

CALIFORNIA'S COMPREHENSIVE  
CANCER CONTROL PLAN  
PROGRESS REPORT 2009



# Background:

The objective of this report is to track California's progress towards achieving the state's Comprehensive Cancer Control Plan goals for 2010.

California's Plan was initially drafted in March 2003 when the first California Comprehensive Cancer Control Plan Stakeholders Meeting was convened. This meeting was an inaugural event sponsored by the California Dialogue on Cancer (CDOC), a coalition that was formed to provide guidance for comprehensive cancer control activities in California. The 200+ participants that attended the meeting included state leaders, members of the public, non-profit organizations, health, medical, and business communities, the research community, national leaders, survivors, caregivers, and advocates. The Plan that was created as a result of this meeting blends community participation with the science of cancer control, examines the barriers and gaps in cancer control efforts and identifies measurable goals, strategies and tactics needed for the future.

Since the Plan was finalized and released in 2004, CDOC, with major support from the California Department of Public Health and the American Cancer Society, California Division, has been the lead organization in its implementation via working teams specifically formed to address cross-cutting issues. The teams focus on the following areas:

- Prevention
- Disparities, Access to Care and Early Detection
- Research, Surveillance and Evaluation
- Treatment and Survivorship

Over the past five years, CDOC's efforts have resulted in the following key accomplishments:

- Centers for Disease Control and Prevention (CDC) supplemental funds awarded for Skin and Colorectal Cancer efforts (2005)
- CDOC Stakeholder Meeting (2006) and *Californians Taking Action to Control Colorectal Cancer: A Dialogue for Action Conference* (2006)

- Access to Care Community Forums conducted in 11 California Regions (San Diego, Sacramento, Kern, Ventura, Oakland/Alameda County, Los Angeles, Orange, Fresno, Solano, San Bernardino/Riverside and Santa Cruz) to bring attention to access to care barriers and explore solutions (2006-2008)
- Maps created to show geographic differences in colorectal cancer stage at diagnosis (2006)
- California Colorectal Cancer Coalition (C4) established (2006-2007)
- Online inventory of established data sources relevant to cancer control in California created (2007)
- Gaps assessment for colorectal cancer screening in California Hispanics conducted (2007)
- Comprehensive Cancer Control Program funding awarded from Centers for Disease Control and Prevention (CDC) for FY 2007-12 including supplemental funds for Skin, Colorectal and Ovarian Cancer efforts (2007)

CDOC is just one of many groups working to achieve the goals of California's Comprehensive Cancer Control Plan. Organizations and institutions throughout the state are making positive strides towards achieving many of the Plan's goals, as is evidenced through the findings outlined in this report.





# Report Summary

This report summarizes California's progress toward achieving cancer-related goals outlined in the state's Comprehensive Cancer Control Plan, specifically those that are measurable using available statewide data sources. While California may not be projected to achieve all of the goals set forth for 2010, substantial progress is being made towards achieving many of them. The points below highlight the significant progress identified to date.

- Cancer mortality from all malignant tumors has significantly declined since 1998. Based on current projections, California will observe a 15% reduction in cancer mortality by 2010 (from 182.7 deaths per 100,000 persons to a projected 155.8 in 2010).
- Similarly, cancer incidence rates from all malignant tumors have significantly declined since 1998. Based on current projections, California will observe a 14% reduction in cancer incidence by 2010 (from 464.7 new cases per 100,000 persons to a projected 398.6 in 2010).
- Colorectal cancer mortality rates significantly decreased from 1998 to 2005 for both genders and all race/ethnic groups. Based on current projections, California will observe a 21% reduction in colorectal cancer mortality rates by 2010 (from 18.0 deaths per 100,000 persons to a projected 14.3 in 2010).
- Female breast cancer mortality rates significantly decreased for the total population between 1998 and 2005. Current projections suggest a 21% reduction will be observed by 2010 (from 26.1 deaths per 100,000 persons in 1998 to a projected 20.6 in 2010).
- Cervix cancer mortality rates dropped significantly from 1998 through 2005 for all race/ethnic groups except Hispanics. If cervix cancer mortality rates continue to decline steadily, a projected 35% reduction is expected by 2010 (from 2.9 deaths per 100,000 persons in 1998 to a projected 1.9 in 2010).
- Lung cancer mortality rates were significantly reduced from 1998 to 2005 for both genders and all race/ethnic groups except Asian/Pacific Islanders. If lung cancer rates continue to decline steadily, a projected 23% reduction is expected by 2010 (from 48.3 deaths per 100,000 persons in 1998 to 37.2 in 2010).
- Substantial progress was made toward achieving the state's prostate cancer goal. Maintaining current declines in mortality rates will allow California to not only meet but exceed the Plan's 2010 goal of reducing the prostate cancer mortality rate by 23% (from 28.0 deaths per 100,000 persons in 1998 to a projected 21.1 in 2010).
- The incidence rate of hepatitis B infection declined substantially since instituting a vaccination program in 1991. Furthermore, the 5-year relative survival for liver cancer, a disease affected by hepatitis B infection, has increased. California has already exceeded the Plan's 2010 goal set for liver cancer survival rate (10.4%). The current survival rate for 2000-2004 is 12.9%.
- Progress toward increased 5-year relative pancreatic cancer survival rates also exceeds the Plan's 2010 goal (the current survival rate for 2000-2004 is 5.0% and the 2010 goal survival rate was set at 4.8%).

California's progress toward these goals is addressed in more detail in the following pages. It is the hope of CDOC that the continued tracking of this progress will facilitate the allocation of existing state resources where they may be most needed.





Substantial progress is being made towards achieving many goals in the California Comprehensive Cancer Control Plan.

## Methods:

This report includes all newly diagnosed cancer cases and deaths due to cancer among California residents between January 1, 1998 and December 31, 2005 that were reported to the California Cancer Registry as of April 2008. A case is defined as a diagnosis with a primary malignant cancer and does not include cancers that have metastasized from another site. Each new malignant tumor counts as a case therefore the same person may actually have two or more cases of cancer reported to the registry. Data on each cancer case were collected from the medical record including information on the specific cancer site, race/ethnicity, age at diagnosis and gender among other variables.



Cancer incidence, mortality and survival rates and trends were calculated using SEER\*STAT version 6.4.4. Both incidence and mortality rates were age-adjusted to the 2000 United States standard population with 19 age groups. Age-adjustment is a statistical technique that produces a summary measure of a population's risk of developing or dying from cancer that is not biased by how old or young the population is. An age-adjusted rate reflects what the overall rate would be in a population if that population had the same age distribution as the standard population. The trend analysis calculated the annual percentage change (APC) in incidence and mortality rates from 1998 to 2005 using weighted least squares. P-values less than 0.05 for APC were considered statistically significant indicating that the incidence or mortality rate was significantly different from one year to the next. The APC was used to calculate projected rates assuming that the APC remained constant over the remaining five year time period leading up to 2010. For example, if the APC was -1.2% (rate decreasing by 1.2% per year) the 2005 rate was multiplied by 0.988 ( $1 - 0.012 = 0.988$ ) to determine the projected rate for 2006. This process was repeated for each year up to 2010.

Five-year relative survival rates were calculated for first primary malignant cancer cases with a known age at diagnosis using the Kaplan-Meier method and the expected rate table for California by sex and race. A relative survival rate is a measure of survival in people with a specific disease, such as cancer, compared to those without the disease. A relative survival rate shows whether the disease shortens life.

Data on four mutually exclusive race/ethnicity categories including non-Hispanic White (NHW), non-Hispanic Black (NHB), Hispanic and Asian/Pacific Islander (Asian PI) were summarized in this report. Race/ethnicity data were extracted from the medical record or death certificate and for Hispanic ethnicity were based on surname. Cases of White, Black or unknown race were reassigned to Hispanic ethnicity if the cases' last name was categorized as an Hispanic surname on the 1980 Census list<sup>1</sup>.

Data on cancer risk factors were extracted from statewide health surveys conducted within California. The Behavioral Risk Factor Survey (BRFS) provided information on physical activity among California adults<sup>2</sup>. Body mass index (BMI) data were retrieved from the California Health Interview Survey (CHIS) through a searchable database (AskCHIS PRO) available at [www.chis.ucla.edu/main/DG2/geographic.asp](http://www.chis.ucla.edu/main/DG2/geographic.asp). Information on diet and nutrition, particularly fruit and vegetable consumption, was retrieved from the California Dietary Practices Survey (CDPS)<sup>3</sup>. These surveys cover a variety of health-related topics in California that were not included in this report and are excellent resources for readers interested in further detail on any of these topics. In addition to these statewide surveys, California collects information on reported cases of Hepatitis B infection (included in this report) and other infectious diseases. These data are available from the Division of Communicable Disease Control within the California Department of Public Health<sup>4</sup>.

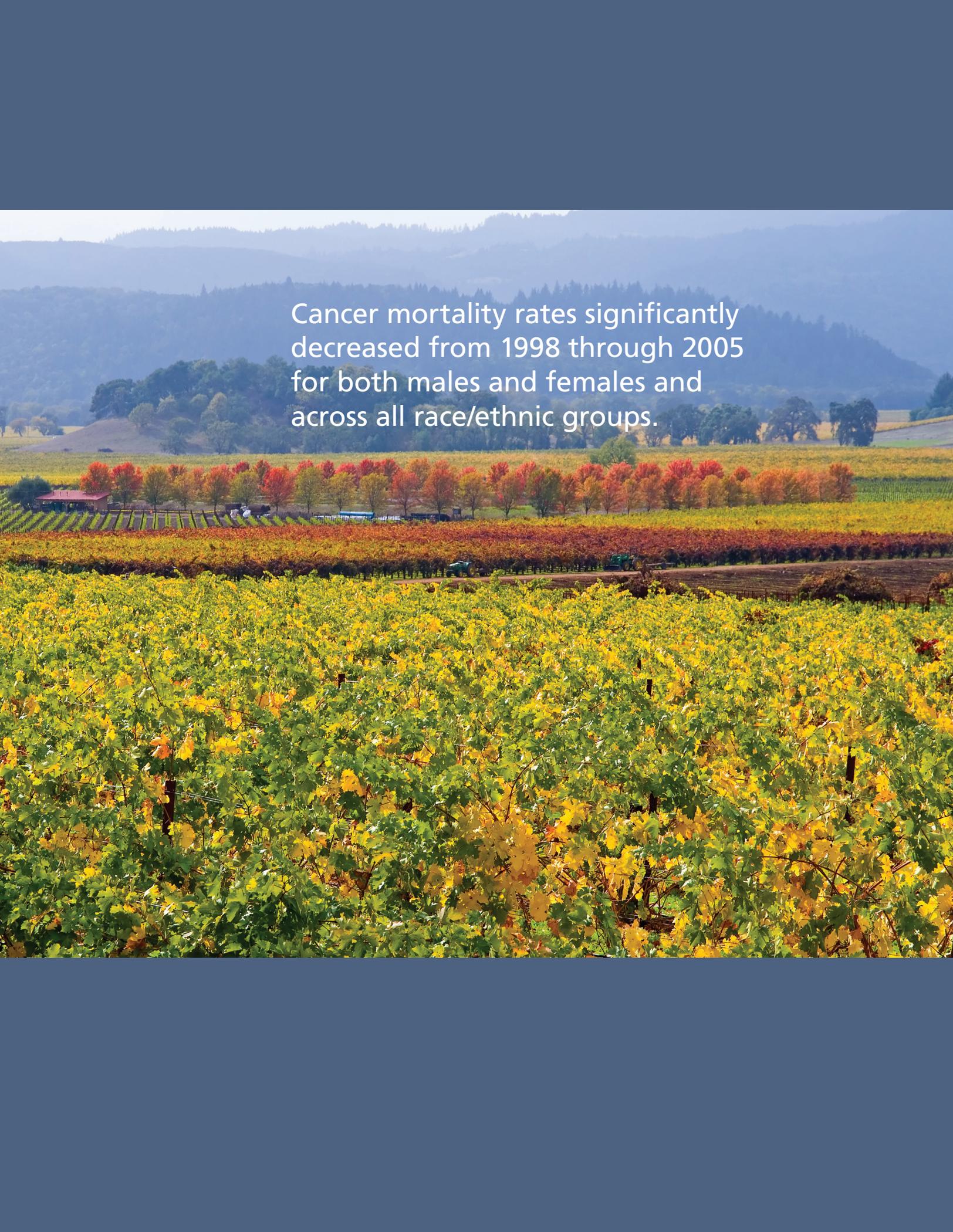


California will observe a 21% reduction in colorectal cancer mortality rates by 2010.



The goal of a 23% reduction in prostate cancer mortality will be met and exceeded by 2010.





Cancer mortality rates significantly decreased from 1998 through 2005 for both males and females and across all race/ethnic groups.

# Introduction:



In this section updates are provided on twelve goals that cover each of the major topic areas addressed in the April 2004 California Comprehensive Cancer Control Plan. Each page begins with a stated goal that was to be reached by 2010. Then a brief summary is provided, describing the State’s progress towards meeting the goal.

## Definition of Race/Ethnicity:

Data are presented by race/ethnicity categories. Race/ethnicity is grouped into the mutually exclusive categories of non-Hispanic white (NHW), non-Hispanic black (NHB), Hispanic, and non-Hispanic Asian/Pacific Islander. The Department of Finance (DOF) produces population estimates for these four race/ethnic groups, so the same race/ethnicity terminology is used to report cancer rates. Any reference to Hispanic race/ethnicity in this report includes individuals from the Latino community.

### I. By 2010, reduce the cancer mortality rate by 40% in California.

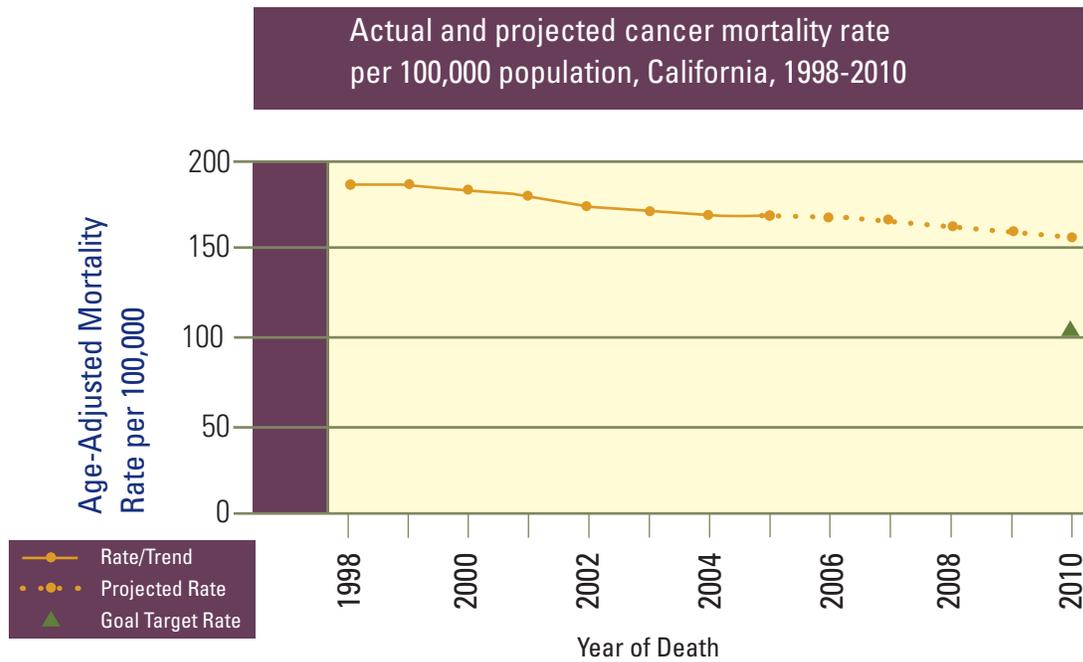
In California, cancer mortality rates significantly decreased from 1998 through 2005 for both males and females and across all race/ethnic groups. However, with current projections, California will only observe a 15% reduction in cancer mortality (from 182.7 in 1998 to a projected 155.8 in 2010) compared to the goal of a 40% reduction in cancer mortality. Cancer mortality rates were higher in males than in females and varied dramatically by race/ethnicity with Non-Hispanic Blacks observing the highest rates followed by non-Hispanic Whites.

**Table 1.** Age-adjusted cancer mortality rates, annual percentage change and projected mortality rates by gender and race/ethnicity, California, 1998-2010.

		Gender			Race/Ethnicity			
		Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
Baseline Mortality Rate	1998	182.7*	220.8	157.1	193.2	243.1	148.5	129.3
Actual Mortality Rate	2005	167.5	199.9	145.4	179.5	232.2	136.4	120.2
Annual Percentage Change (1998 - 2005)		-1.4**	-1.7**	-1.3**	-1.2**	-0.7**	-1.6**	-1.4**
Projected Mortality Rate	2010	155.8						
Goal Mortality Rate	2010	109.6						
Gap between Goal and Projected Rate		46.2						

\*In the original report the 1998 mortality rate was stated as 178.3 deaths per 100,000 persons. This rate was calculated based on the data collected by the California Cancer Registry (CCR) as of July 2002, using population data provided by the Department of Finance (DOF). Subsequent cancer deaths occurring in 1998 have been reported to CCR since July 2002. In addition population data is now provided by the National Center for Health Statistics (NCHS). These changes have caused the baseline mortality rate for 1998 to increase to 182.7 deaths per 100,000 persons.

\*\*The APC is significantly different from zero (p<0.05).



**II. By 2010, reduce the cancer incidence rate by 20% in California.**

Cancer incidence rates in California were higher in males than females and higher in non-Hispanic Blacks and non-Hispanic Whites than in Hispanics and Asian/Pacific Islanders. Cancer incidence significantly decreased from 1998 through 2005 regardless of gender or race/ethnicity. However, with current projections, California will only observe a 14% reduction in cancer incidence by 2010 (from 464.7 in 1998 to a projected 398.6 in 2010) compared to the goal of a 20% reduction.

**Table 2.** Age-adjusted cancer incidence rates, annual percentage change and projected incidence rates by gender and race/ethnicity, California, 1998-2010.

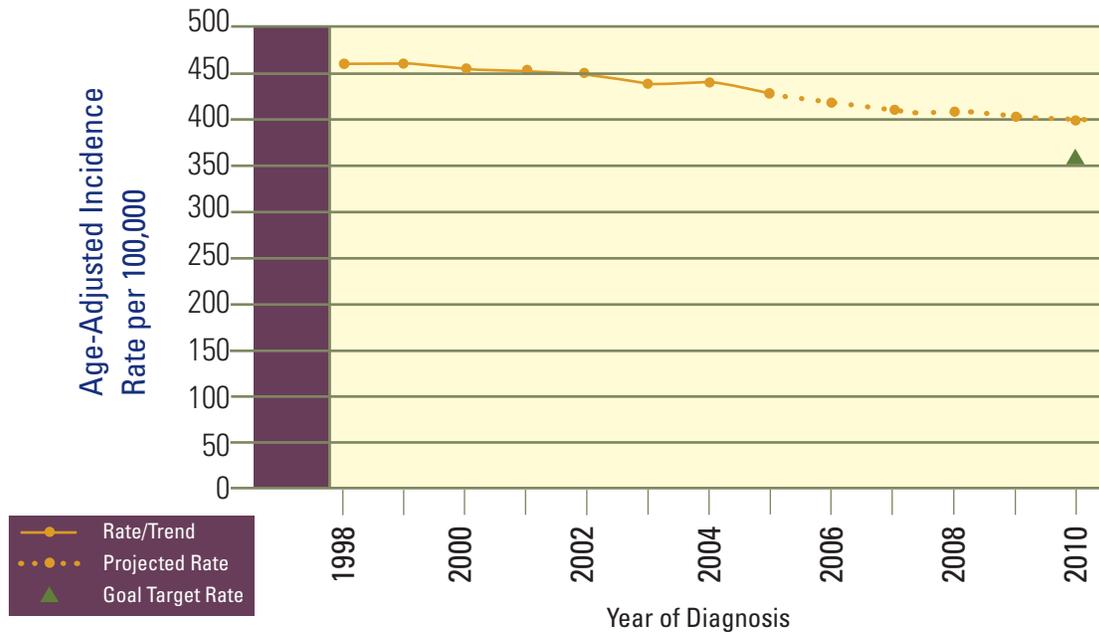
		Gender			Race/Ethnicity			
		Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
Baseline Incidence Rate	1998	464.7*	537.6	416.2	503.1	514.6	363.3	319.5
Actual Incidence Rate	2005	425.5	483.9	386.0	467.8	477.7	339.6	302.2
Annual Percentage Change (1998 - 2005)		-1.3**	-1.4**	-1.2**	-1.1**	-1.0**	-1.0**	-0.7**
Projected Incidence Rate	2010	398.6						
Goal Incidence Rate	2010	371.8						
Gap between Goal and Projected Rate		26.8						

\*In the original report the 1998 incidence rate was stated as 445.5 new cases per 100,000 persons. This rate was calculated based on the data collected by the California Cancer Registry (CCR) as of July 2002, using population data provided by the Department of Finance (DOF). Subsequent cancer cases occurring in 1998 have been reported to CCR since July 2002. In addition population data is now provided by the National Center for Health Statistics (NCHS). These changes have caused the baseline incidence rate for 1998 to increase to 464.7 new cases per 100,000 persons.

\*\*The APC is significantly different from zero (p<0.05).

Note: Incidence excludes *in situ* cancers, except bladder.

Actual and projected cancer incidence rates per 100,000 population, California, 1998-2010



### III. By 2010, reduce the colorectal cancer mortality rate by 40% in California.

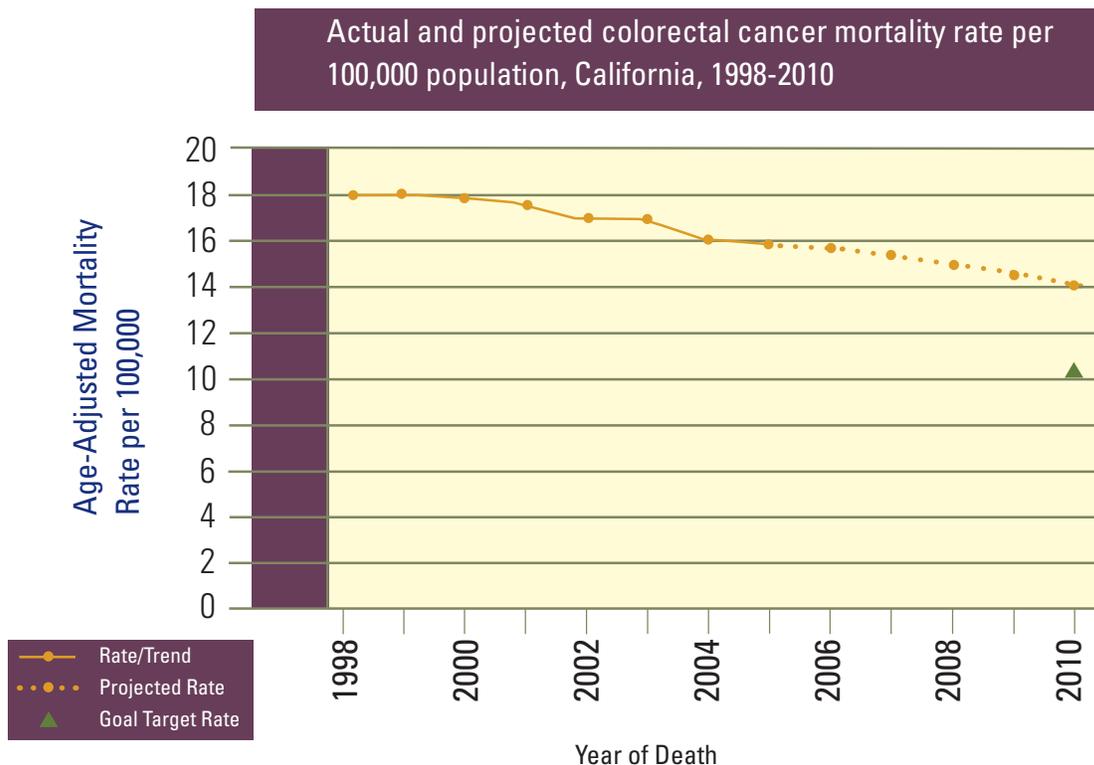
In California, colorectal cancer mortality rates were higher in males than females. By race/ethnicity, rates were highest in non-Hispanic Blacks with no appreciable differences between the other race/ethnic groups. Colorectal cancer mortality rates significantly decreased from 1998 through 2005 for both genders and all race/ethnic groups. However, with current projections, California will only observe a 21% reduction in colorectal cancer mortality by 2010 (from 18.0 in 1998 to a projected 14.3 in 2010) compared to the goal of a 40% reduction.

**Table 3.** Age-adjusted colorectal cancer mortality rates, annual percentage change and projected mortality rates by gender and race/ethnicity, California, 1998-2010.

		Gender			Race/Ethnicity			
		Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
Baseline Mortality Rate	1998	18.0*	21.5	15.3	18.4	27.6	14.5	14.6
Actual Mortality Rate	2005	15.8	18.9	13.3	16.2	25.4	13.3	12.5
Annual Percentage Change (1998 - 2005)		-2.0**	-2.1**	-2.0**	-1.9**	-1.1**	-2.2**	-1.4**
Projected Mortality Rate	2010	14.3						
Goal Mortality Rate	2010	10.8						
Gap between Goal and Projected Rate		3.5						

\*In the original report the 1998 mortality rate was stated as 17.6 deaths per 100,000 persons. This rate was calculated based on the data collected by the California Cancer Registry (CCR) as of July 2002, using population data provided by the Department of Finance (DOF). Subsequent cancer deaths occurring in 1998 have been reported to CCR since July 2002. In addition population data is now provided by the National Center for Health Statistics (NCHS). These changes have caused the baseline mortality rate for 1998 to increase to 18.0 deaths per 100,000 persons.

\*\*The APC is significantly different from zero (p<0.05).



#### IV. By 2010, reduce the mortality rate from female breast cancer in California by 36% through early detection and treatment.

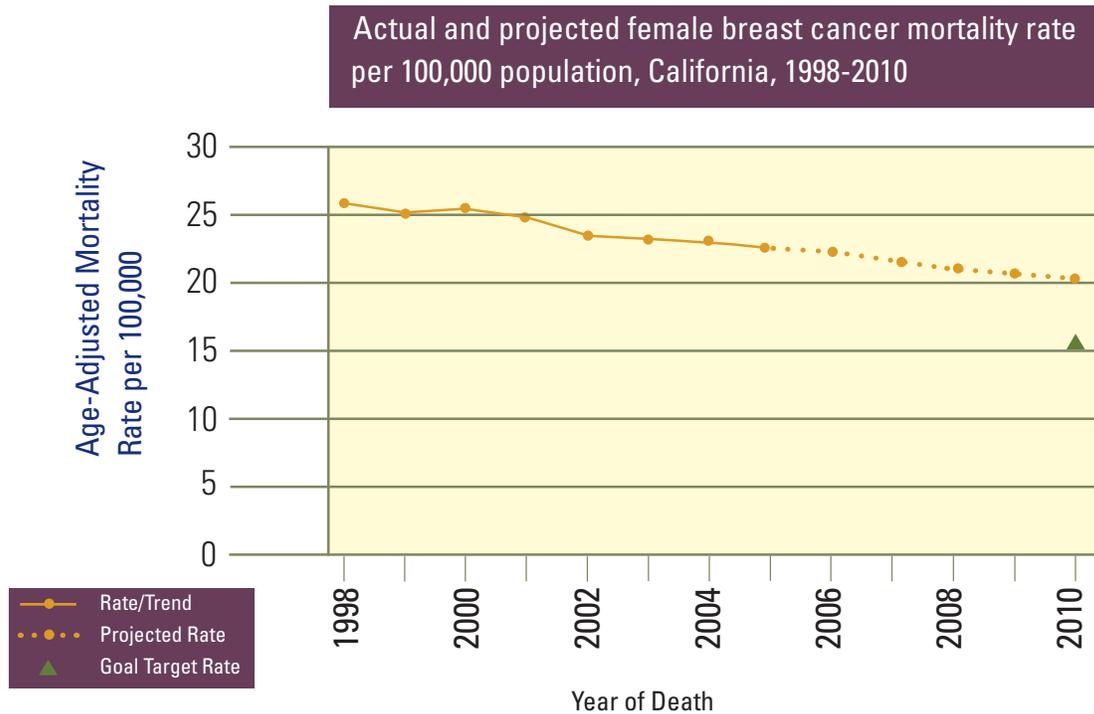
In California, female breast cancer mortality rates were highest among non-Hispanic Blacks followed by non-Hispanic Whites, Hispanics and finally Asian/Pacific Islanders. Mortality rates significantly decreased for the total population, non-Hispanic Whites and Hispanics but not for other race/ethnic groups. Current projections suggest a 21% reduction in female breast cancer mortality will be observed by 2010 (from 26.1 in 1998 to a projected 20.6 in 2010) which is short of the goal reduction of 36%.

**Table 4.** Age-adjusted female breast cancer mortality rates, annual percentage change and projected mortality rates by race/ethnicity, California, 1998-2010.

	Race/Ethnicity					
		Total	NHW	NHB	Hispanic	Asian/PI
Baseline Mortality Rate	1998	26.1*	28.5	35.6	19.0	14.6
Actual Mortality Rate	2005	22.7	25.2	35.5	15.7	13.9
Annual Percentage Change	(1998 - 2005)	-1.9**	-1.8**	0.5	-1.9**	0.1
Projected Mortality Rate	2010	20.6				
Goal Mortality Rate	2010	16.7				
Gap between Goal and Projected Rate		3.9				

\*In the original report the 1998 mortality rate was erroneously stated as 130.9 deaths per 100,000. This rate was not the mortality rate for female breast cancer, rather it was the incidence rate.

\*\*The APC is significantly different from zero ( $p < 0.05$ ).



## V. By 2010, reduce the prostate cancer mortality rate of California men, including men in high-risk groups, by 23%.

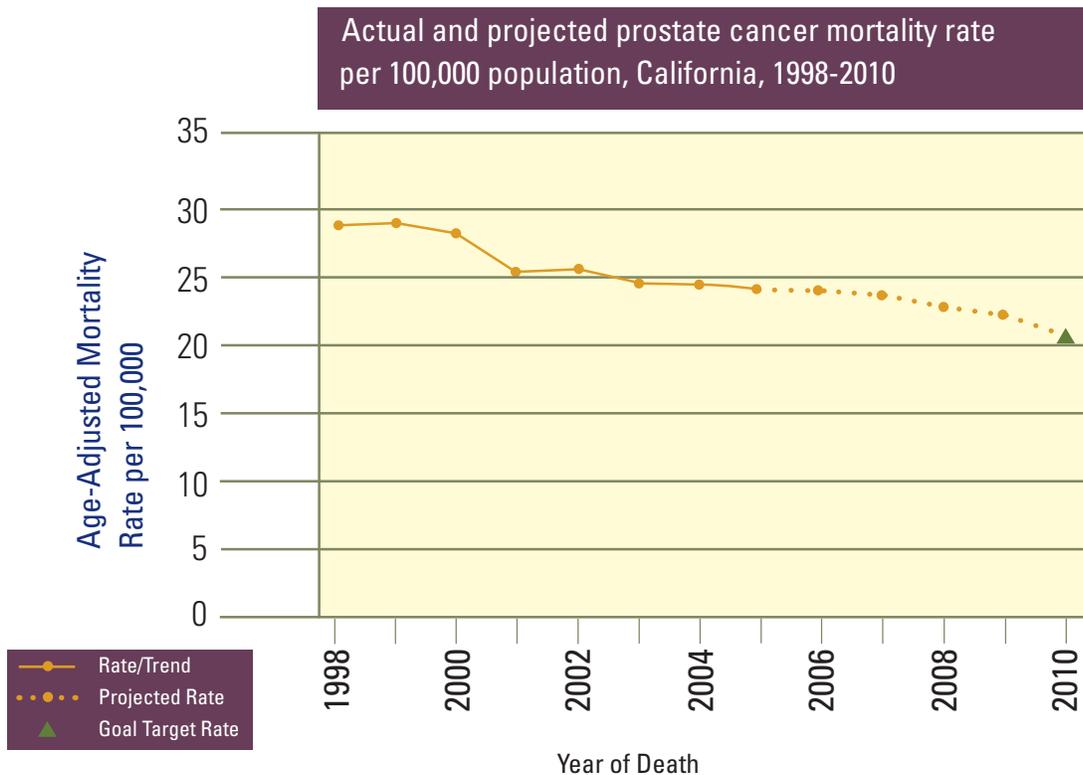
Prostate cancer mortality rates are highest among non-Hispanic Blacks in California followed by non-Hispanic Whites, Hispanics and Asian/Pacific Islanders. Significant reductions in mortality rates were observed for some groups (total population, non-Hispanic Whites and Hispanics) but not others (non-Hispanic Blacks and Asian/Pacific Islanders). With continued reductions through 2010, the goal of a 23% reduction in prostate cancer mortality will be met and exceeded by 2010 (from 28.0 in 1998 to a projected 21.1) for a 25% overall reduction in prostate cancer mortality. However, the lack of prostate cancer mortality reductions in some groups, particularly non-Hispanic Black males remains problematic and public health measures to increase use of screening tools to reduce mortality is likely needed.

**Table 5.** Age-adjusted prostate cancer mortality rates, annual percentage change and projected mortality rates by race/ethnicity, California, 1998-2010.

		Race/Ethnicity				
		Total	NHW	NHB	Hispanic	Asian/PI
Baseline Mortality Rate	1998	28.0*	28.1	59.4	27.9	11.5
Actual Mortality Rate	2005	24.1	24.1	59.8	22.5	11.5
Annual Percentage Change	(1998 - 2005)	-2.6**	-2.6**	-0.9	-2.8**	-1.0
Projected Mortality Rate	2010	21.1				
Goal Mortality Rate	2010	21.6				
Gap between Goal and Projected Rate		-0.5				

\*In the original report the 1998 mortality rate was stated as 27.6 deaths per 100,000 men. This rate was calculated based on the data collected by the California Cancer Registry (CCR) as of July 2002, using population data provided by the Department of Finance (DOF). Subsequent cancer deaths occurring in 1998 have been reported to CCR since July 2002. In addition population data is now provided by the National Center for Health Statistics (NCHS). These changes have caused the baseline mortality rate for 1998 to increase to 28.0 deaths per 100,000 men.

\*\*The APC is significantly different from zero ( $p < 0.05$ ).



VI. By 2010, accelerate significantly the rate of decline of lung and oral cancer mortality by preventing tobacco use, helping smokers and users of spit tobacco to quit, and diagnosing lung and oral cancer at an earlier, potentially more curative stage.

In California, lung cancer mortality rates are higher for males than females and vary by gender with non-Hispanic Blacks observing the highest and Hispanics the lowest lung cancer mortality rates. Mortality rates were significantly reduced from 1998 to 2005 for both genders and all race/ethnic groups except Asian/Pacific Islanders. If lung cancer mortality rates continue to decline steadily, a projected 23% reduction is expected by 2010 (from 48.3 in 1998 to a projected 37.2 in 2010).

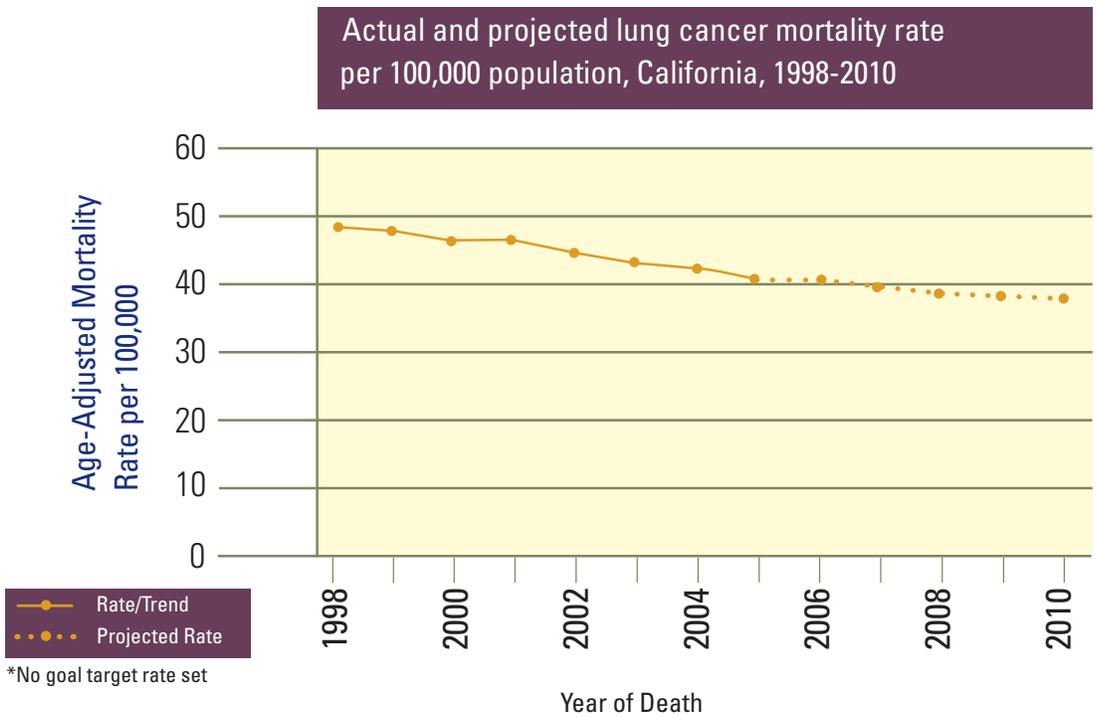
According to the *Annual Report to the Nation on the Status of Cancer, 1975-2005 Featuring Trends in Lung Cancer, Tobacco Use, and Tobacco Control* (J Natl Cancer Inst 2008;100:1672-1694), California was one of only three states with decreasing mortality rates for females from 2001-2005 and was the only state, in addition to the District of Columbia, where mortality rates for non-Hispanic white women decreased from 1996 through 2005. Lung cancer mortality rates for males began decreasing first in California and the decrease has been the largest, compared to all other states.

**Table 6.** Age-adjusted lung cancer mortality rates, annual percentage change and projected mortality rates by gender and race/ethnicity, California, 1998-2010.

		Gender			Race/Ethnicity			
		Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
Baseline Mortality Rate	1998	48.3*	62.0	38.2	54.4	65.1	27.3	28.8
Actual Mortality Rate	2005	41.6	51.2	34.6	48.0	59.2	23.5	27.5
Annual Percentage Change (1998 - 2005)		-2.2**	-2.9**	-1.5**	-1.8**	-1.8**	-2.2**	-1.4
Projected Mortality Rate	2010	37.2						
Goal Mortality Rate	2010	NA						
Gap between Goal and Projected Rate		NA						

\* While the specific 1998 age-adjusted lung cancer mortality rate was not provided in the original report, Table 6 reports the baseline lung cancer mortality rate for 1998 as indicated in the California Cancer Registry April 2008 data release.

\*\*The APC is significantly different from zero (p<0.05).



## VII. By 2010, arrest the upward obesity and overweight trends by increasing physical activity, consumption of fruits and vegetables and reducing caloric intake among Californians.

Between 1999 and 2005, a variety of statewide surveys in California have assessed, in detail, aspects of diet, exercise and weight among the adult population 18 years of age and older. Summary information from these surveys including the California Dietary Practices Survey (CDPS), the Behavioral Risk Factor Survey (BRFS), and the California Health Interview Survey (CHIS), is displayed below in Table 7. Consumption of at least 5 servings of fruits and vegetables per day increased from 1999 to 2003. Similarly, the percentage of adults participating in moderate physical activity at least 5 days per week for 30 or more minutes increased from 2001 to 2005. However, the percentage of adults falling into the overweight and obese categories remained stable (overweight) or increased (obese) for the same time period.

**Table 7.** Fruit and vegetable consumption, exercise and body mass index in California adults (18+ years of age), 1999-2005.

	1999	2001	2003	2005
<b>Consume 5+ servings of fruits and vegetables<sup>a</sup></b>				
Yes	32.0%	34.0%	38.0%	---
<b>Engage in moderate exercise at least 5 days per week for 30 or more minutes<sup>b</sup></b>				
Yes	---	34.0%	---	37.4%
<b>Body Mass Index (BMI)<sup>c</sup></b>				
Underweight (<18.5)	---	2.2%	---	2.2%
Normal (18.5-24.99)	---	43.0%	---	41.7%
Overweight (25.0-29.99)	---	35.5%	---	34.9%
Obese (>=30)	---	19.3%	---	21.2%

<sup>a</sup>Based on a 24-hour dietary recall from the California Dietary Practices Survey

<sup>b</sup>From the Behavioral Risk Factors Survey

<sup>c</sup>From the California Health Interview Survey



VIII. By 2010, decrease the mortality rate of melanoma cancer by 20%, from a baseline of 2.8 deaths per 100,000 persons.

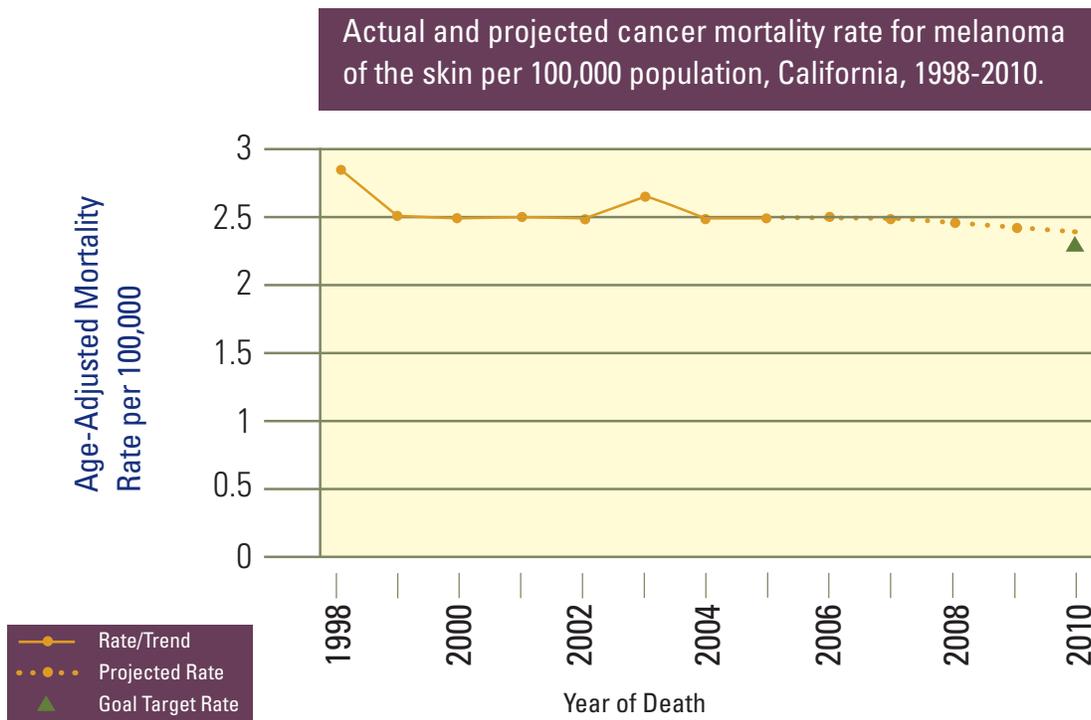
Mortality rates for melanoma of the skin are nearly 2.5-fold higher in males than females in California. Non-Hispanic Whites observe mortality rates 4- to 12-fold higher than any other race/ethnic group. Only among females have mortality rates decreased significantly from 1998 to 2005. Although changes in mortality rates were not significantly different from zero for the total population, declines continuing at an annual percentage change of 0.7 would result in a projected 14% reduction in mortality rates by 2010 (from 2.8 in 1998 to a projected 2.4 in 2010) compared to the goal of a 20% reduction in melanoma mortality rates.

**Table 8.** Age-adjusted cancer mortality rates for melanoma of the skin, annual percentage change and projected mortality rates by gender and race/ethnicity, California, 1998-2010.

		Gender			Race/Ethnicity			
		Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
Baseline Mortality Rate	1998	2.8	4.2	1.8	3.9	0.4	1.2	0.4
Actual Mortality Rate	2005	2.5	4.0	1.5	3.7	0.3	0.9	0.5
Annual Percentage Change (1998 - 2005)		-0.7	0.4	-2.7*	0.3	-2.7	-3.6	2.1
Projected Mortality Rate	2010	2.4						
Goal Mortality Rate	2010	2.2						
Gap between Goal and Projected Rate		0.2						

\* While the specific 1998 age-adjusted melanoma mortality rate was not provided in the original report, Table 8 reports the baseline melanoma mortality rate for 1998 as indicated in the California Cancer Registry April 2008 data release.

\*\* The APC is significantly different from zero (p<0.05).



**IX. By 2010, reduce hepatitis B infection by 99% and increase the survival rate of primary liver cancer by 20%. By 2010, all Asian Pacific Islanders should be screened for hepatitis B to decrease the liver cancer mortality rate among Asian-Pacific Islanders.**

According to data from the California Department of Public Health, Division of Communicable Disease Control, incidence of hepatitis B infection is highest among adults over 18 years of age and Asian/Pacific Islanders. Incidence has declined since 1998 across all age and race/ethnic groups. A 27% decrease in incidence from 4.27 per 100,000 population in 1998 to 3.11 per 100,000 population in 2000 was observed although not yet meeting the 2010 goal of a 99% reduction in hepatitis B infection. However, this is a substantial decrease for a 2 year period and the decrease since implementing hepatitis B immunization programs in 1991 is certainly greater. Furthermore, incidence rates are extremely low in the 0-18 year age group which has been targeted by immunization programs.

Liver cancer mortality rates were 2.2-fold higher in men than in women and 2.3-fold higher in Asian/Pacific Islanders than in non-Hispanic Whites. Liver cancer mortality rates significantly increased from 1998 to 2005 for males, females and non-Hispanic Whites while Asian/Pacific Islanders observed a significant decrease in mortality. If rates continue to increase at the current rate, liver cancer mortality will increase from 5.5 in 1998 to a projected 7.5 in 2010 resulting in a projected 36% increase in the overall liver cancer mortality.

Five-year relative survival rates for liver cancer vary little by gender and race/ethnicity, although Asian/Pacific Islanders have the highest survival rates of all race/ethnic groups. A relative survival rate is a measure of survival in people with a disease, such as liver cancer, compared to those without the disease. The rate shows whether the disease shortens life. Survival increased for all groups over the time period evaluated. The current increase in five-year relative survival rates from 8.7% for the years 1994-1998 to 12.9% for the years 2000-2004 (48% increase in survival) exceeds the 2010 goal of a 20% increase in liver cancer survival.

Mortality rates and five-year relative survival rates both increased for the time period evaluated. This is most likely due to a steady increase of liver cancer incidence from 1998 to 2005. The number of new cases of liver cancer diagnosed and reported has risen each year in this 8 year time period. So while individuals with liver cancer may live longer due to earlier detection or better treatment, more individuals will die from liver cancer each year because more individuals have the disease.

**Table 9.** Incidence of hepatitis B infection per 100,000 population by age and race/ethnicity, California, 1995-2000<sup>a</sup>.

Year	Age Group			Race/Ethnicity			
	Total	0-18 yrs	>18 yrs	NHW	NHB	Hispanic	Asian/PI
1998	4.27	0.96	5.65	2.62	4.81	2.31	6.35
2000	3.11	0.38	4.25	2.18	3.51	1.67	4.48

<sup>a</sup>From the California Department of Public Health, Division of Communicable Disease Control.

**Table 10.** Age-adjusted liver cancer mortality rates, annual percentage change and projected mortality rates by gender and race/ethnicity, California, 1998-2010.

		Gender			Race/Ethnicity			
		Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
Baseline Mortality Rate	1998	5.5*	7.9	3.5	4	6.2	7.7	12.3
Actual Mortality Rate	2005	6.6	9.4	4.2	4.8	8.7	8.9	11.2
Annual Percentage Change (1998 - 2005)		2.7**	2.5**	2.9**	2.9**	3.4	1.6	-0.8**
Projected Mortality Rate	2010	7.5						
Goal Mortality Rate	2010	N/A						
Gap between Goal and Projected Rate		N/A						

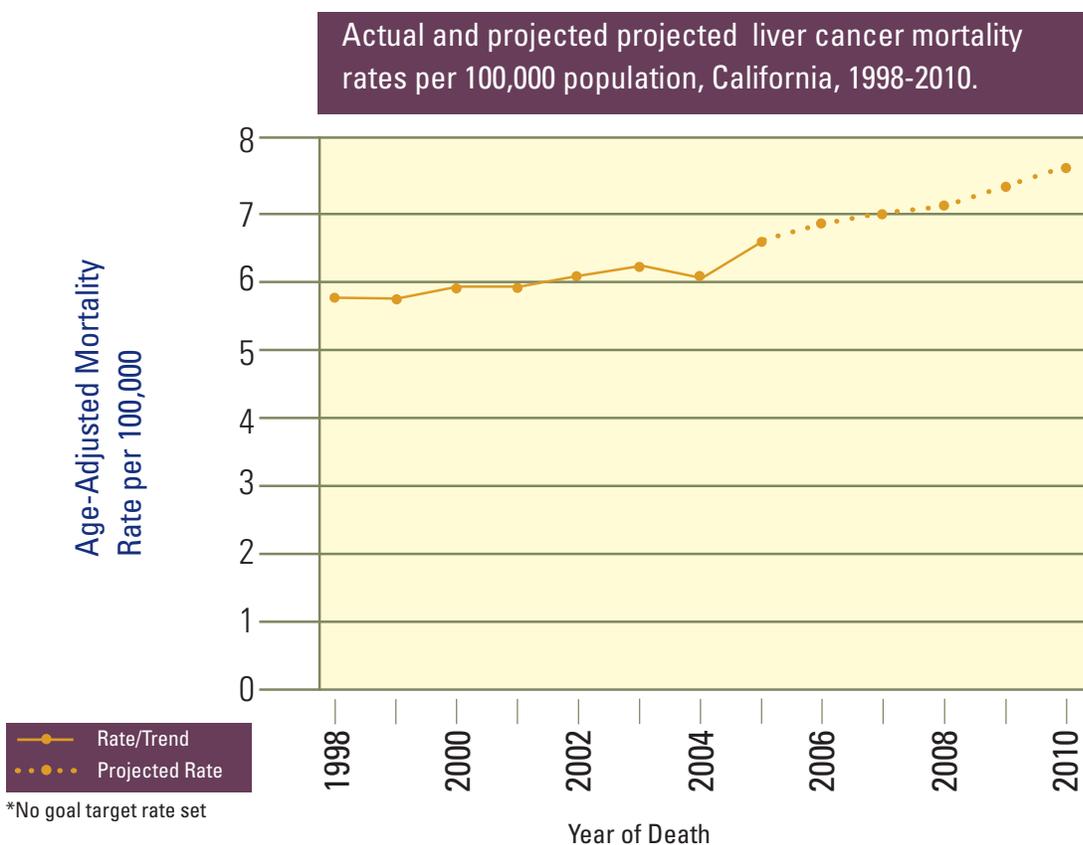
\* While the specific 1998 age-adjusted liver cancer mortality rate was not provided in the original report, Table 10 reports the baseline liver cancer mortality rate for 1998 as indicated in the California Cancer Registry April 2008 data release.

\*\*The APC is significantly different from zero (p<0.05).

Table 11. Five-year relative survival after liver cancer diagnosis by gender and race/ethnicity, California, 1994-2004.

5 - Year Relative Survival Rate	Gender		Race/Ethnicity				
	Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
1994 – 1998	8.7%	8.2%	10.0%	8.0%	3.6%	9.0%	10.7%
2000 – 2004	12.9%	13.1%	12.5%	12.1%	9.7%	11.9%	15.8%
<b>Goal Relative Survival Rate</b>	10.4%						12.8%
<b>Gap between Goal and Current Rate</b>	2.5%						3.0%

<sup>a</sup>From the California Department of Public Health, Division of Communicable Disease Control.



**X. By 2010, reduce the mortality rate from cancer of the cervix by 40% among all women in California, from a baseline of 2.9 deaths per 100,000 women.**

At baseline, cervix cancer mortality rates were highest in non-Hispanic Blacks followed closely by Hispanics, and Asian Pacific Islanders. Mortality rates dropped significantly from 1998 through 2005 for all race/ethnic groups except Hispanics. If cervix cancer mortality rates continue to decline steadily, a projected 35% reduction is expected by 2010 (from 2.9 in 1998 to a projected 1.9 in 2010) compared to the goal of a 40% reduction.

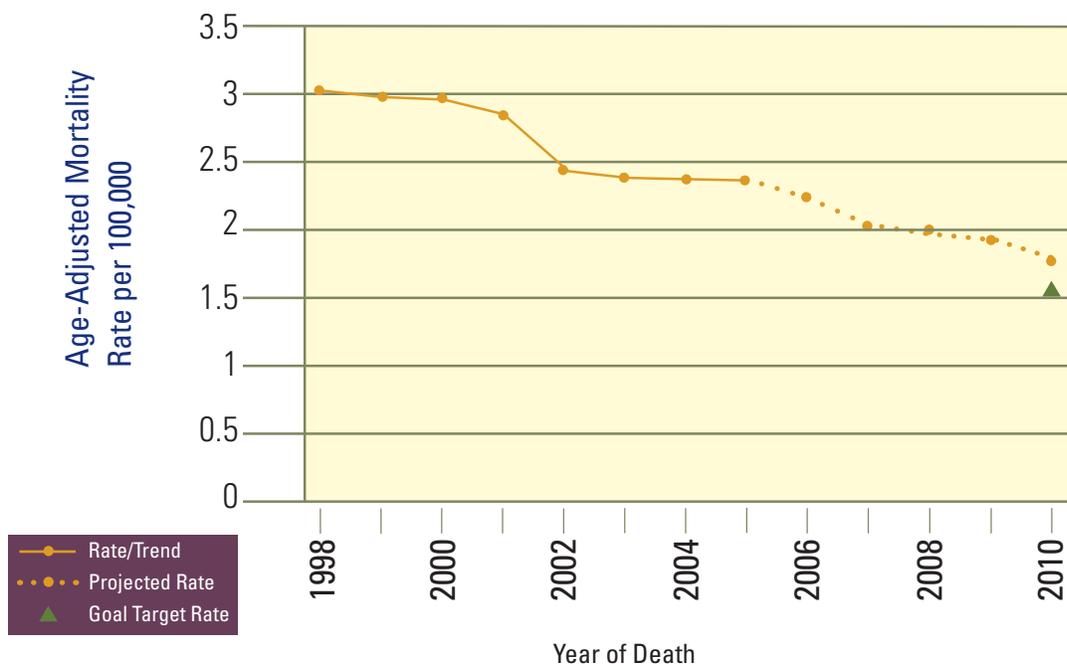
**Table 12.** Age-adjusted cervix cancer mortality rates, annual percentage change and projected mortality rates by race/ethnicity, California, 1998-2010.

	Race/Ethnicity					
		Total	NHW	NHB	Hispanic	Asian/PI
Baseline Mortality Rate	1998	2.9*	2.5	4.3	3.7	3.5
Actual Mortality Rate	2005	2.3	1.8	3.0	3.4	1.8
Annual Percentage Change	(1998 - 2005)	-4.1**	-5.2**	-6.5**	-2.9	-5.5**
Projected Mortality Rate	2010	1.9				
Goal Mortality Rate	2010	1.7				
Gap between Goal and Projected Rate		0.2				

\*In the original report the 1998 mortality rate was stated as 2.8 deaths per 100,000 women. This rate was calculated based on the data collected by the California Cancer Registry (CCR) as of July 2002, using population data provided by the Department of Finance (DOF). Subsequent cancer deaths occurring in 1998 have been reported to CCR since July 2002. In addition population data is now provided by the National Center for Health Statistics (NCHS). These changes have caused the baseline mortality rate for 1998 to increase to 2.9 deaths per 100,000 women.

\*\*The APC is significantly different from zero ( $p < 0.05$ ).

**Actual and projected projected cervix cancer mortality rates per 100,000 population, California, 1998-2010.**



## XI. By 2010, increase the survival rate of cancers of childhood and adolescents by 10%.

The five-year relative survival rate after cancer diagnosis was similar between children ages 0 to 14 years (2000-2004: 77.6%) and adolescents ages 15 to 19 years (2000-2004: 76.9%). Among children, survival was also similar by gender but varied by race/ethnicity with non-Hispanic Whites observing the highest five-year relative survival rates. Among adolescents, females and non-Hispanic whites observed higher survival rates than males and other race/ethnic groups. A 1% increase in five-year relative survival rates occurred over the time period for both children and adolescents which is short of the 2010 goal of a 10% increase in survival.

**Table 13.** Five-year relative survival after cancer diagnosis among children ages 0 to 14 years by gender and race/ethnicity, California, 1994-2004.

5 - Year Relative Survival Rate	Gender		Race/Ethnicity				
	Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
1994 – 1998	76.8%	76.8%	76.8%	79.3%	72.7%	75.3%	75.3%
2000 – 2004	77.6%	77.9%	77.3%	81.2%	73.0%	76.4%	72.4%
<b>Goal Relative Survival Rate</b>	84.5%						
<b>Gap between Goal and Current Rate</b>	-6.9%						

**Table 14.** Five-year relative survival after cancer diagnosis among adolescents ages 15 to 19 years by gender and race/ethnicity, California, 1994-2004.

5 - Year Relative Survival Rate	Gender		Race/Ethnicity				
	Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
1994 – 1998	75.8%	71.4%	81.3%	81.4%	76.2%	69.6%	69.2%
2000 – 2004	76.9%	72.4%	82.6%	82.1%	69.1%	72.4%	71.3%
<b>Goal Relative Survival Rate</b>	83.4%						
<b>Gap between Goal and Current Rate</b>	-6.5%						

**XII. By 2010, increase the survival rate of ovarian and pancreatic cancers by at least 10% through referral of patients to cancer centers for aggressive treatment and clinical trials.**

The five-year relative survival rate for ovarian cancer was highest among Asian/Pacific Islanders followed by Hispanics, non-Hispanic Whites and finally non-Hispanic Blacks. Ovarian cancer survival increased from 44.1% for the years 1994-1998 to 46.5% for the years 2000-2004 resulting in a 5% increase in survival. This increase in survival is short of the desired 10% increase by the year 2010.

For pancreatic cancer, five-year relative survival rates varied little by gender or race/ethnicity. Survival was slightly higher for females and Hispanics. Pancreatic cancer survival increased from 4.4% for the years 1994-1998 to 5.0% for the years 2000-2004 resulting in a 14% increase in survival. This increase meets and exceeds the 2010 goal of a 10% increase in pancreatic cancer survival.

**Table 15.** Five-year relative survival after ovarian cancer diagnosis by race/ethnicity, California, 1994-2004.

5 - Year Relative Survival Rate	Gender		Race/Ethnicity				
	Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
<b>1994 – 1998</b>	44.1%	-----	-----	41.8%	35.9%	51.6%	54.2%
<b>2000 – 2004</b>	46.5%	-----	-----	45.1%	37.3%	50.2%	53.3%
<b>Goal Relative Survival Rate</b>	48.5%	-----	-----				
<b>Gap between Goal and Current Rate</b>	-2.0%						

**Table 16.** Five-year relative survival after pancreatic cancer diagnosis by gender and race/ethnicity, California, 1994-2004.

5 - Year Relative Survival Rate	Gender		Race/Ethnicity				
	Total	Male	Female	NHW	NHB	Hispanic	Asian/PI
<b>1994 – 1998</b>	4.4%	4.2%	4.7%	4.1%	2.5%	6.0%	7.0%
<b>2000 – 2004</b>	5.0%	4.8%	5.3%	5.0%	3.7%	6.0%	5.0%
<b>Goal Relative Survival Rate</b>	4.8%						
<b>Gap between Goal and Current Rate</b>	0.2%						

## References:

1. California Cancer Registry. Cancer Reporting in California: Abstracting and coding procedures for hospitals. California cancer reporting system standards, volume III. Sacramento, California: Department of Public Health, 2004.
2. Wayland S, Induni M, Davis B. Healthy People 2010 Objectives: 23-Year Behavioral Risk Factor Survey Report 1984-2006. Sacramento, California: California Department of Public Health, Cancer Surveillance and Research Branch, Survey Research Group Section, June 2007.
3. 2003 CDPS Data Tables. Sacramento, California: California Department of Public Health, Public Health Institute, Cancer Prevention and Nutrition Section, Research Evaluation Unit: September 2007.
4. Communicable Diseases in California, 1999-2000. Sacramento, California: California Department of Public Health, Division of Communicable Disease Control, December 2003.



This publication was prepared by: California Dialogue on Cancer  
Comprehensive Cancer Control Program  
Sacramento, CA  
916-779-2611  
cdoc@cdph.ca.gov

Special thanks to the following  
individuals for their assistance in  
preparation of this report:

Jennifer Dodge, MPH  
Holly A. Hodges, MPH  
Sara Cook, MPH, CHES  
Brenda M. Hofer, MA  
Allyn Fernandez-Ami, MPH  
Kurt Snipes, MS, PhD  
Sandy Kwong, MPH  
Janet Bates, MD, MPH

Funding for the California Comprehensive Cancer Control Program provided by the  
Centers for Disease Control and Prevention to the Public Health Institute and the  
California Department of Public Health.

Design and production by Gale Okumura, Okumura Design



California Dialogue on Cancer

For more information or to get involved, please contact:

California Comprehensive Cancer Control Program/  
California Dialogue on Cancer (CDOC)

E-mail: [cdoc@cdph.ca.gov](mailto:cdoc@cdph.ca.gov) • Phone: (916) 779-2611

Please visit our website at: [www.cdoc-online.org](http://www.cdoc-online.org)