



COMMUNITY HEALTH ASSESSMENT



EXECUTIVE SUMMARY
2019 – 2022

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 causes¹. 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

¹ <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

Preventive health practices are those that prevent illnesses or diseases, such as screenings and immunizations, or patient counseling to prevent illness². Examples include standard immunizations; and screenings for blood pressure, cancer, cholesterol, depression, obesity, and type 2 diabetes³. 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

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

³ <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

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 cancer⁴. 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 5th highest rate out of California’s 58 counties. In 2017, mortality attributed exclusively to

⁴ <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 11th grade students have used prescription drugs recreationally, compared with 16.0% of 11th 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 drinking⁵. 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 CHS 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 11th grade students reporting binge drinking, compared with 11.0% of 11th grade students statewide.

CHRONIC DISEASES AND CONDITIONS

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 conditions⁶. 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

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

⁶ <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.

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.

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.

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.

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.

Table Summary-2: Mortality Rates for Chronic Diseases and Conditions				
	Butte County	California	HP-2020	Rank out of 58 in CA
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	
Butte County	\$1,372,360,000		\$625,045,759		50.8%	
California	\$232,390,177,528		\$98,443,138,663		42.4%	
	Arthritis	Asthma	Cardio-vascular disease	Diabetes	Cancer	Depression
Butte County	7.8%	4.6%	20.0%	5.3%	8.0%	5.3%
California	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

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 expectancy⁷. 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 ACEs⁸. 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)⁹. 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%)¹⁰. 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%).

⁷ 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>

⁸ 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>

⁹ 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

¹⁰ 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