MEMORIAL MEDICAL CENTER AND STANISLAUS SURGICAL 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 Memorial Medical Center and Stanislaus Surgical 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

Memorial Medical Center of Modesto

1700 Coffee Rd
Modesto, CA 95355

and

Stanislaus Surgical Hospital

1421 Oakdale Rd
Modesto, CA 95355

Conducted by

May 2019

Acknowledgements

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Community Health Insights (www.communityhealthinsights.com) conducted the assessment on behalf of Memorial Medical Center of Modesto and Stanislaus Surgical Hospital. Community Health Insights is a Sacramento-based research-oriented consulting firm dedicated to improving the health and well-being of communities across Northern California. This joint report was authored by:

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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 Stanislaus County area, which constitutes the primary service area for both Memorial Medical Center of Modesto (MMC) and Stanislaus Surgical Hospital (SSH). 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 was the county boundary of Stanislaus County. Stanislaus County includes the county hub which is the city of Modesto, California, and surrounding communities as defined by 26 ZIP codes. This is the designated service area because the majority of patients served by MMC and SSH resided in these ZIP Codes. Stanislaus County in located in the Central Valley of California and is a major agricultural producer for the state and the nation. The total population of the county is 530,561.

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 16 community health experts, social-service providers, and medical personnel. Further, 75 community residents participated in nine focus groups across the county.

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.

[1] See: http://www.countyhealthrankings.org/

List of Prioritized Significant Health Needs

The following significant health needs were identified and are listed below in prioritized order.

1. Access to Basic Needs Such as Housing, Jobs, and Food
2. Access to Mental/ Behavioral/ Substance Abuse Services
3. Access to Quality Primary Care Health Services
4. Safe and Violence-Free Environment
5. Injury and Disease Prevention and Management
6. Active Living and Healthy Eating
7. Access and Functional Needs
8. Access to Specialty and Extended Care
9. Pollution-Free Living Environment

Resources Potentially Available to Meet the Significant Health Needs

In all, 439 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 for both MMC and SSH.

Conclusion

This CHNA report details the health needs of the Stanislaus County community. It provides an overall health and social examination of the county 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. This report also serves as an example of a collaboration between local healthcare systems to provide meaningful insights to support improved health in the communities they serve.

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)" (p. 78963).[2]

This report documents the processes, methods, and findings of a CHNA conducted on behalf of Memorial Medical Center of Modesto (MMC) located at 1700 Coffee Road, Modesto, CA 95355 and Stanislaus Surgical Hospital (SSH) located at 1421 Oakdale Road, Modesto, CA 95355. Both MMC and SSH identified Stanislaus County as the primary service area. The total population of the county is 530,561.

SSH is a part of MMC, and both are affiliates of Sutter Health, a nonprofit healthcare system. The CHNA was conducted over a period of approximately 12 months, beginning in June 2018 and concluding May 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 at least once every three years.

Community Health Insights (www.communityhealthinsights.com) conducted the CHNA on the behalf of Sutter Health. 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 MMC and SSH solicited and considered the input received from persons representing the broad interests of the community. Then, the community served by MMC and SSH, 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 county. Resources potentially available to meet these needs are identified and described after this. Finally, a summary is included of the impact of actions taken by both MMC and SSH 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, (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 Stanislaus County. In all, nine 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 health need. 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 percentage of times any theme associated with a health need was mentioned as one of the top three health needs in the community.

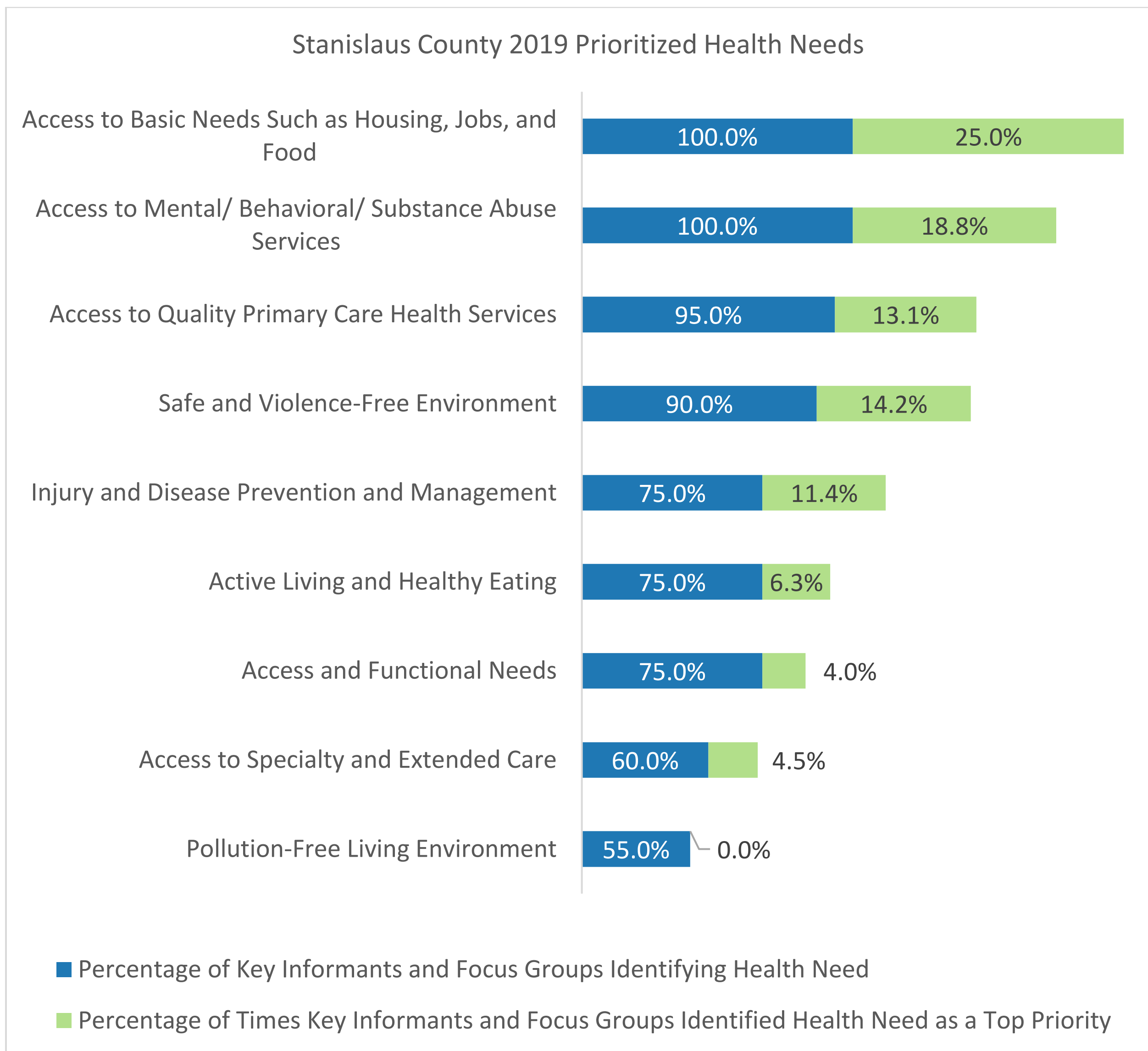

Figure 1: Prioritized, significant health needs for Stanislaus County

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 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 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] says 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
• Life Expectancy • Infant Mortality • Age-Adjusted Mortality • Child Mortality • Premature Age-Adjusted Mortality • Years of Potential Life Lost • HPSA Medically Underserved Area • Health Care Costs • Some College • Unemployed • Children with Single Parents • Social Associations • Free and Reduced Lunch • Median Household Income • mRFEI • Limited Access to Healthy Food	• Housing is a key issue impacting community health 　○ Community lacks affordable housing 　○ Large waiting list for Section 8 housing 　○ Difficulty in finding affordable rental property 　○ "Bay area commuters" are driving up housing costs 　○ More low-income housing needs to be built in the community 　○ Existing low-income housing is unfit to live in – dirty and infested with rodents and insects 　○ Housing is difficult to find for seniors on fixed incomes • Some residents cannot make living wage even with full-time employment • Homeless population continues to grow throughout the community, is now a "crisis" • Many residents find basic food and nutrition to be out of reach, unaffordable • There are limited employment opportunities outside of agriculture, creating challenges for those seeking employment • Living in poverty results in living in a constant state of stress which leads to high blood pressure, depression, anxiety, and related disorders • Some homeless shelters are too restrictive, thus homeless opt to stay on streets as a result • Low educational attainment a problem for many in the community • Services for the needy are overwhelmed

Participant quotes related to this heath need included:

- "I'm on the street because all my money was going for housing and I was starving."
- "I get $900 per month on social security and it's not enough for rent, insurance, gas, and food."
- "You can't arrest your way out of this (homelessness crisis). You can't buy your way out of this. It's a community issue and it requires multiple stakeholders being involved."
- "Young people graduate then they leave, and they don't come back. There is no place for them to live and are no jobs."

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

2. 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

• Life Expectancy
• Liver Disease Mortality
• Poor Mental Health Days
• Poor Physical Health Days
• Drug Overdose Deaths
• Mental Health Providers
• HPSA Mental Health
• Psychiatry Providers
• Social Associations
-
	• Community lacking mental, behavioral, and substance-abuse services
	  ○ Limited number of providers in community
	  ○ Poorer communities suffering from shortage of services more than affluent communities
	  ○ More rehabilitation centers are needed to help residents deal with substance use
	• Substance-use a growing issue in the community with limited services
	• Residents report wait times to get mental health services are months and even years for some programs
	• Methamphetamine use continues to rise in community
	• Community lacks in-patient psychiatric beds
	• Vaping a growing concern among youth
	• The opioid crisis is an issue with many “downstream” consequences
	• Local emergency departments often house patients with mental health issues for days while waiting for placement
	• Residents report trauma resulting from experiencing domestic abuse

Participant quotes related to this heath need included:

- “We want to get back to being each other’s neighbor. Knowing each other. Not just living next to somebody. We actually in the past knew each other. And now we know less and less about each other, less and less about our kids, less and less about what is going on our block.” (Referencing the lack of social associations in relation to mental health and wellbeing)
- “People don’t care about each other…and they don’t even know each other.”

3. 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
• Life Expectancy • Cancer Mortality • Child Mortality • CLD Mortality • Diabetes Mortality • Heart Disease Mortality • Influenza and Pneumonia Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Cancer Colon and Rectum	• Clinics and related healthcare services are lacking in rural areas of the county • Many clinics are not open after work hours making services more difficult to access • Residents reporting long wait times (months) to get appointments • Many providers do not accept Medi-Cal • Insurance determines the timeliness and quality of care residents receive • Prescription medicines are too costly • Difficulty in keeping primary care providers in the community • Affordable, high quality health insurance is difficult to find

Quantitative Indicators	Qualitative Themes
• Diabetes Prevalence • Cancer Lung and Bronchus • Health Care Costs • HPSA Primary Care • HPSA Medically Underserved Area • Primary Care Physicians • Preventable Hospital Stays	• Emergency departments are burdened with patients seeking primary care services

Participant quotes related to this heath need included:

- "I can build all the buildings I want. Have all the clinics I want. But if I don't have providers to see the patients then I have an access issue."
- "Provider shortage is not all about physicians. We have a health work force capacity problem. It goes deeper. And all of our solutions aren't about physicians. It might about mid-levels, it might be nutritionists, it might be about licensed-level social workers. It is a range of work force capacity."
- "[We need] access to health care that is available when you are available."

4. Safe and Violence-Free Environment

Feeling safe in one's home and community are fundamental to overall health. Next to having basic needs met (e.g., food, shelter, clothing) is physical safety. Feeling unsafe affects the way people act and react to everyday life occurrences and can have significant negative impacts on physical and mental well-being.[4]

Quantitative Indicators	Qualitative Themes

• Life Expectancy
• Poor Mental Health Days
• Homicides
• Motor Vehicle Crash Deaths
• Violent Crimes
• Social Associations
	• Residents report that many features of the community make it unsafe for pedestrians
	    ○ Pedestrian travel is dangerous in the county, especially for youth walking to/from school
	    ○ Walking in the community is not safe and thus restricts amount of physical activity for many
	    ○ Parts of the community have poor street lighting
	• Residents report not feeling safe in local parks
	    ○ Illegal activities occurring in parks
	    ○ Homeless populations occupying local parks
	• Homeless residents report experiencing frequent violence while on streets
	• Parts of the community report growing gang activity and violence
	• Elderly residents report that they are often the victims of violence and abuse
	• Human trafficking an issue in parts of the community

Participant quotes related to this heath need included:

- "There are many parks, but safety is a big issue. There is a lot of homelessness, so the parks are not acceptable to families right now."

[4] Lynn-Whaley, J., & Sugarmann, J. (July 2017). *The Relationship Between Community Violence and Trauma*. Los Angeles: Violence Policy Center.

- "I want to bring my kids to the park, but I have to go first to see if it's safe, and most of the time it's not."
- "When the kids get off the bus, they walk on dirt. When it rains and it's muddy, the kids walk in the street and that's not safe."

5. 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 • Diabetes Mortality • Heart Disease Mortality • Influenza and Pneumonia Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Unintentional Injury Mortality • Diabetes Prevalence • Drug Overdose Deaths • Adult Obesity • Physical Inactivity • Teen Birth Rate • Adult Smokers • Motor Vehicle Crash Deaths	• High rates of HIV reported in parts of the community • More educational opportunities needed for residents to learn basic life skills • More support groups needed for those struggling with various health and wellbeing issues • More prevention-oriented services needed in the community • Youth health education lacking in community • Need more education services focused on nutrition • STD rates an issue in the community • LGTBQ community is "invisible" in the community • Tobacco use is an issue throughout the county; social norms are supportive of tobacco use being "okay" • Need more "upstream" health policies that will impact the community-at-large versus working more "downstream" at the individual level • Childhood obesity an issue throughout the county • Need more investment in higher quality education services • There is a lack of youth activities throughout the county • More breast-cancer screening services needed for African-American community

Participant quotes related to this heath need included:

- "Health isn't really a priority here (in Stanislaus County). Health isn't involved in built environments, in planning for things, in establishing policies."
- "We need to double down on early intervention, prevention, and education in order to make change."

6. Active Living and Healthy Eating

Physical activity and eating a healthy diet are extremely important for one's overall health and well-being. Frequent physical activity is vital for prevention of disease and maintenance of a strong and healthy heart and mind. When access to healthy foods is challenging for community residents, many turn to unhealthy foods that are convenient, affordable, and readily available. Communities experiencing social vulnerability and poor health outcomes are often overloaded with fast food and other establishments where unhealthy food is sold.

Quantitative Indicators	Qualitative Themes
• Cancer Mortality • Diabetes Mortality • Heart Disease Mortality • Kidney Disease Mortality • Stroke Mortality • Cancer Colon and Rectum • Diabetes Prevalence • Limited Access to Healthy Food • mRFEI • Access to Exercise • Physical Inactivity • Adult Obesity	• Parks are inaccessible and unsafe; many are inhabited by homeless • Limited number of activities for youth • Need healthier food options in schools • Youth obesity a concern in the community • Stanislaus County leads the state in deaths due to heart disease • The built environment in the community does not support an active lifestyle • The walk-ability of many communities is lacking • High consumption of sugary beverages in community • Stanislaus County is not a bike-friendly community • Parts of the county are food deserts

Participant quotes related to this heath need included:

- “We have parks, but they are basically just big fields with gopher holes.”

7. 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 in an effort to ensure that all community members have access to necessities for a high quality of life.

Quantitative Indicators	Qualitative Themes
• Percentage with Disability	• Transportation system is inadequate in some areas of the county • Long wait times for many bus routes throughout county • Senior transportation services are lacking • School buses are not serving every part of some communities • Cost of public transportation is prohibitive for some • Public transportation not friendly for parents/caregivers with toddlers in strollers

8. Access to Specialty and Extended Care

Extended care services, which include specialty care, are care devoted to a particular branch of medicine and focus 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 such as diabetes and high blood pressure on their own. In addition to specialty care, extended care refers to care needed in the community that supports overall physical health and wellness and that extends beyond primary care services, such as skilled nursing facilities, hospice care, in-home health care, and the like.

Quantitative Indicators		Qualitative Themes
• Life Expectancy • Alzheimer's Mortality • Cancer Mortality • CLD Mortality • Diabetes Mortality	• Stroke Mortality • Diabetes Prevalence • Cancer Lung and Bronchus • Psychiatry Providers	• Many residents must travel out of the county to get specialty services • Appointments difficult to get for many specialties

Quantitative Indicators	Qualitative Themes
• Heart Disease Mortality • Kidney Disease Mortality • Liver Disease Mortality • Specialty Care Providers • Preventable Hospital Stays	• More in-home care services needed in community • Medi-Cal insured often must travel to Bay area to receive specialty care • OB-GYN services are inadequate for the community

9. Pollution-Free Living Environment

Living in a pollution-free environment is essential for health. Individual health is determined by a number of factors, and some models show that one's living environment, including the physical (natural and built) and sociocultural environment, has more impact on individual health than one's lifestyle, heredity, or access to medical services.[5]

Quantitative Indicators	Qualitative Themes
• Cancer Mortality • CLD Mortality • Cancer Colon and Rectum • Cancer Lung and Bronchus • Adult Smokers • Air Particulate Matter • Drinking Water Violations • Pollution Burden	• There are many respiratory issues due to poor air quality • Water quality in the community is poor • There is a high prevalence of asthma among community residents • Agriculture activities contribute to poor air quality issues

Populations and Locations 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."[6] The table below describes populations and specific communities in Stanislaus County 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?" and "What specific geographic locations struggle with health issues the most?" The groups and locations that were noted are listed in Table 1.

Table 1: Populations and Geographic Locations Experiencing Disparities

Populations	Geographic Locations
Low-income	Airport District (Modesto)
Residents residing in rural areas	Ceres
African American	Oakdale
Homeless	Patterson
Youth	Riverbank
LGTB	South Turlock
Elderly	Waterford
	West Modesto (Modesto)

[5] See Blum, H. L. (1983). *Planning for Health*. New York: Human Sciences Press

[6] 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.

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.[7] 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. Both MMS and SSH requested written comments from the public on its most recently conducted CHNA and adopted implementation strategy through SHCB@sutterhealth.org.

At the time of the development of this CHNA report, neither hospital had received written comments. However, input from the broader community was considered and taken into account for the 2019 CHNA through key informant interviews and focus groups. Both MMC and SSH 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 16 community health experts as well as nine focus groups conducted with a total of 75 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 county (the service area for MMC and SSH) 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 county. 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

[7] See http://www.countyhealthrankings.org/

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 Stanislaus County. This is the designated service area because the majority of patients served by MMC and SSH resided in this area. The county and the 26 ZIP Codes included in this assessment are shown in Figure 2.

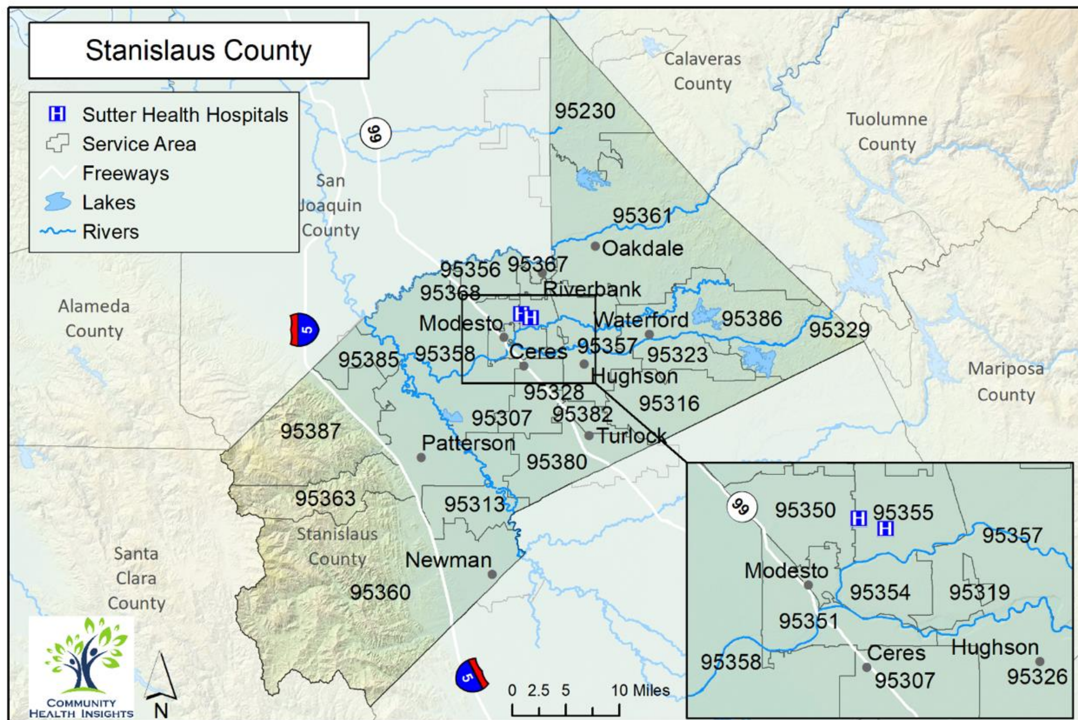

Figure 2: Stanislaus County – The community served by MMC and SSH

Stanislaus County was founded in 1854. Located in California's central valley, the county covers approximately 1,500 square miles and is home to over 530,000 residents. It is the 16th most populous among California's 58 counites. There are nine incorporated cities in the county including Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock, and Waterford. Of these, Modesto, the county seat, is the most populous accounting for approximately 40% of the county's population; Turlock is the second, followed by Ceres. The two largest race/ethnic groups in the county are those of Hispanic or Latino origin (44.8%), followed by Caucasians (43.5%).[8] Agriculture plays a significant role in the county, thus the county's largest employers are in the agriculture and food related

[8] See: https://www.stancoe.org/division/administrative-services/communications-department/stanislaus-county-quick-facts. Hispanic populations may be of any race.

industries.[9] The Robert Wood Johnson's *County Health Rankings* ranked Stanislaus County the 41st most healthy among California's 58 counties.[10]

Population characteristics for each ZIP Code in the service area are presented in Table 2. 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.

Table 2: Population Characteristics for Each ZIP Code Located in the Stanislaus County

ZIP Code	Total Population	% Minority	Median Age	Median Income	% Poverty	% Unemployed	% Uninsured	% No HS Graduation	% Living in High Housing Costs	% with Disability
95230	869	59.1%	42.0	$47,865	19.1%	0.0%	20.1%	38.2%	39.1%	4.4%
95307	42,844	68.7%	31.3	$50,051	17.0%	15.9%	11.1%	30.4%	42.0%	14.3%
95313	1,077	47.7%	31.9	$42,358	15.6%	8.7%	19.7%	20.7%	24.1%	18.6%
95316	6,416	30.4%	35.0	$60,233	22.4%	11.0%	7.3%	20.7%	33.0%	10.3%
95319	1,593	65.4%	40.3	$26,503	54.9%	19.5%	14.1%	40.9%	43.5%	22.6%
95323	1,083	36.2%	39.2	$51,528	11.8%	8.3%	7.5%	19.9%	26.2%	16.1%
95326	9,948	36.1%	35.0	$56,037	17.8%	11.1%	9.7%	18.9%	38.2%	16.1%
95328	6,013	75.4%	24.5	$51,048	19.3%	27.5%	16.5%	28.6%	38.9%	13.5%
95329	2,650	21.7%	48.4	$57,000	7.1%	5.7%	6.5%	16.9%	37.3%	16.7%
95350	51,441	46.5%	38.6	$43,876	20.0%	14.4%	10.7%	16.2%	42.5%	19.2%
95351	49,243	81.4%	29.1	$36,548	31.6%	19.9%	15.4%	44.8%	51.5%	14.0%
95354	25,485	51.2%	33.2	$41,558	24.9%	16.7%	14.7%	22.4%	45.5%	17.5%
95355	58,872	44.9%	38.1	$59,403	10.7%	10.3%	8.4%	11.7%	38.3%	13.2%
95356	32,827	50.2%	36.0	$66,286	12.4%	8.4%	10.4%	9.7%	38.1%	11.7%
95357	11,717	53.9%	36.0	$58,582	19.8%	11.9%	11.3%	25.1%	32.7%	11.9%
95358	32,758	68.4%	30.5	$51,086	24.2%	19.3%	15.8%	34.7%	38.4%	11.5%
95360	12,243	73.4%	33.1	$48,454	18.3%	17.7%	21.2%	25.1%	37.0%	13.4%
95361	33,741	31.8%	38.3	$57,649	13.7%	11.8%	6.9%	11.7%	39.6%	10.7%
95363	26,291	75.4%	31.1	$54,440	19.3%	14.0%	13.2%	26.2%	44.2%	7.5%
95367	24,657	63.8%	31.8	$62,326	10.9%	12.1%	10.8%	24.3%	31.9%	8.9%
95368	13,826	59.3%	30.7	$71,730	8.5%	9.0%	7.1%	19.9%	35.4%	10.9%
95380	41,865	57.2%	32.8	$41,302	21.7%	14.1%	13.8%	27.2%	44.3%	14.0%
95382	37,138	37.8%	37.4	$66,116	10.7%	8.7%	7.7%	12.4%	36.9%	13.4%
95385	396	31.8%	39.2	$40,486	2.3%	11.8%	5.3%	22.6%	20.5%	13.4%
95386	10,324	48.0%	33.1	$52,695	21.7%	19.3%	13.0%	32.7%	34.4%	12.8%
95387	520	95.0%	15.7	$21,579	58.7%	37.0%	3.7%	70.9%	69.4%	11.5%
Stanislaus	530,561	55.9%	33.8	$51,591	18.2%	13.8%	11.5%	22.4%	40.6%	13.4%
California	38,654,206	61.6%	36.0	$63,783	15.8%	8.7%	12.6%	17.9%	42.9%	10.6%

(Source: 2012-2016 American Community Survey 5-year estimates; U.S. Census Bureau)

[9] See: http://www.stancounty.com/ceo/econ-dev/pdf/ceds.pdf
[10] See: http://www.countyhealthrankings.org/app/california/2017/overview

Community Health Vulnerability Index

Figure 3 displays the Community Health Vulnerability Index (CHVI) for the Stanislaus County. 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[11] on which it was based, the CHVI combines multiple sociodemographic indicators (listed in Table 3) to help identify those locations experiencing health disparities. Higher CHVI values indicate a greater concentration of groups that were more likely experiencing disparities. (Interested readers are referred to the technical section of this report for further details as to the CHVI construction.

Table 3: Community Health Vulnerability Index Indicators

Percentage Minority (Hispanic or Nonwhite)	Percentage Families with Children in Poverty
Percentage 5 Years or Older Who Speak Limited English	Percentage Households 65 Years or Older in Poverty
Percentage 25 or Older without a High School Diploma	Percentage Single Female-Headed Households in Poverty
Percentage Unemployed	Percentage Renters
Percentage Uninsured	

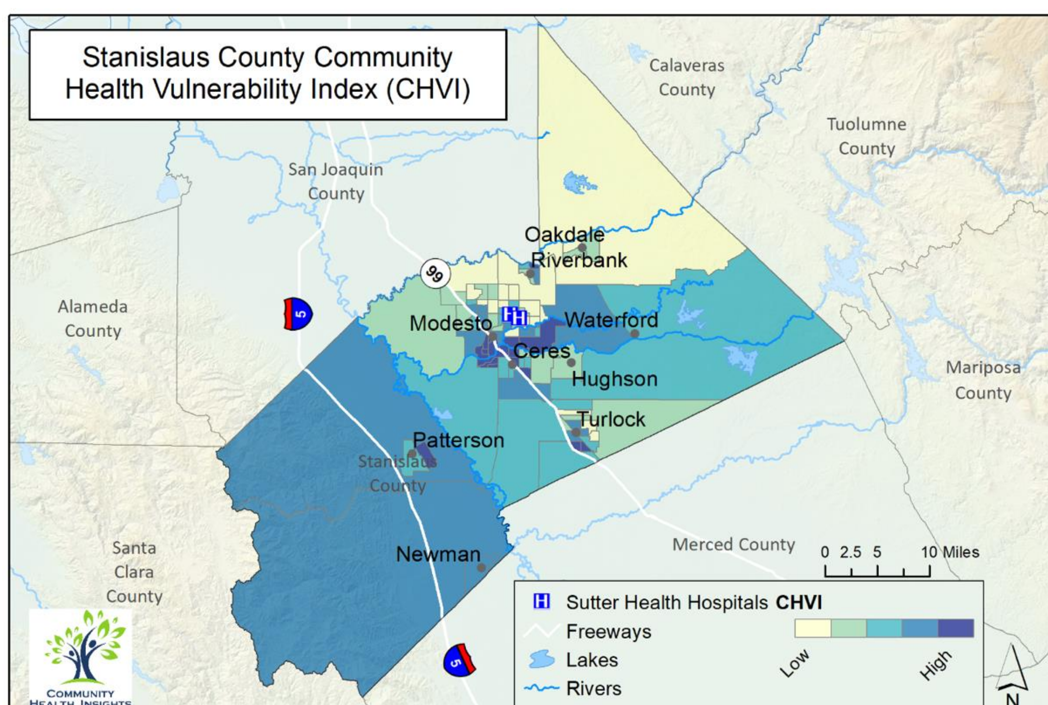

Figure 3: Community Health Vulnerability Index for Stanislaus County

In Figure 3, the census tracts with the darkest shading had the highest overall CHVI scores (greatest vulnerability). These included the areas of Ceres, Modesto, Paterson, and Oakdale. These areas most likely have a higher concentration of community members experiencing health disparities.

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

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 has been 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 for Stanislaus County. 10 ZIP Codes met the criteria to be classified as Communities of Concern. These are noted in Table 4, with the census population provided for each, and are displayed in Figure 4.

Table 4: Identified Communities of Concern for Stanislaus County

ZIP Code	*Community/Area*	*Population*
95307	Ceres	42,844
95319	Empire	1,593
95351	West Modesto	49,243
95354	Airport District (Modesto)	25,485
95357	Empire	11,717
95358	West Modesto	32,758
95361	Oakdale	33,741
95363	Patterson	26,291
95367	Riverbank	24,657
95380	Turlock	41,865
Total Population in Communities of Concern		290,194
Total Population in Hospital Service Area		535,837
% of Service Area Population in Community of Concern		54.2%

(Source: 2012–2016 American Community Survey 5-year estimates; U.S. Census Bureau)

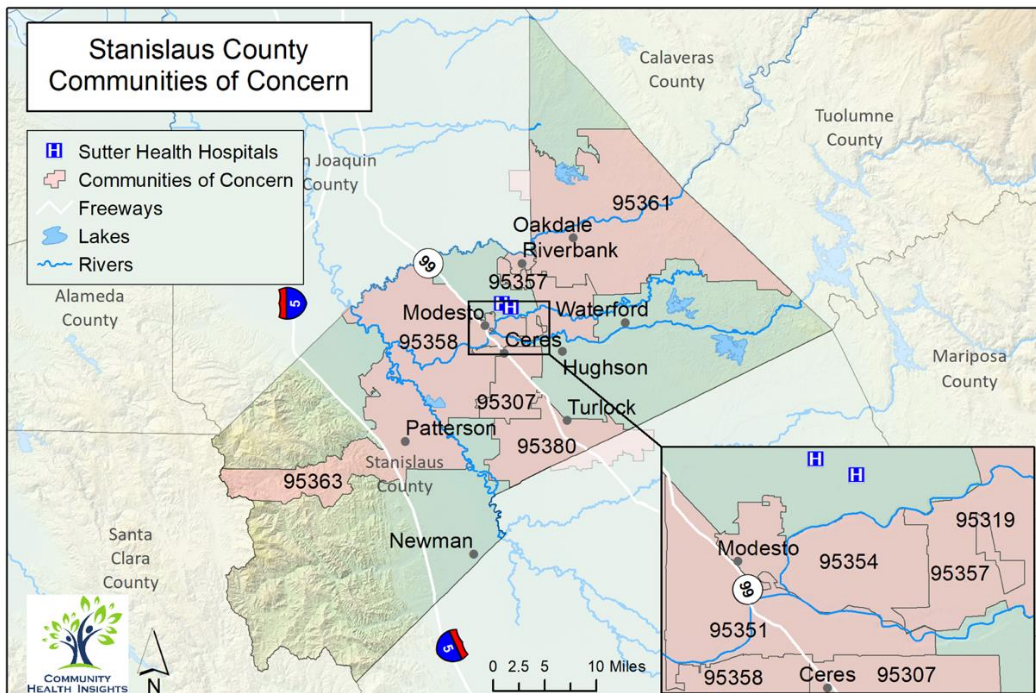

Figure 4: Communities of Concern map for Stanislaus County

In rural locations ZIP Codes often cover large geographical areas. Portions of these areas may be sparsely populated or unpopulated as they are reserved for agricultural use or left undeveloped. This is the case with many of the Stanislaus County ZIP Codes in Table 4.

As a result, two additional steps were taken to further highlight those portions of these ZIP Code Communities of Concern in which disadvantaged populations were likely to be concentrated. First, the distribution of populations in Census tracts in the county was reviewed to determine where in the ZIP Codes higher population concentrations were found. This is shown in Figure 5.

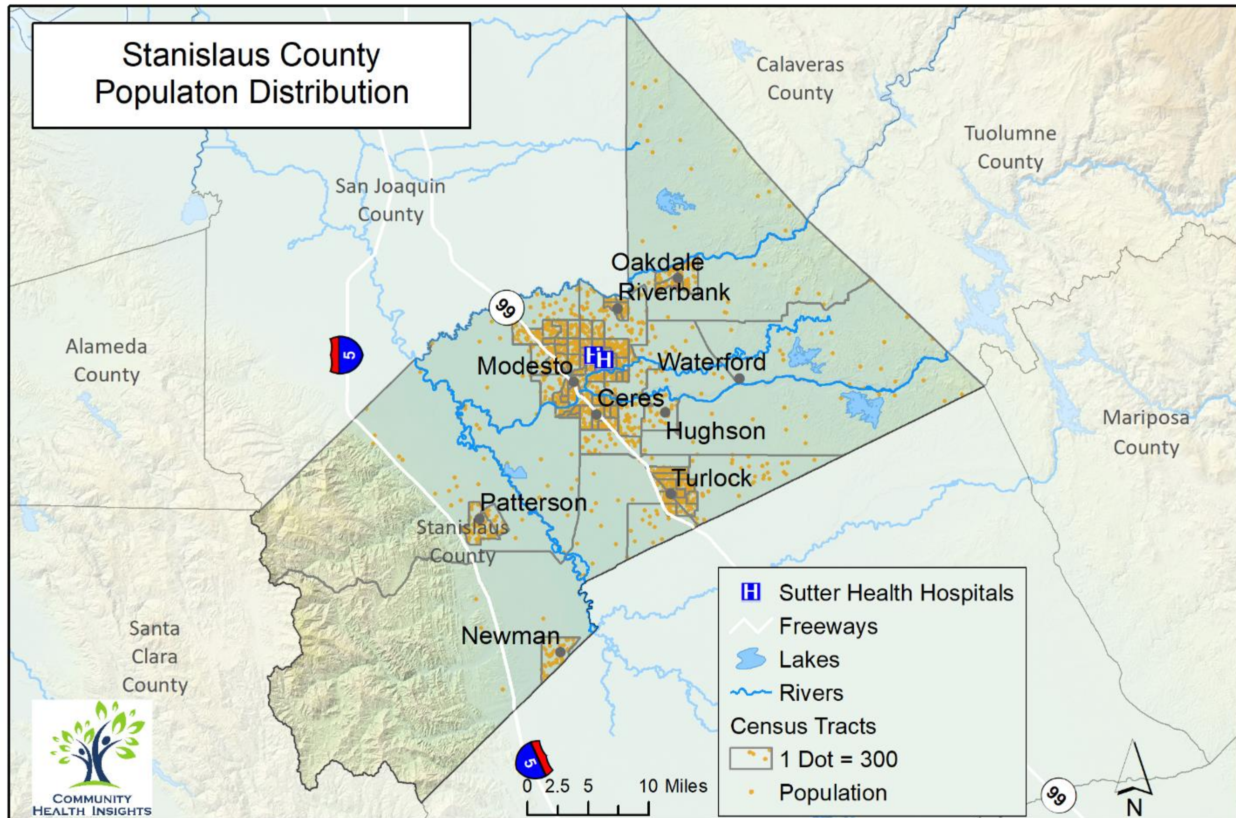

Figure 5: Stanislaus County population distribution

In Figure 5, each gold dot represents 300 residents. Grey borders show Census tract boundaries. These show the distribution of the population across the county. An examination of the map shows that the majority of Stanislaus residents reside in or near the incorporated cities in the county.

Next, we identified the Census tracts within each ZIP code that had the highest CHVI values (refer to Figure 3). This led to an identification of Census tracts that provided a more spatially refined representation of the Communities of Concern within the identified ZIP Codes. These are displayed in Figure 6.

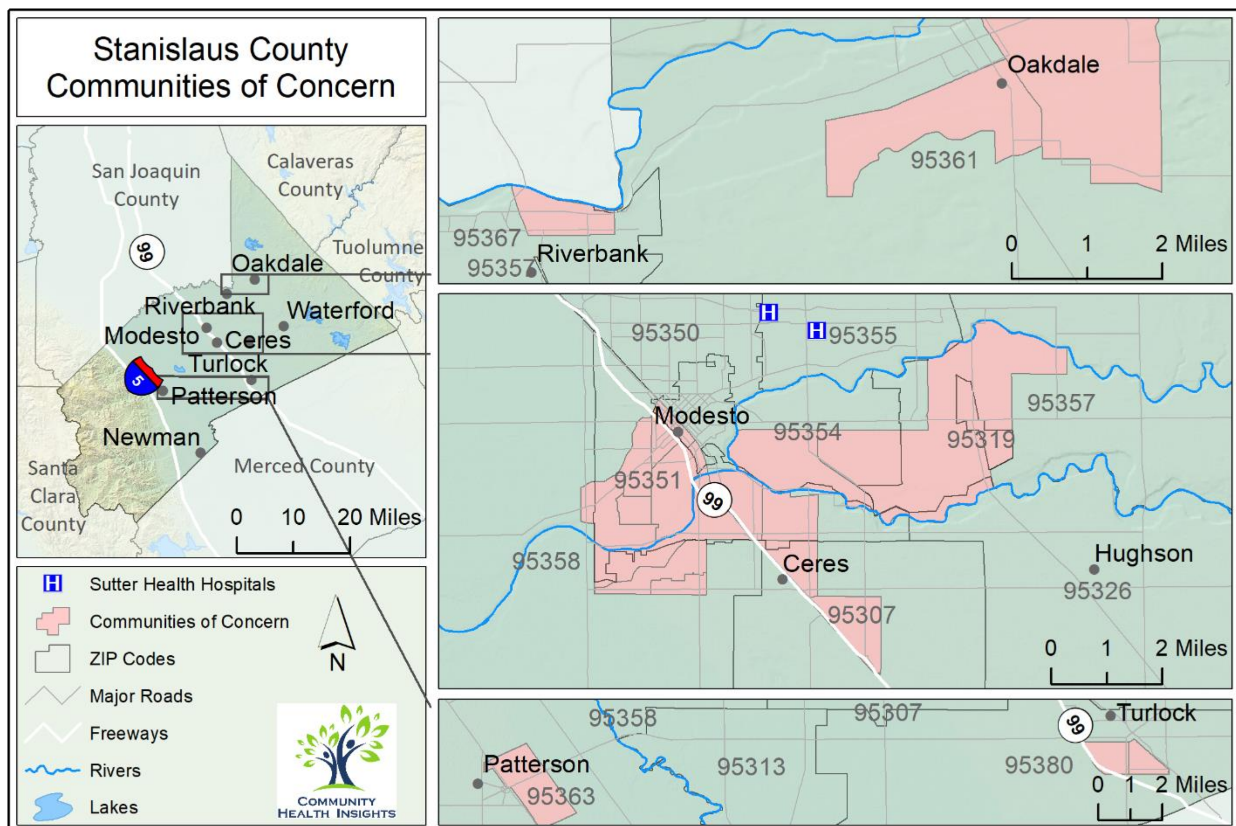

Figure 6: Census tract areas designated as Communities of Concern for Stanislaus County

Resources Potentially Available to Meet the Significant Health Needs

In all, 439 resources were identified in Stanislaus County that were potentially available to meet the identified significant health needs. These resources were provided by a total of 170 social-service, nonprofit, and governmental organizations, agencies, and programs identified in the CHNA. The identification method included starting with the list of resources identified in the previously conducted CHNAs for both MMH and SSH, verifying that the resources still existed. New, newly identified resources were added into the 2019 CHNA report. Examination of the resources revealed the following numbers of resources for each significant health need as shown in Table 5.

Table 5: Resources Potentially Available to Meet Significant Health Needs in Priority Order

Significant Health Needs (in Priority Order)	Number of resources
Access to Basic Needs Such as Housing, Jobs, and Food	91
Access to Mental/ Behavioral/ Substance Abuse Services	80
Access to Quality Primary Care Health Services	65
Safe and Violence-Free Environment	16
Injury and Disease Prevention and Management	68
Active Living and Health Eating	62
Access and Functional Needs	15
Access to Specialty and Extended Care	36
Pollution-Free Living Environment	6
Total Resources	***439***

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

Regulations 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) (p. 78969)."[12] The following summarizes the impact of actions taken by MMC and SSH.

Prior to this CHNA, MMC conducted their most recent CHNA in 2016 and SSH conducted their most recent CHNA in 2018. Both CHNA reports identified specific health needs. Working within their mission and capabilities, MMC and SSH collectively focused on access to care, healthy eating and active living, obesity and diabetes, economic security, substance abuse and tobacco, and mental health. MMC and SSH collectively developed plans to address these health needs and the specific outcomes of these efforts are described below.

Access to Care

Golden Valley Health Center Street Medicine Program

Golden Valley Health Center's Street Medicine Team is providing acute medical services and access to education through referrals to individuals who are experiencing homelessness. In 2018, the program reached more than 2,000 individuals, connecting them to health insurance, hygiene kits, and primary and mental health care.

Golden Valley Health Center Emergency Department Navigators

Golden Valley Health Center has two emergency department navigators at MMC who connect with patients so they can be provided with support services such as scheduling clinic appointments with their preferred primary care provider, as well as dental, housing referrals, and other resources. In 2018 the program connected with nearly 10,000 individuals providing more than 6,000 referrals.

Valley Consortium for Medical Education Community-Based Residency Program

The Valley Consortium for Medical Education (VCME) is dedicated to enhancing primary and specialty medical services in Stanislaus County and California's Central Valley by sponsoring and coordinating allopathic and osteopathic physician pre-doctoral and post-doctoral training programs and developing resources to meet the current and future needs for physicians and other health professionals. In 2018, VMCE served 49 individuals.

HEAL, Obesity, Diabetes

Go Noodle, Inc. Movement Videos and Games for Classroom Activity

The primary goal of GoNoodle movement videos is to facilitate physical activity while promoting classroom engagement, reinforcing core subjects and social/emotional learning, and improving academic achievement. In 2018, GoNoodle served more than 14,000 students in Stanislaus.

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

Stanislaus County Office of Education Soccer for Success
The Stanislaus County Office of Education's Region 6 Expanded Learning Programs Office, together with the U.S. Soccer Foundation, partners with six school districts throughout the region to implement the Soccer for Success program. In 2018, 2,500 students benefitted from after school soccer programs.

Second Harvest Food Bank Mobile Fresh for Kids
Through Mobile Fresh for Kids, Second Harvest delivers fresh and non-perishable foods to children living in low-income areas, attending elementary schools with a high ratio of free and reduced-priced lunches. In 2018, the program delivered 48,503 pounds of food to 651 students.

Economic Security

Modesto Gospel Mission Freedom Road
The program serves individuals who are experiencing homelessness to help them get the physical and mental health, addiction treatment, and related care they need to help find either permanent or transitional housing. In 2018 the program served 91 individuals, making nearly 200 referrals to support services.

Turning Point Community Programs – Housing Assessment Team (HAT)
The Housing Assessment Team (HAT) uses a holistic, strengths-based approach while assessing clients for services and housing needs in coordination with other agencies and services offered at the Outreach and Engagement Center. In 2018, the HAT connected with more than 1,600 individuals and provided more than 3,000 referrals to services.

The Salvation Army Modesto Cooling Center
The Cooling Center provides a safe, cool location for the community's at-risk population during the valley heat, which, on average, reaches over 100 degrees some 15 days per year. The Center provided relief to 96 individuals during summer 2018.

Love Our Cities, Inc. - Love Modesto
Love Modesto increases volunteerism in our community, fostering collaboration amongst leaders across Modesto towards meeting deeper needs of Modesto. In 2018, the program organized 7,000 volunteers, who donated more than 24,500 hours on 90 community projects.

Modesto City Schools Vocational Based Instruction
The Vocational Based Instruction Program was created to provide students with disabilities wide ranging opportunities to experience a typical work setting. In 2018, four students had the opportunity to work as part of this program.

Sylvan Elementary STEAM Academy
STEAM (science, technology, engineering, arts, and math) Academy increases student achievement and interest, especially in under-represented populations, in science, technology, engineering, arts, and mathematics, through project-based, hands-on experiential learning. In 2018, the program served more than 400 students.

Substance Abuse/Tobacco

Stanislaus County Office of Education PHAST Youth Coalition
Protecting Housing and Slamming Tobacco (PHAST) is a county-wide youth coalition with

chapters in 27 high schools and a membership of 980 high school students. In 2018, the program served more than 1,600 students.

Mental Health

Center for Human Services Parent Café

Parent Cafes are a family strengthening strategy created by Be Strong Families/Strengthening Families-Illinois. Cafes are a sophisticated method of engaging parents with the protective factors through conversations among parents about their own family. More than 2,300 parents and youth benefitted from the program in 2018.

Center for Human Services Father Involvement

The Father Involvement project uses a collaborative approach to providing family strengthening and positive parenting programs for identified fathers and their families in Stanislaus County. In 2018, 286 clients participated in the program.

Haven's Women Center of Stanislaus HARRT: Youth-Led Adolescent Relationship Abuse Prevention Program

The Healthy and Responsible Relationships Troop (HARRT) is a school-based, youth-led Adolescent Relationship Abuse (ARA) prevention program with an overall goal to educate and empower high school aged youth. The goal is to reduce and prevent ARA and promote healthy relationship skills and behaviors with peers. In 2018, 34 individuals participated in the program through 23 HARRT meetings.

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. They strive 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 areas.

2019 CHNA Technical Section

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 indicator value for Stanislaus County was compared to the California state benchmark. Indicators where performance was worse in the county than in California are highlighted. The associated bar charts show rates for the county compared to California State rates.

Length of Life

Table 6: Length of Life Indicators Compared to State Benchmarks

Indicators	Description	Stanislaus	California
Early Life			
Infant Mortality	Infant deaths per 1,000 live births	5.7	4.5
Child Mortality	Deaths among children under age 18 per 100,000	47.6	38.5
Life Expectancy	Life expectancy at birth in years	77.8	80.9
Overall			
Age-Adjusted Mortality	Age-adjusted deaths per 100,000	812.2	651.6
Premature Age-Adjusted Mortality	Age-adjusted deaths among residents under age 75 per 100,000	369.5	268.8
Years of Potential Life Lost	Age-adjusted years of potential life lost before age 75 per 100,000	7,148.5	5,217.3
Chronic Disease			
Stroke Mortality	Deaths per 100,000	40.4	37.5
CLD Mortality	Deaths per 100,000	47.3	34.9
Diabetes Mortality	Deaths per 100,000	23.6	22.1
Heart Disease Mortality	Deaths per 100,000	196.0	157.3
Hypertension Mortality	Deaths per 100,000	11.8	12.6
Cancer, Liver, and Kidney Disease			
Cancer Mortality	Deaths per 100,000	168.4	153.4
Liver Disease Mortality	Deaths per 100,000	15.5	13.2
Kidney Disease Mortality	Deaths per 100,000	10.1	8.3
Intentional and Unintentional Injuries			
Suicide Mortality	Deaths per 100,000	10.7	10.8
Unintentional Injury Mortality	Deaths per 100,000	40.5	31.2
Other			
Alzheimer's Mortality	Deaths per 100,000	41.7	35.0
Influenza and Pneumonia Mortality	Deaths per 100,000	17.4	16.0

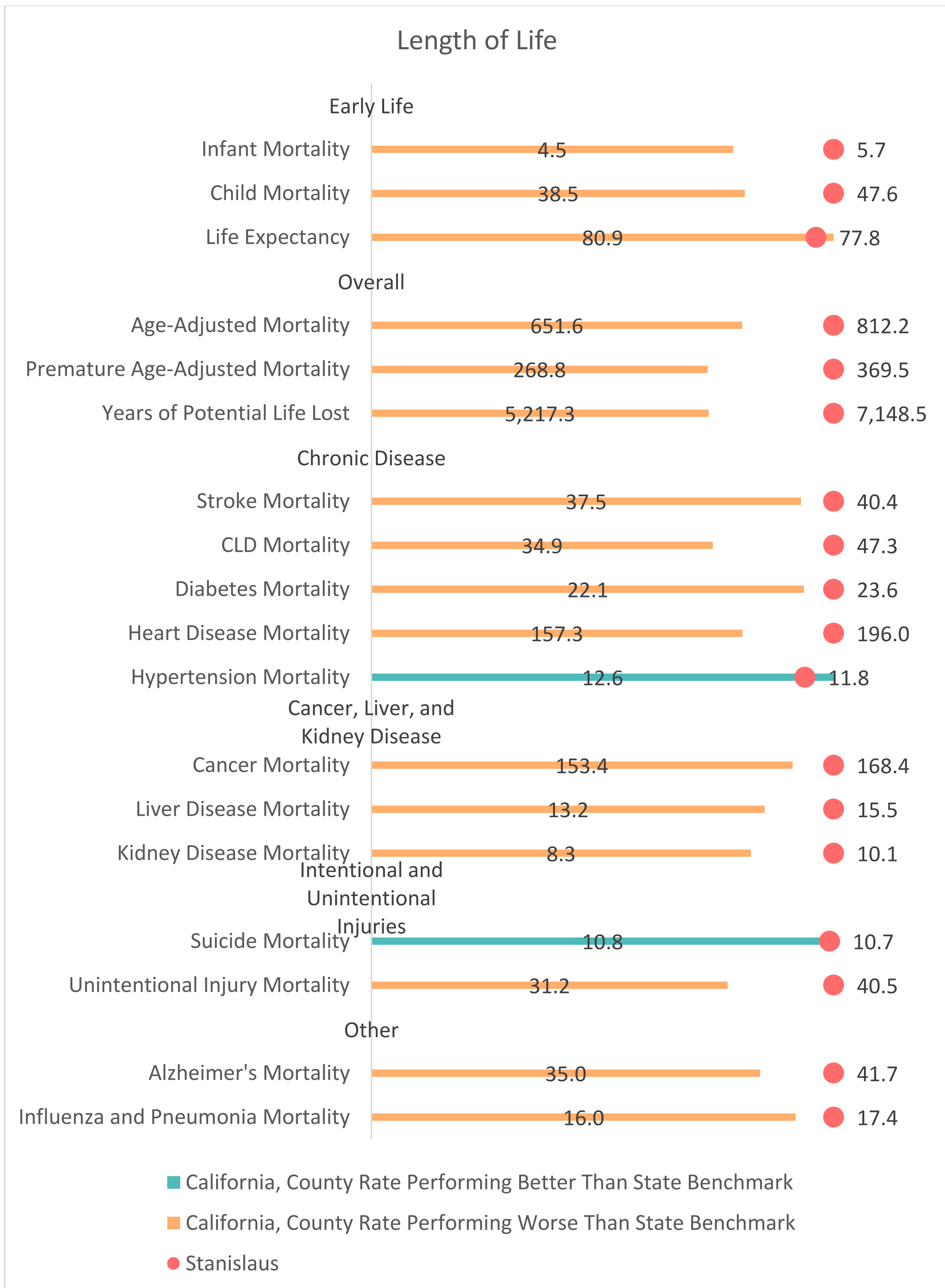

Figure 7: Length of life indicators

Quality of Life

Table 7: Quality of Life Indicators Compared to State Benchmarks

Indicators	Description	Stanislaus	California
Chronic Disease			
Diabetes Prevalence	Percentage age 20 and older with diagnosed diabetes	9.3%	8.5%
Low Birth Weight	Percentage of live births with birthweight below 2500 grams	6.3%	6.8%
HIV Prevalence	Persons age 13 or older with a(n) Human Immunodeficiency Virus (HIV) infection per 100,000	129.6	376.4
Percentage with Disability	Percentage of total civilian noninstitutionalized population with a disability	13.4%	10.6%
Mental Health			
Poor Mental Health Days	Age-adjusted average number of mentally unhealthy days reported in past 30 days	3.9	3.5
Poor Physical Health Days	Age-adjusted average number of physically unhealthy days reported in past 30 days	3.9	3.5
Cancer			
Cancer Female Breast	Age-adjusted incidence per 100,000	115.2	120.6
Cancer Colon and Rectum	Age-adjusted incidence per 100,000	41.8	37.1
Cancer Lung and Bronchus	Age-adjusted incidence per 100,000	54.2	44.6
Cancer Prostate	Age-adjusted incidence per 100,000	91.3	109.2

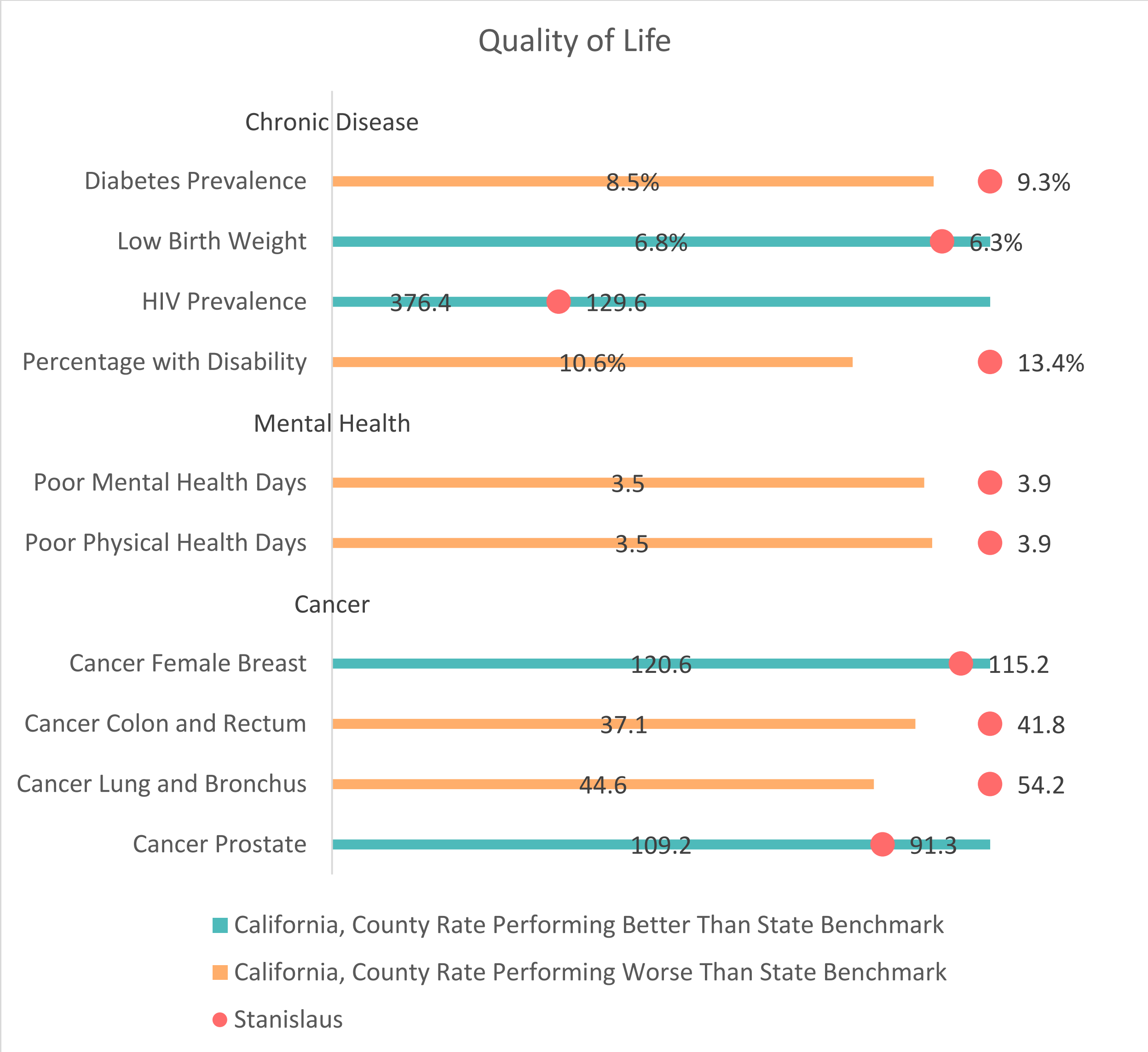

Figure 8: Quality of life indicators

Health Behaviors

Table 8: Health Behavior Indicators Compared to State Benchmarks

Indicators	Description	Stanislaus	California
Excessive Drinking	Percentage of adults reporting binge or heavy drinking	17.8%	17.8%
Drug Overdose Deaths	Age-adjusted deaths per 100,000	18.2	12.2
Adult Obesity	Percentage of adults reporting BMI of 30 or more	30.1%	22.7%
Physical Inactivity	Percentage age 20 and older with no reported leisure-time physical activity	21.0%	17.9%
Limited Access to Healthy Food	Percentage of population that is low income and does not live close to a grocery store	4.9%	3.3%
mRFEI	Percentage of food outlets that are classified as 'healthy'	11.8%	12.3%
Access to Exercise	Percentage of population with adequate access to locations for physical activity	88.3%	89.6%
STI Chlamydia Rate	Number of newly diagnosed chlamydia cases per 100,000	447.4	487.5
Teen Birth Rate	Number of births per 1,000 females aged 15-19	32.0	24.1
Adult Smokers	Percentage of adults who are current smokers	12.7%	11.0%

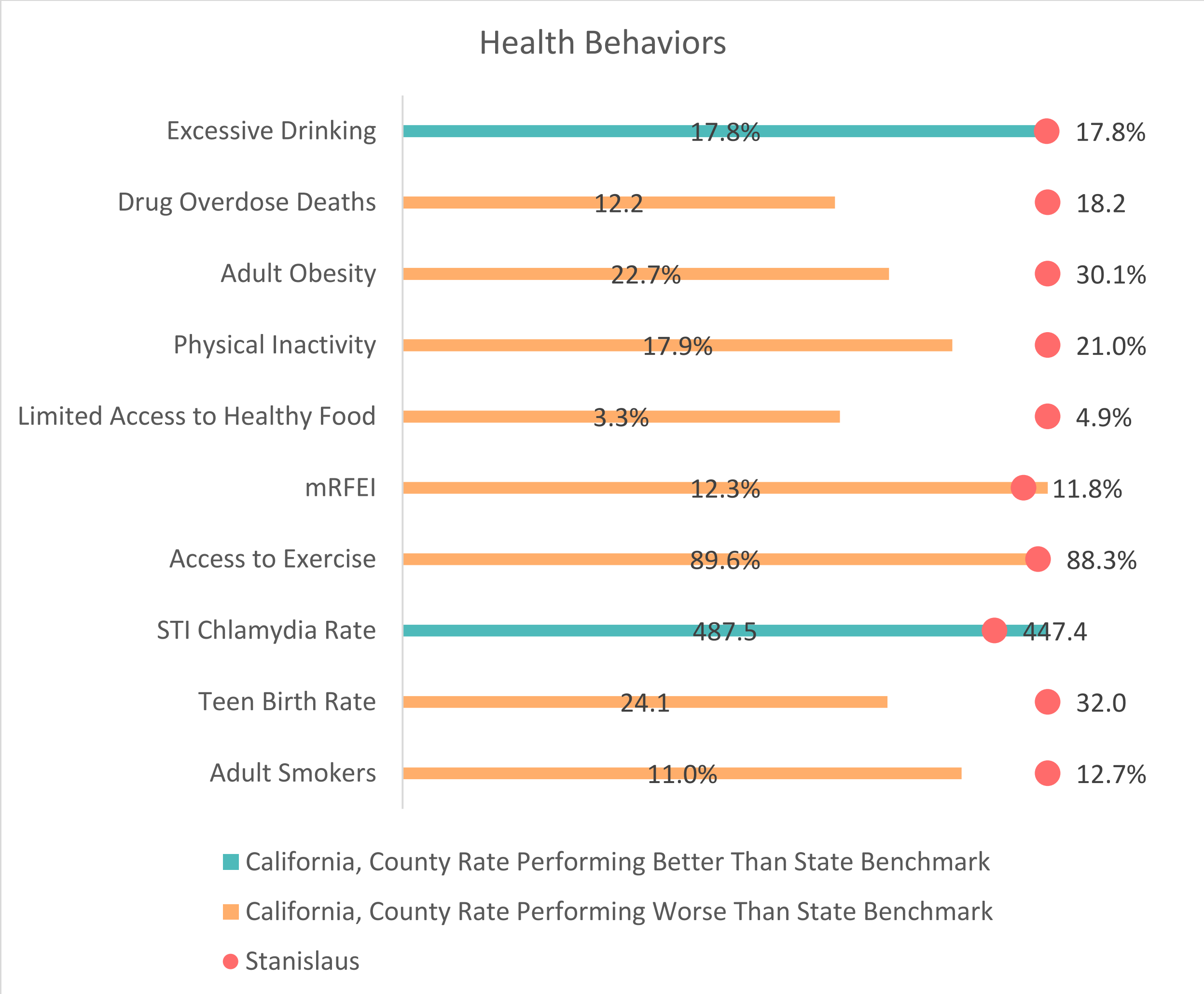

Figure 9: Health behavior indicators

Clinical Care

Table 9: Clinical Care Indicators Compared to State Benchmarks

Indicators	Description	Stanislaus	California
Health Care Costs	Amount of price-adjusted Medicare reimbursements per enrollee	$9,111	$9,100
HPSA Dental Health	Reports if a portion of the county falls within a Health Professional Shortage Area	0.0	
HPSA Mental Health	Reports if a portion of the county falls within a Health Professional Shortage Area	1.0	
HPSA Primary Care	Reports if a portion of the county falls within a Health Professional Shortage Area	1.0	
HPSA Medically Underserved Area	Reports if a portion of the county falls within a Medically Underserved Area	1.0	
Mammography Screening	Percentage of female Medicare enrollees aged 67-69 that receive mammography screening	60.7%	59.7%
Dentists	Number per 100,000	60.9	82.3
Mental Health Providers	Number per 100,000	183.4	308.2
Psychiatry Providers	Number per 100,000	4.6	13.4
Specialty Care Providers	Number per 100,000	98.6	183.2
Primary Care Physicians	Number per 100,000	65.6	78.0
Preventable Hospital Stays	Number of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	53.8	36.2

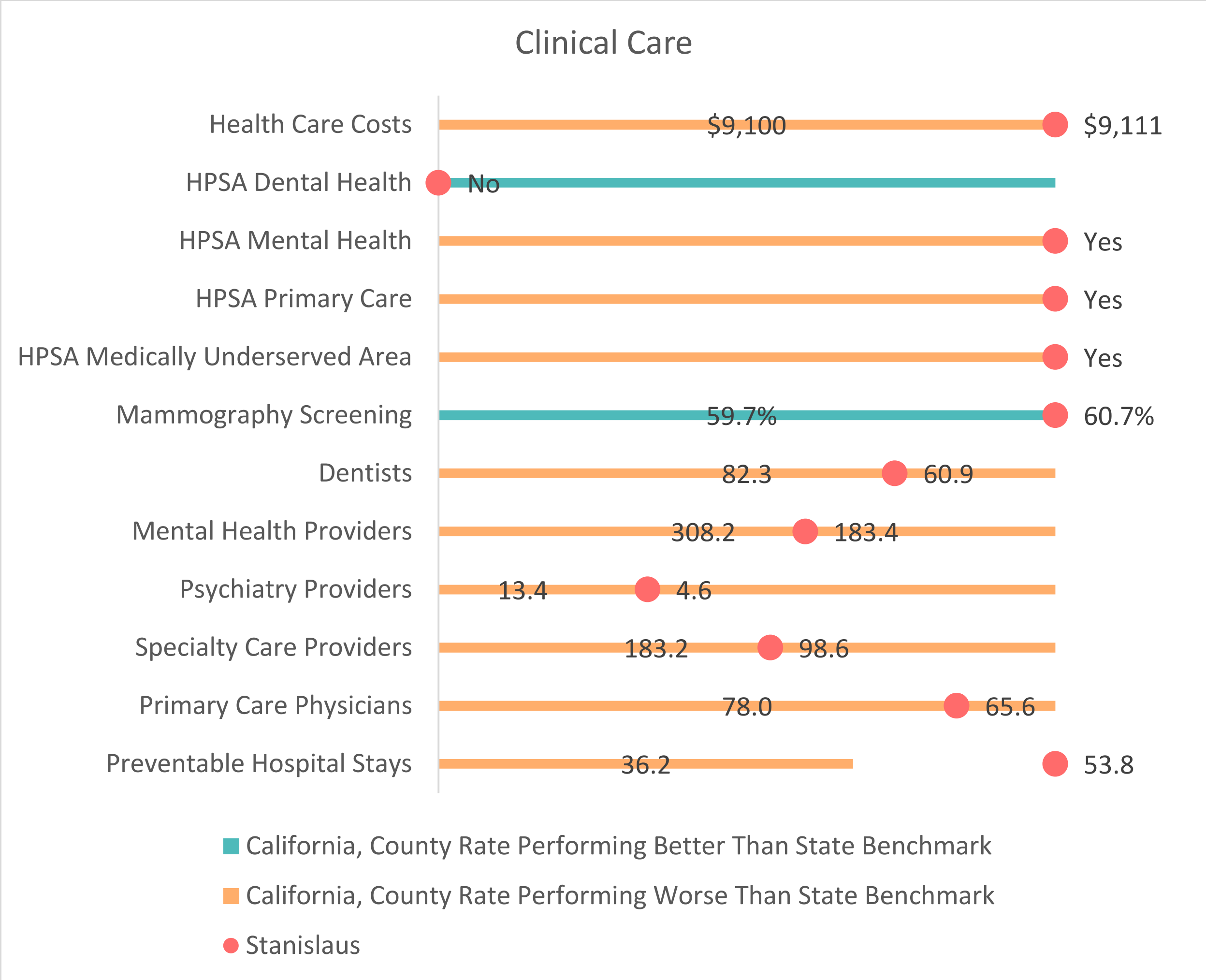

Figure 10: Clinical care indicators

Social and Economic Factors

Table 10: Social and Economic Factor Indicators Compared to State Benchmarks

Indicators	Description	Stanislaus	California
Homicides	Deaths per 100,000	6.2	5.0
Violent Crimes	Reported violent crime offenses per 100,000	533.1	407.0
Motor Vehicle Crash Deaths	Deaths per 100,000	13.3	8.5
Some College	Percentage aged 25-44 with some post-secondary education	52.4%	63.5%
High School Graduation	Percentage of ninth-grade cohort graduating high school in 4 years	84.6%	82.3%
Unemployed	Percentage of population 16 and older unemployed but seeking work	8.5%	5.4%
Children with Single Parents	Percentage of children living in a household headed by a single parent	34.4%	31.8%
Social Associations	Membership associations per 100,000	5.7	5.8
Free and Reduced Lunch	Percentage of children in public schools eligible for free or reduced-price lunch	67.1%	58.9%
Children in Poverty	Percentage of children under age 18 in poverty	19.1%	19.9%
Median Household Income	Median household income	$54,060	$67,715
Uninsured	Percentage of population under age 65 without health insurance	8.5%	9.7%

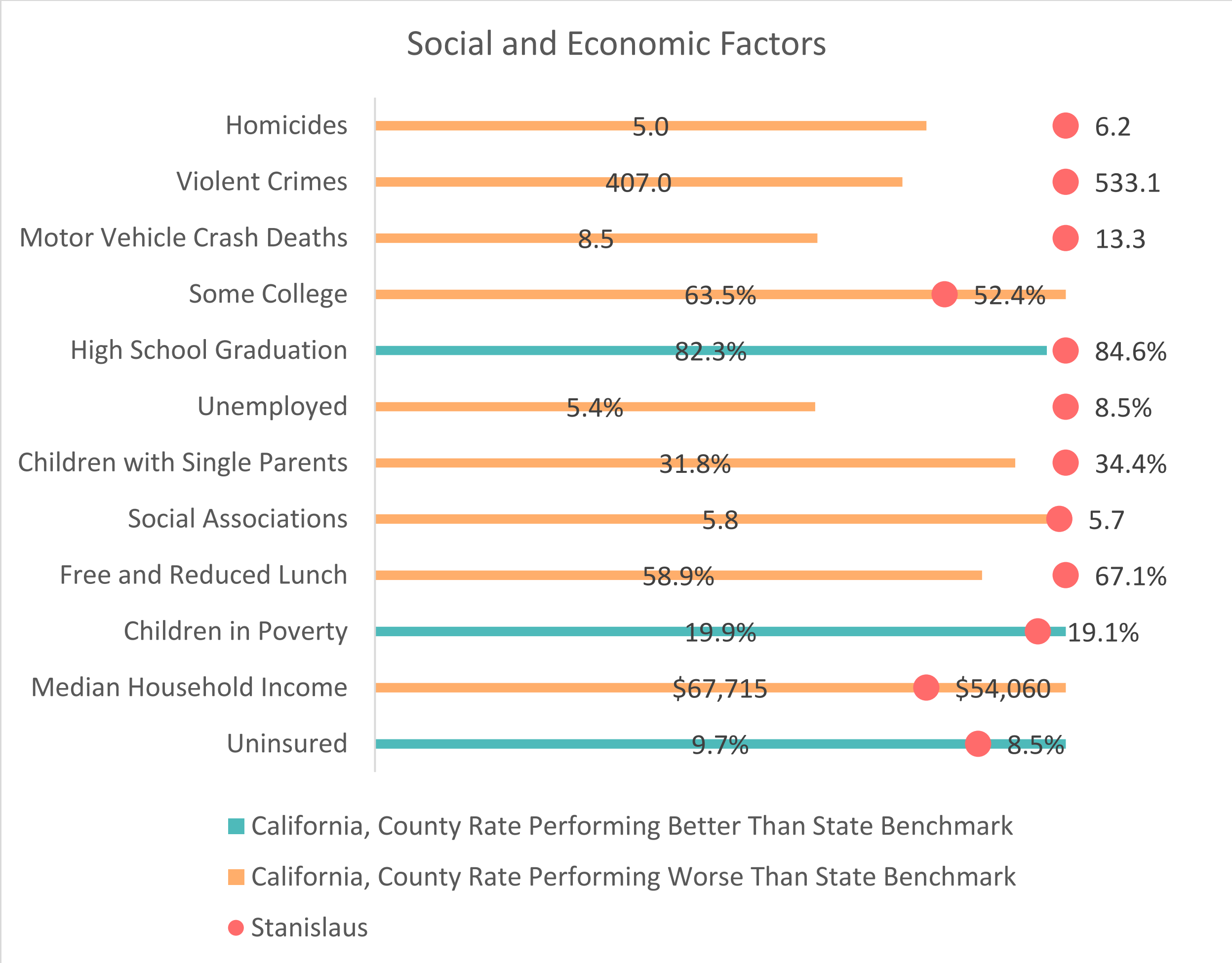

Figure 11: Social and economic factor indicators

Physical Environment

Table 11: Physical Environment Indicators Compared to State Benchmarks

Indicators	Description	Stanislaus	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	26.5%	27.9%
Housing Units With No Vehicle	Percentage of households with no vehicle available	6.9%	7.6%
Public Transit Proximity	Percentage of population living in a Census block within a quarter of a mile to a fixed transit stop	69.8%	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	97.2%	50.4%
Air Particulate Matter	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	10.0	8.0
Drinking Water Violations	Reports whether or not there was a health-related drinking water violation in a community within the county	1.0	

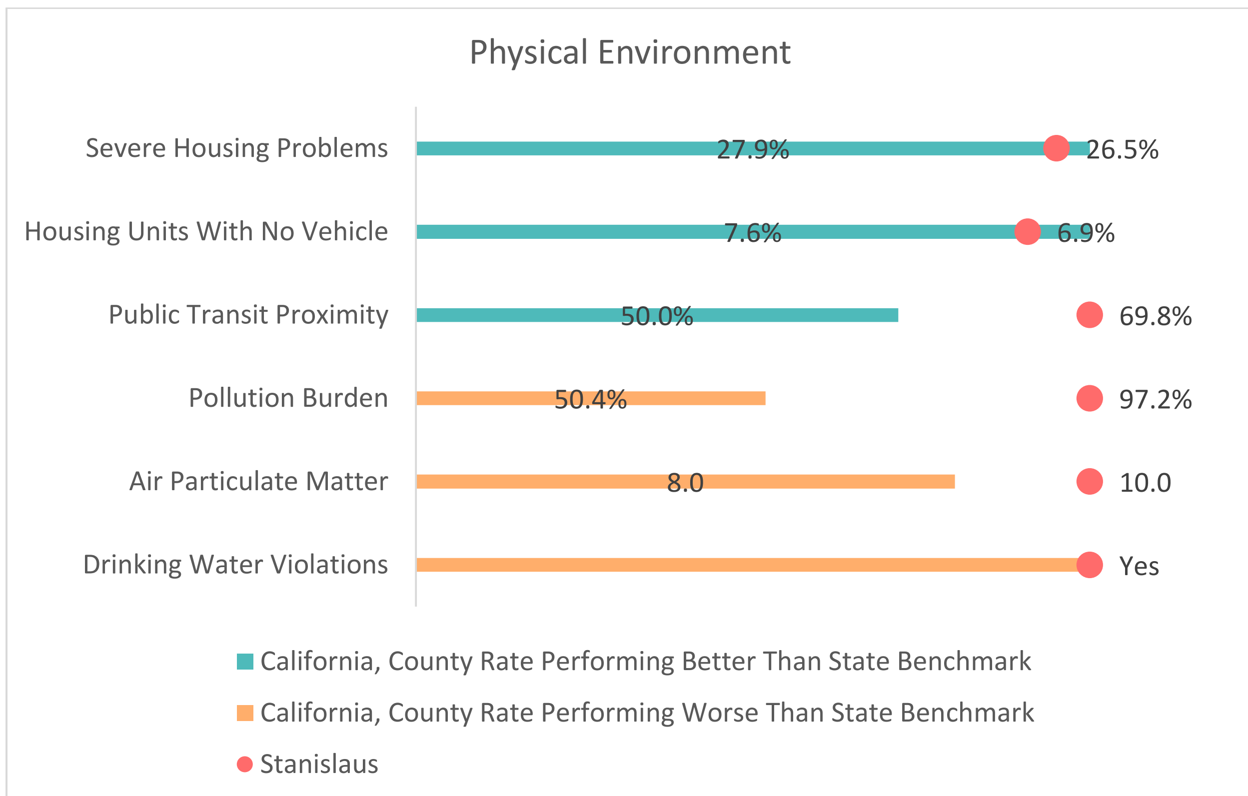

Figure 12: Physical environment indicators

CHNA Methods and Processes

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.

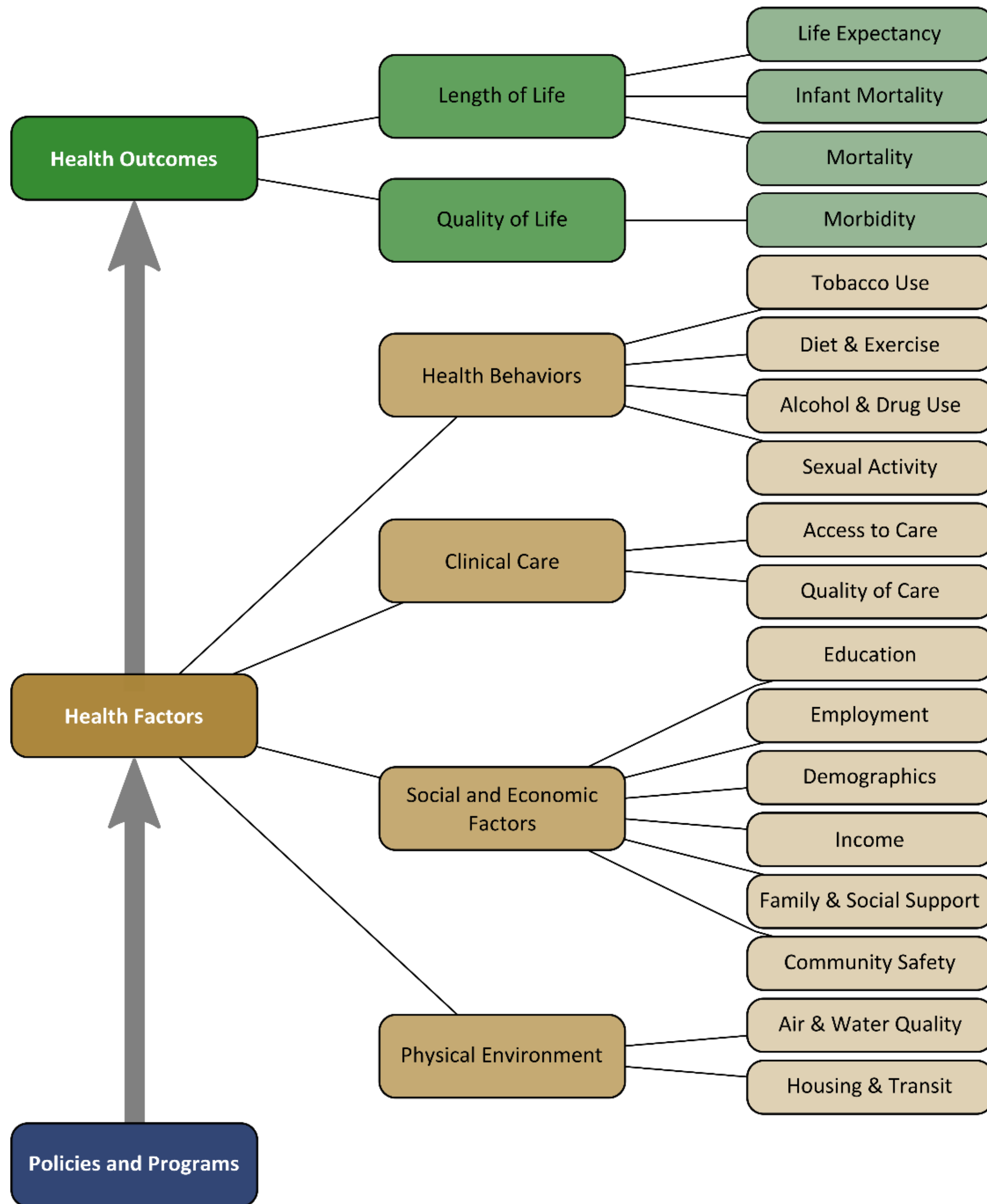

Figure 13: Community Health Assessment Conceptual Model as modified from the County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2015

Process Model

Figure 14 outlines the data collection and analysis stages of this process. The project began by confirming the HSA for both MMH and SSH 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.

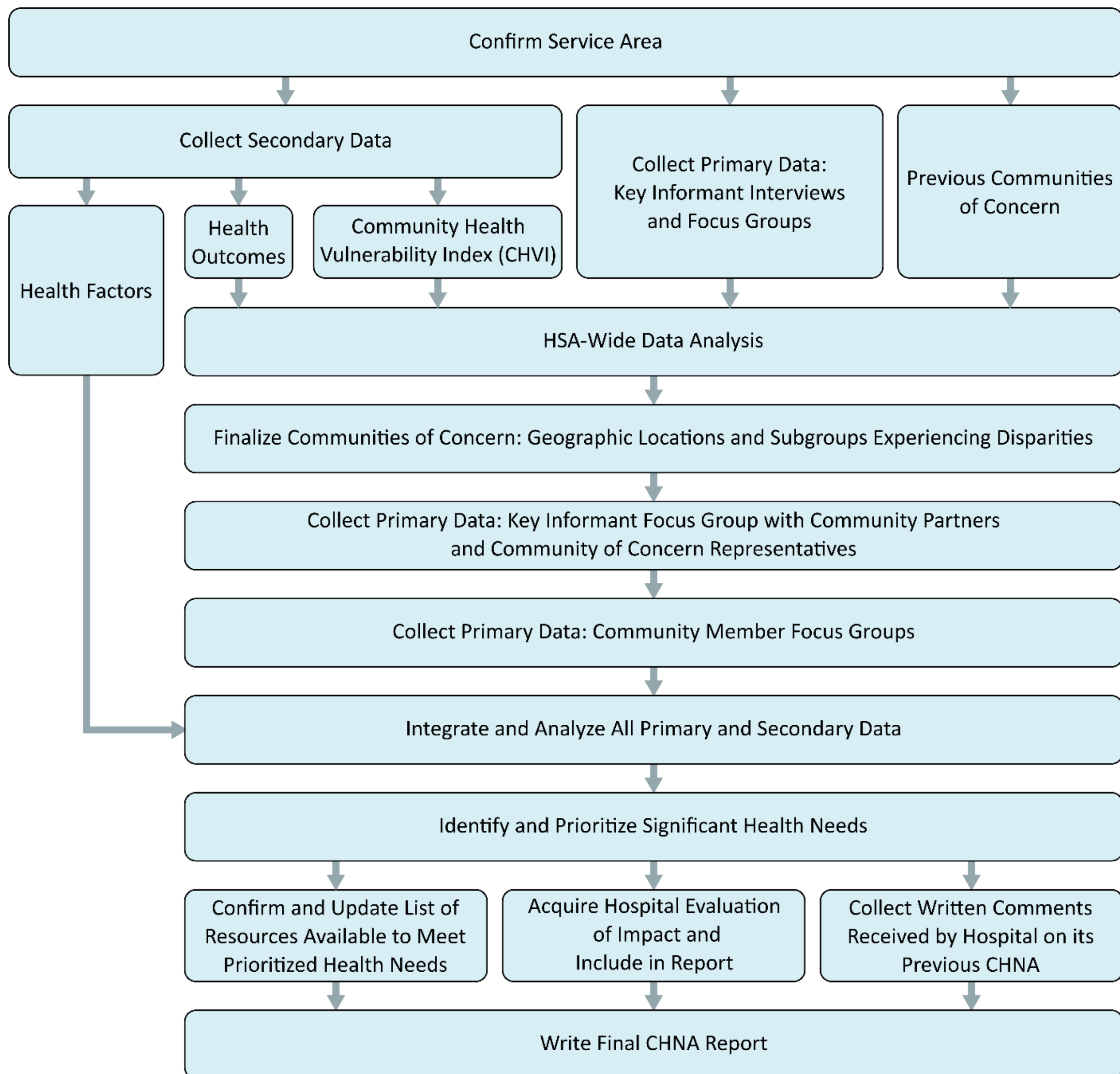

Figure 14: CHNA process model for the Stanislaus County CHNA

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 served by both MMH and SSH 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, asked for permission to record the interview, 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 12 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 12: Key Informant List

Organization	# Participants	Area of Expertise	Populations Served	Date
Stanislaus County Sherriff's Department	1	Law Enforcement	All residents of Stanislaus County	12/5/18
Health Services Agency	2	Public Health	Low income, at risk residents of Stanislaus County	12/11/18
Public Health Department -Director	1	Public Health	All residents of Stanislaus County	12/13/18
Public Health Department – Officer	1	Public Health	All residents of Stanislaus County	12/14/18

Organization	# Participants	Area of Expertise	Populations Served	Date
County Behavioral Health Services	2	Mental health, substance abuse	Low income, Medi-Cal, uninsured residents of Stanislaus County	12/19/19
West Modesto Community Collaborative	1	Community based social services	Low income, minority residents of West Modesto and Ceres	1/4/19
Waterford City Council	1	City government	Residents of Waterford	1/10/19
Center for Human Services Family Health Center	2	Community based social services	Low income, medically residents of Patterson	1/15/19
Del Puerto Health Care District	1	Healthcare Services	Low income, medically underserved residents of Patterson	1/22/19
Golden Valley Health Centers	1	Healthcare Services	Low income, medically underserved, residents of Riverbank, S. Turlock, Oakdale, Airport District	1/24/19
Memorial Medical Center	3	Healthcare Services	All residents of Stanislaus County	2/12/19

Key Informant Interview Guide

The following questions served at the interview guides 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 13 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 13: Focus Group List

Location	Date	# Participants	Demographic Information
West Modesto Community Collaborative King-Kennedy Memorial Center	1/31/19	10	Community members – low income, Hispanic, Spanish speaking
West Modesto Community Collaborative King-Kennedy Memorial Center	1/31/19	4	Community members – low income, minority
Aging and Veteran Services	1/31/19	12	Community members – veterans, seniors, LGBT
Waterford Family Resource Center	2/1/19	9	Community members – low income, rural, Hispanic, Spanish speaking
Patterson Family Resource Center	2/1/19	4	Community members – low income, rural
West Modesto Community Collaborative King-Kennedy Memorial Center	2/11/19	6	Community members – African American
Stanislaus Office of Education Come Back Kids	2/11/19	5	Community members – low income young adults
Modesto Gospel Mission	2/12/19	13	Community members – homeless in Modesto
We Care Emergency Shelter	2/12/19	12	Community members – homeless in Turlock

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 10 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 used to create the CHVI; the countywide indicators used to identify significant health needs; and the 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 within 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 14. 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 14: 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

Indicator	ICD10 Codes
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[13] were compared to ZCTA boundaries.[14] 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.

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

[14] 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

For example, 95397 is a PO Box located in Modesto, California. ZIP Code 95397 is not represented by a ZCTA, but it could have reported patient data. Through the process identified above, it was found that 95397 is located within the 95354 ZCTA. Data for both ZIP Codes 95397 and 95354 were therefore assigned to ZCTA 95354 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.

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.[15] 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.

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[15] 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

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 health-care-disparity index largely based on the Community Need Index (CNI) developed by Barsi and Roth.[16] 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 CHVI. For this report, the nine indicators were obtained from the 2016 American Community Survey 5-year Estimate dataset at the census tract[17] level and are contained in Table 15.

Table 15: Indicators Used to Create the Community Health Vulnerability Index

Indicator	Description	Source Data Table	Variables Included
Minority	The percentage of the population that is Hispanic or reports at least one race that is not white	B0302	HD01_VD01, HD01_VD03
Limited English	The 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

[16] 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

[17] 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	Description	Source Data Table	Variables Included
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 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 16 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 16: 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	CDPH**	2012-2016
		Mortality	Age-adjusted mortality	CDPH	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
			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
		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
** 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[18] 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 17.

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

Table 17: 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
Children Eligible for Free Lunch	2015–2016	National Center for Education Statistics

CHR Indicator	Time Period	Original Data Provider
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 sources of health-outcome and health-factor variables used for health need identification were 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.[19]

HRSA Data

Indicators related to the availability of healthcare providers were obtained from the Health Resources and Services Administration[20] (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.

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

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[19] 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

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

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[21] includes 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 18.

Table 18: 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	2016 County Business Patterns
Fruit and Vegetable Markets	BP_2016_00A3	Number of Establishments	445230	All Establishments	
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	

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

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[22] 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[23] 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 of 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 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.

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[22] 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
[23] CalEPA. 2018. CalEnviroscreen 3.0 Shapefile. Available online at: https://data.ca.gov/dataset/calenviroscreen-30. Last accessed: May 26, 2018.

Table 19 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 19: Transportation Agencies Used to Compile the Proximity to Public Transportation Indicator

County	Agency
Stanislaus	Turlock Transit, Ceres Area Transit, Stanislaus Regional Transit; Modesto Area Express (MAX)
San Joaquin	San Joaquin RTD, Lodi Grapeline, Escalon eTrans. Also includes Altamont Corridor Express.
Curry County	Curry Public Transit
Calaveras	Calaveras 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 20 lists each of these indicators as well as their sources.

Table 20: 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
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

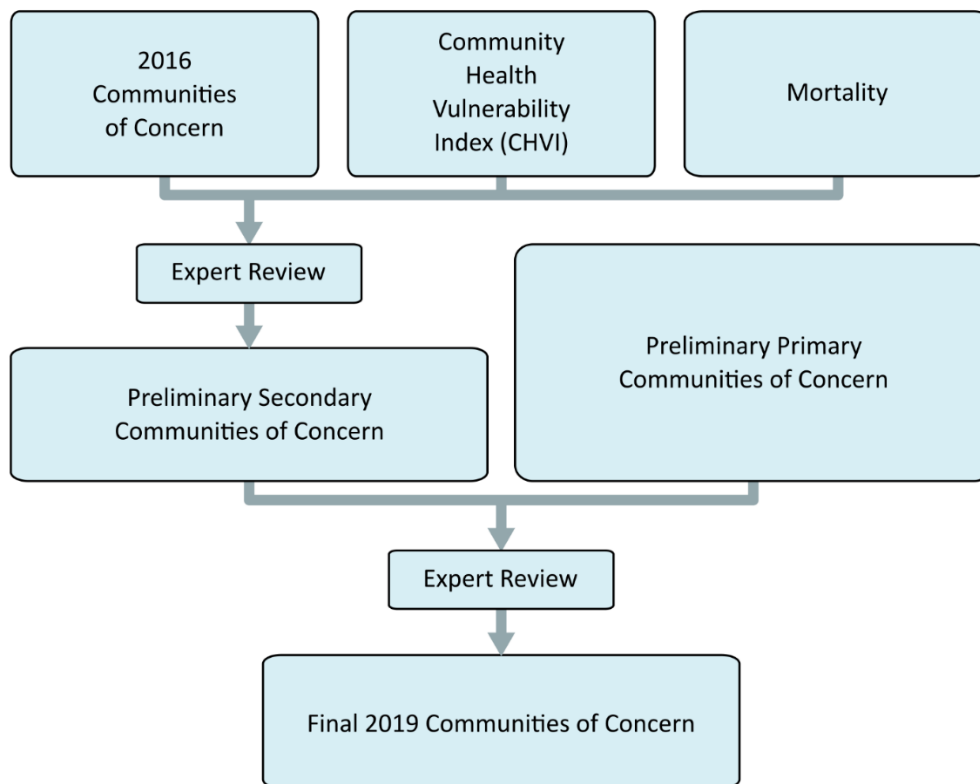

Figure 15: Process followed to identify Communities of Concern

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 of 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 1 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 21.

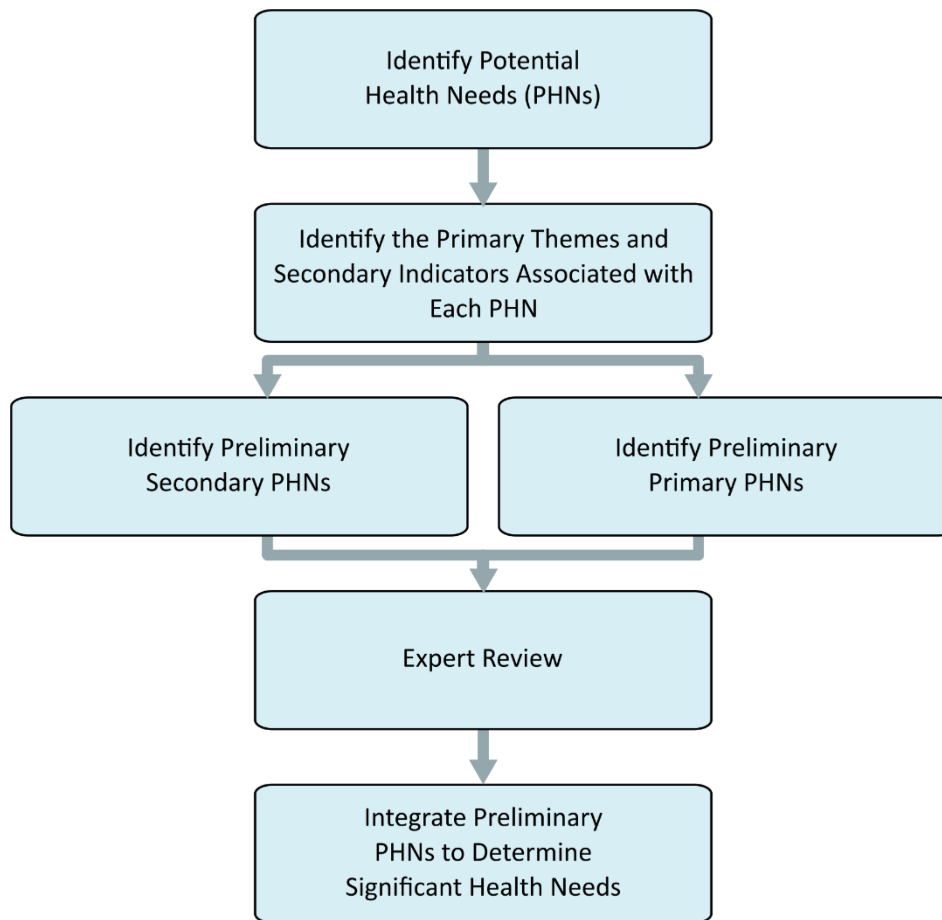

Figure 16: Process followed to identify Significant Health Needs

Table 21: 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 22. Primary theme associations were used to guide coding of the primary data sources to specific PHNs.

Table 22: 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
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)	• Employment and Unemployment • Poverty • Housing Issues • Homelessness • Education Access • Community Quality of Life • Housing Availability • Housing Affordability

Health Need Number	2019 CHI Potential Health Needs	2019 CHI Secondary Indicators	Primary Indicators
		• 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	
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
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	• 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

Health Need Number	2019 CHI Potential Health Needs	2019 CHI Secondary Indicators	Primary Indicators
		• Drug Overdose Deaths • Excessive Drinking • Adult Obesity • Physical Inactivity • Sexually Transmitted Infections • Teen Birth Rate • Adult Smoking • Motor Vehicle Crash Death Rate	

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 23 lists each secondary indicator and describes the comparison made to the benchmark to determine if it was problematic.

Table 23: 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
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

Indicator	Benchmark Comparison Indicating Poor Performance
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
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

Indicator	Benchmark Comparison Indicating Poor Performance
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 66% of the associated quantitative indicators were identified as performing poorly or the need was identified by 55% 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 24: Detailed List of Resources Potentially Available to Address Significant Health Needs Identified in the CHNA

Organization Information			Significant Health Need Med (X)									
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Active Living and Healthy Eating	Safe and Violence-Free Environment	Access to Dental Care and Preventive Services	Pollution-Free Living Environment	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 Management
211	County-Wide	www.stanislauscounty211.org	X	X	X	X	X	X	X	X	X	X
Adult Protective Services	County-Wide	www.csa-stanislaus.com/adult-services				X						
Alzheimer/Dementia Support Center	95350	http://stanislaus.networkofcare.org/mh/services/agency.aspx?pid=AlzheimersDementiaSupportCenterAlzheimersDementiaSupportGroup_182_2_0	X									X
Alzheimer's Association	County-Wide	www.alz.org										X
American Cancer Society	95350	www.cancer.org			X						X	X
American Red Cross	95354	www.redcross.org		X					X			
Aging and Veterans Services	County-Wide	www.agingservices.info	X	X	X	X			X	X	X	X
Behavioral Health and Recovery Services, Stanislaus County	95350	www.stancounty.com/bhrs	X	X								
Bethany's House	95350	www.bethany.org/modesto	X						X		X	
Boys and Girls Club	95354	www.bgcstanislaus.org	X		X	X			X			
Breast Cancer and Cervical Cancer Treatment Program (BCCTP)		www.dhcs.ca.gov/services/medi-cal/pages/BCCTP.aspx									X	
Breast Cancer Early Detection Program (BCEDP)	County-Wide	www.dhcs.ca.gov/services/cancer									X	

Organization Information			Significant Health Need Med (X)									
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Active Living and Healthy Eating	Safe and Violence-Free Environ-ment	Access to Dental Care and Preven-tive Services	Pollution-Free Living Environ-ment	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Func-tional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Manage-ment
Cal Fresh	County-Wide	www.csa-stanislaus.com/cal-fresh/							X			
California Children Services (CCS830)	County-Wide	www.dhcs.ca.gov/services/ccs	X								X	
CARE Program	County-Wide	www.stancounty.com/cares	X			X			X			
CASA del Rio FRC – Healthy Start	95367	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Catholic Charities Assisted Transportation	County-Wide	www.ccstockton.org/programs/seniortransportationprogram.aspx								X		
Catholic Charities Homemaker Program	County-Wide	www.ccstockton.org/programs/homemakerandchoreservices(housekeeping).aspx							X			
Catholic Charities Diocese of Stockton	95354	www.ccstockton.org/areasserved/stanislaus.aspx	X		X	X			X			
Center for Human Services	95350	www.centerforhumanservices.org	X						X			
Central Valley Counseling Center	95361	www.cvcconline.com	X									
Central Valley Opportunity Center	County-Wide	www.cvoc.org							X			
Central Valley Pride Center	95354	www.mopride.org	X			X						
Ceres Community Center	95307	https://www.ci.ceres.ca.us/237/Ceres-Community-Center-Rental			X				X			
Ceres Partnership	95307	www.centerforhumanservices.org/what-	X	X	X				X			

Organization Information			Significant Health Need Med (X)									
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Active Living and Healthy Eating	Safe and Violence-Free Environ-ment	Access to Dental Care and Preven-tive Services	Pollution-Free Living Environ-ment	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Func-tional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Manage-ment
		we-do/family-resource.centers										
Ceres Healthy Start FRC	95307	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Children's Crisis Center	County-Wide	www.childrencrisiscenter.com	X									
Church Food Banks	95307, 95350, 95316, 95354, 95355, 95356, 95351, 95358, 95361, 95363, 95367, 95380, 95386	https://www.needhelppayingbills.com/html/modesto_food_pantries.html							X			
Cleansing Hope Shower Shuttle	95354	www.showershuttle.com							X			
Committed Movement/Life of an Athlete	95350	www.crowdproject.org/programs-committed.shtm			X							
Commodity Supplemental Food Program		www.fns.usda.gob/csfp/commodity-supplemental-food-program-csfp							X			
Community Emergency Response Team	County-Wide	http://www.stancounty.com/bhrs/emergency-services.shtm	X									
Community Hospice, Inc.	95356	www.hospiceheart.org	X	X							X	
Community Housing & Shelter Services	95354	www.communityhousingandshelterservices.org							X			
Community Impact Central Valley	County-Wide	www.communityimpactcv.org							X			X
Community Sharing Christian Center in Oakdale	95361	(209) 847 3401							X			

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Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Active Living and Healthy Eating	Safe and Violence-Free Environ-ment	Access to Dental Care and Preven-tive Services	Pollution-Free Living Environ-ment	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Func-tional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Manage-ment
Community Services Agency	95358	www.csa-stanislaus.com		X	X				X			
Disability Resource Agency for Independent Living	95350	www.drail.org	X						X	X		
Downey Healthy Start FRC	95355	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Drop In Family Resource Center	95351	https://www.sierravistacares.org/family-resource-centers	X	X	X				X		X	X
El Concilio	95202	www.elconcilio.org	X			X			X			
El Rio Memory Care	95356	www.koelschseniorcommunities.com/senior-living/ca/modesto/el-rio/									X	X
Empowerment Center - Turning Point	County-Wide	www.tpcp.org/programs/empowerment	X									
Family Caregiver Support Program	County-Wide	http://www.agingservices.info/family-caregiver.shtm	X									
Family Planning, Access, Care and Treatment Program - Family PACT		www.schsa.org	X									
First Step	95350	www.sierravistacares.org/first-step-perinatal-substance	X									
Focus on Prevention	County-Wide	www.preventionfocus.net	X		X	X		X	X	X		X
Franklin Healthy Start FRC	95351	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X

Organization Information			Significant Health Need Med (X)									
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Active Living and Healthy Eating	Safe and Violence-Free Environ-ment	Access to Dental Care and Preven-tive Services	Pollution-Free Living Environ-ment	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Func-tional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Manage-ment
Friends Are Good Medicine - Support Groups	County-Wide	http://friendsaregoodmedicine.com/pdf/friendsdirectory.pdf	X									
Friends Outside	95354	www.friendsoutside.com							X			
Go Go Grandparent	County-Wide	www.gogograndparent.com								X		
Grayson-Westley FRC	95387	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Hammon Senior Center	95363	www.ci.patterson.ca.us/440/Hammon-Senior-Center			X				X			X
Haven Women's Center of Stanislaus	95354, 95380	www.havenwcs.org	X			X			X			
HAWK - Safety Home Visits	95354	(209) 342-6150				X			X			
Healthy Aging Association	95355	www.healthyagingassociation.org			X				X			X
HOST (Help Others Sleep Tonight) House	95363	(209) 894-2652							X			
Housing Assessment Team	County-Wide	https://www.tpcp.org/programs/hat/							X			
Howard Training Center	95351	http://www.howardtrainingcenter.com							X			
Hughson Community Center	95326	http://hughson.org/our-community/community-center/			X				X			
Hughson Family Resource Center	95326	https://www.sierravistacares.org/family-resource-centers	X	X	X				X		X	X
Hughson Healthy Start FRC	95326	www.stancoe.org/division/educational-options/prevention-	X	X	X				X			X

Organization Information			Significant Health Need Med (X)									
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Active Living and Healthy Eating	Safe and Violence-Free Environ-ment	Access to Dental Care and Preven-tive Services	Pollution-Free Living Environ-ment	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Func-tional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Manage-ment
		programs/healthy-start										
Hutton House	95354	www.centerforhumanservices.org	X									
Inter-Faith Ministries	95354	www.interfaithmodesto.org							X			
Jessica's House	95380	www.jessicashouse.org	X									
John B. Allard Healthy Start FRC	95354	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Keyes Healthy Start FRC	95328	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Learning Quest - Stanislaus Literacy Centers	95354	www.lqslc.com							X			X
Link 2 Care	County-Wide	http://www.stanlink2care.org							X	X		
MCERT	County-Wide	www.stancounty.com/bhrs/emergency-services.shtm	X									
Medi-Cal Access Program (MCAP)	County-Wide	www.mcap.dhcs.ca.gov		X								
Medically Indigent Adult Program	County-Wide	www.schsa.org/pages/services/ihcp/index.shtm		X								
MEDIVAN	95351	https://www.srt.org/maps-schedules/medivan/								X		
Modesto Area Express	95351	https://www.modestoareaexpress.com								X		

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Modesto Dial-A-Ride	95351	https://www.modestoareaexpress.com/149/Dial-A-Ride								X		
Modesto Family Promise	95358	www.modestofamilypromise.org							X			
Modesto Gospel Mission	95354	https://modestogospelmission.org							X			
Modesto Senior Center	95354	www.modestogov.com/1717/Senior-Center-Activities			X				X			X
Modesto Veterans Center	95351	https://www.va.gov/directory/guide/facility.asp?ID=5636	X									
MOVE	95355	http://www.movestanislaus.org								X		
Maddux Youth Center	95351	www.modestogov.com/facilities/facility/details/maddux-youth-center-15			X				X			
New Hope Recovery	95350	www.newhope-recovery.org	X									
Newman Family Resource Center	95360	www.centerforhumanservices.org/what-we-do/family-resource.centers	X	X	X				X			X
North Modesto/Salida Family Resource Center	95350	https://www.sierravistacares.org/family-resource-centers	X	X	X				X		X	X
Oakdale Family Resource and Counseling Center	95361	www.centerforhumanservices.org/what-we-do/family-resource.centers	X	X	X				X			X
Oakdale Senior Center	95361	https://www.oakdalegov.com/senior-services	X									
Ombudsman of Stanislaus County	County-Wide	http://www.ccstockton.org/Programs/O							X			

Organization Information			Significant Health Need Med (X)									
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Active Living and Healthy Eating	Safe and Violence-Free Environ-ment	Access to Dental Care and Preven-tive Services	Pollution-Free Living Environ-ment	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Func-tional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Manage-ment
		mbudsmanProgram.aspx										
Orville Wright Healthy Start FRC	95354	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
PACE Healthy Start FRC	95358	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Parent Institute for Quality Education	95354	www.piqe.org							X			
Parent Resource Center	95351	www.prcfamilies.org	X		X	X			X			
Parents United Inc.	95354	www.parentsunited.net	X			X			X	X		
Patterson Family Resource Center	95363	www.centerforhumanservices.org/what-we-do/family-resource.centers	X	X	X				X			X
Petersen Alternative Center for Education (PACE) Healthy Start FRC	95358	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Project HOPE/Friendly Visitor	County-Wide	http://www.agingservices.info/projecthope.shtm	X		X							
Project Sentinel (Fair Housing)	95354	http://housing.org/about-us/contact-us/							X			
Project Uplift	95358	www.projectupliftmentor.org			X							
Promotores	County-Wide	www.stanbhrsprevention.com/promotores.shtm	X	X	X	X	X	X	X	X	X	X
Riverbank Christian Food Sharing	95367	http://ca.gethelpmap.com/item/riverban							X			

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		k-christian-food-sharing/										
Robertson Road Healthy Start FRC	95351	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Salvation Army Modesto Corps	95354	www.modestocitadel.salvationarmy.org	X						X			
Salvation Army Red Shield Center	95358	www.modestoredshield.salvationarmy.org	X						X			
Salvation Army Turlock	95380	www.turlock.salvationarmy.org	X						X			
Sacred Heart Church	95363	www.sacredheartpatterson.org							X			
SER - Jobs for Progress	County-Wide	https://www.sercalifornia.org							X			
Second Harvest Food Bank	95337	www.localfoodbank.org			X				X			
Sierra Vista Child & Family Services	95354	www.sierravistacares.org	X						X			
Society for Disabilities	95354	https://societyfordisabilities.org							X			X
STANCO Affordable Housing Corporation	95354	www.stancoahc.com							X			
Stanislaus Co Dept of Education: Comeback Kids Program	County-Wide	http://www.stancoe.org/division/educational-options/come-back-kids							X			
Stanislaus Recovery Center	County-Wide	http://www.stanislausrecoverycenter.com	X									
Stanislaus Workforce Development	County-Wide	www.stanworkforce.com							X			
Stockton PACE	County-Wide	www.stocktonpace.wellbehealth.com	X						X			

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St. Vincent de Paul Society	95354	www.stvincentdepaulministry.wordpress.com							X			
Supportive Services for Veterans (Housing/Homelessness)	County-Wide	https://www.va.gov/homeless/ssvf/index.asp							X			
Telecare	95354	www.telecarecorp.com	X									
The Bridge Family Resource Center	95351	https://www.sierravistacares.org/family-resource-centers	X	X	X				X		X	X
The First Tee Central Valley	95351	www.thefirstteecentralvalley.org			X							
The Living Center	95354	www.tlctreatment.com	X									
Turlock Senior Citizens Center	95380	http://www.turlockseniors.org			X				X			
United Patterson Initiative	95363	www.sites.google.com/prod/patterson.k12.ca.us/unitedpatterson			X				X			
United Samaritans Foundation	95380	www.unitedsamaritans.org							X			
United Way of Stanislaus County	95354	www.uwaystan.org				X			X			
Valley Caregiver Resource Center	County-Wide	www.valleycrc.org									X	X
Valley Medical Transport	County-Wide	http://www.valleymedicaltransport.com								X		
Valley Moutain Regional Center	County-Wide	https://www.vmrc.net	X						X		X	
Veterans Services	County-Wide	http://www.veteranservices.info	X	X					X			
Visually Impaired Persons Support	County-Wide	http://www.vipsmodesto.org	X								X	X
Waterford Dial-A-Ride	95386	http://www.modestoareaexpress.com/28								X		

Organization Information			Significant Health Need Med (X)									
Name	ZIP Code	Website	Access to Mental/ Behavioral/ Substance Abuse Services	Access to Quality Primary Care Health Services	Active Living and Healthy Eating	Safe and Violence-Free Environ-ment	Access to Dental Care and Preven-tive Services	Pollution-Free Living Environ-ment	Access to Basic Needs Such as Housing, Jobs, and Food	Access and Func-tional Needs	Access to Specialty and Extended Care	Injury and Disease Prevention and Manage-ment
		9/Other-Dial-A-Ride-Services										
Waterford Family Resource Center	95386	https://www.sierravistacares.org/family-resource-centers	X	X	X				X			
We Care Turlock	95380	www.wecareturlock.org							X			
West Modesto King Kennedy Neighborhood Collaborative	95351	www.westmodestocollaborative.com	X		X				X			
Westside Food Pantry	95363	(209) 892-5709							X			
Without Permission	95354	www.withoutpermission.org				X						
Zephyr Clarke Wellness Center	95351	www.westmodestocollaborative.com/programs/zephyrclarkewellnesscenter	X						X			
HEALTH CARE FACILITIES												
Bentley Health Center	95386	www.visitlch.org	X	X			X				X	X
Doctor's Medical Center	95350	www.dmc-modesto.com	X	X							X	X
Emanuel Medical Center, Inc.	95382	www.emanuelmedicalcenter.org		X							X	X
Golden Valley Health Center – Ceres	95307	www.gvhc.org/locations/ceres		X			X					X
Golden Valley Health Center – Corner of Hope	95354	www.gvhc.org/locations/modesto/modesto-corner-of-hope	X	X	X							X
Golden Valley Health Center – Florida Suite	95350	www.gvhc.org/locations/modesto/modesto-florida-suites		X	X							X
Golden Valley Health Center – Florida North	95350	www.gvhc.org/locations/modesto/modesto-florida-north	X	X								X

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Golden Valley Health Center – Hanshaw School	95358	www.gvhc.org/locations/modesto/modesto-hanshaw-school	X	X	X		X					X
Golden Valley Health Center – Newman	95360	www.gvhc.org/locations/newman		X	X		X					X
Golden Valley Health Center – Patterson	95363	www.gvhc.org/locations/patterson	X	X	X		X					X
Golden Valley Health Center – Riverbank	95367	www.gvhc.org/locations/riverbank		X	X							X
Golden Valley Health Center – Robertson Road School	95351	www.gvhc.org/locations/modesto/modesto-robertson-road		X	X		X					X
Golden Valley Health Center – Tenaya	95354	www.gvhc.org/locations/modesto/modesto-tenaya		X								X
Golden Valley Health Center – Turlock	95382	www.gvhc.org/locations/turlock		X	X							X
Golden Valley Health Center – Westley	95387	www.gvhc.org/locations/westley		X	X							X
Golden Valley Health Center – West Modesto	95354	www.gvhc.org/locations/modesto/modesto-west	X	X	X						X	X
Golden Valley Health Center – West Turlock	95380	www.gvhc.org/locations/turlock		X	X		X					X
Health Services Agency – Administrative Offices	95353	www.schsa.org		X	X				X		X	X
Health Services Agency - Family and Pediatric	95350	www.schsa.org www.schsa.org/pdf.hsa-clinics.pdf		X	X							X
Health Services Agency – McHenry Medical Office	95350	www.schsa.org www.schsa.org/pdf.hsa-clinics.pdf		X							X	X
Health Services Agency - Paradise	95351	www.schsa.org www.schsa.org/pdf.hsa-clinics.pdf		X							X	X
Kaiser Permanente Modesto Medical Center	95355	www.healthy.kaiserpermanente.org/northern-	X	X	X						X	X

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		california/facilities/modesto-medical-center-and-medical-offices										
Las Palmas Health Center	95363	www.visitlch.org	X	X			X				X	X
Memorial Medical Center	95355	www.sutterhealth.org/mmc		X	X						X	X
Modesto Care Center	95354	www.caremore.com	X	X	X			X			X	X
Oakdale Health Center	95361	www.oakvalleycares.org		X			X				X	X
Oak Valley District Hospital	95361	www.oakvalleycares.org		X							X	X
Patterson Care Center	95363	www.caremore.com		X	X			X			X	X
Planned Parenthood Modesto Health Center	95350	www.plannedparenthood.org/healthcenter/california/modesto									X	X
Riverbank Health Center	95367	www.oakvalleycares.org		X								X
Stanislaus Surgical Hospital	95355	www.stanislaussurgical.com		X							X	
Turlock Care Center	95382	www.caremore.com	X	X	X			X			X	X
Valley Family Medicine Residency of Modesto	95350	www.valleymeded.org/familymed		X							X	
V.A. Medical Clinic	95355	https://www.paloalto.va.gov/locations/modesto.asp	X	X							X	X
Waterford Community Health Center	95386	www.oakvalleycares.org		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.