

SONOMA COUNTY SUMMARY MEASURES OF HEALTH

A Review of Life Expectancy and Premature Death
2015-2017

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Background

In 2017, the Department of Health Services released its first *Sonoma County Summary Measures of Health*. The report described life expectancy, leading causes of death, death rates, and premature mortality for the years 2013-2015 with the goal of identifying disparities to inform policy and drive prevention efforts in the community. This update to the Summary Measures of Health report focuses on life expectancy and premature death for the years 2015-2017.

Life expectancy provides a measure of the overall health and longevity of the population. Understanding the projected numbers and characteristics of Sonoma County’s aging population has implications for policy and program planning to ensure that the correct programs and supports are in place. Historically, life expectancy and disparities in length of life have served as a catalyst for important community conversations around the social, physical, and environmental factors that contribute to these differences.

Prevention and health promotion efforts can be informed by these data as well. Premature deaths are those that occur at younger ages and are therefore more likely to be preventable. Information on leading causes of premature death and the disparities that exist in the community can help inform approaches to prevent early death. Programs and policies to address lifestyle changes such as smoking cessation or healthy eating and exercise, the primary contributors to premature death, can be targeted to high-risk populations. Strategies to improve conditions in communities that support healthy behaviors and address the social, economic, and environmental factors that also contribute to premature death can be developed to focus on populations with the greatest need.

Data Executive Summary

Data	2015-17 Findings	Comparison to Prior Data	Disparities
Average Life Expectancy	<p>Sonoma County</p> <ul style="list-style-type: none"> • 81.6 years <p>California</p> <ul style="list-style-type: none"> • 81.5 years <p>United States</p> <ul style="list-style-type: none"> • 78.6 years 	<ul style="list-style-type: none"> • U.S. life expectancy decreased for 3rd year in row • Sonoma County life expectancy remained stable 	<p><i>Sex</i></p> <ul style="list-style-type: none"> • Women live 4 years longer than men <p><i>Geographic</i></p> <ul style="list-style-type: none"> • Life expectancy varies across Sonoma County by 4 years • Residents of Healdsburg and Sebastopol-West County live longest <p><i>Race/ethnicity</i></p> <ul style="list-style-type: none"> • Asian/Pacific Islander and Hispanic/Latino residents live 6-7 years longer than American Indian/Alaska Native, African American and white, non-Hispanic residents of the county
Leading Causes of Premature Death	<p><i>Leading causes:</i></p> <ol style="list-style-type: none"> 1. Cancer 2. Unintentional injury 3. Heart disease 4. Suicide 5. Chronic liver disease 6. Diabetes 7. Chronic lower respiratory disease 8. Stroke 	<ul style="list-style-type: none"> • The leading causes of premature death in Sonoma County have not changed since 2013-15 	<p><i>Sex</i></p> <ul style="list-style-type: none"> • Men had higher rates of premature death than did women for all leading causes, except cancer <p><i>Geographic</i></p> <ul style="list-style-type: none"> • Cloverdale and Geyserville and the Russian River area had the highest premature death rates; Petaluma and Sebastopol-West County had the lowest <p><i>Race/Ethnicity</i></p> <ul style="list-style-type: none"> • American Indian/Alaska Native residents had the highest premature death rates; Hispanic/Latino and Asian/Pacific Islander residents had the lowest

Data	2015-17 Findings	Comparison to Prior Data	Disparities
Rates of Premature Death	<ul style="list-style-type: none"> Sonoma County premature death rate: 4473.7 Years of Potential Life Lost (YPLL) prior to age 75 per 100,000 people This rate is lower than that of California or the U.S. 	<p><i>Overall</i></p> <ul style="list-style-type: none"> Premature death rates decreased significantly from 2005-2007 to 2012-2014 then increased from 2012-2014 to 2015-2017 <p><i>Unintentional injury</i></p> <ul style="list-style-type: none"> After a prior decrease, deaths from unintentional injuries increased 33% from 2011-2013 to 2014-2016 largely due to an increase in unintentional drug overdoses. No significant changes were seen between 2014-2016 to 2015-2017. <p><i>Drug Poisoning</i></p> <ul style="list-style-type: none"> After remaining relatively constant from 2005-2011, the premature death rate for unintentional drug poisoning increased by over 55% from 2011-2013 to 2014-2016, following a national trend. There was no significant change in the county rate from 2014-2016 to 2015-2017. <p><i>Unintentional motor vehicle collision</i></p> <ul style="list-style-type: none"> Following a 63% decrease between 2005-2013, the rate of motor vehicle collisions increased significantly (more than doubled) from 2011-2013 to 2015-2017. Despite the recent increase, the 2015-2017 rate remains significantly lower than the 2005-2007 rate. <p><i>Suicide</i></p> <ul style="list-style-type: none"> The premature death rate for suicide increased by 32% (significantly) from 2011-2013 to 2015-2017, mirroring a national trend 	<p><i>Sex</i></p> <ul style="list-style-type: none"> The premature death rate for men increased significantly driving the increase in the overall premature death rate in the county <p><i>Race/ethnicity</i></p> <ul style="list-style-type: none"> The premature death rate for African American/Black residents decreased about 48% from 2005-2007 to 2014-2016 but the rate did not change significantly from 2014-2016 to 2015-2017. The premature death rate for Hispanic/Latinos decreased by 28% from 2005-2007 to 2013-2015 but increased significantly in 2014-2016 and again in 2015-2017.

Demographics and Social Characteristics

Demographics

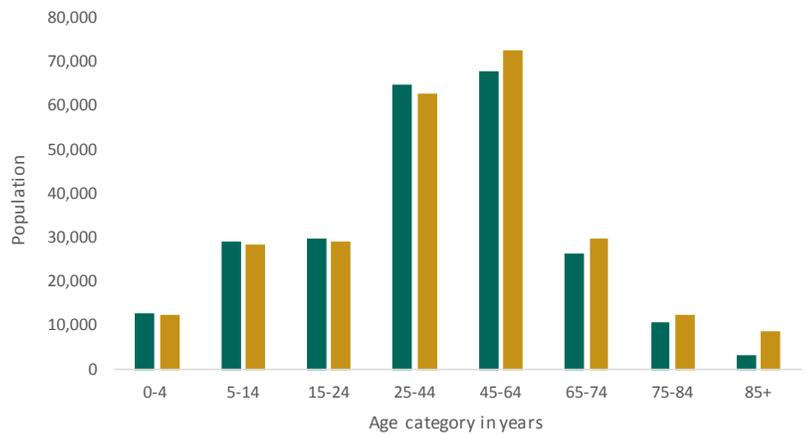
The demographic characteristics of a population, such as sex, age, and race/ethnicity, strongly influence the disease burden within a community. Examining the demographics of the Sonoma County population provides context to the average life expectancy and premature mortality data explored in this report.

In 2016, Sonoma County had an estimated 503,000 residents. The median age in Sonoma County was 42.1 years. Twenty-five percent, or about 127,000 residents, were between the ages of 25 and 44 years and another 28% were between the ages of 45 and 64. About one in five residents (92,000 or 18%) was age 65 and older.

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. In 2016, the majority of Sonoma County residents (66%) were white, non-Hispanic. More than one in four residents (27%) 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 Native. The median age of White, non-Hispanics was 50.8 years, older than other racial/ethnic groups. Hispanic/Latino residents had the youngest median age (28.8 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 (43.2%) of these aggregated zip codes, followed by Petaluma (14.7%). The smallest proportions of the population were in Healdsburg (3.5%), Russian River Area (2.8%), and Cloverdale/Geyserville (2.5%) (Table 2).

Figure 1. Population distribution by age category and sex. Sonoma County 2016



Source: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, Bridged-Race Population Estimates 2016; US Census Bureau, ACS 1 Year Est. 2016, Table: B01001

Table 1. Population distribution by race/ethnicity with median age, Sonoma County 2016

	Total Population	Percent of Total Population	Median Age
White, non-Hispanic	330,268	65.6%	50.8
Hispanic/Latino	133,323	26.5%	28.8
Asian/Pacific Islander	24,670	4.9%	40.3
African American/Black	10,525	2.1%	35.1
American Indian/Alaska Native	4,463	0.9%	41.8

Source: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, Bridged-Race Population Estimates 2016; US Census Bureau, ACS 1 Year Est. 2016, Table: B01002B-1

Table 2. Population distribution by select geography, Sonoma County 2016

Geographic Region	Total Population	Percent of Total Population
Santa Rosa	217,474	43.2%
Petaluma	73,739	14.7%
Rohnert Park	43,663	8.7%
Sonoma Valley	40,553	8.1%
Sebastopol - West County	34,839	6.9%
Windsor	29,590	5.9%
Healdsburg	17,666	3.5%
Russian River Area	13,930	2.8%
Cloverdale and Geyserville	12,460	2.5%

Source: US Census Bureau, American Community Survey, 5 Year Estimates by Zip Code Tabulation Areas (ZCTA), 2013-2017

Social Characteristics

Social and economic characteristics also influence the health or disease burden of a community. Social determinants of health are conditions in the environments in which people live, learn, work, and play, that affect a wide range of health, functioning, and quality-of-life outcomes.¹ 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.² Sonoma County is a relatively affluent county. In 2016, about 59% of the population had incomes 300% or more than the Federal Poverty Level (FPL) – or about \$73,000 per year for a family of four. Poverty in the county varied significantly by race/ethnicity and geography of residence. Hispanic/Latino and African American/Black residence were less likely than white, non-Hispanic and Asian residents to have incomes greater than or equal to 300% FPL (Table 3). Regionally, residents of the Russian River area, Rohnert Park, Santa Rosa, and Cloverdale and Geyserville were less likely to have incomes greater than or equal to 300% FPL than residents of Sonoma Valley, Sebastopol – West County, Healdsburg, Petaluma, and Windsor.

Educational attainment is also an important predictor of health with lower education levels linked to poorer health and a reduction in life expectancy.³ In 2016, about 88% of Sonoma County residents 25 years and older had a high school degree (or equivalent) or higher.

Educational attainment differed by race/ethnicity

and geography. White, non-Hispanic, Asian, and African American/Black residents age 25 years and older were more likely than American Indian/Alaska Native and Hispanic/Latino residents to have a high school degree (or equivalent) or higher. Geographically, Sebastopol-West County and the Russian River area had the highest proportion of residents 25 years and older with a high school degree (or equivalent) or higher. Santa Rosa, Windsor, and Cloverdale and Geyserville had the lowest proportion of residents with a high school degree (or equivalent) or higher.

Table 3. Poverty and educational attainment in Sonoma County 2016

	Percent of Population \geq 300% Federal Poverty Level	Percent of Population 25 Years and Older with High School Degree (or Equivalent) or Higher
Sonoma County	59.0%	87.9%
Male	60.6%	86.9%
Female	59.7%	88.7%
White, non-Hispanic	70.5%	95.8%
Hispanic/Latino	37.4%	59.6%
Asian* [^]	57.4%	89.0%
African American/Black [^]	27.0%	87.5%
American Indian/Alaska Native [^]	-	71.7%
Santa Rosa	53.7%	85.8%
Petaluma	65.0%	89.0%
Rohnert Park	50.0%	89.3%
Sonoma Valley	59.7%	86.9%
Sebastopol - West County	63.1%	93.7%
Windsor	68.2%	85.4%
Healdsburg	63.4%	87.7%
Russian River Area	48.6%	93.5%
Cloverdale and Geyserville	53.4%	84.2%

[^]Of both Hispanic and non-Hispanic ethnicity

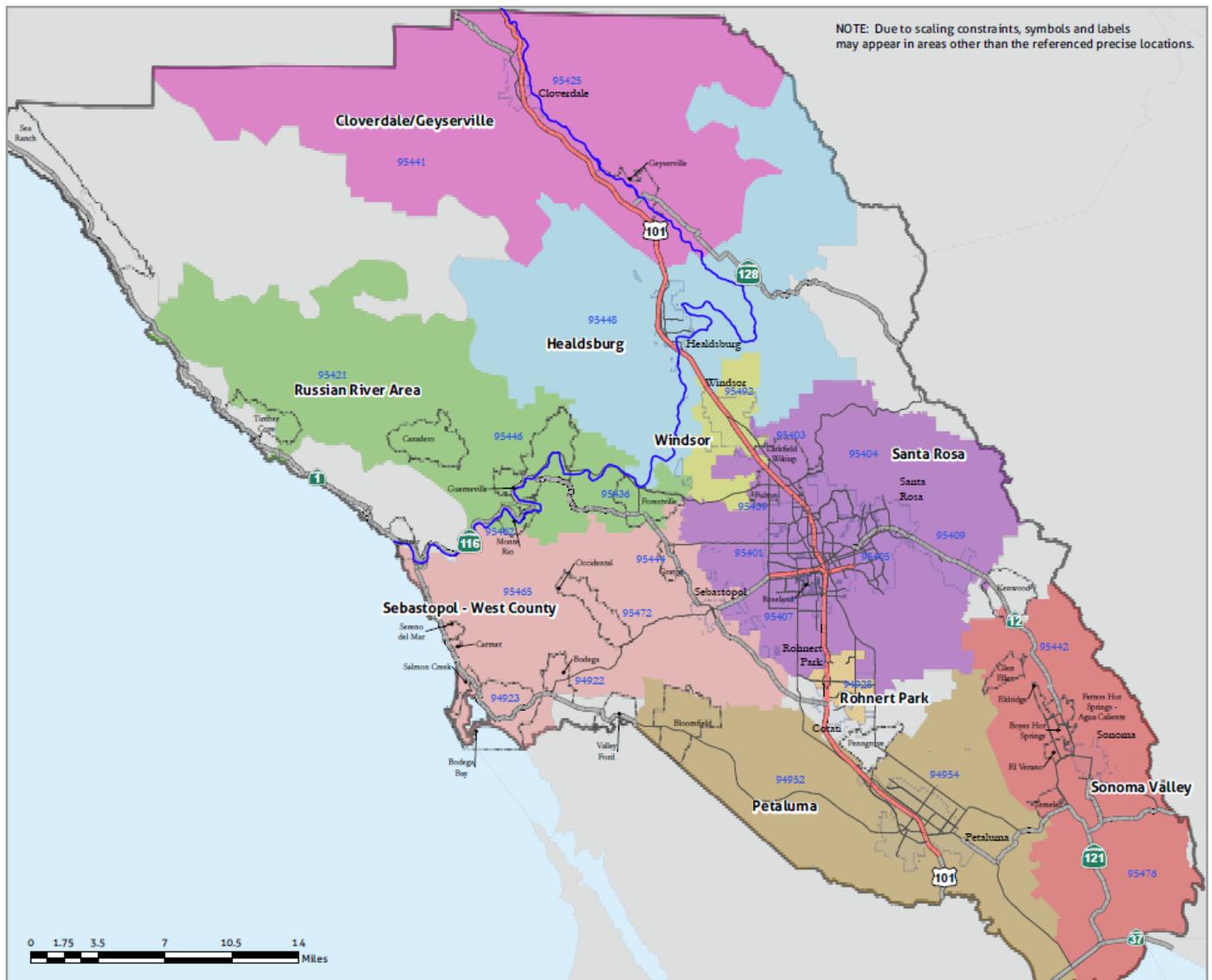
*Data for Pacific Islanders unavailable due to small numbers

-: Data unavailable due to small numbers

Source: US Census Bureau, PUMS, 2016; American Community Survey, 1 Year Estimates, 2016 and ZTCA, 5Year Estimates 2013-2017 Tables S1701, and S1501, C1501B-H

Map

Map 1. Sonoma County geographic analysis areas, 2016



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

Average Life Expectancy

What is average life expectancy?

Life expectancy is the average number of years a person in a defined community can expect to live based on current mortality (death) rates and is used as an overall indicator of the health of the population. It is a relatively understandable measure that easily allows public health officials, health care providers, and policy makers to communicate trends in the health status of a community. Life expectancy is influenced by social and economic characteristics including income, education, health care access, housing and neighborhood conditions, and environmental factors.³

What are the main findings?

- While U.S. life expectancy decreased for the third year in a row, Sonoma County life expectancy did not change significantly from 2013-2015 to 2015-2017.
- Average life expectancy at birth for Sonoma County and California residents is about 82 years. Sonoma County and California residents have, on average, a longer life expectancy than the U.S. population (about 79 years).
- On average, women in Sonoma County live 4 years longer than men live.
- Asian/Pacific Islander and Hispanic/Latino residents live 6-7 years longer than American Indian/Alaska Native, African American and white, non-Hispanic residents of the county.
- Life expectancy varies across Sonoma County by about 4 years. On average, residents of Healdsburg and Sebastopol – West County live longer than residents of Santa Rosa, Rohnert Park, Windsor, and Cloverdale and Geyserville.

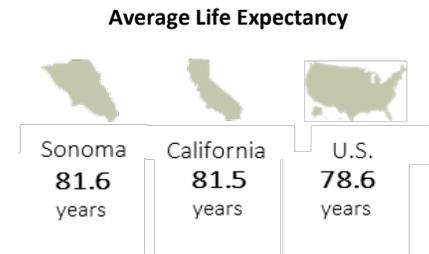
How can we use this information to improve health, well-being, and equity?

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.

- Men
- American Indian/Alaska Native, white, non-Hispanic, and African American/Black residents
- Residents of Santa Rosa, Rohnert Park, Windsor, and Cloverdale and Geyserville

What is the Average Life Expectancy in Sonoma County?

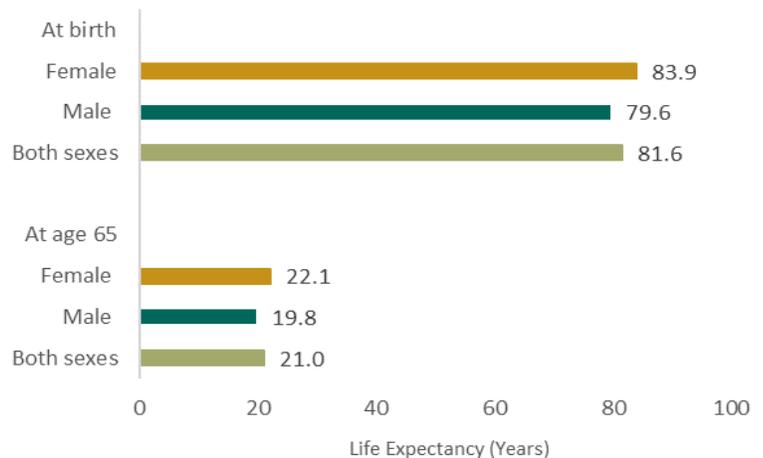
Average life expectancy at birth refers to the average number of years a group of infants would live if the group were to experience the age-specific mortality rates present in that year of birth. Average life expectancy at any age (e.g. 65 years) is the average number of additional years a group of people of a certain age can expect to live assuming age-specific mortality rates remain constant. Compared to average life expectancy at birth, examining age-specific life expectancy is often more useful for shorter term planning because this measure is based on how much longer, on average, a population is projected to live.



Average life expectancy at birth

While the U.S. life expectancy at birth decreased for the third year in a row, life expectancy in Sonoma County has remained constant. In 2015-2017, the average life expectancy at birth in Sonoma County was 81.6 years, comparable with California life expectancy at birth (81.5 years) and higher than the national average (78.6 years) (Figure 2). Women in Sonoma County had a significantly higher life expectancy at birth (83.9 years) compared to men (79.6 years).

Figure 2. Average life expectancy by age and sex, Sonoma County 2015-2017



Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019

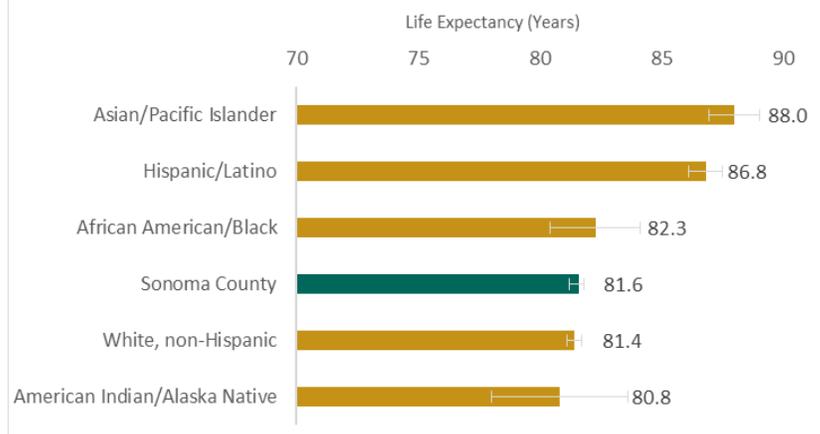
Average life expectancy at age 65

In 2015-2017, Sonoma County residents age 65 could expect to live, on average, another 21 years, with women expected to live slightly longer (22.1 years) than men (19.8 years) (Figure 2).

Does Average Life Expectancy Vary by Race/Ethnicity?

Life expectancy varied by about seven years across racial/ethnic groups in Sonoma County. In 2015-2017, Asian/Pacific Islanders and Hispanic/Latinos had the highest average life expectancy (88.0 and 86.8 years, respectively) (Figure 3). Asian/Pacific Islanders and Hispanic/Latinos had a significantly higher average life expectancy compared to African American/Blacks (82.3 years), white, non-Hispanics (81.4 years), and American Indian/Alaska Natives (80.8 years).

Figure 3. Average life expectancy by race/ethnicity, Sonoma County 2015-2017

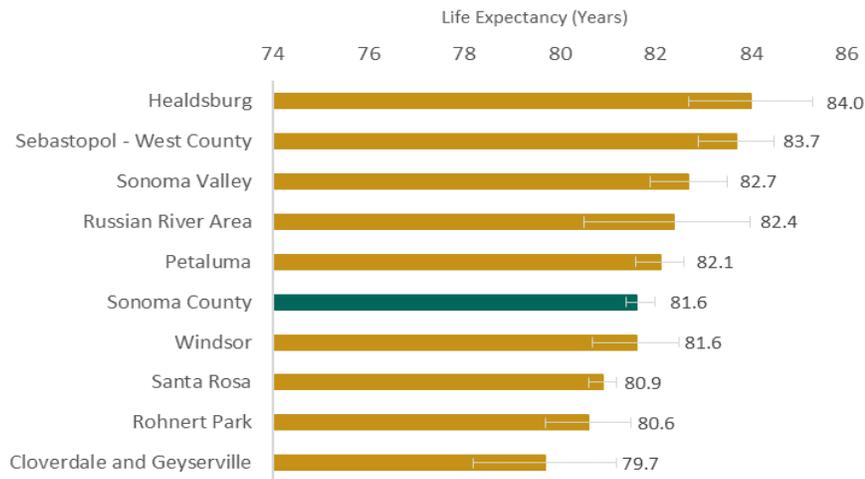


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019

Does Life Expectancy Vary by Geography?

Life expectancy varied regionally by about 4 years (Figure 4). In 2015-2017, average life expectancy in Healdsburg (84.0 years) and Sebastopol – West County (83.7 years) was significantly higher than the overall average life expectancy in Sonoma County (81.6 years).

Figure 4. Average life expectancy by select geography, Sonoma County 2015-2017



Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019

Premature Mortality – Years of Potential Life Lost (YPLL-75)

What is premature mortality?

Premature deaths are deaths that occur before a person reaches an expected age. Premature death (mortality) rates 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. Because deaths in younger populations are more likely to be preventable than deaths in older populations, YPLL-75 is a useful measure for prioritizing public health interventions.

It is estimated that up to than half of all premature deaths in the United States are preventable. Most premature deaths may be preventable through lifestyle modifications such as smoking cessation, healthy eating, and exercise.⁴ Social and environmental factors such as poverty, racial segregation, low educational attainment, and inadequate social support also contribute to premature death.³

What are the main findings?

- The overall leading causes of premature death remained the same from 2013-2015 to 2015-2017.
- Suicide rose from the fifth leading cause of premature death for women in 2013-2015 to the fourth leading cause in 2015-2017.
- Compared to women in the county, Sonoma County men had significantly higher premature death rates for all leading causes of premature death except cancer.
- American Indian/Alaska Native residents of the county had the highest premature death rates of all race/ethnicities examined, followed by white, non-Hispanics, and African American/Blacks. Asian/Pacific Islanders had the lowest premature death rate of all race/ethnic groups followed by Hispanic/Latino residents.
- Premature death rates in the county decreased from 2005-2007 to 2012-2014 but increased from 2012-2014 to 2015-2017.
- The premature death rate from unintentional injuries decreased from 2005-2007 to 2011-2013 but increased from 2011-2013 to 2015-2017 due largely to an increase in premature deaths from unintentional drug overdoses.
- After decreasing significantly from 2007-2009 to 2011-2013, the premature death rate due to suicide increased by 32% from 2011-2013 to 2015-2017.
- There were geographic disparities in premature death rates throughout the county. Cloverdale and Geyserville, the Russian River area, Rohnert Park and Santa Rosa had highest overall premature death rates. Sebastopol – West County and Petaluma had the lowest overall premature death rates of the geographies examined.
- Cloverdale and Geyserville had significantly higher premature death rates than other geographies for many of the leading causes of premature death.

What can we do with this information?

To reduce premature death in Sonoma County, policy and prevention efforts should target specific causes, populations, and communities with significantly higher premature death rates.

What Are the Leading Causes of Premature Death (YPLL-75)?

Overall

The eight leading causes of premature death in Sonoma County did not change from 2013-2015 to 2015-2017. More than half of total years of life lost before age 75 (YPLL-75) were due to the top three leading causes and over 64% were due to the top five leading causes of premature death (Table 4). Unintentional injury and suicide were responsible for a much greater proportion of premature mortality (16.5% and 7%) than overall mortality (referred to as “Morality” in Table 4) (4.7% and 1.6%). Heart disease was responsible for proportionally less premature mortality than overall mortality (12.3% and 22.3%).

Table 4. Leading causes of YPLL-75 compared to mortality, Sonoma County 2015-2017

Premature Mortality (YPLL-75)	Percent of Total YPLL-75	Rank	Mortality	Percent of Total Deaths
Cancer	24.4%	1	Cancer	23.6%
Unintentional Injury	16.5%	2	Heart Disease	22.3%
Heart Disease	12.3%	3	Alzheimer's Disease	6.9%
Suicide	7.0%	4	Stroke	5.6%
Chronic Liver Disease	3.9%	5	Chronic Lower Respiratory Disease	5.0%
Diabetes	3.4%	6	Unintentional Injury	4.7%
Chronic Lower Respiratory Disease	2.8%	7	Diabetes	3.0%
Stroke	2.7%	8	Influenza and pneumonia	1.7%

Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019

By Sex

The top five leading causes of premature mortality were similar for men and women in Sonoma County (Table 5). Sonoma County men had a higher percentage of total YPLL-75 due to unintentional injury, heart disease, and suicide than did women in the county. Women had a higher percentage of YPLL-75 to cancer than men. Suicide rose from the fifth leading cause of death for women in 2013-2015 to the fourth leading cause in 2015-2017.

Table 5. Leading causes of YPLL-75 by sex, Sonoma County 2015-2017

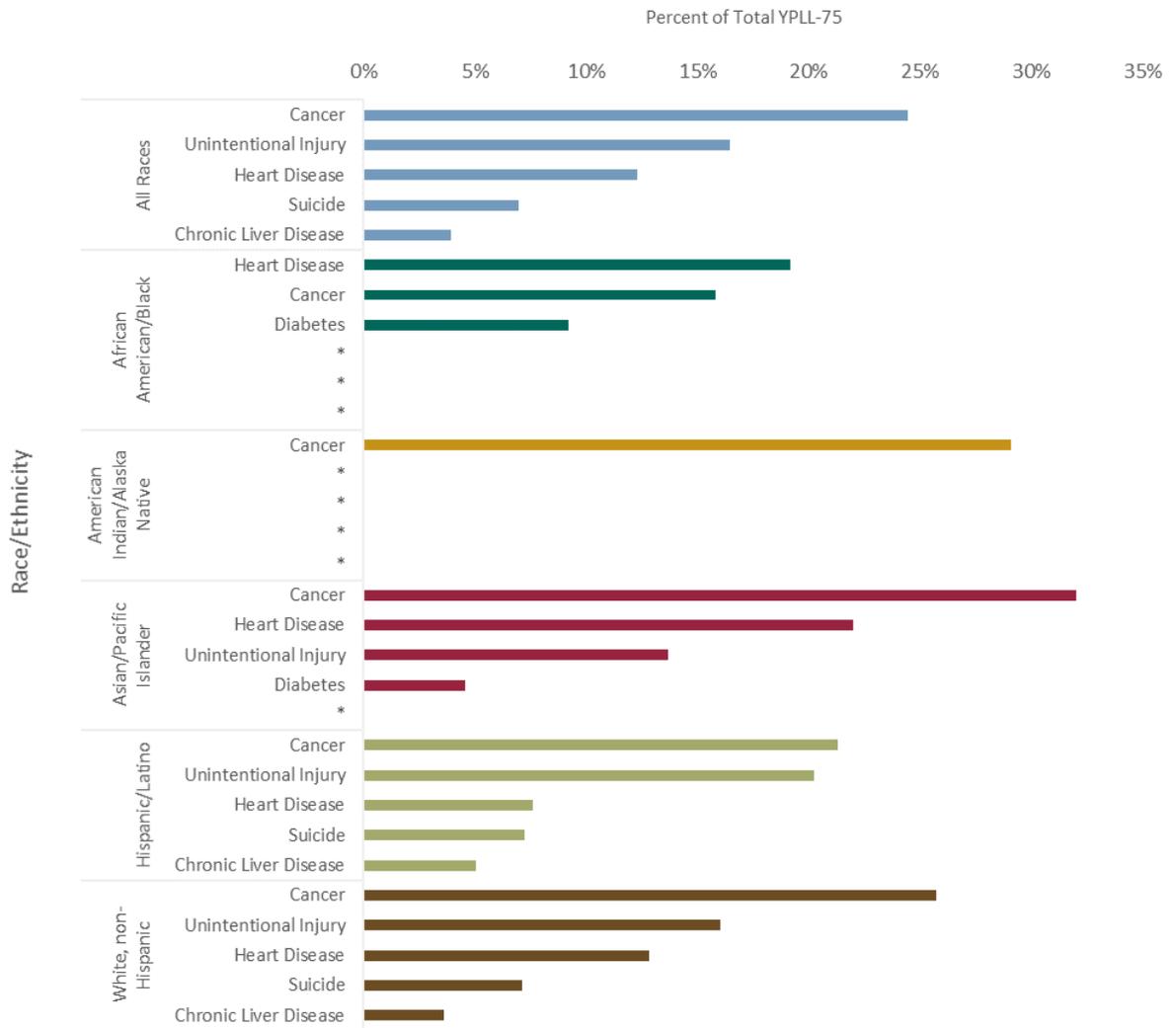
Males	Percent of Total YPLL-75	Rank	Females	Percent of Total YPLL-75
Cancer	19.7%	1	Cancer	32.5%
Unintentional Injury	18.3%	2	Unintentional Injury	13.4%
Heart Disease	14.5%	3	Heart Disease	8.6%
Suicide	8.6%	4	Suicide	4.2%
Chronic Liver Disease	3.8%	5	Chronic Liver Disease	4.1%
Diabetes	3.7%	6	Chronic Lower Respiratory Disease	3.5%
Stroke	2.5%	7	Stroke	3.0%
Chronic Lower Respiratory Disease	2.4%	8	Diabetes	2.9%

Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

By Race/Ethnicity

Cancer was the leading cause of premature death for residents of all race/ethnicities, except African American/Black residents of the county (Figure 5). The top three leading causes of premature death for African American/Black residents of the county were heart disease, cancer, and diabetes. Unintentional injury was the second leading cause of premature death for Sonoma County Hispanic/Latinos and white, non-Hispanics and the third leading cause for Asian/Pacific Islander residents of the county. Asian/Pacific Islander and American Indian/Alaska Native residents had a higher percentage of premature deaths due to cancer (32% and 29%) than other racial/ethnic groups. Hispanic/Latino residents had a higher percentage of premature deaths due to unintentional injury (20%) compared to other racial/ethnic groups.

Figure 5. Leading causes of YPLL-75 by race/ethnicity, Sonoma County 2015-2017



*Data based on fewer than five deaths are suppressed

Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

By Geography

Cancer, heart disease, and unintentional injury were the top three leading causes of premature death for all geographies (Table 6). Cancer was the leading cause of premature death for all geographies except Rohnert Park, where unintentional injury was the leading cause of premature death. Sebastopol – West County and Windsor had the highest percentage of years of life lost due to cancer (32.1% and 29.9%, respectively). The Russian River area, Rohnert Park, and Healdsburg had the highest percentage of years of life lost due to unintentional injury (21.3%, 20.6%, and 20.2%, respectively). The percentage of years of life lost due to heart disease was highest in Healdsburg, Cloverdale and Geyserville, and Petaluma (17.9%, 17.1%, and 16.2%, respectively).

Table 6. Leading causes of YPLL-75 by select geography, Sonoma County 2015-2017

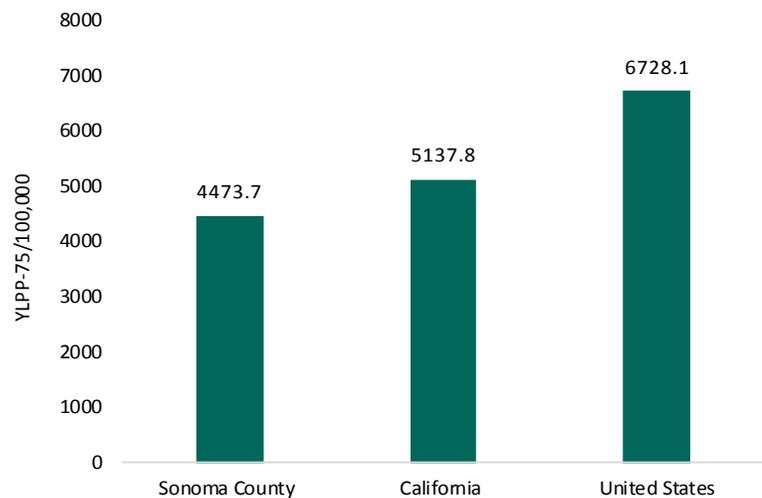
City	Cause of death	3-Year Total		City	Cause of death	3-Year Total	
		Life Lost Before Age 75	Percent of Total YPLL-75			Life Lost Before Age 75	Percent of Total YPLL-75
Santa Rosa	Total	32,118	100%	Windsor	Total	3,708	100%
	Cancer	7,608	23.7%		Cancer	1,108	29.9%
	Unintentional Injury	4,993	15.5%		Heart Disease	385	10.4%
	Heart Disease	4,030	12.5%		Unintentional Injury	373	10.1%
	Suicide	2,468	7.7%		Suicide	210	5.7%
	Chronic Liver Disease	1,243	3.9%		Diabetes	195	5.3%
Petaluma	Total	8,148	100%	Healdsburg	Total	2,178	100%
	Cancer	1,978	24.3%		Cancer	455	20.9%
	Heart Disease	1,318	16.2%		Unintentional Injury	440	20.2%
	Unintentional Injury	1,113	13.7%		Heart Disease	390	17.9%
	Suicide	573	7.0%		Suicide	118	5.4%
	Chronic Liver Disease	475	5.8%		Diabetes	80	3.7%
Sonoma Valley	Total	5,263	100%	Cloverdale and Geyserville	Total	2,363	100%
	Cancer	1,365	25.9%		Cancer	650	27.5%
	Unintentional Injury	975	18.5%		Unintentional Injury	413	17.5%
	Heart Disease	588	11.2%		Heart Disease	403	17.1%
	Suicide	370	7.0%		Suicide	155	6.6%
	Chronic Liver Disease	255	4.8%		Stroke	83	3.5%
Rohnert Park	Total	6,448	100%	Russian River area	Total	2,808	100%
	Unintentional Injury	1,328	20.6%		Cancer	788	28.1%
	Cancer	1,288	20.0%		Unintentional Injury	598	21.3%
	Heart Disease	540	8.4%		Heart Disease	265	9.4%
	Suicide	403	6.3%		Suicide	133	4.7%
	Diabetes	295	4.6%		Diabetes	85	3.0%
Sebastopol - West County	Total	4,008	100%				
	Cancer	1,288	32.1%				
	Unintentional Injury	675	16.8%				
	Heart Disease	440	11.0%				
	Suicide	268	6.7%				
	Chronic Liver Disease	200	5.0%				

Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

What is the Premature Death Rate in Sonoma County?

In 2015-2017, the age-adjusted premature mortality rate for Sonoma County was 4473.7 YPLL-75 per 100,000 (Figure 6). The county premature mortality rate was significantly less than the rate for California despite similar life expectancies. Both Sonoma County and California had premature mortality rates that were significantly less than the United States. A detailed table of premature deaths by sex, race/ethnicity, and geography can be found in the Appendix Tables B1-B3.

Figure 6. Age-adjusted premature death (YPLL-75) rates, three-year average, Sonoma County, California, and the United States 2015-2017

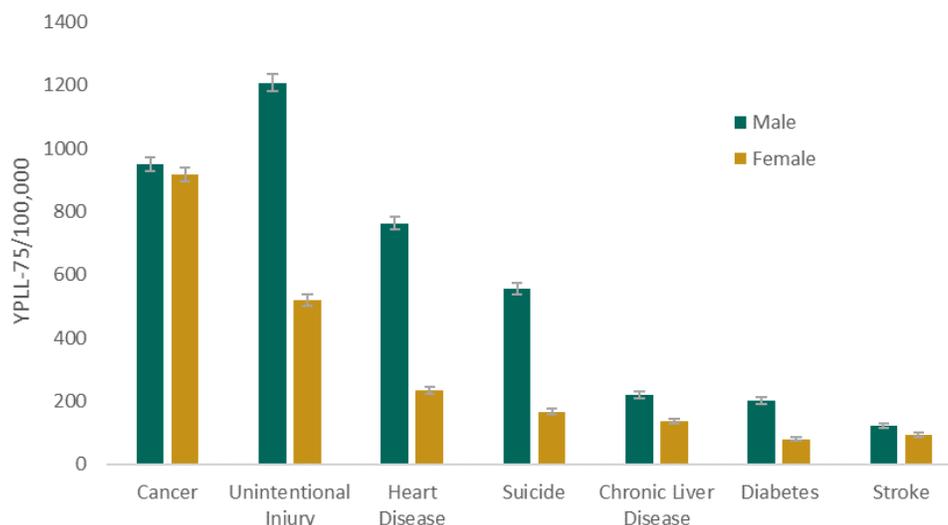


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Are There Differences in Premature Death Rates by Sex?

In 2015-2017, Sonoma County men had a significantly higher overall premature death rate than women (5760.2 YPLL-75 per 100,000 compared to 3212.2 YPLL-75 per 100,000). Compared to women, men had significantly higher premature death rates for all leading causes of premature death except cancer (Figure 7). The premature death rate due to heart disease was more than three times as high for men (762.23 YPLL-75 per 100,000) than for women (233.6 YPLL-75 per 100,000). Premature death rates due to unintentional injury, heart disease, suicide, and diabetes were also more than twice as high for men than women (Appendix Table B1-B3).

Figure 7. Age-adjusted premature death (YPLL-75) rates by sex and cause, three-year average, Sonoma County 2015-2017

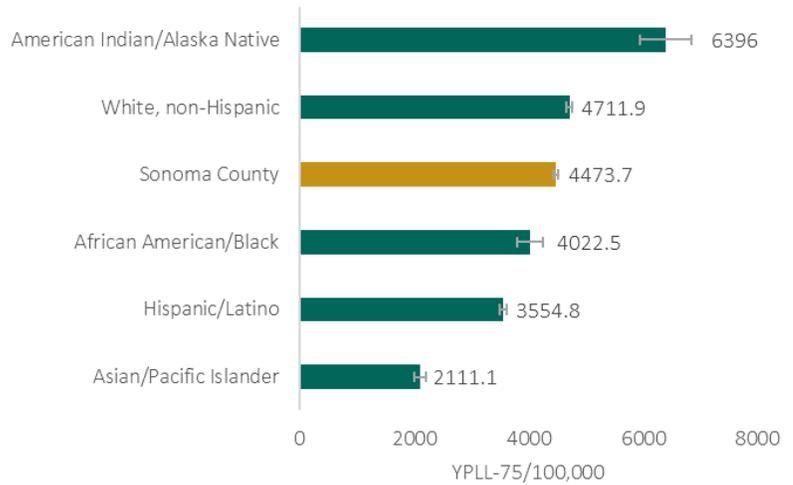


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Do Premature Death Rates Vary by Race/Ethnicity?

In 2015-2017, premature death rates varied significantly by race/ethnicity (Figure 8). American Indian/Alaska Native residents of the county had the highest premature death rate of all race/ethnicities, more than three times that of Asian/Pacific Islander residents with the lowest premature death rate (6396.0 YPLL-75 per 100,000 compared to 2111.1 YPLL-75 per 100,000, respectively). White, non-Hispanic residents had the second highest premature death rate (4711.9 YPLL-75 per 100,000), significantly higher than the premature death rates for African American/Black (4022.5 YPLL-75 per 100,000), Hispanic/Latino (3554.8 YPLL-75 per 100,000), and Asian/Pacific Islander residents.

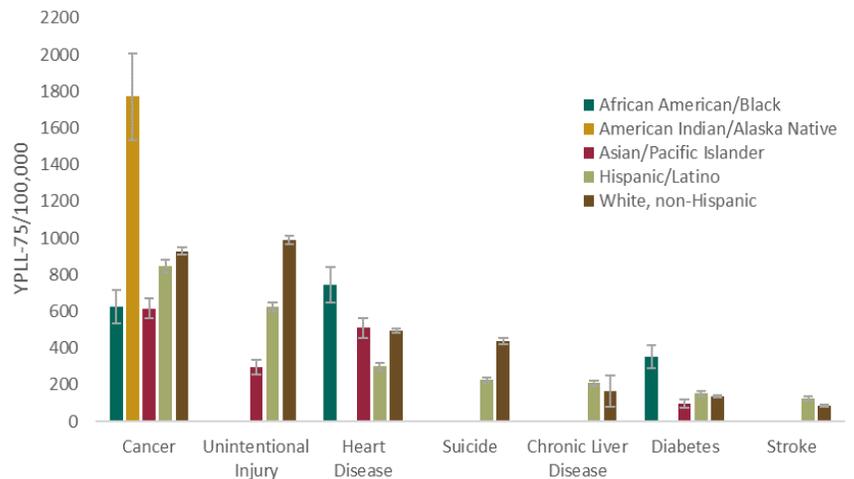
Figure 8. Age-adjusted premature death (YPLL-75) rates by race/ethnicity, three-year average, Sonoma County 2015-2017



Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Death rates for the leading causes of premature death varied by race/ethnicity. In 2015-2017, the premature death rate due to cancer was significantly higher for American Indian/Alaska Native residents than other racial/ethnic groups (Figure 9). Premature death rates due to cancer were significantly higher for white, non-Hispanics than Hispanic/Latinos, African American/Blacks, and Asian/Pacific Islanders in the county. White, non-Hispanic residents also had significantly higher premature death rates than other racial/ethnic groups due to unintentional injury and suicide. African American/Black residents has significantly higher premature death rates due to heart disease and diabetes than other racial/ethnic groups.

Figure 9. Age-adjusted premature death (YPLL-75) rates by race/ethnicity and cause, three-year average, Sonoma County 2015-2017

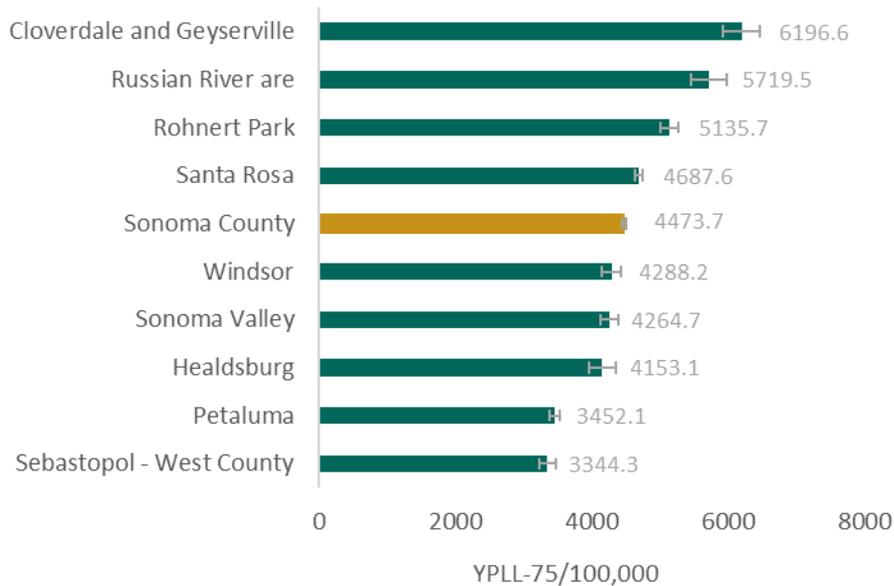


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Do Premature Death Rates Vary by Geography?

In 2015-2017, premature death rates varied significantly by geography for all causes and by leading causes of premature death. The premature death rate for all causes was significantly higher than the overall county rate for Cloverdale and Geyserville, the Russian River area, Rohnert Park, and Santa Rosa. Premature death rates for Windsor, Sonoma Valley, Healdsburg, Petaluma and Sebastopol – West County were significantly lower than the overall county rate (Figure 10).

Figure 10. Age-adjusted YPLL-75 for all causes by select geography, three-year average, Sonoma County 2015-2017

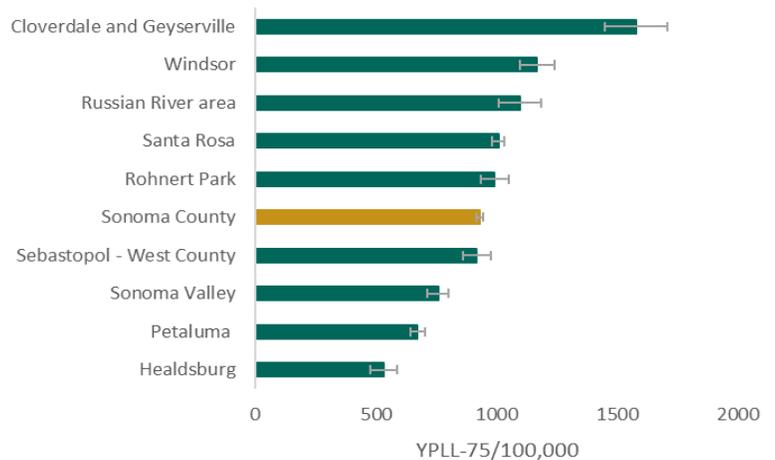


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Cancer

In 2015-2017, cancer was the leading cause of premature death in Sonoma County. Premature death rates due to cancer also vary significantly by geography (Figure 11). The premature death rate due to cancer in Cloverdale and Geyserville, the region with the highest YPLL-75 due to cancer, was three times more than the rate for Healdsburg (lowest YPLL-75 due to cancer). Rates for Cloverdale and Geyserville, Windsor, Russian River area, and Santa Rosa were significantly higher than the county rate. Rates for Sonoma Valley, Petaluma, and Healdsburg were significantly lower than the county rate.

Figure 11. Age-adjusted YPLL-75 due to cancer by select geography, three-year average, Sonoma County 2015-2017



Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Unintentional Injury

In 2015-2017, unintentional injury was the second leading cause of premature death in Sonoma County. The premature death rate due to unintentional injury was more than three times higher for the Russian River area (1651.6 YPLL-75 per 100,000), the region with the highest YPLL-75 due to unintentional injury, than for Windsor (526.8 YPLL-75 per 100,000), the region with the lowest YPLL-75 due to unintentional injury (Figure 12). Premature death rates due to unintentional injury were higher than the county rate for the Russian River area, Cloverdale and Geyserville, Healdsburg, Sonoma Valley and Rohnert Park. Rates were lower than the county rate for Santa Rosa, Sebastopol – West County, Petaluma and Windsor.

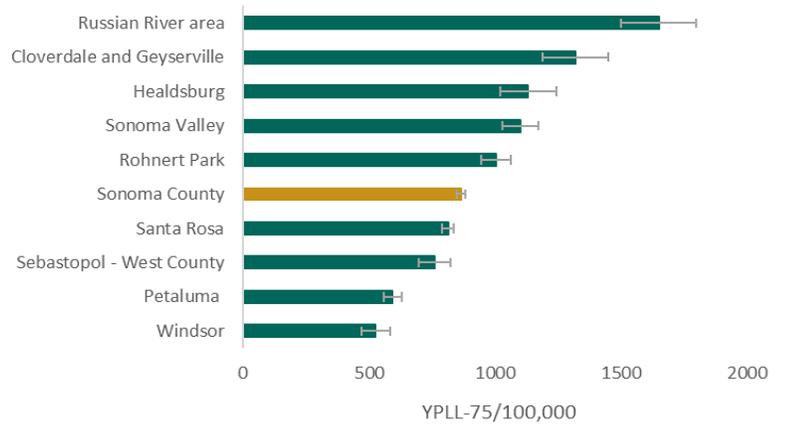
Heart Disease

The premature death rate due to heart disease was significantly higher for Cloverdale and Geyserville (960.1 YPLL-75 per 100,000) than any other region examined and was more than three times higher than Sebastopol – West County (275.5 YPLL-75 per 100,000), the region with the lowest premature death rate due to heart disease (Figure 13). Cloverdale and Geyserville, Healdsburg, and Santa Rosa had significantly higher premature death rates due to heart disease compared to the county rate. Rates in Sonoma Valley, Rohnert Park, the Russian River area, Windsor and Sebastopol – West County were significantly lower than the county rate.

Suicide

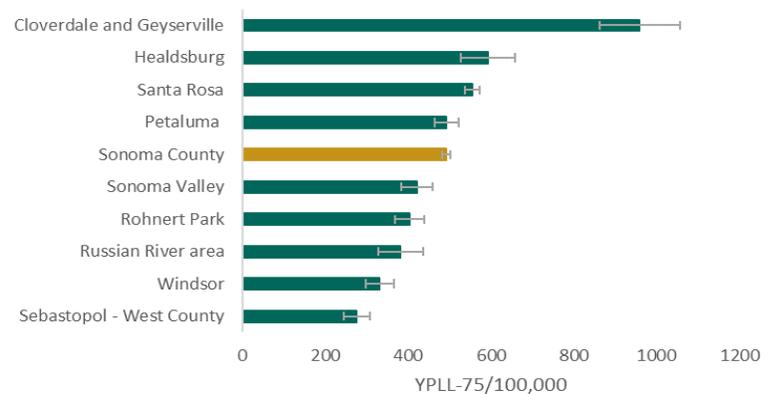
In 2015-2017, the premature death rate due to suicide was significantly higher than the county rate for Cloverdale and Geyserville, Sonoma Valley, and Santa Rosa (Figure 14). Rates were significantly lower than the county for Petaluma, Sebastopol – West County, Windsor, and Healdsburg. The rate for Cloverdale and Geyserville (469.8 YPLL-75 per 100,000), the region with the highest rate, was more than twice the rate of Healdsburg (183.2 YPLL-75 per 100,000), the region with the lowest rate.

Figure 12. Age-adjusted YPLL-75 due to unintentional injury by select geography, three-year average, Sonoma County 2015-2017



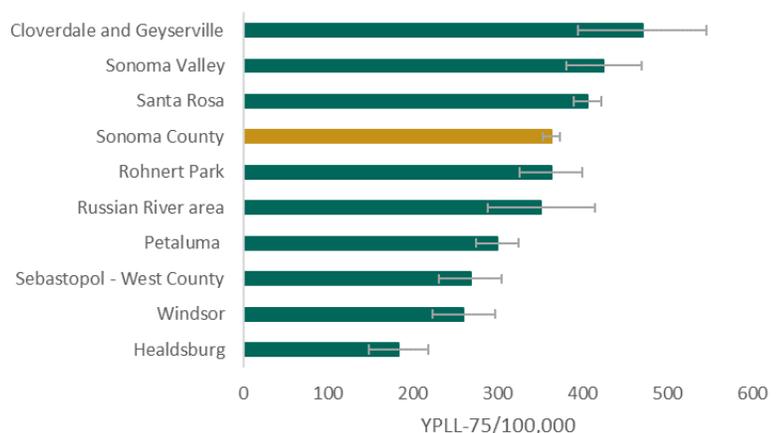
Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Figure 13. Age-adjusted YPLL-75 due to heart disease by select geography, three-year average, Sonoma County 2015-2017



Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Figure 14. Age-adjusted YPLL-75 due to suicide by select geography, three-year average, Sonoma County 2015-2017

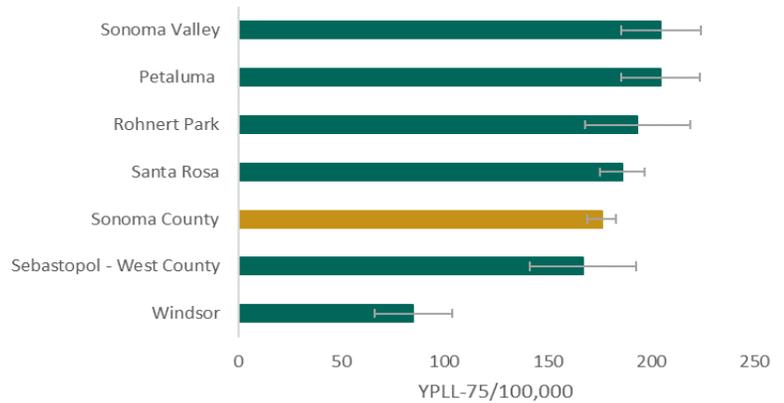


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Chronic Liver Disease

In 2015-2017, chronic liver disease was the fifth leading cause of premature death in Sonoma County, responsible for over 2,700 years of potential life lost. The premature death rate due to chronic liver disease was significantly higher than the county rate for Petaluma (204.8 YPLL-75 per 100,000 compared to 176.2 YPLL-75 per 100,000) (Figure 15). The premature death rate due to chronic liver disease was significantly lower than the county rate for Windsor (84.9 YPLL-75 per 100,000).

Figure 15. Age-adjusted YPLL-75 due to chronic liver disease by select geography, three-year average, Sonoma County 2015-2017

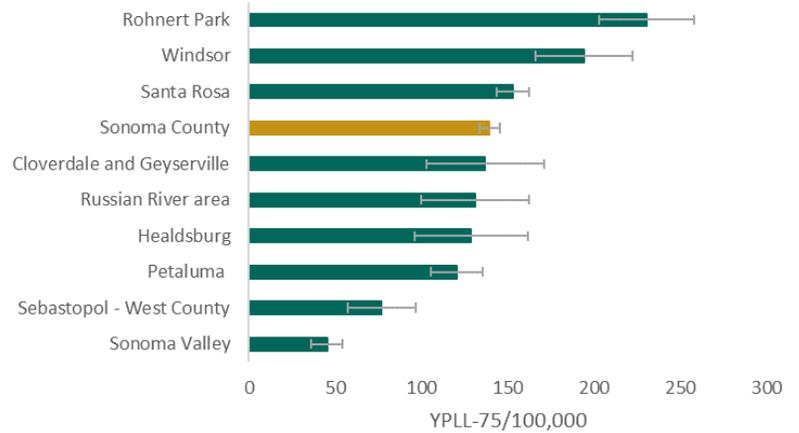


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Diabetes

In 2015-2017, Rohnert Park and Windsor had significantly higher premature death rates due to diabetes, the sixth leading cause of premature death, than the county over all (230.1 YPLL-75 per 100,000 and 194.0 YPLL-75 per 100,000 compared to 139.3 YPLL-75 per 100,000, respectively). Sebastopol – West County and Sonoma Valley (76.6 YPLL-75 per 100,000 and 45.0 YPLL-75 per 100,000) had significantly lower rates of premature death due to diabetes than the county rate (Figure 16).

Figure 16. Age-adjusted YPLL-75 due to diabetes by select geography, three-year average, Sonoma County 2015-2017

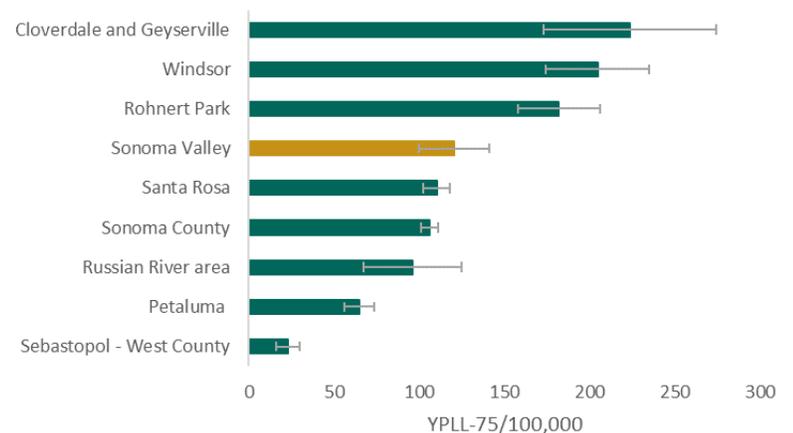


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Stroke

In 2015-2017, stroke was the seventh leading cause of premature death, responsible for over 1,900 years of potential life lost. Cloverdale and Geyserville, Windsor, and Rohnert Park had significantly higher rates of premature death due to stroke than the county (223.4 YPLL-75 per 100,000, 204.6 YPLL-75 per 100,000, and 181.9 YPLL-75 per 100,000 compared to 105.7 YPLL-75 per 100,000, respectively). Petaluma and Sebastopol – West County (64.5 YPLL-75 per 100,000 and 22.9 YPLL-75 per 100,000, respectively) had significantly lower premature death rates due to stroke than the county (Figure 17).

Figure 17. Age-adjusted YPLL-75 due to stroke by select geography, three-year average, Sonoma County 2015-2017



Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Summary of Place-Based Premature Death 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 7 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. Areas with statistically lower premature mortality rates than the county 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 five leading causes of premature mortality.

Table 7. Top five leading causes of premature mortality* by select geography, with comparison to the county rate, Sonoma County 2015-2017

	All Cancers	Unintentional Injury	Heart Disease	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	*
Santa Rosa	↑	↓	↑	↑	=
Russian River area	↑	↑	↓	=	*
Healdsburg	↓	↑	↑	↓	*
Sonoma Valley	↓	↑	↓	↑	=
Rohnert Park	=	↑	↓	↓	=
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
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*Premature mortality is 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.

What Are the Leading Causes of Premature Death from Cancer?

In 2015-2017, cancer was the leading cause of premature death to Sonoma County residents, responsible for over 17,400 years of potential life lost before age 75. Five types of cancer were responsible for about 44% of premature cancer death – lung cancer, female breast cancer, colorectal cancer, pancreatic cancer and prostate cancer (Appendix Tables C1-C2).

Lung Cancer

Lung cancer was the leading cause of premature death from cancer. The premature death rate from lung cancer was higher among Sonoma County men than women (128.5 YLPP-75 per 100,000 compared to 108.4 YPLL-75 per 100,000) and white, non-Hispanic residents had a significantly higher rate than Hispanic/Latino residents (114.4 YPLL-75 per 100,000 compared to 103.1 YPLL-75 per 100,000). From 2005-2007 to 2015-2017 the premature death rate from lung cancer decreased significantly.

Female Breast Cancer

In 2015-2017, female breast cancer was responsible for almost 2,000 years of life lost before age 75. Rates were similar for white, non-Hispanic and Hispanic/Latino women (233.8 YPLL-75 per 100,000 compared to 214.5 YPLL-75 per 100,000). The premature death rate from female breast cancer varied significantly from 2005-2007 to 2015-2017. Most recently, the rate decreased significantly from 2011-2013 to 2014-2016 then increased significantly from 2014-2016 to 2015-2017.

Colorectal Cancer

Colorectal cancer was the third leading cause of premature death from cancer, responsible for 1,400 years of potential life lost before age 75. Premature death rates from colorectal cancer were similar for men and women (79.9 YPLL-75 per 100,000 compared to 74.3 YPLL-75 per 100,000) and for white, non-Hispanic and Hispanic/Latino residents (77.0 YPLL-75 per 100,000 compared to 73.6 YPLL-75 per 100,000). The premature death rate from colorectal cancer varied significantly from 2005-2007 to 2011-2013. From 2011-2013 to 2015-2017 the rate decreased by over 36% (from 120.5 YPLL-75 per 100,000 to 76.9 YPLL-75 per 100,000).

Pancreatic Cancer

Pancreatic cancer was responsible for more than 1,200 years of potential life lost before age 75. The premature death rate from pancreatic cancer was significantly higher among men than women (82.7 YPLL-75 per 100,000 compared to 38.1 YPLL-75 per 100,000). There was no significant difference in rates for white, non-Hispanic compared to Hispanic/Latino residents (61.0 YPLL-75 per 100,000 compared to 49.2 YPLL-75 per 100,000). From 2005-2007 to 2015-2017 there was no significant change in the premature death rate for pancreatic cancer.

Prostate Cancer

Prostate cancer was responsible for 500 years of potential life lost before age 75. There was no significant difference in premature death rates from prostate cancer for white, non-Hispanic compared to Hispanic/Latino residents. From 2005-2007 to 2010-2012 the premature death rate for prostate cancer varied. From 2010-2012 to 2015-2017 the rate increased significantly from 37.0 YPLL-75 per 100,000 to 50.2 YPLL-75 per 100,000.

What Are the Leading Causes of Premature Death from Unintentional Injuries?

Unintentional injury was responsible for about 17% of the total years of potential life lost before age 75 in 2015-2017. Three causes – drug poisonings, motor vehicle collisions, and falls – were responsible for about 80% of premature deaths from unintentional injury among Sonoma County residents (Appendix Table D1).

Drug Poisonings

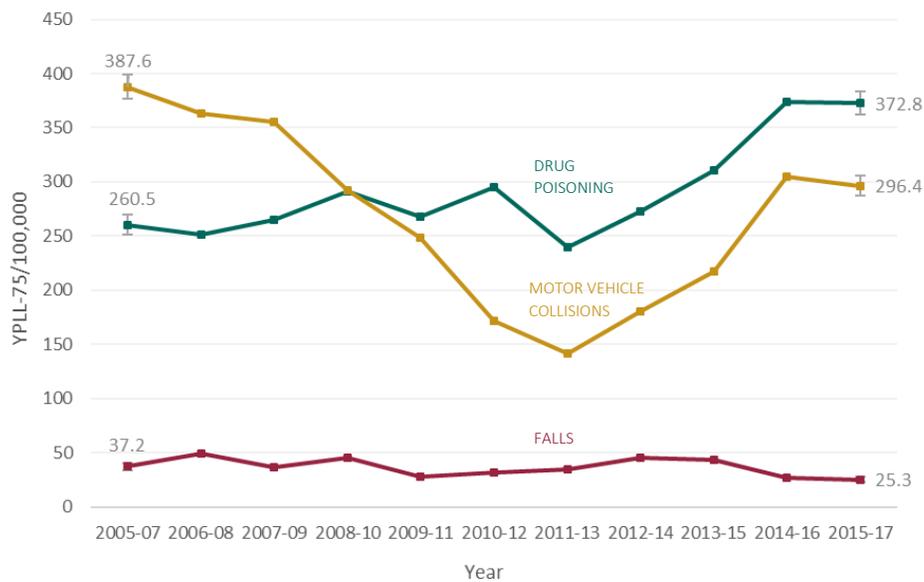
Currently, the United States is experiencing an epidemic of drug overdose deaths. Drug poisonings (overdoses) were the leading cause of premature death from unintentional injury in Sonoma County. Drug poisoning from both prescription and illegal drugs were responsible for about 44% of all premature death from unintentional injury, or about 5,100 years of potential life lost before age 75. The premature mortality rate (YPLL-75) from drug poisonings was significantly higher for

Sonoma County men (520.9 YPLL-75 per 100,000) than women (223.0 YPLL-75 per 100,000). The rate was also significantly higher for white, non-Hispanic residents (466.5 YPLL-75 per 100,000) than Hispanic/Latino residents (195.5 YPLL-75 per 100,000). After remaining relatively constant from 2005-2007 to 2011-2013, the premature death rate for unintentional drug poisoning increased by over 55% from 2011-2013 to 2014-2016. There was no significant change in the rate from 2014-2016 to 2015-2017 (Figure 18).

Motor Vehicle Collisions

Motor vehicle collisions were the second leading cause of premature death from unintentional injury, responsible for more than 3,800 years of potential life lost before age 75. Men had a significantly higher premature death rate from motor vehicle collisions than women (407.2 YPLL-75 per 100,000 compared to 184.0 YPLL-75 per 100,000, respectively). There was no significant difference in the premature death rate for motor vehicle collisions for white, non-Hispanic residents (290.2 YPLL-75 per 100,000) compared to Hispanic/Latino residents (281.6/100,000). From 2005-2007 to 2011-2013 the premature death rate for unintentional motor vehicle collision decreased by over 63%. The rate then increased significantly (more than doubled) from 2011-2013 to 2015-2017. Despite the recent increase, the 2015-2017 rate remained significantly lower than the 2005-2007 rate (Figure 18).

Figure 18. Age-adjusted premature death (YPLL-75) rates due to unintentional injury by cause of death, three-year moving average, Sonoma County 2005-2007 to 2015-2017



Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Falls

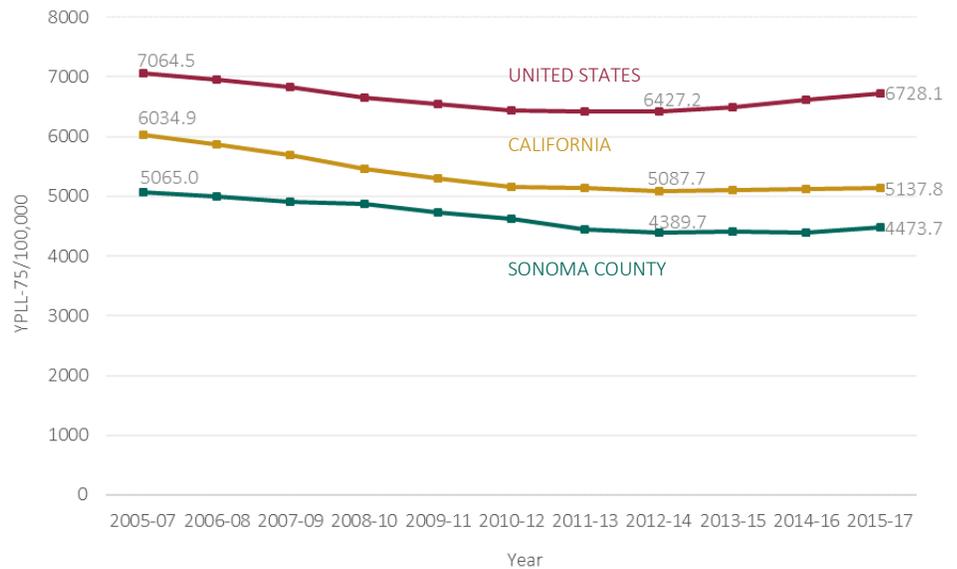
Falls were responsible for about 4% of all premature deaths from unintentional injury, or about 400 years of potential life lost before age 75. The premature death rate from falls was significantly higher among men (40.6 YPLL-75 per 100,000) than women (10.8 YPLL-75 per 100,000). Asian/Pacific Islander residents of the county had a significantly higher premature death rate for falls than white, non-Hispanic or Hispanic/Latino residents (152.9 YPLL-75 per 100,000 compared to 25.8 YPLL-75 per 100,000 and 30.2 YPLL-75 per 100,000, respectively). The premature death rate from falls remained relatively constant from 2005-2007 to 2009-2011 and then increased from 2009-2011 to 2013-2015. From 2013-2015 to 2015-2017, the premature death rate from falls decreased significantly.

Has the Age-Adjusted Premature Mortality Rate Changed Over Time?

Overall

The overall age-adjusted premature death rate decreased significantly from 2005-2007 to 2012-2014 then increased slightly from 2012-2014 to 2015-2017 for Sonoma County, California, and the United States (Figure 19). In 2015-2017, premature death rates for Sonoma County, California, and the United States were all significantly less than their respective 2005-2007 rates. The Sonoma County rate decreased by about 13% from 2005-2007 to 2012-2014 compared to a 16% decrease for California and a 9% decrease for the United States. From 2012-2014 to 2015-2017 the rate increased by 2% for Sonoma County, 1% for California, and 5% for the United States.

Figure 19. Age-adjusted premature death (YPLL-75) rates, three-year average, Sonoma County, California, and the United States 2005-2007 to 2015-2017

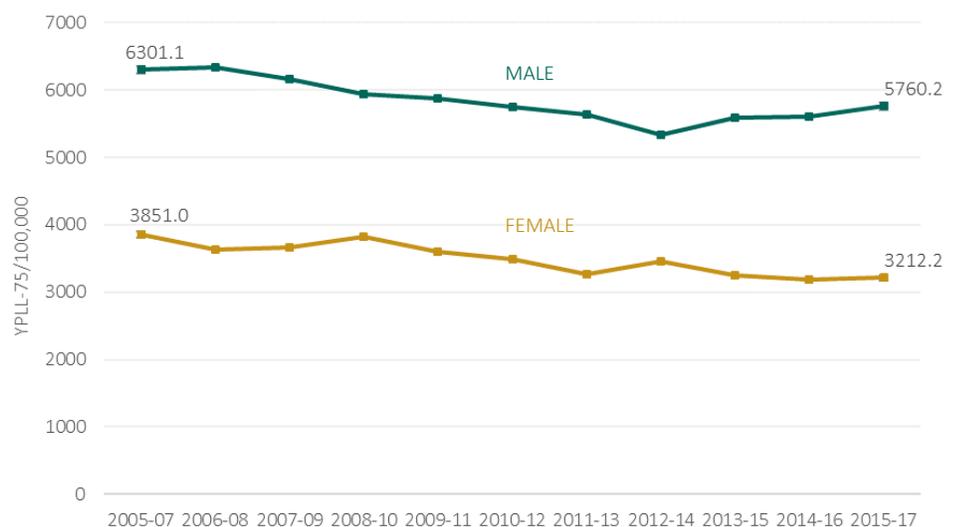


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

By Sex

The overall premature death rate decreased significantly from 2005-2007 to 2015-2017 for Sonoma County women (Figure 20). For men in the county the premature death rate decreased significantly from 2005-2007 to 2012-2014 then increased from 2012-2014 to 2015-2017, indicating that the increase in the overall premature death rate during this time period was driven by an increase in the premature death rate for men. From 2012-2014 to 2015-2017 the premature death rate for males increased from 1.5 times to 1.8 times that for females.

Figure 20. Age-adjusted premature death (YPLL-75) rates by sex, three-year moving average, Sonoma County 2015-2017

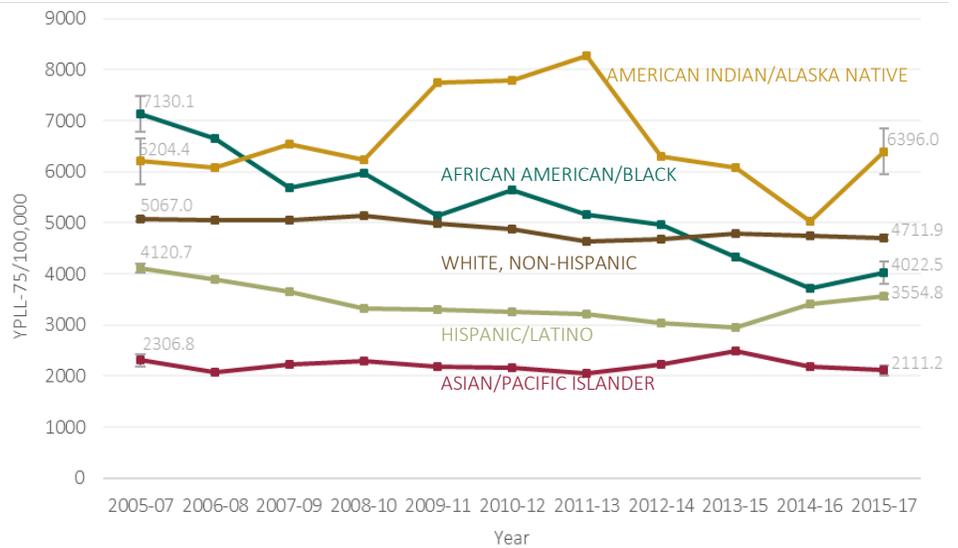


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

By Race/Ethnicity

Premature death rates were significantly lower in 2015-2017 than 2005-2007 for African American/Black, Hispanic/Latino, and white, non-Hispanic residents, while rates for Sonoma County American Indian/Alaska Natives and Asian/Pacific Islanders were unchanged (Figure 21). The premature death rate for American Indian/Alaska Native residents increased significantly from 2005-2007 to 2011-2013, decreased from 2011-2013 to 2014-2016, then increased significantly from 2014-2016 to 2015-2017. The premature death rate for African American/Black residents decreased about 48% from 2005-2007 to 2014-2016 but the rate did not change significantly from 2014-2016 to 2015-2017. The premature death rate for Hispanic/Latinos decreased by 28% from 2005-2007 to 2013-2015 but increased significantly in 2014-2016 and again in 2015-2017.

Figure 21. Age-adjusted premature death (YPLL-75) rates by race/ethnicity, three-year moving average, Sonoma County 2015-2017

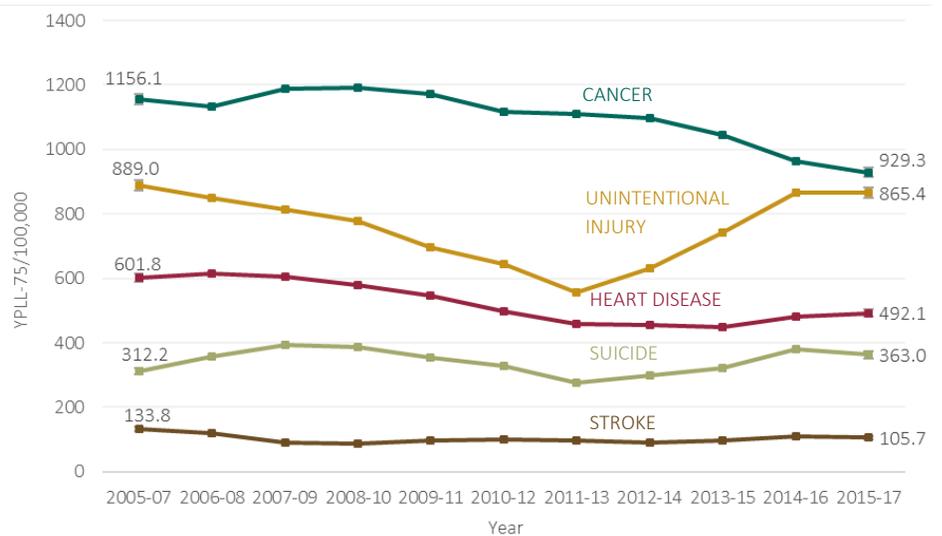


Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

By Cause

Changes in age-adjusted premature death rates varied by cause of death. From 2005-2007 to 2015-2017 premature mortality rates decreased by 20% for cancer and by 18% for heart disease (Figure 22). This is likely due to an increase in survival with the disease and not a decrease in prevalence of these diseases.⁵⁻⁶ The premature death rate for unintentional injury decreased by over 35% from 2005-2007 to 2011-2013, then increased 33% from 2011-2013 to 2015-2017 largely due to an increase in premature death from unintentional drug overdoses. From 2014-2016 to 2015-2017, the premature death rate for unintentional injury did not change significantly. After decreasing significantly from 2007-2009 to 2011-2013, the premature death rate due to suicide increased by 32% (significantly) from 2011-2013 to 2015-2017, mirroring a national trend.

Figure 22. Age-adjusted premature death (YPLL-75) rates by cause of death, three-year moving average, Sonoma County 2015-2017



Source: California Department of Public Health, California Integrated Vital Records System, 2015-2017; Accessed 4/8/2019.

Discussion

Identifying populations with shorter life expectancies and higher rates of premature death is an important first step in promoting and protecting the health, recovery and well-being of all in Sonoma County. The data in this report updates our understanding of life expectancy, the causes of premature death, and the disparities that exist in our community. In general, Sonoma County is a relatively healthy place to live, with similar life expectancy and a lower premature death rate than California. However, not all groups in the county experience the same level of health. Place, race, and sex-based disparities persist within Sonoma County. The communities of Cloverdale and Geyerville and the Russian River area continue to have higher premature death rates than the county overall. Men in the county have shorter life spans and higher rates of premature death than women for many of the leading causes of death. American Indian and Alaska Natives and white, non-Hispanic residents have significantly higher premature death rates than the overall county rate.

While there has been some improvement over the last ten years in premature death rates overall and for many of the leading causes, changes in the last three to five years suggest that much of the progress made is in jeopardy. Overall, premature death rates have increased, as have premature death rates due to suicide and unintentional injury, driven by increases in premature death rates due to drug poisonings (overdoses) and motor vehicle collisions.

Lifestyle and behavioral risk factors, the primary contributors to premature death, are similar for many of the leading causes. Tobacco use, poor diet, and physical activity are major contributors to cancer, heart disease, stroke, chronic lower respiratory disease, and diabetes. Substance use, including alcohol misuse, is a contributor to unintentional injury and chronic liver disease. In addition, the social, economic, and environmental characteristics of the communities in which residents of Sonoma County live, work, play, and learn influence our choices and have an impact on health outcomes.

Describing the risk and protective factors that are contributing to the disparities in life expectancy and premature death rates experienced in Sonoma County is an important next step on the path toward a healthier and more equitable community. Understanding the behavioral risk factors and social determinants of health in the population can further inform place-based strategies –policies, programs, and changes to the environment - to address the factors that produce and reproduce the patterns of poor health. Tools like California Healthy Places Index, <https://healthyplacesindex.org>, are useful for exploring local factors that predict life expectancy and premature death. In addition, future surveillance efforts, including a comprehensive analysis of behavioral risk and protective factors in Sonoma County, will provide stakeholders with evidence needed to target their resources toward achieving these goals.

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 and have been suppressed in this report.

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 at 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

Average life expectancy was calculated using a revised method developed by Chiang.⁷ 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 suppressed. 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.

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 using 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
Pancreatic Cancer	C25.9
Lung Cancer	C34
Female Breast Cancer	C50
Prostate Cancer	C61
Diabetes	E10-E14
Heart Disease	I00-I09, I11, I13, I20-I51
Stroke	I60-I69
Chronic Lower Respiratory Disease	J40-J47
Chronic Liver Disease and Cirrhosis	K70, K73-K74
Unintentional Injuries	V01-X59, Y85-Y86
Unintentional 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
Unintentional Falls	W00-W19
Unintentional Drug Poisonings	X40-X44
Suicide	U03, X60-X84, 87.0

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Appendix

Table A. Life Expectancy by Select Characteristics, Sonoma County 2015-2017

	Life Expectancy [^] Years	95% CI
Total	81.6	81.6-82.1
Sex		
Male	79.6	79.3-79.9
Female	83.9	83.7-84.2
Race/ethnicity		
African American/Black	82.3	80.4-84.2
American Indian/Alaska Native	80.8	78.0-83.6
Asian/Pacific Islander	88.0	87.0-89.1
Hispanic/Latino	86.8	86.2-87.5
White, non-Hispanic	81.4	81.1-81.7
City of Residence^{^^}		
Santa Rosa	80.9	80.5-81.2
Petaluma	82.1	81.5-82.6
Sonoma Valley	82.7	81.9-83.5
Rohnert Park	80.6	79.7-81.5
Sebastopol - West County	83.7	82.9-84.5
Windsor	81.6	80.7-82.5
Healdsburg	84.0	82.7-85.3
Cloverdale and Geyserville	79.7	78.3-81.2
Russian River area	82.4	80.4-83.9
National Comparison 2017	78.6	78.6-78.6
California Comparison 2015-2017	81.5	81.5-81.5

[^] LE calculation: Chiang Method II

^{^^}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

Source: California Department of Public Health, VRBIS Death Data 2005-2017; Accessed 4/8/2019; 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. US Census Bureau, American Community Survey, Population by ZCTA 5 Year Estimates, 2013-2017.

Table B1. Age-Adjusted Years of Life Lost Before 75 (YPLL-75) for Leading Causes of Death, Sonoma County 2015-2017

	All Causes		All Cancers		Unintentional Injury	
	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	71,443	4473.7 4439.0 - 4508.4	17,465	929.3 914.7 - 943.9	11,768	865.4 849.4 - 881.4
Sex						
Male	44,815	5760.2 5704.3 - 5816.0	8,810	949.4 928.6 - 970.2	8,200	1207.3 1180.6 - 1234.0
Female	26,628	3212.2 3170.8 - 3253.6	8,655	916.9 896.1 - 937.6	3,568	518.9 501.3 - 536.5
Race/ethnicity						
African American/Black	1,253	4022.5 3794.4 - 4250.5	198	624.0 534.5 - 713.6	-	-
American Indian/Alaska Native	818	6396.0 5938.5 - 6853.5	238	1771.2 1533.9 - 2008.5	-	-
Asian/Pacific Islander	1,718	2111.2 2008.6 - 2213.8	550	615.6 563.0 - 668.1	235	296.0 257.3 - 334.6
Hispanic/Latino	12,880	3554.8 3491.3 - 3618.2	2,740	846.4 813.7 - 879.0	2,605	625.5 601.1 - 649.9
White, non-Hispanic	52,020	4711.9 4666.0 - 4757.8	13,385	929.1 911.4 - 946.7	8,335	989.2 966.7 - 1011.8
City of Residence						
Santa Rosa	32,118	4687.6 4634.4 - 4740.8	7,608	1007.2 983.7 - 1030.8	4,993	815.0 792.0 - 838.1
Petaluma	8,148	3452.1 3372.8 - 3531.4	1,978	672.6 641.8 - 703.5	1,113	594.7 558.9 - 630.5
Sonoma Valley	5,263	4264.7 4137.4 - 4392.1	1,365	758.2 713.2 - 803.1	975	1103.0 1032.3 - 1173.7
Rohnert Park	6,448	5135.7 5003.9 - 5267.5	1,288	992.0 934.9 - 1049.1	1,328	1003.8 945.3 - 1062.3
Sebastopol - West County	4,008	3344.3 3222.3 - 3466.3	1,288	918.9 859.7 - 978.0	675	760.1 698.0 - 822.2
Windsor	3,708	4288.2 4142.8 - 4433.6	1,108	1168.8 1096.4 - 1241.2	373	526.8 471.2 - 582.3
Healdsburg	2,178	4153.1 3956.1 - 4349.4	455	534.4 479.0 - 589.8	440	1133.1 1023.4 - 1242.7
Cloverdale and Geyserville	2,363	6196.6 5933.5 - 6459.8	650	1578.5 1449.3 - 1707.7	413	1320.9 1191.0 - 1450.8
Russian River area	2,808	5719.5 5459.2 - 5979.8	788	1097.1 1008.0 - 1186.3	598	1651.6 1501.4 - 1801.7
National Comparison 2015-2017		6728.1		1205.2		1289.9
California Comparison 2015-2017		5137.8		1043.5		841.1

- < 5 cases; Data suppressed

**RSE 23-29.9%; Interpret with caution

Source: California Department of Public Health, California Integrated Vital Records System 2005-2017; Accessed 4/8/2019; 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. US Census Bureau, American Community Survey, Population by ZCTA 5 Year Estimates, 2013-2017, and Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Years of Potential Life Lost Reports, 2015-2017; Accessed 4/8/2019

Table B2. Age-Adjusted Years of Life Lost Before 75 (YPLL-75) for Leading Causes of Death, Sonoma County 2015-2017

	Heart Disease		Suicide		Chronic Liver 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
Total	8,788	492.1 481.0 - 503.1	4,973	363.0 352.6 - 373.4	2783	176.2 169.2 - 183.2
Sex						
Male	6,485	762.2 742.6 - 781.9	3,858	557.0 539.0 - 575.0	1698	218.1 207.1 - 229.0
Female	2,303	233.6 223.2 - 243.9	1,115	166.6 156.5 - 176.8	1085	136.4 127.7 - 145.1
Race/ethnicity						
African American/Black	240	745.1 648.1 - 842.2	-	-	-	-
American Indian/Alaska Native	-	-	-	-	-	-
Asian/Pacific Islander	378	510.2 456.8 - 563.7	-	-	-	-
Hispanic/Latino	978	300.2 280.9 - 316.6	928	226.1 211.4 - 240.9	648	208.4 192.4 - 224.6
White, non-Hispanic	6,673	495.1 481.6 - 508.6	3,705	438.0 423.1 - 452.9	1868	165.8 157.3 - 174.3
City of Residence						
Santa Rosa	4,030	555.3 537.3 - 573.2	2,468	405.7 389.3 - 422.0	1243	186.4 175.6 - 197.2
Petaluma	1,318	493.0 465.0 - 521.0	573	299.5 274.2 - 324.8	475	204.8 185.6 - 224.0
Sonoma Valley	588	421.2 383.0 - 459.4	370	424.6 380.3 - 468.9	255	204.9 178.0 - 231.7
Rohnert Park	540	403.9 368.4 - 439.4	403	362.4 325.7 - 399.0	268	193.6 168.1 - 219.1
Sebastopol - West County	440	275.5 244.0 - 307.1	268	267.7 230.9 - 304.4	200	167.1 141.2 - 193.0
Windsor	385	331.6 298.1 - 365.1	210	259.7 223.2 - 296.1	88	84.9 66.1 - 103.7
Healdsburg	390	592.4 526.6 - 658.1	118	183.2 147.8 - 218.7	-	-
Cloverdale and Geyserville	403	960.1 862.0 - 1058.1	155	469.8 394.3 - 545.4	-	-
Russian River area	265	382.0 327.7 - 436.4	133	351.0 287.6 - 414.3	-	-
National Comparison 2015-2017		918.5		440.9		186.3
California Comparison 2015-2017		675.6		310.7		210.7

- < 5 cases; Data suppressed

**RSE 23-29.9%; Interpret with caution

Source: California Department of Public Health, California Integrated Vital Records System 2005-2017; Accessed 4/8/2019; 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. US Census Bureau, American Community Survey, Population by ZCTA 5 Year Estimates, 2013-2017. and Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Years of Potential Life Lost Reports, 2015-2017; Accessed 4/8/2019

Table B3. Age-Adjusted Years of Life Lost Before 75 (YPLL-75) for Leading Causes of Death, Sonoma County 2015-2017

	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	
Total	2438	139.3		1,908	105.7		2,005	97.5	
		133.5 - 145.2			100.7 - 110.8			92.9 - 102.0	
Sex									
Male	1678	201.7		1,103	120.4		1,085	114.8	
		191.6 - 211.8			112.9 - 127.9			107.6 - 122.0	
Female	760	79.9		805	92.9		920	80.1	
		73.7 - 86.0			86.0 - 99.7			74.7 - 85.6	
Race/ethnicity									
African American/Black	115	352.6		-	-		-	-	
		287.5 - 417.7							
American Indian/Alaska Native	-	-		-	-		-	-	
Asian/Pacific Islander	78	99.4**		-	-		-	-	
		76.4 - 122.4							
Hispanic/Latino	430	151		388	123.6		100	28.9	
		136.4 - 165.6			111.3 - 136.4			22.9 - 34.9	
White, non-Hispanic	1635	135.8		1,285	87.8		1,733	107.9	
		128.5 - 143.2			82.4 - 93.2			102.1 - 113.6	
City of Residence									
Santa Rosa	1088	152.9		825	110.1		1,048	124.4	
		143.5 - 162.3			102.2 - 118.0			116.6 - 132.1	
Petaluma	280	120.1		210	64.5		253	103.4	
		105.2 - 135.0			55.7 - 73.4			89.6 - 117.3	
Sonoma Valley	100	45.0		163	120.3		128	51.9	
		35.9 - 54.1			99.9 - 140.6			42.8 - 61.2	
Rohnert Park	295	230.1		243	181.9		198	147.0	
		202.5 - 257.8			157.8 - 206.0			125.9 - 168.0	
Sebastopol - West County	83	76.6		48	22.9**		50	24.5**	
		56.9 - 96.3			16.2 - 29.6			17.5 - 31.4	
Windsor	195	194.0		190	204.6		-	-	
		166.1 - 221.8			174.3 - 234.8				
Healdsburg	80	128.6		-	-		-	-	
		95.8 - 161.5							
Cloverdale and Geyserville	70	136.7**		83	223.4		43	67.3**	
		102.6 - 170.7			172.7 - 274.0			46.8 - 87.8	
Russian River area	85	130.8		50	96.1**		48	45.1**	
		99.6 - 161.9			67.2 - 125.0			32.2 - 58.0	
National Comparison 2015-2017		172.9			155.7			161.8	
California Comparison 2015-2017		153.1			144.1			102.7	

- < 5 cases; Data suppressed

**RSE 23-29.9%; Interpret with caution

Source: California Department of Public Health, California Integrated Vital Records System 2005-2017; Accessed 4/8/2019; 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. US Census Bureau, American Community Survey, Population by ZCTA 5 Year Estimates, 2013-2017. and Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Years of Potential Life Lost Reports, 2015-2017; Accessed 4/8/2019

Table C1. Age-Adjusted Years of Life Lost Before 75 (YPLL-75) for Leading Causes of Cancer, Sonoma County 2015-2017

	All Cancers		Lung Cancer		Female Breast 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
Total	17,465	929.3 914.7 - 943.9	2,520	118 113.2 - 122.8	-	-
Sex						
Male	8,810	949.4 928.6 - 970.2	1,308	128.5 121.3 - 135.8	-	-
Female	8,655	916.9 896.1 - 937.6	1,213	108.4 102.0 - 114.8	1,928	226.4 215.5 - 237.3
Race/ethnicity						
African American/Black	198	624.0 534.5 - 713.6	-	-	-	-
American Indian/Alaska Native	238	1771.2 1533.9 - 2008.5	-	-	-	-
Asian/Pacific Islander	550	615.6 563.0 - 668.1	98	103.1 82.3 - 123.9	-	-
Hispanic/Latino	2,740	846.4 813.7 - 879.0	228	79.8 69.1 - 90.5	320	214.5 190.8 - 238.1
White, non-Hispanic	13,385	929.1 911.4 - 946.7	2,023	114.4 109.0 - 119.7	1,438	233.8 219.9 - 247.7
City of Residence						
Santa Rosa	7,608	1007.2 983.7 - 1030.8	1,025	121.0 113.5 - 128.6	633	159.0 145.9 - 172.2
Petaluma	1,978	672.6 641.8 - 703.5	260	73.9 64.9 - 82.9	268	186.4 163.1 - 209.7
Sonoma Valley	1,365	758.2 713.2 - 803.1	235	123.6 106.7 - 140.6	193	252.4 213.9 - 290.9
Rohnert Park	1,288	992.0 934.9 - 1049.1	133	99.6 82.0 - 117.2	168	267.0 223.7 - 310.3
Sebastopol - West County	1,288	918.9 859.7 - 978.0	130	75.4 60.9 - 89.9	240	507.4 434.7 - 580.2
Windsor	1,108	1168.8 1096.4 - 1241.2	105	85.5 69.0 - 102.0	203	408.2 351.1 - 465.2
Healdsburg	455	534.4 479.0 - 589.8	68	63.4** 47.8 - 79.0	-	-
Cloverdale and Geyserville	650	1578.5 1449.3 - 1707.7	165	395.4 331.7 - 459.1	90	556.9 439.9 - 673.8
Russian River area	788	1097.1 1008.0 - 1186.3	138	153.1 126.9 - 179.4	-	-

- < 5 cases; Data suppressed

**RSE 23-29.9%; Interpret with caution

Source: California Department of Public Health, California Integrated Vital Records System 2005-2017; Accessed 4/8/2019; 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. US Census Bureau, American Community Survey, Population by ZCTA 5 Year Estimates, 2013-2017. and Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Years of Potential Life Lost Reports, 2015-2017; Accessed 4/8/2019

Table C2. Age-Adjusted Years of Life Lost Before 75 (YPLL-75) for Leading Causes of Cancer, Sonoma County 2015-2017

	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
Total	1,400	76.9 72.6 - 81.1	1,255	59.7 56.3 - 63.2	-	-
Sex						
Male	698	79.9 73.5 - 85.9	788	82.7 76.7 - 88.7	500	50.2 45.5 - 54.9
Female	703	74.3 68.5 - 80.1	468	38.1 34.6 - 41.6	-	-
Race/ethnicity						
African American/Black	0	-	-	-	-	-
American Indian/Alaska Native	-	-	-	-	0	-
Asian/Pacific Islander	-	-	-	-	-	-
Hispanic/Latino	230	73.6 63.9 - 83.3	150	49.2 41.1 - 57.2	88	61.4 48.3 - 74.4
White, non-Hispanic	1070	77.0 72.0 - 82.1	1040	61.0 57.0 - 65.0	388	48.5 43.0 - 54.0
City of Residence						
Santa Rosa	558	82.8 75.8 - 89.8	445	55.9 50.5 - 61.3	245	63.5 55.3 - 71.8
Petaluma	128	44.8 36.8 - 52.7	198	60.4 51.9 - 68.9	28	17.2** 10.7 - 26.7
Sonoma Valley	120	78.1 63.0 - 93.2	143	60.7 50.5 - 70.9	33	29.8** 19.6 - 40.1
Rohnert Park	110	82.7 66.9 - 98.5	93	69.7 54.9 - 84.4	-	-
Sebastopol - West County	145	106.6 87.6 - 125.6	110	45.6 36.9 - 54.4	40	31.7** 21.8 - 41.6
Windsor	53	44.9** 32.6 - 57.2	-	-	83	192.5 148.0 - 237.0
Healdsburg	-	-	-	-	33	48.9** 31.4 - 66.4
Cloverdale and Geyserville	-	-	83	186.7 144.4 - 228.9	-	-
Russian River area	-	-	80	93.2 72.1 - 114.2	-	-

- < 5 cases; Data suppressed

**RSE 23-29.9%; Interpret with caution

Source: California Department of Public Health, California Integrated Vital Records System 2005-2017; Accessed 4/8/2019; 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. US Census Bureau, American Community Survey, Population by ZCTA 5 Year Estimates, 2013-2017. and Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Years of Potential Life Lost Reports, 2015-2017; Accessed 4/8/2019

Table D1. Age-Adjusted Years of Life Lost Before 75 (YPLL-75) for Leading Causes of Unintentional Injury, Sonoma County 2015-2017

	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
	75	95% CI	75	95% CI	75	95% CI	75	95% CI
Total	11,768	865.4 849.4 - 881.4	5,123	372.8 362.4 - 383.3	3,838	296.4 286.8 - 305.9	405	25.3 22.7 - 27.9
Sex								
Male	8,200	1207.3 1180.6 - 1234.0	3,595	520.9 503.5 - 538.3	2,670	407.2 391.5 - 422.8	320	40.6 35.9 - 45.2
Female	3,568	518.9 501.3 - 536.5	1,528	223.0 211.4 - 234.5	1,168	184.0 173.2 - 194.8	85	10.8 8.3 - 13.2
Race/ethnicity								
African American/Black	-	-	-	-	-	-	0	-
American Indian/Alaska Native	-	-	-	-	-	-	-	-
Asian/Pacific Islander	235	296.0 257.3 - 334.6	-	-	0	-	125	152.9 125.6 - 180.2
Hispanic/Latino	2,605	625.5 601.1 - 649.9	795	195.5 181.7 - 209.3	1,218	281.6 265.6 - 297.7	110	30.2 24.4 - 35.9
White, non-Hispanic	8,335	989.2 966.7 - 1011.8	3,978	466.5 451.3 - 481.7	2,263	290.2 277.7 - 302.7	295	25.8 22.5 - 29.2
City of Residence								
Santa Rosa	4,993	815.0 792.0 - 838.1	2,308	375.3 359.7 - 391.0	1,548	265.9 252.4 - 279.3	108	18.6 14.9 - 22.1
Petaluma	1,113	594.7 558.9 - 630.5	535	281.7 257.4 - 306.0	330	176.5 156.7 - 196.2	63	31.6** 23.4 - 37.8
Sonoma Valley	975	1103.0 1032.3 - 1173.7	400	475.9 429.0 - 522.9	373	440.9 395.4 - 486.3	-	-
Rohnert Park	1,328	1003.8 945.3 - 1062.3	505	331.0 300.7 - 361.3	500	385.0 347.5 - 422.4	-	-
Sebastopol - West County	675	760.1 698.0 - 822.2	260	255.7 221.5 - 289.8	218	230.2 198.3 - 262.1	-	-
Windsor	373	526.8 471.2 - 582.3	185	267.1 227.2 - 306.9	-	-	-	-
Healdsburg	440	1133.1 1023.4 - 1242.7	175	505.8 428.7 - 582.9	-	-	-	-
Cloverdale and Geyserville	413	1320.9 1191.0 - 1450.8	213	676.6 584.7 - 768.5	-	-	-	-
Russian River area	598	1651.6 1501.4 - 1801.7	258	545.6 470.3 - 621.0	213	803.1 689.6 - 916.7	-	-

- < 5 cases; Data suppressed

**RSE 23-29.9%; Interpret with caution

Source: California Department of Public Health, California Integrated Vital Records System 2005-2017; Accessed 4/8/2019; 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. US Census Bureau, American Community Survey, Population by ZCTA 5 Year Estimates, 2013-2017. and Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Years of Potential Life Lost Reports, 2015-2017; Accessed 4/8/2019

Summary 1. Life Expectancy, Leading Causes of Death, and Leading Causes of Premature Death by Geography – Santa Rosa

Zip codes: 95401, 95403, 95404, 95405, 95407, 95409, 95439

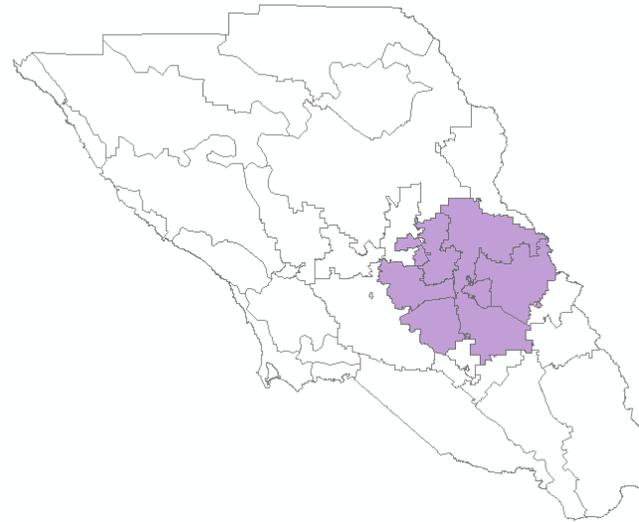
Life Expectancy at Birth **81 years**

Leading Causes of Death

	3 YEAR TOTAL DEATHS	PERCENT OF TOTAL DEATHS	RATE PER 100,000	95% CI
All cause	5,555	100%	661.8	643.8-679.8
Heart Disease	1,242	22.4%	142.8	134.6-151.0
Cancer	1,234	22.2%	150.6	141.9-159.3
Alzheimer's Disease	397	7.1%	43.5	39.1-47.9
Stroke	338	6.1%	39.5	35.1-43.8
Chronic Lower Respiratory Disease	287	5.2%	34.5	30.4-38.6
Unintentional Injury	269	4.8%	35.9	31.5-40.4

Leading Causes of Premature Death (YPLL-75)

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Causes	32,118	100%	4687.6	4634.4-4740.8
Cancer	7,608	23.7%	1,007.2	983.7-1030.8
Unintentional Injury	4,993	15.5%	815.0	792.0-838.1
Heart Disease	4,030	12.5%	555.3	537.3-573.2
Suicide	2,468	7.7%	405.7	389.3-422.0
Chronic Liver Disease	1,243	3.9%	186.4	175.6-197.2
Diabetes	1,088	3.4%	152.9	143.5-162.3
Chronic Lower Respiratory Disease	1,048	3.3%	124.4	116.6-132.1
Stroke	825	2.6%	110.1	102.2-118.0



Premature Death (YPLL-75) from Cancer by Type

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Cancer	7,608	100%	1,007.2	983.7-1030.8
Lung	1,025	13.5%	121.0	113.5-128.6
Female Breast	633	8.3%	159.0	145.9-172.2
Colorectal	558	7.3%	82.8	75.8-89.8
Pancreatic	445	5.8%	55.9	50.5-61.3
Prostate	245	3.2%	63.5	55.3-71.8

Premature Death (YPLL-75) from Unintentional Injury by Cause

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Unintentional Injury	4,993	100%	815	792.0-838.1
Drug Poisoning	2308	46.2%	375.3	359.7-381.0
Motor Vehicle Collisions	1548	31.0%	265.9	252.4-279.3
Falls	108	2.2%	18.6	14.9-22.1

Top 5 Leading Causes of Premature Death (YPLL-75) by Cause and Geography

Comparison To County Rate

	Cancer	Heart Disease	Unintentional Injury	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	-
Santa Rosa	↑	↑	↓	↑	=
Russian River Area	↑	↓	↑	=	-
Healdsburg	↓	↑	↑	↓	-
Sonoma Valley	↓	↓	↑	↑	=
Rohnert Park	=	↓	↑	↓	=
Windsor	↑	↓	↓	↓	↓
Petaluma	↓	=	↓	↓	↑
Sebastopol- West County	=	↓	↓	↓	=

- ↓ Significantly lower than Sonoma County rate
- ↑ Significantly higher than Sonoma County rate
- = Same as Sonoma County rate
- Rate unstable due to small numbers

All rates are age-adjusted to the US 2000 standard population

Source: VRBIS, CDF 2015-2017; Accessed 4/8/2019; NCHS, Bridged-Race Vintage Population Estimates, US July 1st resident population 2016; US Census, ACS, 5 Year Estimates by ZTCA, 2017

Summary 2. Life Expectancy, Leading Causes of Death, and Leading Causes of Premature Death by Geography - Petaluma

Zip codes: 94952, 94954

Life Expectancy at Birth **82 years**

Leading Causes of Death

	3 YEAR TOTAL DEATHS	PERCENT OF TOTAL DEATHS	RATE PER 100,000	95% CI
All cause	1,702	100%	625.3	594.9-655.7
Heart Disease	459	27.0%	166.2	150.7-181.6
Cancer	395	23.2%	140.0	125.9-154.2
Alzheimer's Disease	123	7.2%	45.9	37.7-54.2
Stroke	84	4.9%	30.9	24.1-37.6
Chronic Lower Respiratory Disease	78	4.6%	29.8	23.0-36.6
Unintentional Injury	57	3.3%	23.7	17.3-30.1

Leading Causes of Premature Death (YPLL-75)

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS	YPLL PER 100,000	95% CI
All Causes	8,148	100%	3452.1	3372.8-3531.4
Cancer	1,978	24.3%	672.6	641.8-703.5
Heart Disease	1,318	16.2%	493.0	465.0-521.0
Unintentional Injury	1,113	13.7%	594.7	558.9-630.5
Suicide	573	7.0%	299.5	274.2-324.8
Chronic Liver Disease	475	5.8%	204.8	185.6-224.0
Diabetes	280	3.4%	120.1	105.2-135.0
Chronic Lower Respiratory Disease	253	3.1%	103.4	89.6-117.3
Stroke	210	2.6%	64.5	55.5-73.4

Premature Death (YPLL-75) from Cancer by Type

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS	YPLL PER 100,000	95% CI
All Cancer	1,978	100%	672.6	641.8-703.5
Female Breast	268	13.5%	186.4	163.1-209.7
Lung	260	13.1%	73.9	64.9-82.9
Pancreatic	198	10.0%	60.4	51.9-68.9
Colorectal	128	6.5%	44.8	36.8-52.7
Prostate	28	1.4%	17.2**	10.7-26.7

Premature Death (YPLL-75) from Unintentional Injury by Cause

	3 YEAR TOTAL YEARS LIFE LOST	TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Unintentional Injury	1,113	100%	594.7	558.9-630.5
Drug Poisoning	535	48.1%	281.7	257.4-306.0
Motor Vehicle Collisions	330	29.6%	176.5	156.7-196.2
Falls	63	5.7%	31.6**	23.4-37.8

**RSE 23-29.9%; Interpret with caution

All rates are age-adjusted to the US 2000 standard population

Source: VRBIS, CDF 2015-2017; Accessed 4/8/2019; NCHS, Bridged-Race Vintage Population Estimates, US July 1st resident population 2016; US Census, ACS, 5 Year Estimates by ZTCA, 2017



Top 5 Leading Causes of Premature Death (YPLL-75) by Cause and Geography

Comparison To County Rate

	Cancer	Heart Disease	Unintentional Injury	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	=
Santa Rosa	↑	↑	↓	↑	=
Russian River Area	↑	↓	↑	=	=
Healdsburg	↓	↑	↑	↓	=
Sonoma Valley	↓	↓	↑	↑	=
Rohnert Park	=	↓	↑	↓	=
Windsor	↑	↓	↓	↓	↓
Petaluma	↓	=	↓	↓	↑
Sebastopol- West County	=	↓	↓	↓	=

↓ Significantly lower than Sonoma County rate

↑ Significantly higher than Sonoma County rate

= Same as Sonoma County rate

- Rate unstable due to small numbers

Summary 3. Life Expectancy, Leading Causes of Death, and Leading Causes of Premature Death by Geography – Sonoma Valley

Zip codes: 95442, 95476

Life Expectancy at Birth **83 years**

Leading Causes of Death

	3 YEAR TOTAL DEATHS	PERCENT OF TOTAL DEATHS	RATE PER 100,000	95% CI
All cause	1,203	100%	566.1	532.1-600.1
Cancer	315	26.2%	145.7	128.9-162.4
Heart Disease	251	20.9%	110.3	96.2-124.5
Alzheimer's Disease	102	8.5%	41.2	33.1-49.2
Chronic Lower Respiratory Disease	72	6.0%	32.7	24.9-40.4
Stroke	65	5.4%	28.6	21.3-35.9
Unintentional Injury	41	3.4%	32.8	21.9-43.7

Leading Causes of Premature Death (YPLL-75)

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Causes	5,263	100%	4264.7	4137.4-4392.1
Cancer	1,365	25.9%	758.2	713.2-803.1
Unintentional Injury	975	18.5%	1,103.0	1032.3-1173.7
Heart Disease	588	11.2%	421.2	383.0-459.4
Suicide	370	7.0%	424.6	380.3-468.9
Chronic Liver Disease	255	4.8%	204.9	178.0-231.7
Stroke	163	3.1%	120.3	99.9-140.6
Chronic Lower Respiratory Disease	128	2.4%	51.9	42.8-61.2
Diabetes	100	1.9%	45.0	35.9-54.1

Premature Death (YPLL-75) from Cancer by Type

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Cancer	1,365	100%	758.2	713.2-803.1
Lung	235	17.2%	123.6	106.7-140.6
Female Breast	193	14.1%	252.4	213.9-290.9
Pancreatic	143	10.5%	60.7	50.5-70.9
Colorectal	120	8.8%	78.1	63.0-93.2
Prostate	33	2.4%	29.8	19.6-40.1

Premature Death (YPLL-75) from Unintentional Injury by Cause

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Unintentional Injury	975	100%	1,103.0	1032.3-1173.7
Drug Poisoning	400	41.0%	475.9	429.0-522.9
Motor Vehicle Collisions	373	38.3%	440.9	395.4-486.3
Falls	*	-	-	-

* <5 cases; Data suppressed; **RSE 23-29.9%; Interpret with caution

All rates are age-adjusted to the US 2000 standard population

Source: VRBIS, CCDF 2015-2017; Accessed 4/8/2019; NCHS, Bridged-Race Vintage Population Estimates, US July 1st resident population 2016; US Census, ACS, 5 Year Estimates by ZTCA, 2017



Top 5 Leading Causes of Premature Death (YPLL-75) by Cause and Geography

Comparison To County Rate

	Cancer	Heart Disease	Unintentional Injury	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	-
Santa Rosa	↑	↑	↓	↑	=
Russian River Area	↑	↓	↑	=	-
Healdsburg	↓	↑	↑	↓	-
Sonoma Valley	↓	↓	↑	↑	=
Rohnert Park	=	↓	↑	↓	=
Windsor	↑	↓	↓	↓	↓
Petaluma	↓	=	↓	↓	↑
Sebastopol- West County	=	↓	↓	↓	=

↓ Significantly lower than Sonoma County rate

↑ Significantly higher than Sonoma County rate

= Same as Sonoma County rate

- Rate unstable due to small numbers

Summary 4. Life Expectancy, Leading Causes of Death, and Leading Causes of Premature Death by Geography – Rohnert Park

Zip codes: 94928

Life Expectancy at Birth **81 years**

Leading Causes of Death

	3 YEAR TOTAL DEATHS	PERCENT OF TOTAL DEATHS	RATE PER 100,000	95% CI
All cause	785	100%	566.1	532.1-600.1
Cancer	189	24.1%	172.6	146.8-198.4
Heart Disease	164	20.9%	149.6	125.8-173.4
Unintentional Injury	51	6.5%	39.5	27.9-51.0
Stroke	40	5.1%	34.6	23.3-45.9
Chronic Lower Respiratory Disease	40	5.1%	38.2	25.9-50.5
Alzheimer's Disease	37	4.7%	31.3	21.0-41.6

Leading Causes of Premature Death (YPLL-75)

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Causes	6,448	100%	5135.7	5003.9-5267.5
Unintentional Injury	1,328	20.6%	1,003.8	945.3-1062.3
Cancer	1,288	20.0%	992.0	934.9-1049.1
Heart Disease	540	8.4%	403.9	368.4-439.4
Suicide	403	6.3%	362.4	325.7-399.0
Diabetes	295	4.6%	230.1	202.5-257.8
Chronic Liver Disease	268	4.2%	193.6	168.1-219.1
Stroke	243	3.8%	181.9	157.8-206.0
Chronic Lower Respiratory Disease	198	3.1%	147.0	125.9-168.0

Premature Death (YPLL-75) from Cancer by Type

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Cancer	1,288	100%	992.0	934.9-1049.1
Female Breast	168	13.0%	267.0	223.7-310.3
Lung	133	10.3%	99.6	82.0-117.2
Colorectal	110	8.5%	82.7	66.9-98.5
Pancreatic	93	7.2%	69.7	54.9-84.4
Prostate	*	-	-	-

Premature Death (YPLL-75) from Unintentional Injury by Cause

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Unintentional Injury	1,328	100%	1003.8	945.3-1062.3
Drug Poisoning	505	38.0%	331.0	300.7-361.3
Motor Vehicle Collisions	500	37.7%	385.0	347.5-422.4
Falls	*	-	-	-

* <5 cases; Data suppressed; **RSE 23-29.9%; Interpret with caution

All rates are age-adjusted to the US 2000 standard population

Source: VRBIS, CCDF 2015-2017; Accessed 4/8/2019; NCHS, Bridged-Race Vintage Population Estimates, US July 1st resident population 2016; US Census, ACS, 5 Year Estimates by ZTCA, 2017



Top 5 Leading Causes of Premature Death (YPLL-75) by Cause and Geography

Comparison To County Rate

	Cancer	Heart Disease	Unintentional Injury	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	-
Santa Rosa	↑	↑	↓	↑	=
Russian River Area	↑	↓	↑	=	-
Healdsburg	↓	↑	↑	↓	-
Sonoma Valley	↓	↓	↑	↑	=
Rohnert Park	=	↓	↑	↓	=
Windsor	↑	↓	↓	↓	↓
Petaluma	↓	=	↓	↓	↑
Sebastopol- West County	=	↓	↓	↓	=

↓ Significantly lower than Sonoma County rate

↑ Significantly higher than Sonoma County rate

= Same as Sonoma County rate

- Rate unstable due to small numbers

Summary 5. Life Expectancy, Leading Causes of Death, and Leading Causes of Premature Death by Geography – Sebastopol – West County

Zip codes: 94922, 94923, 95444, 95465, 95472

Life Expectancy at Birth **84 years**

Leading Causes of Death

	3 YEAR TOTAL DEATHS	PERCENT OF TOTAL DEATHS	RATE PER 100,000	95% CI
All cause	824	100%	538.6	499.6-577.7
Cancer	201	24.4%	120.2	102.2-138.2
Heart Disease	186	22.6%	121.1	103.0-139.2
Alzheimer's Disease	49	5.9%	35.5	25.4-45.5
Stroke	45	5.5%	30.4	21.3-39.4
Chronic Lower Respiratory Disease	37	4.5%	24.7	16.5-32.9
Unintentional Injury	35	4.2%	26.9	16.9-36.9

Leading Causes of Premature Death (YPLL-75)

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Causes	4,008	100%	3343.3	3222.3-3466.3
Cancer	1,288	32.1%	918.9	859.7-978.0
Unintentional Injury	675	16.8%	760.1	698.0-822.2
Heart Disease	440	11.0%	275.5	244.0-307.1
Suicide	268	6.7%	267.7	230.9-304.4
Chronic Liver Disease	200	5.0%	167.1	141.2-193.0
Diabetes	83	2.1%	76.6	56.9-96.3
Chronic Lower Respiratory Disease	50	1.2%	24.5**	17.5-31.4
Stroke	48	1.2%	22.9**	16.2-29.6

Premature Death (YPLL-75) from Cancer by Type

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Cancer	1,288	100%	918.9	859.7-978.0
Female Breast	240	18.6%	507.4	434.7-580.2
Colorectal	145	11.3%	106.6	87.6-125.6
Lung	130	10.1%	75.4	60.9-89.9
Pancreatic	110	8.5%	45.6	36.9-54.4
Prostate	40	3.1%	31.7**	21.8-41.6

Premature Death (YPLL-75) from Unintentional Injury by Cause

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Unintentional Injury	675	100%	760.1	698.0-822.2
Drug Poisoning	260	38.5%	255.7	221.5-289.8
Motor Vehicle Collisions	218	32.3%	230.2	198.3-262.1
Falls	*	-	-	-

* <5 cases; Data suppressed; **RSE 23-29.9%; Interpret with caution

All rates are age-adjusted to the US 2000 standard population

Source: VRBIS, CCDF 2015-2017; Accessed 4/8/2019; NCHS, Bridged-Race Vintage Population Estimates, US July 1st resident population 2016; US Census, ACS, 5 Year Estimates by ZTCA, 2017



Top 5 Leading Causes of Premature Death (YPLL-75) by Cause and Geography

Comparison To County Rate

	Cancer	Heart Disease	Unintentional Injury	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	-
Santa Rosa	↑	↑	↓	↑	=
Russian River Area	↑	↓	↑	=	-
Healdsburg	↓	↑	↑	↓	-
Sonoma Valley	↓	↓	↑	↑	=
Rohnert Park	=	↓	↑	↓	=
Windsor	↑	↓	↓	↓	↓
Petaluma	↓	=	↓	↓	↑
Sebastopol- West County	=	↓	↓	↓	=

- ↓ Significantly lower than Sonoma County rate
- ↑ Significantly higher than Sonoma County rate
- = Same as Sonoma County rate
- Rate unstable due to small numbers

Summary 6. Life Expectancy, Leading Causes of Death, and Leading Causes of Premature Death by Geography – Windsor

Zip codes: 95492

Life Expectancy at Birth **82 years**

Leading Causes of Death

	3 YEAR TOTAL DEATHS	PERCENT OF TOTAL DEATHS	RATE PER 100,000	95% CI
All cause	585	100%	641.6	588.3-694.8
Cancer	149	25.5%	150.7	125.8-175.6
Heart Disease	118	20.2%	130.5	106.5-154.5
Alzheimer's Disease	48	8.2%	58.6	41.9-75.3
Stroke	43	7.4%	49.2	34.3-64.1
Unintentional Injury	26	4.4%	30.5	18.4-42.7
Chronic Lower Respiratory Disease	22	3.8%	24.8	14.3-35.3

Leading Causes of Premature Death (YPLL-75)

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Causes	3,708	100%	4288.2	4142.8-4433.6
Cancer	1,108	29.9%	1,168.8	1096.4-1241.2
Heart Disease	385	10.4%	331.6	298.1-365.1
Unintentional Injury	373	10.1%	526.8	471.2-582.3
Suicide	210	5.7%	259.7	223.2-296.1
Diabetes	195	5.3%	194.0	166.1-221.8
Stroke	190	5.1%	204.6	174.3-234.8
Chronic Liver Disease	88	2.4%	84.9	66.1-103.7
Chronic Lower Respiratory Disease	*	-	-	-

Premature Death (YPLL-75) from Cancer by Type

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Cancer	1,108	100%	1,168.8	1096.4-1241.2
Female Breast	203	18.3%	408.2	351.1-465.2
Lung	105	9.5%	85.5	69.0-102.0
Prostate	83	7.5%	192.5	148.0-237.0
Colorectal	53	4.8%	44.9**	32.6-57.2
Pancreatic	*	-	-	-

Premature Death (YPLL-75) from Unintentional Injury by Cause

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Unintentional Injury	373	100%	526.8	471.2-582.3
Drug Poisoning	185	49.6%	267.1	227.2-306.9
Motor Vehicle Collisions	*	-	-	-
Falls	*	-	-	-

* <5 cases; Data suppressed; **RSE 23-29.9%; Interpret with caution

All rates are age-adjusted to the US 2000 standard population

Source: VRBIS, CCDF 2015-2017; Accessed 4/8/2019; NCHS, Bridged-Race Vintage Population Estimates, US July 1st resident population 2016; US Census, ACS, 5 Year Estimates by ZTCA, 2017



Top 5 Leading Causes of Premature Death (YPLL-75) by Cause and Geography

Comparison To County Rate

	Cancer	Heart Disease	Unintentional Injury	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	-
Santa Rosa	↑	↑	↓	↑	=
Russian River Area	↑	↓	↑	=	-
Healdsburg	↓	↑	↑	↓	-
Sonoma Valley	↓	↓	↑	↑	=
Rohnert Park	=	↓	↑	↓	=
Windsor	↑	↓	↓	↓	↓
Petaluma	↓	=	↓	↓	↑
Sebastopol- West County	=	↓	↓	↓	=

↓ Significantly lower than Sonoma County rate

↑ Significantly higher than Sonoma County rate

= Same as Sonoma County rate

- Rate unstable due to small numbers

Summary 7. Life Expectancy, Leading Causes of Death, and Leading Causes of Premature Death by Geography – Healdsburg

Zip codes: 95448

Life Expectancy at Birth **84 years**

Leading Causes of Death

	3 YEAR TOTAL DEATHS	PERCENT OF TOTAL DEATHS	RATE PER 100,000	95% CI
All cause	403	100%	498.0	446.3-549.7
Cancer	95	23.6%	108.7	85.7-131.8
Heart Disease	78	19.4%	91.1	69.9-112.3
Alzheimer's Disease	35	8.7%	43.4	28.8-58.0
Stroke	28	8.7%	35.9	22.2-49.4
Unintentional Injury	26	6.5%	38.6	20.9-56.4
Chronic Lower Respiratory Disease	22	5.5%	18.8	9.3-28.4

Leading Causes of Premature Death (YPLL-75)

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Causes	2,178	100%	4153.1	3956.1-4349.4
Cancer	455	20.9%	534.4	479.0-589.8
Unintentional Injury	440	20.2%	1,133.1	1023.4-1242.7
Heart Disease	390	17.9%	592.4	526.6-658.1
Suicide	118	5.4%	183.2	147.8-218.7
Diabetes	80	3.7%	128.6	95.8-161.5
Chronic Liver Disease	*	-	-	-
Chronic Lower Respiratory Disease	*	-	-	-
Stroke	*	-	-	-

Premature Death (YPLL-75) from Cancer by Type

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Cancer	455	100%	534.4	479.0-589.8
Lung	68	14.9%	63.4**	47.8-79.0
Prostate	33	7.3%	48.9**	31.4-66.4
Female Breast	*	-	-	-
Colorectal	*	-	-	-
Pancreatic	*	-	-	-

Premature Death (YPLL-75) from Unintentional Injury by Cause

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Unintentional Injury	440	100%	1,133.1	1023.4-1242.7
Drug Poisoning	175	39.8%	505.8	428.7-582.9
Falls	*	-	-	-
Motor Vehicle Collisions	*	-	-	-

* <5 cases; Data suppressed; **RSE 23-29.9%; Interpret with caution

All rates are age-adjusted to the US 2000 standard population

Source: VRBIS, CCDF 2015-2017; Accessed 4/8/2019; NCHS, Bridged-Race Vintage Population Estimates, US July 1st resident population 2016; US Census, ACS, 5 Year Estimates by ZTCA, 2017



Top 5 Leading Causes of Premature Death (YPLL-75) by Cause and Geography

Comparison To County Rate

	Cancer	Heart Disease	Unintentional Injury	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	-
Santa Rosa	↑	↑	↓	↑	=
Russian River Area	↑	↓	↑	=	-
Healdsburg	↓	↑	↑	↓	-
Sonoma Valley	↓	↓	↑	↑	=
Rohnert Park	=	↓	↑	↓	=
Windsor	↑	↓	↓	↓	↓
Petaluma	↓	=	↓	↓	↑
Sebastopol- West County	=	↓	↓	↓	=

↓ Significantly lower than Sonoma County rate

↑ Significantly higher than Sonoma County rate

= Same as Sonoma County rate

- Rate unstable due to small numbers

Summary 8. Life Expectancy, Leading Causes of Death, and Leading Causes of Premature Death by Geography – Cloverdale and Geyserville

Zip codes: 95425, 95441

Life Expectancy at Birth **80 years**

Leading Causes of Death

	3 YEAR TOTAL DEATHS	PERCENT OF TOTAL DEATHS	RATE PER 100,000	95% CI
All cause	362	100%	734.9	655.5-814.6
Cancer	95	26.2%	185.9	146.7-225.1
Heart Disease	82	22.7%	164.8	127.6-202.1
Alzheimer's Disease	25	6.9%	49.5	29.3-67.9
Chronic Lower Respiratory Disease	20	5.5%	40.3	21.7-58.8
Stroke	19	5.2%	38.6	20.5-56.6
Unintentional Injury	15	4.1%	41.5	19.8-63.3

Leading Causes of Premature Death (YPLL-75)

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Causes	2,363	100%	6196.6	5933.5-6459.8
Cancer	650	27.5%	1,578.5	1449.3-1707.7
Unintentional Injury	413	17.5%	1,320.9	1191.0-1450.8
Heart Disease	403	17.1%	960.1	862.0-1058.1
Suicide	155	6.6%	469.8	394.3-545.4
Stroke	80	3.4%	223.4	172.7-274.0
Diabetes	70	3.0%	136.7**	102.6-170.7
Chronic Lower Respiratory Disease	43	1.8%	67.3**	46.8-87.8
Chronic Liver Disease	*	-	-	-

Premature Death (YPLL-75) from Cancer by Type

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Cancer	650	100%	1,578.5	1449.3-1707.7
Lung	165	25.4%	395.4	331.7-459.1
Female Breast	90	13.8%	556.9	439.9-673.8
Pancreatic	83	12.8%	186.7	144.4-228.9
Colorectal	*	-	-	-
Prostate	*	-	-	-

Premature Death (YPLL-75) from Unintentional Injury by Cause

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Unintentional Injury	413	100%	1,320.9	1191.0-1450.8
Drug Poisoning	213	51.6%	676.6	584.7-768.5
Motor Vehicle Collisions	*	-	-	-
Falls	*	-	-	-

* <5 cases; Data suppressed; **RSE 23-29.9%; Interpret with caution

All rates are age-adjusted to the US 2000 standard population

Source: VRBIS, CCDF 2015-2017; Accessed 4/8/2019; NCHS, Bridged-Race Vintage Population Estimates, US July 1st resident population 2016; US Census, ACS, 5 Year Estimates by ZTCA, 2017



Top 5 Leading Causes of Premature Death (YPLL-75) by Cause and Geography

Comparison To County Rate

	Cancer	Heart Disease	Unintentional Injury	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	-
Santa Rosa	↑	↑	↓	↑	=
Russian River Area	↑	↓	↑	=	-
Healdsburg	↓	↑	↑	↓	-
Sonoma Valley	↓	↓	↑	↑	=
Rohnert Park	=	↓	↑	↓	=
Windsor	↑	↓	↓	↓	↓
Petaluma	↓	=	↓	↓	↑
Sebastopol- West County	=	↓	↓	↓	=

↓ Significantly lower than Sonoma County rate

↑ Significantly higher than Sonoma County rate

= Same as Sonoma County rate

- Rate unstable due to small numbers

Summary 9. Life Expectancy, Leading Causes of Death, and Leading Causes of Premature Death by Geography – Russian River Area

Zip codes: 95421, 95430, 95436, 95446, 95462, 95486

Life Expectancy at Birth **82 years**

Leading Causes of Death

	3 YEAR TOTAL DEATHS	PERCENT OF TOTAL DEATHS	RATE PER 100,000	95% CI
All cause	351	100%	561.1	496.2-625.9
Cancer	100	28.5%	133.0	1046-161.3
Heart Disease	72	20.5%	123.5	93.5-153.4
Unintentional Injury	33	9.4%	61.8	37.2-86.3
Chronic Lower Respiratory Disease	13	3.7%	19.1	7.9-30.2
Alzheimer's Disease	12	3.4%	23.1	9.7-36.4
Stroke	12	3.4%	20.5	8.3-32.7

Leading Causes of Premature Death (YPLL-75)

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Causes	2,808	100%	5719.5	5459.2-5979.8
Cancer	788	28.1%	1,097.1	1008.0-1186.3
Unintentional Injury	598	21.3%	1,651.6	1501.4-1801.7
Heart Disease	265	9.4%	382.0	327.7-436.4
Suicide	133	4.7%	351.0	287.6-414.3
Diabetes	85	3.0%	130.8	99.6-161.9
Stroke	50	1.8%	96.1	67.2-125.0
Chronic Lower Respiratory Disease	48	1.7%	45.1	32.2-58.0
Chronic Liver Disease	*	-	-	-

Premature Death (YPLL-75) from Cancer by Type

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Cancer	788	100%	1,097.1	1008.0-1186.3
Lung	138	17.5%	153.1	126.9-179.4
Pancreatic	80	10.2%	93.2	72.1-114.2
Female Breast	*	-	-	-
Colorectal	*	-	-	-
Prostate	*	-	-	-

Premature Death (YPLL-75) from Unintentional Injury by Cause

	3 YEAR TOTAL YEARS LIFE LOST	PERCENT OF TOTAL YEARS LIFE LOST	YPLL PER 100,000	95% CI
All Unintentional Injury	598	100%	1,651.6	1501.4-1801.7
Drug Poisoning	258	43.1%	545.6	470.3-621.0
Motor Vehicle Collisions	213	35.6%	803.1	689.6-916.7
Falls	*	-	-	-

* <5 cases; Data suppressed; **RSE 23-29.9%; Interpret with caution

All rates are age-adjusted to the US 2000 standard population

Source: VRBIS, CCDF 2015-2017; Accessed 4/8/2019; NCHS, Bridged-Race Vintage Population Estimates, US July 1st resident population 2016; US Census, ACS, 5 Year Estimates by ZTCA, 2017



Top 5 Leading Causes of Premature Death (YPLL-75) by Cause and Geography

Comparison To County Rate

	Cancer	Heart Disease	Unintentional Injury	Suicide	Chronic Liver Disease
Cloverdale and Geyserville	↑	↑	↑	↑	-
Santa Rosa	↑	↑	↓	↑	=
Russian River Area	↓	↓	↑	=	-
Healdsburg	↓	↑	↑	↓	-
Sonoma Valley	↓	↓	↑	↑	=
Rohnert Park	=	↓	↑	↓	=
Windsor	↑	↓	↓	↓	↓
Petaluma	↓	=	↓	↓	↑
Sebastopol- West County	=	↓	↓	↓	=

↓ Significantly lower than Sonoma County rate

↑ Significantly higher than Sonoma County rate

= Same as Sonoma County rate

- Rate unstable due to small numbers