



**NEVADA
COUNTY**
CALIFORNIA

**Public
Health**

2022 Nevada County Community Health Assessment Addendum

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Executive Summary

Since the release of the Nevada County 2019 Community Health Needs Assessment (CHNA)/Community Health Assessment (CHA) of Nevada County report, communities have faced a global pandemic that has impacted nearly every aspect of physical, mental, emotional, social, and financial wellbeing. This addendum to the 2019 CHNA/CHA uses the latest data to report on the overall state of health, highlight important social determinants of health (SDOH), and describe the impact of COVID-19 on Nevada County communities.

Overall State of Health Trends

In Nevada County all-cause mortality increased and life expectancy declined between 2019 and 2020. Due primarily to the COVID-19 pandemic, life expectancy decreased by 1.1 years, from 81.3 to 80.2 years. Despite this, life expectancy in the county remains higher than the national average and equal to the average for California. Black and American Indians and Alaska Natives (AIAN) residents had the highest rate of age-adjusted mortality in 2020, and consistently over a nearly 10-year period, all-cause mortality rates have increased for AIAN. The leading causes of death in 2020 and 2021 were primarily chronic disease related, with COVID-19 reported as the fourth leading cause in 2020 and fifth in 2021.

Drug- and alcohol-related overdoses have seen a steady rise in Nevada County over the past 10-years. In 2020, drug overdoses were the third leading cause of death and leading contributor to years of life lost. In Nevada County, between 2019 and 2020, alcohol-related deaths increased 155% and drug overdose deaths increased 141%. Overdose deaths were highest among adults between 25-34 years of age and males who have a death rate three times higher than females within the county.

Social Determinants of Health and Place

Two social determinants, poverty and educational attainment, were measured by 'place' to compare with health outcomes, in this case mortality, within Nevada County. Following state trends, communities within Nevada County with high levels of poverty and low levels of education (higher percentage of the population with high school degree or less) had higher age-adjusted mortality.

COVID-19 in Nevada County

The first case of COVID-19 in Nevada County was reported March 16, 2020. Since the onset, Nevada County has had a total of 20,125 confirmed cases and 133 deaths (as of Feb 28th, 2023). Like many communities, COVID-19 variants resulted in three distinct surges that led to increasing positive case rates and hospitalizations within the county. Nevada County saw the highest confirmed cases in January 2022, primarily fueled by the Omicron variant, but saw the most COVID-19 hospitalizations in August 2021. About 61.1% of residents have received the primary series and a booster dose of the COVID-19 vaccine as of Feb 28th, 2023. Vaccination rates were highest among adults 65 years and older (79.4%), females (66%), and Whites (65.5%) and Asian American (63.8%). On the other hand, vaccination rates were lowest among children under 11 years of age (11.3%) and Latino population (45.4%).

COVID-19 Experiences

NCPHD commissioned FM3 Research, an independent research firm, to conduct a survey of Nevada County residents to assess views of the impacts of the pandemic, perceptions of the newly available vaccines and willingness to take them, and reactions to themes for communications that might promote vaccine acceptance among Nevada County residents. The survey with the title “*Nevada County Resident Attitude Towards COVID-19 Vaccination*” was conducted from May 26th to June 3rd, 2021 amidst the height of the summer spike in cases. In this dual-mode resident survey, 611 adult residents of Nevada County participated. Survey methodology and responses are summarized in Appendix C.

Vaccine hesitancy varied by region, age, and race/ethnicity but remained low overall in the county at 7.3%. Those most hesitant included adults between 18-29 (21%), Latino residents (14%) and all residents of color (14%), Medi-Cal recipients (30%), and those that make an annual income between \$30,000-\$50,000 (14%). Among residents that were more resistant to vaccination, most were concerned about safety or how new the vaccine was. Overall, free vaccines, the safety record of vaccine trials, and appeals to personal responsibility were key motivators to vaccination. When surveyed about the impacts of COVID-19, 75% of respondents had or knew someone who had COVID-19, 48% had someone in the household that was especially vulnerable to COVID-19 complications, and 70% felt that the economic impacts of COVID-19 were a serious problem. Residents most likely to have reported having COVID-19 included Spanish speakers, uninsured people, men under 50 years of age, and those insured through Medi-Cal.

Introduction

In 2018, Sierra Nevada Memorial Hospital (SNMH) and Nevada County Public Health Department (NCPHD) worked collaboratively to produce the 2019 Community Health Needs Assessment (CHNA)/Community Health Assessment (CHA) of Nevada County [8]. The primary focus of the CHNA/CHA was to identify and prioritize significant health needs of Nevada County communities. The COVID-19 pandemic has exacerbated health disparities and long-standing health inequities in Nevada County. Low income and communities of color are less likely to have the option of working from home and to receive high-quality medical care, and more likely to have preexisting medical conditions that lead to worse outcomes from the novel coronavirus. COVID-19 burdened the health care system and has a significant impact on physical, mental, social, and economic wellbeing of residents of Nevada County. Because of the dynamic and evolving nature of health, needs change over time and new needs may appear as identified and demonstrated throughout the pandemic.

Purpose

This updated CHA is an addendum to the 2019 report and includes COVID-19 community health impact information and serves as a timely update. The CHA documents how the COVID-19 pandemic affected the county’s communities. It goes beyond documenting the direct disease impacts of COVID-19 and focuses on the following five foundational community health topics.

1. Overall state of health of the community
2. Leading causes of death

3. Top public health conditions
4. Top ranking causes of hospitalization and emergency department (ED) visits
5. Social determinants of health (SDOH): Economic stability, education access and quality and environmental health

Methods

A population-based community health framework served as a guide for this addendum [1]. This framework recognizes the social determinants of health, where public health conditions, overall community health, and leading causes of death inform future health-related efforts and actions to address health disparities. Below are the steps that followed to complete this addendum.

1. Review existing 2019 CHNA/CHA for Nevada County
2. Identify foundational health topics and COVID-19-related impacts with a focus on health equity
3. Match health topics and needs with existing data from the 2022 State Health Assessment and secondary data sources
4. CHA addendum documenting health impact information and updates
5. Validate CHA addendum with review and consensus from multiple stakeholders

Data and Sources

Multiple types of data are essential for describing the state of health of the entire population. Most of the data included in this CHA addendum are from the 2022 Nevada County-specific version of the [State Health Assessment \(SHA\) Core Module](#). The data obtained from the SHA Core Module included data on deaths, hospitalizations, reportable diseases, emergency department visits, years lived with disability, social determinants of health, and population denominators. Additional data sources that were used to tell the story of the health of Nevada County are referenced throughout and summarized in Appendix B.

Death Data

Most of the charts and tables in the SHA core module are based on death data. Death data are a high quality, geographically and demographically granular, and use a consistent data source. Death data allow for objective comparisons over time and between groups. Detailed data collection methods are included in the technical notes section located at the end of this document.

Data Time Frames

This 2022 COVID-19 addendum includes data through the most recent year for which complete data are available. For some charts, data for 2020 are shown while trend charts display data from 2000 through 2020. In some cases, for statistical stability or data de-identification purposes, years are aggregated into 3- or 5-year groups. It is important to present high-level data for the most recent time period available, especially during the COVID-19 pandemic. Therefore, data from January 2020 to February 2023 are included in the COVID-19 specific section of this report.

Limitations

Information presented in the CHA addendum are subject to some limitations. First, data are not available for all population subgroups. Population and demographic subgroup data for some of the indicators resulted in unreliable rates or there were too few cases to protect confidentiality. This is noted throughout the report with a symbol (*). Small population sizes could influence the values reflected in the charts. These values could be too high or too low and might not reflect the true value.

This will be noted throughout the report; this data should be interpreted with caution and are noted with a symbol (^).

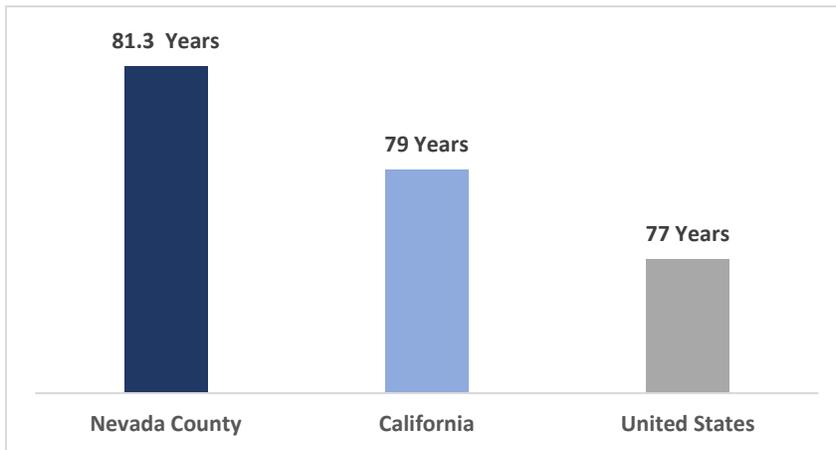
Overall State of Health Trends in Nevada County

Overall Life Expectancy in Nevada County

Life expectancy at birth is a projection that estimates the average age of death for people born today given current death rates. It is how long, on average, a newborn can expect to live, if current death rates do not change. The COVID-19 pandemic has affected life expectancy locally and nationwide. The decline in life expectancy between 2019 and 2020 is primarily due to deaths from the COVID-19 pandemic. Nationwide, life expectancy declined by 1.5 years between 2019 and 2020.

- Life expectancy in Nevada County declined 1.1 years between 2019 to 2020. Overall life expectancy among residents in 2019 was 81.3 years. In the first year of the COVID-19 pandemic this declined to 80.2 years.
- Despite declines, life expectancy in 2020 in Nevada County (80.2 years) remained higher than the nationwide average (77.0 years) by 4.2 years and state average (79 years) by 2.3 years.

Average Life Expectancy at Birth, 2020



Data Source: National Center for Health Statistics,
[U.S. State Life Expectancy at birth by Sex, 2020 \(cdc.gov\)](https://www.cdc.gov/nchs/data/tables/state-life-expectancy-at-birth-by-sex-2020)

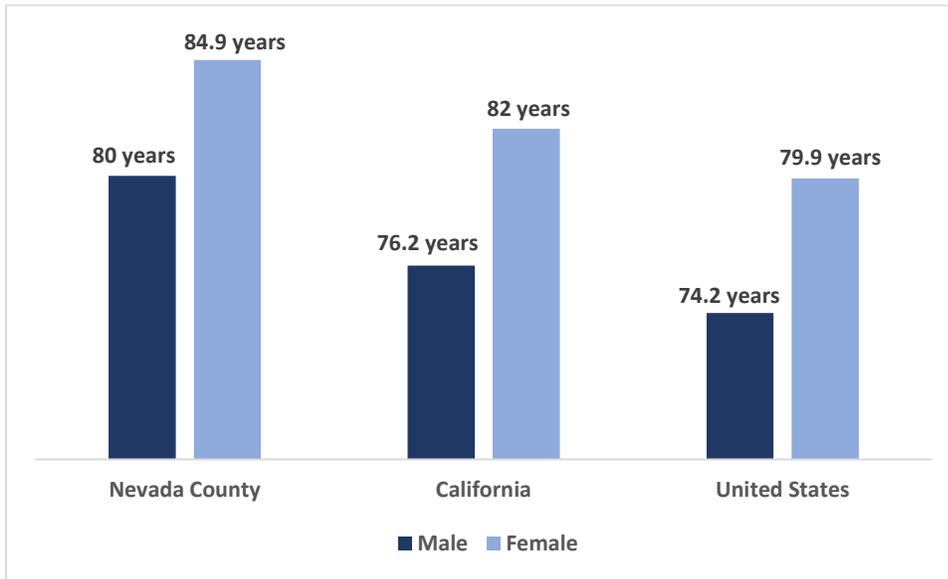
Life Expectancy by Sex and Race/Ethnicity

Life expectancy is a key summary measure of disparity and can show differences in mortality between population subgroups. Limited data are available for Nevada County by race/ethnicity due to small sample size.

- Differences by sex in life expectancy followed national trends. Female residents (84.9) were expected to live on average 4.9 years longer than males (80.0) in Nevada County.

- There are too few cases to protect confidentiality and/or report reliable rates for all race/ethnicities. Therefore, Nevada County life expectancy by race/ethnicity groups were not reported in this report.

Average Life Expectancy at Birth by Sex, 2016-2020.



Data Source: National Center for Health Statistics, [U.S. State Life Expectancy at birth by Sex, 2020 \(cdc.gov\)](https://www.cdc.gov/nchs/data/tables/life-expectancy-at-birth-by-sex-2020), [2022 Nevada County Health Assessment Core Module](#)

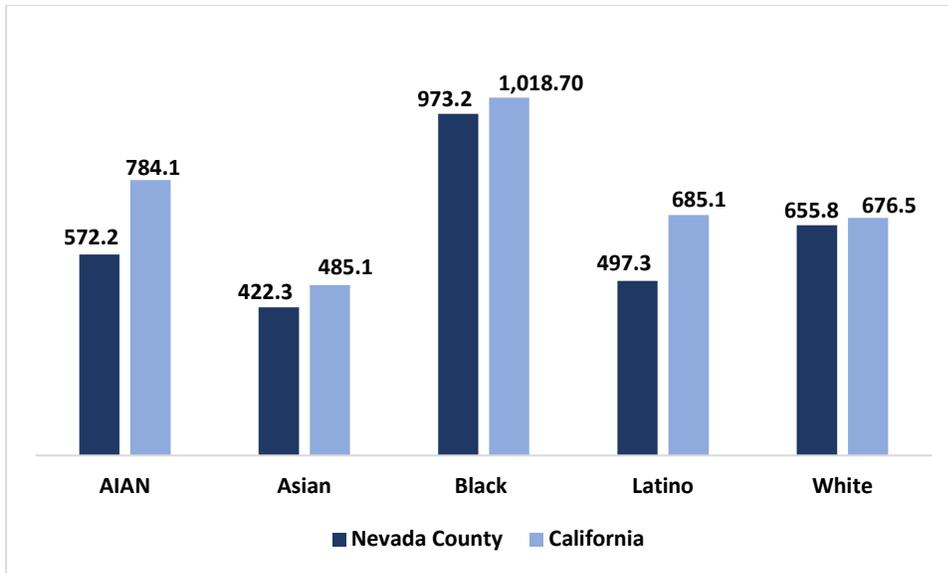
All-Cause Mortality

All-cause mortality refers to all the deaths that occur in a population regardless of the cause. Tracking all-cause mortality provides information about whether an excess of deaths has occurred. This is important to examine in reference to COVID-19 as deaths by COVID-19 could be assigned to other causes of death. This could happen if COVID-19 was not listed on the death certificate. All-cause mortality is the opposite of life expectancy – when all-cause mortality goes down, life expectancy goes up, and vice versa. In Nevada County, between 2019-2020, all-cause mortality increased, and life expectancy decreased.

- In Nevada County, the age-adjusted rate of mortality was less than the state average in 2019. In the county there were 596.7 deaths per 100,000 population compared to the state rate of 608.5 deaths per 100,000 population.
- Over a period of 21 years from 2000 to 2021, all-cause mortality was consistently higher for males compared to females within the county, following similar state and national trends.
- Between 2000 to 2021, all-cause mortality trends differed among different race and ethnicity groups within the county. White residents saw a general decline over the 21-year period. Among minority groups within the county, mortality increased between 2012 and 2020 for AIAN residents and decreased for Latino residents.

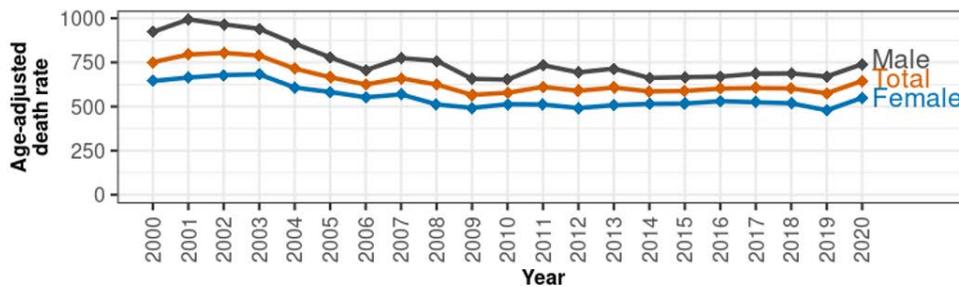
- Regionally, between 2016-2020, western Nevada County had the highest rates of all-cause mortality compared to eastern Nevada County.
- In 2020, Black residents (973.2 deaths per 100,000 population) in Nevada County had the highest annual death rates compared to White (655.8 deaths per 100,000 population) and AIAN (572.2 deaths per 100,000 population).

Age-Adjusted Mortality Rate (per 100,000 population) by Race/Ethnicity in 2020



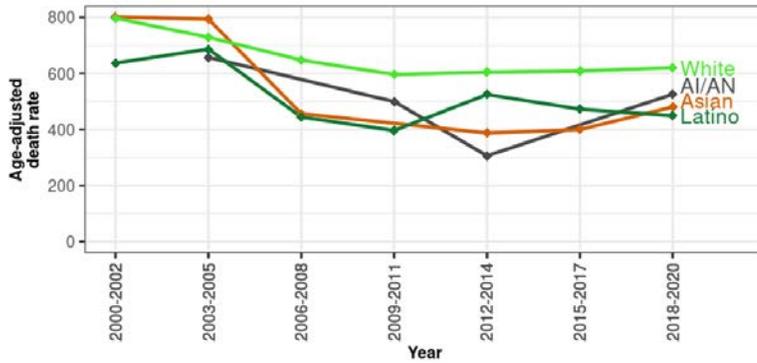
Data Source: Nevada County Health Assessment Core Module 2022 : [2022-Nevada-Health-Assessment-Core-Module](#)

Age-Adjusted All-Cause Mortality Trends Overall and by Sex at Birth, 2000-2020



Data Source: Nevada County Health Assessment Core Module 2022 Update <https://www.nevadacountyca.gov/2022-Nevada-Health-Assessment-Core-Module>

Age-Adjusted All-Cause Mortality Trends by Race/Ethnicity, 2000-2020



Data Source: Nevada County Health Assessment Core Module 2022 Update <https://www.nevadacountyca.gov/2022-Nevada-Health-Assessment-Core-Module>

Leading Cause of Death

There are many ways to view the health status of a community including the number of deaths, years of life lost, and increased death rates. These multiple measures are used to identify public health challenges in Nevada County in 2020 and 2021.

Leading causes of death data represent the most frequently occurring reasons for death among causes that are eligible to be ranked. Causes of death are generally ranked in broad categories. For example, specific forms of cancer, like lung cancer, are grouped into the broad category of “cancer.” This form of death data collected via death certificates and analyzed to monitor trends, identify health challenges, assess the effectiveness of interventions, and aid public health in making decisions that can save lives.

The top two leading causes of death in Nevada County during the first year of the COVID-19 pandemic were Alzheimer’s disease and ischemic heart disease (coronary artery disease or CAD). This differed from the state of California, where the second overall leading cause of death was COVID-19.

- In Nevada County, COVID-19 was the fourth leading cause of death in 2020 and the third leading cause of death in 2021.

Leading Causes of Death, 2020

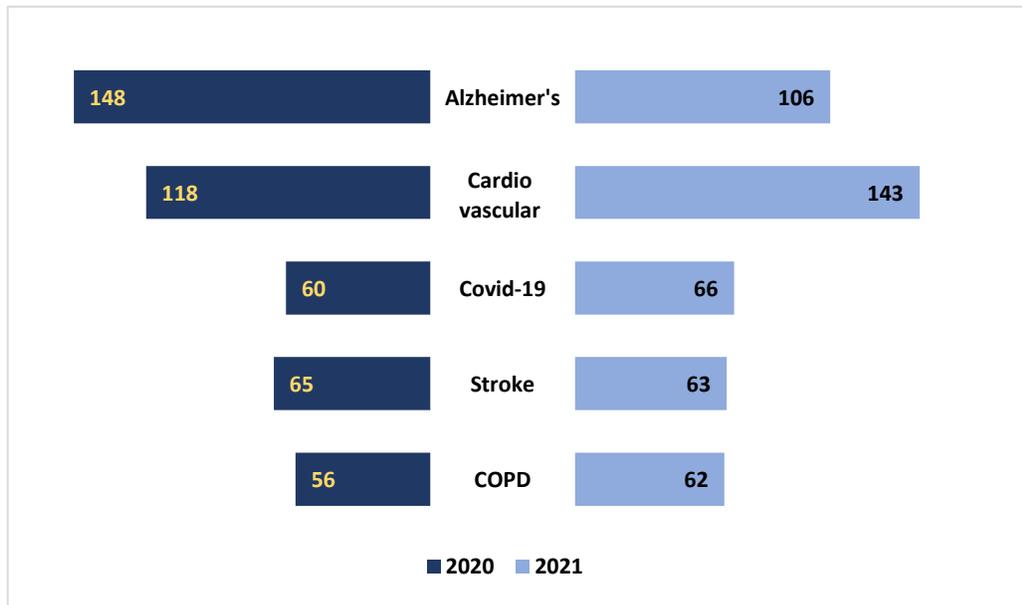
Measure	Nevada	CALIFORNIA
Leading Causes of Death based on Age-Adjusted Death Rate (per 100k Pop) in 2020	1. Alzheimer’s disease (71.5)	1. Ischemic heart disease (80.9)
	2. Ischemic heart disease (59.0)	2. COVID-19 (65.6)
	3. Drug overdose (39.9)	3. Alzheimer’s disease (60.9)

Data Source: Nevada County Health Assessment Core Module 2022 Update <https://www.nevadacountyca.gov/2022-Nevada-Health-Assessment-Core-Module>

Causes of death are categorized within five broad conditions: chronic disease, communicable disease, cardiovascular diseases, injury/violence, and cancer (malignant neoplasms). The table and the graph below show age-adjusted death rate (per 100,000 population) for leading causes of death in 2020 and number of deaths overall for 2020 to 2021.

- Four out of the five leading causes of death in 2020 and 2021 were due to chronic diseases.
- Over a 21-year period from 2000 to 2021, Nevada County saw a decline in ischemic heart disease (Coronary artery disease or CAD), lung cancer, pneumonia, and chronic obstructive pulmonary disease (COPD).
- Between 2000 and 2021 Alzheimer’s disease steadily increased in Nevada County.
- Injury-related causes of death have fluctuated over the 20-year period. Specifically, death by drug overdoses, which saw a decline in 2018, steadily increased between 2018-2021.

Number of Deaths Due to Leading Causes in Nevada County- 2020 and 2021



Data Source: Nevada County Health Assessment Core Module 2022 Update

<https://www.nevadacountyca.gov/DocumentCenter/View/47268/2022-Nevada-Health-Assessment-Core-Module>

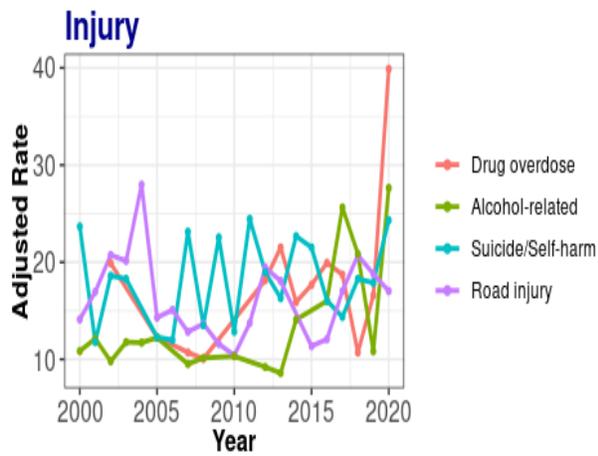
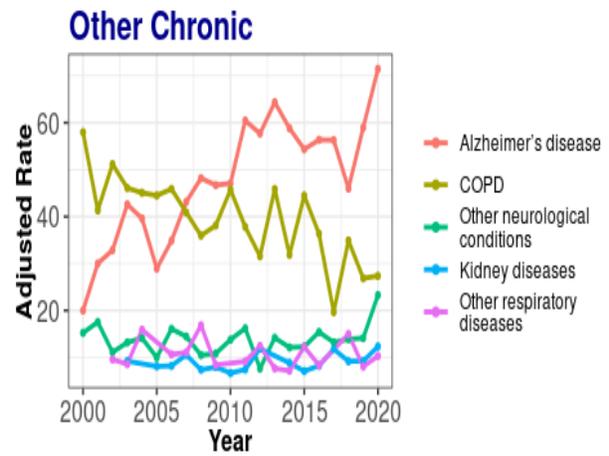
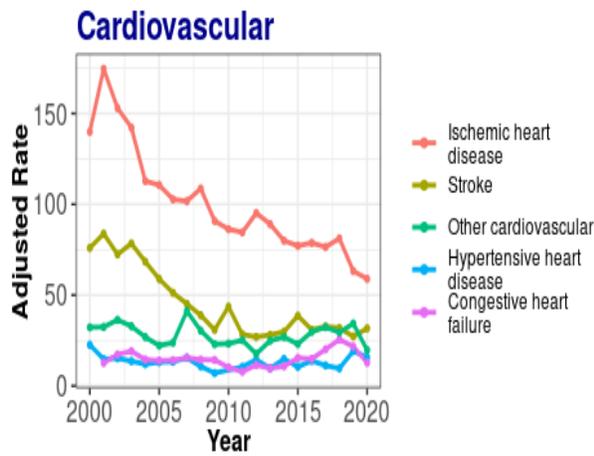
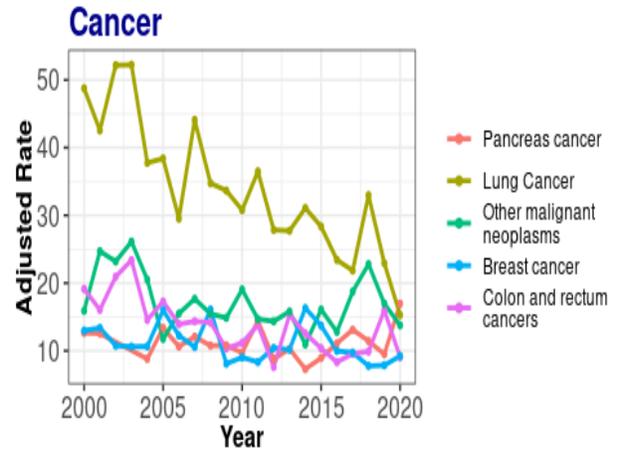
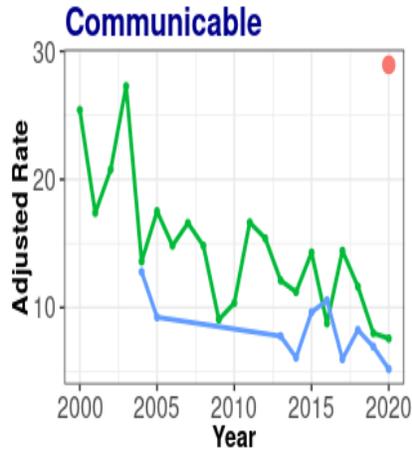
Note: Data in this table shows the leading cause, rate per 100,000, and the number of deaths within Nevada County .

Years of Life Lost

Years of life lost (YLL) consider the age at which a death occurs, giving greater weight to deaths that occur at a younger age and less weight to those that occur at an older age. YLL accounts for both the frequency of deaths and the age of the death. For example, a young adult that dies from an injury has more years of life lost compared to an older adult that dies from a chronic disease. Therefore, YLL is an estimate of the years that that person would have lived if they had not died prematurely. This is

reported as a rate per 100,000. In Nevada County, in 2021, drug overdose deaths accounted for the highest number of years of life lost at a rate of 1,062 years per 100,000. Preventable deaths in the United States increased 16.1% in 2020 to 200,955, an all-time high. A 34.4% increase in drug overdose deaths helped drive this record high. The opioid epidemic was likely exacerbated by the overall disruptions and stress induced by the COVID-19 pandemic and preventable opioid overdose deaths increased 41% in 2020 (CDC, NCHS).

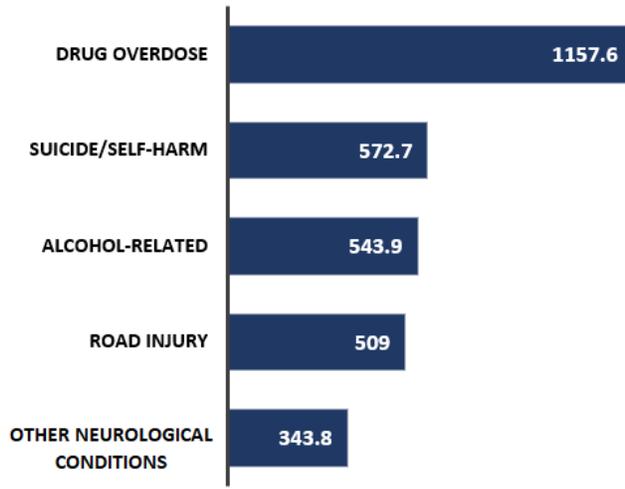
Nevada County Cause of Death Trends by Age-adjusted Death Rate of Top Public Health Conditions within Broad Condition Groups, 2000-2020



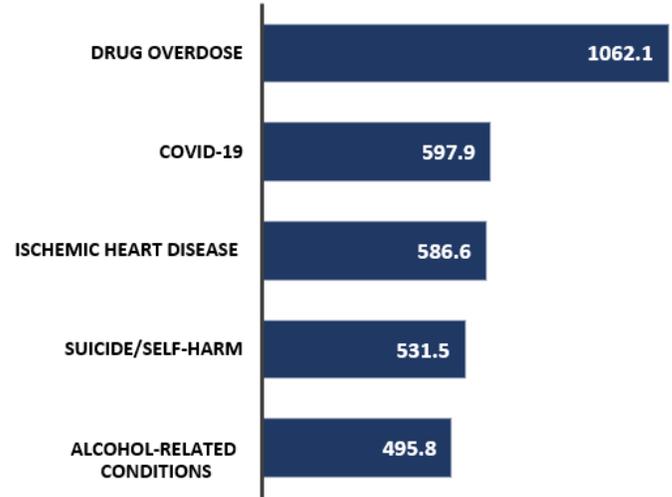
Data Source: Nevada County Health Assessment Core Module 2022 Update
<https://www.nevadacountyca.gov/DocumentCenter/View/47268/2022-Nevada-Health-Assessment-Core-Module>

Years of Life Lost (YLL) Due to Leading Causes in 2020 and 2021 in Nevada County

YLL rate per 100K population in Nevada County - 2020



YLL rate per 100K population in Nevada County - 2021



Data Source: Nevada County Health Assessment Core Module 2022 Update: [2022-Nevada-Health-Assessment-Core-Module](#).

Note: Above bar charts show the cause by rank and rate of years of life lost per 100,000

- Drug overdoses in Nevada County accounted for the highest number of YLL in 2020 and 2021. Between 2019 and 2020, drug overdoses increased 141% and alcohol-related deaths increased 155%.
- In 2021, COVID-19 was the second leading reason for YLL and resulted in a rate of 597.9 years of life lost per 100,000 in Nevada County.
- Suicide/self-harm and substance use, specifically alcohol related issues, remained in the top five reasons for YLL among Nevada County residents between 2020 and 2021.

Drug Overdose Data

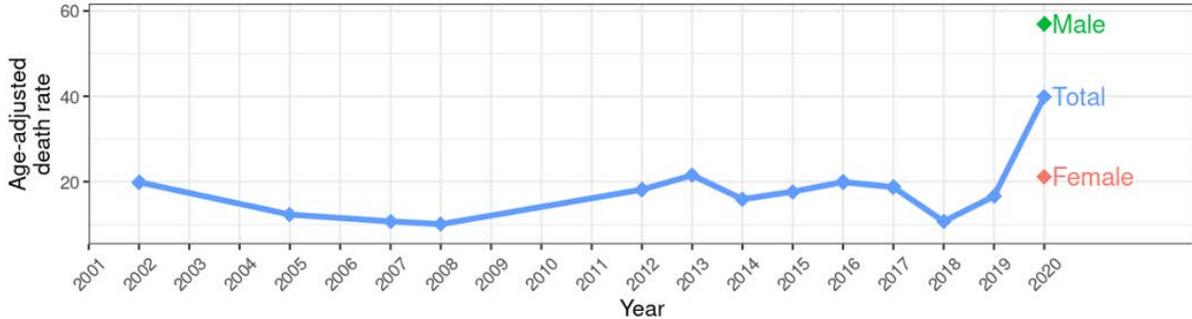
In the last few years, drug overdoses have continued to have significant impacts in our communities. Drug overdoses are the leading cause of years of life lost in Nevada County. This data shows the trends over time and differences in drug overdose rates across sex. Race and ethnicity data were only available for White residents due to low numbers of drug overdose data for other racial and ethnic minorities within Nevada County.

Drug overdose deaths increased in Nevada County between 2018 and 2020, which resulted in a 20-year high at 39.9 deaths per 100,000 residents. In 2020, the rate of drug overdose deaths in Nevada County was nearly double the overall state rate of 21.6 drug overdose deaths per 100,000.

- Males had higher rates of drug overdose deaths and alcohol-related death rates in 2020 than females.
- Drug overdose deaths among males (60.52 deaths per 100,000 residents) in Nevada County were two times higher than males in California (31.94 deaths per 100,000 residents).

- Drug overdose deaths between 2018 and 2020 were highest among adults between 25-34 years of age (50 deaths per 100,000 residents).

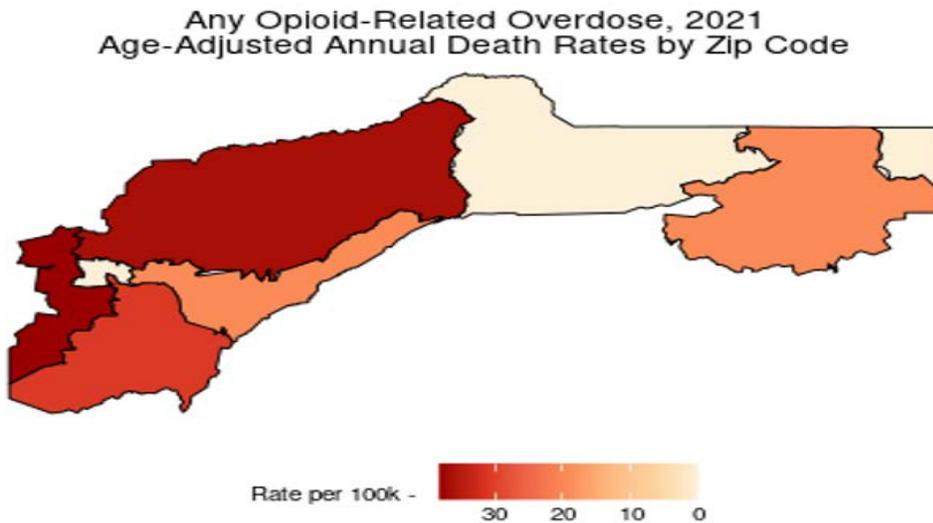
Age-Adjusted Drug Overdose Death Rates by Sex in Nevada County, 2000-2020



Data Source: Nevada County Health Assessment Core Module 2022 Update
[2022-Nevada-Health-Assessment-Core-Module](#)

Nevada County Opioid Overdose Snapshot -2021

Nevada County experienced 28 opioid-related overdose deaths in 2021, the most recent full year of data available. The annual crude mortality rate for 2021 was 28.57 per 100k residents, an increase of 186% from 2019. The map below displays the annual age-adjusted rates (per 10,000 population) for any opioid-related overdose deaths by zip code in Nevada County. The age-adjusted death rate for opioid overdose was higher in the western part of the county compared to the eastern parts. County specific opioid overdose data reported in this section were from California overdose surveillance data. For further details please refer the County specific data available in the [California Overdose Surveillance Dashboard](#).



Data Source: California Overdose Surveillance Dashboard
[https://skylab.cdph.ca.gov/ODdash/?tab=Nevada County](https://skylab.cdph.ca.gov/ODdash/?tab=Nevada%20County)

Opioid-Related Overdose Deaths by Sex, Age and Race/Ethnicity – 2021

Adults aged 55-64 years followed by 30-45 years experienced greatest opioid overdose deaths (with crude death rates 87.28 and 89.24 per 100,000 population respectively) in 2021. Adults aged 45-49 years also reported to have significantly higher death rate (83.32 deaths per 100,000 population). Black residents were reported to have significantly higher age-adjusted death rate (168.67 deaths per 100,000 population) followed by AIAN (111.9 deaths per 100,000 population). Like the previous years, male residents had the highest age-adjusted opioid overdose death rate (44.4 deaths per 100,000 population) compared females (18 deaths per 100,000 population) in 2021.

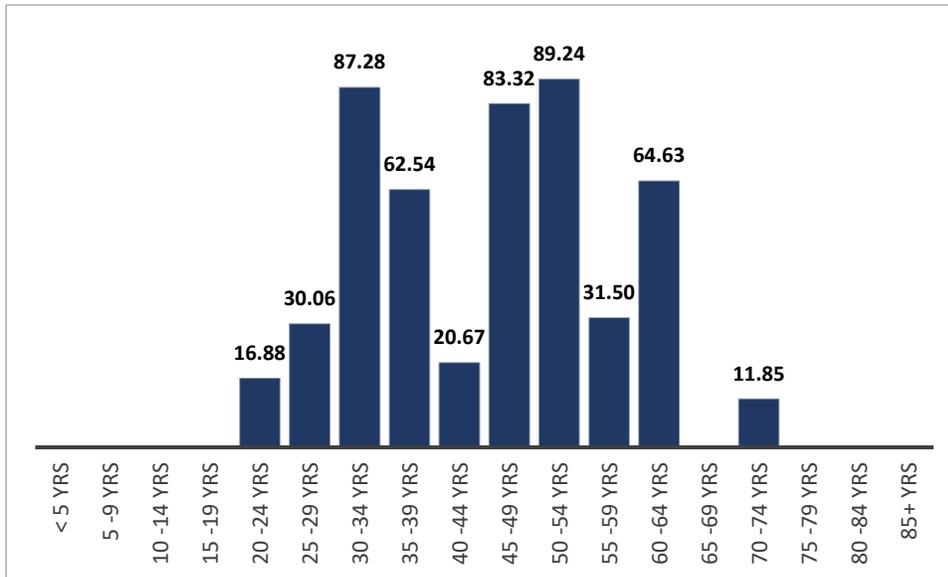
Any Opioid-Related Overdose Deaths in Nevada County -2021

Race/Ethnicity	Age-Adjusted Death rate100K population
White	33.61
Black/African American	168.67
Hispanic/Latino	24.19
Native American/Alaska Native	111.99
Asian/Pacific Islander	*

Data Source: California Overdose Surveillance Dashboard <https://skylab.cdph.ca.gov/tab=Nevada County>

Note: *Data for Asian/Pacific Islander not reported. There were too few cases to protect confidentiality.

Opioid-Related Overdose Death Rate (per 100K population) by Age in Nevada County 2021



Data Source: California Overdose Surveillance Dashboard

<https://skylab.cdph.ca.gov/ODdash/?tab=Nevada County>

Opioid Prescription in 2021

There were 61,960 prescriptions for opioids in Nevada in 2021. The annual crude opioid prescribing rate for 2021 was 619.72 per 1,000 residents. This represents a 16% decrease in prescribing from 2019. Synthetic opioid overdose deaths are largely related to fentanyl in the county. In the year 2021, 64.5 visits (per 100k residents) to emergency department and 16.2 (per 100k residents) hospitalization were related to any opioid overdose. Buprenorphine prescriptions in the county are used to gauge the expansion of medications for opioid use disorder (MOUD). The annual crude buprenorphine prescribing rate for 2021 was 68.48 per 1,000 residents. This represents a 5% increase in buprenorphine prescribing from 2019.

Social Determinants of Health and Place

Social Determinants of Health and PLACES Data

Social Determinants of Health (SDOH) are the conditions in the environments where people are born, live, work, play, worship, and age that affect a wide range of health, functioning, and quality of life outcomes and risks. [PLACES](#), a collaboration between CDC, the Robert Wood Johnson Foundation, and the CDC Foundation, provides health data for small areas across the country. PLACES data are provided at the county, census, or ZIP Code level. This section describes the relationship of two SDOH variables with age-adjusted death rates. This lays the foundation for a more in-depth exploration of relationships between SDOH and PLACE, including specific causes of death, additional social determinants, specific demographic groups, multiple geographies, and trends over time.

The two selected social determinants are: (1) community-level poverty rates (percent of community <150% of Federal poverty level); and (2) community-level educational attainment (percent of community with high-school education or less). Data from the American Community Survey, 2015-2019 was used to compare the SDOH outcomes and context for Nevada County.

Relationship Between Life Expectancy, Poverty, and Educational Attainment Nevada County, 2016-2020

Educational attainment refers to the highest level of education that an individual has completed. Examining relationships between poverty and life expectancy locally can inform public health programs and policy.

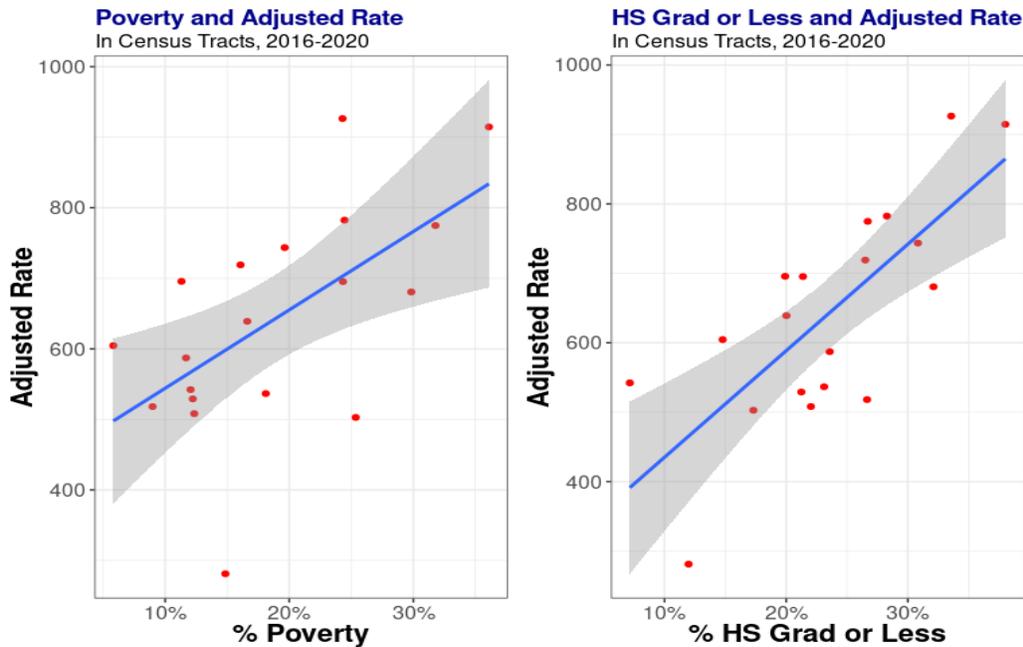
- Following state trends, communities within Nevada County with high levels of poverty and low levels of education (higher percentage of the population with high school degree or less) had higher age-adjusted mortality rates.
- In Nevada County, 21.95% of the population have a high-school diploma or less and 18.1% live in poverty. County wide, the age-adjusted death rate was higher (625.7 deaths per 100,000 population) for 2018-2020 compared to the state (625.4 deaths per 100,000 population).

Poverty, Educational Attainment, and Age-Adjusted Death in Nevada County, 2016-2020

MSSA ID	MSSA*	Life Expectancy	Age-Adjusted Death Rate	# of deaths	Poverty	HS Grad or Less	Population
113 & 114	Grass Valley/Nevada City/Penn Valley/Rough and Ready/Wildwood/North Bloomfield/North San Juan/Truckee	80.9	587.9	5,158	18.05%	21.95%	98,185

Data Source: Centers for Disease Control and Prevention [PLACES: Local Data for Better Health](#) *MSSA – Medical Services Study Area

Relationship between Poverty and Educational Attainment and Mortality within Nevada County, 2016-2020



Data Source: Centers for Disease Control and Prevention [PLACES: Local Data for Better Health](#)

Description: In these scatterplots, each point represents a census tract (small, relatively stable geographic area that usually have a population between 2,500 and 8,000) in Nevada County and its position for the selected social determinant (poverty and educational attainment) and health outcome (life expectancy). In other words, each point represents one census tract region and where they fall in terms of the percent of the population in poverty and the age-adjusted mortality rate. The grouping of

points follows along a trend line that reflects the direction of relationship. In these cases, the data shows that communities with high poverty and low levels of education have higher mortality.

Climate Change and Health in Nevada County

NCDPH is focused on using the best available climate science to: (1) project likely climate impacts; (2) identify climate-related health risks and populations vulnerable to these impacts; (3) assess the added burden of disease and injury that climate change may cause; (4) identify appropriate interventions; (5) plan more resilient communities; and (6) evaluate to improve the planning effort. Communities with economic, environmental, and social disadvantages are likely to bear the disproportionate health impacts of climate change.

The CDPH [Climate Change and Health Profile Report Nevada County](#), published in 2017, provides a county-level summary of current and projected risks and potential health impacts of climate change. Projections are based on two emission scenarios, high and low, which describe the two extremes of how greenhouse gas emissions could evolve between 2000 and 2100. Where available the following climate projections show both possibilities.

Temperature Changes

- During the next few decades, temperatures in California are projected to rise an average of 1°F to 2.3°F. The projected temperature increases begin to diverge at mid-century so that, by the end of the century, the temperature increases projected in the higher emissions scenario are approximately twice as high as those projected in the lower emissions scenario.
- In Nevada County, temperatures are expected to rise substantially throughout this century. Projections estimate the temperature will rise between 4°F and 6.9°F depending on the level of emissions.

Climate Change and Socioeconomic Disruption

Widespread social and economic disruption includes damage to the infrastructure for the delivery of health services and for general economic well-being. Health care facilities, water treatment plants, and roads for emergency responders and transportation for health care personnel can be damaged in climate-related extreme weather events. Increased burden of disease and injury will test the surge capacity of health care facilities. Economic disruption can lead to income loss, income insecurity, food insecurity, housing insecurity, and mental health problems, which, in turn, may increase substance abuse, suicide, and other health problems [3,4].

Certain populations and communities are more susceptible to the health risks associated with climate change. For example, individuals with asthma are particularly at risk when there is poor air quality, which occurs frequently with wildfires. Different health outcomes, social vulnerabilities, and climate risks can increase health risks of climate change for Nevada County residents.

Health Outcomes

- In 2011-2012, two out of five residents in Nevada, Plumas, and Sierra counties had multiple chronic conditions (data is pooled from multiple counties due to low numbers). Additionally, one in seven adults had been diagnosed with asthma. These individuals are at increased risk of negative health outcomes due to climate change.

Social Vulnerabilities

- People aged 65 and older are especially vulnerable to the health impacts of climate change such as extreme heat [9]. This is a vulnerability for Nevada County which has an older population compared to neighboring counties. In 2019, 28% of the population in Nevada County were over the age of 65.
- In 2009, 35% of households in Nevada County did not have air conditioning (statewide average was 36%). Air conditioning can help counter negative effects of heat. Data from 2011 showed that tree canopies, which provide shade and other environmental benefits and protection from the heat, were present on 48% of the land (statewide average was 8%)

Climate Risks

- Four out of five (80%) of Nevada County residents live in a high-risk wildfire area.

Some of the changes due to climate change will occur over the long term, but broad shifts in our weather can be seen now and will result in many direct and indirect health risks. Risks include extreme weather-related injury, displacement, and mental health, heat-related illnesses, vector-borne illnesses, food insecurity, and overall socioeconomic disruption. A critical step is to improve capacity of communities to prepare, respond, and recover from climate-related health risks. Steps need to be taken to ensure that the most vulnerable populations have access to information, services, and resources to prepare and respond to climate risks.

COVID-19 in Nevada County

The 2019 Nevada County CHNA/CHA, designed to address and identify local needs, was completed prior to the start of the global 2019 Novel Coronavirus (COVID-19) pandemic. The COVID-19 pandemic brought about new and unforeseen challenges that impacted the health and wellbeing of communities. NCPHD felt the magnitude of the health impacts of this global crisis locally warranted closer examination. This section focuses on the burden of COVID-19 on Nevada County residents, its disproportionate impact on certain communities. Most of the COVID-19 data reported here were from the start of January 2020 thru February 2023 unless otherwise noted.

COVID-19 Cases, Hospitalizations, and Deaths

Nevada County specific COVID-19 data were obtained from the California Reportable Disease Information Exchange (CalREDIE), an electronic disease reporting and surveillance system that tracks COVID-19 cases, hospitalizations, and deaths.¹ The first case of COVID-19 in Nevada County was reported March 16, 2020.

Nevada County COVID-19 Confirmed Cases, Hospitalizations, and Deaths (January 1st, 2020 to February 28th, 2023)

¹ Confirmed cases used in this analysis and displayed here had to meet the definition of the CalREDIE user guide. For cases, the Event Date (date that specimen of positive test was taken, or date of symptom onset as reported in case interview if specimen collection date is not known) must be on or after January 1st, 2020. For hospitalizations, the admission date must be from January 1st, 2020. For deaths, the date of death is after January 1st, 2020 and the case was determined and documented to have been from COVID-19.

COVID-19 Indicator	Nevada County
Total Confirmed Cases	20,146
Total Hospitalizations	7655
Total Deaths	133

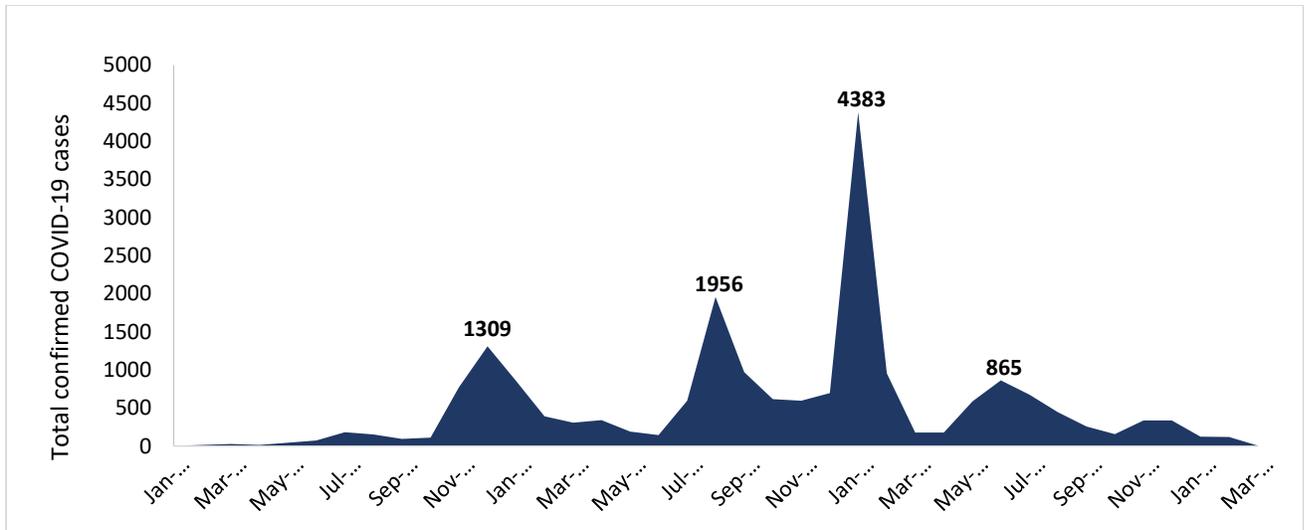
Data Source: [California Reportable Disease Information Exchange \(CalREDIE\)](#)

COVID-19 Monthly Trends

Nevada County has seen three distinct surges of the COVID-19 pandemic, with the highest number of positive weekly cases reported in January 2022. SARS-Cov-2, the virus that causes COVID-19, is constantly changing. These changes occur over time. Variants of the virus, including Alpha, Beta, Delta, and Omicron, influenced the surges in positive case rates and hospitalizations.

- COVID-19 hospitalizations lagged behind COVID-19 case spikes. This occurred because the virus took time to cause severe disease that required hospitalization. The first surge in Nevada County occurred in December 2020, the first peak for hospitalizations occurred about four weeks later in January 2021.
- Nevada County saw the highest confirmed cases of COVID-19 in January 2022; however, saw the most COVID-19 hospitalizations in August 2021. This is likely the result of increased COVID-19 vaccinations that reduce severe illness to COVID-19 and differences in symptoms and severity of the variants.

Confirmed COVID-19 Cases in Nevada County, Jan 2020 – Feb 2023



Data Source: [California Reportable Disease Information Exchange](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Imz.aspx)

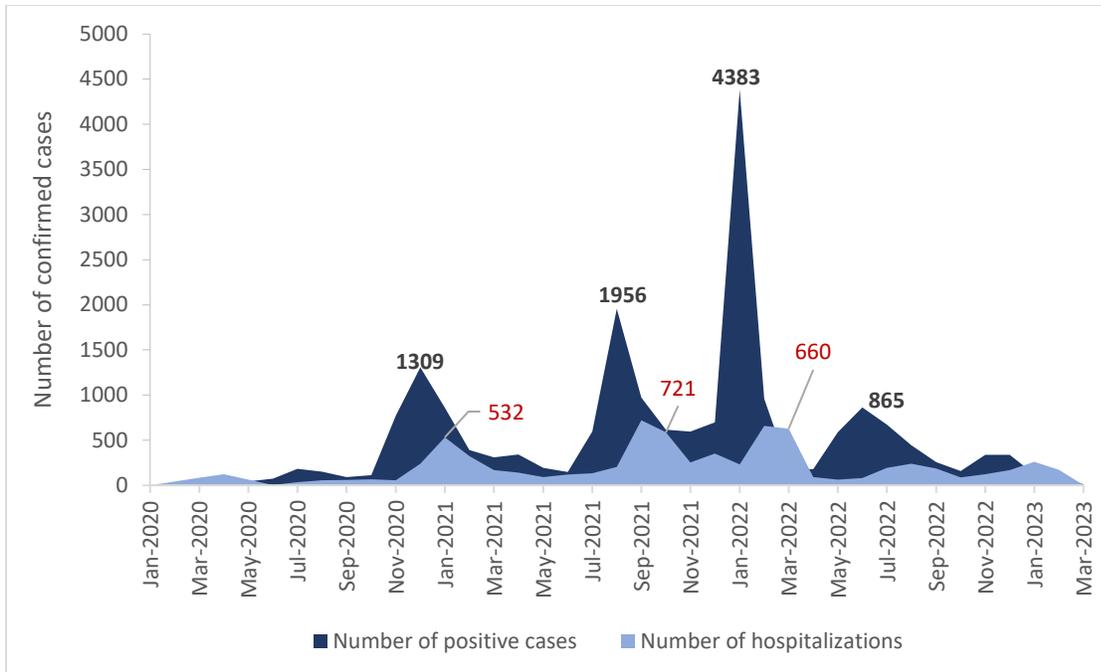
Demographics of COVID-19 Cases and deaths in Nevada County

Race/Ethnicity

In 2021, the largest racial/ethnic groups to be laboratory confirmed cases of COVID-19 in Nevada County were Whites (81%) followed by 12.1% of Latino and 2.2% Asian American. Only 0.2% of the total population were Native Hawaiian and other Pacific Islander (NHPI), 1.7% were Black and 1.4% were American Indian and Alaska Natives (AIAN).

- There are approximately four times more White (Non-Hispanic) residents in Nevada County than any other race or ethnicity. Due to this, 84.8% of the COVID-19 positive cases were from the white residents.
- Percentage of cases were not reported for all other small populations in the county because there were fewer than 20,000 people in this group. To protect confidentiality, small numbers were not reported. Further small case numbers raise statistical issues concerning accuracy, and thus usefulness, of the data.

COVID-19 Hospitalizations in Nevada County, Jan 2020 – Feb 2023



Data Source:

[California Reportable Disease Information Exchange \(CalREDIE\)](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Imz/Pages/CalREDIE.aspx)

COVID-19 Cases by Age

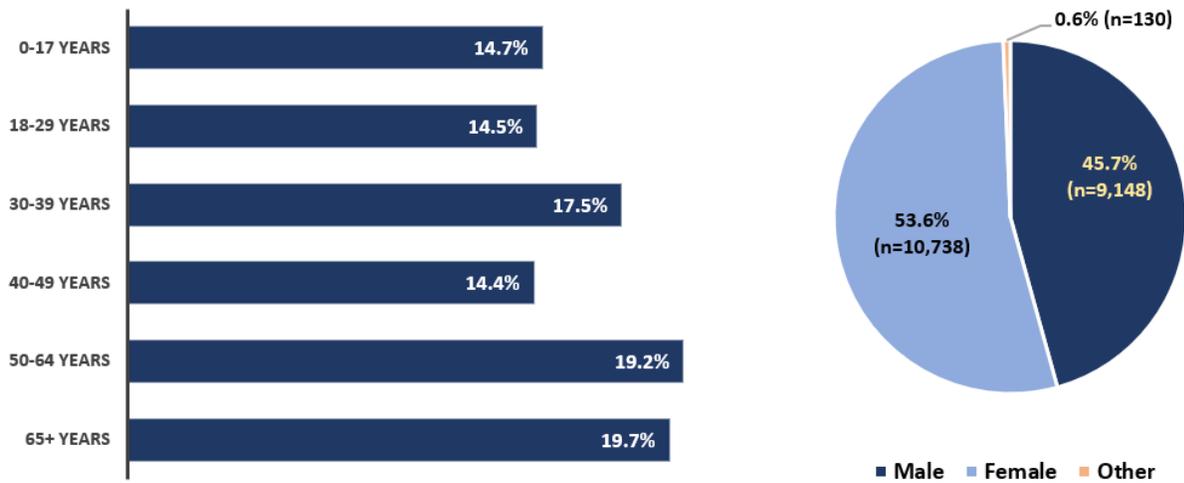
COVID-19 is known to more seriously affect older populations. Compared to its surrounding counties, Nevada County has the highest percentage of residents over 65 years of age. Adults aged 65 years and above made up 19.7% of cases in Nevada County which was the highest among all age category. Adults aged 30 to 50 years old also reported to have more case rate (19.2%) while severe cases and case fatality rate were higher among those with older age (more than 60 years of age) with underlying health conditions like diabetes and hypertension, etc. Further there were COVID-19 outbreaks in Nevada county skilled nursing facilities in late 2020 which resulted in an increased number of mortalities in elderly population.

Among the 133 total deaths, 79% of deaths were reported in elders aged 65 years and above. 17% of deaths were reported in adults aged 50-64 years. There were either no deaths in other age categories or deaths not shown due to small number of observations.

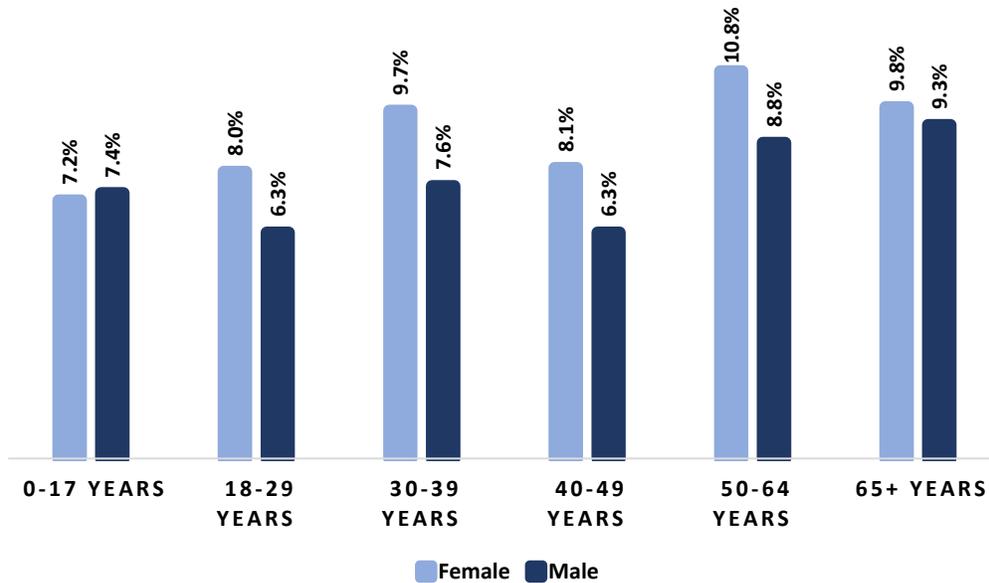
COVID-19 Cases by Sex

In Nevada County, 53.6% of COVID-19 confirmed cases were females and 45.7% were male. 0.6% of cases were seen in people who reported "Other" sexual orientation/gender². Like California, distribution of COVID-19 deaths reveals a disparity between genders, with males (56.2%) having a higher percentage of COVID-19 deaths relative to females (43.2%) in the county.

COVID-19 Cases in Nevada County by Age and Sex



COVID-19 Case distribution in Nevada County by Age and Sex

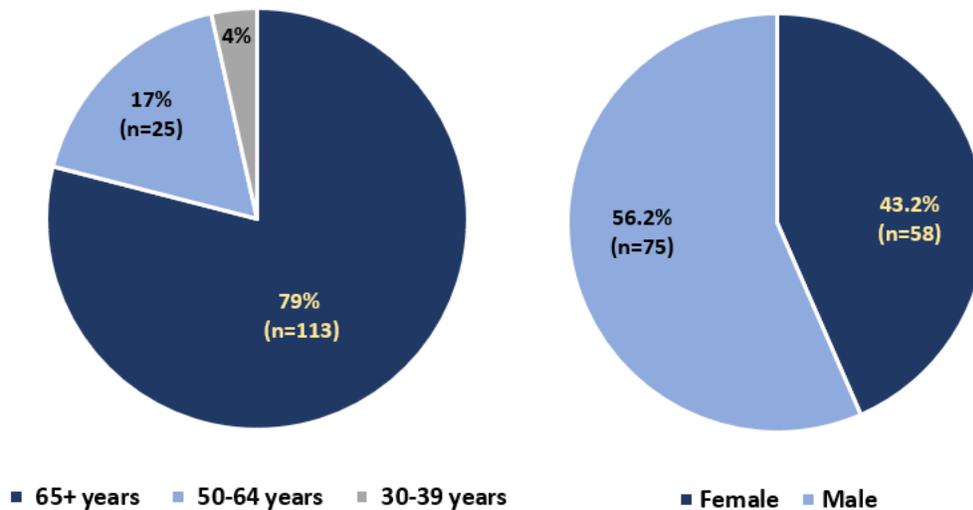


Data Source: [California Reportable Disease Information Exchange \(CalREDIE\)](#)

Note: Case distribution in "Other" gender category were not reported due to small observations*

* "Other" sexual orientation/gender includes those who declined to state, whose gender information is missing, or who identify as transgender, gender non-binary, gender queer, or intersex

COVID-19 deaths in Nevada County by Age and Sex



Data Source: [California Reportable Disease Information Exchange \(CalREDIE\)](#)

Note: Death counts were not reported in ages 0-17 years, 18-29 years, and 40-49 years because there were no deaths or death counts not shown due to small number of observations. Death counts in “Other” sexual orientation/gender category were not reported due to small observations*.

COVID-19 Vaccinations

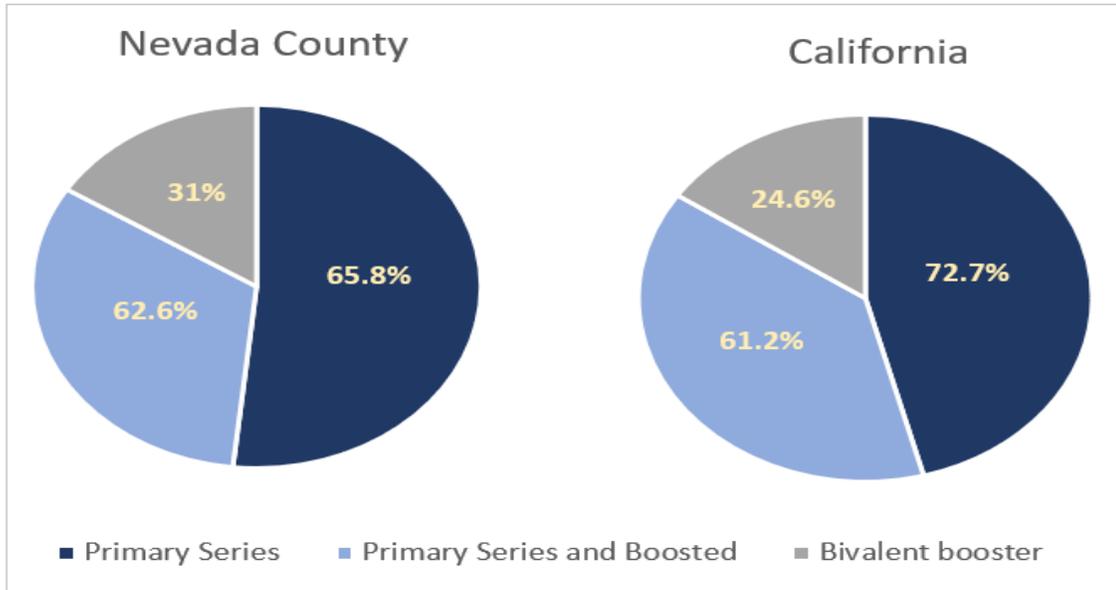
People are best protected from severe COVID-19 illness when they stay up to date with their COVID-19 vaccines, including getting the primary series and all recommended boosters when eligible. Nevada County ranks 26th out of all 58 California counties for the percent of the population that have received the primary series of the COVID-19 vaccine. State level and Nevada County specific vaccination data were obtained from the State’s vaccination progress data dashboard using the following link <https://covid19.ca.gov/vaccination-progress-data>. Vaccination data reported here were from February 28th, 2023.

COVID-19 vaccines administered in Nevada County

A total of 203,273 doses of COVID-19 vaccines were administered in Nevada County as of February 28th, 2023. Throughout the county, 98,017 people were eligible for primary series and 64,348 people were eligible for primary plus booster dose and Bivalent booster dose. Among the eligible population 64,486 (65.8%) of people had primary series, 40,292 (62.6%) had primary series plus a booster dose and 19,978 (31%) had bivalent booster dose.

- In Nevada County, 65.8% of the eligible population have received the primary series of the COVID-19 vaccine. This is lower than the 72.7% of California residents who have received the primary series.
- Among Nevada County residents, 62.6% have completed the primary series in addition to a booster dose. This is slightly higher than the 58.5% of the California population that have received the primary series and booster.
- 31% of Nevada County residents have completed bivalent booster dose which is comparatively higher than the 24.6% California population that have received the bivalent booster dose.

COVID-19 Vaccination Rates in Nevada County and California (as of Feb 28th, 2023)



Data source: Tracking COVID-19 in California [Unvaccinated and Vaccinated data](#)

Vaccinations by ZIP Code or Vaccine Equity Metric

The state of California established the Vaccine Equity Metric (VEM), which helps guide vaccination response to ensure equity across groups and communities. The VEM uses the California Healthy Places Index (HPI), which maps data on social conditions that drive health like education, job opportunities, clean air and water, and other indicators that impact health and life expectancy. Together, with HPI data and CDPH-identified scores, the VEM shows vaccine status across ZIP Codes. ZIP Codes range from less healthy community conditions in Quartile 1 to more healthy community conditions in Quartile 4. Most Nevada County’s ZIP Codes fall within Quartile 3 (52%) and Quartile 4 (20%).

Overall, vaccination rates vary across Nevada County. Communities with the healthiest conditions have the highest rates of vaccination; at the end of February 2023, about 67% of populations in Quartile 3 and 55.8% of Quartile 4 have received the primary vaccine series. 64.1% of quartile 3 and 62% of quartile 4 populations have received primary plus booster doses.

Percent of Population Vaccinated in Nevada County ZIP Codes and Vaccine Equity Metric (VEM)

VEM Quartile	ZIP Code	Community	Percent Fully Vaccinated
2	95945	Grass Valley	61.3%
	95960	North San Juan	93.2%
3	95975	Rough and Ready	49.1%
	95949	Grass Valley	55.3%
	95959	Nevada City	65.2%
	95946	Penn Valley	67.6%
4	96111	Floriston	58.3%
	96161	Truckee	66.1%

Data Source: [California Department of Public Health COVID-19 Vaccine Equity Metric](#)

Vaccinations by Age and Sex

Factors such as sex, age, and income can influence an individual’s health and risk for infectious or chronic disease. Early studies of the pandemic show that age increased vulnerability to negative outcomes of COVID-19 illness including health complications, hospitalizations, and death [5,6]. This increased the likelihood of older Nevada County residents and healthcare services being significantly more impacted as early data showed older adults were more likely to get sick and need hospitalization, intensive care, or a ventilator to help them breathe. In 2019, adults over the age of 65 accounted for 28% of the Nevada County population.

In Nevada County, rates of COVID-19 vaccination vary by age, individuals over 50 years of age are most likely to be vaccinated.

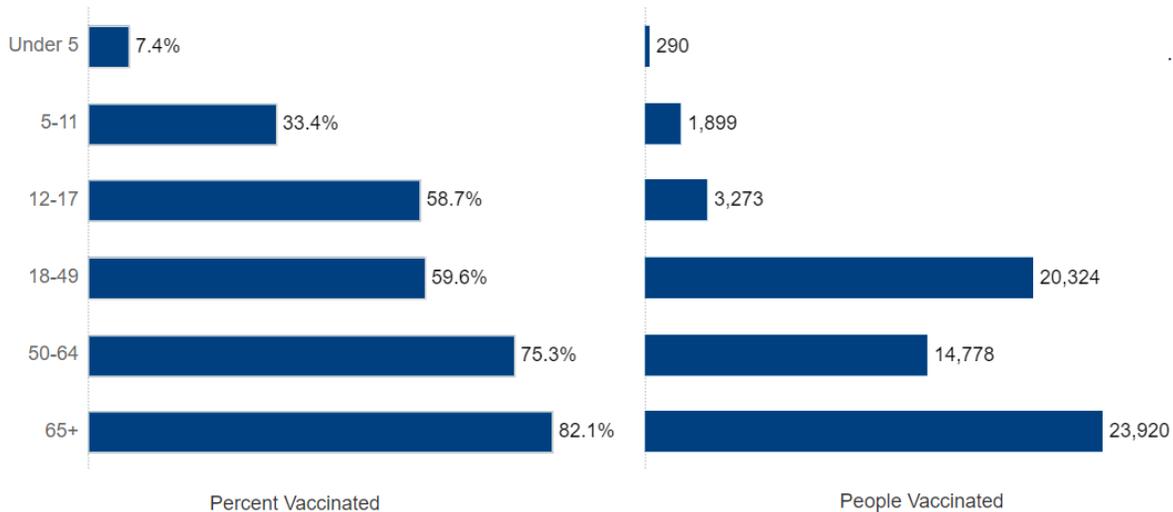
- Older adults have the highest vaccination rates in Nevada County; 80.6% of eligible adults aged 65+ have received the primary series of the COVID-19 vaccination.
- Children under the age of 11 have the lowest rates of vaccination in Nevada County; only 33.9% of the eligible population have received the primary series of the COVID-19 vaccine.
- Females are more likely than males to be vaccinated. Vaccination rates show 66% of females and 59% of males are vaccinated in Nevada County.

Vaccine Progress by Age in Nevada County

Age in Years	Eligible Population	Number of People Vaccinated	Percent of Eligible Population Vaccinated
Under 5	3910	290	7.4%
5-11	5687	1,898	33.4%
12-17	5576	3,273	58.9%
18-49	34,085	20,324	59.6%
50-64	19,621	14,778	75.3%
65+	29,138	23,920	82.1%

Data Source: [California Department of Public Health COVID-19 Vaccine Equity Metric](#)

Primary Series Status by Age in Nevada County (as of February 28th, 2023)



Vaccination by Race/Ethnicity

Racial and ethnic minority groups have been disproportionately affected by the COVID-19 pandemic. The rate of infection, hospitalization, and death were highest for racial and ethnic minority groups in Nevada County. Equitable access and receipt of COVID-19 vaccinations is important in reducing negative outcomes due to the disease and increasing differences in vaccination rates across all races and ethnicities. The rate of eligible residents that had received the primary series of the COVID-19 vaccination is similar across most racial and ethnic groups in Nevada County.

- Native Hawaiian and Pacific Islander (NHPI) residents had the highest rates of vaccination; 71.8% of eligible NHPI residents have received the primary series of the vaccine followed by American Indian and Alaska Native residents at 68.3%.

Vaccine Progress by Race/Ethnicity in Nevada County

Race	Eligible Population	Number of People Vaccinated	Percent of Eligible Population Vaccinated
White	80,152	53,447	66.7%
Multi-Race	5,466	1,607	29.4%
Latino	5,226	5,282	53.3%
Asian American	1,323	873	65.9%
AI/AN	671	421	62.7%
Black	377	238	63.1%
NHPI	117	81	69.2%

Data Source: [California Department of Public Health COVID-19 Vaccine Equity Metric](#)

- Latino population report the lowest rates of COVID-19 vaccination in the county. Only 52.7% of eligible Latino or Hispanic residents have received a primary series of the COVID-19 vaccine. In 2019, 10% of the population of Nevada County was Hispanic, making this the largest race/ethnic minority in the county.

Social Vulnerability Index and COVID-19

Social vulnerability refers to the potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters, or disease outbreaks. Reducing social vulnerability can decrease both human suffering and economic loss (CDC). Factors such as poverty, crowded and absence of housing, lack of access to transportation and racial and ethnic minority status can increase a community’s vulnerability and the risk of negative health outcomes that can occur during disaster events, such as a public health emergency like COVID-19.

The CDC’s Social Vulnerability Index (SVI) is a method that helps emergency response planners and public health identify and map communities that will most likely need support before, during, or after a hazardous situation such as disease outbreaks and natural disasters. The CDC calculates SVI by 15 variables from the American Community Survey (ACS) classified in four dimensions: (1) socioeconomic status; (2) household composition; (3) minority status and language; and (4) housing type and transportation. Possible scores range from 0 (low vulnerability) to 1 (high vulnerability).

Early studies during the COVID-19 pandemic showed counties with greater SVI scores were areas that were more likely to be hotspots and have rapidly increasing COVID-19 cases [6]. By understanding the relationship between county SVI scores and COVID-19, counties could better plan the public health response.

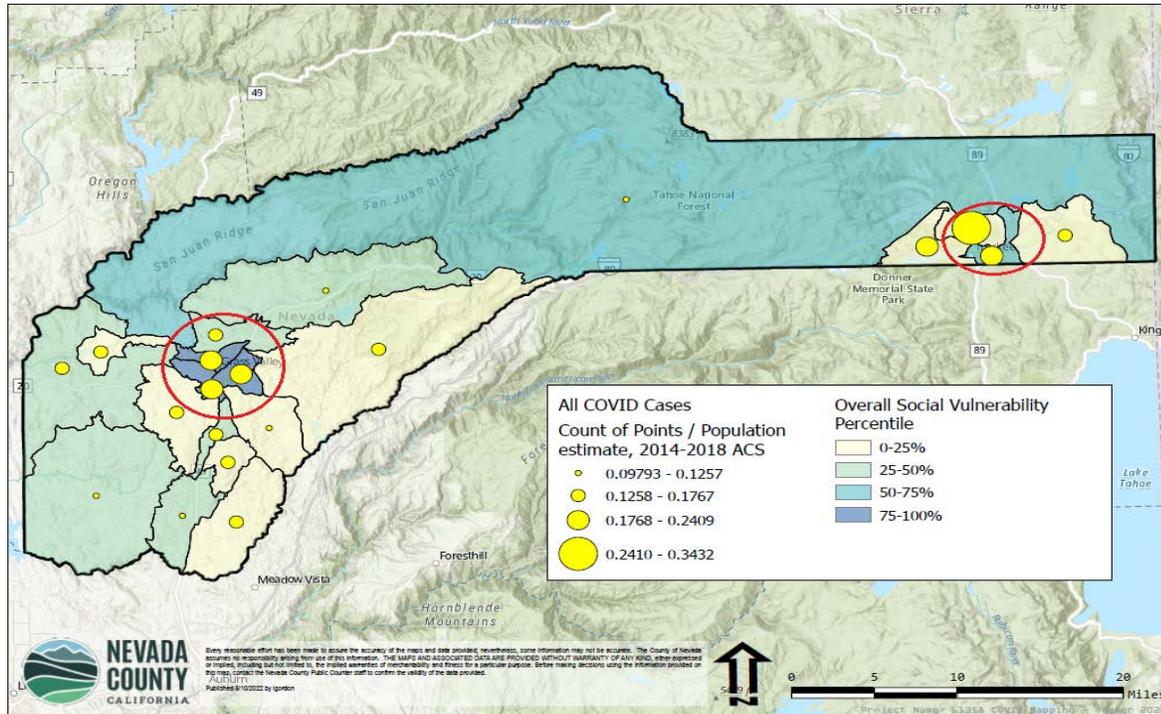
- Overall, Nevada County has a low social vulnerability index score of 0.2. This means 20% of the counties in the state are less vulnerable than Nevada County and that 80% of the counties are more vulnerable than Nevada County.

Nevada County COVID-19 Cases based on Social Vulnerability Index (SVI)

Despite an overall low score, SVI scores vary within the county. Certain census regions of the county, such as census block 6, south of Grass Valley, has a high SVI score of 0.88, meaning 88% of the census

regions across the state are less vulnerable than that region. Cumulative COVID-19 cases reported from January 2020 to July 2022 were largely clustered around Grass Valley and Truckee areas and closely aligned to the elevated SVI census tracts in those corresponding areas.

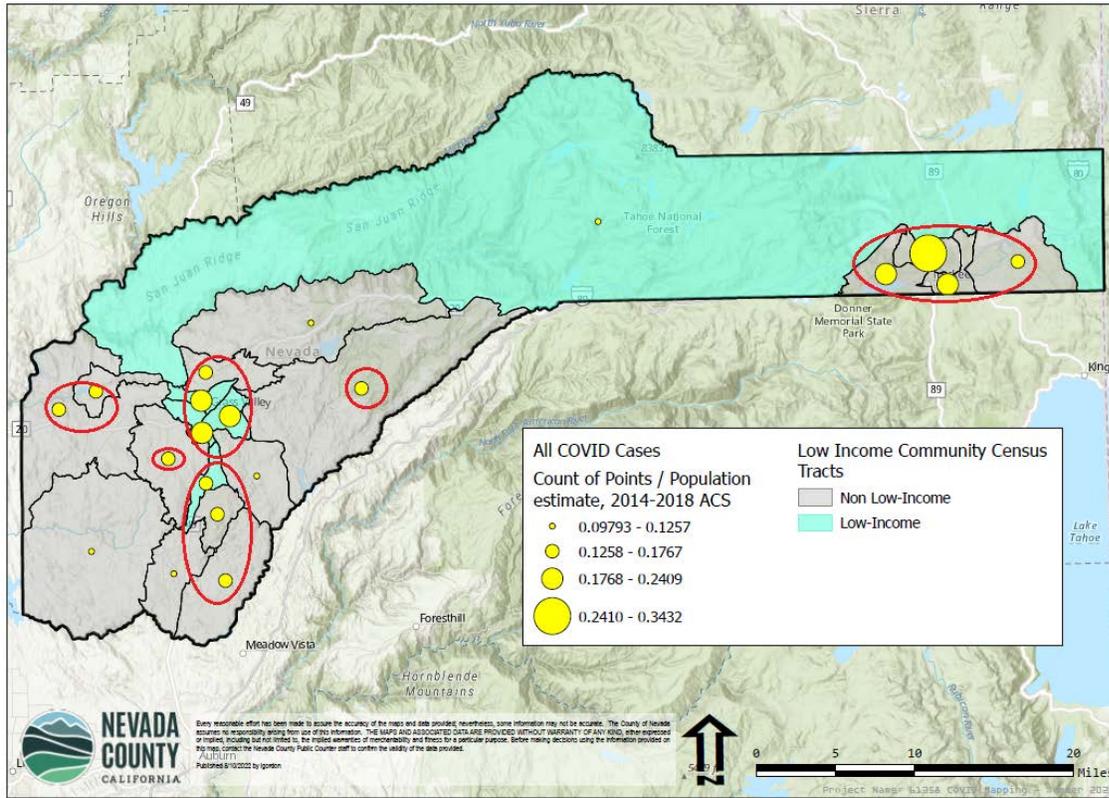
Nevada County Case Distribution by CDC Social Vulnerability Index (SVI)



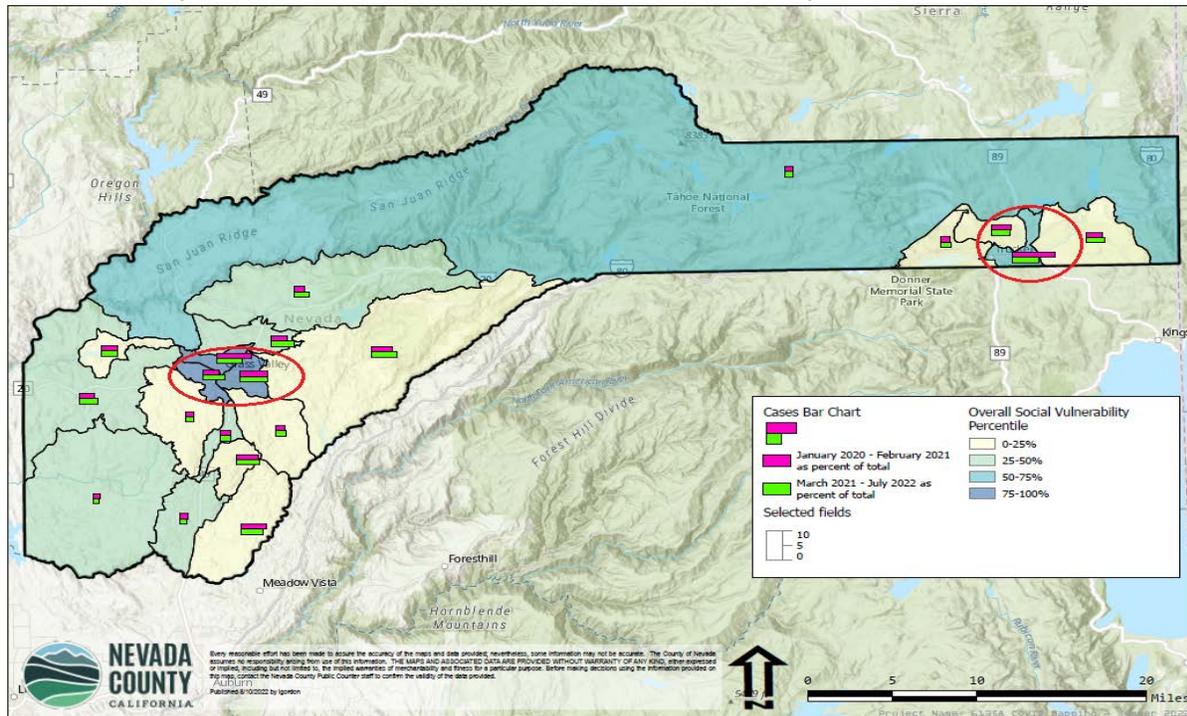
COVID-19 Case Distribution by Population Density and Income

The regions within Nevada County that had higher SVI also had a higher number of COVID-19 cases. Population density, for example, has had a considerable impact on disease transmissibility (Afshordi et al. 2020, Guha et al. 2020, Rajan et al. 2020) and is a reliable predictor of cumulative infection (Wong and Li 2020), despite mediating factors such as private transportation and median household income (Sy et al. 2021). Despite being in County’s non-low-income tracts, number of COVID-19 cases were reported high in Truckee, Penn Valley, Nevada City and Alta Sierra. This is due to increased population density compared other parts of the county.

Nevada County COVID Cases by Population Density and Income



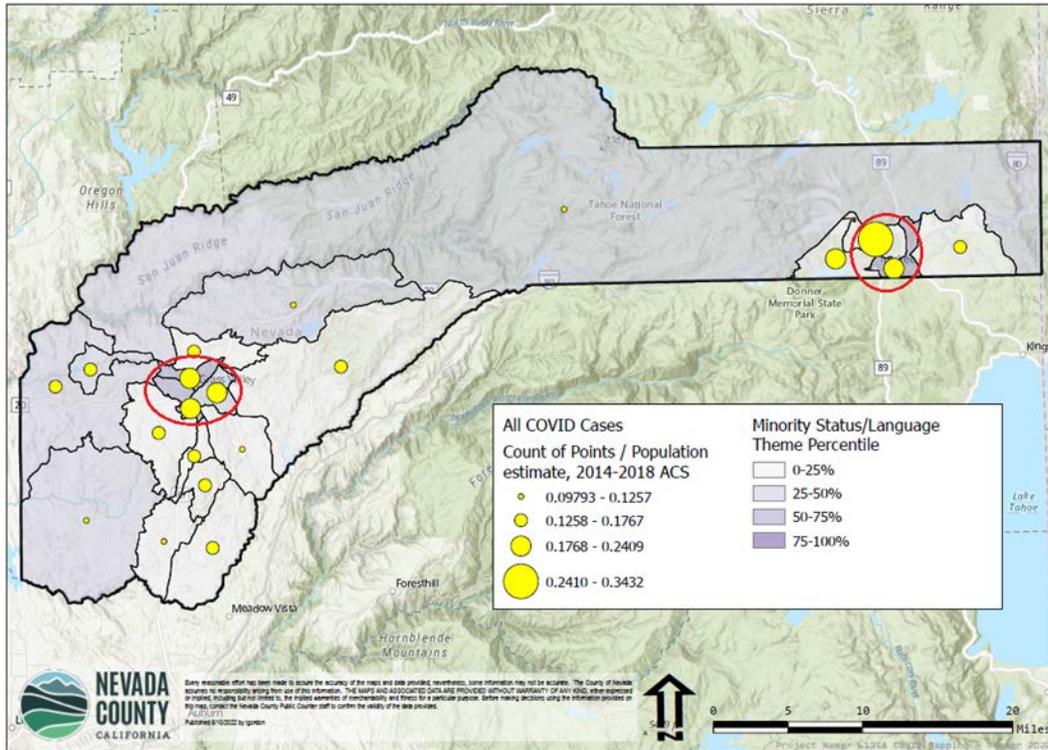
Nevada County COVID-19 Case Distribution in 2020 and 2021 by SVI



Nevada County COVID Cases by Minority Status and Language

There is evidence that racial and ethnic minority populations have been disproportionately affected by COVID-19 (Golestaneh et al. 2020, Tai et al. 2021). In the county, Latino, Black, and Pacific Islander were increasingly prone to greater COVID-19 spread when residing in a population-dense environment mostly in Truckee and Grass Valley.

Nevada County COVID Case Distribution by Minority Status and Language

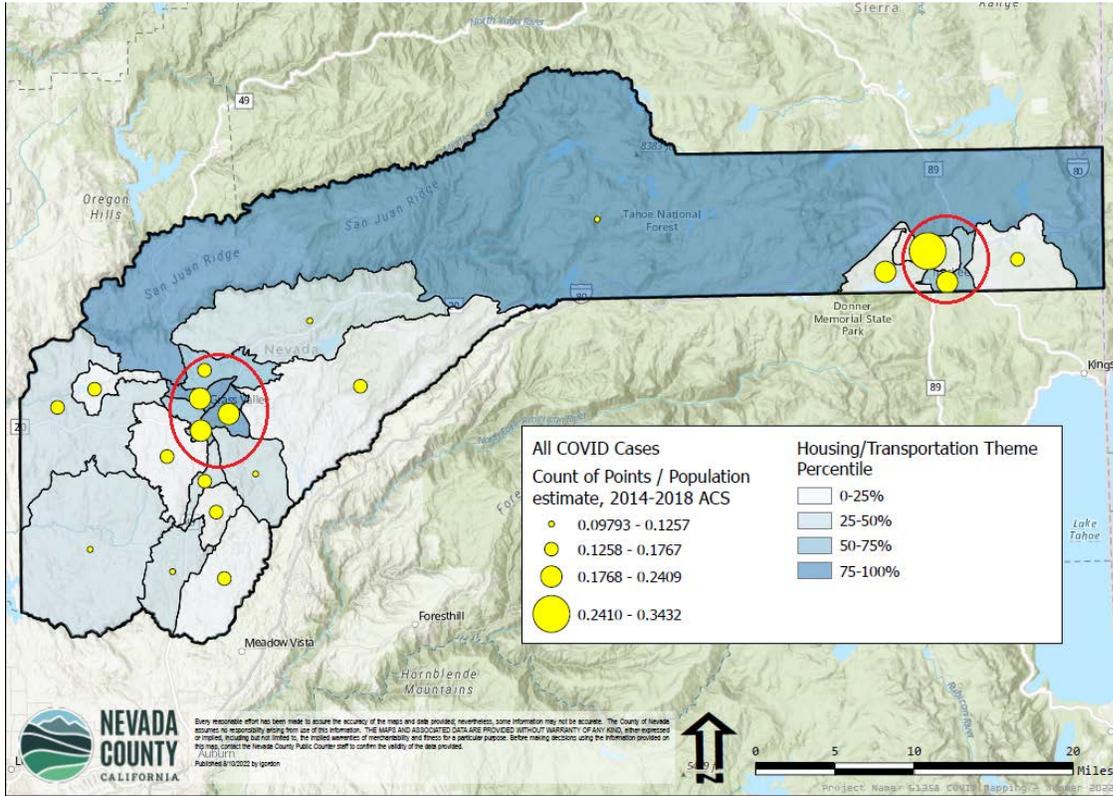


Nevada County COVID Cases and Other Social Factors:

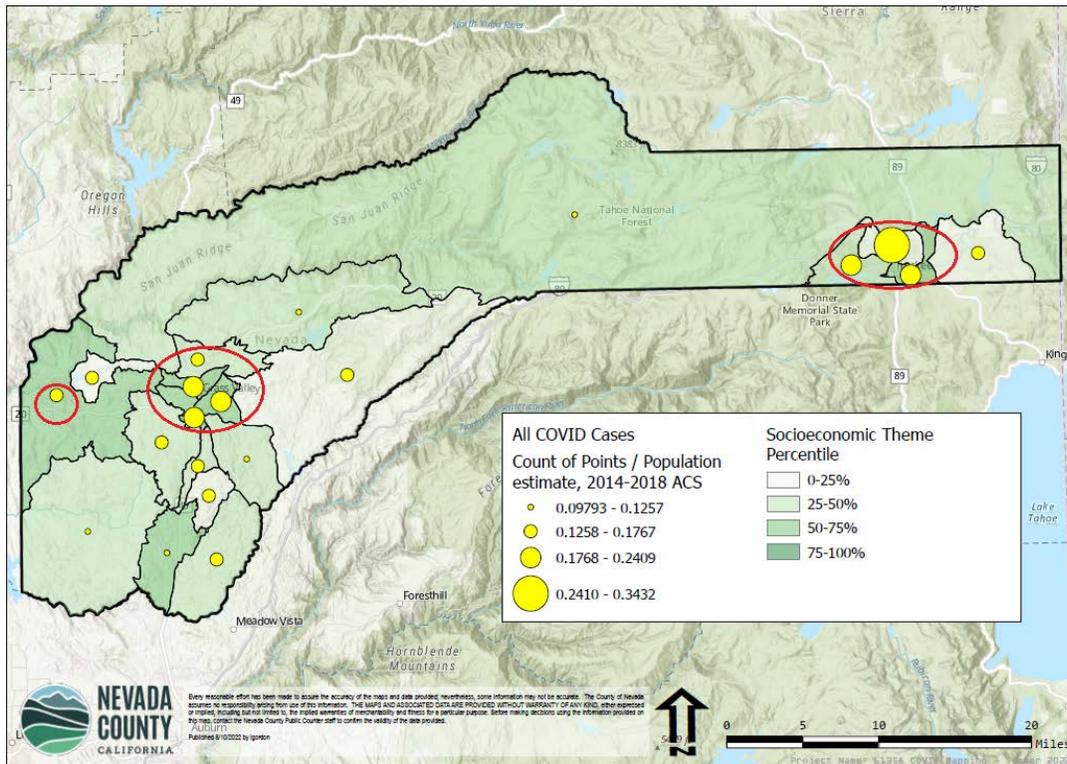
Lower socioeconomic status leads to insufficient access to care and poorer health outcomes (Nayak et al. 2020). Greater socioeconomic vulnerability has recently been associated with increased COVID-19-related mortality as well as greater COVID-19 infection rates (Neelon et al. 2021). It is also linked to lower COVID-19 vaccination coverage, even as vaccine eligibility, supply, and availability expand (Barry et al. 2021).

In Nevada County, regardless of SVI, case counts were consistently higher in heavily populated areas. From 2020 and 2022, clusters of COVID hotspots were reported in the Western portions of the County (mainly Grass Valley) followed by eastern part (mainly Truckee).

Nevada County COVID Cases by Housing/Transportation



Nevada County COVID-19 Cases by Socio Economic Status



The highest percentage of cases (44.9%) were reported in Grass Valley which is densely populated and highly vulnerable in terms of all social factors i.e. socio-economic status (low income), housing and transportation (more mobile home, multiunit structures, crowding, group quarters and no vehicles), minority status (minority population density with limited English proficiency). Addressing the social factors that create poor health is essential to reducing inequities in the health impacts of disasters.

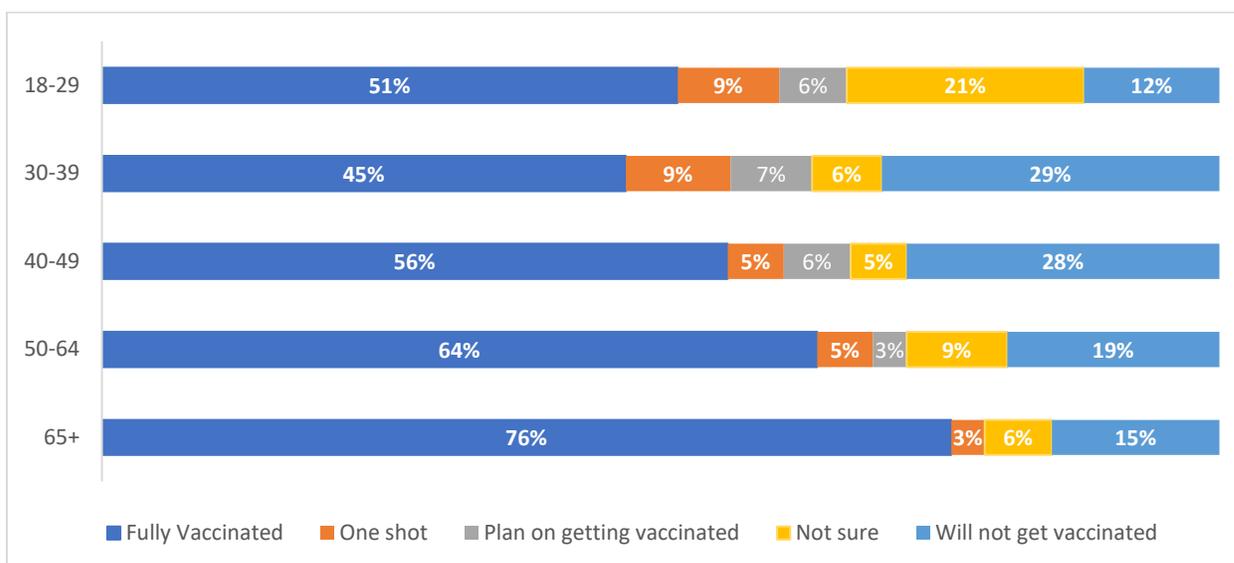
Rates of Vaccine Hesitancy

Vaccine hesitancy refers to the delay or refusal to get a vaccine despite vaccines being available. This is information that is collected through the U.S. Census Bureau’s Household Pulse Survey (HPS). In Nevada County, COVID-19 vaccine hesitancy is low with only 7.3% of the population ‘hesitant’ or ‘unsure’ about receiving the vaccine. Throughout California, vaccine hesitancy rate changes from 6% to 9% with an average of 7.5% [10]. NCDPH explored reasons for vaccine hesitancy among Nevada County residents in the *Nevada County Resident Attitudes Toward COVID-19 Vaccination* through the FM3 survey. The survey was conducted from May 26th to June 3rd, 2021. The survey is available in Appendix C. Vaccine hesitancy data reported in this section were obtained from the Nevada County residents’ survey responses.

Hesitancy by Age and Race/Ethnicity

- Residents between the ages of 18-29 were the most hesitant to receive the vaccine with 21% sharing they were ‘unsure’ if they would receive the COVID-19 vaccine. The second most hesitant age group were adults between 50-64 at 9%.
- Latino residents (14%) and all residents of color (14%) were more unsure about getting vaccinated compared to White residents. On the other hand, 22% of all residents of color and 21% of White residents were the most likely to say they will not get vaccinated.

Hesitancy by Age Group in Nevada County, (May 26th to June 3rd, 2021)



Data Source: Nevada County Resident Attitude Towards COVID-19 Vaccination-FM3 survey (Appendix C)

Hesitancy by Insurance Status

- In Nevada County, Medi-Cal recipients (30%) were more unsure about getting vaccinated than those with other forms of insurance. Only 5% of residents with private insurance reported being unsure about getting vaccinated.
- Uninsured residents had the lowest rates of vaccination in Nevada County with only 36% vaccinated and 62% reporting they will not get vaccinated. Residents with private insurance were the least likely to not get vaccinated at 15%.

Hesitancy by Income

- Hesitancy varied across income levels in Nevada County. Residents with an income between \$30,000-\$50,000 per year were the least likely to be vaccinated (53%) and were more likely to be unsure about getting vaccinated (14%) compared to any other income bracket. Residents with annual incomes of less than \$30,000 had the second lowest rates of vaccination (60%) and uncertainty about whether they would get vaccinated (9%).
- Residents with income between \$75,000-\$100,000 were more likely to be vaccinated compared to any other income group.

Barriers and Motivators for Vaccination

Barriers to Vaccination

Among residents that were unsure or unwilling to get vaccinated, or those that know someone that feels this way, the most common reasons were: fear of side effects, particularly blood clots; concern that the vaccine was developed too quickly and lack of trust in pharmaceutical companies; resistance to the government telling them what to do; and belief that the pandemic has been exaggerated. The majority of those surveyed shared that inconvenient appointment times and places were not a barrier for them.

- Among residents that were more resistant to vaccination, most were concerned about safety (26%) or how new the vaccine was (36%). Others believed the vaccine was not needed and that the virus had a high survival rate (22%).
- Additionally, among Nevada County residents that were resistant to vaccination, one in ten already had the virus and did not believe the vaccine was needed.
- The majority surveyed believed that the vaccine would allow life to return to normal in their community (68%).
- Among parents of children under 11 years of age, nearly one in two (45%) wanted to vaccinate their children once vaccines for their age groups were approved.

- Among residents that were unsure about get vaccinated, 87% felt that nothing in their day to day would change once they got the vaccine compared to 51% of all residents.
- Nine out of ten of those who said they will not get a COVID-19 vaccine also skip their flu shot. These individuals were more likely to be younger, male and had lower income and less formal education than residents who do get their flu shot.

Motivators to Vaccination

Among Nevada County residents overall, free vaccines, the safety record of vaccine trials, and appeals to personal responsibility were key motivators to vaccination. On vaccine issues, residents were most likely to trust nurses, doctors, family, and friends. Among those that were vaccine hesitant, scientists, nurses, doctors, and seniors were trusted messengers. Residents were most suspicious and least trusting of COVID-19 vaccination information from faith leaders, local elected officials, and the CDC. This information can inform future COVID-19 outreach efforts.

- Personal doctors (57%) were trusted the most for sharing information or encouraging people to get COVID-19 vaccines followed by nurses (49%) and scientists (49%).
- Residents had high levels of suspicion and distrust of the CDC (41%), local county supervisor (36%), local faith leaders (34%), and the FDA (29%).

Impact of COVID-19 on Nevada County Residents

COVID-19 had economic, physical, social, mental, and emotional impacts on communities across the country. Respondents of the aforementioned survey in 2021 identified they knew someone that had COVID-19:

- 75% of residents surveyed had or knew someone who had COVID-19. Among those, 15% experienced COVID-19 themselves.
- Those most likely to have reported having COVID-19 included Spanish speakers, uninsured people, men under 50 years of age, and those insured through Medi-Cal.

Health Impacts of COVID-19

- 48% of the residents had someone in their household that was especially vulnerable to COVID-19 complications because of age or health conditions such as respiratory conditions, diabetes, high blood pressure, or were immunocompromised. This included the 20% of respondents that identified themselves at high risk for complications due to COVID-19.
- 41% of residents surveyed thought the health impacts of the COVID-19 pandemic were a very serious problem.

Economic Impacts of COVID-19 Pandemic Nevada County

Nevada County residents were presented with a list of issues the county was facing and asked to rate their severity.

- 70% of residents surveyed said the economic impacts of COVID-19 were a very serious problem, while just 40% said the same of COVID-19's health impacts.
- The cost of healthcare was perceived as a very serious problem for 62% of Nevada County residents.
- 50% of residents surveyed felt it was a very serious problem that there were too many limits on business operations during the pandemic.

Conclusion

As demonstrated and highlighted in this Community Health Assessment Addendum, Nevada County is a diverse county with multiple communities with a variety of needs. Highlighting a few social determinants of health, as well as COVID-19 response efforts, issues pertaining to overdoses permits NCPHD to briefly spotlight the critical work that has been done but shows that there still is much to do. Each community has its own qualities that make life here in our rural Sierra Nevada mountain communities great. Moving out of the COVID-19 pandemic and to a "new" normal way of life, we will continue to discover the benefits of healthy living and making strides to addressing the different needs that are presented to live better lives.

In 2023-2024 NCPHD will convene a steering committee to develop an updated Community Health Assessment, which will be integral for the 2023-2024 Community Health Improvement Plan aka the CHIP. This committee will meet regularly to tell the story of Nevada County and determine the structure how to implement a plan to address the needs identified in the 2023-2024 CHA. NCPHD looks forward to focusing efforts on the identified needs, but also making our communities a sustainable, healthy environment in which we live, play and grow.

Appendix A: Report Structure and Definitions

This section outlines the structure and defines key terms found in this report.

Report Structure

- This report highlights key indicators, or key measures, that are important in understanding the impact of COVID-19 on the health of the community. The report is organized by indicator with brief descriptions of the indicator and key findings in Nevada County.
- Bullet points highlight key findings within Nevada County including comparisons with state data, differences in data because of age, sex at birth, or race/ethnicity. Or geographic differences. Tables and graphs are used to visualize some of the results within each section.
- All data in this report is secondary. Data Sources are identified throughout the document, below figures and tables, and within the [References and Data Sources](#) section.

Data Notes

- Race/Ethnicity data is not shown when the sample size is low due to rates being considered unreliable and statistically insignificant. Nevada Public Health Department County follows California Department of Public Health guidelines and recommendations for small number analytics. In public reports and datasets this is referred to as data suppression, which is done to protect the identities, privacy, and personal information that could be inferred or revealed if the data were reported. This is also done to avoid making conclusions about entire sub-populations, without enough adequate data.
- The following symbols are used in graphs throughout the report (*, ^):
 - * There are too few cases to protect confidentiality and/or report reliable rates. Therefore, data are suppressed per the California Health and Human Services Agency data de-identification guidelines.

^ While rates are presented, there are too few cases to meet a precision standard, and results should be interpreted with caution.

Definitions

- Number of deaths and number of hospitalizations describes the absolute number of events. All other things being equal, the number of deaths or hospitalizations will be larger in areas with larger populations. This measure does not consider the age distribution or size of the population.
- **Age-adjusted rates** consider the age distribution of the population where the rate is being calculated. It is the rate that would have existed if the population had the same age distribution as a reference population. This allows for comparisons between populations with differences in age distributions. For example, if a ZIP Code within the county has a higher-than-average death rate, it is important to consider whether the higher death rate is due to an older population living within that ZIP Code.
- **Confidence interval**, usually referred to as the 95% confidence interval, is also known as the error bar. It is the range of values that includes the true value 95% of the time, accounting for possible errors in the data.
- **Crude rate** is the total number of events, such as births or deaths, divided by the number of people in the population (multiplied by 100,000). This gives the rate of the event per 100,000 which allows for comparisons across different population sizes.
- **Life expectancy**, usually referred to as “Life Expectancy at Birth,” summarizes in one number the average period in years that one is expected to live. Its calculation is complex but is generally interpreted as the number of years people born in a particular year are “likely” to live.
- **Years of life lost (YLL)** emphasizes the impact of conditions that cause more deaths among younger people, so YLL is sometimes referred to as “premature deaths”. The number of years of life lost for deaths at each age are determined here using the “Global Burden of Disease” methods from the World Health Organization. Years of Life Lost are expressed in this report as rates per 100,000 population.
- **Percent increase** measures the change in the death rate between two different years, and shows which conditions are increasing (or decreasing) most rapidly. This is measured by showing the percentage increase in the age-adjusted death rate. “Age-adjusted” death rates are used to account for the impact of the changing age distribution of the California population on the measure. Because this measure focuses on the degree of increase it may sometimes highlight a condition or group for which the absolute number of deaths is relatively small, but the percent increase is great.
- **Disparity ratio** measures the difference in the death rate between racial/ethnic groups for the same condition using combined data from a three-year period. The measure compares the age-

adjusted death rate in the group with the highest rate to the group with the lowest rate. A large ratio between the two rates indicates a large disparity.

- **Years lived with disability** is based on calculations and modeling done by the Institute for Health Metrics and Evaluation. These models utilize assumptions and multiple data sources to produce reliable California-specific estimates of years lived with disability. These are shown in this report as a rate per 100,000 population.
- The **Federal Poverty Level (FPL)**, also known as the poverty line. It is an economic measure used by government agencies to determine if an individual or family's income is eligible for certain federal benefits and subsidies. It takes into account household size and household income to determine the level of poverty.
 - **High poverty:** 20% or more of the population in the neighborhood is below the FPL.
 - **Medium poverty:** 5% to 19% of the population is below the FPL.
 - **Low poverty:** fewer than 5% of the population is below the FPL.

Appendix B: References and Data Sources

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