

MORTALITY

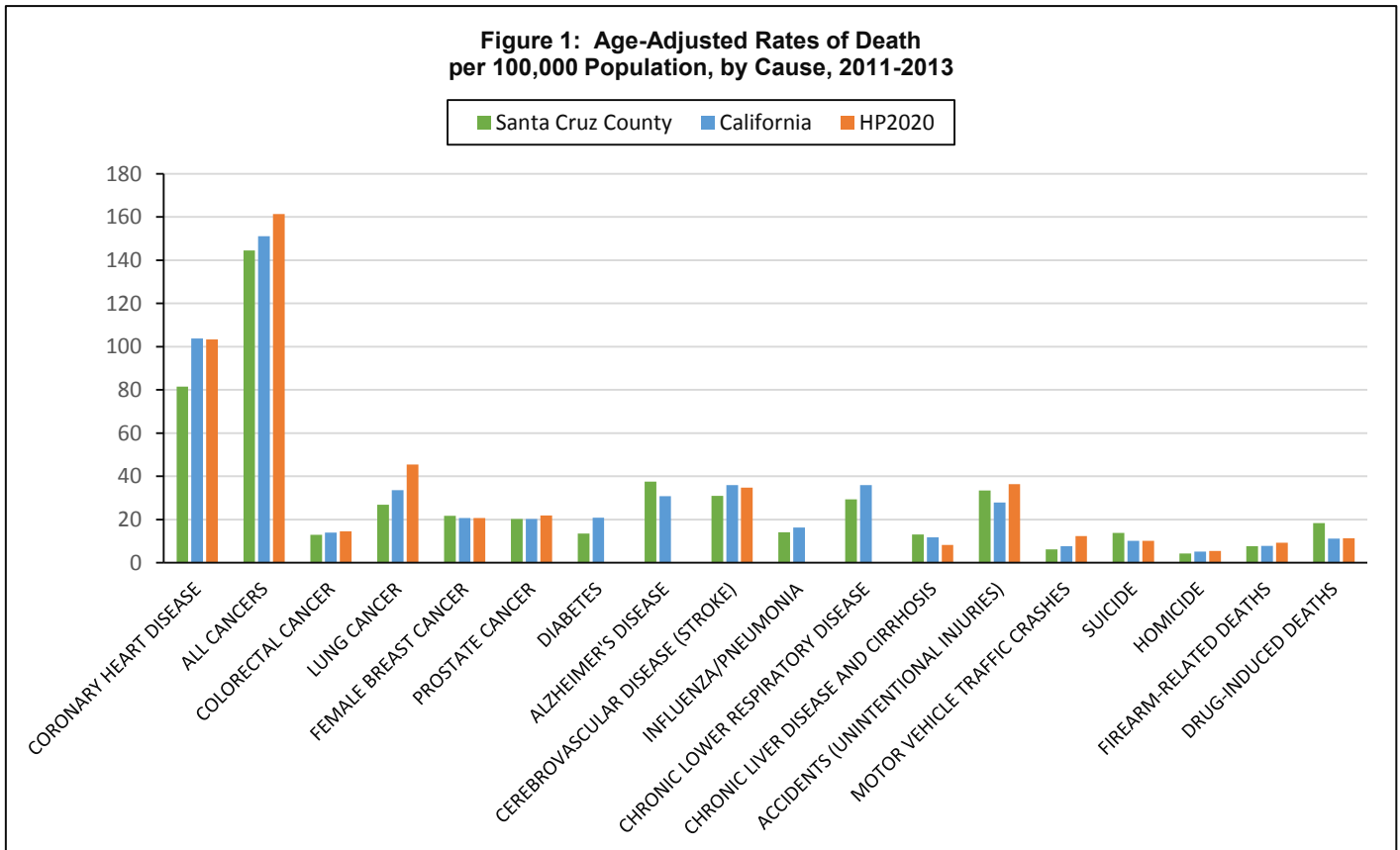
The mortality rate is one of the fundamental measures of the health of a population. Examining the frequencies of the various causes of death in a population can help identify opportunities for intervention to reduce illness, injury, and death.

In Santa Cruz County, the age-adjusted rate of death from all causes for the period 2011 through 2013 was 625.9 deaths per 100,000 population.¹ This was better than the state rate of 641.1 deaths per 100,000,² and significantly better than the national rate of about 735 per 100,000.³ The county's mortality rates were better than statewide rates for diabetes, coronary heart disease, chronic obstructive pulmonary disease, and lung cancer, reflecting our relatively low rates of smoking and obesity (Figure 1). Our rates were worse than statewide rates for drug-induced fatalities, suicides, accidents, and Alzheimer's disease. Overall mortality rates continue to drop nationwide and in the county, although statewide rates have not improved in recent years.

The leading cause of death in the United States is heart disease,³ primarily coronary heart disease. In Santa Cruz County in 2011-2013, the age-adjusted rate of death from coronary heart disease (81.6 per 100,000 population)² was significantly better than the statewide rate (103.8)² and the 2013 national rate.³ (California's County Health Status Profiles provide data on coronary heart disease, not all heart disease; the rate of death from coronary heart disease alone is considerably less than the all-cancers death rate.)

The second leading cause of death in the U.S. is cancer.³ The county's rate of death from all types of cancer combined (144.4 per 100,000)² was better than the statewide rate (151.0)² and the national rate (166.2).³

For many years, county rates of death from suicide and drug-induced injury have generally been higher than state rates, while deaths from homicide and motor vehicle accidents have tended to be quite low; these differences have generally not been statistically significant in any given three-year period, but they have remained consistent for many years.



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In the last 100 years, public health and medical advances such as improved sanitation, refrigeration, vaccinations, and antibiotics have greatly reduced the death toll from infectious disease. Nowadays, changes in lifestyle can substantially reduce most of the major causes of death due to chronic diseases, such as heart disease, cancer, stroke, chronic lower respiratory disease, diabetes, and cirrhosis of the liver.

The single greatest actual underlying cause of death in developed countries is tobacco.⁴ The second greatest is the combination of poor diet and physical inactivity; in the U.S., that combination threatens to overtake tobacco as the leading cause of death. The third greatest is alcohol, which contributes heavily to liver disease, to deaths by accident, homicide, and suicide, and to certain cancers. Each of these major actual causes of death involves personal lifestyle choices that are ripe for public health intervention. Reductions in tobacco and alcohol usage and improvements in diet and physical activity are keys to improving health and extending lifespans in the 21st century.

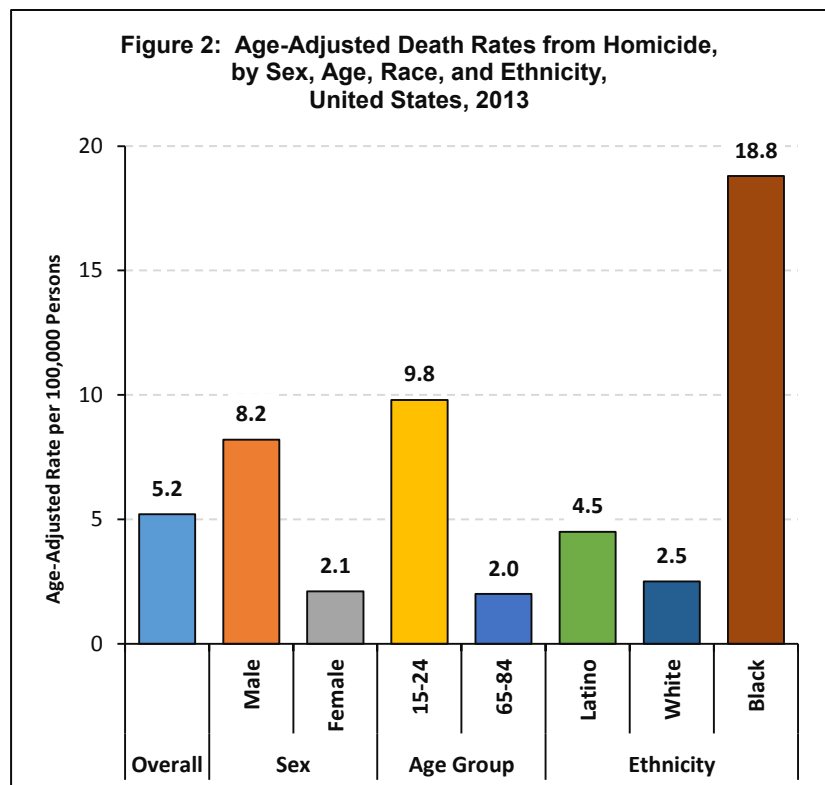
YEARS OF POTENTIAL LIFE LOST

“Years of Potential Life Lost” (YPLL) is a widely used measure of a community’s health. YPLL is the number of years of potential life lost due to premature mortality. It is measured by calculating the difference between the actual age of death and a selected age (only counting deaths occurring before the selected age); the age selected is usually either 65 or 75. For example, if the selected age was 75, then a death occurring at age 60 would contribute 15 YPLL; a death occurring at age 20 would contribute 55 YPLL. YPLL is usually presented as an age-adjusted rate of YPLL per 100,000 persons.

The National Vital Statistics System calculated the YPLL rate (with a selected age of 75) for each individual county in the United States for the years 2010-2012.^{5,6} The national YPLL rate for those years was 6622. California’s statewide rate was 5295, 5th best in the nation. Santa Cruz County ranked 18th best among all 58 California counties, with a YPLL of just 5066, much better than the national average. The county rate continues to improve, but in recent years the county’s rate has not been improving nearly as fast as the statewide rate.

HOMICIDE

The United States had an age-adjusted homicide rate of 5.2 per 100,000 in 2013,³ more than double the rate of most industrialized countries. U.S. homicide rates in 2013 were highest among Blacks (7.5 times the rate among Whites), Latinos (1.8 times the rate among Whites), males (almost 4 times the rate among females), and adolescents and young adults (almost five times the rate among the elderly) (Figure 2). Over the past 18 years, Santa Cruz County has consistently had homicide rates lower than statewide and national rates. County rates were often significantly lower, averaging not much more than half of state rates over the period shown in Figure 3.⁷ California rates have dropped considerably during that time, while the county’s rates have gone up slightly in recent years.



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Close to two thirds of homicides are committed by someone who knows the victim. Over two thirds of homicides are committed with firearms. Homicide rates are higher in “large central metro counties” than in “medium metro counties” (such as Santa Cruz) and other levels of urbanization.^{8,9,10}

SUICIDE

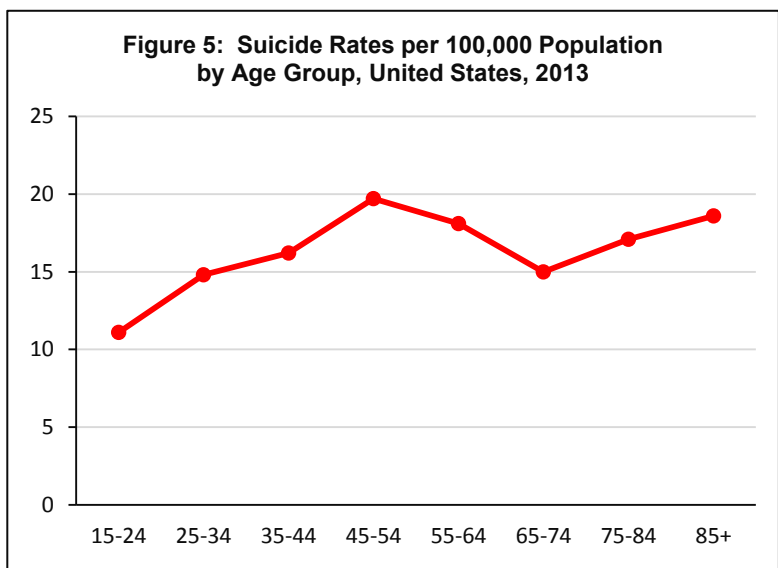
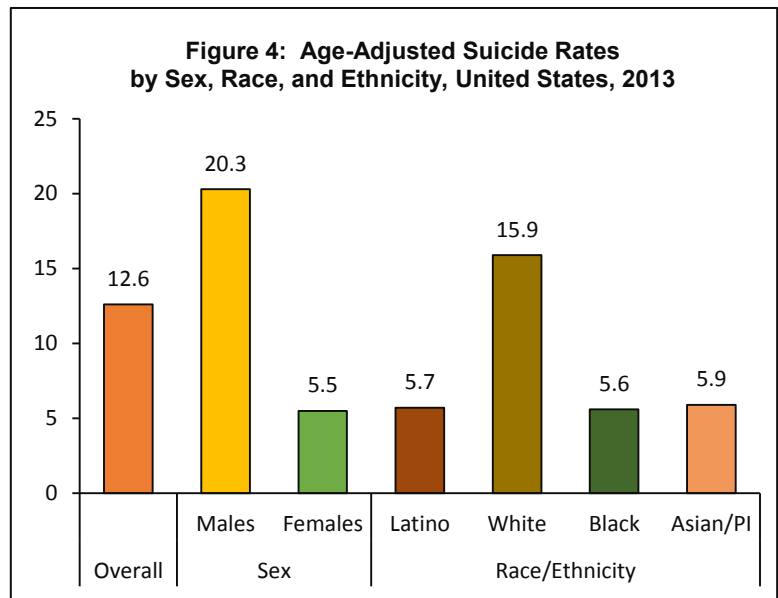
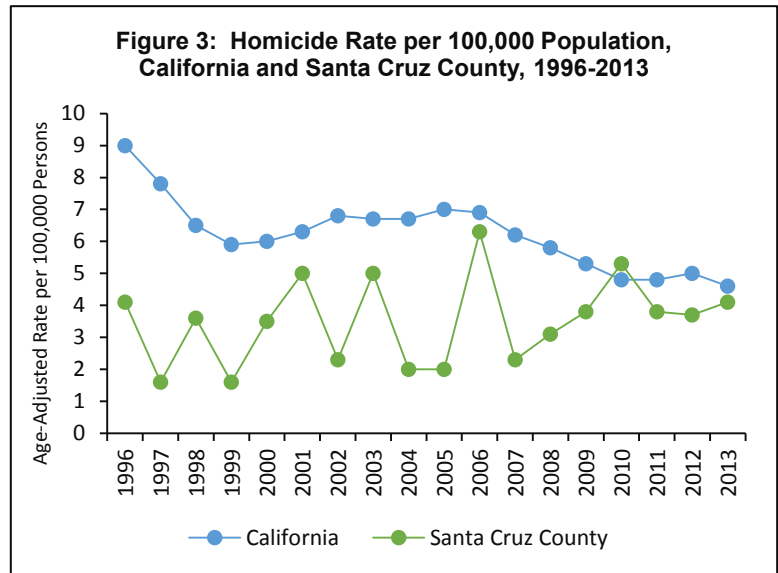
Suicide is the 10th leading cause of death nationally, taking the lives of over 41,000 Americans in 2013 – almost 1.6% of all deaths in the United States, and 2.5 times as many deaths as homicide.³

Suicide rates are strongly linked to sex, race, and ethnicity³ (Figure 4). Suicide rates are almost four times as high among men as among women (although women are more likely to *attempt* suicide). Suicide rates among Whites are almost triple those among Blacks, Asians, and Latinos.

Suicide rates vary greatly with age; the rate rises from about 10 per 100,000 in the 15-24 age group to a peak of almost 20 in the 45-54 age group, drops off in the 55-64 and 65-74 age groups, and then climbs back above 15 in the oldest age groups³ (Figure 5). Other risk factors for suicide include depression, substance abuse, availability of firearms in the home, family violence, family history of suicide or mental illness, social isolation, rural residence, stress, and lack of mental health care.

For the years 2011-13, the age-adjusted rate of death by suicide in Santa Cruz County was 13.7 per 100,000 persons,¹ compared to the statewide rate of 10.2¹ and the 2013 national rate of 12.6.³ Santa Cruz ranked 34th out of 58 California counties.¹ Santa Cruz County’s suicide rates since 1980 have consistently been higher than state rates.

Suicide *attempts* are far more frequent than actual suicides.¹¹ Although suicide rates generally increase with age, the rate of suicide *attempts* decreases with age. The number of suicide attempts compared to completed suicides may be as high as 200 to 1 among 15-to-24-year-olds, and drop to as low as 4 to 1 among adults over age 65.¹²



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A failed suicide attempt is one of the strongest predictors of subsequent attempts and completed suicide. Development of an effective tracking system for suicide attempts could facilitate targeted intervention that might significantly reduce the incidence of suicide.

About half of all suicides in this country involve firearms. However, in Santa Cruz County since 1991 the proportion has been lower, just over 40%. Nevertheless, reduced access to firearms would probably reduce the incidence of suicide.

Suicide is associated with depression, an illness treatable both by psychotherapy and by medication. Training physicians to identify and treat depression, and increasing the availability of mental health resources, could reduce the incidence of suicide. Other interventions could include steps to reduce substance abuse, prevent social isolation, and reduce the incidence of chronic diseases.

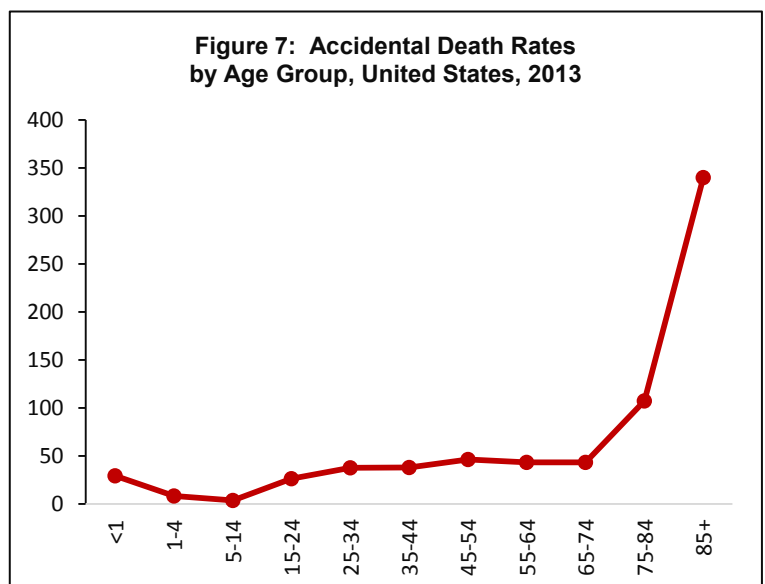
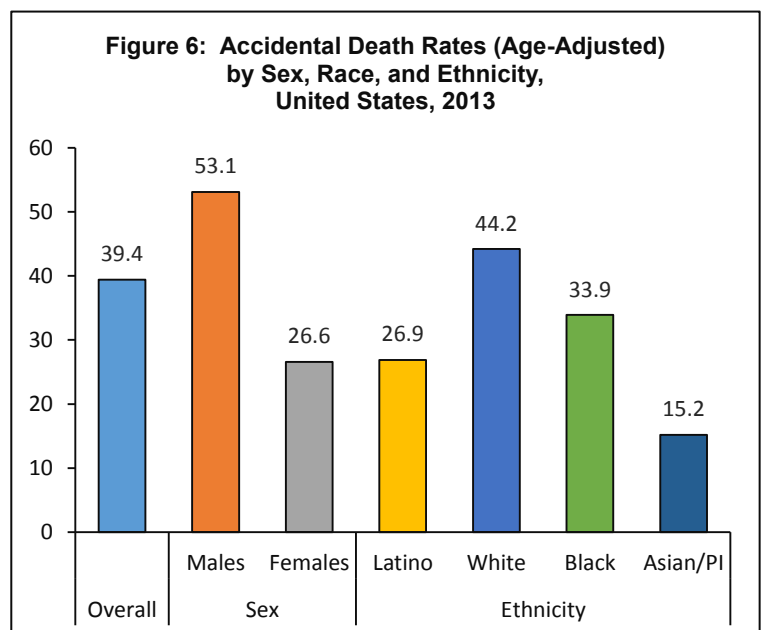
ACCIDENTS

Unintended injuries are slowly trending upward as a cause of death, and recently surpassed stroke to become the fourth leading cause of death in the United States, with an age-adjusted death rate of 39.4 per 100,000 persons, accounting for over 130,000 deaths in 2013, or 5% of all deaths.³ In 2013, males were twice as likely as females to die in accidents³ (Figure 6). Age-adjusted death rates varied strongly by race and ethnicity, with non-Latino Whites having a rate three times as high as that among Asians³ (Figure 6). Accidental death rates are very low in middle childhood and very high among the elderly³ (Figure 7). Unintended injuries are the leading cause of death in all groups below age 45.³

During the period 2011-2013, Santa Cruz County ranked 24th among California counties, with an average annual age-adjusted mortality rate from unintentional injuries of 33.4 per 100,000 persons.¹ That was better than the national rate of 39.2,³ but worse than California's rate of 27.9, and not significantly different from either one. The state and the county both met the Healthy People 2020 objective of 36.4 per 100,000.

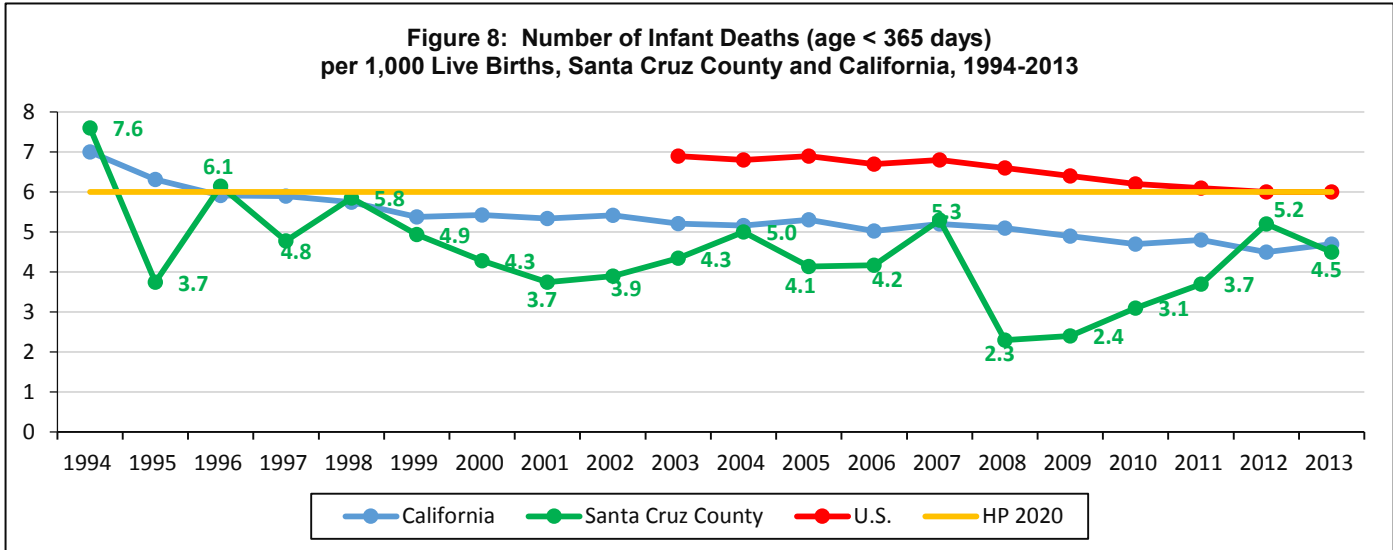
INFANT MORTALITY

Infant mortality is an important measure of a nation's health and a worldwide indicator of health status, social well-being, and availability of adequate prenatal care. Local, state, and national infant mortality rates have improved fairly steadily for many decades, although our national rates remain among the highest among all developed countries.



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Santa Cruz County rates are more variable (Figure 8), due to our smaller population, but show a similar improving trend.¹³ The county's rates usually are below statewide rates; they are well below national rates,³ and meet the HP2020 objective. The five leading causes of infant mortality in the U.S. in 2013 were congenital malformations (20%), disorders related to short gestation and low birth weight (18%), maternal factors and complications of pregnancy, labor, or delivery (12%), sudden infant death syndrome (8%), and accidents (5%).³



Sources

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- (6) http://www.healthindicators.gov/Indicators/Years-of-potential-life-lost-before-age-75-per-100000_3/Profile.
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