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CALIFORNIA CANCER REGISTRY

TRENDS IN CANCER INCIDENCE AND MORTALITY IN CALIFORNIA, 1988-2017

This publication was prepared by California Cancer Reporting and Epidemiologic Surveillance (CalCARES) Program, Institute for Population Health Improvement, University of California Davis Health System

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CONTENTS

SUMMARY

- Monitoring trends in the occurrence of cancer in a population is one of the main functions of a cancer registry. This report used data from the statewide California Cancer Registry to evaluate trends in cancer incidence (new cases) and mortality (deaths) among adults 20 years and older. Trends were examined by sex, age, and race/ethnicity for Non-Latino white, African American, Latino, and Asian/Pacific Islander California residents. Average annual percent changes (AAPC) were used to describe trends from 2008 through 2017, the last year for which cancer reporting was considered complete.

- Between 2008 and 2017, age-adjusted incidence rates declined for most cancers in California, although there was substantial variation in trends by sex, age and race/ethnicity. Incidence rates for the following cancer sites declined in nearly all population groups evaluated: **cervix**, **esophagus**, **larynx**, lung and bronchus, **ovary**, **prostate**, **stomach**, and **urinary bladder**. For several of these cancers, the decline in incidence was likely due to the decreasing rates of smoking and other tobacco use in California.

- The analysis of trends by sex, age, and race/ethnicity revealed important differences within cancer sites, with incidence rates declining in some groups but increasing in others. Two notable examples are (1) **colorectal cancer**, where incidence rates decreased in most groups but increased among younger persons, and (2) **liver cancer**, where rates increased in most groups but declined among Asian/Pacific Islanders and men under age 60.

- During the ten-year period, incidence rates for cancers of the **thyroid**, **testis**, **uterus**, and **multiple myeloma** increased in most population groups. The incidence of **pancreatic cancer** and **melanoma of the skin** increased as well, although only in some groups. For some of these cancers, the increase in incidence may be due to increased detection. In addition, obesity may have contributed to the increased incidence of **uterine** and **thyroid cancers**.

- Between 2008 and 2017, mortality rates declined for most cancers in California, following related declines in incidence rates. However, for several cancers incidence increased in certain groups (e.g., **breast** and **melanoma**), while mortality rates declined due to advances in treatment and early detection. The only cancers where mortality rates increased were those for which the incidence increased as well: **multiple myeloma** and cancers of the **liver, thyroid, uterus and testis**.

- The overall incidence rates for **female breast cancer** in California did not change during the period, although modest increases were uncovered among women under 44 years of age and among Latinas, African Americans and Asian/Pacific Islanders. For these groups, the increase in incidence ranged from 2.7 percent to 7.4 percent between 2008 and 2017. On the other hand, deaths due to breast cancer declined by 13.5 percent during the period, with the decline detected in all population groups.

- The overall incidence of **prostate cancer** decreased by 40 percent during the ten-year period, with sharp declines observed in men of all ages and from all racial/ethnic backgrounds. Mortality rates for prostate cancer declined in all groups as well, although the trend was not significant among white men.

- Incidence rates of **colorectal cancer** declined among men and women from all racial/ethnic groups, but trends varied significantly by age group. Among persons aged 60 years and older, incidence rates declined 30-34 percent during the period, while among those aged 20-44 years, rates increased by 40 percent. The reasons for the increase in colorectal cancer incidence among the younger population are unclear, but diet and increasing obesity rates may be contributing factors. Colorectal cancer mortality trends followed the same pattern as the incidence trends of the disease, declining in almost all groups but increasing among younger adults.

- **Lung cancer** incidence and mortality declined sharply among nearly all population groups in California. Overall, incidence rates declined by about 22 percent during the period, while mortality rates declined by 30 percent. The largest decrease in rates was observed among men 45-59 years old, for whom incidence decreased by 35 percent and mortality by 45 percent. These trends reflect the continuing decline of smoking among Californians, from 17.2 percent in 2000 to 11.2 percent in 2018.

- Incidence rates for **acute lymphocytic and myeloid leukemias** were stable or increased significantly in some population groups, most notably Latinos and those aged 20-44 years old. On the other hand, the incidence of **chronic lymphocytic and myeloid leukemias** followed an opposite pattern, with declines in several groups and no increases detected. **Acute myeloid leukemia** was the only type of leukemia for which mortality rates increased in some groups in the absence of a corresponding increase in incidence.

INTRODUCTION

The current report presents trends in cancer incidence and mortality among adult Californians 20 years of age and older, from 1988 through 2017. The report is based on information gathered by the California Cancer Registry (CCR), the state mandated population-based cancer surveillance system in California. Monitoring cancer trends is an important function of a cancer surveillance system to evaluate the efficacy of cancer screening and detection methods and to determine priorities in cancer control programs. Since 1988, the CCR has routinely collected demographics, diagnostic, tumor biology, treatment and follow-up information on cancer cases diagnosed in California, thus providing the foundation for cancer research studies and cancer control initiatives throughout the state. Since 2012, the California Cancer Reporting and Epidemiology Surveillance (CalCARES) Program, at the University of California Davis Health has partnered with the California Department of Public Health to manage the day-to-day operations of the CCR.

Trends in cancer incidence and mortality age-adjusted rates are presented for the 1988-2017 period, as reported to CCR through December 2019. The report includes the 27 most common types of cancer (plus colorectal and all leukemias combined), which together accounts for over 90 percent of all cancers diagnosed in California. Trends were estimated, by sex, for the four largest racial/ethnic population groups in California: non-Latino whites, Latinos, African Americans and Asian/Pacific Islanders. Trends by age at diagnosis and age at death by sex are also included. For each cancer type or anatomic site, which are presented in alphabetical order, estimates of the *average annual percent change* (AAPC) for the ten-year period 2008 through 2017 are presented in a table. Long term incidence and mortality trends for the entire period between 1988-2017 are displayed graphically, with figures by sex, age, and race/ethnicity. All figures present the actual rates (as bars or markers), with lines showing the regression-estimated trends over time.

METHODS AND TECHNICAL NOTES

Cancer Risk Factors

A risk factor is anything that increases a person's chance of developing cancer. Some lifestyle risk factors can be avoided, such as smoking, and some cannot, such as age and family history. Although risk factors can influence the development of cancer, people with several risk factors do not always develop the disease, while many cancer patients have no known risk factors. Information on cancer risk factors was obtained from the National Cancer Institute (https://www.cancer.gov/types) and the Centers for Disease Control and Prevention (https://www.cdc.gov/cancer/breast/basic_info/risk_factors.htm).

Incident cases

This report includes invasive cancer cases diagnosed between January 1, 1988 and December 31, 2017 and reported to CCR as of December 2019. A "case" is defined as a primary cancer; if a cancer resulted from spread from a primary site to another organ it was not counted as a new case. Cases of *in situ* cancers, which are mostly detected through screening, were not included. Only cases diagnosed in California residents are included in this report: persons who were treated for cancer in California, but were residents of another state or country, are not included.

Classification of anatomic site

Cancers were grouped according to conventions of the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) program. Primary anatomic site and histologic type of cases were coded according to the International Classification of Diseases for Oncology. Cases diagnosed from 1988-1991 were coded using the Field Trial Edition, cases diagnosed from 1992-2000 were coded using the Second Edition (ICD-O-2), and those diagnosed from 2001- 2017 were coded using the Third Edition (ICD-O-3). Conversions from original coding schemes to the current ICD-O-3 edition were accomplished through computerized programs developed by SEER.

Cancer Mortality

Data on cancer-related deaths were obtained from the California Department of Public Health, Center for Health Statistics. Beginning in 1999, cause of death was coded by the International Classification of Diseases, Tenth Edition (ICD-10). All mortality analyses presented in this report are the responsibility of the authors and were not reviewed or endorsed by the Center for Health Statistics prior to publication. Only deaths among California residents were included in these analyses.

Definition of Race/Ethnicity

Race/ethnicity was grouped into the mutually exclusive categories of non-Latino white (white), non-Latino African American (African American), Latino, and non-Latino Asian/Pacific Islander. Race and ethnicity were reported as separate data items during data collection for both cases and deaths. Persons with race reported as white, African American, or unknown, but with a last name on the 1980 U.S. Census list of 12,497 Hispanic surnames, were categorized as Latino for analyses in this report. Maiden name, when present, was used in addition to last name to identify Latinas by surname. Similarly, persons with race coded as white, African American, or unknown, but with a Vietnamese or Hmong surname were categorized as Asian.

Calculation of Age-Adjusted Rates

Rates were calculated as the number of new cases (incidence) or deaths (mortality) in specific age groups per 100,000 persons each year, were age-adjusted to the 2000 United States standard population. Age-adjusted rates are weighted averages of age-specific rates, where the weights represent the age distribution of a standard population. Such adjustment eliminates differences in rates due to changes in the age of a population over time, or due to differences in age distribution between population groups. Rates in this report were calculated using the Surveillance Research Program, National Cancer Institute SEER*Stat software version 8.3.6 (http//srab.cancer.gov/seerstat). Rates based on less than eight cases (or deaths) in any given year were not calculated.

Statistical Analysis of Trends

Joinpoint linear regression was used to determine trends in cancer incidence and mortality. In this analysis, a statistical algorithm detects joinpoints, or points in time where the slope of the regression line significantly changes. Thus, the model describes trends during different time segments, with the annual percent change (APC) estimated for each segment. The Joinpoint Regression Program, Version 4.7.0.0 - February 2019; Statistical Methodology and Applications Branch, Surveillance Research Program, National Cancer Institute was used for all trend analyses in this report (http//srab.cancer.gov/joinpoint).

Average Annual Percent Change (AAPC)

Average Annual Percent Change (AAPC) is a summary measure of a trend over a pre-specified fixed interval. It allows us to use a single number to describe the average increase or decrease in rates over a period of multiple years. The AAPC is a valid measure even if there were changes in trends during the period considered. It is computed as a weighted average of the annual percent changes from the joinpoint model, with the weights equal to the length of the time interval. The overall, or total percent change in rates during the period was calculated from the AAPC as $100*(1 + AAPC/100)^t -100$, where t is the number of years in the period.

Cautions on Interpretation

Statistical significance, set at alpha = 0.05, was determined by testing the hypothesis that the slope of the line in the joinpoint regression was equal to zero. That is, the trend in cancer rates was considered statistically significant if there was less than a five percent chance that the difference in rates was the result of random variation. However, statistical significance does not necessarily indicate the relevance of the results. Additional assessments are required to separate chance occurrences from true public health concerns. On the other hand, trends based on a small number of cases or deaths per year are less reliable and less likely to reach statistical significance, even if a true difference exists.

The validity of rates depends on the completeness of cancer reporting and on the accuracy of population estimates. Cancer surveillance is a dynamic process and cases diagnosed in earlier years may be reported long after incidence data are considered "complete". The delay in reporting of cancer cases may affect trends in cancer incidence, particularly for the most recent years of diagnosis.

The reliability of race-specific cancer rates depends on the accuracy of race classification in both cases and deaths, and in population estimates. Race/ethnicity information for cancer cases is based primarily on information contained in the patient's medical record. This information may be based on self-identification by the patients or on assumptions made by admissions clerks or other medical personnel. Race/ethnicity for cancer deaths, on the other hand, is based on information on the death certificate, which is often completed by the funeral director or coroner and may not always be based on information provided by next-of-kin. While the use of surname lists partially compensates for misclassification of some racial/ethnic groups, it is likely that some differences in race-specific rates reflect biases of classification rather than true differences in risk.

BRAIN AND NERVOUS SYSTEM CANCER

In 2017, 2,165 Californians were diagnosed with brain cancer, and 1,740 died from the disease. Incidence of the different types of brain tumors vary by sex and race/ethnicity. Brain tumors occur more often among whites and men, although meningiomas are more common in women. The incidence of brain cancer increases with age, and most brain tumors are detected in older adults. However, brain cancer is the second most common cancer in children.

The cause of brain cancer is not known, and there are no known means of preventing brain tumors. Research aimed at linking the occurrence of brain tumors with infections, head injuries, or electromagnetic fields (e.g., from electric power lines or cell phones) has been inconclusive. The following factors are associated with an increased risk of developing brain cancer:

- Occupational exposures to certain chemicals (e.g., formaldehyde, vinyl chloride, and acrylonitrile)
- Exposure to high doses of gamma radiation (e.g., workers in the nuclear power industry)
- Previous treatment to the brain or head with ionizing radiation
- A family history of brain cancer

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

The incidence of brain cancer declined slightly in almost all population groups examined, although the average annual percent change (AAPC) in rates was not always statistically significant. Among men, changes in incidence by race/ethnicity were not significant and did not follow a clear pattern. Among women, incidence rates declined by 1.0 percent and by 0.7 percent per year in African Americans and Asian/Pacific Islanders, respectively. Incidence rates also declined significantly among persons under 75 years of age.

Mortality rates for brain cancer did not significantly change in any racial/ethnic group, except for Asian/Pacific islander men, for whom rates increased by 1.3 percent per year between 2008 and 2017. Consistent with incidence trends, mortality rates declined significantly among persons under 75 years of age, particularly for those under age 60, with overall declines of 10.3 percent to 11.1 percent during the period.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: BRAIN AND OTHER NERVOUS SYSTEM CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-0.5**	↓	**-4.4**	**0.1**	〰	**0.9**
Age	20 – 44	-0.6	↓	-5.3	-1.3	↓	-11.1
	45 – 59	-0.8	↓	-7.0	-1.2	↓	-10.3
	60 – 74	-0.6	↓	-5.3	-0.5	↓	-4.4
	75+	0	〰	0	0.8	↑	7.4
Race/Ethnicity	White, Non-Latino	0	〰	0	0.6	〰	5.5
	African American	-0.6	↓	-5.3	-0.3	〰	-2.7
	Latino	-0.3	↓	-2.7	0.2	〰	1.8
	Asian/Pacific Islander	-0.1	〰	-0.9	0.6	↑	5.5
Men		**-0.5**	↓	**-4.4**	**-0.4**	↓	**-3.5**
Age	20 – 44	-0.5	↓	-4.4	-1.1	↓	-9.5
	45 – 59	-1.0	↓	-8.6	-1.3	↓	-11.1
	60 – 74	-0.5	↓	-4.4	-0.5	↓	-4.4
	75 +	0.1	〰	0.9	0.7	↑	6.5
Race/Ethnicity	White, Non-Latino	-0.1	〰	-0.9	-0.1	〰	-0.9
	African American	-0.4	〰	-3.5	-0.2	〰	-1.8
	Latino	-0.2	〰	-1.8	-0.1	〰	-0.9
	Asian/Pacific Islander	0.5	〰	4.6	1.3	↑	12.3
Women		**-0.6**	↓	**-5.3**	**-0.5**	↓	**-4.4**
Age	20 – 44	-0.7	↓	-6.1	-1.7	↓	-14.3
	45 – 59	-0.6	↓	-5.3	-1.1	↓	-9.5
	60 – 74	-0.7	↓	-6.1	-0.6	↓	-5.3
	75 +	-0.3	〰	-2.7	0.7	↑	6.5
Race/Ethnicity	White, Non-Latino	-0.1	〰	-0.9	-0.2	〰	-1.8
	African American	-1.0	↓	-8.6	-0.6	〰	-5.3
	Latino	-0.3	〰	-2.7	-0.8	〰	-7.0
	Asian/Pacific Islander	-0.7	↓	-6.1	-0.9	〰	-7.8

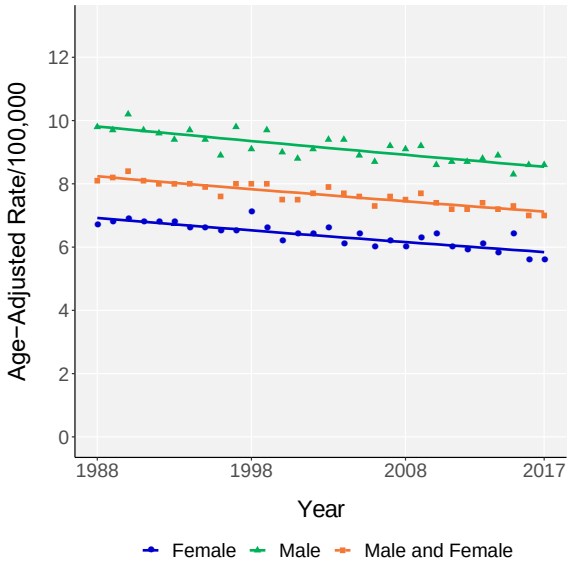
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate not statistically significant.

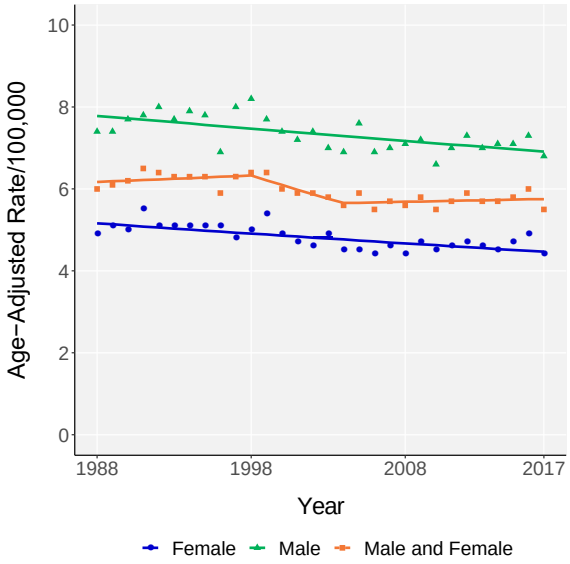
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: BRAIN AND OTHER NERVOUS SYSTEM CANCER

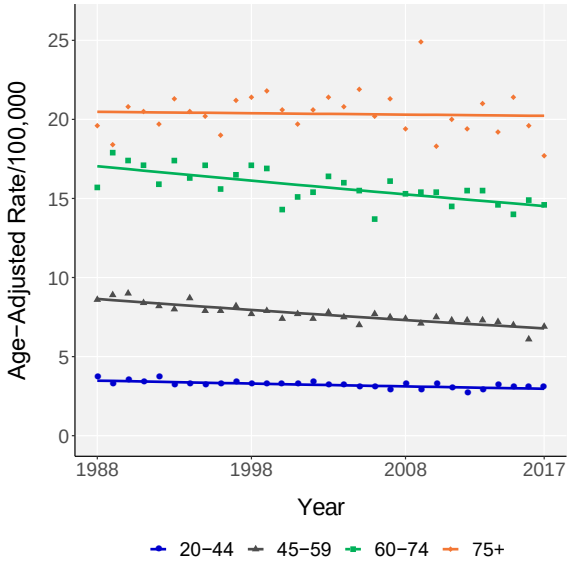
INCIDENCE BY SEX



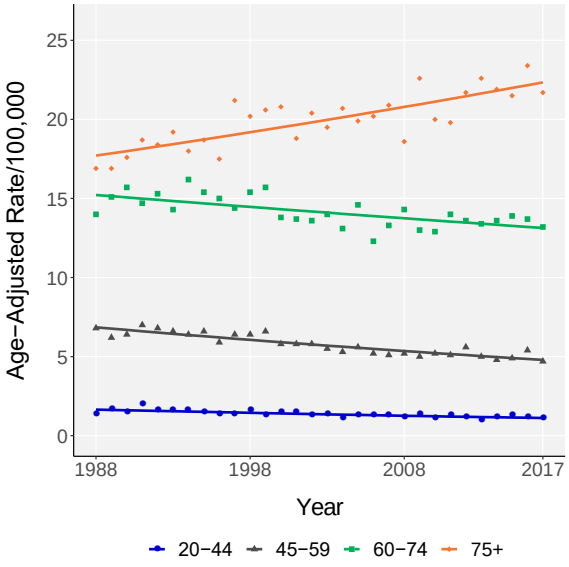
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



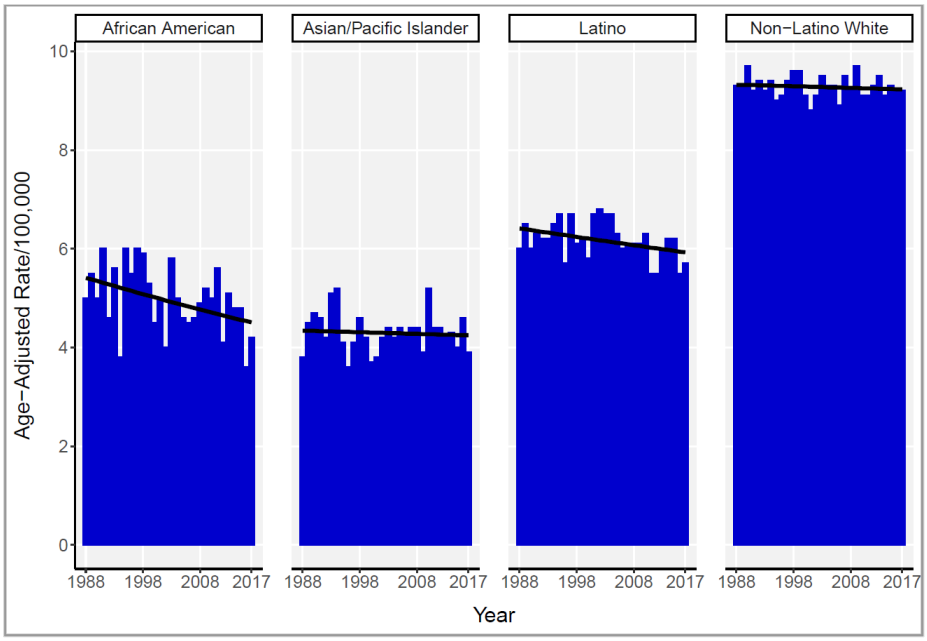
MORTALITY BY AGE GROUP



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: BRAIN AND OTHER NERVOUS SYSTEM CANCER

INCIDENCE



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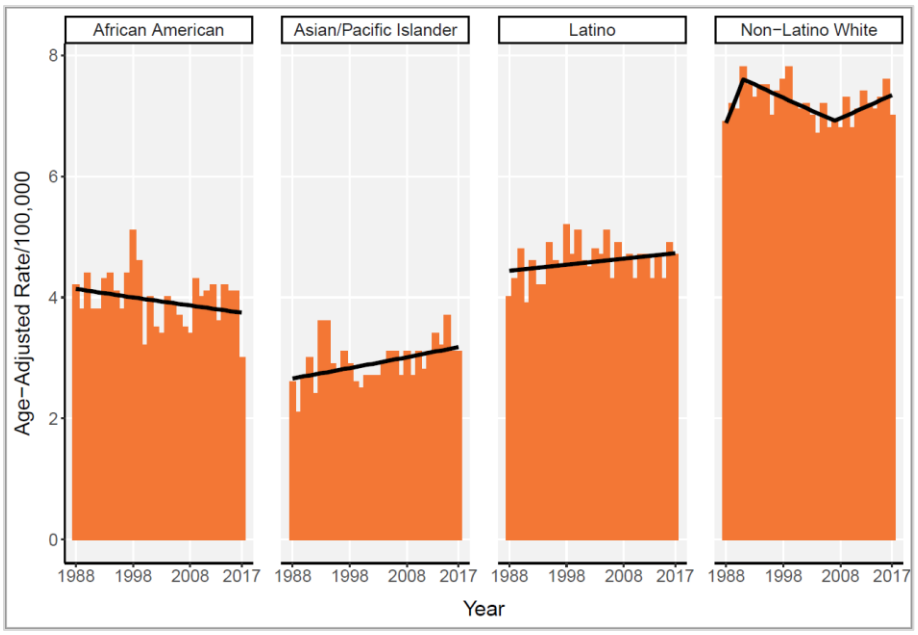


** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

BREAST CANCER (FEMALE)

Breast cancer is the most commonly diagnosed female cancer in California and in the U.S. In 2017, 28,654 California women were diagnosed with invasive breast cancer (and 5,458 with *in situ* tumors) and 4,589 died from the disease.

The risk of developing breast cancer increases with age, with most cases being diagnosed in women after menopause. Breast cancer rates vary by race/ethnicity. White women are more likely to develop breast cancer, but African- American women are more likely to die from it. The cause of breast cancer is not known, and it is likely that multiple factors influence the development of the disease, although many women diagnosed with breast cancer have no apparent risk factors. The following factors increase a woman's risk of developing breast cancer:

- Personal history of breast cancer or diagnosis of atypical hyperplasia of the breast
- History of breast cancer in a first-degree relative (i.e., mother, sister, daughter)
- Genetic mutations to BRCA1, BRCA2, and other breast cancer genes
- Reproductive history – long exposure to estrogen, such as starting menstruation before age 12 and entering menopause after age 55
- Having the first pregnancy after age 30, not breastfeeding, and never having a full-term pregnancy
- Use of estrogen hormone replacement therapy
- Lifestyle factors such as obesity, lack of exercise, and alcohol use
- High doses of radiation to the chest or breast before age 30

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the period between 2008 and 2017, modest increases in breast cancer incidence rates were detected among all racial/ethnic groups, except white women, for whom rates did not change significantly. The average annual percent increase in incidence was 0.3 among African Americans, 0.6 percent among Latinas, and 0.8 among Asian/Pacific Islander women. Breast cancer incidence also increased, by 0.6 percent per year, among women 20 to 44 years of age, while among women 75 years and older rates decreased by 0.5 percent per year.

Despite the slight increase in incidence rates, breast cancer mortality declined significantly among women in all racial/ethnic groups and among women 45 years and older. Mortality rates decreased, on average, from 0.5 percent per year among Asian/Pacific Islanders to 1.3 percent per year among Latinas. The largest decline in mortality was observed among women 60 to 74 years of age, for whom rates declined by 2.1 percent per year during the ten-year period.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: FEMALE BREAST CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Women		**0**	〰	**0**	**-1.6**	↓	**-13.5**
Age	20 – 44	0.6	↑	5.5	-0.2	〰	-1.8
	45 – 59	-0.3	〰	-2.7	-1.6	↓	-13.5
	60 – 74	0.2	〰	1.8	-2.1	↓	-17.4
	75 +	-0.5	↓	-4.4	-1.0	↓	-8.6
Race/Ethnicity	White, Non-Latino	-0.4	〰	-3.5	-1.5	↓	-12.7
	African American	0.3	↑	2.7	-1.0	↓	-8.6
	Latino	0.6	↑	5.5	-1.3	↓	-11.1
	Asian/Pacific Islander	0.8	↑	7.4	-0.5	↓	-4.4

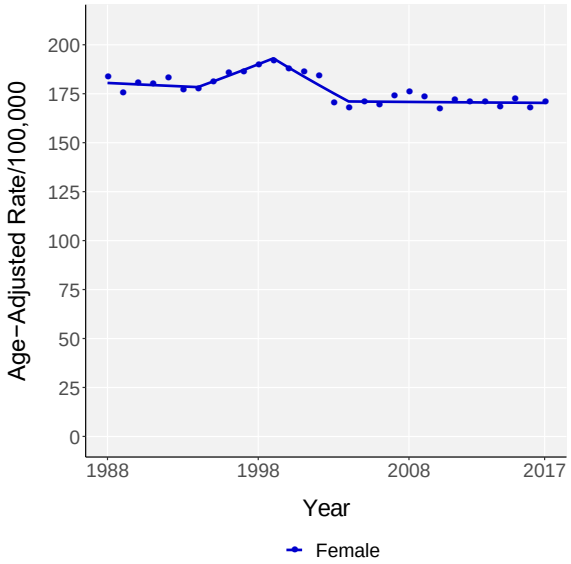
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

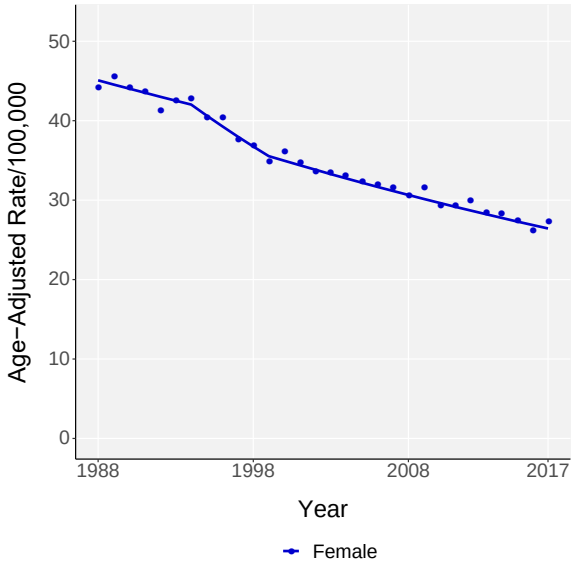
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: FEMALE BREAST CANCER

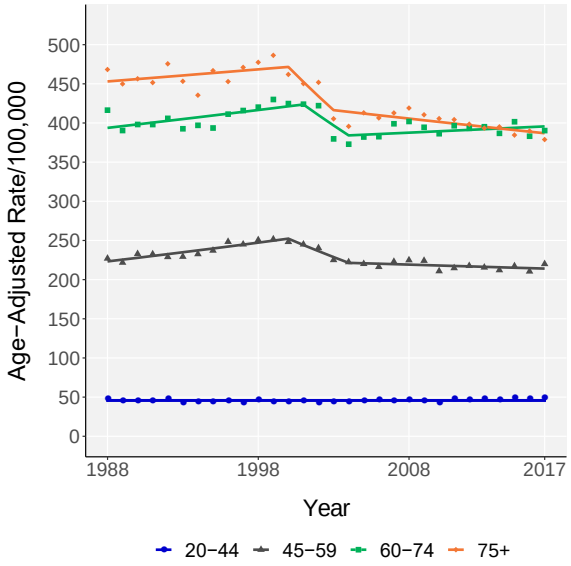
INCIDENCE



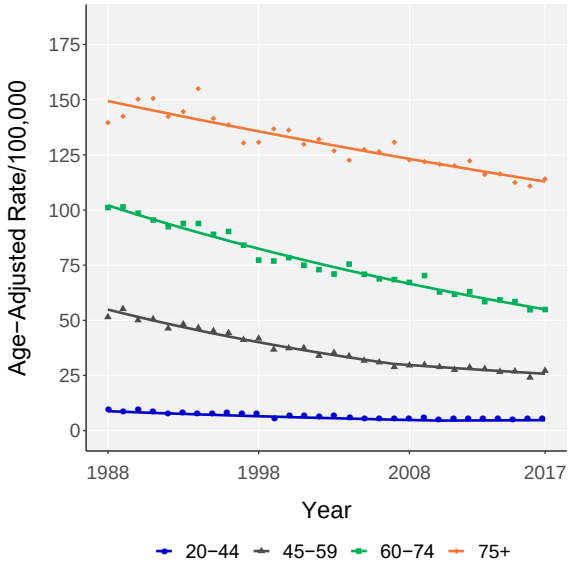
MORTALITY



INCIDENCE BY AGE GROUP



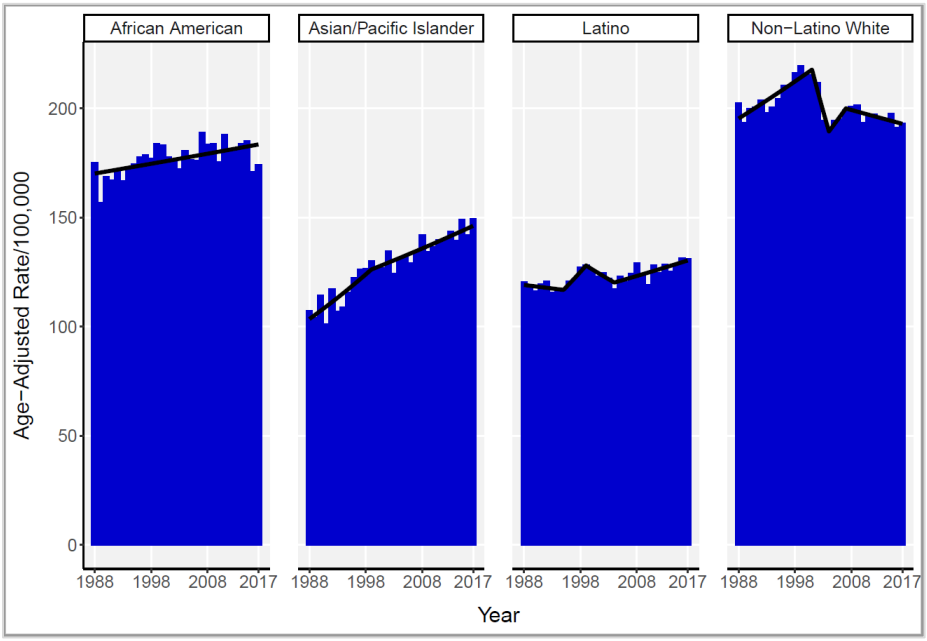
MORTALITY BY AGE GROUP



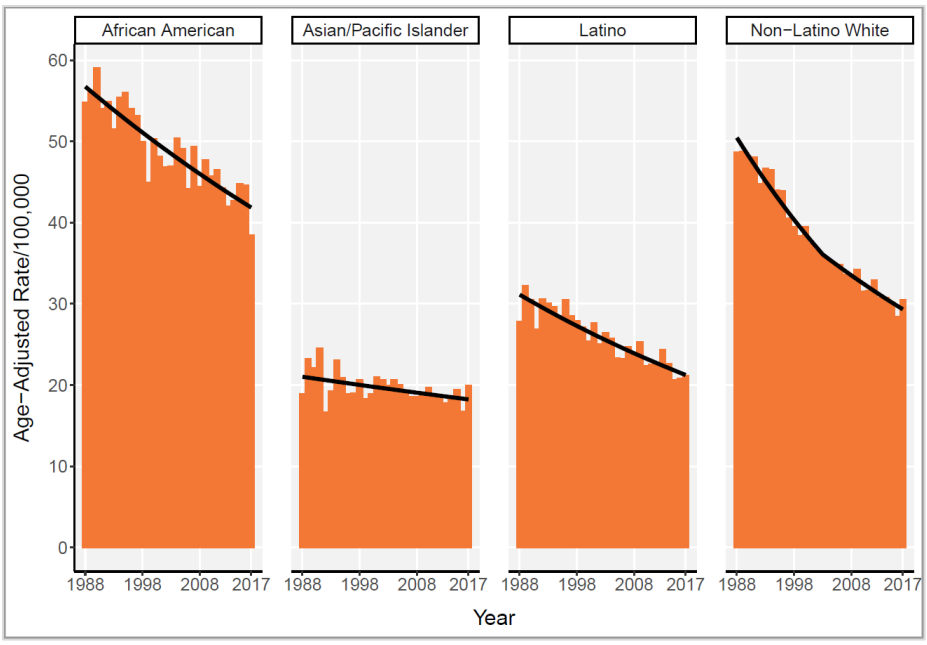
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: FEMALE BREAST CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

CERVIX CANCER

In 2017, 1,502 California women were diagnosed with invasive cervical cancer, and 490 women died from the disease. Incidence rates of cervical cancer in California in 2017 were highest among Latinas and lowest among African Americans. The most important risk factor for cervical cancer is infection with human papillomavirus (HPV), which is transmitted primarily through sexual intercourse. Survey data from the Centers for Disease Control and Prevention show that 79.3 percent of California women in 2018 had a Pap smear test within the past three years, which is well below the Healthy People 2020 objective of at least 93 percent of women receiving cervical cancer screening.

Three HPV vaccines are currently available to protect against infection with the HPV types most commonly responsible for cervical cancer. Proper use of these vaccines has the potential to markedly reduce the burden of cervical cancer. Women who smoke, or whose mothers were given diethylstilbestrol during pregnancy, are also at increased risk for cervical cancer. Screening with regular gynecologic exams and Pap smears followed by treatment of precancerous abnormalities decreases the incidence and mortality of cervical cancer.

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the ten-year period from 2008 through 2017, incidence rates for cervical cancer declined among women 20 to 74 years old. Rates declined, on average, by 1.7 percent, 1.2 percent and 2.6 percent per year among women in the 20-44, 45-59, and 60-74 years age groups. Incidence rates also declined among Latinas (by 2.3 percent per year) and Asian/Pacific Islander women (by 2.1 percent per year), while decline in rates among white and African American women were non-significant.

During the same time period, mortality rates for cervical cancer declined by 1.7 percent per year among women between 45 and 74 years of age. Mortality rates also declined among African Americans and Latinas, by and average of 2.9 and 2.4 percent per year, respectively. Mortality in all other groups examined increased, although the changes were not statistically significant.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: CERVIX CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Women		**-1.3**	↓	**-11.1**	**-0.3**	〰	**-2.7**
Age	20 – 44	-1.7	↓	-14.3	1.5	〰	14.3
	45 – 59	-1.2	↓	-10.3	-1.7	↓	-14.3
	60 – 74	-2.6	↓	-21.1	-1.7	↓	-14.3
	75 +	-0.5	↓	1.8	-1.0	↓	9.4
Race/Ethnicity	White, Non-Latino	-0.4	〰	-4.4	-1.5	↓	3.7
	African American	-0.7	〰	-6.1	-2.9	↓	-23.3
	Latino	-2.3	↓	-18.9	-2.4	↓	-19.6
	Asian/Pacific Islander	-2.1	↓	-17.4	0.5	〰	4.6

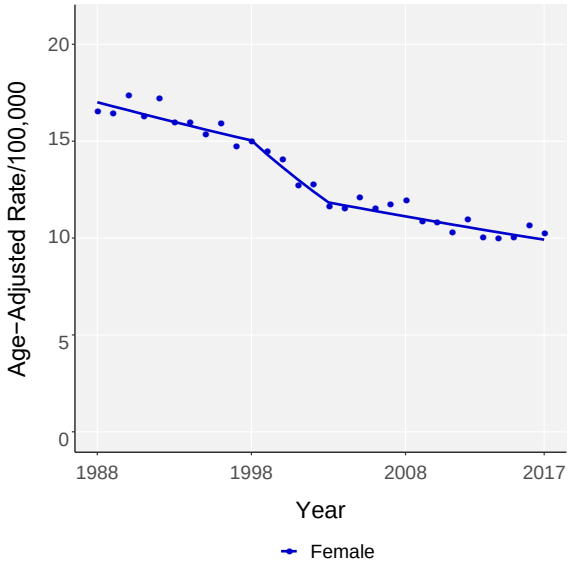
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

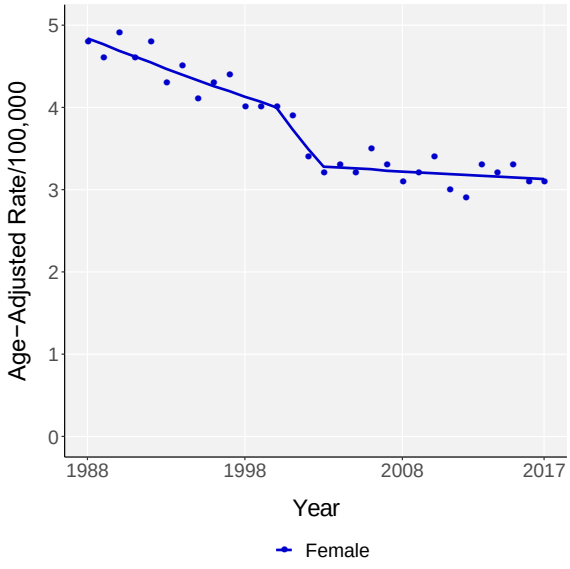
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: CERVIX CANCER

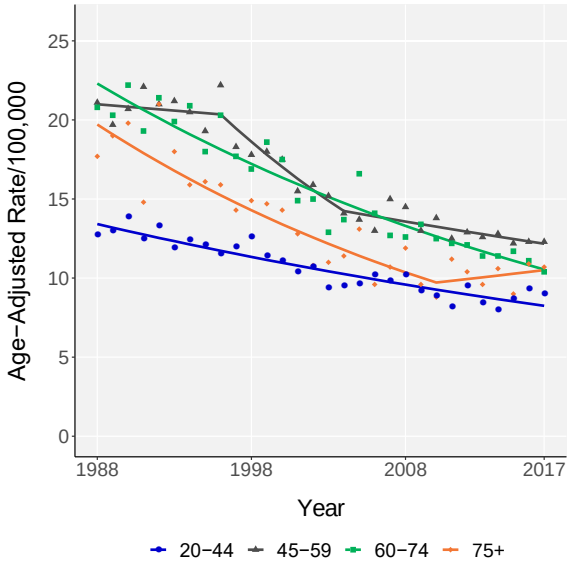
INCIDENCE



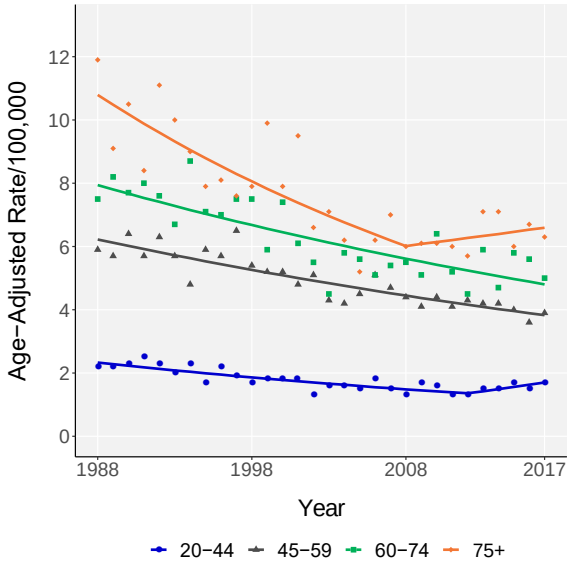
MORTALITY



INCIDENCE BY AGE GROUP



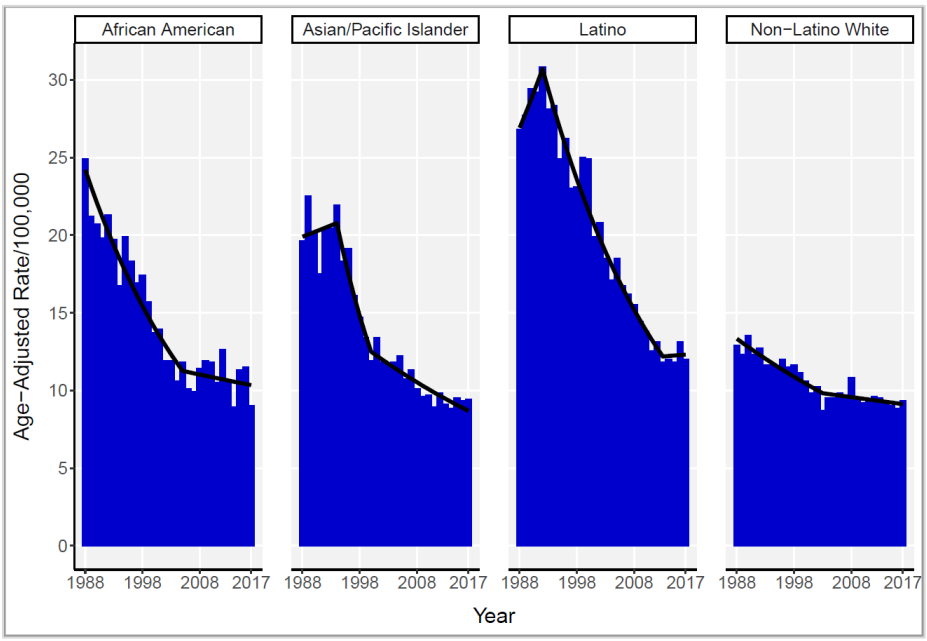
MORTALITY BY AGE GROUP



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: CERVIX CANCER

INCIDENCE



MORTALITY

** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

COLON AND RECTUM CANCER

Cancer of the colon and rectum is the third most commonly diagnosed cancer in California, and the third most common cause of cancer death. In 2017, 14,657 Californians were diagnosed with invasive colorectal cancer, 472 were diagnosed with *in situ* tumors, and 5,285 died from the disease. Colorectal cancer rates are highest among African Americans, followed by whites.

Tumors often begin in benign polyps that may develop inside the colon and rectum, as people get older. Colorectal cancer can be prevented through regular screening by colonoscopy, which can identify and remove precancerous polyps. Regular screening also allows colorectal cancers to be detected early, when treatment is more likely to be successful. In 2018, 71.6 percent of adults aged 50 to 75 years in California received a colorectal cancer screening based on current guidelines, which meets the Healthy People 2020 screening objective. The following factors increase the risk of developing the disease:

- Increased age - more than 90 percent of colorectal cancers occur in people over 50
- Presence of adenomas in the colon and rectum (if not removed)
- History of colorectal cancer in a first-degree relative (parents, siblings, or children)
- Smoking, drinking, obesity and lack of physical activity
- A low-fiber and high-fat diet, or a diet high in processed meats
- Inherited conditions such as hereditary nonpolyposis and familial adenomatous polyposis
- Ulcerative colitis or Crohn's disease

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Between 2008 and 2017, incidence trends of colorectal cancer varied significantly by age group. Incidence rates declined among older adults, by 3.9 percent and by 4.5 percent per year in the 60-74 and in 75 years and older age groups, respectively. These findings were similar in both men and women. On the other hand, incidence rates among adults 20 to 44 years increased by 2.0 percent and by 4.2 percent per year among men and women, respectively. Rates increased slightly in women in the 45-59 age group as well. The reasons for the increase in colorectal cancer among the younger population are not clear, but diet and an increase in obesity may be contributing factors. The analysis of trends by race/ethnicity shows that incidence rates declined among men and women in all racial/ethnic groups, but more markedly among African Americans (by 4.5 percent per year) than in any other group.

Colorectal cancer mortality rates declined among Californians 60 years and older. Rates increased modestly among younger adults 20-44 years old but remained stable for those in the 45-59 age group. Colorectal cancer mortality decreased among men and women in all racial/ethnic groups, but even more so among African Americans (by 3.1 percent per year).

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: COLON AND RECTUM CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		-2.6	↓	**-21.1**	**-2.2**	↓	**-18.1**
Age	20 – 44	3.8	↑	39.9	1.4	↑	13.3
	45 – 59	0.4	↑	3.7	0.4	〰	3.7
	60 – 74	-3.9	↓	-30.1	-3.2	↓	-25.4
	75 +	-4.5	↓	-33.9	-2.7	↓	-21.8
Race/Ethnicity	White, Non-Latino	-2.5	↓	-20.4	-2.3	↓	-18.9
	African American	-4.5	↓	-33.9	-3.1	↓	-24.7
	Latino	-1.4	↓	-11.9	-1.5	↓	-12.7
	Asian/Pacific Islander	-3.2	↓	-25.4	-1.6	↓	-13.5
Men		**-2.6**	↓	**-21.1**	**-2.3**	↓	**-18.9**
Age	20 – 44	2.0	↑	19.5	0.6	↑	5.5
	45 – 59	1.0	〰	9.4	0.3	〰	2.7
	60 – 74	-3.5	↓	-27.4	-2.7	↓	-21.8
	75 +	-3.9	↓	-30.1	-2.6	↓	-21.1
Race/Ethnicity	White, Non-Latino	-2.6	↓	-21.1	-2.6	↓	-21.1
	African American	-4.5	↓	-33.9	-2.6	↓	-21.1
	Latino	-2.0	↓	-16.6	-1.4	↓	-11.9
	Asian/Pacific Islander	-2.3	↓	-18.9	-1.8	↓	-15.1
Women		**-2.5**	↓	**-20.4**	**-2.2**	↓	**-18.1**
Age	20 – 44	4.2	↑	44.8	0.6	↑	5.5
	45 – 59	0.6	↑	5.5	0.4	〰	3.7
	60 – 74	-3.8	↓	-29.4	-2.9	↓	-23.3
	75 +	-4.3	↓	-32.7	-2.2	↓	-18.1
Race/Ethnicity	White, Non-Latino	-2.7	↓	-21.8	-2.2	↓	-18.1
	African American	-4.5	↓	-33.9	-3.1	↓	-24.7
	Latino	-1.0	↓	-8.6	-1.1	↓	-9.5
	Asian/Pacific Islander	-3.6	↓	-28.1	-1.5	↓	-12.7

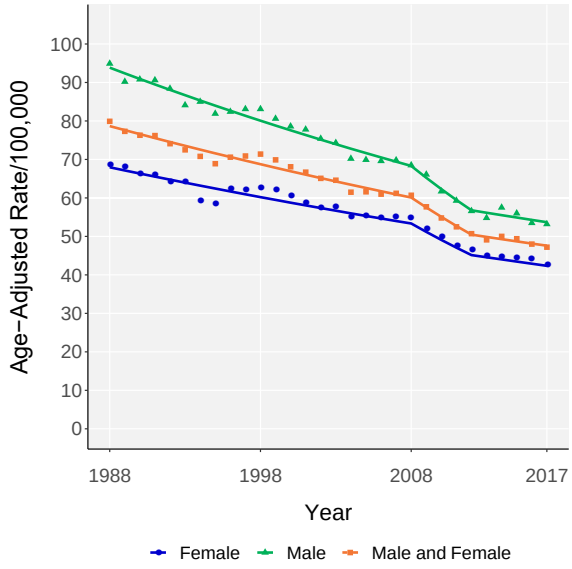
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

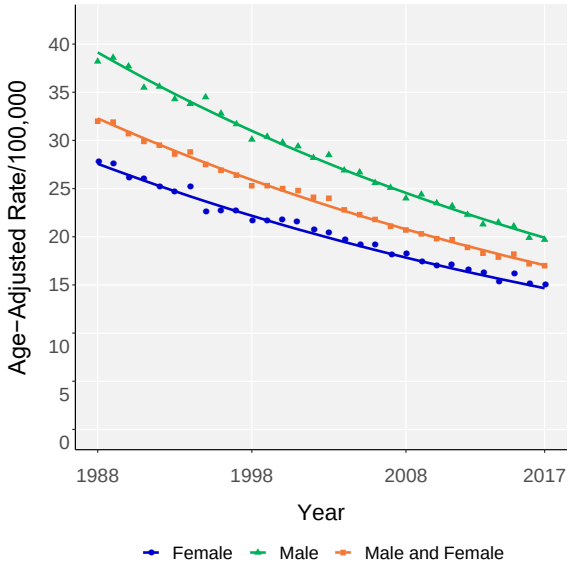
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: COLON AND RECTUM CANCER

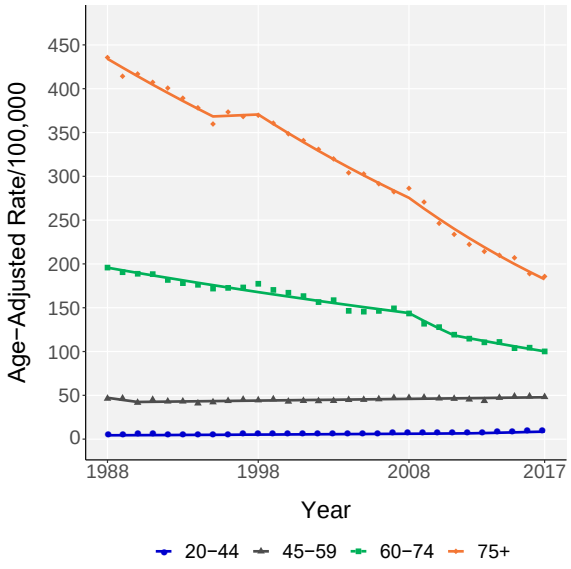
INCIDENCE BY SEX



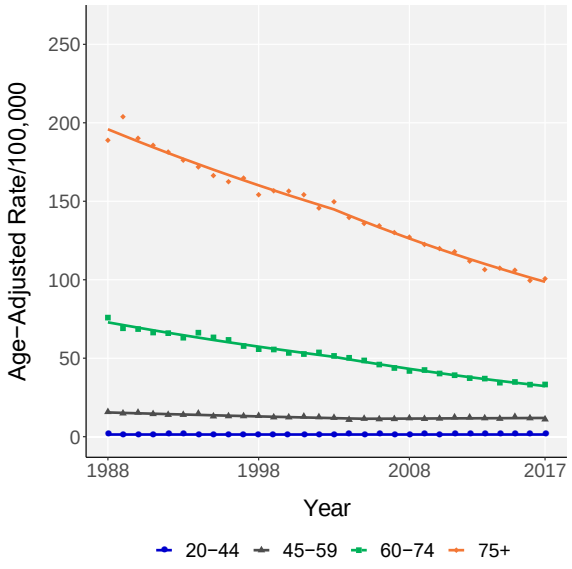
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



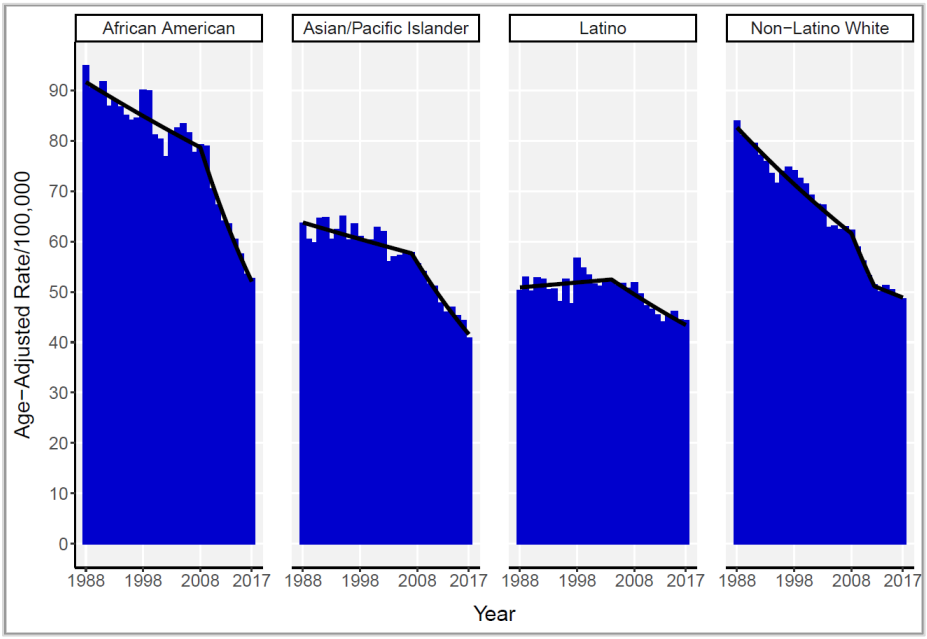
MORTALITY BY AGE GROUP



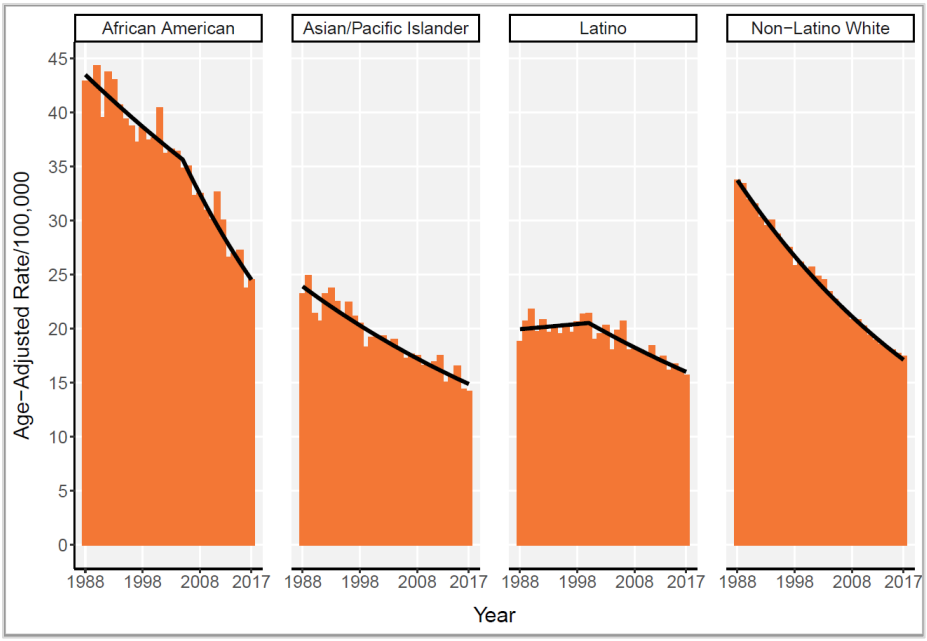
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: COLON AND RECTUM CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

COLON CANCER

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Similar to colorectal cancer trends, incidence rates for colon cancer decreased markedly among Californians 60-74 years old (by 4.2 percent per year) and among those 75 years and older (by 4.3 percent per year). On the other hand, incidence rates among women 20-44 years of age increased by 4.7 percent per year. Among men in the same age group, rates increased by 1.6 percent per year. Rates among persons 45-59 years old were stable during the ten-year period. Incidence rates also decreased steadily in all racial/ethnic groups, very sharply among African Americans (by 37 percent overall) and less so among Latinas (by 8.6 percent overall).

During the ten years between 2008-2017, mortality rates for colon cancer declined in Californians of all racial/ethnic groups, and among older persons as well. Mortality rates among persons 60-74 years of age and among those 75 years and older declined by 28.8 percent and by 24.7 percent, respectively. Consistent with incidence rates, mortality rates among persons 45-59 years of age were stable over this ten-year period. Also consistent with incidence trends, colon cancer mortality rates declined in persons of all racial/ethnic background, by 28.1 percent among African Americans to 14.3 percent among Asian/Pacific Islanders.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: COLON CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-3.0**	↓	**-24.0**	**-2.8**	↓	**-22.6**
Age	20 – 44	4.5	↑	48.6	0.1	〰	0.9
	45 – 59	0	〰	0	0	〰	0
	60 – 74	-4.2	↓	-32.0	-3.7	↓	-28.8
	75 +	-4.3	↓	-32.7	-3.1	↓	-24.7
Race/Ethnicity	White, Non-Latino	-2.9	↓	-23.3	-2.5	↓	-20.4
	African American	-5.0	↓	-37.0	-3.6	↓	-28.1
	Latino	-1.7	↓	-14.3	-1.8	↓	-15.1
	Asian/Pacific Islander	-3.3	↓	-26.1	-1.7	↓	-14.3
Men		**-3.1**	↓	**-24.7**	**-2.9**	↓	**-23.3**
Age	20 – 44	1.6	↑	15.4	0	〰	0
	45 – 59	0	〰	0.0	- 0.1	〰	-0.9
	60 – 74	-4.4	↓	-33.3	-3.7	↓	-28.8
	75 +	-4.1	↓	-31.4	-2.7	↓	-21.8
Race/Ethnicity	White, Non-Latino	-3.0	↓	-24.0	-2.9	↓	-23.3
	African American	-4.9	↓	-36.4	-3.4	↓	-26.8
	Latino	-2.5	↓	-20.4	-1.7	↓	-14.3
	Asian/Pacific Islander	-2.6	↓	-21.1	-1.9	↓	-15.9
Women		**-3.0**	↓	**-24.0**	**-2.4**	↓	**-19.6**
Age	20 – 44	4.7	↑	51.2	0.4	〰	3.7
	45 – 59	0	〰	0	0.1	〰	0.9
	60 – 74	-4.2	↓	-32.0	-3.6	↓	-28.1
	75 +	-4.1	↓	-31.4	-3.0	↓	-24.0
Race/Ethnicity	White, Non-Latino	-3.0	↓	-24.0	-2.4	↓	-19.6
	African American	-5.1	↓	-37.6	-3.5	↓	-27.4
	Latino	-1.0	↓	-8.6	-2.0	↓	-16.6
	Asian/Pacific Islander	-3.6	↓	-28.1	-1.6	↓	-13.5

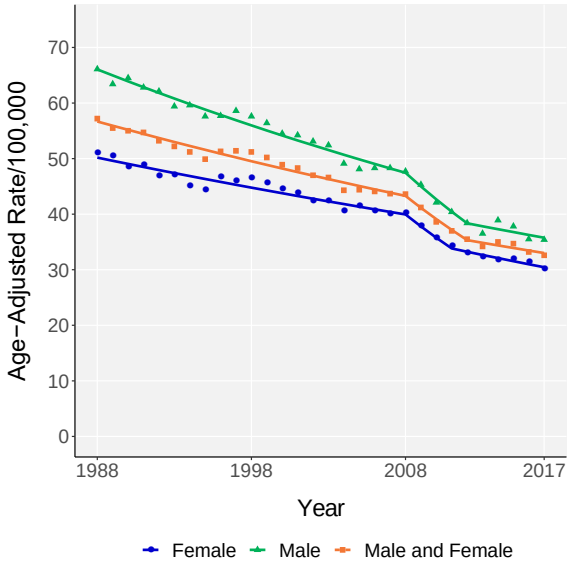
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

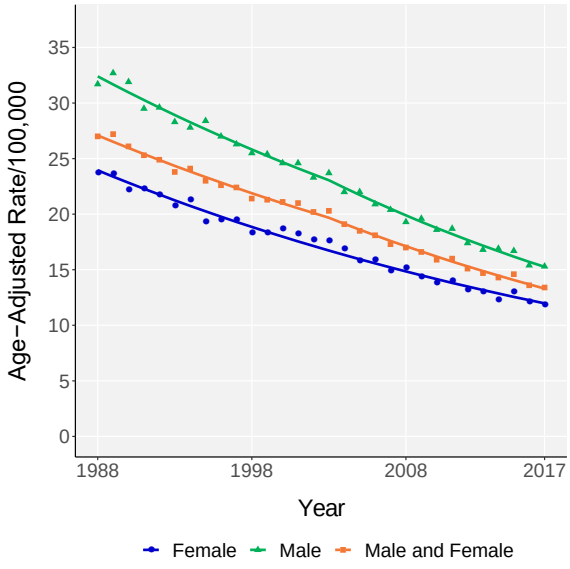
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: COLON CANCER

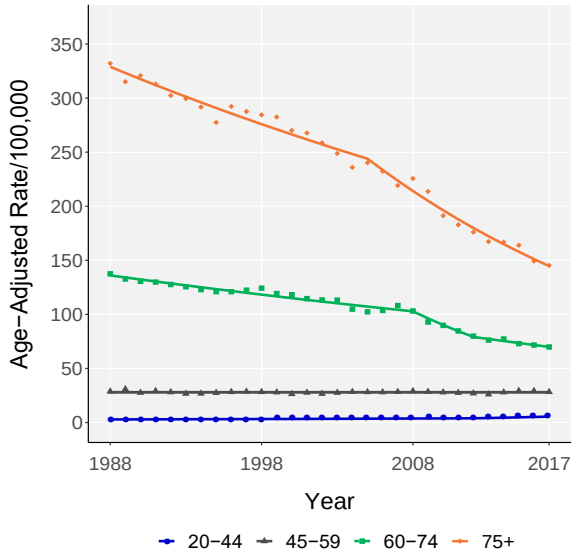
INCIDENCE BY SEX



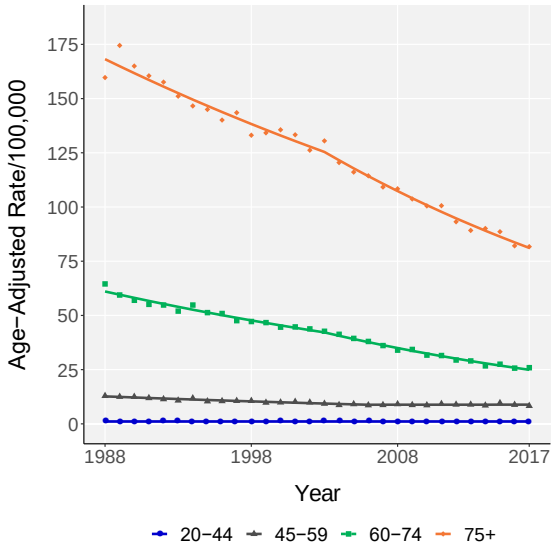
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



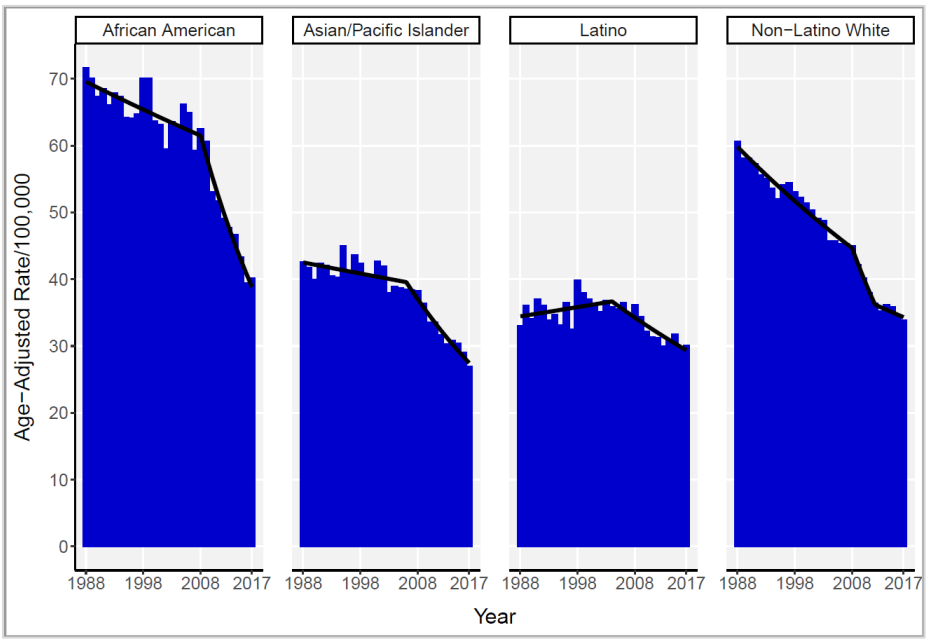
MORTALITY BY AGE GROUP



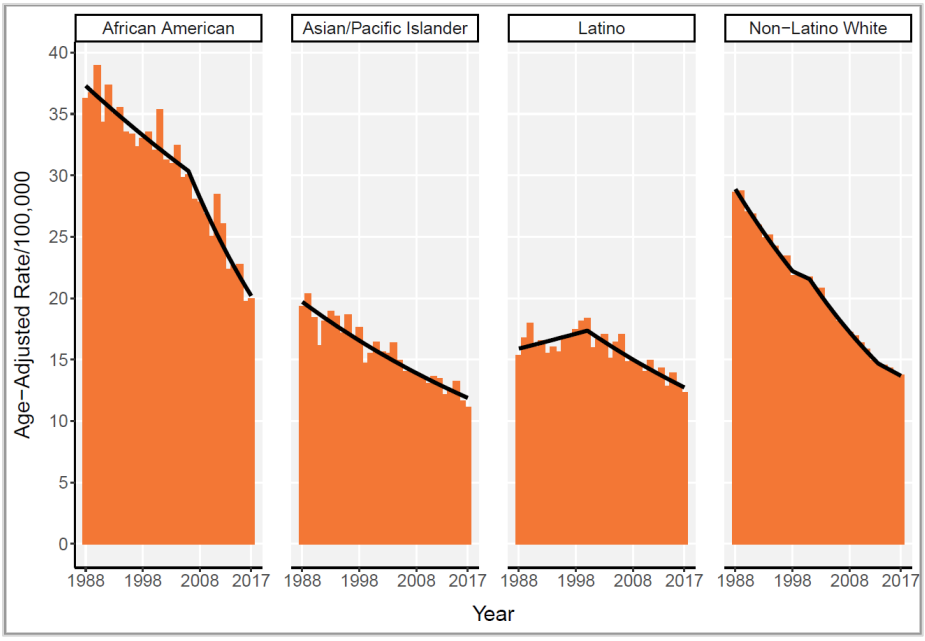
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: COLON CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

RECTUM AND RECTOSIGMOID CANCER

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Incidence rates of invasive rectal cancer were also consistent with those for colorectal cancers combined. With some variability, trends had similar patterns among men and women. Incidence increased among persons in the 20-44 and 45-59 age groups, by 2.3 percent and 1.1 percent per year, respectively. In contrast, rates declined among persons 60-74 years of age (by 2.7 percent per year) and 75 years and older (by 4.1 percent per year). Incidence rates declined in all racial/ethnic group, although to a lesser extent among Latinos.

Trends in rectum cancer mortality rates increased significantly among men and women in the 20-44 years age group, but declined among adults 60 years of age and older. Trends by race/ethnicity exhibited a more ambiguous pattern, with rates mostly declining. Significant declines in mortality rates were observed for Latino men and women, Asian/Pacific Islander men, and African American women.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: RECTUM AND RECTOSIGMOID CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-1.7**	↓	**-14.3**	**-0.5**	↓	**-4.4**
Age	20 – 44	2.3	↑	22.7	-0.9	〰	-7.8
	45 – 59	1.1	↑	10.3	1.8	↑	17.4
	60 – 74	-2.7	↓	-21.8	-1.1	↓	-9.5
	75 +	-4.1	↓	-31.4	-1.1	↓	-9.5
Race/Ethnicity	White, Non-Latino	-1.7	↓	-14.3	-0.4	↓	-3.5
	African American	-1.6	↓	-13.5	-1.4	↓	-11.9
	Latino	-0.5	↓	-4.4	0.3	〰	2.7
	Asian/Pacific Islander	-2.6	↓	-21.1	-1.2	↓	-10.3
Men		**-1.6**	↓	**-13.5**	**-0.6**	↓	**-5.3**
Age	20 – 44	2.5	↑	24.9	2.0	↑	19.5
	45 – 59	0.9	↑	8.4	0.5	〰	4.6
	60 – 74	-2.9	↓	-23.3	-1.6	↓	-13.5
	75 +	-3.7	↓	-28.8	-1.8	↓	-15.1
Race/Ethnicity	White, Non-Latino	-1.4	↓	-11.9	-0.2	〰	-1.8
	African American	-1.4	↓	-11.9	-0.5	〰	-4.4
	Latino	-1.1	↓	-9.5	-0.6	↓	-5.3
	Asian/Pacific Islander	-1.1	↓	-9.5	-1.3	↓	-11.1
Women		**-1.4**	↓	**-11.9**	**-0.3**	〰	**-2.7**
Age	20 – 44	2.1	↑	20.6	1.7	↑	16.4
	45 – 59	1.5	↑	14.3	0.3	〰	2.7
	60 – 74	-2.3	↓	-18.9	-1.7	↓	-14.3
	75 +	-4.7	↓	-35.2	-0.9	↓	-7.8
Race/Ethnicity	White, Non-Latino	-1.5	↓	-12.7	0.1	〰	0.9
	African American	-1.8	↓	-15.1	-2.2	↓	-18.1
	Latino	-0.6	↓	-5.3	-0.9	↓	-7.8
	Asian/Pacific Islander	-3.2	↓	-25.4	-0.9	〰	-7.8

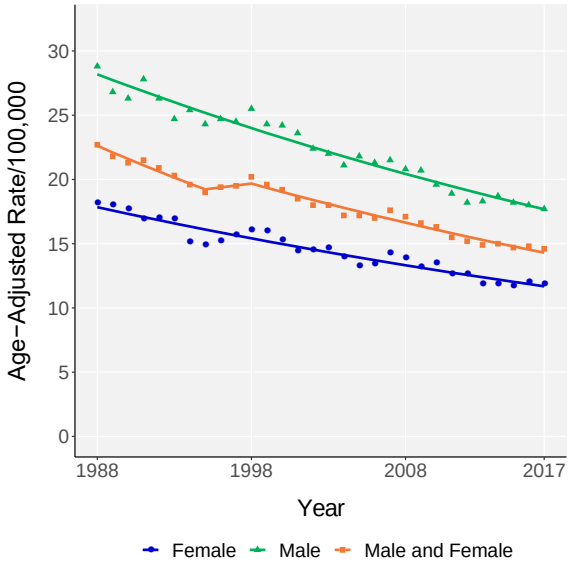
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

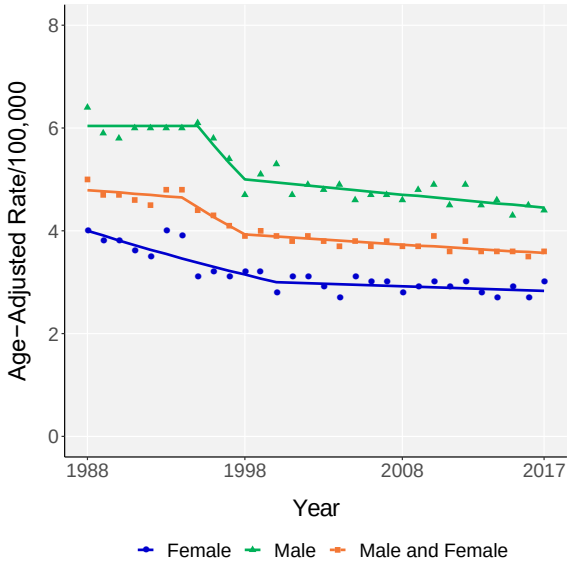
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: RECTUM AND RECTOSIGMOID CANCER

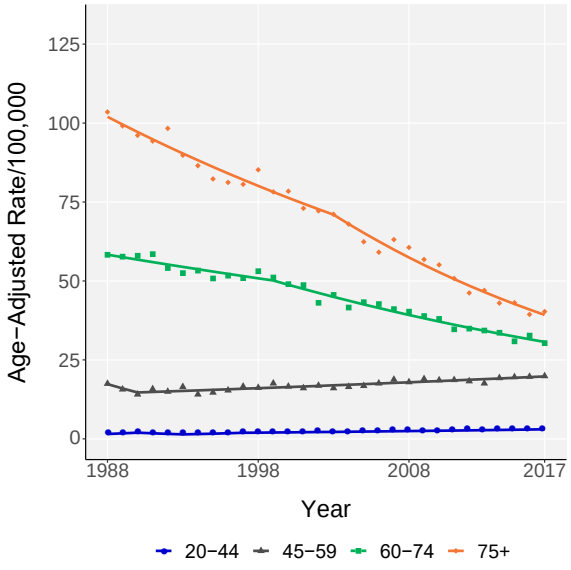
INCIDENCE BY SEX



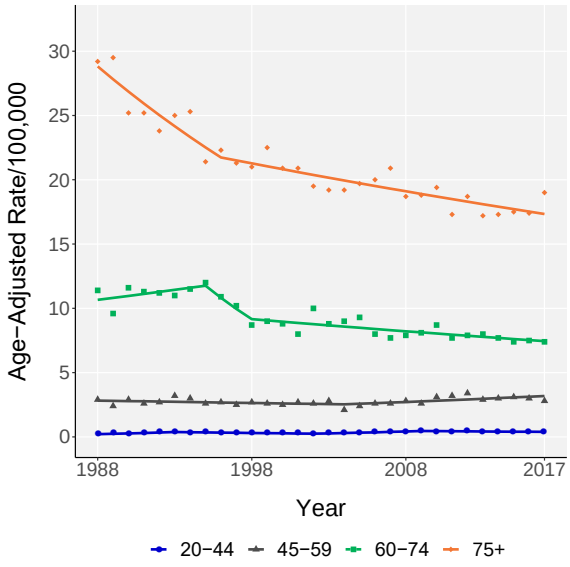
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



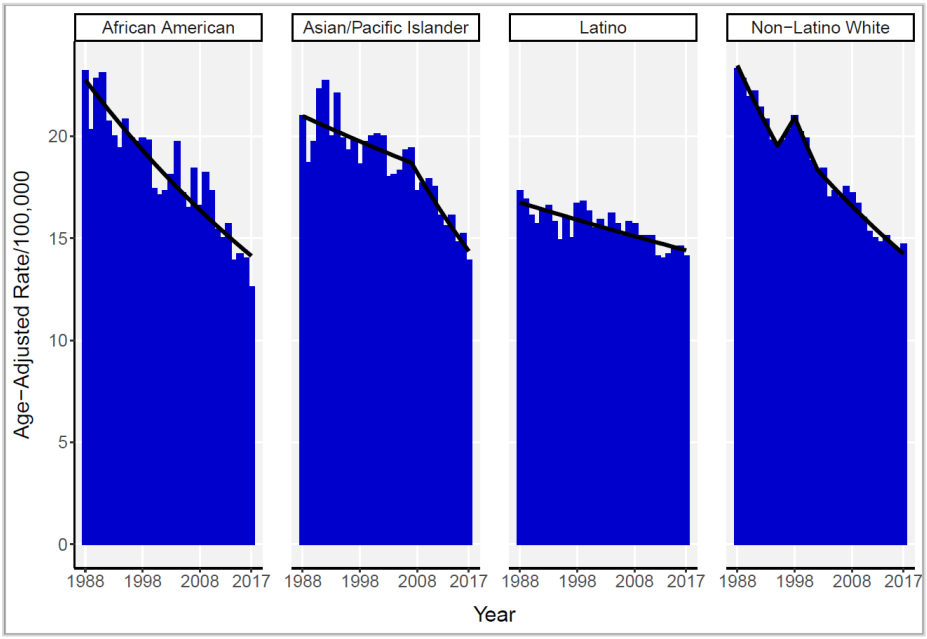
MORTALITY BY AGE GROUP



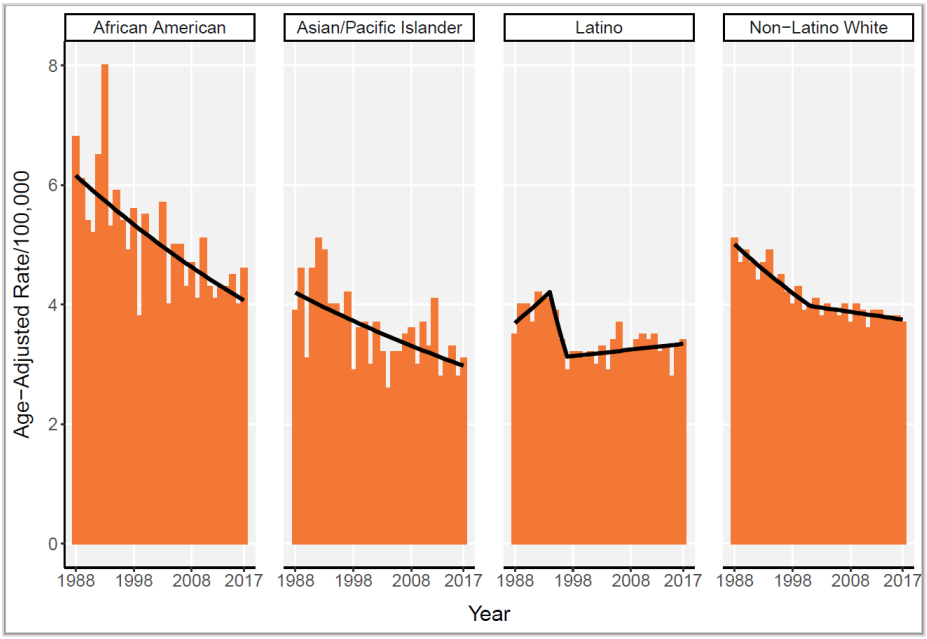
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: RECTUM AND RECTOSIGMOID CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

ESOPHAGUS CANCER

In 2017, 1,473 Californians were diagnosed with, and 1,308 died from cancer of the esophagus. Esophageal cancer is three to four times more common among men than women, and the risk of the disease increases with age.

The two main types of esophageal cancer are squamous cell carcinomas, which occur in the upper esophagus, and adenocarcinomas, which occur in the lower esophagus near the stomach. These two types of esophageal cancer have different risk factors and their incidence varies by sex and race/ethnicity. Tobacco use (including smoking cigarettes, cigars, pipes, chewing tobacco, and snuff) and alcohol use, especially when combined with tobacco use, increase the risk of developing esophageal squamous cell carcinomas. Barrett's esophagus (a condition caused by chronic gastroesophageal reflux disease) and obesity or severe overweight increase the risk for esophageal adenocarcinomas.

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the ten-year period between 2008 and 2017, the incidence of esophageal cancer declined in most groups examined, except among adults 20-44 years of age, for whom trends did not change significantly. Large declines were observed among women 45 to 74 years old, where incidence rates decreased by 18.1 - 18.9 percent overall during the period. The incidence of esophageal cancer declined among African Americans, by 4.2 and 3.7 percent per year, on average, among men and women, respectively. Incidence rates also declined among Asian Pacific Islanders, although not so markedly as for African Americans.

Mortality rates for esophageal cancer declined as well, in a pattern very similar to that described for incidence. Cancer of the esophagus is much less common in younger adults, and mortality trends did not change significantly among persons 20-44 years old. Among persons in the other age groups examined, mortality rates declined during the period, from 0.7 percent per year among women 60-74 years old to 2.4 percent per year among men 75 years and older. As with incidence, mortality rates declined more markedly among African American men and women. Mortality trends also declined among Latinos and Asian/Pacific Islander men, while among white men and women mortality trends declined only slightly.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: ESOPHAGUS CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-1.1**	↓	**-9.5**	**-1.5**	↓	**-12.7**
Age	20 – 44	0.3	〰	2.7	0	〰	0
	45 – 59	-1.3	↓	-11.1	-1.7	↓	-14.3
	60 – 74	-1.3	↓	-11.1	-1.0	↓	-8.6
	75 +	-1.3	↓	-11.1	-1.7	↓	-14.3
Race/Ethnicity	White, Non-Latino	-0.5	↓	-4.4	-0.8	↓	-7.0
	African American	-4.2	↓	-32.0	-4.5	↓	-33.9
	Latino	-0.7	↓	-6.1	-1.1	↓	-9.5
	Asian/Pacific Islander	-2.2	↓	-18.1	-2.2	↓	-18.1
Men		**-1.1**	↓	**-9.5**	**-1.3**	↓	**-11.1**
Age	20 – 44	0.2	〰	1.8	-0.5	〰	-4.4
	45 – 59	-1.1	↓	-9.5	-2.1	↓	-17.4
	60 – 74	-0.9	↓	-7.8	-1.5	↓	-12.7
	75 +	-1.4	↓	-11.9	-2.4	↓	-19.6
Race/Ethnicity	White, Non-Latino	-0.4	〰	-3.5	-0.7	↓	-6.1
	African American	-4.6	↓	-34.5	-4.8	↓	-35.8
	Latino	-0.8	↓	-7.0	-1.1	↓	-9.5
	Asian/Pacific Islander	-2.3	↓	-18.9	-2.3	↓	-18.9
Women		**-1.5**	↓	**-12.7**	**-2.4**	↓	**-19.6**
Age	20 – 44	**	**	**	**	**	**
	45 – 59	-2.3	↓	-18.9	-2.3	↓	-18.9
	60 – 74	-2.2	↓	-18.1	-0.7	〰	-6.1
	75 +	-0.7	↓	-6.1	-1.9	↓	-15.9
Race/Ethnicity	White, Non-Latino	-0.8	↓	-7.0	-0.9	↓	-7.8
	African American	-3.7	↓	-28.8	-3.7	↓	-28.8
	Latino	-0.9	〰	-7.8	-1.3	↓	-11.1
	Asian/Pacific Islander	-1.4	↓	-11.9	-1.4	〰	-11.9

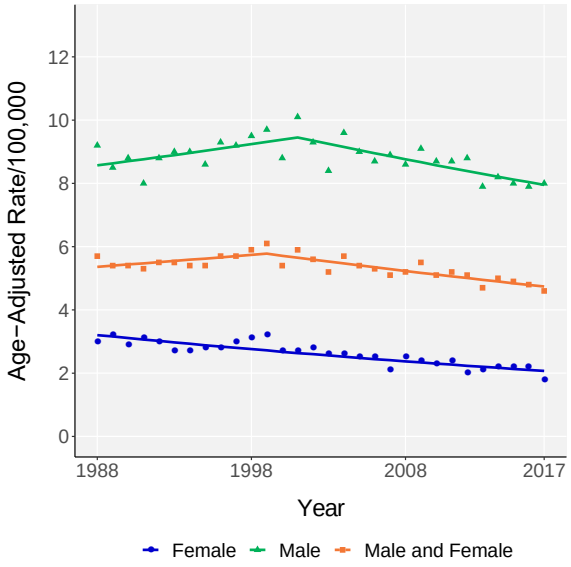
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate not statistically significant. ** Trends not estimated due to less than 8 cases or deaths per year.

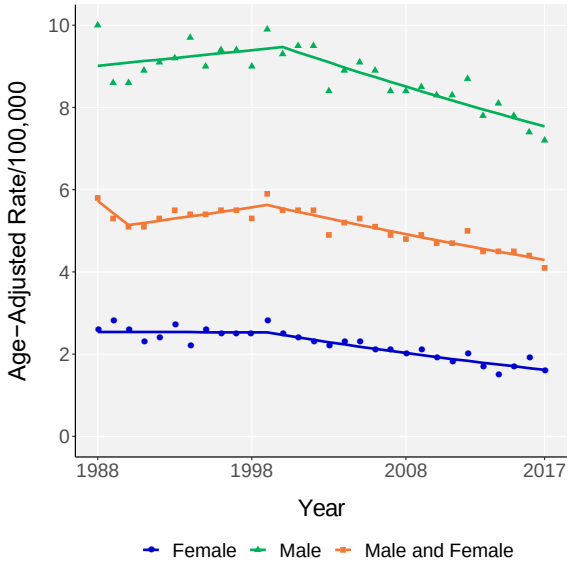
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: ESOPHAGUS CANCER

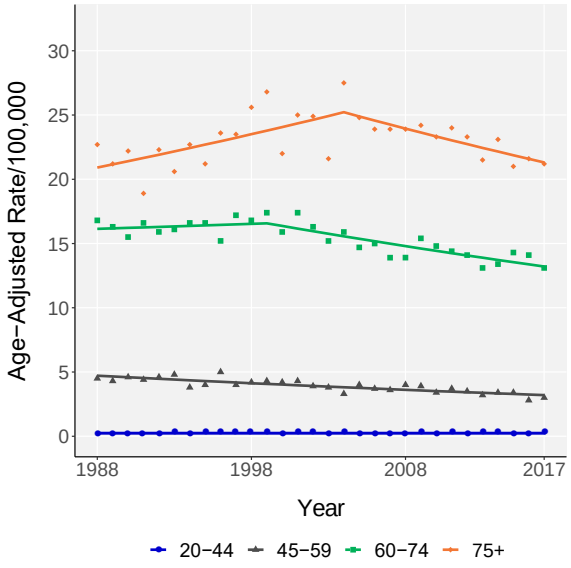
INCIDENCE BY SEX



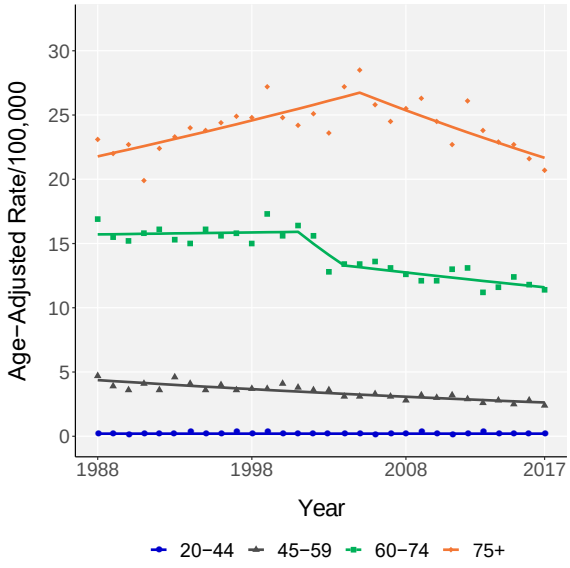
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



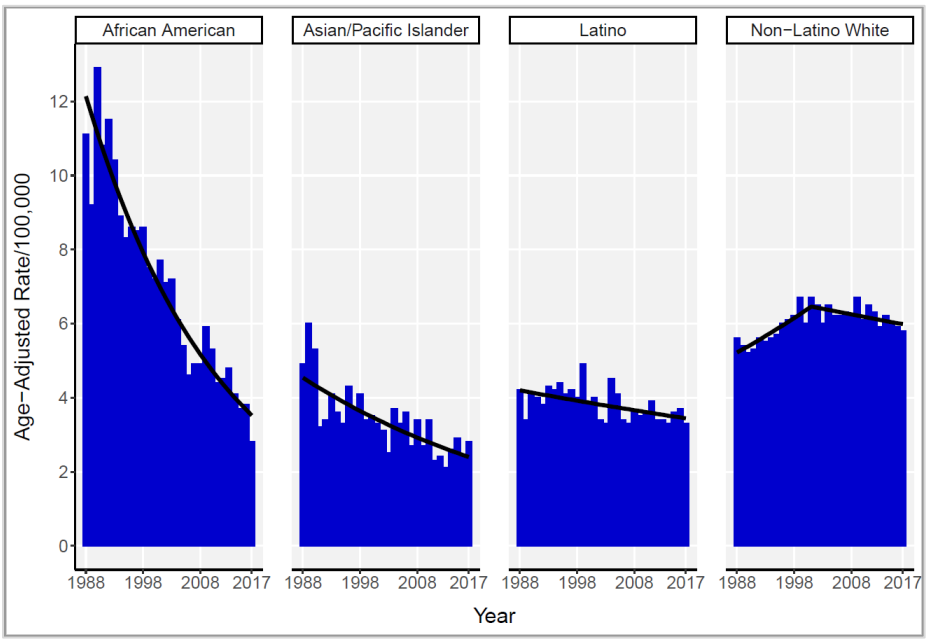
MORTALITY BY AGE GROUP



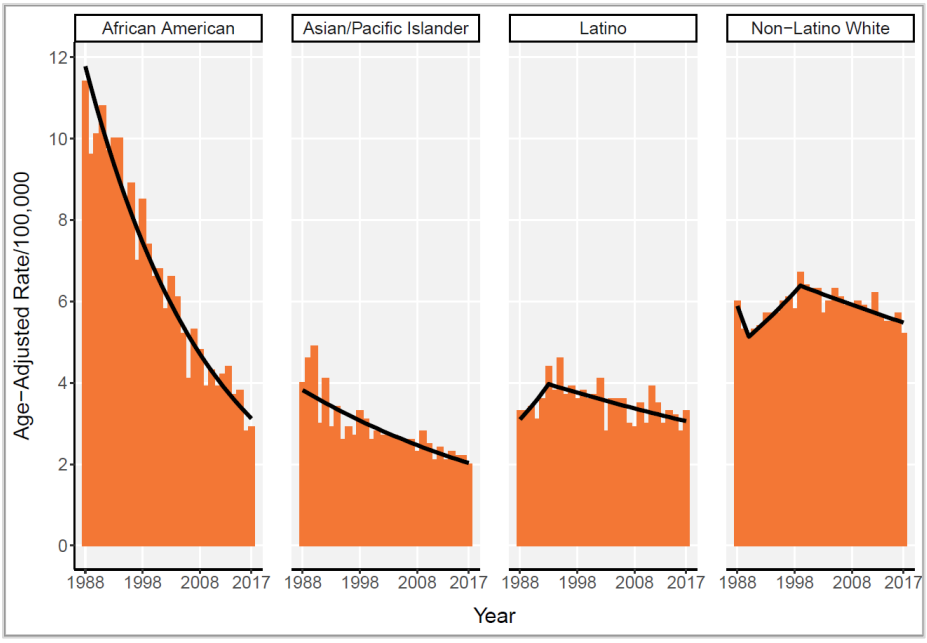
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: ESOPHAGUS CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

HODGKIN LYMPHOMA

Hodgkin lymphoma is a cancer of the immune system characterized by the presence of an abnormal lymphocyte (white blood cell) known as the Reed-Sternberg cell. In 2017, 762 Californians were diagnosed with and 125 died from Hodgkin lymphoma. Hodgkin lymphoma occurs most often in people between the ages of 15 and 35 and in people over age 55. The cause of the disease is not known, but the following factors increase a person's risk of developing Hodgkin lymphoma:

- Infection with the Epstein-Barr virus (EBV) or the human immunodeficiency virus (HIV)
- Weakened immune system (e.g., due to treatment after an organ transplant or certain inherited conditions)
- Family history of Hodgkin disease, particularly in brothers or sisters

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

From 2008 through 2017, incidence rates of Hodgkin lymphoma declined significantly among persons 20-44 years of age, women in particular, for whom rates declined by 2.1 percent per year. Trends among men in the 60-74 age group declined as well, by 0.8 percent per year. Incidence rates declined significantly among white men and women, by 2.0 and 2.4 percent per year, respectively. Incidence rates also declined among Latino men, by 2.2 percent per year. For men and women combined, an increase in Hodgkin lymphoma incidence rates was detected (by 1.1 percent per year), although changes were not significant when examined separately for men and women.

Hodgkin lymphoma mortality rates declined in almost all age groups, especially among adults 20-44 years old, with marked decreases of 4.8 and 4.2 percent per year among men and women, respectively. Mortality rates also decreased among white women (by 4.9 percent per year), as well as among white men (by 2.5 percent per year) and Latino men (by 1.7 percent per year).

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: HODGKIN LYMPHOMA

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-1.7**	↓	**-14.3**	**-2.1**	↓	**-17.4**
Age	20 - 44	-2.0	↓	-16.6	-4.6	↓	-34.5
	45 - 59	-0.3	〰	-2.7	-3.3	↓	-26.1
	60 - 74	-1.9	↓	-15.9	-1.8	↓	-15.1
	75 +	-0.1	〰	-0.9	0.4	〰	3.7
Race/Ethnicity	White, Non-Latino	-2.0	↓	-16.6	-2.4	↓	-19.6
	African American	0.5	〰	4.6	**	**	**
	Latino	0.2	〰	1.8	-1.4	↓	-11.9
	Asian/Pacific Islander	1.1	↑	10.3	**	**	**
Men		**-2.0**	↓	**-16.6**	**-2.0**	↓	**-16.6**
Age	20 - 44	-0.6	↓	-5.3	-4.8	↓	-35.8
	45 - 59	-0.2	〰	-1.8	-3.9	↓	-30.1
	60 - 74	-0.8	↓	-7.0	-1.6	↓	-13.5
	75 +	-0.1	〰	-0.9	0.5	〰	4.6
Race/Ethnicity	White, Non-Latino	-2.0	↓	-16.6	-2.5	↓	-20.4
	African American	0.5	〰	4.6	**	**	**
	Latino	-2.2	↓	-18.1	-1.7	↓	-14.3
	Asian/Pacific Islander	0.2	〰	1.8	**	**	**
Women		**-1.9**	↓	**-15.9**	**-2.0**	↓	**-16.6**
Age	20 - 44	-2.1	↓	-17.4	-4.2	↓	-32.0
	45 - 59	-0.1	〰	-0.9	**	**	**
	60 - 74	-0.3	〰	-2.7	-2.1	↓	-17.4
	75 +	-0.3	〰	-2.7	0	〰	0
Race/Ethnicity	White, Non-Latino	-2.4	↓	-19.6	-4.9	↓	-36.4
	African American	0.6	〰	5.5	**	**	**
	Latino	0.2	〰	1.8	-0.9	〰	-7.8
	Asian/Pacific Islander	-0.1	〰	-0.9	**	**	**

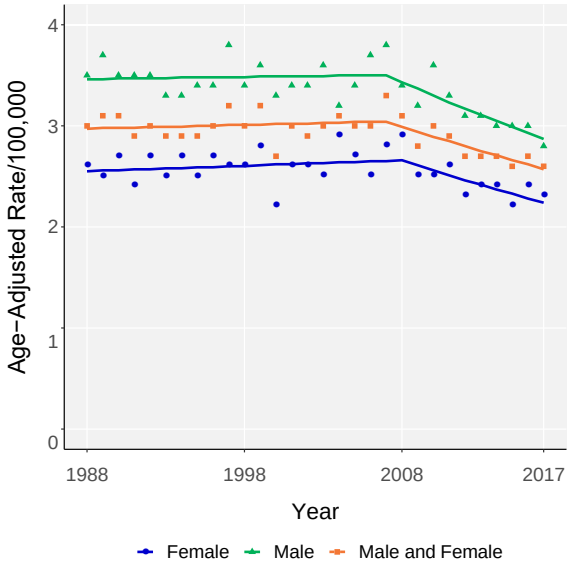
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

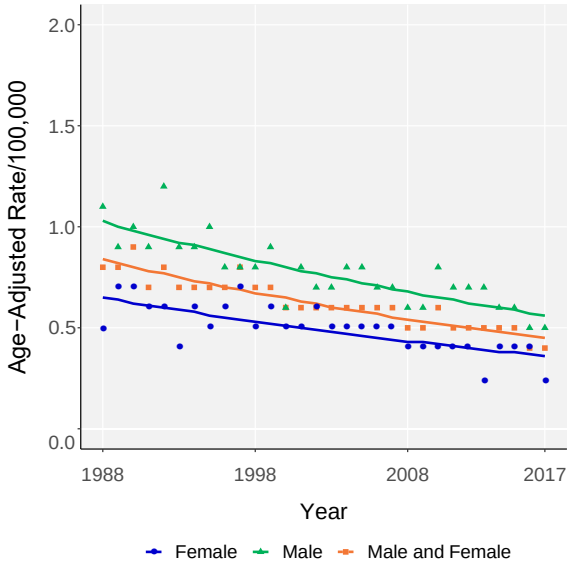
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: HODGKIN LYMPHOMA

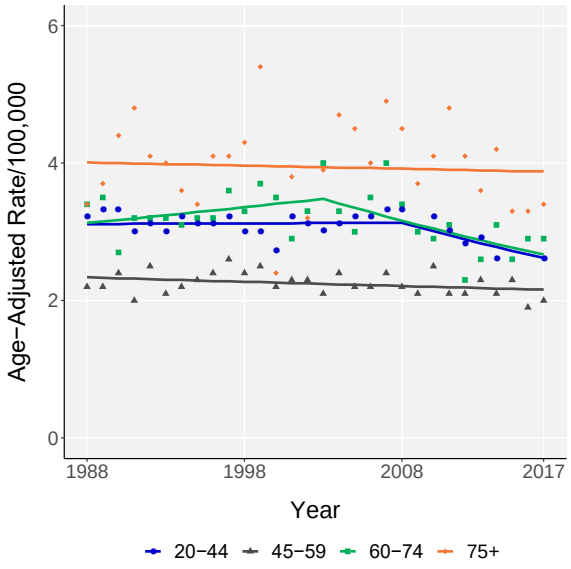
INCIDENCE BY SEX



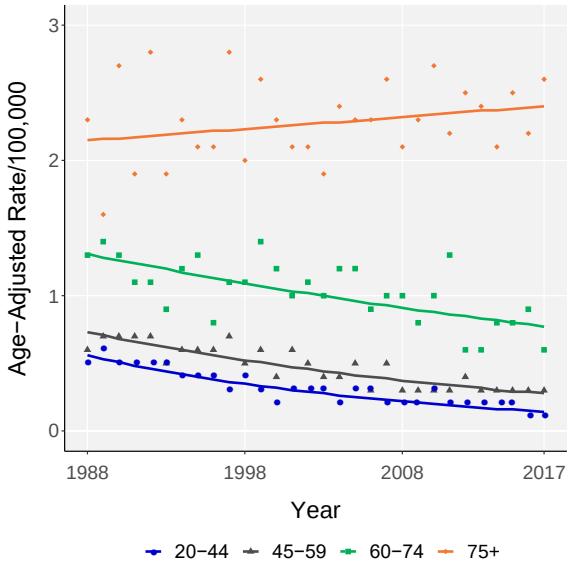
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



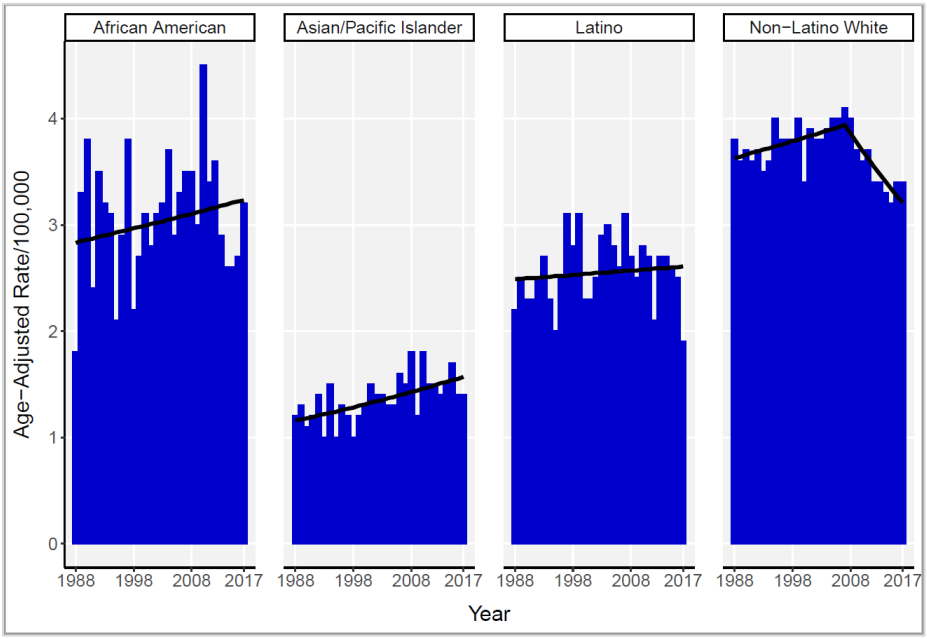
MORTALITY BY AGE GROUP



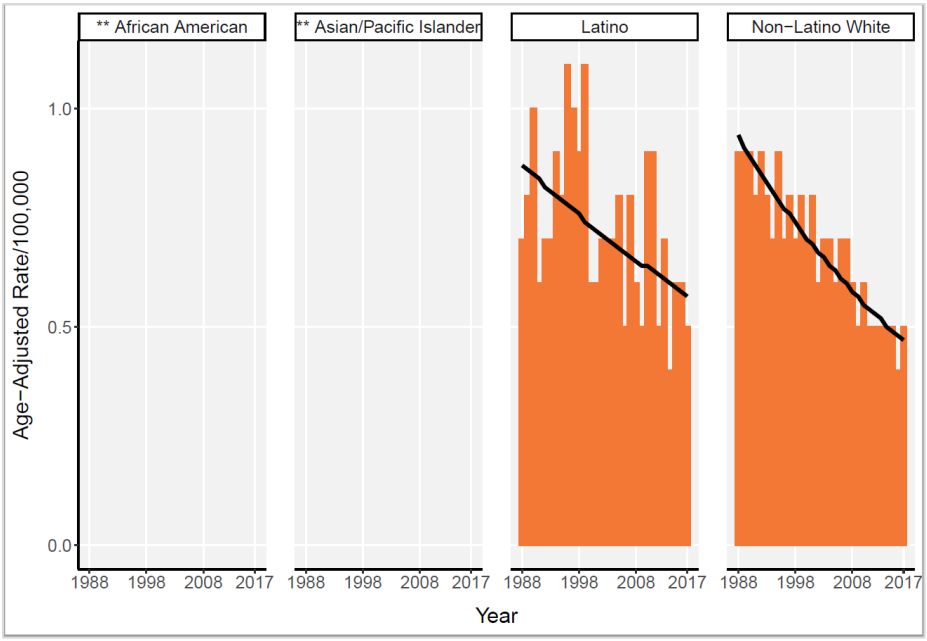
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: HODGKIN LYMPHOMA

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

KIDNEY AND RENAL PELVIS CANCER

In 2017, 6,526 Californians were diagnosed with and 1,419 died from kidney cancer. The most common type of kidney cancer is the renal cell carcinoma, which accounts for about 90 percent of all kidney cancers. The disease is usually diagnosed in people over 40 and occurs two to three times more often in men. The causes of the disease are unknown, but the following factors raise a person's risk of developing kidney cancer:

- Smoking
- Obesity
- Hypertension (high blood pressure)
- Family history of kidney cancer
- Advanced kidney disease and long-term dialysis
- Von Hippel-Lindau syndrome (a rare inherited disorder)
- Occupational exposures to asbestos or cadmium

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

The incidence of kidney cancer increased among persons 20-44 years of age, by 4.9 percent per year among men and by 4.4 percent per year among women. Incidence rates increased among those in the 45 -59 age group as well but remained stable among persons 60 years of age and older. Kidney cancer incidence rates increased at similar rates among African Americans, Latinos, and Asian Pacific/Islander men and women, by 2.1 to 2.6 percent per year. Incidence rates did not change significantly among white men and women. An increase in the incidence of kidney cancer has been observed in other countries as well. One of the most likely explanations is that small tumors can be detected incidentally through imaging studies for the diagnosis of unrelated conditions.

Despite increased incidence trends, mortality rates declined in several population groups, although the observed declines were not always statistically significant. The only exception was among Asian/Pacific Islander men, for whom mortality increased, on average by 1.3 percent per year. The largest decrease in kidney cancer mortality rates was observed among women 45-59 years old, with an overall decrease of 21.8 percent during the period.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: KIDNEY AND RENAL PELVIS CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**0.8**	〰	**7.4**	**-0.6**	↓	**-5.3**
Age	20 – 44	4.9	↑	53.8	-0.9	↓	-7.8
	45 – 59	1.8	↑	17.4	-1.8	↓	-15.1
	60 – 74	0.2	〰	1.8	-1.2	↓	-10.3
	75 +	-0.3	〰	-2.7	-0.5	〰	-4.4
Race/Ethnicity	White, Non-Latino	0.2	〰	1.8	-1.0	↓	-8.6
	African American	2.5	↑	24.9	-0.3	〰	-2.7
	Latino	2.4	↑	23.8	-0.5	〰	-4.4
	Asian/Pacific Islander	2.4	↑	23.8	1.0	↑	9.4
Men		**1.2**	↑	**11.3**	**-0.4**	↓	**-3.5**
Age	20 - 44	4.9	↑	53.8	-0.2	〰	-1.8
	45 - 59	2.3	↑	22.7	-1.5	↓	-12.7
	60 - 74	0.5	〰	4.6	-0.5	↓	-4.4
	75 +	0.1	〰	0.9	0.3	↑	2.7
Race/Ethnicity	White, Non-Latino	0.7	〰	6.5	-0.5	↓	-4.4
	African American	2.5	↑	24.9	0.2	〰	1.8
	Latino	2.4	↑	23.8	-0.3	〰	-2.7
	Asian/Pacific Islander	2.6	↑	26.0	1.3	↑	12.3
Women		**0.6**	〰	**5.5**	**-1.5**	↓	**-12.7**
Age	20 - 44	4.4	↑	47.3	-0.8	〰	-7.0
	45 - 59	1.7	↑	16.4	-2.7	↓	-21.8
	60 - 74	-0.2	〰	-1.8	-1.3	↓	-11.1
	75 +	-0.7	〰	-6.1	0.1	〰	0.9
Race/Ethnicity	White, Non-Latino	-0.2	〰	-1.8	-1.0	↓	-8.6
	African American	2.3	↑	22.7	-1.1	↓	-9.5
	Latino	2.4	↑	23.8	0	〰	0
	Asian/Pacific Islander	2.1	↑	20.6	1.0	〰	9.4

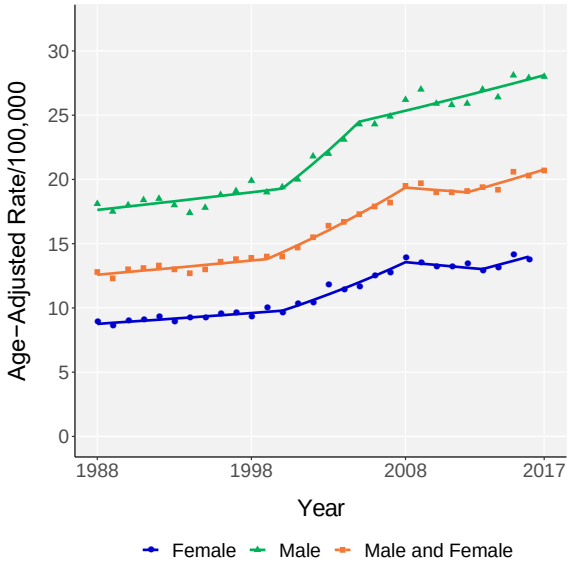
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

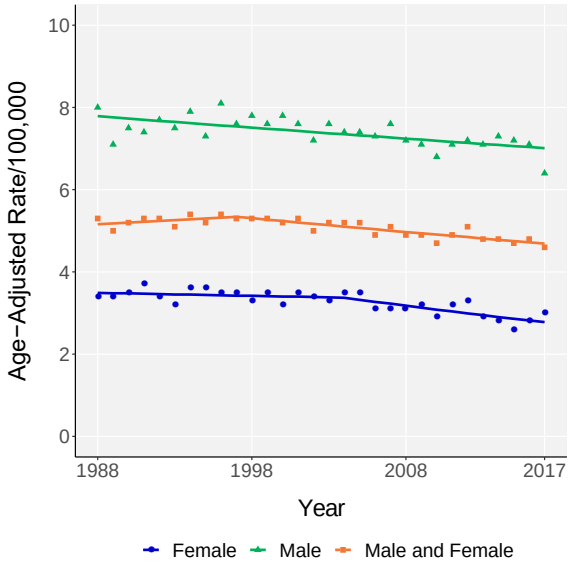
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: KIDNEY AND RENAL PELVIS CANCER

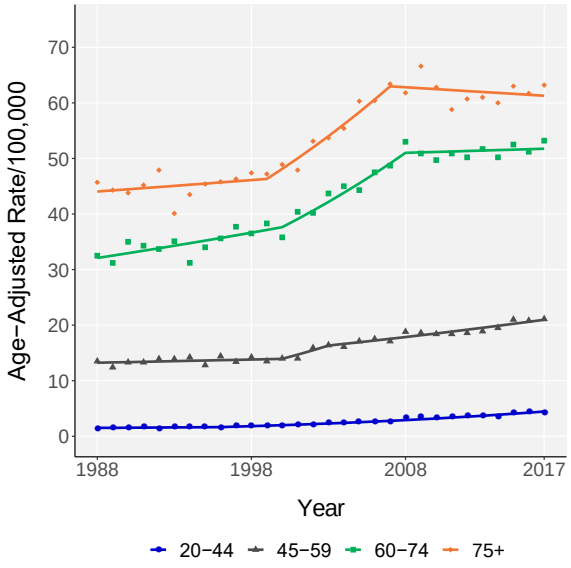
INCIDENCE BY SEX



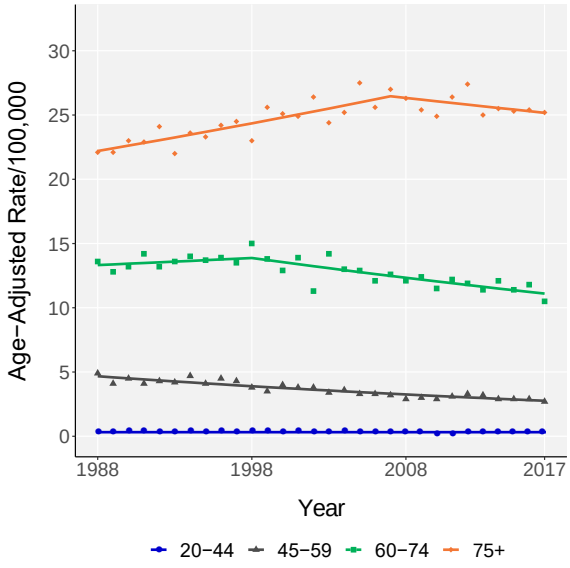
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



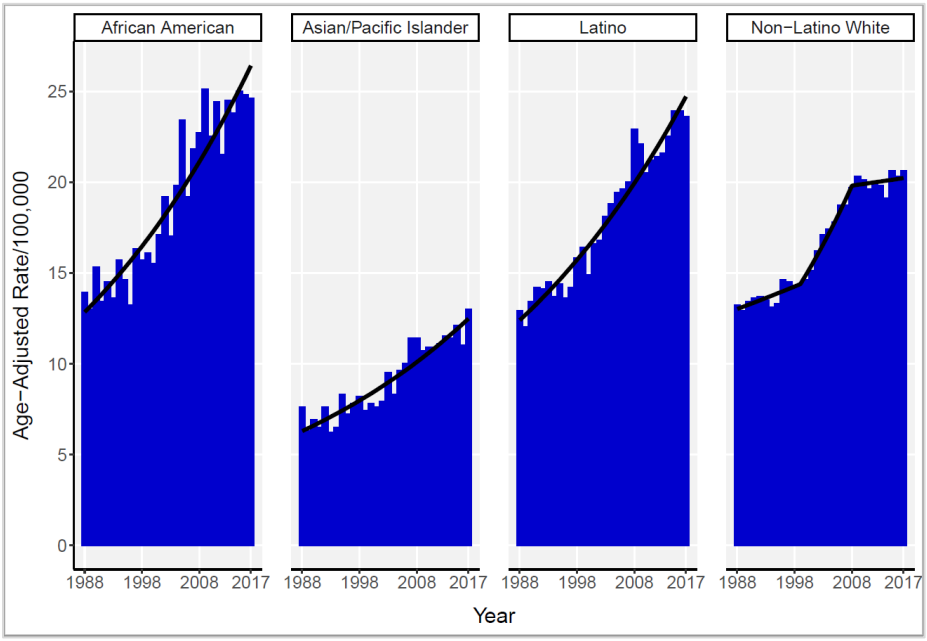
MORTALITY BY AGE GROUP



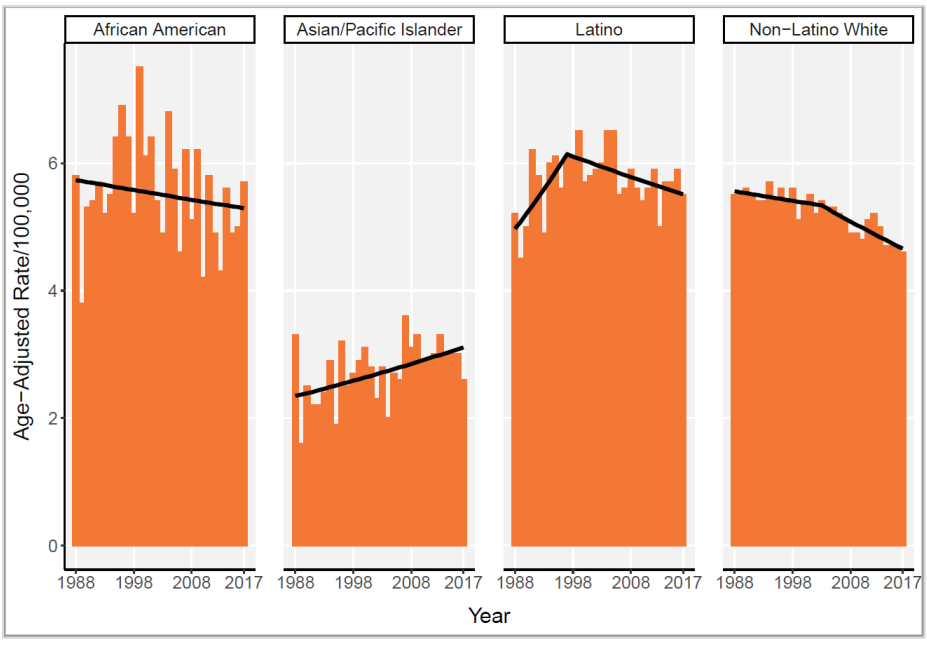
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: KIDNEY AND RENAL PELVIS CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

LARYNX CANCER

Laryngeal cancer is one of the most common cancers of the head and neck. In 2017, 773 Californians were diagnosed with and 250 died from cancer of the larynx. Men are four to five times more likely than women to develop laryngeal cancer, and African Americans are more likely than whites to develop the disease. Laryngeal cancer is also more common in persons over age 55. Factors that can raise a person's risk of developing laryngeal cancer include:

- Tobacco use, including smoking cigarettes, cigars, and using smokeless tobacco, is linked to 85 percent of head and neck cancers
- Alcohol consumption, especially when associated with tobacco use
- Gastroesophageal reflux disease, a condition in which stomach acid flows into the esophagus
- Occupational exposure to sulfuric acid mist, nickel, or asbestos

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the period between 2008 and 2017, the overall incidence of cancer of the larynx declined steeply in California, by a total of 25.4 percent among men and 31.4 percent among women. Incidence rates decreased in virtually all age and racial/ethnic population groups, from an average of 1.8 percent per year among women 75 years of age and older to 4.9 percent per year among women 60 to 74 years of age. These trends are most likely due to the known decline of tobacco use in California.

Consistent with the lower incidence, overall mortality rates for laryngeal cancer decreased substantially, by 39.9 percent among men and by 26.1 percent among women. The decline in mortality rates was evident in almost all Californians, although for some population groups the number of deaths was too small for trends to be evaluated.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: LARYNX CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-3.3**	↓	**-26.1**	**-4.8**	↓	**-35.8**
Age	20 – 44	-4.0	↓	-30.7	**	**	**
	45 – 59	-4.5	↓	-33.9	-4.7	↓	-35.2
	60 – 74	-3.7	↓	-28.8	-4.5	↓	-33.9
	75 +	-3.5	↓	-27.4	-4.2	↓	-32.0
Race/Ethnicity	White, Non-Latino	-3.1	↓	-24.7	-4.6	↓	-34.5
	African American	-3.6	↓	-28.1	-5.9	↓	-42.1
	Latino	-2.2	↓	-18.1	-2.3	↓	-18.9
	Asian/Pacific Islander	-3.5	↓	-27.4	-10.6	〰	-63.5
Men		**-3.2**	↓	**-25.4**	**-5.5**	↓	**-39.9**
Age	20 – 44	-4.1	↓	-31.4	**	**	**
	45 – 59	-4.5	↓	-33.9	-4.8	↓	-35.8
	60 – 74	-3.5	↓	-27.4	-4.6	↓	-34.5
	75 +	-2.0	↓	-16.6	-4.7	↓	-35.2
Race/Ethnicity	White, Non-Latino	-3.1	↓	-24.7	-5.1	↓	-37.6
	African American	-3.5	↓	-27.4	-3.8	↓	-29.4
	Latino	-2.2	↓	-18.1	-2.1	↓	-17.4
	Asian/Pacific Islander	-3.3	↓	-26.1	**	**	**
Women		**-4.1**	↓	**-31.4**	**-3.9**	↓	**-26.1**
Age	20 – 44	**	**	**	**	**	**
	45 – 59	-4.7	↓	-35.2	**	**	**
	60 – 74	-4.9	↓	-36.4	-4.5	↓	-33.9
	75 +	-1.8	↓	-15.1	-1.2	↓	-10.3
Race/Ethnicity	White, Non-Latino	-3.7	↓	-28.8	-2.6	↓	-21.1
	African American	-4.0	↓	-30.7	**	**	**
	Latino	-2.8	↓	-22.6	**	**	**
	Asian/Pacific Islander	**	**	**	**	**	**

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

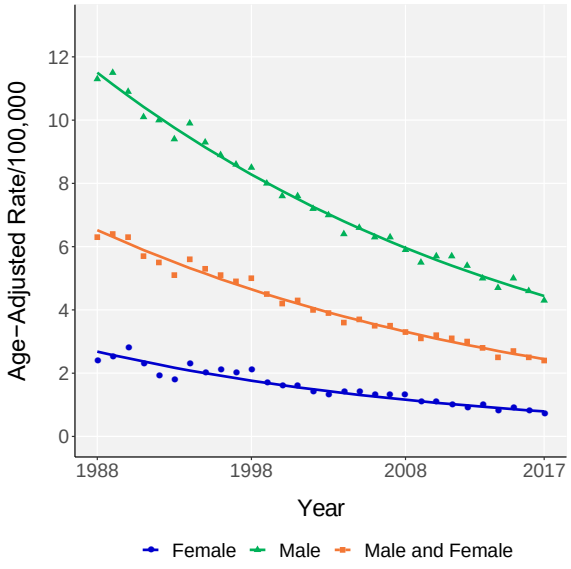
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

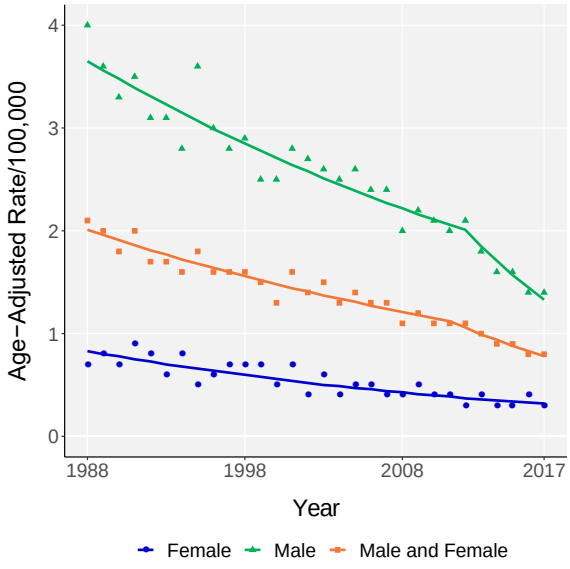
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: LARYNX CANCER

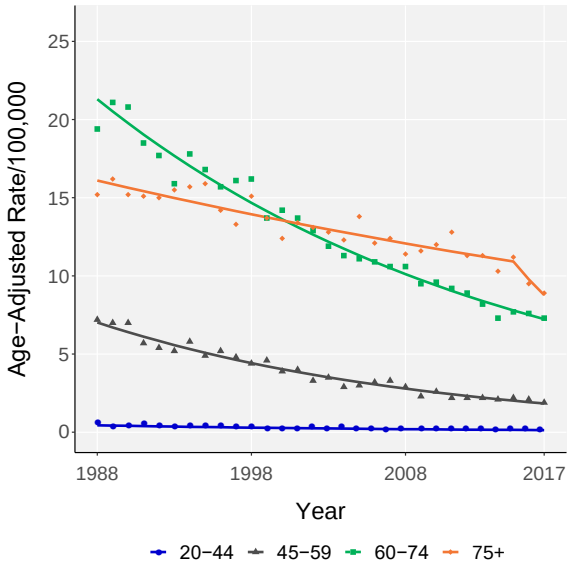
INCIDENCE BY SEX



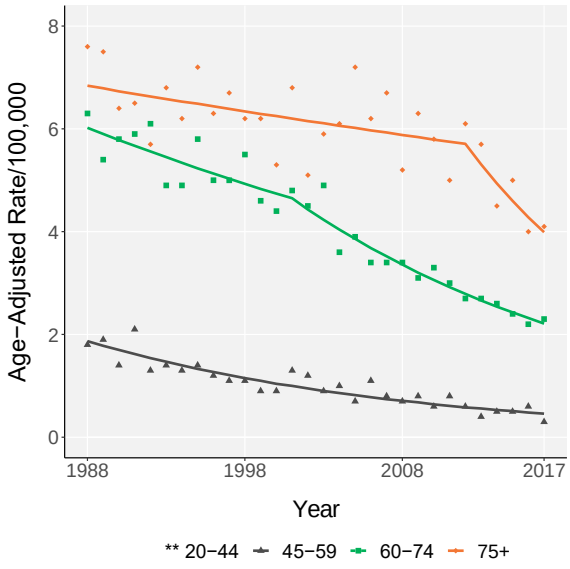
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



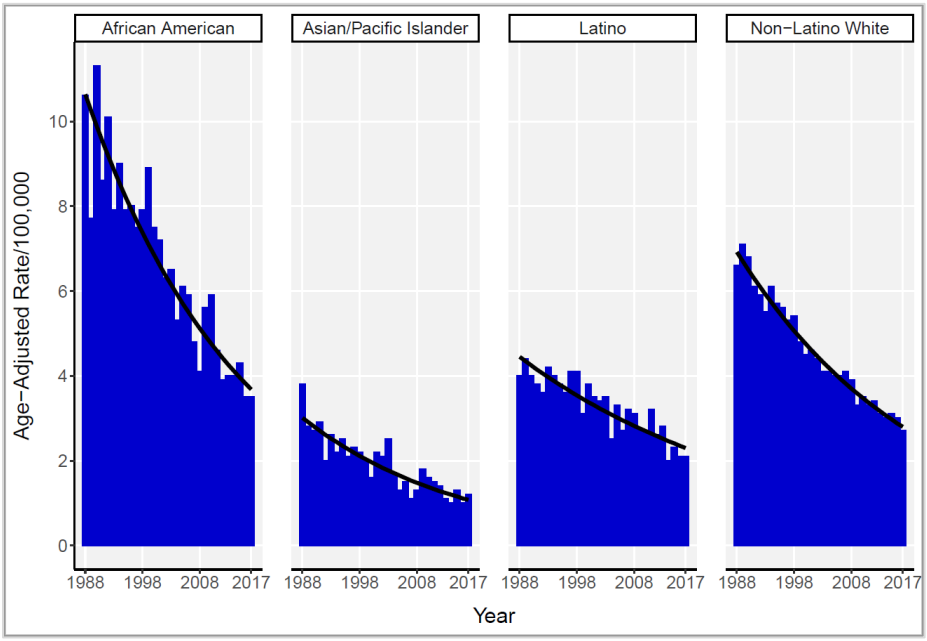
MORTALITY BY AGE GROUP



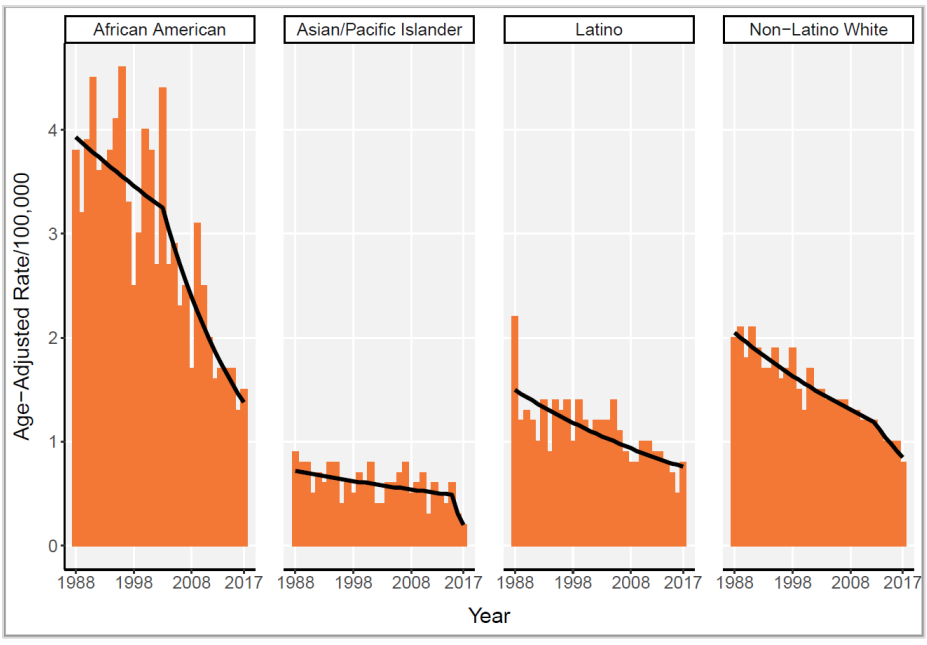
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: LARYNX CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

LEUKEMIA

In 2017, 4,307 Californians were diagnosed with leukemia, and 2,297 died from the disease. Leukemia is a cancer of the white blood cells and starts in the bone marrow. There are several types of leukemias, which are classified based on how quickly the disease progresses (acute or chronic leukemias) and whether it starts in myeloid cells or lymphoid cells. This report presents trends for the four main types of leukemia: acute lymphocytic leukemia (ALL), chronic lymphocytic leukemia (CLL), acute myeloid leukemia (AML), and chronic myeloid leukemia (CML). Chronic types of leukemia occur mostly in adults, while the acute types occur in both adults and children. The causes of leukemia are unknown, but the following factors increase the risk of developing the disease:

- Exposure to high doses of radiation (e.g., due to medical treatment or among survivors of atomic bomb blasts or nuclear power plant accidents)
- Occupational exposure to high levels of benzene or formaldehyde
- History of chemotherapy (e.g., for another type of cancer)
- Down syndrome and certain other genetic disorders characterized by abnormal chromosomes
- Human T-cell leukemia virus-I (HTLV-I) infection is linked to a rare type of CLL
- Myelodysplastic syndrome (increases the risk for AML)

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

The incidence of all leukemia types combined decreased by 1.1 percent per year during the ten-year period between 2008 and 2017. Incidence rates increased among persons 20-44 years old (by 1.6 percent per year), but decreased among those over 74 years of age. The incidence of leukemia decreased among whites and Asian/Pacific Islanders, by ten and four percent overall during the period.

Mortality rates for leukemia declined in virtually all population groups examined, except among Asian/Pacific Islanders, for whom the decrease in mortality was only significant among men. Leukemia mortality rates declined by 1.9 percent per year, for an overall decline of 15.9 percent during the period.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: LEUKEMIA

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		-1.1	〰	**-9.5**	**-1.9**	↓	**-15.9**
Age	20 - 44	1.6	↑	15.4	-1.4	↓	-11.9
	45 - 59	-0.2	〰	-1.8	-2.3	↓	-18.9
	60 - 74	-1.6	〰	-13.5	-3.0	↓	-24.0
	75 +	-1.5	↓	-12.7	-0.2	↓	-1.8
Race/Ethnicity	White, Non-Latino	-1.0	↓	-8.6	-1.4	↓	-11.9
	African American	-0.3	〰	-2.7	-1.2	↓	-10.3
	Latino	0.3	〰	2.7	-0.7	↓	-6.1
	Asian/Pacific Islander	-0.4	↓	-3.5	-1.7	〰	-14.3
Men		**-1.1**	〰	**-9.5**	**-1.0**	↓	**-8.6**
Age	20 - 44	1.3	↑	12.3	-1.4	↓	-11.9
	45 - 59	-0.3	↓	-2.7	-2.5	↓	-20.4
	60 - 74	-0.4	↓	-3.5	-2.3	↓	-18.9
	75 +	-0.4	↓	-3.5	-0.4	↓	-3.5
Race/Ethnicity	White, Non-Latino	-1.0	〰	-8.6	-0.8	↓	-7.0
	African American	-0.3	〰	-2.7	-1.5	↓	-12.7
	Latino	0.3	〰	2.7	-0.3	〰	-2.7
	Asian/Pacific Islander	-0.4	↓	-3.5	-0.9	↓	-7.8
Women		**-1.3**	〰	**-11.1**	**-2.1**	↓	**-17.4**
Age	20 - 44	1.0	↑	9.4	-1.4	↓	-11.9
	45 - 59	0	〰	0.0	-2.0	↓	-16.6
	60 - 74	-1.7	〰	-14.3	-1.4	↓	-11.9
	75 +	-1.9	↓	-15.9	-0.2	〰	-1.8
Race/Ethnicity	White, Non-Latino	-1.5	〰	-12.7	-0.7	↓	-6.1
	African American	-0.3	〰	-2.7	-0.9	↓	-7.8
	Latino	0.2	〰	1.8	-0.6	↓	-5.3
	Asian/Pacific Islander	-0.3	〰	-2.7	-0.5	〰	-4.4

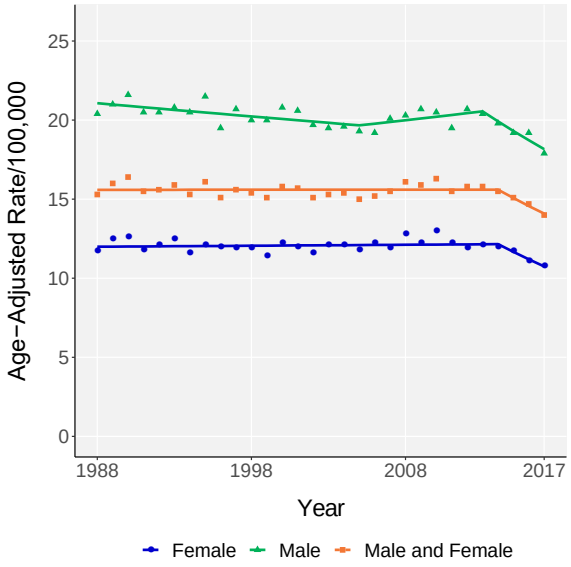
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant

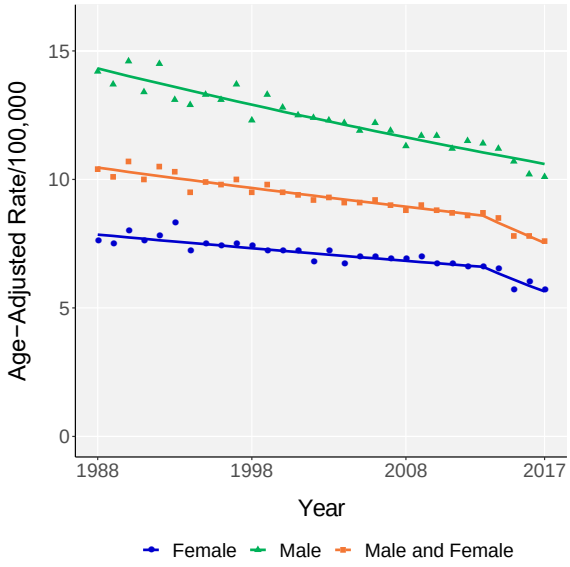
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: LEUKEMIA

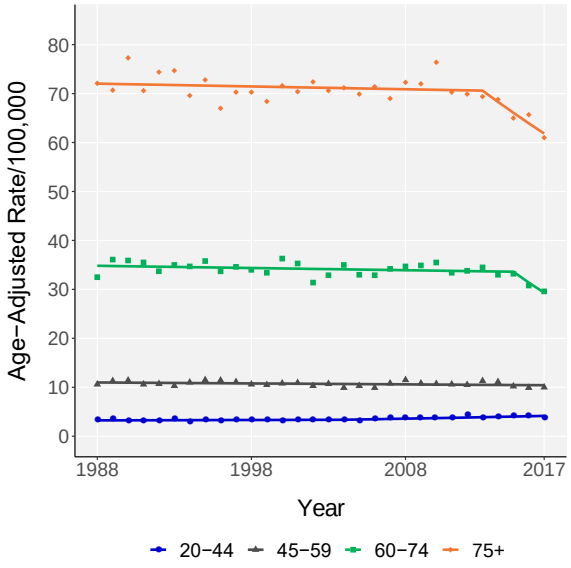
INCIDENCE BY SEX



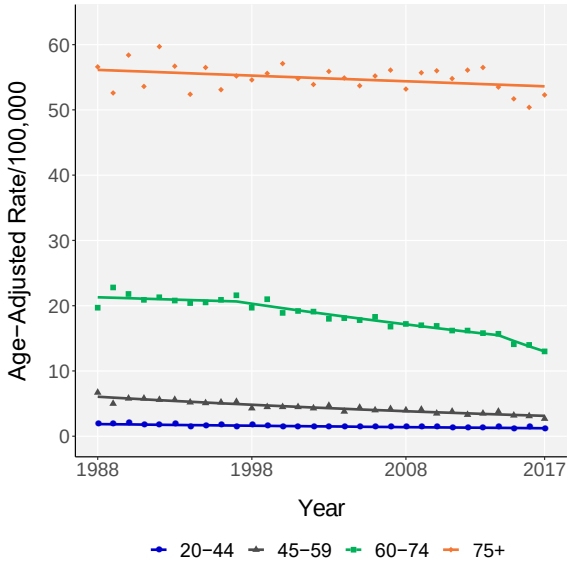
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



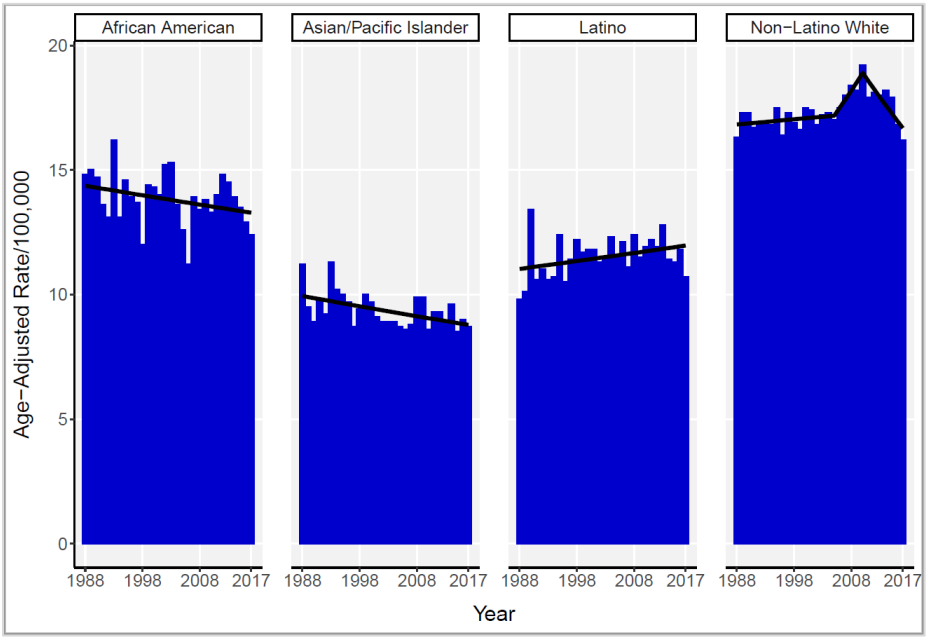
MORTALITY BY AGE GROUP



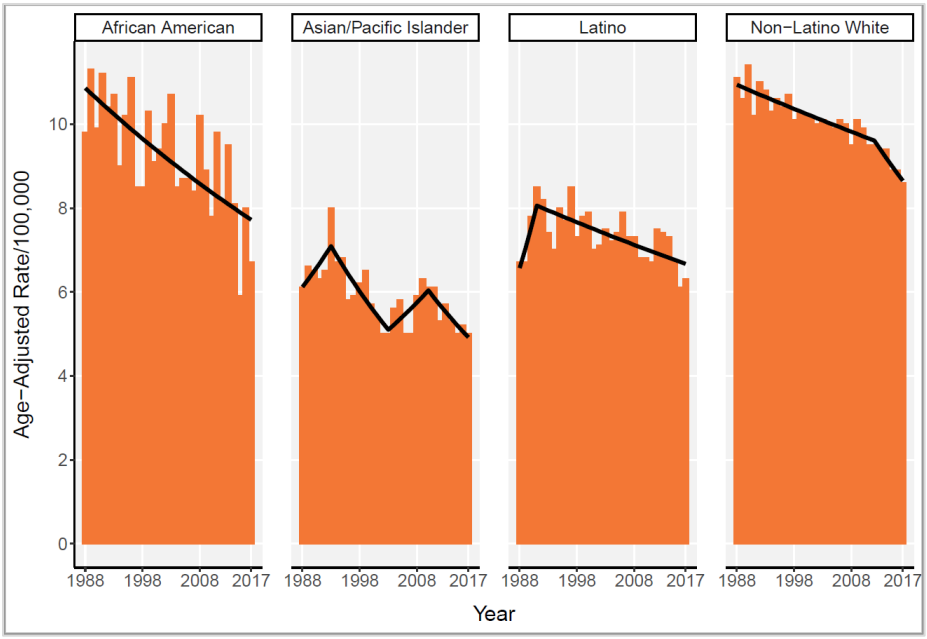
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: LEUKEMIA

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

ACUTE LYMPHOCYTIC LEUKEMIA (ALL)

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Between 2008-2017, the incidence of ALL increased by 2.0 percent per year among men and by 1.3 percent among women. Rates increased significantly among persons 20-44 years old (by 2.7 percent per year) and 45-59 years old (by 2.3 percent per year). The increase in rates was significant for both men and women. Incidence rates also increased among persons 60-74 years old, although the trend was only significant for men and women combined. A significant increase in rates (by 2.1 percent per year) was also detected among Latino men and women; rates among white men increased as well, by 1.3 percent per year.

During the same period, mortality rates for ALL increased among persons 20-44 years old, by 1.3 percent and 1.8 percent per year among men and women, respectively. Mortality rates increased among Latino men, by 11 percent during the period. White women were the only population group with a significant decline, by 7.8 percent between 2008 and 2017. Rates for other population groups did not change significantly or were not evaluated due to small counts.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: ACUTE LYMPHOCYTIC LEUKEMIA

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**1.9**	↑	**18.5**	**0.5**	↑	**4.6**
Age	20 – 44	2.7	↑	27.1	1.4	↑	13.3
	45 – 59	2.3	↑	22.7	0.6	〰	5.5
	60 – 74	1.5	↑	14.3	-0.5	〰	-4.4
	75 +	-0.9	〰	-7.8	3.4	↑	35.1
Race/Ethnicity	White, Non-Latino	1.2	↑	11.3	-0.5	〰	-4.4
	African American	**	**	**	**	**	**
	Latino	1.6	↑	15.4	1.3	↑	12.3
	Asian/Pacific Islander	-0.3	〰	-2.7	**	**	**
Men		**2.0**	↑	**19.5**	**0.2**	〰	**1.8**
Age	20 – 44	2.5	↑	24.9	1.3	↑	12.3
	45 – 59	1.7	↑	16.4	0.5	〰	4.6
	60 – 74	0.9	〰	8.4	-0.3	〰	-2.7
	75 +	-0.6	〰	-5.3	4.3	〰	46.1
Race/Ethnicity	White, Non-Latino	1.3	↑	12.3	-0.3	〰	-2.7
	African American	**	**	**	**	**	**
	Latino	2.1	↑	20.6	1.0	↑	9.4
	Asian/Pacific Islander	**	**	**	**	**	**
Women		**1.3**	↑	**12.3**	**0.6**	〰	**5.5**
Age	20 – 44	2.6	↑	26.0	1.8	↑	17.4
	45 – 59	1.5	↑	14.3	1.0	〰	9.4
	60 – 74	0.5	〰	4.6	-0.6	〰	-5.3
	75 +	-1.3	↑	-11.1	0.4	〰	3.7
Race/Ethnicity	White, Non-Latino	0.1	〰	0.9	-0.9	↓	-7.8
	African American	**	**	**	**	**	**
	Latino	2.1	↑	20.6	-2.7	〰	-21.8
	Asian/Pacific Islander	**	**	**	**	**	**

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

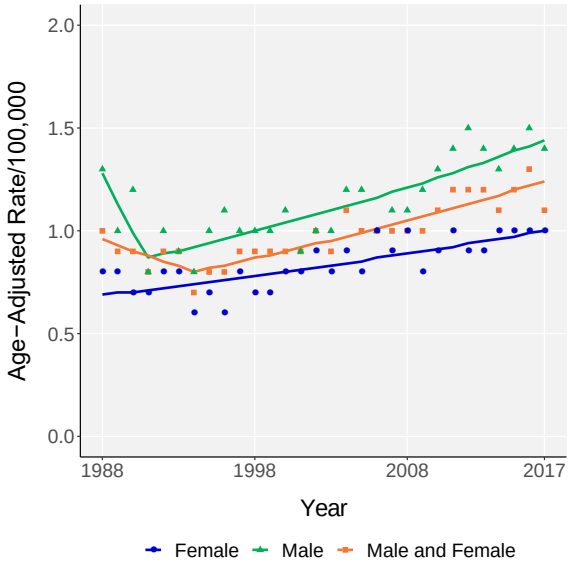
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

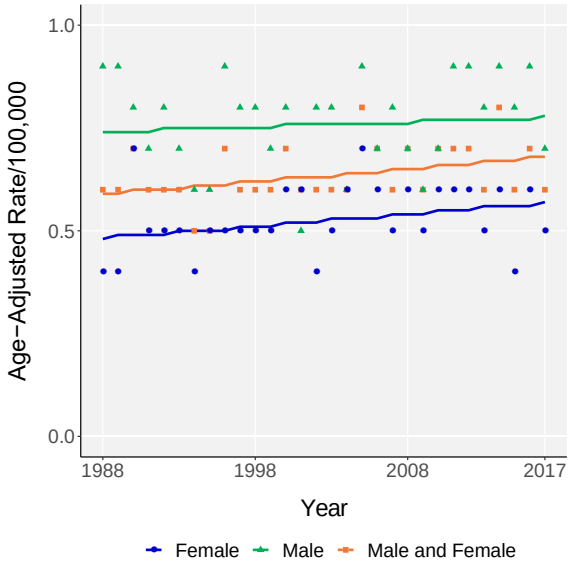
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: ACUTE LYMPHOCYTIC LEUKEMIA

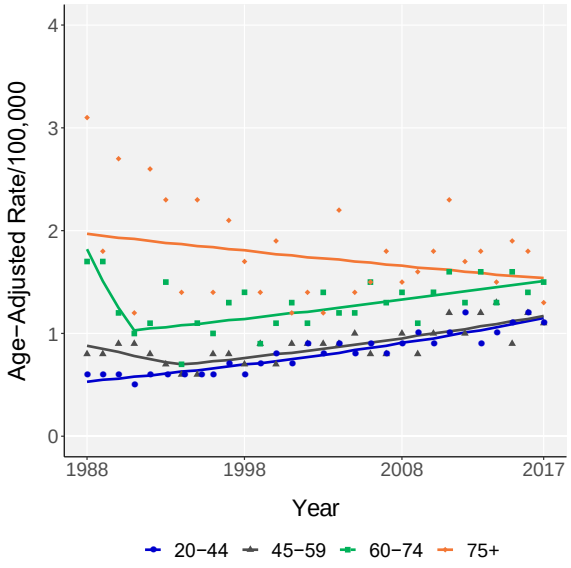
INCIDENCE BY SEX



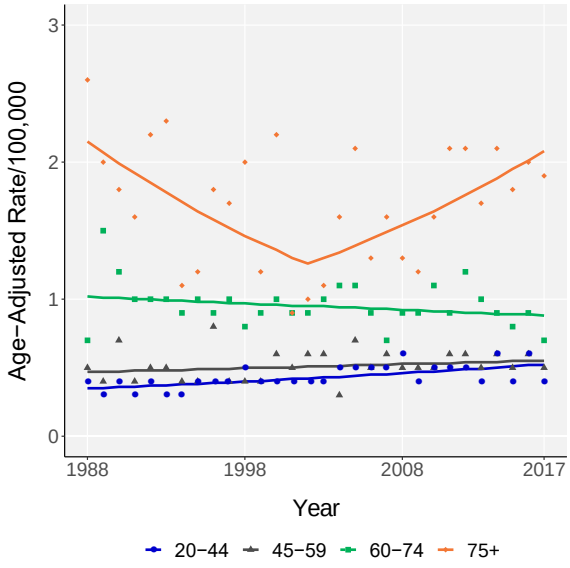
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



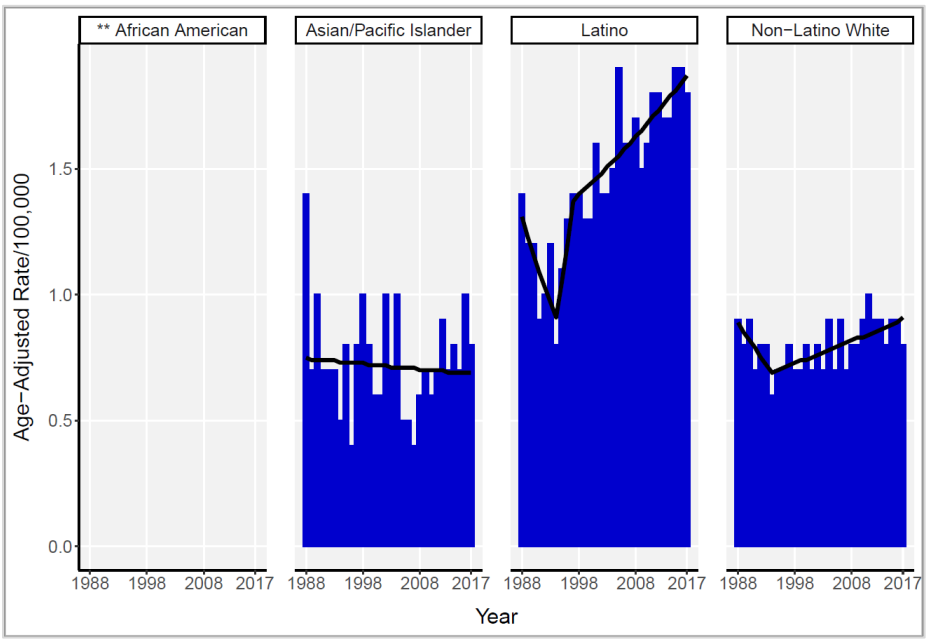
MORTALITY BY AGE GROUP



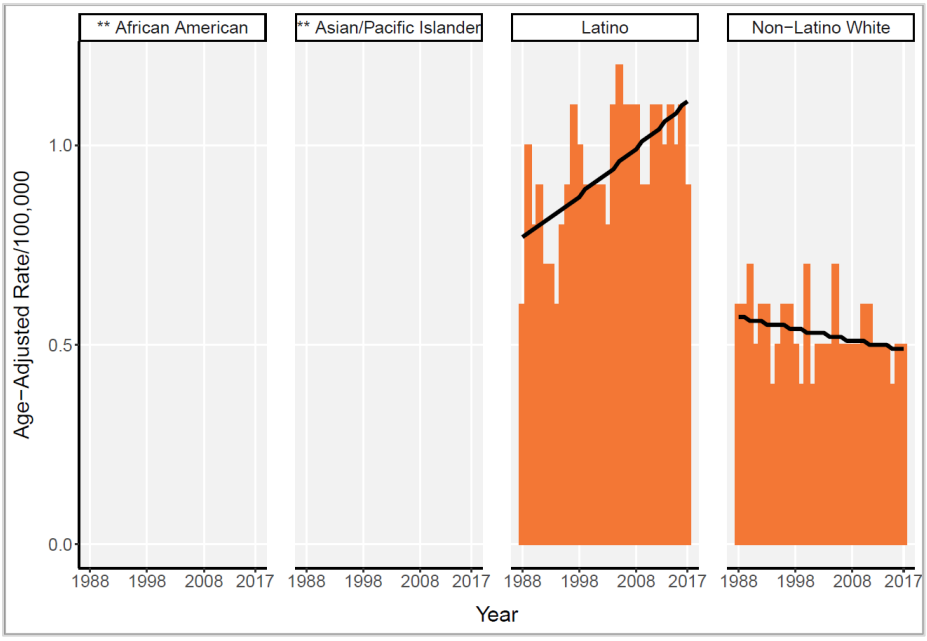
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: ACUTE LYMPHOCYTIC LEUKEMIA

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

CHRONIC LYMPHOCYTIC LEUKEMIA (CLL)

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the period between 2008-2017, incidence rates for CLL declined by 3.0 percent per year among men and by 3.8 percent per year among women. The decline in rates was significant for women 60 years of age and older, ranging from with 3.7 - 3.9 percent per year. In men, rates declined slightly among those 45-59 years old, but the decline was much more pronounced among men over 74 years of age. Incidence rates also declined among white men and women (by 2.7 and 3.4 percent per year, respectively) and among African American women (by 1.1 percent per year).

Mortality rates for CLL declined significantly among men and women, both by 1.2 percent per year. Rates decreased markedly for men in the 45-59 and in the 60-74 age groups (by a total of 63.2 and 46.9 percent, respectively); a decline of 20.4 percent in rates in the latter group was also observed among women. Rates declined by 59.3 percent among African American men, the group with the largest decline in mortality during the period.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: CHRONIC LYMPHOCYTIC LEUKEMIA

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-3.0**	↓	**-24.0**	**-2.9**	↓	**-23.3**
Age	20 - 44	**	**	**	**	**	**
	45 - 59	-0.5	↓	-4.4	-14.5	↓	-75.6
	60 - 74	-3.2	↓	-25.4	-6.0	↓	-42.7
	75 +	-3.6	↓	-28.1	-0.2	〰	-1.8
Race/Ethnicity	White, Non-Latino	-2.7	↓	-21.8	-0.3	↓	-2.7
	African American	-4.2	〰	-32.0	-7.5	↓	-50.4
	Latino	-0.5	〰	-4.4	-0.5	〰	-4.4
	Asian/Pacific Islander	0.5	〰	4.6	**	**	**
Men		**-3.0**	↓	**-24.0**	**-1.2**	↓	**-10.3**
Age	20 - 44	-0.8	〰	-7.0	**	**	**
	45 - 59	-0.6	↓	-5.3	-10.5	↓	-63.2
	60 - 74	-2.7	〰	-21.8	- 6.8	↓	-46.9
	75 +	-3.7	↓	-28.8	- 0.3	〰	-2.7
Race/Ethnicity	White, Non-Latino	-2.7	↓	-21.8	- 0.5	↓	-4.4
	African American	0	〰	0	- 9.5	↓	-59.3
	Latino	-0.2	〰	-1.8	1.0	〰	9.4
	Asian/Pacific Islander	**	**	0.0	**	**	**
Women		**-3.8**	↓	**-29.4**	**-1.2**	↓	**-10.3**
Age	20 - 44	**	**	**	**	**	**
	45 - 59	-0.6	〰	-5.3	**	**	**
	60 - 74	-3.7	↓	-28.8	-2.5	↓	-20.4
	75 +	-3.9	↓	-30.1	-0.3	〰	-2.7
Race/Ethnicity	White, Non-Latino	-3.4	↓	-26.8	-0.2	〰	-1.8
	African American	-1.1	↓	-9.5	**	**	**
	Latino	-0.5	〰	-4.4	**	**	**
	Asian/Pacific Islander	**	**	**	**	**	**

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

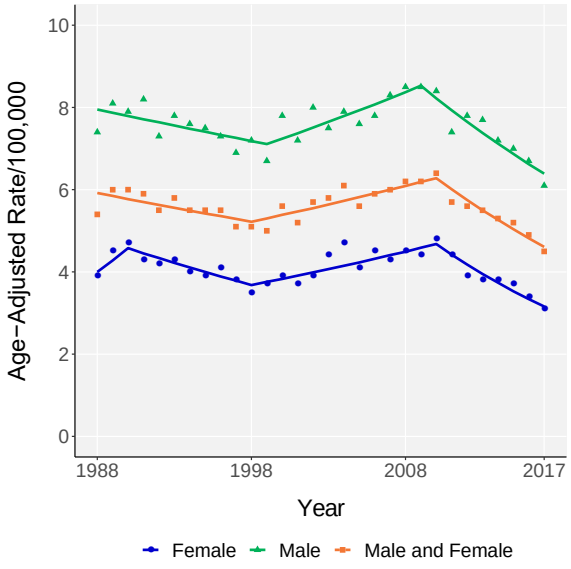
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

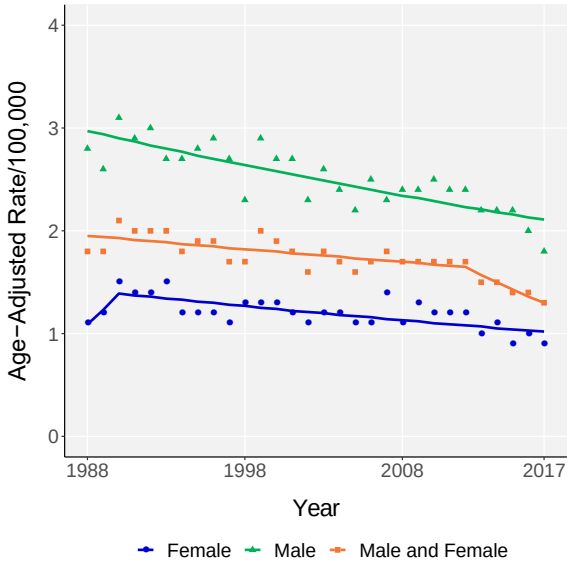
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: CHRONIC LYMPHOCYTIC LEUKEMIA

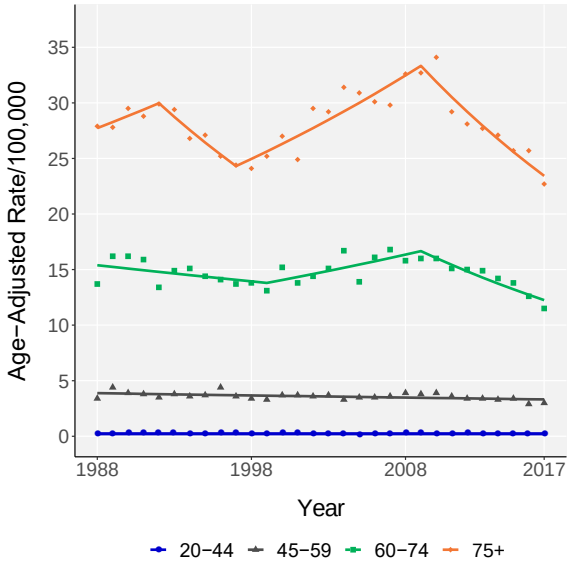
INCIDENCE BY SEX



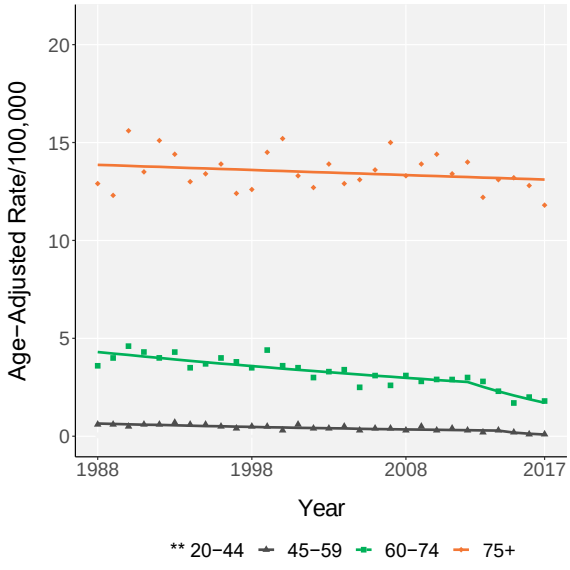
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



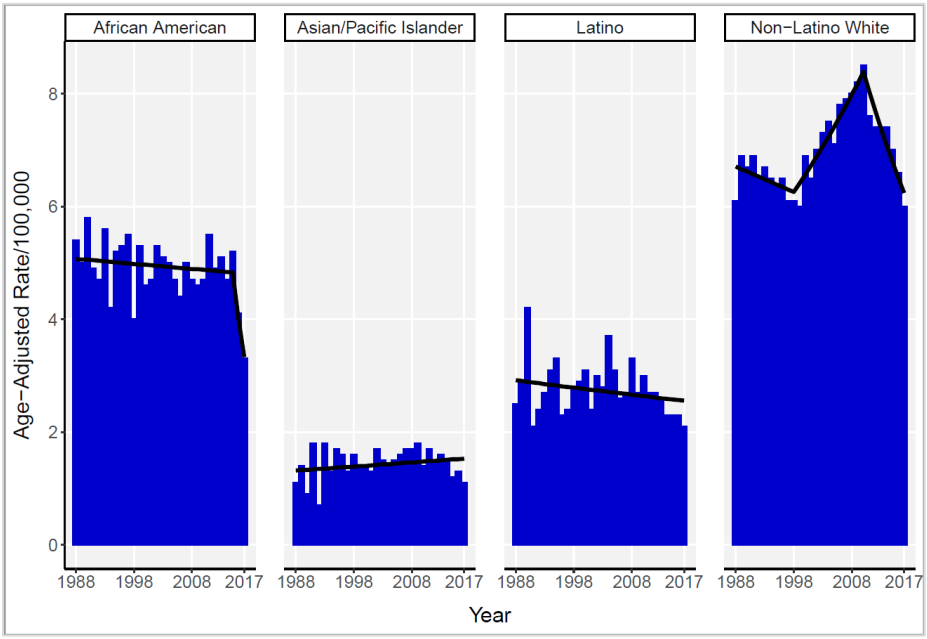
MORTALITY BY AGE GROUP



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: CHRONIC LYMPHOCYTIC LEUKEMIA

INCIDENCE



MORTALITY

** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

ACUTE MYELOID LEUKEMIA (AML)

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Overall, incidence rates of AML did not change significantly during the period, although some significant changes were detected in certain population groups. Incidence rates increased among men and women 20-44 years old, by 1.2 and 0.9 percent per year, respectively. Incidence rates increased slightly among men and women older than 74 years of age, but more markedly among men 60-74 years old (by 21.6 percent during the ten-year period). Incidence rates increased in some racial/ethnic groups; most notably among African American women and Latinas (by 0.9 and 1.2 percent per year, respectively) and among white men, for whom rates increased by 2.0 percent per year.

During the period, overall mortality rates did not change significantly. Changes in mortality by age group did not follow a clear pattern, although a somewhat marked increase of 17.4 percent during the period was observed among men aged 75 years and older. Mortality increased significantly in some racial/ethnic population groups such as among African Americans, Latinos, and Asian/Pacific Islanders, for whom rates increased by 1.5 percent, 1.1 percent, and 0.7 percent per year, respectively.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: ACUTE MYELOID LEUKEMIA

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**0.7**	〰	**6.5**	**-0.8**	〰	**-7.0**
Age	20 - 44	0.7	〰	6.5	-0.5	〰	-4.4
	45 - 59	-0.1	〰	-0.9	-0.5	↓	-4.4
	60 - 74	1.1	〰	10.3	-0.7	〰	-6.1
	75 +	0.9	〰	8.4	-0.1	〰	-0.9
Race/Ethnicity	White, Non-Latino	0.7	〰	6.5	-0.6	〰	-5.3
	African American	0.8	↑	7.4	1.5	↑	14.3
	Latino	0.8	↑	7.4	1.1	↑	10.3
	Asian/Pacific Islander	0.2	〰	1.8	0.7	↑	6.5
Men		**0.9**	〰	**8.4**	**-0.8**	〰	**-7.0**
Age	20 - 44	1.2	↑	11.3	-0.9	↓	-7.8
	45 - 59	-0.2	〰	-1.8	-0.6	〰	-5.3
	60 - 74	2.2	↑	21.6	-1.0	〰	-8.6
	75 +	0.5	↑	4.6	1.8	↑	17.4
Race/Ethnicity	White, Non-Latino	2.0	↑	19.5	-0.7	〰	-6.1
	African American	0.5	〰	4.6	1.6	↑	15.4
	Latino	0.7	〰	6.5	1.6	↑	15.4
	Asian/Pacific Islander	0.2	〰	1.8	0.9	↑	8.4
Women		**0.2**	〰	**1.8**	**-0.6**	〰	**-5.3**
Age	20 - 44	0.9	↑	8.4	-0.3	〰	-2.7
	45 - 59	0	〰	0	-0.4	〰	-3.5
	60 - 74	0.4	〰	3.7	0.7	↑	6.5
	75 +	0.9	↑	8.4	-0.5	〰	-4.4
Race/Ethnicity	White, Non-Latino	0	〰	0	1.1	↑	10.3
	African American	0.9	↑	8.4	1.4	↑	13.3
	Latino	1.2	↑	11.3	1.0	↑	9.4
	Asian/Pacific Islander	0.5	〰	4.6	0.8	〰	7.4

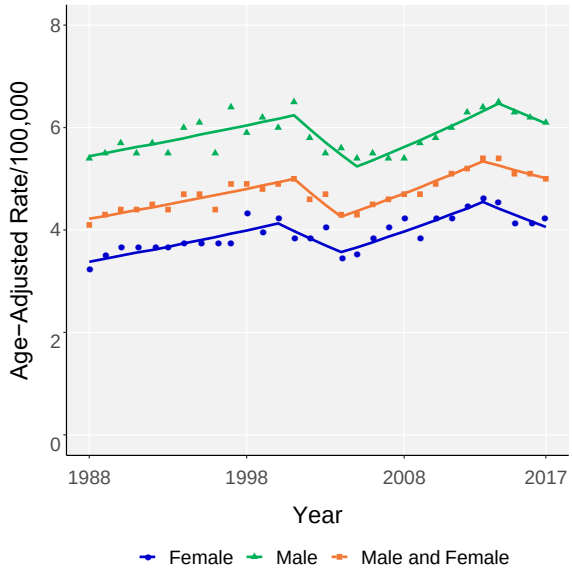
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

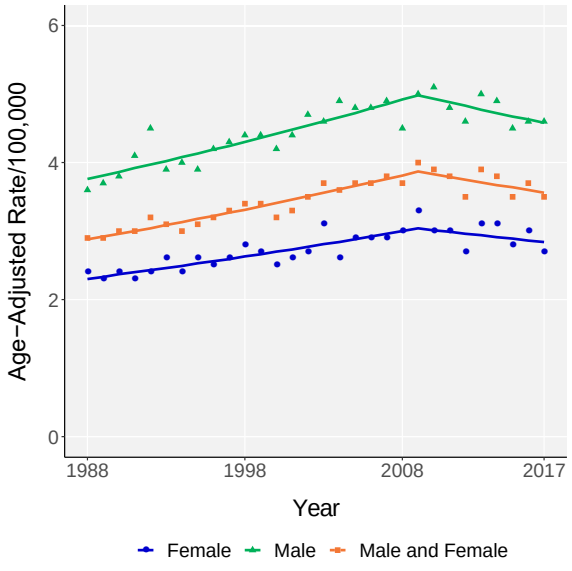
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: ACUTE MYELOID LEUKEMIA

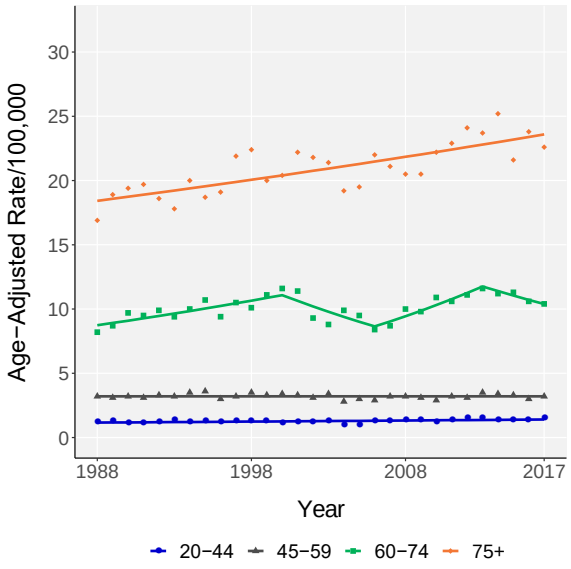
INCIDENCE BY SEX



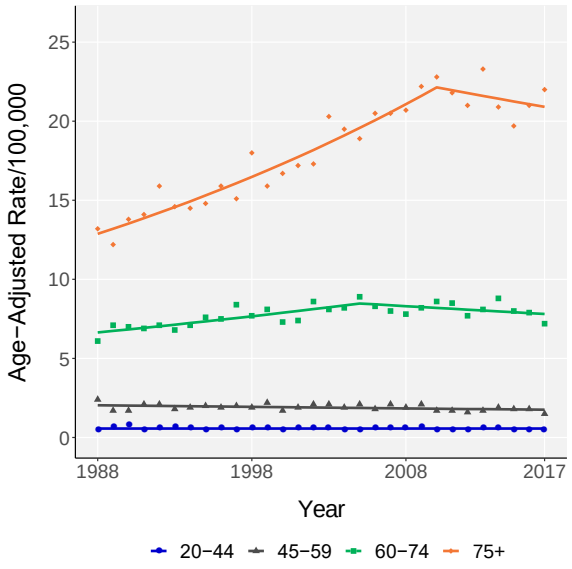
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



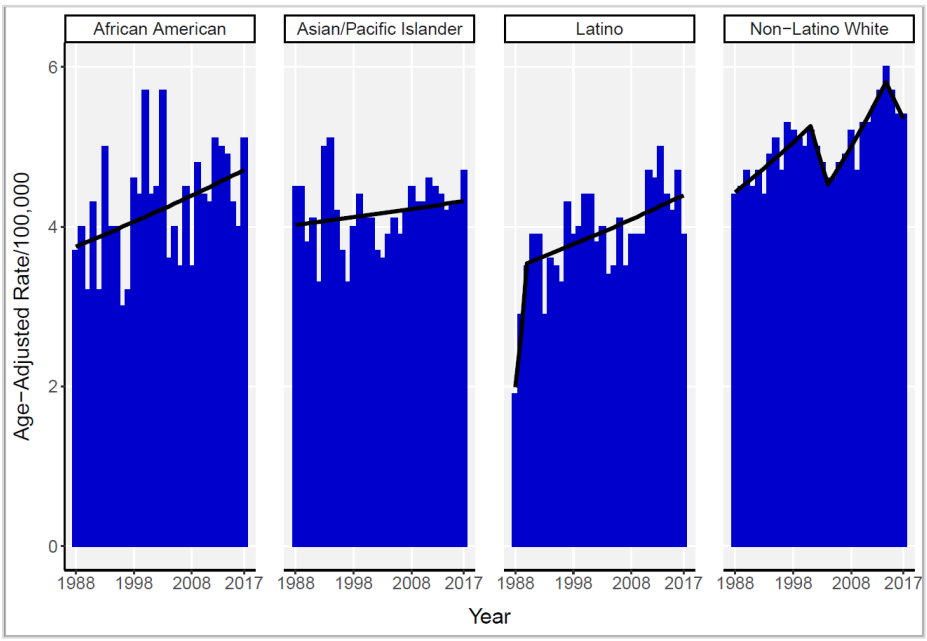
MORTALITY BY AGE GROUP



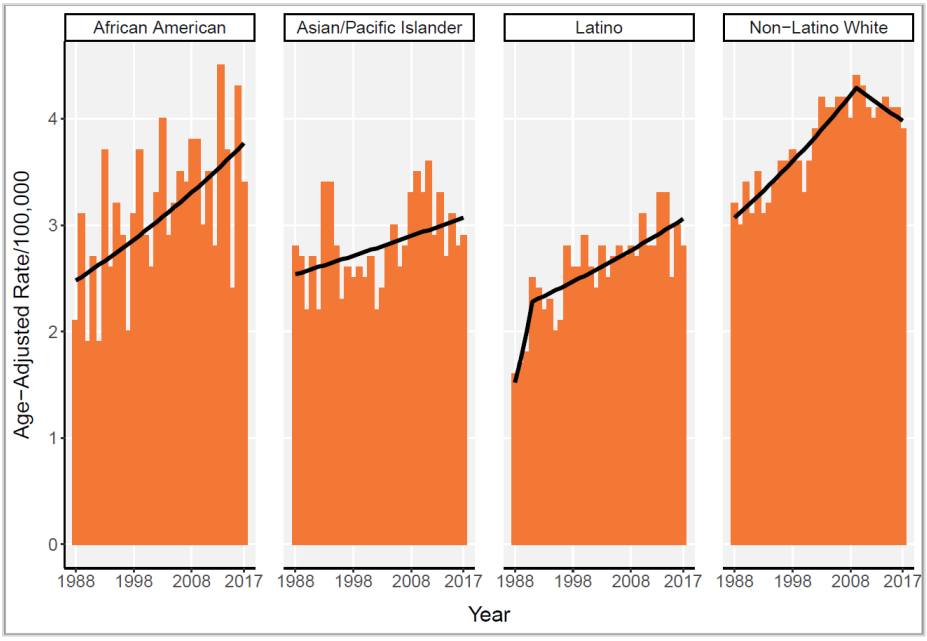
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: ACUTE MYELOID LEUKEMIA

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

CHRONIC MYELOID LEUKEMIA (CML)

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the ten-year period between 2008-2017, the overall incidence of CML was stable, although significant trends in some groups were observed. CML incidence increased by 1.9 percent per year among persons 20-44 years of age, but declined among persons in the 60-74 years age group, by a total of 6.1 percent among men and by 8.6 percent among women. Overall incidence rates declined by 11.1 percent among African American men, by 8.6 percent among Latinas and by 9.5 and 8.6 percent among Asian/Pacific Islander men and women, respectively.

Trends in mortality rates for several population groups could not be evaluated due to the small number of deaths. However, sharp declines in mortality rates were detected among men 45-59 years old (by 6.9 percent per year), and among men and women 60-74 years old (by 6.6 percent and 7.7 percent per year, respectively). During the period, mortality rates among white men declined by 17.4 percent. The largest overall declines in CML mortality rates were observed in persons of Latino background, by a total of 35.8 percent among men and by 42.7 percent among women.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: CHRONIC MYELOID LEUKEMIA

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**0.5**	〰	**4.6**	**-1.1**	〰	-9.5
Age	20 - 44	1.9	↑	18.5	**	**	**
	45 - 59	-0.1	〰	-0.9	-4.1	↓	-31.4
	60 - 74	-0.8	↓	-7.0	-4.5	↓	-33.9
	75 +	-0.8	↓	-7.0	1.7	〰	16.4
Race/Ethnicity	White, Non-Latino	0.9	〰	8.4	-1.6	↓	-13.5
	African American	-0.9	↓	-7.8	**	**	**
	Latino	-0.7	↓	-6.1	-0.6	〰	-5.3
	Asian/Pacific Islander	-1.2	↓	-10.3	**	**	**
Men		**0.9**	〰	8.4	**-1.9**	↓	-15.9
Age	20 - 44	0.5	〰	4.6	**	**	**
	45 - 59	-0.4	〰	-3.5	-6.9	↓	-47.5
	60 - 74	-0.7	↓	-6.1	-6.6	↓	-45.9
	75 +	0.5	〰	4.6	1.7	〰	16.4
Race/Ethnicity	White, Non-Latino	1.1	〰	10.3	-2.1	↓	-17.4
	African American	-1.3	↓	-11.1	**	**	**
	Latino	-0.4	〰	-3.5	-4.8	↓	-35.8
	Asian/Pacific Islander	-1.1	↓	-9.5	**	**	**
Women		**-0.6**	↓	-5.3	**1.4**	〰	13.3
Age	20 - 44	-0.2	〰	-1.8	**	**	**
	45 - 59	0.2	〰	1.8	**	**	**
	60 - 74	-1.0	↓	-8.6	-7.7	↓	-51.4
	75 +	-1.0	↓	-8.6	6.6	↑	77.8
Race/Ethnicity	White, Non-Latino	-0.1	〰	-0.9	0.9	〰	8.4
	African American	-0.4	〰	-3.5	**	**	**
	Latino	-1.0	↓	-8.6	-6.0	↓	-42.7
	Asian/Pacific Islander	-1.0	↓	-8.6	**	**	**

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

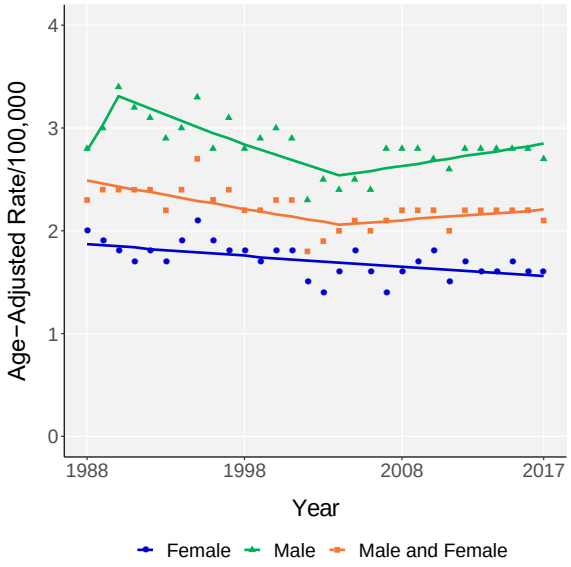
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

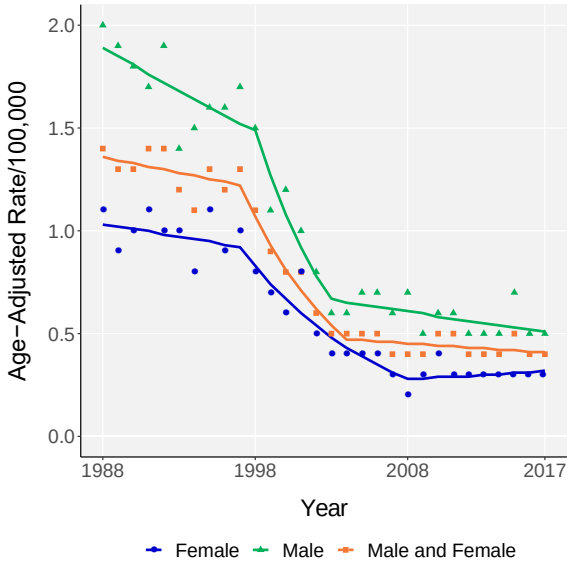
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: CHRONIC MYELOID LEUKEMIA

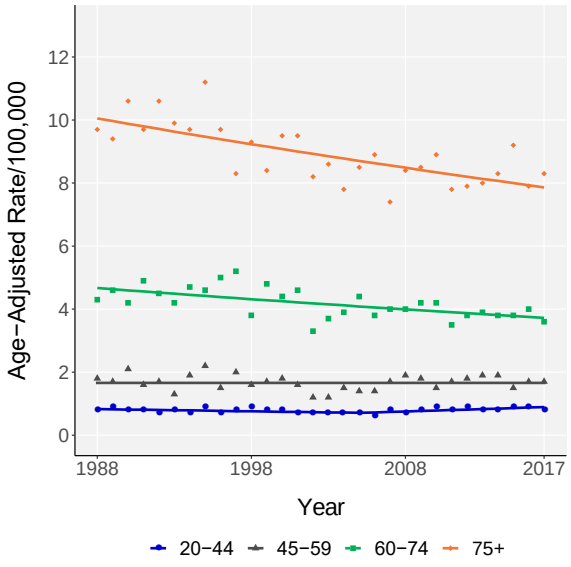
INCIDENCE BY SEX



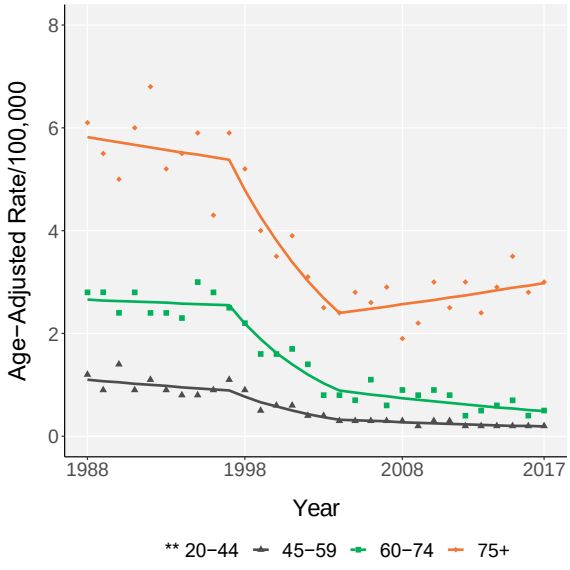
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



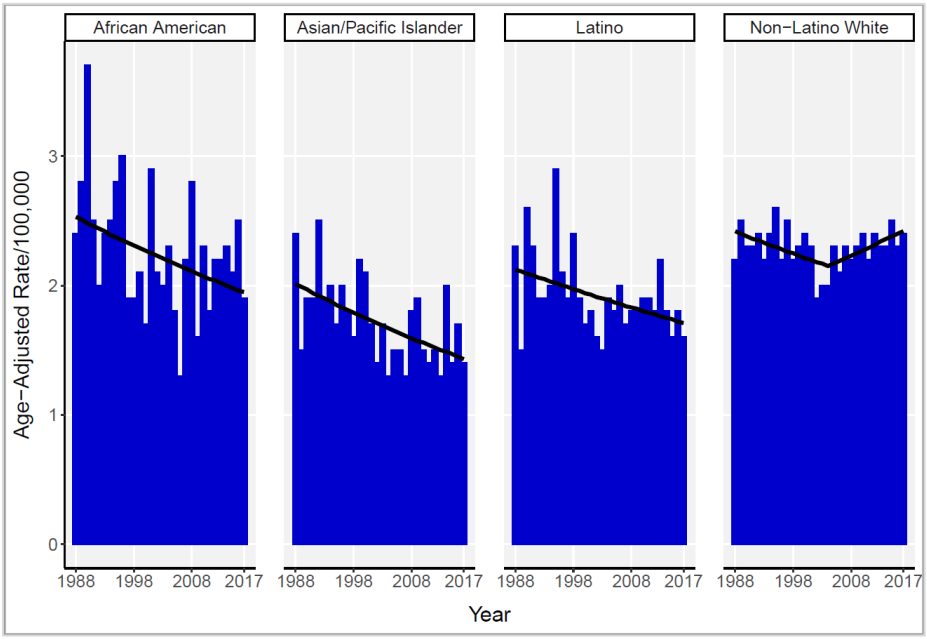
MORTALITY BY AGE GROUP



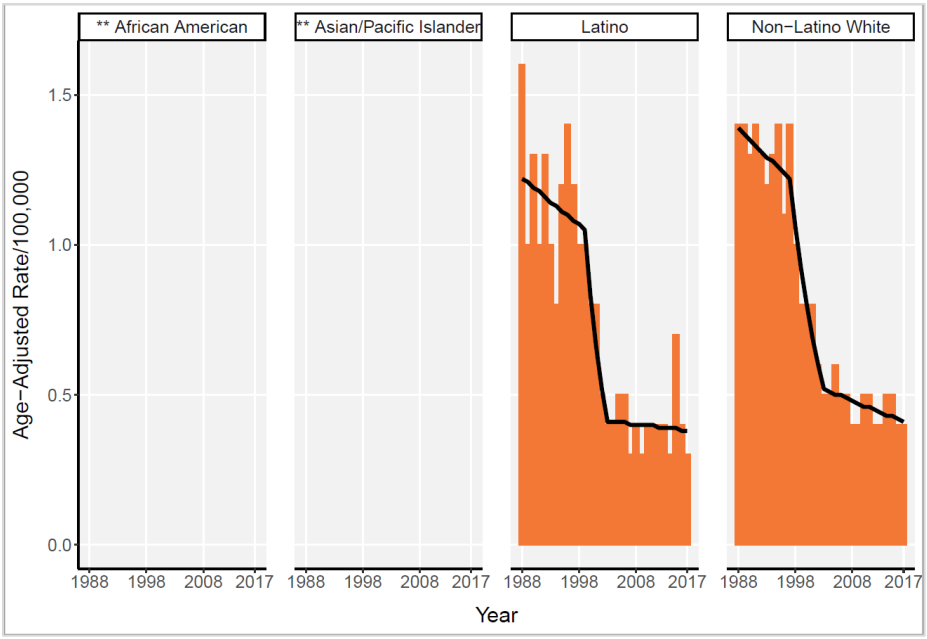
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: CHRONIC MYELOID LEUKEMIA

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

LIVER AND INTRAHEPATIC BILE DUCT CANCER

In 2017, 4,233 Californians were diagnosed with and 3,461 died from liver cancer. Liver cancer is one of the most commonly diagnosed cancers in the world, although it occurs less commonly in the United States than in many other parts of the world. In 2017, 4,233 Californians were diagnosed with and 3,461 died from liver cancer.

The major risk factors for liver cancer are chronic infection with the hepatitis B or hepatitis C virus. A hepatitis B vaccine is recommended for all children to protect against infection, but there is no vaccine for hepatitis C. Cirrhosis of the liver, caused mostly by chronic alcoholism, hepatitis C infection, and non-alcoholic fatty liver disease, is another risk factor for liver cancer. The risk of developing liver cancer may also be increased by eating grains or nuts contaminated with the mold aflatoxin.

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the 2008-2017 period, the incidence of liver cancer increased among women by 2.2 percent per year. During the same period, liver cancer incidence among men was stable. Incidence rates declined among men in the 20-44 and in the 45-59 age groups, by 3.7 percent and by 4.3 percent per year, respectively. On the other hand, rates among men 60-74 years old and 75 years and older increased by 3.7 percent and by 2.5 percent per year, respectively. Among women, 45-59 years was the only age group without a significant increase in rates: in all other age groups incidence rates increased from 1.0 percent to 2.4 percent per year. Asian/Pacific Islanders were the only racial/ethnic group for whom incidence rates declined among both men (by 3.5 percent per year) and women (by 4.0 percent per year). Incidence rates increased among African Americans, Latinos, and Asian/Pacific Islanders, but among white men the change in rates was not significant.

Because liver cancer is highly fatal, mortality rates paralleled those for incidence. Mortality rates decreased by about 26-27 percent among men under 60 years of age, but increased by 28.2 percent and 24.9 percent in the older age groups. Mortality rates increased among women 45 years and older, with the highest increase in the 60-74 age group (by 3.5 percent per year). Consistent with incidence trends, mortality rates decreased among Asian/Pacific Islanders by 1.1 percent per year. Among the three other major racial/ethnic groups in California, the increase in mortality rates was significant and varied from 1.4 percent per year among Latinas to 2.6 percent per year among white men.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: LIVER AND INTRAHEPATIC BILE DUCT CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**0.8**	〰	**7.4**	**2.1**	↑	**20.6**
Age	20 – 44	-2.1	↓	-17.4	-1.7	↓	-14.3
	45 – 59	-3.3	↓	-26.1	-2.4	↓	-19.6
	60 – 74	3.4	↑	35.1	2.4	↑	23.8
	75 +	2.5	↑	24.9	1.9	↑	18.5
Race/Ethnicity	White, Non-Latino	1.6	↑	15.4	2.4	↑	23.8
	African American	1.4	↑	13.3	2.2	↑	21.6
	Latino	2.2	↑	21.6	1.6	↑	15.4
	Asian/Pacific Islander	-3.4	↓	-26.8	-2.3	↓	-18.9
Men		**0.9**	〰	**8.4**	**1.1**	〰	**10.3**
Age	20 – 44	-3.7	↓	-28.8	-3.5	↓	-27.4
	45 – 59	-4.3	↓	-32.7	-3.3	↓	-26.1
	60 – 74	3.7	↑	38.7	2.8	↑	28.2
	75 +	2.5	↑	24.9	2.5	↑	24.9
Race/Ethnicity	White, Non-Latino	1.4	〰	13.3	2.6	↑	26.0
	African American	4.0	↑	42.3	2.4	↑	23.8
	Latino	2.2	↑	21.6	1.7	↑	16.4
	Asian/Pacific Islander	-3.5	↓	-27.4	-1.1	↓	-9.5
Women		**2.2**	↑	**21.6**	**1.6**	↑	**15.4**
Age	20 – 44	1.0	↑	9.4	-0.9	〰	-7.8
	45 – 59	-0.8	〰	-7.0	2.1	↑	20.6
	60 – 74	2.1	↑	20.6	3.5	↑	36.3
	75 +	2.4	↑	23.8	1.7	↑	16.4
Race/Ethnicity	White, Non-Latino	2.9	↑	29.3	2.2	↑	21.6
	African American	3.0	↑	30.5	1.9	↑	18.5
	Latino	2.9	↑	29.3	1.4	↑	13.3
	Asian/Pacific Islander	-4.0	↓	-30.7	-1.1	↓	-9.5

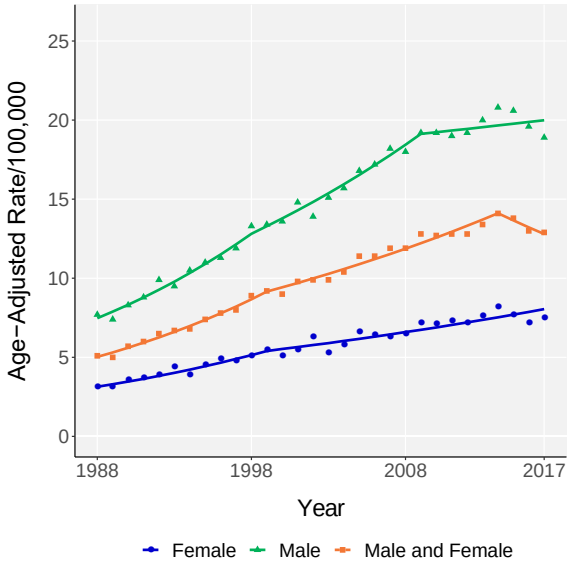
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

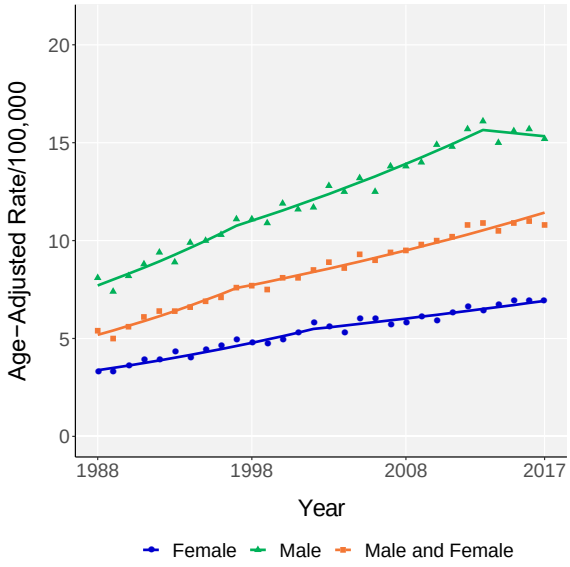
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: LIVER AND INTRAHEPATIC BILE DUCT CANCER

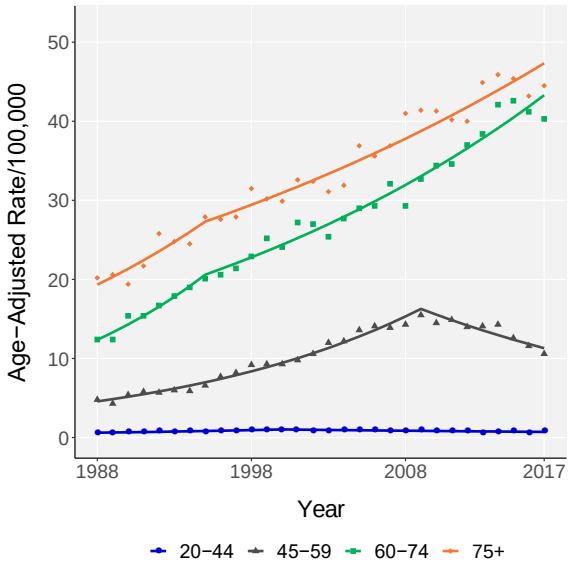
INCIDENCE BY SEX



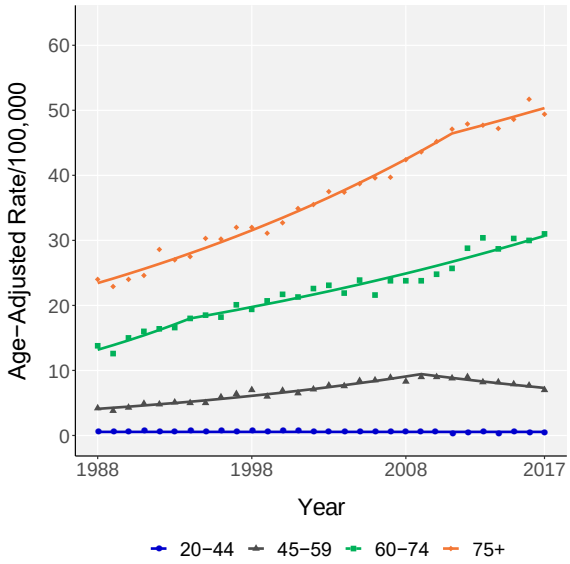
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



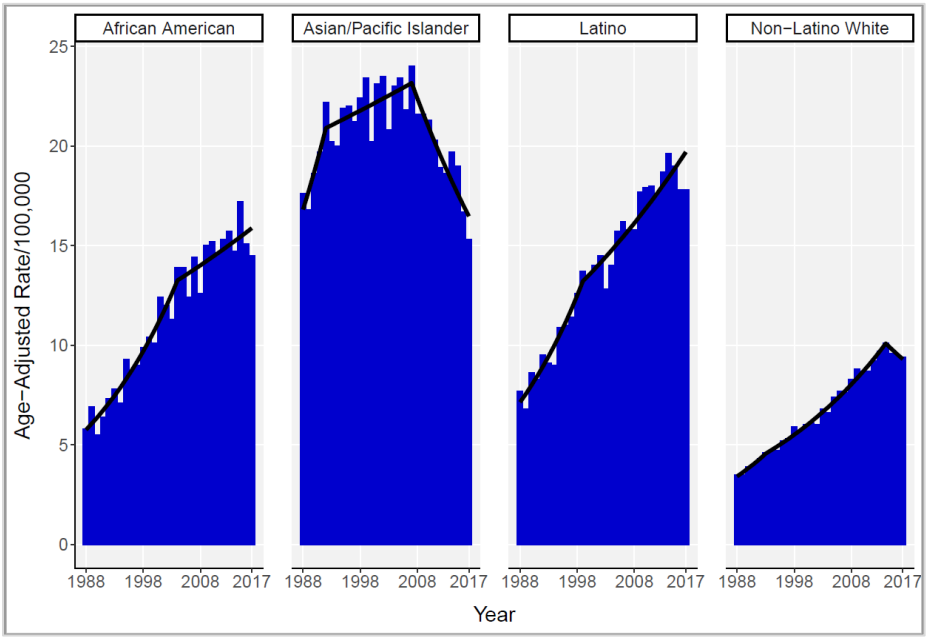
MORTALITY BY AGE GROUP



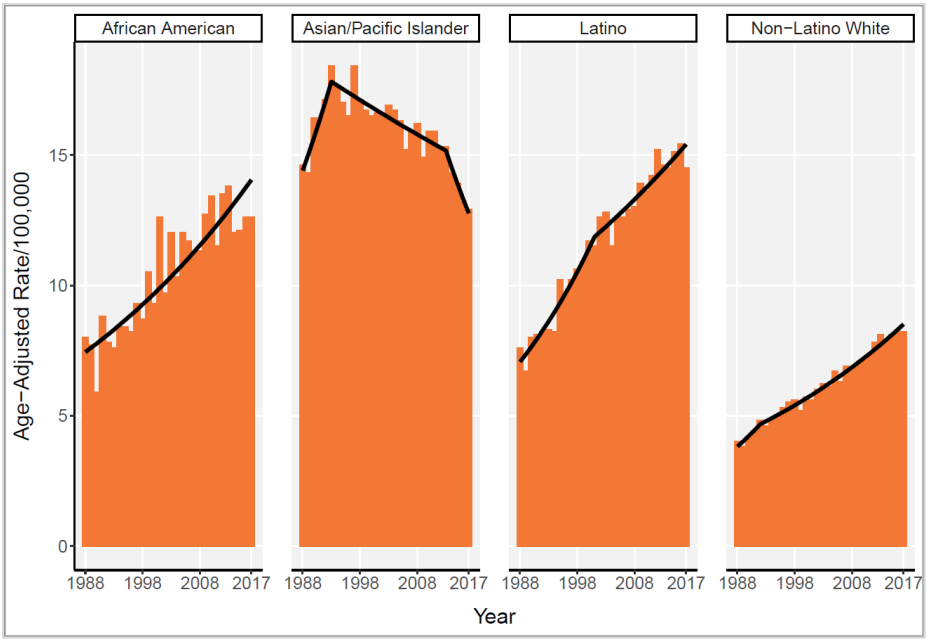
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: LIVER AND INTRAHEPATIC BILE DUCT CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

LUNG AND BRONCHUS CANCER

In 2017, 16,932 Californians were diagnosed with lung cancer, and 11,559 died from the disease. Lung cancer is the leading cause of cancer deaths in both men and women.

Smoking is the predominant cause of lung cancer. Tobacco smoke also increases the chance of developing lung cancer when other environmental risk factors are present. Other substances that can cause lung cancer, even among people who have never smoked, include asbestos, radon, arsenic, chromium, nickel, tar, and soot. However, the impact of these chemicals on the incidence of lung cancer is small compared to smoking.

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the 2008-2017 ten-year period, the incidence of lung cancer in California declined markedly among men and women of all racial/ethnic backgrounds and in in all age groups examined. These trends reflect the continuing decline of smoking among Californians, from 17.2 percent in 2000 to 11.2 percent in 2018. The only exception to the decrease in lung cancer incidence was observed among Asian/Pacific Islander women, for whom rates did not change significantly. Incidence rates declined by an average of 3.2 percent per year among men and by 2.3 percent per year among women. Men 45-59 years were the population group with the most pronounced decline in incidence rates, by a total of 35.2 percent during the ten-year period. The decline in incidence rates among Latinas was more modest, by a total of 7.0 percent over the same time period.

Trends in lung cancer mortality paralleled those for incidence, but the decrease in mortality rates was more pronounced for mortality compared with incidence rates. Mortality rates declined by 4.3 percent per year among men and by 3.6 percent per year among women. The decline in mortality rates was observed in all population groups examined, but was also particularly steep among men 45-59 years old, for whom rates declined by 6.4 percent per year (or by almost 45 percent over the ten-year period). Although no decline in lung cancer incidence was detected among Asian/Pacific Islander women, mortality rates declined by 0.6 percent per year in this population group. It is likely that improved targeted treatments have helped reduce lung cancer mortality.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: LUNG AND BRONCHUS CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-2.7**	↓	**-21.8**	**-3.9**	↓	**-30.1**
Age	20 – 44	-3.4	↓	-26.8	-4.2	↓	-32.0
	45 – 59	-3.5	↓	-27.4	-6.0	↓	-42.7
	60 – 74	-3.2	↓	-25.4	-4.9	↓	-36.4
	75 +	-2.2	↓	-18.1	-3.0	↓	-24.0
Race/Ethnicity	White, Non-Latino	-2.7	↓	-21.8	-3.8	↓	-29.4
	African American	-2.9	↓	-23.3	-3.9	↓	-30.1
	Latino	-2.4	↓	-19.6	-3.8	↓	-29.4
	Asian/Pacific Islander	-0.8	↓	-7.0	-2.4	↓	-19.6
Men		**-3.2**	↓	**-25.4**	**-4.3**	↓	**-32.7**
Age	20 – 44	-4.0	↓	-30.7	-5.2	↓	-38.2
	45 – 59	-4.7	↓	-35.2	-6.4	↓	-44.9
	60 – 74	-3.6	↓	-28.1	-5.1	↓	-37.6
	75 +	-2.8	↓	-22.6	-3.6	↓	-28.1
Race/Ethnicity	White, Non-Latino	-3.2	↓	-25.4	-4.3	↓	-32.7
	African American	-3.1	↓	-24.7	-4.2	↓	-32.0
	Latino	-3.4	↓	-26.8	-4.0	↓	-30.7
	Asian/Pacific Islander	-1.8	↓	-15.1	-2.9	↓	-23.3
Women		**-2.3**	↓	**-18.9**	**-3.6**	↓	**-28.1**
Age	20 – 44	-2.8	↓	-22.6	-5.4	↓	-39.3
	45 – 59	-2.7	↓	-21.8	-4.5	↓	-33.9
	60 – 74	-3.0	↓	-24.0	-4.8	↓	-35.8
	75 +	-1.6	↓	-13.5	-2.5	↓	-20.4
Race/Ethnicity	White, Non-Latino	-2.3	↓	-18.9	-3.4	↓	-26.8
	African American	-2.3	↓	-18.9	-3.4	↓	-26.8
	Latino	-0.8	↓	-7.0	-2.7	↓	-21.8
	Asian/Pacific Islander	0.1	〰	0.9	-0.6	↓	-5.3

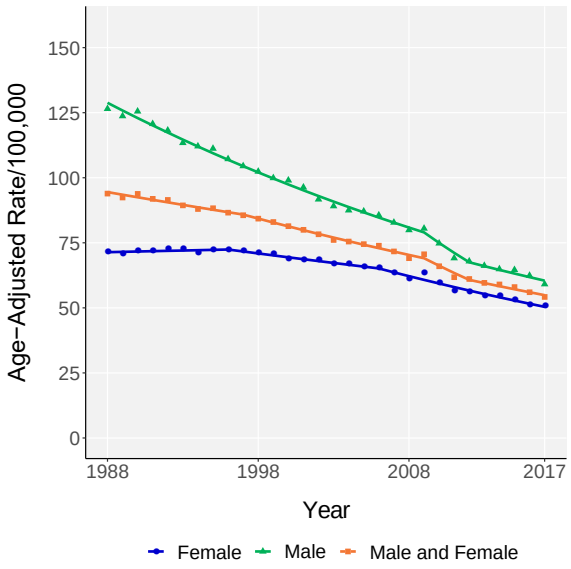
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

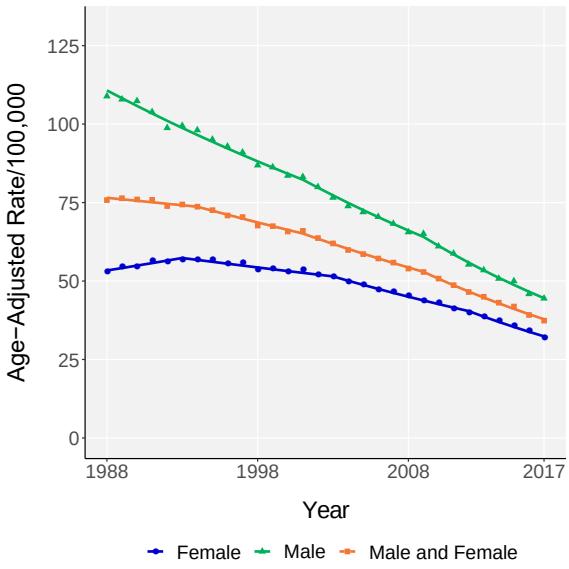
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: LUNG AND BRONCHUS CANCER

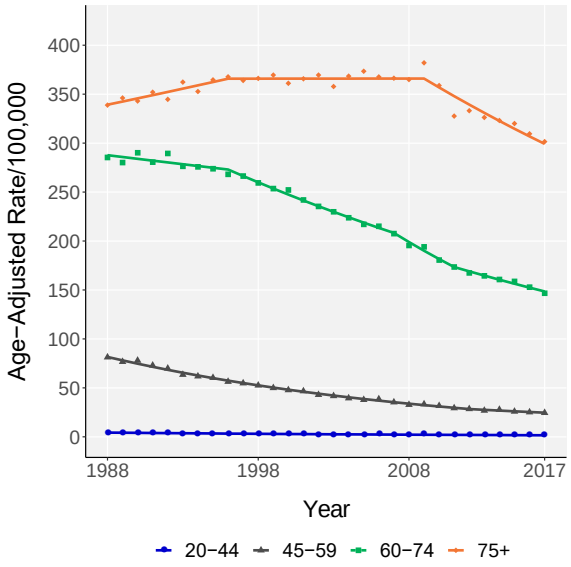
INCIDENCE BY SEX



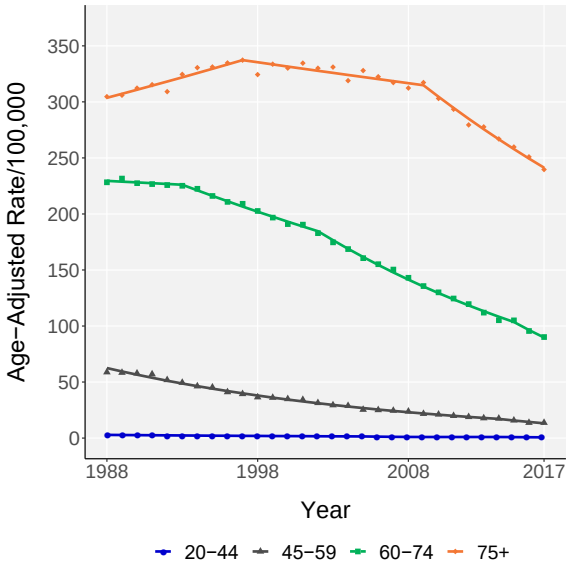
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



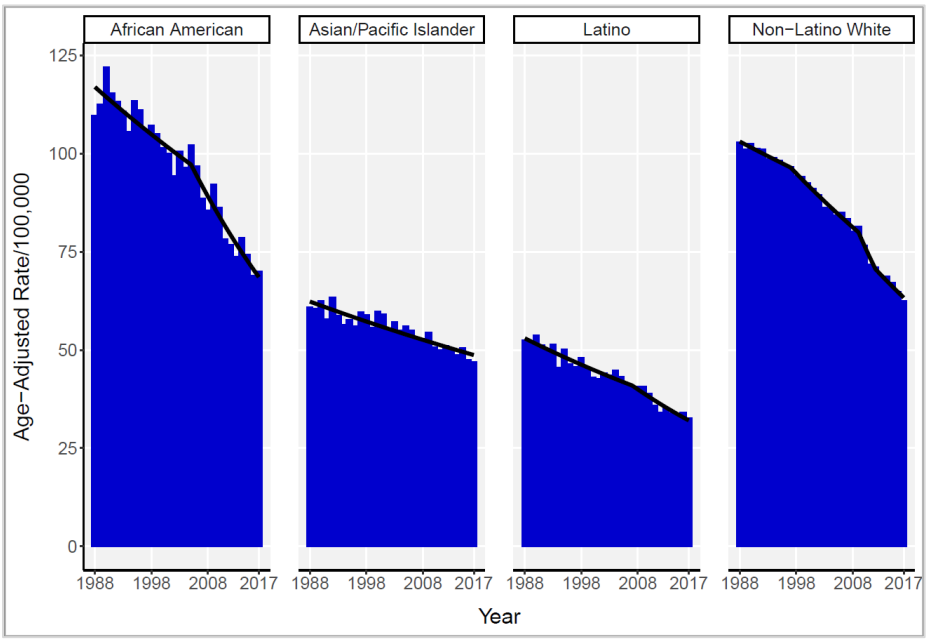
MORTALITY BY AGE GROUP



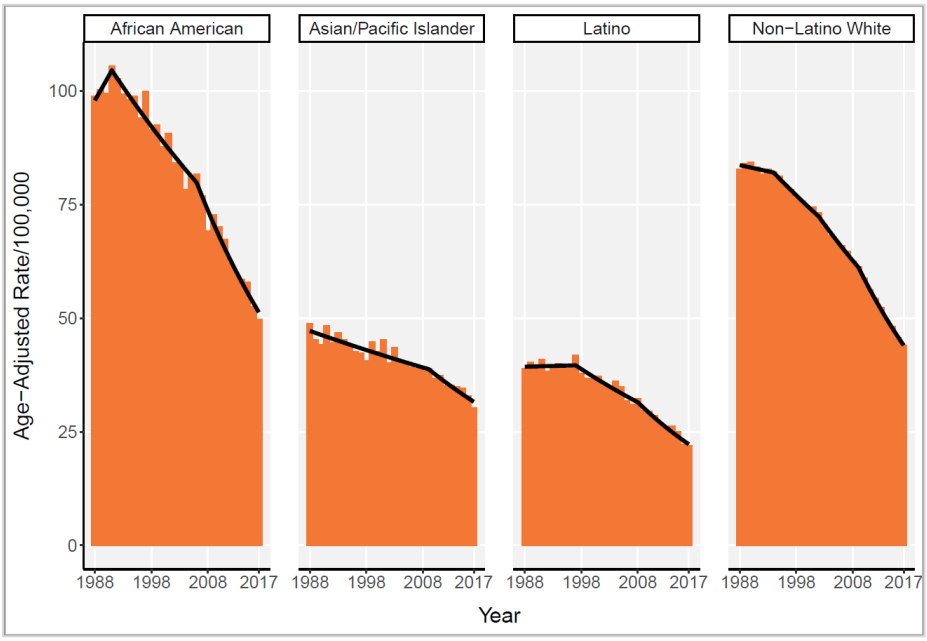
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: LUNG AND BRONCHUS CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

MELANOMA OF THE SKIN

In 2017, 9,857 Californians were diagnosed with invasive melanoma (plus 9,268 persons diagnosed with *in situ* melanomas) and 820 died from the disease. Melanoma is the most serious and aggressive type of skin cancer because it is more likely to spread to other parts of the body if not detected early and treated. In 2017, 9,857 Californians were diagnosed with invasive melanoma (plus 9,268 persons diagnosed with *in situ* melanomas), and 820 died from the disease. The chance of developing a melanoma increases with age, although the disease occurs in people of all ages, and in any skin surface. Melanoma is more common among whites than in African Americans. The following factors increase the risk of developing melanoma:

- Exposure to natural or artificial sources of ultraviolet (UV) radiation
- Having a large number of ordinary moles or dysplastic nevi (moles with irregular color and shape)
- Having light hair, light-colored eyes, and fair skin that burns or freckles easily
- Family history of melanoma (present in about ten percent of patients with melanoma)
- History of blistering sunburns
- Weakened immune system (e.g., by certain cancers or immunosuppressant drugs

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Between 2008 and 2017, the incidence of invasive melanoma of the skin increased by 1.7 percent per year among men and by 1.2 percent per year among women. The increase in incidence rates was observed among persons 60-74 years old (by 2.7 percent per year) and among those 70 years of age and older (by 2.5 percent per year). Among women 45-59 years old incidence rates increased as well, by 0.7 percent per year. On the other hand, incidence rates declined among men in both the 20-44 and 45-49 age groups, by a total of 17.4 percent and 3.5 percent, respectively. Incidence rates increased among white men and women by 2.5 and 2.1 percent per year, respectively, and also among Asian/Pacific Islander men (by 1.4 percent per year) and Latinas (by 0.8 percent per year).

Despite the increase in incidence, melanoma mortality rates decreased markedly, by 3.4 percent per year among men and by 4.0 percent per year among women. Mortality rates decreased among persons under 75 years of age; the decline in rates was steep among men 45-59 years old (by 7.5 percent per year). A decrease in melanoma mortality was also detected among white men and women, by 2.8 and 3.8 percent per year, respectively. Trends in other racial/ethnic groups were either not significant or could not be evaluated due to the small number of deaths. The decline in melanoma mortality rates following an increase in the incidence of the disease is consistent with advances in treatment and early detection of tumors.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: MELANOMA OF THE SKIN

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**1.5**	↑	**14.3**	**-3.6**	↓	**-28.1**
Age	20 – 44	-1.6	↓	-13.5	-4.7	↓	-35.2
	45 – 59	0.1	〰	0.9	-7.6	↓	-50.9
	60 – 74	2.7	↑	27.1	-3.0	↓	-24.0
	75 +	2.5	↑	24.9	-1.9	〰	-15.9
Race/Ethnicity	White, Non-Latino	2.3	↑	22.7	-3.0	↓	-24.0
	African American	-0.5	〰	-4.4	**	**	**
	Latino	0.5	〰	4.6	-0.3	〰	-2.7
	Asian/Pacific Islander	0.7	〰	6.5	-0.2	〰	-1.8
Men		**1.7**	↑	**16.4**	**-3.4**	↓	**-26.8**
Age	20 – 44	-2.1	↓	-17.4	-4.6	↓	-34.5
	45 – 59	-0.4	↓	-3.5	-7.5	↓	-50.4
	60 – 74	2.6	↑	26.0	-0.8	↓	-7.0
	75 +	2.5	↑	24.9	-1.9	〰	-15.9
Race/Ethnicity	White, Non-Latino	2.5	↑	24.9	-2.8	↓	-22.6
	African American	**	**	**	**	**	**
	Latino	0.3	〰	2.7	0.6	〰	5.5
	Asian/Pacific Islander	1.4	↑	13.3	**	**	**
Women		**1.2**	↑	**11.3**	**-4.0**	↓	**-30.7**
Age	20 – 44	-0.4	〰	-3.5	-4.5	↓	-33.9
	45 – 59	0.7	↑	6.5	-3.1	↓	-24.7
	60 – 74	2.9	↑	29.3	-4.6	↓	-34.5
	75 +	1.4	〰	13.3	-0.1	〰	-0.9
Race/Ethnicity	White, Non-Latino	2.1	↑	20.6	-3.8	〰	-29.4
	African American	**	**	**	**	**	**
	Latino	0.8	↑	7.4	-1.0	〰	-8.6
	Asian/Pacific Islander	0.8	〰	7.4	**	**	**

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

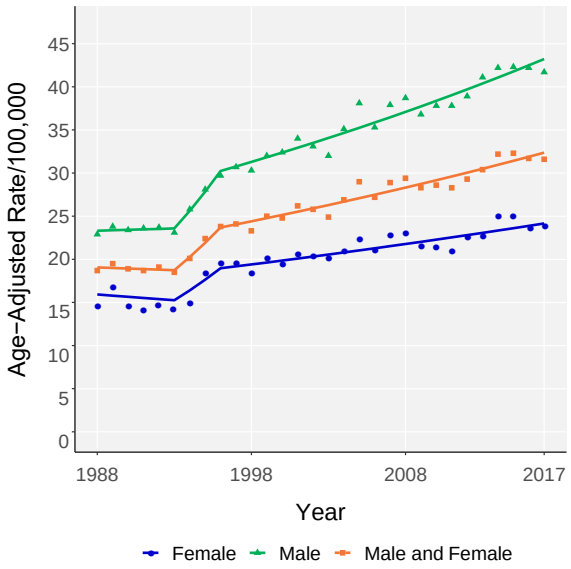
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

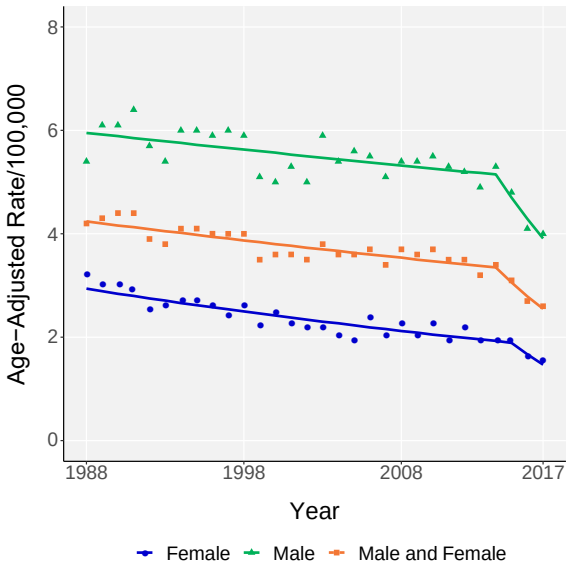
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: MELANOMA OF THE SKIN

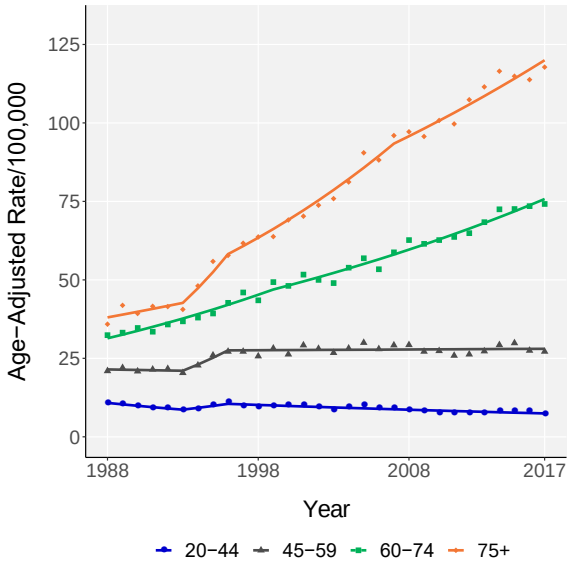
INCIDENCE BY SEX



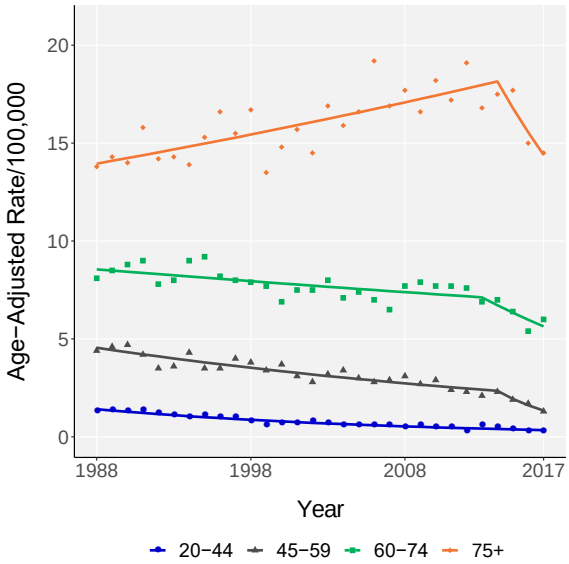
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



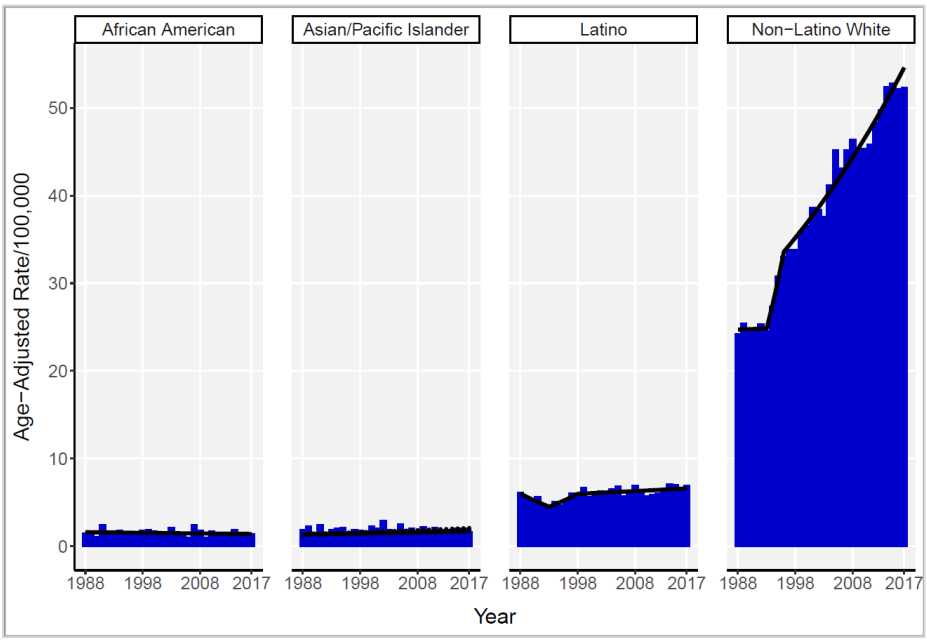
MORTALITY BY AGE GROUP



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: MELANOMA OF THE SKIN

INCIDENCE



MORTALITY

** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

MULTIPLE MYELOMA

In 2017, 2,558 Californians developed multiple myeloma and 1,211 died from the disease. Multiple myeloma is a cancer that begins in plasma cells, a type of white blood cell responsible for producing antibodies. The cause of multiple myeloma is unknown, and there are no known major risk factors for myeloma or ways to prevent it. The risk of multiple myeloma increases with age, and for unknown reasons, the disease occurs more often among African Americans than in whites. A personal history of monoclonal gammopathy of undetermined significance (MGUS), in itself a benign condition, increases the risk of lymphoma and multiple myeloma. Obesity and being overweight also seems to increase the risk of developing multiple myeloma.

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Incidence rates for multiple myeloma increased by 0.6 percent between 2008 and 2017. Rates increased in all age groups, except among women 75 years and older. Among men and women 20-44 years old, rates increased by 1.1 percent and 2.2 percent per year, respectively. The increase in incidence rates was less marked among older Californians. Smaller declines in rates were observed among Latino men and women (by 0.9 and 0.4 percent per year, respectively), African American men (by 0.8 percent per year) and white women (by 0.4 percent per year).

Despite the incidence increases, mortality for multiple myeloma decreased in all population groups for whom trends could be evaluated. Among men, mortality rates decreased by 0.6 percent per year, and among women, rates decreased by 1.1 percent per year during the ten-year period examined. The largest decline was observed among Latinas, for whom mortality rates declined by 2.7 percent per year.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: MULTIPLE MYELOMA

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**0.6**	↑	**5.5**	**-0.9**	↓	**-7.8**
Age	20 – 44	1.3	↑	12.3	**	**	**
	45 – 59	0.9	↑	8.4	-2.0	↓	-16.6
	60 – 74	0.6	↑	5.5	-1.7	↓	-14.3
	75 +	0.4	↑	3.7	0	〰	0
Race/Ethnicity	White, Non-Latino	0	〰	0	-0.6	↓	-5.3
	African American	0.5	↑	4.6	-0.9	↓	-7.8
	Latino	0.6	↑	5.5	-1.9	↓	-15.9
	Asian/Pacific Islander	0	〰	0	-1.0	↓	-8.6
Men		**0.1**	〰	0.9	**-0.6**	↓	-5.3
Age	20 – 44	1.1	↑	10.3	**	**	**
	45 – 59	0.9	↑	8.4	-1.9	↓	-15.9
	60 – 74	0.8	↑	7.4	-1.0	↓	-8.6
	75 +	0.5	↑	4.6	0.1	〰	0.9
Race/Ethnicity	White, Non-Latino	-0.2	〰	-1.8	-0.3	↓	-2.7
	African American	0.8	↑	7.4	-1.0	↓	-8.6
	Latino	0.9	↑	8.4	-0.5	〰	-4.4
	Asian/Pacific Islander	0	〰	0	-0.8	〰	-7.0
Women		**0.4**	↑	**3.7**	**-1.3**	↓	**-11.1**
Age	20 – 44	2.2	↑	21.6	**	**	**
	45 – 59	0.9	↑	8.4	-2.2	↓	-18.1
	60 – 74	0.3	↑	2.7	-2.3	↓	-18.9
	75 +	0	〰	0	-0.4	↓	-3.5
Race/Ethnicity	White, Non-Latino	0.4	↑	3.7	-1.1	↓	-9.5
	African American	0.2	〰	1.8	-1.0	↓	-8.6
	Latino	0.4	↑	3.7	-2.7	↓	-21.8
	Asian/Pacific Islander	0.1	〰	0.9	-1.0	〰	-8.6

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

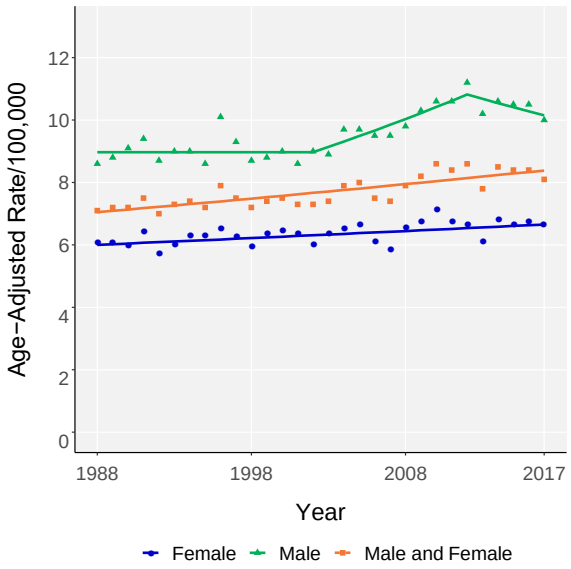
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

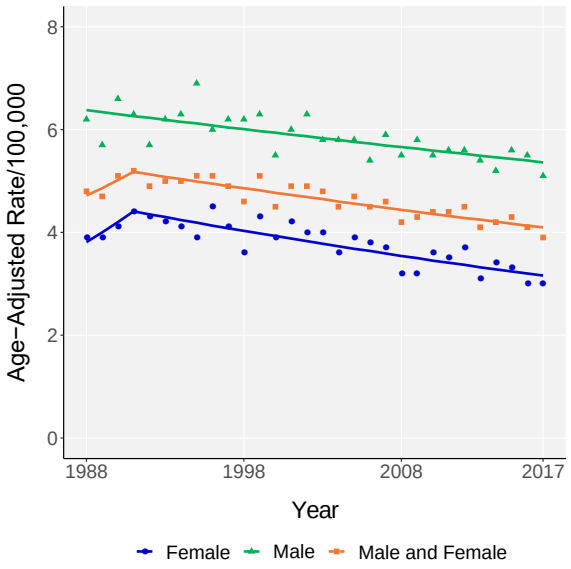
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: MULTIPLE MYELOMA

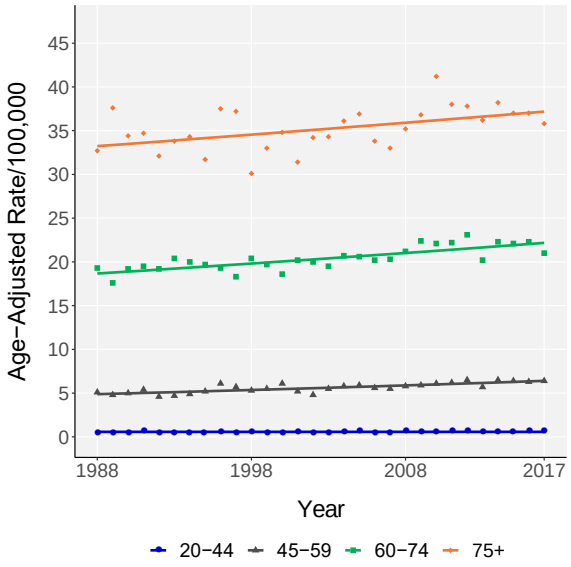
INCIDENCE BY SEX



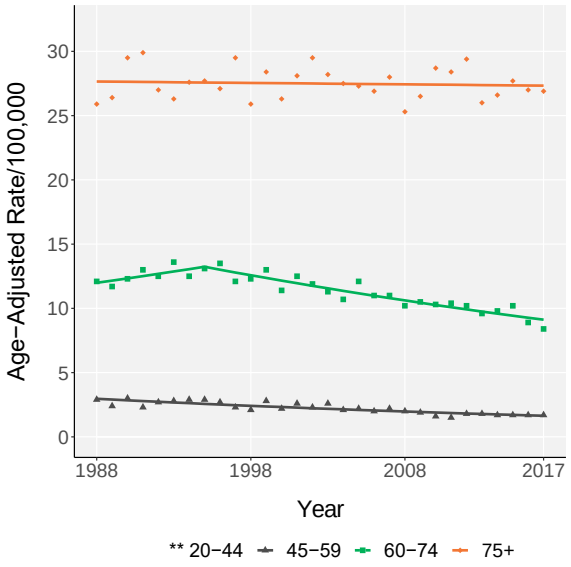
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



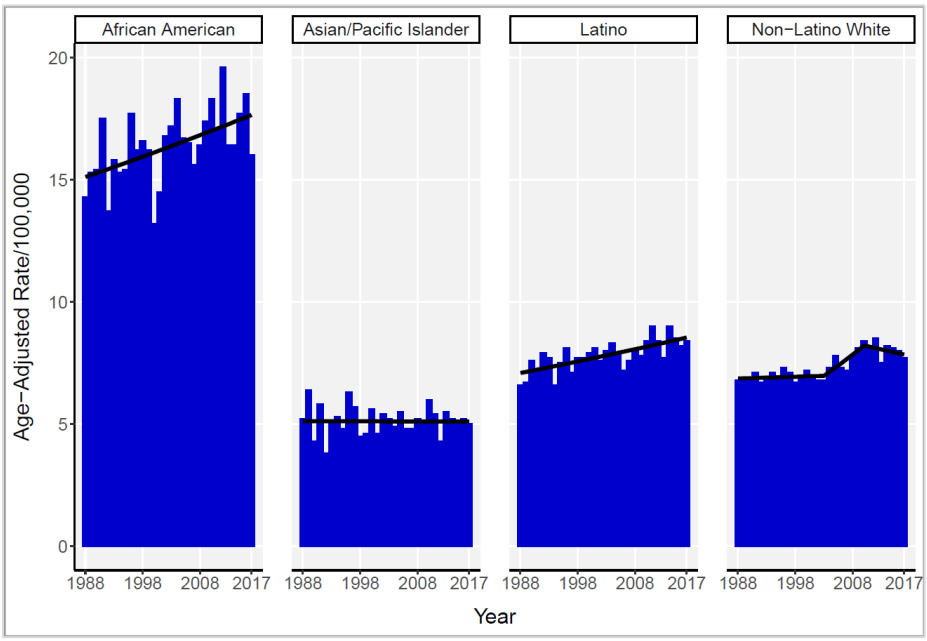
MORTALITY BY AGE GROUP



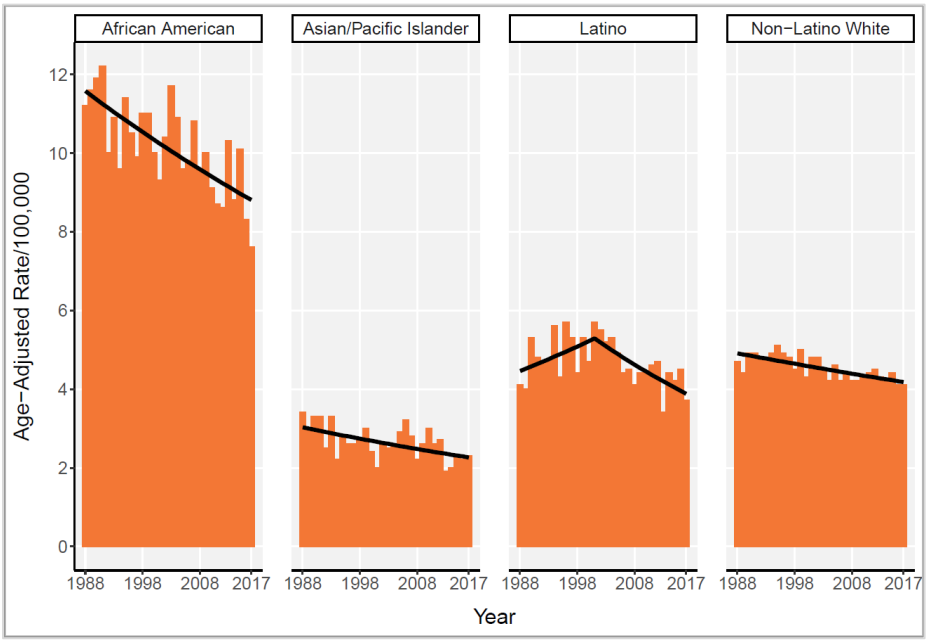
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: MULTIPLE MYELOMA

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

NON-HODGKIN LYMPHOMA

In 2017, 7,494 persons were diagnosed with non-Hodgkin lymphoma (NHL) in California, and 2,213 died from it. NHL comprises a large group of cancers of the immune system that can also spread to other organs. In 2017, 7,494 persons were diagnosed with NHL in California, and 2,213 died from it. The risk of developing NHL increases with age; the most common types are usually diagnosed after age 60. The cause of NHL is unknown, but certain factors raise the risk of developing the disease.

- Infection with human immunodeficiency virus (HIV), Epstein-Barr virus (EBV), human T-cell leukemia/lymphoma virus type 1 (HTLV-1), hepatitis C virus, and the bacterium *Helicobacter pylori*
- Immunosuppression from treatment with immunosuppressant drugs or from some inherited conditions
- Occupational exposure to certain herbicides and other chemicals

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Between 2008 and 2017, incidence rates for NHL decreased among men under 60 years of age, and among women over the age 45. The most substantial decrease in rates was observed among women 75 years and older (by 1.2 percent per year) and among men 20-44 years old (by 1.5 percent per year). Incidence rates also decreased among white women (by 1.3 percent per year). On the other hand, there was a small but still significant increase in incidence rates among Asian/Pacific Islander men and women (by 0.3 percent and 0.5 percent, respectively).

NHL mortality rates declined in all groups examined in this report. Among men, mortality rates declined by 2.4 percent per year; among women rates declined by 2.6 percent per year between 2008-2017. The largest declines in mortality were detected among persons under 60 years of age: rates among persons 20-44 years old, 45-59 years old and 60-74 years old declined by 5.4 percent, 4.6 percent, and 3.3 percent per year, respectively. Mortality rates among persons who were white or Latino decreased faster (by a total of 16.6 and 17.4 percent, respectively) than among persons from other racial/ethnic backgrounds. African American women were the only group for whom mortality rates did not change significantly during the period.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: NON-HODGKIN LYMPHOMA

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-0.7**	〰	**-6.1**	**-2.5**	↓	**-20.4**
Age	20 – 44	-0.9	↓	-7.8	-5.4	↓	-39.3
	45 – 59	-0.7	↓	-6.1	-4.6	↓	-34.5
	60 – 74	-0.1	〰	-0.9	-3.3	↓	-26.1
	75 +	-0.8	↓	-7.0	-1.2	↓	-10.3
Race/Ethnicity	White, Non-Latino	-0.9	〰	-7.8	-2.0	↓	-16.6
	African American	-0.3	〰	-2.7	-0.9	↓	-7.8
	Latino	0.2	〰	1.8	-2.1	↓	-17.4
	Asian/Pacific Islander	0.3	↑	2.7	-1.5	↓	-12.7
Men		**-0.7**	〰	**-6.1**	**-2.4**	↓	**-19.6**
Age	20 – 44	-1.5	↓	-12.7	-6.0	↓	-42.7
	45 – 59	-0.8	↓	-7.0	-4.7	↓	-35.2
	60 – 74	-0.5	〰	-4.4	-3.1	↓	-24.7
	75 +	-0.6	〰	-5.3	-1.3	↓	-11.1
Race/Ethnicity	White, Non-Latino	-0.8	〰	-7.0	-2.4	↓	-19.6
	African American	-0.4	〰	-3.5	-1.2	↓	-10.3
	Latino	0.2	〰	1.8	-2.0	↓	-16.6
	Asian/Pacific Islander	0.3	↑	2.7	-1.9	↓	-15.9
Women		**-0.4**	↓	**-3.5**	**-2.6**	↓	**-21.1**
Age	20 – 44	0.5	〰	4.6	-2.7	↓	-21.8
	45 – 59	-0.5	↓	-4.4	-4.9	↓	-36.4
	60 – 74	-0.6	↓	-5.3	-3.6	↓	-28.1
	75 +	-1.2	↓	-10.3	-1.5	↓	-12.7
Race/Ethnicity	White, Non-Latino	-1.3	↓	-11.1	-2.9	↓	-23.3
	African American	-0.1	〰	-0.9	-0.7	〰	-6.1
	Latino	0.2	〰	1.8	-2.1	↓	-17.4
	Asian/Pacific Islander	0.5	↑	4.6	-0.7	↓	-6.1

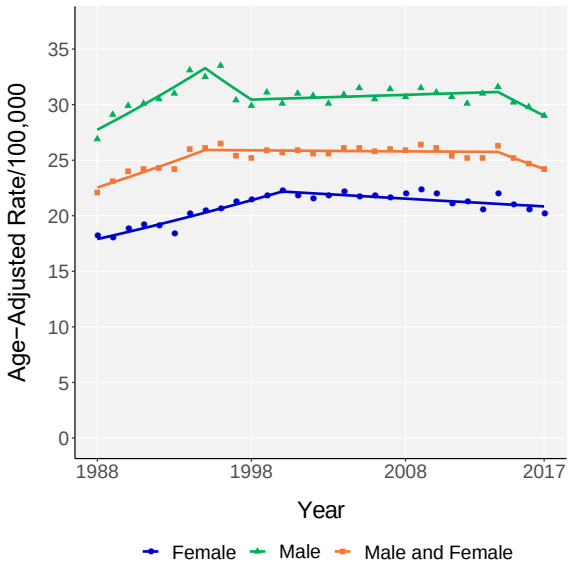
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

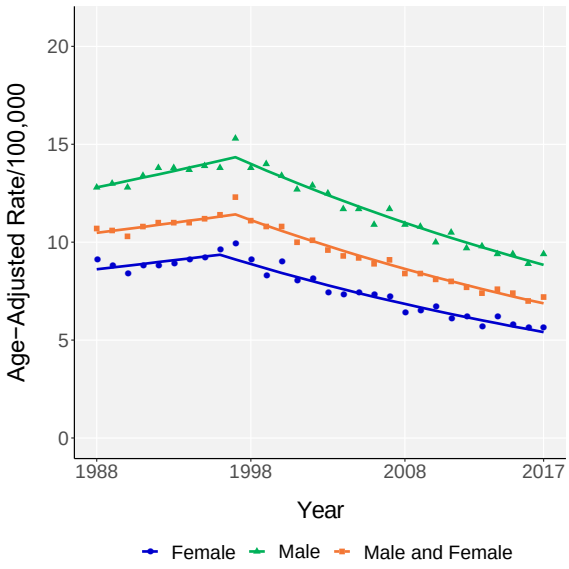
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: NON-HODGKIN LYMPHOMA

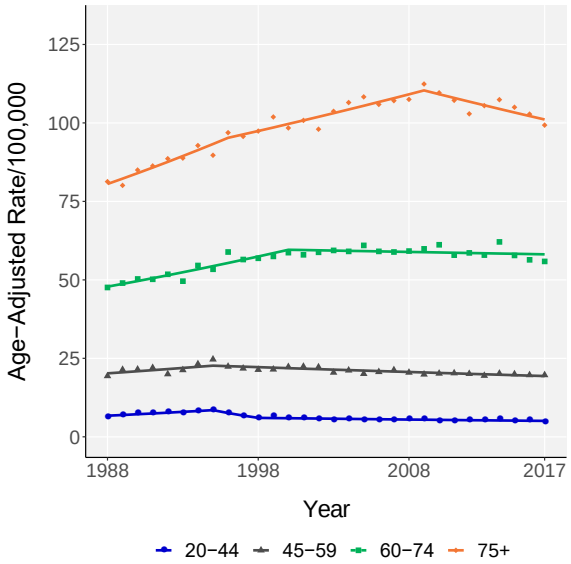
INCIDENCE BY SEX



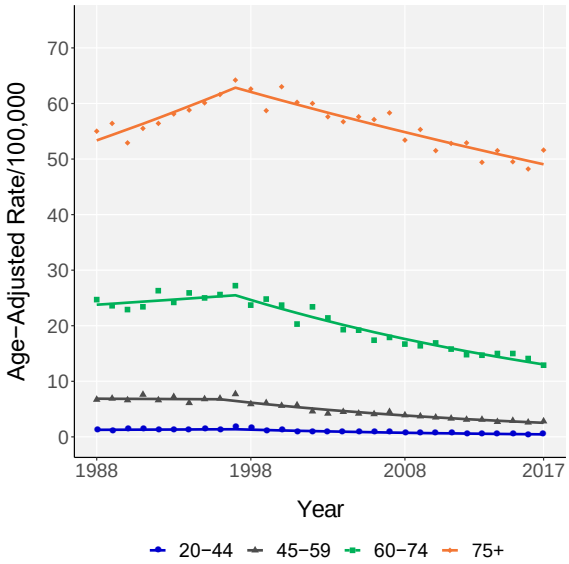
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



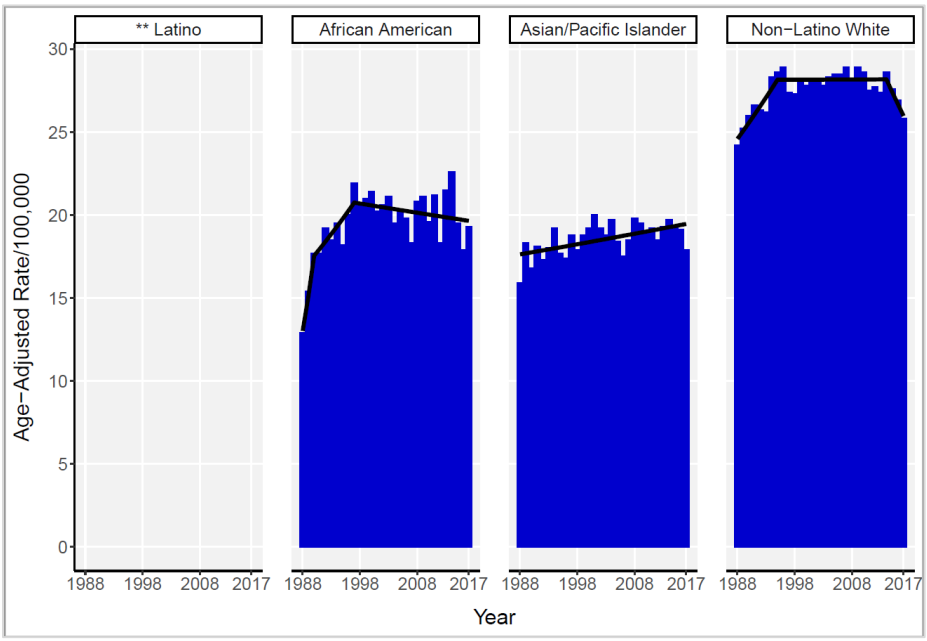
MORTALITY BY AGE GROUP



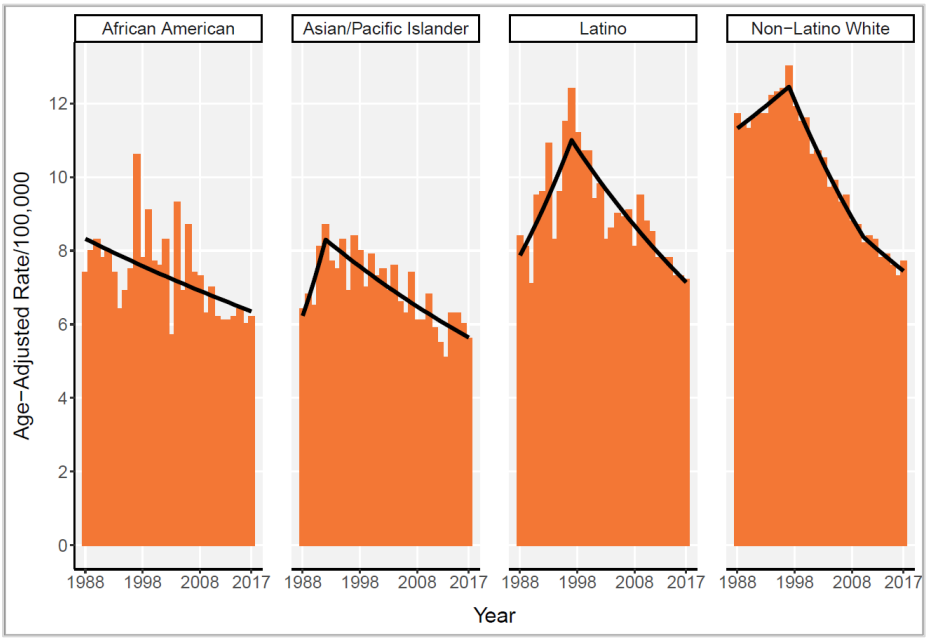
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: NON-HODGKIN LYMPHOMA

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

ORAL CAVITY AND PHARYNX CANCER

In 2017, 4,351 Californians were diagnosed with oral cancer, and 1,050 died from the disease. Oral cancer develops in the cells covering the surface inside the oral cavity or oropharynx; the most common sites are the tongue, lip, and floor of the mouth. Rates of oral cancer are more than two times higher in men than women. Many oral cancers could be prevented by controlling known risk factors for the disease, including:

- Tobacco use (including smoking cigarettes, cigars, pipes, and use of smokeless tobacco) is the strongest risk factor for oral cancer
- Alcohol consumption, with the risk increasing significantly if combined with tobacco use
- Infection with Human papillomavirus (HPV)
- Prolonged sun exposure (linked to cancer in the lip area)

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Between 2008-2017, the incidence of oral and pharynx cancer declined among women, by 2.4 percent per year. Incidence rates among men did not change significantly during the period. The decrease in rates was observed among women 60-74 years old (by 1.2 percent per year) and 75 years and older (by 0.7 percent per year). On the other hand, incidence among men declined only in the 20-44 age group and increased significantly among those 60-74 years old (by 1.5 percent per year) and 75 years and older (by 0.6 percent per year). When trends were examined by race/ethnicity, significant declines in incidence rates were detected among African American men and women (by 1.7 and 1.8 percent per year, respectively) and Asian/Pacific Islander men and women (by 0.7 and 1.2 percent per year, respectively). While among women the incidence of oral cancer did not increase in any racial/ethnic group, rates among white men increased by 1.3 percent per year.

Despite the increase in incidence, mortality trends did not increase during the period among men 60 years of age and older and declined in men 20-44 and 45-59 years old (by 2.7 percent and 2.3 percent per year, respectively). Among women 45 years and older, mortality rates declined in all age groups, with declines ranging from 1.2 percent per year in the 75 and older age group to 3.5 percent per year among those 60-74 years old. Mortality rates declined in most racial/ethnic groups as well. Among women, the overall decline in rates ranged from 15.9 percent among African American women to 18.9 percent among white women. The decline in mortality rates in men ranged from 11.9 percent among Latinos to 28.1 percent among African Americans. White men were the only group for whom oral cancer mortality increased, by a total of 11.3 percent during the ten-year period.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: ORAL CAVITY AND PHARYNX CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-0.5**	〰	**-1.8**	**-0.5**	〰	**-4.4**
Age	20 – 44	-2.5	↓	-20.4	-2.8	↓	-22.6
	45 – 59	-1.0	〰	-8.6	-1.6	↓	-13.5
	60 – 74	0.7	↑	6.5	0.2	〰	1.8
	75 +	0.3	〰	2.7	-0.4	↓	-3.5
Race/Ethnicity	White, Non-Latino	0.9	↑	8.4	0.4	〰	3.7
	African American	-1.5	↓	-12.7	-3.0	↓	-24.0
	Latino	-0.8	〰	-7.0	-0.7	↓	-6.1
	Asian/Pacific Islander	-0.9	↓	-7.8	-2.0	↓	-16.6
Men		**0.5**	〰	**4.6**	**0.5**	〰	**4.6**
Age	20 – 44	-0.8	↓	-7.0	-2.7	↓	-21.8
	45 – 59	-0.1	〰	-0.9	-2.3	↓	-18.9
	60 – 74	1.5	↑	14.3	0.7	〰	6.5
	75 +	0.6	↑	5.5	-0.1	〰	-0.9
Race/Ethnicity	White, Non-Latino	1.3	↑	12.3	1.2	↑	11.3
	African American	-1.7	↓	-14.3	-3.6	↓	-28.1
	Latino	-0.6	〰	-5.3	-1.4	↓	-11.9
	Asian/Pacific Islander	-0.7	↓	-6.1	-1.8	↓	-15.1
Women		**-2.4**	↓	**-11.1**	**-2.4**	↓	**-19.6**
Age	20 – 44	0	〰	0	-1.5	〰	-12.7
	45 – 59	-0.3	〰	-2.7	-3.0	↓	-24.0
	60 – 74	-1.2	↓	-10.3	-3.5	↓	-27.4
	75 +	-0.7	↓	-6.1	-1.2	↓	-10.3
Race/Ethnicity	White, Non-Latino	-0.2	〰	-1.8	-2.3	↓	-18.9
	African American	-1.8	↓	-15.1	-1.9	↓	-15.9
	Latino	-1.3	〰	-11.1	-0.4	〰	-3.5
	Asian/Pacific Islander	-1.2	↓	-10.3	-2.2	↓	-18.1

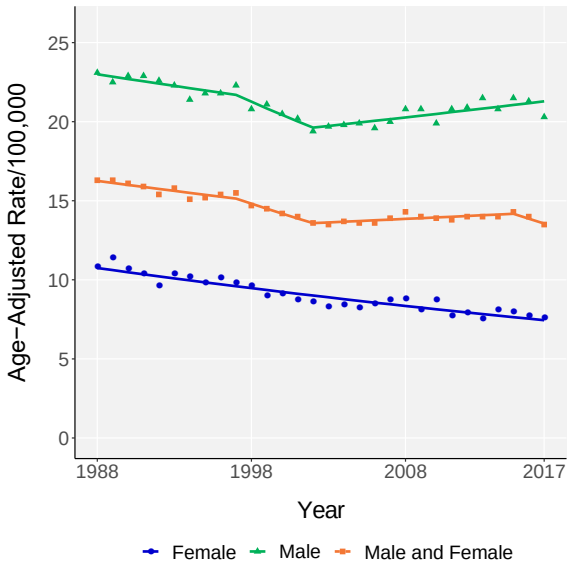
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate not statistically significant.

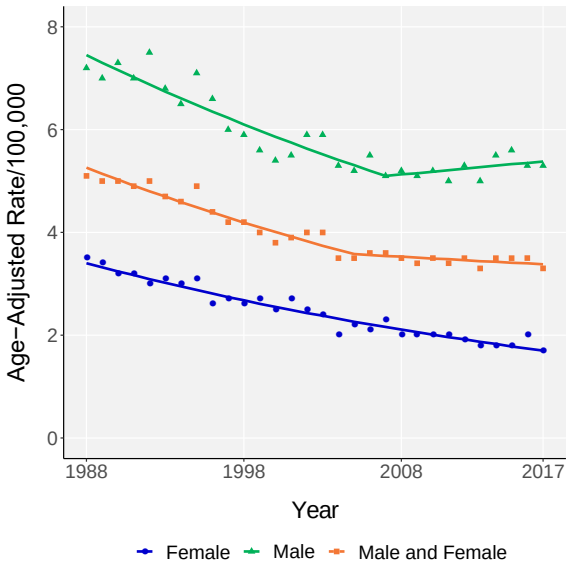
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: ORAL CAVITY AND PHARYNX CANCER

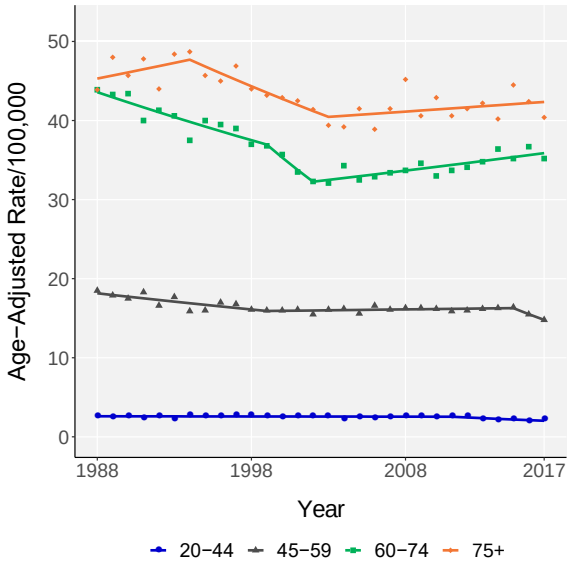
INCIDENCE BY SEX



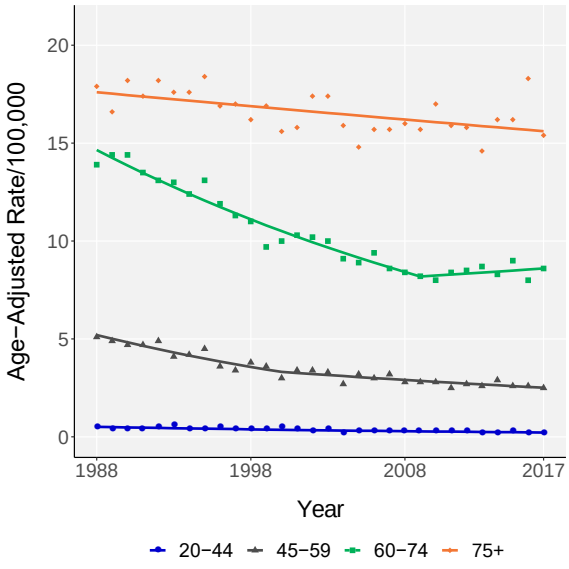
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



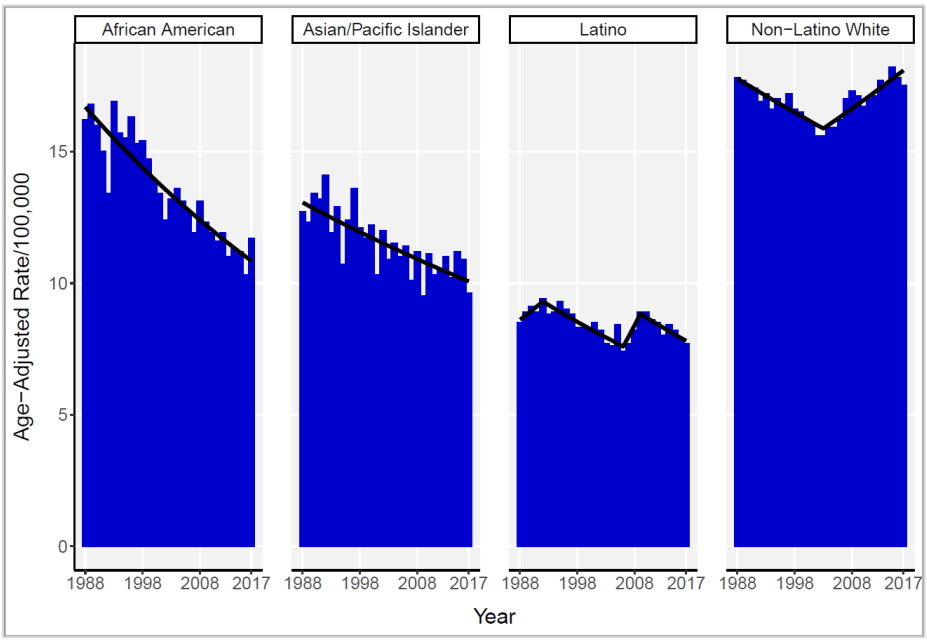
MORTALITY BY AGE GROUP



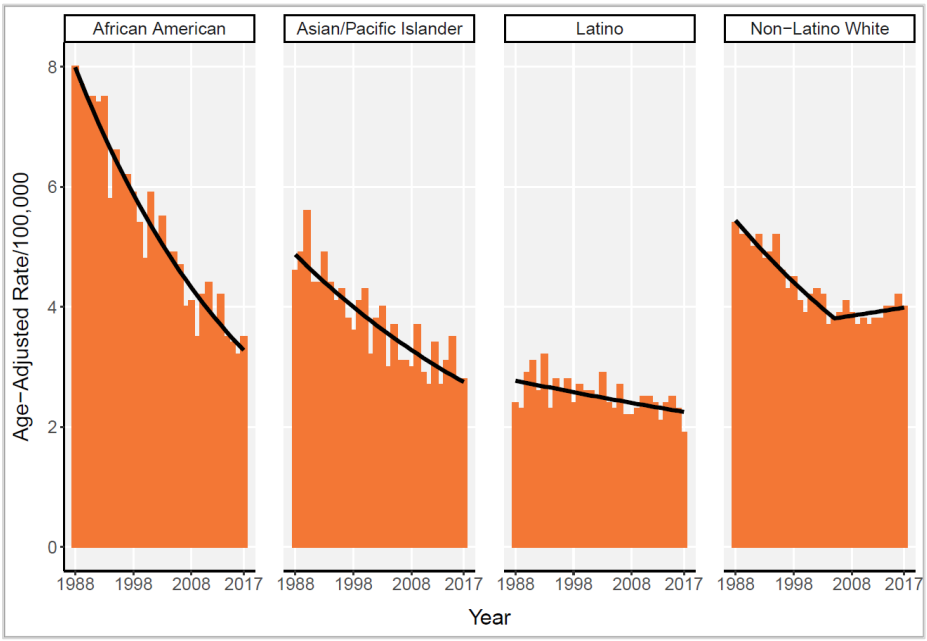
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: ORAL CAVITY AND PHARYNX CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

OVARY CANCER

In 2017, 2,363 women in California were diagnosed with and 1,635 died from ovarian cancer. Ovarian cancer is the deadliest of all gynecologic cancers. Over 90 percent of ovarian cancers are of epithelial origin. The incidence of ovarian cancer increases with age, but use of oral contraceptives, undergoing tubal ligation (sterilization), or having a hysterectomy decrease the risk of developing ovarian cancer. The cause of ovarian cancer is unknown, but increased risk is associated with:

- Family history of ovarian cancer in the mother, daughter, or sister
- Personal history of breast, uterus, or colorectal cancer
- Inherited mutations in the BRCA1, BRCA2, or hereditary non-polyposis colon cancer genes
- Use of estrogen hormone replacement therapy after menopause
- Obesity

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Between 2008 and 2017, the incidence of ovarian cancer declined among women in all age groups, except among those 20-44 years old, for whom rates did not change significantly. Overall, incidence rates among women in the 45-59, 60-74, and 75 and older age groups declined by a total of 8.6 percent, 15.1 percent and 19.6 percent, respectively. Incidence rates also declined among women in all racial/ethnic groups, although the decline was most pronounced among white women (by 2.4 percent per year).

Consistent with incidence trends, mortality rates also declined among women who were 45 years of age and older by a total of 14.9 percent to 23.9 percent during the period. However, mortality trends only significantly decreased among white and Latinas, for whom rates declined by 2.1 percent and by 1.9 percent per year, respectively. Ovarian cancer mortality rates among African Americans and Asian/Pacific Islanders did not change significantly over the ten-year period.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: OVARY CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Women		**-2.0**	↓	**-16.6**	**-2.1**	↓	**-17.4**
Age	20 – 44	0.8	〰	7.4	-1.0	〰	-8.6
	45 – 59	-1.0	↓	-8.6	-1.6	↓	-13.5
	60 – 74	-1.8	↓	-15.1	-2.7	↓	-21.8
	75 +	-2.4	↓	-19.6	-1.6	↓	-13.5
Race/Ethnicity	White, Non-Latino	-2.4	↓	-19.6	-2.1	↓	-17.4
	African American	-0.8	↓	-7.0	-0.6	〰	-5.3
	Latino	-0.4	↓	-3.5	-1.9	↓	-15.9
	Asian/Pacific Islander	-0.5	↓	-4.4	0	〰	0

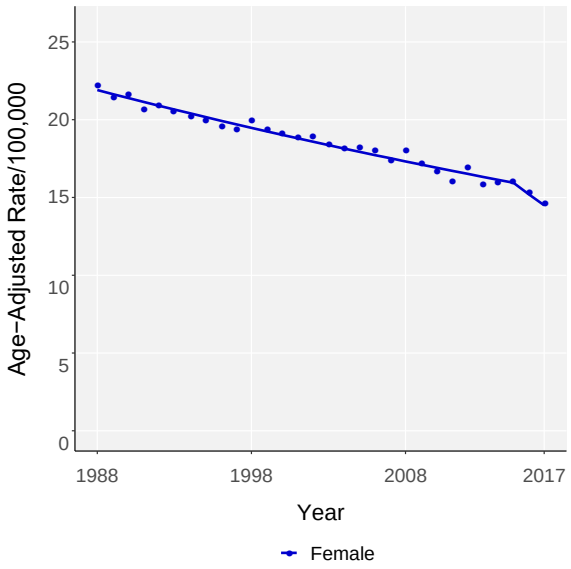
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

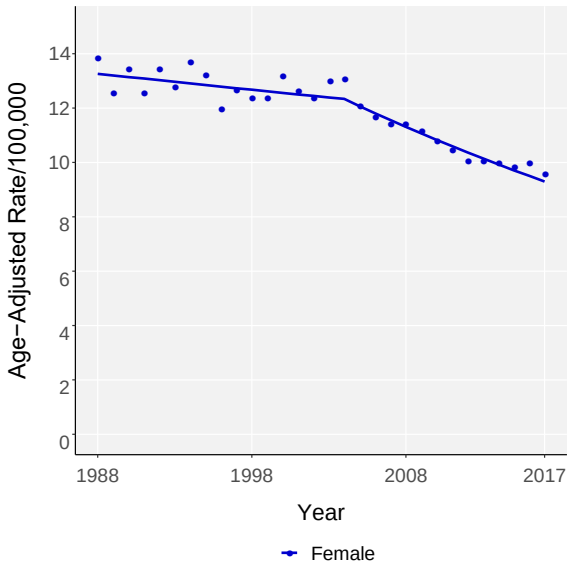
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: OVARY CANCER

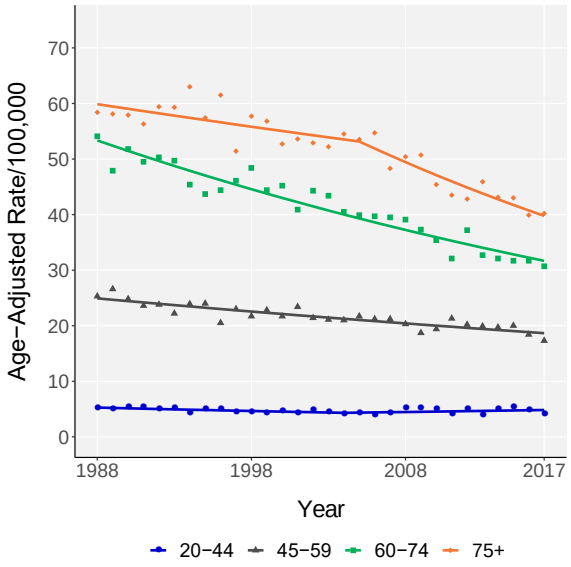
INCIDENCE



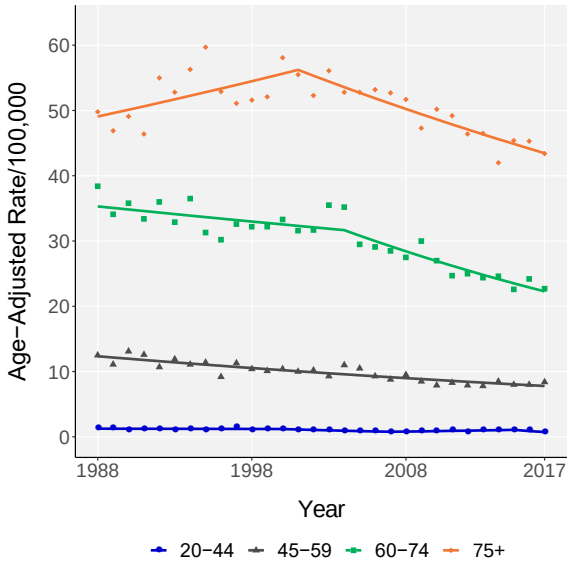
MORTALITY



INCIDENCE BY AGE GROUP



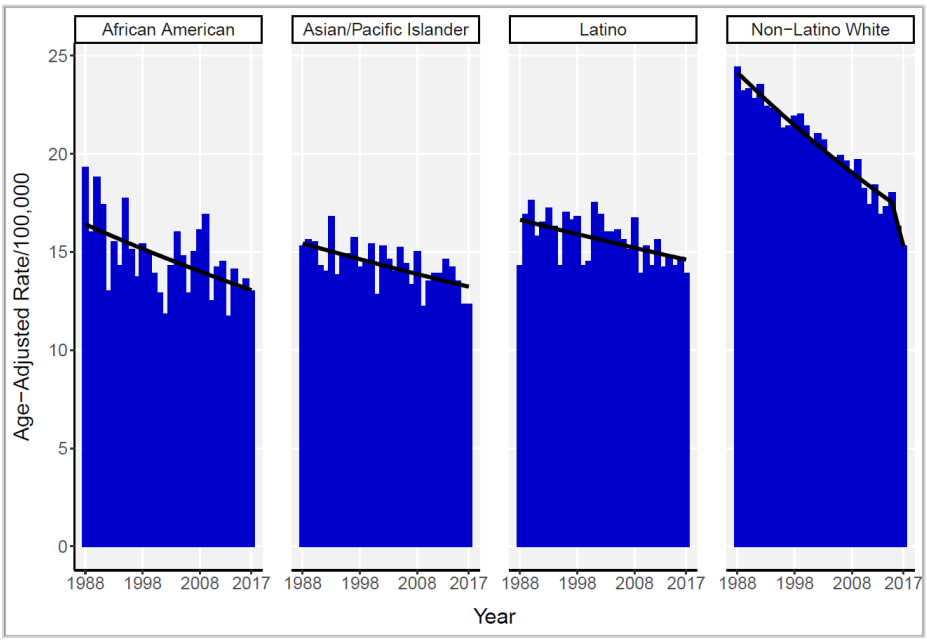
MORTALITY BY AGE GROUP



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: OVARY CANCER

INCIDENCE



MORTALITY

** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

PANCREAS CANCER

In 2017, 5,114 Californians developed pancreatic cancer, and 4,527 died from the disease. Cancer of the pancreas is most commonly diagnosed among men, African Americans, and people older than 60 years. Although the cause of pancreatic cancer is not known, the following factors increase a person's risk of developing pancreatic cancer:

- Cigarette smoking (doubles the risk of pancreatic cancer)
- Obesity or excess weight around the waistline
- Long term diabetes
- Chronic pancreatitis
- Family history of pancreatic, colon, or ovarian cancer

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

Between 2008 and 2017, incidence rates for pancreatic cancer increased slightly, by 0.3 percent per year. Rates increased in all age groups examined, although the trend was not significant among women 75 years and older. The increase in incidence rates varied from 0.2 percent per year among women 65-74 years of age to 1.9 percent per year among younger women 22-44 years. Among women, incidence rates increased only among Asian/Pacific Islander during the period, by 0.8 percent per year. Among men, incidence rates increased significantly for whites, Latinos, and Asian/Pacific Islanders, by a total of 8.4 percent, 6.5 percent and 8.4 percent, respectively. Trends in risk factors for pancreatic cancer followed different patterns in California, where smoking declined substantially but obesity and diabetes increased significantly. According to the Centers for Disease Control and Prevention, the percent of Californians ever diagnosed with diabetes increased from 6.8 percent in 2000 to 10.5 percent in 2017. During the same period, the prevalence of obesity or overweight increased from 57.4 percent to 60.9 percent.

Despite the mostly increasing trends in incidence, mortality rates for pancreatic cancer declined significantly among men and women in the 20-44 and 45-64 age groups, by 1.0 percent and 0.7 percent per year, respectively. On the other hand, mortality rates increased by 0.3 percent per year among Californians aged 75 years and older. Among men, mortality rates did not change significantly in any racial/ethnic group. Consistent with the increase in incidence among Asian/Pacific Islander women, mortality rates in this population group increased as well, by 1.2 percent per year. However, rates declined among African American women by 0.7 percent per year during the ten-year period.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: PANCREAS CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**0.3**	↑	**2.7**	**-0.1**	〰	**-0.9**
Age	20 – 44	2.2	↑	21.6	-1.0	↓	-8.6
	45 – 59	0.9	↑	8.4	-0.7	↓	-6.1
	60 – 74	0.7	↑	6.5	0.1	〰	0.9
	75 +	-0.3	〰	-2.7	0.3	↑	2.7
Race/Ethnicity	White, Non-Latino	0.3	〰	2.7	0.1	〰	0.9
	African American	-0.3	〰	-2.7	-0.7	↓	-6.1
	Latino	0.3	↑	2.7	0.4	↑	3.7
	Asian/Pacific Islander	0.9	↑	8.4	0.6	↑	5.5
Men		**0.7**	↑	**6.5**	**0.2**	↑	**1.8**
Age	20 – 44	0.7	↑	6.5	-1.1	↓	-9.5
	45 – 59	0.4	↑	3.7	-0.7	↓	-6.1
	60 – 74	0.8	↑	7.4	0.2	〰	1.8
	75 +	0.6	↑	5.5	0.6	↑	5.5
Race/Ethnicity	White, Non-Latino	0.9	↑	8.4	0.1	〰	0.9
	African American	-0.1	〰	-0.9	0.1	〰	0.9
	Latino	0.7	↑	6.5	0.3	〰	2.7
	Asian/Pacific Islander	0.9	↑	8.4	0.6	〰	5.5
Women		**0**	〰	**0**	**0**	〰	**0**
Age	20 – 44	1.9	↑	18.5	-0.9	↓	-7.8
	45 – 59	1.0	↑	9.4	-0.7	↓	-6.1
	60 – 74	0.2	↑	1.8	-0.2	↓	-1.8
	75 +	0.2	〰	1.8	0.3	↑	2.7
Race/Ethnicity	White, Non-Latino	-0.3	〰	-2.7	0	〰	0
	African American	-0.4	〰	-3.5	-0.8	↓	-7.0
	Latino	0.2	〰	1.8	0.4	〰	3.7
	Asian/Pacific Islander	0.8	↑	7.4	1.2	↑	11.3

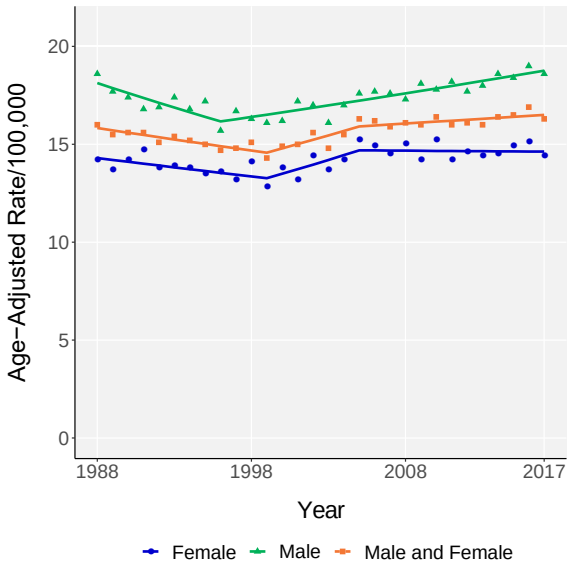
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

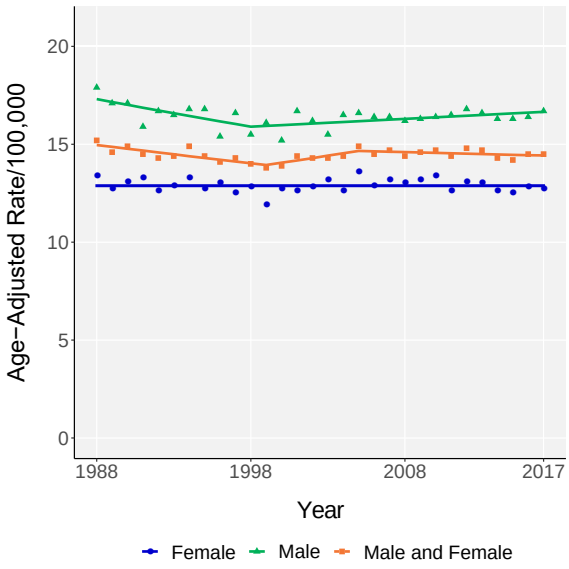
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: PANCREAS CANCER

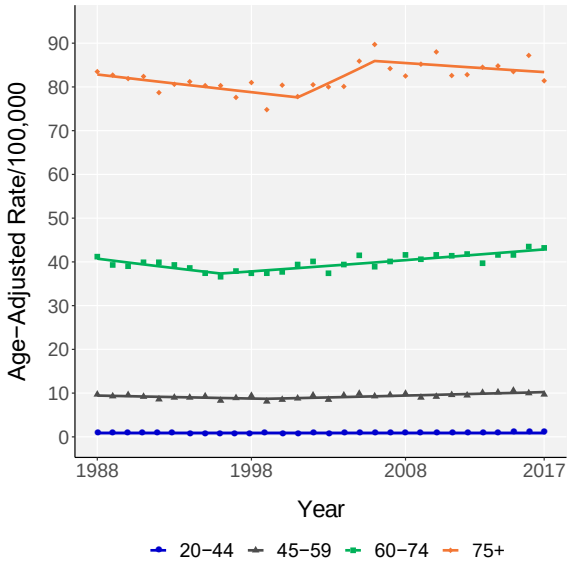
INCIDENCE BY SEX



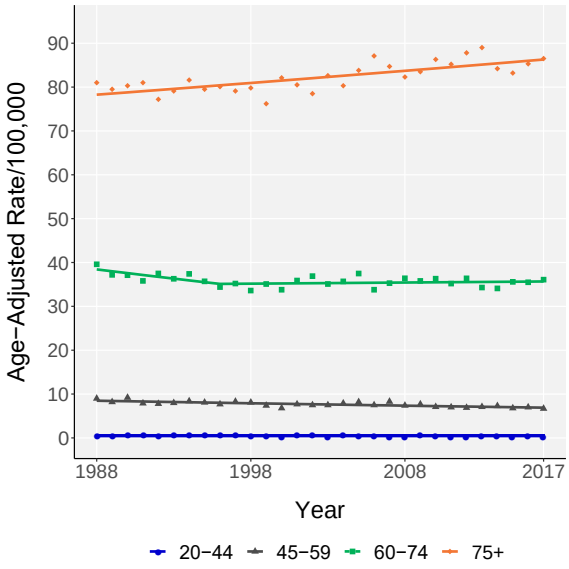
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



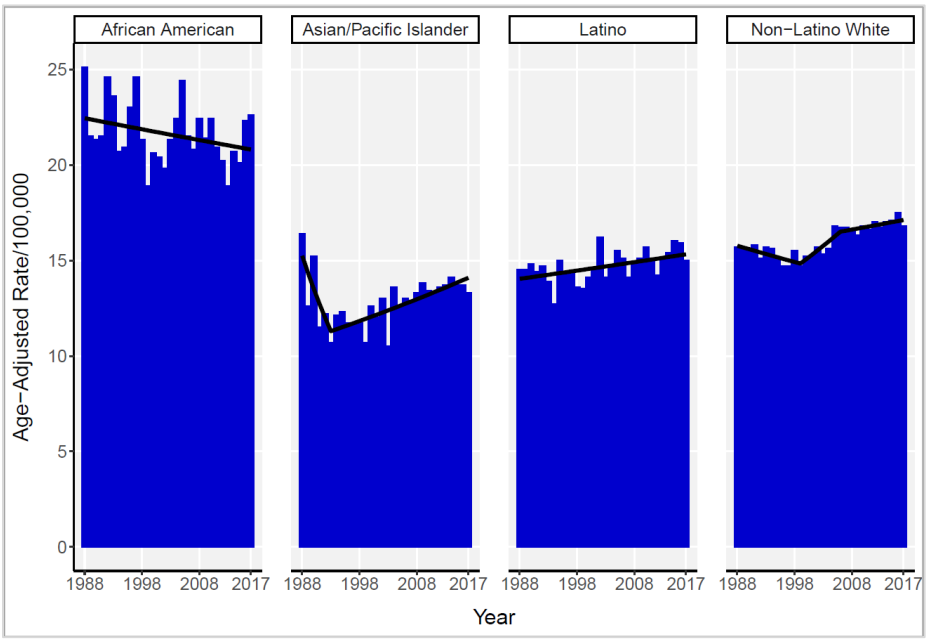
MORTALITY BY AGE GROUP



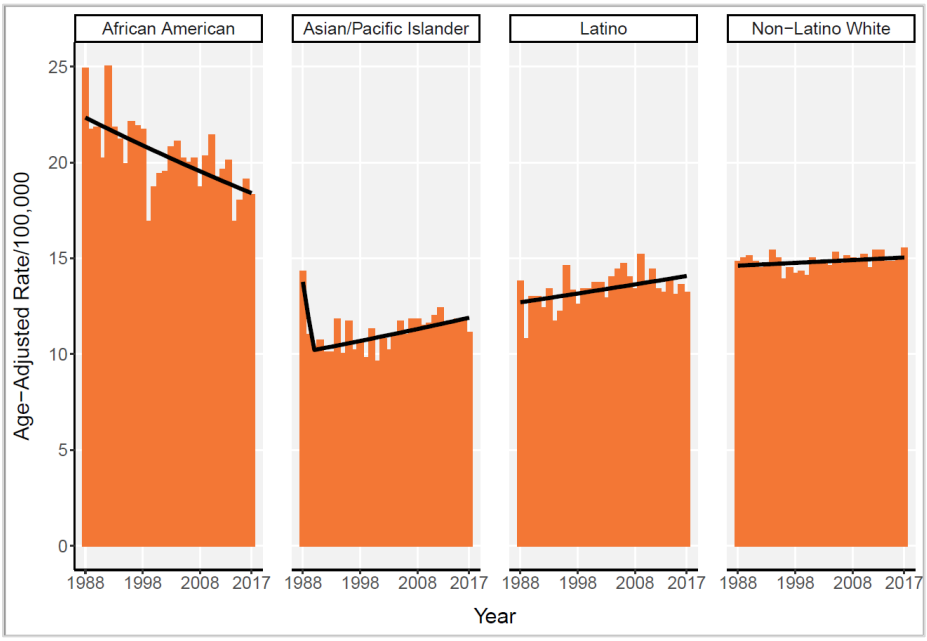
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: PANCREAS CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

PROSTATE CANCER

In 2017, 20,254 men in California were diagnosed with prostate cancer, and 3,470 died from the disease. Prostate cancer is the most commonly diagnosed non-skin cancer among men in California and the United States. The incidence of prostate cancer is highest among African Americans, followed by non-Latino whites, Latinos, and Asian/Pacific Islanders. Prostate cancer is rare in men younger than 50 years of age, and the incidence of the disease increases with age. The cause of prostate cancer is unknown, but the following risk factors increase the risk of developing the disease:

- Family history of prostate cancer in a brother or father
- High levels of testosterone
- Diet high in fat, and especially animal fat

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the ten-year period between 2008 and 2017, the incidence of prostate cancer decreased by 5.5 percent per year, with marked declines observed in all population groups examined. Incidence rates declined between 5.2 percent and 5.8 percent per year, corresponding to total decreases of 38 and 43 percent during the period. The decline was even more dramatic among men 20-44 years old, although incidence rates in this age group are much lower than among older men.

Mortality rates for prostate cancer declined in all groups as well, although trends were not significant for white men and men 60-74 years of age. Trends for younger men 20-44 years could not be evaluated due to the small number of prostate cancer deaths in this age group. Declines in mortality rates ranged from 1.6 percent per year among men 75 years of age and older to 2.2 percent per year among African Americans.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: PROSTATE CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men		**-5.5**	↓	**-39.9**	**-1.3**	↓	**-11.1**
Age	20 – 44	-10.4	↓	-62.8	**	**	**
	45 – 59	-5.2	↓	-38.2	-1.7	↓	-14.3
	60 – 74	-5.2	↓	-38.2	-0.4	〰	-3.5
	75 +	-5.5	↓	-39.9	-1.6	↓	-13.5
Race/Ethnicity	White, Non-Latino	-5.8	↓	-41.6	-0.8	〰	-7.0
	African American	-5.2	↓	-38.2	-2.2	↓	-18.1
	Latino	-5.7	↓	-41.0	-2.0	↓	-16.6
	Asian/Pacific Islander	-5.8	↓	-41.6	-1.8	↓	-15.1

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

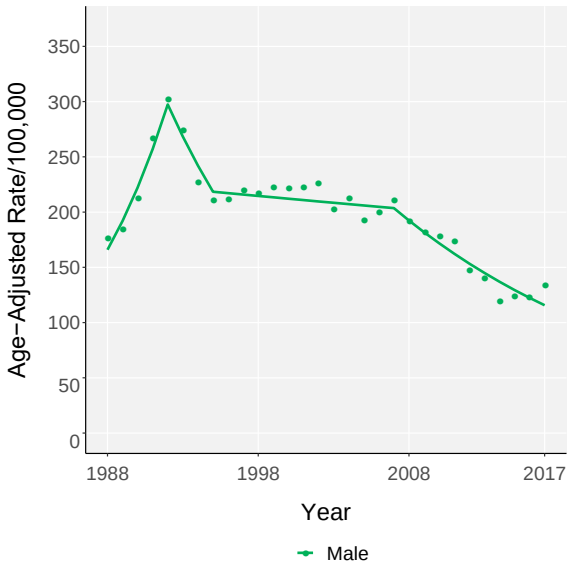
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

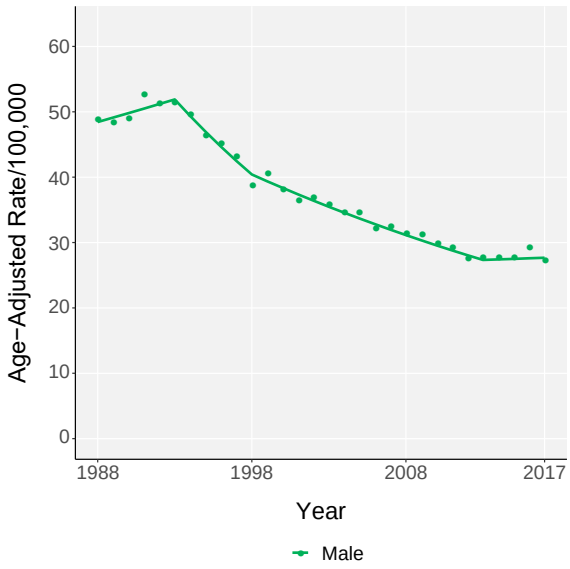
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: PROSTATE CANCER

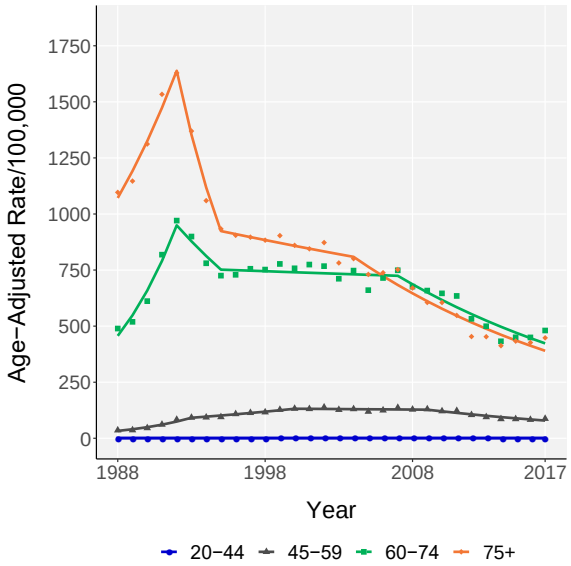
INCIDENCE



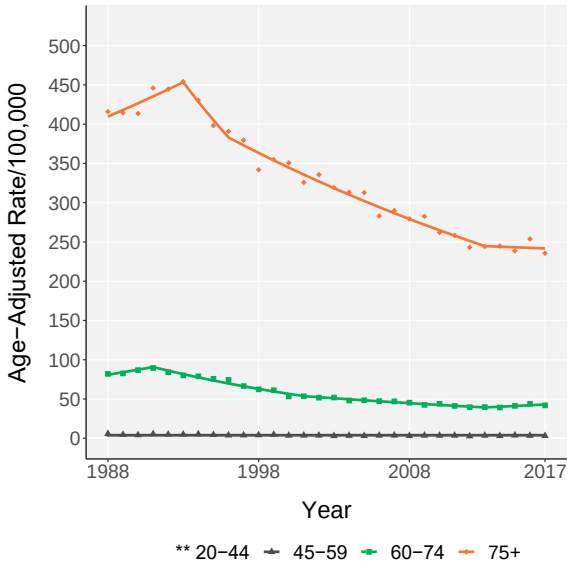
MORTALITY



INCIDENCE BY AGE GROUP



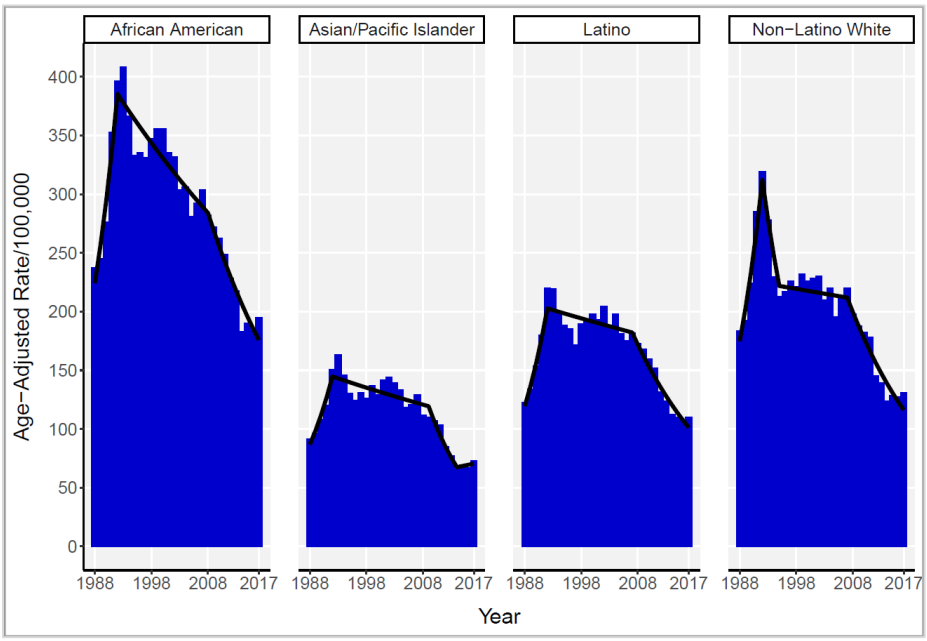
MORTALITY BY AGE GROUP



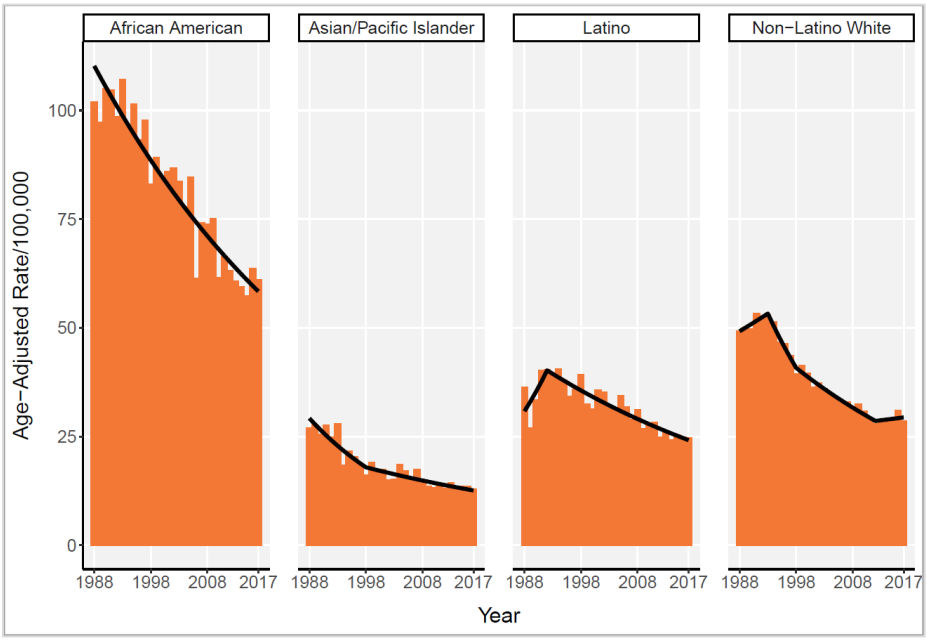
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: PROSTATE CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

STOMACH CANCER

In 2017, 3,140 Californians were diagnosed and 1,640 died from the disease. Stomach cancer is the fourth most commonly occurring cancer worldwide. Most cases of stomach cancer occur in people over 70 years old, and men are much more likely to develop the disease than women. The following factors increase the risk of developing stomach cancer:

- Diets high in smoked, salted, or pickled foods
- Infection with the bacteria *Helicobacter pylori* and chronic atrophic gastritis
- Pernicious anemia
- Stomach polyps
- Smoking and high alcohol consumption
- Certain genetic disorders, hereditary non-polyposis colorectal cancer and familial adenomatous polyposis

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

The incidence of stomach cancer in California declined significantly by 1.1 percent per year. Declines in rates were observed among men and women aged 60 years and older, ranging from 1.6 to 2.0 percent per year. However, rates increased among men and women 20-44 years old by 0.6 percent in men and by 12 percent per year in women. Incidence rates also increased among 45-59 years old women, by 1.5 percent per year. On the other hand, incidence rates declined in all racial/ethnic groups, ranging from 1.1 per year among Latinas to 2.7 percent per year among Asian/Pacific Islanders. The reasons behind the decline in rates for stomach cancer are not clear, but it is possible that a decrease in the prevalence of H. pylori infection, coupled with dietary changes and decreased smoking contributed to these declining trends.

Mortality rates for stomach cancer declined in all population groups, with the exception of younger adults, where rates were stable. Mortality rates declined significantly among persons in the 60-74 and in the 75 and older age groups, by 1.8 percent and by 2.1 percent per year, respectively. Rates declined markedly among men and women from all racial/ethnic backgrounds, ranging from 1.9 percent per year among Latinas to 3.5 percent per year among Asian/Pacific Islanders.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: STOMACH CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-1.1**	↓	**-9.5**	**-1.5**	↓	**-12.7**
Age	20 – 44	1.6	↑	15.4	0.3	〰	2.7
	45 – 59	0.2	〰	1.8	-0.7	↓	-6.1
	60 – 74	-1.6	↓	-13.5	-1.8	↓	-15.1
	75 +	-1.5	↓	-12.7	-2.1	↓	-17.4
Race/Ethnicity	White, Non-Latino	-0.9	↓	-7.8	-3.1	↓	-24.7
	African American	-2.1	↓	-17.4	-3.2	↓	-25.4
	Latino	-1.4	↓	-11.9	-1.9	↓	-15.9
	Asian/Pacific Islander	-2.7	↓	-21.8	-3.3	↓	-26.1
Men		**-1.1**	↓	**-12.7**	**-2.5**	↓	**-20.4**
Age	20 – 44	0.6	↑	5.5	0.2	〰	1.8
	45 – 59	-0.5	〰	-4.4	-0.7	〰	-6.1
	60 – 74	-1.9	↓	-15.9	-2.1	↓	-17.4
	75 +	-1.8	↓	-15.1	-2.5	↓	-20.4
Race/Ethnicity	White, Non-Latino	-1.2	↓	-10.3	-2.0	↓	-16.6
	African American	-2.2	↓	-18.1	-3.0	↓	-24.0
	Latino	-1.6	↓	-13.5	-3.1	↓	-24.7
	Asian/Pacific Islander	-2.6	↓	-21.1	-3.5	↓	-27.4
Women		**-1.5**	↓	**-7.0**	**-1.7**	↓	**-14.3**
Age	20 – 44	1.2	↑	11.3	0.1	〰	0.9
	45 – 59	1.5	↑	14.3	-0.6	↓	-5.3
	60 – 74	-0.9	↓	-7.8	-2.1	↓	-17.4
	75 +	-1.6	↓	-13.5	-2.0	↓	-16.6
Race/Ethnicity	White, Non-Latino	-1.6	↓	-13.5	-3.1	↓	-24.0
	African American	-2.0	↓	-16.6	-3.2	↓	-26.1
	Latino	-1.1	↓	-9.5	-1.9	↓	-13.5
	Asian/Pacific Islander	-2.7	↓	-21.8	-3.3	↓	-26.1

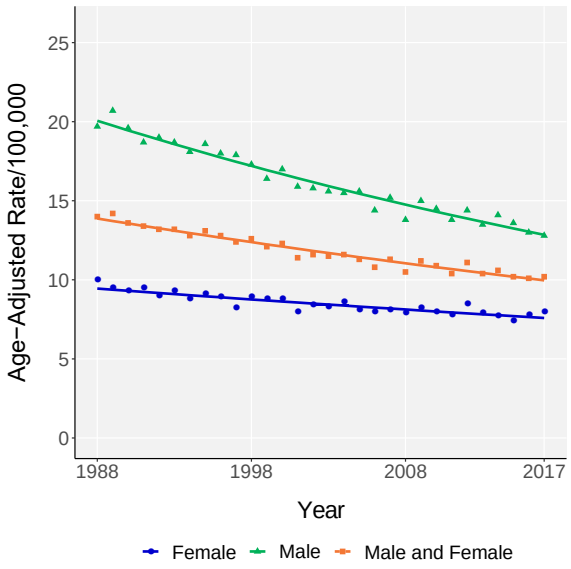
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ statistically significant decrease; 〰 change in rate was not statistically significant.

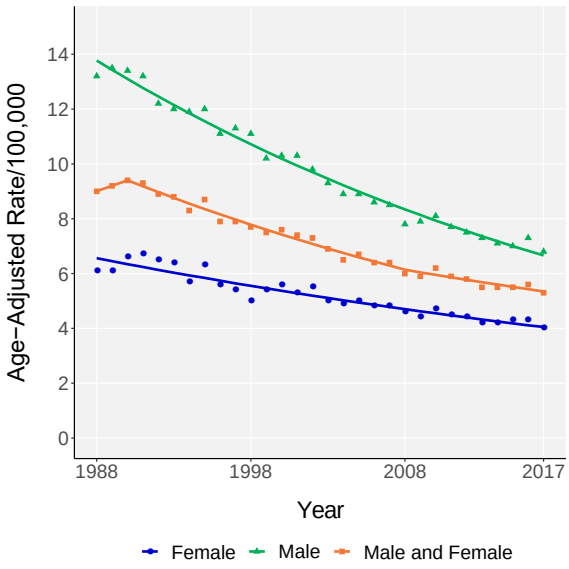
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: STOMACH CANCER

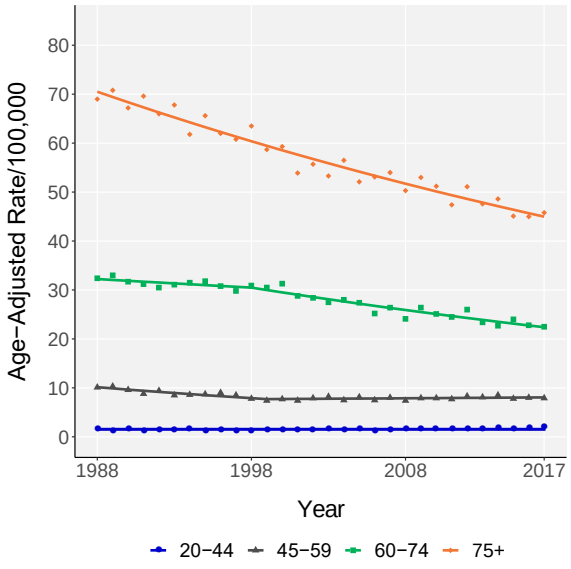
INCIDENCE BY SEX



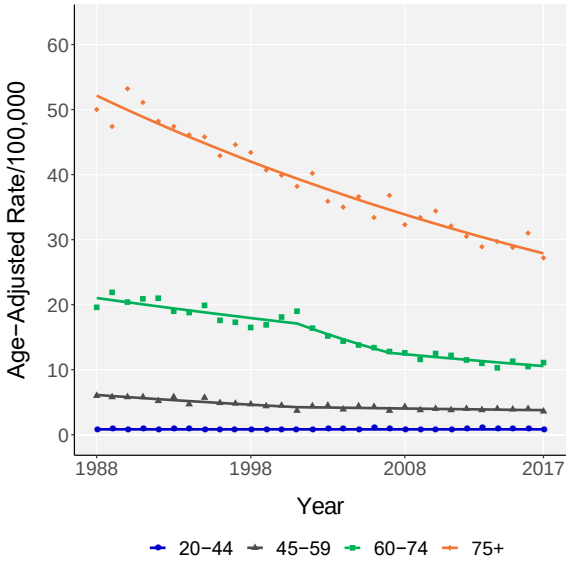
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



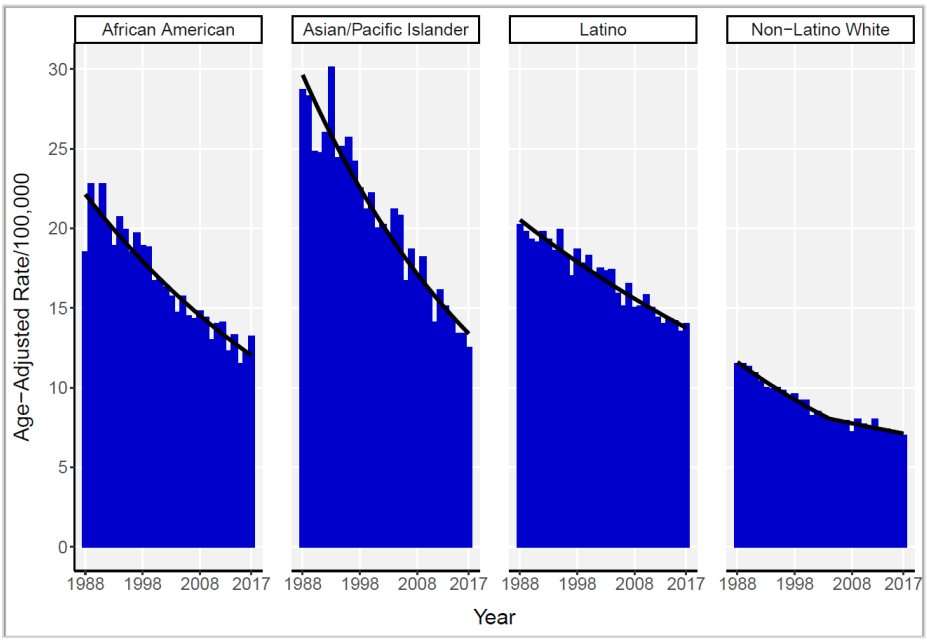
MORTALITY BY AGE GROUP



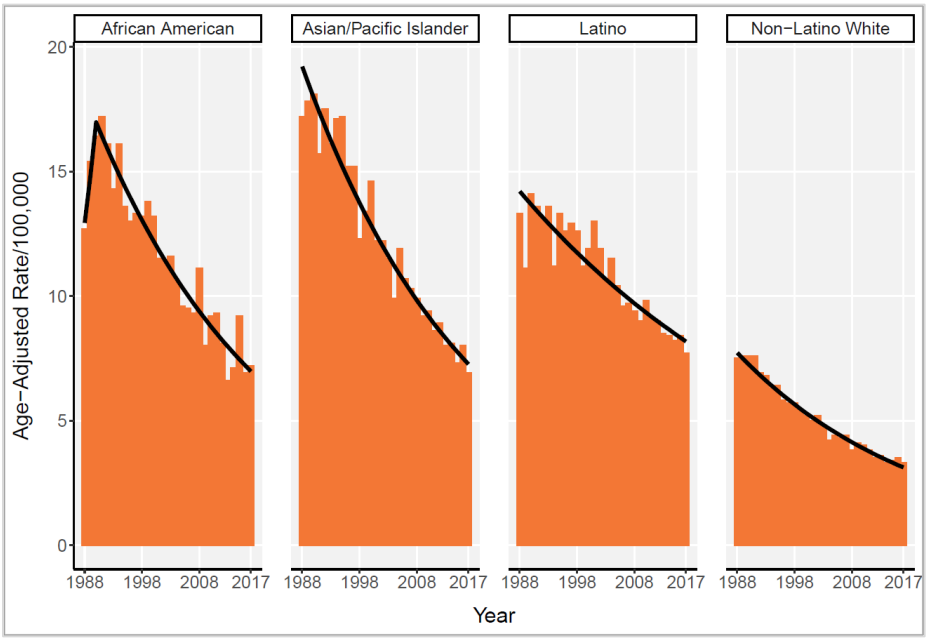
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: STOMACH CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TESTIS CANCER

In 2017, 1,190 California men were diagnosed with testicular cancer, and 75 died from the disease. Testicular cancer is a relatively rare disease and has usually a favorable prognosis. The risk of testicular cancer is higher among white men than in other racial/ethnic groups. The disease can occur at any age, but about half of testicular cancers occur in men between the ages of 20 and 34. The cause of testicular cancer is not known, but the following factors increase a man's risk of developing the disease:

- Cryptorchidism (undescended testicle)
- History of testicular cancer increases the risk of cancer in the other testicle
- Family history of testicular cancer in a brother or father

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the 2008-2017 ten-year period, the incidence of testicular cancer increased significantly among 20-44 years old men, by 2.1 percent per year. In older age groups, rates were stable. Incidence rates increased in all racial/ethnic groups, by 0.8 percent per year among white men to 2.6 percent per year among Latinos.

Mortality rates for testicular cancer increased by 1.6 percent per year among Latinos, the only racial/ethnic population group with a significant change in mortality rates. For all other groups, mortality rates did not change significantly or, due to the small number of deaths, trends could not be evaluated.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: TESTIS CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men		**0.9**	↑	**8.4**	**0**	〰	**0.0**
Age	20 – 44	2.1	↑	20.6	0.3	〰	2.7
	45 – 59	-0.1	〰	-0.9	**	**	**
	60 – 74	0	〰	0	**	**	**
	75 +	**	**	**	**	**	**
Race/Ethnicity	White, Non-Latino	0.8	↑	7.4	0.4	〰	-3.5
	African American	1.6	↑	15.4	**	**	**
	Latino	2.6	↑	26.0	1.6	↑	15.4
	Asian/Pacific Islander	1.3	↑	12.3	**	**	**

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

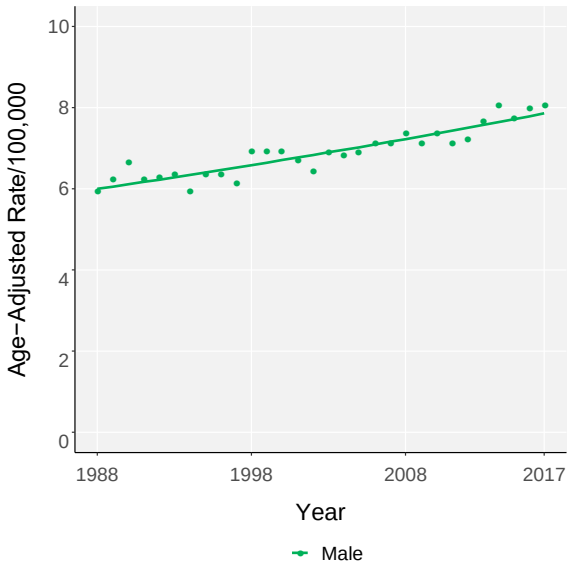
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

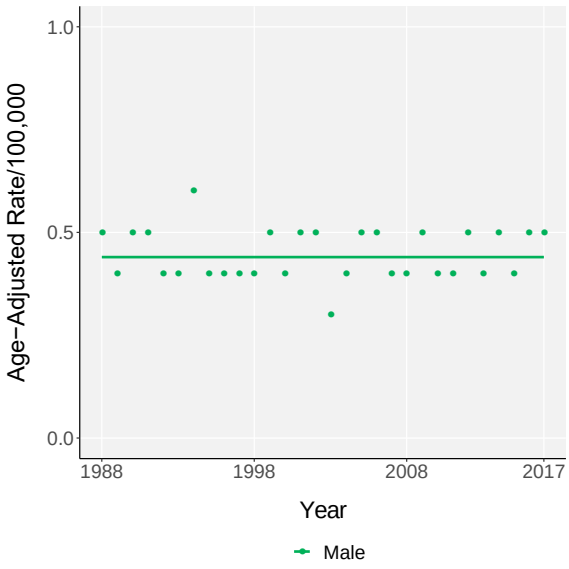
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: TESTIS CANCER

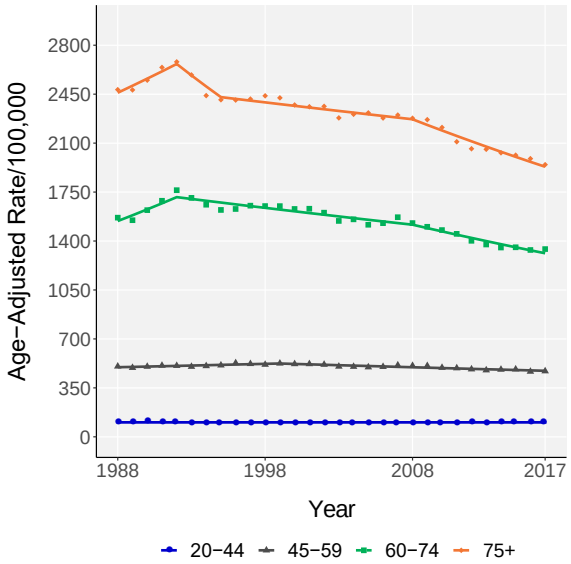
INCIDENCE



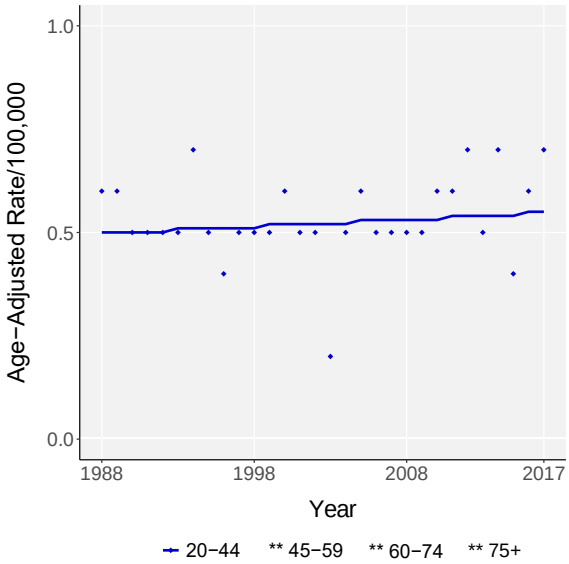
MORTALITY



INCIDENCE BY AGE GROUP



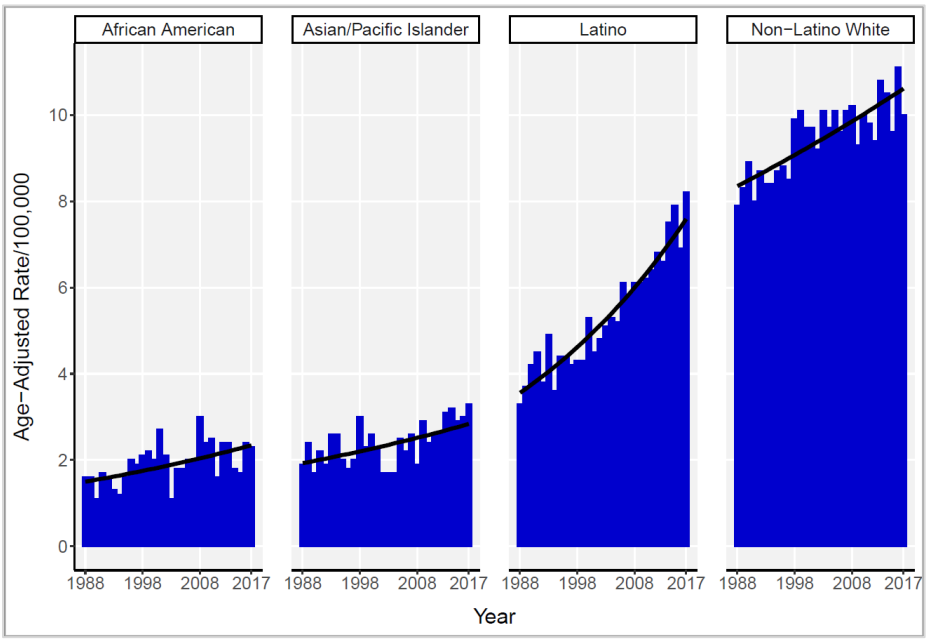
MORTALITY BY AGE GROUP



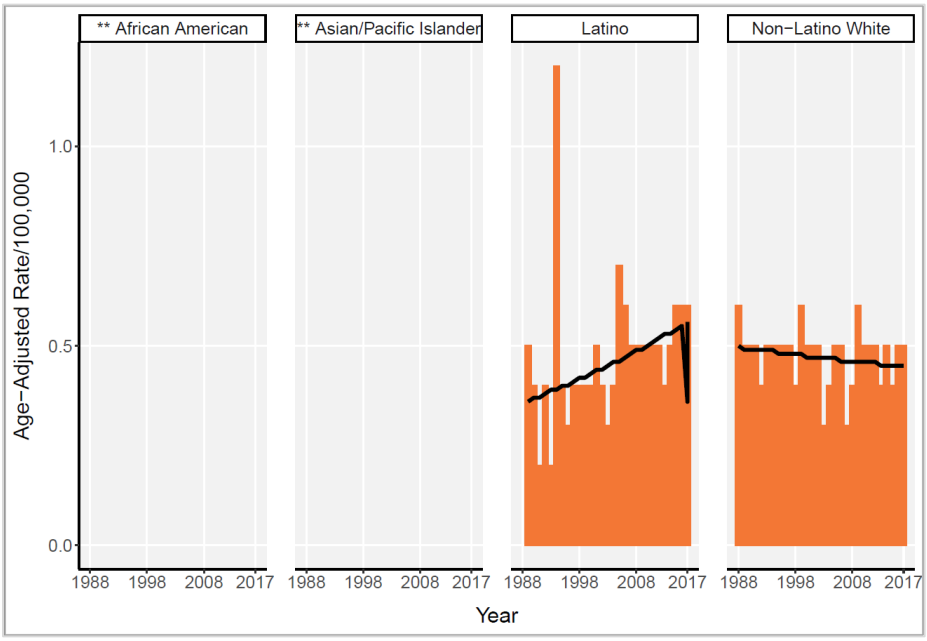
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: TESTIS CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

THYROID CANCER

In 2017, 5,153 persons were diagnosed with thyroid cancer and 245 died from the disease. Thyroid cancer is one of the ten most frequently diagnosed cancer in California, but has a high survival rate. Thyroid cancer is more often diagnosed after age 45 and, for unknown reasons, is almost three times more common in women than in men. The following are risk factors for thyroid cancer:

- Radiation exposure from radiotherapy to the head and neck
- Radioactive fallout from nuclear weapons and power plant accidents
- Certain hereditary conditions, such as familial adenomatous polyposis
- Family history of thyroid cancer in a first-degree relative (parents or siblings)
- Obesity (the risk appears to go up as the body mass index increases)

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

The incidence of thyroid cancer increased dramatically in all age groups evaluated, although not significantly among women 60 years and older. The largest increases during the 2008-2017 period were detected among men, by a total of 56.8 percent and 50.9 percent, respectively, in the 20-44 and in the 45-59 years age groups. Among women, rates increased in the same age groups as well, by 25.5 percent and 26.8 percent overall. Latinos were the group with the largest average increase in incidence rates, by 4.5 percent per year among men and by 4.2 percent per year among women.

During the 2008-2017 period, mortality rates for thyroid cancer increased in almost all groups for whom trends could be evaluated, although in some groups changes in rates were small and not significant. Mortality rates increased by 1.8 percent per year among men and by 1.1 percent per year among women. While the increase in thyroid cancer incidence may relate to the increased detection of small tumors when sensitive imaging procedures are performed, the parallel increase in mortality suggests that other factors may also contribute to the increasing incidence of thyroid cancer.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: THYROID CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**1.8**	↑	**17.4**	**1.5**	↑	**14.3**
Age	20 - 44	2.5	↑	24.9	**	**	**
	45 - 59	2.5	↑	24.9	0.4	〰	3.7
	60 - 74	1.6	〰	15.4	1.2	↑	11.3
	75 +	1.2	〰	11.3	1.8	↑	17.4
Race/Ethnicity	White, Non-Latino	1.6	↑	15.4	0.9	↑	8.4
	African American	-0.5	〰	-4.4	**	**	**
	Latino	3.3	↑	33.9	0	〰	0
	Asian/Pacific Islander	2.2	↑	21.6	-0.2	〰	-1.8
Men		**3.0**	↑	**30.5**	**1.8**	↑	**17.4**
Age	20 - 44	4.6	↑	49.9	**	**	**
	45 - 59	4.2	↑	44.8	0.7	〰	6.5
	60 - 74	2.1	↑	20.6	1.2	↑	11.3
	75 +	3.3	↑	33.9	2.8	↑	28.2
Race/Ethnicity	White, Non-Latino	2.7	↑	27.1	1.3	↑	12.3
	African American	4.1	↑	43.6	**	**	**
	Latino	4.5	↑	48.6	2.4	↑	23.8
	Asian/Pacific Islander	4.4	↑	47.3	**	**	**
Women		**2.0**	↑	**19.5**	**1.1**	↑	**10.3**
Age	20 - 44	2.3	↑	22.7	**	**	**
	45 - 59	2.4	↑	23.8	0.1	〰	0.9
	60 - 74	1.4	〰	13.3	1.3	↑	12.3
	75 +	0.6	〰	5.5	1.6	↑	15.4
Race/Ethnicity	White, Non-Latino	1.3	↑	12.3	1.0	↑	9.4
	African American	-1.0	〰	-8.6	**	**	**
	Latino	4.2	↑	44.8	0.3	↑	2.7
	Asian/Pacific Islander	2.0	↑	19.5	**	**	**

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

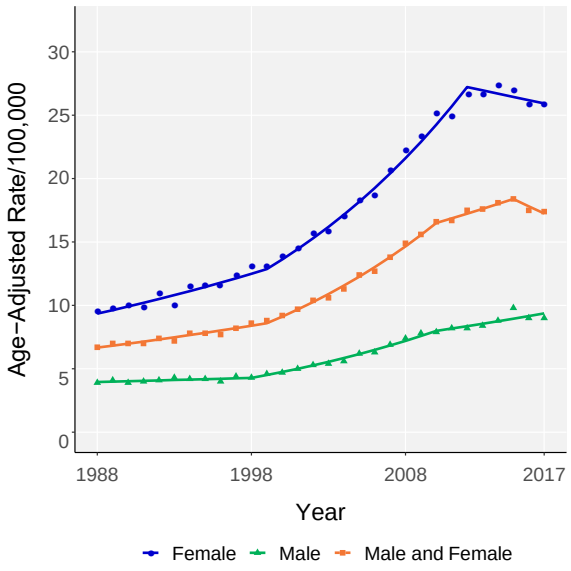
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

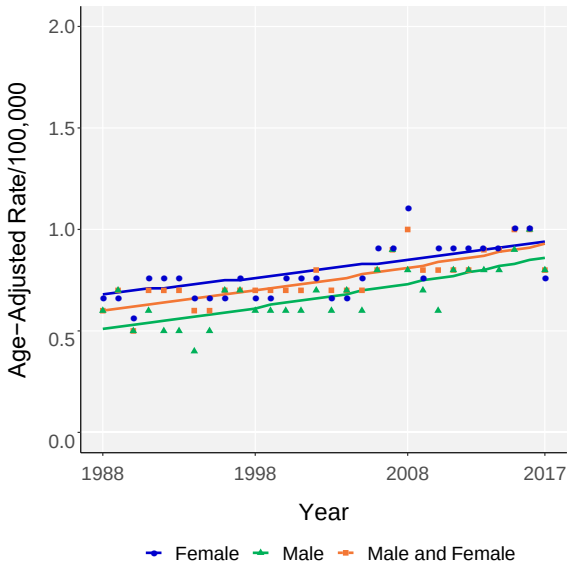
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: THYROID CANCER

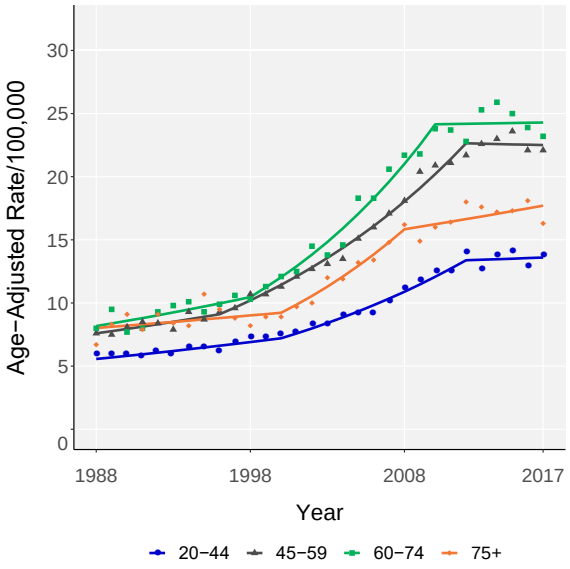
INCIDENCE BY SEX



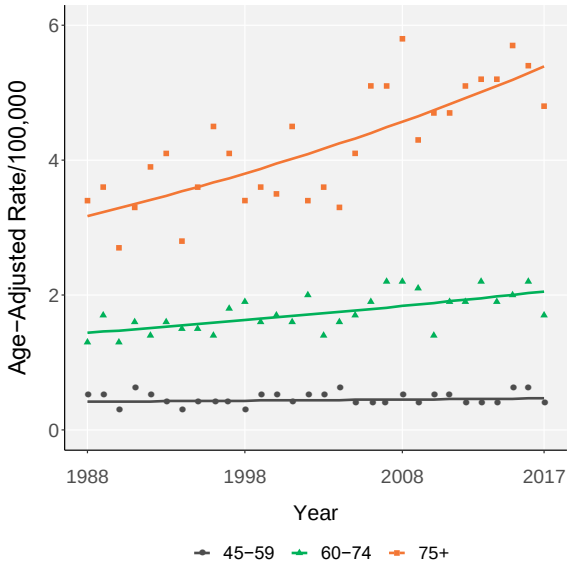
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



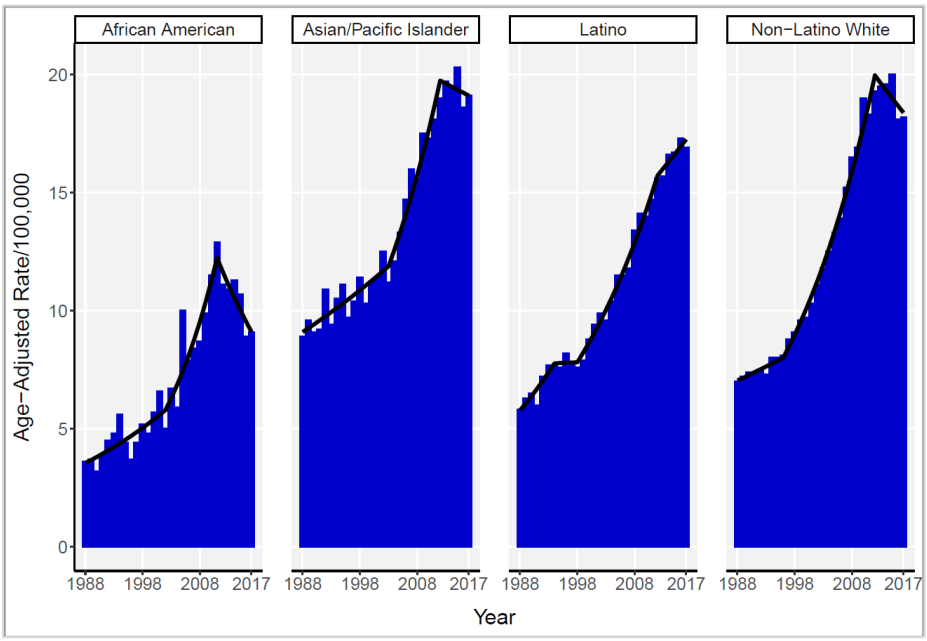
MORTALITY BY AGE GROUP



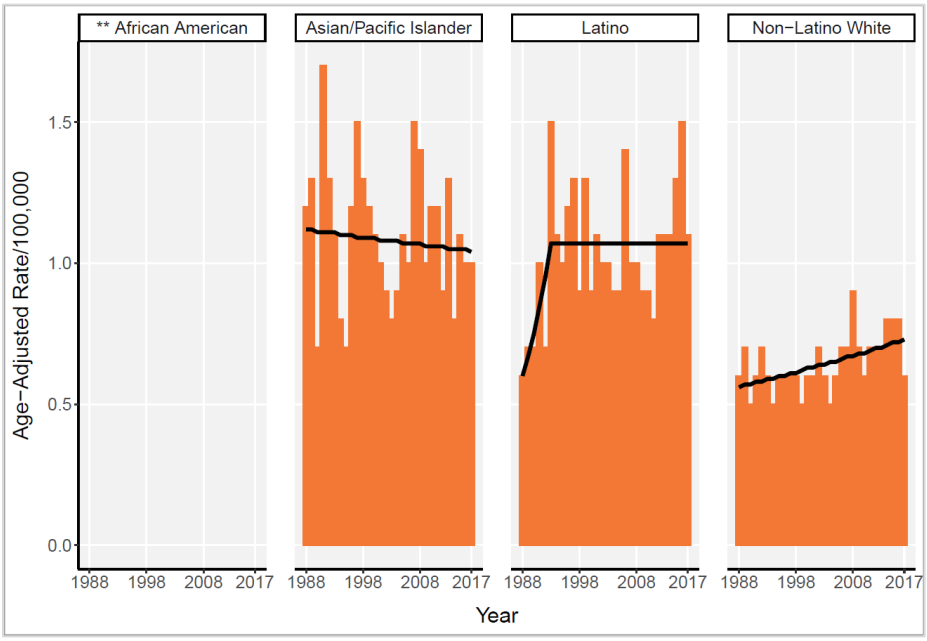
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: THYROID CANCER

INCIDENCE



MORTALITY



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

URINARY BLADDER CANCER

In 2017, 6,913 Californians were diagnosed with bladder cancer, and 1,650 died from the disease. The incidence and mortality for bladder cancer increases with age, and vary by sex, race/ethnicity and other factors. Men are close to four times more likely to develop bladder cancer than women. Whites are diagnosed with bladder cancer almost twice as often as African Americans, Latinos and Asian/Pacific Islanders. The following are known risk factors for bladder cancer:

- Smoking tobacco (increases the risk of developing bladder cancer two to three times)
- Having a family history of bladder cancer
- Having certain gene mutations
- Taking some kinds of chemotherapy drugs
- Drinking well water contaminated with arsenic
- Occupational exposure to chemicals used in processing paint, dye, metal, and petroleum products

Ten-Year Average Percent Changes in Incidence and Mortality Rates: California, 2008 – 2017

During the ten-year period between 2008 and 2017, the incidence of bladder cancer declined by an average of 1.6 percent per year among men and by 2.2 percent per year among women. Rates decreased in all age groups evaluated, ranging from 1.3 percent to 2.7 percent per year, respectively, among Californians aged 75 years and older and those in the 45-59 years age group. Incidence rates declined in women from all racial/ethnic groups, by a total of 5.3 percent among Asian/Pacific Islanders and by 15.9 percent among whites. Among men, rates declined significantly only among whites and Latinos, by a total of 11.9 percent and 17.4 percent, respectively.

Bladder cancer mortality declined slightly during the period, by 0.4 percent and by 0.6 percent per year among men and women, respectively. Rates also declined among persons in the 45-59 and in the 60-74 age groups, by 3.9 percent per year and by 1.3 percent per year, respectively. Rates increased slightly among persons 75 years and older, while trends among persons 20-44 years old could not be evaluated due to the small number of bladder cancer deaths in this age group. Patterns within racial/ethnic groups were less clear, by sex and for both sexes combined, but mortality rates declined significantly among African American and Asian/Pacific Islander women, by an overall 8.6 percent and 13.5 percent, respectively.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: URINARY BLADDER CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Men and Women		**-1.7**	↓	**-14.3**	**-0.3**	↓	**-2.7**
Age	20 – 44	-2.0	↓	-16.6	**	**	**
	45 – 59	-2.7	↓	-21.8	-3.9	↓	-30.1
	60 – 74	-1.8	↓	-15.1	-1.3	↓	-11.1
	75 +	-1.3	↓	-11.1	0.2	↑	1.8
Race/Ethnicity	White, Non-Latino	-1.4	↓	-11.1	0.2	↑	1.8
	African American	0	〰	0.0	-0.5	〰	-4.4
	Latino	-2.0	↓	-16.6	0.3	〰	2.7
	Asian/Pacific Islander	-0.4	↓	-3.5	-0.7	〰	-6.1
Men		**-1.6**	↓	**-13.5**	**-0.4**	↓	**-3.5**
Age	20 – 44	-2.1	↓	-17.4	**	**	**
	45 – 59	-2.4	↓	-19.6	-3.9	↓	-30.1
	60 – 74	-1.5	↓	-12.7	-1.4	↓	-11.9
	75 +	-1.5	↓	-12.7	0	〰	0
Race/Ethnicity	White, Non-Latino	-1.4	↓	-11.9	0.1	〰	0.9
	African American	0.3	〰	2.7	-0.4	〰	-3.5
	Latino	-2.1	↓	-17.4	0.3	〰	2.7
	Asian/Pacific Islander	-0.1	〰	-0.9	0.1	〰	0.9
Women		**-2.2**	↓	**-18.1**	**-0.6**	↓	**-5.3**
Age	20 – 44	-2.0	↓	-16.6	**	**	**
	45 – 59	-2.3	↓	-18.9	-1.0	↓	-8.6
	60 – 74	-2.3	↓	-18.9	-1.4	↓	-11.9
	75 +	-1.9	↓	-15.9	-0.3	〰	-2.7
Race/Ethnicity	White, Non-Latino	-1.9	↓	-15.9	-0.1	〰	-0.9
	African American	-0.7	↓	-6.1	-1.0	↓	-8.6
	Latino	-1.1	↓	-9.5	0.3	〰	2.7
	Asian/Pacific Islander	-0.6	↓	-5.3	-1.6	↓	-13.5

AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

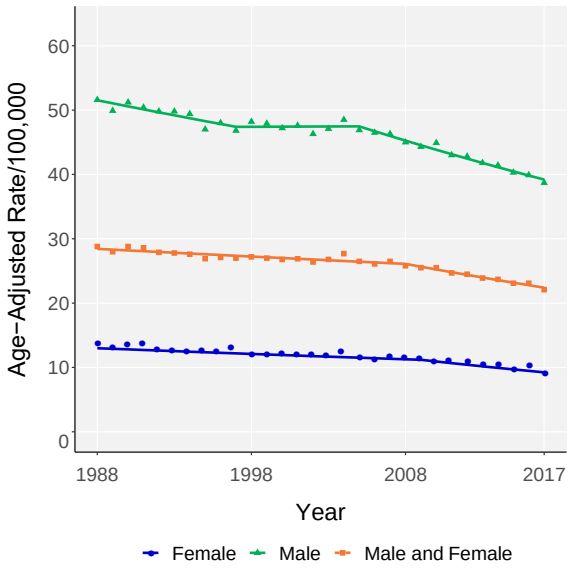
↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

** Trends not estimated due to less than 8 cases or deaths per year.

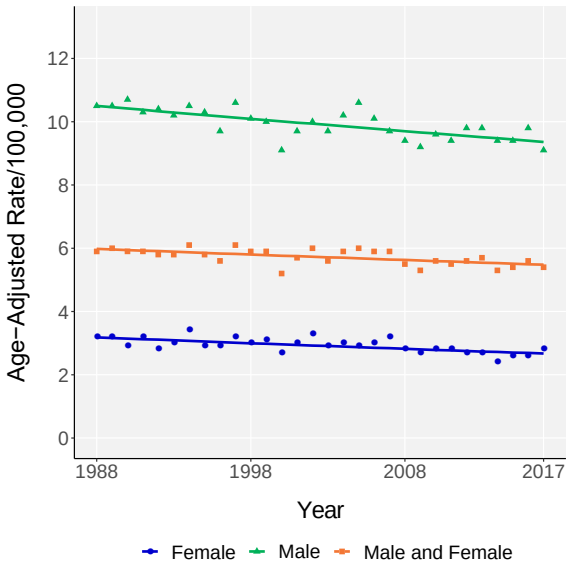
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: URINARY BLADDER CANCER

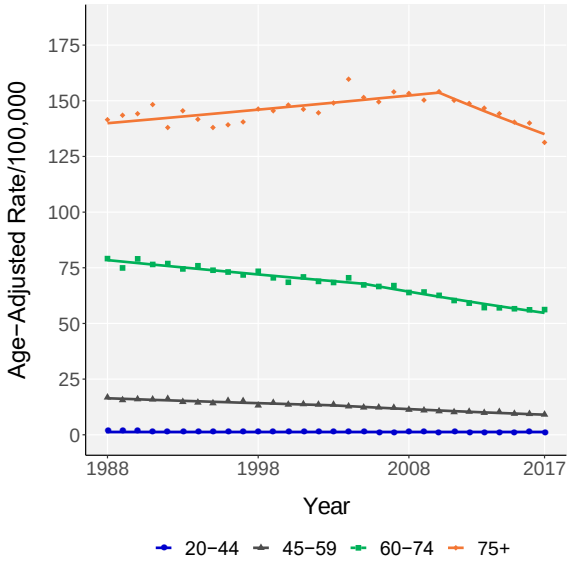
INCIDENCE BY SEX



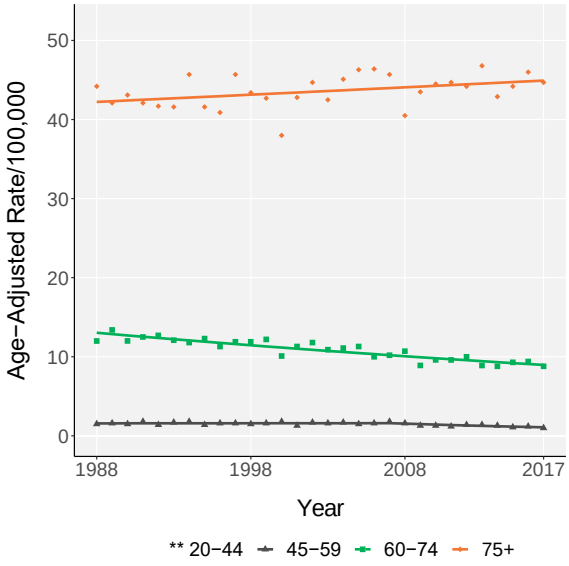
MORTALITY BY SEX



INCIDENCE BY AGE GROUP



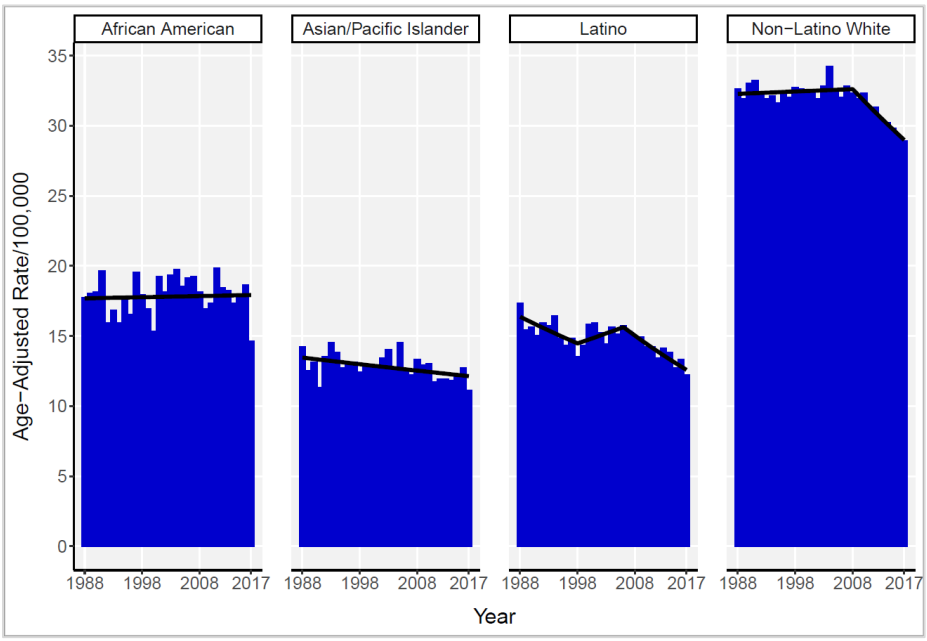
MORTALITY BY AGE GROUP



** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: URINARY BLADDER CANCER

INCIDENCE



MORTALITY

** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

UTERUS AND CORPUS CANCER

In 2017, 6,334 women were diagnosed with uterine cancer, and 1,204 died from the disease in California. Endometrial cancer, or cancer of the lining of the uterus, is the most common invasive cancer of the female reproductive system. The incidence of endometrial cancer is highest among white women. The risk of endometrial cancer increases with age, and the disease is usually diagnosed after menopause. The following factors increase a woman's risk of developing uterine cancer:

- Lifetime exposure to the hormone estrogen, which is higher among women who started menstruating before age 12, had a late menopause, were never pregnant, or who received estrogen (without progesterone) replacement after menopause
- Obesity and the associated hormonal changes increase the risk of uterine cancer
- Hereditary non-polyposis colon cancer syndrome
- Treatment with the drug tamoxifen
- Polycystic ovary syndrome

Ten-Year Average Percent Changes in Incidence and Mortality Rates in California (2008 – 2017)

Incidence rates of uterine cancer in California increased by 1.7 percent per year between 2008-2017. Rates increased in all age groups, although changes among women 75 years and older were not significant. The largest increase in incidence was observed among 20-44 years old women, for whom rates increased by 3.6 percent per year during the period. Incidence of uterine cancer also increased in women of all racial/ethnic backgrounds. The overall increase in incidence rates ranged from 11.3 percent among white women to 36.3 percent among Latinas. Although the cause for the increase in the incidence of uterine cancer is not well understood, it is possible that the increase in obesity has contributed to the trends. According to the Centers for Disease Control and Prevention, the percent of obese and overweight women in California increased significantly, from 47.8 percent in 2000 to 55.4 percent in 2017.

Consistent with incidence trends, mortality rates increased as well, by 2.1 percent during the period. Mortality rates for uterine cancer increased at similar rates in all age groups, from 1.8 to 2.3 percent per year. Rates increased among women of all racial/ethnic backgrounds, but the increase was most marked among Asian/Pacific Islanders (by 3.2 percent per year).

AVERAGE ANNUAL PERCENT CHANGE (AAPC) IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX, AGE, AND RACE/ETHNICITY, CALIFORNIA, 2008-2017: UTERUS AND CORPUS CANCER

Trends		Incidence			Mortality		
		AAPC		Overall Change (%)	AAPC		Overall Change (%)
Women		**1.7**	↑	**16.4**	**2.1**	↑	**20.6**
Age	20 – 44	3.6	↑	37.5	2.3	↑	22.7
	45 – 59	1.1	↑	10.3	1.8	↑	17.4
	60 – 74	2.3	↑	22.7	2.1	↑	20.6
	75 +	0.6	〰	5.5	1.9	↑	18.5
Race/Ethnicity	White, Non-Latino	1.2	↑	11.3	1.9	↑	18.5
	African American	1.9	↑	18.5	1.4	↑	13.3
	Latino	3.5	↑	36.3	1.0	↑	9.4
	Asian/Pacific Islander	2.0	↑	19.5	3.2	↑	32.8

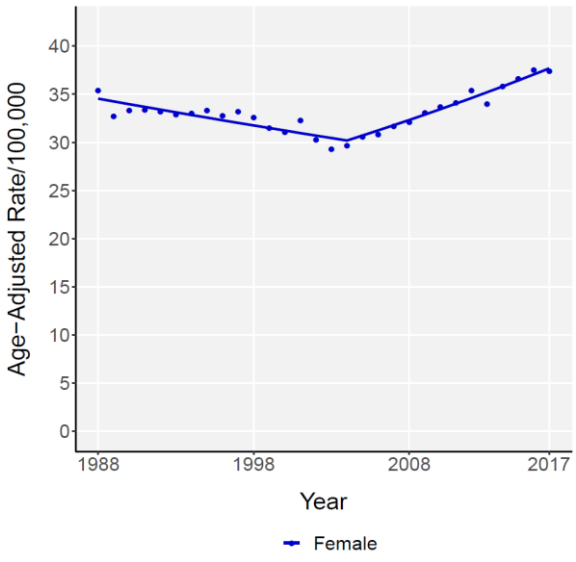
AAPC: Average annual percent change in rates. A positive AAPC means rates increased; a negative AAPC means rates declined over the period.

↑ Statistically significant increase; ↓ Statistically significant decrease; 〰 change in rate was not statistically significant.

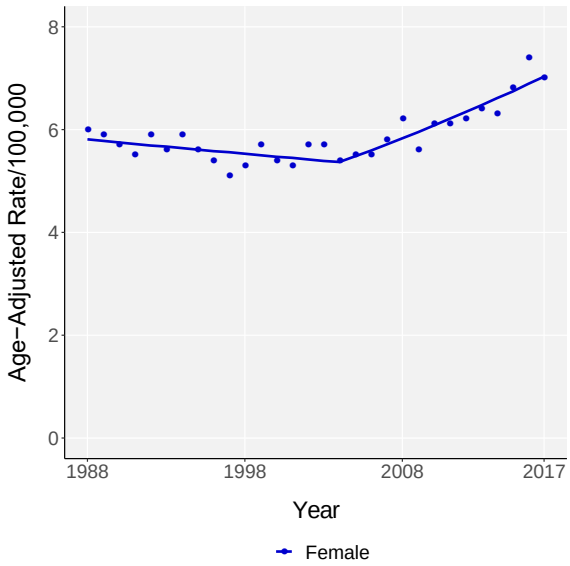
Source of data: California Cancer Registry, California Department of Public Health.

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY SEX AND AGE GROUP, CALIFORNIA, 1988-2017: UTERUS AND CORPUS CANCER

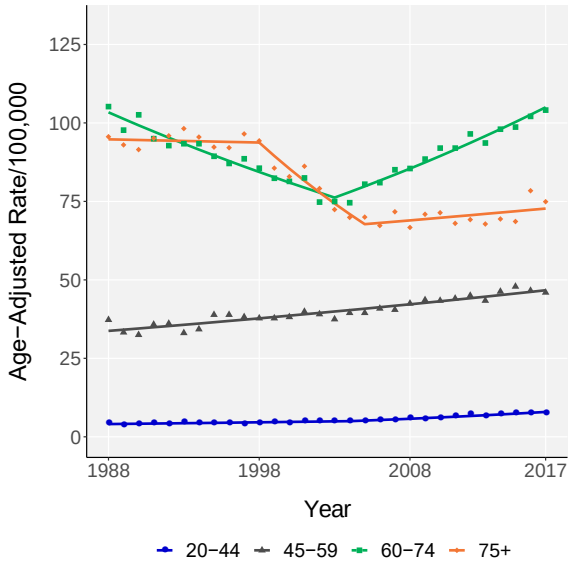
INCIDENCE



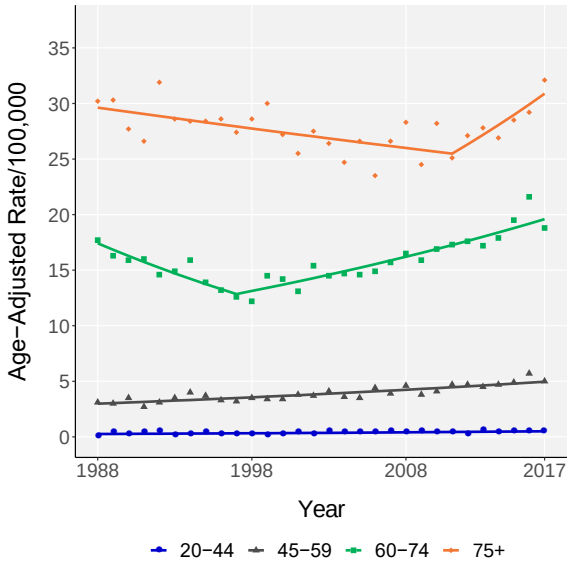
MORTALITY



INCIDENCE BY AGE GROUP



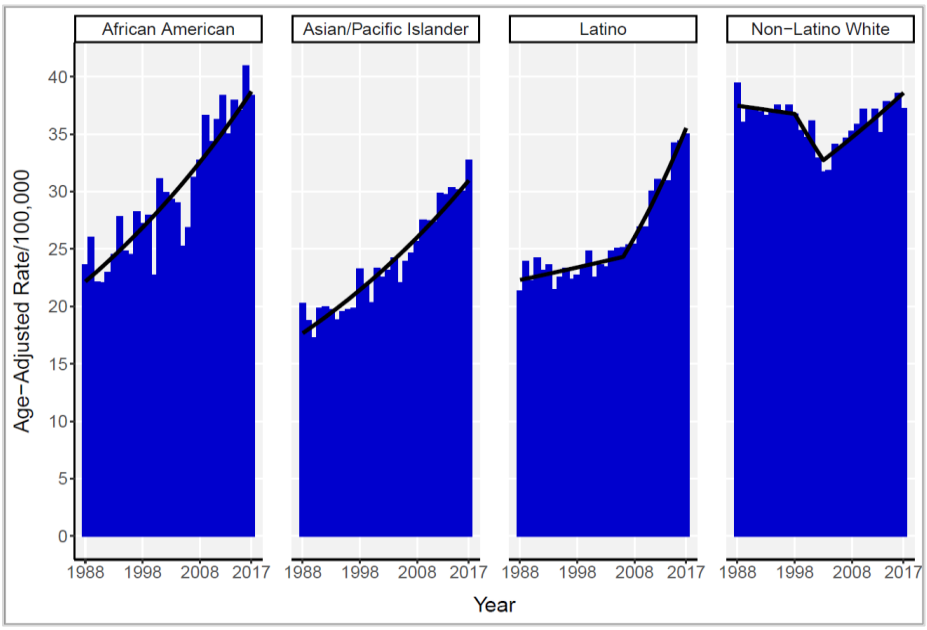
MORTALITY BY AGE GROUP



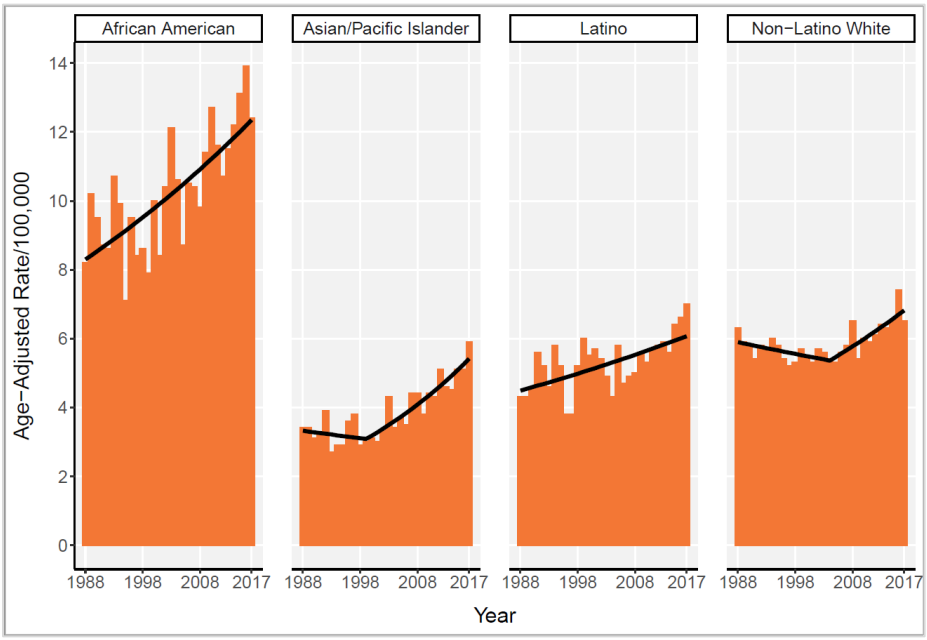
** Rates not calculated due to less than eight cases or deaths per year.
Source of data: California Cancer Registry, California Department of Public Health

TRENDS IN AGE-ADJUSTED INCIDENCE AND MORTALITY RATES BY RACE/ETHNICITY, CALIFORNIA, 1988-2017: UTERUS AND CORPUS CANCER

INCIDENCE



MORTALITY



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Source of data: California Cancer Registry, California Department of Public Health