CALIFORNIA DEPARTMENT OF PUBLIC HEALTH
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CCR
CALIFORNIA CANCER REGISTRY

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Cancer in California, 2008

Special Highlight on Cancer by Race and Ethnicity

April 2008

Searching for Causes & Cures

CALIFORNIA CANCER REGISTRY

CCR is a collaborative effort among the California Department of Public Health's Cancer Surveillance and Research Branch (CSRB), the Public Health Institute, regional cancer registries, health care providers, cancer registrars, and cancer researchers throughout California and the nation. CSRB collects, analyzes, and disseminates information on cancer incidence and mortality. The statewide population-based cancer surveillance system monitors the incidence and mortality of specific cancers over time and analyzes differential risks of cancer by geographic region, age, race/ethnicity, sex, and other social characteristics of the population. It gathers cancer incidence data through CCR, and conducts and collaborates with other researchers on special cancer research projects concerning the etiology, treatment, risk factors, and prevention of specific cancers. In addition, the system is designed to monitor patient survival with respect to the type of cancer, extent of disease, therapy, demographics, and other parameters of prognostic importance. In general, data generated from CCR are utilized to:

* Monitor the amount of cancer and cancer incidence trends by geographic area and time in order to detect potential cancer problems of public health significance in occupational settings and the environment, and to assist in their investigation;

* Provide information to stimulate the development and targeting of resources to benefit local communities, cancer patients, and their families;

* Promote high quality research into epidemiology and clinical medicine by enabling population-based studies to be performed to provide better information for cancer control;

* Inform health professionals and educate citizens regarding specific health risks, early detection, and treatment for cancers known to be elevated in their communities; and

* Respond to public concerns and questions about cancer.

Legislation declaring cancer to be a mandatorily reported disease in California became effective in 1985. Beginning in January 1988, under the Statewide Cancer Reporting Law (Section 103885 of the Health and Safety Code), CCR has covered the entire population of California through the regional population-based registries.

Cancer Reporting in California

1947	California Tumor Registry established in selected large hospitals
1960	Alameda County Cancer Registry established as the first population-based cancer registry in California
1969	San Francisco Bay Area Registry included in National Cancer Institute's (NCI) Third National Cancer Survey
1972	Cancer Surveillance Program (CSP) of Los Angeles County established
1973	San Francisco Bay Area Registry included in NCI's Surveillance, Epidemiology, and End Results (SEER) Program
1983	Cancer Surveillance Program of Orange County established
1985	California Cancer Reporting Law signed into effect (CCR established)
1988	Population-based cancer reporting initiated statewide
1992	CSP of Los Angeles County included in SEER Program
1997	50 years of cancer reporting in California
2000	Published ten years of complete statewide cancer reporting

Source: California Cancer Registry

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This and other California Cancer Registry publications are available on the World Wide Web at http://www.dhs.ca.gov/ps/cdic or http://www.ccrcal.org.

Content

Acknowledgements and Disclaimer

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Inquiries regarding the content of this report should be directed to the Cancer Surveillance Section, CDPH, 1700 Tribute Road, Suite 100, Sacramento, CA 95815-4402, by telephoning us at (916) 779-0300, or by visiting our website at http://www.dhs.ca.gov/ps/cdic or http://www.ccrcal.org/.

Technical Notes

Statewide cancer reporting began in 1988. Incidence data for earlier time periods are only available for limited geographic areas in the state. Regional cancer registries in California report cases to the California Cancer Registry (CCR) following standardized methods, coding rules, and quality control procedures. A "case" is defined as a primary cancer; a cancer that has spread from a primary site to another organ is not counted as a new case. Except where noted, only invasive cancers are included in this report. *In situ* tumors - those that have not invaded organ tissues – are not included, except those of the bladder which are considered invasive. Common skin cancers are not included.

This report includes cases diagnosed from January 1, 1988 through December 31, 2005 and reported to the CCR as of October 2007. The most recent year for which cancer reporting is considered complete is 2005. It is expected that one percent more incident cancer cases will eventually be reported for 2005, taking into consideration the non-reporting of Veteran Administration hospitals (for more information see explanation below). Mortality data are based on death certificate files obtained from the California Department of Public Health, Center for Health Statistics.

Rates were calculated using the National Center for Health Statistics (NCHS) bridged population estimates for 1990-2005 and California Department of Finance (DOF) benchmarked population estimates for 1988-1989. To match race/ethnic definitions used by NCHS and DOF, cases are divided into the mutually exclusive categories of Asian/Pacific Islander, Hispanic (all races), non-Hispanic black, and non-Hispanic white. Persons of other or unknown race/ethnicity (about two percent of cases) are excluded from race-specific data, but are included in data for all races combined. Because Hispanic ethnicity is under-reported, persons who were recorded as white, black, or unknown race on the medical record or death certificate, but had a Hispanic surname, are categorized as Hispanic for these analyses.

Underreporting of Cancer by Veterans Administration (VA) Hospitals

Veteran's Health Administration (VHA) hospitals in California did not report cancer cases to the California Cancer Registry in 2005. Although there is no way to know how many unreported cancer cases were diagnosed in these facilities in 2005, historically VHA-reported cases have accounted for approximately 4 percent of all new male cancers reported to the CCR. Therefore, rates of new cancer diagnoses (incidence rates) for 2005 in this publication are based upon case counts that the CCR believes to be underestimates of the true counts. This lack of reporting affects the interpretation of cancer statistics for 2005 presented in this publication. It is not possible to determine to what extent any downward trends in 2005 reflect this underreporting of cases versus true progress in the fight against cancer.

Because of the population served by VHA facilities, historically only a very small percentage of cancers in California females have been reported from VHA facilities. Therefore, the CCR believes the lack of reporting from these facilities will have little or no impact on the accuracy of female cancer rates for 2005. Because information on cancer mortality is obtained through a different source, this reporting issue does not have any impact on cancer mortality statistics.

For more detailed information on cancer rates, visit our web site at http://www.ccrcal.org.

Executive Summary

- The rate of new cancer cases in California declined by 11 percent among men* and seven percent among women from 1988 to 2005.
- From 1988 to 2005, cancer death rates in California declined by 23 percent among men and 17 percent among women. A decrease was experienced by all four major racial/ethnic groups – Asian/Pacific Islanders, Hispanics, non-Hispanic blacks, and non-Hispanic whites.
- Approximately 1.15 million Californians alive today have been diagnosed with cancer at some point in their lives.
- The rates of new breast and colorectal cancer cases are declining. Breast cancer rates declined sharply in 2003 by nearly eight percent and have stayed stable since, a change some scientists attribute to a decline in hormone replacement therapy use among post-menopausal women.
- 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.

From Our Highlight Section on Cancer by Race and Ethnicity

- In California, the rates of new cancer cases and cancer deaths have declined, but racial and ethnic disparities persist.
    - Non-Hispanic white women have higher rates of new cancer cases than women of other racial/ethnic groups, but non-Hispanic black women have the highest death rates.
    - Non-Hispanic black men have the highest overall rates of new cancer cases and cancer deaths.
    - On the whole, Hispanics have lower rates of new cases for most cancers than non-Hispanic whites. However, Hispanics are more likely to be diagnosed with liver cancer, stomach cancer, acute lymphocytic leukemia, Kaposi's sarcoma, and cervical cancer than non-Hispanic whites.
    - Asian/Pacific Islanders have lower rates of new cases for most cancers compared to non-Hispanic whites, but higher rates of stomach and liver cancer.
    - Cancer is the leading cause of death among Asian/Pacific Islanders, unlike any other racial/ethnic group. However, the most dramatic decreases in cancer deaths have occurred among Asian/Pacific Islander men.

*Veterans Health Administration hospitals did not report cancer cases to the California Cancer Registry (CCR) in 2005. Therefore, case counts and incidence rates for adult males in 2005 are underestimated and should be interpreted with caution (see Technical Notes on page 6 of this report or http://www.ccrcal.org/VAtechnotes.html)

Expected New Cases and Deaths Due to Cancer, by Primary Site and Sex, All Races Combined, California, 2008

Primary Site	Expected New Cases			Expected Deaths		
	Total*	Male	Female	Total*	Male	Female
All Sites	142,085	73,870	68,215	53,710	27,405	26,310
Brain and Other Nervous System	2,090	1,195	895	1,395	775	620
Breast	21,160	130	21,030	4,235	30	4,205
Cervix Uteri	1,430	-	1,430	410	-	410
Colon and Rectum	14,080	7,200	6,885	5,185	2,610	2,570
Corpus Uteri and Uterus, NOS**	3,755	-	3,755	690	-	690
Hodgkin Lymphoma	875	470	405	145	85	60
Kidney and Renal Pelvis	4,215	2,785	1,430	1,180	745	435
Larynx	875	705	170	310	250	60
Leukemias	3,655	2,110	1,545	2,185	1,250	935
Liver and Intrahepatic Bile Duct	2,460	1,760	700	1,980	1,310	665
Lung and Bronchus	16,915	8,805	8,110	13,405	7,160	6,245
Melanomas of the Skin	6,585	3,910	2,675	835	560	275
Non-Hodgkin Lymphomas	6,125	3,315	2,810	2,110	1,165	950
Oral Cavity and Pharynx	3,320	2,265	1,055	830	555	275
Ovary	2,270	-	2,270	1,635	-	1,635
Pancreas	3,425	1,675	1,750	3,205	1,580	1,625
Prostate	22,600	22,600	-	2,970	2,970	-
Stomach	2,610	1,545	1,060	1,495	870	625
Testis	965	965	-	50	50	-
Thyroid Gland	3,000	660	2,335	155	65	85
Urinary Bladder	6,255	4,720	1,535	1,300	915	385

Source: California Cancer Registry, California Department of Public Health. Excludes non-melanoma skin cancers and carcinoma *in situ,* except bladder. Deaths include persons who may have been diagnosed in previous years. These projections are offered as a rough guide, and should not be regarded as definitive.

* Male and Female may not sum to Total due to rounding.

** NOS: Not Otherwise Specified

Cancers Not Included

Common skin cancers are not included. *In situ* tumors – those that have not invaded organ tissues – are also not included, except those of the bladder.

Expected Cases and Deaths

These estimates are based on cancer trends in California and population estimates from the National Center for Health Statistics (NCHS). They should be considered as a rough guide. Deaths due to cancer include persons who may have been diagnosed in previous years. Persons who have been diagnosed with cancer but die from another cause are not counted as cancer deaths.

Nearly 142,100 Californians will be diagnosed with cancer in 2008. Cancer is the second most common cause of death; only heart disease kills more people.

Breast and prostate cancer are the most commonly diagnosed cancers, but lung cancer kills more people than breast, prostate, and colorectal cancers combined. Together, lung, breast, prostate, and colorectal cancers account for more than half (53 percent) of all cancer diagnoses and approximately half (48 percent) of all cancer deaths.

For more detailed information on cancer rates, visit our web site at http://www.ccrcal.org.

Estimated Cancer Prevalence by Primary Site and Sex, All Races Combined, California, 2008

Primary Site	Estimated Prevalence		
	Total*	Male	Female
All Sites	1,155,800	506,700	649,100
Brain and Other Nervous System	13,800	7,300	6,500
Breast	277,800	1,400	276,400
Cervix Uteri	36,500	-	36,500
Colon and Rectum	118,400	58,400	60,000
Corpus Uteri and Uterus, NOS**	65,000	-	65,000
Hodgkin Lymphoma	16,500	8,900	7,600
Kidney and Renal Pelvis	27,200	16,500	10,700
Larynx	10,100	8,200	1,900
Leukemias	23,200	13,000	10,200
Liver and Intrahepatic Bile Duct	3,500	2,300	1,200
Lung and Bronchus	42,400	20,300	22,100
Melanomas of the Skin	76,400	39,000	37,400
Non-Hodgkin Lymphomas	43,200	22,500	20,700
Oral Cavity and Pharynx	29,300	19,000	10,300
Ovary	20,800	-	20,800
Pancreas	3,400	1,700	1,700
Prostate	211,300	211,300	-
Stomach	8,800	5,000	3,800
Testis	21,500	21,500	-
Thyroid Gland	41,800	9,600	32,200
Urinary Bladder	57,400	42,900	14,500

Source: California Cancer Registry, California Department of Public Health. Excludes non-melanoma skin cancers and carcinoma *in situ,* except bladder.

* Male and Female may not sum to Total due to rounding.

** NOS: Not Otherwise Specified

Prevalence The number of persons alive who have ever been diagnosed with cancer. To obtain prevalence estimates for 2008, prevalence estimates (counts) were calculated for 2004 and then adjusted to 2008 using the average change in California population from 1988 to 2005 by sex.

For every person newly diagnosed with cancer, eight more are living with a history of the disease. More than 276,000 women in California, or approximately three out of every 100 women over the age of 40, are breast cancer survivors. Based on current rates, nearly one out of every two Californians born today will develop cancer during their lifetime.

Cancer Trends in California, 1988-2005

Rates: Rates are shown as the number of new cases (incidence) or deaths (mortality) per 100,000 persons each year. All rates are age-adjusted to the 2000 United States 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.

From 1988 to 2005, the overall cancer incidence rate in California decreased by about 11 percent* among men and seven percent among women. Over the same period, the cancer mortality rate decreased by 23 percent among men and 17 percent among women.

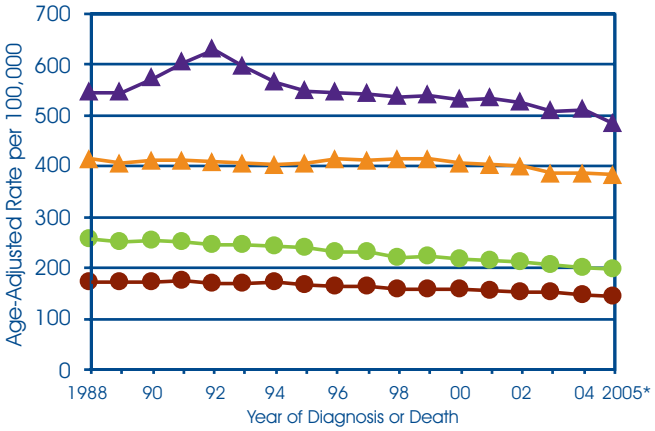
The invasive female breast cancer incidence rate has declined in recent years. The reasons for this are not well understood, but some researchers believe this decline is a result of fewer women using hormone replacement therapy (HRT) after menopause. The female breast cancer incidence rate in 2005 was eight percent lower than in 1988 and the mortality rate was 29 percent lower.

The colon and rectum cancer incidence rate in California declined by 25 percent* between 1988 and 2005. The reasons for this are not well understood, but some researchers believe more colon polyps are being removed before cancer develops. The colon and rectum cancer mortality rate was 31 percent lower in 2005 than in 1988.

Key

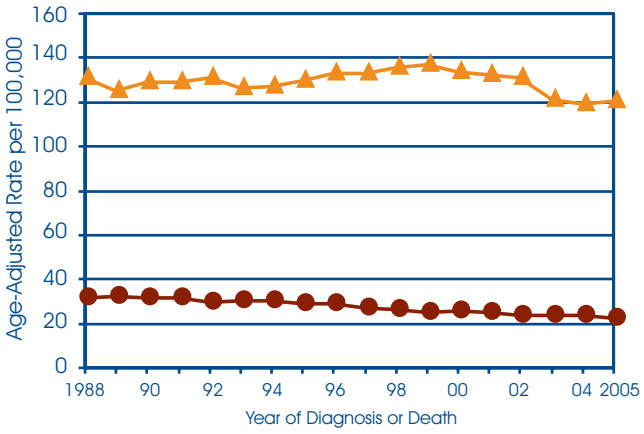
- Incidence Male
- Incidence Female
- Mortality Male
- Mortality Female

All Cancer Sites Combined



Source: California Cancer Registry, October 2007
Prepared by the California Department of Public Health, Cancer Surveillance Section.

Invasive Female Breast Cancer



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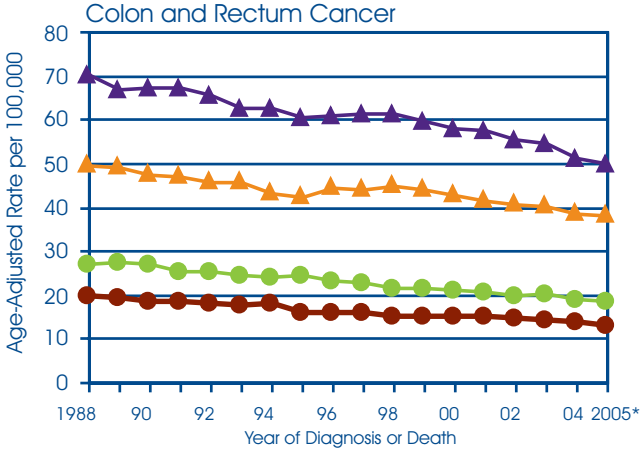
Colon and Rectum Cancer



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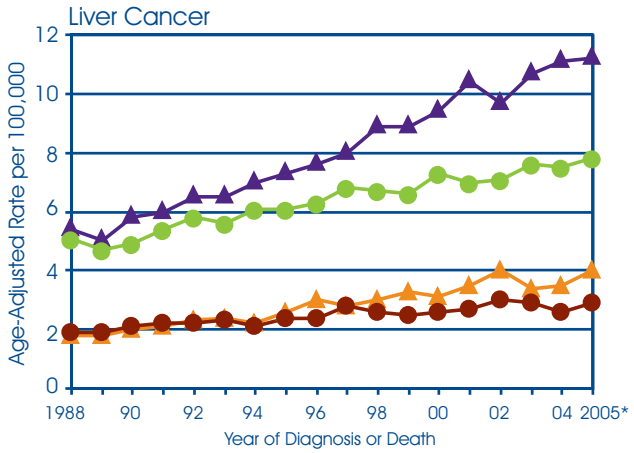

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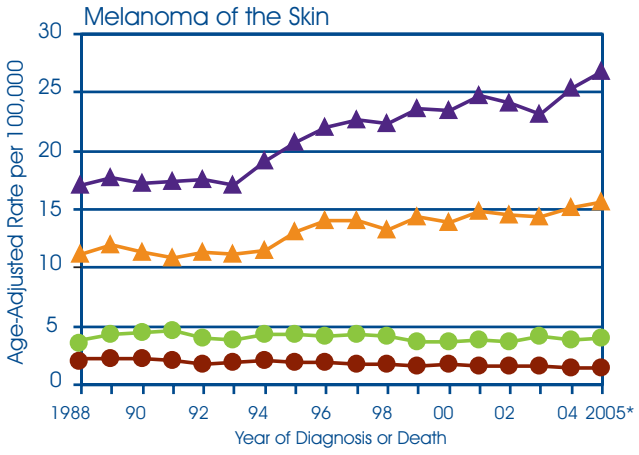

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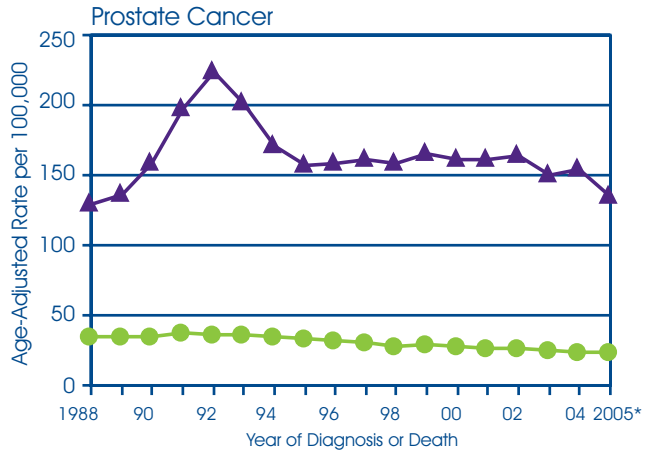

Source: California Cancer Registry, October 2007
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Liver cancer incidence has more than doubled* since 1988 and a similar trend has been reported nationally. The causes of this increase are unknown, but may be associated with increases in hepatitis virus infections. The liver cancer mortality rate was 56 percent higher in 2005 than in 1988.

The incidence of melanoma in California has increased by nearly 50 percent* between 1988 and 2005. However, mortality from melanoma has decreased by 16 percent.

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 mortality rate was 31 percent lower in 2005 than in 1988.

Key

- Incidence Male
- Incidence Female
- Mortality Male
- Mortality Female

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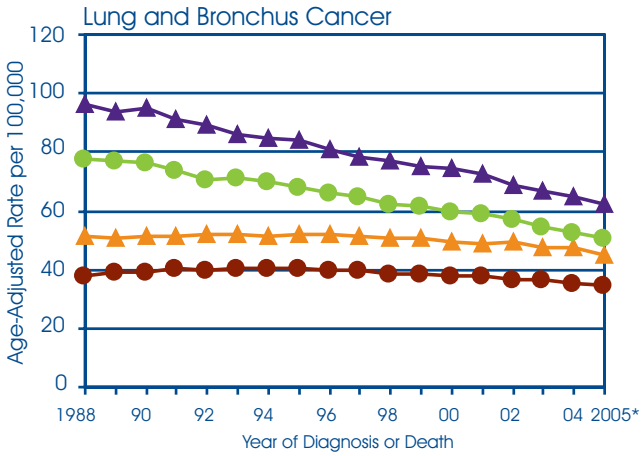
Trends in Smoking-Related Cancers in California, 1988-2005

At least 85 percent of lung cancer is caused by cigarette and cigar smoking. Since 1988, lung and bronchus cancer mortality has decreased greatly, by 34 percent among men and nine percent among women. Nonetheless, lung and bronchus cancer killed approximately 13,300 Californians in 2005, more than breast (4,100 deaths), prostate (3,100), and colorectal (5,100) cancers combined.

The risk for many other cancers is increased by smoking and use of other tobacco products. The majority of mouth, throat, esophagus, and larynx cancers, and a substantial proportion of bladder and pancreas cancers, are caused by tobacco. Incidence rates for these cancers have declined or stayed stable in California.*



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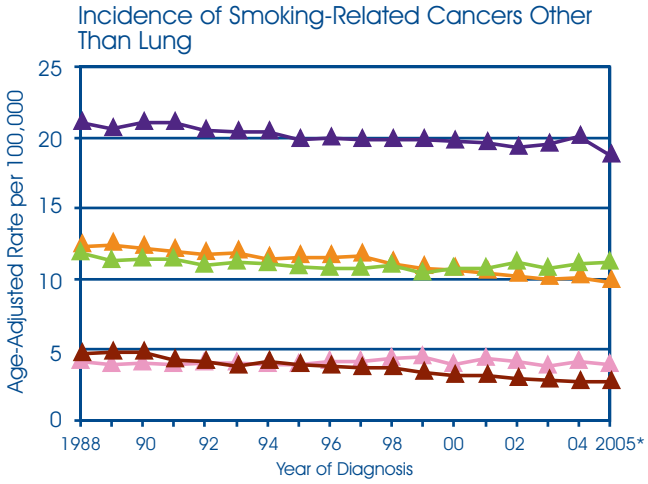


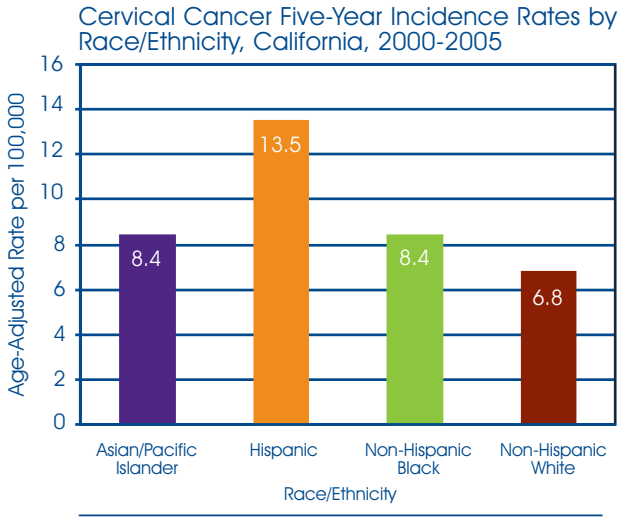
Source: California Cancer Registry, October 2007
Prepared by the California Department of Public Health, Cancer Surveillance Section.

Cervical Cancer Among California Women, 1988-2005

Cervical cancer is the eleventh most common cancer diagnosed among California women. About 1,500 California women are diagnosed with cervical cancer each year and approximately 400 die of the disease.

Since 1988, cervical cancer incidence has decreased by 29 percent among California women. Hispanic women have the highest rate of cervical cancer incidence and are 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.

*Veterans Health Administration hospitals did not report cancer cases to the California Cancer Registry (CCR) in 2005. Therefore, case counts and incidence rates for adult males in 2005 are underestimated and should be interpreted with caution (see Technical Notes on page 6 of this report or http://www.ccrcal.org/VAtechnotes.html)



Source: California Cancer Registry, October 2007
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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 nine 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.

Trends in Cancer Incidence by Stage at Diagnosis, California, 1988-2005

Stage: Stage at diagnosis summarizes how far a cancer has spread when it is first discovered. It is one of the strongest predictors of survival. Tumors diagnosed before they have spread are much more likely to respond to treatment. Cancer screening can diagnose some cancers at an earlier stage. One way of measuring the impact of screening programs is to monitor changes over time in the rates of early- and late-stage disease.

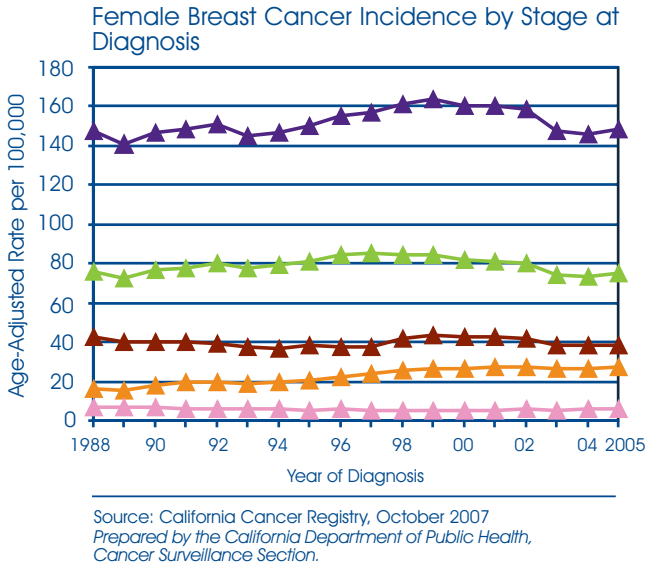
The following terminology is often used to summarize stage at diagnosis:

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.

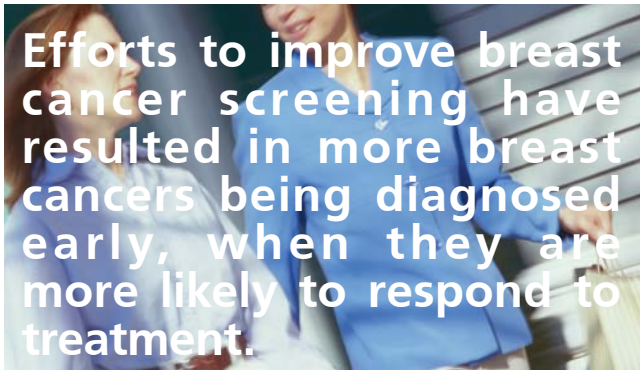
Regional – The tumor has spread to lymph nodes or adjacent tissues.

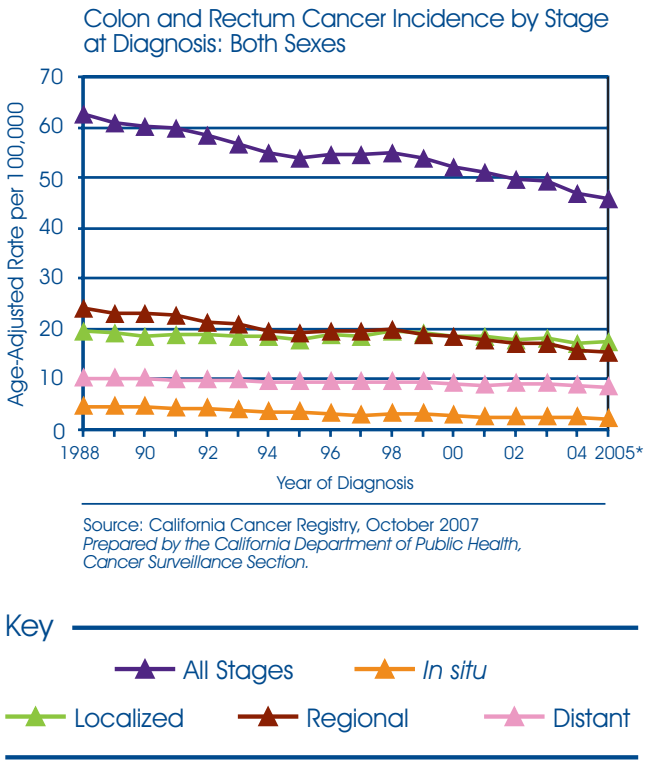
Distant – The tumor has metastasized (spread) to other parts of the body.



Source: California Cancer Registry, October 2007
Prepared by the California Department of Public Health, Cancer Surveillance Section.

The female breast cancer incidence rate in California remained fairly stable between 1988 and 2002. However, in 2003 the incidence rate started to decline. A shift to earlier- stage disease has also occurred, most likely due to successful efforts to improve breast cancer screening. In recent years, fewer breast cancers are being diagnosed at regional and distant stage and more are being diagnosed as *in situ*.





Colon and rectum cancer incidence has decreased in California.* However, the majority (52 percent) of these cancers are being diagnosed at regional and distant stage. It is likely that more colon and rectum cancers would be diagnosed as *in situ* or localized if more California adults received screening according to established guidelines.

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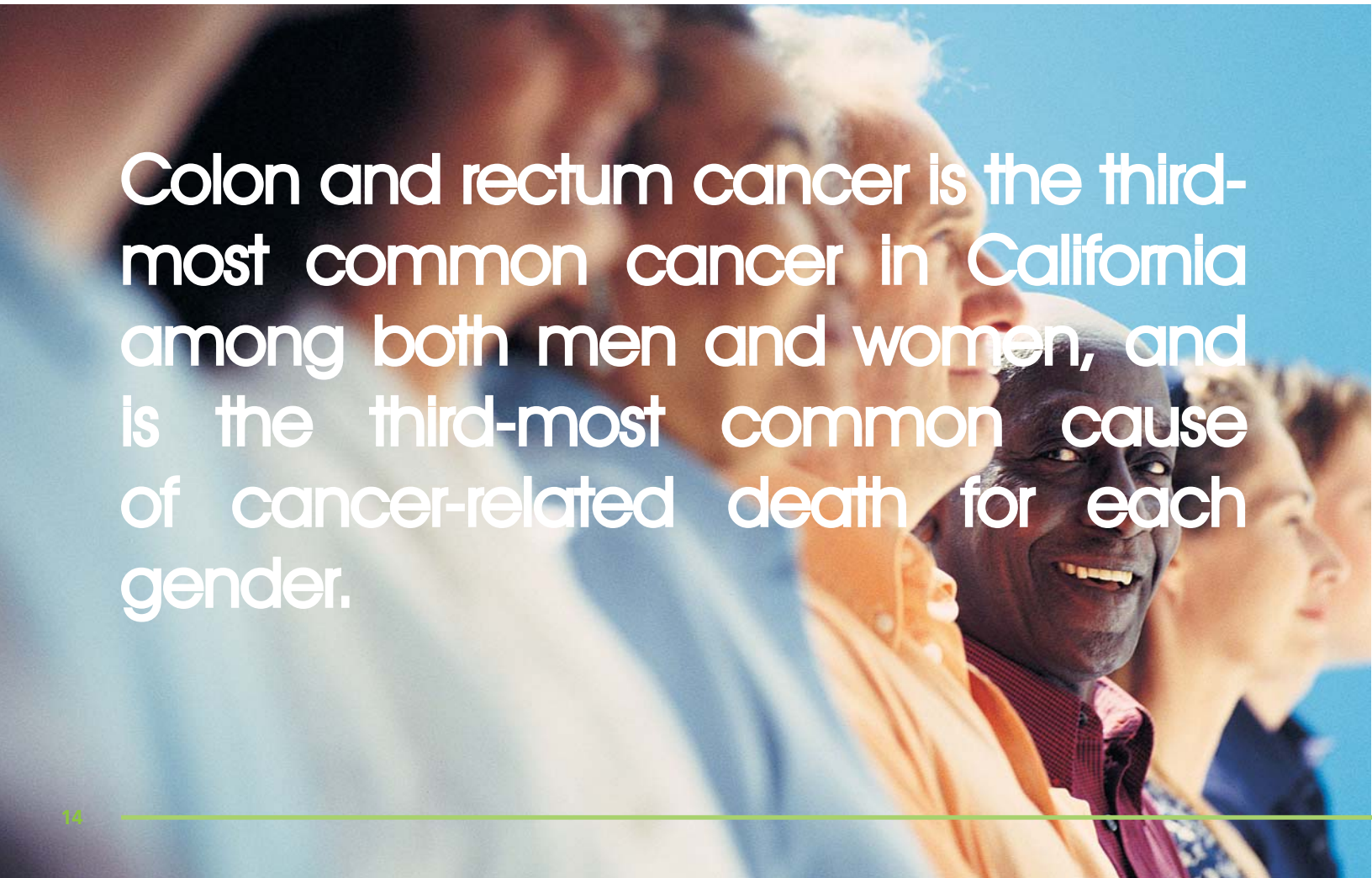
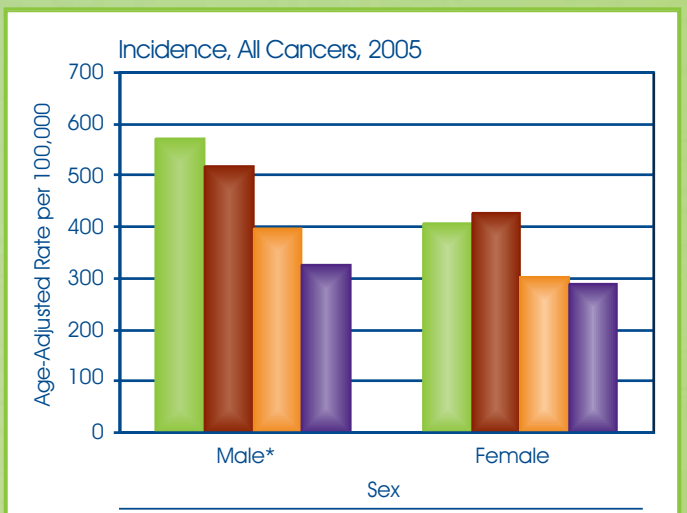


Special Highlight on Cancer by Race and Ethnicity

Race/Ethnicity Differences in Cancer Risk in California, 2005

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 race/ethnic differences in cancer risk may help us understand some of the underlying causes of cancer.



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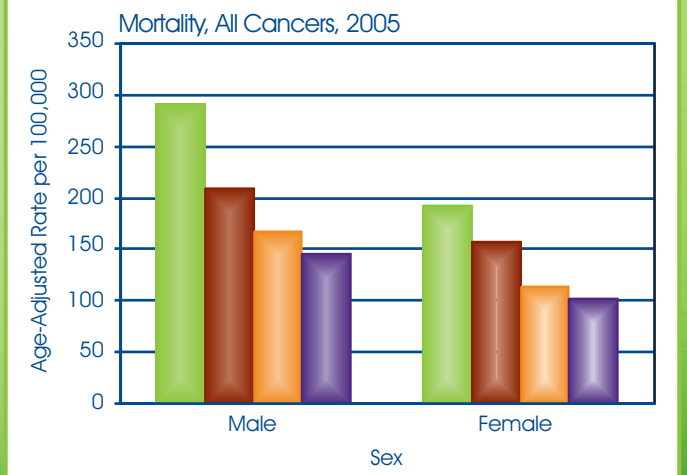


Source: California Cancer Registry, October 2007
Prepared by the California Department of Public Health, Cancer Surveillance Section.

*Veterans Health Administration hospitals did not report cancer cases to the California Cancer Registry (CCR) in 2005. Therefore, case counts and incidence rates for adult males in 2005 are underestimated and should be interpreted with caution (see Technical Notes on page 6 of this report or http://www.ccrcal.org/VAtechnotes.html)

Comparison of Cancer Incidence Rates Among Other Racial/Ethnic Groups to Non-Hispanic Whites, 2001-2005*

Difference	Asian/Pacific Islander	Hispanic	Non-Hispanic Black
Lower (At least 50 percent lower than the incidence rate among non-Hispanic whites)	Melanoma of the Skin Urinary Bladder Chronic Lymphocytic Leukemia Testis Esophagus Larynx Kidney and Renal Pelvis Brain and ONS** Kaposi's Sarcoma Hodgkin Lymphoma	Melanoma of the Skin Urinary Bladder Chronic Lymphocytic Leukemia	Melanoma of the Skin Testis
Higher (At least 50 percent higher than the incidence rate among non-Hispanic whites)	Stomach Liver	Stomach Liver Kaposi's Sarcoma Cervix Acute Lymphocytic Leukemia	Stomach Liver Kaposi's Sarcoma Larynx Myeloma

Source: California Cancer Registry, October 2007
Prepared by the California Department of Public Health, Cancer Surveillance Section.
**ONS: Other Nervous System

Non-Hispanic black males have the highest overall cancer incidence and mortality rates. Among females, non-Hispanic white women are the most likely to be diagnosed with cancer, but non-Hispanic black women are more likely to die of cancer. Non-Hispanic blacks have substantially higher rates of cancers of the stomach, liver, and larynx, myeloma, and Kaposi's Sarcoma than non-Hispanic whites.

In general, cancer rates are about 30 percent lower among persons of Asian/Pacific Islander origin and persons of Hispanic ethnicity than among non-Hispanic white Californians. However, as with non-Hispanic blacks, both of these groups have substantially higher rates of stomach and liver cancer. Hispanics also have higher rates of Acute Lymphocytic Leukemia, Kaposi's Sarcoma, and cervical cancer than non-Hispanic whites. Cancer is the second leading cause of death among Hispanics, non-Hispanic blacks, and non-Hispanic whites. Among Asian/Pacific Islanders, cancer is the leading cause of death.

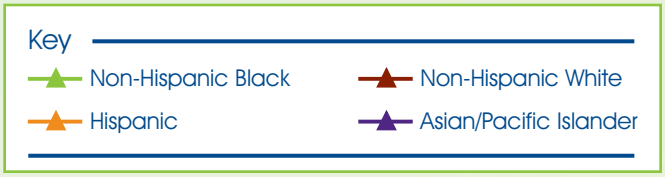
Racial/Ethnic Cancer Mortality Trends in California, 1988-2005

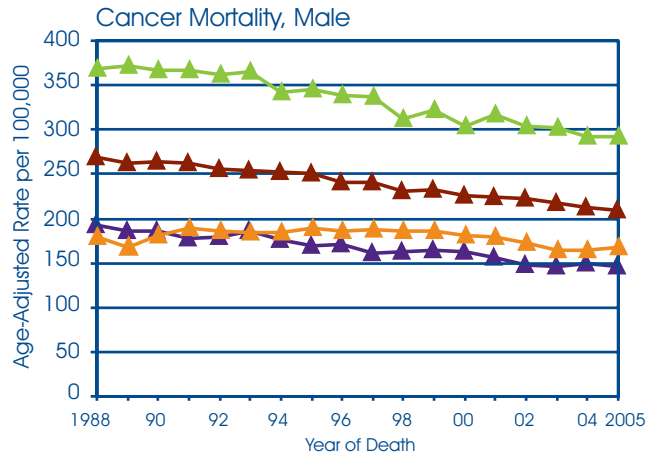
Cancer mortality rates are affected by changes in cancer incidence, screening, diagnosis, treatment, and survival. Because of this, mortality trends are a fundamental measure of the success of cancer control efforts.

*Veterans Health Administration hospitals did not report cancer cases to the California Cancer Registry (CCR) in 2005. Therefore, case counts and incidence rates for adult males in 2005 are underestimated and should be interpreted with caution (see Technical Notes on page 6 of this report or http://www.ccrcal.org/VAtechnotes.html)

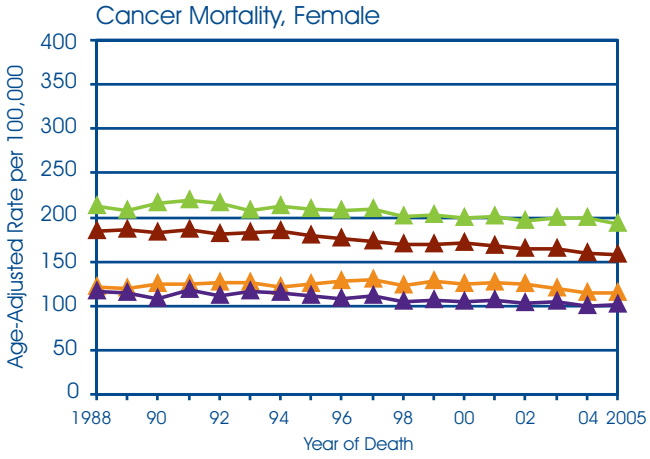
Between 1988 and 2005, cancer mortality rates in California decreased among all racial/ethnic groups. Rates decreased by 20 percent among Asian/Pacific Islanders, 17 percent among non-Hispanic whites, 16 percent among non-Hispanic blacks, and six percent among Hispanics. Although disparities in the burden of cancer remain and must be addressed, this is very positive news.

Overall, cancer mortality decreased by 23 percent among men and by 17 percent among women. Similar decreases since 1990 have been reported nationally, and represent a major change from steadily increasing rates in prior decades. This watershed in public health is the result of cancer control efforts on many fronts.





Source: California Cancer Registry, October 2007
Prepared by the California Department of Public Health, Cancer Surveillance Section.



Source: California Cancer Registry, October 2007
Prepared by the California Department of Public Health, Cancer Surveillance Section.

Cancer mortality decreased more sharply among men than women. This is largely because smoking-related cancers, which are responsible for about one out of three deaths from cancer, are decreasing more rapidly among men than women. Cancer mortality decreased among men in all race/ethnic groups. However, the most dramatic decrease occurred among Asian/Pacific Islander men, largely due to a 40 percent decrease in stomach cancer mortality, a 31 percent decrease in colorectal cancer mortality, a 19 percent decrease in lung and bronchus cancer mortality, and a 17 percent decrease in liver cancer mortality.

Cancer mortality decreased among women in each racial/ethnic group. However, the decline in cancer mortality among Hispanic women was less than the decline among non-Hispanic white, non-Hispanic black, and Asian/Pacific Islander women. This modest decline in cancer mortality (five percent) among Hispanic women reflects a 26 percent increase in liver cancer mortality, a 22 percent increase in pancreatic cancer mortality, and a 16 percent increase in brain cancer mortality among this group of women.

Childhood Cancer in California

Each year, about 1,200 children aged 0 to 14 years in California are diagnosed with cancer. The most common cancers are leukemia and brain cancer, which together account for about 54 percent of cancers in this age group. Non-Hispanic white and Hispanic children aged 0 to 14 years have higher cancer incidence rates than non-Hispanic black and Asian/Pacific Islander children.

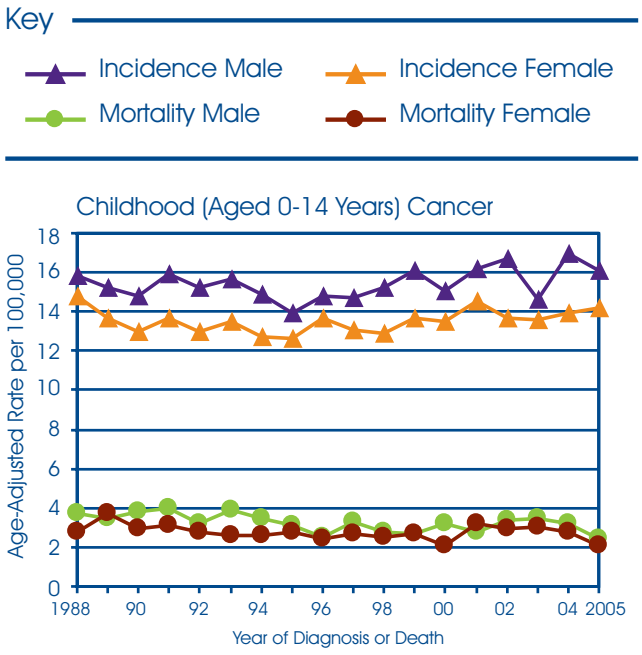
An additional 550 young adults aged 15 to 19 years are diagnosed with cancer in California each year. The cancers in this age group are more diverse; Hodgkin Lymphoma, leukemia, brain, and testicular cancer together account for about 50 percent of cancers in young adults.

Although accidents kill about three times more children than cancer, about 1 out of 300 children will develop some form of cancer before they are 20 years old.

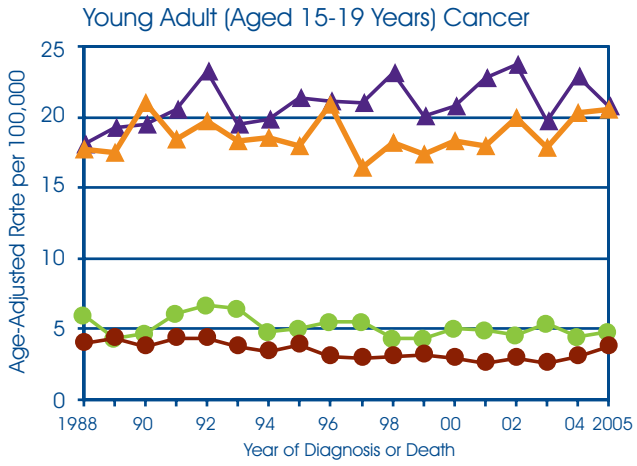
Cancer Incidence Among Children Aged 0-14 Years, California, 2005

	New Cases	Rate*
Asian/Pacific Islander	100	11.6
Hispanic	613	15.6
Non-Hispanic Black	69	12.0
Non-Hispanic White	418	16.1

*Number of new cases per 100,000 children aged 0-14 years.
Source: California Cancer Registry, October 2007



Source: California Cancer Registry, October 2007
Prepared by the California Department of Public Health, Cancer Surveillance Section.



Source: California Cancer Registry, October 2007
Prepared by the California Department of Public Health, Cancer Surveillance Section.

National data show that cancer incidence rates for children aged 0 to 19 years remained stable between 1990 and 2004 and mortality rates decreased by approximately two percent per year during this time period. Similarly, since statewide cancer reporting began in California in 1988, cancer incidence rates for children aged 0 to 19 years have also remained stable and the cancer mortality rate has decreased by approximately one and one half percent per year.

More information is available in "Childhood Cancer in California 1988 to 1999 Volume I: Birth to Age 14" and "Childhood Cancer in California 1988 to 1999 Volume II: Adolescents Ages 15 to 19," available on the California Cancer Registry web site (http://www.ccrcal.org/publications.html).

For more detailed information on cancer rates, visit our web site at http://www.ccrcal.org.

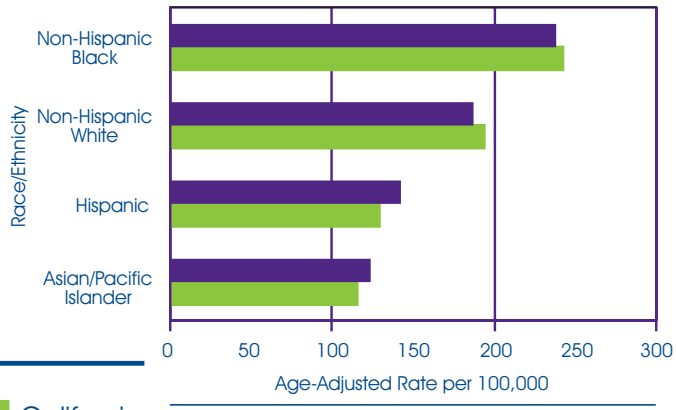
California Compared to the Nation, 2000-2004

A nationwide cancer registry does not exist in the United States. 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. SEER data are regarded as an authoritative source of information on cancer incidence and survival in the United States. California is part of the SEER program.

Incidence rates provided in these graphs, including those for California, are based on cases diagnosed between 1988 and 2004, the most recent time period for which comparable statistics are available from SEER. Cancer mortality rates are based on death certificate files obtained by SEER from the National Center for Health Statistics (NCHS), and are for the entire United States.

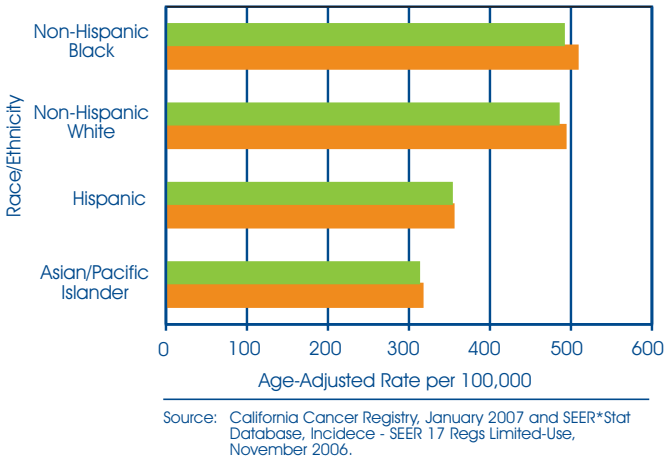
Overall, cancer incidence rates in California are very similar to those reported by SEER. Cancer mortality rates in California are very similar to those for the United States as a whole. However, California has a much lower lung cancer incidence rate than the United States as a whole. Lung cancer incidence rates in California decreased by 21 percent from 1988 to 2004, while rates in the nation, excluding California, dropped only eight percent. Rates for other smoking-related cancers (see page 12) are declining in California as well. These achievements are due, in large part, to the success of California's tobacco control initiatives.

Five-Year Age-Adjusted Mortality Rate, 2000-2004



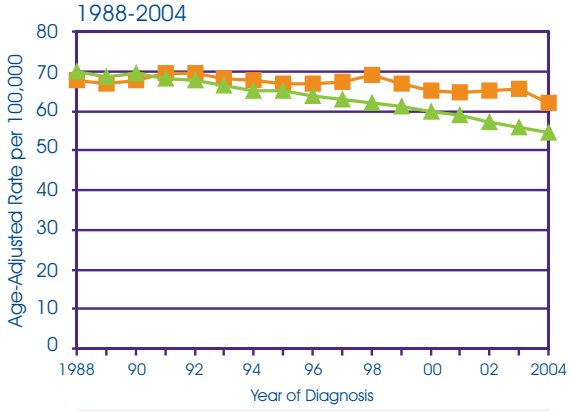
Source: California Cancer Registry, CA All Cause Mortality 1988-2004, September 2006 and SEER*Stat Database: Mortality All COD, Public-Use with State, Total U.S. (1990-2004), April 2007.
Prepared by the California Department of Public Health, Cancer Surveillance Section.
*Note***

Five-Year Age-Adjusted Incidence Rate, 2000-2004



Source: California Cancer Registry, January 2007 and SEER*Stat Database, Incidece - SEER 17 Regs Limited-Use, November 2006.
Prepared by the California Department of Public Health, Cancer Surveillance Section.
*Note**

Trends in Lung Cancer Incidence in California and SEER Areas Other than California, 1988-2004



Source: California Cancer Registry, October 2007 and SEER*Stat Database, Incidence - SEER 9 Regs Limited-Use, November 2006
Prepared by the California Department of Public Health, Cancer Surveillance Section

* To compare California cancer incidence rates by race/ethnicity to those of SEER 17, mutually exclusive racial/ethnic categories of non-Hispanic black, non-Hispanic white, Hispanic, and Asian/Pacific Islander were created in the SEER database by merging the race and Hispanic origin variables. Incidence data for Hispanics and non-Hispanics in SEER 17 exclude cases from the Alaska Native Registry and Kentucky.

** To compare California cancer mortality rates by race/ethnicity to those of the U.S., mutually exclusive racial/ethnic categories of non-Hispanic black, non-Hispanic white, Hispanic, and Asian/Pacific Islander were created in the SEER database by merging the race and Hispanic origin variables. Mortality data for Hispanics and non-Hispanics in the SEER database exclude deaths from Minnesota, New Hampshire, and North Dakota.

California Department of Public Health

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CCR

California Cancer Registry

Cancer in California, 2008

April 2008