rates per 100,000 and are age-adjusted to the 2000 U.S. standard population. Deaths are average annual, rounded to the nearest whole.
Prepared by: Texas Cancer Registry, Texas Department of State Health Services.
Source: Bureau of Vital Statistics, 1995-2000 Mortality file, Texas Department of State Health Services.

Table 20. Lung Cancer Total Number of Cases and Percent of Total by Stage at Diagnosis, Texas, 1997-2001

Lung and Bronchus	Total Cases	% Early Staged	% Late Staged	% Unknown
Non-Hispanic White	45,798	18.2	57.2	24.6
African American	6,588	14.5	61.7	23.8
Hispanic	5,029	13.0	60.4	26.5
Other Races	614	15.3	60.4	24.3

Notes: Early = in situ + local. Late = regional + distant. Number of cases is a five year total. Cases diagnosed in persons of unknown race are not included in above race/ethnicity breakdowns. Percentages are based on unrounded counts and totals.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Trends In Tobacco Use

Nationwide Trends:

- Nationwide, cigarette smoking among adults aged 18 and over declined 40 percent between 1965 and 2000-from 42 percent to 22 percent. However, there are still an estimated 46.2 million smokers in the U.S. — same number as in 1964.
- Although cigarette smoking became prevalent among men before women, the gender gap narrowed in the mid-1980s and has remained constant.
- Between 1983 and 1999, smoking among college graduates decreased almost 50 percent from 21 percent to 11 percent, but among adults without a high school education the percentage decreased only 22 percent from 41 percent to 32 percent.
- Per capita consumption of cigarettes continues to decline. After peaking at 4,345 cigarettes per capita in 1963, consumption among Americans 18 years and older decreased 53 percent to an estimated 2,037 cigarettes per capita in 2001.
- Over 80 percent of adult smokers surveyed in 1991 had begun smoking by age 18.

(As published in *Cancer Facts & Figures 2004*, American Cancer Society, National Home Office)

Table 21. Prevalence Rate of Smoking Among Adults (Ages 18 Years and Older), Texas, 2003 and United States, 2002

	Texas Rate (%)	U.S. Rate (%)
Total	22	23
Sex		
Male	27	25
Female	18	20
Race/Ethnicity		
Non-Hispanic white	24	23
African American	20	22
Hispanic	19	19
Other	29	22
Women 18 to 44 Years	19	24
Low Education*	25	29
Tobacco Use		
Current Smokeless		
Males	8	7

For a complete report, including confidence interval ranges at 95% probability, contact the Community Assessment Team, Center for Health Statistics, *www.dshs.state.tx.us/chs/*. Current cigarette smoking defined as having ever smoked 100 cigarettes in lifetime and are current smokers (regular and irregular)
* Adults with less than a high school diploma
Prepared by: Community Assessment Team, Center for Health Statistics, Texas Department of State Health Services.
Source: Texas Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2003 and 2002

Texas Trends:

- In Texas, cigarette smoking rates have remained relatively stable over the last 10 years, with an estimated 22 percent, or 3 million Texans over the age of 18, smoking in 2003 (Table 21).
- Smoking prevalence is highest among non-Hispanic white and other race/ethnic groups including Asian/Pacific Islanders and American Indians.
- Adults age 25 and older with less than a high school diploma have smoking rates higher than the state average.
- Males are more likely to smoke (27 percent) than are females (18 percent).
- Texas youth are at risk as well. According to the 2001 Texas Youth Tobacco Survey, on average, approximately 17 percent of Texas public middle school students and 35 percent of Texas public high school students are current users of any tobacco products, i.e. cigarettes, smokeless tobacco, cigars, and pipe use (Table 22).
- According to findings of a 2002 survey of seventh to twelfth grade students conducted by the Texas Commission on Alcohol and Drug Abuse, lifetime tobacco use among secondary students dropped from 56 percent in 1990 to 51 percent in 2000 and 45 percent in 2002. Past-month use of tobacco declined from 26 percent in 1998 to 18 percent in 2002. Seniors (30 percent) were more than three times as likely as seventh graders (9 percent) to admit past-month experience with tobacco in 2002. Hispanic students had the highest lifetime prevalence rate for cigarette smoking at 49 percent, followed by Anglo (43 percent) and African-American (31 percent) students in 2002. The average age reported for first-time use of cigarettes was 12.3 years, and the average age for first-time use of spit tobacco was 12.9 years.

Continued

Tobacco Advertising and Marketing Expenditures Reach Record Highs

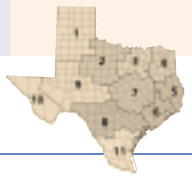
The Federal Trade Commission's 2003 annual report on tobacco advertising and promotional expenditures revealed that tobacco marketing reached record highs in 2001. Findings show that spending on the marketing of tobacco products:

- Reached a record $11.22 billion in 2001 (more than $500 per man, woman, and child in Texas). Compare this to the $7.4 million the state will spend in FY2004 on tobacco prevention.
- Increased 17 percent in one year and
- Increased more than 66 percent in the first three years after the 1998 state tobacco settlement.

(The FTC report can be found at http://www.ftc.gov/os/2003/06/2001cigreport.pdf.*)*

Table 22. Percentages of Texas Students Grades 6-12* Who Use Tobacco Products By Public Health Region (PHR) and Grade Level, 2001

	Current Users of Any Tobacco Products (Used in at least 1 of the past 30 days) Percent (%)	Current Smokers of Cigarettes (Smoked in at least 1 of the past 30 days) Percent (%)	Current Users of Smokeless Tobacco (Used in at least 1 of the past 30 days) Percent (%)	Current Users of Cigars (Smoked in at least 1 of the past 30 days) Percent (%)	Current Pipe Users (Smoked in at least 1 of the past 30 days) Percent (%)
Texas Overall Avg. Grades 6-12	**26.0**	**18.3**	**7.3**	**13.2**	**4.7**
PHR 1 & 2					
Middle School (Grades 6-8)	16.7	8.8	6.3	7.8	3.5
High School (Grades 9-12)	43.8	29.5	14.1	22.6	3.1
PHR 3					
Middle School (Grades 6-8)	13.6	7.6	4.1	6.9	3.3
High School (Grades 9-12)	**	**	**	**	**
PHR 4 & 5					
Middle School (Grades 6-8)	15.5	9.4	5.3	7	3.4
High School (Grades 9-12)	35.1	26.7	10	18.9	3.4
PHR 6					
Middle School (Grades 6-8)	15.8	9.8	5.2	8.8	4.8
High School (Grades 9-12)	25.9	19.5	4.5	12.4	3.9
PHR 7					
Middle School (Grades 6-8)	17.9	10.7	6.8	10.1	3.4
High School (Grades 9-12)	37.5	30.3	10.1	17.4	4.4
PHR 8**					
Middle School (Grades 6-8)	**	**	**	**	**
High School (Grades 9-12)	**	**	**	**	**
PHR 9 & 10					
Middle School (Grades 6-8)	20.5	14.1	5.1	9.6	6.4
High School (Grades 9-12)	37.9	29.3	11.3	16.2	4.8
PHR 11					
Middle School (Grades 6-8)	22	14.3	7.6	12.9	7.7
High School (Grades 9-12)	29.7	25.7	4	13.5	5



* A total of 8,687 MIDDLE SCHOOL and 8,696 HIGH SCHOOL students were surveyed.
** Overall Response Rate was not adequate to weigh survey data.
Source: Chronic Disease and Tobacco Prevention, 2001, Texas Department of State Health Services.

The National Lung Screening Trial in Texas

Texas is one of 30 sites in the U.S. where the National Cancer Institute is conducting a special research study. The National Lung Screening Trial (NLST) will compare two ways of detecting lung cancer: spiral computed tomography (CT) and standard chest X-ray. The trial began in 2003 and is scheduled to last 8 years, enrolling 50,000 current or former smokers nationwide. The American Cancer Society collaborated with the University of Texas MD Anderson Cancer Center to help ensure that the NLST reached full enrollment quickly. The NLST is one of the most important preventive health trials to take place in our lifetime because no scientific evidence to date has shown that screening or early detection of lung cancer actually saves lives. The NLST will be able to provide the evidence needed to determine whether spiral CT scans are better than chest x-rays at reducing a person's chances of dying from lung cancer.

For additional information on the National Lung Screening Trial, please go to *www.cancer.gov/nlst*.

Smoking "damages nearly every cell in your body."

Richard Carmona, Surgeon General of the United Stares, May 2004

Cancers of the:

- Lung
- Kidney
- Cervix
- Pancreas
- Mouth
- Larynx
- Pharynx

Other Diseases:

- Emphysema
- Gastric ulcers
- Cerebrovascular disease
- Chronic bronchitis
- Heart disease
- Abdominal aortic aneurysm

Because of the damage that smoking causes to nearly every cell in the body, many cancer patients have significant tobacco-related disease in the heart or lungs. This, in turn, negatively impacts oncologists' ability to treat a cancer patient optimally.

Prostate Cancer

Prostate Cancer, Texas, 1997-2001

	Avg. Count/Yr.	Avg. Rate/Yr.
Incidence	10,776	149.5
Mortality	1,801	31.6

Source: Texas Cancer Registry incidence files as of 12/02/2003 and Bureau of Vital Statistics mortality file, Texas Department of State Health Services.

Approximately 10,800 new cases of invasive prostate cancer are diagnosed in Texas each year. Another 1,800 men die from the disease. Among males in all racial/ethnic groups, prostate cancer is the leading type of cancer diagnosed. It is second in the leading cause of cancer deaths among non-Hispanic white and African American men in Texas (Table 6). Prostate cancer accounts for approximately 28 percent of total cancer incidence and 10 percent of total cancer deaths in Texas males. Age is the strongest risk factor for prostate cancer. After age 60, prostate cancer incidence and mortality rates rise dramatically in all racial/ethnic groups. Close to 98 percent of Texas males who develop prostate cancer are age 50 or older at the time of diagnosis, and more than 80 percent are age 60 or older at the time of diagnosis (Table 23).

Prostate cancer incidence rates (new cases per 100,000 males) are disproportionately high among African Americans—approximately 1.4 times higher than those of non-Hispanic whites, and more than two times higher than rates among Hispanic males in the state (Figure 22). This disparity between African Americans and other racial/ethnic groups is consistent with national trends, although the reason for the significantly higher rate of prostate cancer incidence in African Americans is unknown. Genetic studies suggest that strong familial predisposition may be responsible for 5-10 percent of prostate cancers.

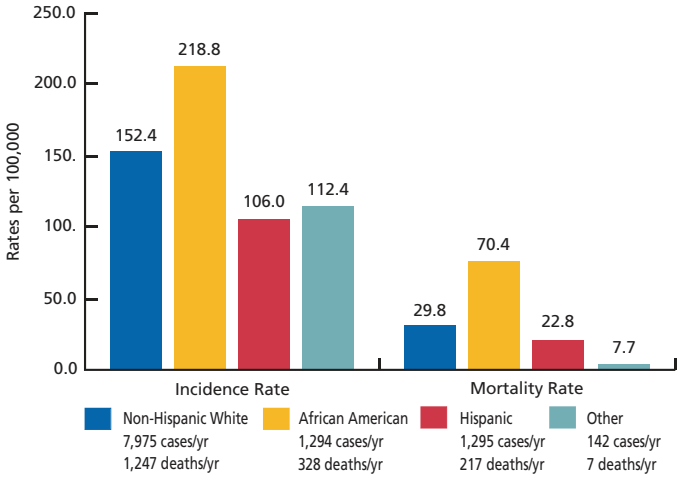
Between 1992 and 2001, age-adjusted prostate mortality rates for Texas males, all races, decreased 25.5 percent (Figure 3). However, as with prostate cancer incidence rates, mortality rates among African American males in Texas are significantly higher when compared to all other racial/ethnic groups (Figure 22). African American males have prostate cancer mortality rates more than two times higher than those of non-Hispanic whites, and more than three times higher than rates among Hispanics. A 2002 prostate cancer report by the Texas Cancer Registry notes that when compared to Texas non-Hispanic White men, the prostate cancer incidence rate for Texas African American men is 50 percent higher, and mortality is 130 percent higher (see full report *www.dshs.texas.gov/tcr*). Such disparity when comparing the mortality rate to the incidence rate among African American males may be due to several factors, including lack of timely and appropriate treatment, more aggressive tumors, and later stage of diagnosis.

Table 23. Prostate Cancer Incidence Rates, Counts, and Percentage of Total New Cancers By Age of Diagnosis, Texas, 1997-2001

	Age Specific Rates	Total Cases	Average Annual Cases	% of Newly Diagnosed Prostate Cancer Cases
0-29	0.0	10	2	0.0
30-39	0.5	39	8	0.1
40-49	17.0	1,238	248	2.3
50-59	179.8	8,680	1,736	16.1
60-69	657.1	19,613	3,923	36.4
70-79	908.2	18,148	3,630	33.7
80+	750.6	6,154	1,231	11.4
Total			**10,776**	**100.0**

Note: Incidence counts are 5 year average annual, rounded to the nearest whole. Rates are age-specific annual rates per 100,000. Incidence includes invasive cancers only. In situ cases are excluded.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Figure 22. Prostate Cancer Incidence and Morality Counts and Rates by Race/Ethnicity, Texas, 1997-2001



Notes: Rates are average annual rates per 100,000 and are age-adjusted to the 2000 U.S. standard population. Cases and deaths are average annual, rounded to the nearest whole.
Source: Texas Cancer Registry, incidence file as of 12/02/2003 and Bureau of Vital Statistics, Texas Department of State Health Services.

Prostate Cancer Early Detection and Screening

According to the American Cancer Society's screening guidelines the prostate-specific antigen (PSA) test and the digital rectal examination (DRE) should be offered annually beginning at age 50 to men who have a life expectancy of at least 10 years. Men at high risk (African-American men and men who have a first-degree relative diagnosed with prostate cancer at a young age) should begin testing at age 45. Unlike many other cancers, prostate cancer often grows slowly. Information regarding potential risks and benefits of early detection and treatment should be given by physicians to their patients, to assist men in making informed decisions about treatment.

Five-year relative survival trends for prostate cancer have improved dramatically over the last several years. The 5-year relative survival for men diagnosed with prostate cancer in its earliest stages is nearly 100 percent. Approximately two-thirds of the 10,800 prostate cancer cases diagnosed in Texas (all races combined) are done so at its earliest stage. State data indicate that African American males are least likely to have prostate cancer diagnosed at its earliest stage (Table 24). In a survey of more than 800 Texas men age 50 and older, more than two-thirds of all respondents reported having a PSA test within the past five years. A similar number indicated they had a DRE within the past five years. Hispanic males and males with less than a high school education had the lowest prostate cancer screening rates (Table 25).

Table 24. Prostate Cancer Total Number of Cases and Percent of Total by Stage at Diagnosis, Texas, 1997-2001

Prostate	Total Cases	% Early Staged	% Late Staged	% Unknown
Non-Hispanic White	39,896	67.7	12.7	19.7
African American	6,476	61.3	16.4	22.3
Hispanic	6,490	62.4	16.5	21.0
Other Races	714	72.5	12.3	15.1

Notes: Early = in situ + local. Late = regional + distant. Number of cases is a five year total. Cases diagnosed in persons of unknown race are not included in above race/ethnicity breakdowns. Percentages are based on unrounded counts and totals.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Table 25. Prevalence of Adult Males (Ages 50 Years and Older) Who Have Had a Prostate Specific Antigen Test and Digital Rectal Exam, Texas, 2002

Demographic Characteristics	PSA Within the Past Year* Percent	PSA Within the Past 5 Years* Percent	DRE Within the Past Year* Percent	DRE Within the Past 5 Years* Percent
Total	**52**	**70**	**49**	**70**
Age Groups (Years)				
50 to 64	47	65	43	66
65+	61	79	58	78
Race/Ethnicity				
Non-Hispanic white	56	77	52	75
African American	51	75	39	66
Hispanic	38	48	37	55
Other	NR	NR	NR	NR
Low Education*	34	43	34	48

PSA = Prostate Specific Antigen Test
DRE = Digital Rectal Exam
For a complete report, including confidence interval ranges at 95% probability, contact the Community Assessment Team, Center for Health Statistics, *www.dshs.state.tx.us/chs/*
* Men with less than a high school diploma
Prepared by: Community Assessment Team, Center for Health Statistics, Texas Department of State Health Services.
Source: Texas Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2002.

Skin Cancer (Melanoma of the Skin)

Skin Cancer (Melanoma of the Skin), Texas, 1997-2001

	MALE		FEMALE		TOTAL
	Avg. Count/Yr.	Avg. Rate/Yr.	Avg. Count/Yr.	Avg. Rate/Yr.	Avg. Count/Yr.
Incidence	1,006	13.0	717	7.5	1,722
Mortality	289	4.0	167	1.7	455

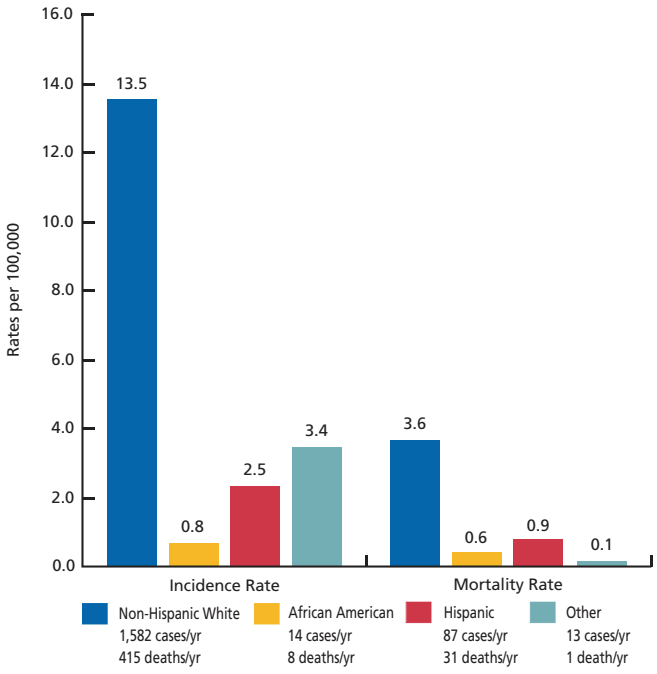
Source: Texas Cancer Registry incidence files as of 12/02/2003 and Bureau of Vital Statistics mortality file, Texas Department of State Health Services.

Approximately 1,700 new cases of melanoma of the skin are diagnosed in Texas each year. However, the number of newly diagnosed melanomas is thought to be significantly under reported. On average, 450 Texans will die from the disease. Skin cancer of all types is associated with exposure to the sun. Melanoma is much less common than basal cell and squamous cell skin cancers, but it is far more serious. Although melanoma of the skin ranks ninth in the ten leading cancer sites among males (representing less than three percent of total cancer cases), it remains a significant concern because the number of new melanomas diagnosed each year in the United States has doubled. Our state's intense year-round sunshine puts our citizens, especially those who have fair skin, work outdoors, and/or spend a great deal of recreational time in the sun, at greater risk of melanoma. Incidence of melanoma is rising faster than any other cancer in the U.S. Mortality rates have also increased. Between 1992-2001, age-adjusted melanoma mortality rates increased 2.4 percent among Texas males while it fell 13.2 percent among females (Figure 3).

Age is another factor associated with melanoma incidence and mortality rates. Although melanoma is rare in children, incidence increases beginning in the early teenage years and continues to increase with advancing age.

Race/ethnicity is the leading factor in all skin cancers, including melanoma. Melanoma, like all skin cancer, is primarily a disease of non-Hispanic white persons. Non-Hispanic whites have the highest incidence rates — about four to five times higher than Hispanics, and more than 16 times the rate seen in African Americans (Figure 23). Deaths from melanoma of the skin also are substantially higher for both white non-Hispanic males and females than for Hispanics, African Americans and other racial/ethnic groups.

Figure 23. Melanoma of the Skin Incidence and Mortality Counts and Rates by Race/Ethnicity, Texas, 1997-2001



Notes: Rates are average annual rates per 100,000 and are age-adjusted to the 2000 U.S. standard population. Average annual cases and deaths are rounded to the nearest whole. Melanomas are under reported.
Source: Texas Cancer Registry, incidence file as of 12/02/2003 and Bureau of Vital Statistics, Texas Department of State Health Services.

A simple ABCD rule outlines the warning signals for melanoma:

- **A** Asymmetry of mole (one side does not match the other);
- **B** Border irregularity (edges are ragged, notched, or blurred);
- **C** Color (pigmentation is not uniform, with variable degrees of tan, brown, or black);
- **D** Diameter (the size is greater than 6 millimeters, and any sudden or progressive increase in size should be of concern).

Skin Cancer Prevention, Early Detection And Screening

Blistering sunburn in childhood and adolescence is an almost universal risk factor for melanoma in non-Hispanic white populations. Other risk factors that may contribute to the development of skin cancer include:

- Excessive exposure to UV radiation.
- Fair to light skin complexion.
- Gender (men are more likely to develop skin cancer than women).
- Age (about 50 percent of melanomas occur in people over the age of 50).
- Race (risk of melanoma is more than 16 times higher for non-Hispanic whites than for African Americans).
- Heredity (numerous moles, as well as certain types of high-risk moles, often run in families).
- Occupational exposure to coal tar, pitch, creosote, arsenic compounds, or radium.

The greatest reduction in the number of skin cancer cases and reduction in the pain and loss of life from this disease will come from preventive strategies.

Actions to take to help prevent skin cancers are:

- ✔ Limit or avoid the sun between 10:00 a.m. and 4:00 p.m.
- ✔ When outdoors, cover as much skin as possible.
- ✔ Wear a hat that shades the face, neck, and ears.
- ✔ Wear sunglasses to protect the skin around the eyes.
- ✔ Use sun screens with SPF 15 or greater sun protection.
- ✔ Protect children from sun exposure.

Melanoma, detected early, is most likely to be completely cured. Part of a routine cancer-related checkup should include a skin examination by a health care professional qualified to diagnose skin cancer. The American Cancer Society recommends a cancer-related checkup, including skin examination, every three years for people between 20 and 40 years of age, and every year for anyone age 40 and older. Monthly skin self-examinations and awareness of the warning signs of melanomas also may be helpful in detecting melanoma at an early, curable stage.

The five-year relative survival from melanoma is close to 96 percent when the cancer is diagnosed at its earliest stage. This five-year survival rate drastically worsens with late stage diagnosis when cancer has metastasized to parts of the body remote from the primary. Between 1997 and 2001, more than 70 percent of the reported melanomas of the skin diagnosed in non-Hispanic white Texans were early stage. Hispanics and African Americans were more often diagnosed at a later stage (Table 26).

Table 26. Melanoma of the Skin Total Number of Cases and Percent of Total by Stage at Diagnosis, Texas, 1997-2001

Melanoma Of The Skin	Total Cases	% Early Staged	% Late Staged	% Unknown
Non-Hispanic White	9,947	71.9	11.5	16.6
African American	81	45.7	22.2	32.1
Hispanic	505	59.2	22.2	18.6
Other Races	83	78.3	12.0	9.6

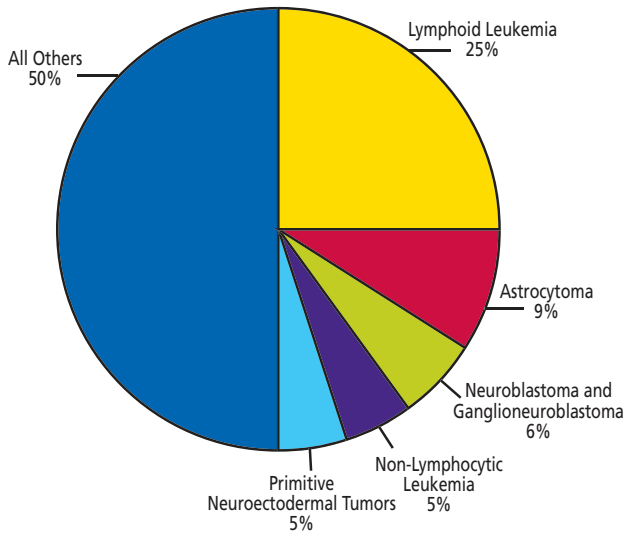
Notes: Early = in situ + local. Late = regional + distant. Number of cases is a five year total. Cases diagnosed in persons of unknown race are not included in above race/ethnicity breakdowns. Melanoma is under-reported. Percentages are based on unrounded counts and totals.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Cancer In Children

When considering the occurrence of cancer across all age groups, childhood cancer is rare, with less than one percent of all cancers occurring before the age of 15. Although the absolute number of deaths due to cancer in children and adolescents is low relative to adults, the toll in terms of potential years lost is high, and cancer remains the second leading cause of death among Texas children ages 1 to 14 years. Cancer is diagnosed in approximately 1,100 Texas children and young adults under the age of 20 each year. Another 200 die from the disease.

While cancers among adults are categorized by the anatomical site of the primary tumor, childhood cancers are classified primarily by histology into 12 major categories using the International Classification of Childhood Cancers (ICCCF). For both males and females, lymphoid leukemia was the leading type of cancer diagnosed in children under age 20 (Figure 24a & b). The highest incidence rates by race/ethnicity are seen among non-Hispanic whites and children of other races followed by Hispanics. Contrary to what is seen in African American adults, African American children and adolescents compared to non-Hispanic whites, Hispanics, and other races, have the lowest cancer incidence rates (Table 27).

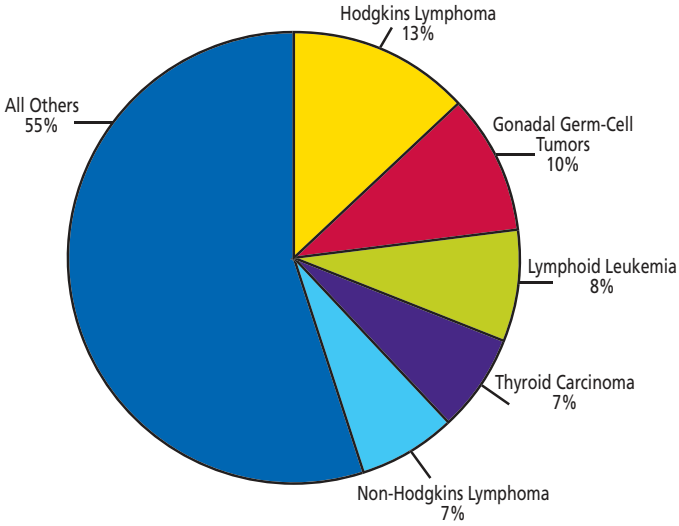
Figure 24a. Five Leading Cancers In Children, Ages 0-14, Texas, 1997-2001



Five Leading Childhood Cancers, Ages 0-14	Count
Lymphoid Leukemia	1,016
Astrocytoma	345
Neuroblastoma and Ganglioneuroblastoma	253
Non-Lymphocytic Leukemia	182
Primitive Neuroectodermal tumors	812
All Others	2,019
Total Cases	**3,997**

Note: Cases are 5 year total. Percentages are based on unrounded counts and totals.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Figure 24b. Five Leading Cancers In Adolescents, Ages 15-19, Texas, 1997-2001



Five Leading Childhood Cancers, Ages 15-19	Count
Hodgkins Lymphoma	214
Gonadal germ-cell tumors	172
Lymphoid Leukemia	133
Thyroid Carcinoma	122
Non-Hodgkins Lymphoma	115
All Others	945
Total Cases	**1,701**

Note: Cases are 5 year total. Percentages are based on unrounded counts and totals.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Great strides have been made in the treatment of children with cancer, resulting in vastly improved survival and reduced mortality. Nationwide, mortality rates from all childhood cancers combined decreased steadily from 1974-2000 (Figure 25). The overall 5-year relative survival for most childhood cancers diagnosed before age 15 has risen to nearly 75 percent, and the 10-year survival is approaching 70 percent. The greatest impact in these positive trends has been from dramatic improvement in survival from leukemia, which accounts for almost one-third of all cancers in children under age 15, and one-fifth of all cancers under age 20. Clinical trials have played a significant role in the dramatic improvement in childhood cancer treatment and cure rates in the last 30 years.

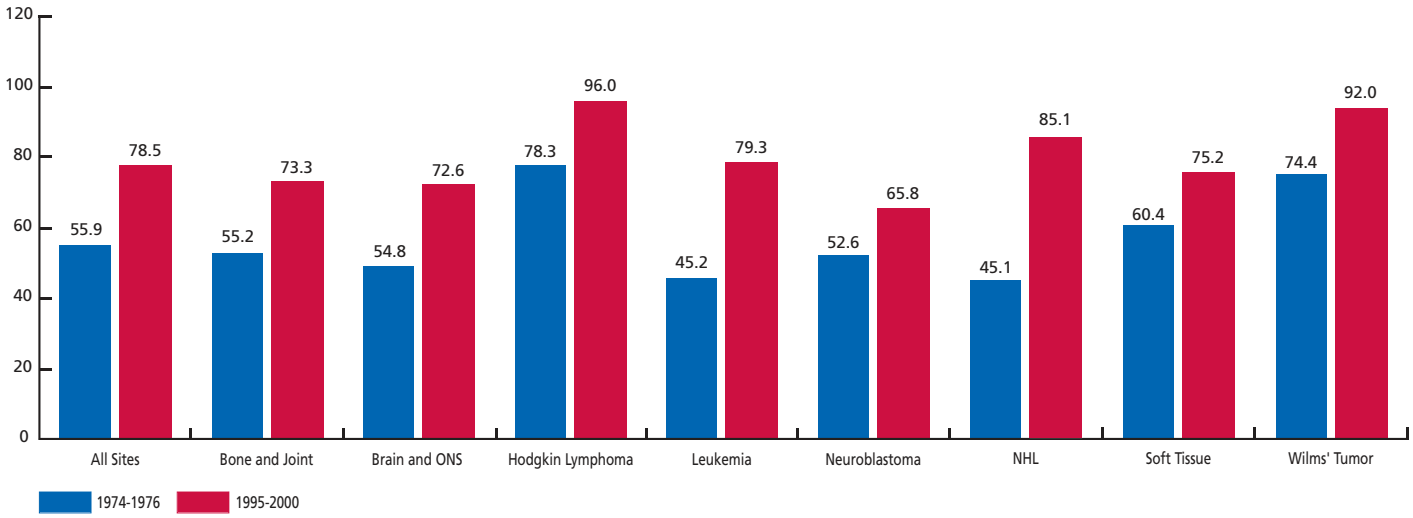
What is a Clinical Trial and Why are They Important?

In cancer research, a clinical trial is a study conducted to evaluate new treatment or prevention methods. Each study is designed to answer scientific questions and to find new and safer ways to treat cancer patients. The search for good cancer treatment begins with basic research in laboratory and animal studies and, if successful, leads to research with patients.

Advances in medicine and science result from new ideas and approaches developed through research. Patients participating in clinical trials provide valuable information concerning the safety and effectiveness of new treatments or preventive strategies. New treatments are carefully studied first in the laboratory. If proven to be safe and effective, they are then made available to all patients.

Information about specific trials can be obtained by calling the American Cancer Society at 1-800-ACS-2345 or the National Cancer Institute's Cancer Information Service at 1-800-4-CANCER. Both organizations can also be reached through their websites at www.cancer.org *or* http://cancertrials.nci.nih.gov, *respectively.*

Figure 25. National Trends in 5-Year Relative Survival Among Children, 0-14 Years Old



NHL = Non-Hodgkin lymphoma; ONS = Other nervous system
Source: SEER Cancer Statistics Review 1975-2001, National Cancer Institute.

Table 27. Three Leading Childhood Cancer Sites by Race Ethnicity, Texas, 1997-2001

	Lymphoid Leukemia		Astrocytoma		Hodgkins Lymphoma		Total Childhood Cancers	
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Non-Hispanic White	470	32.1	256	17.3	183	11.9	2,790	187.1
Hispanic	574	44.8	126	10.2	107	9.5	2,162	174.8
African American	68	16.4	43	10.4	44	10.8	537	130.6
Other Races	32	33.7	11	12.8	7	8.1	172	189.0
All Races	1,149	35.0	438	13.6	342	10.9	5,698	176.1

Note: Number of cases is a five year total. Childhood cancer sites are among children 0-19 years old. Children of unknown race are included in the All Races total.
*Rates are per 1,000,000 and age-adjusted to the 2000 U.S. standard population.
Source: Texas Cancer Registry, incidence file as of 12/02/2003, Texas Department of State Health Services.

Nutrition, Physical Activity, Obesity And Cancer

Approximately one-third of the cancer deaths that occur in the United States each year are due to nutrition and physical activity factors, including obesity. For the majority of Americans who do not use tobacco, dietary choices and physical activity are the most important modifiable cancer risk factors. Cancer risk can be reduced by an overall nutrition plan that includes mostly plant foods (fruits, vegetables, grains, and beans) and a balance between food intake and physical activity. Physical activity also promotes overall health and can help protect against some cancers, including colon cancer and breast cancer.

Nutrition and Physical Activity Guidelines

1. Eat a variety of healthful foods, with an emphasis on plant sources.
   - Eat five or more servings of vegetables and fruit each day.
   - Choose whole grains in preference to processed (refined) grains and sugar.
   - Limit consumption of red meats, especially high fat and processed meats.
   - Choose foods that help maintain a healthful weight.
2. Adopt a physically active lifestyle.
   - Adults: Engage in at least moderate activity for 30 minutes or more on 5 or more days of the week.
   - Children and adolescents: Engage in at least 60 minutes per day of moderate-to-vigorous physical activity at least 5 days per week.
3. Maintain a healthful weight throughout life.
4. If you drink alcoholic beverages, limit consumption.
   - People who drink alcohol should limit their intake to no more than 2 drinks per day for men and 1 drink a day for women.

Evidence indicates that although inherited genes do influence cancer risk, the majority of the variation in cancer risk among populations and among individuals is due to behavioral factors such as cigarette smoking, certain dietary patterns, and physical inactivity. A study in the March 2004 issue of the Journal of the American Medical Association (JAMA) confirms the increasing health threat posed by obesity and lack of physical activity. Nationwide, physical inactivity, obesity, and poor nutrition together kill more than 45 Americans each hour of every day. Given that nearly 50 Americans are killed each hour due to tobacco use, it is evident that more urgent efforts at prevention are needed.

Unfortunately, Texans are far from reaching the American Cancer Society guidelines on nutrition, physical activity, and weight control (Table 28). Fewer than one in four adults interviewed as part of the 2003 Behavioral Risk Factor Surveillance System reported eating an average of five or more servings of fruits and vegetables per day. The percentage was lower among males and among Hispanics. In addition to concerns about proper nutrition, few Texans are complying with recommendations for daily physical activity or even participating in leisure time physical activity. Related to poor nutritional habits and physical inactivity is the increasing number of overweight Texans. Based on height to weight measures (known as body mass index or BMI), more than 60 percent of Texas adults were considered overweight (Table 28).

Obesity Linked to Increased Cancer Deaths

According to findings in a landmark study from the American Cancer Society,* excess body weight may contribute to more than 90,000 cancer deaths in the U.S. each year. In the largest study ever done on the link between obesity and cancer, researchers followed more than 900,000 adults for 16 years. Findings revealed that overweight and obese men and women had a greater risk of death from cancers of the esophagus, colon, rectum, liver, gallbladder, pancreas, and kidney, non-Hodgkin lymphoma, and multiple myeloma. Men who were overweight or obese also had an increased risk of dying from cancer of the stomach and prostate, while overweight or obese postmenopausal women had an increased risk of death from cancers of the breast, cervix, ovaries, and uterus. Top researchers in both cancer and obesity said that the research virtually proves that cancer and obesity are linked.

**Calle, EE, Rodriquez, C, Walker-Thurmond, K, and Thun, M (2003). Overweight, Obesity, and Mortality from Cancer in a Prospectively Studied Cohort of U.S. Adults. The New England Journal of Medicine. Vol. 3438, 1625-1638, April 24, 2003.*

Many youth in Texas also are at risk due to inadequate intake of fruits and vegetables, lower than recommended physical activity levels, and higher than recommended body weights for height (Table 29). More than a third of kids in Texas schools are overweight. According to the Texas Department of Health's (TDH) Statewide Obesity Task Force, a 12-year-old child who is overweight has a 75 percent chance of being overweight as an adult. A recent study of a representative sample of 4th, 8th, and 11th grade students in Texas public schools found that the prevalence of overweight was approximately 22 percent, 19 percent, and 16 percent for 4th-, 8th-, and 11th-grade students, respectively. Overweight prevalence was highest among Hispanic boys (29.5-32.6 percent), fourth-grade Hispanic girls (26.7 percent), and fourth and eighth-grade African American girls (30.8 percent and 23.1 percent, respectively)[1].

Research tells us that healthy behavior is based not only on knowledge, but also on attitudes and skills developed early in life. It is these formative years that offer parents, the community, and institutions a valuable opportunity to influence the development of healthy behaviors in children. Quality school health programs are one of the most effective ways to reach the close to 4 million children who attend Texas schools in order to instill lifelong health habits that protect against cancer. Recent studies also have shown that the healthier students are, the more they learn, which has been reflected in higher test scores. Healthy children and youth are better able to realize their full potential which includes increased lifetime earnings, decreased health care costs, increased productivity, and increased longevity.

1. Hoelscher, DM, Lee, ES, Frankowski, RF, et al (2004). Measuring the Prevalence of Overweight in Texas Schoolchildren. *American Journal of Public Health*, June 2004, Vol 94, No. 6, 1002 .

Table 28. Prevalence Rate of Adults (Ages 18 Years and Older) Who Eat 5 or More Fruits and Vegetables per Day, Who Have No Leisure Time and Who Are Overweight, Texas, 2003

	Eating 5 or More Fruits and Vegetables Per Day Percent	No Leisure Time Physical Activity Percent	Overweight* Percent
Total	**23**	**28**	**62**
Sex			
Male	17	24	67
Female	28	31	55
Race/Ethnicity			
Non-Hispanic white	23	22	59
African American	26	33	73
Hispanic	20	37	67
Other	23	19	44
Low Education**	19	50	70

For a complete report, including confidence interval ranges at 95% probability, contact the Community Assessment Team, Center for Health Statistics, *www.dshs.state.tx.us/chs/*
* Overwieght defined as body mass index of 25.0 kg/m^2 and greater.
* * Adults with less than a high school diploma.
Prepared by: Community Assessment Team, Center for Health Statistics, Texas Department of State Health Services.
Source: Texas Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2003.

The Economic Cost of Obesity in Texas

In 2001, overweight or obese adults cost Texas $10.5 billion. That includes the direct costs of health care and the value of lost productivity, illness, disability and premature death, according to Dr. Margaret McCusker, a Centers for Disease Control and Prevention (CDC) representative assigned to the Texas Department of Health (TDH). Spending for obesity-related illnesses alone (not including lost work time, decreased productivity, or indirect costs) was more than $5.3 billion in 2003. *From Fiscal Notes, a publication of the Texas Comptroller's Office.*

Table 29. Nutrition, Physical Activity, and Overweight Status, High School Students, Texas (Excluding Houston), 2003

	Eating 5 or More Fruits & Vegetables Per Day Percent	Participating in Moderate Physical Activity Percent	Participating in Vigorous Physical Activity Percent	At Risk for Becoming Overweight Percent	Overweight* Percent
% Total	**17.5**	**20.2**	**59.9**	**16.4**	**13.9**
% Male	20.5	21.0	67.3	16.5	19.0
% Female	14.3	19.3	52.1	16.3	8.6

Moderate Physical Activity defined as activities that did not cause sweating and hard breathing (such as fast walking) for 30 minutes or more on 5 or more of the 7 days preceding the survey
Vigorous Physical Activity defined as activities causing sweating or hard breathing (such as running) for 20 minutes or more on 3 or more of the 7 days preceding the survey
At Risk for Becoming Overweight defined as students who were at or above the 85th percentile but below the 95th percentile for body mass index by age and sex based on reference data from the National Health and Nutrition Examination Survey
* Overweight defined as students who were at or above the 95th percentile for body mass index by age and sex based on reference data from the National Health and Nutrition Examination Survey
Source: Youth Risk Behavior Surveillance System, Centers for Disease Control and Prevention, 2003.

Environmental Cancer Risks

Environmental factors, defined broadly to include smoking, diet, and infectious diseases as well as chemicals and radiation, cause an estimated three-quarters of all cancer deaths in the United States. Among these factors, tobacco use, unhealthy diet, and physical inactivity have a greater affect on individual cancer risk than do trace levels of pollutants in food, drinking water, and air. However, the degree of risk from pollutants depends on the concentration, intensity, and duration of exposure. Even low-dose exposures that pose only small risk to individuals can still cause substantial ill health across an entire population if the exposures are widespread. For example, secondhand tobacco smoke increases risk in large numbers of people who do not smoke but are exposed to others' smoke.

Risk Assessment

The risk assessment process evaluates the cancer-causing potential of a substance, the levels of the substance in the environment, and the extent to which people are actually exposed. For cancer safety standards, acceptable risks are usually limited to those that increase risk by no more than one case per million persons over a lifetime.

Chemicals

Various chemicals (for example benzene, asbestos, vinyl chloride, arsenic, aflatoxin) show definite evidence of causing cancer in humans; others are considered probable human carcinogens based on evidence from animal experiments (for example, chloroform, dichlorodiphenyl-trichloroethane [DDT], formaldehyde, polychlorinated biphenyls [PCBs], and polycyclic aromatic hydrocarbons). For some exposures (asbestos and radon), the risks are greatly increased when combined with tobacco smoking.

Radiation

The only types of radiation proven to cause human cancer are high-frequency ionizing radiation (IR) and ultraviolet (UV) radiation. Exposure to sunlight (UV radiation) causes almost all cases of basal and squamous cell skin cancer and is a major cause of melanoma of the skin. Disruption of the earth's ozone layer by pollution (the ozone hole) may cause rising levels of UV radiation.

Radon exposures in homes can increase lung cancer risk, and cigarette smoking greatly increases the effect of radon exposure in lung cancer risk.

Unproven Risks

Public concern about cancer risks in the environment often focuses on unproven risks or on situations in which known carcinogen exposures are at such low levels that risks are negligible, for example:

Pesticides. High doses of some pesticides (insecticides, herbicides, etc.) have been shown to cause cancer in animals, but the very low concentrations found in some foods have not been associated with increased cancer risk. Continued research regarding pesticide use is essential for maximum food safety, improved food production through alternative pest control methods, and reduced pollution of the environment.

Non-ionizing radiation. Electromagnetic radiation at frequencies below ionizing and ultraviolet levels has not been proven to cause cancer. Low-frequency radiation includes radiowaves, microwaves, radar, and power frequency radiation arising from the electric and magnetic fields associated with electric currents, cellular phones, and household appliances.

Toxic wastes. Toxic wastes in dump sites can threaten human health through air, water, and soil pollution. Clean-up of existing dump sites and close control of toxic materials in the future are essential to ensure healthy living conditions.

Nuclear power plants. Ionizing radiation emissions from nuclear facilities are closely controlled and involve negligible levels of exposure for communities near the plants. Reports about cancer case clusters in such communities have raised public concern, but studies show that clusters do not occur more often near nuclear plants than they do by chance elsewhere.

Additional information on environmental factors associated with cancer risks can be found at several Web sites, including www.atsdr.cdc.gov, www.epa.gov, www.niehs.nih.gov, www.osha.gov, *and* www.who.int.

The above is excerpted from Cancer Facts & Figures 2004, *American Cancer Society, Inc., Atlanta, GA. Full text is available on the American Cancer Society Web site* www.cancer.org

American Cancer Society Recommendations for Early Detection of Cancer*

Site	Recommendation
Breast (Female)	Yearly mammograms starting at age 40 and continuing for as long as the woman is in good health. Clinical breast exams (CBE) should be part of a periodic health exam, about every three years for women in their 20s and 30s, and every year for women 40 and older. Women should report any breast changes promptly to their health care providers. Breast self-examination (BSE) is an option for women starting in their 20s. Women at increased risk (i.e. family history, genetic testing, prior breast cancer) should speak with their doctors about starting screenings earlier, having additional tests, or having more frequent exams.
Colon and Rectum	Beginning at age 50, men and women should follow **ONE** of the examination schedules below: ■ A fecal occult blood test (FOBT) every year, ■ A flexible sigmoidoscopy (FSIG) every five years, ■ Annual fecal occult blood test and flexible sigmoidoscopy every five years ** ■ A double-contrast barium enema every 5 to 10 years ■ A colonoscopy every 10 years **Combined testing is preferred over either annual FOBT or FSIG every 5 years, alone. People who are at moderate or high risk of colorectal cancer should talk with a doctor about a different testing schedule.
Prostate	The Prostate Specific Antigen (PSA) blood test and the digital rectal examination (DRE) should be offered annually, beginning at age 50, to men who have a life expectancy of at least 10 years. Men at high risk, such as African Americans and men with a strong family history of one or more first-degree relatives (father, brother, son) diagnosed with prostate cancer at an early age should begin testing at age 45. Information should be provided to patients about what is known and what is uncertain about the benefits and limitations of early detection and treatment of prostate cancer, so that patients can make an informed decision
Uterus	***Cervix:*** Screening should begin approximately three years after a woman begins having vaginal intercourse, but no later than 21 years of age. Screening should be done every year with regular Pap tests or every two years using liquid-based tests. At, or after age 30, women who have had three normal test results in a row may get screened every 2-3 years. However, doctors may suggest a woman get screened more often if she has certain risk factors, such as HIV infection or a weak immune system. Women 70 years and older who have had three or more consecutive normal Pap tests in the last 10 years may choose to stop cervical cancer screening. Screening after a total hysterectomy (with removal of the cervix) is not necessary unless the surgery was done as a treatment for cervical cancer. ***Endometrium:*** The American Cancer Society recommends that all women should be informed about the risks and symptoms of endometrial cancer, and strongly encouraged to report any unexpected bleeding or spotting to their physicians. Annual screening for endometrial cancer with endometrial biopsy beginning at age 35 should be offered to women with, or at risk for, hereditary nonpolyposis colon cancer (HNPCC).
Cancer-related Checkup	For individuals undergoing periodic health examinations, a cancer-related checkup should include health counseling and, depending on a person's age, might include examinations for cancers of the thyroid, oral cavity, skin, lymph nodes, testes, and ovaries, as well as for some nonmalignant diseases.

The American Cancer Society guidelines for early detection are assessed annually in order to identify whether there is scientific evidence to warrant a re-evaluation of current recommendations. If new evidence is sufficiently compelling to consider a change or clarification in a current guideline, or the development of a new guideline, a formal procedure is initiated. Guidelines are formally evaluated every 5 years, regardless of whether or not new evidence suggests a change in the existing recommendations.

*In Asymptomatic People.

Note: The National Cancer Institute's (NCI) screening guidelines may differ from those of the American Cancer Society. For information regarding NCI's screening recommendations, visit their Web site at *http://cancer.gov* or call the NCI's Cancer Information Service at 1-800-4-CANCER

Major Cancer Sites

CANCER SITES	NON-MODIFIABLE RISK FACTORS	MODIFIABLE RISK FACTORS	RISK REDUCTION
Brain and other nervous system	Impaired immune system that may be present at birth, a side effect of treatment from other cancers, a side effect of treatment to prevent transplanted organ rejection, or from acquired immunodeficiency syndrome (AIDS); Family history	Exposure to radiation	Prevention strategies are not available since most brain and other nervous system tumors are not associated with known risk factors and occur for no apparent reason
Breast	Age (risk increases as one gets older); Gender (risk higher in women); Race (risk slightly higher in Whites); Genetic risk factors; Family history; Personal history of breast cancer; Previous breast biopsy; Previous breast radiation; Early menstruation; Late menopause	First child born after age 30; Oral contraceptive use; Hormone replacement therapy use; Alcohol consumption; Obesity; Physical activity	Having first child before age 30; Breast feeding child; Limit alcohol consumption; Maintain a healthy weight; Be physically active; Chemoprevention if women are considered high risk (tamoxifen and possibly raloxifene-raloxifene is not approved for risk reduction and should not be recommended outside of a clinical trial.)
Cervix	Age (average age at diagnosis is 50 to 55); Family history	Human papilloma virus (HPV) infection from intercourse at an early age, unprotected sex, and many sexual partners; Cigarette smoking; Human immunodeficiency virus (HIV) infection; Chlamydia infection	Avoid early onset of sexual activity; Limit number of sexual partners; avoid sexual intercourse with individuals who have had multiple partners; Avoid cigarette smoking; Use condoms (to prevent HIV and chlamydia infection; condom use does not reliably prevent HPV infection)
Colon and Rectum	Age (risk increases as one gets older); Family history; Ethnicity, namely Ashkenazi Jews; Race (highest incidence in African Americans); Personal history of colon cancer, intestinal polyps, or chronic inflammatory bowel disease	Diet from animal sources; Physical inactivity; Obesity; Smoking; Alcohol consumption; Vegetable and fruit consumption; Hyper-insulinemia/ Type II Diabetes	Follow American Cancer Society guidelines on nutrition and physical activity; Maintain ideal body weight; multivitamin with folate intake; Calcium supplement intake; Nonsteroidal anti-inflammatory drugs, like aspirin; Hormone replacement therapy (but side effects may outweigh benefit)—ACS does not recommend that people at average risk use NSAIDS or HRT for the purpose of lowering CRC risk.
Endometrium (Corpus Uteri)	Age (risk increase as one gets older); Total length of menstrual span; Early menstruation; Late menopause; History of infertility; Ovarian disease; Diabetes; Family history; Presence or personal history of breast or ovarian cancer	History of having never given birth; Obesity; Tamoxifen use; Estrogen (but not combined hormone) replacement therapy; Diet high in animal fat	Having one or more children; Use of oral contraceptives; Maintain healthy weight; Control diabetes
Hodgkin's Disease	None known at present, but there is a slightly increased rate of Hodgkin's disease among persons previously infected with infectious mononucleosis	None known at present	None known at present
Kidney (Renal Cell)	Age (risk increases as one gets older); gender (risk higher in men); Inherited conditions such as von Hippel-Lindau disease, hereditary papillary renal cell carcinoma, hereditary renal oncocytoma; Chronic kidney disease	**Cigarette smoking**; Obesity; Diet; Occupational exposure to asbestos	Avoid cigarette smoking; Maintain a healthy weight; Follow American Cancer Society guidelines on nutrition and physical activity; Avoid occupational exposures by using workplace safety precautions
Lymphoma (Non-Hodgkin's lymphoma)	Congenital immune deficiency diseases; Immune deficiency from organ transplantation and/or immunosuppression therapy; Infection with certain bacteria and viruses; Exposure to radiation	Immune deficiency from HIV infection; Cigarette smoking	Use condoms to prevent HIV infection; Avoid cigarette smoking
Leukemia	Infection with HTLV-1 virus; Family history	**Cigarette smoking**; Exposure to benzene; High-dose radiation exposure; Inherited rare genetic diseases	Avoid cigarette smoking; Reduce exposure to benzene and radiation

EARLY DETECTION	SYMPTOMS	TREATMENT
No screening examinations available other than to report signs or symptoms to health care professional	Headache; Nausea; Vomiting; Blurred vision; Epileptic seizures; Weakness of body part; Loss of hearing; Numbness; Impaired coordination; Difficulty in speech or walking; Personality changes	Surgery, radiation therapy, and/or chemotherapy depending on tumor location; Other drugs are available to alleviate symptoms related to brain or other nervous system tumors
Mammograms; Clinical breast examinations; Breast self-examinations (optional); see ACS guidelines for more detailed information	New lump or mass; Swelling; Skin irritation or dimpling, Nipple pain or nipple turning inward, Redness or scaliness of the nipple or breast skin; Breast discharge; Lump in the underarm area	Surgery (breast conserving therapy with radiation, or mastectomy with or without radiation); Plus chemotherapy and/or hormone therapy, depending on tumor size, spread to lymph nodes, and/or prognostic features
Pap test (smear) and pelvic examination; see ACS guidelines for more detailed information; HPV testing based on age (now approved by FDA - see ACS guidelines)	Unusual discharge from vagina other than monthly menstrual period; Bleeding after intercourse; Pain during intercourse	Surgery and/or radiation therapy; Plus chemotherapy for later stages.
Fecal occult blood test (FOBT); Flexible sigmoidoscopy; Colonoscopy; Barium enema; see ACS guidelines for more detailed information	Change in bowel habits; Feeling that bowel movement is necessary but no relief after doing so; Rectal bleeding or blood in stool; Cramping or abdominal pain; Weakness or fatigue	Surgery; Plus radiation therapy and/or chemotherapy for later stages
No screening examinations available for women without symptoms who are at average risk for endometrial cancer; Women should report warning signs to health care professional	Unusual bleeding, spotting, or abnormal discharge, especially if after menopause; Pelvic pain or mass; Unexplained weight loss	Surgery; Plus radiation therapy, chemotherapy, or hormone therapy for later stages
No screening examinations available other than reporting signs and symptoms of disease to health care professional	Enlarged lymph nodes that have not gone away; Fever; Night sweats; Weight loss; Itching; Tiredness; Unexplained weight loss	Chemotherapy and/or radiation therapy; Bone marrow transplant for recurrent disease
No screening examinations recommended but routine urinalysis may find small amounts of blood in some people with early stages of cancer	Blood in the urine; Low back pain on one side; Abdominal mass or lump; Fatigue; Unintentional weight loss; Fever not associated with other infection; Edema	Surgery; Plus radiation therapy, chemotherapy, or immunotherapy, for later stages
No screening examinations available other than reporting signs and symptoms of disease to health care professional	Enlarged lymph nodes; Pain in stomach; Nausea; Reduced appetite if lymphoma of stomach; Swelling of head and arms if lymphoma of thymus or chest; Headache, trouble thinking, personality changes, and epileptic seizures if lymphoma of the brain; Unexplained weight loss; Fever; Profuse sweating particularly at night; Severe itchiness	Chemotherapy and/or radiation therapy; Plus stem cell transplant for advanced disease
No screening examinations available other than reporting signs and symptoms of disease to health care professional	Weakness; Fatigue; Reduced exercise tolerance; Weight loss; Fever; Bone pain; Sense of fullness in abdomen	Chemotherapy; Plus stem cell transplant depending on prognostic factors; Gleevec (imatinib mesylate) for treatment of chronic myeloid leukemia

Continued

CANCER SITES	NON-MODIFIABLE RISK FACTORS	MODIFIABLE RISK FACTORS	RISK REDUCTION
Lung and Bronchus	Personal and family history	**Cigarette smoking**; Secondhand smoke from cigarette smoking; Asbestos exposure; Occupational exposure to some chemicals; Diet; Radon exposure	Avoid cigarette smoking; Avoid second-hand smoke; Avoid occupational exposure to asbestos and other chemicals by using workplace safety precautions; Eat five or more servings of fruits and vegetables per day; Get home checked for radon
Melanoma of the skin	Age (risk increases as one gets older); Moles; Fair skin; Freckling; Light hair; Family history; Immune suppression; Inherited condition known as xeroderma pigmentosum	Excessive, unprotected exposure to ultraviolet (UV) radiation through sunlight or tanning lamps; Severe, blistering sunburns during childhood and teenage years	Seek shade; Protect skin with shirt with long sleeves, long pants, and a hat with a broad brim; Use sunscreen; Wear sunglasses; Avoid tanning lamps
Oral Cavity and oropharengeal	Age (risk increases as one gets older); Human papilloma virus (HPV) infection	**Cigarette smoking**; Smokeless or chewing tobacco; Cigars; Alcohol consumption; UV exposure for cancer of the lip; Vitamin A deficiency; Obesity	Avoid cigarette smoking; Limit intake of alcoholic beverages; Avoid exposure to ultraviolet radiation for cancer of the lip; Eat five or more servings of fruits and vegetables per day; Avoid obesity
Ovary	Age (risk is greatest in post-menopausal women); Early menstruation; Late menopause (after 50); Family history of ovarian cancer; Having breast cancer	No children; First child after age 30; Use of fertility drugs	Eating healthy diet based on American Cancer Society guidelines on nutrition and physical activity
Pancreas	Age (risk increases as one gets older); Diabetes mellitus; Chronic pancreatitis; Family history of disease	**Cigarette smoking**; Heavy exposure to pesticides, dyes, and chemicals related to gasoline; Obesity	Avoid cigarette smoking; Follow the American Cancer Society guidelines for nutrition and physical activity No screening examinations available
Prostate	Age (risk is greatest after age 50); Race (risk is higher in African Americans); nationality (occurs more frequently in North America and northwest Europe); Family history	Diet high in saturated fat and red meat.	Eating a healthy diet based on the American Cancer Society guidelines on nutrition; Clinical trials (SELECT) are underway to determine if selenium and vitamin E reduce prostate cancer risk
Stomach	Age (risk is greatest after age 50); Heliobacter pylori infection leading to chronic atrophic gastritis; Previous stomach surgery; Pernicious anemia; Hypertrophic gastropathy (Menetrier's disease); Type A blood; Family history; Stomach polyps	Diets which are high in smoked foods and salted fish, and contain pickled vegetables, and low in other vegetables; Cigarette smoking	Avoid diets high in smoked and picked foods and salted meats and fish; Eat a diet high in fresh fruits and vegetables as recommended in the American Cancer Society guidelines on nutrition and physical activity; Avoid cigarette smoking
Testis	Age (most occur between ages of 15 and 40, but all men are at risk); Race and ethnicity (Risk is higher in Whites); Cryptorchidism (undescended testicle); Family history; Personal history of testicular cancer	None known at present	None known at present
Urinary Bladder	Age (risk increases as one gets older); Race (risk higher in Whites); Personal history of bladder cancer; Birth defects involving the bladder	**Cigarette smoking**; Industrial chemicals known as aromatic amines used by dye, rubber, leather, textile, paint, and printing companies; Chronic bladder inflammation such as urinary infections, kidney and bladder stones; Use of herb, Aristocholia Fangchi	Avoid cigarette smoking; Avoid occupational exposure to aromatic amines by using workplace safety precautions

EARLY DETECTION	SYMPTOMS	TREATMENT
No widespread screening examinations available, but the National Lung Screening Trial (NLST) is underway to test the utility of spiral CT (computed tomography) scanning	A cough that does not go away; Chest pain often aggravated by deep breathing; Hoarseness; Weight loss and loss of appetite; Bloody or rust-colored sputum; Shortness of breath; Recurring infections such as bronchitis and pneumonia; New onset of wheezing	**Non-small cell:** Surgery; Plus radiation therapy and/or chemotherapy for later stages **Small-cell:** Chemotherapy; Plus radiation therapy, and sometimes surgery, depending on prognostic factors
Self examinations of skin; Skin examination conducted by health care professional	Changes in the appearance of moles: asymmetry (one half does not match other half), border irregularity (edges are ragged or notched), color (color is not uniform), and diameter (wider than 3 to 6 millimeters)	Surgery; Immunotherapy for later stages
Regular dental checkups that include examination of the entire mouth; A cancer-related checkup where primary care physicians examine mouth and throat; Self-examinations and if signs and symptoms of disease are present, then report them to health care professional	Sore in the mouth that does not heal; Pain in the mouth that does not go away; A persistent lump or thickening in the cheek; Persistent white or red patch on the gums, tongue, tonsil, or lining of the mouth; Sore throat or feeling that something is caught in the throat; Difficulty chewing or swallowing; Difficulty moving the jaw or tongue; Numbness of the tongue; Swelling of the jaw, Loosening of the teeth or pain around the teeth or jaw; Voice changes; A lump or mass in the neck; Unexplained weight loss	Surgery and/or radiation therapy; Plus chemotherapy for later stages
Annual pelvic exam; For women at higher risk, transvaginal sonography and blood tests for CA-125 may be conducted	Prolonged swelling of abdomen; Digestive problems including gas; Loss of appetite, bloating, or indigestion; Unusual vaginal bleeding; Pelvic pressure; Pelvic pain; Leg pain; Back pain	Surgery; Plus chemotherapy and sometimes radiation therapy for later stages
None, other than reporting signs and symptoms of disease to health care professional	Jaundice; Abdominal pain; Weight loss; Digestive problems; Blood clots; Fatty tissue abnormalities; Diabetes mellitus	Surgery, radiation therapy, and/or chemotherapy depending on stage
Screening tests are available—prostate-specific antigen blood test (PSA) or digital rectal examination (DRE), but tests are underway to determine if they reduce prostate cancer mortality. See American Cancer Society guidelines for more information	Usually no symptoms with early stage disease; Advanced stage symptoms: Difficulty urinating; Frequent urination; Blood in urine; Impotence; Pain in pelvic bone, spine, hips, or ribs	Surgery, radiation therapy, hormone manipulation, or watchful waiting, depending on stage
Widespread screening not conducted in the United States due to low incidence rates; Consult medical professional about screening if at high risk for stomach cancer and report signs and symptoms to medical professional	Unintended weight loss and lack of appetite; Abdominal pain; Vague discomfort in the abdomen, usually above the navel; Sense of fullness in the upper abdomen after eating a small meal; Heartburn, indigestion, or ulcer-type symptoms; Nausea; Vomiting with or without blood; Swelling of the abdomen	Surgery; Plus chemotherapy and radiation therapy for later stages.
No screening examinations routinely recommended other than reporting signs and symptoms of disease to health care professional	Lump on testicle; Testicular enlargement or swelling; Sensation of heaviness or aching in the lower abdomen or scrotum; Lower back pain	Surgery; Plus radiation therapy and chemotherapy for later stages.
No screening examinations routinely recommended other than to report signs or symptoms to health care professional	Blood in the urine; Changes in bladder habits	Surgery; Plus radiation therapy, immunotherapy, and/or chemotherapy for later stages

The American Cancer Society, Texas Division. Inc

The American Cancer Society is the nationwide community-based voluntary health organization dedicated to eliminating cancer as a major health problem by preventing cancer, saving lives, and diminishing suffering from cancer through research, education, advocacy, and service.

With more than two million volunteers nationwide, close to 300,000 in Texas alone, the American Cancer Society is one of the oldest and largest voluntary health agencies in the United States.

American Cancer Society 2015 Challenge Goals:

- Reduce age-adjusted cancer incidence rates by 25%
- Reduce age-adjusted cancer mortality rates by 50%
- Improve the quality of life for all those touched by cancer

Research

The aim of the Society's research program is to determine the causes of cancer and to support efforts to prevent and cure the disease. The American Cancer Society is the largest source of private, nonprofit cancer research funds in the US, second only to the federal government in total dollars spent. Beginning in 1946 with $1 million, the Society's research program has invested $2.5 billion in cancer research. In Texas alone, the American Cancer Society currently invests close to $31.5 million in cancer research. The Society has funded 32 Nobel Prize winners early in their careers.

Education

Knowing the facts about cancer can save lives. With both prevention and early detection information, people can take an active role in how cancer affects them. Through conferences and workshops, audiovisual and print publications, a Web site (*www.cancer.org*), and the National Cancer Information Center, staffed by cancer information specialists 24 hours a day, seven days a week (**1-800-ACS-2345**), the Society strives to reach everyone with this lifesaving information.

Primary cancer prevention means taking the necessary precautions to prevent the occurrence of cancer. Prevention programs are designed to help adults and children make healthy lifestyle choices that continue throughout life. The American Cancer Society offers a wide range of youth and adult-focused prevention initiatives including *Active for Life*, *Generation Fit*, and *Meeting Well* nutrition and physical activity program interventions; onsite and Web-based training and support for parents, teachers, and community leaders devoted solely to school health improvement (*www.schoolhealth.info*); *Capital Area School Health Leadership Institute* and the *All Well Institute*; Web-based interventions to support employee health promotion in the workplace (***www.fightcancer.org***); and a toll free Quitline telephone smoking cessation counseling service (**1-877-YES-QUIT**).

Summary of American Cancer Society Research Grants in Texas By Institution as of July 2004

Institution	# Grants	Amount
University of Texas, Austin	3	$2,071,000
Texas A&M, College Station	1	$308,000
University of Texas Southwestern Medical Center, Dallas	8	$5,566,000
University of North Texas Health Science Center, Fort Worth	1	$150,000
University of Texas Medical Branch, Galveston	1	$795,000
Baylor College of Medicine, Houston	6	$3,812,500
University of Texas Health Science Center, Houston	2	$1,563,000
Rice University, Houston	1	$409,000
University of Texas M. D. Anderson Cancer Center, Houston	17	$13,649,000
Texas Tech University, Lubbock	1	$720,000
University of Texas Health Science Center, San Antonio	4	$2,399,500
University of Texas, Houston*	2	$60,000
TOTALS:	**47**	**$31,503,000**

* Indicates an award in support of doctoral or master's degree students in nursing or related area of study.

In addition to taking proactive steps to help prevent the disease, it's important to know how cancer is found and what screening options are available and appropriate. Finding cancer in the earliest stage possible gives the patient the greatest chance of survival. The Society seeks to provide the public and health care professionals with the latest cancer information and education related to the early detection of cancer.

Patient Services

Because cancer takes a toll on the person diagnosed as well as family and friends, the American Cancer Society offers support and service programs to try to lessen the impact. These programs cover a wide range of needs—from connecting patients with survivors to providing a place to stay when treatment facilities are far from home. Programs include *Reach to Recovery* breast cancer visitation and support program; *Man to Man* prostate cancer education and support program; *I Can Cope*, *Dialogue*, and *Coping with Breast Cancer* Support Programs; *Relay For Life* cancer Survivor celebrations, *Camp Discovery* annual camp for children with cancer; *Road to Recovery* volunteer transportation services for cancer-related treatment; *Childhood Cancer Survivor College Scholarship Program*; and *Parent Teaching Conference* for parents of children with cancer and health professionals who provide care.

Advocacy

Cancer is a medical, social, psychological, and economic issue, and it's also a political issue. Policymakers at all levels of government make decisions every day that impact the lives of nearly nine million cancer survivors, their families, and all potential cancer patients. The Society's advocacy efforts are focused on influencing public policies at all levels, with special emphasis on laws or regulations relating to:

- The use, sale, distribution, marketing, and advertising of tobacco products, particularly to youth
- Improved access for all Americans, particularly poor and underserved Americans, to health care services for the prevention, early detection, diagnosis, and treatment of cancer
- Increased federal funding and incentives for cancer research to prevent and cure cancer

During the 2003 state legislative session, the American Cancer Society and its partner organizations advocated for raising the state cigarette tax by $1 per pack, with 5 cents of each dollar dedicated to developing statewide smoking cessation and education programs. While the Texas Legislature did not increase any existing taxes during the 2003 regular session, this proposal was strongly considered in the 2004 special school finance session. The Cancer Society has suggested that the proposed cigarette tax increase be considered again in the 2005 session.

The Texas Division was successful in gaining support for passage of legislation to mandate annual reporting of certain school health advisory council, nutrition, physical activity, and tobacco policy requirements of local school districts; funding of the Texas Cancer Council; development of legislative champions for increasing the Texas Cancer Registry (TCR) funding in the future; and help in minimizing funding cuts to CHIP and Medicaid, including continuation of the Breast and Cervical Cancer Treatment fund option within Medicaid.

The Society has helped lead the way in cancer research, education, advocacy, and service. Today, more than ever, our goals of saving lives and improving the quality of lives are within reach.

*For additional information on American Cancer Society programs or to locate an American Cancer Society office near you, call **1-800-ACS-2345**, or visit the American Cancer Society Web site, 24 hours a day, 7 days a week* **www.cancer.org**.

Working with Systems to Reach American Cancer Society 2015 Goals

Building strong relationships with systems will enable the American Cancer Society to reach many more people with information about prevention and early detection techniques; raise awareness of resources available if they or their family members are diagnosed with cancer; and provide opportunities for volunteering with the American Cancer Society.

The American Cancer Society, Texas Division has identified four priority systems with which we must strengthen our collaborations in order to reach our 2015 goals.

1. Workplace
2. Health and Medical
3. Faith-based and Community
4. School and Youth

The American Cancer Society can serve as the *catalyst* to create cancer control benefit throughout all aspects of the system so that cancer control becomes integrated throughout the system and is just one of the many things the system, itself, accomplishes.

Texas Department of State Health Services

The Department of State Health Services (DSHS) promotes optimal health for individuals and communities while providing effective health, mental health and substance abuse services to Texans. Cancer and data-related programs include the following:

Texas Cancer Registry

The Texas Cancer Registry (TCR) is a statewide population-based registry that serves as the foundation for Texas cancer prevention and control. The overall goal of the TCR is to collect timely, complete, and accurate data on all cancer cases newly diagnosed in the State. The TCR collects information such as the types of cancers that occur and their locations within the body, the extent of cancer at the time of diagnosis (disease stage), and the kinds of treatment that patients receive. These data are reported to the TCR from various medical facilities, including hospitals, cancer treatment centers, and pathology laboratories.

Data collected, maintained, and provided by the Texas Cancer Registry:

- Describe the burden of cancer in Texas.
- Provide information for a national cancer incidence database.
- Monitor cancer trends over time so that appropriate and timely interventions are taken.
- Guide planning and evaluation of cancer control programs (e.g., determine whether prevention, screening, and treatment efforts are making a difference).
- Help set priorities for allocating health resources.
- Conduct and advance research related to the etiology, prevention, and treatment of cancer.
- Compete for external cancer research dollars.
- Investigate public concerns about cancer due to suspected environmental or other factors.
- Identify issues related to cancer survival.
- Ultimately save lives.

Texas Cancer Registry data are available in a variety of publications and formats at the state, regional, and local community levels. To review or request Texas Cancer Registry data, visit *http://www.dshs.state.tx.us/tcr/*, call **1-800-252-8059** (in Texas), **512-458-7523** (outside of Texas), or e-mail *CancerData@exch.dshs.state.tx.us*.

The Center for Health Statistics

The Center for Health Statistics (CHS) is the Texas Department of State Health Service's (DSHS) focal point for the analysis and dissemination of information that is used to improve public health in Texas. CHS activities include: defining data needs and analytic approaches, adopting standards for data collection and dissemination, and coordinating and integrating access to data. CHS includes the Health Care Information Council and the Statewide Health Coordinating Council.

- **The CHS Health Information Resources Division** collects, analyzes, and disseminates health information for public health decision-making in Texas. The Health Research and Methods Team provides GIS, forecasting, and demographic support, and technical expertise on research design and analytical methods. The Community Assessment Team manages and administers Behavioral Risk Factor surveys and provides expertise in health data survey, community assessment, and outcomes research. The Data Management and Dissemination Team coordinates and maintains CHS's web resources, and provides comprehensive and prompt responses to data requests.
- **The Health Provider Resources Division** is a source for data on Texas health providers. The Health Professions Resource Center collects, analyzes and publishes employment, demographic and supply trends for health professionals. The Hospital Data team collects and reports financial, utilization and DSHS program information from over 500 Texas acute care and psychiatric hospitals, as well as hospital charity care and community benefits data. The Nursing Workforce Data Team researches data needed to address current and future nurse workforce shortages in Texas and works with the Nursing Workforce Data Advisory Committee of the Statewide Health Coordinating Council (SHCC).

At the time Texas Cancer Facts & Figures 2004 *went to press, the Texas Department of Health (TDH) was in the process of merging with the Texas Department of Mental Health and Mental Retardation mental health services, the Texas Commission on Alcohol and Drug Abuse, and the Texas Health Care Information Council to create the Texas Department of State Health Services, effective September 1, 2004. For additional information, updates, and links to Web site addresses of Texas Department of Health Departments referenced in this publication, please refer to the newly created Department of State Health Services Web site* (www.dshs.state.tx.us).

- **The Texas Health Care Information Council (THCIC)** collects and reports on inpatient discharge data from hospitals and data from health maintenance organizations to enable individuals in Texas to make informed health care decisions.

Texas Comprehensive Cancer Control Program

The purpose of the Texas Comprehensive Cancer Control Program is to work toward an integrated and coordinated approach to reduce the incidence, morbidity and mortality of cancer through prevention, early detection, treatment, rehabilitation, and palliation.

There has been significant growth of cancer prevention and control programs both in public and private institutions. This growth necessitates improved coordination of cancer control activities to maximize resources and achieve desired cancer prevention and control outcomes. The Texas Department of State Health Services in collaboration with the Texas Cancer Council submitted a successful grant proposal to the Centers for Disease Control and Prevention to implement Comprehensive Cancer Control in Texas. The goals of the grant are to expand collaborative efforts, increase the use of the *Texas Cancer Plan*, develop a data-driven process for prioritizing elements of the Texas Cancer Plan and to disseminate the information available to local communities. The program reaches its goals through two components:

Coalition Component. The Texas Comprehensive Cancer Control Coalition's mission is to promote, enhance and expand all public and private partners' efforts to implement the *Texas Cancer Plan*. The aim of the Coalition is to advance cooperative efforts that focus on the goals of the *Texas Cancer Plan*: cancer prevention, early detection and treatment, professional training, cancer data and planning, and survivorship.

Regional Component. The purpose of the regional component is to disseminate the concepts of comprehensive cancer control to local communities. This is accomplished by having program staff work with DSHS's regional offices. Through a collaborative process, program and regional staff identify and establish comprehensive cancer control groups in communities that are interested and able to commence cancer control efforts. Program staff will expand efforts to other DSHS regions every grant year. By the end of the grant cycle, every DSHS region will have had at least one of their communities working actively on comprehensive cancer control efforts. For additional information on the Comprehensive Cancer Control Program, contact Juanita Salinas, MSW, Program Coordinator (512) 458-7111 ext. 3439, email *juanita.salinas@dshs.state.tx.us*

Breast and Cervical Cancer Control Program

The purpose of the Breast and Cervical Cancer Control Program (BCCCP) is to reduce premature mortality due to breast and cervical cancer. The Texas Department of State Health Services works in partnership with many diverse organizations across the state to make cancer screening services accessible to Texans. Cancer screening services are available at more than 300 locations across Texas.

Women who are eligible to receive breast and cervical cancer services must have incomes at or below 200 percent of the federal poverty level and have no other source of payment. Women age 50-64 are a priority for breast cancer services. Women age 18-64 who have never or rarely (not within the previous five years) been screened for cervical cancer are a priority for cervical cancer services. Services available include:

- Breast examinations by a qualified health care provider; mammograms; various diagnostic procedures
- Pap tests; colposcopy; colposcopy with biopsy
- Client education & public information on breast and cervical cancer

For more information on the BCCCP program, call (512) 458-7644. Funded by the Centers for Disease Control and Prevention Cooperative Agreement number U55/CCU621899.

Tobacco Prevention and Control Program

The Tobacco Prevention and Control Program provides comprehensive tobacco prevention and control activities at various levels statewide. These activities include tobacco prevention education in schools and communities, cessation activities through education and a statewide telephone counseling service, enforcement of state and local tobacco laws including a statewide tobacco awareness class, public education through use of media and other mediums, receiving tobacco ingredient lists and evaluation of program outcomes. Using tobacco settlement funding, the program implements the comprehensive Texas Tobacco Prevention Initiative (TTPI) in the Houston and Beaumont/Port Arthur area. Results from the TTPI have shown a 36% reduction in 6th-12th grade tobacco use and an 18.7% reduction in adult tobacco use in the pilot areas.

Texas Cancer Council

The Texas Cancer Council is a results-oriented agency with a proven ability to make a substantial impact with relatively few dollars. Its small size, cancer expertise, established relationships, and lack of bureaucracy allow the Council to swiftly respond to critical community needs for cancer control and to act on opportunities to reduce the cancer burden. The Council was created by the Texas Legislature in 1985 and is comprised of 15 board members, with physician and non-physician licensed health professionals, health facilities, volunteer health organizations, the general public, and an ex officio representative of the Texas Board of Health. The Council funds approximately thirty programs that focus on cancer awareness, education, and outreach. Council funds are appropriated by the Texas Legislature and are made available for cancer control programs through a competitive process or through direct contract with other state entities. Council programs address all areas of cancer need, ranging from teaching school children sun safety to providing end of life care training for health professionals. However, Council funds are not used to provide patient care, nor do they fund cancer research.

The Texas Cancer Plan

The *Texas Cancer Plan* is a statewide blueprint for cancer prevention and control in Texas. It is a consensus-based, strategic document used by public and private cancer control organizations, and provides a planned, evidence-based approach to reducing the cancer burden in Texas. The *Plan* is recognized in the nation as a model comprehensive cancer plan and addresses the key issues in cancer prevention and control. The *Texas Cancer Plan* is packed with data regarding cancer risk factors, prevention strategies, screening guidelines and tests, incidence, prevalence and mortality for all major types of cancer sites.

The goals of the current *Texas Cancer Plan* are:

Goal 1: Prevention Information and Services: Reduce risks for developing cancer, with priority attention for underserved Texans at highest risk.

Goal 2: Early Detection and Treatment: Detect, diagnose and treat cancer earlier, when cure is more likely.

Goal 3: Professional Education and Practice: Increase knowledge and skills of Texas primary care physicians, nurses, allied and dental health professionals.

Goal 4: Cancer Data and Planning: Develop and maintain a comprehensive, useful cancer data information system for planning, implementing and evaluating cancer programs.

The *Texas Cancer Plan* guides all Texas Cancer Council programs and initiatives. Council staff builds programs to address the goals of the *Plan* and approaches local and statewide cancer control partners to join in the efforts in order to leverage all partner efforts. Council partners also use the *Plan* to determine areas of need in cancer prevention and control. Thus, the Council periodically updates the *Texas Cancer Plan* to keep it current, useful and relevant. The most recent update of the *Plan* will be published in December 2004.

Collaboration

In partnership with the Texas Department of State Health Services, the Texas Cancer Council began managing and supporting the Texas Comprehensive Cancer Control Coalition in 2003. The Coalition represents nearly 30 public and private cancer control organizations in Texas that coordinate closely to ensure maximum leverage of limited cancer resources. The CDC recognizes this partnership as key to disseminating the comprehensive cancer control model across the nation. The Council has primary responsibility for implementing the state's comprehensive cancer control coalition, and works closely with its membership and DSHS to ensure that the Coalition's goal of furthering the state *Cancer Plan* is met.

The Council has a track record as a neutral convener of cancer control resources in Texas. It is uniquely able to bring partners together in a multifaceted attack on cancer. The Council forms partnerships at the local level with nonprofit community health organizations, local American Cancer Society units, local health departments, businesses, and community leaders to leverage limited resources to control cancer. At the state level, the Council partners with the American Cancer Society, the Texas Department of Health, the University of Texas M. D. Anderson Cancer Center, the Susan G. Komen Foundation, the Lance Armstrong Foundation, and numerous universities and medical centers. Nationally,

the Council collaborates with the Centers for Disease Control and Prevention, the National Cancer Institute, and other states to deliver comprehensive approaches to cancer control. Additionally, Council staff and board members serve on advisory bodies, working committees, and task forces of other cancer fighting organizations to ensure that efforts are well coordinated and non-duplicative, which is vital to optimizing available cancer control resources.

Programs

The Council establishes its impact on Texas communities through the local initiatives it creates and funds. The Texas Cancer Council's name is not well known in the state. Rather, the agency is known by the initiatives it supports and funds. For example, the Council funds a caregiver support program through Cancer Care Services of Ft. Worth. Council funds allow this fine organization to sponsor special events, recreation, support groups, holiday festivals, an educational series, Spanish-speaking services, family movie nights, art therapy, and yoga for cancer patients and their caregivers.

Mission Statement:

The Texas Cancer Council is the state agency dedicated to reducing the human and economic impact of cancer on Texans through the promotion and support of collaborative, innovative, and effective programs and policies for cancer prevention and control.

Philosophy Statement:

The Texas Cancer Council, with the Texas Cancer Plan as its guide, affirms that:

- All citizens have the right to receive culturally appropriate information about ways in which their risks of developing and dying from cancer can be reduced and to have prompt access to high quality cancer prevention, screening, diagnosis, treatment, and rehabilitation information and services;
- The human and financial impact of cancer on the people of Texas can be reduced by forging strong, collaborative partnerships at the state and local levels; and
- A cooperative and unified effort by public, private, and volunteer sector agencies and individuals increases the ability of limited resources to serve more people and minimizes duplication of efforts.

Another exemplary Council-funded initiative is the Community-Based Model for Enhancing African American Women's Breast Cancer Screening Outreach and Case Management Services Project, which developed, implemented, and evaluated a culturally-sensitive, community-based program to reduce breast cancer deaths among African-American women. The program reached over 53,000 individuals with breast cancer screening, early detection, and education.

One more example of the Council's impact is the Cancer Risk Reduction Education program. Implemented by the Texas Cooperative Extension Service of Texas A&M University, this program reaches over 100,000 rural Texans a year with educational programs and materials by working through county extension agents. It provides a weeklong summer technology camp at no cost to the school children who attend. The camp effectively teaches cancer prevention content to the students by building their skills in website and media development, using healthy living content. This and all Council programs include efforts to reach underserved Texans who face geographic, economic, linguistic, and social barriers to cancer prevention and detection services.

For more information on the Texas Cancer Council initiatives or the Texas Cancer Plan, call 512-463-3190 or visit the Texas Cancer Council Web site at www.texascancercouncil.org

The Texas Cancer Council is charged by the Texas Legislature with:

- Developing and working to implement the *Texas Cancer Plan*;
- Promoting the development and coordination of effective and efficient statewide public and private policies, programs, and services related to cancer; and
- Encouraging cooperative, comprehensive, and complementary planning among the public, private, and volunteer sectors involved in cancer prevention, detection, treatment, and research.

Texas Cancer Data Center

The Texas Cancer Data Center (TCDC) provides information on health professionals, health facilities, demographics and statistics, community resources, and reviewed cancer Web sites via the Internet at no charge. TCDC is an information service, funded by the Texas Cancer Council (TCC) and M.D. Anderson Cancer Center, dedicated to empowering Texans with the knowledge needed to reduce the human and economic impact of cancer since 1986.

Texans can use the databases on the TCDC Web site at *http://www.txcancer.org* to find resources related to different phases of cancer care — prevention, screening and early detection, diagnosis and treatment, continuing care — and to answer questions they may have about cancer.

TCDC Cancer Resource Databases include:

- Physicians in Texas who diagnose, treat, or provide continuing care to cancer patients
- Acute and General Care Hospitals in Texas
- Freestanding Cancer Centers
- Colorectal Cancer Screening Services
- Mammography Services
- Hospices
- Home Health Agencies
- Tumor Registrars
- Childhood Cancer Resources
- Community Resources including referral information on support, counseling, education, transportation, housing, medical equipment, etc.
- Links to information regarding the Texas Cancer Council (TCC) and its projects and publications
- Links to statewide/Texas-based and national cancer information and support organizations

Demographic and statistical databases available on the TCDC Web site include:

- Texas Population for selected years by age, sex, race/ethnicity, and geographic area
- Texas Cancer Mortality for selected years by site, age, sex, race/ethnicity, and geographic area
- Online County Cancer Profiles which give an overall picture of cancer mortality, population, and cancer resources within a given county
- *Texas Cancer Council Cancer Profiles* for Texas and the top 10 counties in Texas by population which provide additional information regarding cancer demographics and resources as well as graphs and charts
- Statistical Topics including leading cancer death rates, comparative rate tables for racial/ethnic groups, regions, cancer sites, and years, population age distribution, and more.

The Texas Cancer Data Center also maintains the following Web sites:

- **Cancer Gateway of Texas**
  http://www.cancergateway.org — The Cancer Gateway of Texas is an Internet portal to cancer-related information, resources, and publications. Links are reviewed for quality and are organized by cancer topic and cancer type. These links include Web sites based in Texas as well as those found across the country. Texas based sites are identified by a small Texas icon.
- **Texas Cancer Council**
  http://www.texascancercouncil.org — The Texas Cancer Council (TCC) Web site contains information regarding the Council, past and present initiatives funded by the Council, funding opportunities, and online publications regarding cancer control issues.
- **Texans Conquer Cancer**
  http://www.texansconquercancer.org — The *Texans Conquer Cancer* specialty license plate benefits nonprofit organizations that provide services to Texas cancer patients needing assistance during their cancer fight. The Web site contains an application to purchase the license plate as well as answers to frequently asked questions regarding the program.
- **Texas Comprehensive Cancer Control Coalition**
  http://www.texascancercoalition.org — The Texas Comprehensive Cancer Control Coalition exists to promote, enhance and expand all public and private partners' efforts to implement *The Texas Cancer Plan: A Guide For Action*. The aim is to advance cooperative efforts that focus on cancer prevention, early detection, screening, and other related or supportive efforts.
- **Texas Cancer Plan Update Work Group Web Site**
  http://www.texascancerplan.org — The purpose of the Web site is to serve as a communication center for the update of *The Texas Cancer Plan: A Guide For Action*. The site also takes input from the general public regarding the *Plan* as it is being developed.

M.D. Anderson Cancer Center

The University of Texas M. D. Anderson Cancer Center, headquartered in Houston's Texas Medical Center, is one of the world's most productive and highly regarded academic institutions devoted to cancer patient care, research, education and prevention.

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CANCER CENTER
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Created by the Texas Legislature in 1941, M. D. Anderson was among the nation's first three Comprehensive Cancer Centers designated in 1971. M. D. Anderson has ranked as one of the top two cancer hospitals since *U.S. News & World Report* began its annual survey of "best hospitals" in 1990 and has been recognized number one for cancer care four times in the last five years. M. D. Anderson holds the highest level of accreditation from the Joint Commission on Accreditation of Healthcare Organizations.

Patient Care

Since the first patient was registered in 1944, almost 600,000 patients have come to M. D. Anderson for cancer care in the form of surgery, radiation therapy, chemotherapy, immunotherapy and supportive therapies. The multidisciplinary approach to treating cancer was pioneered at M. D. Anderson.

In 2003, nearly 65,000 patients were served at M. D. Anderson in Houston and many more patients had access to advanced cancer therapies through partnerships the institution has with medical providers as far away as Madrid, Spain. Currently, more than 15,000 patients at the main complex are enrolled in clinical trials to develop more effective therapies while many other cancer patients participate in such protocols at affiliated institutions.

Cancer Prevention

M. D. Anderson's Cancer Prevention Center provides a wide range of services to reduce individuals' risk for cancer. These include screening, early detection tests, nutritional and genetic counseling plus genetic testing when appropriate.

Along with broad research-driven treatments and cancer prevention services, M. D. Anderson has introduced programs that incorporate emotional support, pain control and rehabilitation for patients. Place...*of wellness* was the first on-campus facility at a comprehensive cancer center to offer complementary services focusing on the mind, body and spirit for patients and their families.

Education

About 2,900 students, including physicians, scientists, nurses and many health professionals, take part in educational programs each year. For the first time, M. D. Anderson is offering bachelor's degrees in five allied health disciplines. Several hundred residents and fellows come to M. D. Anderson each year to receive specialized training in the investigation and treatment of cancer. Nearly 350 graduate students are working for the Ph.D. at the Graduate School of Biomedical Sciences, which M. D. Anderson runs jointly with the UT Health Science Center at Houston. More than 1,000 research fellows are being trained in M. D. Anderson's laboratories.

Thousands more participate in continuing education and distance learning opportunities sponsored by M. D. Anderson, sharing knowledge around the globe. Likewise, M. D. Anderson provides public education programs to teach healthy individuals about cancer symptoms and risk factors, and how to make critical health care decisions when necessary.

Research

M. D. Anderson's greatest strength is its ability to rapidly translate scientific knowledge gained in more than 650 laboratories to better therapies and supportive measures for cancer. Numerous advances against cancer have been made or inspired by researchers at M. D. Anderson, which for several years has received more peer-reviewed grants from the National Cancer Institute than any other research center in the country. Faculty members published in excess of 1,500 research papers in peer-reviewed scientific journals in 2003.

Data Sources and Technical Notes

Data Sources

Cancer incidence data are based on cases reported to the Texas Cancer Registry (TCR), a legislatively mandated, statewide, population-based cancer registry implemented in 1979. Mortality data are based on information collected by the Bureau of Vital Statistics and compiled by the TCR. Cancer incidence, mortality, and staging analyses were performed by the TCR.

The expected number of cancers in 2004 (all malignant cancers plus in situ bladder) were estimated by the Texas Cancer Registry by applying California 1995-1999 age, sex, and race/ethnic incidence rates to the 2004 Texas population. Projected 2004 cancer deaths are estimated by applying Texas 1997-2001 age, sex, and race/ethnic specific average annual mortality rates to the 2004 Texas population. More detailed information, including county level incidence and mortality data, can be found in Texas Cancer Registry electronic and printed publications (see resource/Web site information following).

Screening, overweight, nutrition, and smoking data for adults are from the Texas Behavioral Risk Factor Surveillance Survey (BRFFS), which is a collaboration between the Centers for Disease Control and Prevention and the DSHS, Center for Health Statistics. Data on youth smoking behavior are from the 2001 Texas Youth Tobacco Survey, a cooperative effort between the Texas Department of Health, Texas Education Agency, and the Centers for Disease Control and Prevention, and the 2002 Texas Commission on Alcohol and Drug Abuse Student Survey. Information regarding distribution of cancer resources throughout the state was provided by the Texas Cancer Data Center.

Age-adjustment Data

Risk of cancer increases with age. Age-adjustment is a statistical procedure that eliminates the effects of differences in the age structure between populations and allows direct comparison of incidence and mortality rates for these populations. In this booklet, all rates are age-adjusted to the 2000 United States standard million population. Comparisons to Texas Facts and Figures 2000 should be avoided because age-adjustments in this publication used the 1970 U.S. standard population. Comparisons of data age-adjusted according to different standards would lead to erroneous conclusions.

Demographic Data

Population data used in the calculation of age-adjusted rates were provided by the DSHS, Center for Health Statistics. Population data by age, sex, and race/ethnicity represent the 2000 U.S. Bureau of the Census classification by race/ethnicity. For this report, these groups are referred to as non-Hispanic whites (whites of non-Hispanic/non-Spanish origin), African Americans (blacks of non-Hispanic/non-Spanish origin), Hispanics, and "Other" races combined (American Indian, Alaskan Native, Asian or Pacific Islander, and other race/ethnicities).

Population data used to present state demographics were provided by the Center for Health Statistics, Texas Department of Health; the Texas State Data Center at Texas A&M University; and Thomson Medstat, Claritas Inc. Population demographics are 2003 estimates based on the 2000 U.S. Census.

Cancer and Data-related Web Sites

American Alliance of Cancer Pain Initiatives (AACPI)
www.aacpi.org

American Cancer Society (ACS)
1-800-ACS-2345 (1-800-227-2345)
www.cancer.org

American Cancer Society School Health Web Site
www.schoolhealth.info/

American College of Surgeons-Commission on Cancer
www.facs.org

American Medical Association (AMA)
www.ama-assn.org/

Behavioral Risk Factor Surveillance System
Centers for Disease Control and Prevention (CDC)
www.cdc.gov/brfss/

Breast and Cervical Cancer Detection and Control Program (BCCCP)
Texas Department of State Health Services *
www.dshs.state.tx.us/bcccp/

Bureau of Chronic Disease and Tobacco Prevention
Texas Department of State Health Services *
www.dshs.state.tx.us/bdip/

Bureau of Vital Statistics
Texas Department of State Health Services *
www.dshs.state.tx.us/bvs/

Cancer Control PLANET
cancercontrolplanet.cancer.gov/

Cancer Gateway of Texas
www.cancergateway.org

Center for Health Statistics (CHS)
Texas Department of State Health Services *
www.dshs.state.tx.us/chs/

Centers for Disease Control and Prevention (CDC)
www.cdc.gov

CHARTing Health Information for Texas
www.sph.uth.tmc.edu/library/chartinghealthinfo.htm

Comprehensive Cancer Control Program, CDC
www.cdc.gov/nccdphp/bb_cancer/

Dental Oncology Education Progam
www.doep.org

Health Professions Resource Center
Texas Department of State Health Services *
www.dshs.state.tx.us/dpa/coverpg.htm

Intercultural Cancer Council
www.icc.bcm.tmc.edu/

Lance Armstrong Foundation
www.laf.org

National Cancer Institute (NCI)
www.cancer.gov

National Center for Health Statistics
Centers for Disease Control and Prevention (CDC)
http://www.cdc.gov/nchs/

Nurse Oncology Education Program (NOEP)
www.noep.org

Physician Oncology Education Program (POEP)
www.poep.org

Texans Conquer Cancer (specialty license plate)
www.texansconquercancer.org

Texas Behavioral Risk Factor Surveillance System
Community Assessment Team, CHS, Texas Department of State Health Services *
www.dshs.state.tx.us/chronicd/

Texas Cancer Council (TCC)
www.texascancercouncil.org

Texas Cancer Data Center (TCDC)
www.txcancer.org

Texas Cancer Plan Update Work Group Web Site
www.texascancerplan.org

Texas Cancer Registry (TCR)
Texas Department of State Health Services *
www.dshs.state.tx.us/tcr/

Texas Comprehensive Cancer Control Coalition
www.texascancercoalition.org

Texas Comprehensive Cancer Control Program
Texas Department of State Health Services *
www.dshs.state.tx.us/tcccp/

Texas Department of Health *
www.tdh.state.tx.us

Texas Department of State Health Services*
www.dshs.state.tx.us

Texas Health and Human Services Commission
www.hhsc.state.tx.us/

Texas Medical Association
www.texmed.org

Texas Online
www.texasonline.com/

Texas State Data Center (TSDC)
http://txsdc.tamu.edu/

UTMB Center for Population Health and Health Disparities (National Institutes of Health designation)
http://obssr.od.nih.gov/cphhd/

NCI Designated Cancer Centers

M.D. Anderson Cancer Center
www.mdanderson.org

San Antonio Cancer Center
www.saci.uthscsa.edu

Medical Schools in Texas

Baylor College of Medicine
www.bcm.tmc.edu

Texas A&M University Health Science Center
www.tamushsc.tamu.edu

Texas Tech University Health Sciences Center
www.ttuhsc.edu/SOM/admissions/default.htm

University of North Texas Health Science Center
Texas College of Osteopathic Medicine
www.hsc.unt.edu/education

The University of Texas Medical School at Houston
www.med.uth.tmc.edu

University of Texas Medical Branch at Galveston
www.som.utmb.edu

The University of Texas Health Science Center at San Antonio
UTHSCSA Medical School
http://som.uthscsa.edu/som_main.html

University of Texas Southwestern Medical Center at Dallas
www3.utsouthwestern.edu/education/medical/index.htm

*Note: * At the time* Texas Cancer Facts & Figures 2004 *went to press, the Texas Department of Health (TDH) was in the process of merging with the Texas Department of Mental Health and Mental Retardation mental health services, the Texas Commission on Alcohol and Drug Abuse, and the Texas Health Care Information Council to create the Texas Department of State Health Services, effective September 1, 2004. For additional information, updates, and links to Web site addresses of Texas Department of Health Departments referenced in this publication, please refer to the newly created Texas Department of State Health Services Web site* (www.dshs.state.tx.us).

American Cancer Society®

TEXAS Department of State Health Services

TEXAS CANCER REGISTRY

Texas Cancer Council

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Cancer Information

1-800-ACS-2345
www.cancer.org

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