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# CANCER IN CALIFORNIA

2002

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# CANCER IN CALIFORNIA, 2002

## Technical Notes

Ten regional cancer registries in California report cases to CCR following standardized methods, coding rules, and quality control procedures. In 2001, the North American Association of Central Cancer Registries estimated that CCR case reporting was 100 percent complete, and met the highest standards for data quality indicators. Approximately 94 percent of cases included in this summary were microscopically confirmed, and 1.2 percent of cases were based solely on information on the death certificate.

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A "case" is defined as a primary cancer; if a cancer resulted from spread from a primary site to another organ it is not counted as a new case. Except where noted, only invasive cancers are included in this report. This report includes cases diagnosed between January 1, 1988 and December 31, 1999, and reported to CCR as of August 2001. Rates were calculated using the most current population estimates from the California Department of Finance (DOF) for this time period. To match race/ethnic definitions used by DOF, cases are divided into the mutually exclusive categories of non-Hispanic white, Hispanic (all races), non-Hispanic black (African American), and Asian/Pacific Islander. Persons of other or unknown race/ethnicity (about 3 percent of cases) are excluded from race-specific data, but are included in data for all races combined. Because Hispanic ethnicity is underreported, persons who were recorded as white, black, or unknown race on the medical record or death certificate, but who had a Hispanic surname, are categorized as Hispanic for these analyses.

Additional technical details are explained in the relevant data sections of this summary and in our annual report, "Cancer in California, 1988-1999."



FOR MORE DETAILS, SEE "CANCER IN CALIFORNIA, 1988-1999" ON OUR WEBSITE <http://www.ccrca.org>

## Acknowledgments

The California Cancer Registry (CCR) is a collaborative effort between the California Department of Health Services (DHS) and the Public Health Institute. CCR would like to warmly thank California's cancer registrars and other persons responsible for cancer data collection for their dedication and hard work. Data collection and report production were funded in part by the Centers for Disease Control and Prevention National Program of Cancer Registries (U75/CCU910677), the Tobacco Tax and Health Promotion Act of 1988, the Breast Cancer Act of 1993, and the National Cancer Institute, National Institutes of Health, under contract No. N02-PC-15105.

Inquiries regarding the content of this report should be directed to the California Department of Health Services, Cancer Surveillance Section, 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.cahwnet.gov/ps/cdic/cdicindex.htm> **or** <http://www.ccrca.org/>.



# CANCER IN CALIFORNIA, 2002

## Expected New Cases and Deaths Due to Cancer, California, 2002

	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
All Cancers	135,640	68,975	66,660	53,445	27,400	26,045
Bladder	5,635	4,215	1,420	1,195	825	370
Brain and CNS	1,995	1,100	895	1,480	825	655
Breast	21,460	135	21,325	4,305	30	4,275
Cervix	1,735	0	1,735	470	0	470
Colon & Rectum	14,810	7,565	7,245	5,220	2,640	2,580
Hodgkin's Disease	855	485	370	150	85	65
Kidney	3,000	1,895	1,105	1,120	710	410
Larynx	1,075	840	235	340	255	85
Leukemia	3,485	2,000	1,485	2,090	1,185	905
Liver	1,535	1,080	455	1,320	895	425
Lung & Bronchus	17,795	9,680	8,115	14,115	7,795	6,320
Melanoma of the Skin	5,165	2,990	2,175	850	550	300
Mouth and Throat	3,315	2,200	1,115	870	550	320
Non-Hodgkin's Lymphoma	5,410	2,975	2,435	2,350	1,290	1,060
Ovary	2,665	0	2,665	1,440	0	1,440
Pancreas	3,055	1,490	1,565	2,890	1,410	1,480
Prostate	20,500	20,500	0	3,080	3,080	0
Stomach	2,615	1,615	1,000	1,585	955	630
Testis	920	920	0	40	40	0
Thyroid Gland	1,995	480	1,515	140	55	85
Uterus	3,675	0	3,675	270	0	270

Prepared by the California Department of Health Services, Cancer Surveillance Section.  
CNS = other central nervous system.

### Cancers 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 DOF. They should be considered a rough guide. Actual case reporting was complete when the DOF report was prepared in 1998. 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.

About 135,000 Californians will be diagnosed with cancer in 2002. Cancer is the second most common cause of death; only heart disease kills more people. The number of people dying of cancer in California is equal to a jumbo jet with 280 passengers crashing every other day.

Breast and prostate cancer are the most commonly diagnosed cancers, but lung cancer kills more people than breast, prostate, colon, and rectum cancer combined. Together, these four cancers account for more than half of all cancer diagnoses and deaths.

FOR MORE DETAILS, SEE "CANCER IN CALIFORNIA, 1988-1999" ON OUR WEBSITE <http://www.ccrca.org>

Prevalence and Lifetime Risk of Diagnosis with Cancer, California, 2002

	Estimated Prevalence			Lifetime Risk of Being Diagnosed (Percent)	
	Total	Male	Female	Male	Female
All Cancers	885,600	372,400	513,200	45.4	41.6
Bladder	59,900	44,600	15,300	3.4	1.1
Brain and CNS	9,800	5,300	4,500	0.6	0.5
Breast	208,200	1,300	206,900	0.1	13.0
Cervix	33,800	0	33,800	--	0.9
Colon & Rectum	134,900	68,400	66,500	5.7	5.3
Hodgkin's Disease	16,100	8,800	7,300	0.2	0.2
Kidney	22,900	14,000	8,900	1.3	0.8
Larynx	13,900	11,500	2,400	0.6	0.2
Leukemia	17,600	9,900	7,700	1.4	1.0
Liver	1,900	1,300	600	0.7	0.3
Lung & Bronchus	40,200	22,600	17,700	7.6	6.0
Melanoma of the Skin	39,000	19,300	19,800	1.7	1.1
Mouth and Throat	22,400	14,300	8,100	1.4	0.7
Non-Hodgkin's Lymphoma	32,600	16,600	16,000	2.0	1.7
Ovary	21,200	0	21,200	--	1.7
Pancreas	2,800	1,400	1,400	1.2	1.2
Prostate	103,200	103,200	0	14.5	--
Stomach	11,500	6,100	5,400	1.7	1.3
Testis	13,600	13,600	0	0.3	--
Thyroid Gland	27,700	6,400	21,300	0.3	0.7
Uterus	54,600	0	54,600	--	2.5

Prepared by the California Department of Health Services, Cancer Surveillance Section.  
CNS = other central nervous system.

**Prevalence**

The number of persons alive who have ever been diagnosed with cancer. Estimates are based on 1994 cancer prevalence rates from the Connecticut Cancer Registry, which has registered cancer patients in Connecticut since 1942.

**Lifetime Risk**

The estimated percentage of persons who will be diagnosed with cancer during their lifetime, based on current cancer incidence rates, and cancer and all-cause mortality rates in California.

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For every person diagnosed with cancer, five more are living with a history of the disease. More than 200,000 women in California, or three out of every 100 women over the age of 40, are breast cancer survivors. Based on current rates, more than two out of five Californians will be diagnosed with cancer during their lifetime.

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# CANCER IN CALIFORNIA, 2002

## Cancer Trends in California, 1988-1999

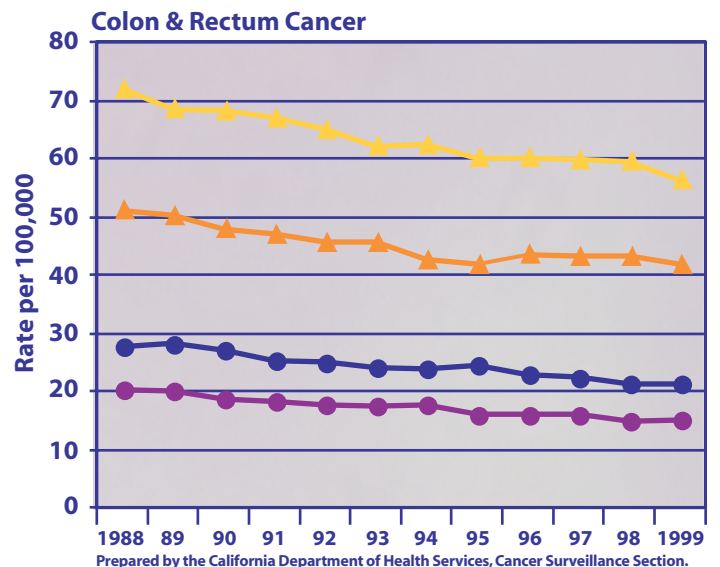
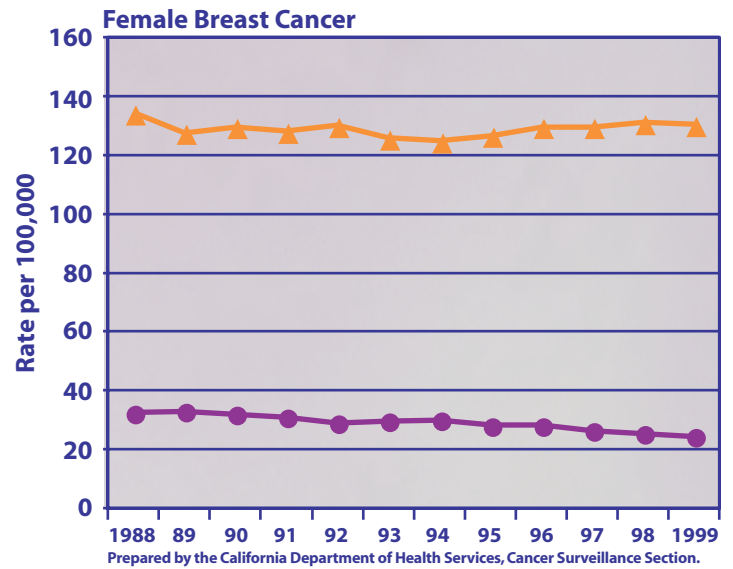
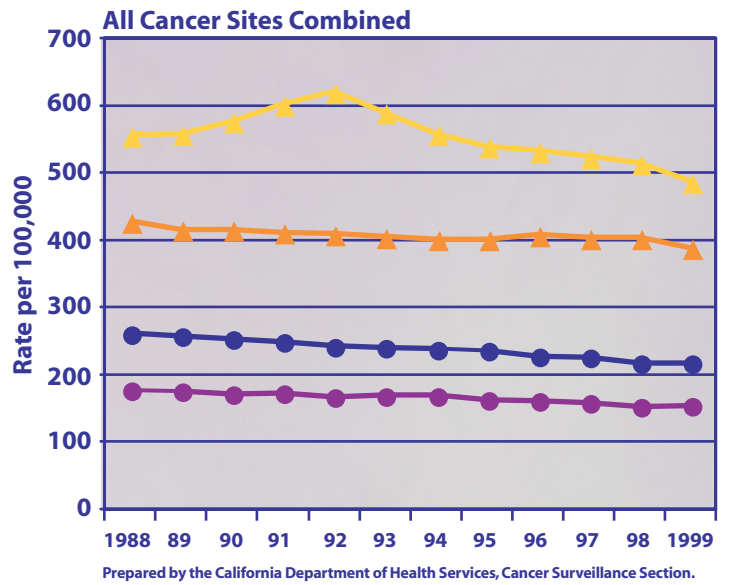
**Rates:** Rates are shown as the number of new cases or deaths per 100,000 persons each year. All rates are age-adjusted to the 2000 U.S. population, unless otherwise specified, to eliminate differences due to changes in the age of the California population over time, or due to differences in age between groups of people. Mortality rates are based on death certificate files obtained from the DHS's, Center for Health Statistics.

**1988-1999:** Statewide cancer reporting began in 1988. Incidence data for earlier time periods are only available for limited geographic areas in the state. 1999 is the most recent year for which cancer reporting was considered complete as of August 2001. It is expected that about 2 to 3 percent more cases will eventually be reported for 1999.

**Cancers 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.

### Key

- ▲ Incidence, Male
- Mortality, Male
- ▲ Incidence, Female
- Mortality, Female



FOR MORE DETAILS, SEE "CANCER IN CALIFORNIA, 1988-1999" ON OUR WEBSITE <http://www.ccrca.org>

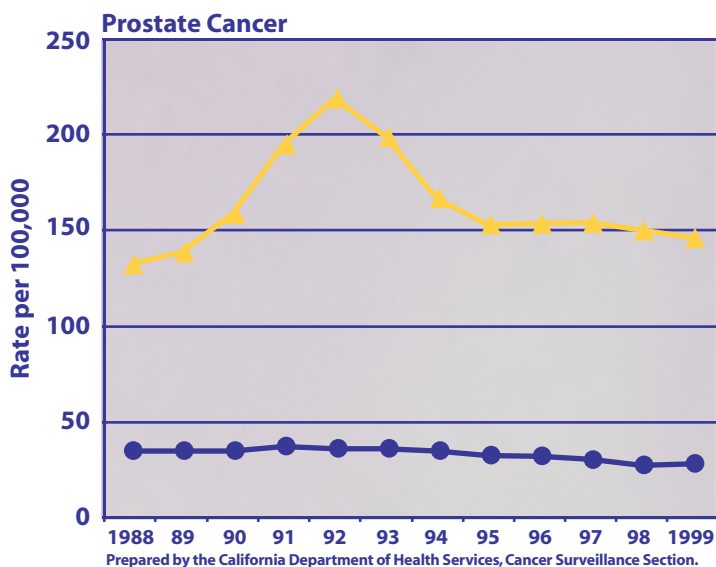
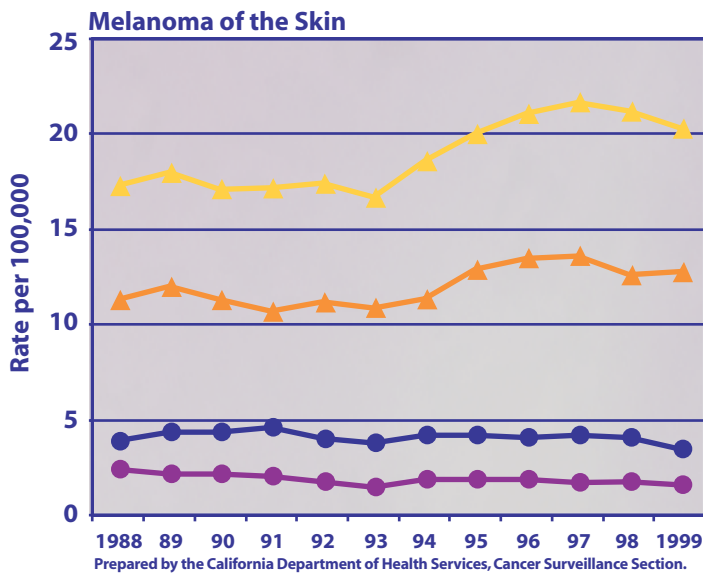
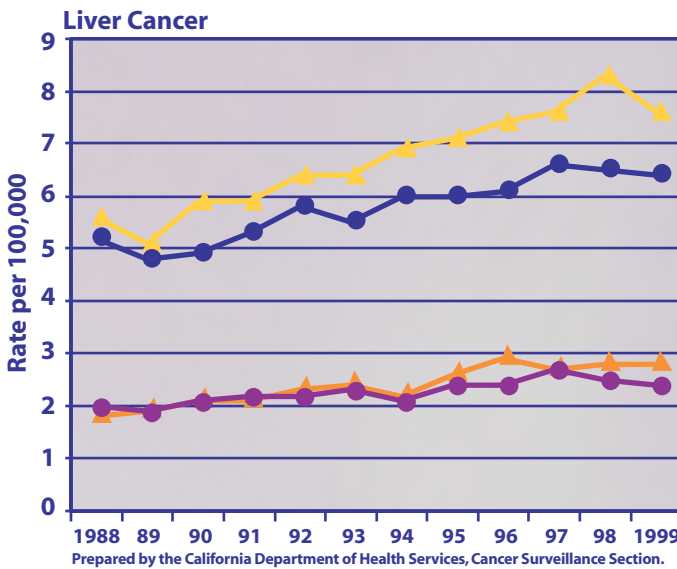
## CANCER IN CALIFORNIA, 2002

### Cancer Trends in California, 1988-1999

From 1988 to 1999, the overall cancer incidence rate in California decreased by about 10 percent among both men and women. Over the same period, the cancer mortality rate decreased by 17 percent among men, and by 12 percent among women.

The breast cancer incidence rate has been fairly stable since 1988. The breast cancer mortality rate in 1999 was more than 24 percent lower than in 1988.

The colon and rectum cancer incidence rate in California declined by more than 19 percent between 1988 and 1999. The reasons for this are not well understood, but some researchers believe more colon polyps are being removed before cancer develops.



**The Rates of Many Common Cancers Have Decreased Significantly Since 1990, Both in California and Nationally.**

Liver cancer has increased by more than 45 percent 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.

Data from the Bay Area show that the incidence of melanoma of the skin doubled from 1973 to 1992. Statewide, incidence rates continue to increase, but mortality is stable.

Diagnosis of prostate cancer increased dramatically when screening with the prostate-specific antigen test was widely adopted in the early 1990s. Incidence rates peaked in 1992, and now appear to be relatively stable. Prostate cancer mortality is now decreasing at the same rate as breast cancer.

# CANCER IN CALIFORNIA, 2002

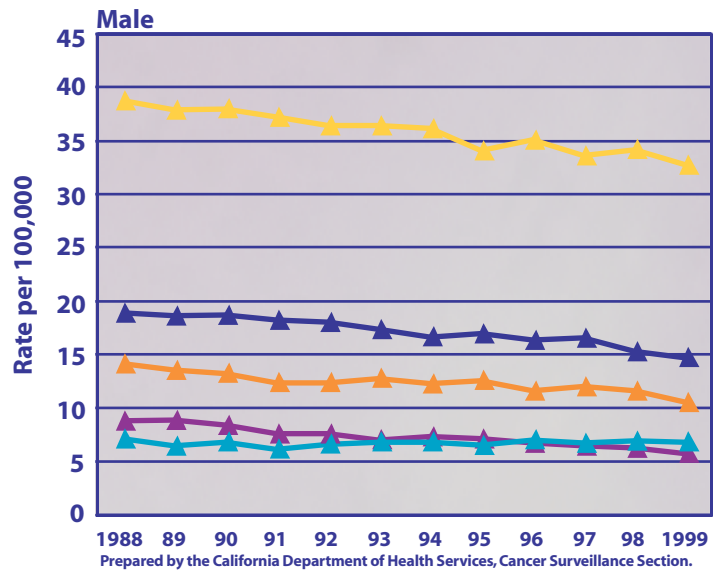
## Trends in Smoking-Related Cancers in California, 1988-1999

At least 85 percent of lung cancer is caused by cigarette and cigar smoking. Since 1988, lung and bronchus cancer mortality has decreased significantly, by 30 percent among men and by more than 11 percent among women. Nonetheless, lung cancer killed 13,700 Californians in 1999, more than breast (4,100 deaths), prostate (3,000), and colorectal (5,100) cancers combined.

The risk for many other cancers is increased by smoking and other use of 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 in California as well.

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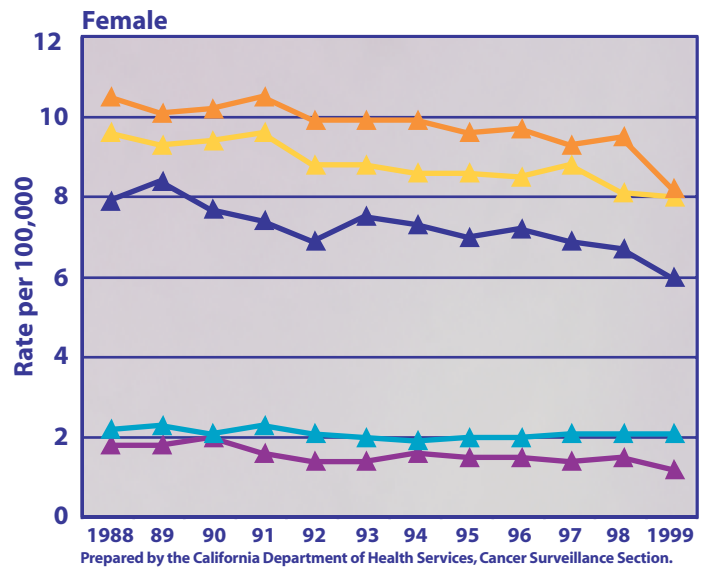
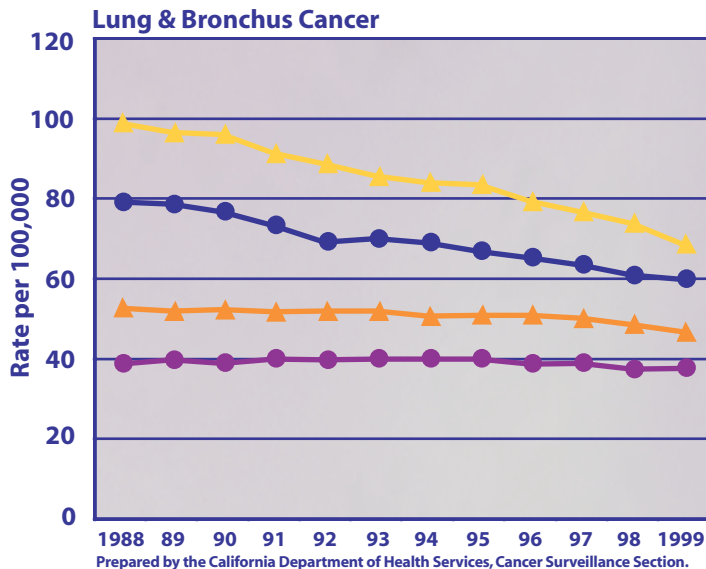
## Incidence of Smoking-Related Cancers Other Than Lung



## Cancer Rates Are Decreasing Largely Because Fewer People Are Smoking.

### Key

- ▲ Incidence, Male
- Mortality, Male
- ▲ Incidence, Female
- Mortality, Female



### Key

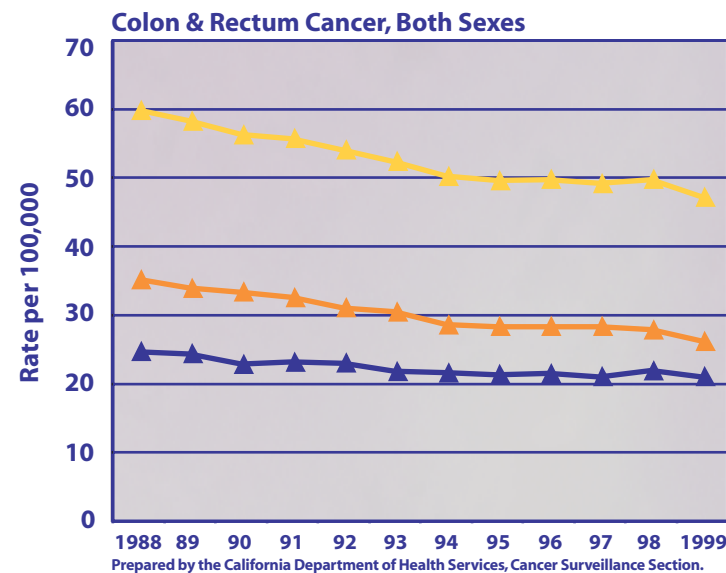
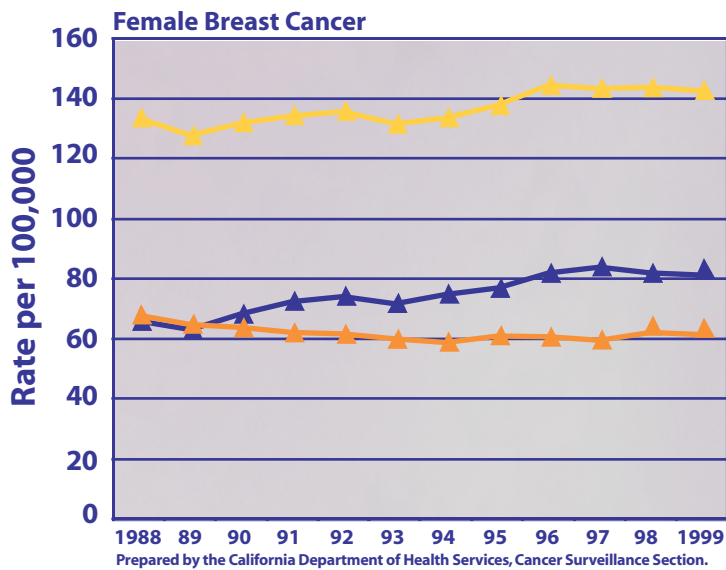
- ▲ Bladder
- ▲ Oral
- ▲ Pancreas
- ▲ Larynx
- ▲ Esophagus



FOR MORE DETAILS, SEE "CANCER IN CALIFORNIA, 1988-1999" ON OUR WEBSITE <http://www.ccrca.org>

## CANCER IN CALIFORNIA, 2002

### Trends in Cancer Incidence by Stage at Diagnosis, California, 1988-1999



#### Key

▲ All Stages, Including In Situ ▲ Stage 0-I ▲ Stage II-IV

**Screening and Treatment Have Improved Over the Past Decade, Reducing Breast Cancer Mortality by More Than 20 Percent Since 1988.**

**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.



Several staging schemes are in common use. Stage 0 (*in situ*) breast cancers have not yet invaded breast tissue. Stage I breast cancers have invaded the breast, but are very small, less than two centimeters in largest dimension, and have not spread to the lymph nodes. Higher stage breast cancers are either larger or involve lymph nodes or both, or have spread to other organs. Early-stage colon and rectum cancers are either *in situ* or confined to the colon or rectum, regardless of size.

The female breast cancer incidence rate in California has been fairly stable since 1988. A shift to earlier stage disease has occurred, related, at least in part, to successful efforts to improve breast cancer screening.

Breast cancer incidence rates may begin to rise in the next decade as women born after World War II reach the age where breast cancer becomes more common. This group of women may be at higher risk for breast cancer than their mothers due to earlier menarche, smaller family size, delayed childbearing, and other factors.

The incidence of both early- and late-stage colon and rectum cancer decreased, but the decrease was about twice as large for late-stage disease.



# CANCER IN CALIFORNIA, 2002

## Race/Ethnic Differences in Cancer Risk in California, 1999

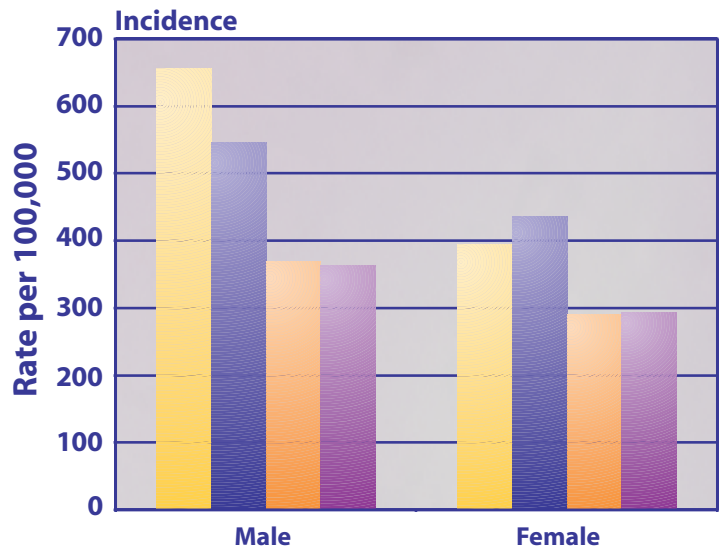


The risk of developing cancer varies considerably by race/ethnicity. The reasons for these differences are not well understood. It is likely that they

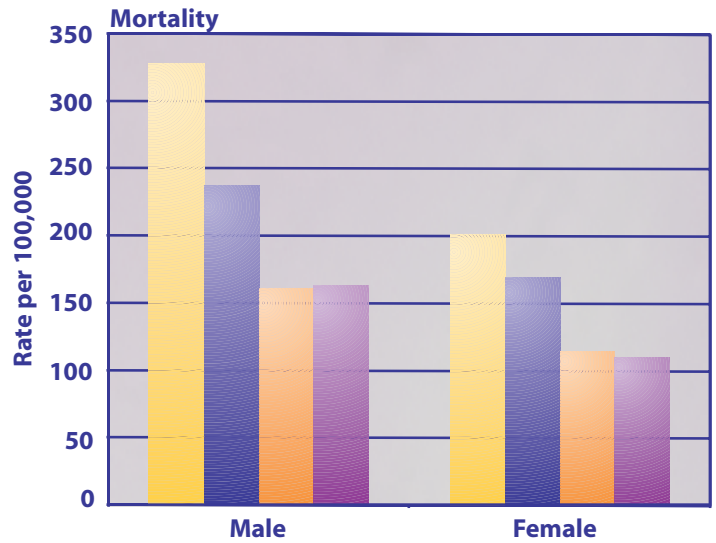
result from a combination of dietary, lifestyle, socio-economic, environmental, and genetic factors. Research into race/ethnic differences in cancer risk may help us understand some of the underlying causes of cancer.

African American males have the highest overall cancer rates. Among females, non-Hispanic white women are the most likely to be diagnosed with cancer, but African American women are more likely to die of cancer. African Americans have substantially higher rates of stomach, liver, and multiple myeloma than non-Hispanic whites. They also are 50 to 80 percent more likely to be diagnosed with cancer of the prostate, and larynx 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 African Americans, both of these groups have substantially higher rates of stomach, and liver cancer. Cancer is the second leading cause of death among all race/ethnic groups.



Prepared by the California Department of Health Services, Cancer Surveillance Section.



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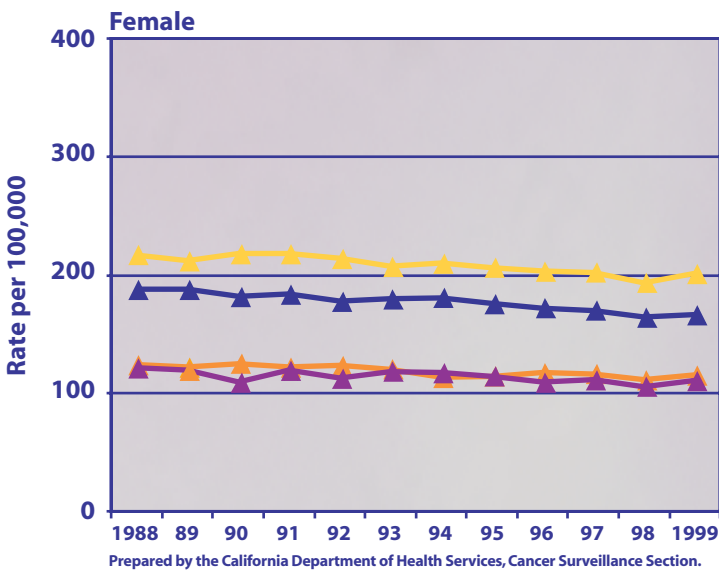
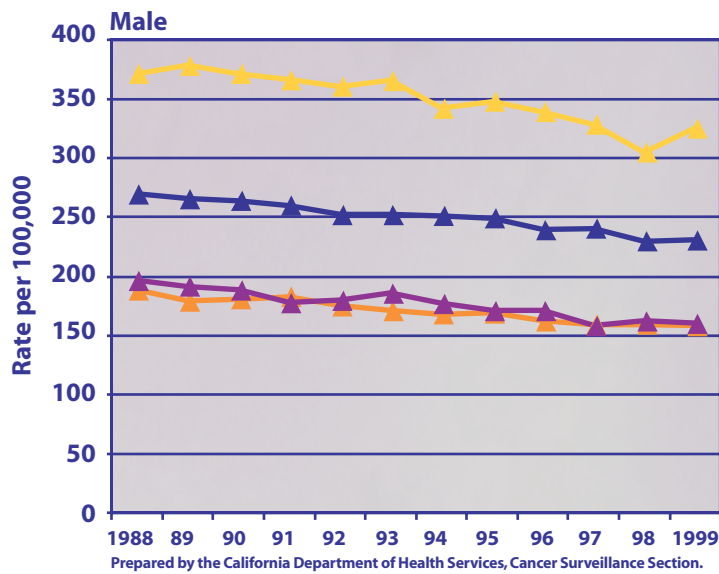


Cancer Incidence Rates Compared to non-Hispanic Whites, 1995-1999			
	African American	Asian/Pacific Islander	Hispanic
<b>Lower (At least 50% lower than among non-Hispanic Whites)</b>	Melanoma Testis	Melanoma Testis Bladder Kaposi's Sarcoma Larynx Hodgkin's disease Brain	Melanoma Lung Bladder Oral
<b>Higher (At least 50% higher than among non-Hispanic Whites)</b>	Kaposi's Sarcoma Stomach Liver Prostate Multiple Myeloma Larynx	Stomach Liver	Stomach Liver Cervix

Prepared by the California Department of Health Services, Cancer Surveillance Section.

FOR MORE DETAILS, SEE "CANCER IN CALIFORNIA, 1988-1999" ON OUR WEBSITE <http://www.ccrca.org>

## Race/Ethnic Cancer Mortality Trends in California, 1988-1999



**Key**

- ▲  
African American
- ▲  
Non-Hispanic White
- ▲  
Hispanic
- ▲  
Asian/PI

**Decreasing Cancer Mortality Among All Race/Ethnic Groups in California Represents a Watershed in Public Health.**

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.



Between 1988 and 1999, cancer mortality rates in California decreased significantly among African Americans (11 percent), non-Hispanic whites (13 percent), Hispanics (12 percent), and Asian/Pacific Islanders (15 percent). Although disparities in the burden of cancer remain and must be addressed, this is very positive news.

Overall, cancer mortality decreased by 17 percent among men and by 12 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.

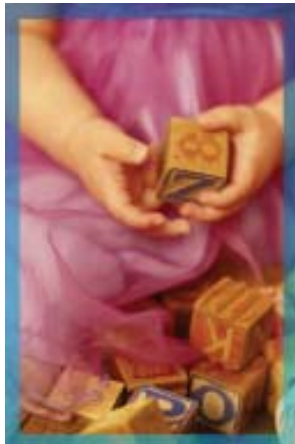
Cancer mortality decreased more sharply among men than women. This is largely because smoking-related cancers, which are responsible for about one out of three deaths from cancer, are decreasing more rapidly among men than women. Cancer mortality decreased significantly among men from all race/ethnic groups. However, the most dramatic decreases took place in the last five years among African American men, largely due to a 20 percent decrease in lung and bronchus cancer mortality and a 11 percent decrease in prostate cancer mortality.

Cancer mortality decreased among women in each race/ethnic group as well, but none of the decreases were as large as those among men, for reasons described above. The decrease among Asian/Pacific Islander women was the smallest and was not statistically significant, reflecting the lack of significant decreases in breast and colon and rectum cancer mortality among this group of women.

# CANCER IN CALIFORNIA, 2002

## Childhood Cancer in California

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Each year, about 1,100 children under the age of 15 in California are diagnosed with cancer. The most common cancers are leukemia and brain cancer, which together account for about 60 percent of cancers in this age group. Another 400 young adults ages 15-19 are diagnosed with cancer in California each year. The cancers in this age group are more diverse; Hodgkin's disease, leukemia, and 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 one out of 330 children will develop some form of cancer before they are 20 years old.

National data show that childhood cancer incidence rates increased gradually in the 1970s and 1980s. However, childhood cancer incidence and mortality rates in California have decreased significantly since statewide cancer reporting began in 1988.

More information is available in "Childhood Cancer in California, 1988-1994," available on the CCR website (<http://www.ccrca.org/publications.html>).

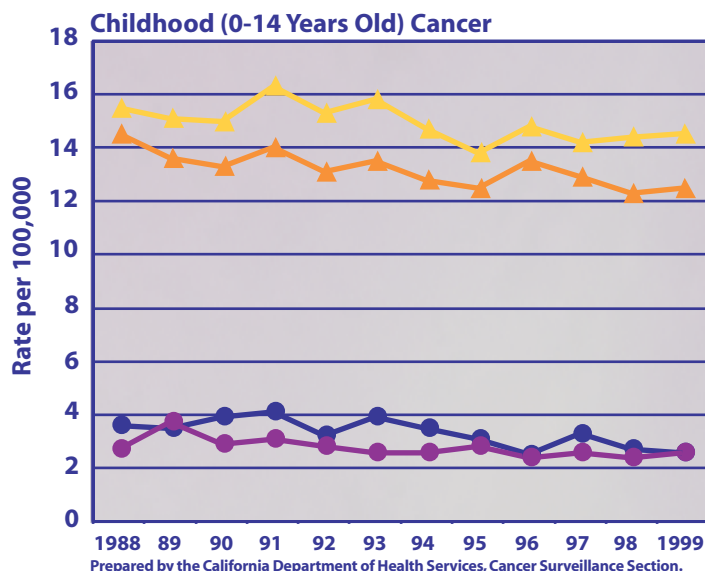
## Cancer is a Leading Cause of Childhood Death.

### Cancer Incidence Among Children Ages 0-14, California, 1999

	New Cases	Rate*
Hispanic	518	13.6
Non-Hispanic White	422	14.6
African American	58	9.6
Asian/Pacific Islander	97	10.4

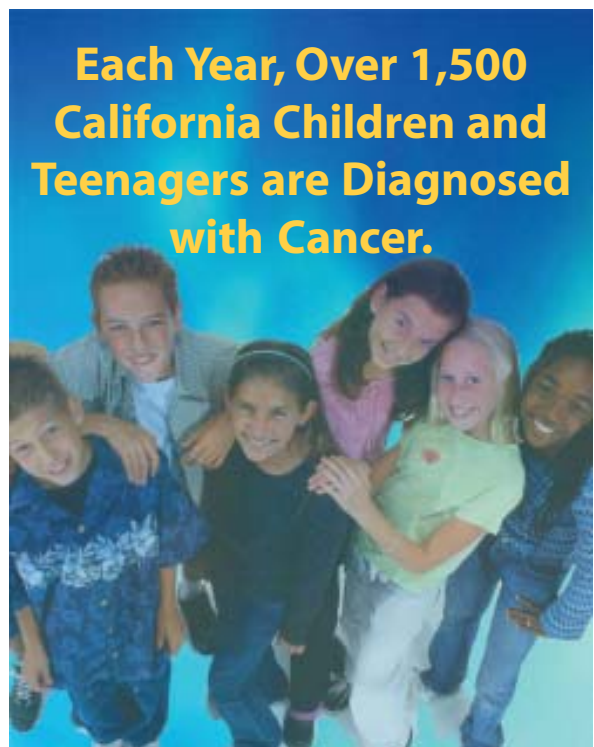
\* Number of new cases for each 100,000 children, age-adjusted to the 2000 U.S. population.

Prepared by the California Department of Health Services, Cancer Surveillance Section.



### Key

- ▲ Incidence, Male
- Mortality, Male
- ▲ Incidence, Female
- Mortality, Female



Each Year, Over 1,500 California Children and Teenagers are Diagnosed with Cancer.

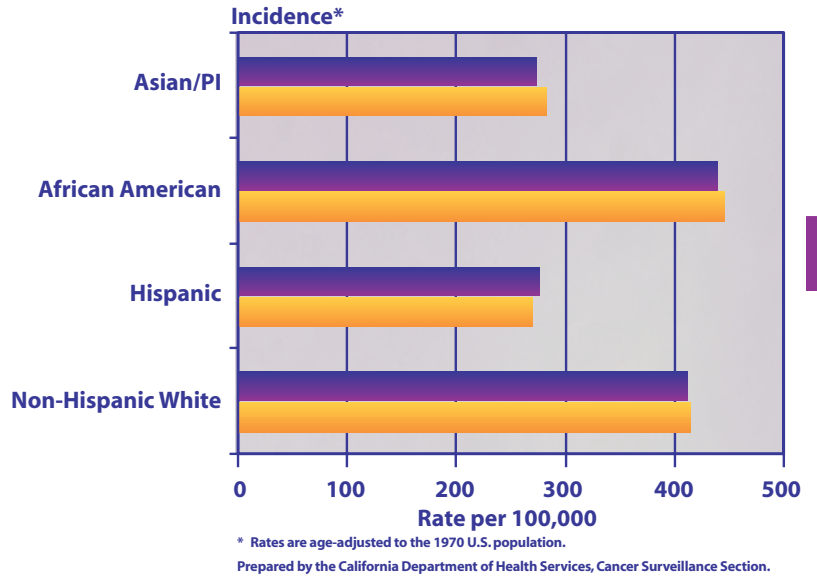
FOR MORE DETAILS, SEE "CANCER IN CALIFORNIA, 1988-1999" ON OUR WEBSITE <http://www.ccrca.org>

California Compared to the Nation, 1990-1998

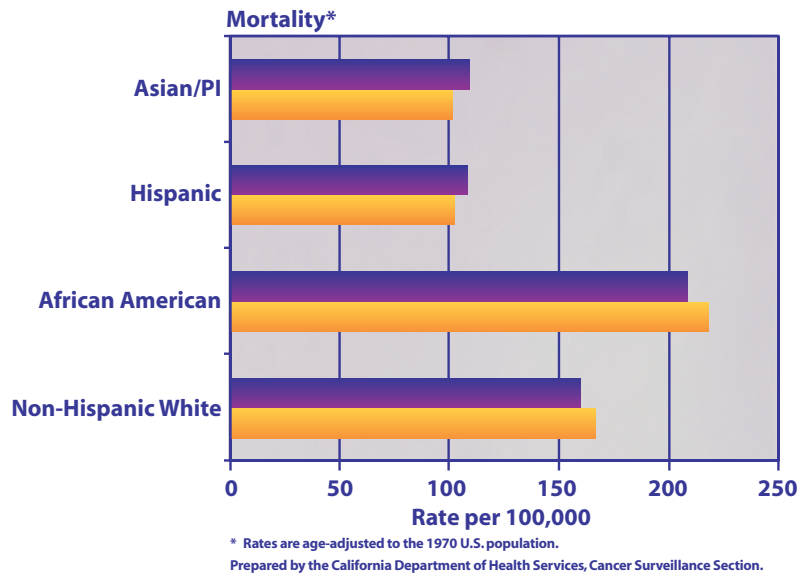


A nationwide cancer registry does not exist in the U.S. The Surveillance, Epidemiology, and End Results (SEER) program of the National Cancer Institute registers cancer patients in 11 geographic areas covering about 14 percent of the U.S. population. Cancer mortality rates are based on death certificate files obtained by SEER from the National Center for Health Statistics, and are for the entire U.S. All rates in these graphs, including those for California, are based on cases diagnosed 1990-1998, the most recent time period for which comparable statistics are available from SEER ("SEER Cancer Statistics Review, 1973-1998"). All rates are age-adjusted to the 1970 U.S. population.

**Key** ■ SEER (Incidence) U.S. (Mortality) ■ CA



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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 U.S. as a whole.

## ***Other reports currently available on the CCR web site:***

<http://www.dhs.cahwnet.gov/ps/cdic/cdicindex.htm> or  
<http://www.ccrca.org/>

- ◆ Cancer in California, 1988-1999. December 2001.
- ◆ California Cancer Facts and Figures, 2002. September 2001.
- ◆ Colorectal Cancer in California, 2001.
- ◆ Prostate Cancer in California: Special Report. June 2000.
- ◆ Research Utilizing the California Cancer Registry. June 2000.
- ◆ California Cancer Registry Publications. June 2000.
- ◆ Breast Cancer in California: Stage at Diagnosis and Medi-Cal Status. March 2000.
- ◆ Childhood Cancer in California, 1988-1994. April 1999.
- ◆ Cancer in California: Detailed Site and Histology, 1988-1994. December 1997.
- ◆ Breast Cancer in California. March 1996.

### ***To be released soon:***

- ◆ Research Utilizing the California Cancer Registry. July 2002.
- ◆ California Cancer Registry Publications. July 2002.
- ◆ Breast Cancer in California. 2002

***Don't forget to visit the CCR Surveillance Spotlight:*** A non-technical focus on a specific cancer or on a topic related to cancer, often developed in conjunction with a public health event.