



# COMMUNITY HEALTH ASSESSMENT



2019 – 2022

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## LETTER FROM THE DIRECTOR

Dear Community Members,

As our community continues to recover and rebuild from the devastating effects of the Camp Fire, of utmost importance is the ongoing assessment of data and information related to our county's health status. While a full understanding of the fire's impacts on Butte County's overall health and healthcare systems are still unknown, we hope that this Community Health Assessment (CHA) report can serve as a valuable resource for future recovery efforts and vital health improvement initiatives.



The purpose of a CHA is to learn about our community, the overall health of the population, contributing factors to higher health risks or poorer health outcomes of identified populations, and community resources available to improve the public's health. This report reflects a year-long process that included the selection and analysis of hundreds of health indicators, completion of multiple focus groups, and contribution of over 700 Butte County residents who took part in a nationally recognized community health survey process. The CHA will serve as the foundation for our upcoming Community Health Improvement Plan (CHIP). The CHIP will focus on a few selected health topics identified within the CHA and create a blueprint for our community to set priorities, direct the use of resources, and develop health related projects, programs, and policies.

We would like to extend our sincere thanks to Enloe Medical Center, Adventist Health Feather River Hospital, and Orchard Hospital for their partnership and collaboration on this project. We are also extremely grateful to the many individuals and organizations who participated in the CHA focus groups and community health survey process. Each participant provided insightful feedback and suggestions for improving local health and access to care. Their input also highlighted some of the challenges we face in achieving optimal health in Butte County.

We welcome your further input to this report and encourage you to utilize this information in your work with individuals, families, and communities in Butte County.

Sincerely,



Danette York  
Director, Butte County Public Health Department

## EXECUTIVE SUMMARY

The Butte County Community Health Assessment (CHA) partnership between Butte County Public Health, Enloe Medical Center, Adventist Health Feather River Hospital, and Orchard Hospital began convening to plan and implement the CHA presented here in the spring and summer of 2018. Of note, the most destructive wildfire in California’s history, the Camp Fire, interrupted these collaborative CHA efforts in the fall of 2018 through the spring of 2019; which dramatically affected Butte County across a myriad of health care delivery system factors and community health determinants. The full impact this natural disaster has had on the community’s health will not be evident for some time, and the results of the current assessment do not fully address them.

Beginning in the fall of 2018, quantitative secondary data was collected from an array of well-established sources such as the Robert Wood Johnson Foundation (RWJF), California Health Interview Survey (CHIS), Office of Statewide Health Planning and Development (OSHPD), California Department of Public Health (CDPH), and many others. Primary health survey data was attained in the spring and summer of 2019, by conducting a sample of over 700 Butte County residents using the well-established Behavioral Risk Factor Surveillance System (BRFSS) survey protocol and methodology. Results of the oversample for Butte County are hereafter referred to as the Behavioral Risk Factor Survey (BRFS), and treated as equivalent to state and national BRFSS results for comparisons. Qualitative focus group data with underrepresented groups and other hard to reach subpopulations were also conducted in the spring and summer of 2019.

The results of all three-assessment methods were reviewed for their degree of commonality. That is, an attempt was made to align secondary health metric data with health survey and qualitative focus group data, such that those health factors with the greatest alignment became evident.

The health factors most substantially implicated that emerged through this process are:

- A. Access to Care
  - I. Health Care Provider Shortages
  - II. Preventative Practices
  
- B. Mental Health and Substance Use Disorders
  - I. Suicide and Depressive Disorders
  - II. Opioids Use Disorders and Excessive Drinking
  
- C. Chronic Conditions
  - I. Cancer
  - II. Alzheimer’s Disease
  - III. Asthma
  - IV. Chronic Lower Respiratory Disease
  - V. Chronic Liver Disease
  
- D. Adverse Childhood Experiences and Childhood Maltreatment

ACCESS TO CARE

Access to health services is a leading health indicator (LHI) for the *Healthy People 2020* (HP-2020) national health objectives. A person’s ability to access health services profoundly affects their health and well-being. Having a usual Primary Care Provider (PCP) is associated with: greater patient trust in the provider; better patient-provider communication; increased likelihood that patients will receive appropriate care; and lower mortality from all causes<sup>1</sup>. Access to mental health and oral health care are also both important, as both mental health conditions and oral health correlate strongly with physical health and well-being.

The Health Resources & Services Administration (HRSA) has determined that there are Primary Care Shortage Areas, Dental Care Shortage Areas, and Mental Health Shortage Areas in Butte County. While only parts of the county meet Primary Care Shortage and Dental Care Shortage Area criteria, the entire county meets Mental Health Shortage Area criteria. Population to provider ratios also demonstrate that Butte County has fewer Primary Care Physicians, Dental Care Providers, and Mental Health Care Providers per capita than the state overall; however, Butte County does have more Non-Physician Primary Care Providers (e.g. Physician’s Assistants, Nurse Practitioners) per population than the state overall.

**Table Summary-1: Population to Provider Ratios: Butte County and California, 2012 & 2016**

	Butte County			California		
	2012	2016	Percent Change	2012	2016	Percent Change
Primary Care Physician	1497:1	1660:1	10.9%	1294:1	1270:1	-1.9%
Other Primary Care (Non Physician)	1241:1	1042:1	-16.0%	2406:1	1770:1	-26.4%
Dental Care	1461:1	1410:1	-3.5%	1291:1	1200:1	-7.0%
Mental Health Care	238:1	170:1	-28.6%	388:1	310:1	-20.1%

Source: 2012 and 2016 Area Health Resource Data File via County Health Rankings. Retrieved From: <http://www.countyhealthrankings.org/app/california/2019/rankings/butte/county/outcomes/overall/snapshot>

The BRFSS demonstrated slightly more than one-third (34.1%) of Butte County adult respondents do not have a personal doctor or health care provider, which is substantially above state and nationwide rates (24.5% and 22.5%, respectively.) In addition, 14.5% of Butte County respondents reported not seeing a doctor because of the cost, while just 11.8% of California respondents cited costs as barrier to seeking medical care. Results of the focus groups demonstrated that access to care was ranked as the most important health topic across all groups, with 80.7% of the 88 total

<sup>1</sup> <https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Access-to-Health-Services>

focus group participants ranking access to care as very important for community health in Butte County, and 40.9% ranking transportation as a substantial barrier to care for residents of the County.

## PREVENTATIVE PRACTICES

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Preventive health practices are those that prevent illnesses or diseases, such as screenings and immunizations, or patient counseling to prevent illness<sup>2</sup>. Examples include standard immunizations; and screenings for blood pressure, cancer, cholesterol, depression, obesity, and type 2 diabetes<sup>3</sup>. In recent years, several vaccine preventable diseases once on the verge of eradication, such as measles, have reemerged in the United States; with outbreaks occurring throughout California, including Butte County. Likewise, sexually transmitted infections (STIs) once thought to be declining or close to eradication, such as syphilis, have shown increasing rates nationally. Many STIs are treatable, but if undetected, may continue to be transmitted; and many more are preventable through education and patient counseling.

The percentage of students having all required immunizations for enrollment into Butte County schools is slightly below the percentage of students statewide (93.0% compared to 95.6%), with more conditional entrants – students with some but not all required immunizations – attending Butte County schools than California schools overall (3.1% vs. 1.7%). According to the BRFSS, 47.8% of Butte County respondents over the age of 65 have not had a flu shot in the past 12 months; and 29.0% had not received pneumococcal vaccine, which was also greater than the percentage statewide (23.2%). Likewise, 73.2% of Butte County respondents age 50 or older have not been vaccinated against shingles, which was slightly greater than the percentage of respondents statewide and nationwide (68.9% and 71.4%, respectively).

Rates of STIs (chlamydia, gonorrhea, and syphilis) for both the county and the state have demonstrated a steadily increasing trend from 2013 to 2017. Especially concerning are the increasing rates of syphilis. In Butte County, rates increased from 0.9 cases per 100,000 residents in 2013 to 33.6 in 2017; and from 16.8 cases per 100,000 residents to 34.6 statewide during this time period. While rates of congenital syphilis showed an increasing but statistically unreliable trend in Butte County, the statewide rate increased from 11.7 to 58.2, indicating that the statistically underpowered trend observed in Butte County is likely accurate. Also concerning, is that a slightly lower percentage (37.9%) of Butte County BRFSS respondents reported ever having an HIV test than respondents statewide (40.8%).

Pertaining to preventative practices for excessive alcohol use, 17.0% of Butte County BRFSS respondents reported being advised on harmful levels of drinking during a routine checkup with

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<sup>2</sup> <https://www.healthcare.gov/glossary/preventive-services/>

<sup>3</sup> <https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Clinical-Preventive-Services>

a healthcare provider, compared with 24.2% of respondents statewide; and 11.5% of Butte County respondents were advised to drink less compared with 12.5% of survey respondents statewide.

## MENTAL HEALTH & SUBSTANCE USE DISORDERS

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Like access to care, mental health is a LHI for the HP-2020 objectives. Mental health and physical health are inextricably linked. Evidence has shown that mental health disorders—most often depression—are strongly associated with the risk, occurrence, management, progression, and outcome of serious chronic diseases and health conditions; including diabetes, hypertension, stroke, heart disease, and cancer<sup>4</sup>. Suicide is the tenth leading cause of death in the nation, and the national suicide rate increased by 19.5% between 2007 and 2016. Suicide rates also tend to be higher in rural areas than in urban settings. Of significant concern, the suicide rate per capita in Butte County is elevated to nearly twice that of California overall (18.1 vs. 10.4 per 100,000 population); and likewise elevated above the HP-2020 objective (10.2). This is especially alarming when viewed in the context of Butte County’s co-occurring elevated metrics for drug induced deaths and excessive alcohol use; as nationally drug induced and alcohol related deaths in combination with suicide, collectively referred to as *deaths of despair*, have resulted in decreasing life expectancy in the United States since 2015. Rates of depressive disorders, a strong risk factor for suicide, also appear to be elevated in Butte County. Twenty-seven and five tenths percent of BRFSS respondents in Butte County indicated having been diagnosed with a depressive disorder, compared to 17.3% statewide, and 20.0% nationwide. Focus groups also overwhelmingly felt mental health was a top community health priority in Butte County, with 69.3% of total focus group participants ranking mental health as a very important community health priority area. The finding that all of Butte County meets HRSA Mental Health Professional Shortage Area criteria highlights a disparity between the population’s need for mental health services and the current capacity of the county’s healthcare delivery system to meet this demand.

Substance use disorders are defined as both mental health disorders and chronic diseases. The American Society of Addiction Medicine defines addiction as “a primary, chronic disease of brain reward, motivation, memory and related circuitry”. The development of substance use disorders are often preceded by substance misuse, such as taking an opioid medication other than how it was prescribed before meeting criteria for opioid use disorder, or escalating episodes of excessive alcohol consumption before meeting criteria for alcohol use disorder. Across focus groups, 50.0% of the 88 total participants indicated substance misuse and substance use disorders to be a top community health concern.

The ongoing opioid epidemic continues to be the leading driver of drug-induced deaths nationally. In Butte County, the age-adjusted drug induced death rate continues to be significantly elevated compared to the statewide rate (30.2 vs. 12.2), with Butte County holding the 5<sup>th</sup> highest rate out of California’s 58 counties. In 2017, mortality attributed exclusively to

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<sup>4</sup> <https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Mental-Health>

opioids (e.g. no other class of substances detected) in Butte County was 7.6 per 100,000 population compared with a statewide rate of 5.2; and the rate of hospitalizations for opioid overdose were the highest of all California counties, with 40.3 hospitalizations due to opioids other than heroin per 100,000 population compared to 7.8 statewide; and a rate of 10.0 hospitalizations due to heroin compared to 1.8 statewide. Also of significant concern is that according to the California Healthy Kids Survey (CHKS), 21.0% of Butte County 11<sup>th</sup> grade students have used prescription drugs recreationally, compared with 16.0% of 11<sup>th</sup> grade students statewide.

Excessive alcohol consumption—which includes binge drinking (4 or more drinks for women and 5 or more drinks for men within about 2 hours); heavy drinking (8 or more drinks a week for women and 15 or more drinks a week for men); and any drinking by pregnant women or those under 21 years of age, is responsible for 88,000 deaths in the United States each year. These include 1 in 10 deaths among working age adults (aged 20-64 years), and in 2010, the estimated economic cost to the United States of excessive drinking was \$249 billion. Binge drinking accounts for over half of the deaths and three-fourths of the economic costs due to excessive drinking<sup>5</sup>. The most recently available data from the CDPH Violence and Injury Prevention Branch demonstrates that in Butte County, rates of emergency department treatment, non-fatal hospital admissions, and deaths due to alcohol were all considerably higher than statewide rates (1011.1 vs. 763.8 per 100,000; 306.6 vs. 143.4; and 16.2 vs. 11.9, respectively). Likewise, 42.5% of adult CHIS respondents in Butte County reported binge drinking, relative to 34.7% statewide. This discrepancy was further supported by the results of the BRFSS, with 22.1% of Butte County respondents reporting binge drinking compared with 17.6% of respondents statewide. A similarly concerning trend among adolescents was demonstrated by the CHKS, with 20.0% of Butte County 11<sup>th</sup> grade students reporting binge drinking, compared with 11.0% of 11<sup>th</sup> grade students statewide.

## CHRONIC DISEASES AND CONDITIONS

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Chronic diseases and conditions such as heart disease, cancer, and diabetes are the leading causes of death and disability in the United States, accounting for 7 out of 10 deaths annually. They are also leading drivers of the nation's \$3.3 trillion in annual health care costs, with approximately 90.0% of healthcare dollars spent in the United States attributed to the treatment of people with chronic physical and mental health conditions<sup>6</sup>. In Butte County, like the nation and the state, many of the leading causes of death are chronic conditions including heart disease and stroke, cancers, Alzheimer's disease, chronic lower respiratory disease, chronic liver disease, and diabetes. While the mortality rate was only higher for Butte County than the statewide and national rates for some chronic diseases and conditions (cancer, Alzheimer's disease, chronic lower respiratory

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<sup>5</sup> <https://www.cdc.gov/alcohol/data-stats.htm#economicCosts>

<sup>6</sup> <https://www.cdc.gov/chronicdisease/about/index.htm>

disease, and chronic liver disease), (See *Table Summary-2, following page*); all chronic conditions result in substantial portions of health care spending in Butte County. A 2015 study estimated that 50.8% of the \$1.4 Billion total annual healthcare expenditures in Butte County could be attributed to six chronic conditions (arthritis, asthma, cardiovascular disease, diabetes, cancer, and depression), while 42.4% of total statewide healthcare expenditures could be attributed to these conditions (see *Table Summary-3, pg. 12*). Forty-seven and eight tenths percent of total focus group participants in Butte County indicated chronic disease and conditions to be a significant community health concern, and 45.5% indicated overweight/obesity, a predictive factor for many chronic diseases, to likewise be a top health concern. While most chronic conditions are of significant concern in Butte County, some emerged with greater emphasis including: cancer, Alzheimer's disease, asthma, chronic lower respiratory disease, and chronic liver disease.

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### *Cancer*

The age-adjusted death rate for cancer was significantly higher in Butte County than the statewide rate, with 162.2 and 140.2 deaths per 100,000 population, respectively. The five year incidence rate for cancer from 2011 – 2015 was also elevated relative to the state rate at 452.4 and 395.2 cases per 100,000 population, respectively. These trends generally held for most forms of cancer, including lung, female breast, and colorectal cancers. The BRFSS also indicated higher rates of cancer, with 8.4% of Butte County respondents reporting having ever been diagnosed with cancer (other than skin cancer), compared with 5.9% of survey respondents statewide.

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### *Alzheimer's Disease*

The age-adjusted death rate for Alzheimer's disease was also significantly higher in Butte County than the statewide rate, with 51.1 and 34.2 deaths per 100,000 population, respectively.

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### *Asthma*

In Butte County 9.7% of Medicare beneficiaries have been diagnosed with asthma, which is higher than the percentage of Medicare beneficiaries diagnosed statewide (7.5%). Results of the CHIS also demonstrate that slightly more adults in Butte County have been diagnosed with asthma than adults statewide (15.0% vs. 14.5%); while 18.3% of Butte County BRFSS respondents indicated having ever been diagnosed with asthma, relative to 14.1% of statewide respondents; and 11.8% of Butte County respondents reported currently having asthma relative to 7.9% of statewide respondents.

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### *Chronic Lower Respiratory Disease*

The age-adjusted death rate for chronic lower respiratory disease was significantly higher in Butte County than the statewide rate, with 45.8 and 32.1 deaths per 100,000 population, respectively.

The BRFSS also indicated higher rates of chronic obstructive pulmonary disease (COPD) – a type of chronic lower respiratory disease, with 7.1% of Butte County respondents reporting having ever been diagnosed with COPD, compared with 4.5% of survey respondents statewide.

*Chronic Liver Disease*

The age-adjusted death rate for chronic liver disease was significantly higher in Butte County than the statewide rate, with 18.4 and 12.2 deaths per 100,000 population, respectively.

<b>Table Summary-2: Mortality Rates for Chronic Diseases and Conditions</b>				
	<b>Butte County</b>	<b>California</b>	<b>HP-2020</b>	<b>Rank out of 58 in CA</b>
All Causes	765.3	608.5	a	46
All Cancers	162.2	140.2	161.4	49
Lung Cancer	37.7	28.9	45.5	49
Female Breast Cancer	21.2	19.1	20.7	46
Prostate Cancer	19.4	19.6	21.8	24
Colorectal Cancer	15.7	12.8	14.5	54
Coronary Heart Disease	85.8	89.1	103.4	28
Alzheimer’s Disease	51.1	34.2	a	55
Chronic Lower Respiratory Disease	45.8	32.1	a	42
Cerebrovascular Disease (Stroke)	39.3	35.3	34.8	39
Diabetes	18.9	20.7	b	26
Chronic Liver Disease and Cirrhosis	18.4	12.2	8.2	45

Adapted from: California Health Status Profiles, 2018. Available at: <https://www.cdph.ca.gov/Programs/CHSI/Pages/County-Health-Status-Profi.aspx#pasteds>

Table Summary-3: Healthcare Costs with Six Chronic Conditions						
	Total Healthcare Costs		Cost of Six Chronic Conditions		Health Care Costs Due to Six Conditions	
	Total		Total		Total Percent	
<b>Butte County</b>	\$1,372,360,000		\$625,045,759		50.8%	
<b>California</b>	\$232,390,177,528		\$98,443,138,663		42.4%	
	Arthritis	Asthma	Cardio-vascular disease	Diabetes	Cancer	Depression
<b>Butte County</b>	7.8%	4.6%	20.0%	5.3%	8.0%	5.3%
<b>California</b>	6.2%	4.1%	16.1%	5.6%	6.0%	4.4%

Adapted from: Brown, P.M., et al. (2015). Economic Burden of Chronic Disease in California 2015. California Department of Public Health. Sacramento, California. Available at: <http://healthpolicy.ucla.edu/publications/search/pages/detail.aspx?PubID=1600>

*Other Notable Chronic Condition Findings*

Butte County had a slightly higher age-adjusted death rate than the statewide rate for stroke (39.3 vs. 35.3 per 100,000 population). Likewise, a slightly higher percentage of Butte County BRFs respondents (3.3%) reported having ever had a stroke than statewide respondents (2.2%). Approximately one-third (32.2%) of Butte County respondents also reported having high blood pressure, which was slightly higher than for statewide respondents (28.4%). A 2016 UCLA Center for Health Policy Research study estimated the percent of adults in Butte County that are pre diabetic (43.0%) was slightly lower than the statewide estimate (46.0%), and a lower percentage Butte County CHIS respondents reported being diagnosed with diabetes than statewide respondents (7.4% vs. 9.3%). This discrepancy was also found in BRFs results (7.0% vs. 10.5%); however, a slightly higher percentage of CHIS respondents age 65 and over from Butte County were diagnosed with diabetes than the percent of respondents statewide (23.5% vs. 21.4%). Major risk factors for the development of chronic conditions and premature death include being overweight/obese and smoking tobacco products. While the percentage of adult CHIS respondents that reported being overweight or obese was marginally lower in Butte County than statewide (60.3% vs. 61.5%), the percentage of Butte County BRFs respondents that indicated having no physical activity in the past 30 days was higher than the percentage of statewide respondents (28.5% vs. 20.0%); and significantly more Butte County respondents indicated being current smokers than statewide respondents (20.6% vs. 11.3%).

## ADVERSE CHILDHOOD EXPERIENCES

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Adverse childhood experiences (ACEs) are traumatic events in the forms of neglect, abuse, or household challenges that occur during childhood and can negatively influence an individual's overall health and well-being throughout their lifespan. Early childhood adversity has been associated with increased likelihood of risky behaviors, chronic disease, poor quality of life, and decreased life expectancy<sup>7</sup>. Research suggest that there is a dose response curve for ACEs and poor health, that is the likelihood of adverse health outcomes increases with the number of ACEs experienced; and with individuals having experienced 4 or more ACEs being at substantially greater risk than individuals experiencing 3 or fewer ACEs<sup>8</sup>. A top priority of the Surgeon General of California's Office is addressing social determinants that influence early childhood development and health. Within the state's *Let's Get Healthy California* campaign, the *Healthy Beginnings* objectives focus on maternal and infant health; as well as child and adolescent physical, mental, and social health – for which ACEs rates are key health indicators.

Butte County has notably higher childhood maltreatment rates than California overall, including neglect and abuse allegations (74.0 vs. 54.3 per 1,000 children), substantiations (9.9 vs. 7.7), and entries into protective care (6.5 vs. 3.1)<sup>9</sup>. A 2014 Center for Youth Wellness report found that From 2008 -2013, 76.5% Butte County residents reported having one or more ACEs; which was the highest rate of all California counties and significantly higher than for California overall (61.7%). In addition, nearly twice the percentage of Butte County residents as California residents reported having four or more ACEs (30.3% vs. 15.9%)<sup>10</sup>. Similarly, results of the 2019 BRFSS demonstrated that 76.5% of Butte County respondents had one or more ACEs, which was considerably higher than the most recent data for statewide respondents (65.5%). Further, Butte County respondents had higher rates than statewide respondents across all ACEs categories, with the most frequent being: substance use by a household member (37.8% vs. 26.1%); parental separation or divorce (37.3% vs. 26.7%); emotional or verbal abuse (35.2% vs. 34.9%); household member with mental illness (28.4% vs. 15.0%); and witnessing domestic violence (19.3% vs. 17.5%).

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<sup>7</sup> Centers for Disease Control and Prevention (April 2, 2019). About the CDC-Kaiser ACE Study |Violence Prevention|Injury Center|CDC. Retrieved from <https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/about.html>

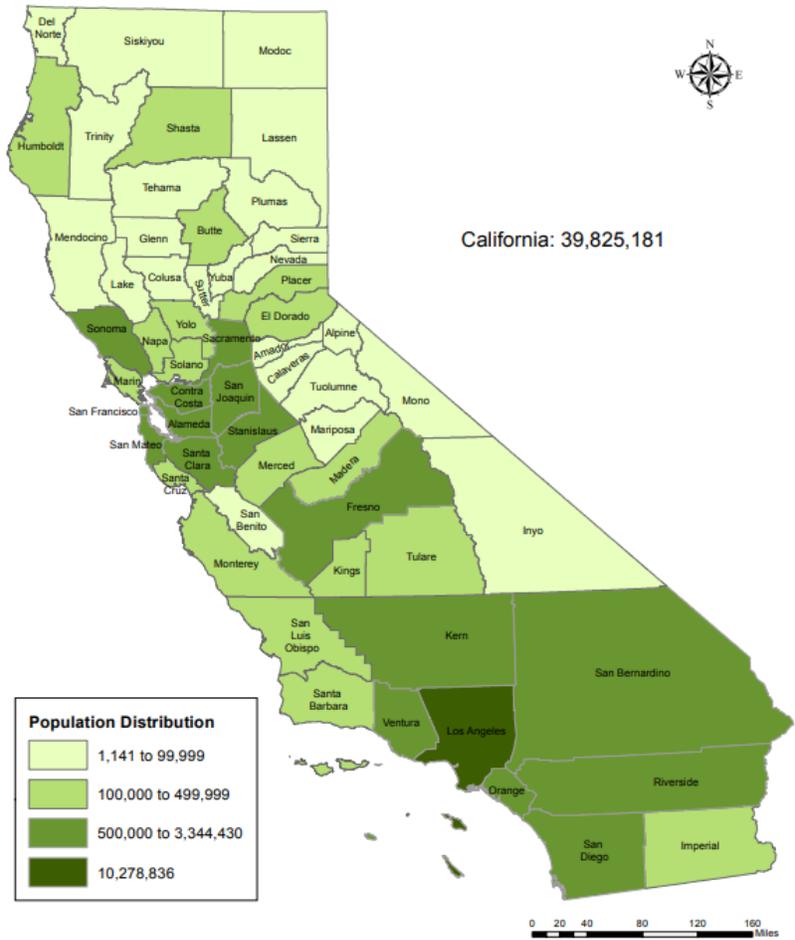
<sup>8</sup> Center for Youth Wellness. Findings on Adverse Childhood Experiences in California. Retrieved from <https://centerforyouthwellness.org/wp-content/themes/cyw/build/img/building-a-movement/hidden-crisis.pdf>

<sup>9</sup> Rodriguez, D., et al. (2016). Prevalence of adverse childhood experiences by county, California Behavioral Risk Factor Surveillance System 2008 - 2013. Public Health Institute, Survey Research Group

<sup>10</sup> Webster, D., et al. (2019). CCWIP reports. Retrieved 7/25/2019, from University of California at Berkeley California Child Welfare Indicators Project website. URL: [http://cssr.berkeley.edu/ucb\\_childwelfare](http://cssr.berkeley.edu/ucb_childwelfare)

# BUTTE COUNTY'S COMMUNITY PROFILE

## BUTTE COUNTY OVERVIEW



**Figure Profile-1: Population Distribution**

Source: State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year, July 1, 2010-2018. Sacramento, California, December 2018.

It is important to understand some basic demographic information about Butte County to appreciate the findings presented in this Community Health Needs Report. This section provides a summary of the demographics of Butte County.

Butte County is located in the Northern portion of the Sacramento Valley Region of California and encompasses approximately 1,677 square miles, of which 1,636 square miles are land and 41 square miles are water.

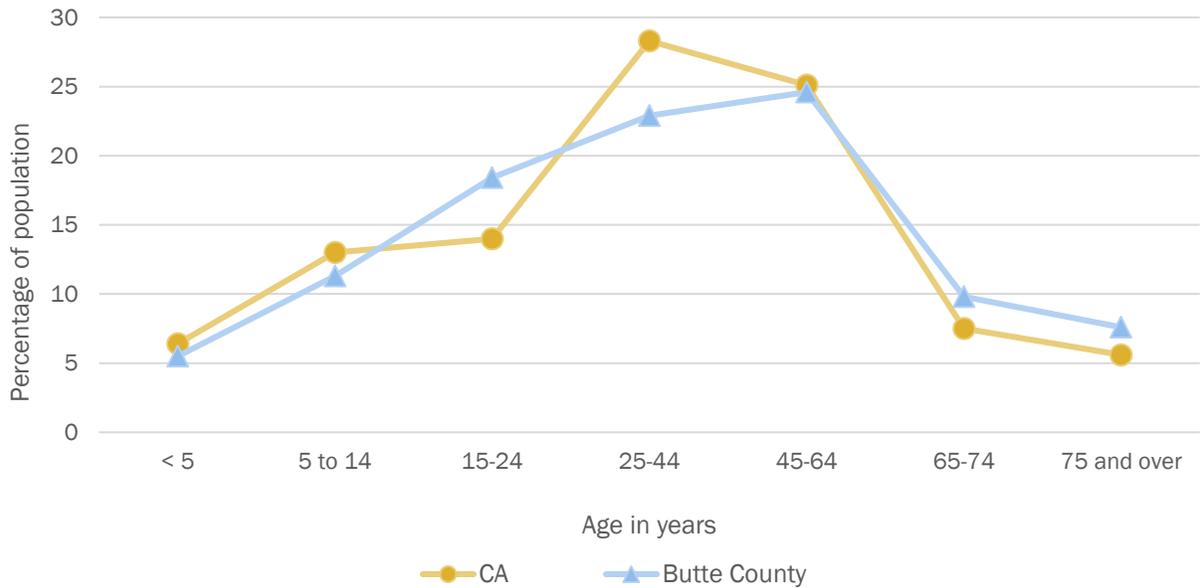
According to the 2018 California Department of Finance State and County Population Estimates, California’s population is 39,825,181, and Butte County is ranked the 27th most populous county with a population of 227,837 (see *Figure Profile-1 on previous page*).

Population estimates for California have increased every year since 2010. Butte County estimates have also increased every year since 2010. California had an average estimated increase in population of 0.8% each year while Butte County’s population estimates only increased by an average of 0.4% each year (see *Table Profile-1*).

<b>Table Profile-1: Population of Butte County and California, 2010-2018</b>				
	<b>Butte County</b>		<b>California</b>	
	Number	Percentage	Number	Percentage
2010	220,202	-	37,334,578	-
2011	220,636	0.20%	37,678,534	0.92%
2012	221,823	0.54%	38,045,271	0.97%
2013	222,541	0.32%	38,425,695	1.00%
2014	223,978	0.65%	38,756,940	0.86%
2015	224,533	0.25%	39,076,128	0.82%
2016	225,094	0.25%	39,328,337	0.65%
2017	226,661	0.70%	39,610,556	0.72%
2018	227,837	0.52%	39,825,181	0.54%

Source: State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year — July 1, 2010–2018, December 2018.

AGE AND GENDER



**Figure Profile-2:** Population of population by age group: Butte County vs. California, 2013-2017

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Table S0101

The median age in Butte County is 36.9 years old compared to that of California which is 36.1 years old<sup>11</sup>. The population of Butte County is slightly older than that of California. Butte County has a higher percentage of individuals aged 15 to 24 years old and seniors over the age of 65 years old, but a lower percentage of adults aged 25 to 64 years old when compared to California (see *Figure Profile-2*).

Total population increase has been steady in Butte County with an increase between 2015 and 2017 of 3,883 (1.7%) people. As predicted in a growing population, many age groups had increasing numbers. Exceptions included children under age 5 which remained unchanged in population; and decreases in the number of school-age children between the ages of 5 and 9 , young teens between the ages 10 and 14, and teens and young adults between the ages 15 and 24 (see *Table Profile-2, following page*).

<sup>11</sup> U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Table S0101

**Table Profile-2: Age distribution in Butte County, 2015-2017**

	2015		2017		Trend, 2015-2017
	Number	Percentage	Number	Percentage	
Total population	225,411		229,294		↑
Under 5 years	12,172	5.4%	12,387	5.4%	↔
5 to 9 years	15,103	6.7%	14,888	6.5%	↓
10 to 14 years	11,045	4.9%	10,780	4.7%	↓
15 to 24	41,025	18.2%	40,138	17.5%	↓
25 to 64	106,394	47.2%	109,678	47.9%	↑
65 to 84	33,586	14.9%	35,887	15.6%	↑
85 and over	5,635	2.5%	5,536	2.6%	↑

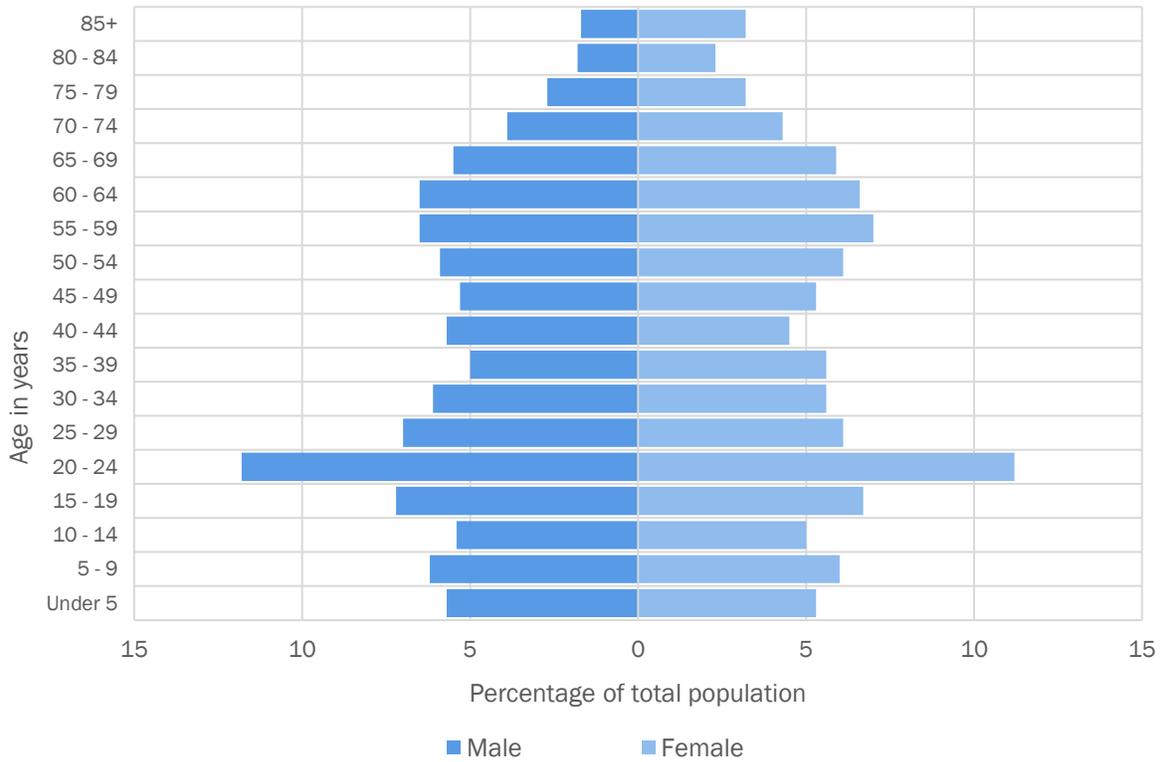
Source: U.S. Census Bureau, 2015 & 2017 American Community Survey 1-Year Estimates. T-S0101-AGE AND SEX.

In 2017, the distribution of males to females in Butte County in was similar to that of California (see *Table Profile-3*).

**Table Profile-3: Gender distribution in Butte County, 2017**

	Butte County		California	
	Number	Percentage	Number	Percentage
Male	113,399	49.5%	19,650,051	49.7%
Female	115,895	50.5%	19,886,602	50.3%

Source: U.S. Census Bureau, 2017 American Community Survey 1-Year Estimates. T-S0101 - AGE AND SEX.



**Figure Profile-3: Population Pyramid, Butte County, 2017**

Source: U.S. Census Bureau, 2017 American Community Survey 1-Year Estimates.

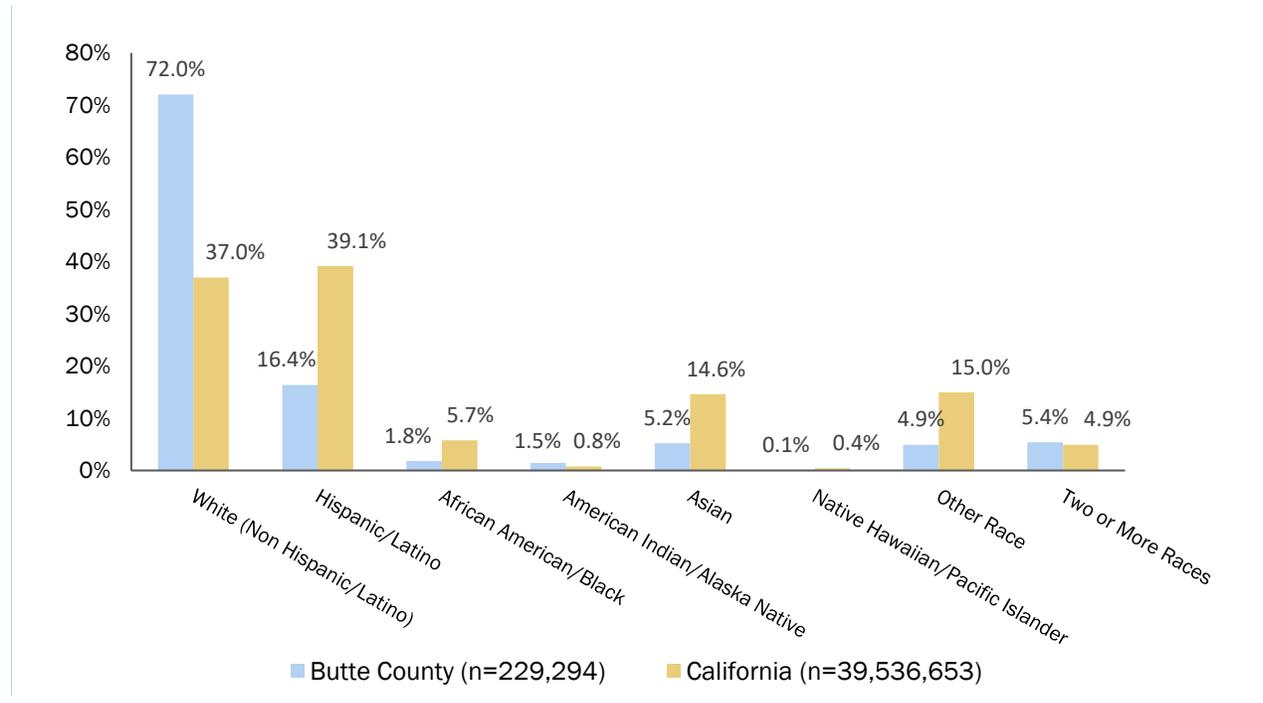
Although there are more females than males overall in Butte County, men (68.0% of the male populace) outnumber women (64.7% of the female populace) among working-age adults ages 15 to 64 years old. For seniors aged 70 and over, there is a greater percentage of females (13%) compared to males (10.1%). The age group with the highest percentage is the young adult age ranging from 20 to 24 years old (see *Figure Profile-3*).

RACE AND ETHNICITY

Based on the U.S. Census Bureau there are seven major race and ethnicity categories: African American/Black, American Indian/Alaska Native, Asian, Hispanic/Latino, Native Hawaiian/Pacific Islander, White, and other. In addition, an individual may identify as belonging to two or more races, and an individual who identifies as being Hispanic/Latino may identify as belonging to any race. These race and ethnicity categories are self-determined, meaning that individuals identify their own race or ethnicity in the census. The definitions of race and ethnicity are as follows:

**RACE** refers to groups of people who have differences and similarities in biological traits deemed by society to be socially significant, meaning that people treat other people differently because of them. For instance, while eye color is not socially significant, differences and similarities in skin color are.

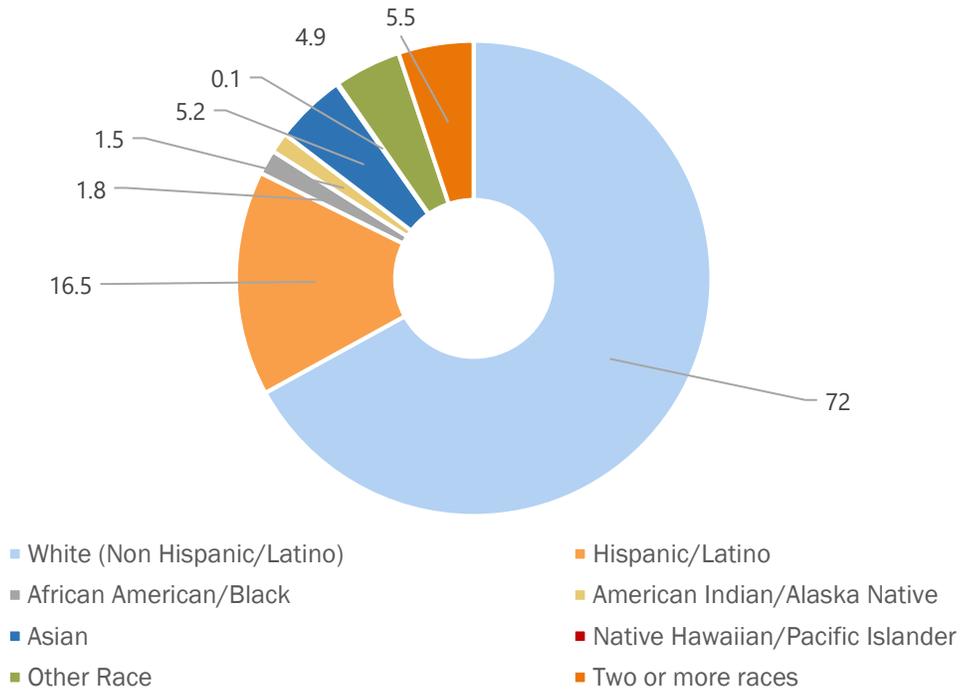
**ETHNICITY** refers to shared cultural practices, perspectives, and distinctions that set apart one group of people from another. That is, ethnicity is a shared cultural heritage. The most common characteristics distinguishing various ethnic groups are ancestry, a sense of history, language, religion, and forms of dress. Ethnic differences are learned, not inherited.



**Figure Profile-4:** Percentage of the population by Race and Ethnicity, Butte County and California, 2017

Source: U.S. Census Bureau, 2017 American Community Survey 1-Year Estimates. Tables B02001; B01001H; B01001I.

Butte County has a much larger Non-Hispanic / Latino White population than California overall, but a much smaller Hispanic/Latino population than the state. There is also a slightly higher percentage of American Indian/Alaskan Natives, but lower African American/Black and Asian populations than California overall (see *Figure Profile-4, previous page*).



**Figure Profile-5:** Percentage of the population by Race and Ethnicity, Butte County, 2017

Source: U.S. Census Bureau, 2017 American Community Survey 1-Year Estimates.

Butte County is primarily White (Non-Hispanic/Latino), with 72.0% of the population falling into that demographic. Meanwhile, 16.5% of the population is Hispanic/Latino, making up the second largest racial/ethnic group in Butte County. The third largest category are individuals who identify with two or more races, making up 5.5% of the county’s population (see *Figure Profile-5*).

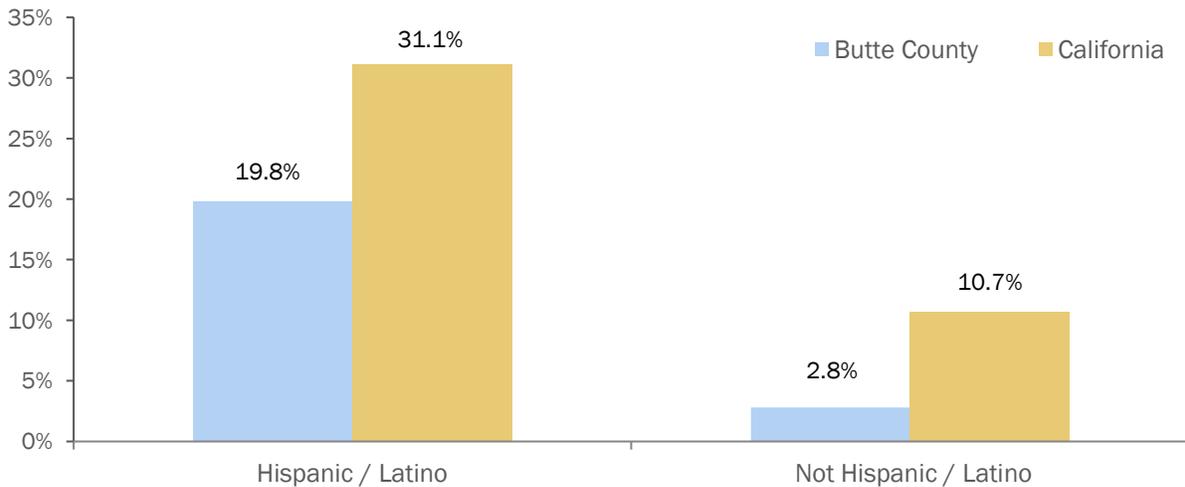
However, racial and ethnic diversity has been increasing recently in Butte County. Between 2013 and 2017, there was a large increase in the American Indian/Alaska Native and Other race populations; moderate increases in the African American/Black, Asian, and Hispanic/Latino populations; and a small increase in the Non-Hispanic/Latino White population. During the same time period, there was a moderate decrease in the Native Hawaiian/Pacific Islander population, as well as the population identifying as Multiracial (Two or More Races) (see *Table Profile-4, following page*).

**Table Profile - 4:** Changes in population by Race and Ethnicity in Butte County, 2013 and 2017

	2013 Census		2017 Census		2013-2017 Change	
	Number	Percentage	Number	Percentage	Number	Percent Change
White (non-Hispanic/Latino)	164,406	74.0%	165,106	72.0%	700	0.4%
Hispanic /Latino	33,642	15.1%	37,569	16.4%	3,927	11.7%
African American/ Black	3,336	1.5%	4,188	1.8%	852	25.5%
American Indian/ Alaska Native	1,868	0.8%	3,346	1.5%	1,478	79.1%
Asian	9,970	4.5%	11,961	5.2%	1,991	20.0%
Native Hawaiian/ Pacific Islander	321	0.1%	228	0.1%	-93	-29.0%
Other race	7,491	3.4%	11,244	4.9%	3,753	50.1%
Two or more races	13,917	6.3%	12,386	5.4%	-1,531	-11.0%
<b>Total</b>	<b>222,090</b>	<b>100.0%</b>	<b>229,294</b>	<b>100.0%</b>	<b>7,204</b>	<b>3.2%</b>

Source: U.S. Census Bureau, 2017 American Community Survey 1-Year Estimates. Tables B02001; B01001H; B01001I.

POPULATION WITH LIMITED ENGLISH PROFICIENCY



**Figure Profile-6:** Percentage of Population with Limited English Proficiency by Ethnicity in Butte County

Source: US Census Bureau, American Community Survey: 2013-2017 Tables B16005H; B16005I; S0501; B06007

According to the U.S. Department of Health and Human Services (DHHS), individuals with Limited English Proficiency face unique challenges in achieving a state of good health. These individuals may need a trained interpreter to facilitate interactions with health services personnel. They may also require documents to be translated in order to fully understand important issues related to their health or health services.

In Butte County, 5.4% of community members over the age of 5 have Limited English Proficiency, compared to 18.4% for California; and 19.8% of the Hispanic/Latino (any race) population in Butte County have Limited English Proficiency compared to 31.1% for California overall (see *Figure Profile-6, previous page*).

According to the 2017 American Community Survey, a significantly greater percentage of Butte County residents over the age of 5 spoke only English at home compared to residents of California overall. In addition, a lower percentage of Butte County residents spoke Spanish at home than residents of California (see *Table Profile-5*).

<b>Table Profile-5: Language other than English spoken at home</b>				
	<b>Butte County</b>		<b>California</b>	
Language at home, aged 5 to 17 years				
English only	85.6%	185,707	55.6%	20,596,574
Spanish	9.0%	19,495	28.9%	10,698,137
Other	5.4%	11,705	15.6%	5,781,517
Language at home, aged 18 years and over				
English only	88.3%	155,805	64.4%	16,526,703
Spanish	7.1%	12,465	21.3%	5,455,874
Other	4.6%	8,171	14.3%	3,667,878

Source: 2017 American Community Survey 1-Year Estimates. Table S1601.

According to the 2017 American Community Survey, most people over the age of 5 in Butte County spoke only English at home. Of these English speakers, 15.2% were between the ages of 5 and 17, 65.1% were between the ages of 18 and 64, and 19.7% were age 65 or older. Fourteen percent of Butte County residents over the age of 5 primarily spoke a language other than English at home. Of these residents, 17.6% were between the ages of 5 and 17, 72.3% were between the ages of 18 and 64, and 10.1% were age 65 or older (see *Table Profile-6, following page*).

**Table Profile-6:** Characteristics of people by language spoken at home, Butte County, 2013-2017

	Total	People who speak only English at home	People who speak a language other than English at home
Total population 5 years and over	212,825	182,365 (85.7%)	30,460, (14.3%)
5 to 17 years	15.5%	15.2%	17.6%
18 to 64 years	66.2%	65.1%	72.3%
65 years and over	18.3%	19.7%	10.1%

Source: 2013-2017 American Community Survey 5-Year Estimates. Table - S1603.

It is important to consider that children and the elderly tend to use more health services than the general population. While the percentage of people in Butte County who primarily speak a language other than English at home may seem small in comparison to the percentage that speak only English, a higher proportion of those that speak a language other than English are children than for those that speak only English. The opposite is true for the elderly; however, this age group uses a higher level of health care services in terms of both volume and intensity of care than any other age group. The need for interpreters to facilitate interactions with health services personnel in the care of both children and the elderly may be considerable in Butte County.

## DISABILITY PREVALENCE

According to the Centers for Disease Control and Prevention (CDC), the number of adults reporting a disability is expected to increase, along with the need for appropriate medical and public health services. CDC estimates the total number of Americans living with at least one disability is about one quarter of the U.S. adult population, or 61 million people<sup>12</sup>. People with disabilities face many barriers to good health. Studies show that individuals with disabilities are more likely than people without disabilities to report having poorer overall health, less access to adequate health care, limited access to health insurance, skipping medical care because of cost, and engaging in risky health behaviors including smoking and physical inactivity.

### *Independent living difficulty*

The percent of the population with an independent living difficulty provides a broad measure of the need for personal assistance services, similar to having difficulty in one or more instrumental activities of daily living (IADL). It is based on the 2013-2017 American Community Survey

<sup>12</sup> Prevalence of Disabilities and Health Care Access by Disability Status and Type Among Adults — United States, 2016. MMWR Morb Mortal Wkly Rep 2018;67:882–887. DOI: <http://dx.doi.org/10.15585/mmwr.mm6732a3> retrieved May 13, 2019

questionnaire question asked of persons ages 15 and older: "Because of a physical, mental, or emotional condition, does this person have difficulty doing errands alone such as visiting a doctor's office or shopping?" with response categories "yes" or "no."

*Self-care difficulty*

The percentage of the population with a self-care difficulty provides a narrower measure of the need for personal assistance services, similar to having difficulty in one or more activities of daily living (ADL). It is based on questions 17(a-c) of the 2013-2017 American Community Survey questionnaire asked in a series to person's ages 5 years and older: "Because of a physical, mental, or emotional condition, does this person have serious difficulty concentrating, remembering, or making decisions? Does this person have serious difficulty walking or climbing stairs? Does this person have difficulty dressing or bathing?" with response categories "yes" or "no."

<b>Table Profile-7: Disability prevalence, Butte County and California, 2013- 2017</b>						
	Ages 18-64			Ages 65 and over		
	With an independent living difficulty	With a self-care difficulty	Total persons	With an independent living difficulty	With a self-care difficulty	Total persons
<b>Butte County</b>	5.8%	2.7%	139,388	16.1%	9.8%	37,864
<b>California</b>	3.0%	1.6%	24,335,458	17.2%	9.9%	5,052,924

Source: 2013-2017 American Community Survey 5-Year Estimates. Table S1810.

In Butte County, a higher percentage of adults between the ages of 18 and 64 have disabilities than for California overall. This is especially concerning when considered in light of the previously mentioned barriers to good health experienced by people with disabilities. That is, in Butte County, more health resources may be needed for individuals with disabilities than are available at the current time (see *Table Profile-7*).

A slightly lower percentage of adults age 65 and over in Butte County have disabilities than for California overall. This should be interpreted with caution, as it is possible that disabled persons in this age group relocate to other geographic regions where more services may be available for people with disabilities.

HOUSEHOLD CHARACTERISTICS

The majority of households in both Butte County and the state are family households. Married-couple families make up slightly less than half of the households in Butte County, which is also true for California households overall. The percentage of single-parent families in Butte County is lower than that for California. A notably greater percentage of Butte County residents live alone or in non-family households than in California overall. Butte County households including adults age 65 and over account for 12.8% of all households, which is also higher than the statewide level (see *Table Profile-8*).

<b>Table Profile-8: Household characteristics, 2013-2017</b>		
	<b>Butte County</b>	<b>California</b>
Total households	86,167	12,888,128
Family households (families)	59.8%	68.8%
Married-couple family	43.4%	49.5%
Male householder, no wife present, family	5.1%	5.9%
Female householder, no husband present, family	11.3%	13.3%
Non family household	40.2%	31.2%
Aged 65 years and over	12.8%	9.1%
Number of grandparents responsible for own grandchildren under 18 years	46.6% (2,001 of 4,298)	23.5% (270,310 of 1,149,466)
Grandparents responsible who are female	61.9 %	61.7%
Grandparents responsible who are married	73.6%	71.1%

Source: 2013-2017 American Community Survey 5-Year Estimates; Tables S1101; S1201; DPO2

A large proportion of grandparents living in Butte County are responsible for their grandchildren. Forty-seven percent are living with grandchildren under the age of 18. This is a considerably higher percentage than for the state. Of grandparents in Butte County, 9.8% have been responsible for their grandchildren for five or more years, compared with 15.7% of grandparents for California overall. In Butte County, it is essential that programs and services intended for children under the age of 18 are reaching out to grandparents responsible for the well-being of their grandchildren in addition to targeting traditional guardians (see *Table Profile-9, following page*).

**Table Profile-9:** Characteristics of households with Grandparents, 2013-2017

	Butte County	California
Grandparents		
Number of grandparents living with own grandchildren under 18 years	4,298	1,149,466
*Responsible for grandchildren	46.6%	23.5%
Ages of Grandchildren that are the Responsibility of Grandparents		
Less than 1 year	4.5%	13.7%
1 or 2 years	5.4%	12.0%
3 or 4 years	3.8%	5.1%
5 or more years	9.8%	15.7%

Source: American Community Survey 5-Year Estimates; 2013-2017. Table CP02

\*Grandparents who provide most of the basic care to their grandchildren on a temporary or permanent basis

For a list of works cited throughout the document, see *References, beginning on page 134.*

## COMMUNITY HEALTH STATUS ASSESSMENT

The Community Health Status Assessment section examines more quantifiable aspects of health such as the prevalence of chronic disease, birth rates, and leading causes of death in the county. This was accomplished using secondary sources such as the U.S. Census Bureau, Centers for Disease Control and Prevention, U.S. Bureau of Labor Statistics, Center for Medicare and Medicaid Services, California Department of Vital Statistics, California Health Interview Survey, and many others.

Indicators of community health are grouped into several broad categories including:

- Socioeconomic Characteristics
- Quality of Life
- Chronic Disease
- Mental Health
- Substance Misuse and Use Disorders
- Sexually Transmitted Infections
- Maternal and Child Data
- Aging and Senior-Related Health
- Healthcare and Preventative Services
- Causes of Death

## SOCIOECONOMIC CHARACTERISTICS

**SOCIOECONOMIC STATUS (SES)** is a measure of a family's or individual's social and economic position in society. It is based on education, wealth, income, and occupation. An assessment of community health in Butte County would be incomplete without measuring the SES of its residents. SES greatly influences an individual's access to resources that are important for health, such as: healthcare, education, safe and affordable housing, food, and recreation. Access to these resources helps facilitate good health and well-being.

### HOUSEHOLD INCOME

Household income refers to the combined income of all people living in one home. Household income includes: salaries and wages, retirement income, government assistance, and capital gains from investments such as real estate or stocks and bonds. The median household income for Butte County is considerably lower than for California overall, as well as nationally (see *Table Status-1*).

	Median Income 2014	Median Income 2015	Median Income 2016
<b>Butte County</b>	\$43,165	\$43,444	\$44,366
<b>California</b>	\$61,489	\$61,818	\$63,783
<b>United States</b>	\$53,482	\$53,889	\$55,322

Source: U.S. Census Bureau, 2010-2014, 2011-2015, and 2012-2016 American Community Survey 5-Year Estimates. Table DP03. - Median Income in inflation adjusted dollars for each year.

### POPULATION IN POVERTY

Poverty is a significant risk factor for a variety of negative health consequences. These may include: increased risk of mortality, increased prevalence of medical conditions and disease incidence, depression, violence, and poor health behaviors. In order to define household poverty status, either everyone living in a household is considered to be living in poverty, or no one in a household is living in poverty. The family characteristics used to determine poverty status include: number of people within the household, number of children under age 18, and whether the head of the household is over age 65. If a household's total income is less than the poverty threshold then all of the members of the household are considered impoverished. According to the 2018 poverty guidelines, a single member household is living in poverty if they earn less than \$12,140 per year, while a household of four is living in poverty if they earn less than \$25,100<sup>13</sup>.

<sup>13</sup> <https://aspe.hhs.gov/poverty-guidelines>

A community’s high poverty rate may indicate economic and social challenges among people living there. It may also indicate a lack of available employment, or a shortage of labor with the technical skills typically associated with higher wages. Poverty lowers access to health resources including health services, healthy food, and other health necessities. Between 2012 and 2016, 21.3% of Butte County residents were living below the federal poverty level. Groups in Butte County that exhibited higher rates of poverty were African American/Black, Asian, Hispanic/Latino and those who had not completed high school. Poverty status details for Butte County residents by sex, race/ethnicity and educational status are displayed below (see *Table Status-2, 3*).

<b>Table Status-2: Poverty status in Butte County by Sex and Race, 2012-2016</b>			
	Total	Below Poverty Level	
		Number	Percentage
<b>Sex</b>			
Male	107,995	22,614	20.9%
Female	110,444	23,842	21.6%
<b>Race/Ethnicity</b>			
African American/Black	3,187	1,181	37.1%
American Indian/Alaska Native	2,326	572	24.6%
Asian	9,435	2,922	31.0%
Native Hawaiian/Pacific Islander	440	89	20.2%
Hispanic/Latino (any race)	33,487	9,283	27.7%
Not Hispanic/Latino	160,750	29,957	18.6%
White	181,891	35,928	19.8%
<b>Total Population in Butte County</b>			
Population for whom poverty status is determined	218,439	46,457	21.3%

Source: U.S. Census Bureau, 2012-2016 American Community Survey (\* ACS) 5 – Year Estimates. S1701.

**Table Status-3:** Poverty status in Butte County by education, 2012-2016

	Total	Below poverty level	
		Number	Percentage
Less than high school graduate	16,491	4,791	29.1%
High school graduate (or equivalent)	32,023	6,005	18.8%
Some college, associate's degree	56,274	8,585	15.3%
Bachelor's degree or higher	37,582	2,834	7.5%
Population 25 years and over	142,370	22,215	15.6%

Source: U.S. Census Bureau, 2012-2016 American Community Survey (\* ACS) 5 – Year Estimates. T S1701.

### *Children in Poverty*

Negative health effects are associated with poverty in all age groups, including children. Children living in poverty lack adequate access to healthcare and are at a greater risk of accidental injury. This leads to higher morbidity and mortality rates among children living in poverty. Educational challenges associated with poverty may lead to additional health risks in these children. Between 2012 and 2016, 22.8% of children under the age of 18 were living below the federal poverty level in Butte County. This was higher than for both California overall and the United States, in which 21.9% and 21.2% were living below the federal poverty level, respectively.

### *Children Eligible for Free/Reduced Price Lunch*

An indirect measure of child poverty is the percentage of children enrolled in the National School Lunch Program. The program offers federally assisted meals in both public and nonprofit private schools as well as residential childcare institutions. Children may be eligible for free or reduced price lunch in these institutions if:

1. Their guardians participate in assistance programs including: Supplemental Nutrition Assistance Program (SNAP); Food Distribution Program on Indian Reservations (FDPIR); or Temporary Assistance for Needy Families (TANF). Benefits received from SNAP, FDPIR, or TANF are determined through an application process; or
2. They have been documented as homeless, runaway, or migrant children; a foster child; or enrolled in a Federally-Funded Head Start Program.

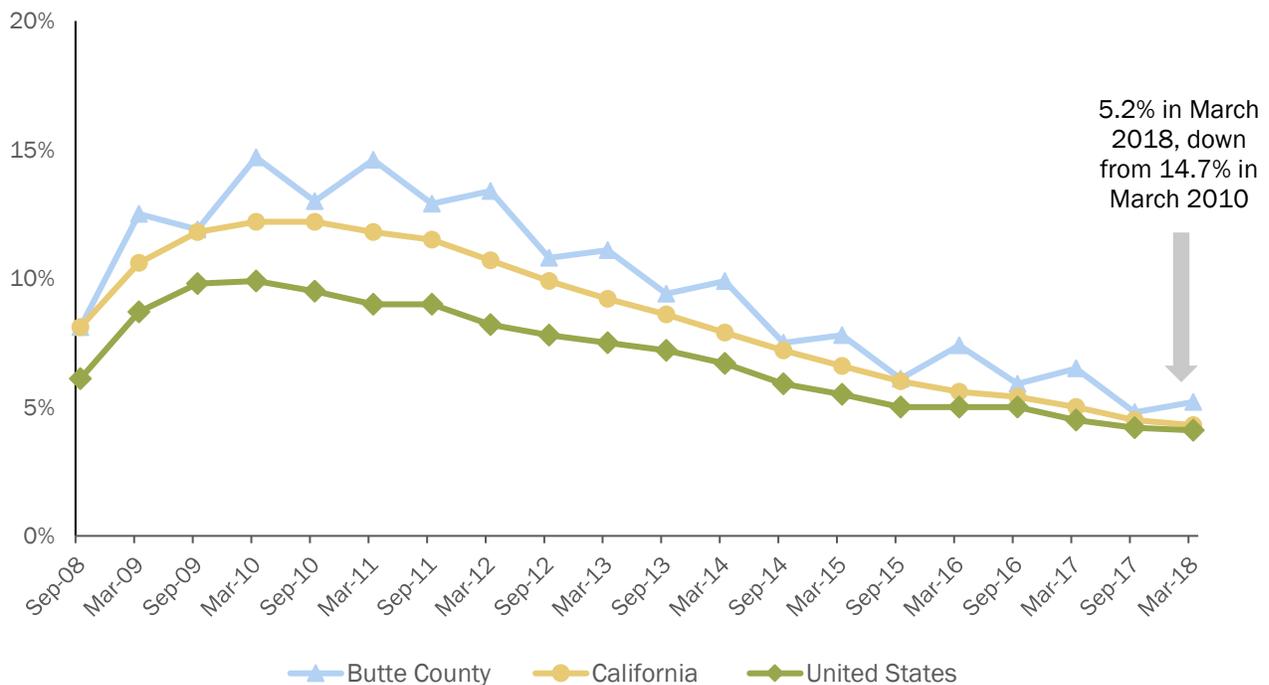
During the 2015-2016 school year, over half of the students enrolled in Butte County public schools were eligible for Free or Reduced Price Lunch (see *Table Status-4, following page*).

**Table Status-4:** Children eligible for Free/Reduced Price Lunch in Butte County, California, and U.S., 2015-2016

	Total Student Enrollment	Free/Reduced Price Lunch Eligible	
		Number	Percentage
<b>Butte County</b>	31,013	17,440	56.2%
<b>California</b>	6,189,987	3,647,155	58.9%
<b>United States</b>	48,899,398	25,563,405	52.3%

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey Free Lunch Data", 2015-16 v.1a.

## UNEMPLOYMENT



**Figure Status-1:** Unemployment trend in Butte County and California, 2008-2018

Source: Bureau of Labor Statistics

A community’s unemployment rate is a measure of economic health and is also associated with poorer health outcomes. Continuously high unemployment rates can indicate the presence of structural and/or socioeconomic issues within a community. The unemployment rate in Butte County has ranged from a peak of 14.7% in March 2010 to a low of 5.2% in March 2018. During this time period, the unemployment rate for Butte County was slightly higher than for California

overall; however, the unemployment rate for both Butte County and the state has been dropping since it peaked in 2010 (see *Figure Status-1*, previous page).

**Table Status-5:** Unemployment by Race/Ethnicity in Butte County, California, and United States, 2012-2016

	Butte County	California	United States
Overall Unemployment	10.7%	8.7%	7.4%
African American/Black	20.3%	15.0%	13.3%
American Indian/Alaska Native	16.4%	13.8%	13.5%
Asian	8.5%	6.5%	5.7%
Hispanic/Latino (any race)	12.8%	10.0%	8.7%
Native Hawaiian/ Pacific Islander	1.2%	11.6%	10.5%
Two or More Races	12.2%	11.6%	10.9%
White	10.7%	8.2%	6.3%

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates T S2031.

Between 2012 and 2016, unemployment in Butte County was highest among community members that identified as African Americans/Black, American Indian/Alaska Native, and Hispanic/Latino. The unemployment percentages for these racial and ethnic groups were also higher in Butte County than throughout the state and the nation (see *Table Status-5*).

There tends to be lower educational attainment as well as fewer employment opportunities available in rural areas in comparison to metropolitan areas<sup>14, 15</sup>. The higher rates of unemployment in Butte County compared with California and the nation as a whole may be related to the degree of rurality experienced by residents of all races / ethnicities in the county.

<sup>14</sup> Byun S, Meece J, Irvin, M. (2010). Rural-nonrural differences in educational attainment: results from the National Educational Longitudinal Study of 1988-2000. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO; May 2010.

<sup>15</sup> O'Hare, William P., (2009). The forgotten fifth: child poverty in rural America The Carsey Institute at the Scholars' Repository. Paper 76.

## EDUCATIONAL ATTAINMENT

Educational attainment is defined as the highest level of formal education completed (e.g., high school diploma or equivalent, bachelor's degree, graduate/professional degree). An educated workforce has been linked with increased economic development. Completion of formal education is associated with higher paying jobs and access to resources that influence health such as: food, housing, transportation, health insurance, recreation, and other necessities for physical and mental well-being. In Butte County, 88.3% of adults age 25 and older have at least a high school diploma, which is higher than for California (82.1%). However, fewer adults in the County have a Bachelor's degree or higher (26.1%) compared to the State (32.0%), (see *Table Status-6*).

**Table Status-6:** Education Attainment in population age 25 years and over in Butte County and California, 2016

	Butte County		California	
	Number	Percent	Number	Percent
Total population 25 years and over	144,395	-	25,554,412	-
Less than 9 <sup>th</sup> grade	6,376	4.4%	2,524,636	9.9%
9 <sup>th</sup> to 12 <sup>th</sup> grade, no diploma	10,574	7.3%	2,048,327	8.0%
High school graduate or equivalent	32,775	22.7%	5,260,904	20.6%
Some college, no degree	42,887	29.7%	5,548,479	21.7%
Associate's degree	14,030	9.7%	1,995,579	7.8%
Bachelor's degree	25,225	17.5%	5,136,043	20.1%
Graduate / Professional degree	12,528	8.7%	3,040,444	11.9%
Percent High School Graduate or higher	127,445	88.3%	20981449	82.1%
Percent Bachelor's degree or higher	37,753	26.1%	8176487	32.0%

Source: 2016 American Community Survey (1-year estimates). T S1501.

## HIGH SCHOOL GRADUATION

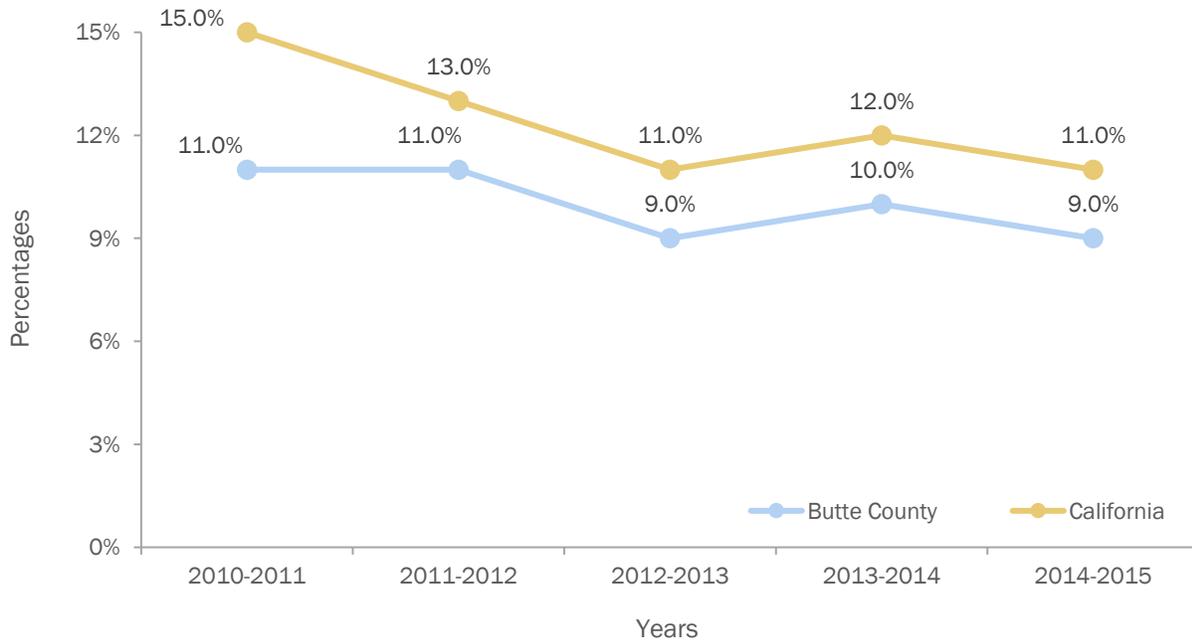
The high school graduation rate in Butte County has declined only slightly in the past few years, but has also remained marginally higher than for the state of California overall (see *Table Status-7, following page*).

**Table Status-7: On-time High School graduation in Butte County and California, 2016-2017 Cohort**

	Average Freshman Base Enrollment	Estimated Number of Diplomas Issued	On-Time Graduation %
<b>Butte County</b>	2,477	2,076	83.8%
<b>California</b>	493,795	408,124	82.7%

Source: California Department of Education (CDE) DataQuest: Retrieved August 23, 2018, from: <https://dq.cde.ca.gov/dataquest/>

### HIGH SCHOOL DROPOUT RATES



**Figure Status-2: High School dropout rates, residents over age 25 years, Butte County and California, 2010-2011 to 2014-2015**

Source: Child Trends Databank. (2018). High school dropout rates. Retrieved August 23, 2018 from: <https://datacenter.kidscount.org/data/tables/8400-high-school-dropout-rate>

Students who do not complete high school are more likely to be unemployed, live in poverty, be dependent on welfare benefits, have poor physical and mental health, and engage in criminal activity. Some students who drop out of high school earn an equivalency degree, such as a GED; however, an equivalency degree is associated with a lower earning potential than a traditional high school diploma. Economic consequences for communities with high dropout rates include greater spending on public assistance programs, higher crime rates, and lower tax revenues.

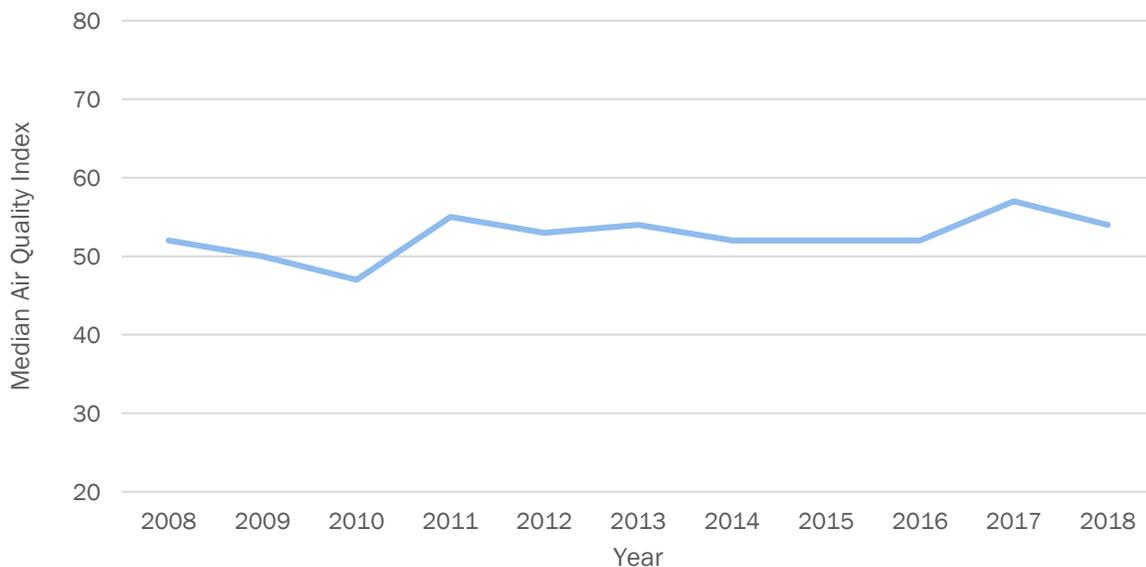
Lower dropout rates are directly related to higher incomes and lower poverty levels, which strengthens economies and diversifies the workforce. Between 2011 and 2015, Butte County had a lower high school dropout rate than California overall (see *Figure Status-2, previous page*).

QUALITY OF LIFE

**QUALITY OF LIFE** is considered by the National Center for Chronic Disease Prevention and Health Promotion to be “a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life”. In other words, it is the general well-being of individuals and societies. The physical environment influences quality of life and affects physical, mental, and community health. These factors are connected with different levels of community engagement.

AIR QUALITY AND POLLUTION

Outdoor air quality in Butte County is monitored hourly by measuring pollutants of fine particles in the air and average ozone levels. This reporting method, called the air quality index (AQI), was developed by the U.S. Environmental Protection Agency (EPA). An AQI score between 0 and 50 indicates good air quality, between 51 and 100 indicates moderate air quality, and scores of 151 and greater indicate unhealthy air quality.

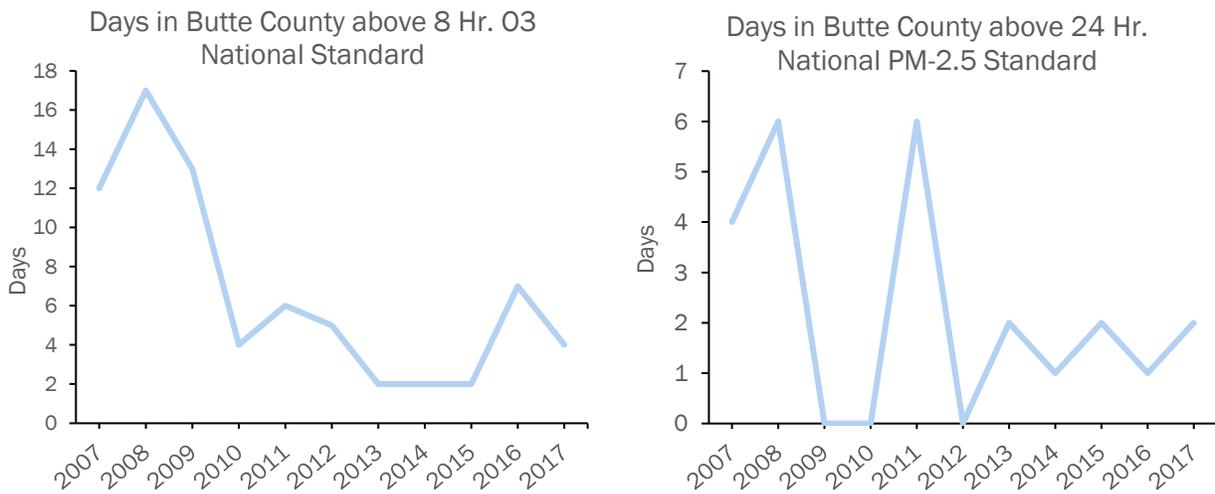


**Figure Status-3:** Median Air Quality index (AQI) by Year in Butte County

Source: The U.S. Environmental Protection Agency (EPA)  
<https://www.epa.gov/outdoor-air-quality-data/air-quality-index-report>

Air Quality can be affected by pollution emitted from stationary sources such as: factories, power plants, and smelters; dry cleaners and degreasing operations; mobile sources such as cars, buses, planes, trucks, and trains; and naturally occurring sources such as windblown dust, and volcanic eruptions. From 2008 to 2018, Butte County had good to moderately unhealthy annual median air quality scores (see *Figure Status-3*).

A community with high levels of pollutants will have an increased need for health services. Air pollution standards help to protect human health, reduce damage to sensitive vegetation, and preserve the aesthetic value of communities. If a region exceeds one or more of the contaminants identified by the California Air Resources Board to decrease air quality, the state may restrict new industrial facilities from being built and exert regulations on existing operations in the future.



**Figure Status-4:** Days in Butte County above National Standards for Ozone (O3), and Particulate Matter 2.5 micrometers or smaller (PM-2.5), 2007-2017

Source: California Air Resource Board, retrieved October 15, 2018 from:  
<https://www.arb.ca.gov/adam/trends/trends2.php>  
<https://www.arb.ca.gov/adam/topfour/topfourdisplay.php>

Two of these contaminants are ozone (O3) and particulate matter smaller than 2.5 micrometers (PM-2.5). The number of days per year that Butte County exceeded the national standards for these contaminants showed a decreasing trend overall from 2007 to 2017. However, there was high degree of variation in air quality over this time period (see *Figure Status-4*).

## ACCESS TO TRANSPORTATION

People who live close to public transportation are less likely to drive and may have increased physical activity, reducing their risk for chronic disease and obesity<sup>16</sup>. The utilization of public

<sup>16</sup> Frank, L.D., Andresen, M., Schmid, T. (2004). Obesity relationships with community design, physical activity, and time spent in cars. *Am J Prev Med* 27:87-96.

transportation is especially important for low-income and elderly individuals who may not have access to a motor vehicle. Increased use of public transportation has environmental health benefits including reductions in air pollution, greenhouse gases, and noise pollution.

USE OF PUBLIC TRANSPORTATION FOR WORKPLACE COMMUTING

Most people have a daily commute to their place of work. Carpooling and especially the use of public transportation produces less air pollution and may indicate a healthier physical environment. See *Table Status-8* for data on workforce commuting in Butte County.

**Table Status-8: Means of Transportation to Work in Butte County, 2013 to 2017**

	2013	2017	Total in 2017	Change, 2013 to 2017
			Percentage	
Driving Alone	65,462	71,430	75.2%	9.1%
Carpool	9,576	10,927	11.5%	14.1%
Public Transportation	1,152	831	0.9%	-27.9%
Bicycle	2,399	2,733	2.9%	13.9%
Walking	3,159	3,232	3.4%	2.3%
Motorcycle, Taxicab, other	5,952	4,660	4.9%	-21.7%
Work at Home	605	1,169	1.2%	93.2%
Total	88,305	94,982	100.0%	7.6%

Source: U.S. Bureau of the Census, 2013 and 2017 American Community Survey 1 Year Estimates, Table B08301.

PUBLIC SAFETY AND CRIME

An area with a high crime rate is often perceived as a less desirable place to live and directly influences quality of life. Population size and the rate of crime reporting to law enforcement agencies affects the overall crime rate for a community. There are two main types of crime: violent crime and property crime. Violent crime is composed of four offenses: murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault. Property crime consists of: burglary, larceny-theft, motor vehicle theft, and arson. Property theft differs from robbery in that it occurs without the threat of violence or use of force.

**Table Status-9:** Reported major crimes per 100,000 Population in Butte County, 2013-2017

	2013	2014	2015	2016	2017
Violent Crimes	285.3	303.8	346.9	352.0	406.8
Homicide	5.9	4.9	3.1	1.8	3.1
Forcible Rape	34.2	32.7	50.8	57.9	68.0
Robbery	66.6	66.8	65.5	61.5	63.2
Aggravated Assault	177.3	198.1	225.6	229.5	260.2
Property Crimes	2800.8	2971.7	3363.1	3255.8	3215.5
Burglary	758.4	747.1	846.7	782.0	706.3
Motor Vehicle Theft	403.3	340.6	422.2	454.9	415.6
Total Larceny-Theft	1639.2	1884.0	2094.2	2018.9	2093.6
Larceny-Theft over \$400	515.3	590.7	700.4	675.9	663.9
Larceny-Theft under \$400	1123.8	1293.4	1393.8	1342.9	1429.8
Arson	24.8	39.0	91.0	94.9	76.9

Source: California Attorney General’s Office – <http://stats.doj.ca.gov>. Sacramento, California, May 2018

In Butte County between 2013 and 2017, a significantly increasing trend was observed for both Violent and Property Crimes (see *Table Status-9*).

## FOOD AFFORDABILITY

Food security is defined as having enough to eat and the ability to purchase or obtain healthy food in socially acceptable ways<sup>17</sup>. Eating a healthy diet plays a significant role in preventing obesity, cardiovascular disease, and type 2 diabetes. An unhealthy diet can impair intellectual performance and has been linked to more frequent school absences and poorer educational achievement for children<sup>18</sup>.

<sup>17</sup> Anderson, S.A. (1990). Core indicators of nutritional state for difficult to sample populations. *The Journal of Nutrition*, 120(11), 1555-1600.

<sup>18</sup> Agricultural Research Service. Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2010. Washington, DC: Department of Agriculture and United States Department of Health and Human Services; May 2010. Retrieved from: <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/DGAC/Report/2010DGACReport-camera-ready-Jan11-11.pdf>

<b>Table Status-10: Food Insecurity, Butte County and California, 2016</b>			
	Experiencing Food Insecurity	Eligible for Federal Nutrition Assistance (SNAP, WIC, School Lunch, CSFP, TEFAP)	Food Insecure Persons
	Percentage of Population		Estimated Number
<b>Butte County</b>	17.0%	79.0%	38,000
<b>California</b>	11.7%	77.0%	4,574,710

Source: Gundersen, C., A. Dewey, A. Crumbaugh, M. Kato & E. Engelhard. Map the Meal Gap 2016: Food Insecurity and Child Food Insecurity Estimates at the County Level. Feeding America, 2016.

Retrieved October 18, 2018 from: <http://map.feedingamerica.org/county/2016/overall/california>

In 2016, roughly 1 in 6 people in Butte County experienced food insecurity, and almost 4 in 5 met income eligibility for Federal Nutrition Assistance (e.g. less than 200% of the federal poverty level). This indicates that normal eating patterns in Butte County were likely disrupted because households could not afford enough food or lacked access to resources (see *Table Status-10*).

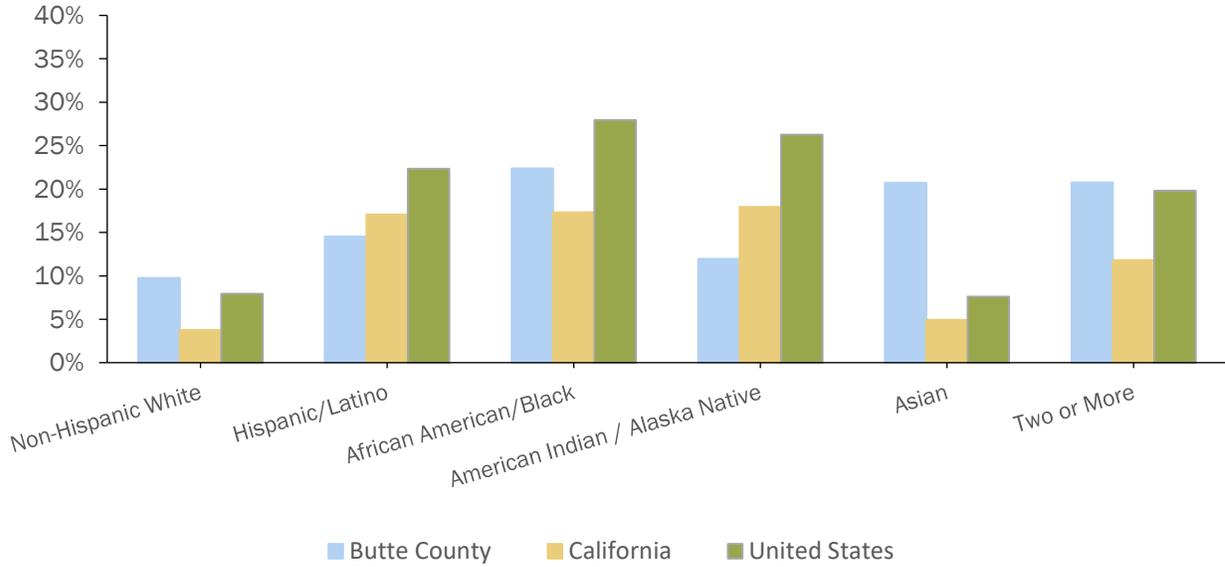
**SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP)**

The Supplemental Nutrition Assistance Program (SNAP, formerly known as the Food Stamp Program) is the Nation's largest domestic food and nutrition assistance program for low-income Americans. Although it is a federal aid program, benefits are distributed by each U.S. state's Division of Social Services or Children and Family Services based on household income criteria.

<b>Table Status-11: Food stamp program Butte County-SNAP/CalFresh</b>				
	<b>Butte County (2013)</b>		<b>California (2012)</b>	
	Number	Percent	Number	Percent
Total Income Eligible Individuals	51,492	-	7,017,486	-
Eligible Non-Participating	21,523	41.8%	2,596,470	37.0%
Participating Individuals (Feb, 2016)	32,004	62.2%	4,354,475	62.1%

Source: California Food Policy Advocates, 2016. Retrieved May 20, 2016 from: <http://cfpa.net/county-profiles>

Over half of the eligible population in Butte County and California overall participate in SNAP/CalFresh. Both California and Butte County were similar in the rate of eligibility, but the rate of eligible non-participants was slightly higher in Butte County (see *Table Status-11*).



**Figure Status-5:** Percentage of households receiving Supplemental Nutrition Assistance Program (SNAP) benefits by Race/Ethnicity, Butte County, California, and United States

Source: US Census Bureau, American Community Survey. 2012-16. Source geography: Tract

The percent of African American / Black, Asian, Non-Hispanic White, and Two or More Races populations receiving SNAP benefits in Butte County exceeded the statewide average, with the African American / Black population having the highest percent followed by Asian and Two or More Races. This indicates that food is less affordable for these populations since they are spending more of their total income toward food purchases (see *Figure Status-5*). Of note, the difference between the percentage of the Asian populations in Butte County and in California overall receiving SNAP was much greater than for any other race or ethnicity. This was also true when compared nationally, and may illustrate a socioeconomic disparity affecting quality of life particular to the Asian population of Butte County. The percent of American Indian / Alaska Native and Hispanic /Latino receiving SNAP benefits was lower in Butte County than the statewide and national averages.

### ACCESSIBILITY TO GROCERY STORES

Grocery stores are defined as supermarkets and small stores that primarily sell canned and frozen foods, fresh fruits and vegetables, fresh and prepared meats, fish, and poultry. This definition excludes convenience stores, supercenters and warehouse club stores that sell food. Accessibility to grocery stores in Butte County is similar to California overall (see *Table Status-12, following page*).

**Table Status-12:** Number of grocery stores per 100,000 population, 2016

	Total Population	Establishments	
		Number	Rate per 100,000 Population
<b>Butte County</b>	220,000	45	20.45
<b>California</b>	37,253,956	7,874	21.14
<b>United States</b>	308,745,538	65,399	21.18

Source: US Census Bureau, County Business Patterns. Additional data analysis by CARES. 2016. Source geography: ZCTA

**ACCESS TO NUTRITIOUS FOOD**

According to the National Center for Chronic Disease Prevention and Health Promotion, “lack of access to healthier foods may make it more difficult for neighborhood residents to maintain a nutritious diet that supports normal weight and optimal health”<sup>19</sup>. Low food access is defined as living more than a half mile from the nearest supermarket, supercenter, or large grocery store. Increased accessibility to retail food vendors makes healthier foods more available, improves diet and may lead to a reduction in obesity rates. In Butte County, there are marginally fewer grocery stores per capita than in the state overall and nationwide.

**Table Status-13:** Percentage of the population living population with low food access, Butte County, California, U.S., 2015

	Total Population	Living in food desert census tracts	Living with Low Food Access
		Percentage	
<b>Butte County</b>	220,000	49.9%	19.1%
<b>California</b>	37,253,956	27.4%	13.4%
<b>United States</b>	308,745,538	42.1%	22.4%

Source: US Department of Agriculture, Economic Research Service, USDA - Food Access Research Atlas. 2015. Source geography: Tract

A food desert is defined as a low-income area where a substantial number of residents have low access to food. This highlights populations and geographies facing food insecurity. In Butte County, nearly half of the population live in census tracts designated as food deserts, which is a

<sup>19</sup> State Initiatives Supporting Healthier Food Retail: An Overview of the National Landscape. Retrieved from: [http://www.cdc.gov/obesity/downloads/Healthier\\_Food\\_Retail.pdf](http://www.cdc.gov/obesity/downloads/Healthier_Food_Retail.pdf)

higher rate than both the state and nation. Nearly one fifth of the population also has low food access, which is higher than for California overall but slightly lower than for the nation (see *Table Status-13, previous page*).

HOMELESSNESS

In 2018, more than half a million people were homeless on any given night in the United States. More than 129,000 people were homeless in California - which had a higher percentage of the nation’s homeless persons residing (24.0%) than any other state. However, homelessness has declined by 15.0% nationwide and by 6.5% in California since 2007<sup>20</sup>.

Every two years, the Butte Countywide Homeless Continuum of Care conducts a one-day, point-in-time (PIT) census and survey of those experiencing homelessness. According to the California 2017 Point-In-Time Homeless Census and Survey, homelessness in Butte County may not be declining. In 2017 it was estimated that there were over 1,983 homeless persons (adults, accompanied youth, and unaccompanied youth combined) residing in Butte County, which represented a 76.0 % increase from the previous 2015 estimate (see *Table Status-14*). While the survey results demonstrate a considerable increase, it is important to acknowledge that the PIT methodology is complex, with a myriad of strategies and factors that can significantly influence the number of surveys gathered and the final count. As such, the variance in the count from year to year may be in part attributable to changes in methodology as well as changes in the homeless population<sup>21</sup>.

**Table Status-14: Butte County Homeless Population Estimates, 2011, 2013, 2015 and 2017**

	2011	2013	2015	2017
Chico	1,043 (58.9%)	804 (51.8%)	571 (50.7%)	1096 (55.3%)
Gridley	97 (5.5%)	65 (4.2%)	36(3.2%)	28 (1.4%)
Oroville	545 (30.8%)	579 (37.3%)	390 (34.6%)	713 (36.0%)
Paradise	71 (4.0%)	89 (5.7%)	49 (4.3%)	120 (6.1%)
Other	16 (0.9%)	16 (1.0%)	81 (7.2%)	26 (1.3%)
Total	1,772	1,553	1,127	1,983

Source: Butte Countywide Homeless Continuum of Care 2011, 2013, 2015 and 2017 Homeless Survey Reports.

<sup>20</sup> 2018 AHAR: Part 1 - PIT Estimates of Homelessness in the U.S. Retrieved December 17, 2018 from: <https://www.hudexchange.info/resource/5783/2018-ahar-part-1-pit-estimates-of-homelessness-in-the-us/>

<sup>21</sup> Butte Countywide Homeless Continuum of Care 2017 Point in Time Debrief Report. Retrieved October 19, 2018 from: <http://www.buttehomelesscoc.com/point-in-time.html>

While the estimated number of homeless persons has been declining on a national and state level, these changes do not yet appear to be reflected at the local level in Butte County. Homelessness continues to exert a severe impact on people's physical and mental well-being at the local, state and national level.

## HEALTH INEQUITY FOR THE HOMELESS POPULATION

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In contrast to the general population, people experiencing homelessness are at elevated risk for communicable disease, chronic illness, and being victims of violence. They are more likely to experience poor mental health and to develop substance use disorders. It is estimated that the mortality rate for homeless persons may be up to nine times greater than for the general population<sup>22</sup>.

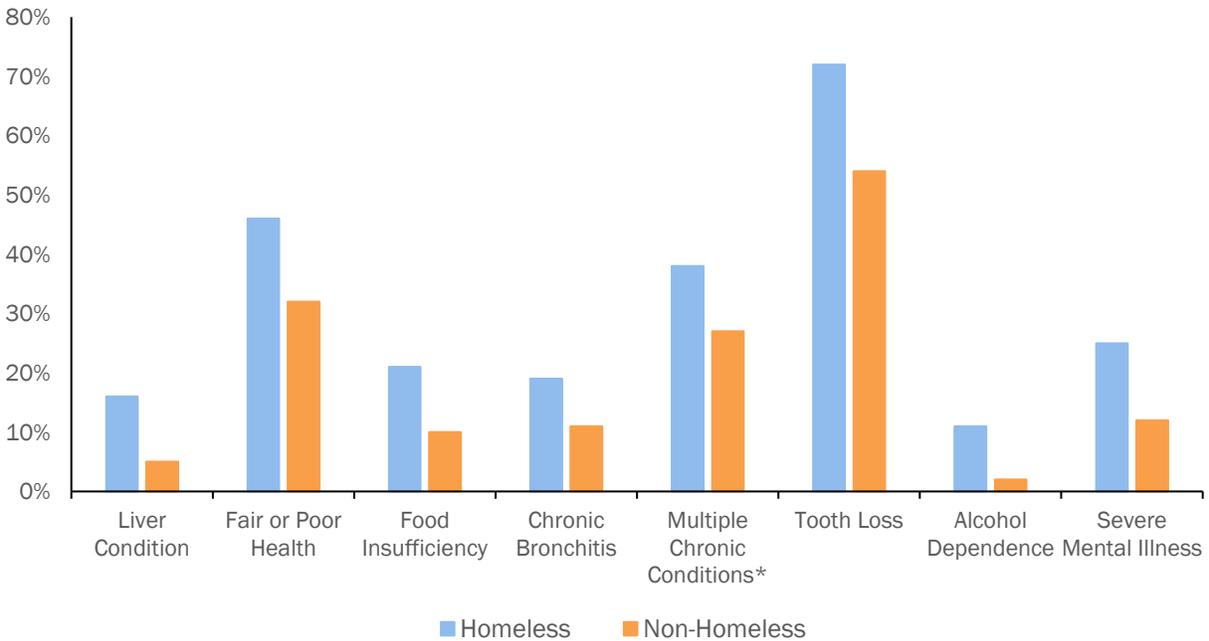
Individuals who experience chronic homelessness are at significantly elevated risk for infections (including human immunodeficiency virus (HIV)), traumatic injuries, drug overdoses, violence, death due to exposure to extreme heat or cold, and death related to chronic alcoholism. They are also much more likely than housed persons to use the emergency department for health care needs and to be admitted to the hospital; much less likely to have a usual source of health care; and have longer hospitalizations for the same illnesses as housed persons. Additionally, individuals experiencing chronic homelessness in the United States have life spans more than twenty years lower than the general population.

A multitude of factors contributes to premature death among persons experiencing homelessness, including several types of illnesses and injuries. According to the Centers for Disease Control and Prevention (CDC), the top five leading causes of death in the United States are heart disease, cancer, chronic lower respiratory diseases, unintentional injuries, and stroke. The leading causes of death for individuals experiencing homelessness are drug overdoses, HIV, and common chronic diseases such as heart disease and cancer. People experiencing homelessness are also up to six times more likely to become ill. Diseases that are significantly more common among the homeless population include heart disease, cancer, liver disease, kidney disease, serious skin infections, HIV/AIDS, pneumonia, and tuberculosis.<sup>23</sup>

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<sup>22</sup> <http://www.cdc.gov/features/homelessness/> retrieved September 2, 2016.

<sup>23</sup> National Academies of Sciences, Engineering, and Medicine. 2018. Permanent Supportive Housing: Evaluating the Evidence for Improving Health Outcomes Among People Experiencing Chronic Homelessness. Washington, DC: The National Academies Press. doi: 10.17226/25133



**Figure Status-6: Health Status of Homeless and Non-Homeless Health Center Users**

Source: Fact Sheet, Homelessness & Health: What’s the Connection? National Health Care for the Homeless Council, June, 2011.

\* - Includes two or more of the following: hypertension, diabetes, asthma, emphysema, chronic bronchitis, heart problems, stroke, liver condition, weak/failing kidneys, cancer, and HIV/AIDS.

As mentioned above, individuals experiencing homelessness have high rates of acute and chronic illness. A 2011 study which looked at the health status and health care experiences among homeless patients in federally supported health centers found that even among largely low-income populations, there are significant disparities when comparing homeless and non-homeless populations (see *Figure Status-6*).

*Factors that Cause or Contribute to Health Inequity for the Homeless Population*

- Harmful exposure to extreme weather elements (frostbite, hypothermia, heatstroke, dehydration)
- Lack of regular, adequate food intake (malnutrition)
- Unhealthy diet (usually high in starch, sugars, salt, low in fresh vegetables and fruits) typically found at soup kitchens and shelters
- Living in crowded conditions (i.e. shelters) or visiting locations for services that may be crowded increase risk for acquiring a communicable disease
- Lack of adequate sleep due to noise, temperature, safety and comfort concerns

- Inability to properly care for injuries and illness due to lack of access to facilities to bathe, keep bandages clean, and get proper rest and recuperation. Therefore minor issues easily develop into large problems such as infections and pneumonia, and those discharged from the hospital can lose any progress they made in healing
- Limited access to clean water
- No safe place to store medications or syringes properly
- Behavioral health issues such as depression or alcoholism often develop or are made worse in high stress, dangerous and unpredictable situations
- Limited access to medical care due to transportation challenges

The most recent Homeless Point-in-Time Census and Survey (January 2017), indicated that of the 1,658 adults who completed the survey, the following “disabling conditions” were self-reported in the following percentages countywide shown below in *Table Status-15*.

<b>Table Status-15: Prevalence of disabling conditions in the population experiencing homelessness in Butte County, 2017</b>	
Disability	Percentage Countywide
Mental Health Condition	30%
Physical Condition	29%
Post-Traumatic Stress Disorder	24%
Drug Use	24%
Alcohol Use	17%
Developmental Disability	9%
Traumatic Brain Injury	7%
HIV / AIDS	1%

Source: Butte County Homeless Point-in-Time Census and Survey. January 2017

In the table above, “disabling condition” is self-defined by the person taking the survey, and could include one or more of the disabilities listed in the chart. A physical disability was reported by 29.0% of the survey respondents, and 17.0% reported a chronic health condition. Mental illness was reported by 30% of respondents, while 9.0% said they had a developmental disability. These figures are significant, considering that the Continuum of Care believes these percentages to be under reported, due to the self-reporting nature of the survey.

**Table Status-16:** Butte County population experiencing homelessness by gender in selected cities, 2017

	Gender				Total
	Male	Female	Transgender	Unknown	
Chico	685 (62.6%)	401 (36.6%)	4 (0.4%)	5 (0.5%)	1095
Gridley	17 (60.7%)	11 (39.3%)	0 (0.0%)	0 (0.0%)	28
Oroville	452 (63.4%)	259 (36.2%)	2 (0.3%)	0 (0.0%)	713
Paradise	70 (58.3%)	47 (39.2%)	0 (0.0%)	3 (2.5%)	120
Other	14 (53.8%)	11 (42.3%)	1 (3.8%)	0 (0.0%)	26
Total	1238 (62.5%)	729 (36.8%)	7 (0.4%)	8 (0.4%)	1982

Source: Butte Countywide Homeless Continuum of Care 2017 Homeless Survey Report

Of the Butte County survey respondents, there were nearly twice as many homeless males as females. These findings are consistent with national estimates of gender frequencies among homeless populations (see *Table Status-16*).

**Table Status-17:** Factors Attributing to Becoming Homeless and Barriers to Overcoming Homelessness Reported by 2017 Butte County Point-in-Time Census and Survey Respondents

Factor Attributing to Homelessness	Percent of Respondents	Barrier to Overcoming Homelessness	Percent of Respondents
Family Crisis	26%	No Income of Any Kind	28%
Financial Difficulties	23%	Affordable Housing	42%
Mental Health Disorder	13%	No Money for Rent of a Deposit	36%
Eviction	11%	Finding Employment	30%
Incarceration	10%	Poor or No Credit	27%
Medical Disability	9%	Managing Mental Health	15%
Domestic Violence or Partner Abuse	7%	Substance Use	13%

Source: Butte County Homeless Point-in-Time Census and Survey. January 2017

In Butte County, about one quarter of point in time survey respondents attributed becoming homeless to either having no income, experiencing a family crisis, or financial difficulties. Other factors included mental illness, eviction, incarceration, a medical disability, domestic violence or intimate partner abuse. The top barriers to overcoming homelessness identified by respondents

included affordable housing, money for rent or a deposit, finding employment, poor or no credit, difficulty managing mental health, and substance use (see *Table Status-17, previous page*).

Homeless individuals attempt to survive in high stress, unhealthy and dangerous environments, with extremely limited resources, which compromises their health in ways that housed individuals do not experience. In the absence of basic human necessities, the severity of health conditions among homeless persons can increase rapidly, as nutritional deficits and diminished access to preventative care often results in more serious illness. The resulting health issues they experience are frequently co-occurring, with a complex mix of severe physical, psychiatric, substance use and social problems. This dynamic often results in visits to emergency rooms and hospitalization, with limited options for discharge plans, creating a circular pattern of increasing degradation in their health. After medical care is offered, treatment cannot be sustained for many homeless persons lacking resources and transportation. The National Agency for Healthcare Research and Quality has found that homeless individuals visit the emergency department and are hospitalized at rates up to 10 times higher than patients with low-income housing. Readmission rates for this population are also high, and discharging patients directly to the street disrupts the continuity of care started at the hospital. In Butte County, 42.0% of the 1,315 PIT survey respondents that responded to a question about utilization of health care services reported using the hospital at least once in the past year. Growing and strengthening community resources to improve discharge outcomes is therefore an essential component of improving health outcomes for those experiencing homelessness. The delivery of treatment and services to persons experiencing homelessness is an important factor for continuing to reduce homelessness in Butte County.

## VETERANS

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Veterans are defined as people who have served in the military (even for a short time), but are not currently serving or on active duty in the U.S. Army, Navy, Air Force, Marine Corps, or the Coast Guard; or who served in the U.S. Merchant Marines during World War II.

**Table Status-18: Military Veteran Population Difficulty Finding status in Butte County, 2012-2016**

	Butte County Population Estimates		
	Total	Veterans	Nonveterans
Civilian population 18 years and over	178,288	15,757	162,531
Sex			
Male	49.0%	92.2%	44.9%
Female	51.0%	7.8%	55.1%
Age			
18 to 34 years	34.4%	6.4%	37.1%
35 to 54 years	27.6%	15.0%	28.8%
55 to 64 years	16.7%	19.8%	16.3%
65 to 74 years	11.9%	31.1%	10.0%
75 years and over	9.5%	27.7%	7.7%
Race and Hispanic/Latino Origin			
White	85.4%	93.4%	84.6%
Hispanic/Latino	13.2%	5.7%	13.9%
African American/Black	1.5%	0.8%	1.5%
American Indian/Alaska Native	1.1%	1.1%	1.1%
Asian	4.0%	0.7%	4.3%
Native Hawaiian/Pacific Islander	0.2%	0.0%	0.2%
Two or more races	4.4%	3.1%	4.6%
Some other race	3.4%	0.8%	3.6%
Median Income in the Past 12 Months			
Civilian pop. 18 years and over with income	\$21,368	\$32,385	\$20,392

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates: Table S2101.

Those who served in the National Guard or Reserves are classified as veterans only if they were called to active duty, not counting the 4-6 months for initial training or yearly summer camps. All other civilians are classified as nonveterans. The overwhelming majority of military veterans residing in Butte County are White males, and nearly three quarters are 55 years of age or older (see *Table Status-18*)

## CHRONIC DISEASES AND CONDITIONS

**CHRONIC DISEASES** account for roughly 2 out of 3 deaths worldwide. In the United States, chronic, non-communicable health conditions are the top driver of healthcare costs. These health conditions are often a result of lifestyle choices and behaviors, and in many instances are preventable. A quarter of adults and three quarters of seniors in the U.S. have multiple chronic conditions, which increases the complexity, severity, and the cost of their care<sup>24</sup>. The Center for Medicare and Medicaid Services (CMS) is the largest third party payer of medical expenses in the U.S., and most hospitals receive a significant portion of their reimbursement for care from CMS. CMS tracks data for 17 chronic conditions among its Medicare beneficiaries, as these account for the majority of CMS spending on healthcare<sup>25,26</sup>.

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<sup>24</sup> Goodman, et al. (2014). IOM and DHHS Meeting on Making Clinical Practice Guidelines Appropriate for Patients with Multiple Chronic Conditions. *Annals of Family Medicine*, 12(3): 256–259.

<sup>25</sup> Anderson, G. (2010). *Chronic care: making the case for ongoing care*. Princeton, NJ: Robert Wood Johnson Foundation.

<sup>26</sup> Bauer, U.E., Briss, P.A., Goodman, R.A., & Bowman, B.A., (2014). Prevention of chronic disease in the 21st century: elimination of the leading preventable causes of premature death and disability in the USA. *Lancet*, 384 (9937):45-52.

<b>Table Status-19: Prevalence in Medicare Services Beneficiaries, 2015</b>			
	<b>Butte County</b>	<b>California</b>	<b>United States</b>
Hypertension	50.5%	49.6%	55.0%
Hyperlipidemia	43.8%	41.5%	44.6%
Arthritis (Osteoarthritis and Rheumatoid)	26.8%	27.6%	30.0%
Diabetes	23.2%	25.3%	26.5%
Ischemic Heart Disease	20.1%	23.6%	26.5%
Chronic Kidney Disease	19.0%	17.9%	18.1%
Depression	17.3%	14.3%	16.7%
COPD	13.7%	8.9%	11.2%
Heart Failure	10.9%	12.9%	13.5%
Asthma	9.7%	7.5%	8.2%
Alzheimer’s Disease and Related Dementia	8.3%	9.3%	9.9%
Atrial Fibrillation	8.3%	7.3%	8.1%
Cancer	7.5%	7.5%	7.8%
Osteoporosis	5.2%	6.7%	6.0%
Stroke	3.9%	3.7%	4.0%
Schizophrenia/Other Psychotic Disorders	3.1%	3.4%	3.7%
Hepatitis (Chronic Viral B & C)	1.6%	1.3%	0.8%
Autism Spectrum Disorders	0.2%	0.2%	0.2%
HIV/AIDS	0.2%	0.5%	0.4%

Source: Derived from Chronic Conditions among Medicare Beneficiaries, Chartbook, 2015. [https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/CC\\_Main.html](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/CC_Main.html), retrieved October 22, 2018.

OBESITY

OBESITY has become one of the most concerning national health issues. In the last 30 years, national obesity rates have doubled in adults and tripled in children. Obesity results from a combination of various biological, behavioral, environmental and socioeconomic factors. However, obesity is most often associated with poor diet and limited physical activity.

**Table Status-20: Adults ages 19 and older who are overweight or obese by Race/Ethnicity, 2012-2016**

	Butte County	California
Total	60.3%	61.5%
White	60.2%	61.5%
African American/Black	77.7%*	72.8%
Asian	42.2%*	42.7%
American Indian/Alaska Native	54.7%*	76.5%
Two or more races	58.0%*	58.7%
Hispanic/Latino	54.1%	72.6%

Source: California Health Interview Survey, 2012 – 2016 (pooled).

\* Statistically unstable: an unstable cell has not met the criteria for a minimum number of respondents needed AND/OR has exceeded an acceptable value for coefficient of variance.

In Butte County, over 60.0% of adults are overweight or obese according to the California Health Interview Survey (CHIS). This is a slightly lower percentage than California. In Butte County, there is some variation in the obesity rate across race and ethnicity. For example, individuals identifying as Hispanic/Latino tend to have lower overweight and obesity rates than those identifying as White in the County. However, the opposite is true for the State overall (see *Table Status-20*).

**Table Status-21: Teens age 12 to 17 who are overweight or obese by Race/Ethnicity, 2012-2016**

	Butte County	California
Total	22.4%*	34.0%
White	25.4%*	25.7%
African American/Black	-	38.9%
Asian	-	18.6%*
American Indian/Alaska Native	48.2%*	38.3%*
Two or more races	50.0%*	33.4%*
Hispanic/Latino	-	42.2%

Source: California Health Interview Survey, 2012 – 2016 (pooled).

\* Statistically unstable: an unstable cell has not met the criteria for a minimum number of respondents needed AND/OR has exceeded an acceptable value for coefficient of variance.

Obesity has also reached epidemic levels among youth. Obese youth are at higher risk for: cardiovascular diseases (such as high cholesterol or high blood pressure); bone and joint problems; sleep apnea; and social and psychological problems such as stigmatization and poor self-esteem. It appears at first glance that the youth obesity rate in Butte County is lower than that for California overall, with 22% of youth in Butte County between the ages 12 and 17 considered overweight or obese; and that the youth obesity rate in Butte County is higher for American Indian / Alaska Native Children and two or more races children than White children, and than in California as a whole for these races. However, the rates for Butte County reported here are statistically unreliable due to a small sample size (see *Table Status-21*). Higher rates of youth obesity among some racial and ethnic groups are observed nationally. The underlying factors leading to differences in youth obesity rates among racial and ethnic groups can likely be attributed to socioeconomic status (SES), culture, environment, some biological factors, and the way in which these factors interact. The impact that these variables have on behavioral patterns associated with obesity should be considered when developing policies and efficacious clinical practices to prevent and treat childhood obesity<sup>27</sup>.

The health impacts of obesity can be exacerbated by a lack of physical activity. In Butte County, the percentage of adults ages 20 years and older who reported having no physical activity was lower than that of California overall. The rate of inactivity in Butte County was considerably lower than that for the nation as a whole (see *Table Status-22*).

<sup>27</sup> Caprio, S., et al., (2008). Influence of Race, Ethnicity, and Culture on Childhood Obesity: Implications for Prevention and Treatment: A consensus statement of Shaping America's Health and the Obesity Society. *Diabetes Care*, 31(11): 2211–2221.

<b>Table Status-22: Adults with No Leisure-Time Physical Activity, Age-Adjusted Rate, 2013</b>			
	Age 20+	No Leisure Time Physical Activity	No Leisure Time Physical Activity
	Population		Percent Population
<b>Butte County</b>	169,103	32,310	18.4%
<b>California</b>	28,069,071	5,448,741	21.4%
<b>United States</b>	233,630,523	56,230,453	25.4%

Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Diabetes Atlas: 2013, Source geography: County; U.S. Census Bureau, 2013 American Community Survey (ACS) 1 – Year Estimates Table B01001.

<https://www.cdc.gov/diabetes/atlas/obesityrisk/atlas.html>

Regular physical activity aids muscle development, bone health, and heart health. The Centers for Disease Control and Prevention recommends that children and adolescents participate in one hour or more of exercise every day<sup>28</sup>. Children who regularly exercise tend to do better in school, have lower levels of depression and anxiety, and are more likely to become healthy adults<sup>29</sup>. Exercise should include aerobic activity (e.g., brisk walking or running), muscle strengthening (e.g. push-ups), and bone strengthening activities (e.g. jumping rope).

Since 1996, California Education Code (EC) Section 60800 requires that each local educational agency (LEA) administer a state-designated physical fitness test (PFT) to all students in grades five, seven, and nine. The test designated for this purpose by the State Board of Education is the FitnessGram®, developed by The Cooper Institute. It provides criterion-referenced standards to evaluate fitness that represent the minimum levels of fitness known to be associated with health and physical characteristics that offer protection against disease resulting from physical inactivity. Achievement of the fitness standards is based on a score falling in the Healthy Fitness Zone (HFZ) representing six fitness areas.

<sup>28</sup> Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. (2011). How much physical activity do children need? Retrieved from: <http://www.cdc.gov/physicalactivity/everyone/guidelines/children.html>

<sup>29</sup> Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. (2008). Physical activity and the health of young people. Retrieved from: <http://www.cdc.gov/HealthyYouth/physicalactivity/pdf/facts.pdf>

**Table Status-23:** Fitness standards in 5<sup>th</sup>, 7<sup>th</sup>, and 9<sup>th</sup> graders\* by Race/Ethnicity, 2017

	5 <sup>th</sup> Grade		7 <sup>th</sup> Grade		9 <sup>th</sup> Grade	
	Butte County	California	Butte County	California	Butte County	California
All Races	24.7%	24.9%	32.7%	31.4%	33.4%	34.8%
African American/Black	-	21.8%	-	27.1%	32.8%	28.6%
American Indian/Alaska Native	-	21.8%	26.7%	26.8%	29.6%	27.9%
Asian American	20.3%	34.2%	37.7%	43.2%	34.1%	49.2%
Filipino	-	30.0%	-	38.5%	-	42.2%
Hispanic/Latino	23.0%	18.1%	23.4%	24.5%	27.8%	28.0%
Multiracial	23.2%	32.6%	28.7%	39.2%	36.5%	39.2%
Native Hawaiian/Pacific Islander	-	21.6%	-	24.5%	-	26.3%
White	27.1%	36.0%	37.5%	41.1%	35.4%	44.8%

Source: California Department of Education, Physical Fitness Testing Research Files, 2017, as cited on kidsdata.org; retrieved March 14, 2019, from: <https://www.kidsdata.org/topic/310/fitnessstandards/>

– Sample Size Too Small for Reliable Estimate

\*Students meeting all six fitness standards

The aim is for students to meet the standards in all six FitnessGram® HFZ areas. In Butte County, just one third of all 9<sup>th</sup> graders achieved the HFZ fitness standards. Slightly more than a third of Multiracial students, White students, and Asian students met the standards. However, slightly less than one third of African American / Black students, American Indian / Alaska Native, and Hispanic / Latino students met the standards (see *Table Status-23*).

## DIABETES

Diabetes (mellitus) is a group of chronic diseases characterized by high blood glucose levels resulting from defects in insulin production, insulin action, or both. It is associated with high morbidity and mortality rates. The most common types of diabetes are: type 1, type 2, and gestational diabetes. Serious complications from diabetes include kidney damage and chronic kidney disease, nerve damage, risk of amputation, blindness, stroke, heart disease, complications in pregnancy, and even premature death. However, people with diabetes can take steps to control symptoms of the disease and lower their risk for complications.

There is a clear link between obesity and type 2 diabetes in that as the rate of obesity increases so does the rate of type 2 diabetes. According to the 2014-2016 California Health Interview Survey (CHIS), approximately 7% of the adult population in Butte County has been diagnosed with some form of diabetes, with nearly a quarter of the population age 65 and over being diagnosed (see *Table Status-24*). These rates are similar to rates for California overall, and are consistent with national trends, as the overall rate of adults diagnosed with diabetes has been rapidly increasing, with the highest percentage of new cases occurring in adults age 55 and over<sup>30</sup>. Diagnoses of type 2 diabetes increase with age due to a decreased level of activity and exercise, loss of muscle mass, and increase in weight<sup>31</sup>.

<b>Table Status-24: Adults Ever Diagnosed with Diabetes, Butte County and California, 2014-2016</b>			
	Total Population	Population Diagnosed with Diabetes	
	Estimate	Estimate	Percentage
Adult Population			
<b>Butte County</b>	176,000	13,000	7.4%
<b>California</b>	29,004,00	2,685,000	9.3%
Population Age 65 or Over			
<b>Butte County</b>	33,000	8,000	23.5%
<b>California</b>	5,049,000	1,082,000	21.4%

Source: California Health Interview Survey, 2014-2016

Cases of diabetes during pregnancy include both pre-existing and gestational diabetes. Gestational diabetes is defined as diabetes first diagnosed during pregnancy in which a woman’s glucose tolerance may return to normal after delivery; however, her risk for developing diabetes remains high. All forms of diabetes during pregnancy may result in complications during labor and delivery. According to the 2012-2016 CHIS, the rate of gestational diabetes during pregnancy in Butte County is slightly lower (4.1%) than for California (5.2%).

## CANCER

Cancer is a leading cause of death in Butte County. It is characterized by the uncontrolled growth and spread of abnormal cells and consists of more than 100 different diseases. The risk of developing cancer increases with age and varies by gender and race. As the average age of the population has increased, so has the incidence of cancer. Family history of cancer is also associated

<sup>30</sup> <http://www.cdc.gov/diabetes/statistics/age/fig1.htm>

<sup>31</sup> <http://www.mayoclinic.org/diseases-conditions/type-2-diabetes/basics/risk-factors/con-20031902>

with risk for these diseases. Up to 80% of all cancers are related to lifestyle or environmental factors, such as smoking and diet. Changes in lifestyle or environmental conditions may greatly reduce the incidence of cancer. Opportunities exist to reduce the burden of cancer through improved prevention, early detection, and treatment. For instance, there is convincing evidence that screening for colorectal cancer reduces the death rate (mortality rate) in adults between the ages of 50 and 75. Early detection is key to the effective treatment of many cancers and can be lifesaving. In addition, the cost of treating cancer is significantly lower if detected early.

**Table Status-25: All cancer incidence rates in Butte County, 2011-2015**

	2011	2012	2013	2014	2015	5 Year Avg.
Population at Risk	220,019	221,205	222,154	224,033	225,411	222,564
Total Cases	<b>1289</b>	<b>1275</b>	<b>1203</b>	<b>1260</b>	<b>1214</b>	<b>1248.2</b>
<b>Butte County Age-Adjusted Rate</b>	486.0	470.2	437.3	447.8	424.6	452.4
<b>California Age-Adjusted Rate</b>	409.5	400.2	394.1	390.7	384.0	395.2

Source: California Department of Public Health. Data accessed October 25, 2018. Note: All rates are per 100,000. Rates are age-adjusted to the 2000 U.S. Standard Population. Retrieved October 25, 2018, from: <https://www.cancer-rates.info/ca/>

Between 2011 and 2015, the average number of people at risk for cancer annually in Butte County was 222,564. Over this time period a total of 6,241 cases of invasive cancer were diagnosed, with an average of 1,248 people diagnosed per year<sup>32</sup>. The age-adjusted rate for all cancers in Butte County was 452.4 cases per 100,000 people, which was notably higher than for the state of California overall (see *Table Status-25*).

*Breast Cancer Incidence*

Breast cancer is a malignant tumor that starts in the cells of the breast and is the most common type of cancer in women of every race and ethnicity in California. The incidence rate of breast cancer in Butte County between 2011-2015 ranked as the second highest out of all 58 counties in California.

<sup>32</sup> Age-Adjusted Invasive Cancer Incidence Rates by County in California, 2011 - 2015. Based on Jan 2018 data. Excludes cases reported by the Department of Veterans Affairs. California Cancer Registry. Cancer-Rates.info. Retrieved Oct 29, 2018, from <http://cancer-rates.info/ca/>

**Table Status-26: Female Breast Cancer Incidence Rates in Butte County, 2011-2015**

	2011	2012	2013	2014	2015	5 Year Avg.
Population at Risk	111,042	111,654	112,166	113,188	113,867	112,383
Total Cases	<b>204</b>	<b>175</b>	<b>177</b>	<b>183</b>	<b>184</b>	<b>184.6</b>
<b>Butte County Age-Adjusted Rate</b>	152.1	122.9	126.7	127.2	129.9	131.5
<b>California Age-Adjusted Rate</b>	122.1	121.2	121.2	118.9	119.8	120.6

Source: California Department of Public Health. Data accessed October 29, 2018. Based on January 2018 Extract. Note: All rates are per 100,000. Rates are age-adjusted to the 2000 U.S. Standard Population. Retrieved October 29, 2018 from: <https://www.cancer-rates.info/ca/>

Between 2011 and 2015, the average number of women at risk for breast cancer annually in Butte County was 112,383. Over this time period a total of 923 cases of invasive breast cancer were diagnosed, with an average of 184.6 people diagnosed per year. The age-adjusted rate for incidence of female breast cancer in Butte County was 131.5 per 100,000, which was slightly higher than for California overall (see *Table Status-26*).

*Prostate Cancer Incidence*

Prostate cancer is one of the most commonly diagnosed cancers in men, and the second leading cause of cancer related male deaths after skin cancer.

**Table Status-27: Prostate Cancer Incidence Rates in Butte County, 2011-2015**

	2011	2012	2013	2014	2015	5 Year Avg.
Population at Risk	108,977	109,551	109,988	110,845	111,544	110,181
Total Cases	<b>172</b>	<b>126</b>	<b>158</b>	<b>129</b>	<b>134</b>	<b>143.8</b>
<b>Butte County Age-Adjusted Rate</b>	130.5	97.9	111.7	88.5	93.3	103.8
<b>California Age-Adjusted Rate</b>	121.9	101.9	96.3	84.5	84.4	97.1

Sources: California Department of Public Health. Data accessed October 29, 2018. Based on January 2018 Extract. Note: All rates are per 100,000. Rates are age-adjusted to the 2000 U.S. Standard Population. Retrieved October 29, 2018 from: <https://www.cancer-rates.info/ca/>

Between 2011 and 2015, the average number of men at risk for prostate cancer annually in Butte County was 110,181. Over this time period a total of 719 cases of invasive prostate cancer were diagnosed, with an average of 143.8 people diagnosed per year. The age-adjusted rate for

incidence of male prostate cancer in Butte County was 103.8 per 100,000, which was higher than for California overall (see *Table Status-27*).

**ASTHMA**

Asthma is a chronic, often-lifelong condition in which inflammation of the airways to the lungs occurs, making breathing difficult. It is a rapidly increasing health problem and is a leading cause of school and workplace absences and hospitalization, especially among children.

**Table Status-28: Adults ever diagnosed with asthma, 2013-2016**

	Hispanic/Latino	White	African American/Black	American-Indian/Alaska Native	Asian	Native Hawaiian/Pacific Islander	Two or More Races	All
<b>Butte County</b>	11.7*	16.6%	-	-	-	-	39.9*	15.0%
<b>California</b>	12.2%	15.8%	20.5%	20.4%	11.6%	10.9*	26.3%	14.5%

Source: 2013 – 2016 (pooled) California Health Interview Survey.

\* Source: 2013 – 2016 (pooled) California Health Interview Survey.

\* Statistically unstable: an unstable cell has not met the criteria for a minimum number of respondents needed AND/OR has exceeded an acceptable value for coefficient of variance.

(hyphen) = Estimate is less than 500 people.

According to the California Health Interview Survey, a marginally higher percentage of adults in Butte County have been diagnosed with asthma than in California overall (see *Table Status-28*).

**Table Status-29: Age-adjusted Asthma hospitalizations rates per 10,000 residents in 2016**

	<b>Butte County</b>	<b>California</b>
0-4 Years	14.0	16.9
5-17 Years	5.4	6.7
All Ages ( children and adults)	4.0	4.8

Source: Patient Discharge Database from the Office of Statewide Health Planning and Development (OSHPD).

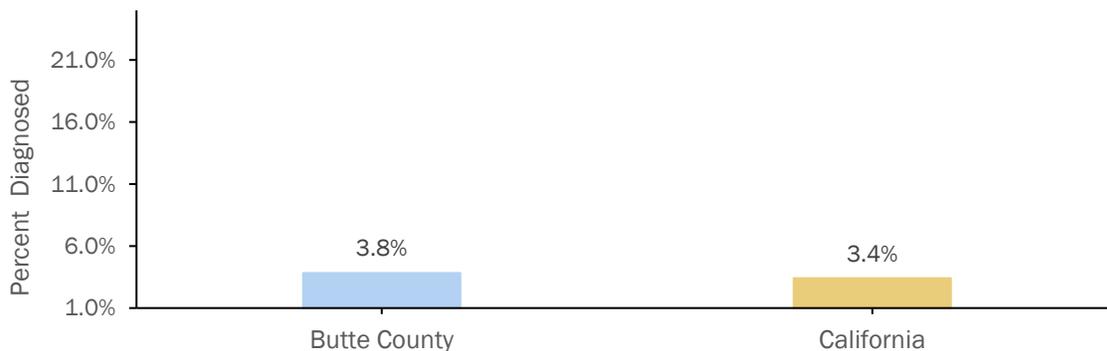
Retrieved November 1, 2018 from <http://www.cehtp.org/page/asthma/results>

Children without access to regular medical care are more likely to suffer from serious asthmatic attacks that may result in repeated absences from school, trips to the emergency room, and even hospitalization. In Butte County, the asthma related hospitalization rate for children from birth to

four years old is 14.0 hospitalizations per 10,000 residents, which is slightly lower than the rate for California overall. For Butte County children between the ages 5 and 17 the rate is 5.4 hospitalizations per 10,000 residents, which is also lower than the statewide rate for children in this age group (see *Table Status-29, previous page*). Of note, results of the 2016-2017 California Health Interview Study (CHIS) indicated a higher percentage of adult Medi-Cal beneficiaries report being current smokers in Butte County (24.7%) than in California overall (16.1%), and than the total adult population of the county (17.3%). Tobacco use is a major risk factor for the development of asthma in both the direct form and via second hand smoke.

### CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Chronic Obstructive Pulmonary Disease (COPD) is the third leading cause of death in the United States. It is a progressive disease and its symptoms frequently worsen across time<sup>33</sup>. The leading factor for the development of COPD is smoking. However, exposure to air pollution, chemical fumes, or dust over long periods of time may also lead to the development of COPD. It is an obstructive disease, meaning that airflow into and out of the lungs is diminished. This prevents oxygen from being exchanged for carbon dioxide waste in the lungs, causing less oxygenated blood and body tissues<sup>34</sup>. It is most frequently diagnosed in middle aged and older adults, and has no cure. However, progress of the disease may be diminished by lifestyle changes such as quitting smoking, and undergoing treatment for the condition.



**Figure Status-7:** Percent of adults 18 and over diagnosed with COPD

Source: Estimated Prevalence and Incidence of Lung Disease: American Lung Association: Epidemiology and Statistics Unit Research and Health Education, May 2014. Retrieved November 2, 2018 from: <https://www.lung.org/our-initiatives/research/monitoring-trends-in-lung-disease/estimated-prevalence-and-incidence-of-lung-disease/>

A slightly higher percentage of the adult population in Butte County than in California overall have been diagnosed with COPD, including chronic bronchitis and emphysema (see *Figure Status-7*).

<sup>33</sup> <http://www.nhlbi.nih.gov/health/health-topics/topics/copd>

<sup>34</sup> <http://www.lung.org/lung-disease/copd/about-copd/understanding-copd.html>

CARDIOVASCULAR DISEASE

Cardiovascular diseases are diseases of the heart and the blood vessels throughout the body, including the blood vessels of the brain. Examples of cardiovascular disease include: coronary heart disease; heart failure; sudden cardiac death; hypertensive heart disease; irregular heartbeat (arrhythmia/atrial fibrillation); heart attack (myocardial infarction); and stroke (cerebrovascular disease).

**Table Status-30: Adults diagnosed with coronary heart disease or angina**

	Aged 18+	Adults with Heart Disease	
	Population	Number	Percent
<b>Butte County</b>	176,000	9,000	4.9%
<b>California</b>	29,236,000	1,875,000	6.4%

Source: California Health Interview Study, 2015-2016

Chronic morbidity and high mortality rates are associated with these diseases. In fact, coronary heart disease is the leading cause of death in the United States, and the second leading cause of death in Butte County. Lower socioeconomic status (SES) is associated with increased risk for cardiovascular disease including heart failure (cardiac arrest)<sup>35</sup>. In Butte County, approximately 5% of the total population is living with heart disease, which is slightly lower than for California overall (see *Table Status-30*).

HEART DISEASE AND HEALTH INSURANCE

At-risk groups for heart disease and other chronic conditions have historically been uninsured and underinsured. These groups have faced considerable barriers to healthcare services, including the high costs associated with care for heart disease, and are less likely to seek preventive care or less intensive levels of care during less advanced stages of disease. This has resulted in frequent failure to diagnose and treat potentially preventable chronic health conditions before they become more severe and also more expensive.

<sup>35</sup> Reinier, K., Thomas, E., Andrusiekj, D.L., et al. (2011). Socioeconomic status and incidence of sudden cardiac arrest. *Canadian Medical Association Journal*. 183(15):1705–1712.

<b>Table Status-31: Type of current health coverage for adults under age 65 in Butte County</b>						
	Ever diagnosed with heart disease					
	Uninsured	Medicaid	Employment-based	Privately purchased	Other public	All
<b>Butte County</b>	4.0%* 1,000	6.2%* 2,000	1.1%* 1,000	-	-	2.8% 4,000
<b>California</b>	2.5% 97,000	4.7% 212,000	2.7% 332,000	2.7% 48,000	5.0% 27,000	3.4% 801,000

Source: California Health Interview Survey, 2012-2016.

\*Statistically unstable: an unstable cell has not met the criteria for a minimum number of respondents needed AND/OR has exceeded an acceptable value for coefficient of variance. - (hyphen) = Estimate is less than 500 people.

In Butte County, a greater percentage of adults with heart disease under age 65 may be Medicaid (e.g. Medi-Cal) recipients or uninsured than in California, while a lower percentage of the population in Butte County have been diagnosed with heart disease than in California overall (see *Table Status-31*).

The 2010 Patient Protection and Affordable Care Act (ACA) has addressed some of the historical barriers to care for at-risk populations with chronic diseases. The law forbids health insurers from considering pre-existing health conditions during the practice of underwriting applicants for new health insurance policies, except for private plans grandfathered in before implementation of the ACA. It also contained an individual mandate to purchase a health insurance policy or pay a federal income tax penalty for failing to do so, created a sliding scale health insurance purchasing system based on income, and developed a marketplace for individuals and families to purchase health insurance plans.

There has not been adequate time since the law went into effect to fully study the impact that this nationwide expansion of health insurance is having on access to healthcare services in historically high-risk populations with chronic health conditions. Results of preliminary studies to date have yielded mixed results. One study found that low income states which expanded Medicaid under the ACA demonstrated higher rates of insurance coverage, improved quality of coverage, increased utilization of some types of health care, and more frequent diagnosis of chronic health conditions compared with states that did not expand Medicaid; but found no differences between states in adults with private insurance and did not report consistent improvements in access to health care or health status in expansion states<sup>36</sup>. Another study found that while the ACA increased healthcare coverage for millions of Americans with chronic illnesses in states that opted to expand Medicaid, coverage rates were already lowest in non-expansion states before the ACA; and that many Americans with chronic illness remained without coverage and continued to face

<sup>36</sup> Wherry LR, Miller S. (2016). Early coverage, access, utilization, and health effects associated with the Affordable Care Act Medicaid expansions: a quasi-experimental study. *Ann Intern Med.* 2016; 164(12):795-803.

barriers to regularly accessing medical care<sup>37</sup>. While the number of uninsured adults has declined due to Medicaid expansion and the establishment of the individual marketplace, it is not yet clear if meaningful gains in utilization of preventative and healthcare services among the chronically ill has been achieved. Moreover, Congress has repealed the individual mandate by reducing the penalty for failing to obtain a health insurance policy to \$0 effective January 1, 2019, as part of the tax reform legislation passed in 2017; further convoluting assessment of the ACAs impact on access to care for the chronically ill.

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<sup>37</sup> Torres H, et al. (2017). Coverage and Access for Americans with Chronic Disease Under the Affordable Care Act: A Quasi-Experimental Study. *Ann Intern Med.* ;166:472–479. doi: 10.7326/M16-1256

## MENTAL HEALTH

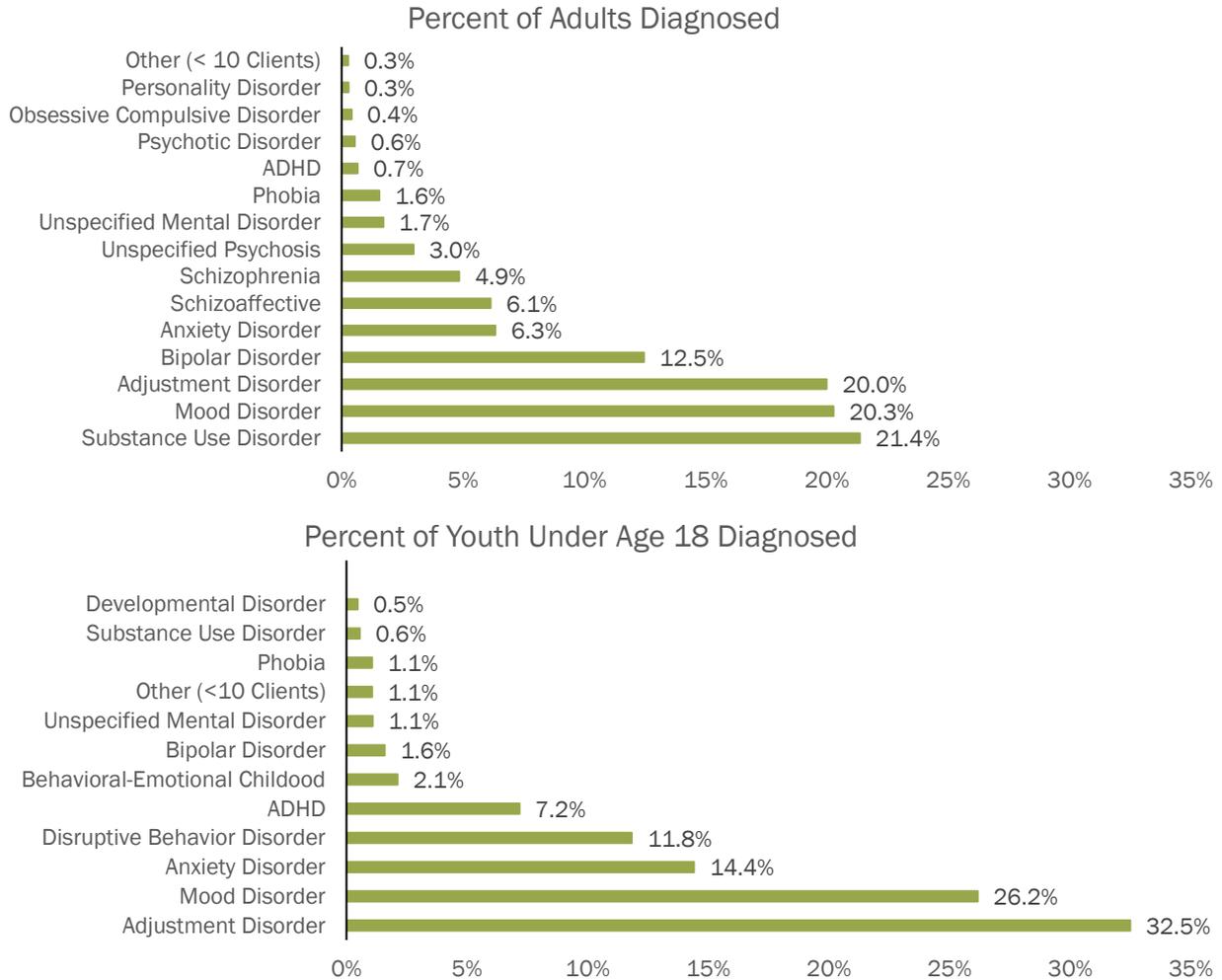
The World Health Organization (WHO) defines **MENTAL HEALTH** as “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community”. The WHO estimates that about half of the world's population will experience a mental health disorder at some point in their lifetime. Mental health disorders can influence an individual's self-esteem, interpersonal and professional relationships, and ability to function in everyday life. An individual's mental health can also influence their physical health and patterns of behavior. For example, it is well known that individuals diagnosed with clinical depression report experiencing more physical pain and are at a higher risk of developing substance use disorders<sup>38,39,40</sup>.

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<sup>38</sup> Lépine, J. P., & Briley, M. (2004). The epidemiology of pain in depression. *Human Psychopharmacology, Clinical and Experimental*, 19: S3–S7.

<sup>39</sup> Davis L, Uezato A, Newell JM, Frazier E., (2008). Major depression and comorbid substance use disorders. *Current Opinion in Psychiatry*, 21: 14–18.

<sup>40</sup> Office of Applied Studies, Substance Abuse and Mental Health Services Administration. (2007). *National Survey on Drug Use and Health (NSDUH)'s Report: Co-occurring Major Depressive Episode (MDE) and Alcohol Use Disorder among Adults*. Rockville, MD: Substance Abuse and Mental Health Services Administration.



**Figure Status-8:** Mental Health Disorders for Adults and Youth under Age 18 Presenting at BCDBH, 2017-2018

Source: Butte County Behavioral Health Systems Performance Data Report Fiscal Year, 2017-2018.

The Butte County Department of Behavioral Health (BCDBH) serves patients of all ages seeking treatment for mental health conditions. In 2018, the leading mental health diagnoses for adults receiving care through the BCDBH were substance use disorders. Other leading diagnoses in adults were mood disorders (such as depression), adjustment disorders (poor coping in response to stressful events), bipolar disorder, and anxiety disorders. In contrast, adjustment disorders were the leading diagnosis for youth under the age of 18 in Butte County, followed by mood disorders, anxiety disorders, disruptive behavior disorder, and attention deficit hyperactivity disorder.

(ADHD), (see *Figure Status-8, previous page*). Of note, at the national level, LGBTQ+ populations are more susceptible to depression and have a higher suicide rate than the general population<sup>41</sup>.

SUICIDE

Suicide and suicidal behaviors affect people of all ages, ethnicities, religions, socioeconomic groups and geographic locations. Suicidal behavior is influenced by an array of biological, psychological, social, environmental and cultural risk factors. Suicide is the tenth leading cause of death in the nation, and has increased steadily over the last decade nationally<sup>42</sup>.

**Table Status-32: Suicide three-year average rates per 100,000 population, Butte County and California, 2014-2016**

	2013 Population	2014-2016 Deaths (3 year average)	Crude death rate	Age-adjusted death rate
<b>Butte County</b>	224,363	41.0	18.3	18.1
<b>California</b>	39,059,809	4,187.0	10.7	10.4
<b>Healthy People 2020 Objective</b>	-	-	-	10.2

Source: California Department of Public Health, 2014-2016 Death Statistical Master Files.

Suicide rates in rural areas tend to be higher than in urban settings. It is likely that the number of suicides reported each year is lower than the actual number that occurs due to the negative social stigma associated with committing suicide. Suicide in combination with drug induced and alcohol related deaths, collectively referred to as “deaths of despair”, have resulted in decreasing life expectancy in the United States since 2015<sup>43</sup>. Between 2014 and 2016, there was an average of 41.0 deaths attributed to suicide per year in Butte County. When this 3 year average is adjusted to calculate the crude death rate (e.g. the average number of suicides per year divided by the population, times 100,000), it is clear that suicide is nearly twice as common per capita in Butte County as in California overall. This also holds true when these rates are adjusted for age (see *Table Status-32*).

<sup>41</sup> Pandya, A., (2014). Mental health as an advocacy priority in the lesbian, gay, bisexual, and transgender communities. *Journal of Psychiatric Practice*, 20(3):225-7.

<sup>42</sup> [https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67\\_05.pdf](https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_05.pdf) ; <https://www.cdc.gov/vitalsigns/pdf/vs-0618-suicide-H.pdf>

<sup>43</sup> Case, A., & Deaton, A. (2015). Rising morbidity and mortality in midlife among White non-Hispanic Americans in the 21st century. *Proceedings of the National Academy of Sciences of the United States of America*, 112(49), 15078-83. doi: 10.1073/pnas.1518393112

**Table Status-33:** Age-adjusted suicide rates by gender in Butte County, California, and the U.S. per 100,000 population, 2012-2016

	Male Suicide Rate	Female Suicide Rate
<b>Butte County</b>	27.9	7.4
<b>California</b>	16.4	4.7
<b>United States</b>	20.8	5.8

Source: Centers for Disease Control and Prevention, National Vital Statistics System. Accessed via CDC WONDER. 2012-16. Source geography: County. Retrieved November 6, 2018 from: <https://wonder.cdc.gov/>

Males are significantly more likely to commit suicide, but females are more likely to report attempting suicide<sup>44</sup>. In Butte County, the suicide rate among men is approximately four times as high as for women. However, both men and women in Butte County have higher suicide rates than California overall and the United States (see *Table Status-33*). Factors thought to underlie the gender specific difference in suicide rates include men being more likely to attempt suicide by gunshot which results in death more frequently, and that women are more likely to seek treatment for depression, a major risk factor for suicide.

<sup>44</sup> Centers for Disease Control and Prevention. (2014). Suicide prevention. Retrieved from: [http://www.cdc.gov/ViolencePrevention/pub/youth\\_suicide.html](http://www.cdc.gov/ViolencePrevention/pub/youth_suicide.html)

**Table Status-34:** Five year suicide and nonfatal self-inflicted injury hospitalizations and emergency room visits<sup>1</sup> by method in Butte County, 2010 through 2014

	Death attributed to Suicide (2012 – 2016)		Self-inflicted injury resulting in Hospitalization		Self-inflicted injury resulting in Emergency Department visit	
	Number	Percent	Number	Percent	Number	Percent
Cut/Pierce	8	4.1%	74	9.1%	549	38.6%
Firearm	103	52.6%	8	1.0%	4	0.3%
Hanging/Suffocation	53	27.0%	6	0.7%	27	1.9%
Jump	3	1.5%	9	1.1%	2	0.1%
Poisoning	21	10.7%	699	85.7%	763	53.7%
Other	8	4.1%	20	2.5%	97	6.8%
<b>Total</b>	<b>196</b>	<b>100.0%</b>	<b>816</b>	<b>100.0%</b>	<b>1,422</b>	<b>100.0%</b>

Source: California Vital Statistics Death Files and California Office of Statewide Health Planning and Development, Patient Data. Report generated from <http://epicenter.cdph.ca.gov> on: June 1, 2016. California Department of Public Health, Safe and Active Communities Branch.

<sup>1</sup> Self-inflicted nonfatal injuries include many that are not necessarily "attempted suicides" (e.g., cut/pierce injuries and low-dose poisonings).

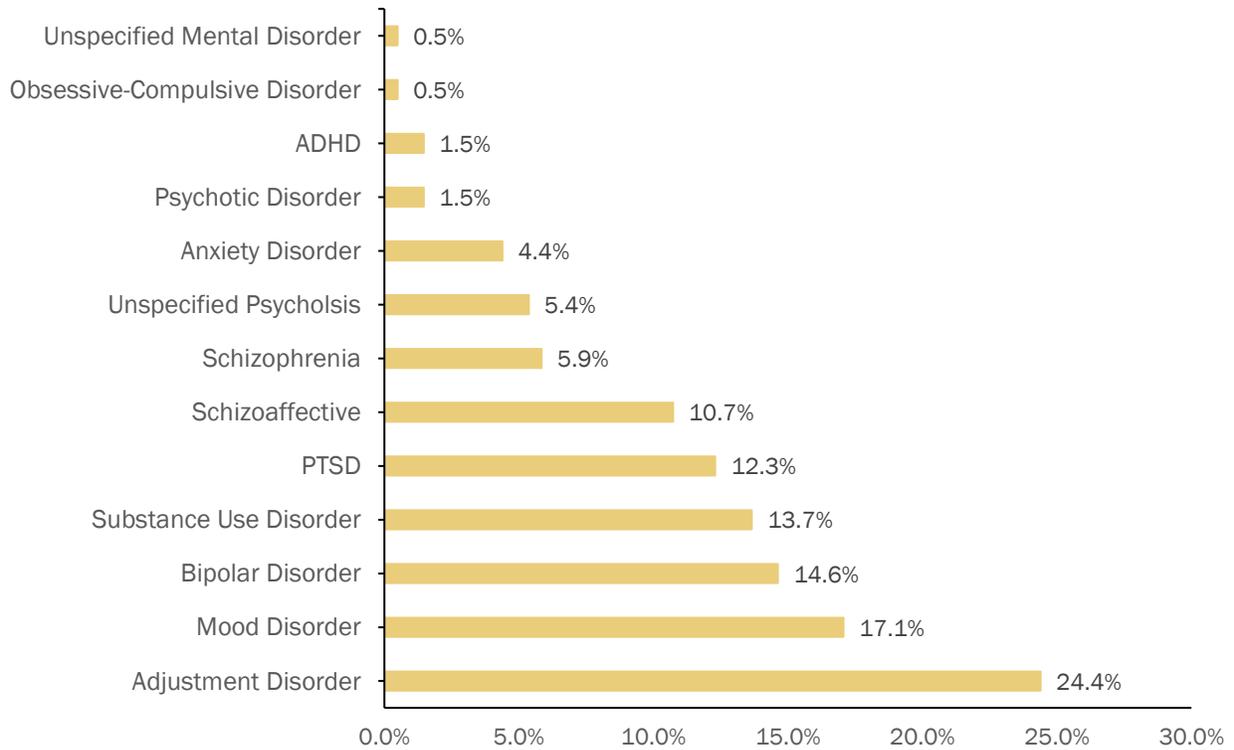
Additional risk factors for suicide include: a family history of suicide or past suicide attempts, mental or physical illness, substance misuse, stressful life events, and incarceration. According to the data collected by the California Vital Statistics Death Files and California Office of Statewide Health Planning and Development (OSHPD), poisoning is the most common form of intentional, self-inflicted, non-fatal injury resulting in hospitalization. Of all reported suicides, firearms were the most common method used, followed by hanging/suffocation and poisoning (see *Table Status-34*).

## VETERANS MENTAL HEALTH

Men and women who have served in the U.S. military are at a higher risk than the general population for specific mental health issues. A 2014 study found that active duty military were diagnosed with post-traumatic stress disorder (PTSD) at a rate fifteen times higher than the general population. They were also diagnosed with depression at a rate five times higher than the general population<sup>45</sup>. PTSD is thought to develop after a terrifying experience, or series of experiences, involving physical harm or the threat of physical harm. While it is frequently associated with veterans returning from combat, it may also occur in the general population due

<sup>45</sup> <https://www.nimh.nih.gov/news/science-news/2014/suicide-in-the-military-army-nih-funded-study-points-to-risk-and-protective-factors.shtml>

to traumatic experiences such as child abuse, car accidents, plane crashes, natural disasters, or rape. It is characterized by three categories of symptoms: re-experiencing (flashbacks, nightmares), avoidance (trouble remembering the event, avoiding places or objects that are reminders of the experience), and hyper-arousal (being on edge or easily startled)<sup>46</sup>.



**Figure Status-9: Mental Health Disorders for Veterans Presenting at BCDBH, 2017-2018**

Source: Butte County Behavioral Health Systems Performance Data Report Fiscal Year 2017-2018.

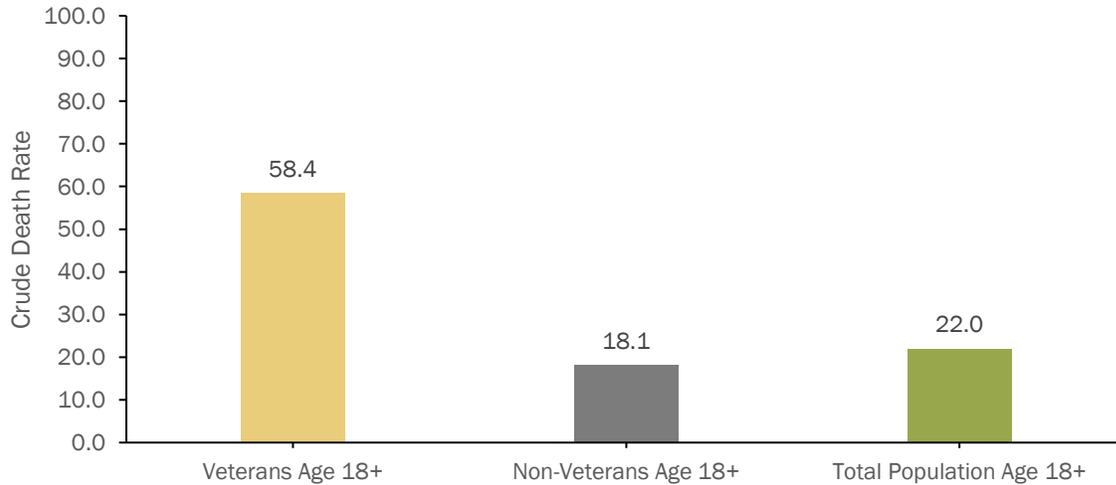
In 2018, the leading mental health diagnosis for veterans seeking care at the Butte County Department of Behavioral Health were adjustment disorders, followed by mood disorders, such as depression and bipolar disorder (see *Figure Status-9*). These are also the some of the leading mental health diagnoses among veterans nationally<sup>47,48</sup>. Roughly seventeen percent of patients identifying as veterans while seeking care at the Butte County Department of Behavioral Health indicated they were homeless at the time of treatment. This is considerably higher than the percent of adults seeking treatment overall that indicated they were homeless (8.8%), and is of

<sup>46</sup> <http://www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder-ptsd/index.shtml>

<sup>47</sup> Trivedi, R. B., et al. (2015). Prevalence, Comorbidity, and Prognosis of Mental Health Among US Veterans. *American journal of public health*, 105(12), 2564-9. DOI: 10.2105/AJPH.2015.302836

<sup>48</sup> <http://www.samhsa.gov/veterans-military-families>

particular concern as homeless veterans have been shown to be at a significantly higher risk of developing a substance use disorder<sup>49</sup>. Of note is that exposure to “theater of combat” while serving increases the risk for developing mental health disorders, and there is a well-documented shortage of mental health care providers in the Veterans Health Administration, with less than half of veterans reporting adequate access to mental health care services. The level of rurality experienced by veterans in Butte County may also be a factor in their ability to obtain adequate mental health care services, as there are likely transportation and other geographic barriers to accessing care.



**Figure Status-10:** Suicide by Veteran Status, Age 18 Years and Over in Butte County, 2012-2016

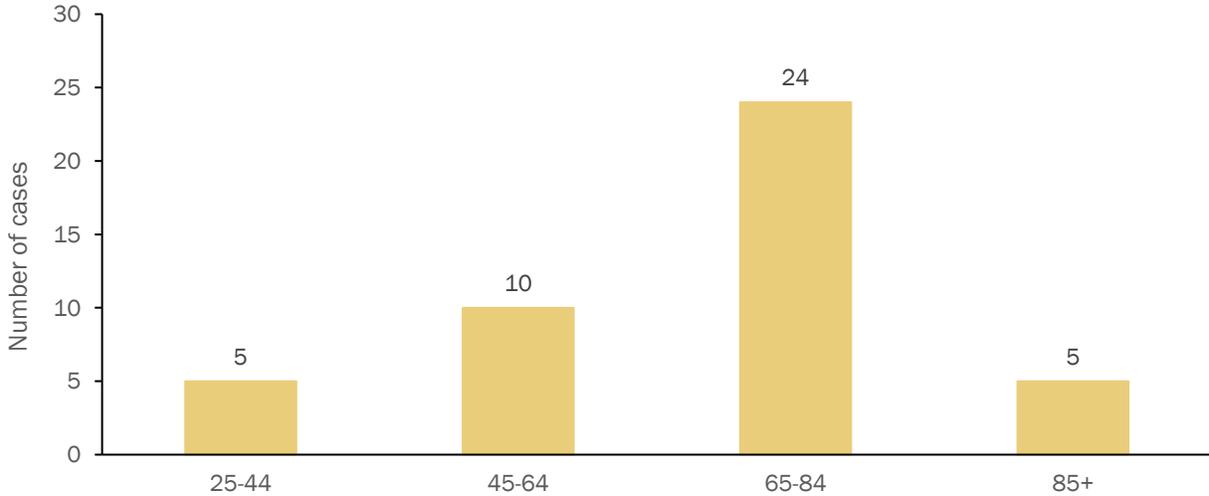
Adapted from: California Vital Statistics Death Files. Report generated from <http://epicenter.cdph.ca.gov> on: November 6, 2018; and U.S. Census Bureau, 2012-2016 5-Year American Community Survey. Table B21001. Rates are calculated per 100,000 population.

There is increased concern for suicide risk in the veteran population. In 2016, 20 veterans committed suicide every day in the United States – a rate that has been consistently observed since 2008. Suicide has accounted for significantly more deaths among active duty military and veterans of the Iraq / Afghanistan conflicts than deaths from combat, with suicide among active duty Army reaching the highest rate ever recorded in 2012<sup>50</sup>. According to the most recent Veterans Health Administration National Suicide Data Report, the suicide rate among veterans declined marginally from 2015 to 2016, but increased significantly for the 18 to 34 age group. The report also found that while suicide rates have increased significantly in the general population in recent years, veterans are still 1.5 times as likely to commit suicide, with veteran females being 1.8

<sup>49</sup> <http://www.samhsa.gov/data/sites/default/files/spot121-homeless-veterans-2014.pdf>

<sup>50</sup> <http://www.samhsa.gov/veterans-military-families>

times as likely to commit suicide as non-veteran females, and veteran males being 1.4 times as likely. Understanding and reducing deaths from suicide among veterans remains a national priority<sup>51</sup>. From 2012 to 2016, the suicide rate among veterans was roughly three times as high as non-veterans age 18 and over in Butte County (see *Figure Status-10*, previous page).



**Figure Status-11:** Veteran Suicide Cases by Age in Males Age 25 Years and Over in Butte County, 2009-2013

Source: California Vital Statistics Death Files. Report generated from <http://epicenter.cdph.ca.gov> on: June 1, 2016. California Department of Public Health, Safe and Active Communities Branch.

Patterns of suicide risk across age groups differ among veterans, compared with risks in the general population. In Butte County veterans between the ages of 65-84 years accounted for the majority of suicide cases between 2009 and 2013 (see *Figure Status-11*). This trend in older veterans is observed on a national level as well. Although their rates did not increase nationally between 2015 and 2016, veterans older than 55 still accounted for the majority (58.1%) of suicide cases in the veteran population. Factors other than age that increase the risk for suicide among veterans include being male, having access to guns, and living in a rural area.

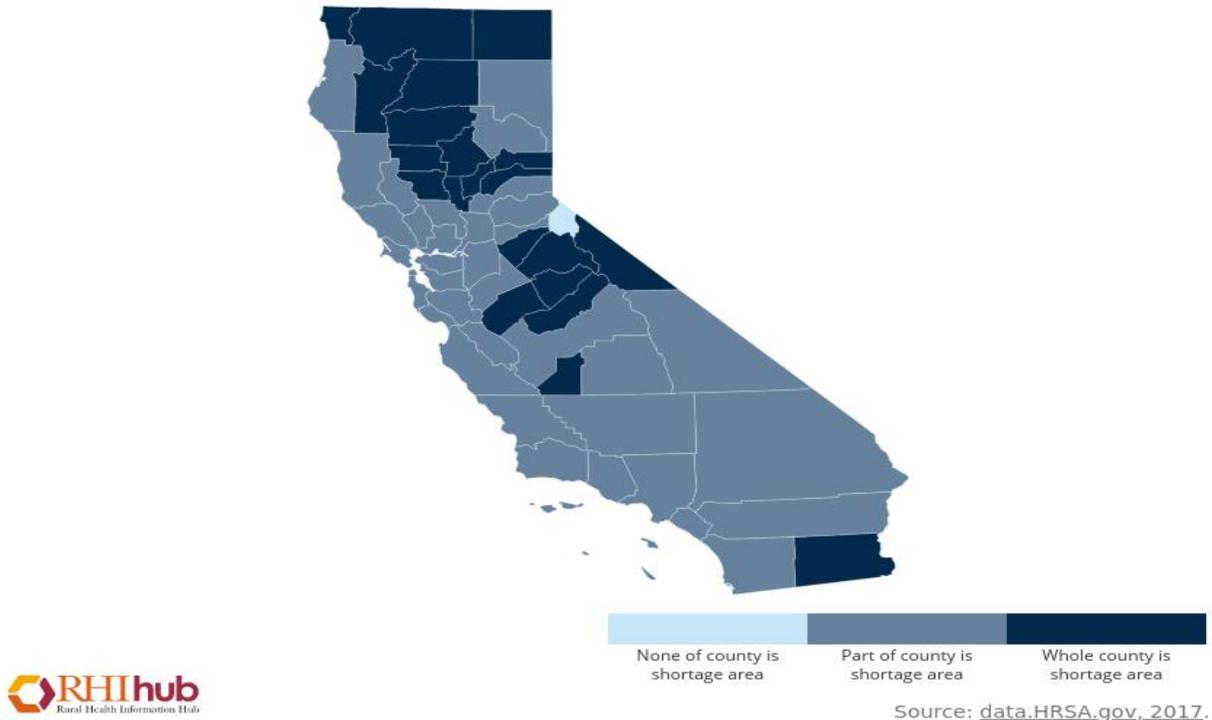
**MENTAL HEALTH AND ADDICTION PARITY**

In the U.S., the Department of Health and Human Services estimates that fewer than 1 out of 5 people are living completely free of any mental health concerns. People with both short term and chronic mental health conditions often go unrecognized and untreated. This is associated with shortened life span, lower rates of full time and steady employment, and higher rates of homelessness. One reason that people with mental health concerns frequently go untreated is

<sup>51</sup> [https://www.mentalhealth.va.gov/docs/data-sheets/OMHSP\\_National\\_Suicide\\_Data\\_Report\\_2005-2016\\_508.pdf](https://www.mentalhealth.va.gov/docs/data-sheets/OMHSP_National_Suicide_Data_Report_2005-2016_508.pdf)

due to a negative stigma often associated with mental health disorders. Symptoms of both mental health and substance use disorders have frequently been viewed as failings of character rather than attributed to a medical condition. The stigma associated with mental health disorders remains a major barrier to treatment for people experiencing symptoms. Historically, there have also been financial barriers to treatment distinct from general medical conditions such that insurers were less likely to include coverage for mental health services. However, the federal Mental Health Parity and Addiction Equity Act of 2008 required all group and individual health insurance plans that offer mental health benefits to do so at a level equivalent to those offered for general medical care, including benefits for substance use disorder treatment. Further, under the Affordable Care Act of 2010 (ACA), insurance coverage of mental health and substance use disorder treatment are included as essential health benefit (EHB) requirements<sup>52</sup>. Most of these requirements as amended by the ACA went into effect in 2014.

Health Professional Shortage Areas: Mental Health, by County, 2017 - California



**Figure Status-12: Mental Health Professional Shortage Areas in California, 2017**

Source: Rural Health Information Hub, Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS). Retrieved January 3, 2019 from: <https://www.ruralhealthinfo.org/charts>

<sup>52</sup> [https://www.cms.gov/ccio/programs-and-initiatives/other-insurance-protections/mhpaea\\_factsheet.html#Regulations](https://www.cms.gov/ccio/programs-and-initiatives/other-insurance-protections/mhpaea_factsheet.html#Regulations) and [Guidance](#)

Health Professional Shortage Areas (HPSAs) as defined by the Health Resources and Services Administration (HRSA) are areas with a lack of access to health care due to excessive distance, overutilization or access barriers<sup>53</sup>. The HRSA has determined that all of Butte County meets Mental Health Shortage Area criteria (see *Figure Status-12, previous page*)<sup>54</sup>.

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<sup>53</sup> U.S. Department of Health and Human Services. (2018). HPSA Designation Criteria. Health Resources and Services Administration. Retrieved

January 3, 2019 from: <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/designationcriteria.html>

<sup>54</sup> <https://www.ruralhealthinfo.org/charts/7?state=CA>

## SUBSTANCE MISUSE AND USE DISORDERS

According to the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), **SUBSTANCE MISUSE AND USE DISORDERS** occur when the recurring use of drugs or alcohol causes clinically and functionally significant impairment, such as health problems, disability, and failure to meet major responsibilities at work, school, or home. Diagnosis of a substance use disorder is based on evidence of impaired control, social impairment, risky use, and pharmacological criteria. The DSM-V treats substance use disorders as a continuum with mild to severe symptoms based on the number of diagnostic criteria met by an individual. The American Society of Addiction Medicine defines addiction as “a primary, chronic disease of brain reward, motivation, memory and related circuitry” adding that “dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors”<sup>55</sup>.

Substance use disorders impose an incredible cost to individuals, families, and society, with an estimated financial strain annually in the U.S. of over half a trillion dollars<sup>56</sup>. These disorders often occur simultaneously with other health problems (e.g. comorbid disorders), including mental health conditions and chronic pain among others. The most common substance use disorders nationally are Alcohol Use Disorder, Tobacco Use Disorder, Cannabis Use Disorder, Stimulant Use Disorder, and Opioid Use Disorder; with Alcohol and Opioid Use Disorders contributing to a marked increase in the national mortality rate in recent years and resultant decrease in U.S life expectancy<sup>57</sup>.

## ALCOHOL MISUSE

Alcohol misuse describes alcohol consumption that puts individuals at increased risk for adverse health and social consequences. It is defined as excess daily consumption of more than 4 drinks per day for men or more than 3 drinks per day for women; or excess total weekly consumption of more than 14 drinks per week for men or more than 7 drinks per week for women. One of the most common forms of alcohol misuse is binge drinking. Binge drinking is defined as having had 5 or more drinks on a single occasion at least once in the past month for men, and 4 or more drinks for women. It is associated with health problems including unintentional injuries; intentional injuries; alcohol poisoning; liver disease; sexually transmitted diseases; and cardiovascular diseases among others<sup>58</sup>.

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<sup>55</sup> <http://www.asam.org/for-the-public/definition-of-addiction>

<sup>56</sup> <http://www.drugabuse.gov/related-topics/trends-statistics>

<sup>57</sup> <https://www.cdc.gov/nchs/products/databriefs/db328.htm>

<sup>58</sup> <http://www.cdc.gov/alcohol/fact-sheets/ binge-drinking.htm>

**Table Status-35: Adult binge drinking in the past year, 2015**

	Butte County		California	
	Population	Percentage	Population	Percentage
No binge drinking in past year	101,000	57.5 %	18,986,000	65.3%
Binge drinking in past year	75,000	42.5 %	10,096,000	34.7%
Total	176,000	100.0%	29,083,000	100.0%

Source: 2015 California Health Interview Survey

In Butte County, adults age 18 and over reported binge drinking at a rate roughly ten-percentage points higher rate than the statewide rate in 2015 (see *Table Status-35*). This may be influenced by the percentage of young adults attending college and universities in Butte County, as statewide and national data suggest that binge drinking is a particular concern among college age adults, with over fifty percent of college students reporting binge drinking nationally<sup>59</sup>.

Underage drinking is associated with a wide range of health, social, and academic challenges. Teen alcohol consumption has been linked to risky health behaviors such as unprotected sex and impaired driving, poor academic performance, physical and/or dating violence, motor vehicle accidents, crime, and suicide attempts<sup>60</sup>.

**Table Status-36: Percent of Teens Binge Drinking in Last 30 Days by Grade Level, 2014 - 2016**

	7th Grade	9th Grade	11th Grade	Non Traditional
<b>Butte County</b>	2%	7%	20%	40%
<b>California</b>	1%	6%	11%	-

Source: Butte: 2014 - 2016 California Healthy Kids Survey (CHKS); CA: 2015 – 2017 CHKS<sup>61</sup>. Retrieved November 6, 2018 from <https://calschls.org/reports-data/>

<sup>59</sup> <http://www.niaaa.nih.gov/alcohol-health/special-populations-co-occurring-disorders/college-drinking>

<sup>60</sup> Child Trends. (2012). Binge drinking. Retrieved from: <http://www.childtrendsdatbank.org/?q=node/284>

<sup>61</sup> Austin, G., Polik, J., Hanson, T., & Zheng, C. (2018). School climate, substance use, and student well-being in California, 2015-17. Results of the Sixteenth Biennial Statewide Student Survey, Grades 7, 9, and 11. San Francisco: WestEd.

<b>Table Status-36 Supplement: Days Binge Drinking by Grade Level, 2014 - 2016</b>						
		Percent of Teens Binge Drinking by Number of Days in Last 30 Days				
		0 days	1-2 days	3-9 days	10-19 days	20 or more days
Butte County	7th Grade	98%	1%	0%	0%	0%
	9th Grade	93%	4%	2%	1%	1%
	11th Grade	80%	11%	5%	1%	2%
	Non Traditional	60%	18%	11%	4%	7%
California	7th Grade	99%	1%	0%	0%	0%
	9th Grade	94%	4%	1%	0%	0%
	11th Grade	88%	7%	3%	1%	1%
	Non Traditional	-	-	-	-	-

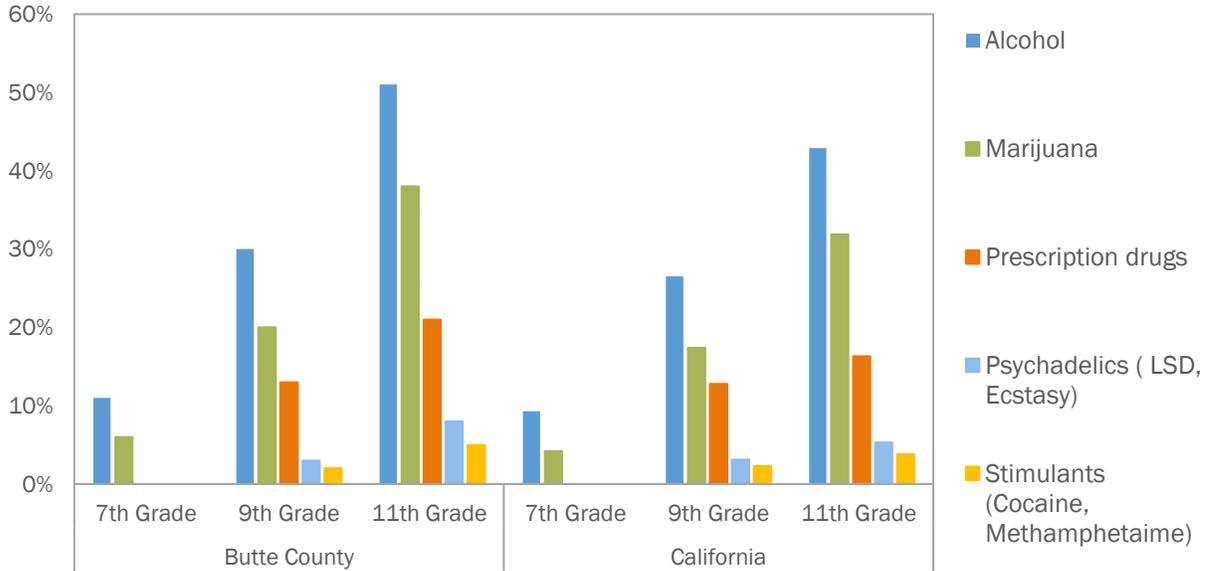
Source: Butte: 2014 - 2016 California Healthy Kids Survey (CHKS); CA: 2015 – 2017 CHKS.

Excessive alcohol consumption that continues into adulthood can have long-term consequences. The rates of binge drinking among teenagers in Butte County is slightly higher than rates for the state of California overall (see *Table Status-36, 36 Supplement*).

**ILLICIT SUBSTANCE USE**

The use of illicit substances (e.g. street drugs) is associated with adverse effects on both short and long term physiological, neurological, and behavioral health. These include cardiovascular disease, stroke, cancer, HIV/AIDS, hepatitis, and lung disease; as well as an increased risk for mood, anxiety, and other mental health disorders. The use of marijuana by teens is associated with poor academic performance, delinquency and aggressive behavior<sup>62</sup>. Smoking marijuana can trigger anxiety attacks, memory impairment, coordination loss, increased heart rate, breathing problems, and/or cognitive deficits<sup>62</sup>.

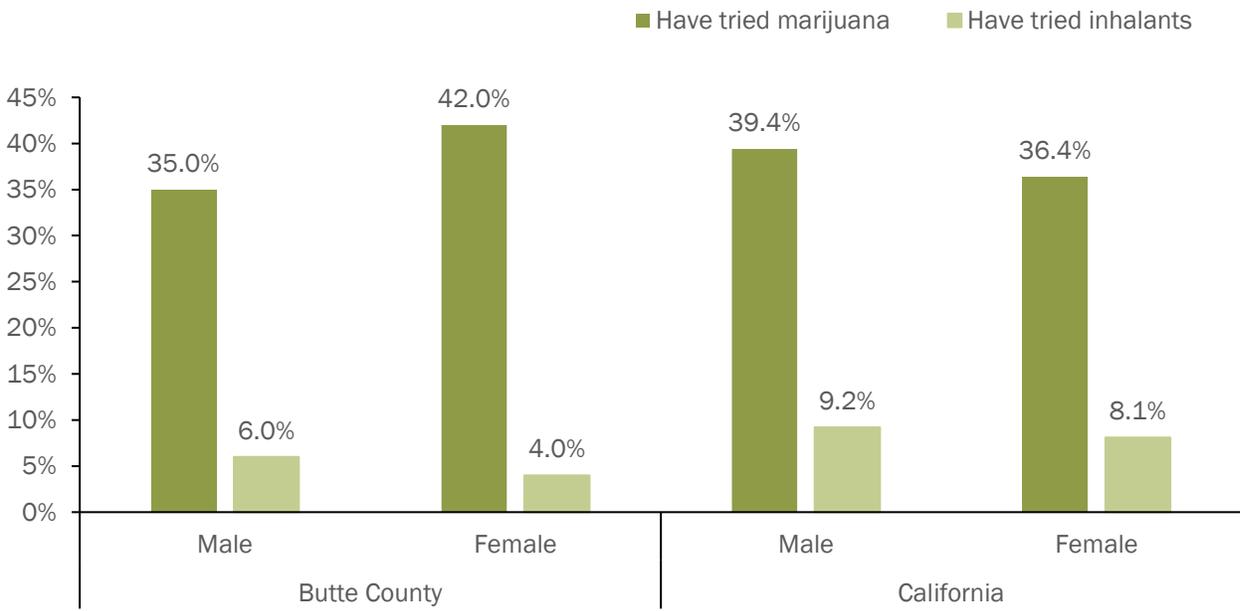
<sup>62</sup> National Institute on Drug Abuse. (2015). Marijuana Facts for Teens: National Institutes of Health; U.S. Department of Health and Human Services. NIH Pub. No. 15-4037.



**Figure Status-13:** Percentages of teens who have ever tried alcohol or other drugs in their lifetime by class of substance and grade level for Butte County (2014-2016) and California (2015-2017)

Source: 2014-2017 CA Healthy Kids Survey. Retrieved January 16, 2019 from: <https://calschls.org/reports-data/search-lea-reports/>

The percentage of teens in Butte County who reported ever trying alcohol, marijuana, recreational use of prescription drugs (such as pain killers, diet pills, or other prescription stimulants), psychedelic drugs (such as LSD, ecstasy, or others), and illicit stimulant drugs (such as cocaine or methamphetamine) was greater for all grade levels for nearly every category than in California overall (see *Figure Status-13*).



**Figure Status-14:** Percentages of teens who have ever tried marijuana or inhalants drugs by gender

Source: 2014 - 2015 California Healthy Kids Survey (CHKS), 11<sup>th</sup> Grade Data Displayed.

The percentage of male 11<sup>th</sup> grade teenagers in Butte County who reported ever trying marijuana or inhalants was lower than in California overall; however, the percentage of female teens reporting marijuana use was higher for Butte County (see *Figure Status-14*).

**Table Status-37:** Health consequences<sup>1</sup> of alcohol and drug use, ED treat and release rates, 2014

	Alcohol		Other Drugs	
	Number	Rate	Number	Rate
<b>Butte County</b>	2,270	1,011.1	1,854	825.8
<b>California</b>	294,430	763.8	248,713	645.2

Source: California Office of Statewide Health Planning and Development, Emergency Department Patient Data

Report generated from <http://epicenter.cdph.ca.gov> on June 03, 2016. Rates are per 100,000 people in the population.

<sup>1</sup> Health consequences include alcohol and drug (AOD) poisoning (overdoses), mental disorders, and physical diseases 100% attributable to AOD, but not indirect consequences of AOD (e.g., motor vehicle injuries due to AOD impairment). Health Consequences: All consequences. Inclusion Criterion: Any mention diagnostic/ecode.

## E-CIGARETTE USE

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Electronic cigarettes are devices that come in many shapes and sizes used to heat a liquid, which then produces an aerosolized form of inhalable nicotine. Nicotine is a highly addictive substance that affects the brain's reward system by increasing the chemical messenger dopamine associated with pleasure and reward. Because the adolescent brain continues to develop until age 25, frequent e-cigarette or other nicotine product use during this critical timeframe can result in nicotine dependence and long-term effects on the brain's dopamine chemical messenger systems.

Nicotine serves as a "gateway" drug as it primes the brain's reward system to be more susceptible to dependence on other substances such as methamphetamine or cocaine, if exposed to them later in adolescence or adulthood<sup>63</sup>. Other consequences of nicotine on the developing brain include attention and cognition defects, mood disorders, and reduced impulse control.

In 2016, the U.S. Surgeon General declared e-cigarette use among youth and young adults a public health concern as their use in high schools increased ninefold from 2011 to 2015<sup>64</sup>. Though nicotine levels in e-cigarettes may vary depending on the brand and type, some contain much higher levels of nicotine than regular cigarettes<sup>65</sup>.

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<sup>63</sup> US Department of Health and Human Services. E-cigarette Use Among Youth and Young Adults: A Report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, CDC; 2016.

<sup>64</sup> [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html)

<sup>65</sup> Levine A, Huang Y, Drisaldi B, et al. Molecular mechanism for a gateway drug: epigenetic changes initiated by nicotine prime gene expression by cocaine. *Sci Transl Med*. 2011;3(107):107ra109. doi:10.1126/scitranslmed.3003062

**Table Status-38:** Rate of e-cigarette tobacco use among youth in Butte County, CA, and USA, 2015-2017

	Butte County <sup>1</sup>	California <sup>2,3</sup>	United States <sup>3</sup>
Ever used e-cigarette (1 or more times)			
Grade 9	18.0%	23.2% <sup>3</sup>	32.7%
Grade 11	25.0%	31.7% <sup>3</sup>	48%
Total	-	43.9% <sup>3</sup>	42.2%
Currently use e-cigarette (20 or more days during past 30-day period)			
Grade 9	6.0%	0.8% <sup>2</sup>	1.8%
Grade 11	8.0%	1.3% <sup>2</sup>	3.7%
Total	-	2.5% <sup>3</sup>	3.3%

<sup>1</sup> Source: Butte County. *California Healthy Kids Survey, 2017-18: Main Report*. San Francisco: WestEd Health & Human Development Program for the California Department of Education.

<sup>2</sup> Source: Austin, G., Polik, J., Hanson, T., & Zheng, C. (2018). School climate, substance use, and student well-being in California, 2015-17. Results of the Sixteenth Biennial Statewide Student Survey, Grades 7, 9, and 11. San Francisco: WestEd. Retrieved from [https://data.calschls.org/resources/Biennial\\_State\\_1517.pdf](https://data.calschls.org/resources/Biennial_State_1517.pdf)

<sup>3</sup> Source: US Department of Health and Human Services/Centers for Disease Control and Prevention, Youth Risk Behavior Survey, 2017. Retrieved from <https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2017/ss6708.pdf>

In Butte County, the rate of high school students (grades 9, 11,) who have used an e-cigarette at least once is lower than both the state and national rates. In contrast, the total rate of high school students who used e-cigarettes in California is higher than the overall national rate. For high school students (grades 9 and 11) who indicated having used e-cigarettes for 20 or more days in the past month, Butte County’s rates are more than twice statewide and national rates. However, the total statewide rate for California is lower than the national rate (see *Table-Status 38*).

## TOBACCO

Smoking and tobacco use are contributing risk factors for a number of adverse health conditions including heart disease, stroke and respiratory illnesses. Smoking and tobacco use during adolescence may lead to additional unhealthy behavior and substance use, and almost all smokers begin in adolescence<sup>66</sup>. Research demonstrates that the density of tobacco retailers located near schools is directly associated with adolescent smoking. Restricting access to retail tobacco

<sup>66</sup> Youth and Tobacco Use. (2013). *Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health*. Retrieved from: [http://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/youth\\_data/tobacco\\_use/](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/)

sources for adolescent youth through local ordinances has been shown to reduce rates of smoking.

**Table Status-39: Tobacco retail density, 2016**

	2015 Census County Population	Tobacco Retailer Count	Retailers per 1,000 Population	Retailers within 1000 feet of a School	
	Estimate	Number	Number	Number	Percent
<b>Butte County</b>	221,578	223	1.0	70	31.4%
<b>California</b>	38,066,920	33,571	0.9	9,799	29.2%

Source: California State Board of Equalization (BOE) List of Licensed Tobacco Retailers, June, 2016

All retailers on the BOE list are included.

In Butte County the tobacco retail density is one tobacco retailer location per 1,000 people, which is just slightly higher than for California overall; and the percent of tobacco retailers within one thousand feet of a school is also slightly higher for Butte County than the state (see *Table Status-39*).

**Table Status-40: Current Cigarette Use Among Adults, 2016**

	Percentage	Confidence Interval
<b>Butte County</b>	14.0%	14% - 15%
<b>California</b>	11.0%	10% - 12%
<b>United States</b>	17.0%**	-

Source: Behavioral Risk Factor Surveillance System (BRFSS), 2016. RWJF County Health Rankings, 2018<sup>67</sup>.

\*\* Median value reported with no confidence intervals

The national Healthy People 2020 objective is a target of fewer than 12.0% of adults using tobacco products. Tobacco use among adults in Butte County is lower than the median national rate, but remains higher than for California overall as well as the Healthy People 2020 objective (see *Table Status-40*). According to the 2016 Behavioral Risk Factor Surveillance System (BRFSS), the percentage of adults that smoke cigarettes in Butte County was higher than for California overall, but lower than the percentage of adults that reported being current smokers nationwide (see *Table Status-40*).

<sup>67</sup> University of Wisconsin Population Health Institute. County Health Rankings 2018.

## THE OPIOID EPIDEMIC: PRESCRIPTION OPIOID MISUSE, HEROIN, AND FENTANYL

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Over the past two decades, misuse of prescription opioids such as hydrocodone and oxycodone became one of the most serious national substance related problems. This led to an increase in illicit use of opioids including heroin and, in more recent years, synthetic opioids such as illicitly manufactured fentanyl (IMF) and its analogs. According to the CDC, overdose from prescription opioids has reached epidemic levels, with drug induced deaths (e.g. overdose) accounting for more unintentional deaths than motor vehicle crashes for the first time in 2012. Prescription opioids accounted for more than half of the 41,000 deaths in the U.S. attributed to a drug overdoses that year<sup>68</sup>. In response to the increase of deaths attributed to prescription opioids, the medical community began adopting more stringent criteria for prescribing them in an effort to reduce their misuse. However, misuse of prescription opioids have been well documented as a pathway to use of street heroin and illicit synthetic opioids, as in many instances these opioids may be more attainable for individuals who have become physiologically dependent on prescription opioids but lack a current prescription<sup>69,70</sup>.

Mortality attributed to prescription opioids began to increase in the late 1990's, peaking in 2011, then plateauing and remaining relatively steady through the present time. Subsequently, mortality attributed to heroin began to increase in 2010, and then a sharp increase in mortality attributed to synthetic opioids - such as IMF and its analogs - began in 2013; both of which have continued to rise through the present, with synthetic opioids rising more rapidly than both prescription opioids and heroin. These trends in opioid deaths have paralleled an increase in deaths attributed to suicide and alcohol related causes; and collectively resulted in U.S. life expectancy decreasing in 2015 for the first time in the United States since 1993 (during the peak of the HIV/AIDS epidemic). This downward trend in U.S. life expectancy has continued in subsequent years<sup>71</sup>.

In 2017, the highest rate of drug-induced deaths ever recorded in the United States was observed<sup>72</sup>. The majority (67.8%) of the 70,237 drug induced deaths in 2017 were due to opioids; with 6 out of 10 of deaths involving opioids attributed to illicit synthetic opioids. This equated to a 1.5-fold increase in deaths involving synthetic opioids observed nationally from 2016 to 2017,

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<sup>68</sup> <http://www.cdph.ca.gov/Pages/OpioidMisuseWorkgroup.aspx>

<sup>69</sup> <http://newsatjama.jama.com/2014/02/03/pain-medication-abuse-likely-driving-heroin-resurgence/>

<sup>70</sup> United States Department of Health and Human Services. Substance Abuse and Mental Health Services Administration. Office of Applied Studies. National Survey on Drug Use and Health, 2012.

<sup>71</sup> Murphy SL, Xu JQ, Kochanek KD, Arias E. Mortality in the United States, 2017. NCHS Data Brief, no 328. Hyattsville, MD: National Center for Health Statistics. 2018. Retrieved January 3, 2019 from <https://www.cdc.gov/nchs/products/databriefs/db328.htm>

<sup>72</sup> Scholl L, Seth P, Kariisa M, Wilson N, Baldwin G. Drug and Opioid-Involved Overdose Deaths — United States, 2013–2017. *MMWR Morb Mortal Wkly Rep* 2019;67:1419–1427. DOI: <http://dx.doi.org/10.15585/mmwr.mm675152e1>

suggesting IMF was the main driver of the increase in opioid mortality. National data indicate regional differences in opioid overdoses exist by type of opioid; with deaths involving synthetic opioids being more prevalent east of the Mississippi River. However, the latest available data demonstrate states west of the Mississippi have had significant increases in deaths attributed to synthetic opioids between 2016 and 2017, including California<sup>73</sup>.

**Table Status-41: Drug induced death rates in Butte County, California, and the United States, 2014-2016**

	Age-Adjusted Death Rates			
	Butte County	California	United States*	National Healthy People 2020 Objective
3 Year Average	30.2	12.2	19.8	11.3

Source: California Department of Public Health, VRBIS Death Statistical Master File Plus 2014 – 2016 Retrieved From: Butte County’s Health Status Profile For 2018 <https://www.cdph.ca.gov/Programs/CHSI/CDPH%20Document%20Library/CHSP-BUTTE.pdf>

\*CDC Drug Overdose Death Data 2016 Retrieved From: <https://www.cdc.gov/drugoverdose/data/statedeaths.html>

From 2014-2016, Butte County ranked 54<sup>th</sup> out of 58 counties in California for drug induced deaths, meaning 53 counties had a lower age-adjusted death rate (AADR). The AADR for drug induced deaths in Butte County was also nearly three times as high as for California overall (see *Table Status-41*).

**Table Status-42: Death Rates by Class of Opioid in Butte County, California and USA, 2017**

	Age-Adjusted Drug Induced Deaths Rate Per 100,000		
	Butte County	California	United States (2016) *
All Opioids	7.6	5.2	13.3
Prescription Opioids (excluding Synthetics)	5.1	2.8	4.4
Heroin	1.3	1.7	4.9
Synthetic Opioids (excluding methadone)	1.2	1.2	6.2

Source: 2017 California Opioid Overdose Surveillance Dashboard, Acute poisoning deaths involving opioids such as prescription opioid pain relievers (i.e. hydrocodone, oxycodone, and morphine) and heroin and opium. Retrieved From: <https://discovery.cdph.ca.gov/CDIC/ODdash/>.

<sup>73</sup> <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

\*Annual Surveillance Report of Drug-Related Risks and Outcomes — United States Surveillance Special Report. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. 2018. Retrieved January 9, 2019 from: <https://www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf>

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In 2017, Butte County had an all-opioid overdose death rate greater than that of California but lower than the nation. It is important to note that the rates reported here for Butte County and California do not account for polydrug overdoses; and therefore may be underreporting opioid involved overdoses. However, these data indicate that prescription opioids still account for the majority of opioid overdose deaths in both Butte County and California in contrast to national data indicating that synthetic opioids account for the majority of opioid related deaths nationwide (*Table Status-42*).

## SEXUALLY TRANSMITTED INFECTIONS

**SEXUALLY TRANSMITTED INFECTIONS (STIS)** are some of the most widespread infections worldwide. STIs may affect anyone, regardless of their biological sex, gender, or sexual orientation. Exposure to STIs may increase if you have more than one sex partner or do not use condoms. More than 25 diseases can be transmitted sexually. According to the Center for Disease Control and Prevention (CDC), gonorrhea, chlamydia, and syphilis are the most common sexually transmitted infections and almost half occur among young people between the ages of 15 and 24 years.

### CHLAMYDIA

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Chlamydia is a common sexually transmitted infection (STI) caused by a bacterium, infecting both males and females. In female cases, it can cause serious, permanent damage to reproductive organs. Chlamydia can also be spread from an infected female to their baby during childbirth. Chlamydia is known as a silent infection because most people infected exhibit no symptoms. If symptoms do occur, they may not appear until several weeks after exposure. Even when no symptoms are present, chlamydial infections can lead to serious health problems.

Chlamydia is most common in adults between the ages of 18 and 29. Younger females between the ages of 20 and 24 have the highest number of reported cases, likely due to increased screening efforts in women and people with female anatomy younger than 26. It is also likely that a considerable number of male cases are not reported because males with the infection typically do not have symptoms. In 2017, the rate of reported cases in Butte County were slightly lower than for California overall, with both the County and the State demonstrating an increasing trend overall but no stable differences between the county and state observed from 2013 to 2017 (see *Table Status-43, following page*).

### GONORRHEA

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Gonorrhea is an STI that is also caused by a bacterium. Gonorrhea can grow easily in the warm, moist areas of the female reproductive tract, including the cervix (opening to the womb), uterus (womb), and fallopian tubes (egg canals); and in the male and female the urethra (urine canal). The bacterium can also grow in the mouth, throat, eyes, and anus. Gonorrhea is a very common infectious disease and it can be spread from an untreated mother to their baby during childbirth. People infected with gonorrhea are at risk of developing serious complications from the infection, even if symptoms are not present or are mild.

In 2017, the rate of reported cases of Gonorrhea in Butte County was considerably lower than for California overall, with the county demonstrating stable rates in recent years, while the state has demonstrated an steadily increasing trend; and with no stable differences between the county and state observed from 2013 to 2017, (see *Table Status-43, following page*).

**Table Status-43: STI Cases and Rates per 100,000 persons in Butte County and CA, 2013-2017**

	2013	2014	2015	2016	2017
Chlamydia					
<b>Butte Cases</b>	926	1,082	1,131	1,289	1,210
<b>Butte Rates</b>	417.0	483.6	504.5	573.5	534.3
<b>CA Cases</b>	167,866	174,288	189,822	198,384	218,728
<b>CA Rates</b>	437.5	449.9	486.0	504.6	552.2
Gonorrhea					
<b>Butte Cases</b>	143	302	315	325	307
<b>Butte Rates</b>	64.4	135.0	140.5	144.6	135.6
<b>CA Cases</b>	38,343	44,915	54,205	64,633	75,372
<b>CA Rates</b>	99.9	115.9	138.8	164.4	190.3
Early Syphilis (Primary, Secondary, and Early Latent)					
<b>Butte Cases</b>	2	3	14	33	76
<b>Butte Rates</b>	0.9	1.3	6.2	14.7	33.6
<b>CA Cases</b>	6,446	7,257	9,405	11,213	13,719
<b>CA Rates</b>	16.8	18.7	24.1	28.5	34.6
Congenital Syphilis					
<b>Butte Cases</b>	0	0	0	2	3
<b>Butte Rates</b>	0.0	0.0	0.0	80.3	123.5
<b>CA Cases</b>	58	103	148	214	283
<b>CA Rate</b>	11.7	20.5	30.1	43.8	58.2

Source: California Department of Public Health, STD Control Branch; \*Incidence per 100,000 population, 2013-2017.

## SYPHILIS & CONGENITAL SYPHILIS

Syphilis is a genital ulcerative infection caused by the bacterium *Treponema pallidum*. It is divided into stages (primary, secondary, latent, and tertiary), with different signs and symptoms associated with each stage. A person with primary syphilis generally has a sore or sores at the original site of infection, usually occur on around the genitals or other areas of sexual contact. Symptoms of secondary syphilis include skin rash, swollen lymph nodes, and fever. The signs and symptoms of primary and secondary syphilis can be mild, and they might not be noticed. During the latent

stage, there are no signs or symptoms. Tertiary syphilis is associated with severe medical problems that can affect the heart, brain, and other organs of the body<sup>74</sup>.

In the United States, syphilis was erroneously considered to be on the brink of eradication in the early 2000's, when the national rate of reported primary and secondary (P&S) syphilis cases was the lowest since reporting began in 1941, at 2.1 cases per 100,000 population. However, since then infection rates have increased at an alarming rate. The increase of reported P&S syphilis has been primarily attributable to increased cases among men and, specifically, among gay, bisexual, and other men who have sex with men (collectively referred to as MSM). However, within the last five years, cases among men who have sex with women only (MSW) and cases among women have also increased substantially. The increase in syphilis among women is of particular concern because it has been associated with a stark increase in congenital syphilis (when a mother with syphilis passes the infection on to her baby during pregnancy). Untreated syphilis in pregnant females, if acquired during the four years before delivery, can lead to infection of the fetus in up to 80% of cases and may result in stillbirth or death of the infant in nearly half of cases, and other disabling conditions in newborns<sup>75</sup>.

In 2017, the rate of reported cases of syphilis in Butte County were roughly equivalent to the rate for the state overall for the first time, with the rate for both the county and the state demonstrating a steadily increasing trend from 2013 to 2017. While the magnitude is not as great, a similar trend in rates of congenital syphilis has been observed for the State during this period, suggesting that the statistically underpowered increase in congenital syphilis rates observed in Butte County are likely indicative of a true phenomenon, highlighting the importance of prevention, screening, and treatment of syphilis in expecting mothers in the region (see *Table Status-43, previous page*).

STI's caused by these and other bacterium are treatable and in many instances can be cured with antibiotics. However, this does not reverse the damage caused prior to treatment, and some strains of gonorrhea have developed resistance to the cephalosporin antibiotic drugs prescribed to treat it. The CDC predicts that these strains of gonorrhea may soon become untreatable with *any* currently available antibiotics, and has advocated for the rapid research and development of new treatment options<sup>76</sup>.

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<sup>74</sup> <https://www.cdc.gov/std/syphilis/stdfact-syphilis.htm>

<sup>75</sup> <https://www.cdc.gov/std/stats17/syphilis.htm>

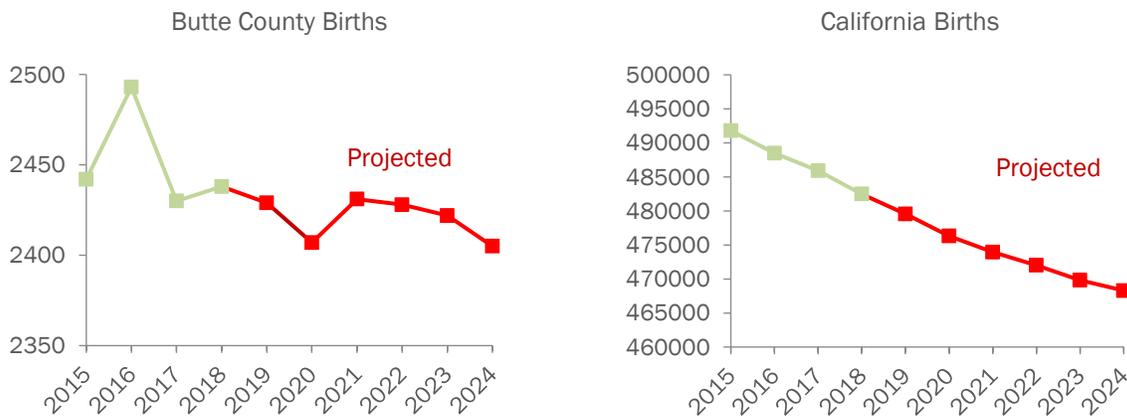
<sup>76</sup> <http://www.cdc.gov/Std/Gonorrhea/arg/default.htm>

MATERNAL AND CHILD DATA

The **WELL-BEING OF MOTHERS, INFANTS, AND CHILDREN** helps to determine the health outcomes of future generations. It predicts public health challenges for families, communities, and the healthcare system. Healthy birth outcomes, early identification of health conditions, and proper treatment among infants and children can prevent illness and support continued positive development.

**BIRTH RATES**

Trends in the population of children provide a clear understanding of the need for education, childcare, health care, and other services for children. The child population in Butte County is expected to decline slightly with some variation over the next several years, while it is projected to decline steadily for the state overall (see *Figure Status-15*).



**Figure Status-15:** Projected births by year, 2015-2024

Source: California Department of Public Health, 2018

**TEEN PREGNANCY**

Infants of teen mothers are at a greater risk for physical, social, and emotional challenges than infants of mothers in their 20s and early 30s<sup>77</sup>. Teen mothers are more likely to have babies born prematurely or with low birth weight, and their infants are at a much greater risk of death. Children born to teen mothers are also at greater risk for academic and behavioral problems later in their lives, such as poor math and reading comprehension, poor motor skills, communication skills, and

<sup>77</sup> Child Trends. (2013). Teen births. Retrieved from: <http://www.childtrends.org/?indicators=teen-births>

social skills. In addition, children born to teen mothers are at greater risk of becoming part of the foster care system.

**Table Status-44: Teen birth rates in Butte County and California, 3 Year Averages, 2014-2016**

	Teens (Ages 15 -19)		
	Population	Number of births	Rates per 1000
<b>Butte County</b>	8,650	137.7	15.9
<b>California</b>	1,314,431	27,235	17.6

Source: California Department of Public Health 2014-2016 Birth Records

Giving birth as a teenager can create hardship for parents. Teen parents are more likely to utilize public welfare programs than other teens<sup>78</sup>. Teen parents are more likely to attain lower levels of education, as well as lower income levels. However, it is important to note that some teen parents are able to manage these challenges successfully and reach their educational or career goals later in life. Between 2014 and 2016, the Butte County birth rate for teens was just slightly lower than for the state of California overall (see *Table Status-44*).

**Table Status-45: Births to mothers between the ages 15 and 19 in Butte County, 2008-2013**

		2008	2009	2010	2011	2012	2013
<b>Total Births</b>		284	234	209	205	191	157
<b>Delivery Payment Source</b>	Medi-Cal	87.3%	89.7%	82.8%	84.4%	90.1%	87.9%
	Private Insurance	9.9%	8.5%	13.4%	12.7%	8.4%	10.8%
	Self-Pay	1.4%	1.3%	2.4%	1.5%	1.0%	0.6%
	Other	1.4%	0.4%	1.4%	1.5%	0.5%	0.6%

Source: California Department of Public Health, 2013

Information on payment sources related to labor and delivery is helpful in projecting the need for public medical assistance related to pregnancy and childbirth. From 2008 to 2013, the number of total deliveries to teen mothers in Butte County declined dramatically. However, the percentage of Medi-Cal payments for delivery services in teen mothers was drastically higher than that of private insurance and other payment sources throughout this time period, indicating that being

<sup>78</sup> The National Campaign to Prevent Teen Pregnancy. (2007). Why it matters: Teen pregnancy and overall child well-being. Retrieved from: <http://thenationalcampaign.org/resource/why-it-matters-teen-pregnancy-and-overall-child-wellbeing>

of lower socioeconomic status may be a considerable risk factor for teen pregnancy in Butte County (see *Table Status-45*, previous page).

**BREASTFEEDING**

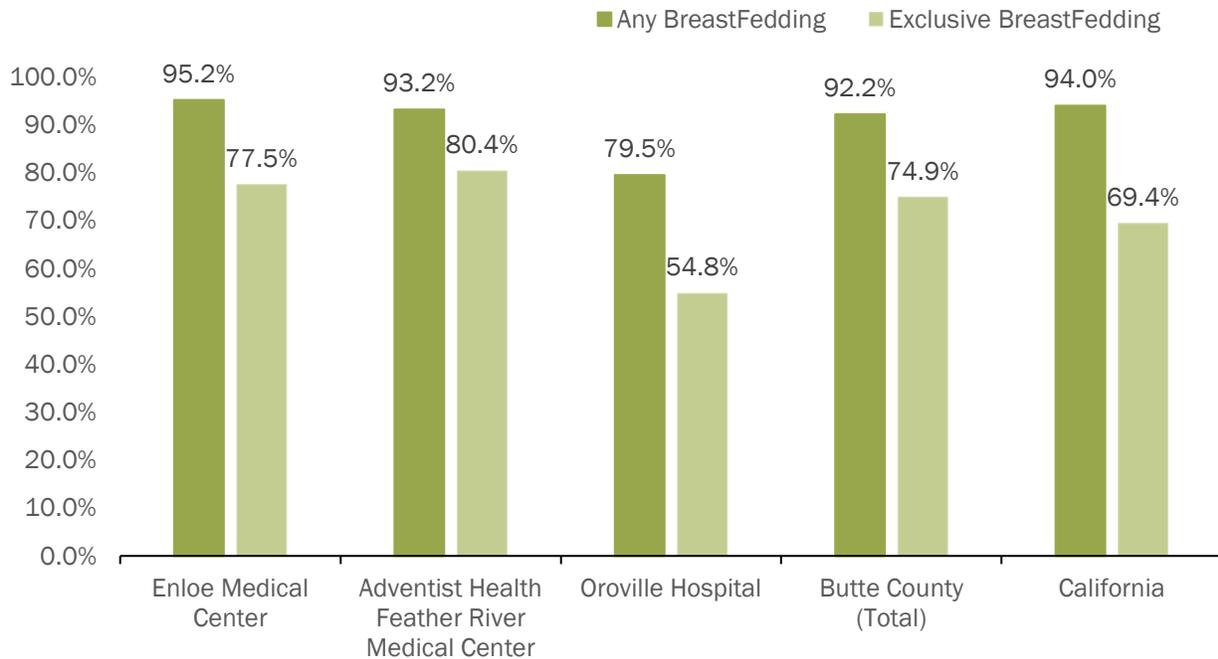
Breastfeeding provides the most complete form of nutrition for infants, as breast milk strengthens the immune system and facilitates proper growth. Breastfeeding for the first three months significantly lowers the risk of ear, respiratory tract, and gastrointestinal tract infections. The World Health Organization (WHO) recommends exclusive breastfeeding for the first 6 months of life, and continued breastfeeding with appropriate complementary foods up to 2 years of age or longer. The American Academy of Pediatrics also recommends that infants be exclusively breastfed for about the first 6 months, with continued breastfeeding along with introducing appropriate complementary foods for 1 year or longer<sup>79</sup>. Mothers should be encouraged to continue breastfeeding their children for a minimum of 1 year, as the longer an infant is breastfed, the greater the protection from certain illnesses and long-term diseases.

<b>Table Status-46: Exclusive In Hospital Breastfeeding Trend in Butte County, 2013- 2017</b>					
	2013	2014	2015	2016	2017
<b>Butte County</b>	79.7%	78.2%	77.3%	75.0%	75.8%
<b>California</b>	64.8%	66.8%	68.8%	69.6%	69.8%

Source: California Dept. of Public Health, In-Hospital Breastfeeding Initiation Data (Oct. 2018). Retrieved January 10, 2019 from <https://www.cdph.ca.gov/Programs/CFH/DMCAH/Breastfeeding/Pages/In-Hospital-Breastfeeding-Initiation-Data.aspx>; and <https://www.kidsdata.org/>

The percentage of Butte County newborns exclusively fed breast milk during their birth hospitalization period has shown a decreasing trend over the past five years, from 80% in 2013, to 76% in 2017. However, mothers in Butte County have been more likely to breastfeed exclusively during their hospitalization period than mothers in California overall (see *Table Status-46*).

<sup>79</sup> <https://www.cdc.gov/breastfeeding/faq/index.htm>

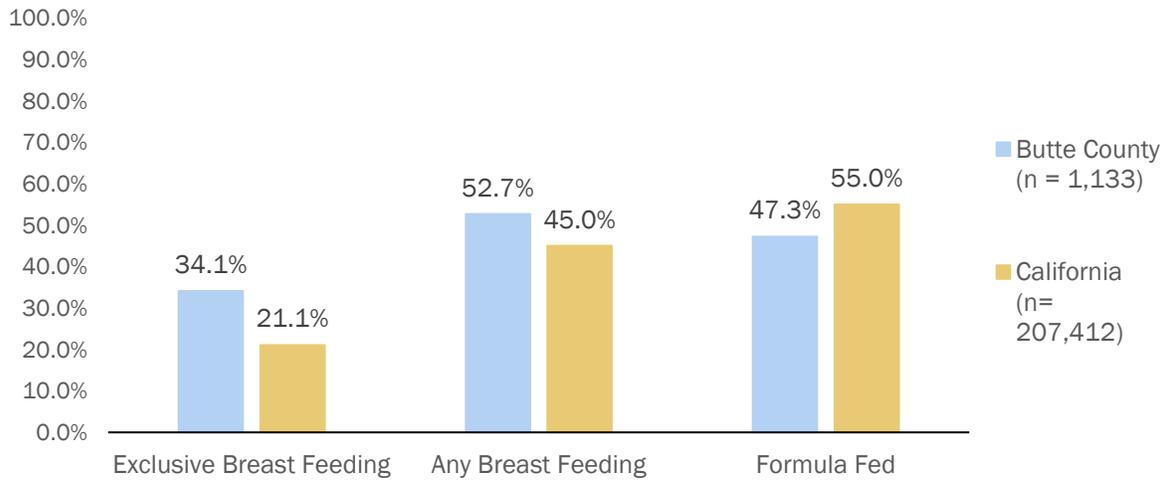


**Figure Status-16:** In-hospital breastfeeding rates in Butte County and California hospitals, 2016

Source: California WIC Association, 2017. Accessed November 8, 2018 from:

<http://www.calwic.org/project/charting-a-new-course-to-improve-the-quality-of-prenatal-care-hospital-breastfeeding-rate-fact-sheets/>

A hospital's health policies and procedures have a significant impact on breastfeeding. While breastfeeding is a natural process, studies indicate that a mother's experience in the hospital may influence the mothers' willingness to breastfeed their infant. Cooperation between hospitals, health care providers, public health agencies, and support groups is essential to ensure that all new mothers have the resources needed to breastfeed in the hospital and in their homes. According to the California WIC Association and the UC Davis Human Lactation Center California Breastfeeding and Hospital Performance Review, in 2016, Butte County ranked 25<sup>th</sup> statewide for exclusive breastfeeding in hospitals among new mothers. However, there was some variation between local hospitals; with two of three hospitals identified as Baby-Friendly hospitals (see *Figure Status-16*).



**Figure Status-16- Supplement:** WIC Program Clients Breastfeeding 3 Months After Birth in Butte County and California for the year 2018; WIC data

Source: Butte County WIC

According to the annual California Breastfeeding and Hospital Performance Review produced by the California Women Infants and Children Association (WIC), many mothers give up on their breastfeeding goals. Nearly two-thirds of new mothers plan to breastfeed exclusively, but less than half report doing so one month after giving birth. This suggests that many mothers are not prepared for the demands of a new baby and may find the task of breastfeeding their infant to be overwhelming. In 2018, three months after birth roughly one third of mothers in Butte County reported breastfeeding exclusively, about half reported some breastfeeding, and slightly less than half reported primarily using formula. This was better than for California overall in which one fifth of mothers reporting exclusive breastfeeding, less than half reported some breastfeeding, and more than half reported primarily using formula. For both Butte County and the state overall, a lower percentage of mothers reported either exclusive or any breastfeeding at six months, and even fewer at eleven months (see *Figure Status-16; supplemental WIC data*).

**ADVERSE BIRTH OUTCOMES AND INFANT MORTALITY**

Adverse birth outcomes include low birth weight, pre-term birth, stillborn, and miscarriage after the fourth month of pregnancy. Factors that contribute to adverse birth outcomes include: smoking; inadequate folic acid (vitamin B); consumption of alcohol; a prior history of an adverse birth outcome; length of time between subsequent deliveries after an adverse birth outcome; and chronic health conditions such as diabetes, hypertension, and obesity. Low birth weight infants (less than 5.5 pounds) have a greater risk of dying within the first year of life. They are also at

greater risk for long-term disabilities, developmental delays, learning disabilities, chronic respiratory problems, cerebral palsy, hearing and vision impairments, and autism<sup>80,81</sup>.

**Table Status-47: Low birth weight in Butte County and California, 3 Year Averages, 2014-2016**

	Butte County		California	
	Number	Percent	Number	Percent
Low birth weight infants	151.0	6.1%	33,655.3	6.8%

Source: California Department of Public Health, 2018

Note: Low Birth weight is less than 2,500 grams (5.5 pounds).

Studies have shown that expectant mothers are more likely to give birth to low birth weight babies if they are living below or near the poverty line, have smoking habits, have had a prior adverse birth outcome, or have chronic health conditions. Moreover, these demographic and behavioral factors can increase the risk of pre-term birth and low birth weight. From 2014 to 2016, the percentage of low birth weight babies in Butte County was slightly lower than for California overall (see *Table Status-47*).

Pre-term birth is defined as live birth with less than 37 weeks gestation. Over the last months and weeks of pregnancy a developing infant’s organ systems go through very important steps in healthy development, including the liver, the lungs, and the brain. Pre-term birth is a leading cause of long-term neurological disabilities in children, and accounts for more infant deaths than any other individual cause. The care for premature infants is significantly more intensive in terms of both the cost and level of care than that of full-term infants. In 2013, the rate of pre-term births in Butte County was 7.3 per 1,000 live births, which was slightly lower than that of California overall (8.8).

Infant mortality is one of the most important indicators of a population’s health. It is defined as death prior to an infant’s first birthday. Factors contributing to infant mortality include but are not limited to: maternal health; access to medical care; quality of medical care; socioeconomic

<sup>80</sup> March of Dimes. (2018). Low birth weight. Retrieved January 10, 2019 from: <https://www.marchofdimes.org/complications/low-birthweight.aspx>

<sup>81</sup> Pinto-Martin, J. A., et al. (2011). Prevalence of Autism Spectrum Disorder in adolescents born weighing <2000 grams. *Pediatrics*, 2010-2846.

Retrieved from: <http://pediatrics.aappublications.org/content/early/2011/10/14/peds.2010-2846.abstract>

conditions; and public health practices<sup>82</sup>. Major causes of infant mortality include preterm births; birth defects; sudden unexpected infant death / sudden infant death syndrome (SUID/SIDS); maternal complications of pregnancy and complications of the placenta, cord and membranes<sup>83,84</sup>.

In 2012, the Collaborative Improvement and Innovation Network (CoIIN) was formed in an effort to reduce infant mortality between public and private organizations including the Centers for Disease Control and Prevention (CDC), Health Resources and Services Administration (HRSA), Center for Medicaid and Medicare Services (CMS), the March of Dimes (MOD), and others. CoIIN identified key priorities to improve birth outcomes and reduce infant mortality including: promotion of smoking cessation among pregnant females; expanding access to care in between pregnancies through Medicaid (e.g. interconception care); reducing elective deliveries at less than 39 weeks gestation; promotion of safe sleeping practices to reduce the SUID/SIDS; and expanding regional perinatal services for high risk infants in need of level-III neonatal intensive care. Using technology to remove geographic barriers, multidisciplinary teams of federal, state, and local leaders work together to tackle common problems with a collective vision. Through CoIIN, participants are able to share ideas, best practices, and lessons learned; and track their progress toward similar benchmarks and shared goals<sup>85</sup>.

In subsequent years, specific HRSA-supported Collaborative Improvement and Innovation Networks (CoIINs) were formed to address a range of topics across the lifespan that align with state Title V Maternal and Child Health (MCH) Program priorities, and other MCH issues that community-based organizations are working on. These include maternal health, prenatal and infant/child oral health, newborn screening, infant mortality, home visiting, pediatric emergency care, child safety, school-based health, children's healthy weight, adolescent and young adult health, and environmental health<sup>86</sup>.

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<sup>82</sup> MacDorman, M. F., et al. (2013). Recent declines in infant mortality in the United States, 2005-2011. NCHS Data Brief, 120. Hyattsville, MD: National Center for Health Statistics. Retrieved from: <http://www.cdc.gov/nchs/data/databriefs/db120.htm>

<sup>83</sup> MacDorman, M. F., & Mathews, T. J. (2009). Behind international rankings of infant mortality: How the United States compares with Europe. NCHS Data Brief, 23. Hyattsville, MD: National Center for Health Statistics. Retrieved from: <http://www.cdc.gov/nchs/data/databriefs/db23.htm>

<sup>84</sup> Division of Birth Defects, National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention (CDC). (2011). Birth defects: Leading causes of infant death. Retrieved from: <http://www.cdc.gov/Features/dsInfantDeaths/>

<sup>85</sup> Barfield, W., et al., (2013). CDC Grand Rounds: Public Health Approaches to Reducing U.S. Infant Mortality. *Morbidity and Mortality Weekly Report* 62(31): 625-628.

<sup>86</sup> <https://mchb.hrsa.gov/maternal-child-health-initiatives/collaborative-improvement-innovation-networks-coiins>

**Table Status-48: Infant Mortality Rates by Race: 3 Year Averages, 2013-2015.**

	Rate per 1000 Live Births		
	Butte County	California	National Objective
All Races/Ethnicities	4.9	4.6	6.0
Hispanic/Latino	-	4.5	6.0
Multi-Race	-	6.1	6.0
African-American/Black	-	10.1	6.0
American Indian/Alaska Native	-	5.7	6.0
Asian	-	3.1	6.0
Pacific Islander	-	6.3	6.0
White	3.1	3.7	6.0

Source: California Health and Human Services Open Data Portal. Infant Mortality, Deaths per 1,000 Live Births (LGHC Indicator). (-) Rates are suppressed due to data on fewer than 10 events.

Retrieved November 26, 2018 from: <https://data.chhs.ca.gov/dataset/infant-mortality-deaths-per-1000-live-births-lghc-indicator-01>

The U.S. Department of Health and Human Services Healthy People 2020 objective is an infant mortality rate of less than 6 per 1,000 live births. In California and Butte County, this objective has been reached. However, this goal has not been reached for African American/Black infants in California overall, who have the highest rate of infant mortality in the state (see *Table Status-48*).

The higher level of infant mortality among African American/Black infants observed in the state is also observed nationwide, with pre-term related causes of infant mortality accounting for the majority of African American/Black infant deaths<sup>87</sup>. In California as a whole, the rate of pre-term birth is also highest for African American/Black infants, highlighting the relationship between pre-term birth and infant mortality. These trends in adverse birth and infant mortality also parallel trends in maternal and pregnancy related death, and may be in part attributed to social determinants of health such as housing, schools and public transportation; or other influences on the community such as laws, poverty and racism<sup>88</sup>. It is likely that economic hardship plays a considerable role in factors contributing to pre-term birth such as smoking, chronic health conditions, and previous adverse birth outcomes. Of concern is that a higher rate of African American/Black residents in Butte County live below the federal poverty line than any other racial

<sup>87</sup> MacDorman, M.F., Mathews, T.J., (2011). Understanding racial and ethnic disparities in U.S. infant mortality rates. NCHS data brief, no 74. Hyattsville, MD: National Center for Health Statistics.

<sup>88</sup> <https://www.marchofdimes.org/complications/pregnancy-related-death-maternal-death-and-maternal-mortality.aspx>

or ethnic group, and this may be influencing factors known to be associated with adverse birth outcomes.

## CHILD IMMUNIZATIONS

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Immunizations are among the most successful and cost-effective preventive health care measures. They can protect children from contracting contagious and life ending diseases, which in turn leads to a healthier population. Current immunization schedules recommend that children and adolescents should be immunized to protect against 16 diseases including: Chickenpox (Varicella); Diphtheria; Flu (Influenza); Hepatitis A; Hepatitis B; Hib (Haemophilus Influenza Type B); Measles; Meningococcal Disease; Mumps; Polio; Pneumococcal Disease; Rotavirus; Rubella; Tetanus; Whooping Cough (Pertussis); and HPV (Human Papillomavirus) as it is associated with cervical and other cancers later in life<sup>89</sup>.

In recent years, there has been an increase in the number of outbreaks of measles (a disease declared eradicated in the U.S. as recently as 2000) on both a national and global basis. This is in large part due to the trend of parents refusing vaccines such as the measles, mumps, rubella (MMR) vaccine and others for their children over the past two decades. This can in part be attributed to categorically false claims of vaccines being linked with autism and other health problems referenced within a 1998 *Lancet* paper authored by Dr. Andrew Wakefield, which was retracted in 2004, and has since been substantiated as a falsified study. Unfortunately, this paper helped spread erroneous beliefs about the safety of vaccines globally that still persist<sup>90, 91</sup>.

At the global, national, and local level, cases of measles have been increasing rampantly in recent months and years. According to the World Health Organization, in the first quarter of 2019 there was a 300% increase in cases of measles worldwide in comparison to the first quarter of 2018. Nationally, over this same period, multiple large-scale outbreaks of measles occurred, with the Centers for Disease Control and Prevention (CDC) confirming that measles outbreaks have transpired in at least 22 states resulting in the greatest number of cases reported nationwide since it was declared eliminated from the United States in 2000. In the state of California, outbreaks were verified in multiple jurisdictions, with a total of 38 total cases statewide confirmed as of April 24<sup>th</sup>, 2019. Of note, more than 10 of these cases occurred as part of an outbreak in Butte County<sup>92</sup>. In response to the Measles outbreaks at the national level, the director of the US Department of Health and Human Services (HHS) stated:

“With a safe and effective vaccine that protects against measles, the suffering we are seeing is avoidable. The CDC is ready to support public health departments in monitoring

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<sup>89</sup> U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, Vaccines & Immunizations. (2012). Parent’s guide to childhood immunizations. Retrieved from: <http://www.cdc.gov/vaccines/pubs/parents-guide/default.htm> .

<sup>90</sup> [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(10\)60175-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)60175-4/fulltext)

<sup>91</sup> <https://www.nytimes.com/2015/02/02/us/a-discredited-vaccine-study-continuing-impact-on-public-health.html> ; <http://time.com/5175704/andrew-wakefield-vaccine-autism/> retrieved April 25, 2019

<sup>92</sup> <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/measles.aspx>

and responding to outbreaks, and will continue to receive, review, and compile the latest reports of measles cases” – HHS Secretary Alex Azar, April 24, 2019.

In California, a recent law (SB-277) effective July 1, 2016, abolished the personal belief exemption from State statute mandated vaccines prerequisite for enrollment in public and private elementary, middle and high school schools; child care centers, day nurseries, and nursery schools. Compliance with the law became required of California students upon enrollment in the 2016 – 2017 academic school year. The law does still permit medical exemptions from statute-mandated vaccines defined as written statements by licensed physicians to the effect that physical conditions or medical circumstances of a child are such that immunization is not considered safe.

<b>Table Status-49: California Child Care Immunization Assessment, 2017-2018</b>				
	All	Public	Private	Head Start
Number of Schools	10,019	2,813	5,815	1,391
Number of Students	525,186	137,969	319,864	67,353
<b>All Required Immunizations</b>	<b>95.6%</b>	<b>95.7%</b>	<b>95.0%</b>	<b>98.2%</b>
Conditional Entrants	1.7%	1.8%	1.8%	1.0%
Permanent Medical Exemptions	0.6%	0.2%	0.8%	0.1%
Personal Belief Exemptions	0.4%	0.1%	0.5%	0.0%
Others Lacking Immunizations	0.1%	0.3%	0.0%	0.0%
Overdue	1.7%	1.9%	1.8%	0.7%
4 or more doses of DTP Diphtheria and Tetanus Toxoids and Pertussis Vaccine (DTP)	97.4%	97.4%	97.2%	98.6%
3 or more doses of Polio Vaccine	98.0%	98.3%	97.6%	99.3%
1 or more doses of Combination measles-mumps-rubella vaccine (MMR)	98.3%	98.7%	97.8%	99.6%
1 or more doses of HIB	98.4%	98.5%	98.1%	99.6%
3 or more doses of vaccines containing hepatitis B (Hep B)	97.7%	98.2%	97.2%	99.3%
1 or more doses of Varicella vaccine (or physician-documented disease)	98.2%	98.7%	97.7%	99.6%

Sources: <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/immunize.aspx>  
<https://www.shotsforschool.org/child-care/reporting-data/>

**Table Status-50: Butte County and California Child Care Immunization Assessment, 2017-2018**

	<b>Butte County</b>	<b>California</b>
Number of Schools	82	10,019
Number of Students	3,062	525,186
<b>All Required Immunizations</b>	<b>93.0%</b>	<b>95.6%</b>
Conditional Entrants	3.1%	1.7%
Permanent Medical Exemptions	0.6%	0.6%
Personal Belief Exemptions	0.5%	0.4%
Others Lacking Immunizations	0.1%	0.1%
Overdue	2.6%	1.7%
4 or more doses of DTP Diphtheria and Tetanus Toxoids and Pertussis Vaccine (DTP)	96.0%	97.4%
3 or more doses of Polio Vaccine	96.9%	98.0%
1 or more doses of Combination measles-mumps-rubella vaccine (MMR)	97.6%	98.3%
1 or more doses of HIB	97.2%	98.4%
3 or more doses of vaccines containing hepatitis B (Hep B)	97.1%	97.7%
1 or more doses of Varicella vaccine (or physician-documented disease)	97.2%	98.2%

Sources: <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/immunize.aspx>  
<https://www.shotsforschool.org/child-care/reporting-data/>

It is estimated that 33,000 lives are saved per annual birth cohort due to timely immunization nationwide, and that direct health care costs to society are reduced by nearly 10 billion dollars<sup>93</sup>. The majority of students enrolled in both Butte County and California schools during the 2017 - 2018 academic year had received all recommended immunizations. However, 6.4% of students in the county and 3.8% of students statewide without permanent medical exemptions did not receive all recommended immunizations, regardless of their documented benefits to both individual and population health (see *Table Status-50*).

<sup>93</sup> U. S. Department of Health and Human Services, Healthy People 2020. (2014). Immunizations and infectious diseases. Retrieved from: <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=23>.

**Table Status-51: Immunization Status of Kindergarten Students in Schools with more than 20 kindergarten students enrolled, 2017-2018 in Butte County**

	Enrollment	All Required Immunizations	Conditional Entrants	Overdue	Permanent Medical Exemptions	Personal Belief Exemptions	Others
<b>CALIFORNIA SCHOOL TOTAL</b>	564,121	95.1%	1.8%	1.2%	0.7%	0.0%	1.1%
<b>BUTTE COUNTY SCHOOL TOTAL</b>	2,899	94.5%	2.5%	0.3%	1.6%	0.0%	1.7%
Public Schools with more than 20 kindergarten students enrolled							
ACHIEVE CHARTER SCHOOL OF PARADISE INC.	24	≥95%	≤5%	≤5%	≤5%	≤5%	≤5%
BIGGS ELEMENTARY	57	95%	0%	5%	0%	0%	0%
BIRD STREET ELEMENTARY	36	≥95%	≤5%	≤5%	≤5%	≤5%	≤5%
BLUE OAK CHARTER	66	79%	12%	0%	9%	0%	0%
CEDARWOOD ELEMENTARY	48	≥95%	≤5%	≤5%	≤5%	≤5%	≤5%
CHAPMAN ELEMENTARY	73	97%	3%	0%	0%	0%	0%
CHICO COUNTRY DAY	63	95%	5%	0%	0%	0%	0%
CHILDREN'S COMMUNITY CHARTER	22	91%	9%	0%	0%	0%	0%
CITRUS AVENUE ELEMENTARY	64	94%	6%	0%	0%	0%	0%
CORE BUTTE CHARTER	69	51%	0%	0%	1%	0%	48%
DURHAM ELEMENTARY	96	97%	1%	0%	2%	0%	0%
EMMA WILSON ELEMENTARY	143	≥99%	≤1%	≤1%	≤1%	≤1%	≤1%
HELEN M. WILCOX ELEMENTARY	183	≥99%	≤1%	≤1%	≤1%	≤1%	≤1%
HOOKER OAK ELEMENTARY	67	96%	0%	0%	3%	0%	1%
LEARNING COMMUNITY CHARTER	31	74%	0%	0%	0%	0%	26%
LITTLE CHICO CREEK ELEMENTARY	83	≥98%	≤2%	≤2%	≤2%	≤2%	≤2%
MANZANITA ELEMENTARY	34	≥95%	≤5%	≤5%	≤5%	≤5%	≤5%
MARIGOLD ELEMENTARY	72	94%	6%	0%	0%	0%	0%
MCKINLEY ELEMENTARY	187	96%	3%	0%	1%	0%	0%
MCMANUS (JOHN A.) ELEMENTARY	96	97%	3%	0%	0%	0%	0%
NEAL DOW ELEMENTARY	51	96%	2%	0%	2%	0%	0%
NORD COUNTRY	22	≥95%	≤5%	≤5%	≤5%	≤5%	≤5%
OAKDALE HEIGHTS ELEMENTARY	65	97%	0%	0%	0%	0%	3%
OPHIR ELEMENTARY	72	≥98%	≤2%	≤2%	≤2%	≤2%	≤2%
PARADISE ELEMENTARY	118	92%	6%	0%	2%	0%	0%
PARKVIEW ELEMENTARY	64	95%	2%	0%	3%	0%	0%
PINE RIDGE	46	91%	2%	7%	0%	0%	0%
PLUMAS AVENUE ELEMENTARY	76	96%	4%	0%	0%	0%	0%

PONDEROSA ELEMENTARY	113	≥99%	≤1%	≤1%	≤1%	≤1%	≤1%
POPLAR AVENUE ELEMENTARY	54	96%	4%	0%	0%	0%	0%
ROSEDALE ELEMENTARY	95	95%	2%	0%	3%	0%	0%
SHASTA ELEMENTARY	96	≥98%	≤2%	≤2%	≤2%	≤2%	≤2%
SIERRA AVENUE ELEMENTARY	72	≥98%	≤2%	≤2%	≤2%	≤2%	≤2%
SIERRA VIEW ELEMENTARY	84	95%	5%	0%	0%	0%	0%
STANFORD AVENUE ELEMENTARY	66	97%	3%	0%	0%	0%	0%
STREAM CHARTER	31	90%	3%	0%	6%	0%	0%
WILDFLOWER OPEN CLASSROOM	22	73%	9%	0%	18%	0%	0%
WYANDOTTE ACADEMY	63	97%	0%	3%	0%	0%	0%
Private Schools with more than 20 kindergarten students enrolled							
NOTRE DAME SCHOOL	22	≥95%	≤5%	≤5%	≤5%	≤5%	≤5%

Sources: CDPH; <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/immunize.aspx>; <https://www.shotsforschool.org/k-12/reporting-data/>

In Butte County, kindergarteners had slightly lower rates of all required immunizations than the statewide average for California, with a high level of variation between individual schools throughout the county (see *Table Status-51*).

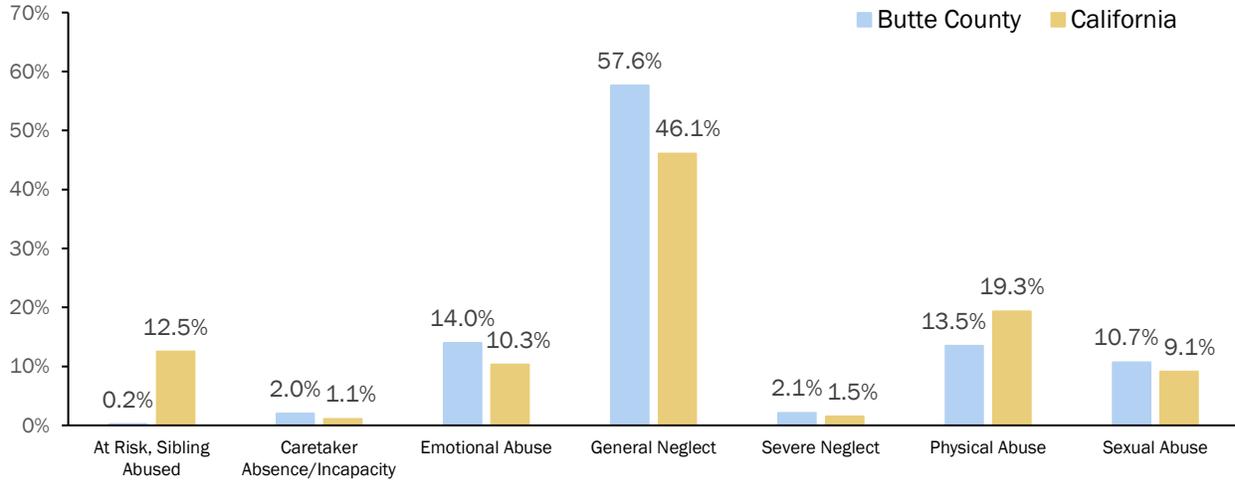
## CHILD ABUSE AND NEGLECT

Children who are abused and/or neglected are at significantly higher risk for developing emotional, cognitive, and behavioral problems. These include but are not limited to: anxiety; depression; suicidal behavior; difficulty in school; substance misuse and dependence; and early sexual activity<sup>94, 95</sup>. Abuse and/or neglect can cause severe stress that is known to disrupt neurological and physical development. Because the brain is developing much more rapidly early in childhood, young children are especially susceptible to disruptions in healthy neurological development. This places mistreated young children at significantly higher risk for health problems as adults. Children who are abused or neglected are more likely to repeat the cycle of violence by entering into violent relationships as teens and adults or abusing their own children. Child abuse and neglect are underreported, and occur in families of all socioeconomic levels and ethnic groups. Major risk factors for child abuse/neglect victims include being younger than 4 years old and being a child with special medical or developmental needs. Family and community risk factors include parental substance use, parental mental illness, major stress (e.g. poverty,

<sup>94</sup> Child Welfare Information Gateway. (2013). Long-term consequences of child abuse and neglect. U.S. Department of Health and Human Services.

<sup>95</sup> Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention. (2019). Child maltreatment: Consequences. Available at: <https://www.cdc.gov/violenceprevention/childabuseandneglect/fastfact.html>

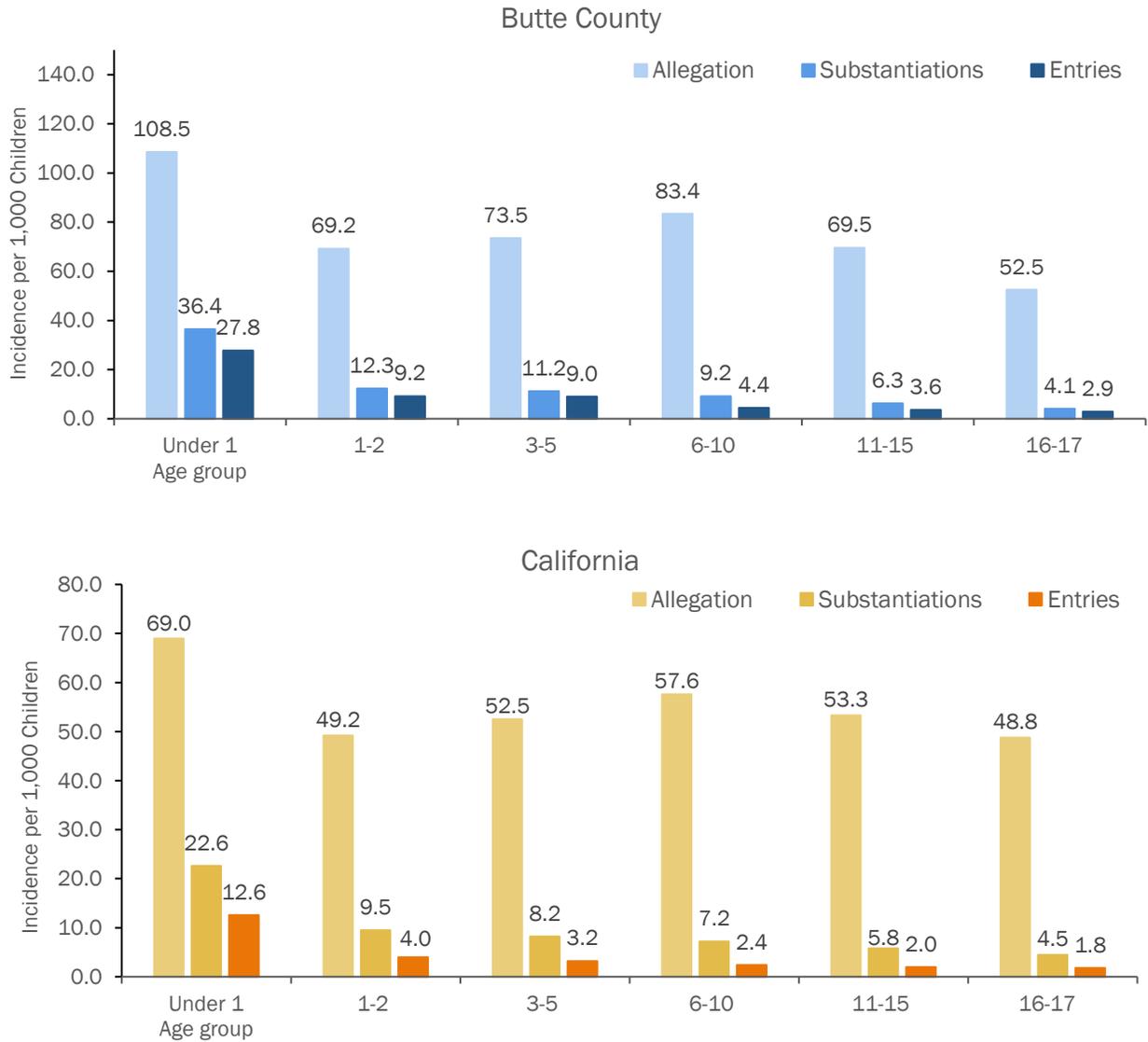
social isolation), domestic violence, and living in neighborhoods with relatively high rates of community violence.



**Figure Status-17:** Child abuse/neglect reports to Child Protective Services by type, 2017

Source: Webster, et al. (2018). California Child Welfare Indicator Project (CCWIP) Reports. Retrieved November 28, 2018, from University of California at Berkeley California Child Welfare Indicators Project website. URL: [http://cssr.berkeley.edu/ucb\\_childwelfare/Allegations.aspx](http://cssr.berkeley.edu/ucb_childwelfare/Allegations.aspx)

General neglect and physical abuse were the most frequently reported types of abuse in both Butte County and California overall, with a considerably higher percentage of general neglect reported in Butte County, but more physical abuse reported on a statewide level (see *Figure Status-17*).



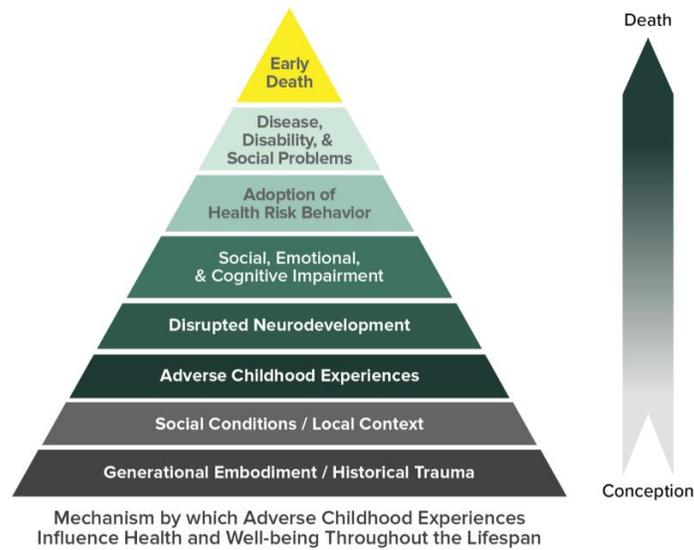
**Figure Status-18:** Maltreatment allegations, substantiations, and entries Incidence per 1,000 Children, 2015

Source: Webster, et al., (2016). CCWIP reports. Retrieved 7/09/2016, from University of California at Berkeley California Child Welfare Indicators Project website. URL: [http://cssr.berkeley.edu/ucb\\_childwelfare](http://cssr.berkeley.edu/ucb_childwelfare)

Note: A child is counted only once (per year); if a child has more than one allegation in a year, they are counted in the category considered most severe. Reports include substantiated, inconclusive, unfounded, and assessment-only referrals, as well as those "not yet determined."

The chances of being a victim of abuse/neglect in children decreases as children get older. Young children under the age of one year are much more likely to be victimized than children of any other age group. In 2015, the number of cases of maltreatment that occurred in Butte County overall was much higher than the statewide rate across all age groups (see *Figure Status-18*).

ADVERSE CHILDHOOD EXPERIENCES: IMPACT OF ABUSE AND NEGLECT



**Figure Status-19:** Conceptual Framework for the CDC-Kaiser ACE Study, 1995-1997

Source: <https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/about.html>

Adverse Childhood Experiences (ACEs) describe any traumatic experiences – in the forms of neglect, abuse, or household dysfunction – that occur during childhood and can have a significant impact on an individual’s overall health and well-being throughout their life. Early childhood adversity is associated with risky health behaviors, chronic conditions, low life potential, and early death. Childhood neglect, abuse, and household challenges are linked to the development of risk factors for disease and poor overall wellness over the course of an individual’s life (see *Figure Status-19*).

Dr. Vincent Felitti and colleagues at Kaiser Permanente and the Centers for Disease Control and Prevention conducted the original ACE study from 1995 to 1997. More than 17,000 California adults were surveyed about their childhood experiences and medical history. The study found that about two-thirds of the participants reported having at least one ACE, and one-fourth reported two or more ACEs<sup>96</sup>. Those who reported multiple ACEs were more likely to engage in risky health behaviors and had a higher chance of developing chronic illnesses than those who reported no ACEs, implying that the risk for negative life outcomes increases as the number of ACEs an

<sup>96</sup> Felitti, V. J., et al., (1998). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. *American Journal of Preventive Medicine*, 14(4), 245–258. [https://doi.org/10.1016/S0749-3797\(98\)00017-8](https://doi.org/10.1016/S0749-3797(98)00017-8)

individual has experienced increases. More recent studies and surveys have produced results similar to that of the CDC-Kaiser ACE study. Overall, the key findings are that ACEs are common across all populations; however, some populations are at increased risk of experiencing more ACEs depending on the socioeconomic conditions of their environments<sup>97</sup>.

**Table Status-52: Adults exposed to adverse childhood experiences before age 18, 2008-2013**

	Butte County	California
0 ACEs	23.5%	39%
1-3 ACEs	46.2%	45.1%
4 or more	30.3%	15.9%

Source: Rodriguez, D., et al. (2016). Prevalence of adverse childhood experiences by county, California Behavioral Risk Factor Surveillance System 2008 - 2013. Public Health Institute, Survey Research Group.

In Butte County, the percentage of adults over the age of 18 who report having experienced one or more ACEs during their childhood is slightly higher than that of California; however, the percentage of adults in Butte County who report experiencing no ACEs is considerably lower than that of California (see *Table Status-52*). In addition, while less than two-thirds of adults in California report having experienced one or more ACEs; more than three-quarters of adults in Butte County report having experienced one or more ACEs, making Butte County the jurisdiction with the highest rate of ACEs in the state<sup>98</sup>.

Dr. Nadine Burke –Harris, a widely recognized subject matter expert on the clinical relevance ACEs have on individual and population health, was appointed as California’s first Surgeon General in January of 2019. The Surgeon General’s office has stated that one of the top priorities in fulfilling their mission is to raise awareness about the relationships between ACEs, toxic stress, overall health and life quality; and to encourage the development and dissemination of methods for early intervention and prevention pertaining to ACEs to improve health and quality of life outcomes. The Surgeon General is currently embarking on a tour throughout California, visiting regions with elevated rates of ACEs – including Butte County – to gain a better understanding of the challenges encountered while addressing factors and conditions influencing health issues at the local level<sup>99</sup>.

<sup>97</sup> Centers for Disease Control and Prevention (April 2, 2019). About the CDC-Kaiser ACE Study |Violence Prevention Injury Center | CDC. Retrieved from <https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/about.html>

<sup>98</sup> Center for Youth Wellness. (n.d.). *Findings on Adverse Childhood Experiences in California*. Retrieved December 24, 2015, from [http://acestoohigh.files.wordpress.com/2014/11/hiddencrisis\\_report\\_1014.pdf](http://acestoohigh.files.wordpress.com/2014/11/hiddencrisis_report_1014.pdf)

<sup>99</sup> <https://www.chhs.ca.gov/blog/2019/04/02/california-surgeon-general-dr-nadine-burke-harris-launches-statewide-listening-tour/>

## AGING AND SENIOR RELATED HEALTH

## FALLS IN OLDER ADULTS

The danger and effect of falls is a major factor influencing the health and independence of California's aging and senior population. Annually, approximately one third of California's seniors will fall. These falls result in 213,000 visits to the emergency room, and more than 60,000 hospital admissions<sup>100</sup>. More than 40% of seniors who are hospitalized with a hip fracture are unable to continue living independently, and 25% die within a year of sustaining the injury. The high level of medical expenses associated with falls also place a considerable financial burden on those involved with both care and treatment of the patient. Research indicates that preventive efforts for seniors, specifically multi-factorial fall risk assessments and individually tailored interventions, can result in fewer hospitalizations and reduced medical costs.

**Table Status-53:** Fall related injury and death rates among seniors in Butte County, 2014 and 2016, respectively

	Non-Fatal Emergency Department Visits (2014)		Non-Fatal Hospitalization (2014)		Deaths Due to Fall (2016)	
	Butte County	California	Butte County	California	Butte County	California
50-64	2,385.6	1,642.8	595.3	263.5	0.0	3.8
65-84	3,545.9	3,209.0	1,647.1	1,031.2	14.5	20.9
85+	10,781.3	10,198.8	6,041.7	4,422.2	377.5	155.3
Total (age 50+)	3,423.9	2,680.8	1,387.1	770.1	33.8	18.8

Source: California Department of Public Health, Safe and Active Communities Branch. Report generated from <http://epicenter.cdph.ca.gov> on: November 28, 2018. Rates are calculated per 100,000 population.

In 2014, the rates of both fall related injuries and deaths among adults age 50 and over in Butte County were considerably higher than those of California overall. The rates for both Butte County and California were highest for non-fatal emergency department visits, followed by non-fatal hospitalizations and death (see *Table Status-53*).

<sup>100</sup> California Department of Health Services, Epidemiology and Prevention for Injury Control Branch

## ALZHEIMER'S DISEASE AND DEMENTIA

Of particular relevance to the aging/senior population is the recent rise in the rate of dementia due to Alzheimer's disease. Alzheimer's is a progressive disease, meaning that the severity of symptoms increase over time. While it is not yet possible to reverse the symptoms and there is no cure, detection of early stage Alzheimer's disease permits treatments that may significantly slow the progression of symptoms.

The term dementia is generally used to describe conditions in which a decline in memory or other thinking skills occur, and is severe enough to reduce a person's ability to perform everyday activities<sup>101</sup>. Dementia can also be caused by Parkinson's disease, Huntington's disease, vascular dementia (stroke), HIV/AIDS, substance use, exposure to toxins, or traumatic brain injury. However, dementia caused by Alzheimer's disease is the most common type and accounts for up to 80% of cases<sup>102</sup>.

While the underlying neurological changes that are thought to be responsible for Alzheimer's are not fully understood, the greatest risk factor for developing dementia due to Alzheimer's disease is age. The chances of developing symptoms of Alzheimer's double roughly every five years for people age 65 and over, reaching an almost fifty percent chance by age 85.

**Table Status-54:** Deaths attributed to Alzheimer's disease in Butte County and California, 2014-2016

	Butte County	California
Age-Adjusted Death Rates	51.1	34.2
Crude Death Rates	75.0	36.8
Deaths (3 Year Average)	168.3	14,386.7
Population (2015)	224,363	39,059,809

Sources: California Department of Public Health, 2014-2016 Vital Records Business Intelligence System (VRBIS) Death Statistical Master Files. Retrieved November 28, 2018 from: <https://www.cdph.ca.gov/Programs/CHSI/Pages/County-Health-Status-Profiles.aspx>

Alzheimer's disease is the seventh leading cause of death in Butte County with an age-adjusted death rate (AADR) of 51.1 deaths per 100,000 people, and the sixth leading cause of death in California overall with an AADR of 34.2 deaths per 100,000 people (see *Table Status-55, pg. 109*). Butte County ranks 55<sup>th</sup> out of California's 58 Counties for deaths due to Alzheimer's disease.

<sup>101</sup> <http://www.cdc.gov/mentalhealth/basics/mental-illness/dementia.htm>

<sup>102</sup> <http://www.alz.org/what-is-dementia.asp>

Between 2014 and 2016, an average of 168 people in Butte County and 14,387 people in California died from Alzheimer's disease each year (see *Table Status-54, previous page*).

## CAUSES OF DEATH

All deaths that occur in Butte County are reported with detailed information including age; race/ethnicity of the deceased person; place of residence at the time of death; cause of death; and other characteristics. Butte County's population varies regionally across several key demographics, including age. That is, in different geographic areas of the county, there are considerable differences in the percentage of people representing specific age groups. For instance, there are likely more young adults between the ages 18 and 25 residing in the downtown Chico area (near the CSU Chico campus) than living in Paradise. When comparing across geographic areas, the Age-Adjusted Death Rate (AADR), is typically used to control for the influence that different age distributions might have on the frequency of causes of death.

The leading cause of death in Butte County between 2014 and 2016 was cancer, with an AADR of 162.2 deaths per 100,000 people. Other causes of death, in order of greatest to least frequent AADR's were coronary heart disease, accidents (unintentional injuries), Alzheimer's disease, chronic lower respiratory disease, stroke (cerebral vascular disease), and lung cancer. Cancer was also the leading cause of death for California overall, followed by coronary heart disease, stroke, Alzheimer's disease, chronic lower respiratory disease, and accidents (*see Table Status-55, following page*).

**Table Status-55: Mortality rates in Butte County and California, 2014-2016**

	Age-Adjusted Death Rates		
	Butte County	California Current	National Objective
All Causes	765.3	608.5	a
All Cancers	162.2	140.2	161.4
Coronary Heart Disease	85.8	89.1	103.4
Accidents (Unintentional Injuries)	63.2	30.3	36.4
Alzheimer’s Disease	51.1	34.2	a
Chronic Lower Respiratory Disease	45.8	32.1	a
Cerebrovascular Disease (Stroke)	39.3	35.3	34.8
Lung Cancer	37.7	28.9	45.5
Drug-Induced Deaths	30.2	12.2	11.3
Female Breast Cancer	21.2	19.1	20.7
Prostate Cancer	19.4	19.6	21.8
Diabetes	18.9	20.7	b
Chronic Liver Disease and Cirrhosis	18.4	12.2	8.2
Suicide	18.1	10.4	10.2
Colorectal Cancer	15.7	12.8	14.5
Influenza/Pneumonia	14.9	14.3	a
Motor Vehicle Traffic Crashes	13	8.8	12.4
Firearm-Related Deaths	11.2	7.6	9.3
Homicide	3.4*	5	5.5

Sources: California Department of Public Health, 2014-2016 Death Statistical Master Files.

a. Healthy People 2020 (HP 2020) National Objective has not been established.

b. National Objective is based on both underlying and contributing cause of death which requires use of multiple cause of death files. California’s data exclude multiple/contributing causes of death.

\* Rates are deemed unreliable based on fewer than 20 events.

## ACCESS TO CARE RE-ASSESSMENT

In December of 2015, the Butte County Health Collaborative (BCHC) selected [ACCESS TO CARE](#) as its priority focus area for 2016-2017. In partnership with the BCHC, Butte County Public Health (BCPH) formed a sub-committee to assess factors influencing access to care specific to Butte County. Existing literature was reviewed, secondary data was analyzed; surveys were administered to area health care providers and clients of their services; and focus groups targeting under-represented groups were conducted. Results of these assessments and the gaps in care discovered through their analysis were then used by the sub-committee to develop both short and long-term goals for improving access to care in Butte County.

While not as extensive, the current report provides a re-assessment of indicators representative of the community's access to health care services; and permits the assessment of progress towards previously established goals to improve access to and quality of care in the Butte County.

## METHODS

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To identify gaps in health care services and barriers to accessing them, as well as progress towards diminishing both, several methods previously used were employed and expanded on. Secondary data was obtained from the California Health Interview Study (CHIS) permitting data pertaining to primary and specialty care access specific for Butte County to be compared with data for the state overall, as well as with findings from our previous assessment. In addition, data was obtained from the California Department of Healthcare Services Monthly Enrollment Reports, U.S. Department of Health and Human Services Data Warehouse for Healthcare Provider Shortage Areas, and the Area Health Resource File via County Health Rankings ratio of population to provider reports in order to analyze gaps between the supply of and demand for health care services in Butte County.

Results of the secondary data analysis were stratified across multiple factors where possible, such as insurance type (e.g. Private vs. Medi-Cal). Findings from these analyses were then cross-referenced for areas demonstrating improvement within the county, and relative to the state of California overall, since the previous assessment. Several factors in Butte County were demonstrated to still pose significant barriers to accessing care, including an overall lack of primary and specialty care providers in the area, socio-economic barriers, geographic and transportation barriers. However, new opportunities, such as the expansion of telehealth services and an increase in providers that have attained an x-waiver for buprenorphine medication assisted treatment (MAT) of opioid use disorder (OUD) have occurred.

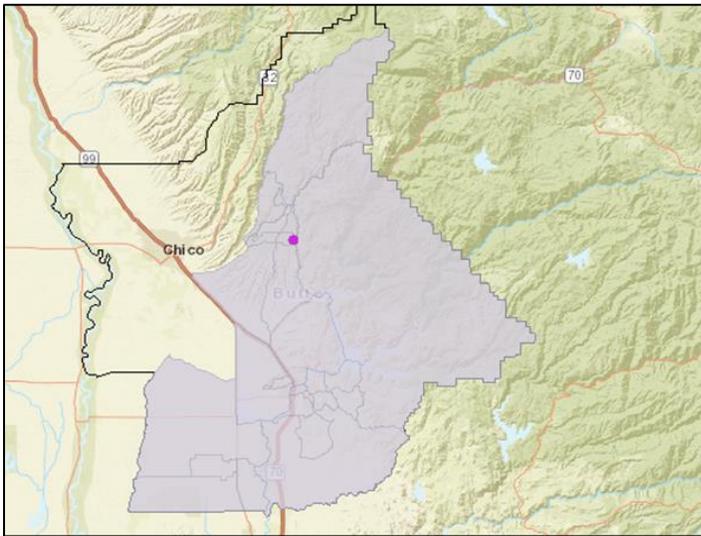
Of note, this assessment relies on data obtained prior to the occurrence of the most catastrophic wild fire in the history of California, the Camp Fire, which began in November 2018. The full impact of the Camp Fire on access to care in the county will not be measurable for some time and is beyond the scope of the current report. However, it is clear the impact has been substantial for both acute and outpatient care, as the fire rendered one of the county's hospitals non-operational resulting in the relocation of many of their affiliated healthcare providers, and other healthcare providers practicing in the affected area. Preliminary data indicate that 279 of 1,189 skilled nursing

facility beds (23.5%), 24 of 42 intermediate care facility beds (57.1%), and 100 of 567 General Acute Care Hospital beds (17.6%) in Butte County were destroyed in the fire<sup>103</sup>.

## RESULTS

### *Large Portions of Butte County Retain Rural Designations*

Residents of rural areas often encounter barriers to healthcare that limit their ability to obtain the



**Figure Access-1: Rural Health Areas in Butte County**

Retrieved May 30, 2019, from Human Resource & Services Administration, Quick Maps – Rural Health Areas

care they need. These often include: transportation barriers; health literacy barriers; health insurance status barriers; and increased stigma associated with conditions in rural communities, such as mental health or substance misuse<sup>104</sup>. Further, rurality has become a proxy for many social determinants of health, as rural regions tend to have residents that experience significant health disparities relative to residents of urban regions<sup>105</sup>.

A large portion of Butte County is identified as meeting Health Resources and Services Administration (HRSA) rural classification criteria. Areas classified as “Rural Health Areas” include locations such as Paradise, Oroville, Gridley and Palermo. *Figure*

*Access-1* represents Rural Health Areas in Butte County as determined by the HRSA. The map demonstrates that a majority of Butte County is considered a Rural Health Area (shaded in grey).

### *Demand for Health Care Services Continues to Exceed Supply in Butte County*

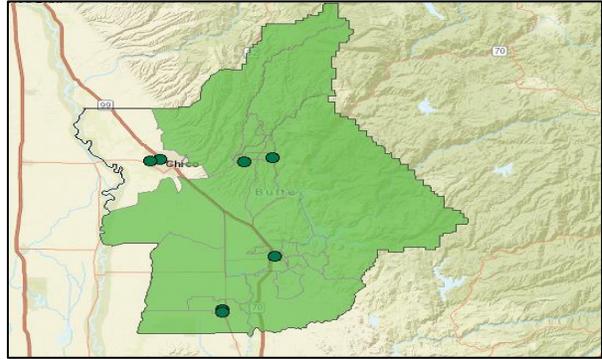
The HRSA has determined that there continue to be Primary Care Shortage Areas, Mental Health Shortage Areas, and Dental Care shortage areas in Butte County (see *Figures 2a,b – 4a,b; respectively, on the following page*). While only parts of the county meet Primary Care Shortage

<sup>103</sup> California Department of Public Health, Licensing & Certification, 2019.

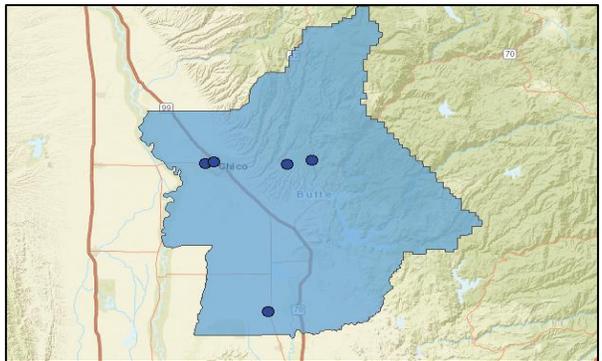
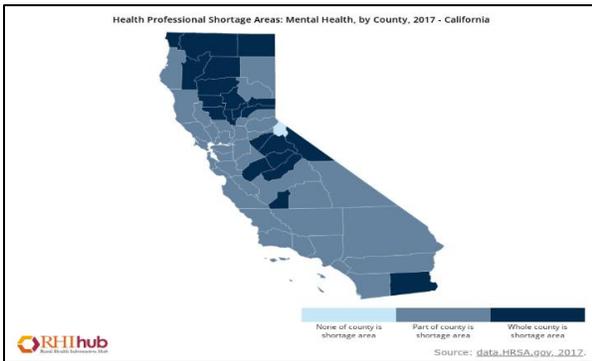
<sup>104</sup> <https://www.ruralhealthinfo.org/topics/healthcare-access>, retrieved June 3, 2019

<sup>105</sup> <https://www.ruralhealthinfo.org/topics/rural-health-disparities>, retrieved June 3, 2019

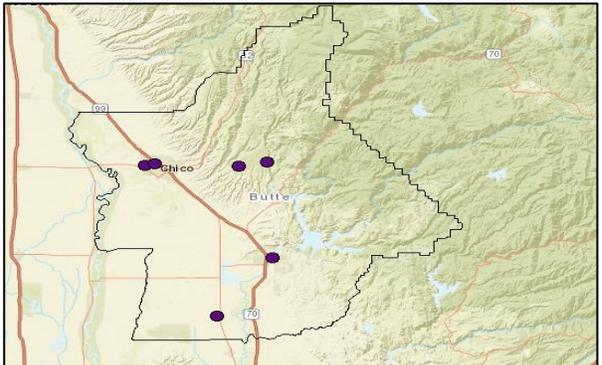
Area and Dental Care Shortage Area criteria, the entire county meets Mental Health Shortage Area criteria.



**Figure Access-2a, 2b: Primary Care Health Professional Shortage Areas in Butte County**



**Figure Access-3a, 3b: Mental Health Professional Shortage Areas in Butte County**



**Figure Access-4a, 4b: Dental Health Professional Shortage Areas in Butte County**

Figures retrieved May 23, 2019, from: <https://www.ruralhealthinfo.org/charts/7?state=CA;>

<https://data.hrsa.gov/hdw/Tools/MapToolQuick.aspx?mapName=HPSADC>

*Primary Care Physician and other Health Care Provider Shortages*

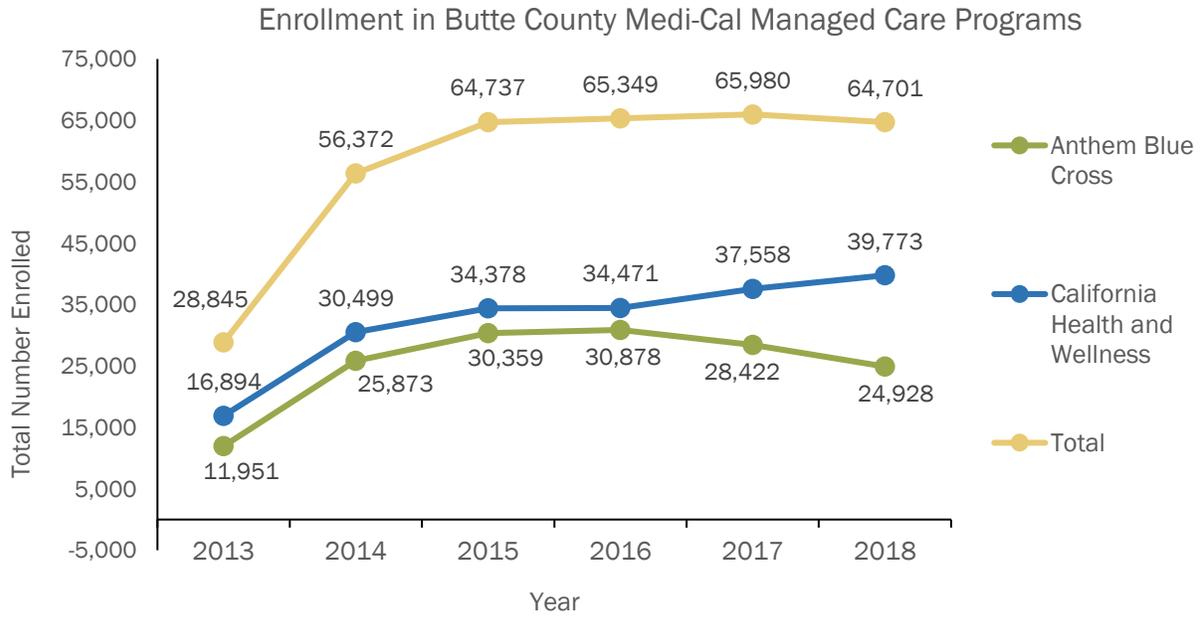
A large portion of Butte County continues to meet the Health Resources and Services Administration (HRSA) criteria for a Primary Care Health Professional Shortage Area (HPSA), (see *Figure Access – 2b, previous page*). Further, there has been a notable decrease in Primary Care Physicians since the last assessment was conducted. From 2012 to 2016, the ratio of persons to Primary Care Physicians in Butte County increased by roughly 11%; while, for California overall, there was about a 2% decrease during this period, indicating that Primary Care Provider ratios have worsened considerably in Butte County while they have improved marginally statewide. Likewise, in 2016 Butte County still had significantly more residents per physician than California overall (1660:1 and 1270:1, respectively).

However, for both Butte County and California overall, improved ratios occurred for Other Primary Care (e.g. non-Physician Primary Care such as: Physician’s Assistants, Advanced Registered Nurse Practitioners, etc.), Dental Care Providers, and Mental Health Care Providers; with significant reductions in the number of residents per provider for Other Primary Care providers and Mental Health Providers, and marginal reductions in the number of residents per Dental Care Provider for both the county and the state overall.

<b>Table Access-1: Population to Provider Ratios: Butte County and California, 2012 &amp; 2016</b>						
	<b>Butte County</b>			<b>California</b>		
	2012	2016	Percent Change	2012	2016	Percent Change
Primary Care	1497:1	1660:1	10.9%	1294:1	1270:1	-1.9%
Other Primary Care (Non Physician)	1241:1	1042:1	-16.0%	2406:1	1770:1	-26.4%
Dental Care	1461:1	1410:1	-3.5%	1291:1	1200:1	-7.0%
Mental Health Care	238:1	170:1	-28.6%	388:1	310:1	-20.1%

Source: 2012 and 2016 Area Health Resource Data File via County Health Rankings. Retrieved From: <http://www.countyhealthrankings.org/app/california/2019/rankings/butte/county/outcomes/overall/snapshot>

In comparing Butte County ratios with the state, there remains a shorter supply per capita of Primary Care Physicians and Dental Care providers in Butte County than in the state overall. However, Butte County still has a better ratio of Non-Physician Primary Care Providers and Mental Health Providers per capita than the state overall, (see *Table-Access 1*).



**Figure Access-5: Medi-Cal Managed Care Enrollment**

Source: 2013-2018 Medi-Cal Managed Care Enrollment Reports. Retrieved May 23, 2019 from: <https://www.dhcs.ca.gov/dataandstats/reports/pages/mmcdmonthlyenrollment.aspx#2016>

Medi-Cal (e.g. California’s Medicaid program) expansion under the ACA increased the number of Medi-Cal beneficiaries in Butte County by 123% between 2013 and 2015. After this initial increase in Medi-Cal enrollment, the number of Medi-Cal beneficiaries in Butte County stabilized at roughly 65,000 per year. However, from 2016 - 2018, enrollment into the California Health & Wellness (CHW) managed Medi-Cal plan increased while enrollment into the Anthem Blue Cross (ABC) managed Medi-Cal plan simultaneously decreased, indicating beneficiaries likely migrated from ABC to CHW over this time period, as overall enrollment was stable (see *Figure Access-5*).

**Table Access-2: Type of Current Health Insurance Coverage in Butte County, 2014-2017**

	2014-2017	2011-2013	Percent Point Change	Percent Change
	(pooled)			
Uninsured	5.0%	16.5%	-11.50%	-69.7%
Medicare & Medicaid	3.9%*	4.0%*	-0.10%	-2.5%
Medicare & Others	11.8%	11.8%	0.00%	0.0%
Medicare only	2.2%*	3.3%*	-1.10%	-33.3%
Medicaid (e.g. Medi-Cal)	29.0%	18.5%	10.50%	56.8%
Healthy Families/CHIP	-	0.5%*		-
Employment-based	41.1%	40.9%	0.20%	0.5%
Privately purchased	5.4%*	2.9%	2.50%	86.2%
Other public	1.6%*	1.8%*	-0.20%	-11.1%
<b>Total Population</b>	<b>222,000</b>	<b>216,000</b>		<b>2.8%</b>

Source: 2011-2017 California Health Interview Survey.

\*Statistically unstable for a minimum number of respondents needed AND/OR has exceeded an acceptable value for coefficient of variance. - (hyphen): Estimate is less than 500 people.

The resultant increase in Medi-Cal and other health insurance beneficiaries under the ACA placed considerable strain on the limited capacity of practicing physicians in Butte County to accommodate new patients. The influx of newly insured patients into primary care practices have demonstrated some improvement, but have not yet been fully accommodated. The resultant deficit in access to care remains to a significant extent in Butte County, as there are still too few physicians to meet the needs of residents seeking both Primary and Specialty Care. However, the number of uninsured residents of the County have decreased significantly since the roll-out of Medi-Cal expansion and implementation of the ACA in 2014 (see *Table Access-2*).

While insurance coverage clearly has improved in recent years, this has not necessarily translated to better access to care when paired with the provider shortages faced by the county. According to the California Health Interview Survey (CHIS), between 2015 and 2017, roughly 9% of Butte County residents reported difficulty accessing primary care compared to about 6% of California residents; and roughly, 17% of Butte County residents reported difficulty accessing specialty care compared to about 13% of California residents. Conversely, a significantly lower percentage of Butte County residents reported difficulty accessing both primary and specialty care during this time period than in 2014; while a marginally higher percentage was reported statewide for both primary and specialty care access, (see *Table Access-3, following page*).

**Table Access-3: Adult Population Reporting Difficulty Finding Primary and Specialty Care in Butte County and California, 2014, and 2015-2017 (Pooled)**

		2014		2015-2017	
		Butte County	California	Butte County	California
Difficulty Finding Primary Care		<b>19.8%</b>	<b>4.6%</b>	<b>8.9%</b>	<b>6.1%</b>
Estimated Population	Experience Difficulty Finding Primary Healthcare Services	34,000	1,315,000	16,000	1,801,000
	Needing Primary Healthcare Services	174,000	28,539,000	180,000	29,310,000
Difficulty Finding Needed Specialty Care		<b>29.8%</b>	<b>10.8%</b>	<b>17.3%</b>	<b>13.1%</b>
Estimated Population	Experience Difficulty Finding Specialty Healthcare Services	27,000	1,116,000	12,000	1,442,000
	Needing Specialty Healthcare Services	92,000	10,373,000	71,000	11,004,000

Source: 2013-2014 California Health Interview Survey. Primary Care: Questions AJ133, AJ134.

\*Statistically unstable for a minimum number of respondents needed AND/OR has exceeded an acceptable value for coefficient of variance. - Estimate is less than 500 people.

*Medi-Cal Beneficiaries Experience Greater Barriers Accessing Primary Care in Butte County*

All socioeconomic levels report difficulty accessing Primary Care in Butte County relative to California overall. This remains considerably more pronounced in the population enrolled in Medi-Cal, which serves as a proxy for the population living in or near poverty as living below 138% of the federal poverty level (FPL) is a the main criteria to enroll for most Medi-Cal beneficiaries.

In 2014, 42% of Medi-Cal beneficiaries who responded to the CHIS in Butte County experienced difficulty obtaining Primary Care, while roughly 20% of total respondents experienced difficulty. When pooled with the subsequent years data (e.g. 2014-2017), this discrepancy although considerably reduced, remains in Butte County, (see *Table Access-4, following page*).

**Table Access-4:** Difficulty Finding Primary Care by Insurance Type in Butte County and California, 2013 -2014; 2014-2017 (Pooled)

	2013		2014		2014 – 2017 Pooled	
	Butte County	California	Butte County	California	Butte County	California
Uninsured	5.3%*	5.7%	12.1%*	5.5%	3.2%*	6.8%
Medicare & Medicaid	17.3%*	9.5%	20.9%*	4.3%	9.2%*	5.7%
Medicare & Others	3.2%*	1.6%	8.2%*	1.6%	5.2%*	2.5%
Medicare only	-	3.1%*	-	7.1%*	-	5.4%
Medicaid (e.g. Medi-Cal)	6.8*	9.5%	41.8%	9.0%	20.2%	9.5%
Healthy Families/CHIP	-	-	-	-	-	-
Employment-based	3.4*	3.8%	18.4*	2.9%	11.5%	4.3%
Privately purchased	-	1.7%	-	8.4%	9.8%*	8.3%
Other public	89.3*	8.3%	-	4.1*	-	4.1%
<b>Total</b>	<b>5.2*</b>	<b>4.7%</b>	<b>19.8%</b>	<b>4.6%</b>	<b>11.6%</b>	<b>5.8%</b>

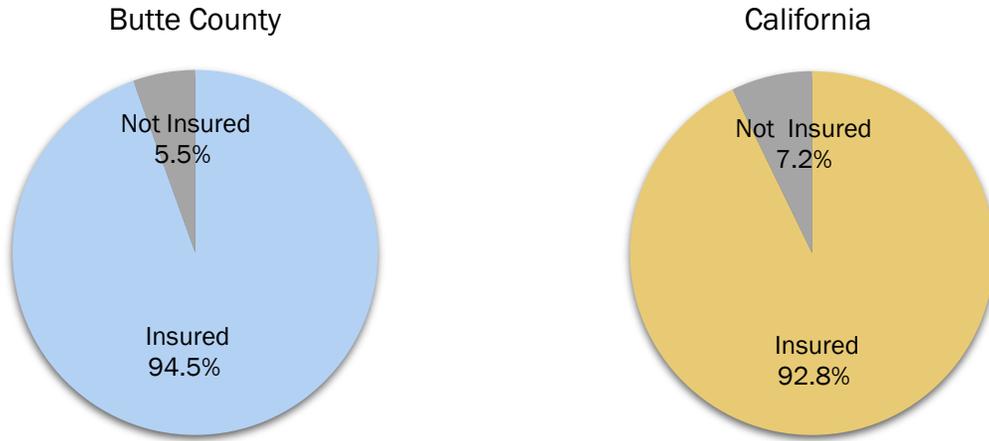
Source: 2013-2017 California Health Interview Survey. Primary Care: Questions AJ133, AJ134.

\*Statistically unstable for a minimum number of respondents needed AND/OR has exceeded an acceptable value for coefficient of variance. - Estimate is less than 500 people.

### Health Insurance Status

Health insurance is important at every age and provides access to healthcare including opportunities for screenings, vaccinations, and testing for chronic diseases. Having access to primary and preventative care through health insurance helps to prevent the development of health issues and provide treatment at their onset. This can slow the progress of symptoms and minimize the development of chronic disease. Lack of access to health services leads to poor health outcomes and results in substantial economic costs.

Health equity is reached when all people have the opportunity to make choices that allow them to live a long, healthy life, regardless of their income, education, geographic location, or ethnic background. Access to high quality health care services is essential for achieving health equity. In order to improve quality of life in Butte County, residents must have access to care and be well informed about their treatment possibilities and choices. People without health insurance face considerable financial barriers to high quality and appropriate medical care. This often results in forgoing routine checkups, preventative care, and medical treatments during initial stages of disease until symptoms become more advanced and are more costly to treat.



**Figure Status-6:** Percentage of people with and without Health Insurance Coverage in 2017

Source: US Census Bureau, 2017 American Community Survey 1 -Year Estimates, Table B27001

The Healthy People 2020 objective is for 100% of people to have health insurance. In 2017, percentages of those with and without health insurance were nearly equivalent in both Butte County and California overall (see *Figure Status-f6*).

*Expansion of Telehealth Health Services in Butte County*

As demonstrated in the preceding section, Butte County lacks adequate health care providers to fully meet the healthcare needs of its residents. With regard to specialist and behavioral health care, a well-demonstrated method for increasing access in rural regions nationally is the use of telehealth<sup>106,107</sup>. Since the prior assessment, telehealth has expanded in Butte County significantly. Health care organizations that were already utilizing telehealth, such as the Federally Qualified Health Center (FQHC) Ampla Health operating in Butte County, have expanded these services<sup>108</sup>, and managed Medi-Cal plans operating in the county, such as Anthem Blue Cross, have launched programs for their beneficiaries to better utilize Telehealth services<sup>109,110,111</sup>. In addition, Blue Cross

<sup>106</sup> Totten AM, Womack DM, Eden KB, et al. Telehealth: Mapping the Evidence for Patient Outcomes From Systematic Reviews. Rockville (MD): AHRQ (US); 2016 Jun. (Technical Briefs, No. 26.) Available from: <https://www.ncbi.nlm.nih.gov/books/NBK379320/>

<sup>107</sup> Edmunds M, Tuckson R, Lewis J, et al. An Emergent Research and Policy Framework for Telehealth. EGEMS (Wash DC). 2017;5(2):1303. Published 2017 Mar 29. doi: [10.13063/2327-9214.1303](https://doi.org/10.13063/2327-9214.1303)

<sup>108</sup> <https://www.amplahealth.org/telehealth-program/>

<sup>109</sup> <https://www.anthem.com/ca/press/california/november-wildfires-in-butte-los-angeles-and-ventura-counties/>

<sup>110</sup> <https://mhealthintelligence.com/news/anthem-launches-dtc-telehealth-platform-for-medi-cal-members>

<sup>111</sup> <https://livehealthonline.com/>

of California has collaborated with Paradise Medical Group (PMG) to implement telehealth services for residents of their Paradise clinics displaced by the Camp Fire<sup>112,113</sup>.

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### *Increased Capacity for Medication Assisted Treatment of Opioid Use Disorder*

Butte County continues to have an elevated age-adjusted drug induced death rate that is predominately being driven by the opioid epidemic known to affect rural areas disproportionately. There is overwhelming scientific evidence that buprenorphine Medication Assisted Treatment (MAT) is a safe and effective treatment for Opioid Use Disorder (OUD)<sup>114</sup>. However, a provider must complete adjunct x-waiver buprenorphine training and obtain an x-waiver from the Drug Enforcement Administration (DEA) before they can prescribe buprenorphine for the treatment of OUD. According to the Urban Institute's Health Policy Center, between 203 and 1,319 people with an OUD in Butte County have an unmet need for MAT. To reach the lower boundary of the treatment gap (e.g. 203 patients); adding 14 new buprenorphine-waivered prescribers with a 30-patient limit could close the gap, if all new prescribers were to treat half of their maximum waiver capacity<sup>115</sup>. In May, 2018, the Butte County Behavioral Health Department and partnering agencies held an Opioid Summit, and provided x-waiver training to 15 providers from Butte County and an additional 6 providers from the surrounding region. A follow-up field study was able to verify that several of the newly x-waivered providers had begun to treat OUD with buprenorphine MAT.

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## SUMMARY AND CONCLUSIONS OF ACCESS TO CARE ASSESSMENT

Taken together, the data in the current assessment demonstrate that Butte County has made progress improving access to care in some areas, such as improved Non-Physician Primary Care and Mental Health Provider ratios; increased rates of health insurance coverage and fewer residents reporting difficulty accessing primary and specialty care services in the past few years. However, large discrepancies persist between the Butte County and the state of California in terms of provider ratios and access to care; which have likely been exacerbated by the Camp Fire. Long-term strategies to improve access to care in the jurisdiction will be paramount to improving population health in the years ahead.

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<sup>112</sup> <https://www.chicoer.com/2019/05/26/telemedicine-helps-reach-displaced-camp-fire-survivors/>

<sup>113</sup> <http://paradisemedicalgroup.com/evisit-services/#howitworks>

<sup>114</sup> <https://www.samhsa.gov/medication-assisted-treatment/treatment/buprenorphine>

<sup>115</sup> [https://www.urban.org/sites/default/files/ca\\_county\\_fact\\_sheets\\_0.pdf](https://www.urban.org/sites/default/files/ca_county_fact_sheets_0.pdf)

## COMMUNITY ENGAGEMENT

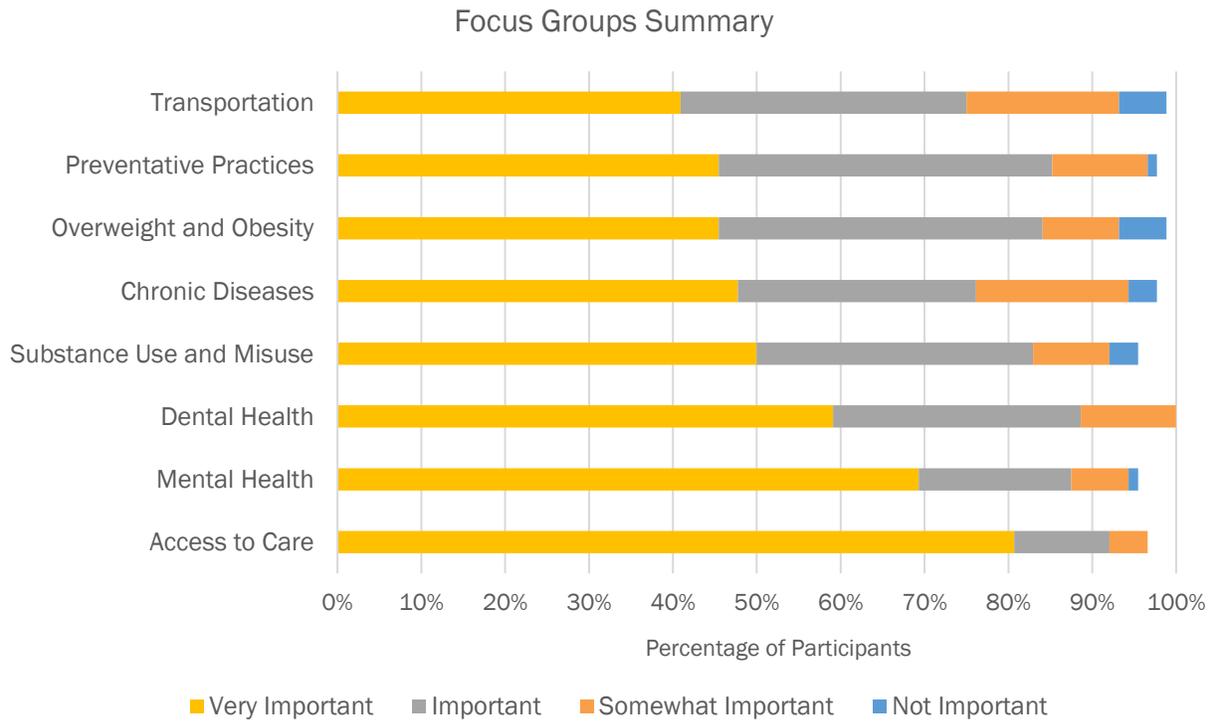
In an effort to gather valuable insights from community members to inform the Community Health Assessment (CHA), Butte County Public Health (BCPH) contracted the firm Morrison and Company (Chico, California) to facilitate numerous community focus groups.

Representatives from Enloe Medical Center, Adventist Health Feather River, Orchard Hospital, and BCPH organized each focus group, collaborating with existing Butte County community organizations on several occasions to host focus groups in coordination with previously scheduled events or meetings. This leveraged the established relationships these entities have with the individuals they serve, facilitating active participation by community members. Focus groups were also held at various times throughout the day to best accommodate the schedules of participants. The focus groups ranged in size, with an average of 10 participants per group.

In total, 12 focus groups reaching 114 participants were conducted; participants represented a broad spectrum of the community. Participants included: seniors; college students; individuals receiving mental health services; individuals participating in programs at both the African American Family and Cultural Center and the Hmong Cultural Center; high-school students; physicians; general community members; veterans; and individuals currently experiencing homelessness. Of the 114 total participants, 88 completed a written survey utilized in data collection as displayed for the purposes of this reporting section. A series of questions were designed with input from representatives of Enloe Medical Center, Adventist Health Feather River, Orchard Hospital, and BCPH; as well as the Morrison facilitator. Participants were asked questions as a group and encouraged to share their own personal experiences or anecdotal experiences observed from friends and family in accessing health care and living healthy lives.

Featured below is a summarized collection of responses received across all focus groups that reference the existing successes and signs of health in Butte County communities, as well as issues that need to be addressed within those communities. These responses are oriented toward themes covered within the groups such as: dental health, access to healthcare, mental health, substance misuse and use disorders, preventative practices, overweight and obesity, chronic diseases, and transportation. Quotations provided were collected from focus group participants regarding the topics mentioned above.

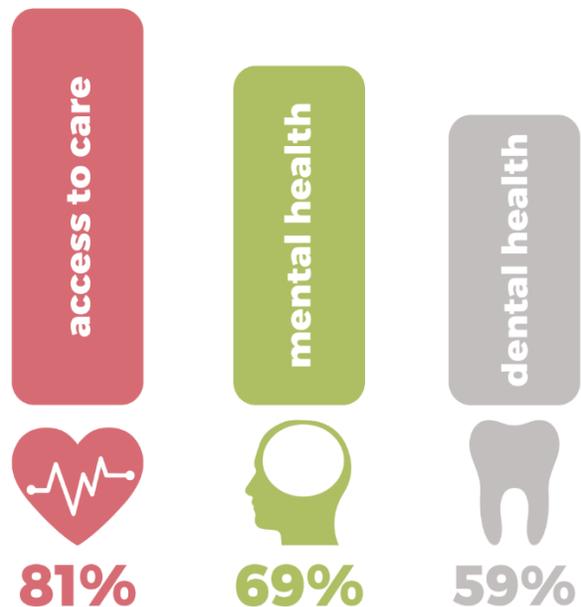
FOCUS GROUPS SUMMARY



TOTAL NUMBER OF SURVEY PARTICIPANTS: 88

Ranked most important across all the focus groups:

1. Access to care – 81%
  - 71 out of 88 participants
2. Mental health – 69%
  - 61 out of 88 participants
3. Dental health – 59%
  - 52 out of 88 participants



DENTAL CARE

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*Identified Successes*

Noted oral health successes within Butte County communities included: an annual free dental clinic offered by local providers; the availability of low cost services; a mobile dental unit; events



*"THERE IS A FLOURIDE VARNISH PROGRAM, THEY PROVIDE PARENTAL AND CHILD TRAINING, AND DENTAL EDUCATION."*

– MEMBER OF THE BCPH CAMP FIRE RECOVERY GROUP

and services catered specifically to veterans; classes available for dental education; and interventional programs for children. The theme supporting much of the participants’ feedback when discussing success appears to be programs available over a wide variety of locations, wherein positive intervention might be implemented like dental education; referrals to practitioners; providing detailed information about how to

access dental care; or providing on-scene, low-cost/no-cost dental care in a nontraditional location.

*Issues to Address*

Issues identified include a lack of available dental providers, specifically providers that accept a wide array of coverages (e.g. Denti-Cal and/or various private insurance), and providers who serve young children (aged 0-5). Participants stated that some coverages incentivized extracting teeth rather than preventative dental care, and often these extractions must be performed outside Butte County. It was also mentioned that issues often need to be extreme in order to be prioritized to receive care from some programs. Additional areas for improvement included expanding access to dental care through school clinics, improved education for parents regarding proper dental care, and availability for evening or weekend dental appointments.



*"DENTAL CARE IS SUCH A CHALLENGE IN BUTTE COUNTY THAT I HAVE HAD TO SCHEDULE TEETH TO BE PULLED BEFORE PERFORMING UNRELATED SURGERIES, DUE TO THE RISK OF INFECTION FROM UNTREATED DENTAL ISSUES."*

–LOCAL MEDICAL PROVIDER

## ACCESS TO CARE

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### *Identified Successes*

Referenced successes include entities that provide medical screenings for residents who lack coverage or income to pay for services. Participants also referenced the availability of case management services to assist with completing applications for medical coverage as well as referrals to medical providers and specialty services. Participants noted their appreciation for providers who offer counseling and therapy, as well as organizations that have pursued training to become trauma informed in their approach. Additional successes included the availability of multiple local hospice programs within the county, services provided by hospital emergency departments, and programs offering community members healthy food options through subsidy or reduced cost. Generally, the programs, organizations, and providers mentioned as successful appeared to be focused on bridging gaps in coverage; the distribution of education/information to community members; and serving vulnerable and underrepresented groups in the community.

### *Issues to Address*

Participants mentioned that their insurance coverage was often a barrier to receiving proper care, including providers who are unwilling to accept Medi-Cal patients. Ongoing contract negotiations between medical providers and insurers were cited as having an impact on availability of care if agreements could not be reached. Some participants felt the eligibility criteria after ending active duty for Veteran's Affairs insurance was too restrictive. Participants stated that some payment systems incentivize treatment being withheld until the late stage or high acuity levels of certain health issues; and that often symptoms were addressed rather than root causes when care was sought. Some participants felt that income-based eligibility requirements for Medi-Cal, or other

low-cost insurance programs, was too restrictive. An equity gap between community members with good, private insurance coverage; and individuals who utilize Medi-Cal was also noted.

*"THERE'S A LOT OF TRIAL AND ERROR TO FIND A PROVIDER TO RECEIVE NEEDED SERVICES...YOU NEED TO INVEST A LOT OF PERSONAL TIME AND MONEY."*

– PARTICIPANT FROM THE IVERSEN CENTER

Participants also referenced extensive wait times for appointments, and that waiting periods were extended even

further for specialty care. The lack of an easily available resource to ascertain which providers were accepting new patients, which insurance types providers accepted, and other common questions were also noted as obstacles. Multiple groups indicated there is not enough access to providers on evenings and weekends. Issues involving reimbursements to doctors were also noted, and that a restructuring of fee systems can often result in higher costs for patients. Public transportation

was also referenced as a concern, specifically the lack of services that cater to seniors and limited confidence regarding overall reliability in the local public transportation network.

## MENTAL HEALTH

### *Identified Successes*

Regarding mental health, organizations that provide services for veterans, students, those pursuing treatment for substance misuse and use disorders, and groups focusing on secondary trauma were all praised as being successful. The expansion of telehealth services allowing providers to be available remotely over long-distances was referenced; along with the suggestion that continued expansion could help alleviate the deficit of mental health professionals within the county. Additionally, resources such as local churches, cultural centers, and government programs were recognized for assisting communities/individuals with their mental health issues.

### *Issues to Address*

Participants expressed that the shortage of local psychiatrists and counselors often leads to long wait times for appointments. Concerns were also raised that additional trauma experienced by the community due to the Camp Fire would place even more strain on local mental health care providers. Participants expressed the need for additional resources to assist with locating appropriate mental health care (e.g. Directory). Frustrations were cited at the lack of providers willing to accept Medi-Cal, or who do not even accept patients with substantial private insurance plans. Participants expressed the

*"WE HAVE A FRAGMENTED MENTAL HEALTH & SOCIAL SERVICES DELIVERY SYSTEM."*

*– MEMBER OF THE BCPH CAMP FIRE RECOVERY GROUP*

*"I FEEL LIKE BEING DIAGNOSED AS A 51-50 IS THE ONLY WAY TO GET ADMITTED."*

*– PARTICIPANT FROM THE JESUS CENTER*

need for more providers who offer services to vulnerable communities like recent immigrants and refugees. A lack of follow-up care for patients that had received intensive psychiatric services was cited as a barrier to complete mental health care. Some participants felt that providers might be too reliant on medication as a form of mental health care. At least one participant felt that there was pervasive misdiagnosis of mental health issues that created

issues for patients. Some participants felt that being placed on an involuntary psychiatric hold (e.g. 5150) was the only way for community members to quickly access mental health care.

The stigma associated with being open about struggles with one's mental health was a common topic; including the perception that mental health issues may be viewed as weaknesses by a large

portion of the community. Multiple participants stated that preventative mental health care rather than a treatment of acute symptoms was still a foreign concept to much of the community. Participants also cited the fear of losing individual rights and privileges should they seek mental health care, such as the ability to own firearms.

## SUBSTANCE MISUSE AND USE DISORDER

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### *Identified Successes*

When asked about successful programs to prevent and treat drug, alcohol, and tobacco use; participants referenced endeavors such as outpatient and residential treatment, twelve step organizations, early intervention programs, and the local Drug Court. Multiple harm reduction measures were also identified, such as naloxone training, syringe access programs, and prescription medicine collection bins. Noticeable themes in discussions concerning helpful programs included programs that meet people struggling with substance use in places that were familiar and comfortable for them; programs that take proactive measures for high risk populations to make them aware of treatment structures; and programs building awareness of the fact that there are people available looking to address these issues with community members struggling with substance misuse and use disorders.

*"PHARMACY DRUG TAKEBACK PROGRAMS FOR UNUSED OR EXPIRED DRUGS ARE HELPFUL."*

– PARTICIPANT FROM THE CALIFORNIA HEALTH COLLECTIVE

### *Issues to Address*

Obstacles identified by participants in regards to preventing and treating substance misuse and use disorders include: loneliness; the cycle of addiction; stigma for those struggling with addiction; a lack of education about addiction; and an overemphasis on individual responsibility for finding appropriate treatment. The view of vaping as a healthy alternative to smoking rather than another

*"THE ADDICTION TREATMENT SYSTEM IS BROKEN; LACK OF FOCUS ON REUNIFICATION; THERE ARE BROKEN FAMILIES, BROKEN HOUSEHOLDS."*

– PARTICIPANT FROM THE IVERSEN CENTER

harmful behavior was cited as a challenge. Participants also referenced a fear of judgment from healthcare professionals and other providers if community members were honest regarding their substance use patterns. Participants also indicated concerns that individuals self-medicate for symptoms of mental health disorders.

Likewise, the lack of currently available dual-diagnosis programs was a concern. Participants also felt that substances were too easy to access and were being marketed as glamorous. With the legalization of marijuana in California, the issue of parents growing marijuana in their homes was

referenced; specifically, endangerment of children consistently exposed to marijuana when large amounts are grown in confined spaces. Some participants also felt that education officials were not easy to connect with regarding substance related issues for youth enrolled at school.

## PREVENTATIVE PRACTICES

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### *Identified Successes*

Successful access points for preventative practices included the implementation of low-cost/no-cost health clinics, such as immunization and inoculation services. Outreach and education provided through social media was mentioned, along with health related classes available through educational providers, healthcare providers, churches, cultural organizations and other faith-based organizations. Businesses and organizations that provide exercise classes, particularly to vulnerable groups, were positively cited. Programs that provided information, screening, and healthcare for infants and toddlers were considered a success.

### *Issues to Address*

Costs associated with preventative practices were repeatedly cited as an issue. The impact of anti-vaccination sentiments were referenced as having a negative effect on the community's willingness to be vaccinated and/or vaccinate their children. Some participants felt that a general distrust of scientific information and government institutions was a significant obstacle. Participants referenced education regarding screenings and vaccinations on multiple occasions, with some believing there is too much education available and others not enough. Regardless, the need for clear and concise information was prioritized throughout the discussions. The fear of experiencing adverse effects from vaccinations was cited as a dissuading influence. Cultural barriers were also identified, including a reliance on traditional forms of medicine that lack the same evidence base as the preventative practices generally accepted by the medical community. Fear of discovering previously undiagnosed health problems also had a dissuading influence on community members seeking preventative care according to some participants.

*"[BASED ON VOLUME OF AVAILABLE INFORMATION] IT'S DIFFICULT TO UNDERSTAND AND MAKE AN INFORMED DECISION, SO INDIVIDUALS CHOOSE TO WAIT UNTIL SOMETHING BAD HAPPENS, RATHER THAN [SEEK OUT] PREVENTATIVE CARE."*

– PARTICIPANT FROM THE CALIFORNIA HEALTH COLLECTIVE

OVERWEIGHT AND OBESITY

*Identified Successes*

Participants identified a variety of overweight and obesity related educational programs as successes, including those from both traditional and non-traditional sources. Likewise, community groups that provide healthy communal meals on a regular basis were mentioned as a success. Public and private subsidy programs, such as food pantries, that provide access to nutritious food for community members lacking adequate resources to access such foods without assistance were also cited. Many participants also referenced the abundance of recreational and exercise opportunities that are provided within Butte County’s built and natural environments.

*Issues to Address*

The prevalence and convenience of fast food in Butte County was an issue identified by many participants. Youth related concerns were referenced, including the proximity of fast food restaurants to schools; lack of healthy food options on campuses; budget cuts for school physical education programs; and limited access to exercise resources for all students (e.g. athletes receive priority/privileges).



*“MENTAL HEALTH ISSUES AND MEDICATION CAN IMPACT YOUR LEVEL OF PHYSICAL ACTIVITY.”*

*– PARTICIPANT FROM THE IVERSEN CENTER*

Multiple participants stated there was a prevalence of laziness for many within the community, indicating that many individuals prefer to engage in sedentary activities (e.g. phone/television, video game use) instead of exercise. Facilities such as recreation centers, fitness clubs, and private gyms were deemed to

be either unaffordable or unavailable according to some participants. Some mentioned that public pools are only available during the summer months, but could offer families broader recreational opportunities if schedules were extended year-round and the pools were heated. Other concerns mentioned included unsafe biking paths in Chico and exercise limitations in Oroville due to an abundance of unleashed dogs. It was expressed that many community members struggled to afford fresh, healthy food. On multiple occasions, participants stated mental health issues could make it difficult to pursue regular physical activity. Some participants also cited a deficit of knowledge on how to exercise regularly with chronic pain or injuries, including one individual who indicated that being physically active might jeopardize their disability benefits if they were seen exercising in public.

## CHRONIC DISEASES AND CONDITIONS

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### *Identified Successes*

Community organizations, government programs, and the local healthcare system were referenced as successful in helping people prevent or care for chronic diseases. New technologies, like fitness bands were also mentioned.

### *Issues to Address*

Lack of support for specific conditions like epilepsy, Parkinson's disease, and multiple sclerosis, were referenced as issues. Participants indicated that resource/educational classes for people with diabetes were poorly attended due to inconvenient locations, limited availability, and an overall lack of motivation from the public. A lack of specialty care within smaller communities, specifically pediatric specialists was a concern expressed. Long wait times were cited as an issue for receiving preventative care. Participants expressed frustration with obtaining necessary prescriptions and adverse effects attributed to them. Participants also expressed that the effects of toxic air and water from local wildfires, especially the Camp Fire, may result in increased chronic conditions, and/or worsened prognosis for those already dealing with chronic diseases. Some participants felt that providers "pre-diagnose" chronic disease based on a patient's race or ethnicity. Finally, participants at the Hmong Cultural Center stated that a lack of knowledge regarding family history and genetic predisposition for chronic health conditions is an ongoing issue for members of the Hmong community.

## TRANSPORTATION

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### *Identified Successes*

Programs that offer bus passes at low or no cost were cited by participants, with the county's B-Line bus system mentioned specifically as a success. The availability of Butte County 2-1-1 to access transport was identified, specifically as a means to access rides for medical appointments. Ride share options and taxi services were mentioned as methods for successfully increasing on-demand access to transportation. Cultural organizations that provide expansive transport services were viewed as a valuable community resource. Transportation offered by medical providers, including both regular and emergency options were also referenced as a strength. The number of bike paths and accessibility they provide, particularly in Chico, were also positively identified

*"[RIDESHARING APPLICATIONS] REQUIRE TECHNOLOGY AND A DEBIT OR CREDIT CARD."*

*– PARTICIPANT FROM THE IVERSEN CENTER*

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*Issues to Address*

The county's bus services were referenced including concerns such as; limited access to Paradise and Magalia; inadequate options or accessibility for seniors; long wait times; the proximity of bus stops to one another; and a lack of weekend (especially Sunday) routes. Ridesharing options were also mentioned, specifically concerns regarding their high cost, reliance on technology to access, and overall lack of trust due to unfamiliarity. The cost and availability of driver's education programs was also cited as a factor in the ability of younger people to obtain a driver's license.

# CONCLUSION

## CLOSING SUMMARY

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While this is not Butte County's first Community Health Assessment (CHA), the events of the Camp Fire that began in November 2018, have created both temporary and permanent shifts in the Butte County Public Health's (BCPH) focus and priorities. The department seeks to utilize these data and additional fire-related information still being collected to find places where our improvement plan may align with new or reinforced recovery efforts in the wake of the fire. Many of the health issues prevalent in the county before the fire, issues that greatly influence our community's capability to achieve good health outcomes and high quality of life, have been exacerbated by this disaster and resultant impact on the community. The confluence of these factors calls for a change in healthcare delivery to our most high-risk populations in order to move toward health equity and mitigate some of our sharpest disparities. As the planning process moves forward, implementation based on data, community engagement, and an ultimate goal of health equity are the driving forces for this department.

## NOTABLE HEALTH DISPARITIES IN OUR COMMUNITY

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Although the term "disparities" is often interpreted to mean racial or ethnic disparities, many types of disparity exist in Butte County, particularly in relation to health status. If a health outcome is seen to a greater or lesser extent between subpopulations, there is a disparity. Many of the disparities noted below are outcomes particular to Butte County relative to the state overall. Below are the areas that stood out as focus areas during the Community Health Assessment process.

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### *Access to Care*

- The BRFSS demonstrated slightly more than one-third (34.1%) of Butte County adult respondents do not have a personal doctor or health care provider (*pg. 6*).
- Preliminary data indicate that 279 of 1,189 skilled nursing facility beds (24%), 24 of 42 intermediate care facility beds (53%), and 100 of 567 General Acute Care Hospital beds (18%) in Butte County were destroyed in the Camp Fire (*see pgs. 110-111*).
- Areas of Butte County meet the HRSA criteria for a Primary Care Shortage Area, a Dental Care Shortage Area, and a Mental Health Shortage Area (*pgs. 111-113*).
- There were 10.9% fewer primary care physicians per capita serving Butte County in 2016 than there were in 2012, compared to a 1.3% increase of primary care physicians per capita within this timeframe statewide (*pg. 6*).
- While marked improvement has been made in recent years, adults in Butte County reported they are still having difficulty in finding primary care (8.9% compared to just

6.1% of the population statewide) and necessary specialty care (17.3% compared to just 13.1% statewide) at higher rates than is found statewide (*pg. 116*).

- Butte County residents with Medi-Cal are more than twice as likely to report having difficulty finding primary care as all Medi-Cal recipients throughout the state (20.2% compared to 9.5%). Butte County residents with employment-based insurance are also more than twice as likely to report having difficulty finding primary care as those with employment-based coverage statewide (11.5% compared with 4.3%) (*pg. 117*).
- According to the 2019 BRFSS, 22.6% of Hispanic people in Butte County are currently uninsured; 46.2% of the Hispanic population has no regular primary care provider.

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### *Disparities Related to Substance Misuse and Use Disorders*

- In 2015, 42.5% of Butte County residents reported binge drinking in the past year, compared with 34.7% of California residents (*pg. 75*).
- Eleventh graders in Butte County were using nearly all substances tracked by the California Healthy Kids Survey (alcohol, marijuana, prescription drugs, psychedelics, and stimulants) at a higher rate than eleventh graders statewide (*pg. 77*).
- In 2014, emergency department treat and release rates for visits specifically due to alcohol and other drugs were significantly higher than statewide rates, 826 versus 645 per 100,000, respectively (*pg. 78*).
- In 2017, the rate of hospitalizations for opioid overdose in Butte County was the highest of all California counties, with 40.3 hospitalizations due to opioids other than heroin per 100,000 population compared to 7.75 statewide; and a rate of 9.95 hospitalizations due to heroin compared to 1.78 statewide (*pg. 9*).
- The reported rate of regular e-cigarette use amongst ninth graders (6% compared with 0.8% and 1.8%, respectively) and eleventh graders (8% compared with 1.3% and 3.7%, respectively) in Butte County was significantly higher than statewide and national rates (*pg. 80*).
- Age-adjusted drug induced death rates in Butte County occurred at a significantly higher rate than on a statewide and national level, at 30.2 per 100,000 compared to 12.2 per 100,000 and 19.8 per 100,000, respectively. (*pg. 109*)

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### *Disparities Related to Chronic Disease*

- The mortality rate for cancer was significantly higher in Butte County than the statewide rate, with 162.2 versus 140.2 deaths per 100,000 population, respectively (*pg. 11*).
- In Butte County 9.7% of Medicare beneficiaries were diagnosed with asthma, which is higher than the percentage of Medicare beneficiaries diagnosed statewide (*pg. 10*). Slightly more adults in Butte County were diagnosed with asthma than adults statewide (*pg. 10*); it is possible that the air quality crisis experienced during the Camp Fire may exacerbate this slight difference in the months and years ahead.
- The mortality rate for Alzheimer’s disease was also significantly higher in Butte County than the statewide rate, with 51.1 versus 34.2 deaths per 100,000 population, respectively (*pg. 11*).
- The mortality rate for chronic lower respiratory disease was significantly higher in Butte County than the statewide rate, with 45.8 versus 32.1 deaths per 100,000 population, respectively. The BRFSS also indicated a higher rate of chronic obstructive pulmonary disease (COPD) amongst Butte county residents, with 7.1% of residents reporting having ever been diagnosed compared with 4.5% statewide (*pg. 11*).
- The mortality rate for chronic liver disease was significantly higher in Butte County than the statewide rate, with 18.4 and 12.2 deaths per 100,000 population, respectively (*pg. 11*).
- According to the 2019 BRFSS, significantly more people in Butte County reported being current smokers than the statewide rate, 20.6% compared to 11.3% (*pg. 12*).

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### *Disparities Related to Mental Health*

- The age-adjusted death rate for suicide in Butte County (18.1 per 100,000) was at a significantly higher level than the statewide figure (10.4), as well as the Health People 2020 Objective rate (10.2) (*pg. 66*).
- The death rate for veterans in Butte County due to suicide was 58.4 per 100,000 from 2012 to 2016, over three times the rate of the non-veteran, adult population in the county (*pg. 70*).
- The entirety of Butte County meets the criteria for a Mental Health Shortage Area, and has been given the designation of High Needs Geographic Mental Healthcare Professional Shortage Area by the Health Resources and Services Administration (*pg. 112*).

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*Disparities Related to Adverse Childhood Experiences (ACEs)*

- Butte County had notably higher childhood maltreatment rates than California overall, including neglect and abuse allegations (74.0 vs. 54.3 per 1,000 children), substantiations (9.9 vs. 7.7) and entries into protective care (6.5 vs. 3.1) (*pg. 13*).
- 76.5% Butte County residents reported having one or more ACEs, which was the highest rate of all California counties and significantly higher than for California overall (65.5%) (*pg. 104*).
- Butte County respondents had higher rates than statewide respondents across every ACE category (*pg. 13*).
- The percentage of Butte County residents who have reported 4 or more ACEs is nearly twice that of the state, at 30.3% compared to 15.9% (*pg. 104*). 4 or more ACEs is considered a threshold where negative health outcomes become significantly more likely for individuals based on the historical data from ACE studies.

**MOVING FORWARD: COMMUNITY HEALTH IMPROVEMENT PLAN**

A Community Health Improvement Plan (CHIP) is a systematic effort to address public health issues over a period of time, based on results of community health assessment activities and the development of a Community Health improvement process. BCPH and key stakeholders have chosen to begin the process of formulating a CHIP by selecting and prioritizing key disparity areas identified by the data and engagement efforts featured in the CHA. The department is aware of deficits within many of the social determinants of health affecting public health outcomes of our community, but must balance the wealth of information and theoretical concepts available with its own capabilities to put plans into action. Conversations are ongoing with key local stakeholders regarding possible priorities, and continued work to survey existing efforts aligned with department priorities is underway. The CHIP will outline the agreed-upon action steps to address priority health topics, and it will name the parties responsible for implementing those steps.

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# 2019 Behavioral Risk Factor Survey



## Butte County, CA



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In 1990, *Healthy People 2000, National Health Promotion and Disease Prevention Objectives*, was released to the public. The document outlined the U.S. government's plan to improve the health of individuals, communities, and the nation. This plan was revised in 1999 (*Healthy People 2010*), and, subsequently, in 2010 (*Healthy People 2020*.)

*Healthy People 2020* documents 10-year health objectives organized into 4 over-arching goals and 42 Focus Areas (page 4.) These Focus Areas address factors such as behavior, biology, physical environment and social environment that interact to influence health. In addition to the Focus Areas, a smaller subset of 12 indicators called Leading Health Indicators (page 5) was developed. The LHIs reflect a life stage perspective, with the intent to draw attention to both individual and societal determinants that affect the public's health and contribute to health disparities from infancy through old age. This approach recognizes that specific risk factors and determinants of health vary across the life span. Health and disease result from the accumulation, over time, of the effects of risk factors and determinants. Therefore, intervening at specific points in the life course can help reduce risk factors and promote health.

How do behaviors fit into this framework? Behaviors are individual responses or reactions to internal stimuli and external conditions. It has been estimated that behavioral and environmental factors are responsible for approximately 70% of all premature deaths in the United States. Obtaining information surrounding behaviors that put one at risk for poor health is instrumental in developing policies and interventions.

This report explores the behaviors that put Butte County residents at risk for poor health. Leading Health Indicators are presented accompanied by their *Healthy People 2020* Objective/Focus Area.

## Healthy People 2020 Goals

1. Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
2. Achieve health equity, eliminate disparities, and improve the health of all groups.
3. Create social and physical environments that promote good health for all.
4. Promote quality of life, healthy development, and healthy behaviors across all life stages.

## Healthy People 2020 Focus Areas

1. Access to Health Services
2. Adolescent Health
3. Arthritis, Osteoporosis, and Chronic Back Conditions
4. Blood Disorders and Blood Safety
5. Cancer
6. Chronic Kidney Disease
7. Dementias, Including Alzheimer's Disease
8. Diabetes
9. Disability and Health
10. Early and Middle Childhood
11. Educational and Community-Based Programs
12. Environmental Health
13. Family Planning
14. Food Safety
15. Genomics
16. Global Health
17. Health Communication & Health Information Technology
18. Health-Related Quality of Life & Well-Being
19. Healthcare-Associated Infections
20. Hearing and Other Sensory or Communication Disorders
21. Heart Disease and Stroke
22. HIV
23. Immunization and Infectious Diseases
24. Injury and Violence Prevention
25. Lesbian, Gay, Bisexual and Transgender Health
26. Maternal, Infant, and Child Health
27. Medical Product Safety
28. Mental Health and Mental Disorders
29. Nutrition and Weight Status
30. Occupational Safety and Health
31. Older Adults
32. Oral Health
33. Physical Activity
34. Preparedness
35. Public Health Infrastructure
36. Respiratory Diseases
37. Sexually Transmitted Diseases
38. Sleep Health
39. Social Determinants of Health
40. Substance Abuse
41. Tobacco Use
42. Vision



1. Access to Health Services
2. Clinical Preventive Services
3. Environmental Quality
4. Injury and Violence
5. Maternal, Infant, and Child Health
6. Mental Health
7. Nutrition, Physical Activity, and Obesity
8. Oral Health
9. Reproductive and Sexual Health
10. Social Determinants
11. Substance Abuse
12. Tobacco



The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, state-based telephone surveillance system supported by the Centers for Disease Control and Prevention (CDC.) Through a series of monthly telephone interviews, states uniformly collect data on the behaviors and conditions that place adults at risk for chronic diseases, injuries, and preventable infectious diseases that are the leading causes of illness and death in the United States. The annual California surveys follow the overall CDC telephone survey protocol for the BRFSS. California Behavioral Risk Factor Survey (BRFS) data is collected by the Public Health Survey Research program (PHSRP) of California State University, Sacramento.

In 2019, in order to obtain an estimate of the prevalence of these behaviors and conditions in Butte County, the Butte County Public Health Department partnered with Enloe Medical Center, Adventist Health Feather River Hospital and Orchard Hospital to retain the services of Issues & Answers Network, Inc. The Butte County Behavioral Risk Factor Survey also follows the CDC protocol for the BRFSS and uses the standardized core questionnaire and modules.

For the needs of the 2019 Butte County BRFSS, the interviews were administered via telephone (via landline and cell phone) to randomly selected adults from a sample of households in the County.

- ✓ The sample of landline telephone numbers was selected using a list-assisted, random-digit-dialed methodology with disproportionate stratification based on "listedness."
- ✓ The cell phone sample included the application of Cellular Working Identification Number Service, which identified inactive telephone numbers within the cellular RDD sample. In order to improve the efficiency of the sample further and reduce the number of out-of-scope calls, a zip code matching process was also used.

The collected BRFSS data were weighted to adjust for gender, age, and race using the 2010 Butte County Census population distributions.

# Sample Results



All of the respondents who were included in the final sample were drawn from a random sample of Butte County residents. Among the calls that were attempted, there were 711 completed interviews, 184 refusals, 2,359 non-working or disconnected numbers, 6,357 no answers, 1,849 numbers that were not private residences, 2,348 numbers and/or respondents with undetermined eligibility, 61 households and/or respondents with physical or mental impairment, 66 eligible respondents selected but not interviewed, 176 households and/or eligible respondents with language barriers, 946 households with telecommunication barriers and special technological circumstances, 537 households on a do-not-call list, 498 households that were out-of-sample, 149 fax or modem lines, 5,038 answering machines, 68 pagers, 28 landline numbers in the cell phone sample, and 126 interviews that were terminated/partial completes. The American Association for Public Opinion Research (AAPOR) response rate was 18.41%. The refusal rate was 1.48%.

All of the interviews were completed between April 17 and June 16, 2017, with each completed interview lasting, on average, approximately 35 minutes.

*Please note that, when available, comparisons to California and national results presented in this report are based on the 2017 California and U.S. Behavioral Risk Factor Surveys (the most recent surveys released to the public.)*

*In a few instances, for question topics due to be released at a later time (September 2017,) older state BRFSS data (years 2008-2016) were used for comparisons. These questions are marked with asterisks.*

*California BRFSS data is not available for the Intimate Partner Violence topic. National BRFSS data is not available for a handful of topics including Other Tobacco Use, Marijuana Use, and Intimate Partner Violence.*

# Analysis of Selected Risk Factors



## Summary Table: At a Glance

Factor	Butte County	California
Perceived Health Status (fair/poor)	19.0%	17.6%*
Quality of Life: Poor physical health (14+ days)	16.0%	11.1%*
Quality of Life: Poor mental health (14+ days)	18.8%	10.6%*
Disability	20.9%	21.9%*
Health Care Access: No Health Care Coverage (age 18-64)	10.8%	12.7%*
Health Care Access: No Personal Health Care Provider	34.1%	24.5%*
Health Care Access: No Health Care Access Due to Cost	14.5%	11.8%*
Health Care Access: No Routine Checkup	30.5%	32.4%*
Chronic Health Conditions: Ever told had a heart attack	3.7%	3.1%*
Chronic Health Conditions: Ever told had angina or coronary artery disease	2.8%	2.8%*
Chronic Health Conditions: Ever told had a stroke	3.3%	2.2%*
Chronic Health Conditions: Ever told had asthma	18.3%	14.1%*
Chronic Health Conditions: Still have asthma	11.8%	7.9%*
Chronic Health Conditions: Ever told had COPD	7.1%	4.5%*
Chronic Health Conditions: Ever told you had some form of arthritis	24.1%	19.4%*
Chronic Health Conditions: Ever told had a depressive disorder	27.5%	17.3%*
Chronic Health Conditions: Ever told had kidney disease	3.0%	3.3%*
Chronic Health Conditions: Ever told had skin cancer	8.5%	5.9%*
Chronic Health Conditions: Ever told had any other types of cancer	8.4%	5.9%*
Cancer Survivorship: Survivors currently receiving cancer treatment	6.8%	12.9%**
Cancer Survivorship: Survivors who participated in clinical trial	2.1%	N/A**
Cancer Survivorship: Survivors who received a survivorship care plan	76.2%^ ^	47.6%**
Hypertension Awareness: Ever told had high blood pressure	32.2%	28.4%*
Cholesterol Awareness: Blood cholesterol not checked within last years	5 10.8%	12.4%*
Cholesterol Awareness: Had blood cholesterol checked and told it was high	24.0%	30.8%*

\*Note: Based on 2017 BRFSS of California Residents

\*\*Note: Based on 2009 BRFSS of California Residents

^Items marked in red are below the statewide figures and may require the County's attention. Items marked in green indicate results above the statewide figures

^^Caution: Fewer than 30 respondents

# Analysis of Selected Risk Factors – cont'd.



## Summary Table: At a Glance

Factor	Butte County	California
Diabetes: Ever told had diabetes (excluding pregnancy-related)	7.0%	10.5%*
Tobacco Use: Current Smoker	20.6%	11.3%*
Other Tobacco Use: Have ever used chewing tobacco	28.1%	4.2%**
Other Tobacco Use: Current user of chewing tobacco	4.0%	0.6%**
Other Tobacco Use: Have ever used cigars/cigarillos	39.0%	15.2%**
Other Tobacco Use: Current user of cigars/cigarillos	4.9%	1.7%**
Other Tobacco Use: Have ever used tobacco pipe	14.8%	4.5%**
Other Tobacco Use: Current user of tobacco pipe	0.4%	0.2%**
Other Tobacco Use: Have ever used hookah water pipe	16.0%	6.3%**
Other Tobacco Use: Current user of hookah water pipe	0.0%	0.6%**
Marijuana Use: Smoked 1+ day within past 30 days	17.7%	10.5%***
Alcohol Consumption: Binge drinking	22.1%	17.6%*
Alcohol Consumption: Heavy drinking	4.2%	6.3%
Alcohol Screening & Brief Intervention: Did not discuss alcohol use with a health professional at last routine checkup	22.5%	22.1%****
Alcohol Screening & Brief Intervention: Advised about harmful drinking	17.0%	24.2%****
Alcohol Screening & Brief Intervention: Advised to reduce or quit drinking	11.5%	12.5%****
Fruit Consumption (<1 time/day)	41.9%	32.5%*
Vegetable Consumption (<1 time/day)	16.8%	21.4%*
Physical Activity: No activity during past month	28.5%	20.0%*
Seatbelt Use: Do not always use seatbelt	6.7%	2.2%*
Adult Immunization: No flu shot in past year (age 65+)	47.8%	40.7%*
Adult Immunization: Never had pneumococcal vaccination (age 65+)	29.0%	23.2%*
Adult Immunization: Never had shingles/zoster vaccination	73.2%	68.9%*
HIV/AIDS: Ever had an HIV test	37.9%	40.8%*

\*Note: Based on 2017 BRFSS of California Residents

\*\*Note: Based on 2015 BRFSS of California Residents

\*\*\*Note: Based on 2016 BRFSS of California Residents

\*\*\*\*Note: Based on 2014 BRFSS of California Residents

^Items marked in red are below the statewide figures and may require the County's attention. Items marked in green indicate results above the statewide figures

# Analysis of Selected Risk Factors – cont'd.



## Summary Table: At a Glance

Factor	Butte County	California
Adverse Childhood Experience: Emotional/verbal abuse (more than once)	35.2%	34.9%*
Adverse Childhood Experience: Parental separation or divorce	37.3%	26.7%*
Adverse Childhood Experience: Substance abuse by household member	37.8%	26.1%*
Adverse Childhood Experience: Physical abuse (more than once)	21.0%	19.9%*
Adverse Childhood Experience: Witness to domestic violence (more than once)	19.3%	17.5%*
Adverse Childhood Experience: Household member with mental illness	28.4%	15.0%*
Adverse Childhood Experience: Sexual abuse (ever)	13.8%	11.4%*
Adverse Childhood Experience: Incarcerated household member	14.6%	6.6%*
Intimate Partner Violence: Threatened physical (past 12 months)	4.3%	N/A
Intimate Partner Violence: Completed physical (past 12 months)	3.8%	N/A
Intimate Partner Violence: Attempted control (past 12 months)	5.1%	N/A
Intimate Partner Violence: Unwanted sex (past 12 months)	0.6%	N/A

*\*Note: Based on combined 2008-2013 BRFSS of California Residents  
 ^Items marked in red are below the statewide figures and may require the County's attention. Items marked in green indicate results above the statewide figures*

# Perceived Health Status



## Healthy People 2020 objective HRQOL/WB-1: Increase the proportion of adults who self-report good or better health

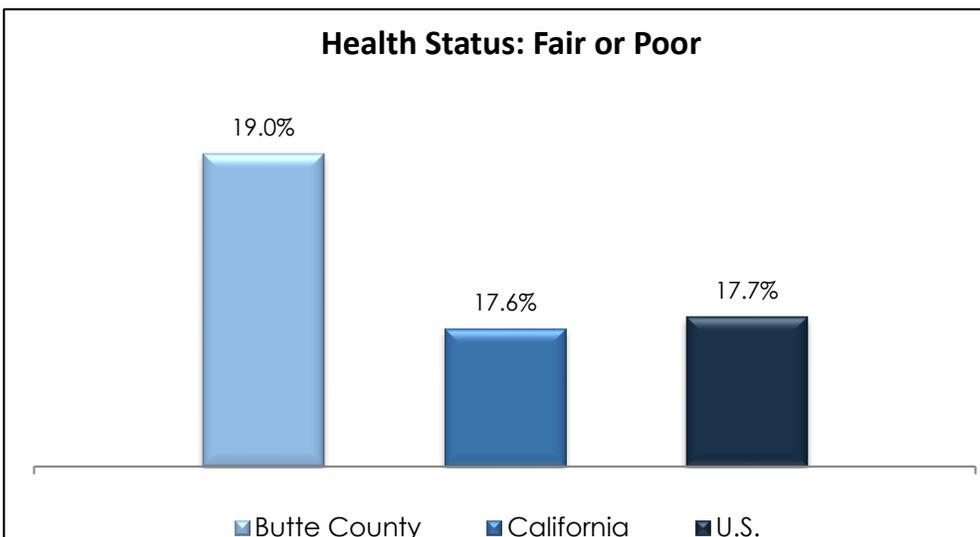
A primary goal of Healthy People 2020 is to help individuals improve their quality of life. General health status is a reliable self-rated assessment of one's perceived health, which may be influenced by all aspects of life, including behaviors, environmental factors, and community. Self-rated general health status is useful in determining unmet health needs, identifying disparities among subpopulations, and characterizing the burden of chronic diseases within a population. The prevalence of self-rated fair or poor health status has been found to be higher within older age groups, females, and minorities, and has also been associated with lower socioeconomic status in the presence or absence of disease.

At 19%, Butte County residents are slightly more likely than Californians and Americans as a whole to report fair or poor general health (17.6% and 17.7%, respectively.)

The self-reported rate of fair/poor health is highest among residents older than 45 years of age, with over one-fifth giving this response. Additionally, non-Hispanics (20.8%), residents with less than a high school education (35.6%), and those with less than \$35,000 in an annual household income (roughly three in ten) are among the most likely to rate their health as fair or poor.

### Percentage of respondents who said their health, in general, was fair or poor

Demographic Characteristics	General Health Fair or Poor
<b>Total</b>	19.0%
<b>Age</b>	
18-24	14.0%
25-34	12.3%
35-44	15.7%
45-54	20.4%
55-64	31.4%
65+	20.6%
<b>Gender</b>	
Male	19.7%
Female	18.4%
<b>Race</b>	
White	18.6%
Black**	17.2%
Hispanic	10.3%
Non-Hispanic	20.8%
<b>Education</b>	
< High School	35.6%
High School Grad	21.1%
Some College	19.3%
College Graduate	13.8%
<b>Household Income</b>	
<\$20,000	32.0%
\$20,000-\$34,999	27.6%
\$35,000-\$49,999**	10.8%
\$50,000-\$74,999	18.9%
\$75,000 or more	10.1%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents



## Healthy People 2020 objective HRQOL/WB-1.1: Increase the proportion of adults who self-report good or better physical health

## Healthy People 2020 objective HRQOL/WB-1.2: Increase the proportion of adults who self-report good or better mental health

Health-related quality of life reflects a personal sense of physical and mental health and the ability to react to factors in the physical and social environments. The key indicator used in this analysis is the number of days in the past month that residents experienced physical or mental health problems, and in particular, whether they had experienced problems for 14 or more days within that timeframe.

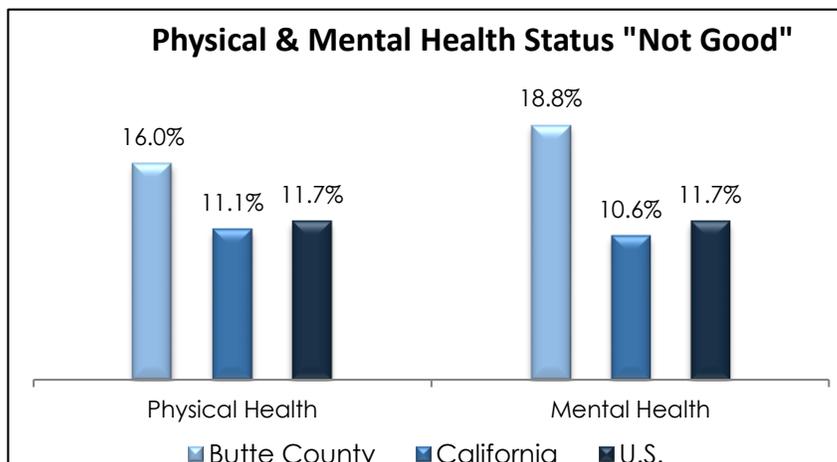
A total of 16% of Butte County residents report having 14 or more days of poor physical health, and 18.8% say the same about their mental health. Both quality of life metrics are notably above the state and U.S. figures.

Residents most likely to report poor physical health are those with less than high school education (40.6%), those with income of under \$35,000 per year (just under one-quarter), as well as those over the age of 55 (more than two in ten.)

In terms of poor mental health, its incidence is driven mostly by residents ages 25-54 (more than two in ten,) females (24.1%), Black and Hispanic residents (22.2% and 25.1%, respectively,) those without a high school diploma (33.2%), and respondents in the bottom income bracket (29.7%).

### Percentage of respondents with 14 or more days of poor physical or mental health

Demographic Characteristics	Physical Health Not Good	Mental Health Not Good
<b>Total</b>	16.0%	18.8%
<b>Age</b>		
18-24	3.8%	19.0%
25-34	18.5%	24.3%
35-44	14.0%	21.3%
45-54	15.3%	26.4%
55-64	25.9%	17.2%
65+	19.6%	8.3%
<b>Gender</b>		
Male	14.2%	13.4%
Female	17.7%	24.1%
<b>Race</b>		
White	14.9%	16.7%
Black**	17.2%	22.2%
Hispanic	18.9%	25.1%
Non-Hispanic	15.8%	18.1%
<b>Education</b>		
< High School	40.6%	33.2%
High School Grad	11.7%	16.7%
Some College	15.9%	19.7%
College Graduate	14.2%	16.1%
<b>Household Income</b>		
<\$20,000	23.1%	29.7%
\$20,000-\$34,999	24.6%	11.8%
\$35,000-\$49,999**	9.5%	11.9%
\$50,000-\$74,999	13.1%	10.3%
\$75,000 or more	11.6%	14.3%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents



**Healthy People 2020 objective DH-13: Increase the proportion of adults with disabilities aged 18 years and older who participate in leisure, social, religious or community activities**

**Healthy People 2020 objective DH-14: Increase the proportion of children and youth with disabilities who spend at least 80 percent of their time in regular education programs**

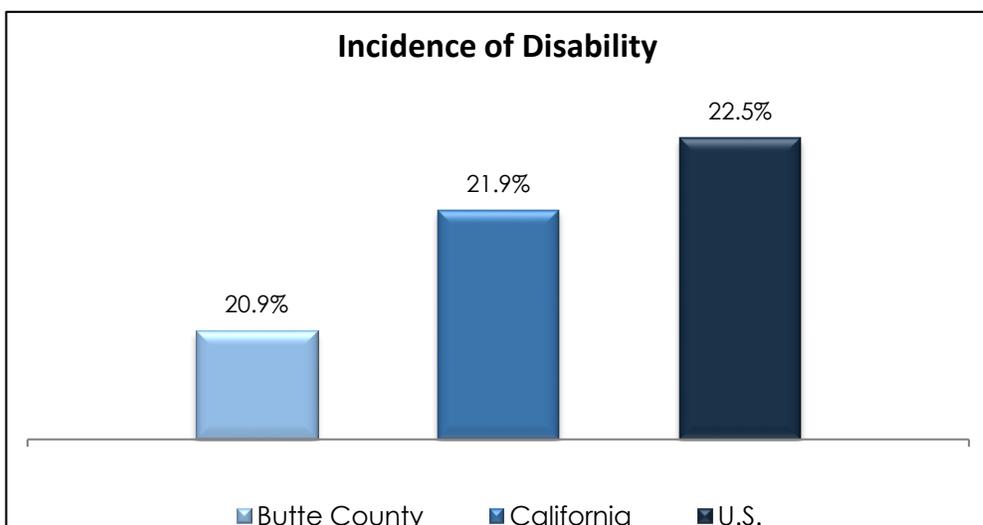
**Healthy People 2020 objective goal DH-16: Increase employment among people with disabilities**

One of the Healthy People 2020 goals is to “promote the health and well-being of people with disabilities.” There are many ways in which disability can be defined, ranging from experiencing difficulty in participating in certain activities (such as lifting and carrying objects, seeing, hearing, talking, walking or climbing stairs) to having more severe disabilities that require assistance in personal care needs (i.e. bathing) or routine care needs (i.e. housework). In this report, disability is defined as being limited in any activities because of physical, mental, or emotional problems.

Approximately one-fifth (20.9%) of the Butte County adult population lives with a disability, which is essentially consistent with the state- and nationwide results (21.9% and 22.5%, respectively.)

The prevalence of disability in Butte County is highest among African Americans (64.2%), respondents in the lowest income bracket (36%), and those with less than high school education (38.1%). Moreover, residents over the age of 35 are more likely to report disability than their younger counterparts, with a peak among those age 55-64 (30.2%).

Percentage of respondents limited in activities because of physical, mental or emotional problems	
Demographic Characteristics	Disability
<b>Total</b>	20.9%
<b>Age</b>	
18-24	10.1%
25-34	19.1%
35-44	24.2%
45-54	21.2%
55-64	30.2%
65+	22.0%
<b>Gender</b>	
Male	22.7%
Female	19.8%
<b>Race</b>	
White	21.5%
Black**	64.2%
Hispanic	12.3%
Non-Hispanic	22.5%
<b>Education</b>	
< High School	38.1%
High School Grad	20.4%
Some College	19.2%
College Graduate	18.6%
<b>Household Income</b>	
<\$20,000	36.0%
\$20,000-\$34,999	15.7%
\$35,000-\$49,999**	18.9%
\$50,000-\$74,999	18.2%
\$75,000 or more	14.6%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Health Care Access: No Health Care Coverage



## Healthy People 2020 objective AHS-1.1: Increase the proportion of persons with medical insurance

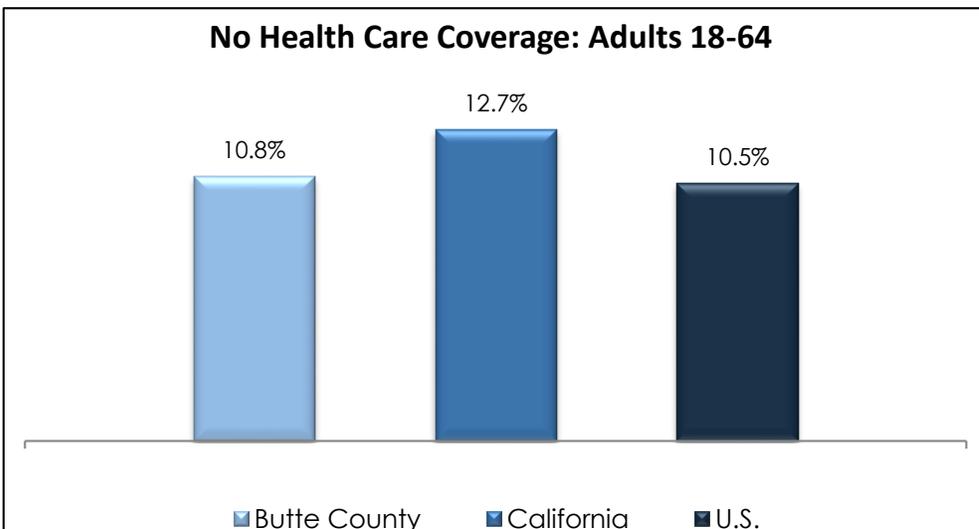
Health insurance coverage is an important determinant of access to health care. Uninsured individuals are substantially less likely to have a usual source of health care or a recent health care visit than their insured counterparts.<sup>10</sup> Utilization of preventive health care services, such as mammography, Pap tests, prostate exams, influenza vaccinations, and cholesterol tests, could reduce the prevalence and severity of diseases and chronic conditions in the United States. The Healthy People 2020 target for health care coverage is to have 100% insured by 2020.<sup>11</sup>

An estimated 10.8% of the Butte County residents between the ages of 18 and 64 have no health insurance coverage – a rate below the state figure (12.7%) and on par with the national score (10.5%).

Access to health care is closely related to several socio-economic factors. Specifically, at 22.6%, the Hispanic segment of Butte County residents is substantially less likely to have coverage than their non-Hispanic counterparts. Male residents are somewhat more likely than females to have no coverage. Predictably, the likelihood to be insured is directly proportional to the income and educational attainment levels. Finally, age is closely associated with health care coverage, as younger individuals are more apt to report that they do not have health insurance coverage than those age 35+.

### Percentage of respondents age 18-64 who have no health care insurance coverage

Demographic Characteristics	No Health Insurance
<b>Total</b>	10.8%
<b>Age</b>	
18-24	16.2%
25-34	15.5%
35-44	7.2%
45-54	8.6%
55-64	5.7%
<b>Gender</b>	
Male	13.6%
Female	8.2%
<b>Race</b>	
White	7.3%
Black**	9.4%
Hispanic	22.6%
Non-Hispanic	8.7%
<b>Education</b>	
< High School	18.4%
High School Grad	13.1%
Some College	12.7%
College Graduate	5.0%
<b>Household Income</b>	
<\$20,000	18.6%
\$20,000-\$34,999	11.5%
\$35,000-\$49,999**	15.6%
\$50,000-\$74,999	11.7%
\$75,000 or more	1.4%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Health Care Access: Limited Health Care Coverage



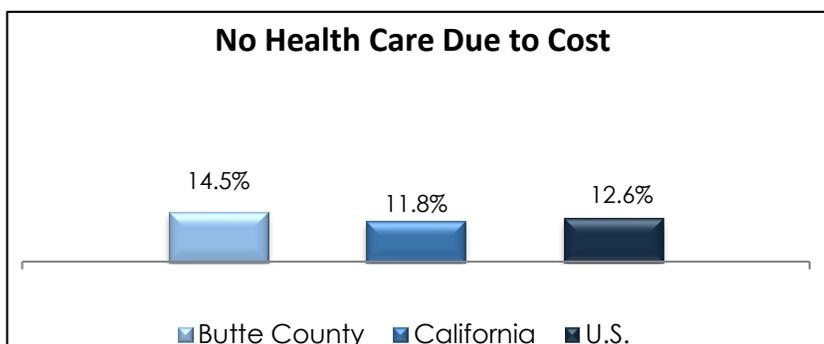
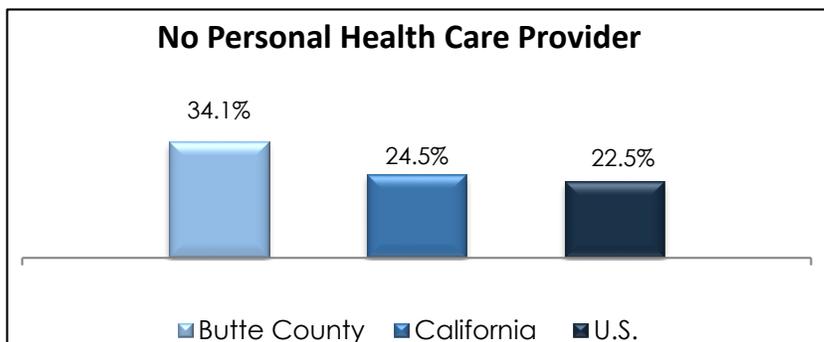
**Healthy People 2020 objective AHS-3: Increase the proportion of persons with a usual primary care provider**

**Healthy People 2020 objective AHS-6: Reduce the proportion of persons who are unable to obtain or delay in obtaining necessary medical care, dental care, or prescription medicines**

Two additional indicators that address issues related to health care access include not having a personal doctor or health care provider and having had a time during the past 12 months when health care was needed but could not be obtained because of cost.

More than one-third (34.1%) of Butte County adults do not have a personal doctor or health care provider – a figure substantially above state- and nationwide rates (24.5% and 22.5%, respectively.) Moreover, 14.5% of Butte County residents could not see a doctor because of the cost.

As in the past, men are more likely than women to have no personal health care provider (38% vs. 30.2%.) Moreover, no access to a personal provider and cost barriers are cited more often among less educated and less affluent population segments. Hispanics are the most likely cohort to report having no personal health care provider. Finally, the likelihood of having a personal provider is lowest among those under the age of 35, and the likelihood of not being able to see a doctor due to cost is highest among those under the age of 24.



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*Caution: Fewer than 30 respondents

## Percentage of respondents with no personal health care provider and percentage of respondents who reported an instance of not obtaining care due to cost

Demographic Characteristics	No Personal Health Care Provider	No Health Care Access Due to Cost
<b>Total</b>	34.1%	14.5%
<b>Age</b>		
18-24	51.7%	23.4%
25-34	52.9%	17.9%
35-44	33.0%	16.2%
45-54	32.6%	15.7%
55-64	17.9%	8.8%
65+	17.5%	6.5%
<b>Gender</b>		
Male	38.0%	15.0%
Female	30.2%	13.9%
<b>Race</b>		
White	31.9%	12.8%
Black**	34.3%	19.2%
Hispanic	46.2%	16.6%
Non-Hispanic	31.8%	14.3%
<b>Education</b>		
< High School	48.1%	28.9%
High School Grad	34.6%	12.0%
Some College	38.4%	18.0%
College Graduate	26.0%	9.4%
<b>Household Income</b>		
<\$20,000	42.8%	18.4%
\$20,000-\$34,999	30.9%	26.9%
\$35,000-\$49,999**	23.4%	7.6%
\$50,000-\$74,999	26.0%	14.8%
\$75,000 or more	25.4%	7.6%

# Health Care Access: No Routine Checkup



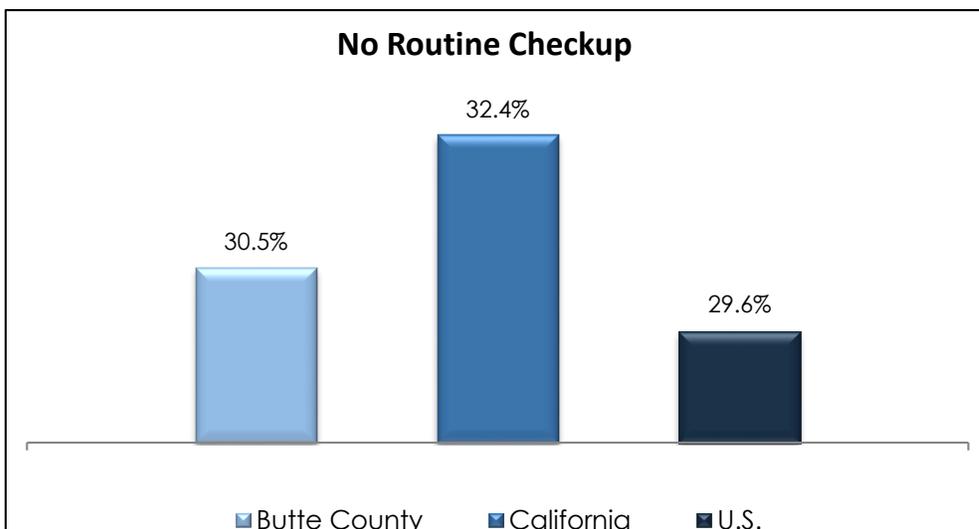
A yearly routine checkup with a health care professional provides an opportunity to raise awareness regarding adult preventive services, conduct individual risk assessments, promote informed decision-making, and potentially benefit from early detection.

Butte County residents are less likely than Californians overall to report not having a routine checkup within the past year (30.5% vs. 32.4%). The figure observed in the County is consistent with the nationwide results (29.6%).

A more in-depth analysis reveals that males are more likely to have had no checkup than females (35.3% vs. 25.9%). Moreover, African Americans (54.3%) and Hispanic residents (55.3%) are more likely to report no checkup than their Caucasian counterparts (28.2%). Finally, the likelihood of having an annual checkup increases proportionately to residents' age and income.

## Percentage of respondents who had no routine checkup in the past year

Demographic Characteristics	No Routine Checkup
<b>Total</b>	30.5%
<b>Age</b>	
18-24	46.9%
25-34	48.1%
35-44	32.5%
45-54	26.2%
55-64	21.2%
65+	11.4%
<b>Gender</b>	
Male	35.3%
Female	25.9%
<b>Race</b>	
White	28.2%
Black**	54.3%
Hispanic	55.3%
Non-Hispanic	26.4%
<b>Education</b>	
< High School	37.5%
High School Grad	34.9%
Some College	30.8%
College Graduate	25.7%
<b>Household Income</b>	
<\$20,000	40.3%
\$20,000-\$34,999	37.4%
\$35,000-\$49,999**	35.4%
\$50,000-\$74,999	23.1%
\$75,000 or more	20.0%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Chronic Health Conditions: Heart Attack



**Healthy People 2020 objective HDS-1: Increase overall cardiovascular health in the U.S. population**

**Healthy People 2020 objective HDS-16: Increase the proportion of adults aged 20 years and older who are aware of the symptoms of and how to respond to a heart attack**

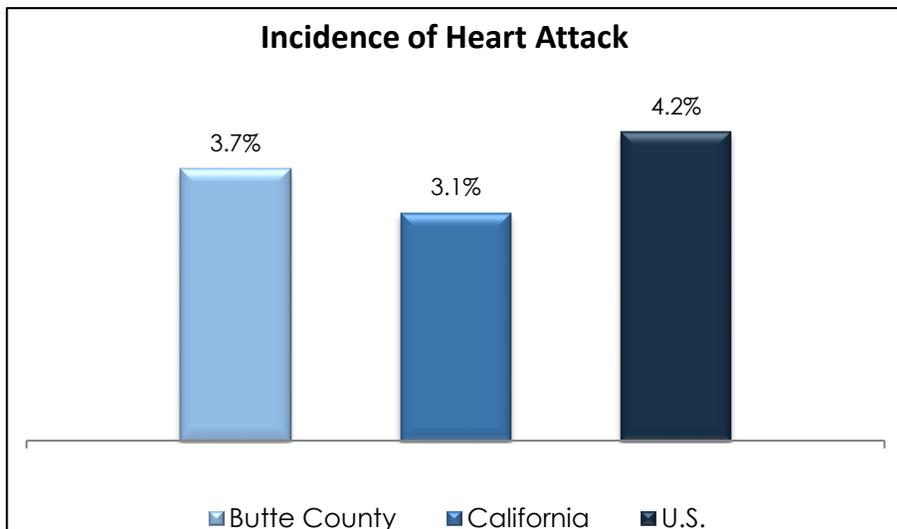
In 2015, an estimated 114,023 deaths were attributable to heart attacks in the United States. An estimated 720,000 heart attacks and 335,000 recurrent heart attacks occur yearly among U.S. adults. The cost of heart attacks was \$12.1 billion in 2013, which includes health care services, medication, and lost productivity.<sup>33</sup> Many risk factors for heart attack are the same as those for coronary artery disease, including high blood pressure, high cholesterol, smoking, family history of heart disease, obesity, physical inactivity, diabetes, and excessive alcohol consumption.<sup>26</sup>

A total of 3.7% of Butte County residents have ever been told that they had a heart attack. This result is only marginally higher than the California figure (3.1%) and on par with the national result (4.2%.)

Unsurprisingly, the prevalence of heart attacks is highest among residents age 55+.

## Percentage of respondents who were told by a doctor that they had a heart attack

Demographic Characteristics	Ever Told You Had Heart Attack
<b>Total</b>	3.7%
<b>Age</b>	
18-24	1.9%
25-34	-
35-44	1.5%
45-54	3.2%
55-64	6.4%
65+	7.4%
<b>Gender</b>	
Male	4.0%
Female	3.4%
<b>Race</b>	
White	3.9%
Black**	8.6%
Hispanic	1.0%
Non-Hispanic	4.2%
<b>Education</b>	
< High School	2.1%
High School Grad	3.7%
Some College	2.6%
College Graduate	5.1%
<b>Household Income</b>	
<\$20,000	4.8%
\$20,000-\$34,999	2.9%
\$35,000-\$49,999**	7.0%
\$50,000-\$74,999	6.4%
\$75,000 or more	1.9%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Chronic Health Conditions: Heart Disease



**Healthy People 2020 objective HDS-1: Increase overall cardiovascular health in the U.S. population**

**Healthy People 2020 objective HDS-2: Reduce coronary heart disease deaths**

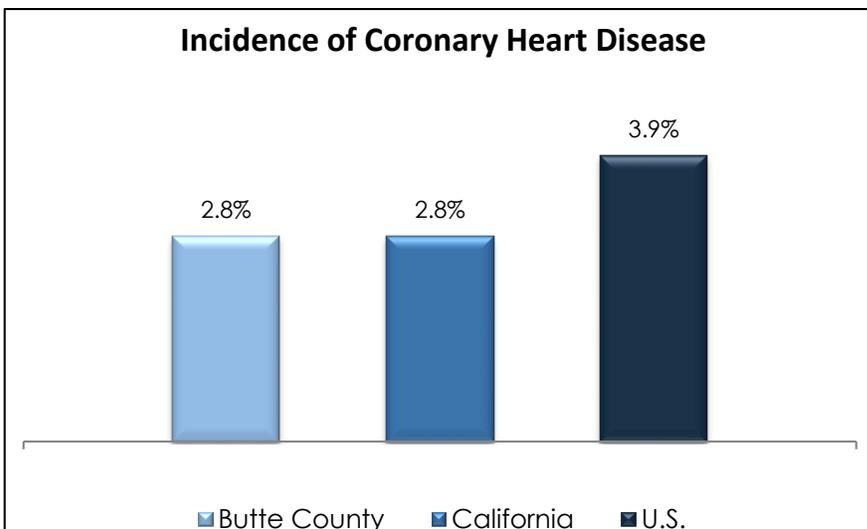
Heart disease and stroke are leading causes of death in the United States for both genders and across all ethnic groups. In 2017, in California, heart disease was the primary cause of death, claiming 62,797 lives.<sup>12</sup> Approximately 5.7 million people nationwide have heart failure, and about one-half of these individuals will die within five years of diagnosis. Cardiovascular disease costs the nation an estimated \$31 billion annually.<sup>13</sup> Modifying cardiovascular disease risk factors offers the greatest potential for reducing death and disability.

Among Butte County adults, 2.8% have been told at some point that they had angina or coronary heart disease. This figure is on par with the current state data, and below the nationwide prevalence data.

Unsurprisingly, residents over the age of 65 report a significantly higher rate of heart disease than younger individuals.

## Percentage of respondents who were told by a doctor that they had angina or coronary heart disease

Demographic Characteristics	Ever Told You Have Angina or Coronary Heart Disease
<b>Total</b>	2.8%
<b>Age</b>	
18-24	-
25-34	-
35-44	3.3%
45-54	-
55-64	2.5%
65+	10.0%
<b>Gender</b>	
Male	3.2%
Female	2.4%
<b>Race</b>	
White	2.9%
Black**	8.6%
Hispanic	0.5%
Non-Hispanic	3.2%
<b>Education</b>	
< High School	5.0%
High School Grad	3.2%
Some College	1.1%
College Graduate	3.7%
<b>Household Income</b>	
<\$20,000	4.0%
\$20,000-\$34,999	-
\$35,000-\$49,999**	8.8%
\$50,000-\$74,999	5.8%
\$75,000 or more	1.1%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Chronic Health Conditions: Stroke



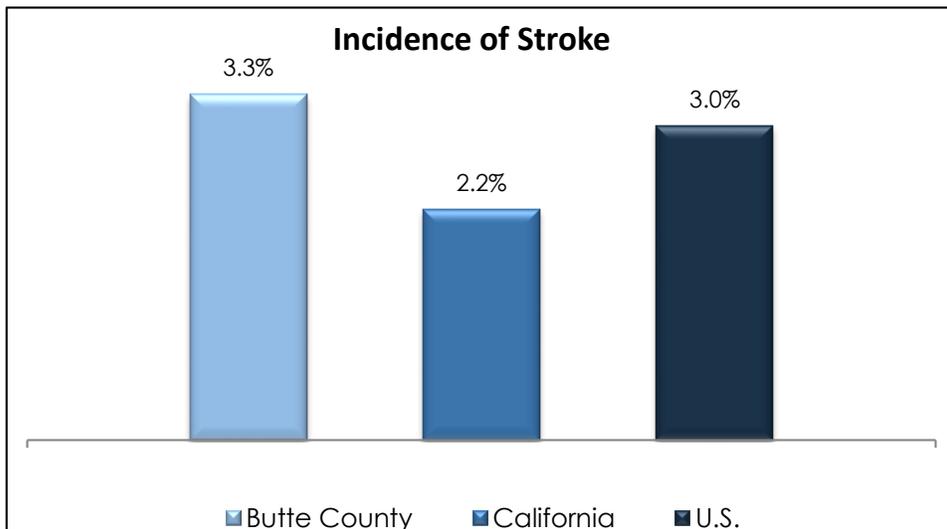
Healthy People 2020 objective HDS-3: Reduce stroke deaths

Healthy People 2020 objective HDS-17: Increase the proportion of adults aged 20 years and older who are aware of the symptoms and how to respond to a stroke

Stroke kills nearly 140,000 Americans each year – that's 1 of every 20 deaths. Stroke and Cardiovascular Heart Disease share many of the same risk factors. Although the health complications from stroke are severe, the risk of stroke can be greatly reduced by increasing physical activity, eating a balanced diet, avoiding drinking too much alcohol, and quitting smoking.<sup>14</sup>

The overall rate of stroke among Butte County adults is 3.3%. This figure is slightly above the state rate (2.2%), but on par with the nationwide prevalence data (3.0%).

Mirroring the patterns noted for other cardiovascular conditions, stroke is most common in the oldest age cohort (65+ years olds.)



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

## Percentage of respondents who were told by a doctor that they had a stroke

Demographic Characteristics	Ever Told You Had a Stroke
<b>Total</b>	3.3%
<b>Age</b>	
18-24	-
25-34	-
35-44	3.3%
45-54	0.9%
55-64	3.0%
65+	11.6%
<b>Gender</b>	
Male	3.0%
Female	3.6%
<b>Race</b>	
White	3.7%
Black**	-
Hispanic	2.2%
Non-Hispanic	3.6%
<b>Education</b>	
< High School	3.1%
High School Grad	3.4%
Some College	3.3%
College Graduate	3.3%
<b>Household Income</b>	
<\$20,000	5.7%
\$20,000-\$34,999	2.1%
\$35,000-\$49,999**	5.2%
\$50,000-\$74,999	1.4%
\$75,000 or more	2.2%

# Chronic Health Conditions: Asthma



## Healthy People 2020 objective RD-1: Reduce asthma deaths

## Healthy People 2020 objective RD-7: Increase the proportion of persons with current asthma who receive appropriate asthma care according to National Asthma Education and Prevention Program (NAEPP) guidelines

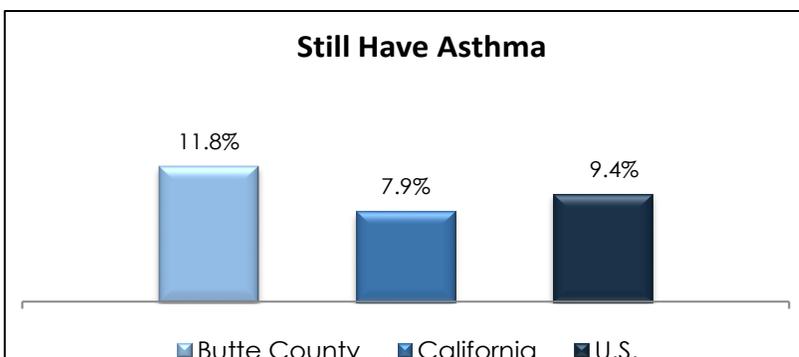
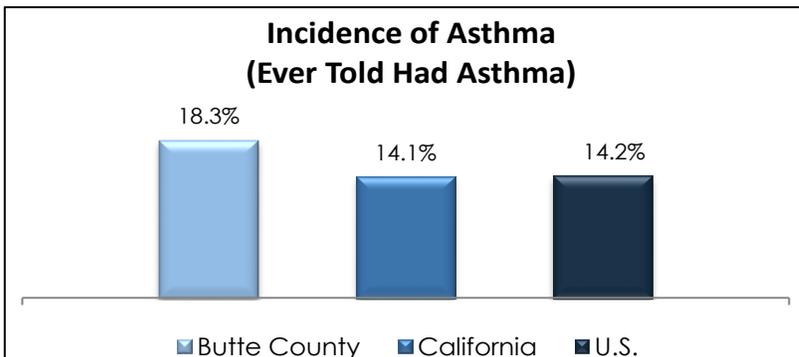
Asthma is a chronic inflammatory disorder of the lungs, and is characterized by wheezing, nighttime or early morning coughing, difficulty breathing, and chest tightness. Asthma attacks can be triggered by a variety of factors, such as pollution, tobacco smoke, dust mites, pets, mold, and/or respiratory infections. At present, over 25,000 Americans suffer from asthma. In 2016, the condition caused 188,968 hospitalizations, more than 1.8 million emergency department visits, and 9.8 million doctor visits.<sup>15</sup>

The incidence of self-reported asthma among Butte County adults is at 18.3%. This result is above the statewide and national rates (14.1% and 14.2%.) The prevalence of asthma peaks in the 25-34 age segment, as well as among females.

A total of 11.8% of Butte County residents currently have asthma – notably more than California and U.S.-wide figures (7.9% and 9.4%, respectively.) Residents most likely to still have asthma also include those ages 25-34, females, as well as those with lower income and education levels.

### Percentage of respondents who have ever been told by a doctor that they had asthma, and percentage of respondents who still have asthma

Demographic Characteristics	Ever Told Have Asthma	Still Have Asthma
<b>Total</b>	18.3%	11.8%
<b>Age</b>		
18-24	17.5%	15.6%
25-34	31.7%	17.2%
35-44	19.5%	7.3%
45-54	18.2%	12.4%
55-64	14.6%	12.0%
65+	11.7%	6.8%
<b>Gender</b>		
Male	14.3%	10.5%
Female	22.2%	13.0%
<b>Race</b>		
White	17.1%	10.7%
Black**	16.0%	16.0%
Hispanic	22.5%	15.4%
Non-Hispanic	18.0%	11.4%
<b>Education</b>		
< High School	25.9%	12.1%
High School Grad	21.0%	17.0%
Some College	18.9%	11.4%
College Graduate	14.1%	8.2%
<b>Household Income</b>		
<\$20,000	27.0%	19.9%
\$20,000-\$34,999	17.7%	15.9%
\$35,000-\$49,999**	28.5%	13.6%
\$50,000-\$74,999	25.7%	13.2%
\$75,000 or more	9.6%	7.3%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*Caution: Fewer than 30 respondents

# Chronic Health Conditions: COPD, Emphysema or Bronchitis



Healthy People 2020 objective RD-10: Reduce deaths from chronic obstructive pulmonary disease (COPD)

Healthy People 2020 objective RD-11: Reduce hospitalizations from chronic obstructive pulmonary disease (COPD)

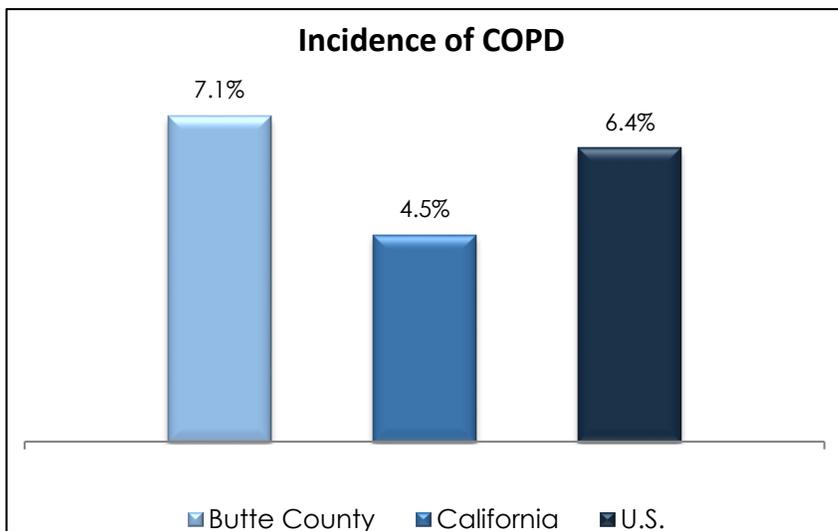
People with chronic obstructive pulmonary disease (COPD) experience persistent breathing problems and low respiratory function. Three-quarters of COPD cases are linked to a history of smoking, with genetics and exposure to environmental irritants also contributing to the disease. A total of 16 million of Americans have been diagnosed with this condition, while 12 million more may have undiagnosed COPD. <sup>26</sup>

A total of 7.1% of Butte County residents has ever been told that they had COPD, emphysema, or chronic bronchitis. This figure is above the statewide data (4.5%), but only marginally higher than the national result (6.4%).

Like many other conditions, COPD is notably more prevalent among residents over the age of 55. It is also more frequent among non-Hispanic population of the County. Finally, residents with less than high school education, as well as those making under \$50,000 per year, are more apt to report this diagnosis than their more educated and more affluent counterparts.

## Percentage of respondents who were told by a doctor that they had COPD, emphysema or chronic bronchitis

Demographic Characteristics	Ever Told Had COPD, Emphysema or Chronic Bronchitis
<b>Total</b>	7.1%
<b>Age</b>	
18-24	-
25-34	4.2%
35-44	4.8%
45-54	4.6%
55-64	15.9%
65+	12.9%
<b>Gender</b>	
Male	6.4%
Female	7.9%
<b>Race</b>	
White	7.4%
Black**	17.2%
Hispanic	1.0%
Non-Hispanic	8.3%
<b>Education</b>	
< High School	13.7%
High School Grad	7.7%
Some College	7.8%
College Graduate	4.6%
<b>Household Income</b>	
<\$20,000	13.3%
\$20,000-\$34,999	11.3%
\$35,000-\$49,999**	12.2%
\$50,000-\$74,999	4.4%
\$75,000 or more	4.2%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Chronic Health Conditions: Arthritis, Rheumatoid Arthritis, Gout, Lupus or Fibromyalgia



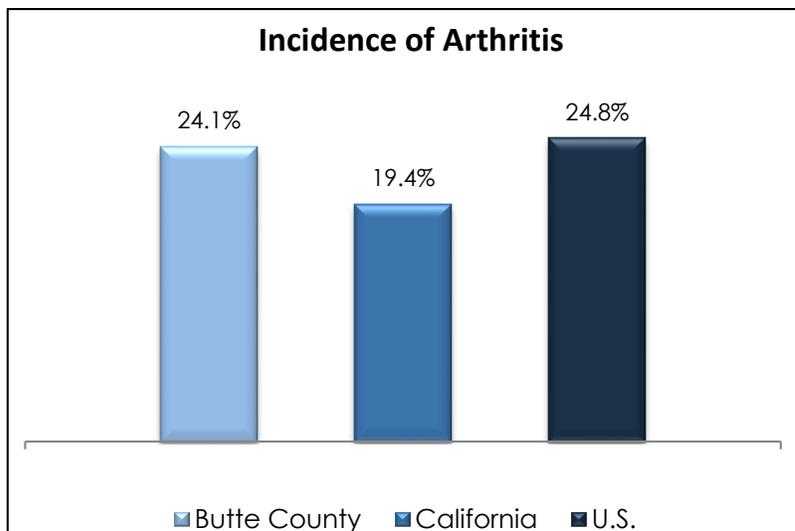
Healthy People 2020 objective AOCBC-1: Reduce the mean level of joint pain among adults with doctor-diagnosed arthritis

Healthy People 2020 objective AOCBC-7: Increase the proportion of adults with doctor-diagnosed arthritis who receive health care provider counseling

Over 54 million Americans have arthritis, a condition that can cause severe, chronic joint pain. Arthritis is a leading cause of disability, and over half of people living with this condition says it interferes with their daily activities.<sup>26</sup> Arthritis can take many forms such as rheumatoid arthritis (an autoimmune disease causing painful swelling,) gout (a form of inflammatory arthritis affecting one joint at a time) fibromyalgia (a condition causing abnormal pain perception processing)<sup>39</sup> or lupus (an autoimmune disease that can damage any part of the body.)<sup>40</sup>

Nearly one-quarter (24.1%) of Butte County residents have been diagnosed with some form of arthritis. This result is above the statewide figure (19.4%), and on par with the national data (24.8%).

The incidence of arthritis increases in proportion to residents' age. It is also more common among non-Hispanic respondents, and slightly more prevalent among females.



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*Caution: Fewer than 30 respondents

Percentage of respondents who were told by a doctor that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia

Demographic Characteristics	Ever Told Had Arthritis, Rheumatoid Arthritis, Gout, Lupus or Fibromyalgia
<b>Total</b>	24.1%
<b>Age</b>	
18-24	3.8%
25-34	3.3%
35-44	14.5%
45-54	21.8%
55-64	45.2%
65+	51.4%
<b>Gender</b>	
Male	21.1%
Female	27.0%
<b>Race</b>	
White	25.5%
Black**	37.3%
Hispanic	11.2%
Non-Hispanic	26.3%
<b>Education</b>	
< High School	25.5%
High School Grad	24.7%
Some College	23.1%
College Graduate	24.5%
<b>Household Income</b>	
<\$20,000	31.9%
\$20,000-\$34,999	27.5%
\$35,000-\$49,999**	26.8%
\$50,000-\$74,999	33.5%
\$75,000 or more	23.9%

# Chronic Health Conditions: Depressive Disorder



**Healthy People 2020 objective MHMD-11: Increase depression screening by primary care workers**

**Healthy People 2020 objective MHMD-4: Reduce the proportion of persons who experience major depressive episodes (MDEs)**

*Depression is a common and treatable mental disorder characterized by changes in mood, and cognitive and physical symptoms over a period of time. It is the leading cause of disability in the U.S., associated with high societal costs and greater functional impairment than many other chronic diseases, including diabetes and arthritis.<sup>41</sup> The most commonly diagnosed form of depression is major depressive disorder. In 2015, approximately 16.1 million Americans had experienced at least one major depressive episode in the last year.<sup>42</sup>*

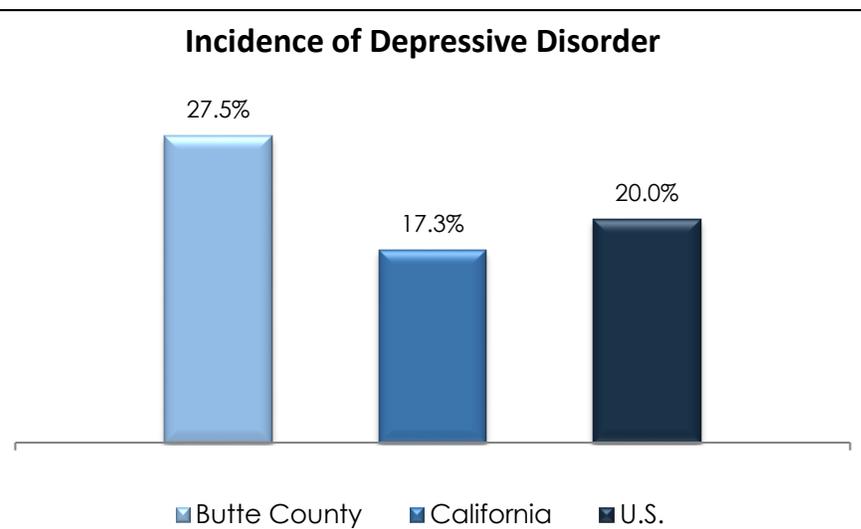
Nearly three in ten residents of Butte County (27.5%) have ever been told that they had a depressive disorder (depression, major depression, dysthymia) or minor depression. This rate is considerably above the figure observed for California as a whole (17.3%), as well as above the national data (20%).

The likelihood of this diagnosis is inversely proportional to residents' age, with younger individuals being more likely to suffer from depression than their older counterparts. Moreover, females are more apt to be depressed than males. Finally, the lower income segments (and particularly those with less than \$20,000 per year) are more likely to feel this way than their more affluent counterparts.

## Percentage of respondents who were told by a doctor that they had a depressive disorder, or minor depression

Demographic Characteristics	Ever Told Had Depressive Disorder
<b>Total</b>	27.5%
<b>Age</b>	
18-24	30.2%
25-34	36.0%
35-44	35.3%
45-54	29.0%
55-64	27.1%
65+	13.2%
<b>Gender</b>	
Male	21.6%
Female	33.3%
<b>Race</b>	
White	27.0%
Black**	39.4%
Hispanic	35.7%
Non-Hispanic	26.7%
<b>Education</b>	
< High School	22.0%
High School Grad	29.1%
Some College	32.2%
College Graduate	22.9%
<b>Household Income</b>	
<\$20,000	44.1%
\$20,000-\$34,999	25.4%
\$35,000-\$49,999**	14.4%
\$50,000-\$74,999	19.4%
\$75,000 or more	20.4%

**Incidence of Depressive Disorder**



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Chronic Health Conditions: Kidney Disease



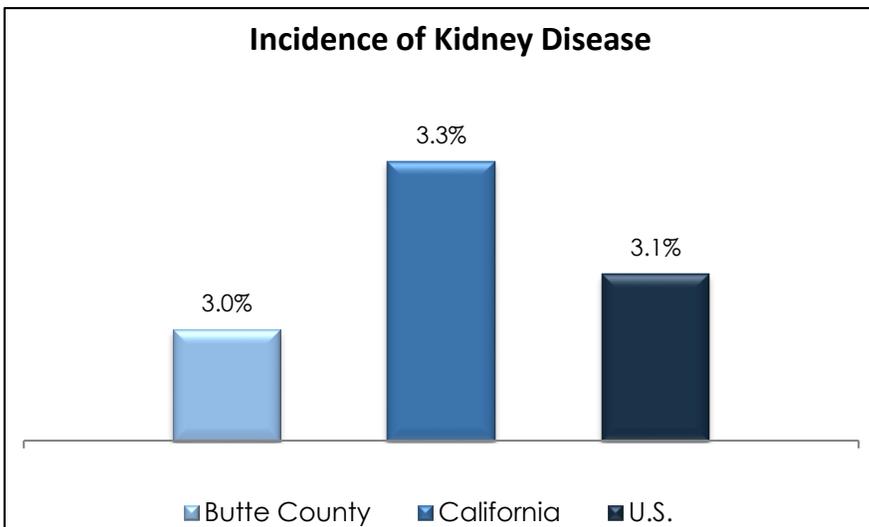
**Healthy People 2020 objective CKD-1: Reduce the proportion of the U.S. population with chronic kidney disease**

**Healthy People 2020 objective CKD-7: Reduce the number of deaths among persons with chronic kidney disease**

Chronic kidney disease (CKD) is a condition in which kidneys are damaged and cannot filter blood the way they should. In early stages, CKD may go undetected, and the only way to diagnose the condition is through specific blood and urine tests. Adults with diabetes, high blood pressure, heart disease, obesity, lupus, and a family history of CKD have a higher risk of developing the condition.<sup>43</sup> If untreated, the disease may progress to kidney failure – a condition currently affecting more than 661,000 Americans. Each year, kidney disease kills more people than breast and prostate cancer.<sup>44</sup> Eating more fruit and vegetables, staying physically active, and getting regular checkups are the best prevention methods.<sup>43</sup>

At 3%, the incidence of kidney disease in Butte County is on par with the statewide and nationwide rates (3.3% and 3.1%, respectively.)

Residents over the age of 65% are the highest risk of this condition.



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

## Percentage of respondents who were told by a doctor that they had kidney disease

Demographic Characteristics	Ever Told Had Kidney Disease
<b>Total</b>	3.0%
<b>Age</b>	
18-24	-
25-34	-
35-44	-
45-54	3.0%
55-64	4.8%
65+	9.0%
<b>Gender</b>	
Male	3.1%
Female	3.0%
<b>Race</b>	
White	3.5%
Black**	-
Hispanic	-
Non-Hispanic	3.6%
<b>Education</b>	
< High School	2.7%
High School Grad	4.3%
Some College	2.9%
College Graduate	2.2%
<b>Household Income</b>	
<\$20,000	2.8%
\$20,000-\$34,999	5.3%
\$35,000-\$49,999**	3.6%
\$50,000-\$74,999	4.8%
\$75,000 or more	3.8%

# Chronic Health Conditions: Skin Cancer



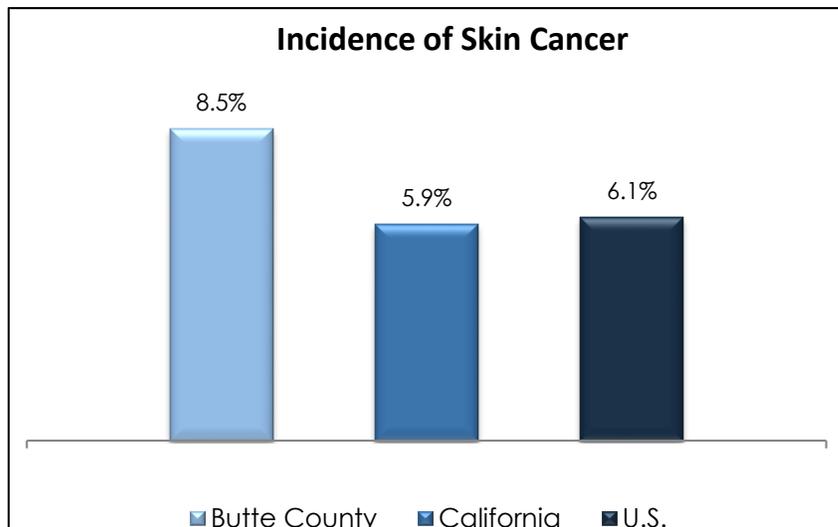
**Healthy People 2020 objective C-8: Reduce the melanoma cancer death rate**

**Healthy People 2020 objective C-20: Increase the proportion of persons who participate in behaviors that reduce their exposure to harmful ultraviolet (UV) irradiation and avoid sunburn**

In the U.S., more than 9,500 people are diagnosed with skin cancer every day. On an annual basis, that is more than all other cancers combined.<sup>35</sup> In 2016, the melanoma type of skin cancer was the 6<sup>th</sup> most common cancer as measured by new cases nationwide. In the same year, 9,535 melanoma cases were reported in California.<sup>36</sup> The annual cost of treating skin cancers in the U.S. is estimated at \$8.1 billion.<sup>35</sup>

The overall rate of skin cancer among Butte County adults is 8.5%. This figure is above both the state rate (5.9%) and the national prevalence data (6.1%).

The incidence of skin cancer is directly proportional to residents' ages, with a peak in the 65+ age segment. White respondents are also notably more likely to report having skin cancer than their Hispanic counterparts.



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*Caution: Fewer than 30 respondents

## Percentage of respondents who were told by a doctor that they had skin cancer

Demographic Characteristics	Ever Told You Had Skin Cancer
<b>Total</b>	8.5%
<b>Age</b>	
18-24	1.9%
25-34	1.5%
35-44	4.5%
45-54	5.1%
55-64	12.7%
65+	22.8%
<b>Gender</b>	
Male	7.5%
Female	9.5%
<b>Race</b>	
White	9.4%
Black**	14.6%
Hispanic	3.2%
Non-Hispanic	9.1%
<b>Education</b>	
< High School	5.3%
High School Grad	6.1%
Some College	9.6%
College Graduate	9.9%
<b>Household Income</b>	
<\$20,000	6.3%
\$20,000-\$34,999	9.1%
\$35,000-\$49,999**	17.5%
\$50,000-\$74,999	19.1%
\$75,000 or more	7.4%

# Chronic Health Conditions: Other Types of Cancer

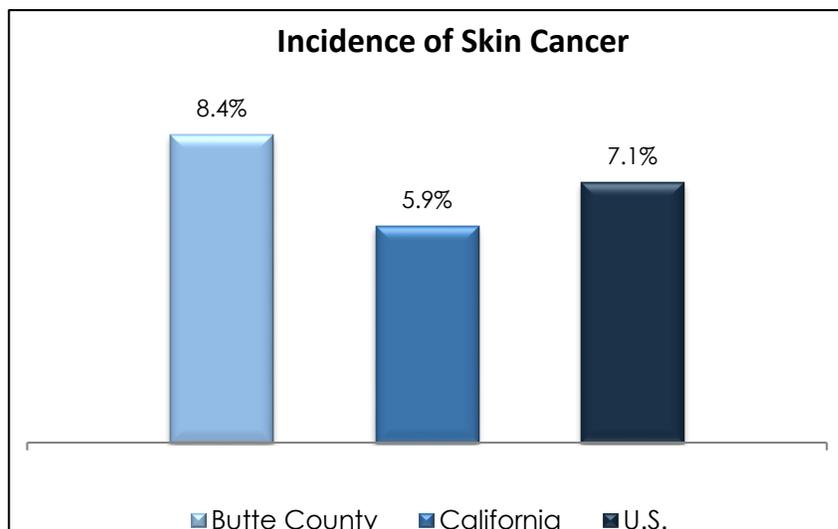


## Healthy People 2020 objective C-1: Reduce the overall cancer death rate

Cancer is the second-leading cause of death in the United States, behind heart disease. The most common cancers in the nation – breast, prostate, lungs and bronchus, and colorectal cancer – are responsible for the most deaths. Smoking is a factor in 32% of cancer deaths, and avoiding tobacco use is the best way to reduce that rate.<sup>26</sup> In 2017, in California, cancer was the cause of 59,516 deaths.<sup>12</sup> The cost of cancer care is expected to increase to nearly \$158 billion by 2020.<sup>37</sup> The estimated cost of lost productivity from cancer mortality is \$146.7 billion in 2020.<sup>38</sup>

The overall rate of cancer (other than skin cancer) among Butte County adults is 8.4%. This figure is higher than the state rate (5.9%) and somewhat above the national prevalence data (7.1%).

Residents age 55+ are more likely than those younger to develop other types of cancer. Non-Hispanics are also slightly more likely to have been diagnosed with cancer than Hispanic respondents, and those in the bottom income and education brackets are somewhat more likely to have been told they had it than their more educated and more affluent counterparts.



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*Caution: Fewer than 30 respondents

### Percentage of respondents who were told by a doctor that they had any other types of cancer

Demographic Characteristics	Ever Told Had Any Other Types of Cancer
<b>Total</b>	8.4%
<b>Age</b>	
18-24	3.5%
25-34	1.5%
35-44	8.4%
45-54	2.3%
55-64	11.9%
65+	20.4%
<b>Gender</b>	
Male	8.0%
Female	8.9%
<b>Race</b>	
White	8.3%
Black**	-
Hispanic	2.5%
Non-Hispanic	9.4%
<b>Education</b>	
< High School	20.4%
High School Grad	7.9%
Some College	7.2%
College Graduate	7.6%
<b>Household Income</b>	
<\$20,000	11.0%
\$20,000-\$34,999	8.1%
\$35,000-\$49,999**	9.1%
\$50,000-\$74,999	7.6%
\$75,000 or more	9.3%

# Cancer Survivorship: Treatment & Clinical Trial Participation



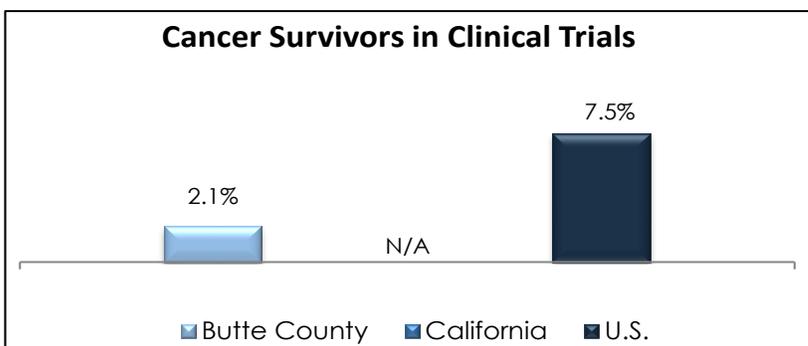
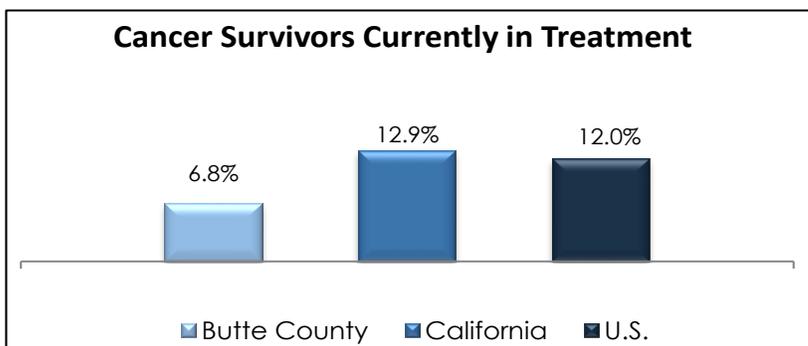
## Healthy People 2020 objective C-1: Reduce the overall cancer death rate

The term “cancer survivor” refers to any person with a history of cancer, from the time of the diagnosis through the remainder of their life. There are three phases of cancer survival: the time from diagnosis to the end of initial treatment, the transition from treatment to extended survival, and long-term survival.

Cancer treatments may include surgery, chemotherapy, radiation therapy, hormone therapy, immunotherapy, or stem cell/bone marrow transplant. Treatments may be used alone or in combination, depending on the kind and stage of cancer. Patients may also choose to join a clinical trial to help find out which treatments are safe and if they work well. In 2016, an estimated 15.5 million Americans survived cancer. Among them were 1.7 million Californians.<sup>15</sup>

A total of 6.8% of Butte County residents are cancer survivors who are currently in treatment. This is roughly half of the percentages estimated for the state and the U.S. as a whole (12.9% and 12.0%, respectively.)

Additionally, 2.1% of those who completed treatment participated in clinical trials. This is notably less than the 7.5% noted nationwide.



\*Note: Comparative data is based on 2009 BRFSS of California Residents and 2009 Nationwide BRFSS (States, DC and Territories)

\*\*Caution: Fewer than 30 respondents

### Percentage of respondents who are currently in treatment, and percentage of respondents who participated in clinical trial

Demographic Characteristics	Currently in Treatment	Participated in Clinical Trial
<b>Total</b>	6.8%	2.1%
<b>Age</b>		
18-24	._**	._**
25-34	._**	._**
35-44	._**	._**
45-54	._**	._**
55-64	12.1%**	._**
65+	8.4%	4.6%**
<b>Gender</b>		
Male**	10.6%	2.2%
Female	4.0%	2.0%
<b>Race</b>		
White	6.7%	2.4%%
Black**	-	-
Hispanic**	-	-
Non-Hispanic	7.5%	2.3%
<b>Education</b>		
< High School**	10.8%	-
High School Grad**	7.6%	2.0%
Some College**	5.4%	-
College Graduate**	6.6%	5.0%
<b>Household Income</b>		
<\$20,000**	11.9%	2.5%
\$20,000-\$34,999**	16.4%	-
\$35,000-\$49,999**	-	-
\$50,000-\$74,999**	4.6%	-
\$75,000 or more**	5.5%	9.7%

# Cancer Survivorship: Survivorship Care Plan



## Healthy People 2020 objective C-13: Increase the proportion of cancer survivors who are living 5 years or longer after diagnosis

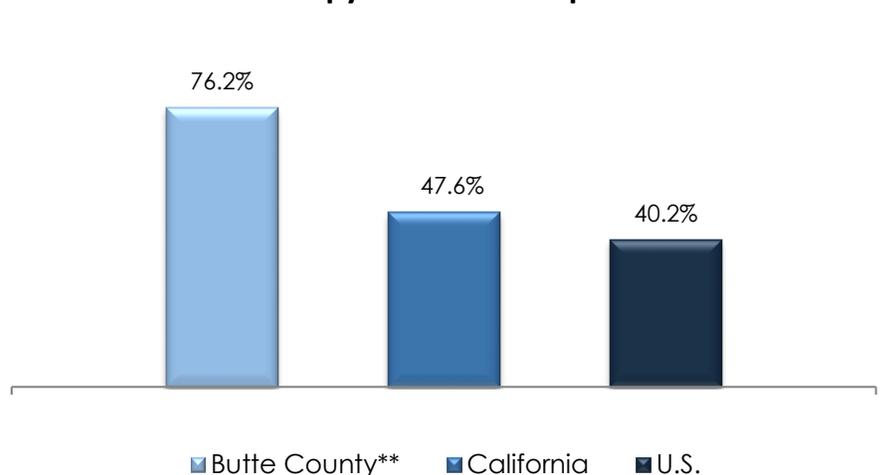
A survivorship care plan is a record of the survivor's cancer and treatment history, as well as any checkups or follow-up tests needed in the future. It may also list ideas for staying healthy. It is recommended that survivorship care plans address the chronic effects of cancer (pain, fatigue, depression/anxiety), as well as monitoring for and preventing late effects (osteoporosis, heart disease, second malignancies.) They should also explicitly identify the providers responsible for each aspect of ongoing care and provide information on resources available for psychosocial issues that may arise as a result of the prior cancer diagnosis.<sup>32</sup>

More than three-quarters of Butte County cancer survivors received a copy of their survivorship care plan. This percentage is observably above the state- and nationwide figures (47.6% and 40.2%); however, this result needs to be treated with caution due to a very small sample size (n=14.)

### Percentage of respondents who received copy of survivorship care plan

Demographic Characteristics	Received copy of survivorship care plan
<b>Total**</b>	76.2%
<b>Age</b>	
18-24**	-
25-34**	100%
35-44**	-
45-54**	100%
55-64**	80.0%
65+**	67.1%
<b>Gender</b>	
Male**	54.4%
Female**	87.8%
<b>Race</b>	
White**	75.5%
Black**	100.0%
Hispanic**	100.0%
Non-Hispanic**	75.5%
<b>Education</b>	
< High School**	-
High School Grad**	100.0%
Some College**	86.1%
College Graduate**	83.5%
<b>Household Income</b>	
<\$20,000**	100.0%
\$20,000-\$34,999**	71.5%
\$35,000-\$49,999**	72.5%
\$50,000-\$74,999**	66.5%
\$75,000 or more**	100.0%

**Received Copy of Survivorship Care Plan**



\*Note: Comparative data is based on 2009 BRFSS of California Residents and 2009 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Hypertension Awareness



## Healthy People 2020 objective HD S-5: Reduce the proportion of adults with hypertension

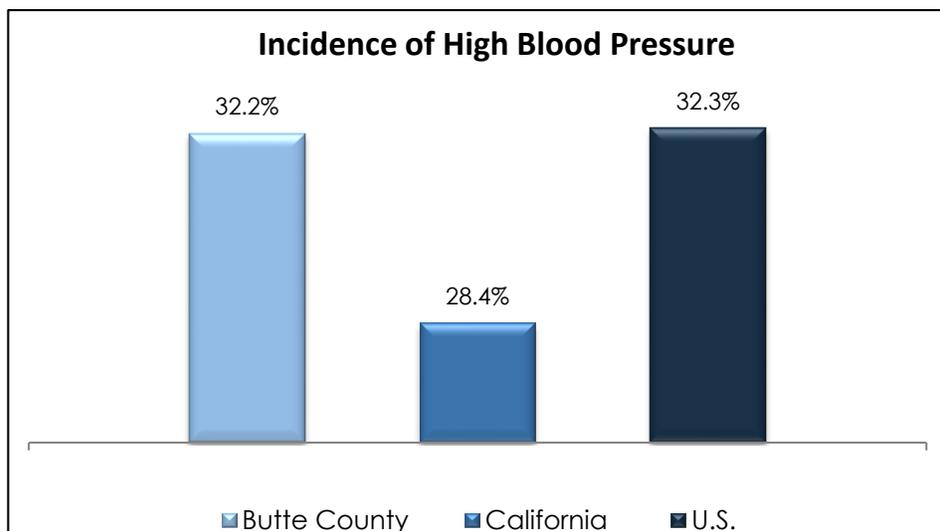
High blood pressure, also known as hypertension, is a major and modifiable risk factor for heart disease and stroke. In 2015, there were 427,631 deaths in the United States with any mention of high blood pressure, 78,862 of which were primarily attributable to high blood pressure. As of 2017, nearly half of Americans (45.6%) were estimated to have high blood pressure,<sup>33</sup> but because it often has no sign or symptoms, only 54% of adults with the condition have it under control.<sup>34</sup> High blood pressure is influenced by factors such as smoking, obesity, physical inactivity, poor diet, and excessive alcohol use.<sup>26</sup>

Approximately one-third of Butte County residents have ever been told by a doctor that they had high blood pressure. This is above the state figure (28.4%) and on par with the nationwide result (32.3%).

The incidence of high blood pressure increases proportionately to age and is most prevalent among African American residents.

### Percentage of respondents who have ever been told by a doctor that they had high blood pressure

Demographic Characteristics	Ever Told Have High Blood Pressure
<b>Total</b>	32.2%
<b>Age</b>	
18-24	11.6%
25-34	14.8%
35-44	28.3%
45-54	32.2%
55-64	48.0%
65+	55.6%
<b>Gender</b>	
Male	30.6%
Female	33.8%
<b>Race</b>	
White	33.5%
Black**	46.9%
Hispanic	21.6%
Non-Hispanic	34.2%
<b>Education</b>	
< High School	32.7%
High School Grad	27.7%
Some College	31.8%
College Graduate	36.2%
<b>Household Income</b>	
<\$20,000	38.0%
\$20,000-\$34,999	29.1%
\$35,000-\$49,999**	34.8%
\$50,000-\$74,999	40.0%
\$75,000 or more	36.8%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Cholesterol Awareness



**Healthy People 2020 objective HD S-6: Reduce the proportion of adults with who have had their blood cholesterol checked within the preceding 5 years**

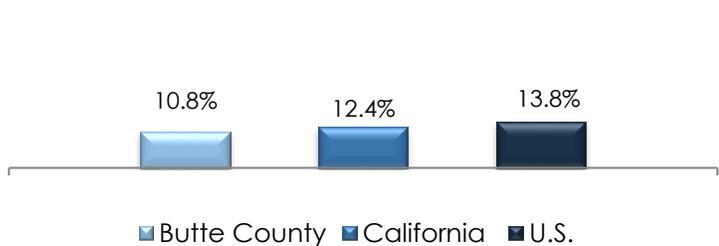
**Healthy People 2020 objective HD S-7: Reduce the proportion of adults with high total blood cholesterol levels**

High cholesterol is a major and modifiable risk factor for heart disease and stroke. The American Heart Association recommends adults aged 20+ have their cholesterol checked every 4-to-6 years. High cholesterol has no symptoms, but it can be detected with a simple blood test.<sup>26</sup> At present, an estimated 28.5 million Americans have high cholesterol levels.<sup>33</sup>

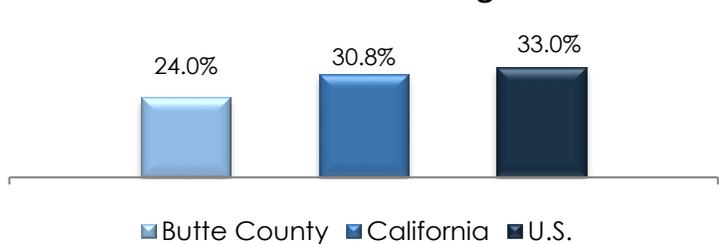
A total of 11% of Butte County residents have not had their blood cholesterol checked within the last 5 years. This result is below the figures noted for California as a whole (12.4%) and the U.S. (13.8%). Respondents most likely not to have their cholesterol checked include those with less than high school education and those with incomes below the \$35,000 threshold.

Additionally, just under one-quarter (24%) had their blood cholesterol checked and have been told that it was high. Again, this is below the state- and nationwide figures (30.8% and 33%, respectively.) High cholesterol levels are most prevalent among non-Hispanics, and increase proportionately to residents' age.

**Cholesterol Not Checked Within Last 5 Years**



**Had Cholesterol Checked and Told It Was High**



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

**Percentage of respondents who have had blood cholesterol checked within the last 5 years, and percentage of respondents told it was high**

Demographic Characteristics	Cholesterol Not Checked Within Last 5 Years	Cholesterol Checked and Told It Was High
<b>Total</b>	10.8%	24.0%
<b>Age</b>		
18-24	10.2%	2.0%
25-34	25.9%	10.3%
35-44	11.1%	18.7%
45-54	4.2%	27.5%
55-64	10.0%	36.5%
65+	4.9%	42.2%
<b>Gender</b>		
Male	12.3%	24.5%
Female	9.1%	23.5%
<b>Race</b>		
White	10.5%	25.8%
Black**	8.6%	22.9%
Hispanic	13.8%	17.1%
Non-Hispanic	10.5%	25.0%
<b>Education</b>		
< High School	17.0%	24.9%
High School Grad	9.5%	22.3%
Some College	10.8%	19.0%
College Graduate	10.3%	29.7%
<b>Household Income</b>		
<\$20,000	13.3%	26.2%
\$20,000-\$34,999	28.4%	26.5%
\$35,000-\$49,999**	5.0%	35.3%
\$50,000-\$74,999	3.7%	29.3%
\$75,000 or more	4.5%	27.6%

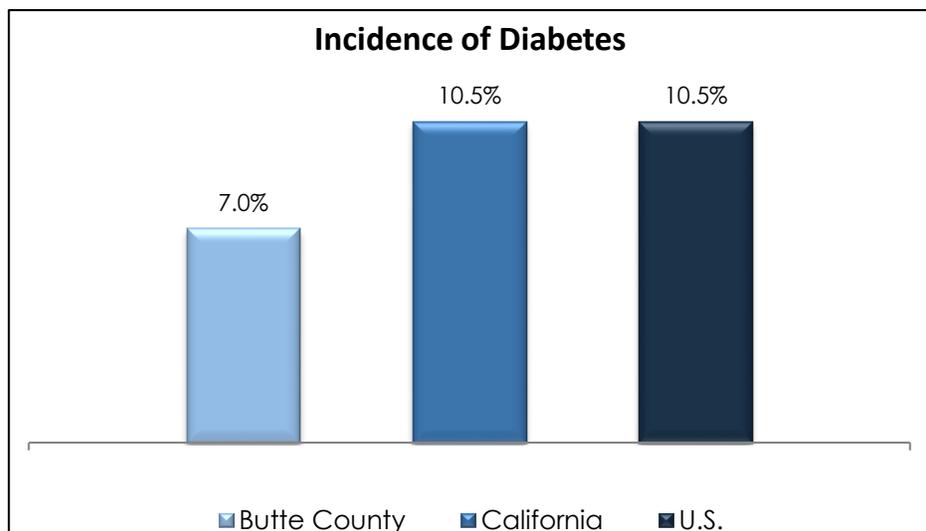


## Healthy People 2020 objective D-1: Reduce the annual number of new cases of diagnosed diabetes in the population

Diabetes mellitus is a chronic disease characterized by high glucose levels, owing to insufficient production of insulin by the pancreas or to a reduction in the body's ability to use insulin. In the last 20 years, the number of adults diagnosed with diabetes has more than tripled as the US population has aged and become more overweight.<sup>16</sup> In California, diabetes was the seventh leading cause of death with 9,595 deaths in 2017.<sup>17</sup> Obesity, physical inactivity, being 45 years or older, and/or having a family history of diabetes are just a few of the known risk factors that are associated with the development of diabetes.<sup>18</sup>

At 7.0%, the incidence of diabetes among Butte County residents is considerably lower than the state- and nationwide rates (10.5% each.)

Incidence of diabetes increases substantially with the age of residents. It is also somewhat higher among individuals with less than high school education, and among those with lower income levels (up to \$49,999 per year.)



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

### Percentage of respondents who had ever been told by a doctor that they have diabetes (excluding gestational diabetes)

Demographic Characteristics	Ever Told You Have Diabetes
<b>Total</b>	7.0%
<b>Age</b>	
18-24	-
25-34	-
35-44	4.2%
45-54	7.1%
55-64	13.5%
65+	15.6%
<b>Gender</b>	
Male	6.9%
Female	7.1%
<b>Race</b>	
White	6.8%
Black**	13.2%
Hispanic	5.6%
Non-Hispanic	7.4%
<b>Education</b>	
< High School	14.2%
High School Grad	4.5%
Some College	6.6%
College Graduate	7.8%
<b>Household Income</b>	
<\$20,000	7.3%
\$20,000-\$34,999	15.5%
\$35,000-\$49,999**	11.9%
\$50,000-\$74,999	5.1%
\$75,000 or more	4.6%

# Tobacco Use



## Healthy People 2020 objective TU-1: Reduce tobacco use by adults

## Healthy People 2020 objective TU-14: Increase the proportion of smoke-free homes

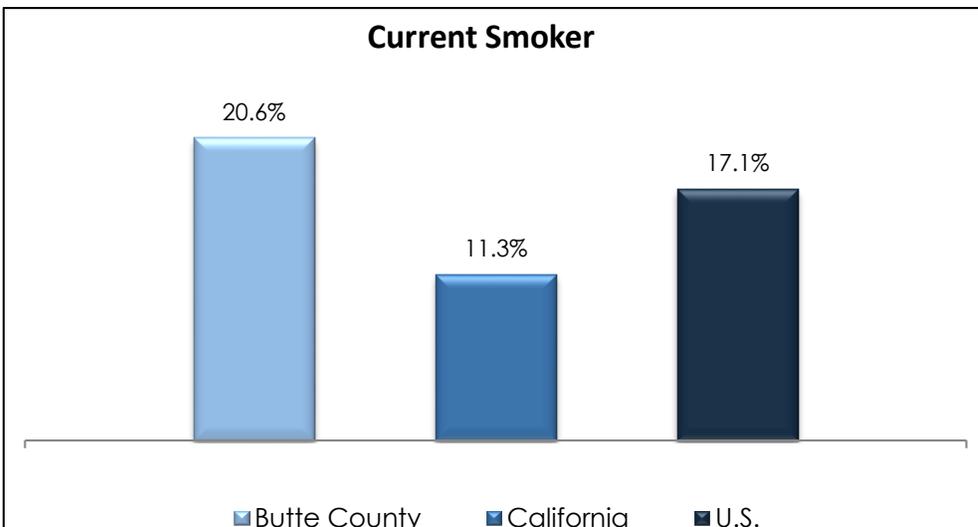
Smoking contributes to the development of many kinds of chronic conditions, including cancers, respiratory diseases, diabetes, and cardiovascular diseases. It is “the leading cause of preventable death”<sup>19</sup> and “one of the biggest public health threats the world has ever faced, killing more than 8 million people a year.”<sup>20</sup> It has been estimated that smoking costs the United States more than \$170 billion in annual medical costs and another \$156 billion in lost economic productivity,<sup>21</sup> as well as over 5 million years of potential life lost each year.<sup>22</sup> Current smoking status is defined as ever having smoked 100 cigarettes (five packs) and smoking cigarettes now, either every day or on some days.

Approximately one-fifth (20.6%) of Butte County residents are current smokers, based on the definition cited above. This figure is substantially above the state- and nationwide rates (11.3% and 17.1%).

Prevalence of smoking is least common among respondents under the age of 24 and over the age of 65, as well as college graduates. Females are also slightly less likely to be current smokers than males.

### Percentage of respondents who are current smokers

Demographic Characteristics	Current Smoker
<b>Total</b>	20.6%
<b>Age</b>	
18-24	18.8%
25-34	25.9%
35-44	28.6%
45-54	22.7%
55-64	22.6%
65+	10.2%
<b>Gender</b>	
Male	23.1%
Female	18.2%
<b>Race</b>	
White	21.1%
Black**	37.3%
Hispanic	16.7%
Non-Hispanic	20.9%
<b>Education</b>	
< High School	30.6%
High School Grad	25.4%
Some College	23.6%
College Graduate	11.9%
<b>Household Income</b>	
<\$20,000	28.1%
\$20,000-\$34,999	31.7%
\$35,000-\$49,999**	5.3%
\$50,000-\$74,999	28.6%
\$75,000 or more	8.7%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Other Tobacco Use: Chewing Tobacco



## Healthy People 2020 objective TU-1.2: Reduce use of smokeless tobacco products by adults

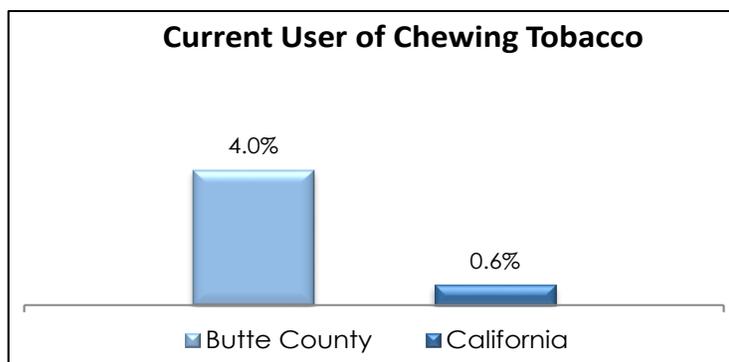
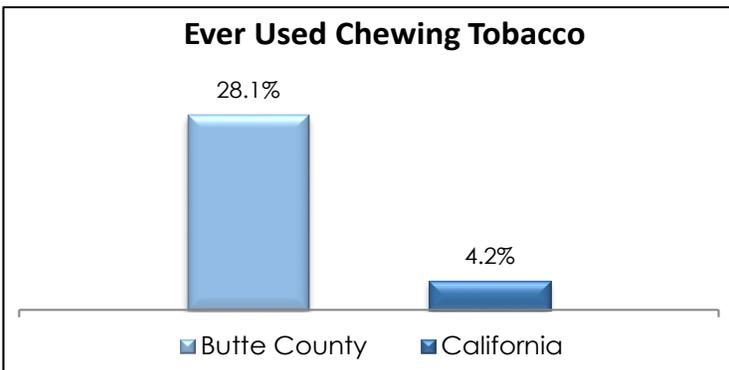
Chewing tobacco and snuff are commonly used forms of tobacco in the United States in addition to cigarettes. Several oral health problems are associated with smokeless tobacco including receding gums, mouth sores and plaques, dental cavities and tooth abrasions.<sup>22</sup> Smokeless tobacco is a known cause of oral cancer and oral disease, and also may increase risk of pancreatic cancers, early delivery and stillbirth, heart disease and stroke.<sup>22</sup> Current user status is defined as having used chewing tobacco at least once during lifetime and using it on 1 or more day in the past 30 days.

Nearly three in ten residents of Butte County have ever used chewing tobacco, and a total of 4% are current users, as defined above. Both metrics are notably above statewide figures.

Males are notably more likely than females to have ever used chewing tobacco and to be current users. Likewise, residents in the top income bracket (\$75+) are more likely than their less affluent counterparts to have ever tried it and to be currently using it.

### Percentage of respondents who have ever used chewing tobacco, and percentage of respondents who are current users of chewing tobacco

Demographic Characteristics	Ever Used Chewing Tobacco	Current User of Chewing Tobacco
<b>Total</b>	28.1%	4.0%
<b>Age</b>		
18-24	18.2%	2.4%
25-34	35.0%	8.9%
35-44	42.0%	7.3%
45-54	42.7%	3.2%
55-64	26.9%	3.6%
65+	10.8%	0.8%
<b>Gender</b>		
Male	45.7%	7.1%
Female	10.8%	1.1%
<b>Race</b>		
White	30.7%	4.4%
Black**	41.8%	8.6%
Hispanic	25.0%	2.2%
Non-Hispanic	27.9%	4.4%
<b>Education</b>		
< High School	25.4%	9.7%
High School Grad	35.1%	5.5%
Some College	28.0%	2.0%
College Graduate	23.5%	3.8%
<b>Household Income</b>		
<\$20,000	23.7%	3.6%
\$20,000-\$34,999	27.5%	1.5%
\$35,000-\$49,999**	14.9%	4.1%
\$50,000-\$74,999	20.1%	2.8%
\$75,000 or more	32.6%	6.5%



\*Note: Comparative data is based on 2015 BRFSS of California Residents. National comparative data is not available in this category \*\*Caution: Fewer than 30 respondents

# Other Tobacco Use: Cigars/Cigarillos

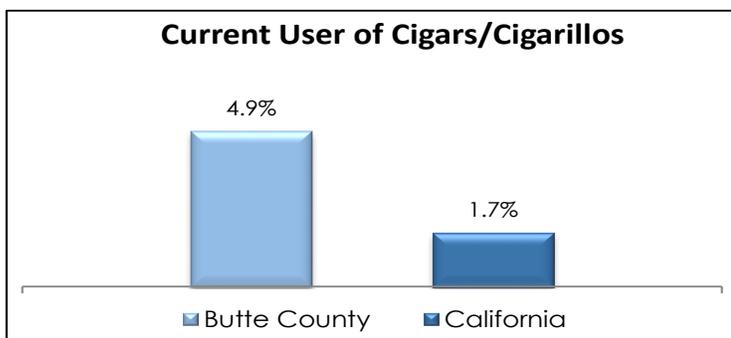
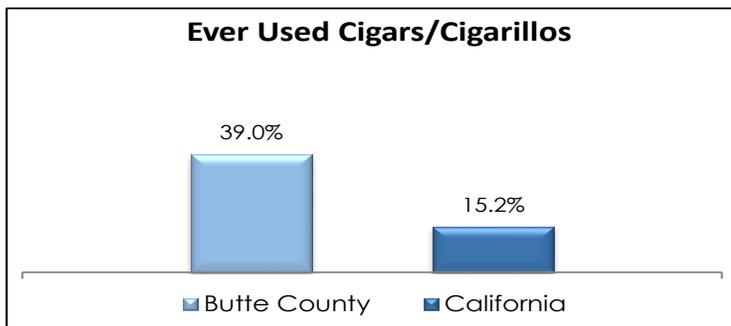


**Healthy People 2020 objective TU-1.3: Reduce use of cigars, cigarillos, and little filtered cigars by adults**

**Healthy People 2020 objective TU-14: Increase the proportion of smoke-free homes**

In the United States, cigarette consumption declined during 2000-2011. However, consumption of cigars more than doubled during the same period.<sup>47</sup> The three major types of cigars sold in the U.S. are large cigars, cigarillos and little cigars. All of them contain the same toxic and carcinogenic compounds found in cigarettes, and are associated with an increased risk for cancers of the lung, oesophagus, larynx, and oral cavity. They are also linked to gum disease and tooth loss, coronary heart disease, and lung diseases (such as emphysema and chronic bronchitis).<sup>48</sup> Current user status is defined as having used cigars/cigarillos at least once during lifetime and using them on 1 or more days in the past 30 days.

Approximately four in ten residents of Butte County have ever used cigars or cigarillos/little cigars, and a total of 4.9% are current users. Both metrics are notably above statewide figures. Males are more likely than females to have ever used and to be currently using cigars/cigarillos,



\*Note: Comparative data is based on 2015 BRFSS of California Residents. National comparative data is not available in this category \*\*Caution: Fewer than 30 respondents

**Percentage of respondents who have ever used cigars/cigarillos, and percentage of respondents who are current users of cigars/cigarillos**

Demographic Characteristics	Ever Used Cigars/Cigarillos	Current User of Cigars/Cigarillos
<b>Total</b>	39.0%	4.9%
<b>Age</b>		
18-24	25.5%	5.9%
25-34	49.5%	8.1%
35-44	49.6%	8.2%
45-54	38.0%	3.3%
55-64	42.6%	4.5%
65+	34.1%	1.3%
<b>Gender</b>		
Male	54.2%	6.6%
Female	24.1%	3.3%
<b>Race</b>		
White	41.1%	4.5%
Black**	34.1%	-
Hispanic	39.2%	5.2%
Non-Hispanic	38.4%	4.9%
<b>Education</b>		
< High School	38.6%	9.7%
High School Grad	37.7%	6.7%
Some College	41.2%	4.5%
College Graduate	37.8%	3.0%
<b>Household Income</b>		
<\$20,000	34.2%	6.7%
\$20,000-\$34,999	47.8%	5.2%
\$35,000-\$49,999**	32.3%	2.1%
\$50,000-\$74,999	41.6%	10.8%
\$75,000 or more	48.4%	0.6%

# Other Tobacco Use: Tobacco Pipe



Healthy People 2020 objective TU-1: Reduce tobacco use by adults

Healthy People 2020 objective TU-14: Increase the proportion of smoke-free homes

Pipe smoking consists of loose leaf tobacco that is fire-cured and burned in a traditional pipe with a bowl and a mouthpiece. Although pipe smoking has dwindled over the years, the proportion of respondents who have ever used it varies by state and ranges from 3% to 12%.<sup>6</sup> Like cigarettes, pipe tobacco contains toxic chemicals that increase the risk for some cancers. Current user status is defined as having used tobacco pipe at least once during lifetime and using it on 1 or more day in the past 30 days.

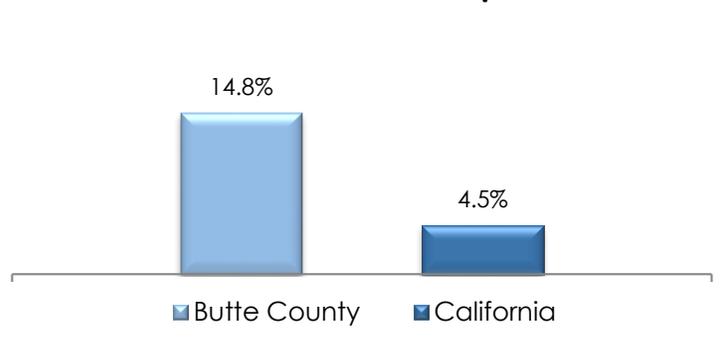
A total of 14.8% of Butte County residents have ever used a tobacco pipe – a figure much above the rate observed for California. The current use of tobacco pipes is marginal, at 0.4%; this result is consistent with the statewide result (0.2%).

Males and white/non-Hispanic residents are most likely to have ever used, and to be currently using, tobacco pipe.

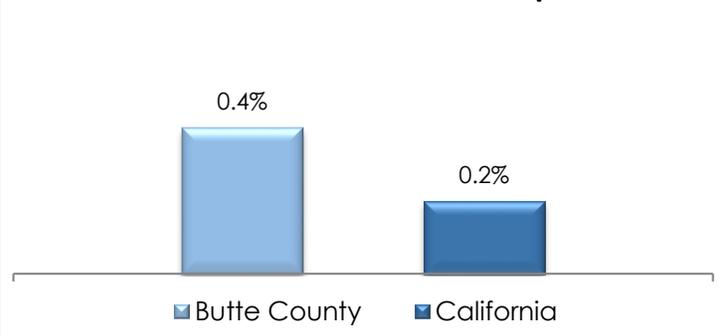
## Percentage of respondents who have ever used tobacco pipe, and percentage of respondents who are current users of tobacco pipe

Demographic Characteristics	Ever Used Tobacco Pipe	Current User of Tobacco Pipe
<b>Total</b>	14.8%	0.4%
<b>Age</b>		
18-24	3.5%	-
25-34	10.8%	-
35-44	23.8%	3.3%
45-54	12.7%	-
55-64	14.7%	-
65+	24.2%	-
<b>Gender</b>		
Male	24.1%	0.5%
Female	5.7%	0.4%
<b>Race</b>		
White	15.9%	0.5%
Black**	5.3%	-
Hispanic	7.6%	-
Non-Hispanic	16.0%	0.5%
<b>Education</b>		
< High School	20.8%	-
High School Grad	15.4%	-
Some College	15.4%	0.7%
College Graduate	12.6%	0.6%
<b>Household Income</b>		
<\$20,000	18.7%	-
\$20,000-\$34,999	16.1%	-
\$35,000-\$49,999**	12.0%	-
\$50,000-\$74,999	22.6%	-
\$75,000 or more	21.1%	1.1%

**Ever Used Tobacco Pipe**



**Current User of Tobacco Pipe**



\*Note: Comparative data is based on 2015 BRFSS of California Residents. National comparative data is not available in this category \*\*Caution: Fewer than 30 respondents

# Other Tobacco Use: Hookah Water Pipe



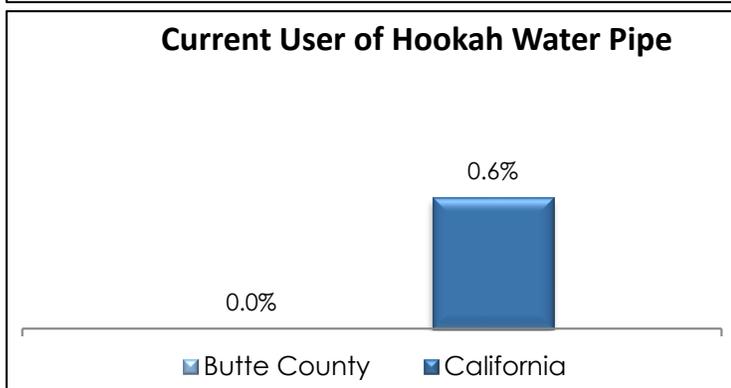
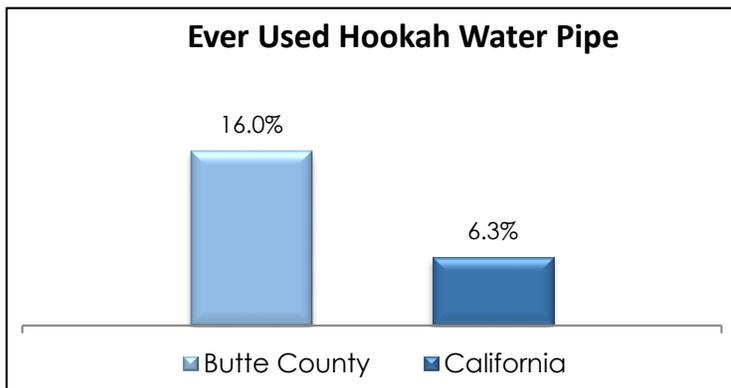
Healthy People 2020 objective TU-1: Reduce tobacco use by adults

Healthy People 2020 objective TU-14: Increase the proportion of smoke-free homes

Hookahs are water pipes that are used to smoke specially made tobacco that comes in different flavors. Although many users think it is less harmful, hookah smoking has many of the same risks as cigarette smoking, including oral cancer, lung cancer, stomach cancer, cancer of the oesophagus, and reduced lung function.<sup>49</sup> Current user status is defined as having used hookah at least once during lifetime and using it on 1 or more day in the past 30 days.

A total of 16.0% of Butte County residents have ever used a hookah pipe – a figure much above the rate observed for California (6.3%.) However, there are no current users of hookah in the County – a result fairly consistent with the state figure of only 0.6%.

Residents age 25-44 are most likely to have ever tried hookah, and males are more likely to have done so than females. Additionally, Hispanic residents and those with some college-level work completed report having tried it more often than their counterparts.



\*Note: Comparative data is based on 2015 BRFSS of California Residents. National comparative data is not available in this category \*\*Caution: Fewer than 30 respondents

## Percentage of respondents who have ever used hookah water pipe, and percentage of respondents who are current users of hookah water pipe

Demographic Characteristics	Ever Used Hookah Water Pipe	Current User of Hookah Water Pipe
<b>Total</b>	16.0%	-
<b>Age</b>		
18-24	17.0%	-
25-34	37.4%	-
35-44	21.0%	-
45-54	6.9%	-
55-64	11.4%	-
65+	5.8%	-
<b>Gender</b>		
Male	20.5%	-
Female	11.6%	-
<b>Race</b>		
White	15.0%	-
Black**	4.6%	-
Hispanic	28.6%	-
Non-Hispanic	13.7%	-
<b>Education</b>		
< High School	8.4%	-
High School Grad	13.7%	-
Some College	20.0%	-
College Graduate	15.3%	-
<b>Household Income</b>		
<\$20,000	11.0%	-
\$20,000-\$34,999	23.7%	-
\$35,000-\$49,999**	13.1%	-
\$50,000-\$74,999	21.2%	-
\$75,000 or more	23.0%	-

# Marijuana Use



## Healthy People 2020 objective SA-13: Reduce past-month use of illicit substances

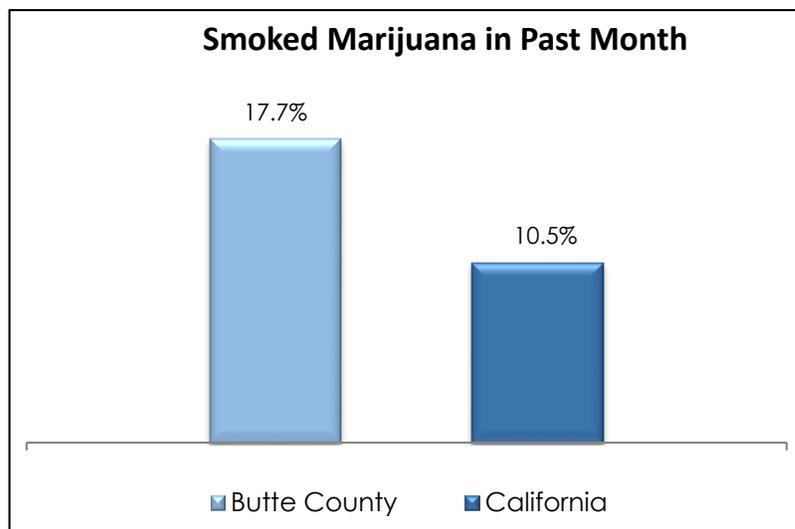
While legalized in many states, marijuana is still considered an illicit substance in others. Its use is on the rise, with 37.6 million users in the U.S. in 2016.<sup>50</sup> Only from 2002 to 2014, the prevalence of past month marijuana use went up by 35% among persons age 12+, with the increases being greatest among adults age 55+.<sup>51</sup> Heavy or frequent marijuana use has a negative effect on attention, memory, and learning, and has been linked to depression and anxiety.<sup>52</sup> Smoked marijuana also includes many of the same substances found in tobacco smoke, which are harmful to the lungs and cardiovascular system, and could lead to increased risk of stroke and heart disease.<sup>53</sup>

A total of 17.7% of Butte County residents have smoked marijuana or hashish at least once within the past 30 days. This is notably above the figure noted for California as a state (10.5%.)

This result is driven mostly by respondents in the younger age categories (up to 44 years old,) males, and Caucasians. The likelihood to report having smoked marijuana in the past month is also inversely proportional to the education level.

### Percentage of respondents who smoked marijuana/hashish 1+ day within past 30 days

Demographic Characteristics	Smoked Marijuana/Hashish 1+ Day Within Past 30 Days
<b>Total</b>	17.7%
<b>Age</b>	
18-24	22.6%
25-34	22.5%
35-44	24.6%
45-54	14.6%
55-64	17.0%
65+	8.1%
<b>Gender</b>	
Male	22.7%
Female	12.9%
<b>Race</b>	
White	18.5%
Black**	5.3%
Hispanic	15.9%
Non-Hispanic	17.8%
<b>Education</b>	
< High School	33.1%
High School Grad	27.4%
Some College	14.2%
College Graduate	10.7%
<b>Household Income</b>	
<\$20,000	23.7%
\$20,000-\$34,999	15.1%
\$35,000-\$49,999**	4.8%
\$50,000-\$74,999	21.1%
\$75,000 or more	8.6%



\*Note: Comparative data is based on 2016 BRFSS of California Residents. National comparative data is not available in this category \*\*Caution: Fewer than 30 respondents

# Alcohol Consumption

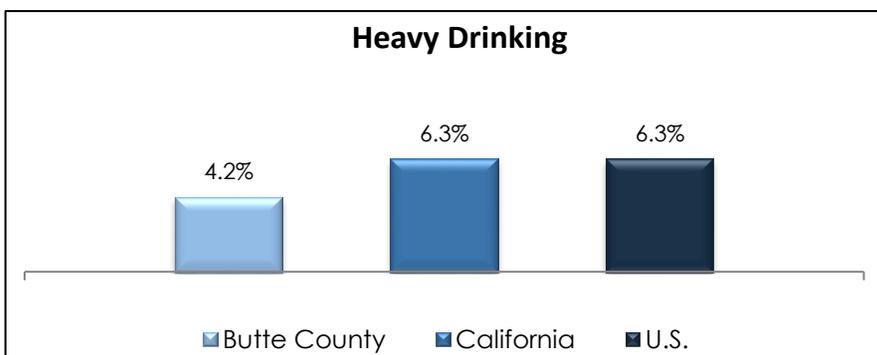
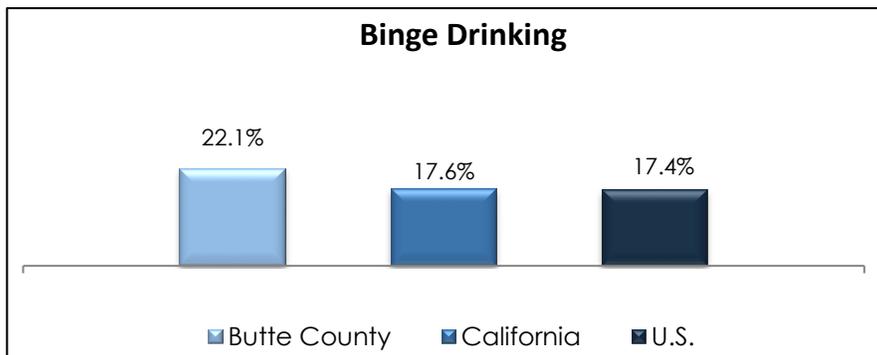


**Healthy People 2020 objective SA-8.3: Reduce the proportion of persons engaging in binge drinking during the past 30 days – adults aged 18 years and older**

**Healthy People 2020 objective SA-15: Reduce the proportion of adults who drank excessively in the previous 30 days**

Alcohol abuse has been associated with serious health problems such as cirrhosis of the liver, high blood pressure, stroke, and some types of cancer, and can increase the risk for motor vehicle accidents, injuries, violence, and suicide. In California, the percent of fatal motor vehicle crashes that involved any alcohol was 31% in 2017.<sup>23</sup> Binge drinking is defined as consuming five or more drinks per occasion (for men) or 4 or more drinks per occasion (for women) at least once in the past month, while heavy drinking is defined as consuming more than two alcoholic drinks per day (for men) or more than one drink per day (for women) in the past month.

At 4.2%, the rate of heavy drinking among Butte County residents is below state and nationwide levels (6.3% each.) At the same time, however, the rate of binge drinking (22.1%) exceeds the California and U.S. figures (17.6% and 17.4%, respectively). The highest rates of binge drinking are observed among respondents under the age of 54, as well as Caucasian males, and respondents without a college degree. Heavy drinking is driven by males.



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

Demographic Characteristics	Heavy Drinking	Binge Drinking
<b>Total</b>	4.2%	22.1%
<b>Age</b>		
18-24	5.3%	30.5%
25-34	1.5%	23.9%
35-44	3.1%	36.4%
45-54	2.3%	26.7%
55-64	6.4%	14.8%
65+	5.3%	5.5%
<b>Gender</b>		
Male	6.3%	31.2%
Female	2.1%	13.2%
<b>Race</b>		
White	4.6%	23.7%
Black**	-	5.3%
Hispanic	3.9%	21.3%
Non-Hispanic	4.2%	21.5%
<b>Education</b>		
< High School	0.9%	31.7%
High School Grad	5.6%	25.7%
Some College	4.4%	23.7%
College Graduate	3.6%	15.8%
<b>Household Income</b>		
<\$20,000	5.7%	22.9%
\$20,000-\$34,999	1.0%	16.7%
\$35,000-\$49,999**	5.3%	11.1%
\$50,000-\$74,999	3.1%	20.7%
\$75,000 or more	4.0%	16.9%

# Alcohol Screening & Brief Intervention: Screened for Alcohol Consumption



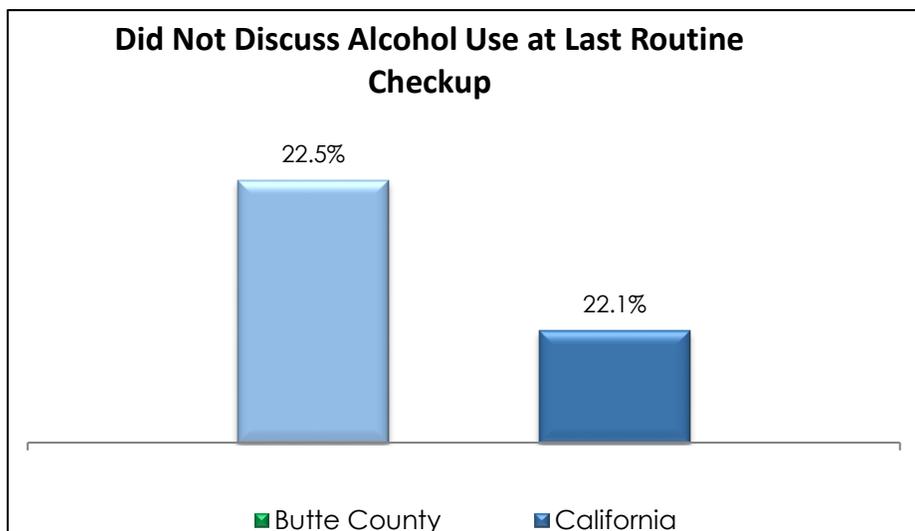
**Healthy People 2020 objective SA-8.3: Increase the proportion of persons who need alcohol abuse or dependence treatment and received specialty treatment for abuse or dependence in the past year**

*Risky alcohol use (heavy and binge drinking) contributes to a wide range of negative health and social consequences, including motor vehicle crashes, intimate partner violence, and fetal alcohol spectrum disorders. Over time, it can result in serious medical conditions, such as hypertension, gastritis, liver disease and various cancers. Alcohol Screening & Brief Intervention (ASBI) is a preventive service like hypertension or cholesterol screening that can occur as a part of a patient's wellness visit. ASBI involves a brief set of screening questions designed to identify patients' drinking patterns, a short conversation with those who are drinking too much, and referral to treatment, as appropriate.<sup>56</sup>*

More than one-fifth (22.5%) of Butte County residents who had their routine checkup reports that they did not discuss alcohol use with their health care provider. This result is on par with California statistics (22.1%).

Older respondents (65+ years of age), as well as those with lower levels of education (high school graduate or less) are most likely to say they were not screened for alcohol consumption.

Percentage of respondents not screened for alcohol consumption at last routine checkup	
Demographic Characteristics	Not Screened for Alcohol Consumption
<b>Total</b>	22.5%
<b>Age</b>	
18-24	19.8%
25-34	29.5%
35-44	10.1%
45-54	15.2%
55-64	18.9%
65+	36.8%
<b>Gender</b>	
Male	21.5%
Female	23.4%
<b>Race</b>	
White	21.2%
Black**	33.9%
Hispanic	17.9%
Non-Hispanic	23.0%
<b>Education</b>	
< High School**	29.9%
High School Grad	30.6%
Some College	16.7%
College Graduate	21.2%
<b>Household Income</b>	
<\$20,000	22.2%
\$20,000-\$34,999	20.8%
\$35,000-\$49,999**	26.0%
\$50,000-\$74,999**	25.3%
\$75,000 or more	16.8%



\*Note: Comparative data is based on 2014 BRFSS of California Residents. National comparative data is not available in this category \*\*Caution: Fewer than 30 respondents

# Alcohol Screening & Brief Intervention: Given Advise on Harmful Levels of Drinking



**Healthy People 2020 objective SA-8.3: Increase the proportion of persons who need alcohol abuse or dependence treatment and received specialty treatment for abuse or dependence in the past year**

ASBI aims to increase a person's awareness of their alcohol use and motivate them to reduce risky drinking patterns and/or seek treatment.<sup>57</sup> A review of studies shows a reduction in alcohol consumption from 13% to 34% among those who received brief intervention.<sup>58</sup>

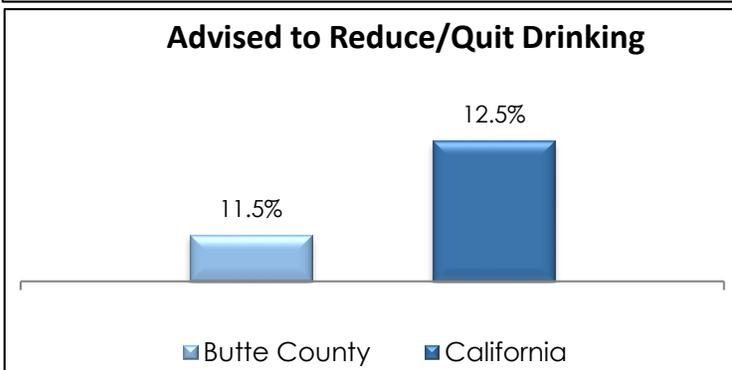
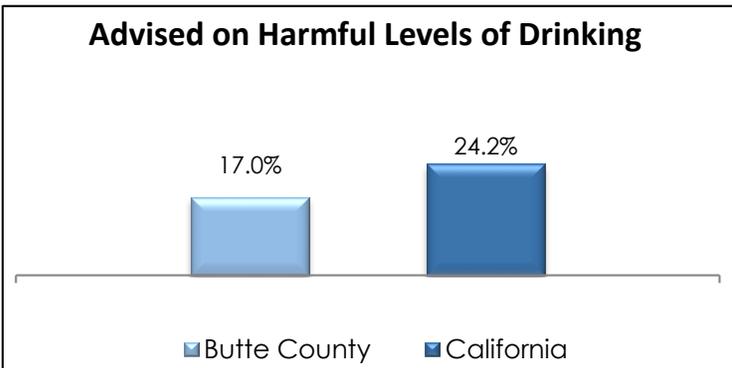
A total of 17.0% of Butte County residents say they were advised on harmful levels of drinking during their routine checkup, and 11.5% were advised to drink less. Both metrics are below the statewide results (24.2% and 12.5%, respectively.)

Older residents, i.e., those age 45+ are less likely to have discussed risky levels of drinking, as are females and those in the middle income categories (\$20,000-\$74,999.)

Among those asked about drinking, respondents most likely to receive advice on limiting alcohol consumption include individuals age 35-44, males, and those in the bottom and top income brackets (under \$20,000 and over \$75,000.)

**Percentage of respondents who were offered advise on harmful levels of drinking, and percentage of respondents advised to drink less**

Demographic Characteristics	Advised on Harmful Levels of Drinking	Advised to Reduce/Quit Drinking
<b>Total</b>	17.0%	11.5%
<b>Age</b>		
18-24	25.2%	10.9%
25-34	19.7%	14.0%
35-44	28.5%	18.9%
45-54	13.7%	10.9%
55-64	14.1%	6.2%
65+	7.8%	10.2%
<b>Gender</b>		
Male	24.4%	18.0%
Female	10.2%	5.3%
<b>Race</b>		
White	17.4%	10.9%
Black	31.7**	24.0%**
Hispanic	26.9%	12.7%**
Non-Hispanic	15.6%	11.5%
<b>Education</b>		
< High School	12.9%**	26.4%**
High School Grad	14.2%	6.4%
Some College	17.7%	9.5%
College Graduate	19.2%	14.0%
<b>Household Income</b>		
<\$20,000	18.3%	19.5%
\$20,000-\$34,999	4.9%	3.8%**
\$35,000-\$49,999	9.7%**	6.5%**
\$50,000-\$74,999	9.5%**	5.4%**
\$75,000 or more	19.4%	16.6%



\*Note: Comparative data is based on 2014 BRFSS of California Residents. National comparative data is not available in this category \*\*Caution: Fewer than 30 respondents

# Fruit & Vegetable Consumption



**Healthy People 2020 objective NWS-14: Increase the contribution of fruits to the diets of the population aged 2 years and older**

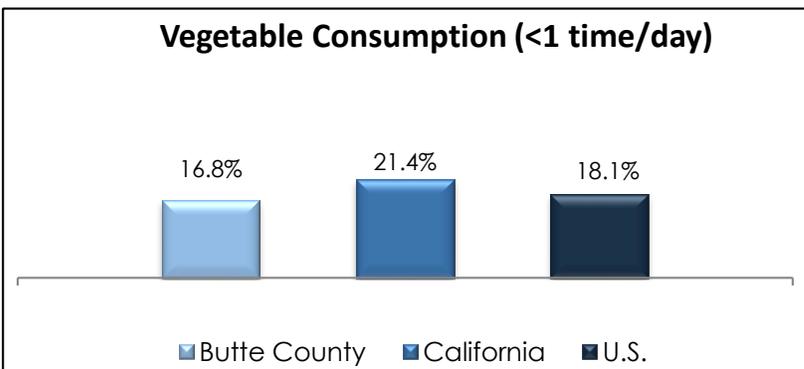
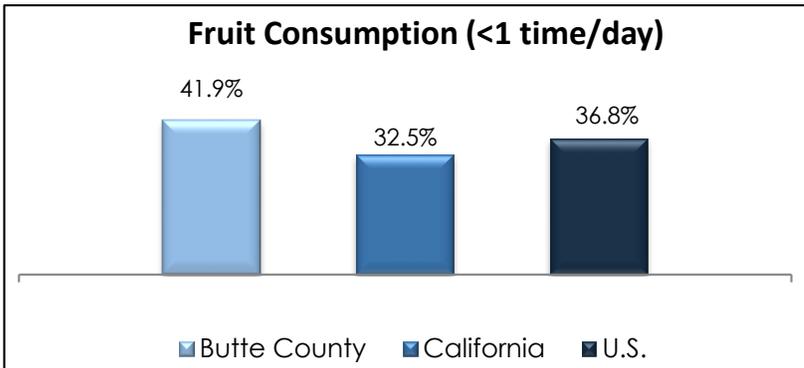
**Healthy People 2020 objective NWS-15: Increase the variety and contribution of vegetables to the diets of the population aged 2 years and older**

Eating a diet rich in fruits and vegetables can help reduce the risk of developing many chronic diseases, including heart disease, diabetes, some cancers and obesity.<sup>24</sup> Fruits and vegetables are also major contributors of a number of nutrients (such as potassium, dietary fiber, magnesium, as well as vitamins A, C, and K) that are currently underconsumed in the United States.<sup>25</sup> National findings indicate that, on average, adults consume 1.4 fruits per day and 1.9 vegetables per day.<sup>26</sup> Currently, only 12.2% of adults meet their daily fruit recommendation (2 cups daily), and only 9.3% meet the vegetable recommendation (2.5 cups).<sup>27</sup>

More than four in ten Butte County residents (41.9%) consume fruit less than 1 time per day, and 16.8% consume vegetables less than 1 time per day. Limited fruit consumption exceeds the figures reported in state- and nationwide BRFSS studies. However, limited vegetable consumption is lower than what was reported in Michigan and the U.S. in general. The lowest fruit and vegetable consumption is reported by males, respondents with less than high school diploma, and those with incomes under \$20,000.

**Percentage of respondents who reported limited fruit and vegetable consumption**

Demographic Characteristics	Fruits (<1 time/day)	Vegetables (<1 time/day)
<b>Total</b>	41.9%	16.8%
<b>Age</b>		
18-24	52.1%	19.1%
25-34	37.5%	21.7%
35-44	52.1%	11.1%
45-54	45.3%	12.4%
55-64	39.7%	20.4%
65+	29.6%	16.3%
<b>Gender</b>		
Male	48.5%	18.6%
Female	35.6%	15.1%
<b>Race</b>		
White	41.2%	16.4%
Black**	15.5%	8.6%
Hispanic	42.9%	18.1%
Non-Hispanic	42.2%	16.2%
<b>Education</b>		
< High School	61.3%	35.6%
High School Grad	42.6%	14.3%
Some College	45.0%	16.5%
College Graduate	34.0%	15.3%
<b>Household Income</b>		
<\$20,000	53.7%	27.0%
\$20,000-\$34,999	36.7%	19.6%
\$35,000-\$49,999**	26.9%	16.3%
\$50,000-\$74,999	37.6%	18.2%
\$75,000 or more	46.6%	14.2%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*Caution: Fewer than 30 respondents

# Physical Activity



## Healthy People 2020 objective PA-1: Reduce the proportion of adults who engage in no leisure-time physical activity

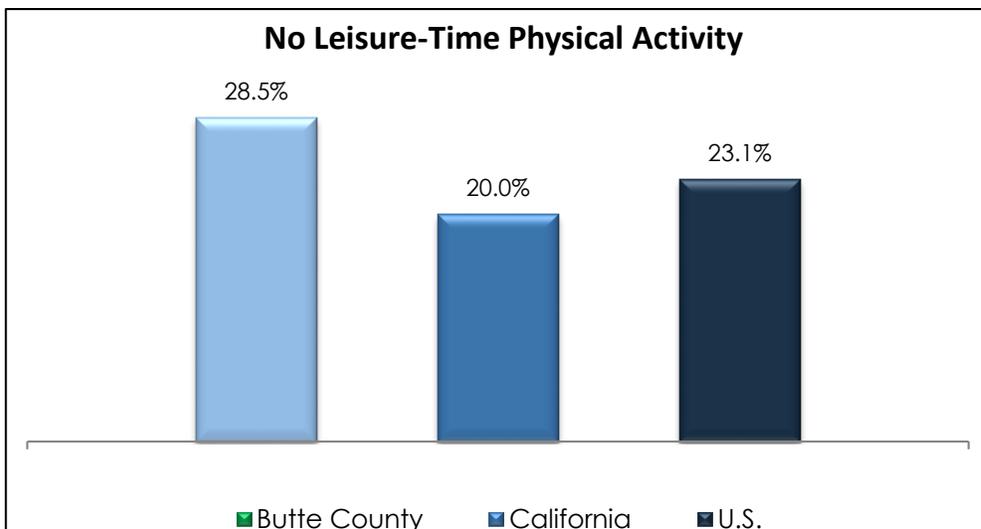
Regular physical activity has been shown to reduce the risk of premature mortality and a number of chronic diseases, such as cancer, cardiovascular disease, and diabetes. Keeping physically active not only helps maintain a healthy body weight and normal muscle strength, bone mass, and joint function, but it can also relieve symptoms of anxiety and depression, and improve sleep.<sup>28</sup> The Healthy People target for no leisure-time physical activity is set at 32.6%.

The percentage of Butte County residents who report no leisure-time physical activity stands at 28.5%, which is above the state- and nationwide rates (20% and 23.1%, respectively). The prevalence of no leisure-time activity among Butte County adults is currently 4.1 points below the 2020 target of 32.6%, indicating that this Healthy People objective can be considered met.

Leisure-time physical activity is least prevalent among those age 25-34, as well as the oldest respondent segment (age 65+.) Moreover, the likelihood of engaging in physical activity increases in proportion to respondents' income, with those making less than \$35,000 per year being most apt to report no activity.

### Percentage of respondents who reported no leisure-time physical activity

Demographic Characteristics	No Physical Activity
<b>Total</b>	28.5%
<b>Age</b>	
18-24	26.3%
25-34	37.2%
35-44	20.5%
45-54	28.4%
55-64	28.2%
65+	30.9%
<b>Gender</b>	
Male	30.3%
Female	26.7%
<b>Race</b>	
White	27.9%
Black**	25.8%
Hispanic	31.8%
Non-Hispanic	27.6%
<b>Education</b>	
< High School	33.8%
High School Grad	28.6%
Some College	32.4%
College Graduate	23.5%
<b>Household Income</b>	
<\$20,000	42.7%
\$20,000-\$34,999	44.5%
\$35,000-\$49,999**	20.0%
\$50,000-\$74,999	19.9%
\$75,000 or more	16.7%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Seatbelt Use



## Healthy People 2020 objective IVP-13: Reduce motor vehicle crash-related deaths Healthy People 2020 objective IVP-15: Increase use of safety belts

In 2017, 3,602 people died in automobile accidents in California, with an additional 14,188 people sustaining serious injuries. Among the fatalities, 600 passengers were unrestrained.<sup>23</sup> Seatbelt use has been proven to save lives and prevent injuries. It has been estimated that, among drivers and front seat passengers, seat belts reduce the risk of death by 45%, and cut the risk of serious injury by 50%.<sup>30</sup> With 97.8% reporting consistent seatbelt use, California is the healthiest state on this metric.

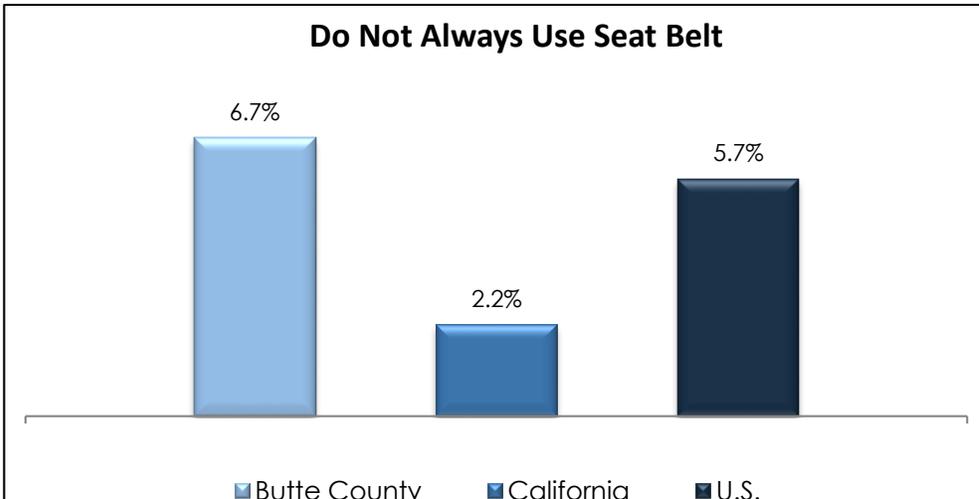
A total of 6.7% of Butte County residents do not always use a seatbelt when driving or riding in a car. This is substantially above the California-wide rate (2.2%) and somewhat below the nationwide figure (5.7%).

The youngest respondents (18-24 years of age,) as well as males and those with less than a college degree are more likely than their counterparts to say they do not always wear a seatbelt.

### Percentage of respondents who do not always use seatbelts when driving/riding in the car

Demographic Characteristics	Do Not Always Use Seatbelt
<b>Total</b>	6.7%
<b>Age</b>	
18-24	12.7%
25-34	3.3%
35-44	7.3%
45-54	2.1%
55-64	6.7%
65+	7.4%
<b>Gender</b>	
Male	8.6%
Female	4.8%
<b>Race</b>	
White	6.5%
Black**	-
Hispanic	11.2%
Non-Hispanic	5.7%
<b>Education</b>	
< High School	6.3%
High School Grad	9.6%
Some College	7.5%
College Graduate	3.7%
<b>Household Income</b>	
<\$20,000	3.9%
\$20,000-\$34,999	6.2%
\$35,000-\$49,999**	2.1%
\$50,000-\$74,999	10.4%
\$75,000 or more	5.7%

**Do Not Always Use Seat Belt**



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Adult Immunization: Flu and Pneumonia Shots



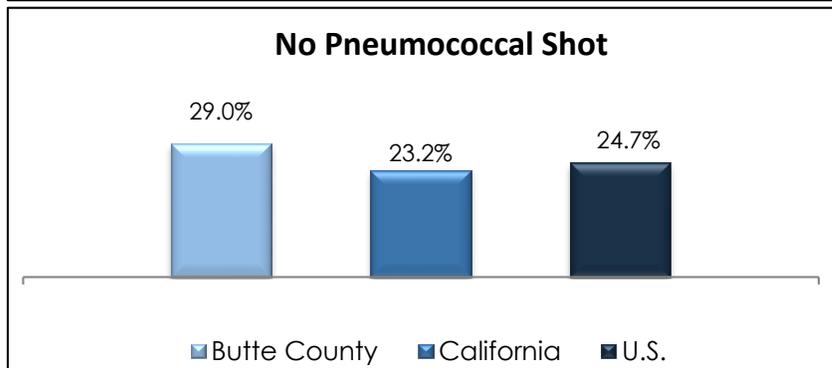
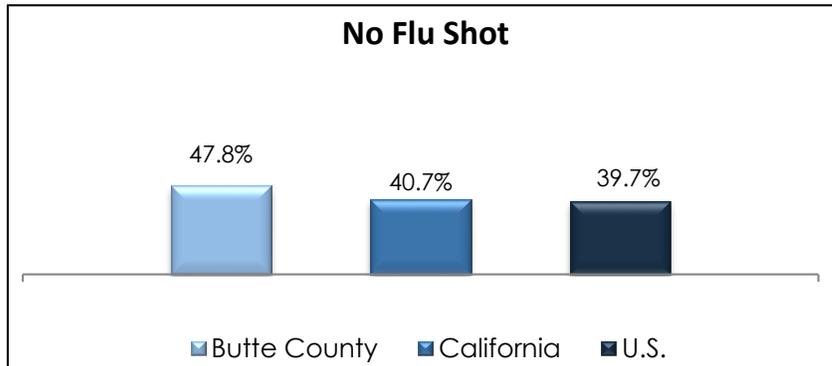
**Healthy People 2020 objective IID-12.12: Increase the percentage of noninstitutionalized adults aged 18 years and older who are vaccinated annually against seasonal influenza**

**Healthy People 2020 objective IID-13.1: Increase the percentage of noninstitutionalized adults aged 65 years and older who are vaccinated against pneumococcal disease**

Currently, the Advisory Committee on Immunization Practices recommends immunizing adults against 15 infectious diseases, including influenza and pneumonia. However, the adult coverage rates for these vaccines remain substantially below the target levels.<sup>31</sup> Influenza and pneumonia were the 8th leading cause of death in 2017 in California, attributing to over 6,300 deaths.<sup>12</sup> A Healthy People 2020 objective is to ensure that 70% of adults aged 18 years and older are vaccinated annually against influenza, and 90% of those aged 65+ have ever been vaccinated against pneumococcal disease.

Almost half (47.8%) of Butte County residents over the age of 65 have not had a flu shot in the past 12 months. Additionally, nearly three in ten Butte County residents (29%) have never been vaccinated against pneumonia.

Both results exceed the state and national figures.



Demographic Characteristics	No Flu Shot	Never Had Pneum. Shot
<b>Total</b>	47.8%	29.0%
<b>Age</b>		
65-74	52.0%	37.7%
75+	43.4%	20.0%
<b>Gender</b>		
Male	44.9%	31.7%
Female	50.4%	26.4%
<b>Race</b>		
White	47.9%	28.1%
Black**	46.3%	100.0%
Hispanic**	53.8%	30.7%
Non-Hispanic	47.1%	28.4%
<b>Education</b>		
< High School**	57.1%	40.4%
High School Grad**	41.7%	21.9%
Some College**	50.9%	31.5%
College Graduate	47.3%	28.9%
<b>Household Income</b>		
<\$20,000**	39.9%	34.2%
\$20,000-\$34,999**	56.3%	18.8%
\$35,000-\$49,999**	52.9%	23.2%
\$50,000-\$74,999**	53.8%	36.6%
\$75,000 or more**	45.3%	27.5%

\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*Caution: Fewer than 30 respondents

# Adult Immunization: Shingles Vaccination



## Healthy People 2020 objective IID-12.12: Increase the percentage of adults who are vaccinated against zoster (shingles)

A total of 1 out of every 3 people in the United States will develop shingles during their lifetime. Shingles is a painful rash that usually develops on one side of the body, often the face or torso. The rash consists of blisters that typically scab over in 7-10 days and clears up within 2-4 weeks. For 1 in 10 people, however, the nerve pain, can last for months or even years after the rash goes away. This long-lasting pain is called postherpetic neuralgia (PHN,) and is the most common complication of shingles. Other serious complications may lead to blindness, pneumonia, hearing problems, brain inflammation, or even death. The risk of getting shingles, PHN, and other complications increases with age. Therefore, it is recommended that people 50 or older get vaccinated.<sup>64</sup>

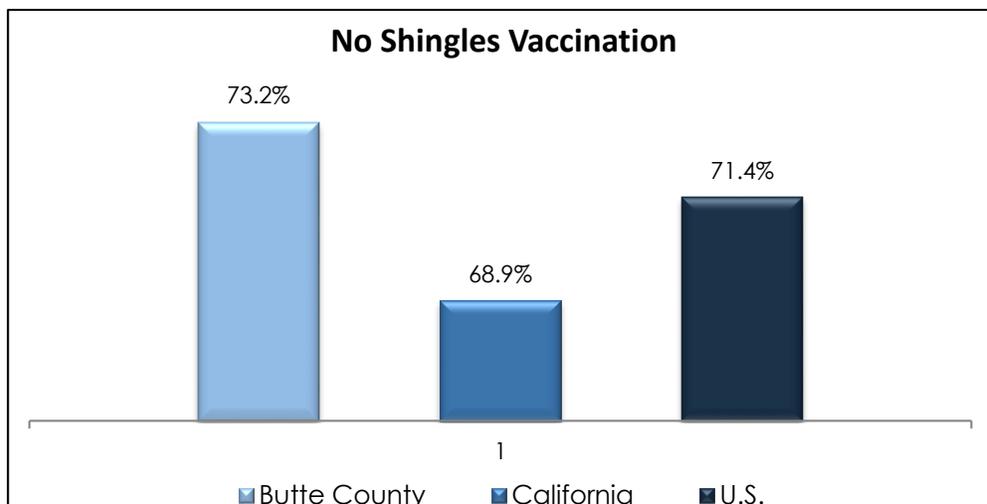
More than seven in ten Butte County residents (73.2%) age 50 or older have not been vaccinated against shingles. This result is above the state- and nationwide figures (68.9% and 71.4%, respectively.)

The likelihood of having been vaccinated increases with age and peaks in the 70+ category. It is also directly proportional to residents' level of education. Finally, those in lower income categories (under \$35,000) are somewhat less likely than their more affluent counterparts to have been vaccinated against shingles.

### Percentage of respondents age 50+ who have ever had the shingles or zoster vaccine

Demographic Characteristics	Never Had Shingles Vaccination
<b>Total</b>	73.2%
<b>Age</b>	
50-59	90.1%
60-69	76.9%
70+	50.0%
<b>Gender</b>	
Male	74.8%
Female	71.9%
<b>Race</b>	
White	71.0%
Black**	100.0%
Hispanic**	78.4%
Non-Hispanic	72.7%
<b>Education</b>	
< High School**	83.7%
High School Grad	77.2%
Some College	74.8%
College Graduate	68.3%
<b>Household Income</b>	
<\$20,000	79.2%
\$20,000-\$34,999	70.9%
\$35,000-\$49,999**	64.0%
\$50,000-\$74,999	64.7%
\$75,000 or more	66.8%

### No Shingles Vaccination



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

## Healthy People 2020 objective HIV-1: Reduce new HIV diagnoses

## Healthy People 2020 objective HIV-14: Increase the proportion of adolescents and adults who have been tested for HIV in the past 12 months

## Healthy People 2020 objective HIV-12: Reduce deaths from HIV infection

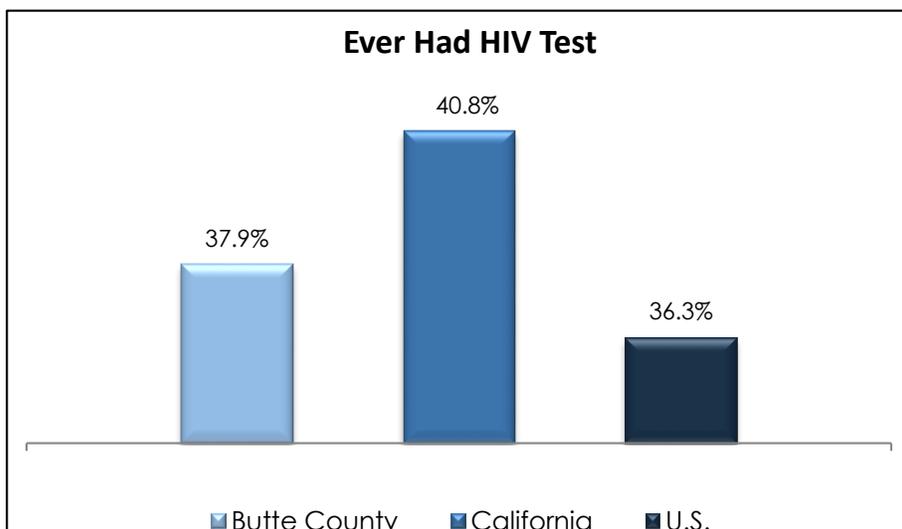
As of 2016, 132,405 people were living with diagnosed HIV infection in California.<sup>32</sup> Early awareness of the infection through HIV testing can prevent further spread of the disease, and an early start on antiretroviral therapy can increase the lifespan and quality of life among those who are living with HIV/AIDS.

A total of 37.9% of Butte County residents has ever been tested for HIV. This percentage is below the figure noted for California as a whole (40.8%), but above the nationwide data (36.3%.)

A segment analysis reveals that the youngest and oldest respondents (age 18-24 and 65+) are least likely to indicate they have ever been tested. Additionally, those in the lowest income bracket (under \$20,000) are most likely to report a prior HIV test, and females are slightly more likely to do so than males.

### Percentage of respondents who have ever had an HIV test

Demographic Characteristics	Ever Tested for HIV
<b>Total</b>	37.9%
<b>Age</b>	
18-24	20.6%
25-34	49.2%
35-44	63.5%
45-54	46.4%
55-64	38.9%
65+	19.3%
<b>Gender</b>	
Male	34.0%
Female	41.8%
<b>Race</b>	
White	39.9%
Black**	52.6%
Hispanic	35.1%
Non-Hispanic	38.5%
<b>Education</b>	
< High School	42.5%
High School Grad	32.3%
Some College	40.1%
College Graduate	38.7%
<b>Household Income</b>	
<\$20,000	43.6%
\$20,000-\$34,999	34.5%
\$35,000-\$49,999**	30.4%
\$50,000-\$74,999	39.3%
\$75,000 or more	26.0%



\*Note: Comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories) \*\*Caution: Fewer than 30 respondents

# Adverse Childhood Experience: Emotional/Verbal and Physical Abuse



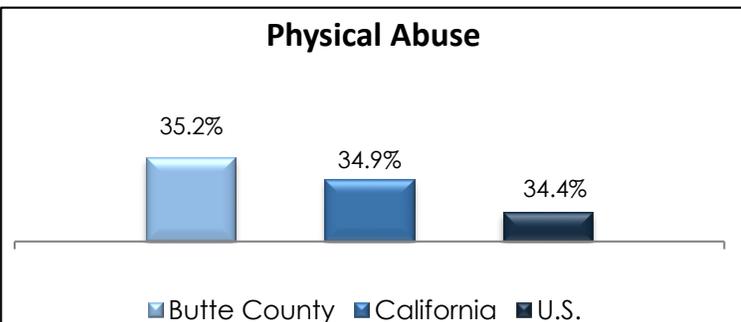
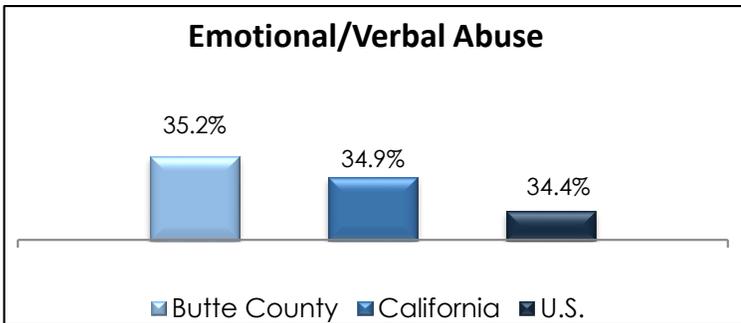
Healthy People 2020 objective EMC-2.2: Increase the proportion of parents who use positive communication with their child

Healthy People 2020 objective IVP-38: Reduce nonfatal child mistreatment

Adverse Childhood Experiences (ACEs) is a term used to describe a range of traumatic experiences that may occur during a person's first 17 years of life, including child abuse, neglect, and other household dysfunctions. Over 60% of Californians report experiencing at least one ACE before age 18. Approximately one in four Californians reports having three or more ACEs.<sup>61</sup> At 35%, the most common ACE among California adults is emotional (or verbal) abuse.<sup>62</sup>

More than one-third (35.2%) of Butte County residents report having been emotionally and/or verbally abused by adults in their home before they were 18. This figure is on par with the statewide and nationwide data (34.9% and 34.4%, respectively.) Residents most likely to report emotional abuse are non-Hispanic and younger than 65+.

Additionally, just over one-fifth (21%) recalls physical abuse in their childhood – a result marginally above the California-wide rate, and higher than the national figure. This is attributable mostly to white residents with less than high school education, and those under the age of 55.



Percentage of respondents who were emotionally/verbally abused more than once, and percentage of respondents who were physically hurt by adults more than once (before age 18)

Demographic Characteristics	Emotional Abuse	Physical Abuse
<b>Total</b>	35.2%	21.0%
<b>Age</b>		
18-24	41.3%	27.0%
25-34	51.9%	22.9%
35-44	30.4%	22.2%
45-54	34.3%	23.2%
55-64	32.1%	19.5%
65+	23.2%	12.7%
<b>Gender</b>		
Male	34.4%	22.4%
Female	36.0%	19.7%
<b>Race</b>		
White	33.0%	17.5%
Black**	43.3%	15.8%
Hispanic	31.4%	25.6%
Non-Hispanic	36.2%	20.8%
<b>Education</b>		
< High School	44.1%	32.5%
High School Grad	34.7%	22.8%
Some College	36.3%	22.4%
College Graduate	32.8%	15.9%
<b>Household Income</b>		
<\$20,000	39.5%	26.2%
\$20,000-\$34,999	25.1%	19.3%
\$35,000-\$49,999**	30.8%	6.2%
\$50,000-\$74,999	45.8%	28.7%
\$75,000 or more	33.6%	13.3%

\*Note: Comparative data is based on combined 2008-2013 BRFSS of California Residents and combined 2011-2014 BRFSS for 23 States (not all states include ACE questions) \*\*Caution: Fewer than 30 respondents

# Adverse Childhood Experience: Separation/Divorce and Incarcerated Household Member

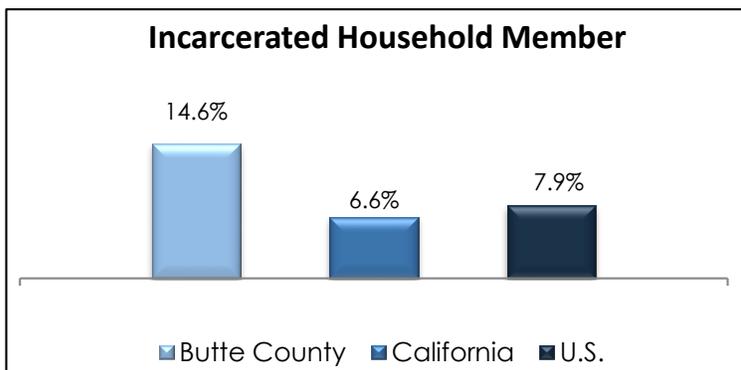
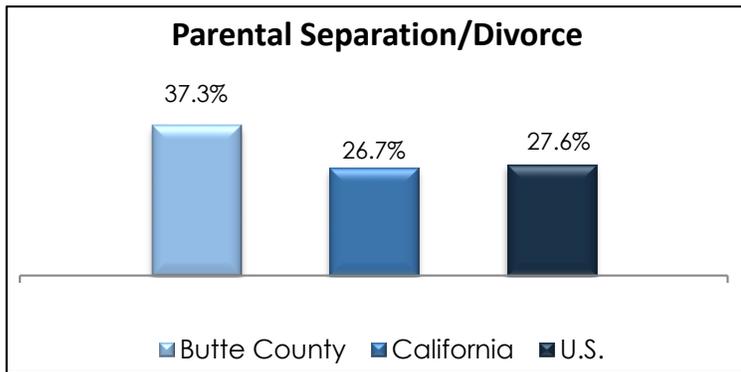


ACEs affect every community in California. Butte County is among California's counties with the highest number of ACEs; 77% of residents have 1 or more adverse childhood experiences. However, even in counties with the lowest prevalence of ACEs, 1 out of every 2 residents, or 50%, has at least one adverse experience in childhood. Parental separation or divorce is the second most prevalent ACE after emotional/verbal abuse, reported by 27% of adults.<sup>62</sup>

Almost four in ten Butte County residents (37.3%) have experienced parental separation or divorce before the age of 18. This is reported notably less often by residents age 65+, and those with at least some college education.

A total of 14.6% was growing up with a household member who served time in a prison, jail, or other corrections facility. This response is given mostly by residents under the age of 44, Hispanics, and those in lower education and income brackets.

Both ACEs are observably above the state- and nationwide figures.



## Percentage of respondents whose parents separated/divorced, and percentage of respondents who lived with anyone who served time in prison/jail (before age 18)

Demographic Characteristics	Parental Separation/Divorce	Incarcerated Household Member
<b>Total</b>	37.3%	14.6%
<b>Age</b>		
18-24	38.0%	23.0%
25-34	51.6%	31.9%
35-44	39.1%	18.4%
45-54	44.6%	7.4%
55-64	34.6%	6.6%
65+	21.2%	3.7%
<b>Gender</b>		
Male	35.7%	14.0%
Female	39.0%	15.1%
<b>Race</b>		
White	37.2%	13.3%
Black**	56.3%	13.9%
Hispanic	42.3%	26.6%
Non-Hispanic	36.6%	12.5%
<b>Education</b>		
< High School	54.0%	18.5%
High School Grad	41.1%	20.0%
Some College	39.9%	16.4%
College Graduate	28.6%	7.7%
<b>Household Income</b>		
<\$20,000	39.8%	14.1%
\$20,000-\$34,999	40.3%	23.8%
\$35,000-\$49,999**	27.7%	9.5%
\$50,000-\$74,999	37.7%	10.9%
\$75,000 or more	29.3%	9.0%

\*Note: Comparative data is based on combined 2008-2013 BRFSS of California Residents and combined 2011-2014 BRFSS for 23 states (not all states include ACE questions) \*\*Caution: Fewer than 30 respondents

# Adverse Childhood Experience: Sexual Abuse and Witness to Domestic Violence



## Healthy People 2020 objective IVP-40: Reduce sexual violence

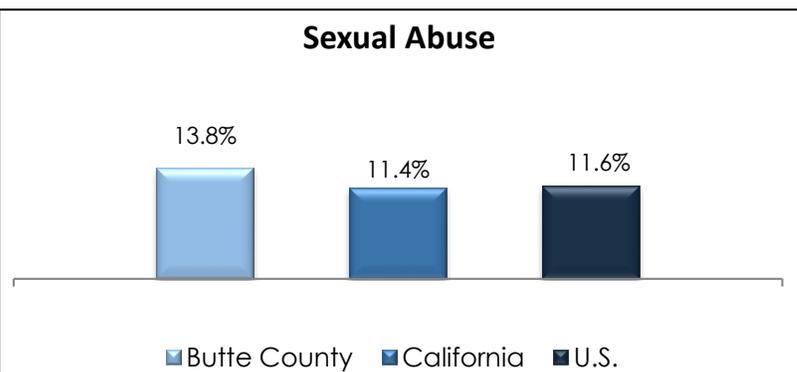
## Healthy People 2020 objective IVP-42: Reduce children's exposure to violence

There is a strong relationship between exposure to ACEs and subsequent negative health behaviors and conditions later as adults, including smoking, unintended pregnancies, alcoholism, illicit drug use, binge drinking, depression, suicide attempts, COPD, asthma, obesity, stroke, heart disease, cancer, diabetes, kidney disease, and liver disease.<sup>61, 62</sup>

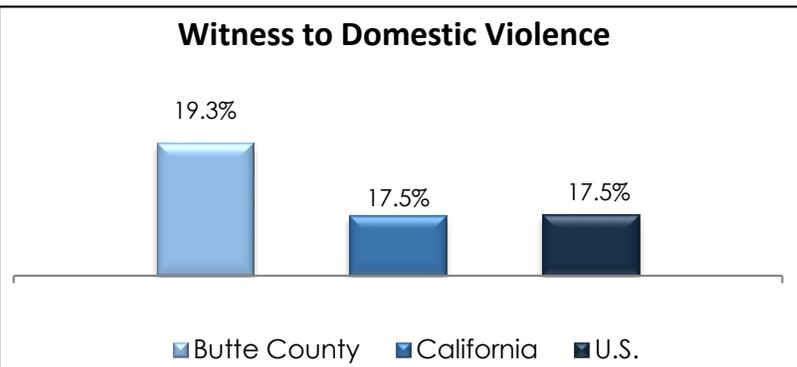
A total of 13.8% of Butte County residents have ever experienced sexual abuse as a child – a figure slightly above the state- and nationwide statistics (11.4% and 11.6%, respectively.) Females are notably more likely than males to report this ACE.

Witnessing domestic violence before the age of 18 is reported by nearly a fifth of residents (19.3%) – a result higher than the nationwide and California prevalence data (17.5% each.) The rates of this ACE are higher among residents with incomes of under \$20,000, and are decreasing with respondents' age.

**Sexual Abuse**



**Witness to Domestic Violence**



### Percentage of respondents who reported having ever experienced sexual abuse, and percentage of respondents who witnessed domestic violence more than once (before age 18)

Demographic Characteristics	Sexual Abuse	Witness to Domestic Violence
<b>Total</b>	13.8%	19.3%
<b>Age</b>		
18-24	13.2%	30.6%
25-34	19.1%	25.8%
35-44	8.4%	19.7%
45-54	15.3%	16.6%
55-64	16.1%	16.0%
65+	11.3%	9.4%
<b>Gender</b>		
Male	7.5%	20.1%
Female	20.0%	18.6%
<b>Race</b>		
White	12.4%	15.8%
Black**	24.3%	38.8%
Hispanic	17.1%	19.1%
Non-Hispanic	13.4%	19.9%
<b>Education</b>		
< High School	13.6%	31.2%
High School Grad	17.0%	13.4%
Some College	13.1%	26.4%
College Graduate	12.1%	14.4%
<b>Household Income</b>		
<\$20,000	16.6%	25.1%
\$20,000-\$34,999	14.9%	18.8%
\$35,000-\$49,999**	9.6%	10.2%
\$50,000-\$74,999	20.0%	11.8%
\$75,000 or more	8.7%	16.5%

\*Note: Comparative data is based on combined 2008-2013 BRFSS of California Residents and combined 2011-2014 BRFSS for 23 states (not all states include ACE questions) \*\*Caution: Fewer than 30 respondents

# Adverse Childhood Experience: Substance Abuse and Household Member with Mental Illness

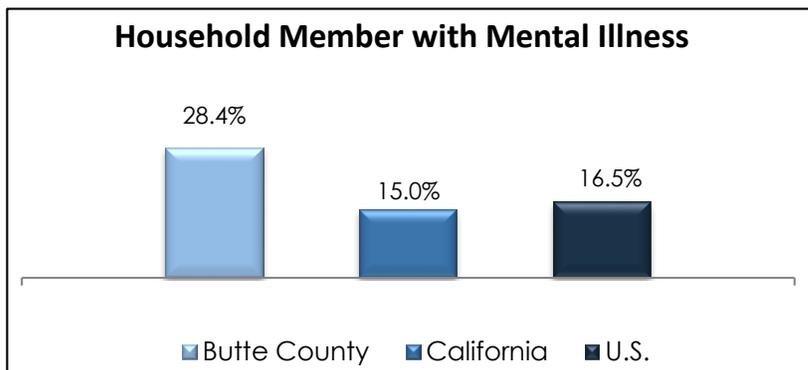
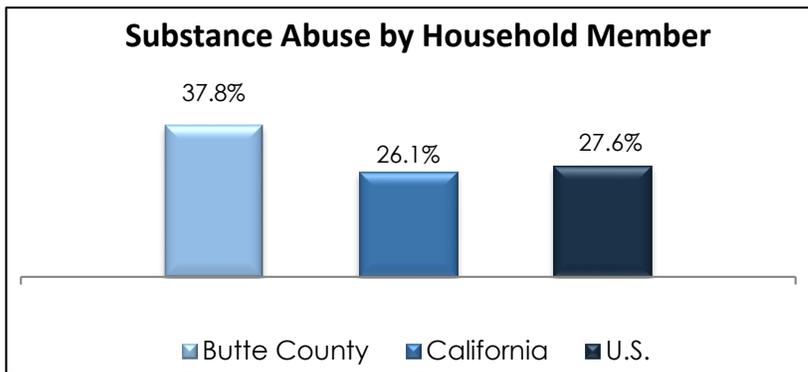


Substance abuse by a household member is the third most frequently reported ACE in California, as cited by 26% of adults.<sup>61</sup>

Nearly four in ten Butte County residents (37.8%) lived with a household member who had a substance abuse problem before they were 18 years old. This figure is attributable mostly to respondents who have high school education or less, and is least common among the oldest residents (65+.)

Close to three in ten (28.4%) lived with a household member who was depressed, mentally ill, or suicidal. The incidence of this adverse experience is lowest in the 65+ age category, and among males. It is also slightly more prevalent among those who completed high school or less.

Both ACEs are above the state- and nationwide levels.



## Percentage of respondents who lived with anyone who was a problem drinker/alcoholic/drug user, and percentage of respondents who lived with anyone who was mentally ill (before age 18)

Demographic Characteristics	Substance Abuse	Household Member with Mental Illness
<b>Total</b>	37.8%	28.4%
<b>Age</b>		
18-24	38.7%	39.3%
25-34	53.3%	50.1%
35-44	45.9%	24.9%
45-54	40.4%	30.3%
55-64	31.2%	20.7%
65+	23.3%	9.5%
<b>Gender</b>		
Male	36.3%	21.9%
Female	39.2%	34.8%
<b>Race</b>		
White	36.7%	26.8%
Black**	42.8%	38.0%
Hispanic	36.9%	31.8%
Non-Hispanic	37.7%	27.9%
<b>Education</b>		
< High School	65.4%	35.1%
High School Grad	44.0%	33.7%
Some College	35.8%	27.5%
College Graduate	29.2%	23.9%
<b>Household Income</b>		
<\$20,000	38.3%	31.9%
\$20,000-\$34,999	42.0%	31.9%
\$35,000-\$49,999**	26.9%	19.9%
\$50,000-\$74,999	32.1%	27.7%
\$75,000 or more	32.9%	22.0%

\*Note: Comparative data is based on combined 2008-2013 BRFSS of California Residents and combined 2011-2014 BRFSS for 23 states (not all states include ACE questions) \*\*Caution: Fewer than 30 respondents

# Intimate Partner Violence: Threatened and Completed Physical Violence



**Healthy People 2020 objective IPV-39.1: Reduce physical violence by current or former intimate partners**

**Healthy People 2020 objective IPV-39.3: Reduce psychological abuse by current or former intimate partners**

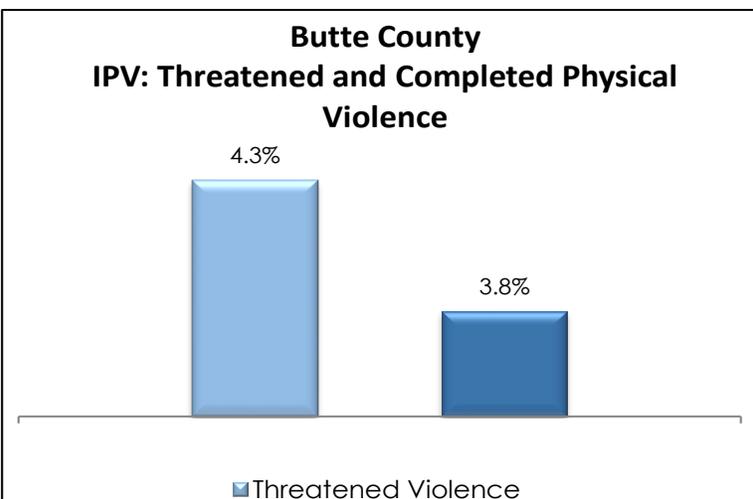
*Intimate Partner Violence (IPV) is violence that occurs in a close relationship, including current or former spouses and dating partners. It includes physical violence, sexual violence, stalking, and psychological aggression. Data from CDC's National Intimate Partner and Sexual Violence Survey (NISVS) indicate that about 1 in 4 women and 1 in 10 men have experienced sexual violence, physical violence, and/or stalking by an intimate partner during their lifetime. Additionally, over 43 million women and 38 million men experienced psychological aggression by an intimate partner.<sup>32</sup>*

Within the past year, 4.3% of Butte County residents have been frightened for the safety of themselves, their family or friends because of the threats of their partner (or a former partner.) This result was driven by women and respondents who were high school graduates or less.

The completed physical violence rate is lower, with 3.8% reporting that their partner pushed, hit, slapped, kicked, choked, or physically hurt them in any way within the past 12 months. Again, the likelihood of being physically assaulted is higher among residents with lower educational attainment (high school graduate or less.)

**Proportion of respondents frightened for safety of self/family/friends because of partner's threats, and proportion of respondents assaulted by partner (past 12 months)**

Demographic Characteristics	Threatened Violence	Completed Violence
<b>Total</b>	4.3%	3.8%
<b>Age</b>		
18-24	6.8%	11.6%
25-34	-	-
35-44**	12.8%	6.4%
45-54	5.9%	4.0%
55-64	2.2%	1.1%
65+	-	-
<b>Gender</b>		
Male	1.0%	2.9%
Female	7.0%	4.5%
<b>Race</b>		
White	3.6%	3.0%
Black**	-	-
Hispanic**	16.2%	9.7%
Non-Hispanic	2.5%	3.0%
<b>Education</b>		
< High School**	14.7%	15.1%
High School Grad	6.6%	9.5%
Some College	0.9%	-
College Graduate	4.1%	0.6%
<b>Household Income</b>		
<\$20,000	4.2%	2.7%
\$20,000-\$34,999**	4.6%	4.6%
\$35,000-\$49,999**	-	-
\$50,000-\$74,999**	2.1%	-
\$75,000 or more**	2.3%	2.3%



\*Note: No comparative BRFSS data (California or national) is available for this category \*\*Caution: Fewer than 30 respondents

# Intimate Partner Violence: Attempted Control and Unwanted Sex



**Healthy People 2020 objective IPV-39.2: Reduce sexual violence by current or former intimate partners**

**Healthy People 2020 objective IPV-39.3: Reduce psychological abuse by current or former intimate partners**

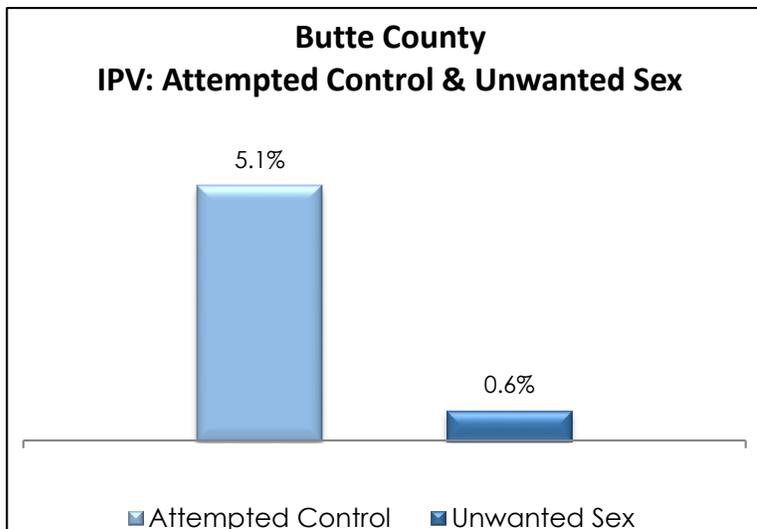
*Intimate Partner Violence (IPV) has been shown to have serious health consequences for both women and men, including poor general health, depressive symptoms, substance abuse, and elevated rates of chronic diseases.<sup>60</sup>*

A total of 5.1% of Butte County residents has/had a partner (or former partner) who tried to control most or all of their daily activities. This appears to be more prevalent among respondents who are high school graduates or less.

Only 0.6% of residents report having been forced into unwanted sexual activity within the past year after they told their partner (or former partner) that they did not want it.

## Proportion of respondents whose partner tried to control their daily activities, and proportion of respondents sexually assaulted by partner (past 12 months)

Demographic Characteristics	Attempted Control	Unwanted Sex
<b>Total</b>	5.1%	0.6%
<b>Age</b>		
18-24	11.6%	-
25-34	3.7%	-
35-44**	10.0%	3.5%
45-54	4.0%	-
55-64	2.2%	-
65+	0.6%	0.5%
<b>Gender</b>		
Male	4.4%	-
Female	5.8%	1.1%
<b>Race</b>		
White	4.6%	0.7%
Black**	-	-
Hispanic**	13.4%	3.7%
Non-Hispanic	4.0%	0.1%
<b>Education</b>		
< High School**	5.8%	-
High School Grad	12.7%	-
Some College	1.8%	0.3%
College Graduate	1.5%	1.5%
<b>Household Income</b>		
<\$20,000	5.0%	0.5%
\$20,000-\$34,999**	2.9%	-
\$35,000-\$49,999**	-	-
\$50,000-\$74,999**	-	-
\$75,000 or more**	1.3%	-



\*Note: No comparative BRFSS data (California or national) is available for this category \*\*Caution: Fewer than 30 respondents

# Demographics



The following is a comparison of the demographic characteristics of the Butte County BRFSS respondents to those of the state and national BRFSS participants.

Demographic Characteristics	Butte County	California	U.S.
<b>Age</b>			
18-24	18.4%	12.6%	12.6%
25-34	15.2%	19.0%	17.0%
35-44	13.3%	17.3%	16.1%
45-54	16.5%	17.0%	16.4%
55-64	16.5%	15.8%	16.9%
65+	19.3%	18.3%	21.0%
<b>Gender</b>			
Male	49.5%	49.2%	48.7%
Female	50.5%	50.8%	51.3%
<b>Race</b>			
White	72.7%	40.7%	72.3%
Black	1.2%	5.4%	6.3%
Hispanic	13.8%	35.1%	8.3%
American Indian or Alaskan Native	4.3%	0.6%	1.0%
Asian	2.2%	15.3%	2.3%
Native Hawaiian or Other Pacific Islander	0.2%	0.2%	0.0%
Other race	1.2%	1.2%	0.0%
Multiracial, non-Hispanic	3.5%	1.5%	1.3%
<b>Education</b>			
< High School	7.0%	17.7%	11.5%
High School Grad	25.7%	21.9%	28.8%
Some Post High School / Some College	33.9%	31.8%	31.8%
College Graduate	33.2%	28.7%	26.0%

\*Note: The comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*\*"Refused" and "Don't Know" responses not shown / percentages may not add up to 100%

# Demographics – cont'd.



Demographic Characteristics	Butte County	California	U.S.
<b>Household Income</b>			
<\$15,000	14.3%	14.9%	9.1%
\$15,000-\$24,999	9.9%	13.2%	16.5%
\$25,000-\$34,999	6.0%	9.3%	10.5%
\$35,000-\$49,999	5.4%	10.8%	14.2%
\$50,000 or more	25.2%	51.8%	49.0%
<b>Employment Status</b>			
Employed	44.9%	47.3%	49.2%
Self-employed	8.7%	10.4%	8.9%
No work < year	1.8%	3.3%	2.7%
No work > year	2.6%	2.8%	2.5%
Homemaker	3.8%	7.9%	5.6%
Student	8.6%	6.5%	5.4%
Retired	18.1%	16.2%	18.8%
Unable to work	10.2%	5.6%	6.5%
<b>Marital Status</b>			
Married	39.2%	49.5%	51.4%
Divorced	14.7%	9.2%	11.5%
Widowed	8.4%	5.8%	6.9%
Separated	1.2%	3.1%	2.2%
Never married	31.8%	26.0%	23.8%
Partnered	3.9%	6.4%	4.7%

\*Note: The comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*\*"Refused" and "Don't Know" responses not shown / percentages may not add up to 100%

# Demographics – cont'd.



Demographic Characteristics	Butte County	California	U.S.
<b>Number of Children Under 18 Years of Age in Household</b>			
5+ children	1.2%	0.9%	1.0%
4 children	1.1%	1.9%	2.0%
3 children	3.7%	6.4%	5.5%
2 children	9.9%	13.7%	12.5%
1 child	12.8%	16.5%	14.5%
None	57.1%	60.6%	64.4%
<b>Home Ownership</b>			
Own	50.2%	57.0%	69.4%
Rent	37.0%	37.8%	24.7%
Other	10.5%	5.3%	5.9%
<b>Veteran Status</b>			
Served on Active Duty in the US Armed Forces	10.7%	8.2%	11.4%
Never served on Active Duty in the US Armed Forces	89.3%	91.8%	88.6%
<b>Internet Use</b>			
Used Internet in Past 30 Days	87.9%	85.1%	85.0%
Did Not Use Internet in Past 30 Days	11.6%	14.9%	15.0%

\*Note: The comparative data is based on 2017 BRFSS of California Residents and 2017 Nationwide BRFSS (States, DC and Territories)

\*\*\*"Refused" and "Don't Know" responses not shown / percentages may not add up to 100%

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