SUTTER AMADOR HOSPITAL

2019 Community Health Needs Assessment

Mission
We enhance the well-being of people in the communities we serve through a not-for-profit commitment to compassion and excellence in healthcare services.

Vision
Sutter Health leads the transformation of healthcare to achieve the highest levels of quality, access, and affordability.

Community Health Needs Assessment
The following report contains Sutter Amador Hospital's 2019 Community Health Needs Assessment (CHNA), which is used to identify and prioritize the significant health needs of the communities we serve. CHNAs are conducted once every three years, in collaboration with other healthcare providers, public health departments and a variety of community organizations. This CHNA report guides our strategic investments in community health programs and partnerships that extend Sutter Health's not-for-profit mission beyond the walls of our hospitals, improving health and quality of life in the areas we serve.

2019 Community Health Needs Assessment

Conducted on behalf of

Sutter Amador Hospital
200 Mission Boulevard
Jackson, CA 95642

Conducted by

COMMUNITY
HEALTH INSIGHTS

June 2019

Acknowledgements

We are deeply grateful to all those who contributed to the community health needs assessment conducted on behalf of Sutter Amador Hospital. Many dedicated community health experts and members of various social-service organizations serving the most vulnerable members of the community gave their time and expertise as key informants to help guide and inform the findings of the assessment. Many community residents also participated and volunteered their time to tell us what it is like to live in the community and shared the challenges they face trying to achieve better health. To everyone who supported this important work, we extend our heartfelt gratitude.

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Report Summary

Purpose

The purpose of this community health needs assessment (CHNA) was to identify and prioritize significant health needs of the Sutter Amador Hospital (SAH) service area. The priorities identified in this report help to guide nonprofit hospitals' community health improvement programs and community benefit activities as well as their collaborative efforts with other organizations that share a mission to improve health. This CHNA report meets the requirements of the Patient Protection and Affordable Care Act (and in California, Senate Bill 697) that nonprofit hospitals conduct a community health needs assessment at least once every three years. The CHNA was conducted by Community Health Insights (www.communityhealthinsights.com).

Community Definition

The definition of the community served included the primary service area of the hospital which included 20 ZIP Codes—95225, 95226, 95232, 95245, 95248, 95252, 95254, 95255, 95257, 95601, 95629, 95640, 95642, 95665, 95666, 95669, 95675, 95685, 95689, and 95699. Though the service area includes both Amador and Calaveras Counties, geographically the majority of the SAH service area resides in Amador County, CA. SAH is in the city of Jackson, which is also the Amador County seat and home to approximately 4,500 area residents. The total population of the service area is 57,993.

Assessment Process and Methods

The data used to conduct the CHNA were identified and organized using the widely recognized Robert Wood Johnson Foundation's County Health Rankings model.[1] This model of population health includes many factors that impact and account for individual health and well-being. Further, to guide the overall process of conducting the assessment, a defined set of data-collection and analytic stages were developed. These included the collection and analysis of both primary (qualitative) and secondary (quantitative) data. Qualitative data included 11 one-on-one and group interviews with 52 community health experts, social-service providers, and medical personnel. Further, 25 community residents participated in three focus groups across the service area.

Focusing on social determinants of health to identify and organize secondary data, datasets included measures to describe mortality and morbidity and social and economic factors such as income, educational attainment, and employment. Further, the measures also included indicators to describe health behaviors, clinical care (both quality and access), and the physical environment.

Process and Criteria to Identify and Prioritize Significant Health Needs

Primary and secondary data were analyzed to identify and prioritize significant health needs. This began by identifying 10 potential health needs (PHNs). These PHNs were those identified in previously conducted CHNAs. Data were analyzed to discover which, if any, of the PHNs were present in the service area. After these were identified, PHNs were prioritized based on rankings provided by primary data sources. Data were also analyzed to detect emerging health needs beyond those 10 PHNs identified in previous CHNAs.

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[1] Robert Wood Johnson Foundation. 2018. *County Health Rankings & Roadmaps*. Available online at: http://www.countyhealthrankings.org/. Accessed July 10, 2018.

List of Prioritized Significant Health Needs
The following significant health needs were identified and are listed below in prioritized order.
1. Access to Mental/Behavioral/Substance Abuse Services
2. Access to Quality Primary Care Health Services
3. Access to Basic Needs Such as Housing, Jobs, and Food
4. Injury and Disease Prevention and Management
5. Access and Functional Needs
6. Access to Dental Care and Preventive Services
7. Access to Specialty and Extended Care

Resources Potentially Available to Meet the Significant Health Needs
In all, 83 resources were identified in the service area that were potentially available to meet the identified significant health needs. The identification method included starting with the list of resources from the 2016 CHNA, verifying that the resources still existed, and then adding newly identified resources into the 2019 CHNA report.

Conclusion
This CHNA report details the health needs of the community served by SAH. It provides an overall health and social examination of SAH's service area and an examination of the needs of community members living in parts of the service area where the residents experience more health disparities. The CHNA provides a comprehensive profile to guide decision-making for the implementation of community health improvement efforts.

Introduction and Purpose

Both state and federal laws require that nonprofit hospitals conduct a community health needs assessment (CHNA) every three years to identify and prioritize the significant health needs of the communities they serve. The results of the CHNA guide the development of implementation plans aimed at addressing identified health needs. Federal regulations define a *health need* accordingly: "Health needs include requisites for the improvement or maintenance of health status in both the community at large and in particular parts of the community (such as particular neighborhoods or populations experiencing health disparities)."[2]

This report documents the processes, methods, and findings of a CHNA conducted on behalf of Sutter Amador Hospital (SAH), located at 200 Mission Boulevard, Jackson, CA 95642. The primary service area of SAH was defined by 20 ZIP Codes—95225, 95226, 95232, 95245, 95248, 95252, 95254, 95255, 95257, 95601, 95629, 95640, 95642, 95665, 95666, 95669, 95675, 95685, 95689, and 95699. Though the service area includes both Amador and Calaveras Counties, the majority of the SAH service area resides in Amador County, CA. Sutter Amador Hospital is in the city of Jackson, which is also the county seat and home to approximately 4,500 area residents. The total population of the service area is 57,993.

SAH is an affiliate of Sutter Health, a nonprofit healthcare system. The CHNA was conducted over a period of four months, beginning in March 2019 and concluding June 2019. This CHNA report meets requirements of the Patient Protection and Affordable Care Act and California Senate Bill 697 that nonprofit hospitals conduct a community health needs assessment.

Community Health Insights (www.communityhealthinsights.com) conducted the CHNA on the behalf of SAH. Community Health Insights is a Sacramento-based research-oriented consulting firm dedicated to improving the health and well-being of communities across Northern California. Community Health Insights has conducted multiple CHNAs over the previous decade.

Organization of This Report

This report follows federal guidelines issued on how to document a CHNA. First, the prioritized listing of significant health needs identified through the CHNA is described, along with the process and criteria used in identifying and prioritizing these needs. Next, the methods used to conduct the CHNA are described, including how data were collected and analyzed. This includes a description of how SAH solicited and considered the input received from persons representing the broad interests of the community. Then, the community served by SAH and how the community was identified is described. This is followed by a description of the Community Health Vulnerability Index and the identification of Communities of Concern for the SAH service area. Resources potentially available to meet these needs are identified and detailed as well. Finally, a summary is included of the impact of actions taken by SAH to address significant health needs identified in its previous CHNA.

A detailed methodology section titled "2019 CHNA Technical Section" is included later in this report. This section includes an in-depth description of the methods followed in collection, analysis, and results of data to identify and prioritize significant health needs.

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[2] *Federal Register*, Vol. 79, No. 250, p. 78963, (Wednesday, December 31, 2014). Department of the Treasury, Internal Revenue Service.

Findings

Prioritized, Significant Health Needs

Primary and secondary data were analyzed to identify and prioritize the significant health needs in the SAH service area. In all, seven significant health needs were identified. After these were identified they were prioritized based on an analysis of primary data sources that mentioned the health need as a priority. The findings are displayed in Figure 1.

In the figure, the blue portion of the bar represents the percentage of primary data sources that referenced the health need. This was combined with the green portion of the bar representing the percentage of times any theme associated with a health need was mentioned by key informants or focus group participants as one of the top three health needs in the community.

2019 Prioritized Health Needs

Health Need	Percentage of Key Informants and Focus Groups Identifying Health Need	Percentage of Times Key Informants and Focus Groups Identified Health Need as a Top Priority
Access to Mental/ Behavioral/ Substance Abuse Services	100.0%	23.2%
Access to Quality Primary Care Health Services	84.6%	30.5%
Access to Basic Needs Such as Housing, Jobs, and Food	92.3%	17.1%
Injury and Disease Prevention and Management	92.3%	14.6%
Access and Functional Needs	92.3%	12.2%
Access to Dental Care and Preventive Services	69.2%	2.4%
Access to Specialty and Extended Care	69.2%	

■ Percentage of Key Informants and Focus Groups Identifying Health Need

■ Percentage of Times Key Informants and Focus Groups Identified Health Need as a Top Priority

Figure 1: Prioritized, significant health needs for SAH service area

The significant health needs are described below. Those secondary data indicators used in the CHNA that performed poorly compared to benchmarks are listed in the table below each significant health need. Qualitative themes that emerged during analysis of interviews and focus groups are also provided in the table. (A full listing of all quantitative indicators can be found in the technical section of this report).

1. Access to Mental, Behavioral, and Substance-Abuse Services
Individual health and well-being are inseparable from individual mental and emotional outlook. Coping with daily life stressors is challenging for many people, especially when other social, familial, and economic challenges occur concurrently. Adequate access to mental, behavioral, and substance-abuse services helps community members obtain additional support when needed.

Quantitative Indicators	Qualitative Themes

• Liver Disease Mortality
• Suicide Mortality
• Poor Mental Health Days
• Drug Overdose Deaths
• Excessive Drinking
• Mental Health Providers
• Psychiatry Providers
	• Access to mental health treatment is limited in Amador County
	• There is a lack of psychiatrists for both youth and adults
	• Emergency department (ED) care for mental health issues is temporary (limited to a 24-hour hold)
	• There is a need to recruit mental health providers to work in the area and recruitment has been difficult
	• There are not enough mental health or drug rehab facilities in the area – especially for severely mentally ill
	• There are some mental health services for youth; however, services for adults are lacking
	• Amador County Behavioral Health has services; however, these need to be advertised more
	• Residents expressed that there is a stigma around talking about mental health issues in the service area
	• Tobacco usage in youth and young adults is a problem – *"E-cigarettes taking over area youth"*
	• Many youth and young adults vape
	• Substance use and abuse is prevalent including: Marijuana, methamphetamine, opioids, and heroin
	• Rural landscape in the area contributes to elevated rates of depression
	    o Participants indicated especially true for residents living in the remote Upcountry areas
	    o Also, seniors living in remote areas seem to struggle with depression
	• Many veterans in the area live with Post Traumatic Stress Disorder

2. Access to Quality Primary Care Health Services

Primary care resources include community clinics, pediatricians, family practice physicians, internists, nurse practitioners, pharmacists, telephone advice nurses, and similar. Primary care services are typically the first point of contact when an individual seeks healthcare. These services are the front line in the prevention and treatment of common diseases and injuries in a community.

Quantitative Indicators	Qualitative Themes
- Cancer Mortality - Child Mortality - CLD Mortality - Heart Disease Mortality - Influenza and Pneumonia Mortality - Kidney Disease Mortality - Liver Disease Mortality - Stroke Mortality - Diabetes Prevalence - Low Birth Weight - Cancer Lung and Bronchus - HPSA Primary Care - HPSA Medically Underserved Area - Primary Care Physicians - Preventable Hospital Stays	- Lack of health care providers in the area - Medical providers that accept Medi-Cal are sparse - Many area doctors are no longer accepting new patients - Wait time for available providers is long causing delays of care - Physical distance between various care providers creates challenges for those with limited transportation access - Access to prescription drugs is limited, especially for those living in the Upcountry area - Difficult to retain and recruit health providers in the area – many providers are retiring with no replacements - Urgent care in the service area is limited in scope - Veterans must leave the area for care - Home health care in the area is limited. There are few providers and care is unaffordable making "age in place" difficult - Need for increased community education around health care navigation – changes in area insurance coverages has caused confusion - Need for telehealth/telemedicine for residents living in remote areas of the service area - Upcountry area has a need for increased access to care due to closure of the Pioneer clinic - Rural areas need support from the government; suggestions included participating in the "Rural Wavier" to help bring providers to the area - Mobile health vans could reach residents living in remote locations

3. Access to Basic Needs, Such as Housing, Jobs, and Food

Access to affordable and clean housing, stable employment, quality education, and adequate food for good health are vital for survival. Maslow's Hierarchy of Needs[3] demonstrates that only when people have their basic physiological and safety needs met can they become engaged members of society and self-actualize or live to their fullest potential, including enjoying good health.

Quantitative Indicators	Qualitative Themes
- Infant Mortality - Age-Adjusted Mortality - Child Mortality	- More resources are needed to support the homeless living in the service area - Need for more shelters for those without permanent housing – situational homelessness and chronically homeless

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[3] McLeod, S. (2014). *Maslow's Hierarchy of Needs*. Retrieved from: http://www.simplypsychology.org/maslow.html

Quantitative Indicators	Qualitative Themes
• Premature Age-Adjusted Mortality • Years of Potential Life Lost • Low Birth Weight • HPSA Medically Underserved Area • Some College • Unemployed • Median Household Income • Limited Access to Healthy Food	• Available beds at the area shelter are prioritized for women and children, area men that are homeless lack shelter • Lack of quality employment in the service area. • Housing is limited for all, especially difficult for low income residents • Many victims of the Butte County Fire have moved to Amador – increasing the need for more housing in the area • Cost of living increases in the area make it difficult for residents to keep up with expenses • Many residents are classified as "working poor" and don't qualify for many federal, state and county services (CAL Fresh; county mental health) – yet struggle to meet their family's basic needs • Lack of child care services in the area, especially for after-hours and infant care • Many area schools lack necessary funding • Lack of providers and services in Spanish for many Spanish speaking residents • Many residents live in isolation without basic needs – access to healthy food, health care, resources

4. Injury and Disease Prevention and Management

Knowledge is important for individual health and well-being, and efforts aimed at prevention are powerful vehicles to improve community health. When community residents lack adequate information on how to prevent, manage, and control their health conditions, those conditions tend to worsen. Prevention efforts focused on reducing cases of injury and infectious disease control (e.g., sexually transmitted infection [STI] prevention, influenza shots) and intensive strategies for the management of chronic diseases (e.g., diabetes, hypertension, obesity, and heart disease) are important for community health improvement.

Quantitative Indicators	Qualitative Themes
• Infant Mortality • Alzheimer's Mortality • Child Mortality • CLD Mortality • Heart Disease Mortality • Influenza and Pneumonia Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Suicide Mortality • Unintentional Injury Mortality • Diabetes Prevalence • Low Birth Weight	• Increased prevention and screening around chronic disease especially diabetes, depression/anxiety, chronic pain, cancer, respiratory issues, hypertension is needed • Need for STD/STI screening and prevention • Lack of community centers and youth activities in the area apart from organized sports • Need for increased senior support and activities. There is a large, aging population in the area with just one senior center • Need for increased support for care givers as many find themselves struggling to provide support for those, while maintaining their own personal wellness • Increased partnership across sectors to help coordinate efforts and get resources to those living in isolated areas of the service area • Need for more dialysis centers in the service area

Quantitative Indicators	Qualitative Themes
• Drug Overdose Deaths • Excessive Drinking • Adult Obesity • Physical Inactivity • Adult Smokers • Motor Vehicle Crash Deaths	• Few providers focusing on prevention and overall wellness. Participants indicate that the general lack of services in the area and the geographic spread across the service area make wellness and prevention difficult o There is a need to bring screening and preventive services to smaller outlying communities – Upcountry

5. Access and Functional Needs – Transportation and Physical Disability
Having access to transportation services to support individual mobility is a necessity of daily life. Without transportation, individuals struggle to meet their basic needs, including those that promote and support a healthy life. Examining the number of people that have a disability is also an important indicator for community health to ensure that all community members have access to necessities for a high quality of life.

Quantitative Indicators	Qualitative Themes

• Public Transit Proximity
• Percentage with Disability
	• Geography of the service area makes it difficult to navigate care and access resources. The service area was described as: rural, hilly, rugged and sparsely populated
	• Lack of transportation to get care is a barrier
	• Walkability of the area is lacking. Few walking paths exist except around the hospital
	   o Areas lacks walkable areas for seniors
	• Utilizing public transportation takes a long time – getting to and from care in the service area is an all-day affair
	• Lack of funding to maintain area roads
	• Public transportation in the area has limited access on evenings and weekends
	• Public transportation runs along the major highways of the service area with limited or no service for outlying areas
	   o The Upcountry area has little/no access to public transportation
	• Taxies, Uber and Lyft transportation services are limited in the area
	• Residents often use 911 ambulance services inappropriately for access to care due to lack of transportation

6. Access to Dental Care and Preventative Services

Oral health is important for overall quality of life. When individuals have dental pain, it is difficult to eat, concentrate, and fully engage in life. Poor oral health impacts the health of the entire body, especially the heart and the digestive and endocrine systems.

Quantitative Indicators	Qualitative Themes
• Dentists	• Limited access to Denti-cal providers in the area for both youth and adults • In need of a local dental clinic – many travel as far as Placerville for care • Lack of affordable dental practices in the area – even for the insured • Dental services are open a few days a week at WellSpace Clinic for youth • Lack of access to dental care in the area results in over utilization of the ED for dental emergencies • Need a connection between emergency dental visits and follow up care

7. Access to Specialty and Extended Care

Extended care services, which include specialty care, is care provided in a particular branch of medicine and focuses on the treatment of a particular disease. Primary and specialty care go hand in hand, and without access to specialists, such as endocrinologists, cardiologists, and gastroenterologists, community residents are often left to manage chronic diseases, including diabetes and high blood pressure, on their own. In addition to specialty care, extended care refers to care extending beyond primary care services that is needed in the community to support overall physical health and wellness, such as skilled-nursing facilities, hospice care, and in-home healthcare.

Quantitative Indicators	Qualitative Themes
• Alzheimer's Mortality • Cancer Mortality • CLD Mortality • Heart Disease Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Diabetes Prevalence • Cancer Lung and Bronchus • Psychiatry Providers • Specialty Care Providers • Preventable Hospital Stays	• Specialty care lacking in Amador County. Most travel to Sacramento, Stockton, or Folsom for care • Many people cannot afford to travel out of the area for specialty care, so they delay care • Lack of specialty providers – specific mention included speech pathologists, psychiatrists, pediatric home health care, dialysis care, cancer treatment, and care for the intellectually disabled • Difficult to recruit specialty providers to the area • Need for home health care in the area for the aging population • Lack of transportation is a barrier to accessing specialty care • Families often move out of Amador County to access specialty services

Populations Experiencing Health Disparities

Health disparities are defined as "preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health experienced by populations, and defined by factors such as race or ethnicity, gender, education or income, disability, geographic location or sexual orientation."[4] The figure below describes populations in the SAH service area identified through qualitative data analysis that were indicated as experiencing health disparities. Interview participants were asked, "What specific groups of community members experience health issues the most?" Responses were analyzed by counting the total number of times all key informants and focus-group participants mentioned a group as one experiencing disparities. Figure 2 displays the results of this analysis.
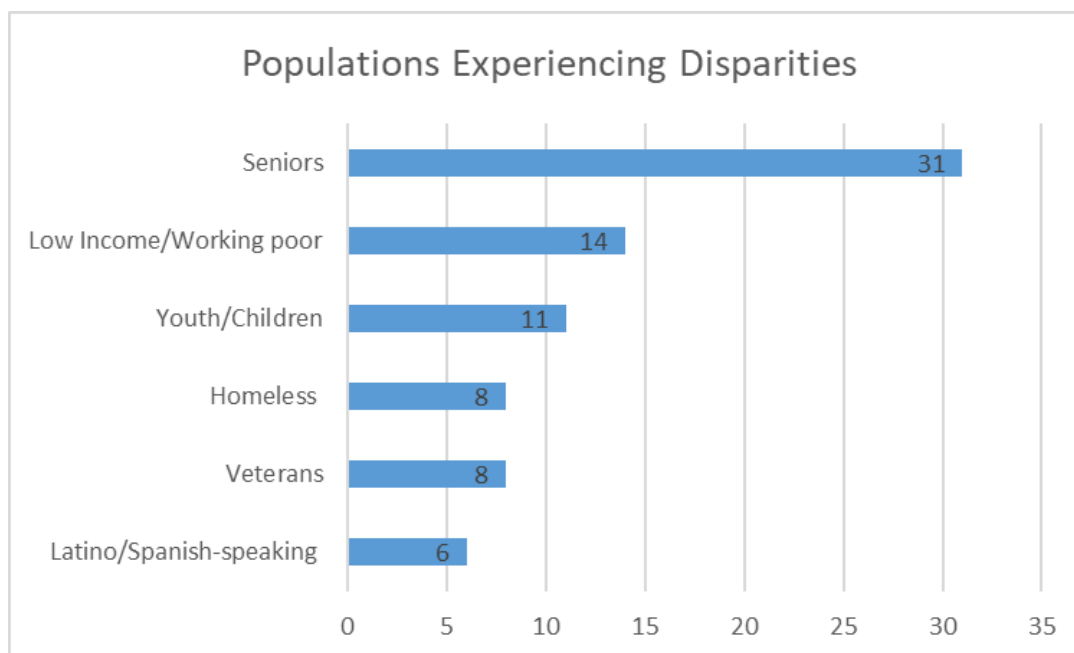
Figure 2: Populations experiencing disparities the SAH service area

Method Overview

Conceptual and Process Models

The data used to conduct the CHNA were identified and organized using the widely recognized Robert Wood Johnson Foundation's County Health Rankings model.[5] This model of population health includes the many factors that impact and account for individual health and well-being. Further, to guide the overall process of conducting the assessment, a defined set of data collection and analytic stages were developed. For a detailed review of methods, see the technical section.

Public Comments from Previously Conducted CHNAs

Regulations require that nonprofit hospitals include written comments from the public on their previously conducted CHNAs and most recently adopted implementation strategies. SAH requested

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[4] Center for Disease Control and Prevention (2008). *Health Disparities Among Racial/Ethnic Populations*. Community Health and Program Services (CHAPS): Atlanta: U.S. Department of Health and Human Services.
[5] Robert Wood Johnson Foundation. 2018. *County Health Rankings & Roadmaps*. Available online at: http://www.countyhealthrankings.org/. Accessed July 10, 2018.

written comments from the public on its 2016 CHNA and most recently adopted implementation strategy through SHBC@sutterhealth.org.

At the time of the development of this CHNA report, SAH had not received written comments. However, input from the broader community was included for the 2019 CHNA through key informant interviews and focus groups. SAH will continue to use its website as a tool to solicit public comments and ensure that these comments are considered as community input in the development of future CHNAs.

Data Used in the CHNA

Data collected and analyzed included both primary or qualitative data and secondary or quantitative data. Primary data included 11 interviews with 52 community health experts as well as three focus groups conducted with a total of 25 community residents. (A full listing of all participants can be seen in the technical section of this report.)

Secondary data included four datasets selected for use in the various stages of the analysis. A combination of mortality and socioeconomic datasets collected at sub-county levels was used to identify portions of the hospital service area with greater concentrations of disadvantaged populations and poor health outcomes. A set of county level indicators was collected from various sources to help identify and prioritize significant health needs. Additionally, socioeconomic indicators were collected to help describe the overall social conditions within the service area. Health outcome indicators included measures of both mortality (length of life) and morbidity (quality of life). Health factor indicators included measures of 1) health behaviors, such as diet and exercise and tobacco, alcohol, and drug use; 2) clinical care, including access to quality of care; 3) social and economic factors such as race/ethnicity, income, educational attainment, employment, neighborhood safety, and similar; and 4) physical environment measures, such as air and water quality, transit and mobility resources, and housing affordability. In all, 64 different health outcome and health factor indicators were collected for the CHNA.

Data Analysis

Primary and secondary data were analyzed to identify and prioritize the significant health needs within the SAH service area. This included identifying 10 PHNs in these communities. These potential health needs were those identified in previously conducted CHNAs. Data were analyzed to discover which, if any, of the PHNs were present in the hospital's service area. After these were identified, health needs were prioritized based on an analysis of primary data sources that described the PHN as a significant health need.

For an in-depth description of the processes and methods used to conduct the CHNA, including primary and secondary data collection, analysis, and results, see the technical section of this report.

Description of Community Served

The definition of the community served was the primary service area of SAH. This area was defined by 20 ZIP Codes—95225, 95226, 95232, 95245, 95248, 95252, 95254, 95255, 95257, 95601, 95629, 95640, 95642, 95665, 95666, 95669, 95675, 95685, 95689, and 95699. This service area was designated because the majority of patients served by SAH resided in these ZIP Codes. Geographically, the majority of the SAH service area resides in Amador County, CA. Amador County is located approximately 45 miles southeast of Sacramento, CA. Amador County has a total area of 606 square miles, of which 11.4 square

miles is water. Sutter Amador Hospital is located in the city of Jackson, which is also the county seat and home to approximately 4,500 area residents. The total population of the service area was 57,993. The service area is shown in Figure 3.
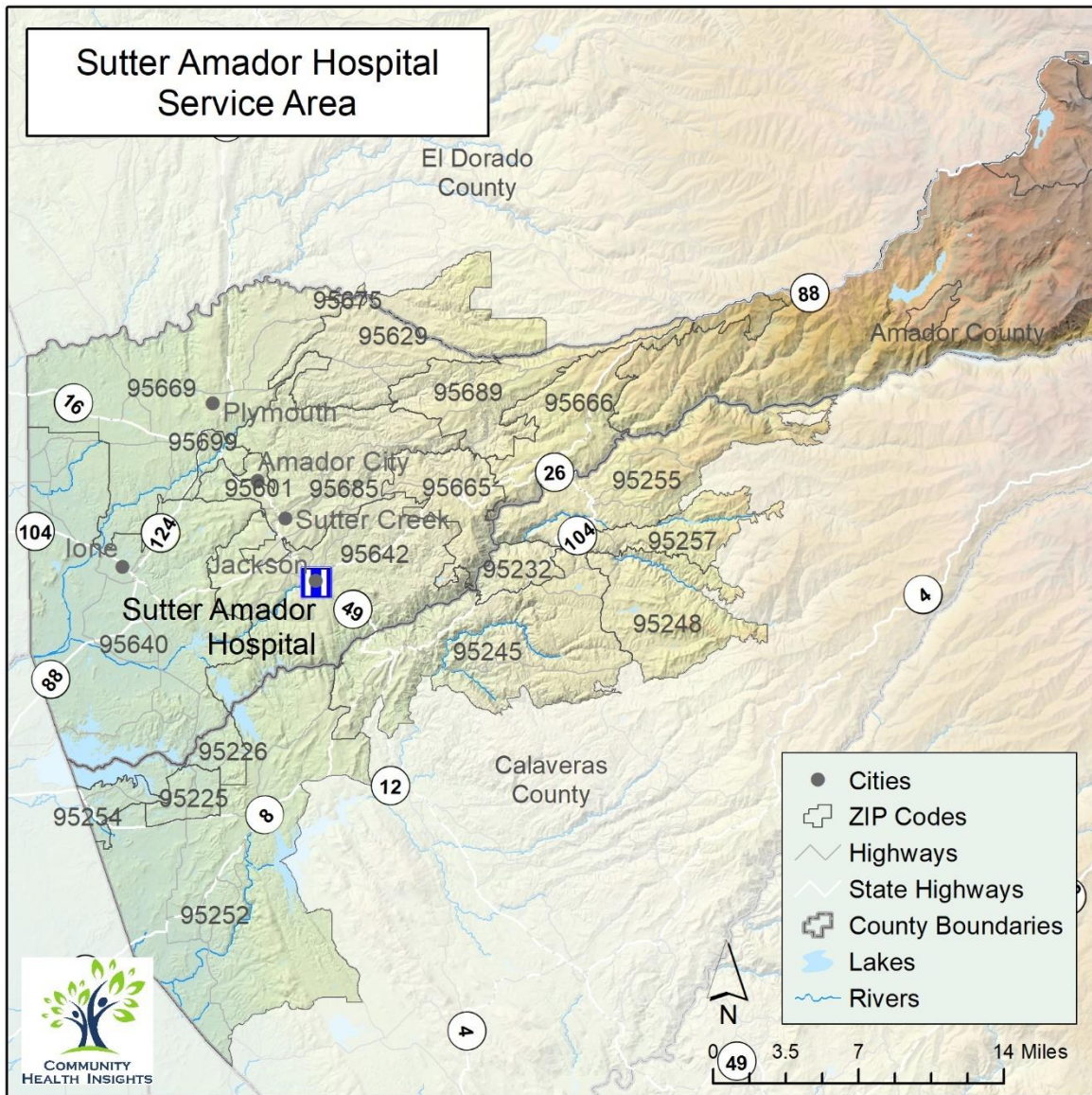
Figure 3: Community served by SAH

Population characteristics for each ZIP Code in the service area are presented in Table 1. These are compared to the state and county characteristics for descriptive purposes. Any ZIP Code with rates that varied negatively when compared to the state or county benchmarks is highlighted. Each ZIP Code is compared to the rates for the state and the county in which it is located.

Table 1: Population Characteristics for Each ZIP Code Located in the SAH Service Area

ZIP Code	Total Population	% Minority	Median Age	Median Income	% Poverty	% Unemployed	% Uninsured	% No HS Graduation	% Living in High Housing Costs	% with Disability
95225	609	55.7%	46.9	$56,367	26.9%	0.0%	5.3%	20.6%	61.7%	26.9%
95226	14	0.0%	-	-	0.0%	-	0.0%	0.0%	0.0%	0.0%
95232	168	0.0%	54.5	-	6.5%	0.0%	0.0%	0.0%	11.8%	10.7%
95245	1,958	15.9%	53.0	$58,125	29.5%	21.3%	16.8%	5.1%	42.7%	17.9%
95248	127	18.9%	65.1	$28,194	11.0%	0.0%	11.0%	5.5%	45.7%	7.1%
95252	15,068	21.2%	47.3	$64,918	10.2%	9.7%	7.6%	11.5%	39.1%	17.9%
95254	897	24.3%	55.5	$118,966	0.0%	8.1%	0.0%	9.1%	22.6%	16.1%
95255	1,655	10.9%	61.8	$33,531	25.2%	22.4%	7.8%	7.8%	42.0%	26.2%
95257	454	11.7%	50.2	$36,548	21.4%	29.8%	16.3%	20.3%	32.4%	25.3%
Calaveras County	*44,787*	*17.7%*	*51.2*	*$53,502*	*12.7%*	*9.6%*	*8.3%*	*9.6%*	*39.3%*	*20.2%*
95601	178	7.3%	50.4	-	37.1%	35.4%	21.9%	3.6%	52.7%	11.2%
95629	676	7.7%	57.6	$49,514	20.4%	0.0%	0.0%	2.4%	34.9%	14.6%
95640	10,509	33.6%	42.5	$62,229	11.1%	11.3%	7.0%	22.7%	35.2%	13.6%
95642	6,912	14.3%	51.5	$48,879	8.3%	16.2%	8.9%	6.4%	38.0%	17.9%
95665	4,901	19.5%	50.9	$62,969	14.3%	10.3%	4.8%	4.7%	40.3%	17.5%
95666	5,170	15.5%	59.1	$49,336	13.7%	10.9%	8.6%	8.4%	34.0%	24.7%
95669	2,493	14.2%	44.8	$68,144	10.8%	8.0%	7.3%	10.0%	33.2%	16.0%
95675	574	24.9%	46.0	$49,569	0.0%	32.9%	8.0%	13.1%	4.4%	52.6%
95685	4,356	12.7%	53.2	$62,339	11.0%	3.9%	5.8%	8.4%	32.6%	18.8%
95689	1,131	3.1%	65.7	$61,510	4.2%	24.2%	2.9%	5.9%	36.2%	36.8%
95699	143	74.8%	57.1	-	9.1%	0.0%	10.5%	58.2%	100.0%	0.0%
Amador County	*36,963*	*20.4%*	*50.3*	*$57,032*	*11.2%*	*11.6%*	*7.0%*	*11.7%*	*35.8%*	*19.1%*
California	*38,654,206*	*61.6%*	*36*	*$63,783*	*15.8%*	*8.7%*	*12.6%*	*17.9%*	*42.9%*	*10.6%*

A value of "-" indicates no data recorded; when a value of zero was recorded a "0" is used in the table. (Source: 2012-2016 American Community Survey 5-year estimates; U.S. Census Bureau)

Community Health Vulnerability Index

Figure 4 displays the Community Health Vulnerability Index (CHVI) for the SAH service area. The CHVI is a composite index used to help describe the distribution of health disparities within the service area. Like the *Community Needs Index* or CNI[6] on which it is based, the CHVI combines multiple

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[6] Barsi, E. and Roth, R. (2005) The Community Needs Index. *Health Progress*, Vol. 86, No. 4, pp. 32-38.

sociodemographic indicators (listed below) to help identify those locations experiencing health disparities. The CHVI values are broken down into 20% percentiles, or by quintiles. Higher CHVI values (those within the top 40%) indicate potentially a greater concentration of groups supported in the literature more likely to experience disparities. (Refer to the technical section of this report for further details as to the CHVI construction).

- Percentage Minority (Hispanic or Nonwhite)
- Population 5 Years or Older Who Speak Limited English
- Percentage 25 or Older without a High School Diploma
- Percentage Unemployed
- Percentage Uninsured

- Percentage Families with Children in Poverty
- Percentage Households 65 years or Older in Poverty
- Percentage Single-Female-Headed Households in Poverty
- Percentage Renter-Occupied Housing Units
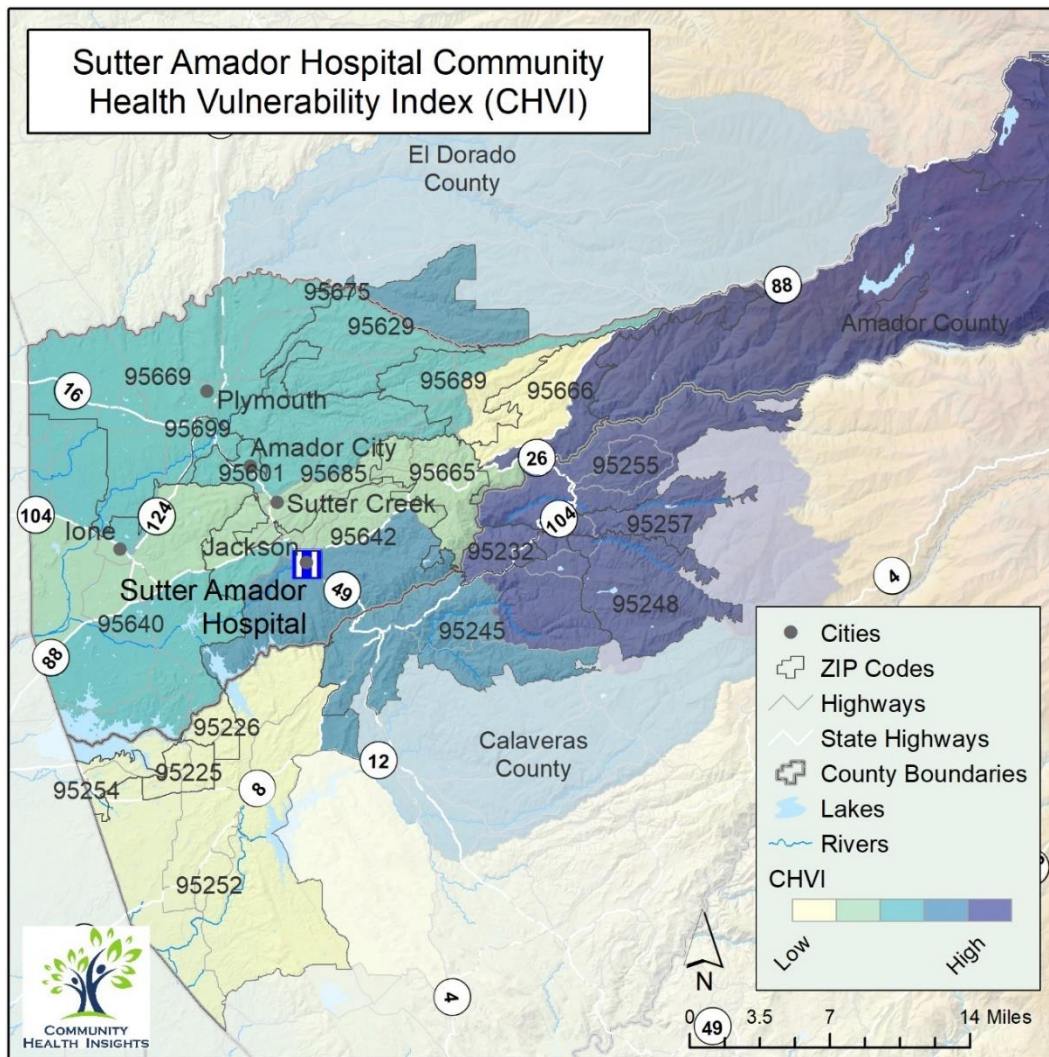
Figure 4: Community Health Vulnerability Index for SAH service area

Given that the hospital service area is highly rural, a population density map is included in Figure 5 to gain deeper insight to where residents live within the census tracts in consideration of the CHVI value. As Figure 5 shows, those census tracts with index values in the top 20th percentile of the CHVI index also happen to be those with low population counts. However, census tracts in the next quintile (top 40%) consist of census tracts in SAH service area that have greater population density counts. As Figure 5 shows, there is a high concentration of residents in and around the core area of Jackson, and heading northeast along the highway 88, including the areas of Pioneer and Pine Grove.
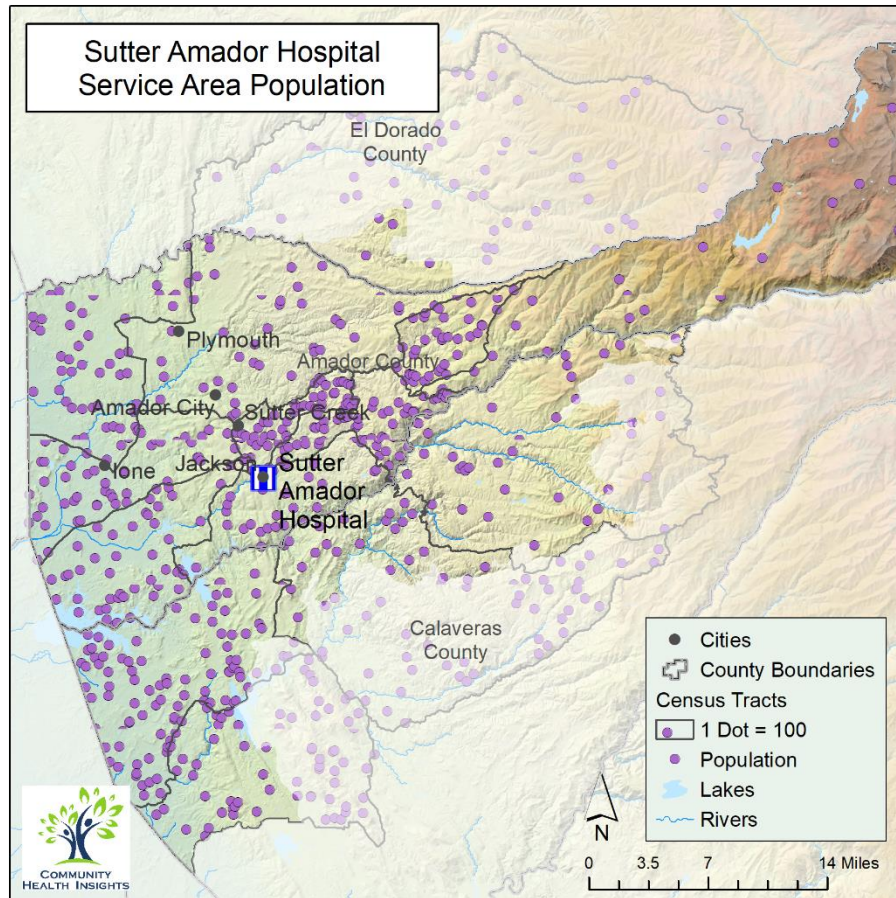
Figure 5: Population density map by census tract for SAH service area

Communities of Concern

Communities of Concern are geographic areas within the service area that have the greatest concentration of poor health outcomes and are home to more medically underserved, low-income, and diverse populations at greater risk for poorer health. Communities of Concern are important to the overall CHNA methodology because, after the service area is assessed more broadly, they allow for a focus on those portions of the region likely experiencing the greatest health disparities. Geographic Communities of Concern were identified using a combination of primary and secondary data sources, which included the CHVI index score, health outcome data, and input from area health and social-service experts (refer to the technical section of this report for an in-depth description of how these are identified).

Analysis of both primary and secondary data revealed four ZIP Codes in Amador County that met the criteria to be classified as a Community of Concern. The ZIP Codes of 95642 (Jackson), 95665 (Pine Grove) and 95666 (Pioneer) had high CHVI values, unfavorable rates of health outcome data, and were consistently mentioned by the service-area-wide key informants as areas of need. Additionally, the ZIP Code of 95669 (Plymouth) was also consistently mentioned by experts as a geographical area of need, and therefore included as a Community of Concern. These are noted in Table 2, with the census population provided for each, and are displayed in Figure 6.

Table 2: Identified Communities of Concern for the SAH Service Area

ZIP Code	Community/Area	Population
95642	Jackson	6,912
95665	Pine Grove	4,901
95666	Pioneer	5,170
95669	Plymouth	2,493
Total Population in Communities of Concern		19,476
Total Population in Hospital Service Area		57,993
Percentage of Service Area Population in Community of Concern		33.6%

(Source: 2012–2016 American Community Survey 5-year estimates; U.S. Census Bureau)
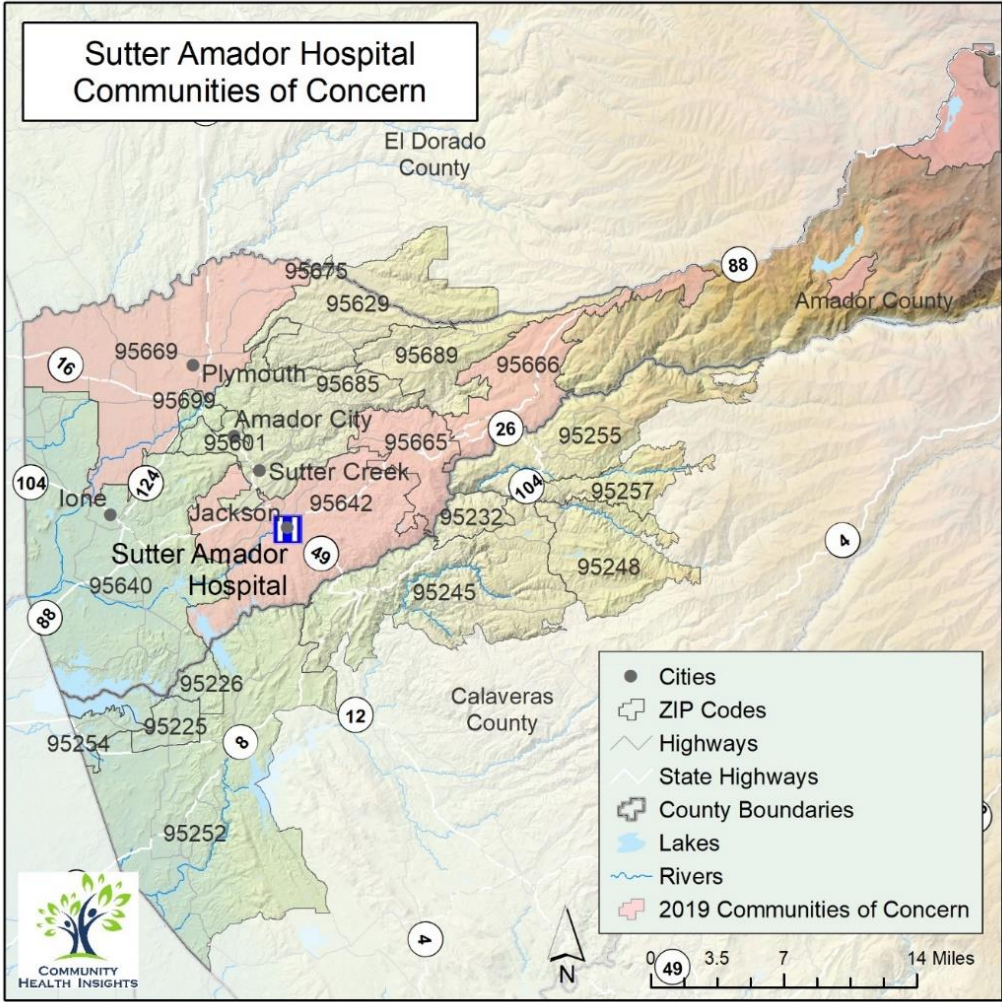
Figure 6: SAH Communities of Concern

Resources Potentially Available to Meet the Significant Health Needs

In all, 83 resources were identified in the SAH service area that were potentially available to meet the identified significant health needs. These resources were provided by a total of 43 social-service, nonprofit, and governmental organizations, agencies, and programs identified in the CHNA. The identification method included starting with the list of resources from the *2016 Sutter Amador Hospital CHNA*, verifying that the resources still existed, and then adding newly identified resources into the 2019 CHNA report. The numbers of resources for each significant health need is shown in Table 3.

Table 3: Resources Potentially Available to Meet Significant Health Needs in Priority Order

Significant Health Needs (in Priority Order)	Number of resources
Access to Mental/Behavioral/Substance Abuse Services	15
Access to Quality Primary Care Health Services	5
Access to Basic Needs Such as Housing, Jobs, and Food	29
Injury and Disease Prevention and Management	16
Access and Functional Needs	8
Access to Dental Care and Preventive Services	5

Significant Health Needs (in Priority Order)	Number of resources
Access to Specialty and Extended Care	5
Total Resources	*83*

For more specific examination of resources by significant health need and by geographic location, as well as the detailed method for identifying these, see the technical section of this report.

Impact/Evaluation of Actions Taken by Hospital

The final regulations issued by the Department of Treasury on December 29, 2014 regarding nonprofit hospitals conducting CHNAs require that each hospital's CHNA report include: "… an evaluation of the impact of any actions that were taken since the hospital facility finished conducting its immediately preceding CHNA to address the significant health needs identified in the hospital facility's prior CHNA(s)."[7] Similarly, the State of California requires all non-government nonprofit hospitals licensed by the state to submit a "Community Benefits Plan" to the Office of Statewide Health Planning and Development (OSHPD) annually. The plan must include: "…a description of the activities that the hospital has undertaken in order to address identified community needs within its mission and financial capacity…" (p. 1).[8] OHSPD makes each hospital's community benefit plan available to the general public through its website or by request. The following descriptions of the impact of actions taken by SAH as noted in the hospital's annual Community Benefit Plan.

Prior to this CHNA, SAH conducted its most recent CHNA in 2016. The 2016 CHNA identified 10 specific health needs. Working within its mission and capabilities, focused its implementation on:

- Access to quality primary care services and prescriptions.
- Access to transportation and mobility.

SAH developed plans to address these health needs and the specific outcomes of these efforts are described below.

ACCESS TO PRIMARY CARE SERVICES AND PRESCRIPTIONS

Amador Tuolumne Community Action Agency's Amador Lifeline
Amador Tuolumne Community Action Agency (ATCAA) provides a subscription service, Amador Lifeline, for clients with Lifeline devices. The devices are installed by volunteers in the residences of elderly or disabled individuals to allow them to live independently and safely in their homes. Clients are checked on regularly through the Amador Lifeline program and experience issues, such as, but not limited to fall risks, memory loss, and mobility issues. Through program funding, services are available at a sliding scale fee for residents. In 2017, ATCAA saw 552 adult clients. In addition, ATCAA reached 1,000 people through community outreach events. In 2018, ATCAA saw 246 adult clients. In addition, ATCAA connected 37 clients with service referrals and 5 referrals to primary care.

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[7] *Federal Register*, Vol. 79, No. 250, p. 78969, (Wednesday, December 31, 2014). Department of the Treasury, Internal Revenue Service.

[8] Hospital Community Benefit Plans (n.d.). *SB697 (Chapter 812, Statutes of 1994)*. The Office of Statewide Health Planning and Development. Retrieved April 27, 2016 from: http://www.oshpd.ca.gov/HID/CommunityBenefit/SB697CommBenefits.pd

WellSpace Health Community Clinic in Amador County
Through the financial support of Sutter Health, WellSpace Health opened a community health center in Amador County. WellSpace Health Amador Community Health Center is a Primary Care Health Home and an on-site Immediate Care clinic serving a population that consists of under-served and those experiencing homelessness in the county. The Center opened in October 2017. In the few short months the clinic operated in 2017, the clinic served 1,574 individuals with over 1,900 appointments schedules and 285 of those appointments with primary health.

Free Mammography Screenings
In 2016, throughout the month of October, Sutter Diagnostic Imaging centers across the Valley Area provided uninsured/underinsured women the opportunity to receive free digital mammograms. Because of these collaborative events, Sutter Health was able to screen more than 430 uninsured women. Insurance Enrollment Specialists from Covered California attended some of the screening events to educate, connect and enroll patients who needed health insurance. As a result, the Covered California team made connections with hundreds of women and followed up with many of the women to help enroll them in insurance. In addition, Sutter integrated ED Navigators into some of the screening events, to provide onsite primary and mental health care referrals and other community resources. In 2017, the program was discontinued in some area counties, including Amador County.

ACCESS TO TRANSPORTATION AND MOBILITY

Amador Transit's Amador Rides
Amador Rides is a transportation program designed to meet the healthcare transportation needs of Amador County residents. The program links people with no other means of transportation to volunteer drivers for health care related trips and is limited to transportation for medical, dental, and mental health care needs of residents. In the second half of 2016, 53 clients received transportation services with nearly 280 rides provided. In 2017, 117 clients received transportation services with nearly 750 rides provided. In 2018, 270 clients received transportation services with nearly 550 rides provided.

Conclusion

Nonprofit hospitals play a vital role in the communities they serve. In addition to providing for the delivery of newborns and the treatment of disease, these important institutions work with and alongside other organizations to improve community health and well-being by working to prevent disease, improve access to healthcare, promote health education, eliminate health disparities, and similar tasks. CHNAs play an important role in helping nonprofit hospitals and other community organizations determine where to focus community benefit and improvement efforts, including geographic locations and specific populations living in their service area.

2019 CHNA Technical Section

The following section presents a detailed account of data collection, analysis, and results for the Sutter Amador Hospital (SAH) hospital service area (HSA).

Results of Data Analysis

Secondary Data

The tables and figures that follow show the specific values for the health need indicators used as part of the health need identification process. Each value for Amador County was compared to the California state benchmark. Indicators where performance was worse in Amador County than in California are highlighted. Rates for Calaveras County are also included. The associated bar charts show rates for both counties compared to the California state rates.

Length of Life
Table 4: Length of Life Indicators Compared to State Benchmarks

Indicators	Description	Amador	Calaveras	California
Early Life				
Infant Mortality	Infant deaths per 1,000 live births	5.8	4.7	4.6
Child Mortality	Deaths among children under age 18 per 100,000	43.9	50.8	38.5
Life Expectancy	Life expectancy at birth in years	79.8	79.8	79.1
Overall				
Age-Adjusted Mortality	Age-adjusted deaths per 100,000	738.5	720.2	662.7
Premature Age-Adjusted Mortality	Age-adjusted deaths among residents under age 75 per 100,000	302.3	320.8	268.8
Years of Potential Life Lost	Age-adjusted years of potential life lost before age 75 per 100,000	6,213.5	7,306.2	5,217.3
Stroke Mortality	Deaths per 100,000	55.8	47.8	37.5
CLD Mortality	Deaths per 100,000	65.0	67.3	34.9
Diabetes Mortality	Deaths per 100,000	18.1	22.4	22.1
Heart Disease Mortality	Deaths per 100,000	263.2	262.4	157.3
Hypertension Mortality	Deaths per 100,000	11.9	13.0	12.6
Cancer Liver and Kidney Disease				
Cancer Mortality	Deaths per 100,000	264.6	260.0	153.4
Liver Disease Mortality	Deaths per 100,000	16.0	15.0	13.2
Kidney Disease Mortality	Deaths per 100,000	11.4	18.5	8.3
Intentional and Unintentional Injuries				
Suicide Mortality	Deaths per 100,000	22.6	21.5	10.8
Unintentional Injury Mortality	Deaths per 100,000	51.7	52.9	31.2

Indicators	Description	Amador	Calaveras	California
Other				
Alzheimer's Mortality	Deaths per 100,000	68.0	34.4	35.0
Influenza and Pneumonia Mortality	Deaths per 100,000	32.6	23.0	16.0
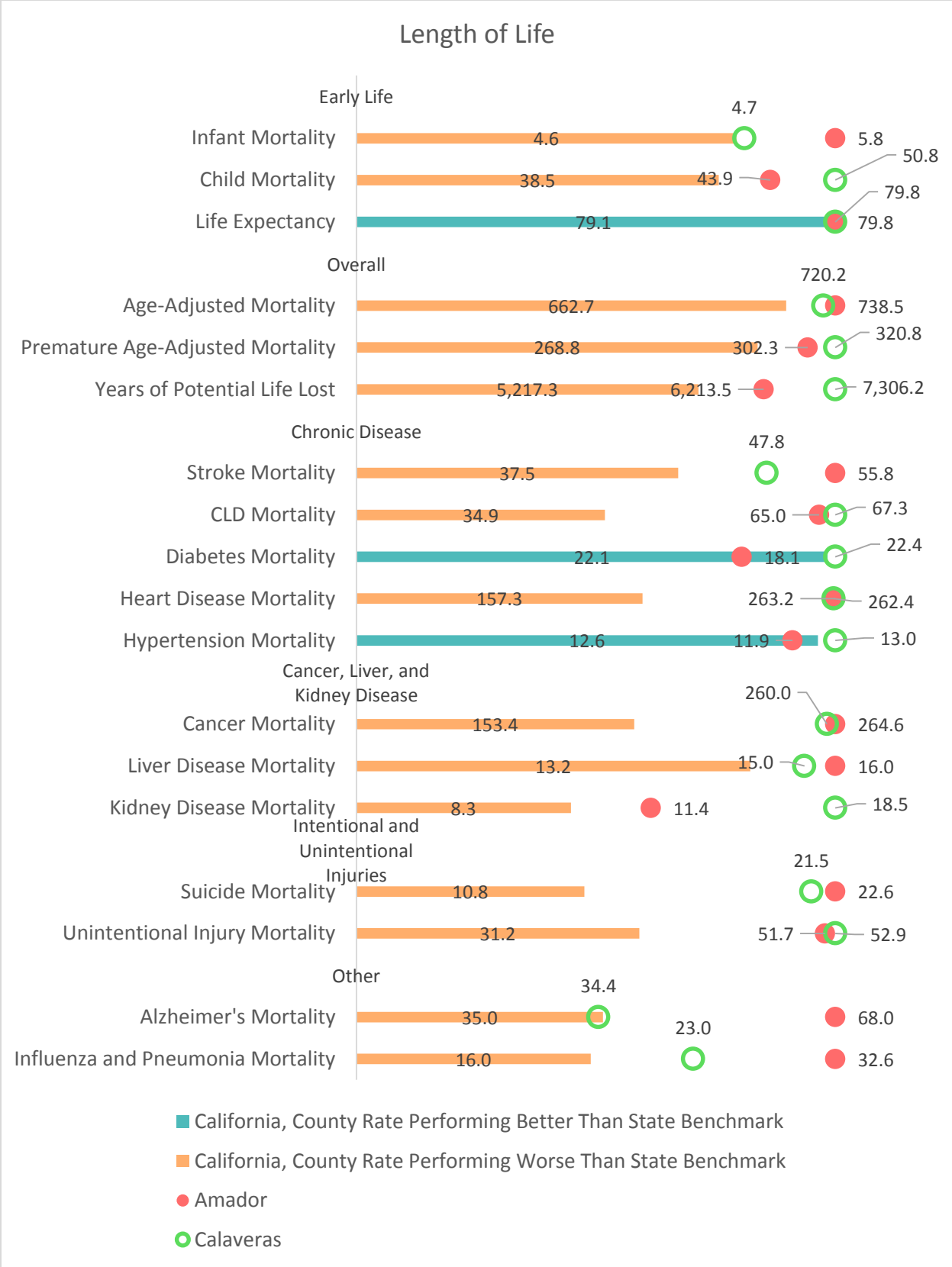
Figure 7: Length of life indicators

Quality of Life

Table 5: Quality of Life Indicators Compared to State Benchmarks

Indicators	Description	Amador	Calaveras	California
Chronic Disease				
Diabetes Prevalence	Percentage age 20 and older with diagnosed diabetes	9.1%	9.8%	8.5%
Low Birth Weight	Percentage of live births with birthweight below 2500 grams	7.2%	5.1%	6.8%
HIV Prevalence	Persons age 13 or older with a(n) Human Immunodeficiency Virus (HIV) infection per 100,000	142.1	90.9	376.4
Percentage with Disability	Percentage of total civilian noninstitutionalized population with a disability	19.1%	20.2%	10.6%
Mental Health				
Poor Mental Health Days	Age-adjusted average number of mentally unhealthy days reported in past 30 days	3.6	3.7	3.5
Poor Physical Health Days	Age-adjusted average number of physically unhealthy days reported in past 30 days	3.3	3.4	3.5
Cancer				
Cancer Female Breast	Age-adjusted incidence per 100,000	116.2	116.2	120.6
Cancer Colon and Rectum	Age-adjusted incidence per 100,000	35.6	35.6	37.1
Cancer Lung and Bronchus	Age-adjusted incidence per 100,000	54.5	54.5	44.6
Cancer Prostate	Age-adjusted incidence per 100,000	103.5	103.5	109.2

Quality of Life

Chronic Disease

Indicator	Value 1	Value 2	Amador	Calaveras
Diabetes Prevalence	8.5%	9.1%	9.1%	9.8%
Low Birth Weight	6.8%	5.1%	7.2%	5.1%
HIV Prevalence	376.4	90.9	142.1	90.9
Percentage with Disability	10.6%	19.1%	19.1%	20.2%

Mental Health

| Poor Mental Health Days | 3.5 | 3.6 | 3.6 | 3.7 |
| Poor Physical Health Days | 3.5 | 3.3 | 3.3 | 3.4 |

Cancer

Cancer Female Breast	120.6	116.2	116.2	116.2
Cancer Colon and Rectum	37.1	35.6	35.6	35.6
Cancer Lung and Bronchus	44.6	54.5	54.5	54.5
Cancer Prostate	109.2	103.5	103.5	103.5

■ California, County Rate Performing Better Than State Benchmark
■ California, County Rate Performing Worse Than State Benchmark
● Amador
○ Calaveras

Figure 8: Quality of life indicators

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Health Behaviors

Table 6: Health Behavior Indicators Compared to State Benchmarks

Indicators	Description	Amador	Calaveras	California
Excessive Drinking	Percentage of adults reporting binge or heavy drinking	19.2%	18.3%	17.8%
Drug Overdose Deaths	Age-adjusted deaths per 100,000	24.3	18.7	12.2
Adult Obesity	Percentage of adults reporting BMI of 30 or more	25.3%	25.8%	22.7%
Physical Inactivity	Percentage age 20 and older with no reported leisure-time physical activity	18.2%	19.4%	17.9%
Limited Access to Healthy Food	Percentage of population that is low income and does not live close to a grocery store	3.6%	2.7%	3.3%
mRFEI	Percentage of food outlets that are classified as 'healthy'	28.1%	16.7%	12.3%
Access to Exercise	Percentage of population with adequate access to locations for physical activity	87.6%	75.8%	89.6%
STI Chlamydia Rate	Number of newly diagnosed chlamydia cases per 100,000	176.9	138.9	487.5
Teen Birth Rate	Number of births per 1,000 females aged 15-19	19.4	15.4	24.1
Adult Smokers	Percentage of adults who are current smokers	11.0%	11.7%	11.0%

Health Behaviors

Indicator	CA Benchmark	County Rate	Amador	Calaveras
Excessive Drinking	17.8%		19.2%	18.3%
Drug Overdose Deaths	12.2		24.3	18.7
Adult Obesity	22.7%	25.3%		25.8%
Physical Inactivity	17.9%	18.2%		19.4%
Limited Access to Healthy Food	3.3%		3.6%	2.7%
mRFEI	12.3%		28.1%	16.7%
Access to Exercise	89.6%		87.6%	75.8%
STI Chlamydia Rate	487.5	176.9		138.9
Teen Birth Rate	24.1	19.4		15.4
Adult Smokers	11.0%	11.0%		11.7%

Legend:
- California, County Rate Performing Better Than State Benchmark (teal)
- California, County Rate Performing Better Than State Benchmark (orange)
- Amador (red dot)
- Calaveras (green circle)

Figure 9: Health behavior indicators

Clinical Care

Table 7: Clinical Care Indicators Compared to State Benchmarks

Indicators	Description	Amador	Calaveras	California
Health Care Costs	Amount of price-adjusted Medicare reimbursements per enrollee	$7,811	$7,844	$9,100
HPSA Dental Health	Reports if a portion of the county falls within a Health Professional Shortage Area	No	No	
HPSA Mental Health	Reports if a portion of the county falls within a Health Professional Shortage Area	No	Yes	
HPSA Primary Care	Reports if a portion of the county falls within a Health Professional Shortage Area	Yes	Yes	
HPSA Medically Underserved Area	Reports if a portion of the county falls within a Medically Underserved Area	Yes	Yes	
Mammography Screening	Percentage of female Medicare enrollees aged 67-69 that receive mammography screening	66.6%	64.3%	59.7%
Dentists	Number per 100,000	74.9	44.3	82.3
Mental Health Providers	Number per 100,000	195.3	152.8	308.2
Psychiatry Providers	Number per 100,000	8.1	4.5	13.4
Specialty Care Providers	Number per 100,000	81.1	58.1	183.2
Primary Care Physicians	Number per 100,000	56.8	49.1	78.0
Preventable Hospital Stays	Number of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	38.5	28.4	36.2
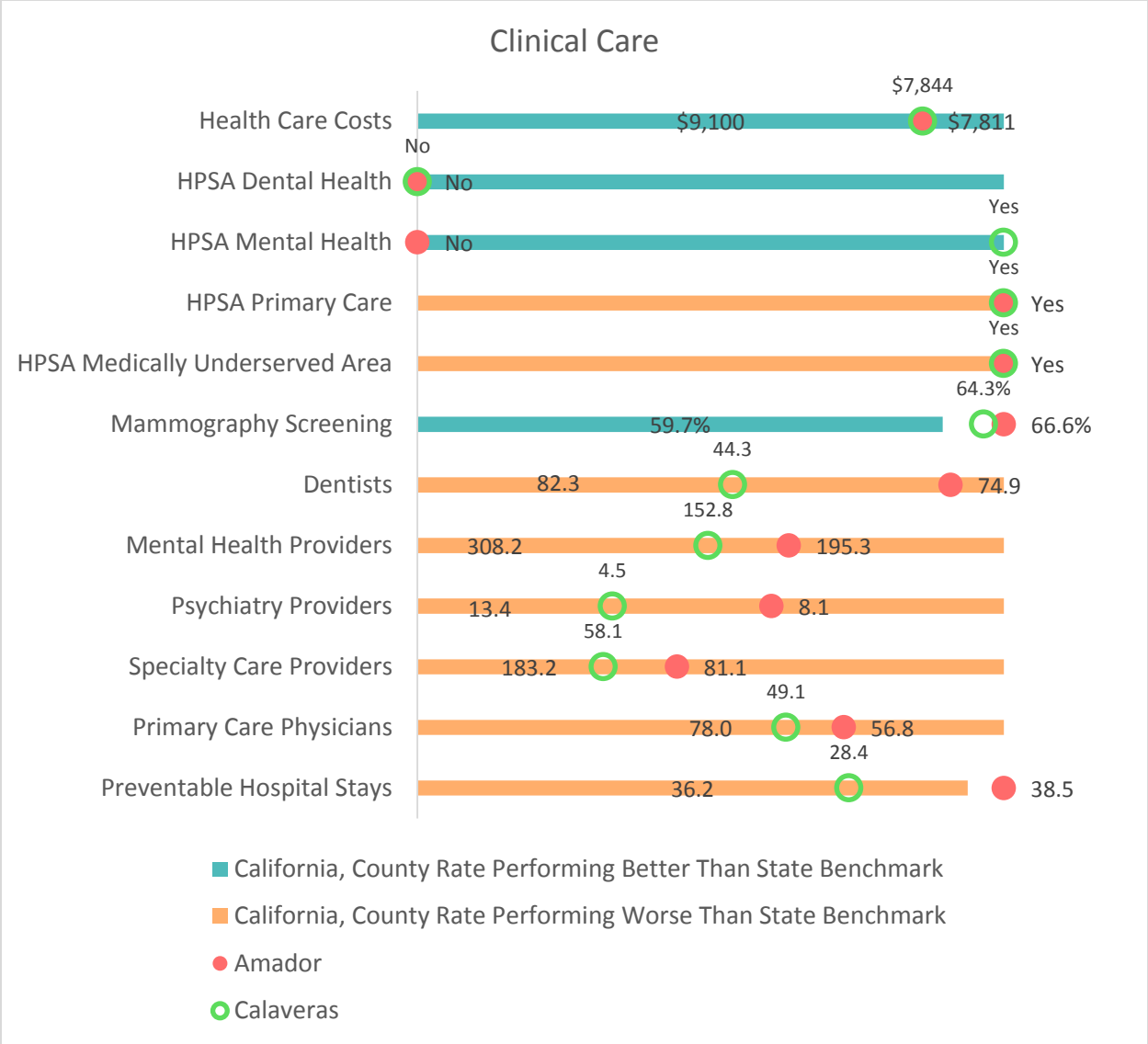
Figure 10: Clinical care indicators

Social and Economic Factors

Table 8: Social and Economic Factor Indicators Compared to State Benchmarks

Indicators	Description	Amador	Calaveras	California
Homicides	Deaths per 100,000	5.4	4.1	5.0
Violent Crimes	Reported violent crime offenses per 100,000	278.9	255.7	407.0
Motor Vehicle Crash Deaths	Deaths per 100,000	16.5	22.9	8.5
Some College	Percentage aged 25-44 with some post-secondary education	58.6%	58.6%	63.5%
High School Graduation	Percentage of ninth-grade cohort graduating high school in 4 years	88.6%	93.8%	82.3%
Unemployed	Percentage of population 16 and older unemployed but seeking work	5.9%	5.6%	5.4%
Children with Single Parents	Percentage of children living in a household headed by a single parent	31.7%	37.3%	31.8%
Social Associations	Membership associations per 100,000	9.2	8.3	5.8
Free and Reduced Lunch	Percentage of children in public schools eligible for free or reduced-price lunch	49.9%	60.1%	58.9%
Children in Poverty	Percentage of children under age 18 in poverty	16.8%	20.4%	19.9%
Median Household Income	Median household income	$59,789	$57,990	$67,715
Uninsured	Percentage of population under age 65 without health insurance	6.9%	7.1%	9.7%

Social and Economic Factors

Indicator	Better/Worse bar value	Amador	Calaveras
Homicides	5.0	5.4	4.1
Violent Crimes	407.0 / 278.9	278.9	255.7
Motor Vehicle Crash Deaths	8.5	16.5	22.9
Some College	63.5% / 58.6%		58.6%
High School Graduation	82.3% / 88.6%		93.8%
Unemployed	5.4%	5.9%	5.6%
Children with Single Parents	31.8% / 31.7%	31.7%	37.3%
Social Associations	5.8	9.2	8.3
Free and Reduced Lunch	58.9% / 49.9%	49.9%	60.1%
Children in Poverty	19.9% / 16.8%	16.8%	20.4%
Median Household Income	$67,715 / $59,789	$59,789	$57,990
Uninsured	9.7% / 6.9%		7.1%

Legend:
- California, County Rate Performing Better Than State Benchmark
- California, County Rate Performing Worse Than State Benchmark
- Amador
- Calaveras

Figure 11: Social and economic factor indicators

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Physical Environment

Table 9: Physical Environment Indicators Compared to State Benchmarks

Indicators	Description	Amador	Calaveras	California
Severe Housing Problems	Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, or lack of kitchen or plumbing facilities	21.2%	20.3%	27.9%
Housing Units With No Vehicle	Percentage of households with no vehicle available	3.8%	4.0%	7.6%
Public Transit Proximity	Percentage of population living in a Census block within a quarter of a mile to a fixed transit stop	48.3%	34.9%	50.0%
Pollution Burden	Percentage of population living in a Census tract with a CalEnviroscreen Pollution Burden score greater than the 50th percentile for the state	11.3%	11.0%	50.4%
Air Particulate Matter	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	7.9	7.8	8.0
Drinking Water Violations	Reports whether or not there was a health-related drinking water violation in a community within the county	Yes	Yes	
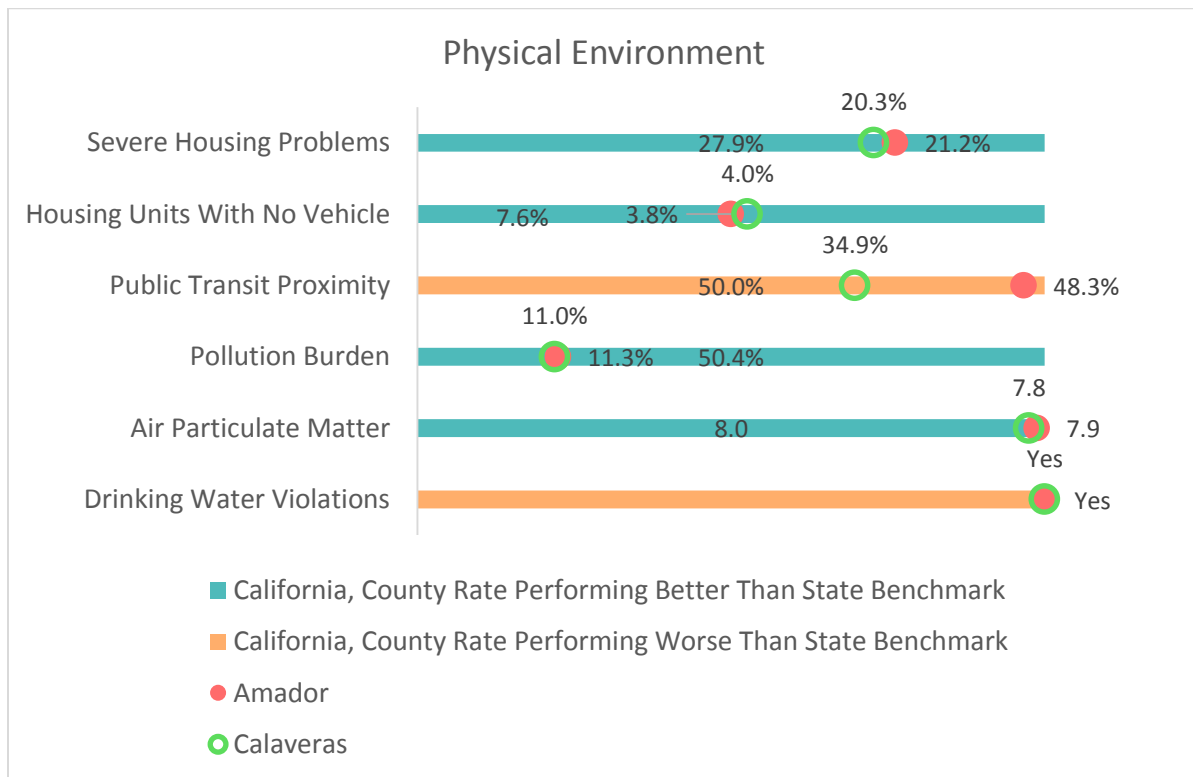
Figure 12: Physical environment indicators

Two related models were foundational in this CHNA. The first is a conceptual model that expresses the theoretical understanding of community health used in the analysis. This understanding is important because it provides the framework underpinning the collection of primary and secondary data. It is the tool used to ensure that the results are based on a rigorous understanding of those factors that influence the health of a community. The second model is a process model that describes the various stages of the analysis. It is the tool that ensures that the resulting analysis is based on a tight integration of community voice and secondary data and that the analysis meets federal regulations for conducting hospital CHNAs.

Conceptual Model

The conceptual model used in this needs assessment is shown in Figure 13. This model organizes populations' individual health-related characteristics in terms of how they relate to up- or downstream health and health-disparities factors. In this model, health outcomes (quality and length of life) are understood to result from the influence of health factors describing interrelated individual, environmental, and community characteristics, which in turn are influenced by underlying policies and programs.

This model was used to guide the selection of secondary indicators in this analysis as well as to express in general how these upstream health factors lead to the downstream health outcomes. It also suggests that poor health outcomes within the service area can be improved through policies and programs that address the health factors contributing to them. This conceptual model is a slightly modified version of the County Health Rankings Model used by the Robert Wood Johnson Foundation. It was primarily altered by adding a "Demographics" category to the "Social and Economic Factors" in recognition of the influence of demographic characteristics on health outcomes.

To generate the list of secondary indicators used in the assessment, each conceptual model category was reviewed to identify potential indicators that could be used to fully represent the category. The results of this discussion were then used to guide secondary data collection.
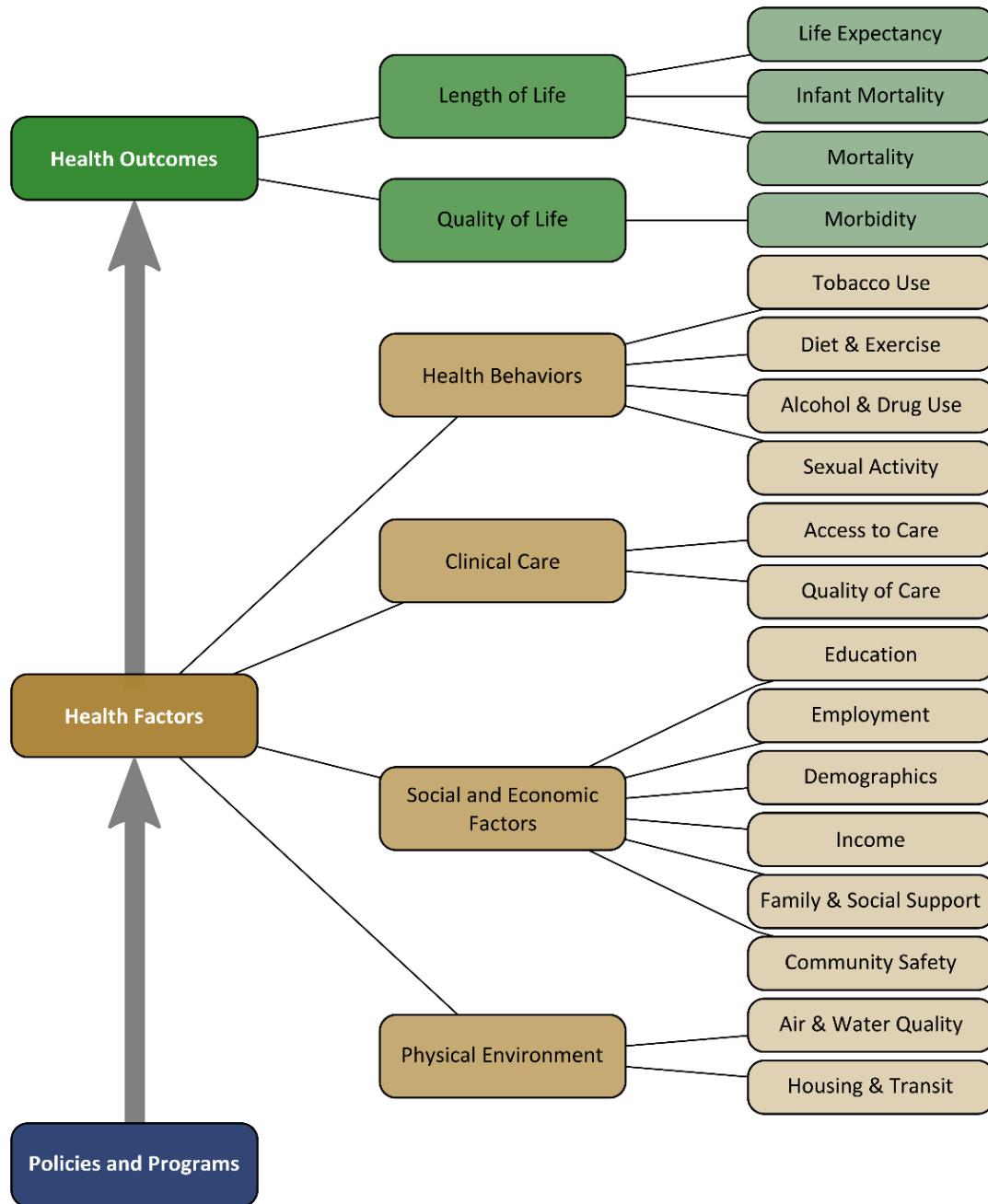
Figure 13: Community Health Assessment Conceptual Model as modified from the County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2015

Process Model

Figure 14 outlines the data collection and analysis stages of the CHNA. The project began by confirming the HSA for SAH for which the CHNA would be conducted. Primary data collection included both key informant and focus-group interviews with community health experts and residents. Initial key informant interviews were used to identify Communities of Concern which are areas or population subgroups within the county experiencing health disparities.
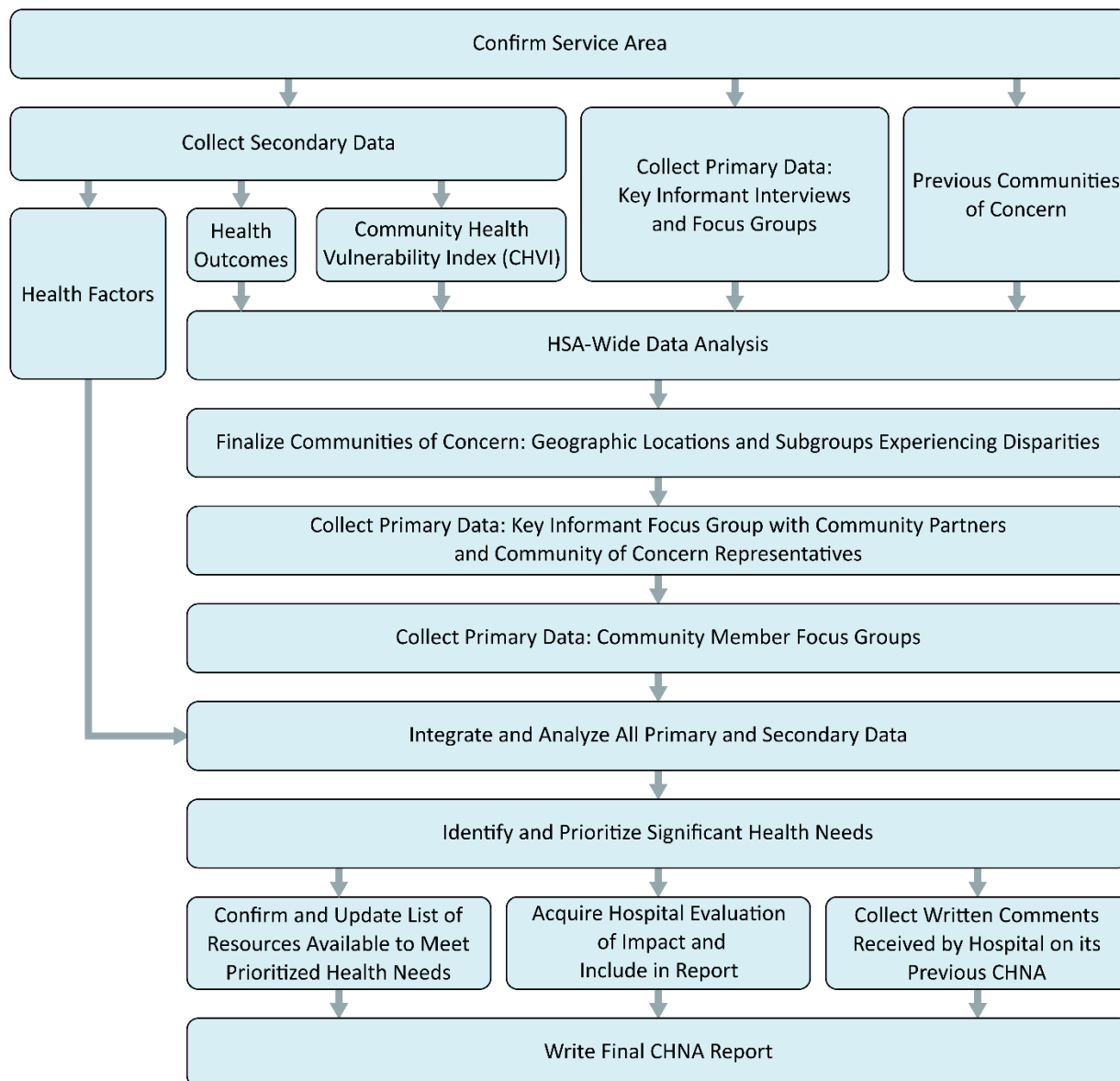
Figure 14: CHNA process model for SAH

Overall primary and secondary data were integrated to identify significant health needs for the HSA. Significant health needs were then prioritized based on analysis of the primary data. Finally, information was collected regarding the resources available within the community to meet the identified health needs. An evaluation of the impact of the hospital's prior efforts was obtained from hospital representatives and written comments on the previous CHNA were gathered and included in the report.

Greater detail on the collection and processing of the secondary and primary data is given in the next two sections. This is followed by a more detailed description of the methodology utilized during the main analytical stages of the process.

Primary Data Collection and Processing

Primary Data Collection

Input from the community was collected through two main mechanisms. First, key Informant interviews were conducted with community health experts and area service providers (i.e., members of social-service nonprofit organizations and related healthcare organizations). These interviews occurred in both one-on-one and in group interview settings. Second, focus groups were conducted with community residents that were identified as populations experiencing disparities.

All participants were given an informed consent form prior to their participation, which provided information about the project and listed the potential benefits and risks for involvement in the interview. All interview data were collected through note taking and, in some instances, recording.

Key Informant Results

Primary data collection with key informants included two phases. First, phase one began by interviewing area-wide service providers with knowledge of the service area, including input from the designated Public Health Department. Data from these area-wide informants, coupled with socio-demographic data, was used to identify additional key informants for the assessment that were included in phase two.

As a part of the interview process, all key informants were asked to identify vulnerable populations. The interviewer asked each participant to verbally explain what vulnerable populations existed in the county. As needed for a visual aid, key informants were provided a map of the HSA to directly point to the geographic locations of these vulnerable communities. Additional key informant interviews were focused on the geographic locations and/or subgroups identified in the earlier phase.

Table 10 contains a listing of community health experts, or key informants, that contributed input to the CHNA. The table describes the name of the represented organization, the number of participants and area of expertise, the populations served by the organization, and the date of the interview.

Table 10: Key Informant List

Organization	# Participants	Area of Expertise	Populations Served	Date
Sutter Amador Hospital Community Advisory Board	25	Multidisciplinary Healthcare and Social-Service Providers	Residents of Amador and Calaveras Counties	3/15/19
Sutter Amador Hospital	1	Healthcare Provider	Residents of Amador County	3/21/19
Suter Amador Hospital and Sutter Plymouth Health Center	2	Healthcare Provider	Residents of Amador County	3/21/19
National Alliance on Mental Illness	2	Mental and Behavior Health	Medically underserved, at risk residents of Amador County	3/25/19

Organization	# Participants	Area of Expertise	Populations Served	Date
First 5 Amador	2	Children and Families	Low income, at risk children including Native American Families in Amador County	3/27/19
Nexus Youth and Family Services / Up Country Family Resource Center	3	Social-service Provider	Low income, at risk residents of Amador County	4/2/19
ARC of Amador	1	Physical and Mental Disabilities	Intellectually disabled, at risk, low income residents in Ione, Jackson and Sutter Creek	4/2/19
Amador Co Veterans Services	6	Veterans and Homeless	Low income, at risk, underserved residents of Amador County	4/5/19
Commission on Aging	4	Senior Services	Senior residents of Amador County	4/5/19
Amador County Health and Human Services	5	Public Health, Social Services, Behavioral Health	Residents of Amador County	4/5/19
WellSpace Health	1	FQHC Healthcare Provider	Low income, at risk residents of Amador County	4/8/19

Key Informant Interview Guide

The following questions served at the interview guide for key informant interviews.

2019 CHNA Group / Key Informant Interview Protocol

1. Briefly, what is your current position and role within your organization?
2. How would you define the communities you serve and live in, as well as the population you serve?
3. What does a healthy environment look like?
4. When thinking about your community in the context of the healthy community you just described, what are the biggest health needs in the community?
5. What have been some emerging issues in the community that may influence health needs?
6. What challenges or barriers exist in the community to being healthy?
7. What are some solutions that can address the barriers and challenges that you have identified?
8. Based on what we have discussed so far, what are currently the most important or urgent top 3 health issues or challenges to address in order to improve the health of the community?
9. What are resources that exist in the community that help your community live healthy lives and address the health issues and inequity we have discussed?
10. Is there anything else you would like to share with our team about the health of the community?

Focus Group Results

Focus group interviews were conducted with community members living in geographic areas of the service area identified as locations or populations experiencing a disparate amount of poor socioeconomic conditions and poor health outcomes. Recruitment consisted of referrals from designated service providers representing vulnerable populations, as well as direct outreach to special population groups.

Table 11 contains a listing of community resident groups that contributed input to the CHNA. The table describes the location of the focus group, the date it occurred, the total number of participants, and demographic information for focus group members.

Table 11: Focus Group List

Location	Date	# Participants	Demographic Information
Amador Senior Center	4/24/19	6	Seniors living in Amador County
Up Country Resource Center	4/24/19	8	Low income, medically underserved, rural residents
First 5 Amador	5/1/19	11	Low income, rural, adult women, ages 20 – mid 30s

Focus Group Interview Guide

2019 CHNA Focus Group Interview Protocol
1. Let's start by introducing ourselves.
2. What do you think that a "healthy environment" is?
3. When thinking about your community based on the healthy environment you just described, what are the biggest health needs in your community?
4. What issues are coming up lately in the community that may influence health needs?
5. What are the challenges or barriers to being healthy in your community?
6. From your perspective, what health services are difficult to access for you and the people you know in your community?
7. What are some solutions that can help solve the barriers and challenges you talked about?
8. Based on what we have discussed so far, what are currently the most important or urgent top 3 health issues or challenges to address to improve the health of the community
   a. Are these needs that have recently come up or have they been around for a long time?
   b. What do you think has changed/stayed the same in the community since 2015 that makes these priorities less/more/equally pressing?
9. What are resources that exist in the community that help your community live healthy lives and address the health issues and inequity we have discussed?
10. Are there certain groups or individuals that you think would be helpful to speak with as we go forward with our Community Health Needs Assessment?
11. Is there anything else you would like to share with our team about the health of the community?

Primary Data Processing

Data were analyzed using NVivo 11 qualitative software. As needed, key informants were also asked to write data directly onto an HSA map for identification of vulnerable populations in the service area. Content analysis included thematic coding to potential health need categories, the identification of

special populations experiencing health issues, and the identification of resources. In some instances, data were coded in accordance to the interview question guide. Results were aggregated to inform the determination of prioritized significant health needs.

Secondary Data Collection and Processing

The secondary data used in the analysis can be thought of as falling into four categories. The first three are associated with the various stages outlined in the process model. These include 1) health outcome indicators, 2) Community Health Vulnerability Index (CHVI) data, and 3) health factor and health outcome indicators used to identify significant health needs. The fourth category of indicators is used to help describe the socioeconomic and demographic characteristics in the service area.

Mortality data at the ZIP Code level from the California Department of Public Health (CDPH) was used to represent health outcomes. U.S. Census Bureau data collected at the tract level was used to create the CHVI. Countywide indicators representing the concepts identified in the conceptual model and collected from multiple data sources were used in the identification of significant health needs. In the fourth category, U.S. Census Bureau data were collected at the state, county, and ZIP Code Tabulation Areas (ZCTA) levels and used to describe general socioeconomic and demographic characteristics in the area. This section details the sources and processing steps applied to the CDPH health outcome data; the U.S. Census Bureau data to create the CHVI; the countywide indicators to identify significant health needs; and sources for the socioeconomic and demographic variables obtained from the U.S. Census Bureau.

CDPH Health Outcome Data

Mortality and birth-related data for each ZIP Code in the service area, as well as for the counties in which it was located, were collected from the California Department of Public Health (CDPH). The specific indicators used are listed in Table 12. To increase the stability of calculated rates for CDPH data, each of these indicators were collected for the years from 2012 to 2016. The specific processing steps used to derive these rates are described below.

Table 12: Mortality and Birth-Related Indicators Used in the CHNA

Indicator	ICD10 Codes
Heart Disease Mortality	I00-I09, I11, I13, I20-I51
Malignant Neoplasms (Cancer) Mortality	C00-C97
Cerebrovascular Disease (Stroke) Mortality	I60-I69
Chronic Lower Respiratory Disease (CLD) Mortality	J40-J47
Alzheimer's Disease Mortality	G30
Unintentional Injuries (Accidents) Mortality	V01-X59, Y85-Y86
Diabetes Mellitus Mortality	E10-E14
Influenza and Pneumonia Mortality	J09-J18
Chronic Liver Disease and Cirrhosis Mortality	K70, K73, K74
Essential Hypertension and Hypertensive Renal Disease Mortality	I10, I13, I15
Intentional Self-Harm (Suicide) Mortality	U03, X60-X84, Y87.0
Nephritis, Nephrotic Syndrome, and Nephrosis (Kidney disease) Mortality	N00-N07, N17-N19, N25-N27
Total Births	
Deaths of Those Under 1 Year	

ZIP Code Definitions

All CDPH indicators used at this stage of the analysis are reported by patient mailing ZIP Codes. ZIP Codes are defined by the U.S. Postal Service as a single location (such as a PO Box), or a set of roads along which addresses are located. The roads that comprise such a ZIP Code may not form contiguous areas and do not match the areas used by the U.S. Census Bureau, which is the main source of population and demographic information in the United States. Instead of measuring the population along a collection of roads, the census reports population figures for distinct, largely contiguous areas. To support the analysis of ZIP Code data, the U.S. Census Bureau created ZIP Code Tabulation Areas (ZCTAs). ZCTAs are created by identifying the dominant ZIP Code for addresses in a given census block (the smallest unit of census data available), and then grouping blocks with the same dominant ZIP Code into a corresponding ZCTA. The creation of ZCTAs allows us to identify population figures that, in combination with the health outcome data reported at the ZIP Code level, make it possible to calculate rates for each ZCTA. However, the difference in the definition between mailing ZIP Codes and ZCTAs has two important implications for analyses of ZIP Code level data.

First, ZCTAs are approximate representations of ZIP Codes rather than exact matches. While this is not ideal, it is nevertheless the nature of the data being analyzed. Second, not all ZIP Codes have corresponding ZCTAs. Some PO Box ZIP Codes or other unique ZIP Codes (such as a ZIP Code assigned to a single facility) may not have enough addressees residing in a given census block to ever result in the creation of a corresponding ZCTA. But residents whose mailing addresses are associated with these ZIP Codes will still show up in reported health outcome data. This means that rates cannot be calculated for these ZIP Codes individually because there are no matching ZCTA population figures.

To incorporate these patients into the analysis, the point location (latitude and longitude) of all ZIP Codes in California[9] were compared to ZCTA boundaries.[10] These unique ZIP Codes were then assigned to either the ZCTA in which they fell or, in the case of rural areas that are not completely covered by ZCTAs, the ZCTA closest to them. The CDPH information associated with these PO Boxes or unique ZIP Codes were then added to the ZCTAs to which they were assigned.

For example, 95654 is a PO Box located in Martell, CA. ZIP Code 95654 is not represented by a ZCTA, but it could have reported patient data. Through the process identified above, it was found that 95654 is located within the 95642 ZCTA. Data for both ZIP Codes 95654 and 95642 were therefore assigned to ZCTA 95642 and used to calculate rates. All ZIP Code level health outcome variables given in this report are therefore reporting approximate rates for ZCTAs, but for the sake of familiarity of terms they are elsewhere presented as ZIP Code rates.

Rate Smoothing

All CDPH indicators were collected for all ZIP Codes in California. To protect privacy, CDPH masked the data for a given indicator if there were 10 or fewer cases reported in the ZIP Code. ZIP Codes with masked values were treated as having NA values reported, while ZIP Codes not included in a given year were assumed to have 0 cases for the associated indicator. As described above, patient records in ZIP Codes not represented by ZCTAs were added to those ZCTAs that they fell inside or were closest to.

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[9] Datasheer, L.L.C. (2018, July 16). *ZIP Code Database Free.* Retrieved from Zip-Codes.com: http://www.Zip-Codes.com

[10] U.S. Census Bureau. (2017). *TIGER/Line Shapefile, 2017, 2010 nation, U.S., 2010 Census 5-Digit ZIP Code Tabulation Area (ZCTA5) National.* Retrieved July 16, 2018, from http://www.census.gov/geo/maps-data/data/tiger-line.html

When consolidating ZIP Codes into ZCTAs, if a PO Box ZIP Code with an NA value was combined with a non–PO Box ZIP Code with a reported value, then the NA value for the PO Box ZIP Code was converted to a 0. Thus, ZCTA values were recorded as NA only if all ZIP Codes contributing values to them had their values masked.

The next step in the analysis process was to calculate rates for each of these indicators. However, rather than calculating raw rates, Empirical Bayes smoothed rates (EBRs) were created for all indicators possible.[11] Smoothed rates are considered preferable to raw rates for two main reasons. First, the small population of many ZCTAs, particularly those in rural areas, meant that the rates calculated for these areas would be unstable. This problem is sometimes referred to as the small-number problem. Empirical Bayes smoothing seeks to address this issue by adjusting the calculated rate for areas with small populations so that they more closely resemble the mean rate for the entire study area. The amount of this adjustment is greater in areas with smaller populations, and less in areas with larger populations.

Because the EBR were created for all ZCTAs in the state, ZCTAs with small populations that may have unstable high rates had their rates "shrunk" to more closely match the overall indicator rate for ZCTAs in the entire state. This adjustment can be substantial for ZCTAs with very small populations. The difference between raw rates and EBRs in ZCTAs with very large populations, on the other hand, is negligible. In this way, the stable rates in large-population ZIP Codes are preserved, and the unstable rates in smaller-population ZIP Codes are shrunk to more closely match the state norm. While this may not entirely resolve the small-number problem in all cases, it does make the comparison of the resulting rates more appropriate. Because the rate for each ZCTA is adjusted to some degree by the EBR process, this also has a secondary benefit of better preserving the privacy of patients within the ZCTAs.

EBRs were calculated for each mortality indicator using the total population figure reported for ZCTAs in the 2014 American Community Survey 5-year Estimates table DP05. Data for 2014 were used because this represented the central year of the 2012–2016 range of years for which CDPH data were collected.

ZCTAs with NA values recorded were treated as having a value of 0 when calculating the overall expected rates for a state during the smoothing process but were kept as NA for the individual ZCTA. This meant that smoothed rates could be calculated for indicators, but if a given ZCTA had a value of NA for a given indicator, it retained that NA value after smoothing.

Empirical Bayes smoothing was attempted for every overall indicator but could not be calculated for some. In these cases, raw rates were used instead. These smoothed or raw mortality rates were then multiplied by 100,000 so that the final rates represented deaths per 100,000 people.

Community Health Vulnerability Index (CHVI)

The CHVI is a healthcare disparity index largely based on the Community Need Index (CNI) developed by Barsi and Roth.[12] The CHVI uses the same basic set of demographic indicators to address healthcare disparities as outlined in the CNI, but these indicators are aggregated in a different manner to create the

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[11] Anselin, L. (2003). *Rate Maps and Smoothing.* Retrieved January 14, 2018 from http://www.dpi.inpe.br/gilberto/tutorials/software/geoda/tutorials/w6_rates_slides.pdf

[12] Barsi, E. L., & Roth, R. (2005). The Community Needs Index. *Health Progress, 86*(4), 32-38. Retrieved from https://www.chausa.org/docs/default-source/health-progress/the-community-need-index-pdf.pdf?sfvrsn=2

CHVI. For this report, the nine indicators were obtained from the 2016 American Community Survey 5-year Estimate dataset at the census tract[13] level and are contained in Table 13.

Table 13: Indicators Used to Create the Community Health Vulnerability Index

Indicator	Description	Source Data Table	Variables Included
Minority	Percentage of the population that is Hispanic or reports at least one race that is not white	B0302	HD01_VD01, HD01_VD03
Limited English	Percentage of the population 5 years or older that speaks English less than "well"	B16004	HD01_DD01, HD01_VD07, HD01_VD08, HD01_VD12, HD01_VD13, HD01_VD17, HD01_VD18, HD01_VD22, HD01_VD23, HD01_VD29, HD01_VD30, HD01_VD34, HD01_VD35, HD01_VD39, HD01_VD40, HD01_VD44, HD01_VD45, HD01_VD51, HD01_VD52, HD01_VD56, HD01_VD57, HD01_VD61, HD01_VD62, HD01_VD66, HD01_VD67
Not a High School Graduate	Percentage of population over 25 that are not high school graduates	S1501	HC02_EST_VC17
Unemployed	Unemployment rate among the population 16 or older	S2301	HC04_EST_VC01
Families with Children in Poverty	Percentage of families with children that are in poverty	S1702	HC02_EST_VC02
Elderly Households in Poverty	Percentage of households with householders 65 years or older that are in poverty	B17017	HD01_VD01, HD01_VD08, HD01_VD14, HD01_VD19, HD01_VD25, HD01_VD30
Single-Female-Headed Households in Poverty	Percentage of single-female-headed households with children that are in poverty	S1702	HC02_EST_VC02
Renters	Percentage of the population in renter-occupied housing units	B25008	HD01_VD01, HD01_VD03
Uninsured	Percentage of population that is uninsured	S2701	HC05_EST_VC01

Each indicator was scaled using a min-max stretch so that the tract with the maximum value for a given indicator within the study area received a value of 1, the tract with the minimum value for that same

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[13] Census tracts are data reporting regions created by the U.S. Census Bureau that roughly correspond to neighborhoods in urban areas but may be geographically much larger in rural locations.

indicator within the study area received a 0, and all other tracts received some value between 0 and 1 proportional to their reported values. All scaled indicators were then summed to form the final CHVI. Areas with higher CHVI values therefore represent locations with relatively higher concentrations of the target index populations and are likely experiencing greater healthcare disparities.

Significant Health Need Identification Dataset

The third set of secondary data used in the analysis were the health factor and health outcome indicators used to identify the significant health needs. The selection of these indicators was guided by the previously identified conceptual model. Table 14 lists these indicators, their sources, the years they were measured, and the health-related characteristics from the conceptual model they are primarily used to represent.

Table 14: Health Factor and Health Outcome Data Used in CHNA, Including Data Source and Time Period in Which the Data Were Collected

Conceptual Model Alignment			Indicator	Data Source	Time Period
Health outcomes	Length of life	Infant mortality	Infant Mortality Rate	CHR*	2010-2016
		Life expectancy	Life Expectancy at Birth	IHME**	2012-2016
		Mortality	Age-adjusted mortality	IHME	2012-2016
			Alzheimer's Disease mortality	CDPH***	2012-2016
			Child mortality	CHR	2013-2016
			Premature Age-Adjusted mortality	CHR	2014-2016
			Premature death (Years of Potential Life Lost)	CHR	2014-2016
			Cerebrovascular Disease (Stroke)	CDPH	2012-2016
			Chronic Lower Respiratory Disease	CDPH	2012-2016
			Diabetes Mellitus	CDPH	2012-2016
			Diseases of the Heart	CDPH	2012-2016
			Essential Hypertension & Hypertensive Renal Disease	CDPH	2012-2016
			Influenza and Pneumonia	CDPH	2012-2016
			Intentional Self Harm (Suicide)	CDPH	2012-2016
			Liver Disease	CDPH	2012-2016
			Malignant Neoplasms (Cancer)	CDPH	2012-2016
			Nephritis, Nephrotic Syndrome and Nephrosis (Kidney Disease)	CDPH	2012-2016
			Unintentional Injuries (Accidents)	CDPH	2012-2016
	Quality of life	Morbidity	Breast Cancer Incidence	California Cancer Registry	2010-2014
			Colorectal Cancer Incidence	California Cancer Registry	2010-2014

Conceptual Model Alignment			Indicator	Data Source	Time Period
			Diabetes Prevalence	CHR	2014
			Disability	Census	2016
			HIV Prevalence Rate	CHR	2015
			Low Birth Weight	CHR	2010-2016
			Lung Cancer Incidence	California Cancer Registry	2010-2014
			Prostate Cancer Incidence	California Cancer Registry	2010-2014
			Poor Mental Health Days	CHR	2016
			Poor Physical Health Days	CHR	2016
Health factors	Health Behavior	Alcohol and drug use	Excessive Drinking	CHR	2016
			Drug Overdose Deaths	CDPH	2014-2016
		Diet and exercise	Adult Obesity	CHR	2014
			Physical Inactivity	CHR	2014
			Limited Access to Healthy Foods	CHR	2015
			Modified Retail Food Environment Index (mRFEI)	Census	2016
			Access to Exercise Opportunities	CHR	2010 population/ 2016 facilities
		Sexual activity	Sexually Transmitted Infections (Chlamydia Rate)	CHR	2015
			Teen Birth Rate	CHR	2010-2016
		Tobacco use	Adult Smoking	CHR	2016
	Clinical care	Access to care	Healthcare Costs	CHR	2015
			Health Professional Shortage Area - Dental	HRSA†	2018
			Health Professional Shortage Area - Mental Health	HRSA	2018
			Heath Professional Shortage Area - Primary Care	HRSA	2018
			Medically Underserved Areas	HRSA	2018
			Mammography Screening	CHR	2014
			Dentists	CHR	2016
			Mental Health Providers	CHR	2017
			Psychiatrists	HRSA	
			Specialty Care Providers	HRSA	
			Primary Care Physicians	CHR	2015

Conceptual Model Alignment			Indicator	Data Source	Time Period
		Quality care	Preventable Hospital Stays (Ambulatory Care Sensitive Conditions)	CHR	2015
	Social & economic/ Demographic factors	Community safety	Homicide Rate	CHR	2010-2016
			Violent Crime Rate	CHR	2012-2014
			Motor Vehicle Crash Death Rate	CHR	2010-2016
		Education	Some College (Post-Secondary Education)	CHR	2012-2016
			High School Graduation	CHR	2014-2015
		Employment	Unemployment	CHR	2016
		Family and social support	Children in Single-Parent Households	CHR	2012-2016
			Social Associations	CHR	2015
		Income	Children Eligible for Free Lunch	CHR	2015-2016
			Children in Poverty	CHR	2016
			Median Household Income	CHR	2016
			Uninsured	CHR	2015
	Physical Environment	Housing and transit	Severe Housing Problems	CHR	2010-2014
			Households with No Vehicle	Census	2012-2016
			Access to Public Transit	Census/ GTSF data	2010,2012-2016,2018
		Air and water quality	Pollution Burden Score	Cal-EnviroScreen	2017
			Air Pollution - Particulate Matter	CHR	2012
			Drinking Water Violations	CHR	2016

* County Health Rankings
** Institute for Health Metrics and Evaluation (IHME). United States Life Expectancy and Age-Specific Mortality Risk by County 1980-2014. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2017.
*** California Department of Public Health
† Health Resources and Services Administration

County Health Rankings Data

All indicators listed with County Health Rankings (CHR) as their source were obtained from the 2018 County Health Rankings[14] dataset. This was the most common source of data, with 38 associated indicators included in the analysis. Indicators were collected at both the county and state levels. County level indicators were used to represent the health factors and health outcomes in the service area. State-level indicators were collected to be used as benchmarks for comparison purposes. All variables included in the CHR dataset were obtained from other data providers. The original data providers for each CHR variable are given in Table 15.

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[14] Robert Wood Johnson Foundation. 2018. *County Health Rankings & Roadmaps.* Available online at: http://www.countyhealthrankings.org/. Accessed July 10, 2018.

Table 15: County Health Rankings Dataset, Including Indicators, the Time Period the Data Were Collected, and the Original Source of the Data

CHR Indicator	Time Period	Original Data Provider
Premature Death (Years of Potential Life Lost)	2014–2016	National Center for Health Statistics - Mortality Files
Diabetes Prevalence	2014	CDC Diabetes Interactive Atlas
HIV Prevalence Rate	2015	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Low Birth Weight	2010–2016	National Center for Health Statistics - Natality Files
Poor Mental Health Days	2016	Behavioral Risk Factor Surveillance System
Poor Physical Health Days	2016	Behavioral Risk Factor Surveillance System
Excessive Drinking	2016	Behavioral Risk Factor Surveillance System
Adult Obesity	2014	CDC Diabetes Interactive Atlas
Physical Inactivity	2014	CDC Diabetes Interactive Atlas
Limited Access to Healthy Foods	2015	USDA Food Environment Atlas
Access to Exercise Opportunities	2010 population/ 2016 facilities	Business Analyst, Delorme Map Data, ESRI, & U.S. Census Tiger Line Files
Sexually Transmitted Infections (Chlamydia Rate)	2015	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Teen Birth Rate	2010–2016	National Center for Health Statistics - Natality Files
Adult Smoking	2016	Behavioral Risk Factor Surveillance System
Healthcare Costs	2015	Dartmouth Atlas of Healthcare
Mammography Screening	2014	Dartmouth Atlas of Healthcare
Dentists	2016	Area Health Resource File/National Provider Identification File
Mental Health Providers	2017	CMS, National Provider Identification
Primary Care Physicians	2015	Area Health Resource File/American Medical Association
Preventable Hospital Stays (Ambulatory Care Sensitive Conditions)	2015	Dartmouth Atlas of Healthcare
Homicide Rate	2010–2016	CDC WONDER Mortality Data
Violent Crime Rate	2012–2014	Uniform Crime Reporting - FBI
Motor Vehicle Crash Death Rate	2010–2016	CDC WONDER Mortality Data
Some College (Postsecondary Education)	2012–2016	American Community Survey, 5-Year Estimates
High School Graduation	2014–2015	California Department of Education
Unemployment	2016	Bureau of Labor Statistics Local Area Unemployment Statistics
Children in Single-Parent Households	2012–2016	ACS 5-Year Estimates
Social Associations	2015	County Business Patterns

CHR Indicator	Time Period	Original Data Provider
Children Eligible for Free Lunch	2015–2016	National Center for Education Statistics
Children in Poverty	2016	U.S. Census Bureau Small Area Income and Poverty Estimates
Median Household Income	2016	U.S. Census Bureau Small Area Income and Poverty Estimates
Uninsured	2015	U.S. Census Bureau Small Area Health Insurance Estimates
Severe Housing Problems	2010–2014	HUD Comprehensive Housing Affordability Strategy (CHAS) Data
Air Pollution - Particulate Matter	2012	CDC's National Environmental Public Health Tracking Network
Drinking Water Violations	2016	Safe Drinking Water Information System

California Department of Public Health Data

The next most common source of health outcome and health factor variables used for health need identification was the California Department of Public Health (CDPH). These included the same by-cause mortality rates as those described previously. But in this case, they were calculated at the county level to represent health conditions in the county and at the state level to be used as comparative benchmarks. CDPH County level rates were smoothed using the same process described previously. State-level rates were not smoothed.

Drug overdose death rates were also obtained from CDPH. This indicator reports age-adjusted drug-induced death rates for counties and the state from 2014 to 2016 as reported in the 2018 County Health Status Profiles.[15]

HRSA Data

Indicators related to the availability of healthcare providers were obtained from the Health Resources and Services Administration[16] (HRSA). These included Dental, Mental Health, and Primary Care Health Professional Shortage Areas and Medically Underserved Areas/Populations. They also included the number of specialty care providers and psychiatrists per 100,000 residents, derived from the county level Area Health Resource Files.

The health professional shortage area and medically underserved area data were not provided at the county level. Rather, they show all areas in the state that were designated as shortage areas. These areas could include a portion of a county or an entire county, or they could span multiple counties. To develop measures at the county level to match the other health factor and health outcome indicators used in health need identification, these shortage areas were compared to the boundaries of each county in the state. Counties that were partially or entirely covered by a shortage area were noted.

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[15] California Department of Public Health. (2018). *County Health Status Profiles 2018*. Retrieved October 23, 2018 from https://www.cdph.ca.gov/Programs/CHSI/Pages/County-Health-Status-Profiles.aspx

[16] Health Resources and Services Administration. (2018). *Data Downloads*. Retrieved June 19 and August 1, 2018 from https://data.hrsa.gov/data/download

The HRSA's Area Health Resource Files provide information on physicians and allied healthcare providers for U.S. counties. This information was used to determine the rate of specialty care providers and the rate of psychiatrists for each county and for the state. For the purposes of this analysis, a specialty care provider was defined as a physician who was not defined by the HRSA as a primary care provider. This was found by subtracting the total number of primary care physicians (both MDs and DOs, primary care, patient care, and nonfederal, excluding hospital residents and those 75 years of age or older) from the total number of physicians (both MDs and DOs, patient care, nonfederal) in 2015. This number was then divided by the 2015 total population given in the 2015 American Community Survey 5-year Estimates table B01003, and then multiplied by 100,000 to give the total number of specialty care physicians per 100,000 residents. The total of specialty care physicians in each county was summed to find the total specialty care physicians in the state, and state rates were calculated following the same approach as used for county rates. This same process was also used to calculate the number of psychiatrists per 100,000 for each county and the state using the number of total patient care, nonfederal psychiatrists from the Area Health Resource Files. It should be noted that psychiatrists are included in the list of specialty care physicians, so that indicator represents a subset of specialty care providers rather than a separate group.

California Cancer Registry

Data obtained from the California Cancer Registry[17] included age-adjusted incidence rates for colon and rectum, female breast, lung and bronchus, and prostate cancer sites for counties and the state. Reported rates were based on data from 2010 to 2014, and report cases per 100,000. For low-population counties, rates were calculated for a group of counties rather than for individual counties. That group rate was used in this report to represent incidence rates for each individual county in the group.

Census Data

Data from the U.S. Census Bureau were used to calculate three additional indicators: the percentage of households with no vehicle available, the percentage of the civilian noninstitutionalized population with some disability, and the Modified Retail Food Environment Index (mRFEI). The sources for the indicators used are given in Table 16.

Table 16: Detailed Description of Data Used to Calculate Percentage of Population with Disabilities, Households without a Vehicle, and the mRFEI

Indicator	Source Data Table	Variable	NAICS Code	Employee Size Category	Data Source
Percentage with Disability	S1810	HC03_EST_VC01			2016 American Community Survey 5-Year Estimates
Households with No Vehicle Available	DP04	HC03_VC85			
Large Grocery Stores	BP_2016_00A3	Number of Establishments	445110	10 or More Employees	

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[17] California Cancer Registry. (2018). *Age-Adjusted Invasive Cancer Incidence Rates in California*. Retrieved May 11, 2018 from https://www.cancer-rates.info/ca/

Indicator	Source Data Table	Variable	NAICS Code	Employee Size Category	Data Source
Fruit and Vegetable Markets	BP_2016_00A3	Number of Establishments	445230	All Establishments	2016 County Business Patterns
Warehouse Clubs	BP_2016_00A3	Number of Establishments	452910	All Establishments	
Small Grocery Stores	BP_2016_00A3	Number of Establishments	445110	1 to 4 Employees	
Limited-Service Restaurants	BP_2016_00A3	Number of Establishments	722513	All Establishments	
Convenience Stores	BP_2016_00A3	Number of Establishments	445120	All Establishments	

The mRFEI indicator reports the percentage of the total food outlets in a ZCTA that are considered healthy food outlets. The mRFEI indicator was calculated using a modification of the methods described by the National Center for Chronic Disease Prevention and Health Promotion[18] using data obtained from the U.S. Census Bureau's 2016 County Business Pattern datasets.

Healthy food retailers were defined based on North American Industrial Classification Codes (NAICS), and included large grocery stores, fruit and vegetable markets, and warehouse clubs.
Food retailers that were considered less healthy included small grocery stores, limited-service restaurants, and convenience stores.

To calculate the mRFEI, the total number of health food retailers was divided by the total number of healthy and less healthy food retailers, and the result was multiplied by 100 to calculate the final mRFEI value for each county and for the state.

CalEnviroScreen Data
CalEnviroScreen[19] is a dataset produced by CalEPA. It includes multiple indicators associated with various forms of pollution for census tracts within the state. These include multiple measures of air and water pollution, pesticides, toxic releases, traffic density, cleanup sites, groundwater threats, hazardous waste, solid waste, and impaired bodies of water. One indicator, pollution burden, combines all these measures to generate an overall index of pollution for each tract. To generate a county level pollution-burden measure, the percentage of the population residing in census tracts with pollution-burden scores greater than or equal to the 50th percentile was calculated for each county as well as for the state.

Google Transit Feed Specification (GTFS) Data
The final indicator used to identify significant health needs was proximity to public transportation. This indicator reports the percentage of a county's population that lives in a census block located within a

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[18] National Center for Chronic Disease Prevention and Health Promotion. (2011). *Census Tract Level State Maps of the Modified Retail Food Environment Index (mRFEI).* Centers for Disease Control. Retrieved Jan 11, 2016, from http://ftp.cdc.gov/pub/Publications/dnpao/census-tract-level-state-maps-mrfei_TAG508.pdf
[19] CalEPA. 2018. CalEnviroscreen 3.0 Shapefile. Available online at: https://data.ca.gov/dataset/calenviroscreen-30. Last accessed: May 26, 2018.

quarter mile of a fixed transit stop. Census block data from 2010 (the most recent year available) was used to measure population.

An extensive search was conducted to identify stop locations for transportation agencies in the service area. Many transportation agencies publish their route and stop locations using the standard GTFS data format. Listings for agencies covering the service area were reviewed at TransitFeeds (https://transitfeeds.com) and Trillium (https://trilliumtransit.com/gtfs/our-work/). These were compared to the list of feeds used by Google Maps (https://www.google.com/landing/transit/cities/index.html#NorthAmerica) to try to maximize coverage.

Table 17 notes the agencies for which transit stops could be obtained. It should be noted that while every attempt was made to include as comprehensive a list of data sources as possible, there may be transit stops associated with agencies not included in this list in the county. Caution should therefore be used in interpreting this indicator.

Table 17: Transportation Agencies Used to Compile the Proximity to Public Transportation Indicator

County	Agency
San Joaquin	San Joaquin RTD, Lodi Grapeline, Escalon eTrans. Also includes Altamont Corridor Express.
El Dorado County	El Dorado Transit
Sacramento County	SacRT, Elk Grove e-Trans, Folsom Stage Line (doesn't include South County Transit)
Calaveras	Calaveras Transit
Amador	Amador Transit

Descriptive Socioeconomic and Demographic Data

The final secondary dataset used in this analysis was comprised of multiple socioeconomic and demographic indicators collected at the ZCTA, county, and state level. These data were not used in an analytical context. Rather, they were used to provide a description of the overall population characteristics within the county. Table 18 lists each of these indicators as well as their sources.

Table 18: Descriptive Socioeconomic and Demographic Data Descriptions

Indicator	Description	Source Data Table	Variables Included
Population	Total population	DP05	HC01_VC03
Minority	Percentage of the population that is Hispanic or reports at least one race that is not white	B0302	HD01_VD01, HD01_VD03
Median Age	Median age of the population	DP05	HC01_VC23
Median Income	Median household income	S2503	HC01_EST_VC14
Poverty	Percentage of population below the poverty level	S1701	HC03_EST_VC01
Unemployed	Unemployment rate among the population 16 or older	S2301	HC04_EST_VC01
Uninsured	Percentage of population without health insurance	S2701	HC05_EST_VC01

Indicator	Description	Source Data Table	Variables Included
Not a High School Graduate	Percentage of population over 25 that are not high school graduates	S1501	HC02_EST_VC17
High Housing Costs	Percentage of the population for whom total housing costs exceed 30% of income	S2503	HC01_EST_VC33, HC01_EST_VC37, HC01_EST_VC41, HC01_EST_VC45, HC01_EST_VC49
Disability	Percentage of civilian noninstitutionalized population with a disability	S1810	HC03_EST_VC01

Detailed Analytical Methodology

The collected and processed primary and secondary data were integrated in three main analytical stages. First, secondary health outcome and health factor data were combined with area-wide key informant interviews help identify Communities of Concern. These Communities of Concern could potentially include geographic regions as well as specific sub-populations bearing disproportionate health burdens. This information was used to focus the remaining interview and focus-group collection efforts on those areas and subpopulations. Next, the resulting data was combined with secondary health need identification data to identify significant health needs within the service area. Finally, primary data was used to prioritize those identified significant health needs. The specific details for these analytical steps are given in the following three sections.
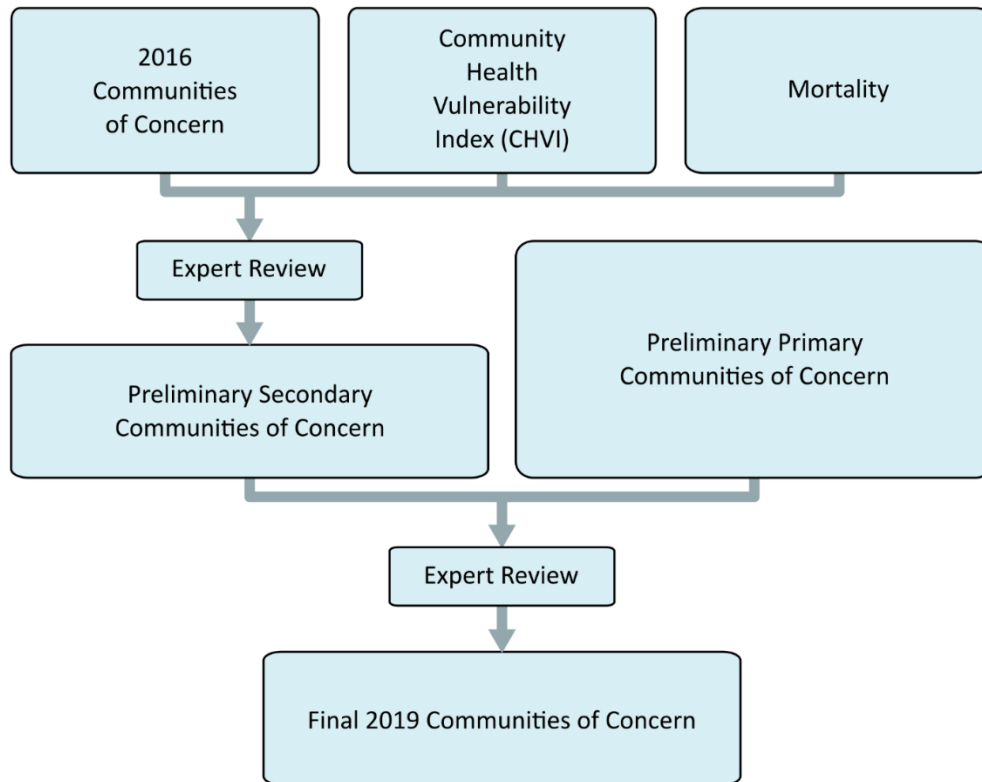
Community of Concern Identification

Figure 15: Process followed to identify Communities of Concern

As illustrated in Figure 15, the 2019 Communities of Concern were identified through a process that drew upon both primary and secondary data. Three main secondary data sources were used in this analysis: Communities of Concern identified in the 2016 CHNA; the census tract-level Community Health Vulnerability Index (CHVI); and the CDPH ZCTA-level mortality data.

An evaluation procedure was developed for each of these datasets and applied to each ZCTA within the HSA. The following secondary data selection criteria were used to identify preliminary Communities of Concern.

2016 Community of Concern
The ZCTA was included in the 2016 CHNA Community of Concern list for the HSA. This was done to allow greater continuity between CHNA rounds and reflects the work of the hospital systems oriented to serve these disadvantaged communities.

Community Health Vulnerability Index (CHVI)
The ZCTA intersected a census tract whose CHVI value fell within the top 20% of the HSA. These census tracts represent areas with consistently high concentrations of demographic subgroups identified in the research literature as being more likely to experience health-related disadvantages.

Mortality

The review of ZCTAs based on mortality data utilized the ZCTA-level CDPH health outcome indicators described previously. These indicators were heart disease, cancer, stroke, CLD, Alzheimer's disease, unintentional injuries, diabetes, influenza and pneumonia, chronic liver disease, hypertension, suicide, and kidney disease mortality rates per 100,000 people, and infant mortality rates per 1,000 live births. The number of times each ZCTA's rates for these indicators fell within the top 20% in the HSA was counted. Those ZCTAs whose counted values exceeded the 80th percentile for all the ZCTAs in the HSA met the Community of Concern mortality selection criteria.

Integration of Secondary Criteria

Any ZCTA that met any of the three selection criteria (2016 Community of Concern, CHVI, and Mortality) was reviewed for inclusion as a 2019 Community of Concern, with greater weight given to those ZCTAs meeting two or more of the selection criteria. An additional round of expert review was applied to determine if any other ZCTAs not thus far indicated should be included based on some other unanticipated secondary data consideration. This list then became the final Preliminary Secondary Communities of Concern.

Preliminary Primary Communities of Concern

Preliminary primary Communities of Concern were identified by reviewing the geographic locations or population subgroups that were consistently identified by the area-wide primary data sources.

Integration of Preliminary Primary and Secondary Communities of Concern

Any ZCTA that was identified in either the Preliminary Primary or Secondary Community of Concern list was considered for inclusion as a 2019 Community of Concern. An additional round of expert review was then applied to determine if, based on any primary or secondary data consideration, any final adjustments should be made to this list. The resulting set of ZCTAs was then used as the final 2019 Communities of Concern.

Significant Health Need Identification

The general methods through which significant health needs (SHNs) were identified are shown in Figure 16 and described here in greater detail. The first step in this process was to identify a set of potential health needs (PHNs) from which significant health needs could be selected. This was done by reviewing the health needs identified during the 2016 CHNA among various hospitals throughout northern California and then supplementing this list based on a preliminary analysis of the primary qualitative data collected for the 2019 CHNA. This resulted in a list of 10 PHNs shown in Table 19.
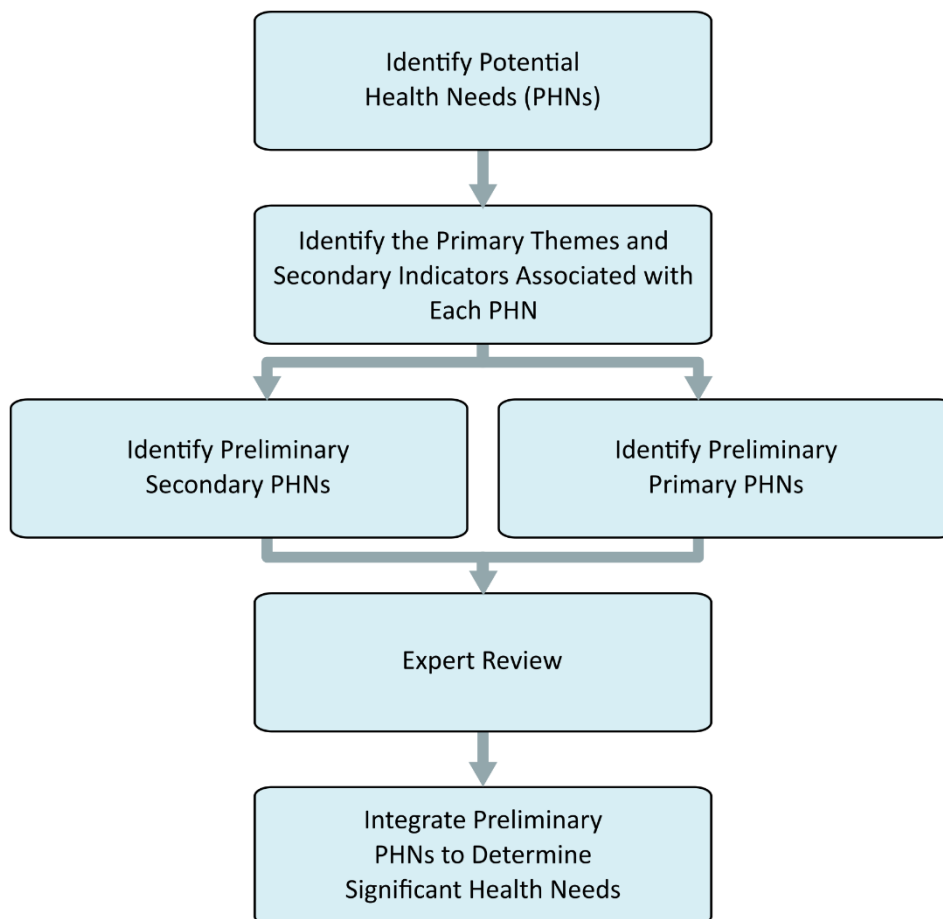
Figure 16: Process followed to identify Significant Health Needs

Table 19: Potential Health Needs

2019 Potential Health Needs (PHNs)	
PHN1	Access to Mental/Behavioral/Substance-Abuse Services
PHN2	Access to Quality Primary Care Health Services
PHN3	Active Living and Healthy Eating
PHN4	Safe and Violence-Free Environment
PHN5	Access to Dental Care and Preventive Services
PHN6	Pollution-Free Living Environment
PHN7	Access to Basic Needs such as Housing, Jobs, and Food
PHN8	Access and Functional Needs
PHN9	Access to Specialty and Extended Care
PHN10	Injury and Disease Prevention and Management

The next step in the process was to identify primary themes and secondary indicators associated with each of these health needs as shown in Table 20. Primary theme associations were used to guide coding of the primary data sources to specific PHNs.

Table 20: Primary Theme and Secondary Indicators Used to Identify Significant Health Needs

Health Need Number	2019 CHI Potential Health Needs	2019 CHI Secondary Indicators	Primary Indicators
PHN1	Access to Mental/ Behavioral/ Substance-Abuse Services	• Liver Disease Mortality • Suicide Mortality • Poor Mental Health Days • Poor Physical Health Days • Drug Overdose Deaths • Excessive Drinking • Health Professional Shortage Area – Mental Health • Mental Health Providers • Psychiatrists • Social Associations	• Self-Injury • Mental Health and Coping Issues • Substance Abuse • Smoking • Stress • Mentally Ill and Homeless • PTSD • Access to Psychiatrist • Homelessness
PHN2	Access to Quality Primary Care Health Services	• Cancer Mortality • Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Influenza and Pneumonia Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Breast Cancer Incidence • Colorectal Cancer Incidence • Diabetes Prevalence • Low Birth Weight • Lung Cancer Incidence • Prostate Cancer Incidence • Healthcare Costs • Health Professional Shortage Area – Primary Care • Medically Underserved Areas • Mammography Screening • Primary Care Physicians • Preventable Hospital Stays • Percentage Uninsured	• Issue of Quality of Care • Access to Care • Health Insurance • Care for Cancer/Cancer Occurrence • Indicators in PQI: Diabetes, COPD, CRLD, HTN, HTD, Asthma, Pneumonia

Health Need Number	2019 CHI Potential Health Needs	2019 CHI Secondary Indicators	Primary Indicators
PHN3	Active Living and Healthy Eating	• Cancer Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Kidney Disease Mortality • Stroke Mortality • Breast Cancer Incidence • Colorectal Cancer Incidence • Diabetes Prevalence • Prostate Cancer Incidence • Limited Access to Healthy Foods • mRFEI • Access to Exercise Opportunities • Physical Inactivity • Adult Obesity	• Food Access/Insecurity • Community Gardens • Fresh Fruits and Veggies • Distance to Grocery Stores • Food Swamps • Chronic Disease Outcomes Related to Poor Eating • Diabetes, HTD, HTN, Stroke, Kidney issues, Cancer • Access to Parks • Places to be Active
PHN4	Safe and Violence-Free Environment	• Poor Mental Health Days • Homicide Rate • Motor Vehicle Crash Death Rate • Violent Crime Rate • Social Associations	• Crime Rates • Violence in The Community • Feeling Unsafe in The Community • Substance Abuse-Alcohol and Drugs • Access to Safe Parks • Pedestrian Safety • Safe Streets • Safe Places to Be Active
PHN5	Access to Dental Care and Preventive Services	• Dentists • Health Professional Shortage Area – Dental	• Any Issues Related to Dental Health • Access to Dental Care
PHN6	Pollution-Free Living Environment	• Cancer Mortality • Chronic Lower Respiratory Disease Mortality • Breast Cancer Incidence • Colorectal Cancer Incidence • Lung Cancer Incidence • Prostate Cancer Incidence • Adult Smoking • Air Pollution – Particulate Matter • Drinking Water Violations • Pollution Burden	• Smoking • Unhealthy Air, Water, Housing • Health Issues: Asthma, COPD, CLRD, Lung Cancer

Health Need Number	2019 CHI Potential Health Needs	2019 CHI Secondary Indicators	Primary Indicators
PHN7	Access to Basic Needs Such as Housing, Jobs, and Food	• Premature Age-Adjusted Mortality • Premature Death (Years of Potential Life Lost) • Low Birth Weight • Medically Underserved Areas • Healthcare Costs • High School Graduation • Some College (Postsecondary Education) • Unemployment • Children in Single-Parent Household • Social Associations • Children Eligible for Free or Reduced Lunch • Children in Poverty • Median Household Income • Uninsured • Severe Housing Problems • Households with No Vehicle • mRFEI • Limited Access to Healthy Food	• Employment and Unemployment • Poverty • Housing Issues • Homelessness • Education Access • Community Quality of Life • Housing Availability • Housing Affordability
PHN8	Access and Functional Needs	• Access to Public Transportation • Households with no Vehicle • Percentage of Population with a Disability	• Physical Access Issues • Cost of Transportation • Ease of Transportation Access • No Car • Disability
PHN9	Access to Specialty and Extended Care	• Alzheimer's Mortality • Cancer Mortality • Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Diabetes Prevalence • Lung Cancer Incidence • Psychiatrists • Specialty Care Providers • Preventable Hospital Stays	• Seeing a Specialist for Health Conditions • Diabetes-Related Specialty Care • Specialty Care for HTD, HTN, Stroke, Kidney Diseases

Health Need Number	2019 CHI Potential Health Needs	2019 CHI Secondary Indicators	Primary Indicators
PHN10	Injury and Disease Prevention and Management	• Alzheimer's Mortality • Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Influenza and Pneumonia Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Suicide Mortality • Unintentional Injury Mortality • Diabetes Prevalence • HIV Prevalence Rate • Low Birth Weight • Drug Overdose Deaths • Excessive Drinking • Adult Obesity • Physical Inactivity • Sexually Transmitted Infections • Teen Birth Rate • Adult Smoking • Motor Vehicle Crash Death Rate	• Anything Related to Helping Prevent a Preventable Disease or Injury • Unintentional Injury • Smoking and Alcohol/Drug Abuse • Teen Pregnancy • HIV/STD • TB • Influenza and Pneumonia • Health Classes • Health Promotion Teams and Interventions • Need for Health Literacy

Next, values for the secondary health factor and health outcome indicators identified were compared to state benchmarks to determine if a secondary indicator performed poorly within the county. Some indicators were considered problematic if they exceeded the benchmark, others were considered problematic if they were below the benchmark, and the presence of certain other indicators within the county, such as health professional shortage areas, indicated issues. Table 21 lists each secondary indicator and describes the comparison made to the benchmark to determine if it was problematic.

Table 21: Benchmark Comparisons to Show Indicator Performance

Indicator	Benchmark Comparison Indicating Poor Performance
Infant Mortality	Higher
Child Mortality	Higher
Life Expectancy	Lower
Age-Adjusted Mortality	Higher
Premature Age-Adjusted Mortality	Higher
Years of Potential Life Lost	Higher
Stroke Mortality	Higher

Indicator	Benchmark Comparison Indicating Poor Performance
CLD Mortality	Higher
Diabetes Mortality	Higher
Heart Disease Mortality	Higher
Hypertension Mortality	Higher
Cancer Mortality	Higher
Liver Disease Mortality	Higher
Kidney Disease Mortality	Higher
Suicide Mortality	Higher
Unintentional Injury Mortality	Higher
Alzheimer's Mortality	Higher
Influenza and Pneumonia Mortality	Higher
Diabetes Prevalence	Higher
Low Birth Weight	Higher
HIV Prevalence	Higher
Percentage with Disability	Higher
Poor Mental Health Days	Higher
Poor Physical Health Days	Higher
Cancer Female Breast	Higher
Cancer Colon and Rectum	Higher
Cancer Lung and Bronchus	Higher
Cancer Prostate	Higher
Excessive Drinking	Higher
Drug Overdose Deaths	Higher
Adult Obesity	Higher
Physical Inactivity	Higher
Limited Access to Healthy Food	Higher
mRFEI	Lower
Access to Exercise	Lower
STI Chlamydia Rate	Higher
Teen Birth Rate	Higher
Adult Smokers	Higher
Health Care Costs	Higher
HPSA Dental Health	Present
HPSA Mental Health	Present
HPSA Primary Care	Present
HPSA Medically Underserved Area	Present
Mammography Screening	Lower
Dentists	Lower
Mental Health Providers	Lower
Psychiatry Providers	Lower

Indicator	Benchmark Comparison Indicating Poor Performance
Specialty Care Providers	Lower
Primary Care Physicians	Lower
Preventable Hospital Stays	Higher
Homicides	Higher
Violent Crimes	Higher
Motor Vehicle Crash Deaths	Higher
Some College	Lower
High School Graduation	Lower
Unemployed	Higher
Children with Single Parents	Higher
Social Associations	Lower
Free and Reduced Lunch	Higher
Children in Poverty	Higher
Median Household Income	Lower
Uninsured	Higher
Severe Housing Problems	Higher
Housing Units With No Vehicle	Higher
Public Transit Proximity	Lower
Pollution Burden	Higher
Air Particulate Matter	Higher
Drinking Water Violations	Present

Once these poorly performing quantitative indicators were identified, they were used to identify preliminary secondary significant health needs. This was done by calculating the percentage of all secondary indicators associated with a given PHN that were identified as performing poorly within the HSA. While all PHNs represented actual health needs within the HSA to a greater or lesser extent, a PHN was considered a preliminary secondary health need if the percentage of poorly performing indicators exceeded one of a number of established thresholds: any poorly performing associated secondary indicators; or at least 20%, 25%, 33%, 40%, 50%, 60%, 66%, 75%, or 80% of the associated indicators were found to perform poorly. These thresholds were chosen because they correspond to divisions of the indicators into fifths, quarters, thirds, or halves. A similar set of standards was used to identify the preliminary interview and focus-group health needs: any of the survey respondents mentioned a theme associated with a PHN, or if at least 20%, 25%, 33%, 40%, 50%, 60%, 66%, 75%, or 80% of the respondents mentioned an associated theme.

These sets of criteria (any mention, 20%, 25%, 33%, 40%, 50%, 60%, 66%, 75%, or 80%) were used because we could not anticipate which specific standard would be most meaningful within the context of the HSA. Having multiple objective decision criteria allows the process to be more easily described but still allows for enough flexibility to respond to evolving conditions in the HSA. To this end, a final round of expert reviews was used to compare the set selection criteria to find the level at which the criteria converged towards a final set of SHNs. Once the final criteria used to identify the SHN were

selected for the primary and secondary analyses, any PHN included in either preliminary health need list was included as a final significant health need for the county.

For this report, A PHN was selected as a significant health need if 50% of the associated quantitative indicators were identified as performing poorly or the need was identified by 50% or more of the primary sources as performing poorly.

Health Need Prioritization

Once identified for the area, the final set of SHNs was prioritized. To reflect the voice of the community, significant health need prioritization was based solely on primary data. Key informants and focus-group participants were asked to identify the three most significant health needs in their communities. These responses were associated with one or more of the potential health needs. This, along with the responses across the rest of the interviews and focus groups, was used to derive two measures for each significant health need.

First, the total percentage of all primary data sources that mentioned themes associated with a significant health need at any point was calculated. This number was taken to represent how broadly a given significant health need was recognized within the community. Next, the percentage of times a theme associated with a significant health was mentioned as one of the top three health needs in the community was calculated. Since primary data sources were asked to prioritize health needs in this question, this number was taken to represent the intensity of the need.

These two measures were next rescaled so that the SHN with the maximum value for each measure equaled one, the minimum equaled zero, and all other SHNs had values appropriately proportional to the maximum and minimum values. The rescaled values were then summed to create a combined SHN prioritization index. SHNs were ranked in descending order based on this index value so that the SHN with the highest value was identified as the highest-priority health need, the SHN with the second highest value was identified as the second-highest-priority health need, and so on.

Detailed List of Resources to Address Health Needs

Table 22: Detailed List of Resources Potentially Available to Address Significant Health Needs Identified in the CHNA

Organization Information			Significant Health Need Met (X)						
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Access to Dental Care and Preventive Services	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Functional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Mgmt.
Amador Calaveras Counseling Services	95685	http://amador.networkofcare.org/mh/services/agency.aspx?pid=AmadorCalaverasCounselingServices_166_2_0	X						
Amador Child Abuse Prevention Council	95642	http://www.amadorcapc.org	X						
Amador Child Care Council	95642	http://www.first5amador.com/quality-child-care				X			X
Amador College Connect	95642	https://amadorcollegeconnect.org				X			
Amador Community Health Center - WellSpace Health	95842	https://www.wellspacehealth.org/location/amador-community-health-center-immediate-care	X	X	X				
Amador County Behavioral Health	County-wide	https://www.amadorgov.org/services/behavioral-health/	X						
Amador County Network of Care (web only)	County-wide	http://amador.networkofcare.org/mh/	X	X	X	X	X	X	X
Amador County Public Health	County-wide	https://www.amadorgov.org/services/public-health		X					X
Amador County Unified School District	County-wide	https://www.amadorcoe.org/	X			X			
Amador Pregnancy Help Center	95642	https://amadorpregnancyhelpcenter.com	X					X	
Amador RIDES	95642	http://amadortransit.com/amador-rides/					x		

Organization Information			Significant Health Need Met (X)						
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Access to Dental Care and Preventive Services	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Functional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Mgmt.
Amador Senior Center	95642	https://amadorseniorcenter.org	X			X	X	
Amador Smile Keepers (First 5 Oral Health)	95642	https://www.first5amador.com/health-wellness			X				
Amador STARS	95642	http://www.amadorstars.org/					x	x	
Amador Transit/Dial-A-Ride	95642	http://amadortransit.com					X		
Amador-Tuolumne Community Action Agency (A-TCAA)	95642	http://atcaa.org/early-childhood-svs				x			x
A-TCAA Early Head Start/Head Start/State Preschool	95642, 95640	http://atcaa.org/atcaa-programs/early-childhood-services/				x			x
Church of the Nazarene	95685	http://www.scnaz.org/	x			x			
City of Jackson, Mayor's Office	95642	https://ci.jackson.ca.us/				X			
Commission on Aging	County -wide	http://amadorelders.org/				X	X		
First 5 Amador	95642	http://www.first5amador.com				x			x
Hospice of Amador and Calaveras Counties -- Grief Busters	95642	http://www.hospiceofamador.org/griefbusters	x			x			
Interfaith Food Bank	95642	http://www.feedamador.org				x			x

Organization Information			Significant Health Need Met (X)						
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Access to Dental Care and Preventive Services	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Functional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Mgmt.
Ione Community Methodist Church	95640	http://www.umc.org/how-we-serve/four-areas-of-focus-overview	X			X			
MACT Clinic	95642	http://www.macthealth.org/	X	X					
MACT Dental Clinic	95642	www.macthealth.org/mact-health-dental-clinics/jackson-dental-clinic			x				
Mother Lode Job Training	95685	http://mljt.org				X			
Nexus Youth and Family Services -- Camanche Lake Community Center	95640	www.nexusyfs.org				X			
Nexus Youth and Family Services -- Ione Family Resource Center	95640	www.nexusyfs.org				X			X
Nexus Youth and Family Services -- Upcountry Community Center	95665	www.nexusyfs.org				X			x
Operation Care	95642	http://operationcare.org/				X			X
Sierra Hope	95222	http://www.sierrahope.org/							X
Sierra Wind Wellness and Recovery Center	95642	www.norcalmha.org/amador-county	X			X			X
Society of St. Vincent de Paul	95689	www.stkatherinedrexal.com				X			
Sutter Amador Hospital	95642	http://www.sutteramador.org/	X	X		X			X

Organization Information			Significant Health Need Met (X)						
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Access to Dental Care and Preventive Services	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Functional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Mgmt.
Sutter Amador Hospital Foundation	County-wide	https://www.sutterhealth.org/amador/ways-to-give/philanthropy				X		X	X
Sutter Creek Smiles	95685	http://www.suttercreeksmiles.org			X				
The Arc of Amador and Calaveras Counties	95642	http://www.arcofamador.org				X	X	X	
The Resource Connection	95685	http://trcac.org				X	X		
Tribal TANF	95642	http://cttp.net/about/office-locations/				X			
UC Cooperative Extension - Central Sierra	95616	www.cecentralsierra.ucanr.edu				X			
Victory Village	95642	http://victoryvillageamador.org	X			X			X
Women Infants and Children Program	95685	http://www.trcac.org/programs/wic				X			X

Limits and Information Gaps

Study limitations included challenges obtaining secondary quantitative data and assuring community representation via primary qualitative data collection. For example, most of the data used in this assessment were not available by race/ethnicity. The timeliness of the data also presented a challenge, as some of the data were collected in different years; however, this is clearly noted in the report to allow for proper comparison.

As always with primary data collection, gaining access to participants that best represent the populations needed for this assessment was a challenge. Additionally, data collection of health resources in the service area was challenging. Although an effort was made to verify all resources (assets) collected in the 2016 CHNA through a web search, we recognize that ultimately some resources may not be listed that exist in the service area.