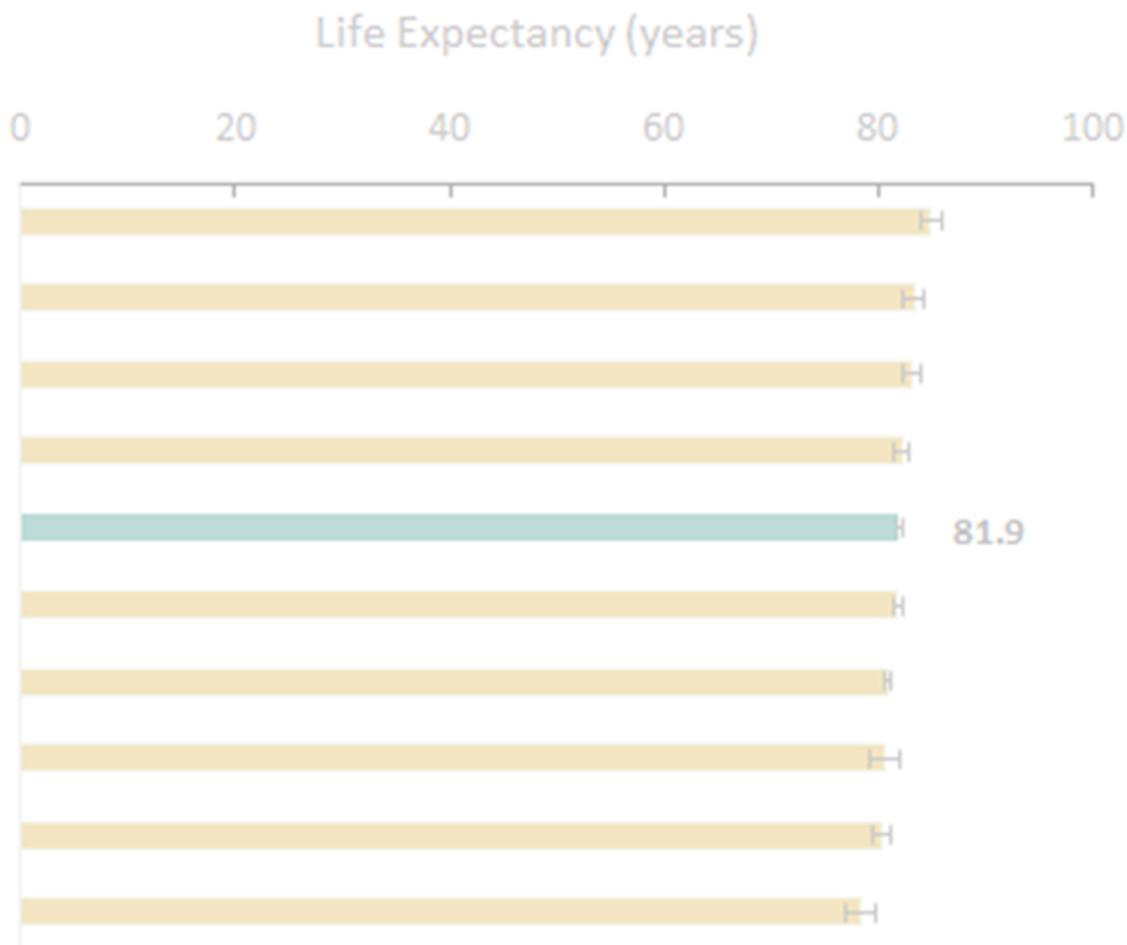


Sonoma County

Summary Measures of Health:

A review of life expectancy, disability status, leading causes of death and premature death with trends for 2005-2015

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Foreword

Assessing the health status of a community is a core function of a local health department. As our county processes and responds to the October 2017 fires, it is more critical than ever that we monitor the health of our community and its residents. Public and behavioral health surveillance data, like the data in this report, is a foundation for decision making in public health and can empower communities and decision makers to lead and manage more effectively by providing timely, useful evidence to detect changes in health status and act quickly to address emerging health problems. The data can be used to understand trends over time, identify inequalities between groups, and advance community health.

In this report, we reviewed and analyzed information collected from death certificates from Sonoma County residents during the 2013-2015 time period to understand life expectancy and the leading causes of death and premature death. We also reviewed and analyzed data on disability status among Sonoma County residents. Although not all-inclusive of the many different indicators of health, this report highlights important health concerns, showing where progress has been made and areas where there is more work to be done. By tracking progress on these indicators, public health professionals, local health systems, medical professionals, communities, community organizations, and policymakers can better identify areas for health improvement, institute programs and policies, and direct resources to improve the health and the quality of life for Sonoma County residents. This report will be updated in Fall 2018, and then every two years thereafter to monitor any changes in the leading causes of death and premature death in our county.

This report, *Sonoma County Summary Measures of Health*, tells us that as a whole, life expectancy in Sonoma County is similar to California and better than the nation. The report shows areas of progress in the county, including declining death and premature death rates. However, the report also highlights place, race, economic, and gender-based disparities, reinforcing what we know about health – how it is markedly influenced by where we live, our racial or ethnic background, how much money we make, and our gender. At the extremes, there is nearly a 7-year difference in life expectancy by geographic region and by race/ethnicity.

We recognize that life expectancy, premature death and death rates are only a partial picture of our community's health, especially in light of the recent trauma that so many have faced and the impact it has had on the mental, physical, and emotional health of our residents. However, these data are important global indicators of health that reflect the impact of major health conditions and their underlying causes, including the social, economic, and environmental conditions in which we live. The information in this report will inform the work of the Sonoma County Department of Health Services (DHS) along with assessments that have come before it, including the 2016 Community Health Needs Assessment, 2017-2020 Mental Health Services Act Three-Year Integrated Plan, and 2014 A Portrait of Sonoma County.

The Sonoma County Department of Health Services hopes that the information in this report is useful to Sonoma County communities and cities in identifying and pursuing opportunities to improve the health of their residents, neighborhoods, and communities. We encourage our partners to think broadly about health, and utilize the many sources of local data and information and ways of defining health to influence their plans and actions towards a healthier and more resilient Sonoma County. We look forward to partnering with you to build and support resilient environments in which all Sonoma County residents can live healthy and long lives.



Barbie Robinson, MPP, JD
Director, Department of Health Services

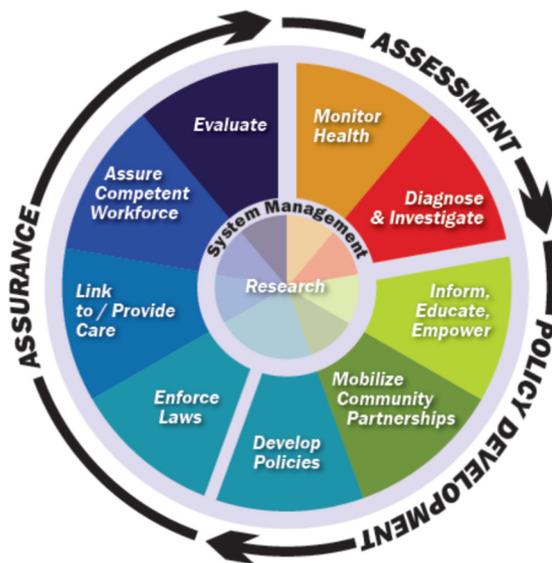
Background

Assessing the health status of a community is a core function of a local health department. The 10 Essential Public Health Services (Figure) describe the public health activities that all health departments should undertake. Essential services 1 (“*monitor health*”) and 2 (“*diagnose & investigate*”) fit under the core function of Assessment. These essential services help us answer questions such as “how healthy are we as a community?” and “how can we quickly identify health risks?”, and “how effective are our interventions and responses to health events?”

In Sonoma County, the Department of Health Services’ (DHS) Assessment & Epidemiology Unit is the primary unit responsible for monitoring the health status of Sonoma County. This report, *Sonoma County Summary Measures of Health*, is the first in a series of publications planned by the DHS Assessment & Epidemiology Unit. This report focuses on life expectancy and the leading causes of death and premature death in Sonoma County. Health, of course, cannot be just simply defined by life expectancy, death rates, or premature years of life lost. However, these measures are validated, useful indicators of community health and are used at global, national, state, and local levels to monitor the overall health of a community. Future reports in this series will include examinations of health-promoting and health-degrading community conditions, social determinants of health, maternal and child health, and modifiable risk factors for leading causes of morbidity and mortality. The information in these reports will be updated on an ongoing, regular basis, to inform the activities of DHS and residents, community-based organizations, government agencies, healthcare providers and health systems, and policy-makers committed to making Sonoma County a healthy place for everyone.

The third essential Public Health service is “*inform, educate, and empower.*” Over the next few months, DHS will actively disseminate findings in this report to residents, communities, community-based organizations, local healthcare providers and health systems, and policymakers to inform, educate, and empower all of us to better understand and address the public health issues in our neighborhoods and communities.

Figure. The 10 Essential Public Health Services and 3 Core Functions



Data Executive Summary

Life Expectancy

- Average life expectancy at birth for Sonoma County and California residents was about 82 years. Sonoma County and California residents had, on average, a longer life expectancy than the U.S population (79 years).
- Asian/Pacific Islanders and Hispanic or Latino residents lived about 7 years longer than white, non-Hispanic, American Indian/Alaska Native, and African American/Black residents.

Disability Status

- About 12%, or 57,000 Sonoma County residents have an ambulatory, independent living, cognitive, hearing, self-care, and/or vision disability. Ambulatory (6%), independent living (5%), and cognitive (5%) disabilities are the leading types of disability among Sonoma County residents.
- About 1 in 2 residents 75 years and older have an ambulatory, independent living, cognitive, hearing, self-care, and/or vision disability.

Leading Causes of Death

- Cancer, heart disease, Alzheimer's disease, stroke and chronic lower respiratory disease were the top five causes of death among Sonoma County residents.
- Cancer was among the top five leading causes of death for all age groups. Heart disease was among the top five leading causes of death for residents 25-44, 45-64, and 65 years and older.

Age-Adjusted Mortality Rate

- Between 2005-2007 and 2013-2015, mortality rates decreased in Sonoma County, similar to California and the overall national trend, with significant decreases in cancer and heart disease mortality rates, and the greatest decrease in the stroke mortality rate. The mortality rate due to Alzheimer's disease, the third leading cause of death in 2013-2015, increased significantly.
- There were place, race, and gender-based disparities in Sonoma County mortality rates.

Age-Adjusted Premature Mortality Rate (defined as Years of Potential Life Lost Before Age 75)

- Sonoma County has a lower premature mortality rate (defined as years of potential life lost before age 75) than California and the United States. Between 2013 and 2015, about 70,000 years of potential life were lost before age 75 among Sonoma County residents.
- Cancer, unintentional injury, heart disease, suicide, and chronic liver disease were the top five leading causes of premature mortality among Sonoma County residents. Cancer, unintentional injury, heart disease, and suicide were within the top five leading causes of premature mortality in all nine Sonoma County geographic regions.
- There were place, race, and gender-based disparities in Sonoma County premature mortality rates.

Sonoma County Demographic and Social Characteristics

Demographics

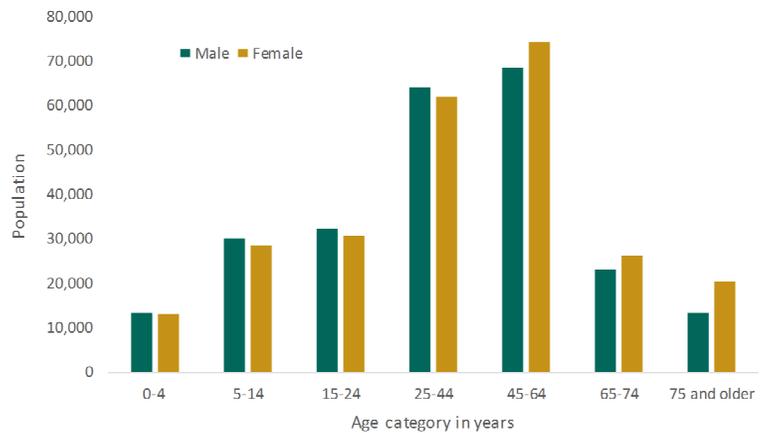
The demographic characteristics of a population, such as sex, age, and race/ethnicity, have a strong influence on the disease burden within a community. Examining the demographics of the Sonoma County population provides insight for understanding average life expectancy, leading causes of death and premature death, death and premature death rates, and disability prevalence so that effective interventions can be taken to mitigate disparities.

In 2014, Sonoma County was home to approximately 500,000 residents. The median age of Sonoma County residents was 41.1 years. Twenty-five percent, or about 125,000 residents were between the ages of 25-44 and another 25% were between the ages of 45-64 years (Figure 1).

It is recognized that there are many different racial and ethnic groups residing in Sonoma County; however, denominator data available for this analysis were limited to the five major racial/ethnic groups presented in Table 1. Over 66% of Sonoma County residents were white, non-Hispanic and 26% were Hispanic/Latino. About 5% of the population were Asian/Pacific Islander, non-Hispanic, 2% were African American/Black, non-Hispanic and less than 1% were American Indian/Alaska Natives, non-Hispanic. Hispanic/Latinos had a younger median age (27.5 years) than white, non-Hispanics (49.6 years).

Geographical areas (defined by zip codes) were aggregated for more stable and thus more meaningful analyses of data. Santa Rosa had the largest population (43.4%) of these aggregated zip codes, followed by Petaluma (14.6%). The smallest populations were in Healdsburg (3.6%), Russian River Area (2.6%), and Cloverdale/Geyserville (2.5%) (Table 2).

Figure 1. Sonoma County population distribution by age and sex, 2014



Source: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, Bridged-Race Population Estimates Vintage 2015; US Census Bureau, ACS 1 Year Est. Table: B01002

Table 1. Sonoma County population distribution by race/ethnicity with median age, 2014

	N	Percent of Total Population	Median Age
White, non-Hispanic	330,815	66.2%	49.6
Hispanic/Latino	130,154	26.0%	27.5
Asian/Pacific Islander [^]	24,087	4.8%	41.3
African American/Black [^]	10,072	2.0%	39.2
American Indian/Alaska Native [^]	4,546	0.9%	31.8

[^]Of both Hispanic and non-Hispanic ethnicity

Source: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, Bridged-Race Population Estimates Vintage 2015; US Census Bureau, ACS 1 Year Est. 2014 Table B01002B-1

Table 2. Sonoma County population distribution by select geography, 2014

Geographic Region	Total Population	Percent of Total Population
Santa Rosa	214,931	43.4%
Petaluma	72,284	14.6%
Rohnert Park	43,028	8.7%
Sonoma Valley	40,764	8.2%
Sebastopol - West County	34,467	7.0%
Windsor	29,486	6.0%
Healdsburg	17,631	3.6%
Russian River Area	13,063	2.6%
Cloverdale and Geyserville	12,567	2.5%

Source: US Census Bureau, American Community Survey, 5 Year Estimates by Zip Code Tabulation Areas (ZCTA), 2011-2015

Social Characteristics

The health or disease burden of community is also influenced by social and economic characteristics of its population. In addition, social determinants of health, conditions in the environments in which people live, learn, work, and play, affect a wide range of health, functioning, and quality-of-life outcomes and risks (HP 2020). While many complex factors contribute to individual and community health, understanding some of these upstream measures, such as poverty and educational attainment, can help give context to the outcomes presented in this report. Table 3 describes poverty and educational attainment in the county.

In general, higher income and social status are linked to better health and longer life expectancy.¹ Sonoma County is a relatively affluent county. In 2014 about 12% of the population were below the federal poverty level (FPL) - about \$24,000 for a family of four. However, poverty in the county varied significantly by race/ethnicity and geography. Hispanic/Latino and African American/Black Sonoma County residents had a significantly higher percent of the population below the FPL than the county overall while rates of poverty for White and Asians residents were lower than the county. Rates of poverty also differed across regions of the county. The percent of the population below FPL was significantly higher in Rohnert Park than for the county overall. In Windsor and Petaluma, the percent of the population below the FPL was significantly lower than for the county.

Educational attainment also influences health with lower education levels linked to poorer health and a reduction in life expectancy.² In 2014, about 87% of Sonoma County residents 25 years and older had a high school education or higher. Educational attainment differed by gender and race/ethnicity. Sonoma County women had a significantly higher percent of population 25 years and older with a high school degree or higher than the county overall as did White, non-Hispanic residents. Hispanic/Latino residents had a significantly lower percent of the population 25 years and older with a high school degree or higher than the county overall. Geographically, the percent of the population over 25 years of age with a high school degree (or equivalent) or higher is significantly higher than the county in Sebastopol—West County and the Russian River Area and significantly lower in Cloverdale and Geyserville.

Table 3. Poverty and Educational Attainment in Sonoma County, 2014

	Percent of population below Federal Poverty Level (FPL)	Margin of Error (MOE) +/-	Percent of population 25 years and older with high school degree or higher	MOE +/-
Sonoma County	11.7%	0.6%	87.1%	0.5%
Male	10.5%	1.4%	85.4%	1.3%
Female	12.0%	1.4%	89.6%	1.1%
White, non-Hispanic	9.2%	1.2%	95.2%	2.4%
Hispanic/Latino	15.8%	3.4%	60.8%	3.1%
Asian ^{^*}	5.5%	3.0%	79.9%	10.0%
African American/Black [^]	22.7%	10.3%	91.4%	15.6%
American Indian/Alaska Native [^]	-	-	74.7%	16.3%
Santa Rosa	12.7%	1.0%	85.3%	1.9%
Petaluma	9.2%	1.3%	89.4%	2.1%
Rohnert Park	15.2%	2.0%	88.4%	3.5%
Sonoma Valley	12.7%	2.7%	86.1%	3.0%
Sebastopol - West County	10.7%	1.6%	92.3%	3.0%
Windsor	4.8%	1.3%	86.3%	4.1%
Healdsburg	10.3%	4.0%	85.1%	3.3%
Cloverdale and Geyserville	8.7%	3.0%	82.5%	3.9%
Russian River Area	10.6%	2.0%	93.2%	3.0%

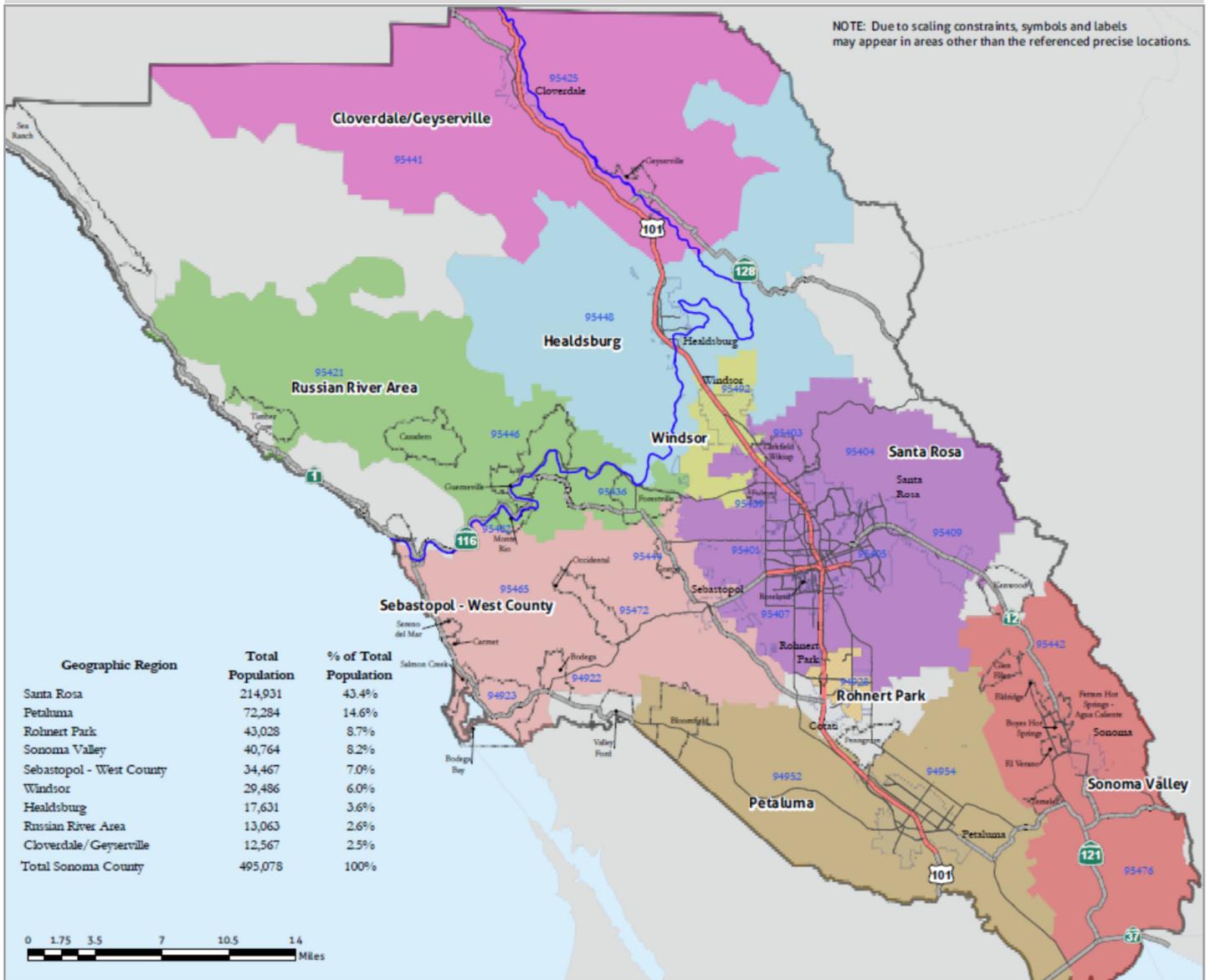
[^]Of both Hispanic and non-Hispanic ethnicity

^{*}Data for Pacific Islanders unavailable due to small numbers

na: Data unavailable due to small numbers

Source: US Census Bureau, American Community Survey, 1 Year Estimates, 2014 and ZTCA, 5 Year Estimates 2011-2015 Tables S1701, and S1501, C1501B-H

Map 1. Sonoma County geographic analysis areas with population estimates



For analysis purposes, Sonoma County was divided into nine major areas by aggregating zip codes. These areas include the following zip codes (Map 1).

- Santa Rosa 95401, 95403, 95404, 95405, 95407, 95409, 95439
- Petaluma 94952, 94954
- Rohnert Park 94928
- Sonoma Valley 95442, 95476
- Sebastopol—West County 94922, 94923, 95444, 95465, 95472
- Windsor 95492
- Healdsburg 95448
- Russian River Area 95421, 95430, 95436, 95446, 95462, 95486
- Cloverdale and Geyserville 95425, 95441

Average Life Expectancy in Sonoma County

What is Average Life Expectancy? Life expectancy is the amount of time a person in a defined community is expected to live based on current mortality (death) rates.³ It is a summary mortality measure used to describe the overall health status of a community by describing how long groups of people live, on average. It is a relatively simple measure that is readily used by public health officials, healthcare providers, policy makers, and communities to monitor and respond to trends in the health status of communities.

What are the main findings?

- A. -Average life expectancy at birth for Sonoma County and California residents is 82 years. Sonoma County and California residents have, on average, a longer life expectancy than the U.S population (79 years).
- B. - On average, females live 4 years longer than males in Sonoma County.
- C. - Asian/Pacific Islanders and Hispanic or Latino residents live about 7 years longer than White, non-Hispanic, American Indian/Alaska Native, and African American/Black residents.
- D. -Life expectancy varies across Sonoma County by almost 7 years. Residents of Healdsburg, Sebastopol-West County, and Windsor live longer than residents of the Russian River area, Rohnert Park, Cloverdale and Geyserville, and Santa Rosa.
- E. - Life expectancy at age 40 varies by income. Residents in the highest income quartile lived almost 6 years longer than residents in the lowest income quartile.

What can we do with this information to improve health, well-being, and equity? To increase life expectancy in Sonoma County, the following groups with shorter life expectancies should be considered as target populations for programs and policies to address risk factors for early death.

- Adult residents in the lowest income quartile
- Residents of the Russian River area, Santa Rosa, Rohnert Park, and Cloverdale-Geyserville
- White, non-Hispanic, American Indian/Alaska Native, and African American/Black residents
- Males

What is the average life-span of a Sonoma County resident?

Average life expectancy at birth refers to the average number of years that a group of infants would live if the group were to experience the age-specific mortality rates present in the year of birth. Similarly, average life expectancy at any age (e.g. 40 years or 65 years) is the average number of additional years that a group of people of a certain age can expect to live assuming that age-specific mortality rates remain constant. It is often helpful to examine age-specific life expectancy because it is a more timely measure of the life expectancy anticipated in an age group. Knowing how long those who have reached age 65 are predicted to live can help drive program and policy decisions in organizations such as health care, public health, and social services.

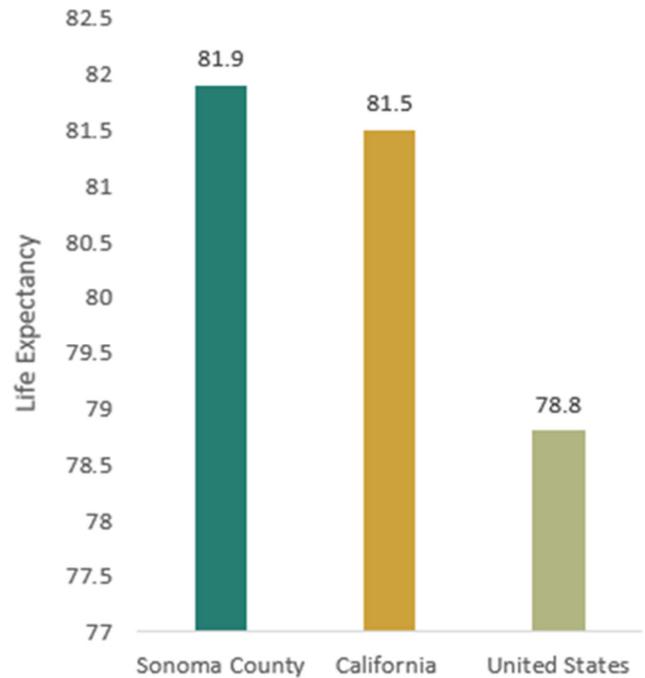
Average Life Expectancy at Birth

In 2013-2015, the average life expectancy at birth in Sonoma County was 81.9 years. Sonoma County’s average life expectancy at birth is comparable with California (81.5 years) and higher than the nation (78.8 years) (Figure 2). Females in Sonoma County had a significantly longer life expectancy at birth (83.8 years) compared to males (79.7 years) (Figure 3).

Average Life Expectancy at Age 65

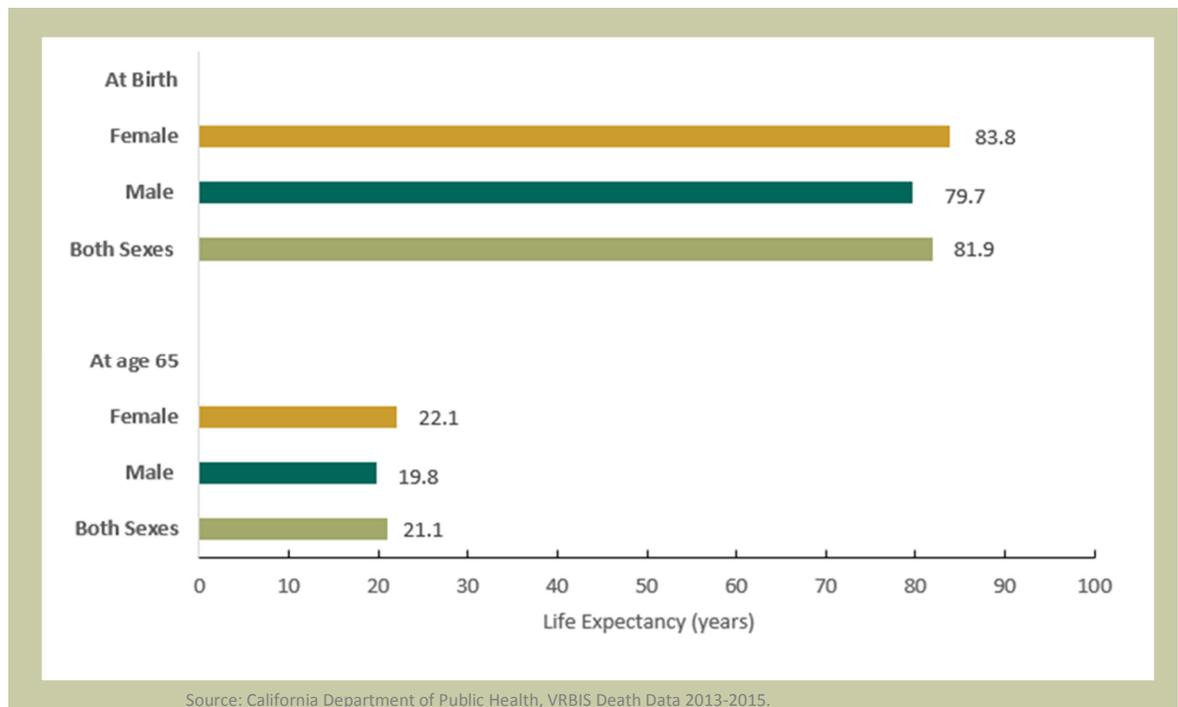
In 2013-2015, Sonoma County residents at age 65 could expect to live, on average, another 21.1 years. Average life expectancy at age 65 was statistically similar for both females (22.1 years) and males (19.8) (Figure 3).

Figure 2. Average life expectancy in Sonoma County, California, and United States, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Figure 3. Average life expectancy at selected ages, by sex, Sonoma County, 2013-2015

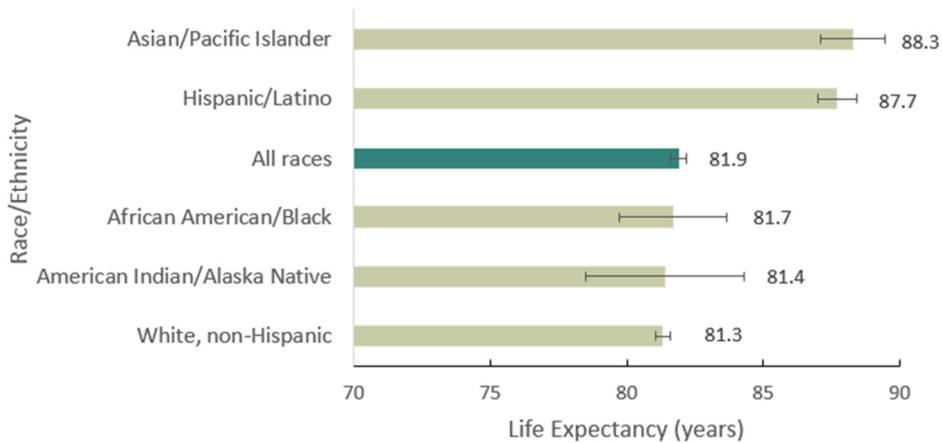


Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Does average life expectancy differ by race/ethnicity?

Life expectancy varied by seven years across racial/ethnic groups in Sonoma County. In 2013-2015, Asian/Pacific Islanders and Hispanics/Latinos had the highest average life expectancy (88.3 years and 87.7 years, respectively) (Figure 4). Asian/Pacific Islanders and Hispanic/Latinos had a significantly higher average life expectancy compared to African Americans/Blacks (81.7 years), American Indians/Alaska Natives (81.4 years), and white, non-Hispanics (81.3 years).

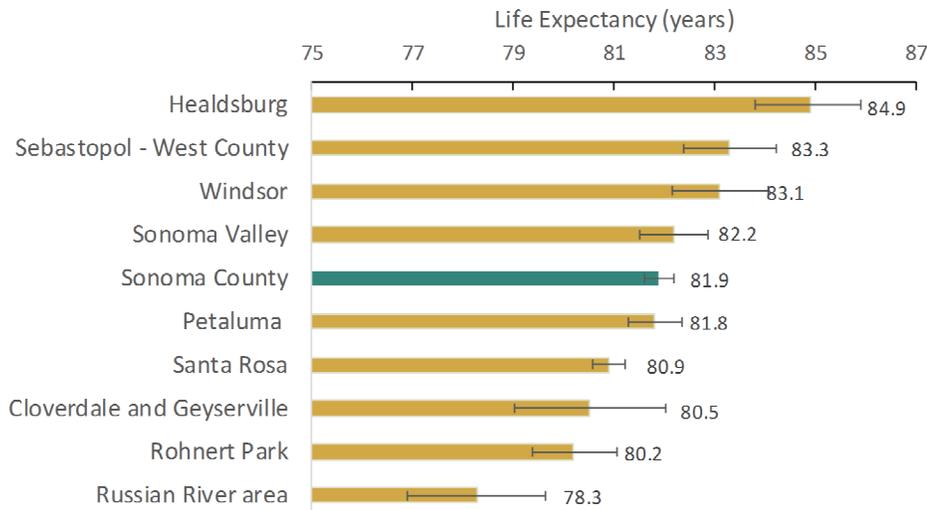
Figure 4. Average life expectancy by race/ethnicity, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Does life expectancy differ by geography?

Figure 5. Average life expectancy by select geographies, Sonoma County, 2013-2015



Life expectancy varied regionally by 6.6 years across Sonoma County (Figure 5). In 2013-2015, average life expectancy in Healdsburg (84.9 years), Sebastopol - West County (83.3 years), and Windsor (83.1 years) was significantly higher than the overall average life expectancy in Sonoma County (81.9 years). Average life expectancy in the Russian River area (78.3 years), Rohnert Park (80.2 years) and Santa Rosa (80.9) was significantly lower than the overall average life expectancy in Sonoma County.

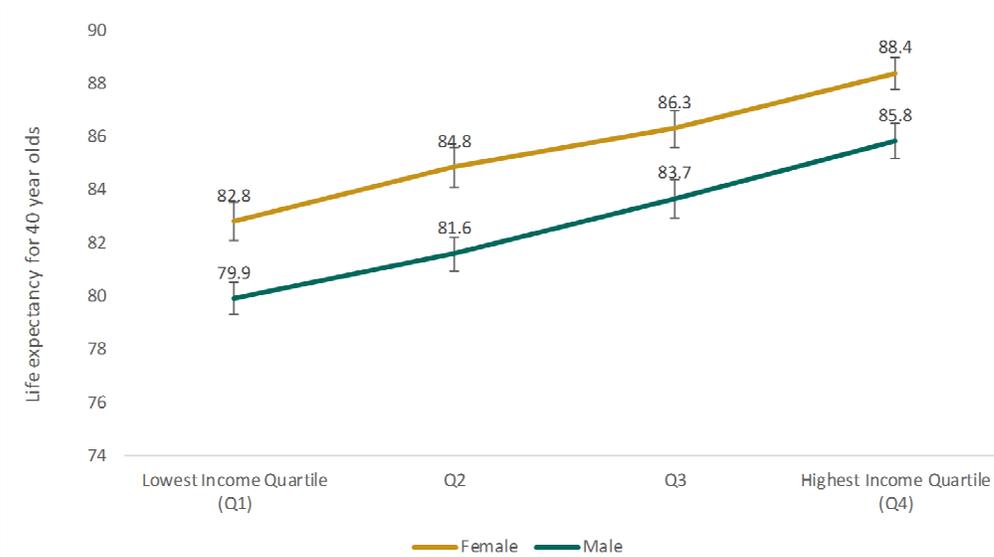
Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Does life expectancy differ by income level?

Recent research published in the *Journal of American Medical Association (JAMA)* found a significant difference in life expectancy between income groups in the United States.⁴ National results found that both men and women in the top income groups lived significantly longer compared to men and women in the bottom income groups. Additionally, researchers found that the life expectancy gap by income group varied by geography.

In Sonoma County, from 2001 to 2014, the gap in life expectancy for 40-year-olds between the highest income quartile and lowest income quartile individuals was 5.6 years for females and 5.9 years for men (Figure 6). For males, as each income quartile increased, there was a significant increase in life expectancy. For females, there was a significant increase in life expectancy from the lowest income quartile to quartile 2 and a significant increase in life expectancy from quartile 3 to the highest quartile; females in the second and third income quartiles had statistically similar life expectancy estimates.

Figure 6. Average life expectancy for 40-year-olds by income quartiles, Sonoma County 2001 to 2014



Source: Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., ... & Cutler, D. (2016). The association between income and life expectancy in the United States, 2001-2014. *Jama*, 315(16), 1750-1766.

Disability in Sonoma County

How are disabilities defined by the U.S. Census Bureau? A disability is defined by the U.S. Census Bureau in the American Community Survey (ACS) as (1) a condition that limited the kind or amount of work or prevented a person from working at a job or business for people aged 16 to 67, or (2) receipt of federal benefits in the form of Medicare or Supplemental Security Income based on the inability to work (using income data from the last month of the interview period).

What are the main findings?

- A. -About 12%, or 57,000 Sonoma County residents have an ambulatory, independent living, cognitive, hearing, self-care, and/or vision disability. Ambulatory (6%), independent living (5%), and cognitive (5%) disabilities are the leading types of disability among Sonoma County residents.
- B. -About 1 in 2 residents 75 years and older have an ambulatory, independent living, cognitive, hearing, self-care, and/or vision disability.
- C. - About half, or 26,000 people, with disabilities in Sonoma County live in Santa Rosa.
- D. -White, non-Hispanics are more likely to have a disability than Latino or Hispanic residents.

What can we do with this information? With information on disability prevalence and the demographic profiles of people with disabilities, public health, human services, emergency medical services and other organizations can make data-driven decisions to develop appropriate interventions to improve the health, safety, and well-being of persons with disabilities.

How many people in Sonoma County are living with a disability?

Figure 7. Proportion of Sonoma County residents with disabilities, by sex, race/ethnicity, and select age groups, 2011-2015

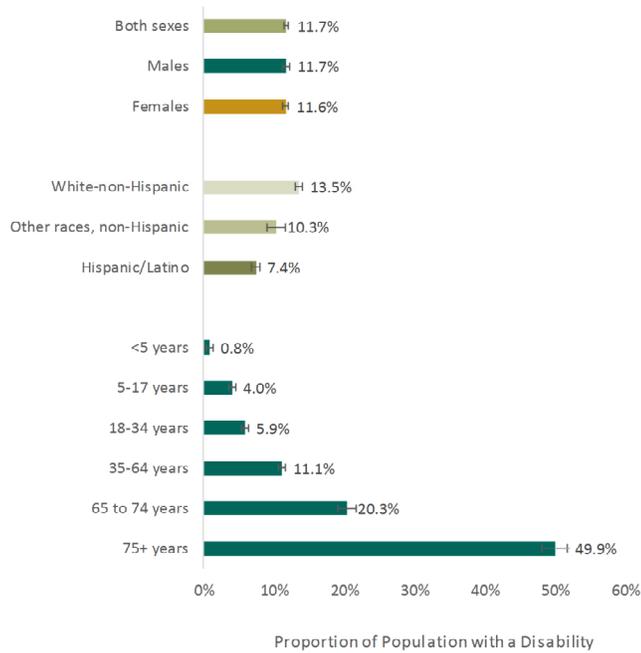


Figure 8. Disability type, non-institutionalized population, Sonoma County, 2011-2015

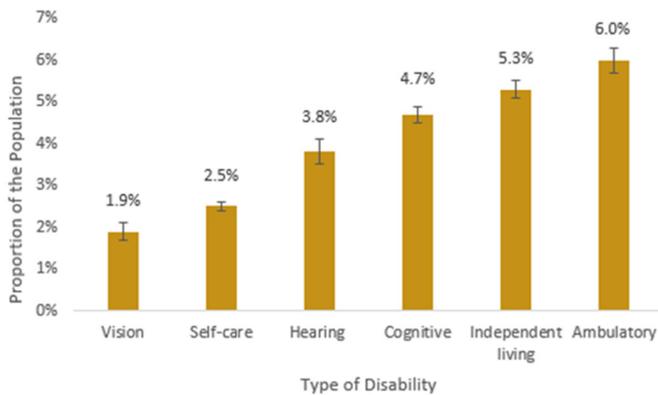
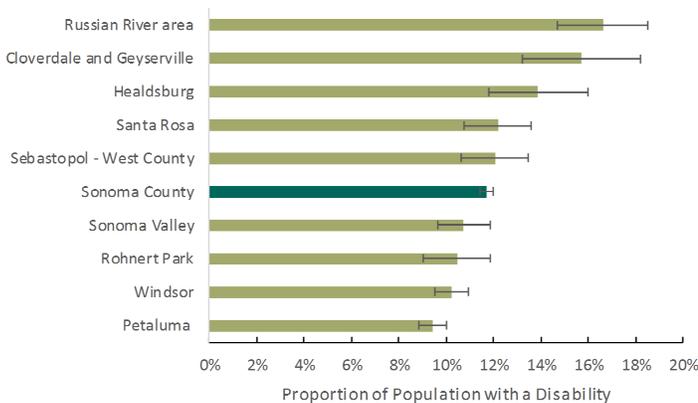


Figure 9. Proportion of residents with disabilities, by select geographies, Sonoma County, 2011-2015



An estimated 12%, or 57,000 Sonoma County residents, were living with at least one disability in 2011-2015 (Figure 7). This is significantly higher than the proportion of California residents with a disability (10.4%). There was no significant difference in disability prevalence between males and females. White, non-Hispanics had a significantly higher disability prevalence (13.5%) compared to Hispanic/Latinos (7.4%) and other non-Hispanic races. This may be due to the differing age structure of white, non-Hispanic (median age: 49.6 years) and Hispanic/Latino residents (median age: 27.5 years). Sonoma County residents ages 75 and older had a significantly higher proportion of disabilities (49.9%, or about 16,000 people) compared to all other age groups.

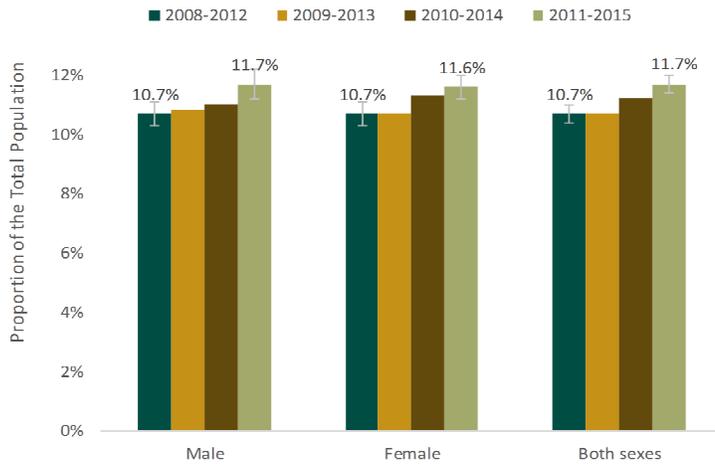
In 2011-2015, ambulatory disabilities, or disabilities that cause individuals to experience serious difficulty walking or climbing stairs, were the most common type of disability of those assessed among Sonoma County residents. Ambulatory disabilities affected an estimated 6% of Sonoma County residents (Figure 8). An estimated 12% of disabled individuals ages 65-74 and 32% of disabled individuals ages 75 and older experienced an ambulatory disability (data not shown).

In 2011-2015, 45%, or 26,000 people in Sonoma County with a disability lived in Santa Rosa. The Russian River area had the highest proportion of residents with a disability (16.6%), followed by Cloverdale - Geyserville (15.7%). Petaluma had a significantly smaller proportion of residents with a disability (9.4%) (Figure 9).

Source: Figures 7-9. US Census Bureau, American Community Survey, 5 Year Estimate 2011-2015. Tables S1810, B18101, B18101H, B18101I. Margin of error (MOE) is 90%.

Has disability prevalence changed over time?

Figure 10. Proportion of Sonoma County residents with a disability, by sex, 5 year moving averages, 2008-2015

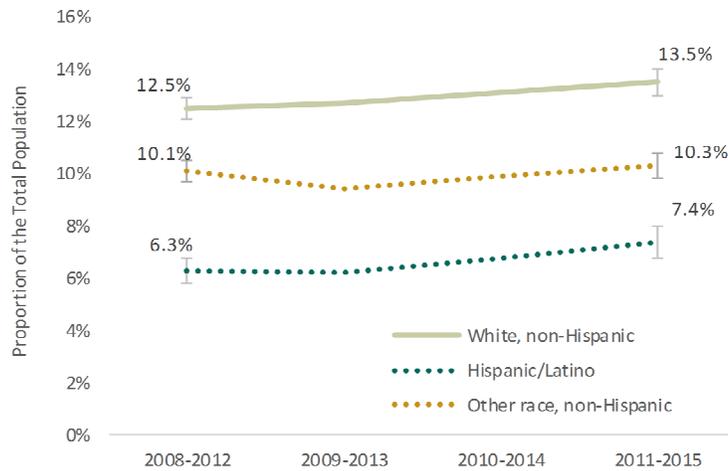


Source: US Census Bureau, American Community Survey, 5 Year Estimates 2008-2015. TablesS1810. MOE is 90%.

Disability over Time and by Sex

There was a significant increase in the proportion of Sonoma County residents with a disability from 10.7% in 2008-2012 to 11.7% in 2011-2015 (Figure 10) mirroring a state and national trend. The proportion of Sonoma County males and females with a disability also increased from 2008-2012 to 2011-2015. These increases are likely, at least in part, due to an aging population.

Figure 11. Proportion of Sonoma County residents with a disability, by race/ethnicity, 5 year moving averages, 2008-2015

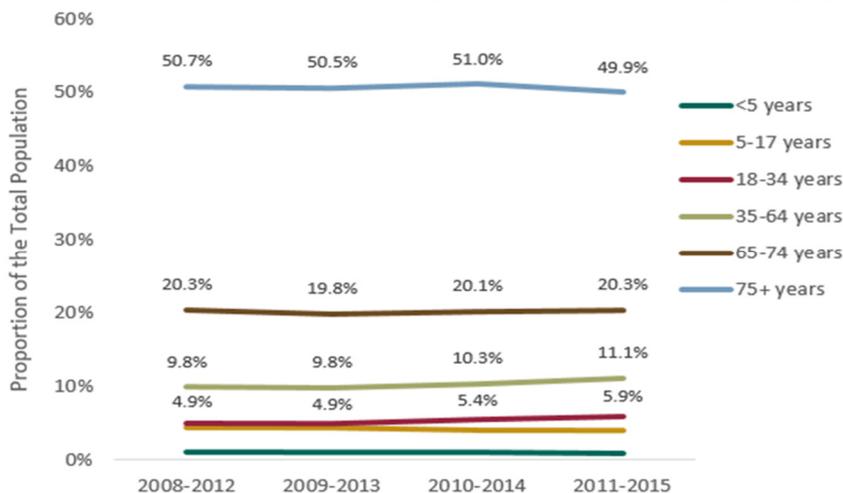


Source: US Census Bureau, American Community Survey, 5 Year Estimates 2008-2015. Table S1810. MOE is 90%.

Disability by Race/Ethnicity

White, non-Hispanics (13.5%) had a significantly higher disability prevalence compared to Hispanic/Latinos (7.4%) and other non-Hispanics races (10.3%). White, non-Hispanics also experienced a significant increase (8%) in the proportion of the population with a disability from 2008-2012 to 2011-2015, whereas Hispanic/Latinos and other non-Hispanic races did not experience a significant increase (Figure 11).

Figure 12. Proportion of Sonoma County residents with a disability, by age group, 5 year moving averages, 2008-2015



Source: US Census Bureau, American Community Survey, 5 Year Estimates 2008-2015. Table S1810. MOE is 90%.

Disability by Age Group

Residents aged 75 years and older, the age group with the highest prevalence of disability, did not experience a significant change in disability prevalence over the time period (Figure 12); residents 18-34 and 35-64 years, which make up over half of the disabled population, experienced significant increases (20.9% and 13.4%, respectively) in disability prevalence over the time period due primarily to increases in the prevalence of cognitive and hearing disabilities.

How is self-reported health status related to disability and mortality?

Self-reported current health status is a reliable and strong predictor of future disability, hospitalizations, and mortality.⁵⁻⁷ In 2013-2015, 16.7% of Sonoma County residents reported being in fair or poor health (Table 4). This is comparable with the proportion of California residents who reported being in fair or poor health (17.1%). There were no significant differences in general health status by sex or age. A significantly higher proportion of Hispanic/Latino residents (28.9%) reported being in fair/poor health than white, non-Hispanic residents (12.4%).

Identifying residents with self-assessed fair or poor health status and connecting them with interventions to improve their health status could reduce future disability, hospitalizations, and mortality.

Table 4. Percent of the population in fair or poor health by individual characteristics, Sonoma County, 2013-2015

	Percent	95% CI
Sonoma County	16.7	(12.9-20.6)
California	17.1	(16.5-17.7)
Sex		
Male	17.1	(11.3-22.9)
Female	16.4	(10.3-22.5)
Age Category		
<18 years	6.0*	(0-12.1)
18-44 years	18.6	(9.6-27.6)
45-64 years	18.3	(12.5-24.1)
65+ years	22.0	(14.2-29.7)
Race/Ethnicity		
Hispanic/Latino	28.9	(16.6-41.2)
White, non-Hispanic	12.4	(9.0-15.9)

*Rate unstable, interpret with caution

Source: California Health Interview Survey, 2013-2015 pooled data

Leading Causes of Death in Sonoma County

What are Leading Causes of Death? Leading causes of death are the most common causes of death in a population. Leading causes of death data come from death certificates and are counts of the leading types of deaths. Leading causes of death can illustrate the magnitude of a public health issue.

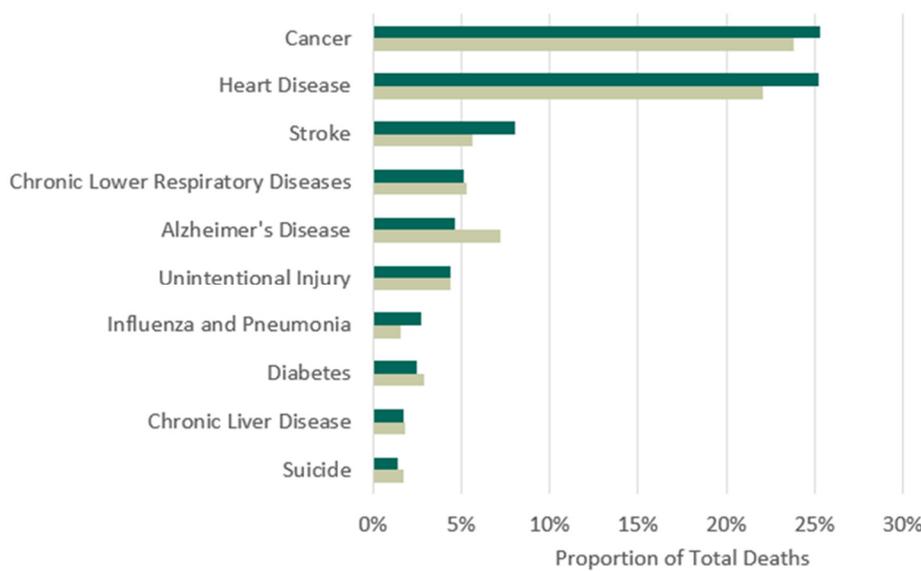
What are the main findings? In 2013-2015, the leading causes of death in Sonoma County were: 1) cancer; 2) heart disease; 3) Alzheimer's disease; 4) stroke; 5) chronic lower respiratory diseases; 6) unintentional injury; 7) diabetes; 8) chronic liver disease; 9) suicide; and, 10) influenza and pneumonia. These 10 causes accounted for approximately 3 in 4 deaths in Sonoma County. Cancer and heart disease accounted for almost half of all deaths among Sonoma County residents, and were the top two causes of death for both females and males. The 5 leading causes of death were examined by age group, race/ethnicity, and geography:

- Cancer was among the top five leading causes of death for all age groups.
- Heart disease was among the top five leading causes of death for residents 25-44, 45-64, and 65 years and older.
- Unintentional injury was among the top five leading causes of death for all age groups except people 65 years and older.
- Cancer, heart disease, and stroke were among the top five leading causes of death for all race/ethnic groups.
- Cancer and heart disease were among the top five leading causes of death in all 9 geographic regions.

What can we do with this information? Understanding the leading causes of death helps us to better understand the disease burden in our communities and to develop primary, secondary, and tertiary prevention programs and policies to address public health challenges. Community organizations, residents, and local policymakers can use these data to guide health improvement initiatives.

What are the leading causes of death in Sonoma County?

Figure 13. Leading causes of death, Sonoma County, 2005-2007 and 2013-2015



A note on leading causes of death categories:

Cancer. The top 5 types of cancer deaths in Sonoma County in 2013-15 were: 1) lung, 2) colorectal, 2) breast (female), 4) pancreatic, and 5) prostate. These made up 59% of all cancer deaths in 2013-2015.

Unintentional injury. Unintentional drug poisoning (overdose), unintentional falls, and unintentional motor vehicle deaths made up 74% of all unintentional injury deaths in 2013-2015.

For a full list of the how deaths were categorized, see Technical Notes (page 42).

Source: California Department of Public Health, VRBIS Death Data 2005-2007 and 2013-2015.

The ten leading causes of death in Sonoma County have remained constant since 2005-2007, with slight adjustments in rank order in 2013-2015 (Figure 13, Table 5). In the three-year period from 2013 and 2015, there were nearly 12,000 deaths among Sonoma County residents, or about 4,000 Sonoma County deaths each year.

Cancer and heart disease have consistently been the leading causes of death among Sonoma County residents, accounting for approximately 46% of all deaths in Sonoma County in 2013-2015. The proportion of deaths due to Alzheimer’s disease in Sonoma County increased from 4.6% of all deaths in 2005-2007 to 7.2% of all deaths in 2013-2015, moving Alzheimer’s disease from the fifth to the third leading cause of death. The proportion of deaths due to stroke decreased, from 8.0% in 2005-2007 to 5.6% in 2013-2015 to the fourth leading cause of death. Chronic lower respiratory diseases, unintentional injury, diabetes, chronic liver disease, and suicide deaths did not change significantly over the time period.

Table 5. Leading causes of death by rank and year, Sonoma County, 2005-2007 and 2013-2015

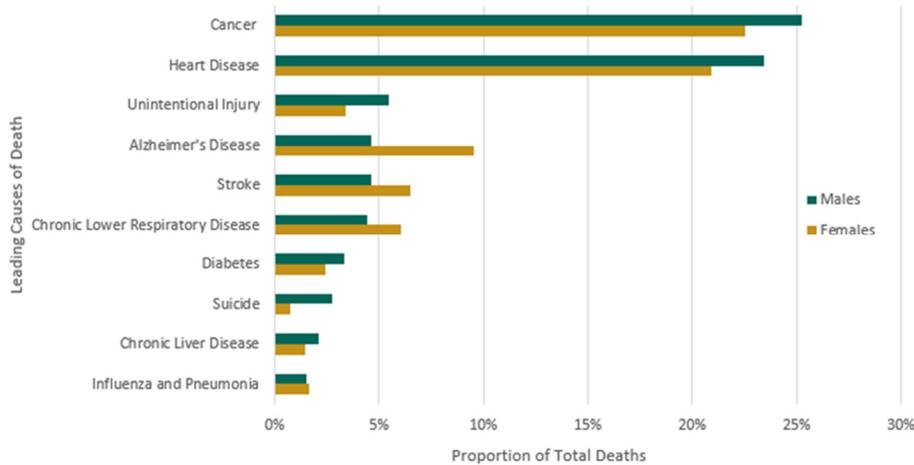
2005-2007			2013-2015		
Rank	Cause of Death	Percent of Total Deaths	Rank	Cause of Death	Percent of Total Deaths
1	Cancer	25.3%	1	Cancer	23.8%
2	Heart Disease	25.2%	2	Heart Disease	22.1%
3	Stroke	8.0%	3	Alzheimer's Disease	7.2%
4	Chronic Lower Respiratory Diseases	5.1%	4	Stroke	5.6%
5	Alzheimer's Disease	4.6%	5	Chronic Lower Respiratory Diseases	5.3%
6	Unintentional Injury	4.4%	6	Unintentional Injury	4.4%
7	Influenza and Pneumonia	2.7%	7	Diabetes	2.9%
8	Diabetes	2.5%	8	Chronic Liver Disease	1.8%
9	Chronic Liver Disease	1.7%	9	Suicide	1.7%
10	Suicide	1.4%	10	Influenza and Pneumonia	1.6%

Source: California Department of Public Health, VRBIS Death Data 2005-2007 and 2013-2015.

How do the leading causes of death differ for males and females?

In 2013-2015, males in Sonoma County had a higher proportion of deaths due to cancer (25.3% vs 22.5%), heart disease (23.4% vs 20.9%), unintentional injury (5.2% vs 3.2%), and suicide (2.7% vs 0.7%) compared to females (Figure 14). Females in Sonoma County had a higher proportion of deaths due to Alzheimer’s disease (9.5% vs 4.6%), stroke (6.5% vs 4.6%), and chronic lower respiratory disease (6.0% vs 4.4%) compared to males.

Figure 14. Leading causes of death by sex, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Do the leading causes of death in Sonoma County vary by age?

Leading causes of death rankings vary in Sonoma County by age group (Table 6). Residents ages 65 years and older had the most influence on the overall leading causes of death, as this age group accounted for 80% of all deaths that occurred in Sonoma County between 2013-2015. In 2013-2015, cancer was the only leading cause of death that was present among all age groups. Unintentional injury was a leading cause of death for all age groups except for ages 65 and older. Suicide was a leading cause of death for most age groups except 0-4 years and 65 years and older. Heart disease was a leading cause of death for ages 25 to 44 years, 45 to 64 years, and 65 years and older. Diabetes was only a leading cause of death among residents ages 45-64 years.

Table 6. Leading causes of death by select age groups, Sonoma County, 2013-2015

Age Group	Cause of death	3-Year Total Number	Percent of Total Deaths	Age Group	Cause of death	3-Year Total Number	Percent of Total Deaths
0-4 years	Total	56	100%	25-44 years	Total	354	100%
	Conditions Originating in the Perinatal Period	26	46.4%		Unintentional Injury	100	28.2%
	Congenital Anomalies and Chromosomal Abnormalities	9	16.1%		Cancer	60	16.9%
	-	-	-		Suicide	40	11.3%
	-	-	-		Heart Disease	26	7.3%
	-	-	-		Chronic Liver Disease	16	4.5%
5-14 years	Total	19	100%	45-64 years	Total	2,072	100%
	-	-	-		Cancer	705	34.0%
	-	-	-		Heart Disease	312	15.1%
	-	-	-		Unintentional Injury	161	7.8%
	-	-	-		Suicide	76	3.7%
	-	-	-		Diabetes	74	3.6%
15-24 years	Total	98	100%	65+ years	Total	9,363	100%
	Unintentional Injury	42	42.9%		Heart Disease	2,303	24.6%
	Suicide	20	20.4%		Cancer	2,075	22.1%
	Cancer	6	6.1%		Alzheimer's Disease	857	9.2%
	Homicide	5	5.1%		Stroke	601	6.4%
	-	-	-		Chronic Lower Respiratory Disease	563	6.0%

- Data suppressed. Less than 5 deaths. Source: California Department of Public Health, VRBIS Death Data 2013-2015.

What are the leading causes of death for race/ethnicity groups?

In 2013-2015, cancer, heart disease, and stroke were among the top five leading causes of death in Sonoma County for all race/ethnicity groups (Table 7). Diabetes was one of the five leading causes of death for all race/ethnicity groups except for white, non-Hispanics. Unintentional injury was a leading cause of death among all race/ethnicity groups except for white, non-Hispanics and African Americans/Blacks. Alzheimer's disease was a leading cause of death among white, non-Hispanics and African Americans/Blacks. Chronic lower respiratory diseases was a leading cause of death for white, non-Hispanics only.

Table 7. Leading causes of death by race/ethnicity, Sonoma County, 2013-2015

Race/ Ethnicity	Cause of death	3-Year Total Number	Percent of Total Deaths
White, non-Hispanic	Total	10,563	100%
	Cancer	2,493	23.6%
	Heart Disease	2,388	22.6%
	Alzheimer's Disease	797	7.5%
	Chronic Lower Respiratory Diseases	599	5.7%
	Stroke	574	5.4%
Hispanic/Latino	Total	748	100%
	Cancer	187	25.0%
	Heart Disease	123	16.4%
	Unintentional Injury	56	7.5%
	Stroke	48	6.4%
	Diabetes	43	5.7%
Asian/Pacific Islander	Total	282	100%
	Cancer	84	29.8%
	Heart Disease	57	20.2%
	Stroke	28	9.9%
	Diabetes	16	5.7%
	Unintentional Injury	15	5.3%
African American/Black	Total	134	100%
	Heart Disease	35	26.1%
	Cancer	34	25.4%
	Diabetes	8	6.0%
	Alzheimer's Disease	5	3.7%
	Stroke	5	3.7%
American Indian/Alaska Native	Total	78	100%
	Cancer	19	24.4%
	Heart Disease	11	14.1%
	Diabetes	5	6.4%
	Unintentional Injury	5	6.4%
	-	-	-

- Data suppressed. Less than 5 deaths. Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Do the leading causes of death differ by geography?

Leading causes of death varied regionally within Sonoma County (Table 8). The number of deaths ranged from 342 deaths among Cloverdale and Geyserville residents to 5,303 deaths among Santa Rosa residents in 2013-15. Cancer and heart disease were the two leading causes of death among all select geographies. Alzheimer's disease was within the top five leading causes of death in every geography except for the Russian River area. Chronic lower respiratory disease was a leading cause of death among all geographies except for Sebastopol-West County and stroke was a leading cause of death among all geographies except for Rohnert Park and Cloverdale and Geyserville. Unintentional injury was a leading cause of death for Rohnert Park, Sebastopol-West County, Russian River area, and Cloverdale and Geyserville.

Table 8. Leading causes of death by geography, Sonoma County, 2013-2015

City	Cause of death	3-Year Total Number	Percent of Total Deaths	City	Cause of death	3-Year Total Number	Percent of Total Deaths
Santa Rosa	Total	5,303	100%	Windsor	Total	540	100%
	Cancer	1,240	23.4%		Cancer	137	25.4%
	Heart Disease	1,190	22.4%		Heart Disease	109	20.2%
	Alzheimer's Disease	385	7.3%		Stroke	38	7.0%
	Stroke	309	5.8%		Alzheimer's Disease	35	6.5%
	Chronic Lower Respiratory Disease	265	5.0%		Chronic Lower Respiratory Disease	27	5.0%
Petaluma	Total	1,639	100%	Healdsburg	Total	392	100%
	Heart Disease	414	25.3%		Cancer	97	24.7%
	Cancer	381	23.2%		Heart Disease	73	18.6%
	Alzheimer's Disease	139	8.5%		Alzheimer's Disease	35	8.9%
	Chronic Lower Respiratory Disease	77	4.7%		Stroke	30	7.7%
	Stroke	73	4.5%		Chronic Lower Respiratory Disease	27	6.9%
Sonoma Valley	Total	1,180	100%	Russian River area	Total	379	100%
	Cancer	265	22.7%		Cancer	98	25.9%
	Heart Disease	263	22.3%		Heart Disease	76	20.1%
	Alzheimer's Disease	99	8.4%		Chronic Lower Respiratory Disease	25	6.6%
	Stroke	90	7.6%		Unintentional Injury	25	6.6%
	Chronic Lower Respiratory Disease	77	6.5%		Stroke	16	4.2%
Rohnert Park	Total	842	100%	Cloverdale and Geyserville	Total	342	100%
	Cancer	213	25.3%		Cancer	88	25.7%
	Heart Disease	178	21.1%		Heart Disease	70	20.5%
	Alzheimer's Disease	49	5.8%		Chronic Lower Respiratory Disease	23	6.7%
	Unintentional Injury	45	5.3%		Alzheimer's Disease	22	6.4%
	Chronic Lower Respiratory Disease	45	5.3%		Unintentional Injury	18	5.3%
Sebastopol - West County	Total	804	100%				
	Cancer	198	24.6%				
	Heart Disease	186	23.1%				
	Alzheimer's Disease	54	6.7%				
	Unintentional Injury	40	5.0%				
	Stroke	38	4.7%				

Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Age-adjusted mortality (death) rates in Sonoma County

What are age-adjusted mortality (death) rates? An age-adjusted mortality (death) rate is the death rate of a given population that has been standardized to account for the age of that population. It is an important indicator of overall population health and is useful for identifying differences in mortality that may be due to the effects of behavioral, environmental, or community risk factors, rather than differences in age structure among different populations.

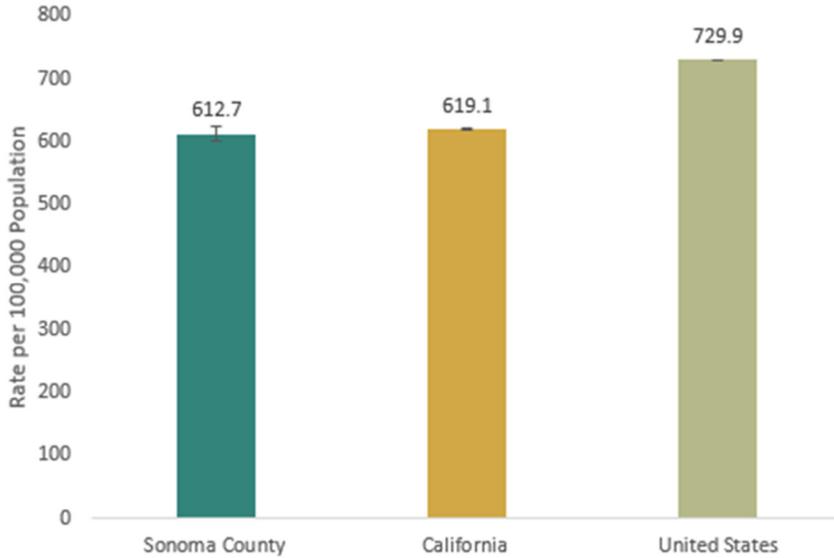
What are the main findings?

- A. - In 2013-2015, the age-adjusted mortality rate for Sonoma County was similar to the California rate but significantly lower than the U.S. mortality rate. Sonoma County male residents have significantly higher overall age-adjusted mortality rates than female residents. Mortality rates among males are also significantly higher than those of females for cancer, heart disease and unintentional injuries.
- B. - In 2013-2015, Hispanic/Latinos and Asian/Pacific Islanders in Sonoma County have significantly lower age-adjusted mortality rates than other race/ethnic groups. In addition, Hispanic/Latinos and Asian/Pacific Islanders have significantly lower rates of cancer mortality in comparison to white, non-Hispanics. Hispanic/Latinos and Asian Pacific Islanders have significantly lower mortality rates from heart disease in comparison to white, non-Hispanics and African Americans/Blacks.
- C. - Between 2005-2007 and 2013-2015, age-adjusted mortality rates decreased in Sonoma County, similar to California and the overall national trend, with decreases in cancer and heart disease mortality rates. The greatest decline was in the stroke mortality rate. The mortality rate due to Alzheimer's disease, the third leading cause of death in 2013-2015, increased significantly.

What can we do with this information to improve health, well-being, and equity? Public health officials, healthcare and behavioral health organizations, policy makers, community residents, and other community stakeholders can use the lowest mortality rates among subpopulations as benchmarks or goals for all residents in order to improve the health of their community. Populations and communities with the highest mortality burden in raw numbers and rates can be used to direct targeted community health improvement efforts.

How does Sonoma County's age-adjusted mortality rate compare to California and the United States?

Figure 15. Age-adjusted mortality rate, Sonoma County, California, and the United States, 2013-2015

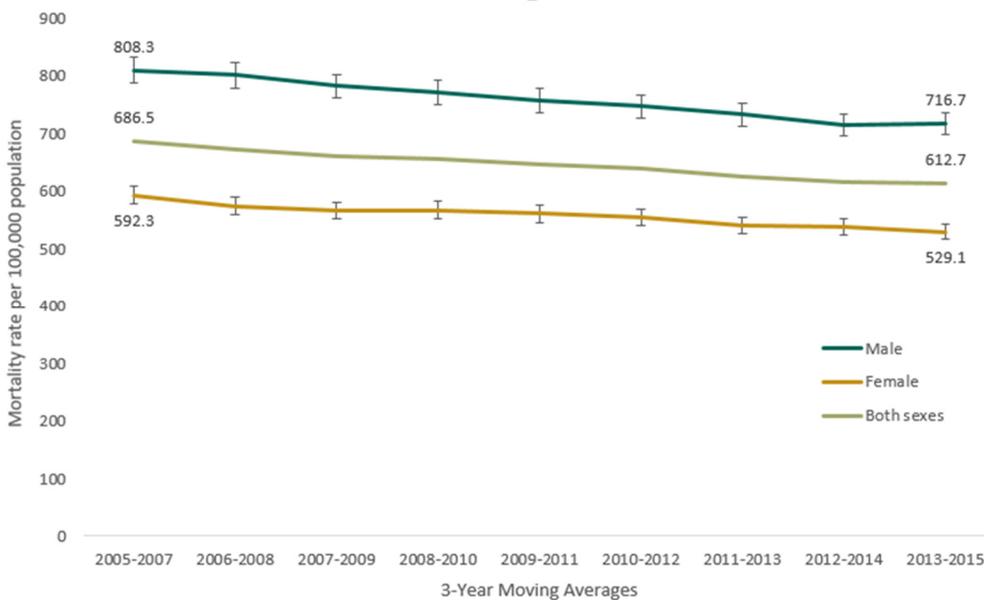


In 2013-2015, the age-adjusted mortality rate in Sonoma County was 612.7 deaths per 100,000 (Figure 15). The age-adjusted mortality rate in Sonoma County was comparable with California (619.1 deaths per 100,000) and significantly lower than the United States (729.9 deaths per 100,000).

Source: California Department of Public Health, VRBIS Death Data 2013-2015.

How do age-adjusted mortality rates differ by sex and does this change over time?

Figure 16. Age-adjusted mortality rate by sex, 3 year moving averages, Sonoma County, 2005-2013



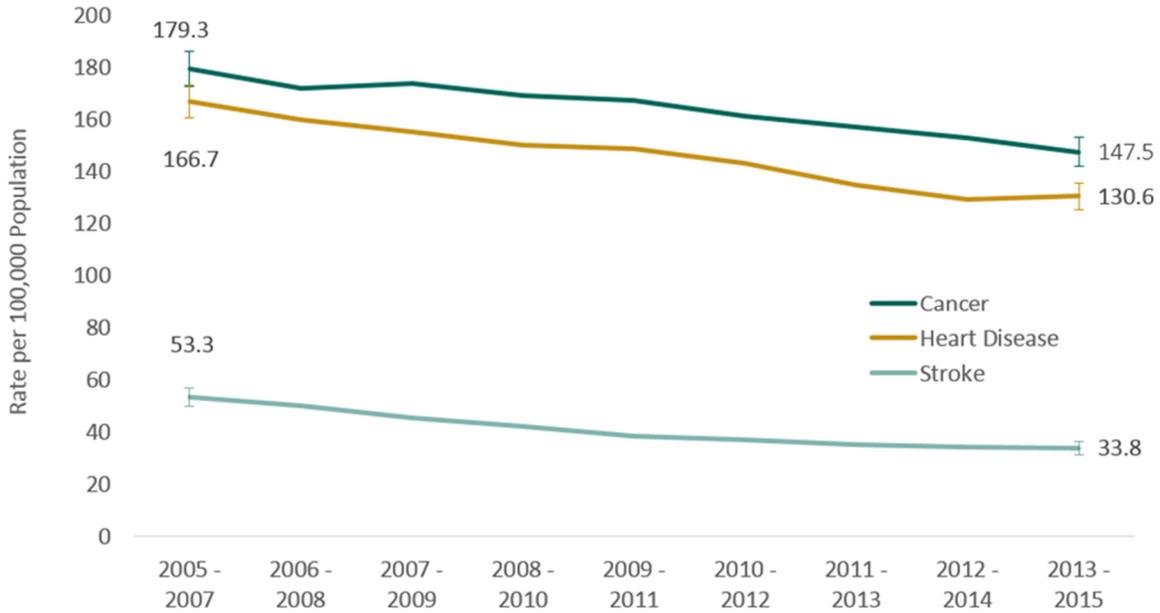
In 2013-2015, males in Sonoma County had a significantly higher age-adjusted mortality rate (716.7 deaths per 100,000) compared to females (529.1 deaths per 100,000) (Figure 16). Since 2005-2007, males have had a significantly higher age-adjusted mortality rate than females. Both groups experienced a 11% decrease in mortality rate over the time period.

Source: California Department of Public Health, VRBIS Death Data 2005-2015.

How have age-adjusted mortality rates by cause changed over time?

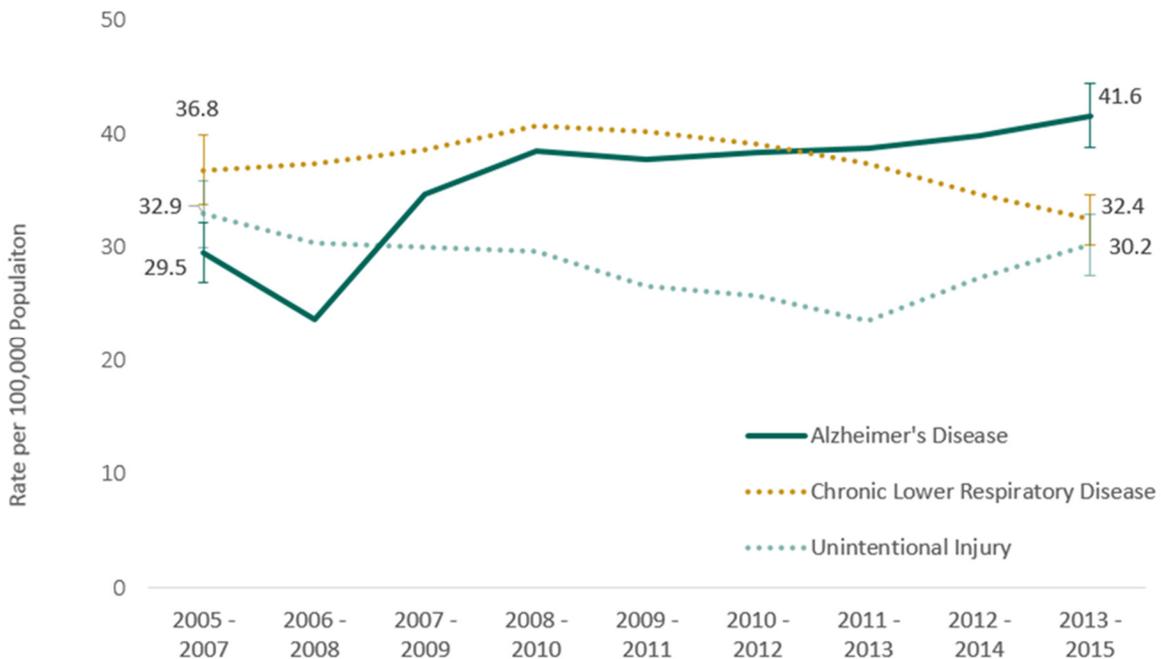
Since 2005-2007, age-adjusted cancer, heart disease, and stroke mortality rates have significantly decreased (Figure 17). Chronic lower respiratory disease and unintentional injury mortality rates did not change significantly from 2005-2007 to 2013-2015 (Figure 18). The age-adjusted mortality rate for Alzheimer’s disease increased significantly (by over 41%) from 2005-2007 to 2013-2015.

Figure 17. Age-adjusted mortality rate by cause of death, 3 year moving averages, Sonoma County 2005-2015



Source: California Department of Public Health, VRBIS Death Data 2005-2015.

Figure 18. Age-adjusted mortality rate by cause of death, 3 year moving averages, Sonoma County 2005-2015

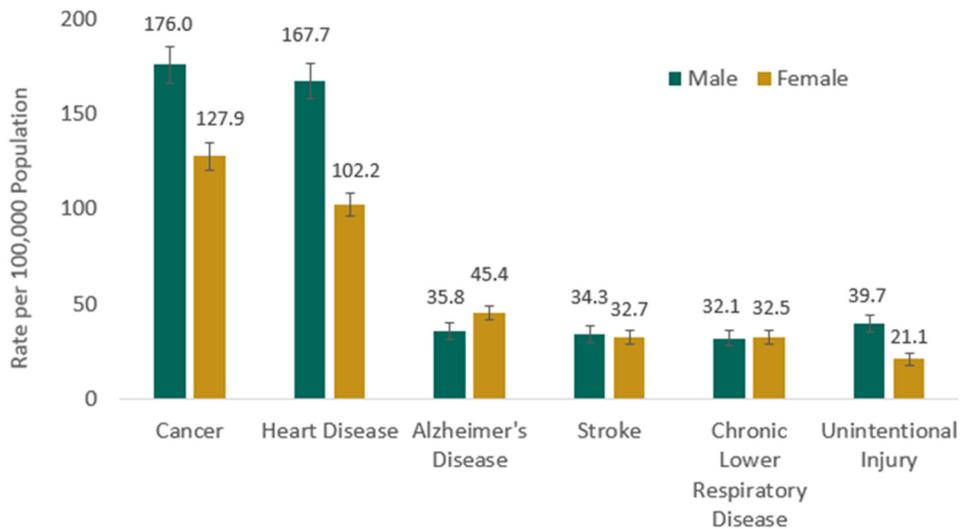


Source: California Department of Public Health, VRBIS Death Data 2005-2015.

Do males and females have similar mortality rates?

There were significant differences for males and females in age-adjusted mortality due to specific causes (Figure 19). Males had a significantly higher age-adjusted mortality rate than females due to cancer (176.0 vs. 127.9 deaths per 100,000, respectively), heart disease (167.7 vs. 102.2 deaths per 100,000, respectively), and unintentional injury (39.7 vs. 21.1 deaths per 100,000, respectively). Females had a significantly higher age-adjusted mortality rate due to Alzheimer’s disease (45.4 vs. 35.8 deaths per 100,000, respectively). Males and females had statistically similar age-adjusted stroke and chronic lower respiratory disease rates.

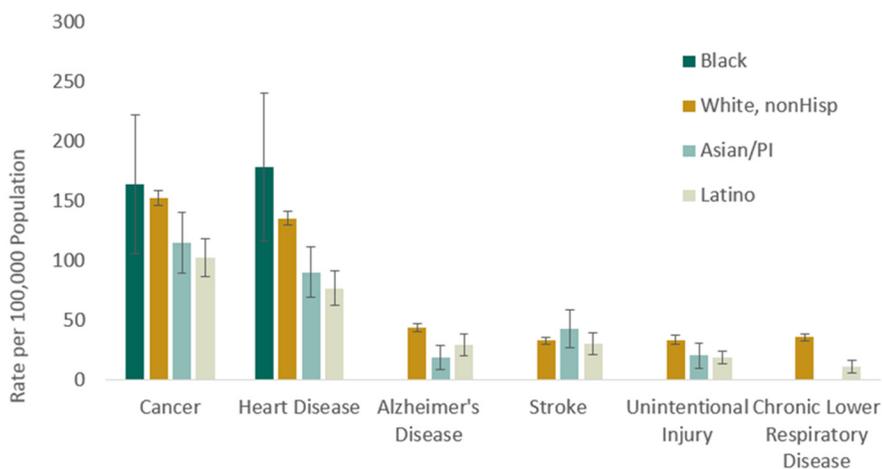
Figure 19. Age-adjusted mortality rates by sex and cause, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Do mortality rates vary by cause among race/ethnicity groups?

Figure 20. Age-adjusted mortality rates by cause and race/ethnicity*, Sonoma County, 2013-2015



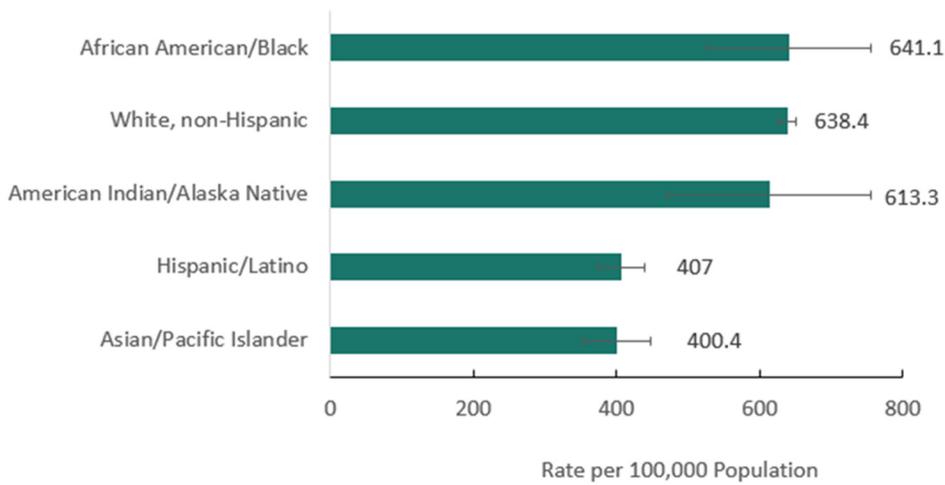
Source: California Department of Public Health, VRBIS Death Data 2013-2015.

*Due to unstable estimates, data were suppressed for all-causes for American Indians/Alaska Natives; data for Alzheimer’s disease, stroke, unintentional injury, and chronic lower respiratory disease among African Americans/Blacks, and chronic lower respiratory disease among Asian/Pacific Islanders.

There were race/ethnic disparities for five of the six leading causes of death in Sonoma County. In 2013-2015, Hispanic/Latinos and Asian/Pacific Islanders had significantly lower rates of cancer mortality in comparison to white, non-Hispanics (Figure 20). Hispanic/Latinos and Asian Pacific Islanders had significantly lower mortality rates from heart disease in comparison to white, non-Hispanics and African Americans/Blacks. Asian/Pacific Islanders and Hispanics/Latinos had significantly lower Alzheimer’s disease mortality rates compared to white, non-Hispanics. White, non-Hispanics had significantly higher unintentional injury and chronic lower respiratory disease mortality rates compared to Hispanics/Latinos. There were no significant differences in stroke mortality rates between race/ethnic groups.

What are the age-adjusted mortality rates for race/ethnicity groups?

Figure 21. Age-adjusted mortality rates by race/ethnicity, Sonoma County, 2013-2015



In 2013-2015, Asian/Pacific Islanders (400.4 deaths per 100,000) and Hispanic/Latinos (407.0 deaths per 100,000) had the lowest mortality rates of all racial and ethnic groups in Sonoma County. (Figure 21).

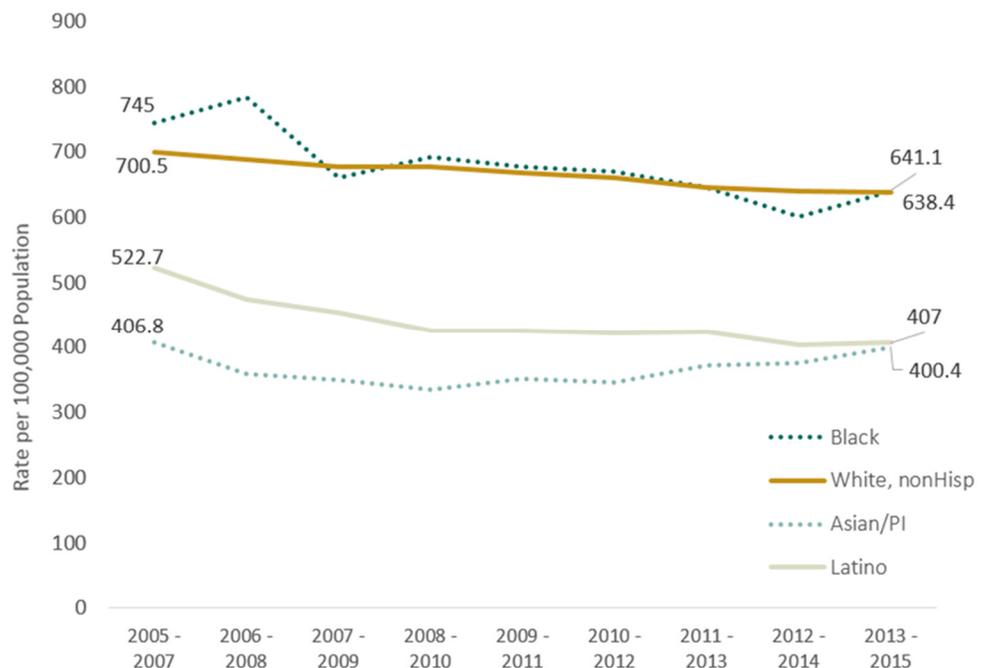
African Americans/Blacks (641.1 deaths per 100,000) and white, non-Hispanics (638.4 deaths per 100,000) had the highest mortality rates in Sonoma County in 2013-2015.

Source: California Department of Public Health, VRBIS Death Data 2013-2015.

How have age-adjusted mortality rates changed over time for race/ethnicity groups?

Figure 22. Age-adjusted mortality rate by race/ethnicity, 3 year moving averages, Sonoma County, 2005-2015

Hispanics/Latinos experienced the greatest significant decrease (22%) in age-adjusted mortality rates, between 2005-2007 to 2013-2015 (Figure 22). White, non-Hispanics also experienced a significant decrease (9%) in age-adjusted mortality rates. There were no significant changes in age-adjusted mortality rates among Asian Pacific Islanders or African American/Blacks during this time period.

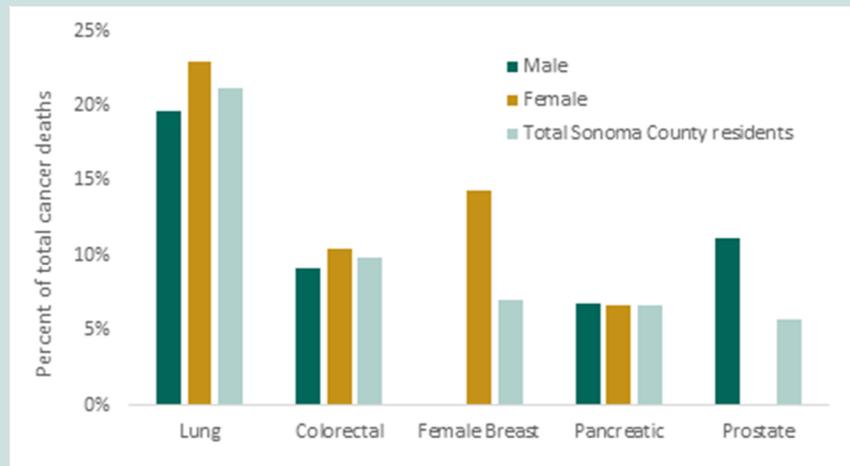


Source: California Department of Public Health, VRBIS Death Data 2005-2015. Mortality rate trend analyses were suppressed for American Indians/Alaska natives due to unstable estimates over the time period.

Cancer Mortality

Cancer continues to be the leading cause of death among Sonoma County residents, resulting in about 1 in 4 deaths each year. In 2013-2015, five types of cancer were responsible for over half of all cancer deaths in the county; these were lung cancer, colorectal cancer, female breast cancer, pancreatic cancer and prostate cancer. Over 21% of all cancer deaths in 2013-2015 were due to lung cancer, the number one cause of cancer death in Sonoma County (Figure 23). Lung cancer was the leading cause of cancer death for both men and women as well as white, non-Hispanic, Hispanic/Latino and Asian/Pacific Islander residents of the county. In 2013-15, Sonoma County's age-adjusted lung cancer mortality rate was similar to California and lower than the nation. Sonoma County white, non-Hispanic residents had a significantly higher cancer mortality rate than Hispanic/Latino residents (33.3 deaths per 100,000 compared to 16.1 deaths per 100,000, respectively). While the age-adjusted mortality rate for lung cancer has decreased significantly since 2005-2007 (from 47.4 deaths per 100,000 to 31.7 deaths per 100,000 in 2013-2015, respectively), lung cancer is still responsible for about 200 deaths per year in Sonoma County (see Appendix for this and additional cancer data).

Figure 23. Leading causes of cancer death by sex, Sonoma County 2013-2015



Colorectal cancer was the second leading cause of cancer death in Sonoma County in 2013-2015, responsible for about 93 deaths per year. Age-adjusted mortality rates for colorectal cancer were similar for males and females (16.6 deaths per 100,000 compared to 12.9 deaths per 100,000, respectively) and similar for white, non-Hispanic, Hispanic/Latino, and Asian/Pacific Islander residents of the county. The Sonoma County colorectal cancer mortality rate in 2013-2015 was 14.5 deaths per 100,000 and was not statistically significantly different than the rate in 2005-2007. In fact, except for a significant decrease in the lung cancer mortality, there were no significant differences in the death rates for the leading causes of cancer death from 2005-2007 to 2013-2015.

Breast cancer was the third leading cause of cancer death overall and the second leading cause of cancer death among women. During 2013-15, there were about 67 breast cancer deaths each year. The age-adjusted female breast cancer mortality rate was significantly higher for white, non-Hispanic women (20.7 deaths per 100,000) compared to Hispanic/Latino women in Sonoma County (11.2 deaths per 100,000).

Pancreatic cancer was the fourth leading cause of cancer death, responsible for about 64 deaths each year. The age-adjusted pancreatic cancer mortality rate was similar for both men and women, and white, non-Hispanic and Hispanic/Latino residents.

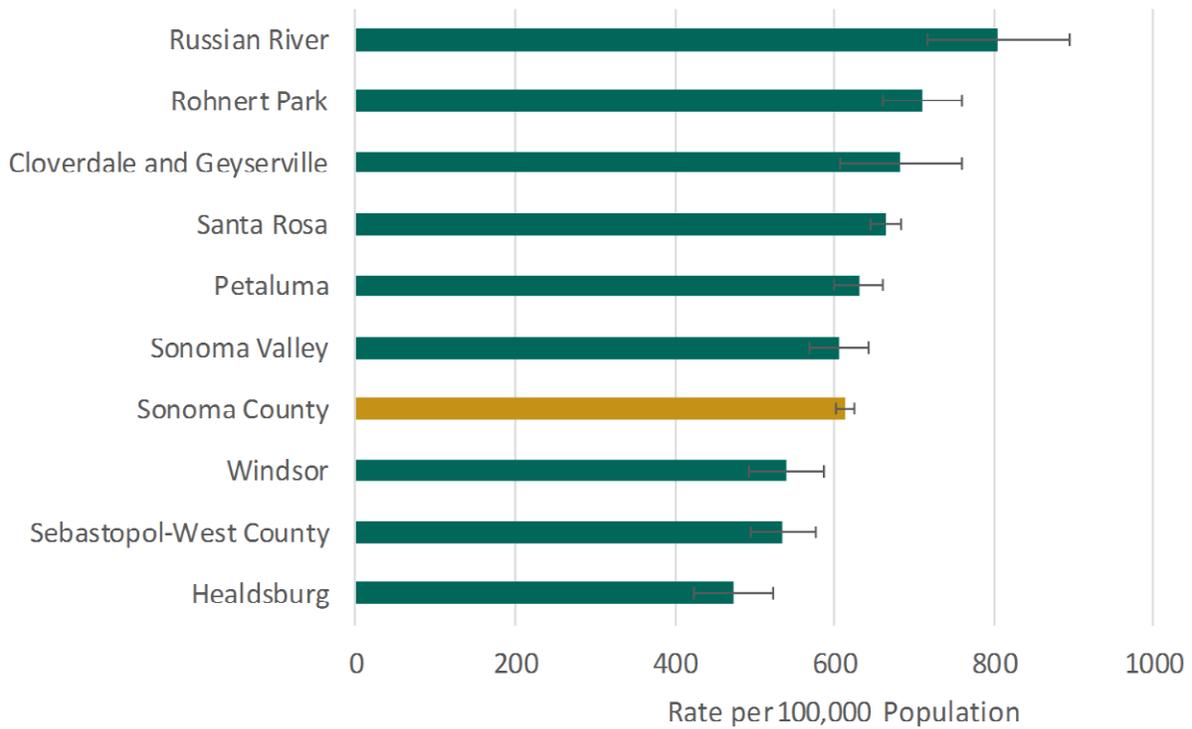
Prostate cancer was the fifth leading cause of cancer death overall and the third leading cause of cancer death among Sonoma County men. During 2013-15, there were about 54 prostate cancer deaths each year. The age-adjusted prostate mortality rate was similar for white, non-Hispanic men and Hispanic/Latino men.

For more data on cancer mortality in Sonoma County, see Appendix, Table B.

Is there regional variation in age-adjusted mortality rates?

In 2013-2015, the age-adjusted mortality rate varied significantly by geography. The Russian River area had the highest all-cause mortality rate (805.6 per 100,000). Rohnert Park (710.3 per 100,000) and Santa Rosa (664.0 per 100,000) also had a significantly higher mortality rate than the county overall (612.7 per 100,000). Healdsburg had the lowest all-cause mortality rate (472.6 per 100,000). Healdsburg, Sebastopol (535.9 per 100,000), and Windsor (540.1 per 100,000) had significantly lower all-cause mortality rates than the county overall (Figure 24).

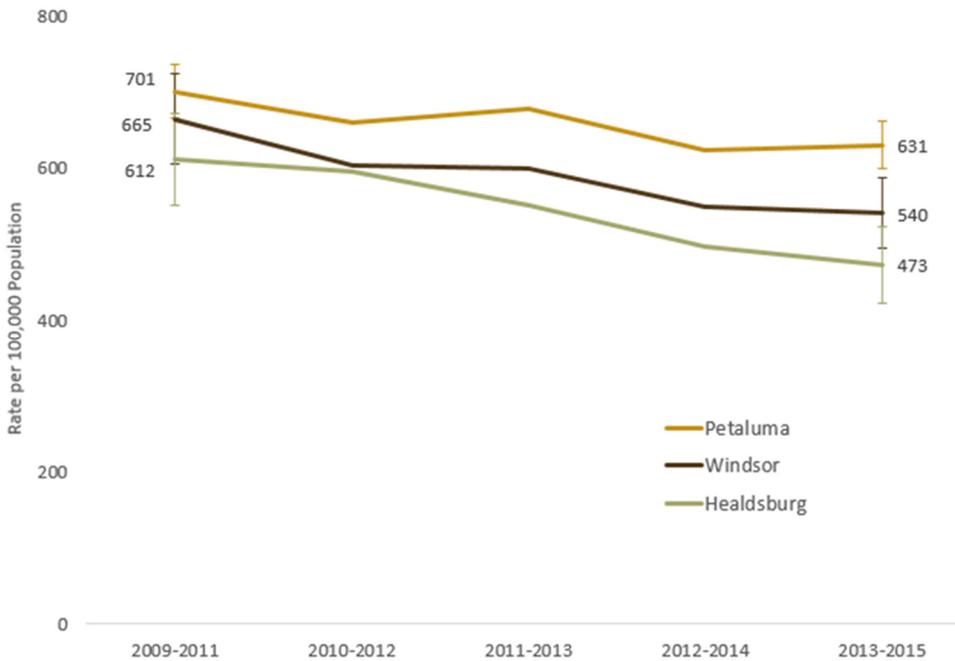
Figure 24. Age-adjusted all-cause mortality rates by select geographies, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Is there regional variation in age-adjusted mortality rates?

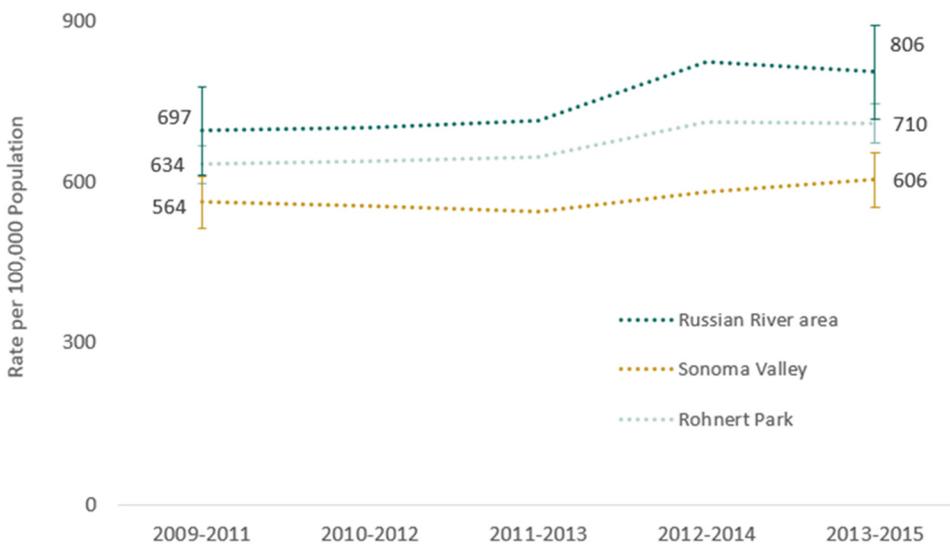
Figure 25. Age-adjusted all-cause mortality rates by select geographies, 3 year moving averages, Sonoma County, 2009-2011 to 2013-2015



From 2009-2011 to 2013-2015, age-adjusted all-cause mortality rates significantly decreased by 23% in Healdsburg, 19% in Windsor, and 10% in Petaluma (Figure 25). In 2013-2015, Healdsburg and Windsor had the lowest all-cause mortality rate. Santa Rosa, Sebastopol - West County, and Cloverdale - Geyserville experienced slight decreases in all-cause mortality rates between 2009-2011 and 2013-2015; however, decreases were not statistically significant (data not shown).

Source: California Department of Public Health, VRBIS Death Data 2009-2015.

Figure 26. Age-adjusted all-cause mortality rates by select geographies, 3 year moving averages, Sonoma County, 2009-2011 to 2013-2015

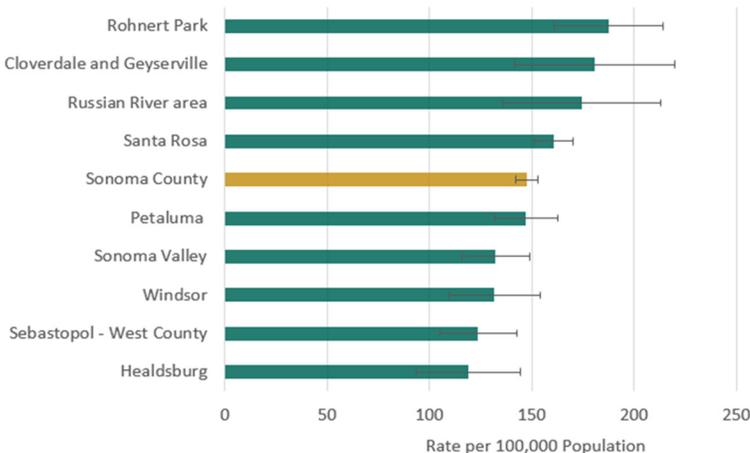


From 2009-2011 to 2013-2015, there were no statistically significant changes in age-adjusted all-cause mortality rates in the Russian River area, Sonoma Valley, or Rohnert Park (Figure 26).

Source: California Department of Public Health, VRBIS Death Data 2009-2015.

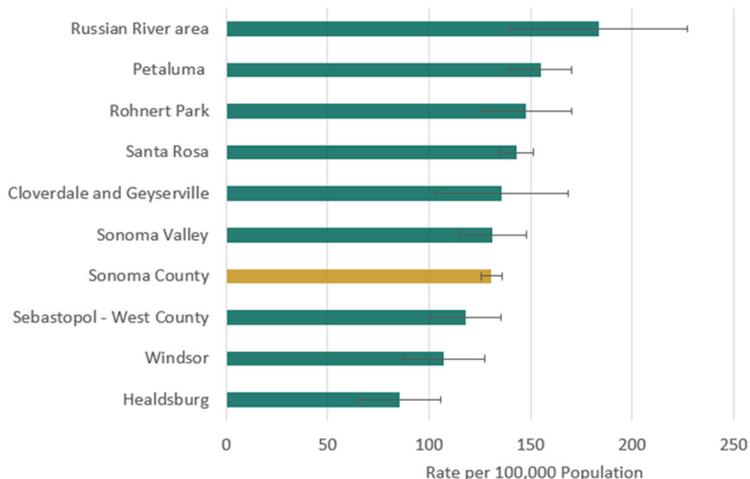
Is there regional variation in age-adjusted cause-specific mortality?

Figure 27. Age-adjusted cancer mortality rates by select geographies, Sonoma County, 2013-2015



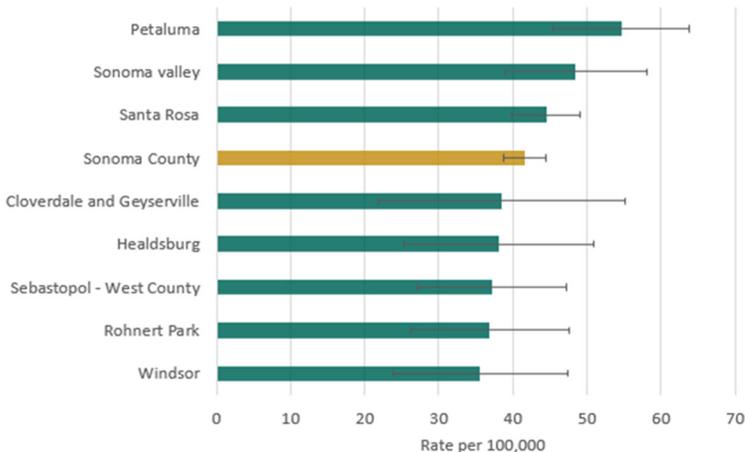
Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Figure 28. Age-adjusted heart disease mortality rates by select geographies, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Figure 29. Age-adjusted Alzheimer's disease mortality rates by select geographies, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015. - Alzheimer's mortality rate were suppressed for Russian River area due to instability of data. -

See Appendix for state and national comparison data for specific causes of death

Mortality rates varied regionally and by cause of death in Sonoma County.

Cancer

In 2013-2015, cancer was the leading cause of death in Sonoma County. Rohnert Park had a significantly higher age-adjusted cancer mortality rate (187.4 deaths per 100,000) compared to the overall county (147.5 deaths per 100,000) (Figure 27). All other geographies were statistically similar to Sonoma County. Sonoma County's age-adjusted cancer mortality rate was statistically similar to California and lower than the nation.ⁱ

Heart Disease

In 2013-15, heart disease was the second leading cause of death in Sonoma County. The Russian River area and Petaluma had significantly higher heart disease mortality rates (193.4 and 155.0 per 100,000, respectively) compared to the overall county (130.6 deaths per 100,000) (Figure 28). Healdsburg had a significantly lower heart disease mortality rate (85.2 deaths per 100,000) compared to the overall county. Sonoma County's age-adjusted heart disease mortality rate was statistically lower than California and the nation.ⁱ

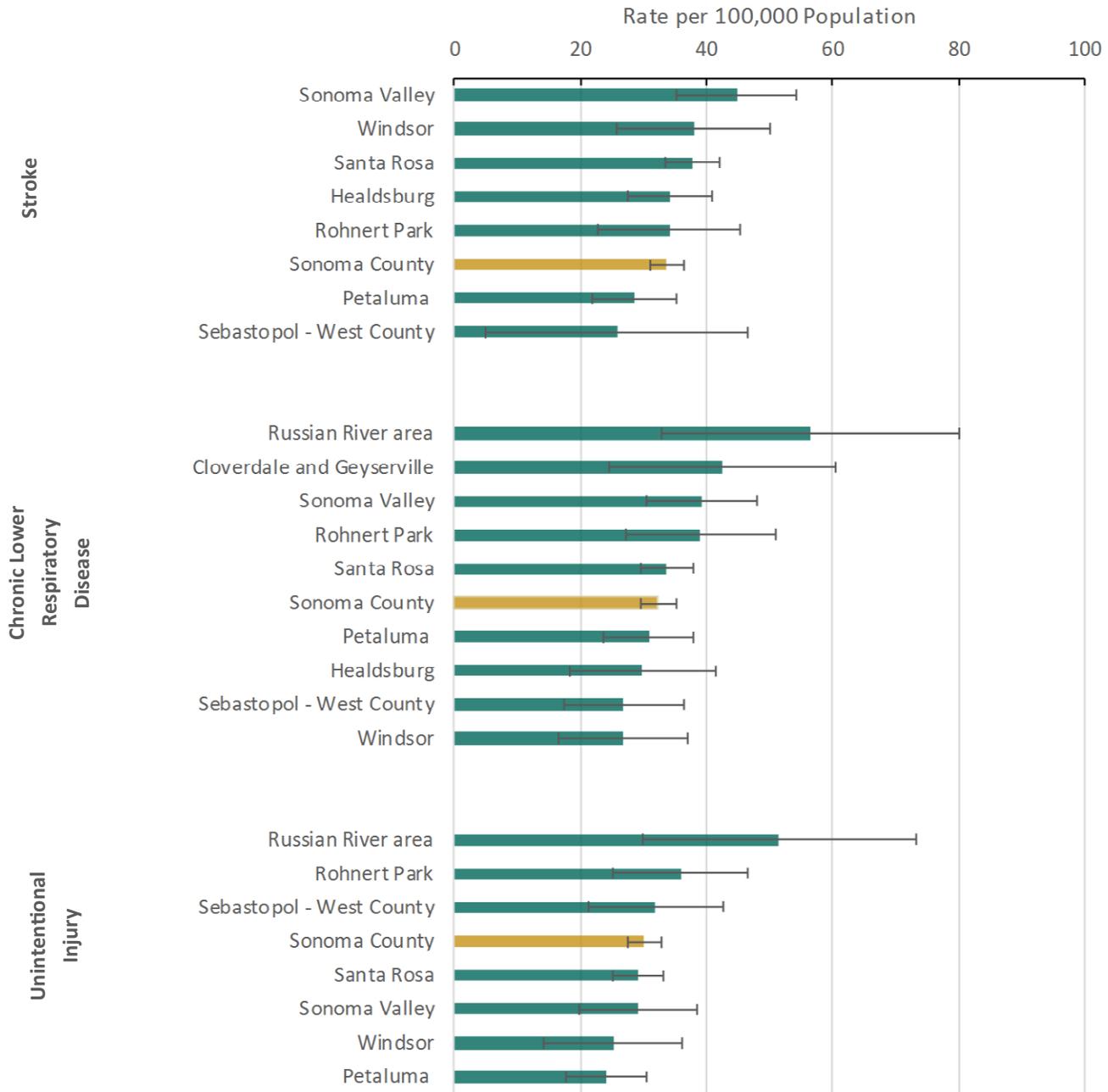
Alzheimer's Disease

In 2013-2015, Alzheimer's disease was the third leading cause of death in Sonoma County. Petaluma had a significantly higher Alzheimer's disease mortality rate (54.6 deaths per 100,000) compared to the overall county (41.6 deaths per 100,000) (Figure 29). All other geographies were statistically similar to Sonoma County. Sonoma County's age-adjusted Alzheimer's disease mortality rate was statistically higher than California and the nation.ⁱ

Is there regional variation in age-adjusted cause-specific mortality?

In 2013-2015, there was no statistically significant regional variation in the age-adjusted stroke, chronic lower respiratory disease, or unintentional injury rates (Figure 30). The overall Sonoma County age-adjusted stroke, chronic lower respiratory disease, and unintentional injury mortality rates were statistically similar to the state and lower than the nation.¹

Figure 30. Age-adjusted stroke, chronic lower respiratory disease, and unintentional injury mortality rates by select geographies, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Age-adjusted stroke mortality rates were suppressed for Cloverdale-Geyserville and the Russian River area due to unstable estimates. Age-adjusted unintentional injury rates were suppressed for Healdsburg and Cloverdale-Geyserville due to unstable estimates.

¹See Appendix for state and national comparison data for specific causes of death

Age-adjusted premature mortality rates in Sonoma County

What are age-adjusted premature mortality rates? Premature deaths are deaths that occur before a person reaches an expected age. They are measured by the number of years of potential life lost before the age of 75 per 100,000 population, also known as Years of Potential Life Lost before age 75 or YPLL-75. This measure weights deaths occurring at younger ages more heavily and is an important and useful measure for prioritizing public health interventions.

What are the main findings?

- A. -Sonoma County has a lower premature mortality rate than California and the United States. Between 2013 and 2015, about 70,000 years of potential life were lost before age 75 among Sonoma County residents.
- B. -Cancer, unintentional injuries, heart disease, suicide, and chronic liver disease were the top five leading causes of premature mortality among Sonoma County residents.
- C. -The overall rate of premature mortality decreased between 2005-2007 and 2013-2015. This decreasing trend occurred for both males and females. African American/Blacks and Hispanic/Latinos had the most notable decreases in premature mortality, whereas the decline in premature mortality among white, non-Hispanics was modest.
- D. -The rate of premature mortality among males was 72% higher than females.
- E. - Latino/Hispanics and Asian/Pacific Islanders had the lowest rates of premature mortality. American Indian/Alaska Native Sonoma County residents had the highest premature mortality rate followed by white, non-Hispanic and African American/Black residents.
- F. - There were geographic disparities in premature mortality throughout Sonoma County. The Russian River Area, Cloverdale-Geyserville, and Rohnert Park had significantly higher rates of premature mortality compared to the county in at least three of the five leading causes of premature death. Sebastopol-West County and Petaluma had premature mortality rates lower than or equal to the county.

What can we do with this information? Populations and communities with the highest rates and greatest number of years of potential life lost are key populations for public health and healthcare interventions.

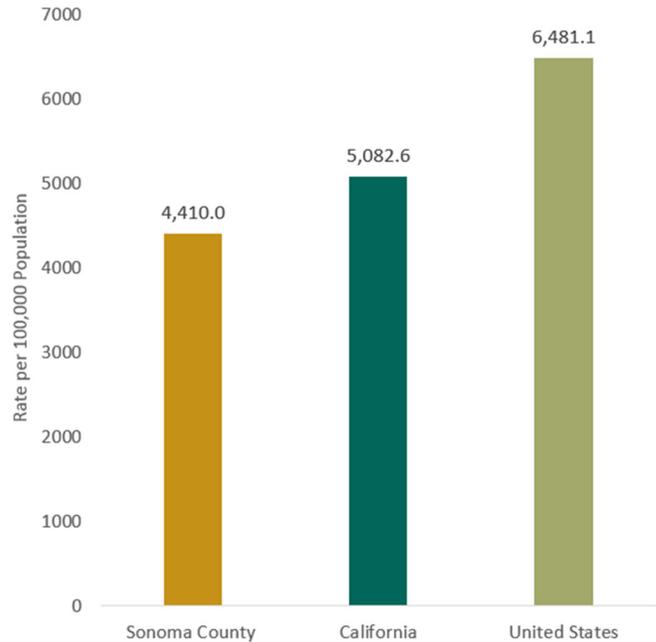
What is Sonoma County's premature death rate?

Years of Potential Life Lost before 75

Premature death is measured by the years of potential life lost before age 75 (YPLL-75). It measures the number of years between a decedent's age and 75 years. Deaths at younger ages are weighted more heavily than deaths occurring closer to age 75.

In 2013-2015, Sonoma County's age-adjusted rate of YPLL-75 was 4,410.0 years of life lost per 100,000 population. Sonoma County's rate of YPLL-75 was significantly lower in comparison to both California (5,082.6 years of life lost per 100,000) and the United States (6,481.1 years of life lost per 100,000) (Figure 31).

Figure 31. Age-adjusted years of potential life lost before age 75 (YPLL-75), Sonoma County, California, and the United States, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015.

Leading Causes of Premature Mortality in Sonoma County

In 2013-15, the leading causes of premature mortality (as measured by YPLL-75) are shown in Table 8. Cancer, unintentional injury, heart disease, suicide, and chronic liver disease were the top five leading causes of premature mortality in Sonoma County and accounted 72% of years of life lost before age 75. These leading causes of premature mortality are also shown in relationship to the leading causes of mortality in Table 9. Cancer is the leading cause of death and premature death in Sonoma County and heart disease is the second cause of death and third cause of premature death.

Table 9. Leading causes of premature (YPLL-75) and total mortality, by rank order, Sonoma County, 2013-2015

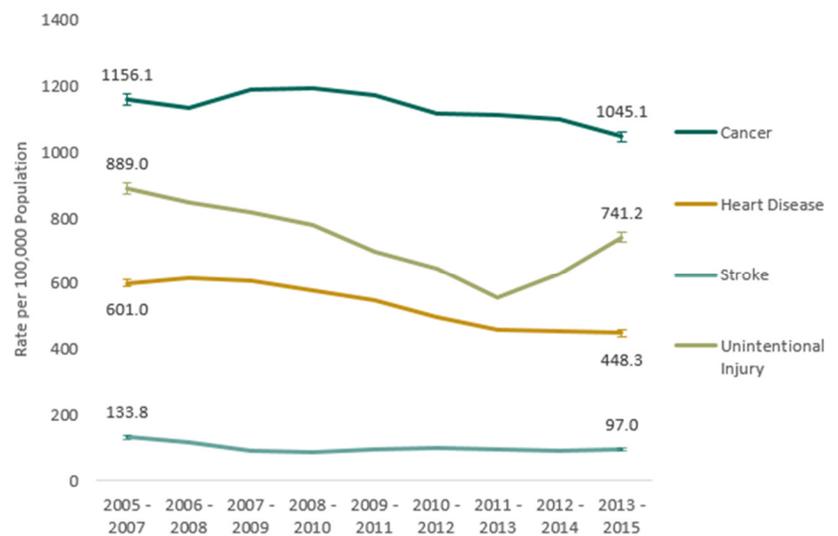
Premature Mortality (YPLL-75)	Percent of Total YPLL-75	Rank	Mortality	Percent of Total Deaths
Cancer	27%	1	Cancer	24%
Unintentional injury	14%	2	Heart disease	22%
Heart disease	12%	3	Alzheimer's disease	7%
Suicide	6%	4	Stroke	6%
Chronic liver disease	5%	5	Chronic lower respiratory disease	5%
Diabetes	3%	6	Unintentional injury	4%
Chronic lower respiratory disease	3%	7	Diabetes	3%
Stroke	2%	8	Chronic liver disease	2%

Source: California Department of Public Health, VRBIS Death Data 2005-2015.

Have premature mortality rates changed over time in Sonoma County?

Since 2005-2007, Sonoma County residents experienced significant declines in premature mortality rates for cancer, heart disease, stroke, and unintentional injury (Figure 32). Premature mortality rates due to stroke (-28%) and heart disease (-26%) had the largest decreases since 2005-2007. The unintentional injury premature mortality rate decreased 16% since 2005-2007, despite a recent increase. The cancer premature mortality rate decreased by 10%. There were no significant changes between 2005-2007 to 2013-2015 in premature mortality rates for suicide, chronic lower respiratory disease, chronic liver disease and diabetes (data not shown).

Figure 32. Age-adjusted YPLL-75 for leading causes of death, 3 year moving averages, Sonoma County, 2005-2015



Source: California Department of Public Health, VRBIS Death Data 2005-2015.

Premature Mortality from Unintentional Injuries

In 2013-2015 unintentional injuries were the second leading cause of premature death and sixth leading cause of death in Sonoma County. Three causes —drug poisonings, falls, and motor vehicle collisions—were responsible for 77% of all premature deaths and 74% of all deaths from unintentional injury among Sonoma County residents.

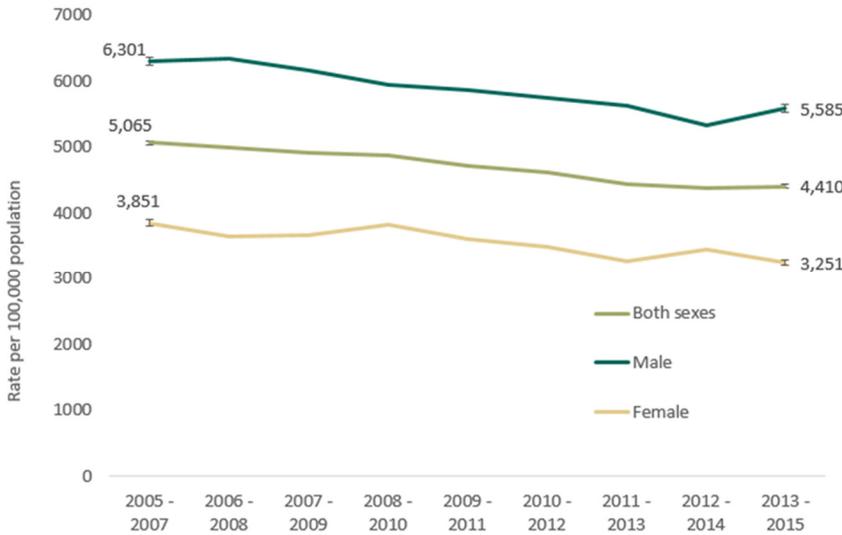
Drug poisonings. Drug poisonings (overdose) were the leading cause of premature death from unintentional injury. Drug poisonings from both prescription and illegal drugs were responsible for over 41% of all premature unintentional injury deaths, or about 4,300 years of potential life lost before age 75 in 2013-15. The premature mortality rate (YPLL-75) from drug poisonings was significantly higher for Sonoma County men (415.8 YPLL-75 per 100,000) than women (202.9 YPLL-75 per 100,000). The rate was also significantly higher for white, non-Hispanic residents (411.9 YPLL-75 per 100,000) compared to Hispanic/Latino residents (120.8 YPLL-75 per 100,000). The premature death rate from drug poisonings increased significantly from 2005-2007 to 2013-2015—from 260.5 YPLL-75 per 100,000 to 310.6 YPLL-75 per 100,000.

Motor vehicle collisions. Motor vehicle collisions were the second leading cause of premature death from unintentional injury, responsible for almost 3,000 years of potential life lost before age 75 in 2013-15. Men had a significantly higher premature death rate for motor vehicle collisions than women (311.6 YPLL-75 per 100,000 compared to 119.3 YPLL-75 per 100,000, respectively). There were no significant differences in premature death rates for motor vehicle collisions by race/ethnicity. The premature death rate from motor vehicle collisions decreased significantly since 2005-2007—from 387.6 YPLL-75 per 100,000 to 217.1 YPLL-75 per 100,000.

Falls. Falls were the third leading cause of premature death from unintentional injury, responsible for about 600 years of life lost before age 75 in 2013-15. There were no significant differences in premature death rates from falls by sex or by race/ethnicity. The premature death rate from falls increased significantly from 2005-2007 to 2013-2015—from 37.2 YPLL-75 per 100,000 to 43.5 YPLL-75 per 100,000.

What are the leading causes of premature death for males and females?

Figure 33. Age-adjusted YPLL-75 by sex, 3 year moving average, Sonoma County, 2005-2015



The overall age-adjusted rate of YPLL-75 decreased 13% between 2005-2007 and 2013-2015 (Figure 33). Male residents experienced a 11% decrease in their rate of YPLL-75 since 2005-2007 and female residents experienced a 16% decrease in YPLL-75 since 2005-2007. Males had a consistently and significantly higher rate of YPLL-75 compared to females between 2005-2007 and 2013-2015.

Source: California Department of Public Health, VRBIS Death Data 2005-2015.

In 2013-2015, premature mortality due to cancer, unintentional injury, and heart disease were the three leading causes of total years of life lost before age 75 (YPLL-75) among both males and females (Table 10). The number and proportion of overall YPLL-75 by sex differed for the different causes of premature death. These include:

- **Cancer.** Females and males lost about an equal number of years of life due to cancer. However, females lost a greater proportion of years to cancer (34.3%) than males (21.8%).
- **Unintentional injury.** Males had more than double the YPLL-75 due to unintentional injury (7,083 years) compared to females (3,233 years).
- **Heart disease.** Males had nearly three times the number of YPLL-75 due to heart disease (6,010) compared to females (2,118).
- **Suicide.** Males had over three times the number of YPLL-75 due to suicide (3,383) compared to females (1,043).

Table 10. Leading causes of YPLL-75, by sex, Sonoma County 2013-2015

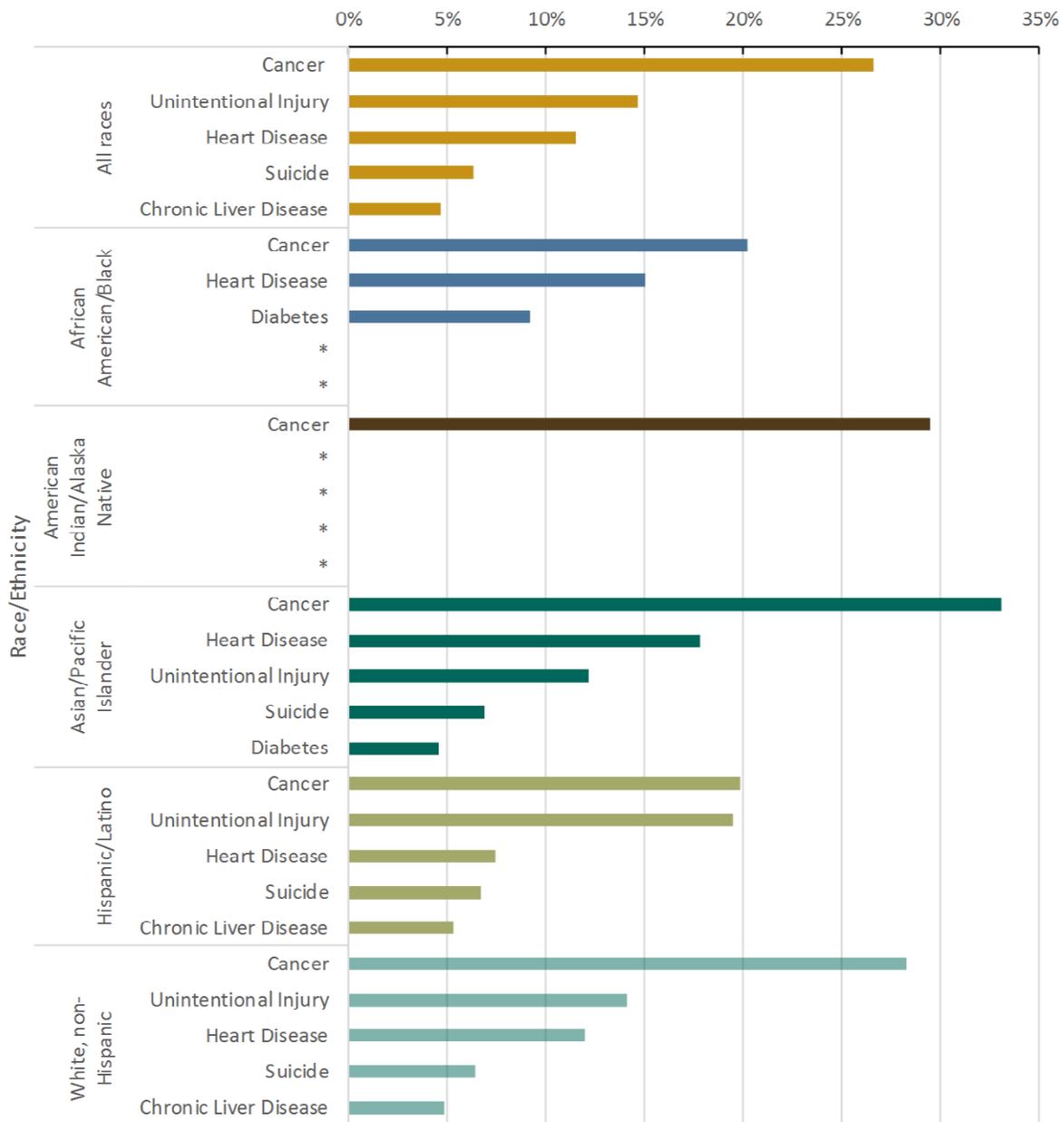
Males				Females			
Cause of Death	3-Year Total Life Lost Before Age 75	Percent of Total YPLL-75	Rank	Cause of Death	3-Year Total Life Lost Before Age 75	Percent of Total YPLL-75	Rank
Cancer	9,438	21.8%	1	Cancer	9,308	34.3%	1
Unintentional Injury	7,083	16.4%	2	Unintentional Injury	3,233	11.9%	2
Heart Disease	6,010	13.9%	3	Heart Disease	2,118	7.8%	3
Suicide	3,383	7.8%	4	Chronic Liver Disease	1,513	5.6%	4
Chronic Liver Disease	1,773	4.1%	5	Suicide	1,043	3.8%	5
Diabetes	1,430	3.3%	6	Chronic Lower Respiratory Disease	878	3.2%	6
Stroke	1,070	2.5%	7	Diabetes	615	2.3%	7
Chronic Lower Respiratory Disease	1,008	2.3%	8	Stroke	603	2.2%	8

Source: California Department of Public Health, VRBIS Death Data 2013-2015.

How are race/ethnicity groups affected by premature mortality?

In 2013-2015, cancer deaths were the leading cause of YPLL-75 among all race/ethnic groups, ranging from 20% of total YPLL among Hispanic/Latinos and African American/Blacks to 33% of total YPLL among Asian/Pacific Islanders. Premature cancer deaths among white, non-Hispanics accounted for over 15,000 YPLL-75, or 21.6% of total YPLL-75, the most years of life lost by any cause for any race/ethnic group. Unintentional injury was within the top 5 leading causes of YPLL-75 among all race/ethnic groups. Heart disease was a leading cause of YPLL-75 among all race/ethnic groups except for American Indian/Alaska Natives. Suicide was a leading cause of YPLL-75 among all race/ethnic groups except for African Americans/Blacks.

Figure 34. Leading causes of YPLL-75 by race/ethnicity, Sonoma County, 2013-2015

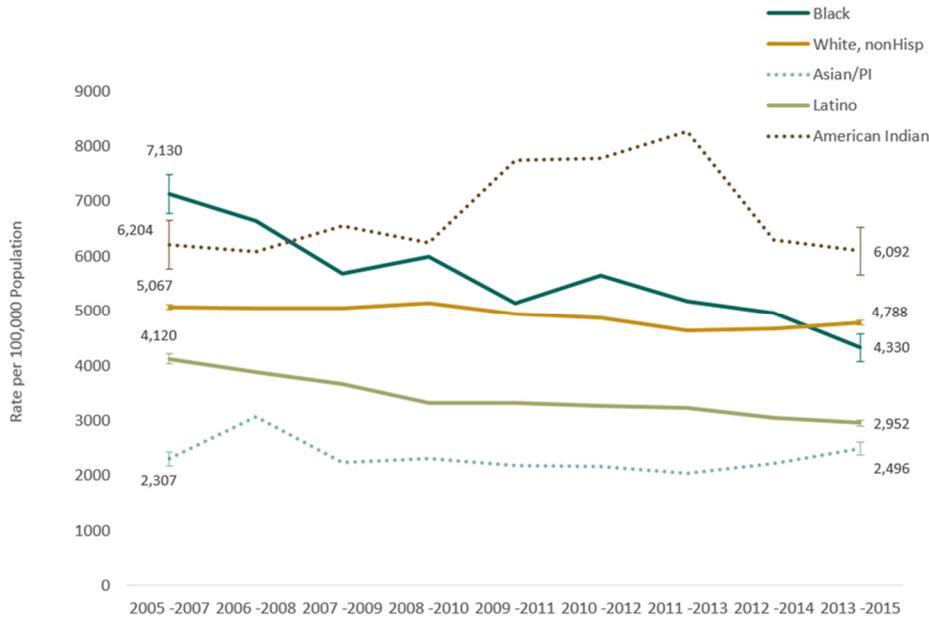


*Data suppressed. Less than 5 deaths. -

Source: California Department of Public Health, VRBIS Death Data 2013-2015. -

What is Sonoma County's premature death rate by race/ethnicity?

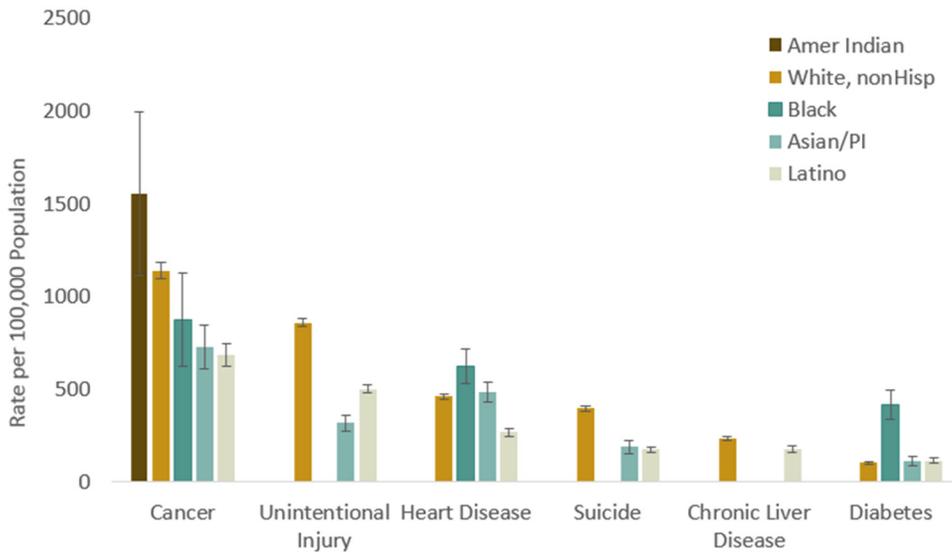
Figure 35. Age-adjusted YPLL-75 by race/ethnicity, 3 year moving averages, Sonoma County, 2005-2015



Source: California Department of Public Health, VRBIS Death Data 2005-2015.

African American/Blacks and Hispanic/Latinos had the most notable decreases in premature mortality (39% and 28%, respectively) between 2005-2007 and 2013-2015 (Figure 35). White, non-Hispanics had a significant but modest decrease in premature mortality (6%) during this time period. Asian/Pacific Islanders and American Indian/Alaska Natives did not experience significant overall changes in premature mortality rates between 2005-2007 and 2013-2015.

Figure 36. Age-adjusted YPLL-75 by cause and race/ethnicity, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015. *YPLL-75 rates by cause were suppressed for heart disease among American Indian/Alaska Natives, suicide among African Americans/Blacks, and chronic liver disease among Asian/Pacific Islanders due to unstable estimates.

In 2013-2015, cancer was the leading cause of YPLL-75 among all racial/ethnic groups in Sonoma County (Figure 36). Hispanic/Latinos and Asian/Pacific Islanders had significantly lower rates of YPLL-75 due to cancer compared to American Indian/Alaska Natives and white, non-Hispanics. White, non-Hispanics had significantly higher rates of YPLL-75 due to unintentional injury compared to all other race/ethnic groups. African American/Blacks had significantly higher rates of YPLL-75 due to heart disease compared

to white, non-Hispanics and Hispanic/Latinos. White, non-Hispanics had significantly higher rates of YPLL-75 due to suicide compared to Asian/Pacific Islanders and Hispanic/Latinos. White, non-Hispanics had significantly higher rates of YPLL-75 due to chronic liver disease compared to Hispanic/Latinos. Black/African Americans had significantly higher rates of YPLL-75 due to diabetes compared to all other race/ethnic groups.

How does premature mortality vary geographically in Sonoma County?

In 2013-2015, cancer, unintentional injury, heart disease, and suicide deaths were among the five leading causes of total YPLL-75 in all nine geographies. Cancer alone accounted for 23-31% of YPLL-75 in all geographies. Santa Rosa, the largest city in Sonoma County, had the greatest number of YPLL-75, accounting for over 30,000 years of life lost in 2013-2015. Unintentional injury account for 11-19% of YPLL-75 in all geographies. Heart disease alone accounted for 11-14% of YPLL-75 in all geographies. Suicide accounted for 4-11% of YPLL-75 in all geographies. Chronic liver disease accounted for 4-6% of YPLL-75 in Santa Rosa, Petaluma, Sonoma Valley, Rohnert Park, and Cloverdale and Geyserville. Stroke was within the 5 leading causes of YPLL-75 in Sebastopol-West County, Windsor, and Healdsburg.

Table 11. YPLL-75 for leading causes of premature death by select geographies, Sonoma County, 2013-2015

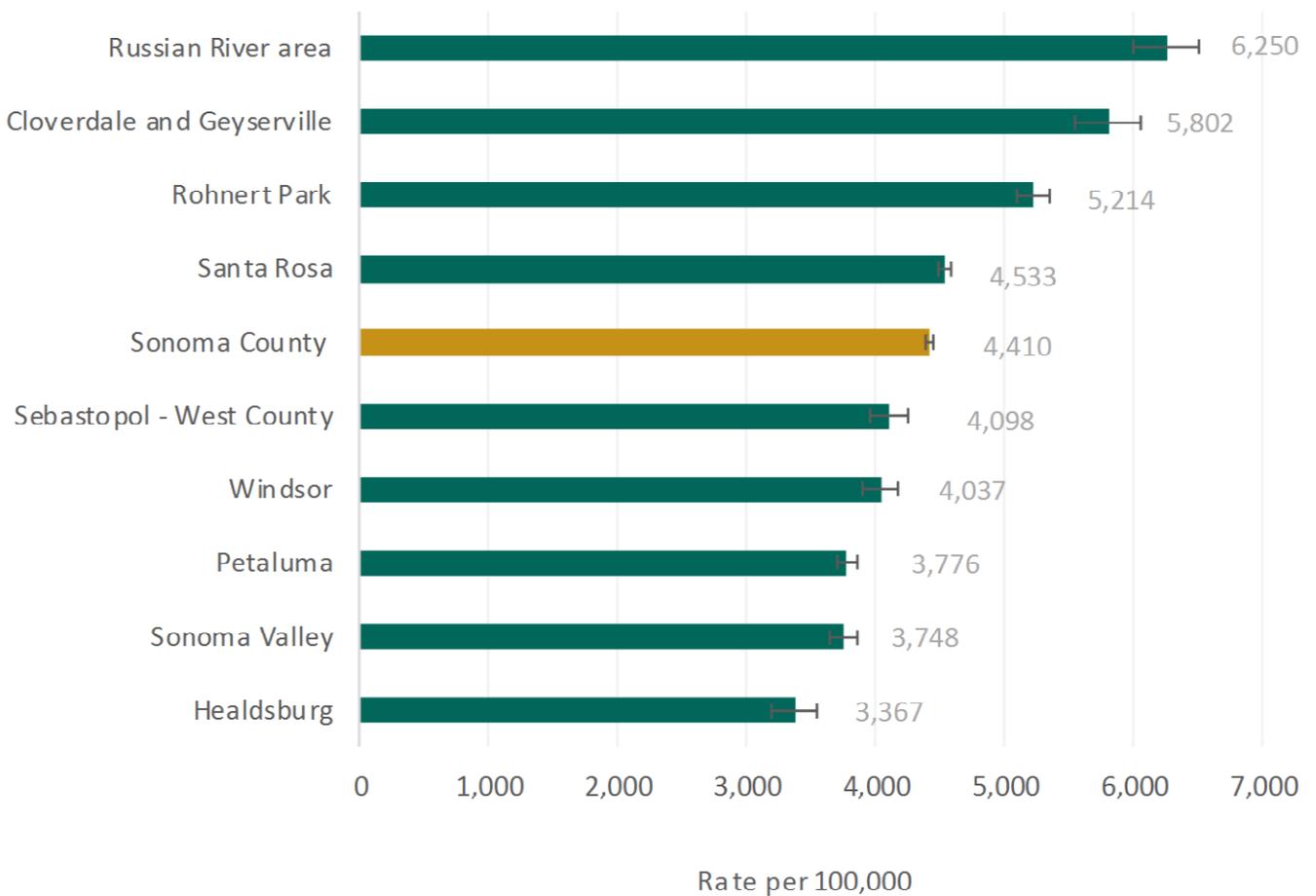
City	Cause of death	3-Year Total		City	Cause of death	3-Year Total	
		Life Lost Before Age 75	Percent of Total YPLL-75			Life Lost Before Age 75	Percent of Total YPLL-75
Santa Rosa	Total	30,505	100%	Windsor	Total	3,470	100%
	Cancer	8,020	26.3%		Cancer	850	24.5%
	Unintentional Injury	4,298	14.1%		Unintentional Injury	470	13.5%
	Heart Disease	3,525	11.6%		Heart Disease	403	11.6%
	Suicide	1,803	5.9%		Suicide	373	10.7%
	Chronic Liver Disease	1,498	4.9%		Stroke	170	4.9%
Petaluma	Total	8,843	100%	Healdsburg	Total	1,900	100%
	Cancer	2,725	30.8%		Cancer	553	29.1%
	Heart Disease	1,008	11.4%		Unintentional Injury	353	18.6%
	Unintentional Injury	953	10.8%		Heart Disease	243	12.8%
	Suicide	633	7.2%		Suicide	188	9.9%
	Chronic Liver Disease	518	5.9%		Stroke	78	4.1%
Sonoma Valley	Total	5,025	100%	Cloverdale and Geyserville	Total	2,208	100%
	Cancer	1,435	28.6%		Unintentional Injury	545	24.7%
	Unintentional Injury	723	14.4%		Cancer	538	24.4%
	Heart Disease	693	13.8%		Heart Disease	248	11.2%
	Chronic Liver Disease	318	6.3%		Suicide	178	8.1%
	Suicide	260	5.2%		Chronic Liver Disease	83	3.8%
Rohnert Park	Total	6,670	100%	Russian River area	Total	3,018	100%
	Cancer	1,543	23.1%		Cancer	748	24.8%
	Unintentional Injury	1,255	18.8%		Unintentional Injury	450	14.9%
	Heart Disease	725	10.9%		Heart Disease	435	14.4%
	Chronic Liver Disease	295	4.4%		Suicide	210	7.0%
	Suicide	285	4.3%		-	-	-
Sebastopol - West County	Total	4523	100%				
	Cancer	1400	31.0%				
	Unintentional Injury	608	13.4%				
	Heart Disease	560	12.4%				
	Suicide	333	7.4%				
	Stroke	125	2.8%				

- Data suppressed due to <5 deaths per geography. Source: California Department of Public Health, VRBIS Death Data 2013-2015

How does premature mortality vary geographically in Sonoma County?

In 2013-2015, age-adjusted premature mortality rates varied significantly by geography. The Russian River area and Cloverdale and Geyserville had the highest premature mortality rates of all geographies that were examined (Figure 37). In addition, the Russian River area, Cloverdale and Geyserville, Rohnert Park and Santa Rosa had significantly higher premature mortality rates than the overall county rate. Healdsburg had the lowest premature mortality rate of the geographies examined. Sebastopol—West County, Windsor, Petaluma, Sonoma Valley, and Healdsburg had significantly lower premature mortality rates than Sonoma County overall.

Figure 37. Age-adjusted rate of YPLL-75 by select geographies, Sonoma County, 2013-2015



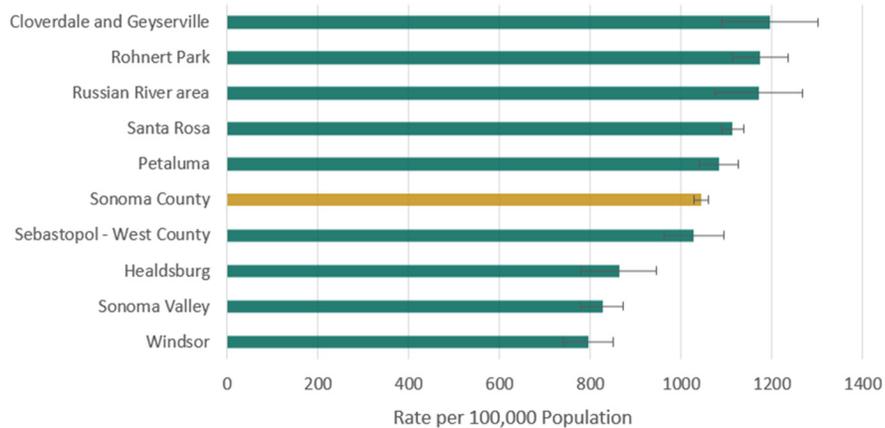
Source: California Department of Public Health, VRBIS Death Data 2013-2015

Is there regional variation in age-adjusted premature mortality?

Cancer

In 2013-2015, cancer was the leading cause of YPLL-75 among Sonoma County residents. Over the three year period, 18,746 total years of life were lost due to cancer, accounting for 27% of total YPLL-75 in Sonoma County. Cloverdale and Geyserville (1,195.4 YPLL-75 per 100,000), Rohnert Park (1,174.1 YPLL-75 per 100,000), the Russian River area (1,170.9 YPLL-75 per 100,000), and Santa Rosa (1,113.7 YPLL-75 per 100,000) had significantly higher rates of YPLL-75 due to cancer compared to the overall county (1,045.1 YPLL-75 per 100,000). Windsor (795.4 YPLL-75 per 100,000), Sonoma Valley (826.4 YPLL-75 per 100,000), and Healdsburg (862.9 YPLL-75 per 100,000) had significantly lower rates of YPLL-75 due to cancer compared to the overall county (Figure 38). Sonoma County's age-adjusted YPLL-75 due to cancer was statistically lower than California and the nation.ⁱ

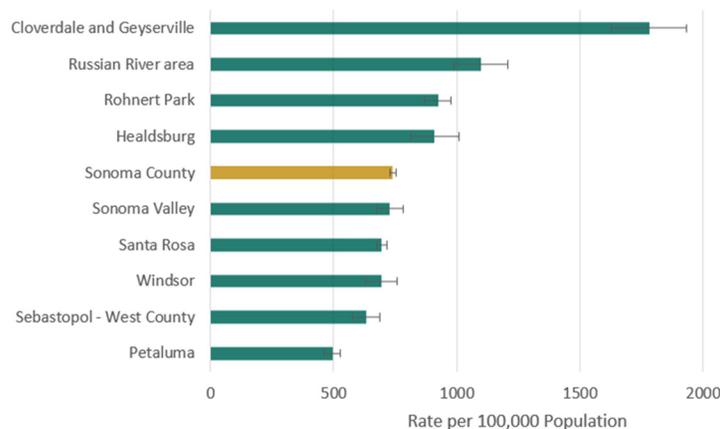
Figure 38. Age-adjusted YPLL-75 due to cancer by select geographies, Sonoma County, 2013-2015



Unintentional Injury

In 2013-2015, unintentional injury was the second leading cause of YPLL-75 among Sonoma County residents. Over the three year period, 10,315 total years of life were lost due to unintentional injuries, accounting for 14.7% of total YPLL-75 in Sonoma County. Cloverdale and Geyserville (1,781.8 YPLL-75 per 100,000), the Russian River area (1,097.4 YPLL-75 per 100,000), Rohnert Park (924.4 YPLL-75 per 100,000), and Healdsburg (909.4 YPLL-75 per 100,000) had significantly higher rates of YPLL-75 due to unintentional injury compared to the overall county (741.2 YPLL-75 per 100,000). Petaluma (495.4 YPLL-75 per 100,000), Sebastopol - West County (633.1 YPLL-75 per 100,000), Windsor (694.5 YPLL-75 per 100,000), and Santa Rosa (694.8 YPLL-75 per 100,000) had significantly lower rates of YPLL-75 due to unintentional injury compared to the overall county (Figure 39). Sonoma County's age-adjusted YPLL-75 due to unintentional injury was statistically lower than California and the nation.ⁱ

Figure 39. Age-adjusted YPLL-75 due to unintentional injury by select geographies, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015. ⁱSee Appendix for state and national comparison data for specific causes of death

Is there regional variation in age-adjusted premature mortality?

Heart Disease. In 2013-2015, the Russian River area (945.9 YPLL-75 per 100,000), Rohnert Park (571.1 YPLL-75 per 100,000), Cloverdale and Geyserville (539.6 YPLL-75 per 100,000) and Santa Rosa (477.6 YPLL-75 per 100,000) had significantly higher rates of YPLL-75 due to heart disease compared to the overall county (448.3 YPLL-75 per 100,000). Sebastopol - West County (305.7 YPLL-75 per 100,000) and Petaluma (347.9 YPLL-75 per 100,000) had significantly lower rates of YPLL-75 due to heart disease compared to the overall county (Figure 40). Sonoma County’s age-adjusted rate of YPLL-75 due to heart disease was statistically lower than California and the nation.ⁱ

Suicide. In 2013-2015, the Russian River area (576.8 YPLL-75 per 100,000 population), Cloverdale and Geyserville (495.7 YPLL-75 per 100,000) and Windsor (464.3 YPLL-75 per 100,000) had significantly higher rates of YPLL-75 due to suicide compared to the overall county (323.3 YPLL-75 per 100,000). Rohnert Park (244.2 YPLL-75 per 100,000), Sonoma Valley (275.2 YPLL-75 per 100,000) and Santa Rosa (296.3 YPLL-75 per 100,000) had significantly lower rates of YPLL-75 due to suicide compared to the overall county (Figure 41). Sonoma County’s age-adjusted rate of YPLL-75 due to suicide was statistically higher than California and lower than the nation.ⁱ

Chronic Liver Disease. In 2013-2015, Sonoma Valley had a significantly higher rate of YPLL-75 due to chronic liver disease compared to the overall county. Sebastopol - West County (91.3 YPLL-75 per 100,000), Windsor (93.9 YPLL-75 per 100,000), and Healdsburg (141.2 YPLL-75 per 100,000) had significantly lower rates of YPLL-75 due to chronic liver disease compared to the overall county (Figure 42). Sonoma County’s age-adjusted rate of YPLL-75 due to chronic liver disease was statistically lower than California and higher than the nation.ⁱ

Figure 40. Age-adjusted YPLL-75 due to heart disease by select geographies, Sonoma County, 2013-2015

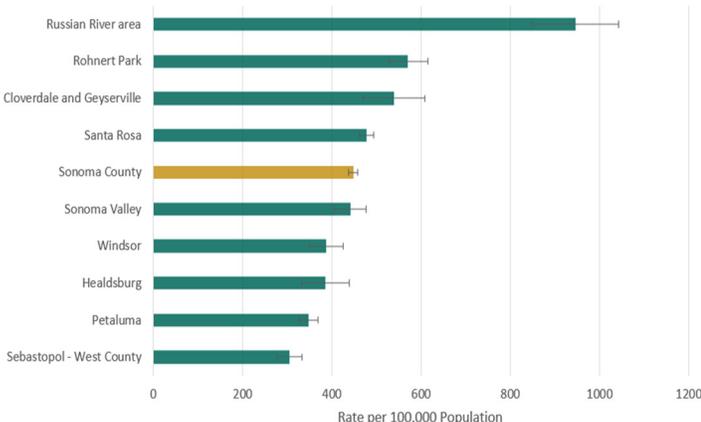


Figure 41. Age-adjusted YPLL-75 due to suicide by select geographies, Sonoma County, 2013-2015

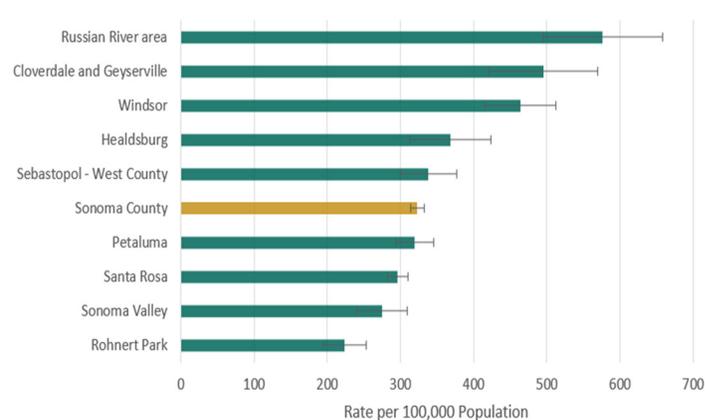
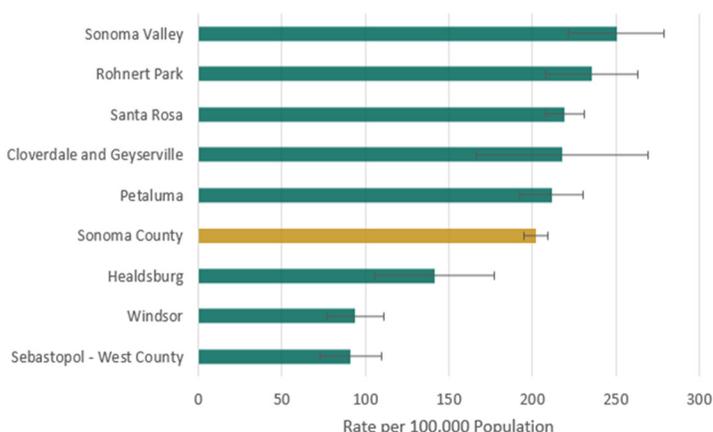


Figure 42. Age-adjusted YPLL-75 due to chronic liver disease by select geographies, Sonoma County, 2013-2015

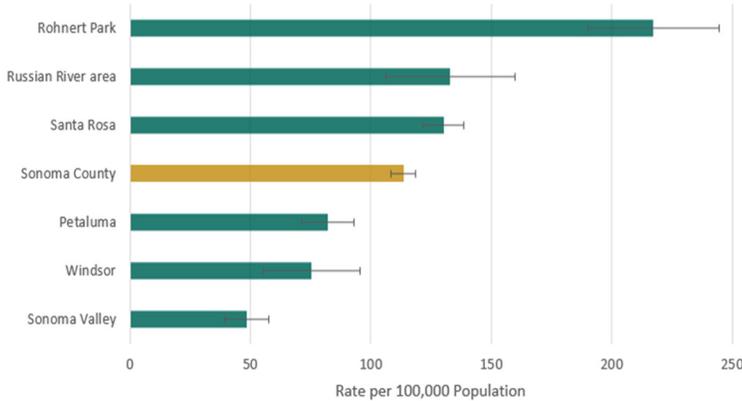


Source: California Department of Public Health, VRBIS Death Data 2013-2015. *The chronic liver disease YPLL-75 rate was suppressed for the Russian River Area due to fewer than 5 deaths in that region.

ⁱSee Appendix for state and national comparison data for specific causes of death

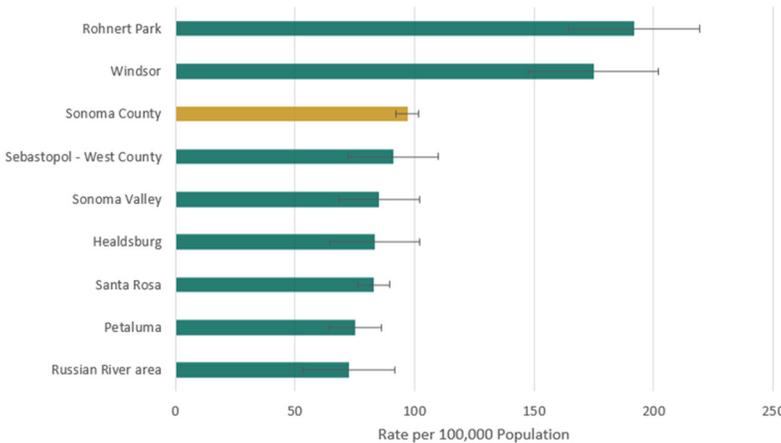
Is there regional variation in age-adjusted premature mortality?

Figure 43. Age-adjusted YPLL-75 due to diabetes by select geographies, Sonoma County, 2013-2015



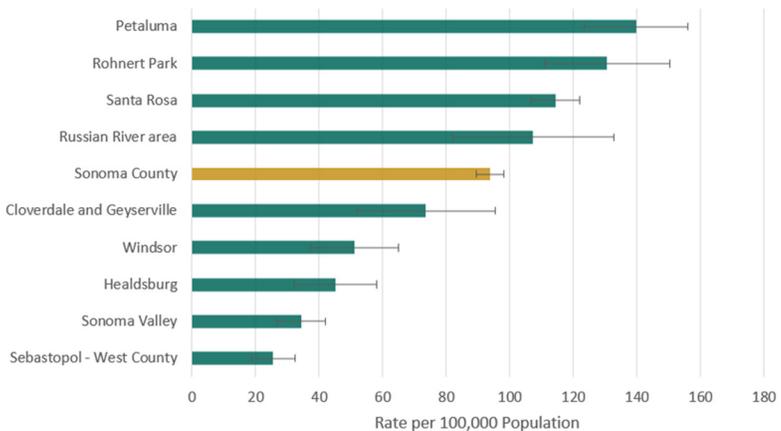
Source: California Department of Public Health, VRBIS Death Data 2013-2015. *Rates were suppressed for Cloverdale - Geyserville, Sebastopol - West County, and Healdsburg due to fewer than 5 deaths per region.

Figure 44. Age-adjusted YPLL-75 due to stroke by select geographies, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015. *Rates were suppressed for Cloverdale - Geyserville due to fewer than 5 deaths per geography.

Figure 45. Age-adjusted YPLL-75 due to chronic lower respiratory disease by select geographies, Sonoma County, 2013-2015



Source: California Department of Public Health, VRBIS Death Data 2013-2015. ⁱSee Appendix for state and national comparison data for specific causes of death

Diabetes. In 2013-2015, Rohnert Park (217.3 YPLL-75 per 100,000), and Santa Rosa (130.1 YPLL-75 per 100,000) had significantly higher rates of YPLL-75 due to diabetes compared to the overall county (113.5 YPLL-75 per 100,000). Sonoma Valley (48.5 YPLL-75 per 100,000), Windsor (75.5 YPLL-75 per 100,000), and Petaluma (82.1 YPLL-75 per 100,000) had significantly lower rates of YPLL-75 due to diabetes compared to the overall county (Figure 43). Sonoma County's age-adjusted rate of YPLL-75 due to diabetes was statistically lower than California and the nation.ⁱ

Stroke. In 2013-2015, Rohnert Park (191.8 YPLL-75 per 100,000) and Windsor (174.8 YPLL-75 per 100,000) had significantly higher rates of YPLL-75 due to stroke compared to the overall county (97.0 YPLL-75 per 100,000). The Russian River area (72.5 YPLL-75 per 100,000), Petaluma (75.1 YPLL-75 per 100,000), and Santa Rosa (82.9 YPLL-75 per 100,000) had significantly lower rates of YPLL-75 due to stroke compared to the overall county (Figure 44). Sonoma County's age-adjusted rate of YPLL-75 due to stroke was statistically lower than California and the nation.ⁱ

Chronic Lower Respiratory Disease. In 2013-2015, Petaluma (139.9 YPLL-75 per 100,000), Rohnert Park (130.6 YPLL-75 per 100,000), and Santa Rosa (114.4 YPLL-75 per 100,000) had significantly higher rates of YPLL-75 due to chronic lower respiratory disease compared to the overall county (93.9 YPLL-75 per 100,000). Sebastopol - West County (25.6 YPLL-75 per 100,000), Sonoma Valley (34.4 YPLL-75 per 100,000), Healdsburg (45.2 YPLL-75 per 100,000), and Windsor (51.2 YPLL-75 per 100,000) had significantly lower rates of YPLL-75 due to chronic lower respiratory disease compared to the overall county (Figure 45). Sonoma County's age-adjusted rate of YPLL-75 due to chronic lower respiratory disease was statistically lower than California and the nation.ⁱ

A summary of place-based premature mortality disparities

A place-based approach to improving the health of the population targets smaller geographic areas and aims to address issues that exist at these levels. Table 12 compares regional rates of premature mortality to the Sonoma County average. Regions with statistically higher rates of premature mortality compared to the county are indicated by a yellow arrow, and areas where there are statistically lower rates of premature mortality rate are indicated by a green arrow. The goal of this table is to highlight place-based disparities by the leading causes of premature mortality. Identification of differences in premature mortality rates is one of the first steps in addressing place-based health disparities. At the same time, it is important to recognize that these nine communities are similar in that they all have cancer, unintentional injury, heart disease, and suicide within their top 5 leading causes of premature mortality.

Table 12. Top 5 leading causes of premature mortality[†] by select geography, with comparison to the county rate, Sonoma County, 2013-2015

	All Cancers	Unintentional Injury	Heart Disease	Suicide	Chronic Liver Disease
Russian River Area	↑	↑	↑	↑	*
Cloverdale and Geyserville	↑	↑	↑	↑	=
Rohnert Park	↑	↑	↑	↓	=
Santa Rosa	↑	↓	↑	↓	=
Healdsburg	↓	↑	=	=	↓
Sonoma Valley	↓	=	=	↓	↑
Windsor	↓	=	↓	↑	↓
Petaluma	=	↓	↓	=	=
Sebastopol - West County	=	↓	↓	=	↓
↑ Higher premature mortality rates compared to Sonoma County	↓ Lower premature mortality rates compared to Sonoma County	= similar premature mortality rates compared to Sonoma County			

[†]Premature mortality was defined as years of potential life lost before age 75 (YPLL-75). Rates were age-adjusted. -

*Rates were suppressed when there were fewer than 5 deaths per geography. Geographies were defined by zip codes: Santa Rosa, - 95401, 95403, 95404, 95405, 95407, 95409, 95439; Petaluma, 94952, 94954; Sonoma Valley, 95442, 95476, Rohnert Park, 94928; - Sebastopol - West County, 94922, 94923, 95444, 95465, 95472; Windsor, 95492; Healdsburg, 95448; Cloverdale/Geyserville, 95425, - 95441; Russian River Area, 95421, 95430, 95436, 95446, 95462, 95486. -

Discussion

Death, premature death, and disability rates are high-level measures that help us assess the health of Sonoma County residents. The data in this report illustrate that overall Sonoma County is a relatively healthy community, with a similar life expectancy and lower premature death rate than California. However, not all groups in Sonoma County experience the same level of health. Place, race, and sex-based disparities exist within Sonoma County. It is well-documented that health, disease, and death are largely influenced by society's structure. The communities of the Russian River area, Cloverdale-Geyserville, Rohnert Park, and Santa Rosa have statistically higher premature death rates than the County overall. American Indians and Alaska Natives, and white, non-Hispanics have statistically higher premature death rates than the County overall.

The data in this report represent the current health outcomes and disparities experienced across our County. These metrics may, but do not necessarily, represent the outcomes of the future. Future health outcomes, just as today's health outcomes, will be predominately determined by underlying contributing factors that produce the inequalities in the conditions in which people are born, grow, live, work and age.

Many of the leading causes of death and premature death in Sonoma County share the same risk factors. Tobacco use, poor diet, and physical inactivity are major contributors to cancer, heart disease, stroke, chronic lower respiratory disease, Alzheimer's disease, and diabetes. Substance use, including alcohol misuse, is a contributor to unintentional injury and chronic liver disease. In addition, social determinants of health, such as income, education, and adverse childhood experiences, are also major contributors to health outcomes. These risk factors are largely preventable and enabled by the places, spaces, and relationships that influence our choices.

Disparities in risk factors and social determinants, with their roots in the socioeconomic and political context in which we live, play a significant role in determining disability prevalence and premature death rates as well as leading causes of death. Understanding the disparities in health outcomes and risk factors is a first step towards designing and implementing community and place-based efforts—policies, programs and changes to the environment—to address the factors that produce and reproduce these patterns of ill-health so that all Sonoma County residents can be healthy and thrive.

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Technical Notes

DATA SOURCES

Deaths: The California Department of Public Health, Center for Health Statistics and Informatics, Vital Records, was the source for the death data in this report. Data were tabulated from the California Comprehensive Data File (CCDF) extracted March 15, 2017.

Disabilities: Tables on the number and proportion of residents with a disability were retrieved from the US Census Bureau, American Community Survey.

Health Status: The California Health Interview Survey was the source for data on self-reported health status.

Population denominators by sex and race/ethnicity: Population data from the National Center for Health Statistics bridged-race population estimates (2005-2014) were used to calculate vital rates by sex and race/ethnicity. For more information on Bridged-Race Population Estimates see: [https://www.wonder.cdc.gov/wonder/help/bridged-race.html#About 1990-2014](https://www.wonder.cdc.gov/wonder/help/bridged-race.html#About%201990-2014)

Population denominators by geography: Five year estimates (2011-2015) from the US Census Bureau Zip Code Tabulation Areas File (ZCTA) were used to calculate vital rates by select geography in the report. ZCTAs are generalized areal representations of US Postal Service zip code service areas. For more information on ZCTAs see: <https://www2.census.gov/geo/pdfs/education/brochures/ZCTSs.pdf>

DATA DEFINITIONS

95% Confidence Interval: A range of values within which the “true” value of the rate or estimate is expected to occur (with 95% probability).

Disability: A disability is defined by the U.S. Census Bureau in the American Community Survey (ACS) as (1) a condition that limited the kind or amount of work or prevented a person from working at a job or business for people aged 16 to 67, or (2) receipt of federal benefits in the form of Medicare or Supplemental Security Income based on the inability to work (using income data from the last month of the interview period).

Cause of death: Based on medical information — including injury diagnoses and external causes of injury — that is entered on death certificates filed in the United States. This information is classified and coded in accordance with the *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* (ICD-10).

Health Status: a self-reported measure of how an individual perceives their health - rating it as excellent, very good, fair or poor. Self-assessed health status has been validated as a useful indicator of health for a variety of populations and allows for broad comparisons across different conditions and populations.

Leading causes of death: Leading causes of death are the most common causes of death in a population. They are ranked according to the number of deaths assigned to rankable causes.

Life expectancy: average number of years a population of a certain age would be expected to live, given a set of age-specific death rates in a given year.

Mortality (death) rate: The number of deaths divided by the population at risk. Death rates make comparisons between different population groups more meaningful than frequencies alone.

Age-adjustment: There are age-related differences in the rates at which most health conditions occur. Some conditions are more common among young people and other conditions are more common among older people. Age adjustment is a technique for removing the affects of age from crude rates so they can be compared. Age adjustment is used to compare two or more populations at one point in time or one population at two or more points in time.

Premature mortality (death) rate: Premature mortality and premature mortality rates were defined as deaths that occurred before 75 years of age. For the purposes of this report, premature mortality is measured by Years of Potential Life Lost before Age 75.

Technical Notes

Relative Standard Error (RSE): A tool for assessing reliability of a rate or estimate. Estimates with large RSEs are considered less reliable than estimates with small RSEs. While there is not absolute cutoff point, the guidelines used by National Center for Health Statistics recommends that estimates with RSEs above 30 percent should be considered unreliable.

Social determinants of health: Conditions in which people are born, grow, live, work, and age. These circumstances are shaped by the distribution of money, power, and resources global, national and local levels and can influence health outcomes of individuals and populations.

Years of Potential Life Lost (YPLL): A count of the average years a person would have lived if he or she had not died prematurely—before some selected time period. For the purposes of this report a death before age 75 years was considered premature.

METHODS

Death and premature death rates were calculated and age-adjusted to the 2000 US Standard Population using the direct method applying the same age groupings and proportions as those established by the National Center for Health Statistics for the Department of Health and Human Services. Death data where less than five cases occurred in a three year period were suppressed and rates were not calculated. Rates with RSEs greater than 23% but less than 30% were noted with caution for interpretation. Rates with RSEs greater than or equal to 30% were noted and indicated as unstable. Rates were considered statistically different if their confidence intervals did not overlap. Confidence intervals and margins of error were 95% unless elsewhere specified.

LIMITATIONS

Data derived from death certificates are subject to a number of limitations but from a surveillance and epidemiological perspective they provide invaluable information about a population's health status. When a person dies, it is likely that several factors or conditions contributed to the death. For this report, we analyzed the underlying cause of death, which is the condition that most directly caused the death. By using a single cause of death rather than considering all the conditions present at the time of death, the number of deaths and rates in this report do not reflect the full impact of certain diseases and conditions. Additionally, race and ethnicity is reported on the death certificate by the funeral director or coroner who may not ascertain the decedent's race and/or ethnicity directly from next of kin, which could lead to inaccuracies. Still, data from death certificates represent an important endpoint in the spectrum of disease and help us to better understand the burden of disease in our community.

ACKNOWLEDGEMENTS

We would like to thank the members of the Assessment and Epidemiology Unit for their analysis and review of these data. We would also like to thank the Sonoma County Department of Health Services cross divisional advisory group who were important partners in the planning and organization of this report.

Technical Notes

MORTALITY CODES

The mortality statistics presented in this report were compiled in accordance with World Health Organization regulations, which specify that member countries classify and code causes of death in accordance with the current revision of the International Classification of Diseases (ICD). Effective with deaths occurring in 1999, the United States began using the Tenth Revision of this classification (ICD-10). ICD not only details disease classifications but also provides definitions, tabulation lists, the format of the death certificate, and the rules for coding cause of death. Cause-of-death data presented in this publication were coded by procedures outlined in annual issues of the National Center for Health Statistics Instruction Manual. This manual includes rules for selecting underlying cause of death and regulations on the use of ICD.

The following table lists causes of death presented in this report and their corresponding ICD-10 code(s).

Cause of Death	ICD-10
All Causes of Death	A00-Y89
All Cancers	C00-C97
Colorectal Cancer	C18-C21, C26.0
Lung Cancer	C34
Female Breast Cancer	C50
Prostate Cancer	C61
Diabetes	E10-E14
Alzheimer's Disease	G30
Heart Disease	I00-I09, I11, I13, I20-I51
Stroke	I60-I69
Influenza/Pneumonia	J09-J18
Chronic Lower Respiratory Disease	J40-J47
Chronic Liver Disease and Cirrhosis	K70, K73-K74
Certain Conditions Originating in the Perinatal Period	P00-P96
Congenital Malformations, Deformations, and Chromosomal Abnormalities	Q00-Q99
Sudden Infant Death Syndrome	R95
Unintentional Injuries	V01-X59, Y85-Y86
Motor Vehicle Collisions	V02-V04(.1-.9), V09.2, V12-V14(.3-.9), V19(.4-.6), V20-V28(.3-.9), V29-V79(.4-.9), V80(.3-.5), V81.1, V82.1, V83-V86(.0-.3), V87(.0-.8), V89.2
Suicide	U03, X60-X84, 87.0
Homicide	U01-U02, X85-Y09, Y87.1

Appendix

Table A. Life Expectancy and Age-Adjusted Mortality Rate for Leading Causes of Death, Sonoma County Residents, 2013-2015 -

Table B. Age-Adjusted Cancer Mortality Rates by Type of Cancer, Sonoma County Residents, 2013-2015 -

Table C. Age-Adjusted Unintentional Injury Mortality Rates by Cause, Sonoma County Residents, 2013-2015 -

Table D. Age-Adjusted All Cause Mortality Rate for Leading Causes of Death, Three Year Moving Averages, Sonoma County Residents, 2005-2015 -

Table E. Age-Adjusted All Cause Mortality Rate for Leading Causes of Cancer Death, Three Year Moving Averages, Sonoma County Residents, 2005-2015 -

Table F. Age-Adjusted All Cause Mortality Rate for Leading Causes of Unintentional Injury Death, Three Year Moving Averages, - Sonoma County Residents, 2005-2015 -

Table G. Age-Adjusted Years of Potential Life Lost before Age 75 (YPLL-75) for Leading Causes of Death, Sonoma County Residents, - 2013-2015 -

Table H. Age-Adjusted Years of Potential Life Lost before Age 75 for Leading Causes of Cancer Death, Sonoma County Residents, - 2013-2015 -

Table A. Life Expectancy and Age-Adjusted Mortality Rate for Leading Causes of Death, Sonoma County Residents, 2013-2015

	Life Expectancy ^A Years	All Causes		All Cancers		Disease of the Heart		Alzheimer's Disease		Stroke		Chronic Lower Respiratory Disease		Unintentional Injury	
		3-Year Total Number	Rate per 100,000 [95% CI]	3-Year Total Number	Rate per 100,000 [95% CI]	3-Year Total Number	Rate per 100,000 [95% CI]	3-Year Total Number	Rate per 100,000 [95% CI]	3-Year Total Number	Rate per 100,000 [95% CI]	3-Year Total Number	Rate per 100,000 [95% CI]	3-Year Total Number	Rate per 100,000 [95% CI]
Total	81.9 [81.6 - 82.1]	11,962	612.7 [601.3 - 624.0]	2,852	147.5 [141.9 - 153.1]	2,644	130.6 [125.5 - 135.7]	859	41.6 [38.8 - 44.5]	667	33.8 [31.1 - 36.4]	629	32.4 [29.8 - 34.9]	526	30.2 [27.5 - 32.9]
Sex															
Male	79.7 [79.4 - 80.1]	5,773	716.7 [697.7 - 735.7]	1,458	176.0 [166.6 - 185.3]	1,351	167.7 [158.6 - 176.9]	268	35.8 [31.5 - 40.1]	266	34.3 [30.1 - 38.5]	255	32.1 [28.1 - 36.2]	317	39.7 [35.2 - 44.2]
Female	83.8 [83.6 - 84.1]	6,189	529.1 [515.2 - 542.9]	1,394	127.9 [120.9 - 134.9]	1,293	102.2 [96.3 - 108.0]	591	45.4 [41.6 - 49.2]	401	32.7 [29.3 - 36.0]	374	32.5 [29.1 - 35.9]	209	21.1 [18.1 - 24.2]
Race/ethnicity															
African American/Black	81.7 [79.8 - 83.7]	134	641.1 [527.1 - 755.2]	34	164.3 [106.1 - 222.6]	35	178.6 [116.7 - 240.5]	5	28.3* [3.4 - 53.1]	5	27.8** [2.8 - 52.9]	-	-	-	-
American Indian/Alaska Native	81.4 [78.5 - 84.8]	78	613.3 [470.7 - 755.9]	19	133.6* [69.7 - 198.1]	11	102.0** [41.2 - 162.8]	-	-	-	-	-	-	6	48.3 [9.0 - 87.7]
Asian/Pacific Islander	88.3 [86.9 - 88.4]	282	400.4 [352.3 - 448.2]	84	114.9 [89.6 - 140.3]	57	80.3 [59.1 - 101.5]	12	18.4* [7.9 - 28.8]	28	42.4 [26.5 - 58.3]	5	7.4** [0.9 - 13.9]	15	20.2 [9.8 - 30.6]
Hispanic/Latino	87.7 [87.0 - 88.4]	748	407.0 [375.2 - 438.7]	187	102.5 [86.6 - 118.4]	123	76.7 [62.5 - 90.9]	40	29.5 [20.3 - 38.7]	48	30.1 [21.1 - 39.1]	16	10.6* [5.3 - 15.9]	58	18.4 [13.1 - 23.7]
White, non-Hispanic	81.3 [81.0 - 81.6]	10,563	638.4 [625.5 - 651.3]	2,493	152.8 [146.5 - 159.1]	2,388	135.6 [130.0 - 141.3]	797	43.5 [40.4 - 46.6]	574	32.8 [29.9 - 35.5]	599	35.6 [32.7 - 38.6]	431	33.5 [30.1 - 37.0]
City of Residence^{AA}															
Santa Rosa	80.9 [80.6 - 81.2]	5,303	664.0 [645.6 - 682.4]	1,240	160.6 [151.1 - 169.4]	1,190	143.0 [134.6 - 151.4]	385	44.5 [39.9 - 49.0]	309	37.7 [33.4 - 42.1]	265	33.8 [29.6 - 38.0]	219	29.3 [25.3 - 33.3]
Petaluma	81.8 [81.2 - 82.3]	1,639	630.5 [599.2 - 661.8]	381	147.1 [131.8 - 162.4]	414	155.0 [139.8 - 170.2]	139	54.6 [45.4 - 63.8]	73	28.6 [21.9 - 35.3]	77	30.9 [23.8 - 38.1]	59	24.2 [17.8 - 30.6]
Sonoma Valley	82.2 [81.5 - 82.9]	1,180	606.0 [570.0 - 641.9]	265	132.2 [115.7 - 148.7]	263	131.3 [115.0 - 147.5]	99	48.5 [38.9 - 58.2]	90	44.8 [35.3 - 54.3]	77	39.3 [30.4 - 48.2]	43	29.2 [19.7 - 38.7]
Rohnert Park	80.2 [79.3 - 81.0]	842	710.3 [659.8 - 760.7]	213	187.4 [160.8 - 213.9]	178	147.5 [124.8 - 170.2]	49	36.9 [26.2 - 47.6]	39	34.2 [22.9 - 45.4]	45	39.1 [27.2 - 51.1]	47	35.9 [25.1 - 46.7]
Sebastopol - West County	83.3 [82.4 - 84.2]	804	535.9 [496.2 - 575.6]	198	123.7 [104.9 - 142.4]	186	117.8 [100.2 - 135.4]	54	37.2 [27.1 - 47.2]	38	25.8 [17.3 - 34.4]	36	26.9 [17.4 - 35.2]	43	31.9 [21.2 - 42.5]
Windsor	83.1 [82.1 - 84.0]	540	540.1 [493.9 - 586.4]	137	131.6 [109.3 - 153.9]	109	107.2 [86.9 - 127.5]	35	35.6 [23.8 - 47.5]	38	38.0 [25.8 - 50.2]	27	26.9 [16.7 - 37.0]	22	25.2 [14.2 - 36.3]
Healdsburg	84.9 [83.9 - 86.0]	392	472.6 [422.9 - 522.2]	97	118.9 [93.6 - 144.2]	73	85.2 [64.9 - 105.4]	35	38.2 [25.4 - 51.1]	30	34.3 [27.7 - 46.9]	27	29.9 [18.4 - 41.5]	16	29.6 [13.4 - 45.8]
Cloverdale and Geyserville	80.5 [78.9 - 81.9]	342	683.5 [607.9 - 759.0]	88	180.6 [141.4 - 219.7]	70	135.4 [102.7 - 168.2]	22	38.5* [21.9 - 54.9]	14	27.1** [11.9 - 42.2]	23	42.5 [24.5 - 60.5]	19	49.5 [26.2 - 72.8]
Russian River area	78.3 [76.9 - 79.7]	379	805.6 [717.3 - 893.9]	98	174.4 [135.9 - 213.0]	76	183.4 [139.9 - 226.8]	11	32.4** [13.2 - 51.5]	16	38.5** [18.6 - 58.6]	25	56.5 [32.9 - 80.1]	26	51.5 [29.8 - 73.1]
National Comparison 2013-2015	78.8	7,936,041	729.9 [729.4 - 730.4]	1,772,510	160.9 [160.7 - 161.2]	1,859,295	168.4 [168.2 - 168.7]	288,869	26.2 [26.1 - 26.3]	402,404	36.8 [36.7 - 36.9]	451,347	41.4 [41.3 - 41.5]	413,181	41.1 [40.9 - 41.2]
California Comparison 2013-2015	81.5 [81.5 - 81.6]	753,494	619.1 [617.7 - 620.5]	175,755	144.6 [143.9 - 145.3]	179,777	146.5 [145.8 - 147.2]	39,600	32.2 [31.9 - 32.6]	42,494	35.0 [34.7 - 35.4]	39,999	33.5 [33.1 - 33.8]	35,886	29.7 [29.4 - 30.0]
HP 2020 Objective	na	na	na	161.4	na	na	na	na	na	34.8	na	na	na	36.4	na

- < 5 cases; Data suppressed
 *RSE 23-29.9%; Interpret with caution
 **RSE >=30%; Estimate is unstable

Source: California Department of Public Health, VRBIS Death Data 2005-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016).

Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database, released December, 2016. Data are from the Multiple Cause of Death Files, 1999-2015, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on Mar 20, 2017 6:55:53 PM

^ALE calculation: Chiang Method II

^{AA}City zip code: Santa Rosa, 95401, 95403, 95404, 95405, 95407, 95409, 95439; Petaluma, 94952, 94954; Sonoma Valley, 95442, 95476, Rohnert Park, 94928; Sebastopol - West County, 94922, 94923, 95444, 95465, 95472; Windsor, 95492; Healdsburg, 95448; Cloverdale/Geyserville, 95425, 95441; Russian River area, 95421, 95430, 95436, 95446, 95462, 95486

Table B. Age-Adjusted Cancer Mortality Rates by Type of Cancer, Sonoma County Residents, 2013-2015

	All Cancers		Lung Cancer		Colorectal Cancer		Female Breast Cancer		Pancreatic Cancer		Prostate Cancer	
	3-Year Total Number	Rate per 100,000	3-Year Total Number	Rate per 100,000	3-Year Total Number	Rate per 100,000	3-Year Total Number	Rate per 100,000	3-Year Total Number	Rate per 100,000	3-Year Total Number	Rate per 100,000
Total	2,852	147.5	607	31.7	281	14.5	201	19.0	192	9.6	163	20.6
	[141.9-153.1]		[29.1-34.5]		[12.7-16.2]		[16.1-21.8]		[8.2-10.9]		[17.4-23.9]	
Sex												
Male	1,458	176.0	287	34.8	134	16.6	-	-	99	11.6	163	20.6
	[166.6-185.3]		[30.7-38.0]		[13.7-19.5]				[9.3-14.0]		[17.4-23.9]	
Female	1,394	127.9	320	29.4	147	12.9	201	19.0	93	8.0	-	-
	[120.9-134.9]		[26.0-32.7]		[10.7-15.1]		[16.1-21.8]		[6.3-9.7]			
Race/ethnicity												
African American/Black	34	164.3	5	29.5**	6	30.4**	-	-	-	-	-	-
	[106.1-222.6]		[2.6-53.4]		[4.8-55.9]							
American Indian/Alaska Native	19	133.6*	-	-	-	-	-	-	-	-	-	-
	[69.7-198.1]											
Asian/Pacific Islander	84	114.9	19	28.3*	11	15.4**	-	-	-	-	-	-
	[89.6-140.3]		[15.3-41.3]		[5.9-24.8]							
Hispanic/Latino	187	102.5	28	16.1	20	11.6*	13	11.2*	11	5.9**	13	21.0*
	[86.6-118.4]		[9.8-22.5]		[6.2-17.1]		[4.8-17.6]		[2.1-9.7]		[8.9-33.1]	
White, non-Hispanic	2,493	152.8	547	33.3	240	14.9	179	20.7	167	9.6	143	20.8
	[146.5-159.1]		[30.4-36.2]		[12.9-16.9]		[17.4-24.1]		[8.1-11.1]		[17.3-24.3]	
City of Residence												
Santa Rosa	1,240	160.6	245	32.7	128	15.9	90	20.3	76	9.6	74	9.5
	[151.1-169.4]		[28.5-36.9]		[13.1-18.8]		[15.9-24.6]		[7.4-11.8]		[7.3-11.8]	
Petaluma	381	147.1	74	28.4	40	15.9	26	18.3	23	8.7	19	7.3*
	[131.8-162.4]		[21.7-35.1]		[10.9-21.0]		[10.9-25.6]		[5.0-12.3]		[4.0-10.7]	
Sonoma Valley	265	132.2	69	33.6	22	11.7	16	16.6*	22	10.4	17	8.2*
	[115.7-148.7]		[25.5-41.8]		[6.6-16.8]		[7.9-25.3]		[5.9-14.8]		[4.2-12.2]	
Rohnert Park	213	187.4	52	46.0	25	19.3	19	27.0*	14	12.2*	8	7.5**
	[160.8-213.9]		[32.8-59.1]		[11.4-27.2]		[14.3-39.8]		[5.5-18.9]		[2.0-12.9]	
Sebastopol - West County	198	123.7	35	22.9	23	15.5	20	25.7*	17	8.4*	14	8.1*
	[104.9-142.4]		[15.0-30.8]		[8.8-22.2]		[12.9-38.5]		[4.3-12.5]		[3.7-12.4]	
Windsor	137	131.6	29	28.2	12	11.7**	10	17.1**	8	7.8**	8	7.7**
	[109.3-153.9]		[17.8-38.6]		[5.0-18.3]		[6.4-27.8]		[2.3-13.3]		[2.3-13.1]	
Healdsburg	97	118.9	22	27.2	7	7.3**	5	13.5**	10	14.9**	6	7.3**
	[93.6-144.2]		[15.4-39.0]		[1.8-12.7]		[0.3-26.7]		[4.5-25.4]		[1.2-13.4]	
Cloverdale and Geyserville	88	180.6	22	42.9	6	11.1**	7	35.3**	5	8.3**	8	17.0**
	[141.4-219.7]		[24.5-61.4]		[2.5-20.3]		[7.6-63.0]		[1.9-15.8]		[4.7-29.4]	
Russian River area	98	174.4	28	48.1	9	16.8**	-	-	8	13.3**	-	-
	[135.9-213.0]		[28.3-67.9]		[8.8-28.8]				[5.3-23.7]			
National Comparison 2013-2015	160.9	42.0	42.0	14.5	14.5	20.6	10.9	19.0	10.9	19.0	19.0	19.0
	[160.7-161.2]		[41.8-42.1]		[14.4-14.5]		[20.5-20.7]		[10.8-11.0]		[18.9-19.1]	
California Comparison 2013-2015	144.6	30.8	30.8	13.2	13.2	19.9	10.2	19.4	10.2	19.4	19.4	19.4
	[143.9-145.3]		[30.5-31.1]		[13.0-13.5]		[19.5-20.2]		[10.0-10.4]		[19.0-19.8]	

- < 5 cases; Data suppressed

*RSE 23-29.9%; Interpret with caution

**RSE >=30%; Estimate is unstable

Source: California Department of Public Health, VRBIS Death Data 2005-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016).

Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database, released December, 2016. Data are from the Multiple Cause of Death Files, 1999-2015, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on Mar 20, 2017 6:55:53 PM

**City zip code: Santa Rosa, 95401, 95403, 95404, 95405, 95407, 95409, 95439; Petaluma, 94952, 94954; Sonoma Valley, 95442, 95476, Rohnert Park, 94928; Sebastopol - West County, 94922, 94923, 95444, 95465, 95472; Windsor, 95492; Healdsburg, 95448; Cloverdale/Geyserville, 95425, 95441; Russian River area, 95421, 95430, 95436, 95446, 95462, 95486

Table C. Age-Adjusted Unintentional Injury Mortality Rates by Cause, Sonoma County Residents, 2013-2015

	Unintentional Injury		Unintentional Drug Poisoning		Unintentional Fall		Unintentional MV	
	3-Year Total Number	Rate per 100,000	3-Year Total Number	Rate per 100,000	3-Year Total Number	Rate per 100,000	3-Year Total Number	Rate per 100,000
Total	526	30.2	152	9.3	126	6.3	109	6.7
	[27.5-32.9]		[7.8-10.9]		[5.1-7.4]		[5.4-8.0]	
Sex								
Male	317	39.7	100	12.4	54	6.8	75	9.7
	[35.2-44.2]		[9.9-14.9]		[4.9-8.7]		[7.2-11.6]	
Female	209	21.1	52	6.3	72	5.7	34	4.1
	[18.1-24.2]		[4.5-8.0]		[4.3-7.1]		[2.7-5.5]	
Race/ethnicity								
African American/Black	-	-	-	-	-	-	-	-
American Indian/Alaska Native	6	48.3**	-	-	-	-	-	-
	[9.0-87.7]							
Asian/Pacific Islander	15	20.2*	-	-	-	-	-	-
	[9.8-30.6]							
Hispanic/Latino	58	18.4	13	3.5*	7	3.5**	19	4.3*
	[13.1-23.7]		[1.6-5.5]		[0.6-6.3]		[2.3-6.3]	
White, non-Hispanic	431	33.5	129	11.9	111	6.5	84	7.1
	[30.1-37.0]		[9.7-14.1]		[5.2-7.8]		[5.5-8.7]	
City of Residence								
Santa Rosa	219	29.3	65	8.9	52	6.0	50	7.5
	[25.3-33.3]		[6.7-11.2]		[4.3-7.7]		[5.4-9.6]	
Petaluma	59	24.2	16	6.9*	17	6.2*	11	5.1**
	[17.8-30.6]		[3.3-10.4]		[3.2-9.1]		[2.0-8.4]	
Sonoma Valley	43	29.2	9	7.9**	16	7.9*	7	6.0**
	[19.7-38.7]		[4.2-13.4]		[3.9-11.8]		[1.2-10.8]	
Rohnert Park	47	35.9	19	13.2*	7	6.1**	12	8.8**
	[25.1-46.7]		[7.1-19.3]		[1.3-11.0]		[3.4-13.7]	
Sebastopol - West County	43	31.9	11	9.4**	11	7.7**	7	4.0**
	[21.2-42.5]		[3.2-15.6]		[2.6-12.8]		[0.7-7.4]	
Windsor	22	25.2	5	6.4**	5	4.9**	-	-
	[14.2-36.3]		[3.0-12.4]		[0.6-9.2]			
Healdsburg	16	29.6**	-	-	6	8.7**	-	-
	[13.4-45.8]				[0.4-17.0]			
Cloverdale and Geyserville	19	49.5*	-	-	-	-	-	-
	[26.2-72.8]							
Russian River area	26	51.5	11	15.8**	4	10.1**	5	13.5**
	[29.8-73.1]		[5.9-25.8]		[0-20.6]		[1.4-25.5]	
National Comparison 2013-2015	41.1	12.4	8.8	12.4	8.8	12.4	11.1	11.1
	[40.9-41.2]		[12.3-12.5]		[8.7-8.8]		[11.0-11.2]	
California Comparison 2013-2015	29.7	9.4	5.8	9.4	5.8	9.4	8.8	8.8
	[29.4-30.0]		[9.2-9.5]		[5.6-5.9]		[8.6-9.0]	

- < 5 cases; Data suppressed

*RSE 23-29.9% Interpret with caution

**RSE >=30% Estimate is unstable

Table D. Age-Adjusted All Cause Mortality Rate for Leading Causes of Death, Three Year Moving Averages, Sonoma County Residents, 2005-2015

	2005-2007		2006-2008		2007-2009		2008-2010		2009-2011		2010-2012		2011-2013		2012-2014		2013-2015	
	3-Year Total Number	Rate per 100,000																
Cancer	2,794	179.3 [172.5-186.0]	2,752	172.0 [165.4-178.6]	2,857	173.5 [166.9-180.0]	2,851	169.1 [162.7-175.5]	2,879	167.0 [160.7-173.3]	2,826	161.3 [155.1-167.4]	2,834	156.8 [150.8-162.8]	2,851	152.7 [146.9-158.5]	2,852	147.5 [141.9 - 153.1]
Heart Disease	2,781	166.7 [160.4-173.0]	2,737	159.8 [153.7-165.9]	2,716	155.0 [149.0-160.9]	2,710	150.0 [144.2-155.8]	2,741	148.7 [143.0-154.4]	2,694	142.3 [136.8-147.9]	2,615	134.6 [129.3-139.9]	2,573	129.1 [124.0-134.3]	2,644	130.6 [125.5 - 135.7]
Alzheimer's Disease	510	29.5 [26.9-32.1]	424	23.6 [21.3-25.9]	640	34.6 [31.8-37.3]	737	38.5 [35.6-41.3]	739	37.7 [34.9-40.5]	762	38.3 [35.5-41.1]	782	38.7 [35.9-41.4]	816	39.8 [36.9-42.6]	859	41.6 [38.8 - 44.5]
Stroke	883	53.3 [49.8-56.9]	854	49.7 [46.3-53.1]	807	45.2 [42.0-48.4]	773	41.9 [38.9-45.0]	716	38.4 [35.6-41.3]	696	36.9 [34.2-39.8]	676	35.1 [32.4-37.8]	661	34.0 [31.4-36.7]	667	33.8 [31.1 - 36.4]
Chronic Lower Respirato	564	36.8 [33.7-39.9]	595	37.4 [34.4-40.5]	637	38.6 [35.6-41.7]	686	40.4 [37.3-43.5]	694	40.2 [37.1-43.3]	683	39.1 [36.0-42.1]	676	37.4 [34.5-40.3]	647	34.6 [31.9-37.4]	629	32.4 [29.8 - 34.9]
Unintentional Injury	504	32.9 [30.0-35.9]	465	30.3 [27.5-33.1]	471	30.0 [27.3-32.8]	472	29.6 [26.9-32.4]	429	26.5 [23.9-29.1]	418	25.7 [23.1-28.2]	391	23.5 [21.1-25.9]	469	27.3 [24.7-29.8]	526	30.2 [27.5-32.9]

Source: California Department of Public Health, VRBIS Death Data 2005-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016).

Table E. Age-Adjusted All Cause Mortality Rate for Leading Causes of Cancer Death, Three Year Moving Averages, Sonoma County Residents, 2005-2015

	2005-2007		2006-2008		2007-2009		2008-2010		2009-2011		2010-2012		2011-2013		2012-2014		2013-2015	
	3-Year Total Number	Rate per 100,000																
Cancer	2,794	179.3 [172.5-186.0]	2,752	172.0 [165.4-178.6]	2,857	173.5 [166.9-180.0]	2,851	169.1 [162.7-175.5]	2,879	167.0 [160.7-173.3]	2,826	161.3 [155.1-167.4]	2,834	156.8 [150.8-162.8]	2,851	152.7 [146.9-158.5]	2,852	147.5 [141.9 - 153.1]
Lung Cancer	719	47.4 [43.9-50.9]	679	43.7 [40.3-47.1]	682	42.5 [39.2-45.7]	700	42.4 [39.2-45.7]	687	40.8 [37.7-43.9]	669	38.9 [35.8-41.9]	628	35.0 [32.2-37.8]	626	33.7 [31.0-36.5]	607	31.7 [29.1-34.5]
Colorectal Cancer	285	18.1 [15.9-20.3]	255	15.8 [13.8-17.8]	255	15.2 [13.3-17.1]	254	14.7 [12.9-16.6]	273	15.4 [13.5-17.3]	246	13.7 [11.9-15.5]	260	14.2 [12.4-16.0]	253	13.3 [11.6-15.0]	281	14.5 [12.7-16.2]
Female Breast Cancer	200	21.8 [18.7-24.9]	213	22.8 [19.7-25.9]	235	24.8 [21.5-28.1]	240	25.2 [21.9-28.5]	247	25.6 [22.3-28.9]	239	24.9 [21.6-28.2]	227	23.2 [20.0-26.4]	214	21.0 [18.1-24.0]	201	19.0 [16.1-21.8]
Pancreatic Cancer	181	11.4 [9.7-13.1]	195	11.9 [10.2-13.6]	187	11.1 [9.4-12.7]	196	11.2 [9.6-12.9]	186	10.7 [9.1-12.2]	201	11.6 [9.9-13.2]	197	11.1 [9.5-12.7]	203	10.7 [9.2-12.3]	192	9.6 [8.2-10.9]
Prostate Cancer	157	25.4 [21.5-29.5]	165	25.8 [21.8-29.8]	169	25.7 [21.8-29.6]	160	23.5 [19.8-27.2]	144	20.4 [17.0-23.8]	133	18.7 [15.5-21.9]	133	17.8 [14.7-20.9]	147	19.6 [16.4-22.8]	163	20.6 [17.4-23.9]

Source: California Department of Public Health, VRBIS Death Data 2005-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016).

Table F. Age-Adjusted All Cause Mortality Rate for Leading Causes of Unintentional Injury Death, Three Year Moving Averages, Sonoma County Residents, 2005-2015

	2005-2007		2006-2008		2007-2009		2008-2010		2009-2011		2010-2012		2011-2013		2012-2014		2013-2015	
	3-Year Total Number	Rate per 100,000																
Unintentional Injury	504	32.9 [30.0-35.9]	465	30.3 [27.5-33.1]	471	30.0 [27.3-32.8]	472	29.6 [26.9-32.4]	429	26.5 [23.9-29.1]	418	25.7 [23.1-28.2]	391	23.5 [21.1-25.9]	469	27.3 [24.7-29.8]	526	30.2 [27.5-32.9]
Drug Poisoning	127	8.4 [6.9-9.9]	127	8.3 [6.8-9.7]	132	8.5 [7.0-10.0]	146	9.3 [7.8-10.9]	130	8.4 [6.9-9.8]	140	9.0 [7.5-10.5]	109	7.0 [5.6-8.3]	134	8.4 [6.9-9.8]	152	9.3 [7.8-10.9]
Falls	114	6.9 [5.6-8.2]	99	5.9 [4.7-7.1]	109	6.2 [5.0-7.3]	115	6.4 [5.2-7.6]	102	5.4 [4.3-6.5]	108	5.8 [4.7-6.9]	111	5.9 [4.7-7.0]	124	6.4 [5.2-7.6]	126	6.3 [5.1-7.4]
Motor Vehicle Collision:	163	11.0 [9.3-12.7]	150	10.2 [8.5-11.8]	136	9.4 [7.8-11.0]	115	8.0 [6.5-9.5]	101	6.9 [5.5-8.2]	85	5.5 [4.3-6.7]	80	4.9 [3.8-6.1]	97	5.9 [4.7-7.1]	109	6.7 [5.4-8.0]

Source: California Department of Public Health, VRBIS Death Data 2005-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016).

Table G Age-Adjusted Years of Potential Life Lost before Age 75 (YPLL-75) for Leading Causes of Death, Sonoma County Residents, 2013-2015

	All Causes		All Cancers		Unintentional Injury		Disease of the Heart		Suicide		Chronic Liver Disease		Diabetes		Stroke		Chronic Lower Respiratory Disease	
	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]
Total	70,375	4410.0 [4375.7 - 4444.2]	18,746	1045.1 [1029.3-1060.9]	10,315	741.2 [726.6-755.9]	8,128	448.3 [438.1-458.5]	4,425	323.3 [313.5-333.1]	3,285	202.0 [194.8-209.2]	2,045	113.5 [108.3-118.7]	1,673	97.0 [92.1-102.0]	1,885	93.9 [89.6-98.4]
Sex																		
Male	43,255	5585.1 [5330.3- 5640.0]	9,438	1096.1 [1073.0-1119.2]	7,083	1016.8 [992.6-1041.0]	6,010	681.4 [663.4-699.3]	3,383	490.0 [473.1-506.9]	1,773	215.7 [205.3-226.2]	1,430	168.6 [159.5-177.7]	1,070	130.4 [122.2-138.6]	1,080	111.3 [104.2-118.5]
Female	27,120	3250.7 [3209.6-3291.8]	9,308	995.7 [974.2-1017.2]	3,233	460.3 [444.1-476.6]	2,118	232.4 [221.9-242.9]	1,043	154.0 [144.4-163.7]	1,513	190.3 [180.2-200.4]	615	61.5 [56.4-66.7]	603	64.9 [59.4-70.5]	878	76.1 [70.9-81.2]
Race/ethnicity																		
African American/Black	1,190	4329.6 [4078.1-4581.1]	240	875.8 [762.9-988.6]	-	-	178	623.8 [529.2-718.4]	0	-	-	-	110	413.3 [335.1-491.5]	-	-	-	-
American Indian/Alaska Native	813	6091.5 [5653.1-6530.0]	240	1556.0 [1351.6-1760.3]	-	-	0	-	-	-	-	-	-	-	-	-	-	-
Asian/Pacific Islander	1,845	2495.7 [2378.2-2613.2]	610	728.5 [669.3-787.7]	225	316.2 [274.5-357.9]	328	481.0 [427.6-534.4]	128	187.5 [154.8-220.2]	0	-	85	114.3 [89.2-139.4]	-	-	0	-
Hispanic/Latino	10,275	2951.5 [2891.5-3011.5]	2,038	684.2 [653.3-715.1]	2,000	501.0 [478.4-523.5]	773	267.8 [248.1-287.4]	685	175.4 [162.0-188.9]	545	176.4 [161.0-191.8]	283	114.2 [100.3-128.2]	363	113.4 [101.2-125.6]	85	26.4 [19.9-32.9]
White, non-Hispanic	53,703	4787.5 [4742.1-4832.9]	15,220	1138.4 [1118.1-1158.7]	7,563	857.9 [837.5-878.4]	6,448	458.9 [446.6-471.1]	3,448	394.5 [380.5-408.5]	2,620	231.4 [221.7-241.2]	1,413	103.3 [97.4-109.2]	1,128	73.6 [68.9-78.3]	1,740	108.7 [103.1-114.2]
City of Residence																		
Santa Rosa	30,505	4533.3 [4480.9-4585.6]	8,020	1113.7 [1088.6-1138.9]	4,298	694.8 [673.7-715.9]	3,525	477.6 [461.6-493.9]	1,803	296.3 [282.4-310.3]	1,498	219.5 [208.1-230.9]	953	130.1 [121.6-138.5]	613	82.9 [76.2-89.7]	898	114.4 [106.7-122.0]
Petaluma	8,843	3775.5 [3692.7-3858.3]	2,725	1083.6 [1040.8-1126.5]	953	495.4 [462.8-527.9]	1,008	347.9 [325.9-369.9]	633	319.8 [294.0-345.6]	518	211.5 [192.5-230.5]	230	82.1 [71.1-93.1]	200	75.1 [64.2-85.9]	315	139.9 [123.6-156.2]
Sonoma Valley	5,025	3748.0 [3634.5-3861.5]	1,435	826.4 [780.1-872.8]	723	728.7 [673.3-784.1]	693	441.7 [405.8-477.5]	260	275.2 [240.6-309.8]	318	250.4 [221.6-279.1]	110	48.5 [39.3-57.7]	125	85.2 [68.2-102.2]	80	34.4 [26.8-42.1]
Rohnert Park	6,670	5214.4 [5083.9-5344.9]	1,543	1174.1 [1113.0-1235.2]	1,255	924.4 [870.5-978.4]	725	571.1 [528.2-614.1]	285	244.2 [215.0-273.5]	295	235.7 [208.1-263.3]	265	217.3 [189.9-244.7]	205	191.8 [164.3-219.2]	178	130.6 [110.9-150.4]
Sebastopol - West County	4,523	4098.4 [3955.3-4241.5]	1,400	1028.3 [963.3-1093.3]	608	633.1 [577.3-688.9]	560	305.7 [277.3-334.1]	333	338.5 [299.9-377.1]	123	91.3 [72.6-110.0]	-	-	125	91.1 [72.5-109.8]	55	25.6 [18.7-32.5]
Windsor	3,470	4036.8 [3896.4-4177.3]	850	795.4 [740.9-849.8]	470	694.5 [629.5-759.4]	403	387.3 [348.5-426.2]	373	464.3 [415.8-512.8]	115	93.9 [76.7-111.2]	58	75.5 [55.4-95.7]	170	174.8 [147.5-202.0]	53	51.2 [37.3-65.2]
Healdsburg	1,900	3367.1 [3198.3-3536.0]	553	862.9 [780.6-945.3]	353	909.4 [808.9-1009.0]	243	385.8 [332.6-439.0]	188	368.0 [312.4-423.7]	75	141.2 [105.4-177.1]	-	-	78	83.4 [64.6-102.2]	48	45.2 [32.2-58.2]
Cloverdale and Geyserville	2,208	5802.3 [5548.0-6056.7]	538	1195.4 [1088.7-1302.0]	545	1781.8 [1629.5-1934.0]	248	539.6 [470.5-608.7]	178	495.7 [421.8-569.6]	83	217.6 [166.2-269.0]	-	-	-	-	45	73.6 [51.7-95.6]
Russian River area	3,018	6249.8 [5998.3-6501.2]	748	1170.9 [1074.4-1267.5]	450	1097.4 [987.8-1206.9]	435	945.9 [849.5-1042.2]	210	576.8 [495.3-658.2]	-	-	103	132.9 [106.1-159.8]	58	72.5 [53.4-91.6]	75	107.4 [82.1-132.8]
National Comparison 2013-2015	62,400,852	6481.1	13,217,119	1252.6	9,616,732	1092.7	9,406,854	915.8	3,629,772	410.8	1761051	178.8	1699180	165.5	1,554,256	152.3	1,802,232	162.9
California Comparison 2013-2015	5,900,927	5082.6	1,327,681	1090.9	870,958	779.4	820,578	676.5	331,108	296.9	243013	208.2	169513	141.5	163,828	137.6	130,621	103.5

- < 5 cases; Data suppressed

*RSE 23-29.9%; Interpret with caution

**RSE >=30%; Estimate is unstable

Source: California Department of Public Health, VRBIS Death Data 2013-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016) and Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Years of Potential Life Lost Reports, 2013-2015; Accessed 4.12.2017

^^City zip code: Santa Rosa, 95401, 95403, 95404, 95405, 95407, 95409, 95439; Petaluma, 94952, 94954; Sonoma Valley, 95442, 95476, Rohnert Park, 94928; Sebastopol - West County, 94922, 94923, 95444, 95465, 95472; Windsor, 95492; Healdsburg, 95448; Cloverdale/Geyserville, 95425, 95441; Russian River area, 95421, 95430, 95436, 95446, 95462, 95486

Table H. Age-Adjusted Years of Potential Life Lost before Age 75 (YPLL-75) for Leading Causes of Cancer Death, Sonoma County Residents, 2013-2015

	All Cancers		Lung Cancer		Female Breast Cancer		Colorectal Cancer		Pancreatic Cancer		Prostate Cancer	
	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]
Total	18,746	1045.1 [1029.3-1060.9]	3,060	154.1 [148.4-159.8]	1,973	229.6 [218.8-240.4]	1,935	115.3 [109.9-120.7]	1,240	60.2 [56.7-63.7]	453	44.1 [39.9-48.2]
Sex												
Male	9,438	1096.1 [1073.0-1119.2]	1,463	154.9 [146.6-163.1]	-	-	1020	130.9 [122.5-139.2]	628	68.5 [62.9-74.1]	453	44.1 [39.9-48.2]
Female	9,308	995.7 [974.2-1017.2]	1,598	153.4 [145.6-161.2]	1,973	229.6 [218.8-240.4]	915	99.0 [92.4-105.7]	613	51.8 [47.6-55.9]	-	-
Race/ethnicity												
African American/Black	240	875.8 [762.9-988.6]	-	-	-	-	-	-	-	-	0	-
American Indian/Alaska Native	240	1556.0 [1351.6-1760.3]	63	411.0 [306.8-515.3]	0	-	0	-	0	-	-	-
Asian/Pacific Islander	610	728.5 [669.3-787.7]	130	167.6 [138.2-197]	-	-	73	75.8 [58.2-93.3]	70	82.6 [62.9-102.2]	-	-
Hispanic/Latino	2,038	684.2 [653.3-715.1]	225	83.4 [71.9-94.8]	193	142.3 [121.9-162.7]	190	58.4 [49.9-66.9]	135	46.3 [38.2-54.4]	-	-
White, non-Hispanic	15,220	1138.4 [1118.1-1158.7]	2,603	159.3 [152.9-165.8]	1,678	265.5 [251.1-279.8]	1638	141.3 [133.8-148.9]	1010	103.3 [97.4-109.2]	380	45.7 [40.9-50.4]
City of Residence												
Santa Rosa	8,020	1113.7 [1088.6-1138.9]	1,318	178.2 [168.3-188.1]	910	244.9 [228.3-261.5]	765	109.9 [101.8-117.9]	475	58.9 [53.5-64.4]	228	60.7 [52.7-68.7]
Petaluma	2,725	1083.6 [1040.8-1126.5]	355	121.6 [108.7-134.6]	253	215.3 [187.2-243.4]	365	167.4 [149.6-185.2]	153	48.2 [40.4-55.9]	48	34.4 [24.5-44.3]
Sonoma Valley	1,435	826.4 [780.1-872.8]	243	114.4 [99.4-129.3]	143	203.9 [168.5-239.3]	205	145.5 [124.2-166.8]	108	47.3 [38.2-56.3]	45	44.3 [31.3-57.3]
Rohnert Park	1,543	1174.1 [1113.0-1235.2]	273	194.2 [170.4-218.0]	143	178.3 [148.2-208.3]	218	161.6 [139.8-183.4]	88	64.5 [50.6-78.4]	-	-
Sebastopol - West County	1,400	1028.3 [963.3-1093.3]	93	45.7 [36.2-55.2]	268	475.8 [410.7-540.8]	180	128.5 [108.1-149.0]	135	63.3 [52.4-74.1]	43	36.4 [25.4-47.5]
Windsor	850	795.4 [740.9-849.8]	110	98.6 [79.9-117.2]	-	-	43	39.3 [27.5-51.2]	48	41.9 [29.8-53.9]	-	-
Healdsburg	553	862.9 [780.6-945.3]	85	86.7 [68.0-105.4]	-	-	-	-	105	230.4 [181.9-278.9]	-	-
Cloverdale and Geyserville	538	1195.4 [1088.7-1302.0]	165	315.0 [265.6-364.5]	98	596.6 [472.7-720.6]	-	-	-	-	-	-
Russian River area	748	1170.9 [1074.4-1267.5]	223	306.2 [264.1-348.3]	-	-	48	55.8 [39.6-72.1]	43	41.9 [29.1-54.9]	-	-
National Comparison 2013-2015												
California Comparison 2013-2015	na		na		na		na		na		na	

- < 5 cases; Data suppressed

na: Not available for this condition or diagnosis

Source: California Department of Public Health, VRBIS Death Data 2005-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016).

Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database, released December, 2016. Data are from the Multiple Cause of Death Files, 1999-2015, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on Mar 20, 2017 6:55:53 PM

^^City zip code: Santa Rosa, 95401, 95403, 95404, 95405, 95407, 95409, 95439; Petaluma, 94952, 94954; Sonoma Valley, 95442, 95476, Rohnert Park, 94928; Sebastopol - West County, 94922, 94923, 95444, 95465, 95472; Windsor, 95492; Healdsburg, 95448; Cloverdale/Geyserville, 95425, 95441; Russian River area, 95421, 95430, 95436, 95446, 95462, 95486

Table I. Age-Adjusted Years of Potential Life Lost before Age 75 (YPLL-75) for Leading Causes of Unintentional Injury Death, Sonoma County Residents, 2013-2015

	Unintentional Injury		Unintentional Drug Poisoning		Unintentional MV		Unintentional Fall	
	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]	3-Year Total Life Lost Before Age 75	YPLL per 100,000 [95% CI]
Total	10,315	741.2 [726.6-755.9]	4,318	310.6 [301.1-320.1]	2,990	217.1 [209.1-225.0]	628	43.5 [39.9-46.9]
Sex								
Male	7,083	1016.8 [992.6-1041.0]	2,903	415.8 [400.3-431.3]	2,178	311.6 [298.3-324.9]	325	44.6 [39.6-49.6]
Female	3,233	460.3 [444.1-476.6]	1,415	202.9 [192.1-213.7]	813	119.3 [111.0-127.6]	303	42.9 [37.9-47.8]
Race/ethnicity								
African American/Black	68	243.0 [184.0-302.0]	-	-	-	-	0	-
American Indian/Alaska Native	85	705.7 [551.6-859.8]	-	-	0	-	0	-
Asian/Pacific Islander	225	316.2 [274.5-357.9]	-	-	-	-	-	-
Hispanic/Latino	2,000	501.0 [478.4-523.5]	443	120.8 [109.3-132.2]	898	206.6 [192.9-220.2]	-	-
White, non-Hispanic	7,563	857.9 [837.5-878.4]	3,570	411.9 [397.8-426.0]	1,947	221.2 [210.9-231.4]	473	47.7 [43.1-52.3]
City of Residence								
Santa Rosa	4,298	694.8 [673.7-715.9]	1,753	281.2 [267.8-294.6]	1,475	246.8 [234.1-259.5]	225	36.0 [31.3-40.8]
Petaluma	953	495.4 [462.8-527.9]	408	212.7 [191.3-234.2]	243	133.8 [116.6-151.1]	-	-
Sonoma Valley	723	728.7 [673.3-784.1]	278	293.6 [257.9-329.3]	183	219.8 [187.3-252.2]	78	50.6 [38.7-62.4]
Rohnert Park	1,255	924.4 [870.5-978.4]	703	494.6 [456.6-532.6]	318	222.1 [196.6-247.6]	-	-
Sebastopol - West County	608	633.1 [577.3-688.9]	293	321.4 [281.3-361.5]	110	84.2 [66.4-102.1]	68	78.3 [56.6-100.0]
Windsor	470	694.5 [629.5-759.4]	178	269.2 [228.1-310.2]	-	-	-	-
Healdsburg	353	909.4 [809.8-1009.0]	-	-	-	-	-	-
Cloverdale and Geyserville	545	1781.8 [1629.5-1934.0]	-	-	-	-	-	-
Russian River area	450	1097.4 [987.8-1206.9]	178	296.8 [250.2-343.5]	178	559.7 [476.8-642.5]	-	-
National Comparison 2013-2015	1092.7		na		387.9		41.5	
California Comparison 2013-2015	779.4		na		304.7		33.3	

- < 5 cases; Data suppressed

Table J. Age-Adjusted Years of Potential Life Lost (YPLL) for Leading Causes of Death, Three Year Moving Averages, Sonoma County Residents, 2005-2015

	2005-2007		2006-2008		2007-2009		2008-2010		2009-2011		2010-2012		2011-2013		2012-2014		2013-2015	
	3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life	
	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]
Cancer	17,665	1156.1 [1138.7-1173.6]	17,743	1133.3 [1116.2-1150.4]	19,090	1187.1 [1169.8-1204.4]	19,635	1190.9 [1173.7-1208.1]	19,750	1172.6 [1155.7-1189.6]	18,940	1115.5 [1099.0-1132.1]	19,098	1111.8 [1095.3-1128.3]	19,030	1098.1 [1081.6-1114.5]	18,746	1045.1 [1029.3-1060.9]
Unintentional Injury	11,740	889.0 [872.7-905.3]	11,125	848.3 [832.3-864.3]	10,720	814.8 [799.1-830.5]	10,348	777.2 [761.9-792.5]	9,360	696.2 [681.8-710.6]	8,730	645.9 [632.1-659.7]	7,513	555.3 [542.5-568.1]	8,748	630.7 [617.2-644.3]	10,315	741.2 [726.6-755.9]
Diseases of the Heart	9,035	601.8 [589.1-614.4]	9,283	615.1 [602.3-628.0]	9,195	606.2 [593.5-618.9]	9,150	579.1 [566.8-591.3]	8,908	547.0 [535.2-558.8]	8,455	498.7 [487.6-509.8]	8,010	459.1 [448.6-469.6]	8,088	456.0 [445.6-466.4]	8,128	448.3 [438.1-458.5]
Suicide	4,188	312.2 [302.6-321.8]	4,843	358.4 [348.1-368.6]	5,290	392.2 [381.4-403.0]	5,168	386.0 [375.2-396.7]	4,880	355.8 [345.6-366.1]	4,530	329.3 [319.4-339.1]	3,845	274.8 [265.8-283.7]	4,150	300.0 [290.6-309.4]	4,425	323.3 [313.5-333.1]
Stroke	1,903	133.8 [127.6-139.9]	1,753	119.1 [113.4-124.9]	1,425	92.1 [87.1-97.0]	1,408	86.2 [81.5-90.8]	1,605	95.6 [90.8-100.5]	1,598	99.6 [94.6-104.7]	1,588	95.7 [90.8-100.6]	1,528	91.3 [86.5-96.1]	1,673	97.0 [92.1-102.0]
Chronic Lower Respiratory Disease	1,313	91.8 [86.8-96.9]	1,298	82.2 [77.6-86.8]	1,538	94.9 [90.1-99.8]	1,753	104.1 [99.1-109.2]	1,698	96.5 [91.8-101.3]	1,778	94.5 [89.9-99.0]	1,850	97.2 [92.6-101.8]	1,903	98.7 [94.1-103.3]	1,885	93.9 [89.6-98.4]
Chronic Liver Disease	2,985	203.7 [196.3-211.2]	3,005	203.5 [196.0-211.0]	2,895	189.7 [182.6-196.8]	2,935	186.2 [179.3-193.2]	3,223	202.9 [195.7-210.2]	3,375	212.7 [205.2-220.2]	3,378	210.5 [203.1-217.9]	3,520	218.7 [211.2-226.3]	3,285	202.0 [194.8-209.2]
Diabetes	1,675	114.6 [109.0-120.2]	1,633	107.1 [101.8-112.4]	1,670	108.2 [102.9-113.5]	1,353	84.1 [79.5-88.7]	1,483	95.7 [90.7-100.8]	1,710	110.0 [104.6-115.4]	1,998	122.9 [117.3-128.5]	1,823	102.7 [97.8-107.6]	2,045	113.5 [108.3-118.7]

Source: California Department of Public Health, VRBIS Death Data 2005-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016).

Table K. Age-Adjusted Years of Potential Life Lost (YPLL) for Leading Causes of Cancer Death, Three Year Moving Averages, Sonoma County Residents, 2005-2015

	2005-2007		2006-2008		2007-2009		2008-2010		2009-2011		2010-2012		2011-2013		2012-2014		2013-2015	
	3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life	
	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]
Cancer	17,665	1156.1 [1138.7-1173.6]	17,743	1133.3 [1116.2-1150.4]	19,090	1187.1 [1169.8-1204.4]	19,635	1190.9 [1173.7-1208.1]	19,750	1172.6 [1155.7-1189.6]	18,940	1115.5 [1099.0-1132.1]	19,098	1111.8 [1095.3-1128.3]	19,030	1098.1 [1081.6-1114.5]	18,746	1045.1 [1029.3-1060.9]
Lung Cancer	4,013	257.1 [249.0-265.3]	3,765	234.8 [227.1-242.4]	3,823	227.0 [219.7-234.4]	3,988	225.4 [218.2-232.5]	3,828	209.3 [202.6-216.1]	3,475	183.3 [177.0-189.5]	3,228	166.4 [160.4-172.3]	3,125	159.7 [153.9-165.6]	3,060	154.1 [148.4-159.8]
Colorectal Cancer	1,770	119.9 [114.2-125.6]	1,405	91.3 [86.4-96.2]	1,605	100.8 [95.8-105.8]	1,480	89.1 [84.4-93.7]	1,923	112.2 [107.1-117.4]	1,695	98.2 [93.3-103.0]	2,010	120.5 [115.0-126.0]	1,933	117.9 [112.4-123.4]	1,935	115.3 [109.9-120.7]
Female Breast Cancer	1,583	190.4 [180.9-199.9]	1,618	196.7 [186.9-206.6]	1,980	239.8 [228.9-250.7]	2,170	262.7 [251.2-274.3]	2,100	243.2 [232.3-254.0]	2,135	254.5 [243.1-265.8]	2,290	282.1 [269.8-294.3]	2,243	273.4 [261.3-285.5]	1,973	229.6 [218.8-240.4]
Pancreatic Cancer	933	56.5 [52.8-60.2]	1,005	58.9 [55.2-62.6]	1,083	60.8 [57.1-64.5]	1,270	70.3 [66.3-74.3]	1,140	61.1 [57.4-64.7]	1,118	59.9 [56.3-63.5]	1,068	56.1 [52.6-59.6]	1,238	62.8 [59.2-66.5]	1,240	60.2 [56.7-63.7]
Prostate Cancer	310	44.4 [39.4-49.5]	435	57.9 [52.3-63.5]	455	58.3 [52.8-63.8]	458	54.7 [49.6-59.8]	410	47.5 [42.8-52.2]	330	37.0 [32.9-41.2]	370	38.0 [34.0-41.9]	355	35.8 [31.9-39.6]	453	44.1 [39.9-48.2]

Source: California Department of Public Health, VRBIS Death Data 2005-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016).

Table L. Age-Adjusted Years of Potential Life Lost (YPLL) for Leading Causes of Unintentional Injury Death, Sonoma County Residents 2005-2015

	2005-2007		2006-2008		2007-2009		2008-2010		2009-2011		2010-2012		2011-2013		2012-2014		2013-2015	
	3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life		3-Year Total Life	
	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]	Lost Before Age 75	YPLL per 100,000 [95% CI]
Unintentional Injury	11,740	889.0 [872.7-905.3]	11,125	848.3 [832.3-864.3]	10,720	814.8 [799.1-830.5]	10,348	777.2 [761.9-792.5]	9,360	696.2 [681.8-710.6]	8,730	645.9 [632.1-659.7]	7,513	555.3 [542.5-568.1]	8,748	630.7 [617.2-644.3]	10,315	741.2 [726.6-755.9]
Drug Poisoning	3,470	260.5 [251.6-269.3]	3,385	251.8 [243.2-260.5]	3,578	265.0 [256.1-273.9]	3,973	291.1 [281.9-300.4]	3,658	267.7 [258.8-276.5]	4,013	294.6 [285.3-303.9]	3,253	240.0 [231.6-248.4]	3,768	272.9 [264.0-281.8]	4,318	310.6 [301.1-320.1]
Falls	530	37.2 [33.9-40.4]	653	49.2 [45.3-53.0]	530	36.4 [33.2-39.6]	670	45.2 [41.7-48.8]	473	28.1 [25.5-30.7]	498	31.7 [28.8-34.6]	510	34.3 [31.2-37.4]	645	45.1 [41.5-48.7]	628	43.5 [39.9-46.9]
Motor Vehicle Collisions	5,098	387.6 [376.8-398.3]	4,745	363.5 [353.0-373.9]	4,525	355.0 [344.5-365.5]	3,700	291.9 [282.4-301.5]	3,183	248.0 [239.2-256.7]	2,280	171.7 [164.5-178.9]	1,930	141.8 [135.3-148.2]	2,488	180.6 [173.3-187.8]	2,990	217.1 [209.1-225.0]

Source: California Department of Public Health, VRBIS Death Data 2005-2015; Accessed 1.24.2017; United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2015 (2010-2015) postcensal population estimates (released by NCHS on 6/28/2016).