

# Cancer in California, 1988-2007



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## *Cancer in California, 1988-2007 – Highlights*

- The rate of new cancer cases (incidence) in California declined by 15 percent among men\* and 9 percent among women from 1988 to 2007. A decrease was experienced by all four major racial/ethnic groups - Asian/Pacific Islanders, Hispanics, non-Hispanic blacks, and non-Hispanic whites.
- From 1988 to 2007, cancer death rates (mortality) in California declined by 24 percent among men and 19 percent among women. A decrease was experienced by all four major racial/ethnic groups.
- Approximately 1.2 million Californians alive today have been diagnosed with a cancer at some point in their lives.
- The rate of new female breast cancer cases is declining. The female breast cancer rate declined sharply in 2003 by nearly eight percent and has stayed stable since, a change some scientists attribute to a decline in hormone replacement therapy (HRT) use among post-menopausal women.
- The rate of new colon and rectum cancer cases has declined by 27 percent\* between 1988 and 2007. Some scientists believe this is a result of more colon polyps being removed during routine screening before cancer develops.
- The rate of new lung cancer cases in California continues to decline and is lower than the rate of new lung cancer cases for the rest of the United States. This is largely due to the success of California's tobacco control efforts.
- The rate of new cervical cancer cases declined by 33 percent from 1988 to 2007. However, Hispanic women are nearly two times more likely than non-Hispanic white women to be diagnosed with the disease.
- The rate of new melanoma (skin cancer) cases has increased by 27 percent between 1988 and 2007. However, deaths from melanoma have decreased by 17 percent during this time period.
- Cancer screening can diagnose some cancers at an earlier stage including cancers of the prostate, breast, cervix, colon and rectum, oral cavity and oropharynx, and melanoma (skin cancer). Despite this fact, the majority of colon and rectum, cervical, and oral cancers are still being diagnosed at a late stage.
- Racial/ethnic disparities in cancer risk persist in California. Non-Hispanic black males have the highest rates of new cancer cases and cancer deaths than any other major racial/ethnic group.
- Compared to non-Hispanic whites, non-Hispanic blacks have substantially higher rates (at least 50 percent higher) of stomach cancer, liver cancer, myeloma, and Kaposi sarcoma. Asian/Pacific Islanders also have substantially higher rates of stomach and liver cancer compared to non-Hispanic whites. Hispanics have substantially higher rates of acute lymphocytic leukemia, cervical cancer, stomach cancer, and liver cancer compared to non-Hispanic whites.
- As a group, Asian/Pacific Islanders have the lowest rates of new cancer cases and cancer deaths than the other major racial/ethnic groups in California. However, cancer risk varies greatly among the Asian subgroups. Among males, Korean men have the highest cancer incidence and mortality rates. Among females, Japanese women have the highest cancer incidence and mortality rates.
- The rate of new cancer cases among children aged 0 to 14 years in California has increased by 0.5 percent per year while the rate of cancer deaths has declined by 1.3 percent per year.
- From 1988 to 2007, the rate of new cancer cases among young adults aged 15 to 19 years in California has remained stable while the rate of cancer deaths has declined by 1.4 percent per year.

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\* The Veteran's Health Administration (VHA) modified its protocol for reporting cancer cases diagnosed in VHA facilities to California Cancer Registry in 2005. Subsequently, case counts and incidence rates for adult males in 2005 and forward are underestimated and should be interpreted with caution. For more information see <http://www.ccrca.org/VAtchnotes.html>.

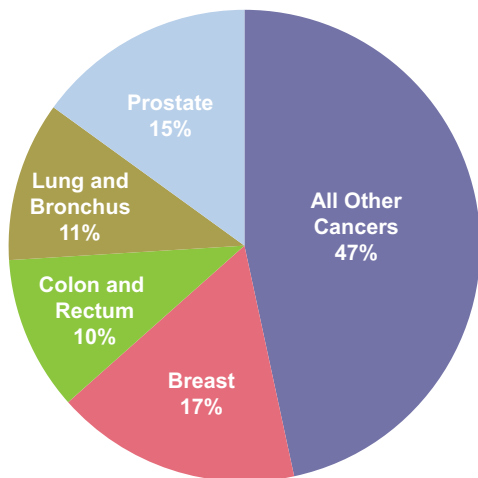
*Cancer in California – Expected New Cancer Cases, Deaths, and Prevalence, 2010*

Nearly 134,000 Californians will be diagnosed with a cancer in 2010 and nearly 55,000 will die of a form of this disease. Cancer is the second most common cause of death among Californians; only heart disease kills more people.

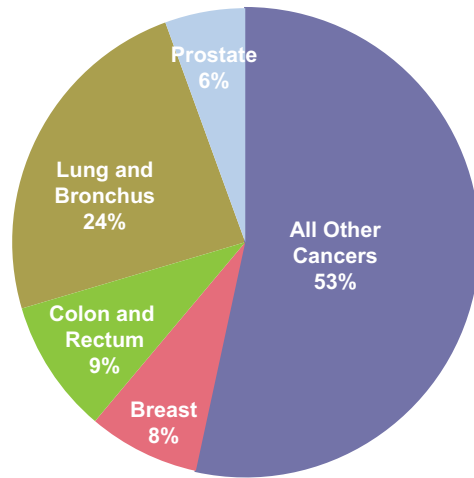
The four most commonly diagnosed cancers in California are breast, prostate, lung, and colon and rectum cancers. Together, these cancers account for more than half (53 percent) of all cancer diagnoses. Breast cancers account for approximately 17 percent of all new cancer diagnoses, prostate cancers account for 15 percent, lung cancers account for 11 percent, and colon and rectum cancers account for a little more than 10 percent.

Breast, colon and rectum, lung, and prostate cancers account for approximately half (47 percent) of all cancer deaths in California. Despite the fact that breast and prostate cancers are diagnosed more often, lung cancer kills more people than breast, prostate, and colon and rectum cancers combined. Death from lung cancer accounts for 24 percent of all cancer deaths whereas deaths from breast (8 percent), colon and rectum (9 percent), and prostate cancers (6 percent) combined account for 23 percent of all cancer deaths.

**Proportion of Expected New Cancer Cases, California, 2010**



**Proportion of Expected Cancer Deaths, California, 2010**



Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

*Cancer in California – Expected New Cancer Cases, Deaths, and Prevalence, 2010 (continued)*

Prevalence is the number of persons alive who have ever been diagnosed with a cancer. In 2010, it is estimated that over 1.2 million Californians alive will have a current or remote cancer diagnosis. For every person newly diagnosed with a cancer, nine more are living with a history of the disease. Based on current rates, nearly one out of every two Californians born today will develop a cancer during their lifetime.

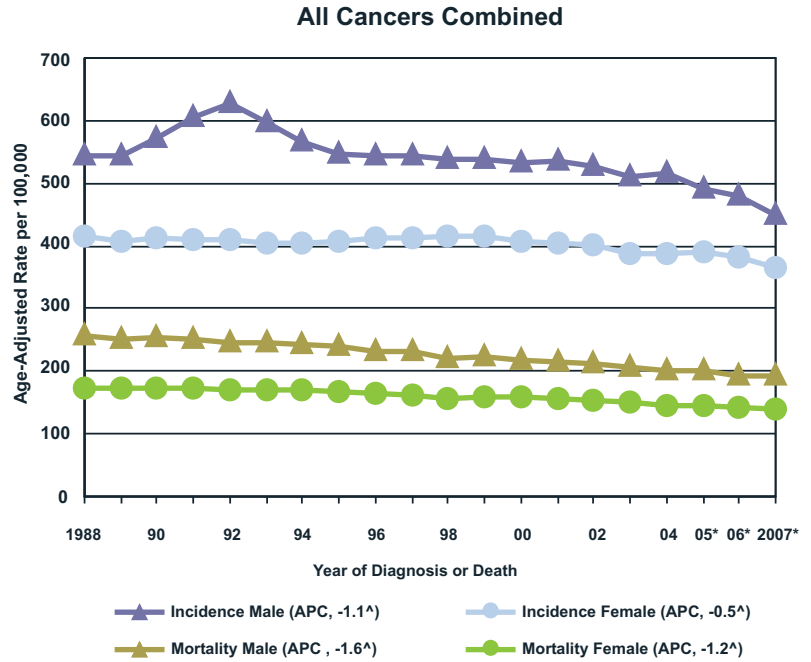
More than 283,000 women in California, or approximately 4 out of every 100 women over the age of 40, are breast cancer survivors. There are less than half as many colon and rectum cancer survivors in California (113,000), or approximately 1 out of every 100 persons over the age of 50.

<b>Estimated Cancer Prevalence by Cancer Type and Sex, All Races Combined, California, 2010</b>			
<b>Cancer Type</b>	<b>Estimated Prevalence</b>		
	<b>Total</b>	<b>Male</b>	<b>Female</b>
<b>All Cancers</b>	<b>1,222,500</b>	<b>543,500</b>	<b>679,000</b>
<b>Brain and Other Nervous System</b>	<b>13,900</b>	<b>7,200</b>	<b>6,700</b>
<b>Breast</b>	<b>285,100</b>	<b>1,400</b>	<b>283,700</b>
<b>Cervix Uteri</b>	<b>34,700</b>	<b>0</b>	<b>34,700</b>
<b>Colon and Rectum</b>	<b>113,000</b>	<b>55,500</b>	<b>57,500</b>
<b>Corpus Uteri and Uterus, NOS*</b>	<b>59,300</b>	<b>0</b>	<b>59,300</b>
<b>Hodgkin Lymphoma</b>	<b>16,500</b>	<b>8,700</b>	<b>7,800</b>
<b>Kidney and Renal Pelvis</b>	<b>28,300</b>	<b>17,100</b>	<b>11,200</b>
<b>Larynx</b>	<b>8,600</b>	<b>7,000</b>	<b>1,600</b>
<b>Leukemias</b>	<b>24,800</b>	<b>13,900</b>	<b>10,900</b>
<b>Liver and Intrahepatic Bile Duct</b>	<b>4,600</b>	<b>3,100</b>	<b>1,500</b>
<b>Lung and Bronchus</b>	<b>37,500</b>	<b>17,200</b>	<b>20,300</b>
<b>Melanomas of the Skin</b>	<b>79,500</b>	<b>40,400</b>	<b>39,100</b>
<b>Non-Hodgkin Lymphomas</b>	<b>45,300</b>	<b>23,400</b>	<b>21,900</b>
<b>Oral Cavity and Pharynx</b>	<b>28,600</b>	<b>18,700</b>	<b>9,900</b>
<b>Ovary</b>	<b>19,800</b>	<b>0</b>	<b>19,800</b>
<b>Pancreas</b>	<b>3,500</b>	<b>1,600</b>	<b>1,900</b>
<b>Prostate</b>	<b>222,400</b>	<b>222,400</b>	<b>0</b>
<b>Stomach</b>	<b>8,700</b>	<b>4,900</b>	<b>3,800</b>
<b>Testis</b>	<b>22,600</b>	<b>22,600</b>	<b>0</b>
<b>Thyroid Gland</b>	<b>46,200</b>	<b>10,200</b>	<b>36,000</b>
<b>Urinary Bladder</b>	<b>52,000</b>	<b>38,800</b>	<b>13,200</b>

\* NOS: Not Otherwise Specified  
**Source:** California Cancer Registry, California Department of Public Health. Excludes non-melanoma skin cancers and carcinomas in situ, except urinary bladder.  
**Methods:** Used SEER-Stat to calculate the 2007 limited duration prevalence. Used ComPrev to calculate the completion index percentage. Complete prevalence counts for 2007 were then calculated by dividing the completion index percentage into the limited duration prevalence count. 2010 counts were projected by adjusting the 2007 counts by the estimated change in population counts each year.

*Cancer Trends in California, 1988-2007: All Cancers*

From 1988 to 2007, the overall cancer incidence rate\*\* (rate of new cancer diagnoses) in California decreased by 15 percent among men\* and nine percent among women. Over the same period, the cancer mortality rate (rate of cancer deaths) decreased by 24 percent among men and 19 percent among women. Overall, males have higher rates of cancer and cancer related death than females. However, the rate of new cancer diagnoses and deaths among males is decreasing at a faster rate than that of females.



^The annual percent change (APC) is significantly different from zero (p < 0.05).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

\* The Veteran's Health Administration (VHA) modified its protocol for reporting cancer cases diagnosed in VHA facilities to California Cancer Registry in 2005. Subsequently, case counts and incidence rates for adult males in 2005 and forward are underestimated and should be interpreted with caution. For more information see <http://www.ccrca.org/VAtchnotes.html>.

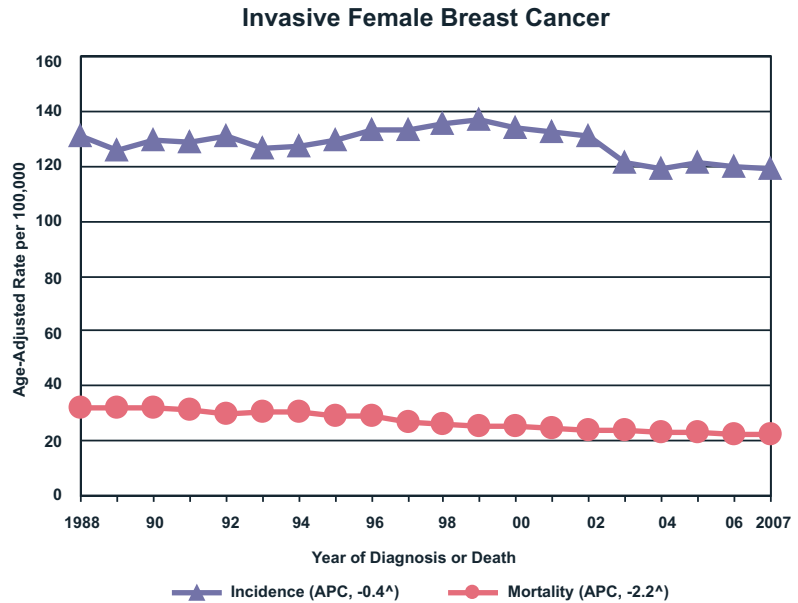
\*\* Rates: Rates are shown as the number of new cases or deaths per 100,000 persons each year. All rates are age-adjusted to the 2000 United States Standard Population to eliminate differences due to changes in the age of the California population over time, or due to differences in age between groups of people. Adjusting for age means that differences in rates will not be due to one group having more or less older persons than another group.



*Cancer Trends in California, 1988-2007: Breast Cancer*

Breast cancer is the most commonly diagnosed cancer and the second most common cause of cancer-related death (after lung cancer) among women in California. The invasive female breast cancer incidence rate has continued to decline in recent years. The reasons for this are not well understood, but some researchers believe this decline is a result of fewer women using hormone replacement therapy (HRT) after menopause. The invasive female breast cancer incidence rate in 2007 was seven percent lower than in 1988 (119 per 100,000 versus 131 per 100,000) and the mortality rate was 31 percent lower (22 per 100,000 versus 32 per 100,000).

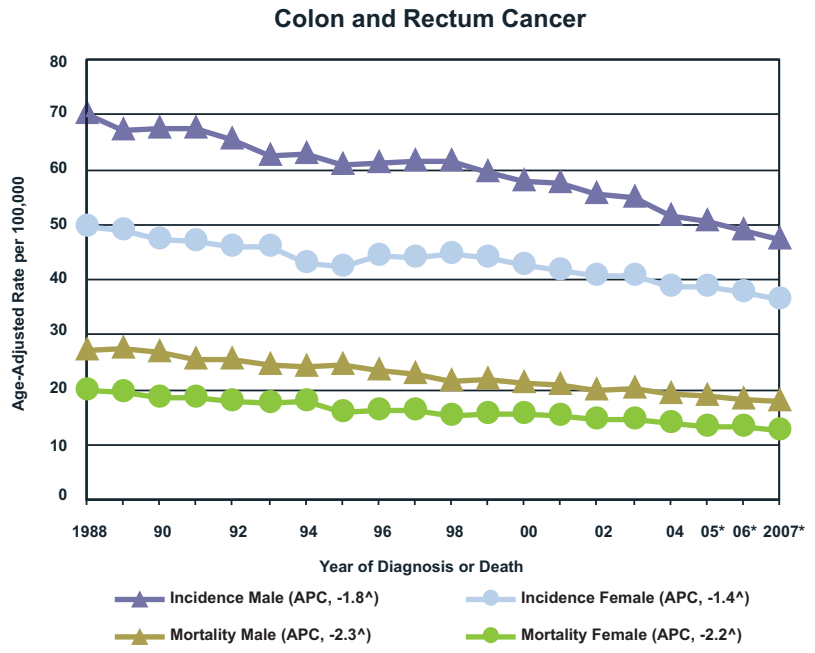
Regular screening for breast cancer using mammography (also called a “mammogram”) increases the likelihood of early diagnosis and survival. Relative survival estimates the probability that an individual will not die from a given cancer during the specified time following diagnosis. If found and treated before it spreads, the five-year relative survival rate for localized breast cancer is 97 percent. Beginning at age 40, women should get screened for breast cancer by having a mammogram every year.



^The annual percent change (APC) is significantly different from zero ( $p < 0.05$ ).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

*Cancer Trends in California, 1988-2007: Colon and Rectum Cancer*

Colon and rectum cancer is the third most common cancer and the third most common cause of cancer-related death among both men and women in California. The colon and rectum cancer incidence rate in California declined nearly 27 percent\* between 1988 and 2007 (from 58 per 100,000 to 41 per 100,000). The reasons for this are not well understood, but some researchers believe more colon polyps are being removed before cancer develops as a result of screening. Colon and rectum cancer is a preventable, treatable, and beatable disease, but only with proper screening. Early and regular screening is the key to prevention and survival, and should begin at age 50 (for people with no family history of the disease). The colon and rectum cancer mortality rate was 34 percent lower in 2007 than in 1988 (15 per 100,000 versus 23 per 100,000). However, death from colon and rectum cancer is unnecessary. This is one cancer that can be largely prevented.

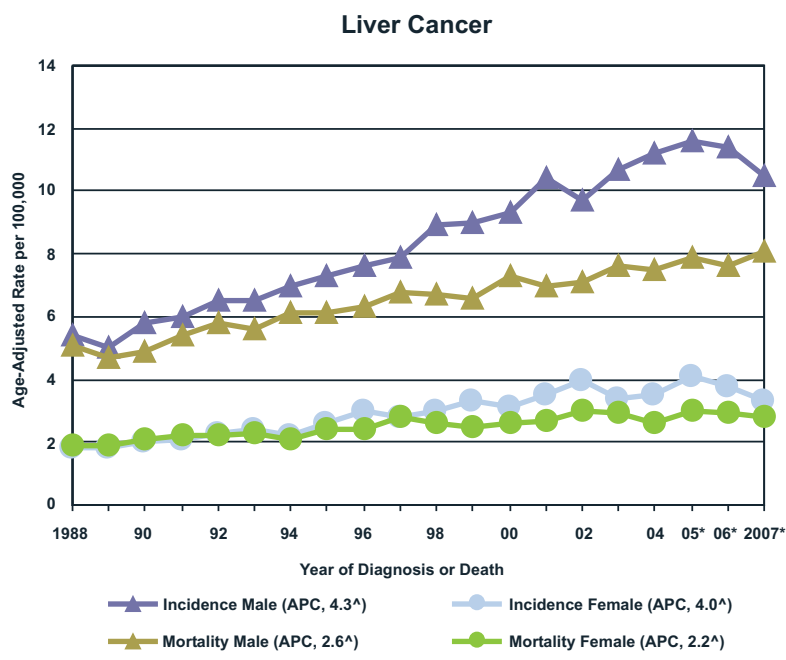


^The annual percent change (APC) is significantly different from zero (p < 0.05).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

\* The Veteran's Health Administration (VHA) modified its protocol for reporting cancer cases diagnosed in VHA facilities to California Cancer Registry in 2005. Subsequently, case counts and incidence rates for adult males in 2005 and forward are underestimated and should be interpreted with caution. For more information see <http://www.ccrca.org/VAtechnotes.html>.

*Cancer Trends in California, 1988-2007: Liver Cancer*

Liver cancer incidence has doubled\* in California between 1988 and 2007 (from 3 per 100,000 to 6 per 100,000) and a similar trend has been reported nationally. The causes of this increase are unknown, but may be associated with increases in hepatitis virus infections. Infection with the hepatitis B or C virus is the biggest risk factor for liver cancer. While there is a vaccine to prevent hepatitis B, there is no vaccine for hepatitis C. The liver cancer mortality rate has also increased by 60 percent during this time period (from 3 per 100,000 to 5 per 100,000). Although men have higher rates of liver cancer incidence and mortality than women, the number of new cases of liver cancer and deaths from liver cancer are increasing at nearly the same rate among both sexes.



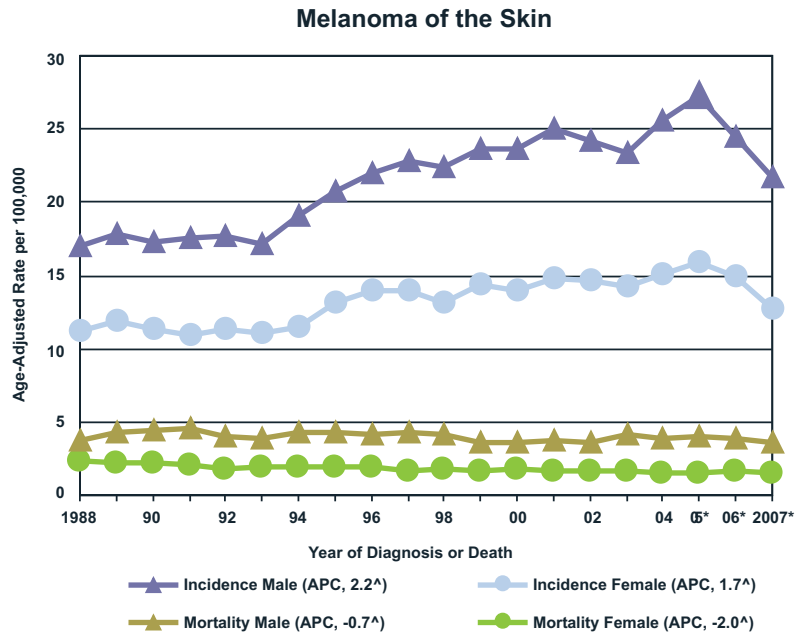
^The annual percent change (APC) is significantly different from zero ( $p < 0.05$ ).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

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*Cancer Trends in California, 1988-2007: Melanoma of the Skin*

Melanoma is the most deadly form of skin cancer. The incidence of melanoma in California has increased by 27 percent\* between 1988 and 2007 (from 14 per 100,000 to 17 per 100,000). However, mortality from melanoma has decreased by 17 percent during this same time period (from 3 per 100,000 to 2 per 100,000). Males have higher rates of melanoma incidence and mortality than females. Furthermore, death from melanoma is decreasing at a faster rate among females than males (-2.0 percent per year versus -0.7 percent per year).

Early detection of melanoma improves survival. Relative survival estimates the probability that an individual will not die from a given cancer during the specified time following diagnosis. The five-year relative survival rate of melanoma diagnosed at a localized stage is 95 percent compared to 14 percent if the cancer has spread to other parts of the body.

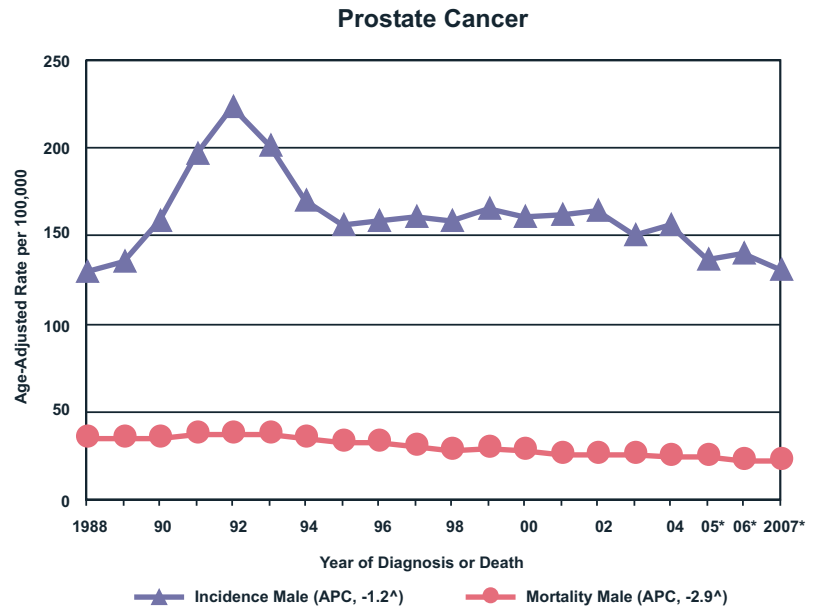


^The annual percent change (APC) is significantly different from zero (p < 0.05).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

\* The Veteran's Health Administration (VHA) modified its protocol for reporting cancer cases diagnosed in VHA facilities to California Cancer Registry in 2005. Subsequently, case counts and incidence rates for adult males in 2005 and forward are underestimated and should be interpreted with caution. For more information see <http://www.ccrca.org/VAtechnotes.html>.

*Cancer Trends in California, 1988-2007: Prostate Cancer*

Prostate cancer is the most commonly diagnosed cancer and the second most common cause of cancer-related death (after lung cancer) among men in California. In 2007, approximately 20,400 men in California were diagnosed with prostate cancer and 3,000 died from the disease. Diagnosis of prostate cancer increased dramatically when screening with the prostate-specific antigen (PSA) test was widely adopted in the early 1990s. Incidence rates peaked in 1992, and now appear to be relatively stable\*. The prostate cancer incidence rate was 130 per 100,000 in 1988 and 131 per 100,000 in 2007. The prostate cancer mortality rate has declined by 36 percent from 1988 to 2007 (35 per 100,000 versus 23 per 100,000). When diagnosed early, prostate cancer has one of the highest overall survival rates of any cancer.



^The annual percent change (APC) is significantly different from zero (p < 0.05).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

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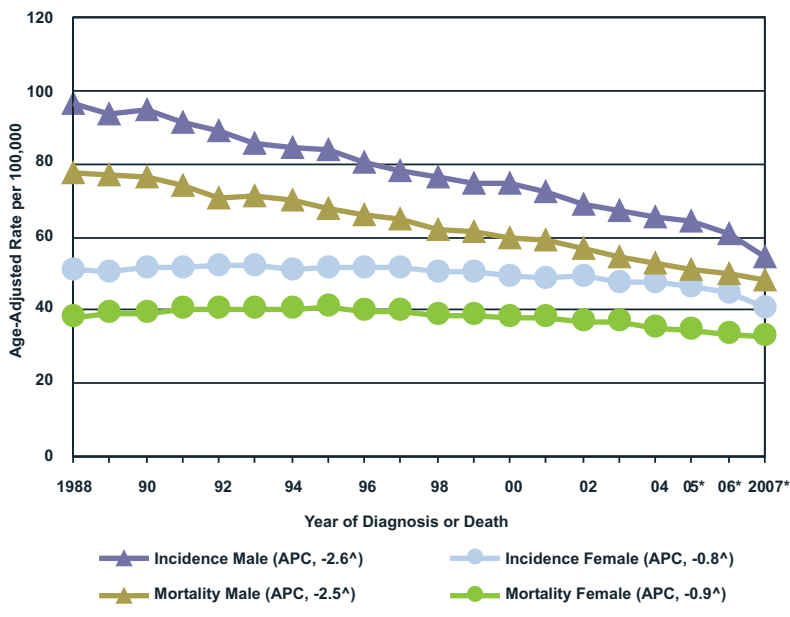
*Trends in Smoking-Related Cancers in California, 1988-2007*

Smoking increases the risk of several cancers\*\* including cancer of the lung and bronchus, oral cavity and pharynx, larynx, esophagus, stomach, pancreas, kidney and renal pelvis, cervix, and urinary bladder. Smoking also increases the risk of developing acute myeloid leukemia (AML). The incidence (number of new cases) of most smoking-related cancers in California has decreased substantially since 1988. This decline is due, in large part, to the success of California's Tobacco Control Program.

Smoking causes about 90 percent of lung cancer deaths in men and almost 80 percent of lung cancer deaths in women. The risk of dying from lung cancer is more than 23 times higher among men who smoke cigarettes, and about 13 times higher among women who smoke cigarettes compared with those who never smoked.\*\* Since 1988, lung and bronchus cancer mortality in California has decreased greatly, by 39 percent among men and 16 percent among women. Nonetheless, lung and bronchus cancer will kill approximately 13,100 Californians in 2010, more than breast (4,200 deaths), prostate (3,000), and colorectal (5,100) cancers combined.

Secondhand smoke, also known as environmental tobacco smoke, is a combination of smoke given-off by the

**Lung and Bronchus Cancer**



\*The annual percent change (APC) is significantly different from zero (p < 0.05).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

burning end of tobacco products and the smoke exhaled by smokers. Secondhand smoke also causes cancer. In 2005, it was estimated that exposure to secondhand smoke killed more than 3,000 adult nonsmokers from lung cancer. The risk of lung cancer from secondhand smoke increases 20-30 percent for nonsmokers who live with a smoker.\*\*\*

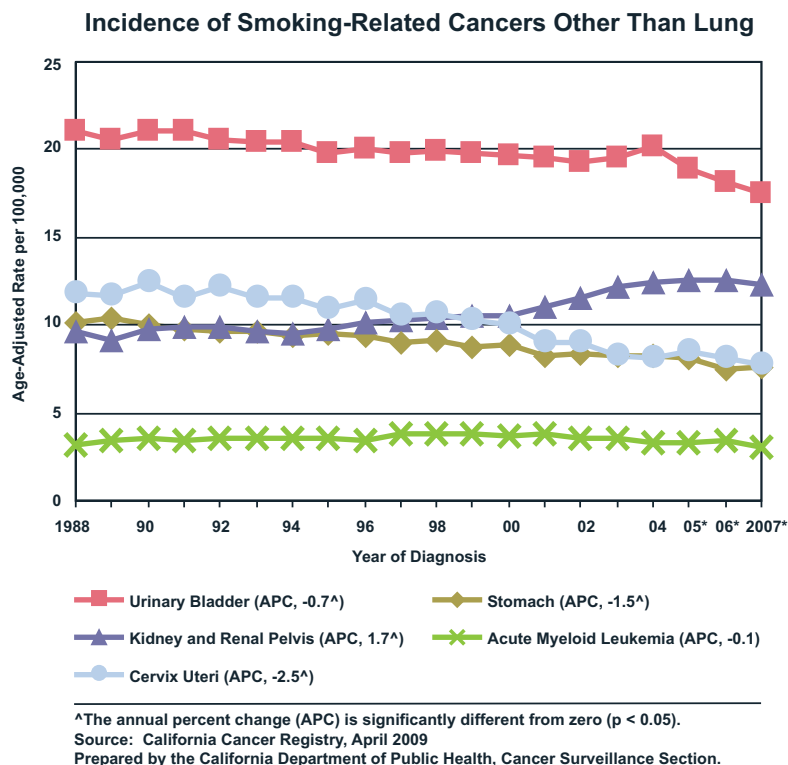
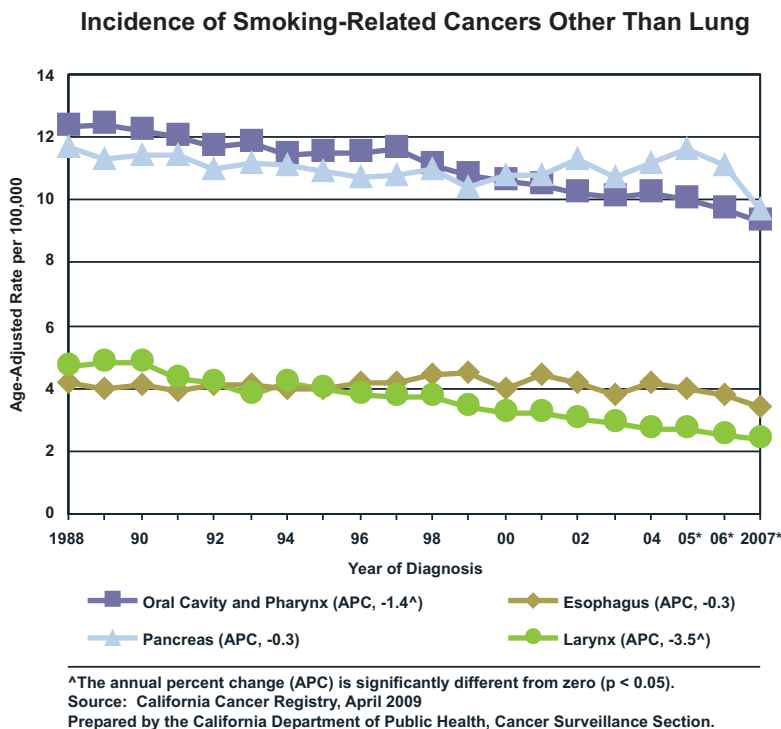
\* The Veteran's Health Administration (VHA) modified its protocol for reporting cancer cases diagnosed in VHA facilities to California Cancer Registry in 2005. Subsequently, case counts and incidence rates for adult males in 2005 and forward are underestimated and should be interpreted with caution. For more information see <http://www.ccrca.org/VATechnotes.html>.

\*\* United States Department of Health and Human Services. *The Health Consequences of Smoking: A Report of the Surgeon General*. Atlanta, GA: United States Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004.

\*\*\* United States Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta, GA: United States Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006.

*Trends in Smoking-Related Cancers in California, 1988-2007 (continued)*

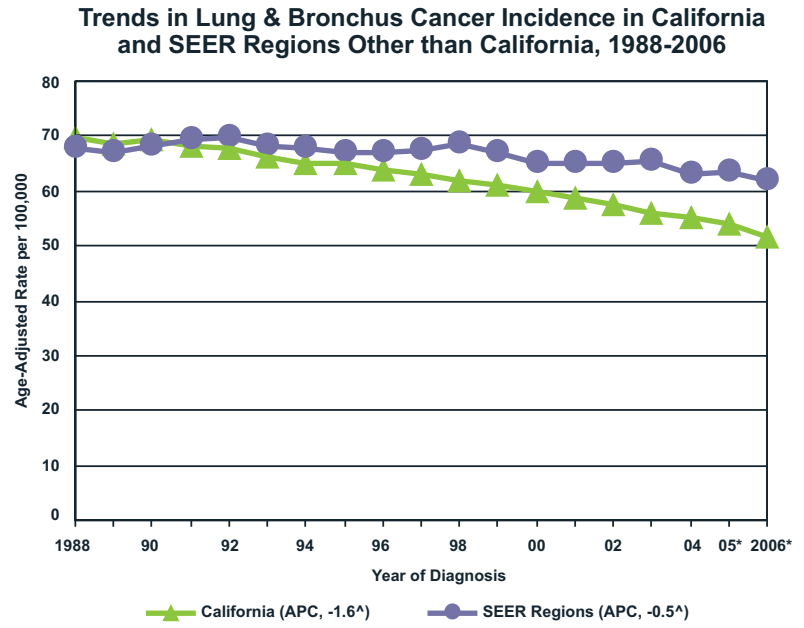
Of the smoking-related cancers, those of the lung and bronchus, larynx, oral cavity and pharynx, stomach, urinary bladder, and cervix decreased significantly among Californians from 1988 to 2007. The largest decline in incidence was that of larynx cancer, which decreased by 48 percent followed by cancer of the cervix (33 percent), lung and bronchus (29 percent), stomach (27 percent), oral cavity and pharynx (23 percent), and urinary bladder (14 percent). The incidence rates for cancers of the pancreas, esophagus, and that of acute myeloid leukemia remained stable. The only smoking-related cancer that did not decline during this time period was that of kidney and renal pelvis which actually increased by 32 percent. This rise in new cases of kidney cancer has been noted worldwide but is not well understood.



\* The Veteran's Health Administration (VHA) modified its protocol for reporting cancer cases diagnosed in VHA facilities to California Cancer Registry in 2005. Subsequently, case counts and incidence rates for adult males in 2005 and forward are underestimated and should be interpreted with caution. For more information see <http://www.ccrca.org/VAtechnotes.html>.

*Trends in Smoking-Related Cancers in California, 1988-2007 (continued)*

California has a much lower lung cancer incidence rate than the United States as a whole. Between 1988 and 2006, the lung cancer incidence rate in California decreased by 24 percent\* (from 70 per 100,000 to 52 per 100,000). However, rates in the nation (excluding California) dropped only 7 percent (from 68 per 100,000 to 62 per 100,000). This achievement is largely the result of California's exemplary Tobacco Control Program.



<sup>^</sup>The annual percent change (APC) is significantly different from zero (p < 0.05).  
 Source: California Cancer Registry, April 2009 and SEER\*Stat Database: Incidence - SEER 9 Regs Limited-Use, Nov 2008 Sub (1973-2006) <Katrina/Rita Population Adjustment>.  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

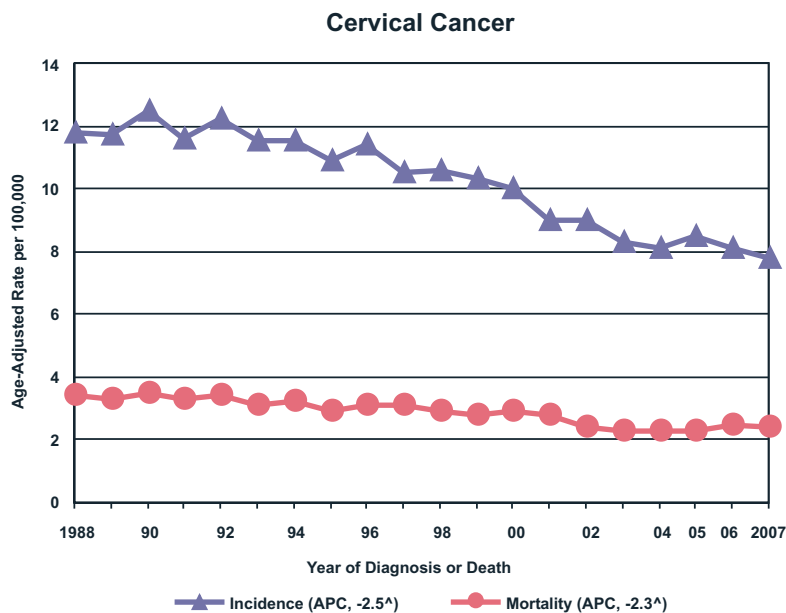
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*Cervical Cancer in California, 1988-2007*

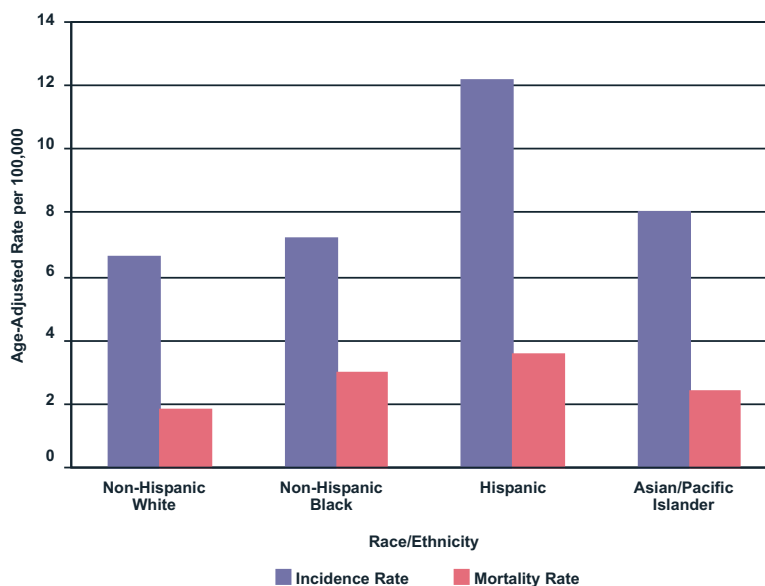
Cervical cancer is the thirteenth most common cancer diagnosed among California women. About 1,400 California women are diagnosed with cervical cancer each year and about 400 die from this disease. Between 1988 and 2007, the cervical cancer incidence rate declined by 33 percent (from 12 per 100,000 to 8 per 100,000). The mortality rate also declined by 27 percent during this time period (from 3 per 100,000 to 2 per 100,000).

Among the four major racial/ethnic groups in California, Hispanic women have the highest rate of cervical cancer incidence (12 per 100,000) and are nearly two times more likely than non-Hispanic white women to be diagnosed with the disease. Hispanic and non-Hispanic black women are more likely to die of cervical cancer than non-Hispanic white and Asian/Pacific Islander women. The mortality rate for Hispanic women (4 per 100,000) is two times higher than that of non-Hispanic white women (2 per 100,000).



^The annual percent change (APC) is significantly different from zero (p < 0.05).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

**Cervical Cancer Five-Year Incidence & Mortality Rates by Race/Ethnicity, California, 2003-2007**



Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

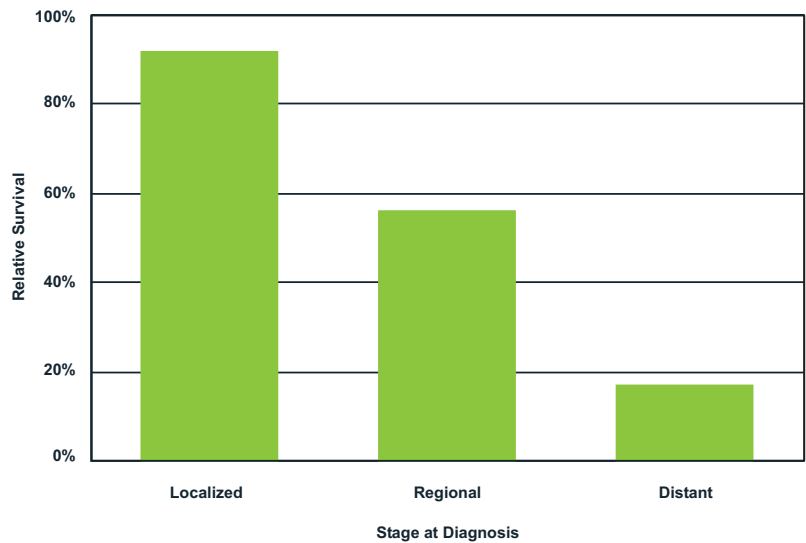
*Cervical Cancer in California, 1988-2007 (continued)*

Cervical cancer is unique in that a great deal is known about its causes, an effective screening test exists, and it is mostly preventable. The cause of most cervical cancers is infection with the human papillomavirus (HPV). In June 2006, a new vaccine that protects against four major types of HPV was approved for use in women aged 9 to 26 years. Widespread use of this vaccine in young women has the potential to prevent approximately 70 percent of cervical cancer cases but will not eliminate the need for screening.

There is a very effective screening test for cervical cancer, called the Pap test, which detects changes in the cells of the cervix. When women get Pap tests done on a regular basis, it is more likely that changes in the cells of the cervix will be detected early (before they develop into invasive cervical cancer). Early detection improves the chances of successful treatment and can prevent abnormal cells from becoming cancerous.

Women diagnosed with cervical cancer have a better chance of survival if they are diagnosed early, through routine cervical cancer screening. Relative survival estimates the probability that an individual will not die from a given cancer during the specified time following diagnosis. The five-year relative survival rate for women diagnosed at the localized stage (when the cancer is confined to the cervix) is 92 percent. However, of all the cervical cancer cases diagnosed in California in 2007, less than half (48 percent) were diagnosed at the localized stage. When cervical cancer is diagnosed at a later stage, the five-year relative survival rate drops to 56 percent for women diagnosed at the regional stage (when the cancer has

**Five-Year Relative Survival for Cervical Cancer by Stage at Diagnosis, California, 1988-2007**



Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

spread to surrounding tissue or nearby lymph nodes) and to 17 percent for women diagnosed at a distant stage (when the cancer has spread to other parts of the body).

For more detailed information on cervical cancer in California view the report *Cervical Cancer in California, 2008* available at <http://ccrcal.org/pdf/Reports/Cervical-Min-08-4-8-08.pdf>.

*Cancer Screening, Early Detection and Survival, California, 1988-2007*

Stage at diagnosis summarizes how far a cancer has spread when it is first discovered. It is one of the strongest predictors of survival. Generally, the earlier the stage at diagnosis, the better the prognosis. Tumors diagnosed before they have spread are much more likely to respond to treatment. Cancer screening can diagnose some cancers at an earlier stage including cancers of the prostate, breast, cervix, colon and rectum, oral cavity and oropharynx, as well as melanoma (skin cancer). Individuals should talk to their health care provider about when and how often to get screened for these cancers. The American Cancer Society also provides guidelines for cancer screening which are available at [www.cancer.org](http://www.cancer.org).

<b>Five-Year Relative Survival by Stage at Diagnosis, California, 1988-2007</b>				
<b>Cancer Type</b>	<b>All Stages</b>	<b>Localized</b>	<b>Regional</b>	<b>Distant</b>
<b>Female Breast</b>	<b>88%</b>	<b>97%</b>	<b>80%</b>	<b>21%</b>
<b>Cervix</b>	<b>71%</b>	<b>92%</b>	<b>56%</b>	<b>17%</b>
<b>Prostate</b>	<b>96%</b>	<b>100%</b>	<b>95%</b>	<b>33%</b>
<b>Colon &amp; Rectum</b>	<b>64%</b>	<b>90%</b>	<b>67%</b>	<b>10%</b>
<b>Melanoma</b>	<b>89%</b>	<b>95%</b>	<b>58%</b>	<b>14%</b>
<b>Oral Cavity &amp; Oropharynx</b>	<b>63%</b>	<b>81%</b>	<b>53%</b>	<b>29%</b>

Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

The following terminology is often used to summarize stage at diagnosis:

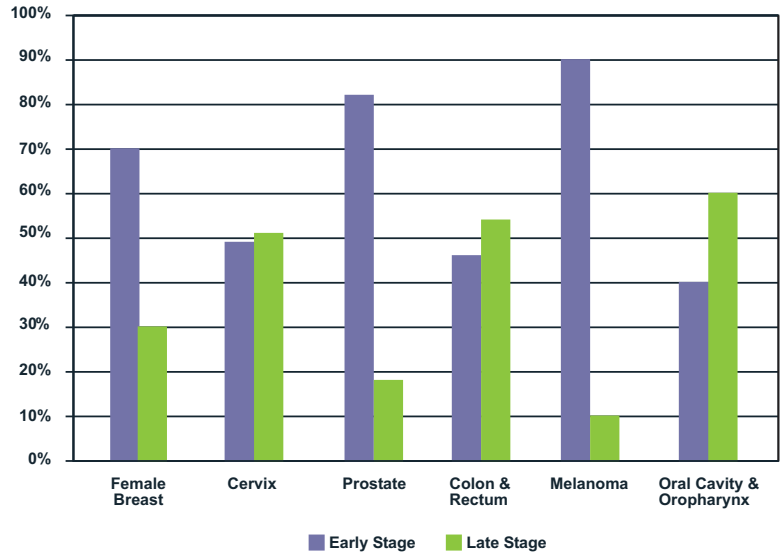
- In situ** The tumor is at the earliest stage and has not extended through the first layer of cells in the area in which it is growing.
- Localized** The tumor has broken through the first layer of cells, but is still confined to the organ in which it is growing.
- Regional** The tumor has spread to nearby lymph nodes or adjacent tissue.
- Distant** The tumor has metastasized (spread) to other parts of the body.

The table above summarizes five-year relative survival by stage at diagnosis for cancers that can be screened for and thus diagnosed at an early stage. Relative survival estimates the probability that an individual will not die from a given cancer during the specified time following diagnosis. For each cancer type, the five-year relative survival is highest when the cancer is diagnosed at the localized stage and lowest when diagnosed at the distant stage.

*Cancer Screening, Early Detection and Survival, California, 1988-2007  
(continued)*

Despite the fact that these cancers can be screened for and diagnosed early, the majority of colon and rectum cancers (54 percent), cervical cancers (51 percent), and oral cancers (60 percent) are diagnosed at a late stage (regional and distant). Each of these late stage diagnoses is a missed opportunity for prevention or early detection and demonstrates the need for more public awareness on the importance of having regular cancer screenings.

**Proportion of Cancers Diagnosed Early- versus Late-Stage, California, 2007**



Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

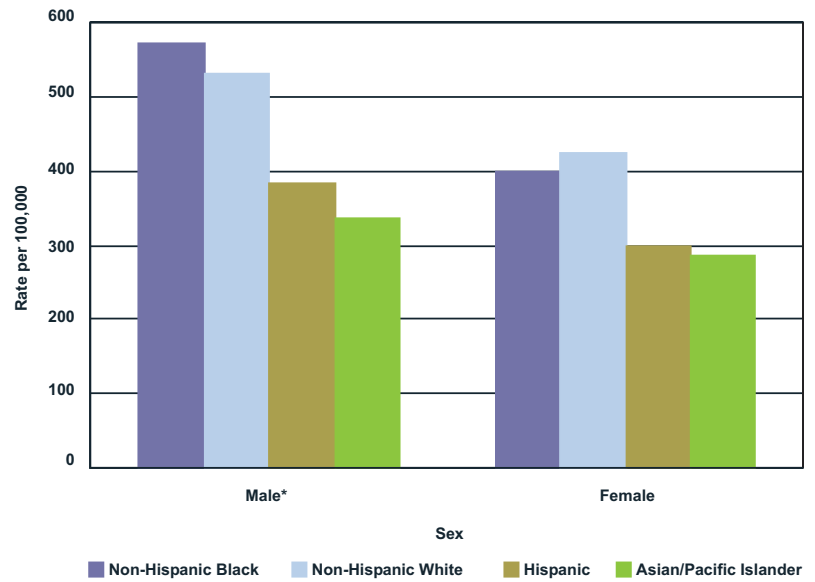
*Differences in Cancer Risk among Racial/Ethnic Groups in California, 1988-2007*

The risk of developing cancer varies considerably by race/ethnicity. The reasons for these differences are not well understood. It is likely that they result from a combination of dietary, lifestyle, socioeconomic, environmental, and genetic factors. Research into racial/ethnic differences in cancer risk may help us understand some of the underlying causes of cancer. The following information is presented to illustrate the differences in cancer incidence (new cases) and deaths (mortality) among different racial/ethnic groups in California.

Among California males, non-Hispanic black men have the highest overall cancer incidence rate (571 per 100,000) followed by non-Hispanic whites (529 per 100,000), Hispanics (383 per 100,000) and Asian/Pacific Islanders (335 per 100,000). Among females, non-Hispanic white women (425 per 100,000) are the most likely to be diagnosed with a cancer, followed by non-Hispanic blacks (398 per 100,000), Hispanics (299 per 100,000) and Asian/Pacific Islanders (285 per 100,000).

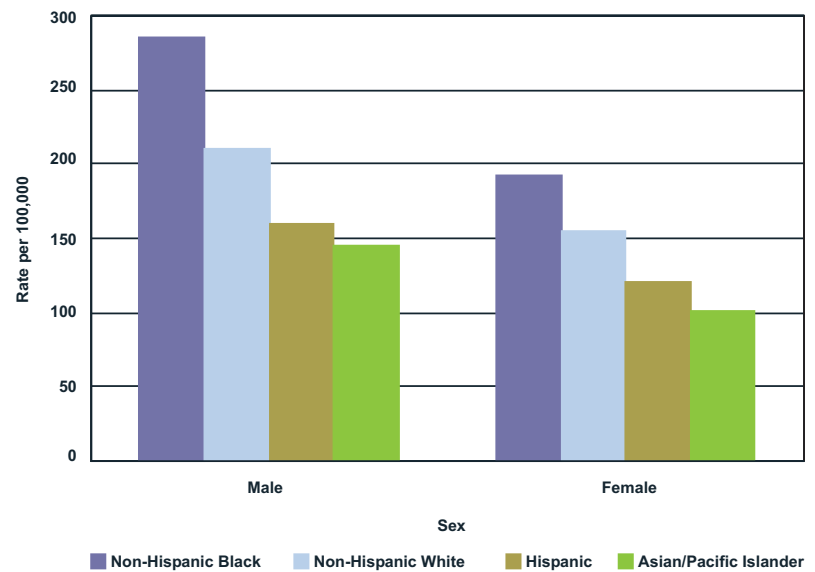
In addition to having the highest cancer incidence rate, non-Hispanic black males also have the highest risk of dying from a cancer (285 per 100,000), followed by non-Hispanic whites (211 per 100,000), Hispanics (160 per 100,000), and Asian/Pacific Islanders (145 per 100,000). Although non-Hispanic white women are most likely to be diagnosed with a cancer, non-Hispanic black women are most likely to die of a form of the disease (192 per 100,000). Non-Hispanic white women have the second highest cancer mortality rate (155 per 100,000), followed by Hispanics (121 per 100,000) and Asian/Pacific Islanders (101 per 100,000).

**Five-Year, Age-Adjusted Incidence Rates by Race/Ethnicity & Sex, All Cancers, 2003-2007**



Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

**Five-Year, Age-Adjusted Mortality Rates by Race/Ethnicity & Sex, All Cancers, 2003-2007**



Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

\* The Veteran's Health Administration (VHA) modified its protocol for reporting cancer cases diagnosed in VHA facilities to California Cancer Registry in 2005. Subsequently, case counts and incidence rates for adult males in 2005 and forward are underestimated and should be interpreted with caution. For more information see <http://www.ccrca.org/VAtchnotes.html>.

*Differences in Cancer Risk among Racial/Ethnic Groups in California, 1988-2007 (continued)*

In California, non-Hispanic blacks have substantially higher rates (at least 50 percent higher) of stomach cancer, liver cancer, myeloma and Kaposi sarcoma, compared to non-Hispanic whites. In general, persons of Asian/Pacific Islander and Hispanic origin have cancer rates that are about 30 to 35 percent lower than

non-Hispanic whites. However, as with non-Hispanic blacks, both Asian/Pacific Islanders and Hispanics have substantially higher rates of stomach and liver cancer than non-Hispanic whites. Hispanics also have higher rates of acute lymphocytic leukemia and cervical cancer.

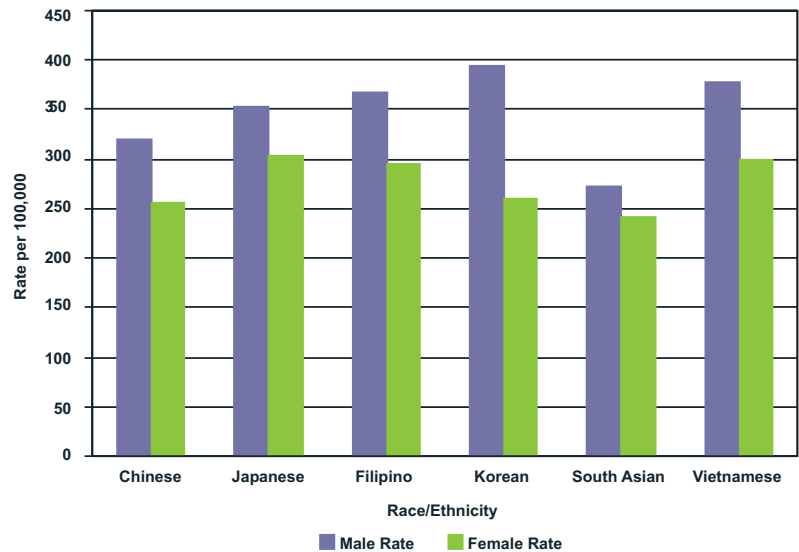
<b>Comparison of Age-Adjusted Cancer Incidence Rates Among Other Racial/Ethnic Groups to Non-Hispanic Whites, 2003-2007</b>			
<b>Difference</b>	<b>Asian/Pacific Islander</b>	<b>Hispanic</b>	<b>Non-Hispanic Black</b>
<b>Lower (At least 50 percent lower than the incidence rate among non-Hispanic whites)</b>	Melanoma of the Skin Urinary Bladder Chronic Lymphocytic Leukemia Testis Esophagus Larynx Brain and ONS* Kaposi Sarcoma Hodgkin Lymphoma	Melanoma of the Skin Urinary Bladder Chronic Lymphocytic Leukemia Oral Cavity and Pharynx Lung and Bronchus	Melanoma of the Skin Testis
<b>Higher (At least 50 percent higher than the incidence rate among non-Hispanic whites)</b>	Stomach Liver and IBD**	Stomach Liver and IBD** Cervix Acute Lymphocytic Leukemia	Stomach Liver and IBD** Kaposi Sarcoma Myeloma
<p>Source: California Cancer Registry, April 2009                      Prepared by the California Department of Public Health, Cancer Surveillance Section                      *ONS: Other Nervous System                      **IBD: Intrahepatic Bile Duct</p>			

*Differences in Cancer Risk among Racial/Ethnic Groups in California, 1988-2007 (continued)*

Although Asian/Pacific Islanders as a group have the lowest cancer incidence and mortality rates of the major racial/ethnic groups in California, cancer risk varies greatly among the Asian subgroups. Among males, Korean men have the highest five-year, age-adjusted cancer incidence rate (394 per 100,000) followed by Vietnamese (377 per 100,000), Filipino (368 per 100,000), Japanese (354 per 100,000), Chinese (320 per 100,000), and South Asians (272 per 100,000). Among females, Japanese women have the highest five-year, age-adjusted cancer incidence rate (303 per 100,000) followed by Vietnamese (299 per 100,000), Filipino (296 per 100,000), Korean (261 per 100,000), and Chinese (256 per 100,000). South Asian women have the lowest rate (241 per 100,000).

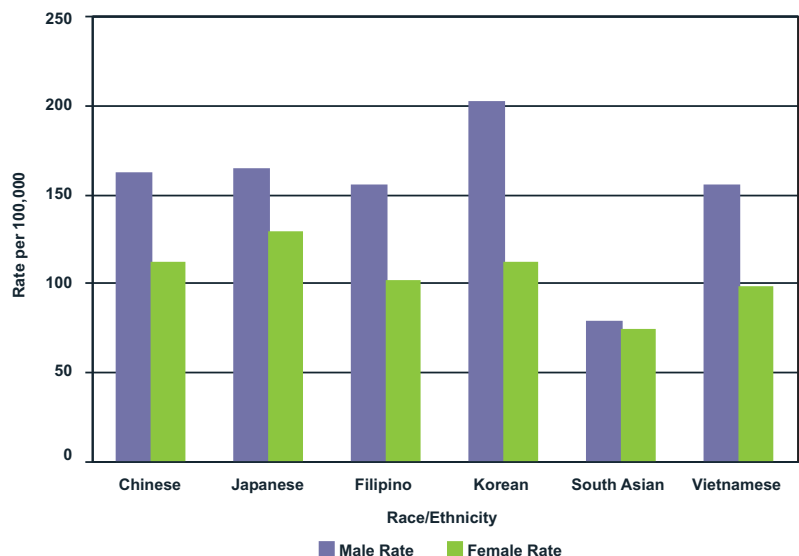
In addition to having the highest cancer incidence rate, Korean males also have the highest cancer mortality rate (202 per 100,000), while South Asian males have the lowest (79 per 100,000). Among females, Japanese women have the highest cancer mortality rate (129 per 100,000) and South Asian women have the lowest (74 per 100,000).

**Five-Year, Age-Adjusted Incidence Rates by Asian Subgroup and Sex, All Cancers Combined, California, 2003-2007**



Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

**Five-Year, Age-Adjusted Mortality Rates by Asian Subgroup and Sex, All Cancers Combined, California, 2002-2006**



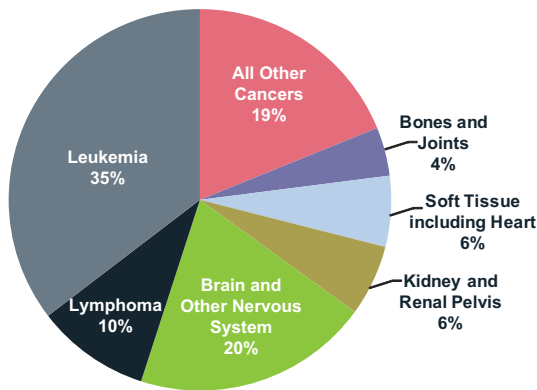
Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

*Cancer among Children (aged 0 to 14 Years) in California, 1988-2007*

Each year, about 1,250 children aged 0 to 14 years in California are diagnosed with a cancer. The most common cancers are leukemia (about 450 cases/year) and brain cancer (about 250 cases/year), which together account for approximately 55 percent of all cancers in this age group.

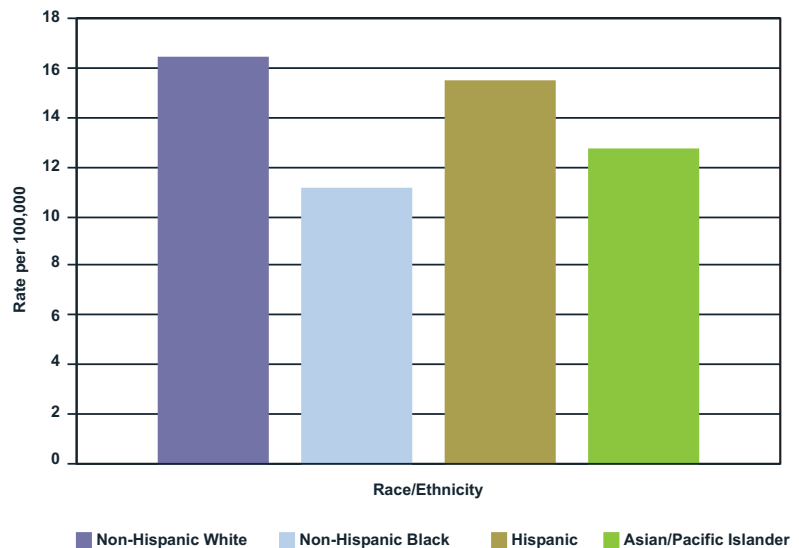
Non-Hispanic white and Hispanic children aged 0 to 14 years have higher cancer incidence rates (about 16 per 100,000 each) than non-Hispanic black (11 per 100,000) and Asian/Pacific Islander (about 13 per 100,000) children.

**Proportion of New Cancers Diagnosed Among Children Aged 0-14 Years, California, 2007**



Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

**Five-Year, Age-Adjusted Incidence Rates, Children Aged 0 to 14 Years, All Cancers Combined by Race/Ethnicity, California, 2003-2007**

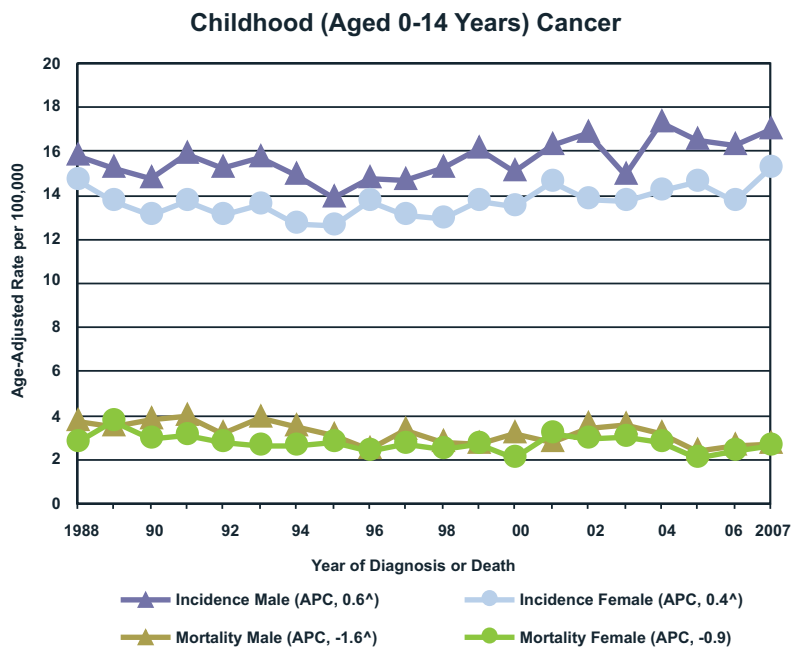


Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.



*Cancer among Children (aged 0 to 14 Years) in California, 1988-2007, continued*

From 1988 to 2007, the cancer incidence rate for children aged 0 to 14 years has increased significantly by 0.5 percent per year (from 15 per 100,000 to 16 per 100,000). Males in this age group have higher overall cancer rates than females (17 per 100,000 versus 15 per 100,000). During this same time period, the cancer mortality rate among children in this age group has declined significantly by 1.3 percent per year. However, the mortality rate among males is declining at a faster rate than that of females.



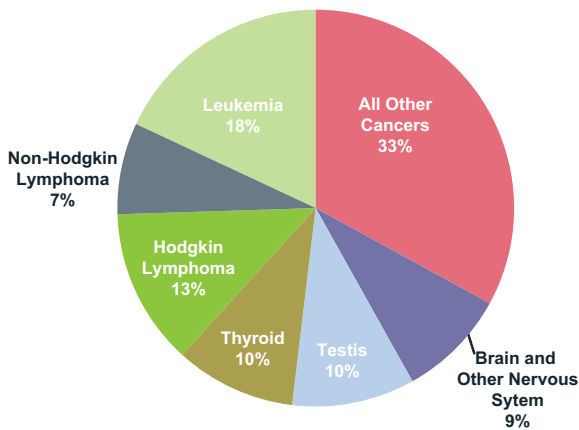
<sup>^</sup>The annual percent change (APC) is significantly different from zero ( $p < 0.05$ ).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

*Cancer among Young Adults (aged 15 to 19 Years) in California, 1988-2007*

An additional 550 young adults aged 15 to 19 years are diagnosed with a cancer each year in California. The cancers in this age group are more diverse; leukemia (about 100 cases per year), Hodgkin lymphoma (70 cases), testicular cancer (55 cases), thyroid cancer (55 cases), and brain cancer (50 cases). Combined, these cancers account for 67 percent of all cancers in this age group.

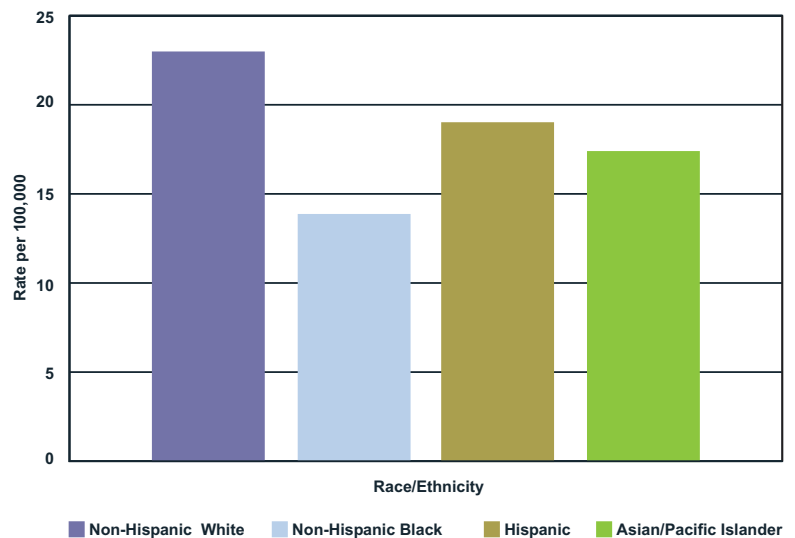
Non-Hispanic white and Hispanic young adults in California are more likely than non-Hispanic black and Asian/Pacific Islander young adults to be diagnosed with a cancer. Non-Hispanic white young adults have the highest cancer rate (23 per 100,000), followed by Hispanics (19 per 100,000), Asian/Pacific Islanders (17 per 100,000), and non-Hispanic blacks (14 per 100,000).

**Proportion of New Cancers among Young Adults Aged 15-19 Years, California, 2007**



Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

**Five-Year, Age-Adjusted Incidence Rates, Young Adults Aged 15 to 19 Years, All Cancers Combined by Race/Ethnicity, California, 2003-2007**



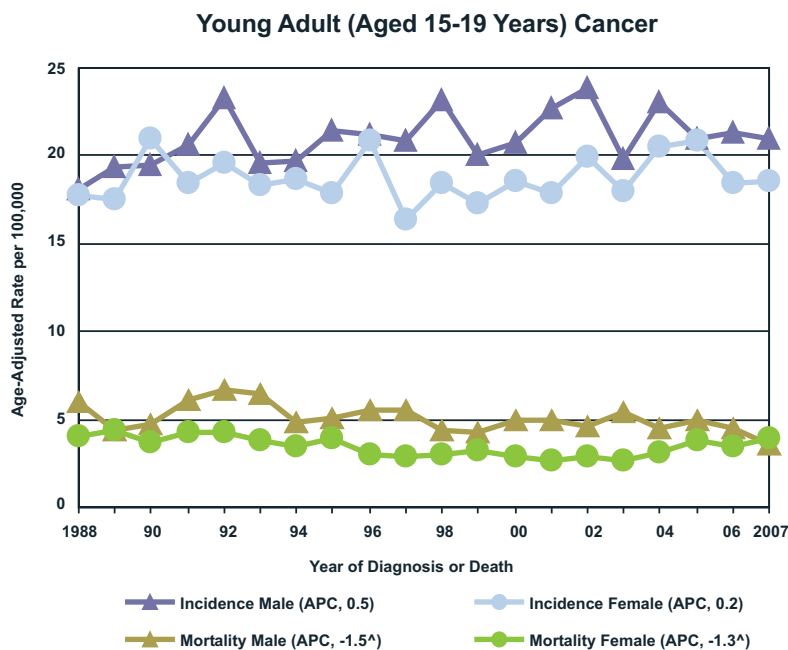
Source: California Cancer Registry, April 2009  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

*Cancer among Young Adults (aged 15 to 19 years) in California, 1988-2007 (continued)*

From 1988 to 2007, the cancer incidence rate for young adults aged 15 to 19 years has remained stable. Males in this age group have higher overall cancer rates than females (21 per 100,000 versus 19 per 100,000). During this same time period, the cancer mortality rate among young adults has declined significantly by 1.4 percent per year (from 5 per 100,000 to 4 per 100,000). Males and females in this age group have experienced similar declines in cancer mortality rates.

Although accidents kill about two times more children aged 0 to 19 years in California each year than all cancers combined, about 1 in 300 children will develop some form of cancer before they are 20 years old.

National data (excluding California) show that cancer incidence rates for children aged 0 to 19 years remained stable between 1988 and 2006\* and mortality rates decreased significantly by about 2 percent per year.\*\* Similarly, since statewide cancer reporting began in California in 1988, cancer incidence rates for children and young adults combined (ages 0 to 19 years) have only slightly increased by 0.5 percent per year and the cancer mortality rate has decreased by 1.3 percent per year (from 4 per 100,000 to 3 per 100,000).



^The annual percent change (APC) is significantly different from zero (p < 0.05).  
 Source: California Cancer Registry, April 2009  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

\* Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER\*Stat Database: Incidence - SEER 9 Regs Limited-Use, Nov 2008 Sub (1973-2006) <Katrina/Rita Population Adjustment> .  
 \*\* Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER\*Stat Database: Mortality - All COD, Aggregated With State, Total United States (1969-2006) <Katrina/Rita Population Adjustment>, National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released May 2009. Underlying mortality data provided by NCHS (www.cdc.gov/nchs).

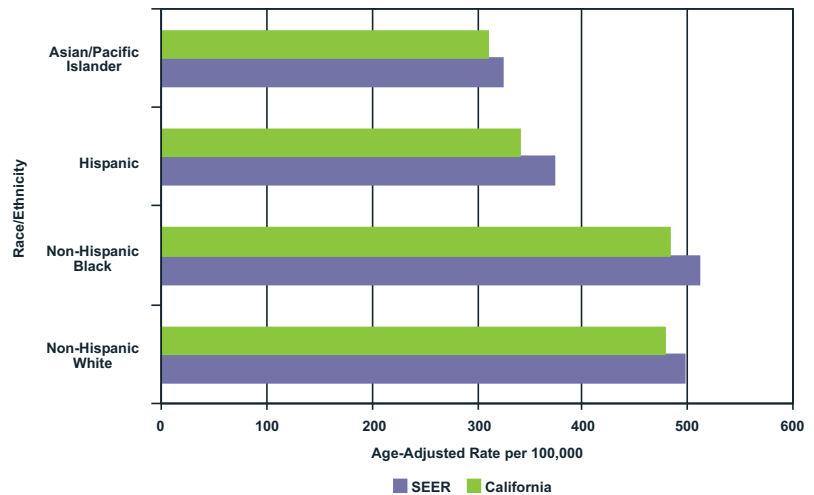
*California Compared to the Nation, 2002-2006*

A nationwide cancer registry does not exist in the United States. However, the Surveillance, Epidemiology, and End Results (SEER) program of the National Cancer Institute (NCI) registers cancer patients in 17 geographic areas covering about 26 percent of the United States population. California is part of the SEER program.

Cancer incidence rates (rates of new cancer cases) provided in these graphs, are based on cases diagnosed between 1988 and 2006, the most recent time period for which comparable statistics are available from SEER. Cancer mortality rates (rates of cancer deaths) are based on death certificate files obtained by SEER from the National Center for Health Statistics (NCHS) and are for the entire United States.

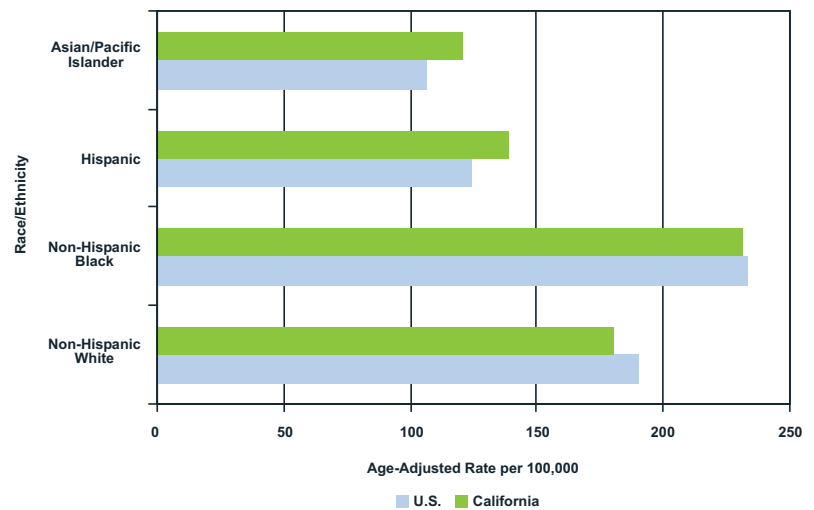
Overall, cancer incidence rates in California are very similar to those reported by SEER. However, when comparing rates by race/ethnicity, each of the four major racial/ethnic groups in California has lower cancer incidence rates than their counterparts living in other areas of the United States. Cancer mortality rates in California are also very similar to those for the United States as a whole. However, Asian/Pacific Islanders and Hispanics living in California experience higher rates of cancer mortality than their counterparts living in other areas of the United States. Non-Hispanic blacks living in California have similar cancer mortality rates to non-Hispanic blacks living throughout the United States, whereas non-Hispanic white Californians have lower cancer mortality rates.

**Five-Year Cancer Incidence Rates, 2002-2006**



Source: California Cancer Registry, April 2009 and SEER\*Stat Database: Incidence - SEER 17 Regs Limited-Use + Hurricane Katrina Impacted Louisiana Cases, Nov 2008  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

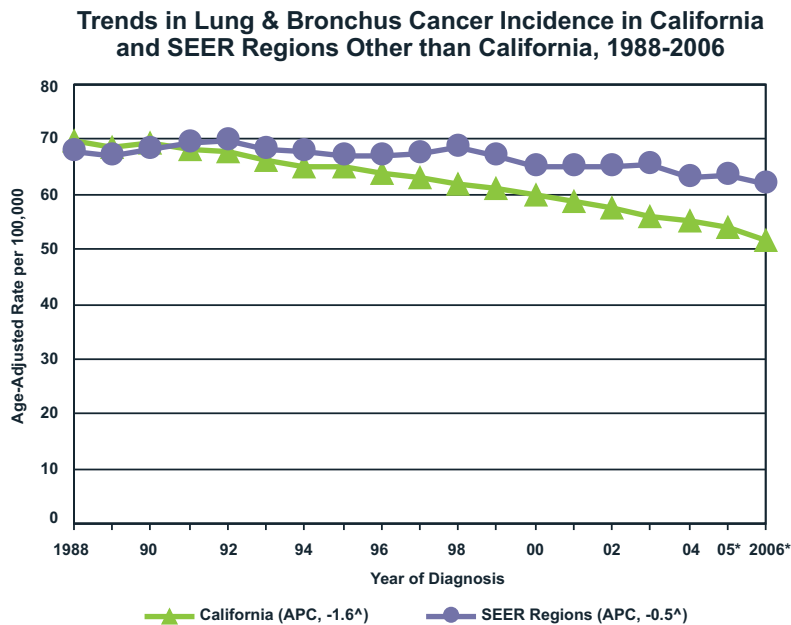
**Five-Year Cancer Mortality Rates, 2002-2006**



Source: California Cancer Registry, April 2009 and SEER\*Stat Database: Mortality - All COD, Aggregated with State, Total U.S. (1990-2006) <Katrina/Rita Population Adjustment>, May 2009. Underlying mortality data provided by NCHS ([www.cdc.gov/nchs](http://www.cdc.gov/nchs)).  
Prepared by the California Department of Public Health, Cancer Surveillance Section.

*California Compared to the Nation, 2002-2006 (continued)*

California has a much lower lung cancer incidence rate than the United States as a whole. Between 1988 and 2006, the lung cancer incidence rate in California decreased by 24 percent\* (from 70 per 100,000 to 52 per 100,000). However, rates in the nation (excluding California) dropped only 7 percent (from 68 per 100,000 to 62 per 100,000). Rates for other smoking related cancers are declining in California as well (see, "Trends in Smoking-Related Cancers in California, 1988-2007"). These achievements are due, in large part, to the success of California's tobacco control initiatives.



<sup>^</sup>The annual percent change (APC) is significantly different from zero ( $p < 0.05$ ).  
 Source: California Cancer Registry, April 2009 and SEER<sup>^</sup>Stat Database: Incidence - SEER 9 Regs Limited-Use, Nov 2008 Sub (1973-2006) <Katrina/Rita Population Adjustment> .  
 Prepared by the California Department of Public Health, Cancer Surveillance Section.

\* The Veteran's Health Administration (VHA) modified its protocol for reporting cancer cases diagnosed in VHA facilities to California Cancer Registry in 2005. Subsequently, case counts and incidence rates for adult males in 2005 and forward are underestimated and should be interpreted with caution. For more information see <http://www.ccrca.org/VAtechnotes.html>.