

The California Cancer Registry: Searching for Causes and Cures

Colorectal Cancer among Californians, 1988-2007

February, 2010



Colorectal Cancer among Californians, 1988-2007

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Colorectal cancer incidence rates have declined significantly from 1988 through 2007 at an average of -1.6 percent each year, for a total of -27 percent over the 20-year period. Incidence rates were consistently 30-40 percent higher for men than for women, although the rates declined slightly faster for men than women.

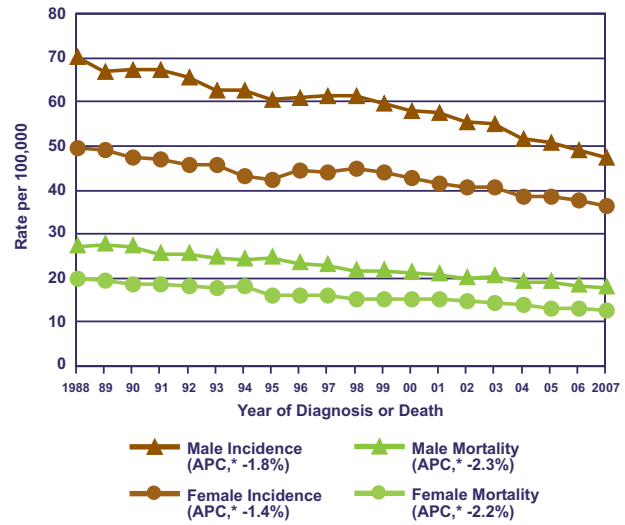
Death rates for colorectal cancer have also declined steadily at an average of -2.2 percent each year, for a total reduction of -34 percent over the 20-year period.

Colorectal Cancer Incidence Trends

Trends in Colorectal Cancer Incidence by Race/Ethnicity

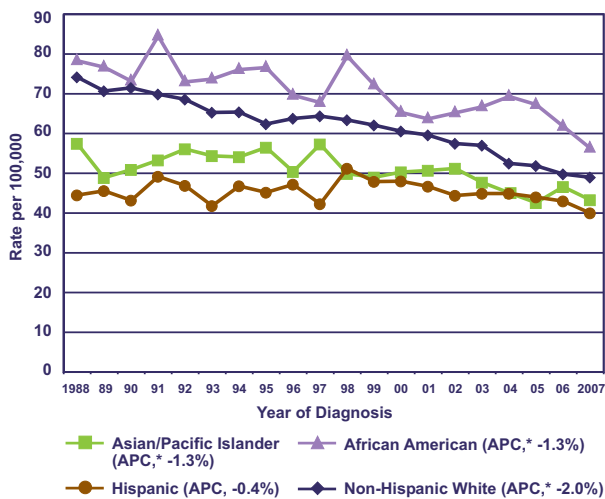
Colorectal cancer incidence rates declined for both men and women in all racial/ethnic groups from 1988 through 2007. However, some groups have had slower declines than others. While rates among African Americans declined significantly (-1.1 percent per year; -19.5 percent overall), this group consistently had the highest incidence rates throughout the period. Non-Hispanic whites had the second highest rates, but also the greatest decline in incidence (-1.6 percent per year; -27.9 percent overall). Rates among Asian/Pacific Islanders ranked third throughout the period and declined by -0.9 percent per year and -12.9 percent overall. Hispanics had the lowest rates throughout the period, but also the slowest decline in rates at -0.4 percent per year and a total drop of -8.2 percent. Due to the slower decline in incidence rates for Hispanics, the gap between them and other racial/ethnic groups has narrowed in recent years. If these trends continue, Hispanic rates may surpass those of non-Hispanic whites for the first time in the not too distant future.

Colorectal Cancer Age-Adjusted Incidence and Mortality Rates by Sex, California, 1988-2007



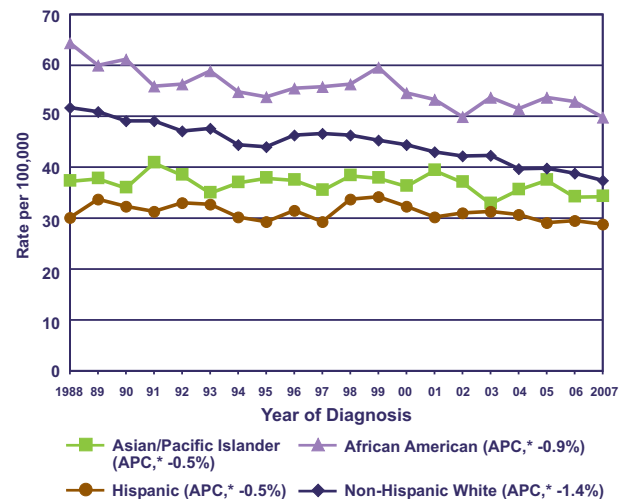
*The annual percent change (APC) is significantly different from zero ($p < 0.05$)
Prepared by the California Department of Public Health, California Cancer Registry

Colorectal Cancer Age-Adjusted Incidence Rates by Race/Ethnicity, Males, California, 1988-2007



*The annual percent change (APC) is significantly different from zero ($p < 0.05$)
Prepared by the California Department of Public Health, California Cancer Registry

Colorectal Cancer Age-Adjusted Incidence Rates by Race/Ethnicity, Females, California, 1988-2007



*The annual percent change (APC) is significantly different from zero ($p < 0.05$)
Prepared by the California Department of Public Health, California Cancer Registry

Colorectal Cancer among Californians, 1988-2007

For men, rates for non-Hispanic whites declined most steeply (-2.0 percent per year), followed by Asian/Pacific Islanders (-1.3 percent per year), and African Americans (-1.3 percent per year). Rates for Hispanic men were the lowest among the major racial/ethnic groups, but remained relatively stable. Decreases for all racial/ethnic groups were statistically significant, except for Hispanic men.

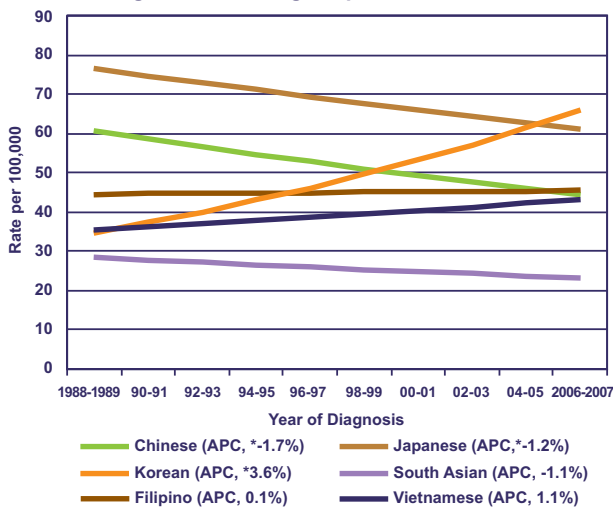
For women, rates of new cases of colorectal cancer are lower than their male counterparts for each racial/ethnic group. The decrease in rates was not as steep as for males but was statistically significant for each group. Colorectal cancer rates declined an average of -1.4 percent and -0.9 percent per year for non-Hispanic white and African American women, respectively. Rates among Hispanic and Asian/Pacific Islander women declined at a slower rate (-0.5 percent each year for both).

Trends in Colorectal Cancer Incidence by Asian Subgroups

Colorectal cancer incidence and mortality rates among Asian/Pacific Islanders overall are lower than African Americans and non-Hispanic whites for both men and women. However, there is great variability among Asian subgroups. Some subgroups had rates decreasing faster than others, and some subgroups experienced increasing rates.

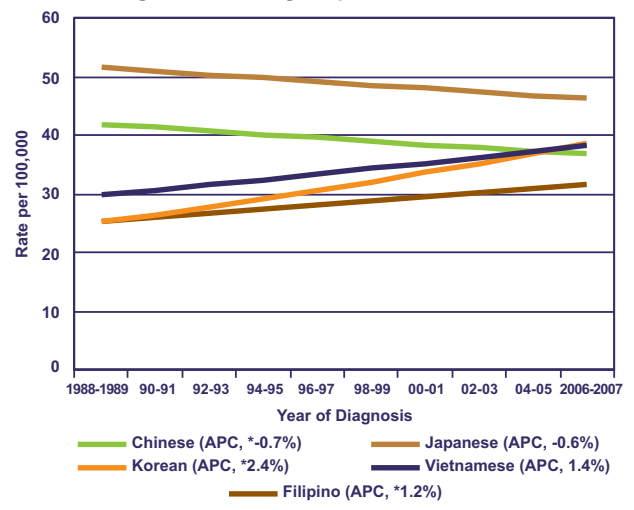
Among men, the rates for new cases of colorectal cancer among Chinese and Japanese declined significantly from 1988 through 2007 (-1.7 percent and -1.2 percent each year, respectively), while rates for South Asians (includes Asian Indian, Pakistani, Bangladeshi, Bhutanese, Nepalese, Sikkimese, or Sri Lankan) were stable (non-significant decline of -1.1 percent per year). In contrast to the overall state trend of declining incidence rates, Korean men experienced an increase in rates of new cases diagnosed during this time period (+3.6 percent per year), for a total increase of +54 percent over the period. Rates increased among Vietnamese (+1.1 percent per year) and Filipinos (+0.1 percent per year), but these were not statistically significant. By the end of the period, the rates for Korean men surpassed those of Filipino, Chinese, and Japanese males.

Trend in Two-Year, Age-Adjusted Incidence Rates among Asian Subgroups, Males, 1988-2007



*The annual percent change (APC) is significantly different from zero ($p < 0.05$)
Prepared by the California Department of Public Health, California Cancer Registry

Trend in Two-Year, Age-Adjusted Incidence Rates among Asian Subgroups, Females, 1988-2007



*The annual percent change (APC) is significantly different from zero ($p < 0.05$)
Prepared by the California Department of Public Health, California Cancer Registry

There is also variability in rates for this disease among Asian subgroup women. As with Korean men, the rate of colorectal cancers increased among Korean women (+2.4 percent per year). Increased rates were also seen among Vietnamese women (+1.4 percent per year) and Filipina (+1.2 percent per year) women. However, the increase was only statistically significant for Koreans and Filipinas. Rates declined among Chinese women (-0.7 percent per year) and Japanese women (-0.6 percent per year), but these declines were only statistically significant for Chinese women. By the end of the 20-year period, Korean and Vietnamese rates surpassed those of Chinese women and were second only to the rate of Japanese women which remained stable.

Trends in Colorectal Cancer Incidence by Age

Like most other cancers, colorectal cancer risk increases with age. Over 90 percent of colorectal cancers are diagnosed among adults age 50 years and older. Current colorectal cancer screening guidelines recommend that all adults begin routine screening at age 50 (earlier screening may be recommended before age 50 for some individuals at high risk for colorectal cancer). For men and women in the recommended screening age group of 50 years and older, colorectal cancer incidence rates have steadily declined since 1988. While the number of cases and rates of colorectal cancer are very low for persons less than 50 years of age, these rates are slowly increasing. Rates among adults younger than age 50 have increased from 3.8 per 100,000 in 1988 to 5.5 per 100,000 in 2007. This represents an average increase of +2.4 percent per year.

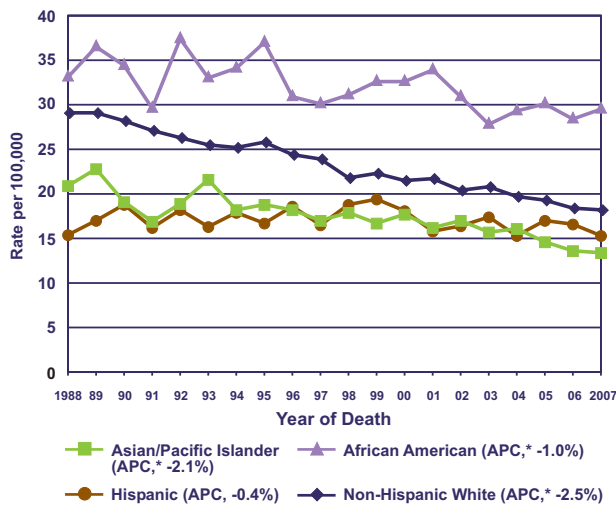
Colorectal Cancer Mortality Trends

Colorectal cancer mortality rates have declined significantly from 1988 through 2007 at an average decrease of -2.2 percent each year, for a total decline of -34 percent over the 20-year period. Mortality rates were consistently higher for men than for women, but the rates of decline were nearly identical for men and women.

Trends in Colorectal Cancer Mortality by Race/Ethnicity

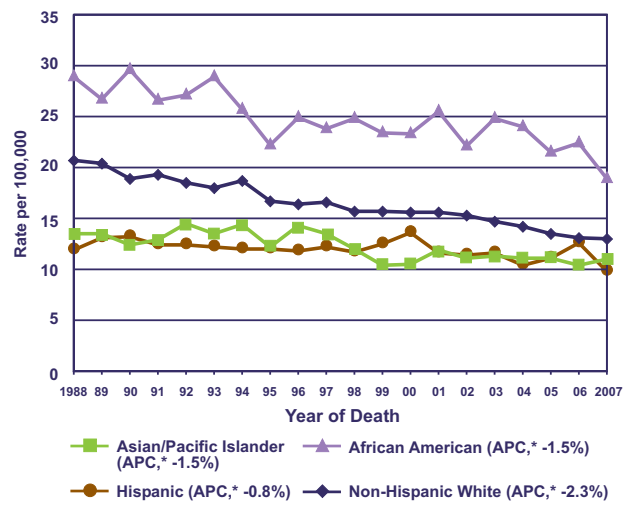
Mortality rates declined significantly for all racial/ethnic groups, but as with incidence rates, some groups have slower declines than others. Mortality rates were highest throughout the period for African Americans but declined by -21.5 percent over the period. Non-Hispanic whites had the greatest drop in mortality rates (-35.8 percent), followed by Asian/Pacific Islanders (-31 percent). Hispanics experienced the lowest decline in mortality rates (-6.4 percent).

Colorectal Cancer Age-Adjusted Mortality Rates by Race/Ethnicity, Males, California, 1988-2007



*The annual percent change (APC) is significantly different from zero (p < 0.05)
 Prepared by the California Department of Public Health, California Cancer Registry

Colorectal Cancer Age-Adjusted Mortality Rates by Race/Ethnicity, Females, California, 1988-2007



*The annual percent change (APC) is significantly different from zero (p < 0.05)
 Prepared by the California Department of Public Health, California Cancer Registry

Among men, colorectal cancer mortality rates for non-Hispanic whites declined the most (-2.5 percent per year), followed by Asian/Pacific Islanders (-2.1 percent per year), and African Americans (-1.0 percent per year). Rates for Hispanic men are the lowest among the major racial/ethnic groups and have remained relatively stable (-0.4 percent per year). Decreases for all racial/ethnic groups were statistically significant, except for Hispanic men.

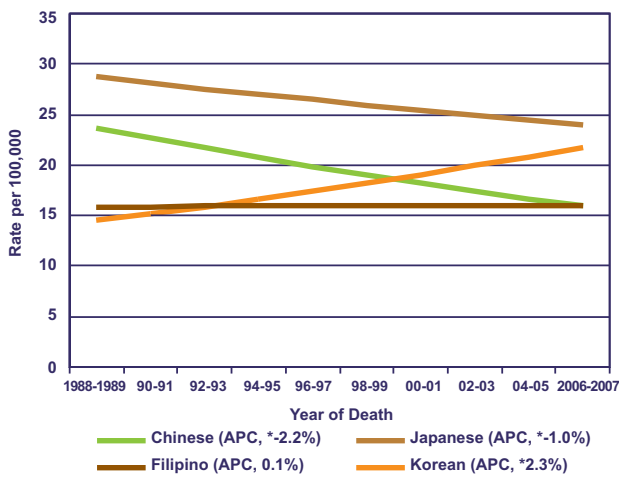
Among women, colorectal cancer mortality rates are lower than their male counterparts for each racial/ethnic group. While rates declined among all groups, the decrease was not as dramatic as for men. Non-Hispanic white women had the greatest rate of decline (-2.3 percent each year), followed by African Americans and Asian/Pacific Islanders (-1.5 percent each year for both groups). Hispanic women had the slowest decline in mortality rates (-0.8 percent per year). Declines were statistically significant for all four groups.

Trends in Colorectal Cancer Mortality by Asian Subgroups

As with incidence data, not all Asian subgroups had decreasing rates of death from colorectal cancer over the 20-year period. Among men, colorectal cancer mortality rates declined significantly among Chinese (-2.2 percent per year) and Japanese (-1.0 percent per year). Mortality rates increased among Korean men (+2.3 percent per year) and remained stable among Filipino men (+0.1 percent per year). However, the increase was only statistically significant for Koreans.

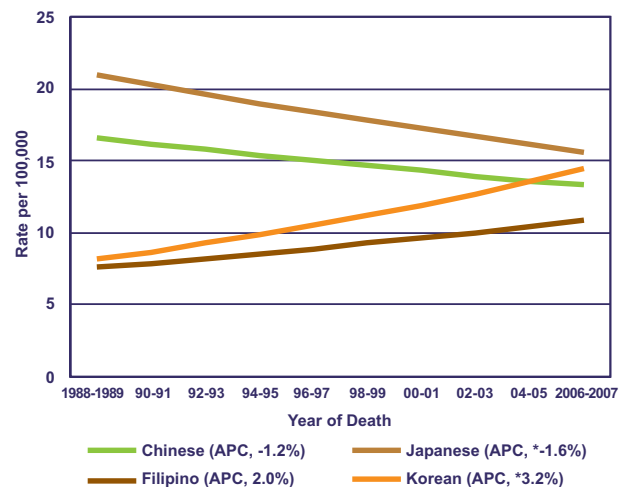
Among women, colorectal cancer mortality rates declined among Chinese and Japanese women (-1.2 percent and -1.6 percent per year, respectively). The decline among Japanese women was statistically significant. Mortality rates increased significantly, however, among Korean women (+3.2 percent per year). Filipina women also experienced an increase in mortality rates (+2.0 percent per year), but this increase was not statistically significant. Trends data could not be calculated for all subgroups due to small counts.

Trend in Two-Year, Age-Adjusted Mortality Rates among Asian Subgroups, Males, 1988-2007



*The annual percent change (APC) is significantly different from zero ($p < 0.05$)
Prepared by the California Department of Public Health, California Cancer Registry

Trend in Two-Year, Age-Adjusted Mortality Rates among Asian Subgroups, Females, 1988-2007

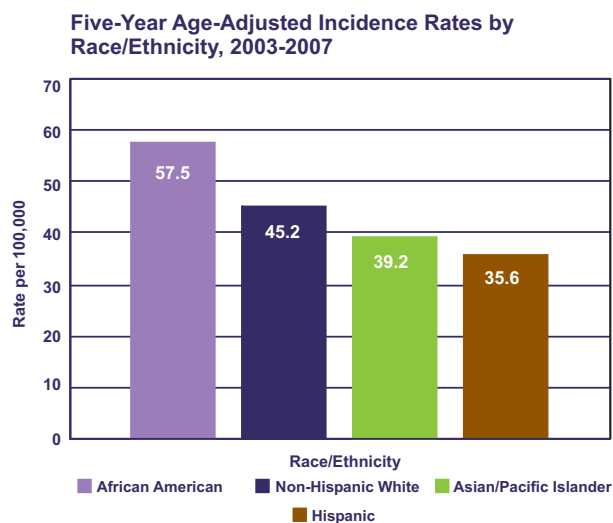


*The annual percent change (APC) is significantly different from zero ($p < 0.05$)
Prepared by the California Department of Public Health, California Cancer Registry

Five-Year Age-Adjusted Incidence and Mortality Rates

Five-Year Age-Adjusted Colorectal Cancer Incidence by Race/Ethnicity

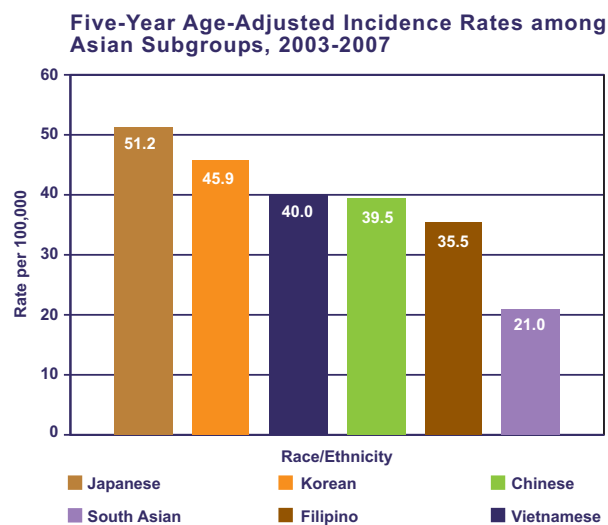
Colorectal cancer incidence rates vary by racial/ethnic group. During the five-year period 2003-2007, African Americans had the highest average colorectal cancer incidence rate (57.5 per 100,000), followed by non-Hispanic whites (45.2 per 100,000), and Asian/Pacific Islanders (39.2 per 100,000). Hispanics had the lowest rate (35.6 per 100,000).



Prepared by the California Department of Public Health, California Cancer Registry

Five-Year Age-Adjusted Colorectal Cancer Incidence by Asian Subgroups

There is great variability in colorectal cancer incidence rates among the Asian subgroups. Japanese have the highest rate (51.2 per 100,000) of colorectal cancer - more than twice the rate among South Asians, the group with the lowest rate (21.0 per 100,000). Rates of colorectal cancer among Japanese are second only to African Americans. Koreans have the second highest colorectal cancer rates at 45.9 per 100,000.



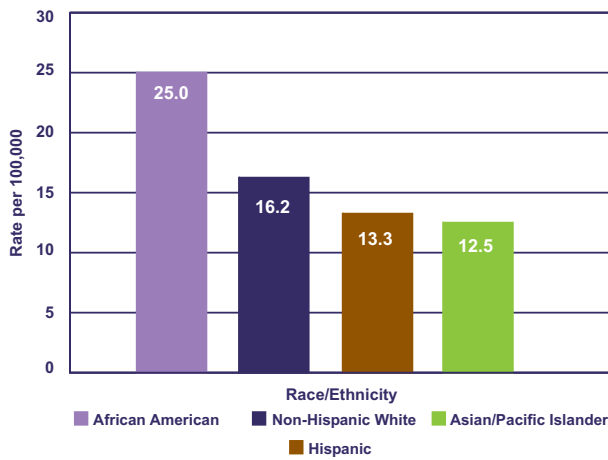
Prepared by the California Department of Public Health, California Cancer Registry

Five-Year Age-Adjusted Colorectal Cancer Mortality by Race/Ethnicity

Over the five-year period 2003-2007, African Americans have the highest colorectal cancer mortality rates (25.0 per 100,000), followed by non-Hispanic whites (16.2 per 100,000) and Hispanics (13.3 per 100,000). Asian/Pacific Islanders have the lowest rate (12.5 per 100,000).

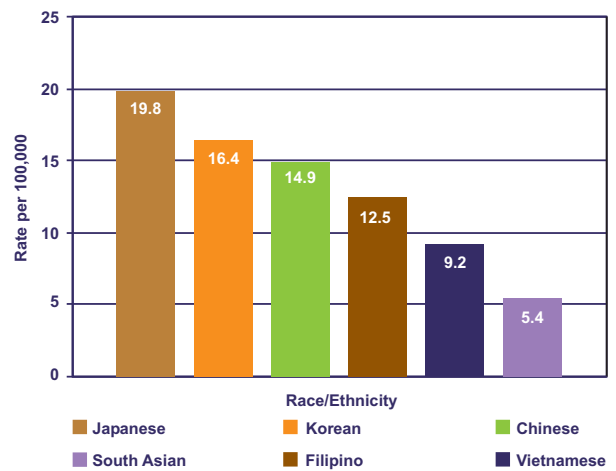
However, like incidence (new cases), mortality (death) rates vary among the Asian subgroups. Japanese have the highest death rate (19.8 per 100,000) – more than three times higher than the rate of South Asians (5.4 per 100,000) and second only to African Americans.

Five-Year Age-Adjusted Mortality Rates by Race/Ethnicity, 2003-2007



Prepared by the California Department of Public Health, California Cancer Registry

Five-Year Age-Adjusted Mortality Rates among Asian Subgroups, 2003-2007



Prepared by the California Department of Public Health, California Cancer Registry

Stage at Diagnosis

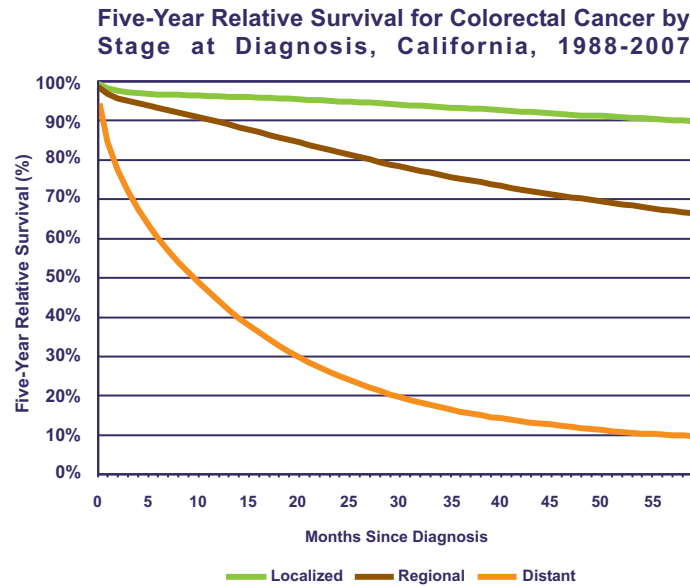
Colorectal cancer treatment is most effective when tumors are detected at an early stage. While colorectal cancer incidence rates have steadily declined from 1988-2007, overall more than half of colorectal cancers are detected at late stage (the cancer has spread beyond the colon or rectum). Among the major racial/ethnic groups, African-American females had the highest proportion of cases diagnosed at late stage (56 percent).

Number of Colorectal Cancer Cases Diagnosed Late Stage among Persons Aged 50 Years and Older by Sex and Race/Ethnicity, California, 2003-2007

| Sex | Race/Ethnicity | Number of Cases Diagnosed Late Stage | Percent Late Stage |
|--------|------------------------|--------------------------------------|--------------------|
| Male | Non-Hispanic White | 11,590 | 50 |
| | African American | 1,237 | 53 |
| | Hispanic | 2,736 | 53 |
| | Asian/Pacific Islander | 1,932 | 52 |
| Female | Non-Hispanic White | 11,640 | 52 |
| | African American | 1,443 | 56 |
| | Hispanic | 2,346 | 53 |
| | Asian/Pacific Islander | 2,020 | 54 |

Colorectal Cancer Survival

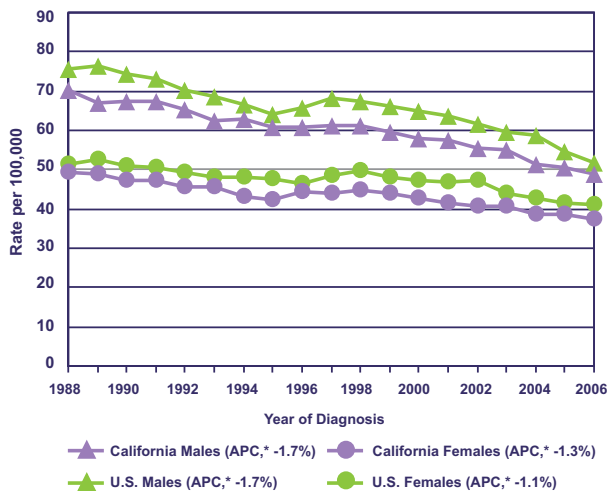
Survival from colorectal cancer is strongly related to stage at diagnosis. Survival rates are much higher when colorectal cancer is diagnosed early. Five-year relative survival for colorectal cancer diagnosed at the local stage (when the cancer is confined to the colon or rectum) is 90 percent. However, survival rates drop substantially when the disease is diagnosed at a later stage. Diagnoses at the regional stage (when the cancer has spread beyond the colon or rectum into surrounding tissues or to nearby lymph nodes) have a five-year relative survival rate of 67 percent, and diagnoses at the distant stage (when the cancer has spread to other parts of the body) have a five-year relative survival rate of 10 percent.



Geographic Variation in Colorectal Cancer Incidence and Mortality, California Compared to the United States

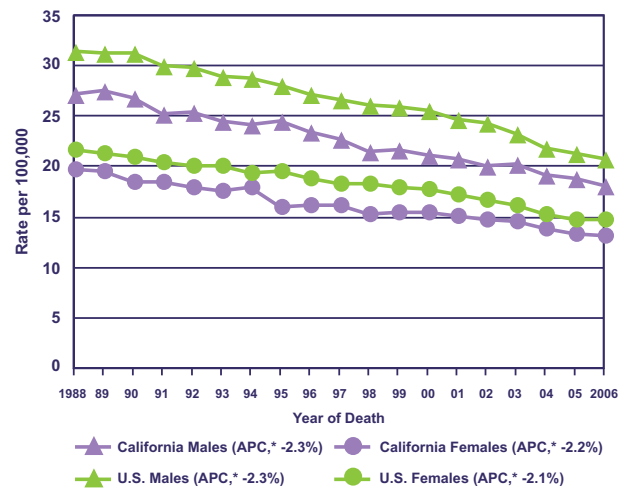
Incidence and death rates of colorectal cancer are lower in California than the United States. California has the fifth lowest incidence (new cases) and the tenth lowest death rate from colorectal cancer in the United States. Men and women in California have lower rates than their counterparts in the United States, most likely due to the large Asian/Pacific Islander and Hispanic populations in the state compared to the rest of the country. These two groups have lower colorectal cancer incidence and mortality rates than African Americans and non-Hispanic whites.

Colorectal Cancer Age-Adjusted Incidence Rates by Sex, California vs. United States, 1988-2006**



*The annual percent change (APC) is significantly different from zero ($p < 0.05$)
 ** U.S. estimates are from SEER 9 data excluding California
 Prepared by the California Department of Public Health, California Cancer Registry

Colorectal Cancer Age-Adjusted Mortality Rates by Sex, California vs. United States, 1988-2006**



*The annual percent change (APC) is significantly different from zero ($p < 0.05$)
 ** United States excluding California
 Prepared by the California Department of Public Health, California Cancer Registry

Colorectal cancer incidence rates are decreasing an average of -1.7 percent per year for men in California and the United States. The decrease in rates for women is also very similar (-1.3 percent and -1.1 percent per year for California and the United States, respectively). Colorectal cancer mortality rates among men decreased at the same rate for the United States and California, (-2.3 percent per year) and -2.2 percent versus -2.1 percent for women in California and the United States, respectively.

For more information on colorectal cancer incidence among California counties visit our interactive web site at <http://www.cancer-rates.info/ca/>.

Colorectal Cancer Screening

Survival from colorectal cancer is nearly 90 percent when the cancer is diagnosed before it has extended beyond the intestinal wall. Early stage colorectal cancers may have no symptoms and, therefore, are most often detected only through screening. The American Cancer Society recommends that both men and women begin routine screening for colorectal cancer at age 50. (For more information on screening guidelines, visit the American Cancer Society at www.cancer.org.)

In 2008, only 50 percent of California adults age 50 and over reported having had a sigmoidoscopy or colonoscopy within the past five years. The proportion screened was even lower among men whose household earned less than \$25,000 a year (35 percent) and among Hispanics (37 percent).

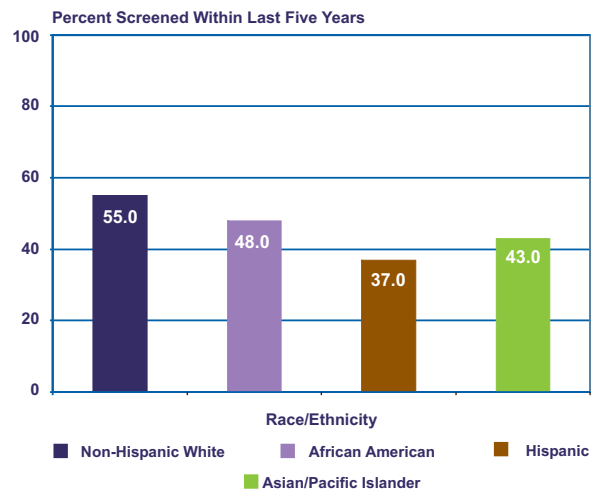
In 2008, 38 percent of Californians over age 50 reported having a fecal occult blood test using a home kit in the past five years. Individuals with low incomes, Hispanics, and Asian/Pacific Islanders were less likely to have had the exam (27 percent, 24 percent, and 23 percent respectively).

Sigmoidoscopy/Colonoscopy Use Among Persons Ages 50 and Older by Annual Household Income in California, 2008



Note: Data are weighted to the 2000 California population.
Source: California Behavioral Risk Factor Survey.
Prepared by the California Department of Public Health, California Cancer Registry

Sigmoidoscopy/Colonoscopy Use Among Persons Ages 50 and Older by Race/Ethnicity in California, 2008



Note: Data are weighted to the 2000 California population.
Source: California Behavioral Risk Factor Survey.
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