SUTTER SOLANO MEDICAL CENTER

2022 Community Health Needs Assessment

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

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

Community Health Needs Assessment
The following report contains Sutter Solano Medical Center'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.

2022 Community Health Needs Assessment

Conducted on behalf of

Sutter Solano Medical Center
300 Hospital Drive
Vallejo, CA 94589

Conducted by

January 2022

Acknowledgments

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

Community Health Insights (www.communityhealthinsights.com) conducted the assessment on behalf of Sutter Solano Medical Center. Community Health Insights is a Sacramento-based research-oriented consulting firm dedicated to improving the health and well-being of communities across Central and 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 Sutter Solano Medical Center (SSMC) service area. The priorities identified in this report help to guide nonprofit hospitals' community health improvement programs and community benefit activities as well as their collaborative efforts with other organizations that share a mission to improve health. This CHNA report meets the requirements of the Patient Protection and Affordable Care Act (and in California, Senate Bill 697) that nonprofit hospitals conduct a community health needs assessment at least once every three years. The CHNA was conducted by Community Health Insights (www.communityhealthinsights.com).

Community Definition

The definition of the community served included the primary service area of the hospital, the City of Vallejo, California, and surrounding communities as defined by six ZIP Codes—94503, 94510, 94589, 94590, 94591, and 94592. This is the designated service area because the majority of patients served by SSMC resided in these ZIP Codes. Considered a North San Francisco Bay community, Vallejo is an incorporated city in Solano County. The service area included one ZIP Code, 94503 (American Canyon), located in Napa County. The total population of the service area was 173,551.

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. Furthermore, 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 one-on-one and group interviews with 17 community health experts, social-service providers, and medical personnel. In addition, 16 community residents or community service provider organizations participated in 3 focus groups across the service area.

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

[1] See: County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2015. Retrieved from: http://www.countyhealthrankings.org/.

At the time that this CHNA was conducted the COVID-19 pandemic was impacting communities across the United States, including SSMC's service area. While the process for conducting the CHNA remained fundamentally the same, precautions were taken during qualitative data collection to ensure the health and safety of those participating. Additionally, COVID-19 data were incorporated into the quantitative data analysis and the impact of the pandemic on the community was discussed during qualitative data collection. These findings are reported throughout various sections of the report.

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 12 potential health needs (PHNs). These PHNs were 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 12 PHNs identified in previous CHNAs.

Because of the dynamic and evolving nature of health needs, identified significant health needs change over time and new needs may appear. For this assessment, one additional health need was identified in the service area that was not present in 2019: Access to Specialty and Extended Care (#6).

List of Prioritized Significant Health Needs

The following significant health needs identified for SSMC are listed below in prioritized order.

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

Resources Potentially Available to Meet the Significant Health Needs

In all, 326 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 in the 2019 CHNA, verifying that the resources still existed, and then adding newly identified resources into the 2022 CHNA report.

Conclusion

This CHNA details the process and findings of a comprehensive community health needs assessment to guide decision-making for the implementation of community health improvement efforts using a health equity lens. The CHNA includes an overall health and social examination of SSMC's service area, and clearly details the needs of community members living in parts of the service area where residents

experience health disparities. This report also serves as a resource for community organizations in their effort to improve health and well-being of 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 Sutter Solano Medical Center (SSMC), located at 300 Hospital Drive, Vallejo, CA 94589. SSMC's primary service area includes the communities of Vallejo, Benicia, and American Canyon. Vallejo and Benicia are both in incorporated cities located in Solano County, while American Canyon is located in Napa County, California. The total population of the service area was 173,551.

SSMC is an affiliate of Sutter Health, a nonprofit healthcare system. The CHNA was conducted over a period of eight months, beginning in April, 2021 and concluding November, 2021. 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 SSMC. Community Health Insights is a Sacramento-based research-oriented consulting firm dedicated to improving the health and well-being of communities across Central and Northern California. Community Health Insights has conducted dozens of CHNAs for various health systems, as well as Community Health Assessments (CHAs) for local health departments, over the previous decade.

Findings

Prioritized Significant Health Needs

Primary and secondary data were analyzed to identify and prioritize the significant health needs in the SSMC service area. In all, 10 significant health needs were identified. Primary data were then used to prioritize these significant health needs.

Prioritization was based on two measures that came from the key informant interview and focus group results. These included the percentage of sources that identified a health need as existing in the community, and the percentage of times the sources identified a health need as a top priority. Table 1 shows the value of these measures for each significant health need.

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

Table 1: Health need prioritization inputs for SSMC service area.

Prioritized Health Needs	Percentage of Key Informants and Focus Groups Identifying Health Need	Percentage of Times Key Informants and Focus Groups Identified Health Need as a Top Priority
1. Access to Basic Needs Such as Housing, Jobs, and Food	100%	34%
2. Access to Mental/Behavioral Health and Substance-Use Services	80%	12%
3. Injury and Disease Prevention and Management	50%	18%
4. Access to Quality Primary Care Health Services	80%	5%
5. Access to Functional Needs	80%	5%
6. Access to Specialty and Extended Care	40%	16%
7. Increased Community Connections	70%	4%
8. Active Living and Healthy Eating	50%	5%
9. Safe and Violence-Free Environment	60%	~
10. Healthy Physical Environment	40%	~

~ Health need not mentioned

These measures were then combined to create a health need prioritization index. The highest priority was given to health needs that were more frequently mentioned and were more frequently identified among the top priority needs.[3] The prioritization index values are shown in Figure 1, where health needs are ordered from highest priority at the top of the figure to lowest priority at the bottom.

[3] Further details regarding the creation of the prioritization index can be found in the technical report.

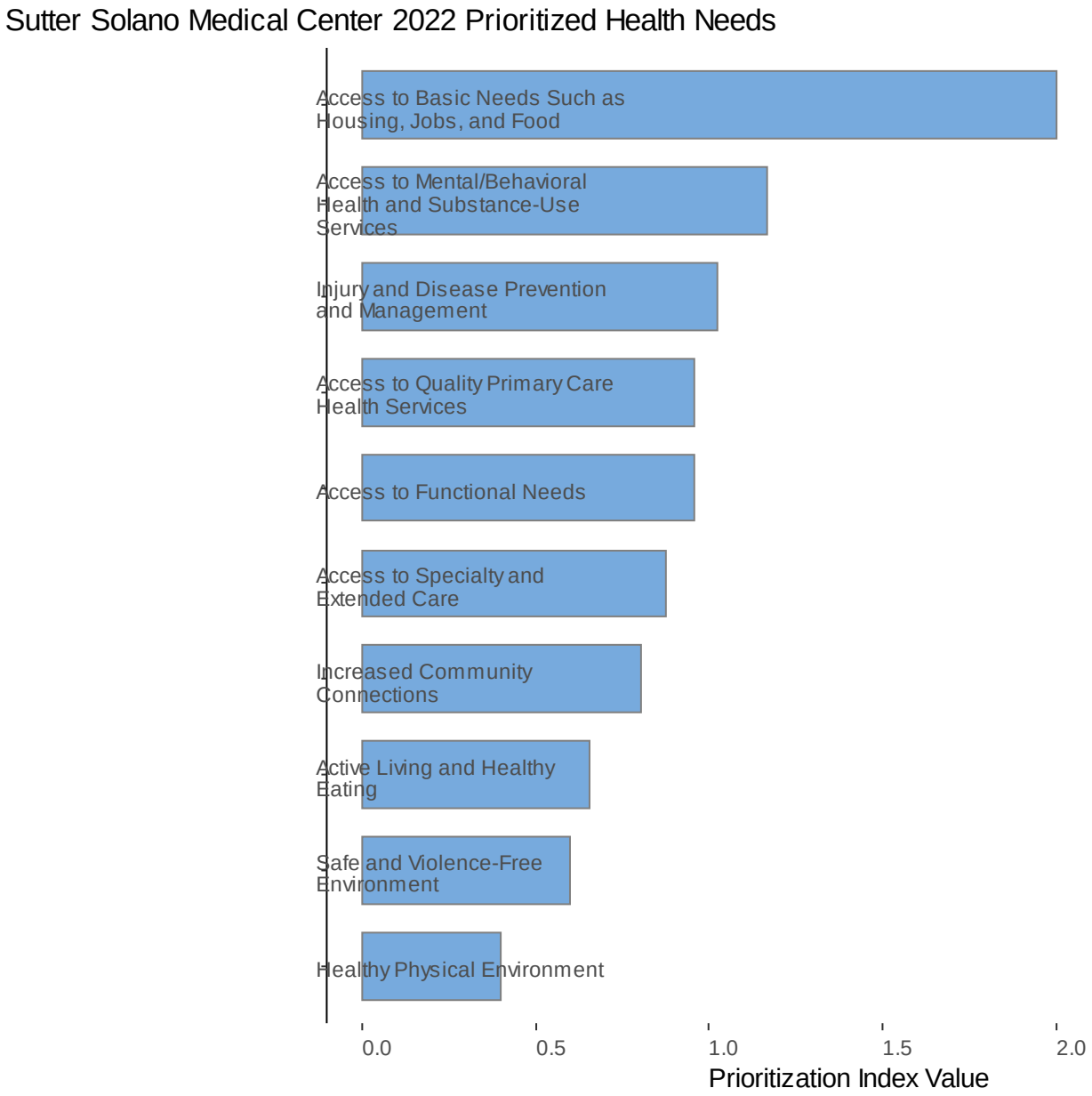


Figure 1: Prioritized significant health needs for SSMC service area.

While COVID-19 was top of mind for many participating in the primary data collection process, feedback regarding the impact of COVID-19 confirmed that the pandemic exacerbated existing needs in the community.

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 ordered by their relationship to the conceptual model used to guide data collection for this report. Results from primary data 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[4] suggests 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. Research shows that the social determinants of health, such as quality housing, adequate employment and income, food security, education, and social support systems, influence individual health as much as health behaviors and access to clinical care.[5]

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• The community needs more low-income housing. • There is limited shelter space for the homeless; too much red tape to get into shelters. • There is no clean water or bathrooms for the homeless. • Children of the homeless do not attend school due in part to limited transportation options. • People with low credits scores cannot gain access to rental properties. • Minimum wage jobs do not pay a living wage. • The community needs to invest in more economic development efforts. • Food available in the food banks is unhealthy food. • Rental prices have escalated driving many into homelessness. • The cost of living the Bay area keeps going up, people are working multiple jobs and still cannot survive.	• Infant Mortality • Child Mortality • Life Expectancy • Premature Age-Adjusted Mortality • Premature Death • Hypertension Mortality • Diabetes Prevalence • Poor Mental Health Days • Frequent Mental Distress • Poor Physical Health Days • Frequent Physical Distress • Drug Induced Death • Adult Obesity	• Limited Access to Healthy Foods • Food Environment Index • Medically Underserved Area • COVID-19 Cumulative Full Vaccination Rate • Some College • Disconnected Youth • Third Grade Reading Level • Third Grade Math Level • Children in Single-Parent Households • Social Associations • Long Commute - Driving Alone • Asthma ED Rates • Asthma ED Rates for Children

2. Access to Mental/Behavioral Health and Substance-Use 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. Access to mental, behavioral, and substance-use services is an essential ingredient for a healthy community where residents can obtain additional support when needed.

[4] McLeod, S. 2014. Maslow's Hierarchy of Needs. Retrieved from: http://www.simplypsychology.org/maslow.html
[5] See: http://www.countyhealthrankings.org/learn-others/research-articles#Rankingsrationale

Primary Data Analysis	Secondary Data Analysis
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:
• There are limited mental health services throughout the county. • The wait-times for mental health services are extensive. • The community needs culturally competent mental health services. • Cultural barriers prevent some groups from seeking behavioral health services. • Stigmas prevent many from getting the mental health services they need. • There are a limited number of behavioral health practitioners in the community. • Government needs to recruit more providers into the community. • Mental health needs have increased dramatically during the pandemic. • Opioid overdoses have increased over the pandemic. • Mental health needs in youth have increased. • Generational trauma continues to impact the community; the community needs healing.	• Life Expectancy • Premature Age-Adjusted Mortality • Premature Death • Liver Disease Mortality • Suicide Mortality • Poor Mental Health Days • Frequent Mental Distress • Poor Physical Health Days • Frequent Physical Distress • Excessive Drinking • Drug Induced Death • Adult Smoking • Primary Care Shortage Area • Medically Underserved Area • Psychiatry Providers • Firearm Fatalities Rate • Juvenile Arrest Rate • Disconnected Youth • Social Associations

3. Injury and Disease Prevention and Management

Knowledge is important for individual health and well-being, and efforts aimed at injury and disease 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 focus on reducing cases of injury and infectious disease control (e.g., sexually transmitted infection (STI) prevention and influenza shots), and intensive strategies in the management of chronic diseases (e.g., diabetes, hypertension, obesity, and heart disease) are important for community health improvement.

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• Teen pregnancy is an issue in the community. • Tobacco use is an issue in the community. • There is not enough focus on preventative care in the community.	• Infant Mortality • Child Mortality • Stroke Mortality • Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Hypertension Mortality • Liver Disease Mortality • Suicide Mortality	• Asthma ED Rates • Asthma ED Rates for Children • Excessive Drinking • Drug Induced Death • Adult Obesity • Physical Inactivity • Chlamydia Incidence • Adult Smoking

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• Vaccination rates in the Medi-Cal population are much lower than the general population. • The community needs more bi-lingual health education classes. • There are no funds for prevention services and disease management programs.	• Unintentional Injuries Mortality • Alzheimer's Disease Mortality • Diabetes Prevalence • Poor Mental Health Days • Frequent Mental Distress • Frequent Physical Distress	• COVID-19 Cumulative Full Vaccination Rate • Firearm Fatalities Rate • Juvenile Arrest Rate • Motor Vehicle Crash Death • Disconnected Youth • Third Grade Reading Level • Third Grade Math Level

4. 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 other similar resources. 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.

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• There are no pharmacies nearby in the community. • The community needs more healthcare services nearby. • Many members of the community do not trust the healthcare system. • Healthcare does not focus enough on prevention. • Different ethnic and minority groups are apprehensive about the healthcare system. • The community needs more culturally sensitive providers. • There are no linguistically proficient providers in the community. • The lack of providers results in community members using the emergency department for primary care. • After hour clinics and services are needed in the community. • Undocumented residents need better access to basic healthcare services. • It is difficult to get healthcare services if you are enrolled in Medi-Cal.	• Infant Mortality • Child Mortality • Life Expectancy • Premature Age-Adjusted Mortality • Premature Death • Stroke Mortality • Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Hypertension Mortality • Cancer Mortality • Liver Disease Mortality • Alzheimer's Disease Mortality • Influenza and Pneumonia Mortality • Diabetes Prevalence • Poor Mental Health Days	• Poor Physical Health Days • Frequent Physical • Breast Cancer Prevalence • Lung Cancer Prevalence • Prostate Cancer Prevalence • Asthma ED Rates • Asthma ED Rates for Children • Primary Care Shortage Area • Medically Underserved Area • Mammography Screening • Primary Care Providers • Preventable Hospitalization • COVID-19 Cumulative Full Vaccination Rate

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
	• Frequent Mental Distress	• Colorectal Cancer Prevalence

5. Access to Functional Needs

Functional needs relate to transportation and 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 needs that promote and support a healthy life. The number of people with a disability is also an important indicator of community health and must be examined to ensure that all community members have access to necessities for a high quality of life.

Primary Data Analysis	Secondary Data Analysis
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:
• The community is car dependent; there are limited transportation options if you do not own a car. • Bus schedules make it difficult to get around the community. • Transportation to get to primary care is limited.	• Disability • Frequent Mental Distress • Frequent Physical Distress • Adult Obesity • COVID-19 Cumulative Full Vaccination Rate • Long Commute - Driving Alone

6. Access to Specialty and Extended Care

Extended care services, which include specialty care, include care provided in a particular branch of medicine focused 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 the progression of chronic diseases, including diabetes and high blood pressure, on their own. In addition to specialty care, extended care refers to care extending beyond primary care services that is needed in the community to support overall physical health and wellness, such as skilled-nursing facilities, hospice care, and in-home healthcare.

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• Access to specialty care is a challenge in the community. • One must leave the county to access specialty care. • Some insurances do not cover specialty care.	• Infant Mortality • Life Expectancy • Premature Age-Adjusted Mortality • Premature Death • Stroke Mortality	• Diabetes Prevalence • Poor Mental Health Days • Frequent Mental Distress • Poor Physical Health Days • Frequent Physical Distress • Lung Cancer Prevalence

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
	• Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Hypertension Mortality • Cancer Mortality • Liver Disease Mortality • Alzheimer's Disease Mortality	• Asthma ED Rates • Asthma ED Rates for Children • Drug Induced Death • Psychiatry Providers • Specialty Care Providers • Preventable Hospitalization

7. Increased Community Connections

As humans are social beings, community connection is a crucial part of living a healthy life. People have a need to feel connected with a larger support network and the comfort of knowing they are accepted and loved. Research suggests "individuals who feel a sense of security, belonging, and trust in their community have better health. People who don't feel connected are less inclined to act in healthy ways or work with others to promote well-being for all."[6] Assuring that community members have ways to connect with each other through programs, services, and opportunities is important to foster a healthy community.

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• The lack of family support is a challenge for many. • There needs to be more cross-sector collaboration between healthcare and other community organizations. • The community lacks social inclusion and civic engagement. • More collaboration is needed among healthcare services. • The community needs more services that help connect residents to programs and services. • There are many nonprofits that work in Vallejo; but they do not work together.	• Infant Mortality • Child Mortality • Life Expectancy • Premature Age-Adjusted Mortality • Premature Death • Stroke Mortality • Diabetes Mortality • Hypertension Mortality • Suicide Mortality • Unintentional Injuries Mortality • Diabetes Prevalence • Poor Mental Health Days • Frequent Mental Distress	• Primary Care Shortage Area • Medically Underserved Area • Psychiatry Providers • Specialty Care Providers • Primary Care Providers • Preventable Hospitalization • COVID-19 Cumulative Full Vaccination Rate • Homicide Rate • Firearm Fatalities Rate • Violent Crime Rate • Juvenile Arrest Rate

[6] Robert Wood Johnson Foundation. 2016. Building a Culture of Health: Sense of Community. See: https://www.rwjf.org/en/cultureofhealth/taking-action/making-health-a-shared-value/sense-of-community.html

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• There needs to be more collaboration among those delivering services.	• Poor Physical Health Days • Frequent Physical Distress • Excessive Drinking • Drug Induced Death • Physical Inactivity	• Some College • Disconnected Youth • Children in Single-Parent Households • Social Associations • Long Commute - Driving Alone

8. Active Living and Healthy Eating

Physical activity and eating a healthy diet are 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. The communities are challenged with food insecurity, lacking the means to consistently secure food for themselves, thus relying on food pantries and school meals, which may not provide sufficient nutrition for maintaining health.

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• There are no grocery stores in the immediate community. • It is difficult to shop at distant grocery stores due to limited transportation options. • Obesity is an issue in the community, and it leads to other health problems. • Residents struggle to find fresh fruits and vegetables in the community. • Healthy nutrition education should be taught in schools. • There an excessive number of fast-food restaurants in the community.	• Life Expectancy • Premature Age-Adjusted Mortality • Premature Death • Stroke Mortality • Diabetes Mortality • Hypertension Mortality • Cancer Mortality • Diabetes Prevalence • Poor Mental Health Days • Frequent Mental Distress • Poor Physical Health Days • Frequent Physical Distress	• Colorectal Cancer Prevalence • Breast Cancer Prevalence • Prostate Cancer Prevalence • Asthma ED Rates • Asthma ED Rates for Children • Adult Obesity • Physical Inactivity • Limited Access to Healthy Foods • Food Environment Index • Long Commute - Driving Alone

9. 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, and clothing) is having physical safety. Feeling unsafe affects the way people act and react to everyday life occurrences. Furthermore, research has demonstrated that individuals exposed to violence in their homes, the community, and schools are more likely to experience depression and anxiety and demonstrate more aggressive, violent behavior.[7]

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• Parts of Vallejo is a high crime area and the police do not respond to calls for help. • Safety is a significant issue in the community. • The police do not routinely patrol the community. • Human trafficking is a problem in the community. • Violent crime has risen and people are afraid to go outside. • There are no safe places to be outside in South Vallejo.	• Life Expectancy • Premature Death • Hypertension Mortality • Poor Mental Health Days • Frequent Mental Distress • Frequent Physical Distress • Physical Inactivity • Homicide Rate	• Firearm Fatalities Rate • Violent Crime Rate • Juvenile Arrest Rate • Motor Vehicle Crash Death • Disconnected Youth • Social Associations

10. Healthy Physical 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.[8]

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• There are toxins in the air because of the nearby refineries that harm health. • South Vallejo is "ground zero" for how refineries can harm those that live around them.	• Infant Mortality • Life Expectancy • Premature Age-Adjusted Mortality • Premature Death	• Breast Cancer Prevalence • Lung Cancer Prevalence • Prostate Cancer Prevalence • Asthma ED Rates

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

[8] See Blum, H. L. 1983. Planning for Health. New York: Human Sciences Press

Primary Data Analysis	Secondary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants and focus group participants:	The following indicators performed worse in the service area when compared to state averages:	
• Outsiders are constantly trying to put more industries in the community that are harmful to health. • The community is a garbage dump for people in and outside of the area. • People dump loads of garbage on the streets during the night. • The climate is impacting the community; many cannot afford air conditioners or fans. • The housing in the community is dilapidated.	• Chronic Lower Respiratory Disease Mortality • Hypertension Mortality • Cancer Mortality • Frequent Mental Distress • Frequent Physical Distress • Colorectal Cancer Prevalence	• Asthma ED Rates for Children • Adult Smoking • Long Commute - Driving Alone • Air Pollution - Particulate Matter

Methods 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.[9] This model of population health includes the many factors that impact and account for individual health and well-being. Furthermore, 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. SSMC requested written comments from the public on its 2019 CHNA and most recently adopted implementation strategy through SHCB@sutterhealth.org.

At the time of the development of this CHNA report, SSMC had not received written comments. However, input from the broader community was incorporated in the 2022 CHNA through key informant interviews and focus groups. SSMC 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 13 interviews with 17 community health experts and 3 focus groups

[9] See: County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2015. Retrieved from: http://www.countyhealthrankings.org/.

conducted with a total of 16 community residents or community service provider organizations. (A full listing of all participants can be seen in the technical section of this report.)

Secondary data included multiple datasets selected for use in the various stages of the analysis. A combination of mortality and socioeconomic datasets collected at subcounty levels was used to identify portions of the hospital service area with greater concentrations of disadvantaged populations and poor health outcomes. A set of county-level indicators was collected from various sources to help identify and prioritize significant health needs. Additionally, socioeconomic indicators were collected to help describe the overall social conditions within the service area. Health outcome indicators included measures of both mortality (length of life) and morbidity (quality of life). Health factor indicators included measures of 1) health behaviors, such as diet and exercise and tobacco, alcohol, and drug use; 2) clinical care, including access to quality care; 3) social and economic factors such as race/ethnicity, income, educational attainment, employment, and neighborhood safety; and 4) physical environment measures, such as air and water quality, transit and mobility resources, and housing affordability. In all, 68 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 SSMC service area. This included identifying 12 potential health needs (PHNs) in these communities. These PHNs were those identified in previously conducted CHNAs. Data were analyzed to discover which, if any, of the PHNs were present in the hospital's service area. After these were identified, health needs were prioritized based on an analysis of primary data sources that described the PHN as a significant health need.

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

Description of Community Served

The definition of the community served included the primary service area of the hospital, the City of Vallejo, California, and surrounding communities as defined by six ZIP Codes—94503, 94510, 94589, 94590, 94591, and 94592. This is the designated service area because the majority of patients served by SSMC resided in these ZIP Codes. Considered a North San Francisco Bay community, Vallejo is an incorporated city in Solano County. The service area included one ZIP Code, 94503 (American Canyon), located in Napa County. The total population of the service area was 173,551. The service area is shown in Figure 2.

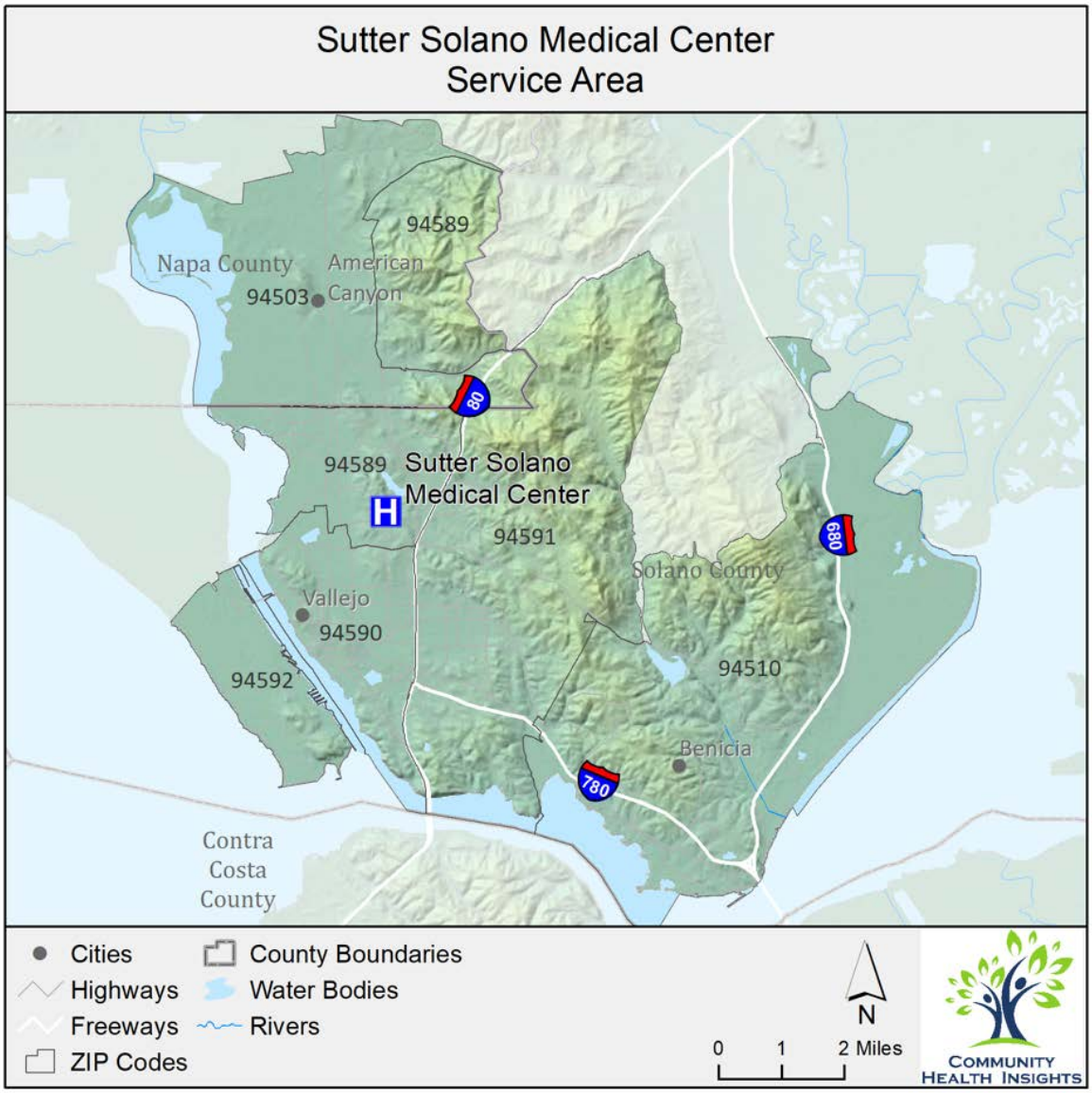


Figure 2: Community served by SSMC.

Population characteristics for each ZIP Code in the service area are presented in Table 2. These are compared to the state and county benchmarks for descriptive purposes. Any ZIP Code with values that compared negatively to the state or county is highlighted.

Table 2: Population characteristics for each ZIP Code located in the SSMC service area.

ZIP Code	Total Population	% Non-White or Hispanic\Latinx	Median Age (yrs.)	Median Income	% Poverty	% Unemployment	% Uninsured	% Without High School Graduation	% With High Housing Costs	% With Disability

94510	28,350	34.8	46.1	$103,163	7.0	2.7	2.0	3.2	34.1	11.2
94589	31,536	82.5	36.4	$68,494	11.3	11.2	4.2	15.2	42.3	11.2
94590	37,280	74.0	37.3	$53,275	20.4	8.6	7.8	16.0	46.8	15.0
94591	55,157	72.8	40.8	$85,311	8.5	6.8	4.1	8.0	38.5	11.8
94592	952	71.0	29.3	$127,679	15.3	0.0	8.0	2.8	32.0	5.2
Solano	***441,829***	***62.0***	***38.1***	***$81,472***	***9.5***	***6.0***	***4.7***	***11.6***	***37.0***	***12.3***
94503	20,276	78.6	38	$101,865	7.8	5.2	3.4	15.7	33.2	11.3
Napa	***139,623***	***47.6***	***41.3***	***$88,596***	***7.8***	***4.5***	***5.9***	***14.5***	***36.7***	***11.8***
California	***39,283,497***	***62.8***	***36.5***	***$75,235***	***13.4***	***6.1***	***7.5***	***16.7***	***40.6***	***10.6***

Health Equity

The Robert Wood Johnson Foundation's definition of health equity and social justice is used here to help establish a common understanding for the concept of health equity.

> "*Health equity means that everyone has a fair and just opportunity to be healthier. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care.*"

Inequities experienced early and throughout one's life, such as limited access to a quality education, have health consequences that appear later in life as 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."[10]

In the US and many parts of the world inequities are most apparent when comparing various racial and ethnic groups to one another. Using these comparisons between racial and ethnic populations, it is clear that health inequities persist across communities, including Solano and Napa Counties.

This section of the report shows inequities in health outcomes, comparing these between race and ethnic groups. These differences inform better planning for more targeted interventions.

Health Outcomes - The Results of Inequity

The table below displays disparities among race and ethnic groups for the HSA for life expectancy, mortality, and low birth weight.

[10] 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.

Table 3: Health outcomes comparing race and ethnicity in the SSMC service area.

Health Outcomes	Description	American Indian\ Alaska Native	Asian	Black	Hispanic	White	Overall
Solano							
Infant Mortality	Number of all infant deaths (within 1 year), per 1,000 live births.	~	~	~	~	~	3.3
Life Expectancy	Average number of years a person can expect to live.	~	88.2	80.8	86.6	80.8	82
Child Mortality	Number of deaths among children under age 18 per 100,000 population.	~	~	~	26.5	37.9	30.9
Premature Age-Adjusted Mortality	Number of deaths among residents under age 75 per 100,000 population (age-adjusted).	~	160.5	223.9	177.9	264.3	233.3
Premature Death	Years of potential life lost before age 75 per 100,000 population (age-adjusted).	~	~	~	3,576.3	5,136.7	4,401.3
Low Birthweight	Percentage of live births with low birthweight (< 2,500 grams).	~	8.8%	~	5.8%	5.6%	5.9%
Napa							
Infant Mortality	Number of all infant deaths (within 1 year), per 1,000 live births.	~	4.6	7.5	5.1	4.6	5.4
Life Expectancy	Average number of years a person can expect to live.	78.5	86.2	75.8	85.2	78.8	80.2
Child Mortality	Number of deaths among children under age 18 per 100,000 population.	~	42.6	64.7	34.7	45.6	44
Premature Age-Adjusted Mortality	Number of deaths among residents under age 75 per 100,000 population (age-adjusted).	370.7	189.3	471.8	216.9	329.2	304
Premature Death	Years of potential life lost before age 75 per 100,000 population (age-adjusted).	~	3,891.9	10,369.5	4,393.4	6,531.8	6,158.8
Low Birthweight	Percentage of live births with low birthweight (< 2,500 grams).	7.9%	8.2%	10.2%	6%	5.5%	6.9%
~ Data Not Available							
Data sources included in the technical section of the report.							

Health outcome disparities are apparent when examining data and comparing across each race and ethnic group.

Health Factors - Inequities in the Service Area

Inequalities can be seen in data that help describe health factors in the HSA, such as education attainment and income. These health factors are displayed in the table below and are compared across race and ethnic groups.

Table 4: Health factors comparing race and ethnicity in the SSMC service area.

Health Factors	Description	American Indian\ Alaska Native	Asian	Black	Hispanic	White	Overall
Solano							
Some College[a]	Percentage of adults ages 25 and over with some post-secondary education.	49.9%	79.7%	69.1%	36.2%	80.3%	67.7%
High School Completion[a]	Percentage of adults ages 25 and over with at least a high school diploma or equivalent.	92.1%	91.4%	87.3%	58.9%	96.6%	85.5%
Third Grade Reading Level	Average grade level performance for 3rd graders on English Language Arts standardized tests	~	3.5	2.6	2.5	3.2	2.8
Third Grade Math Level	Average grade level performance for 3rd graders on math standardized tests	~	3.4	2.6	2.3	3.1	2.7
Children in Poverty	Percentage of people under age 18 in poverty.	16.1%	2.3%	6.7%	10.4%	5.1%	8.4%
Median Household Income	The income where half of households in a county earn more and half of households earn less.	~	$114,806	$66,528	$68,493	$97,374	$90,230
Uninsured Population[b]	Percentage of the civilian non-institutionalized population without health insurance.	5.3%	3.5%	2.6%	11.1%	2.9%	5.9%
Napa							
Some College[a]	Percentage of adults ages 25 and over with some post-secondary education.	53.6%	71.8%	64.5%	43.3%	72.1%	64.6%
High School Completion[a]	Percentage of adults ages 25 and over with at least a high school diploma or equivalent.	82.6%	90.1%	91.9%	71.1%	95%	88.4%
Third Grade Reading Level	Average grade level performance for 3rd graders on English Language Arts standardized tests	~	3.1	2.4	2.6	3.1	2.8
Third Grade Math Level	Average grade level performance for 3rd graders on math standardized tests	~	3	2.1	2.4	3	2.6
Children in Poverty	Percentage of people under age 18 in poverty.	16%	7.7%	28.1%	14.3%	8.3%	11.2%
Median Household Income	The income where half of households in a county earn more and half of households earn less.	$62,583	$97,551	$62,015	$71,436	$88,013	$85,704
Uninsured Population[b]	Percentage of the civilian non-institutionalized population without health insurance.	6.1%	4.4%	4.4%	7.4%	3.3%	4.7%
~ Data Not Available							
Unless otherwise noted, data sources included in the technical section of the report.							
[a]From 2019 American Community Survey 5-year estimates tables B15002, C15002B, C15002C, C15002D, C15002H, and C15002I.							

Health Factors	Description	American Indian\ Alaska Native	Asian	Black	Hispanic	White	Overall
[b]From 2019 American Community Survey 5-year estimates table S2701.							

Health factor data compared across race and ethnic groups revealed opportunity disparities that result in poorer health outcomes for some groups.

Population Groups Experiencing Disparities

The figure below describes populations in the SSMC service area identified through qualitative data analysis that were identified as experiencing health disparities. Interview participants were asked, "What specific groups of community members experience health issues the most?" Responses were analyzed by counting the total number of times all key informants and focus-group participants mentioned a particular group as one experiencing disparities. Figure 3 displays the results of this analysis. The groups are not mutually exclusive—one group may be a subset of another group. One of the purposes of identifying the sub-populations was to help guide additional qualitative data collection efforts to focus on the needs of these population groups.

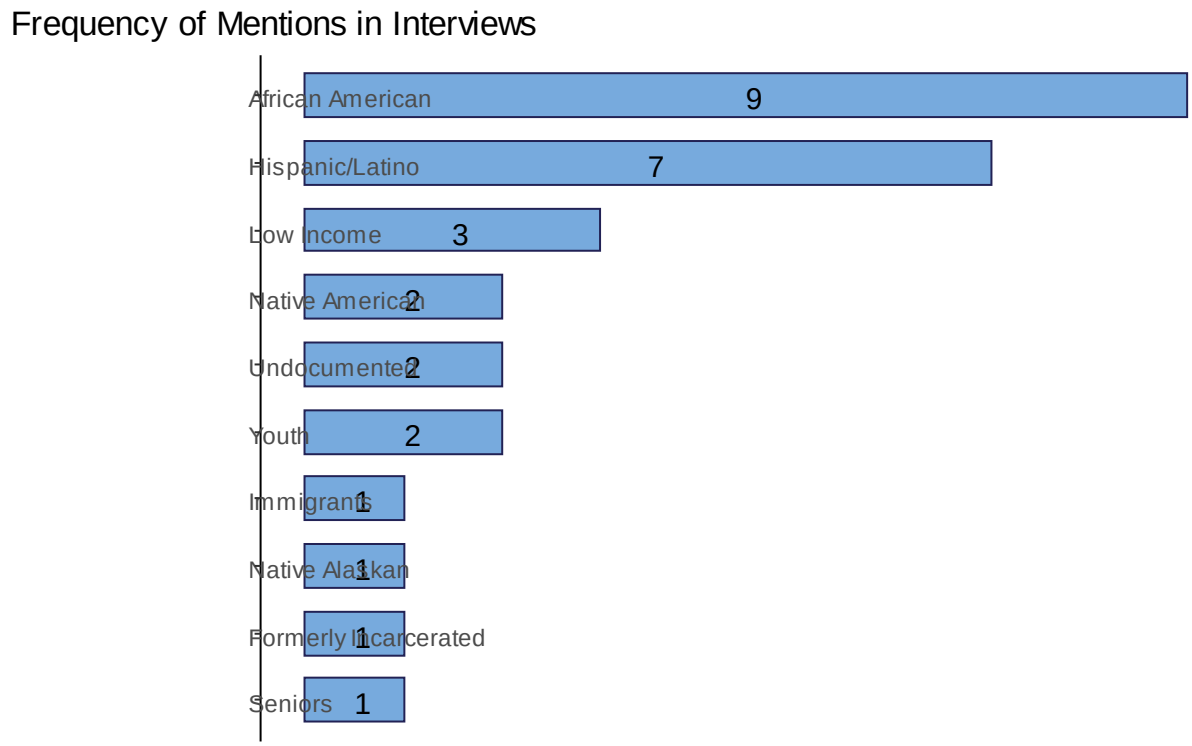


Figure 3: Populations experiencing disparities the SSMC service area.

California Healthy Places Index

Figure 4 displays the California Healthy Places Index (HPI)[11] values for the SSMC service area. The HPI is an index based on 25 health-related measures for communities across California. These measures included in the HPI were selected based on their known relationship to life expectancy and other health outcomes. These values are combined into a final score representing the overall health and well-being of the community which can then be used to compare the factors influencing health between communities. Higher HPI index values are found in communities with a collection of factors that contribute to greater health, and lower HPI values are found in communities where these factors are less present.

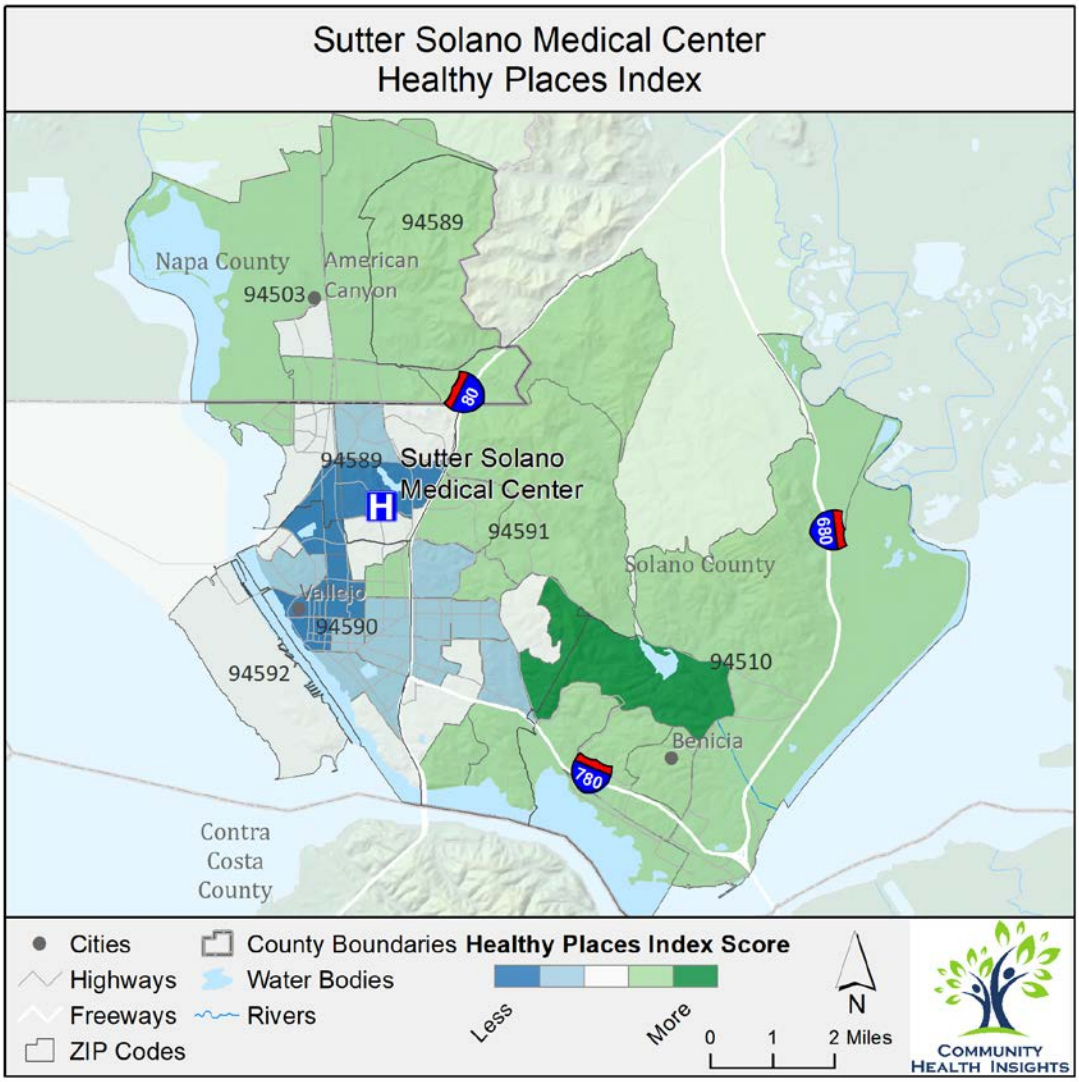


Figure 4: Healthy Places Index for SSMC.

[11] Public Health Alliance of Southern California. 2021. The California Health Places Index (HPI): About. Retrieved 26 July 2021 from https://healthyplacesindex.org/about/.

Areas with the darkest blue shading in Figure 4 have the lowest overall HPI scores, indicating factors leading to less healthy neighborhoods. There are likely to be a higher concentration of residents in these locations experiencing health disparities.

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 HSA likely experiencing the greatest health disparities. Geographic Communities of Concern were identified using a combination of primary and secondary data sources. (Refer to the technical section of this report for an in-depth description of how these are identified). Analysis of both primary and secondary data revealed two ZIP Codes that met the criteria to be classified as Communities of Concern. These are noted in Table 5, with the census population provided for each, and are displayed in Figure 5.

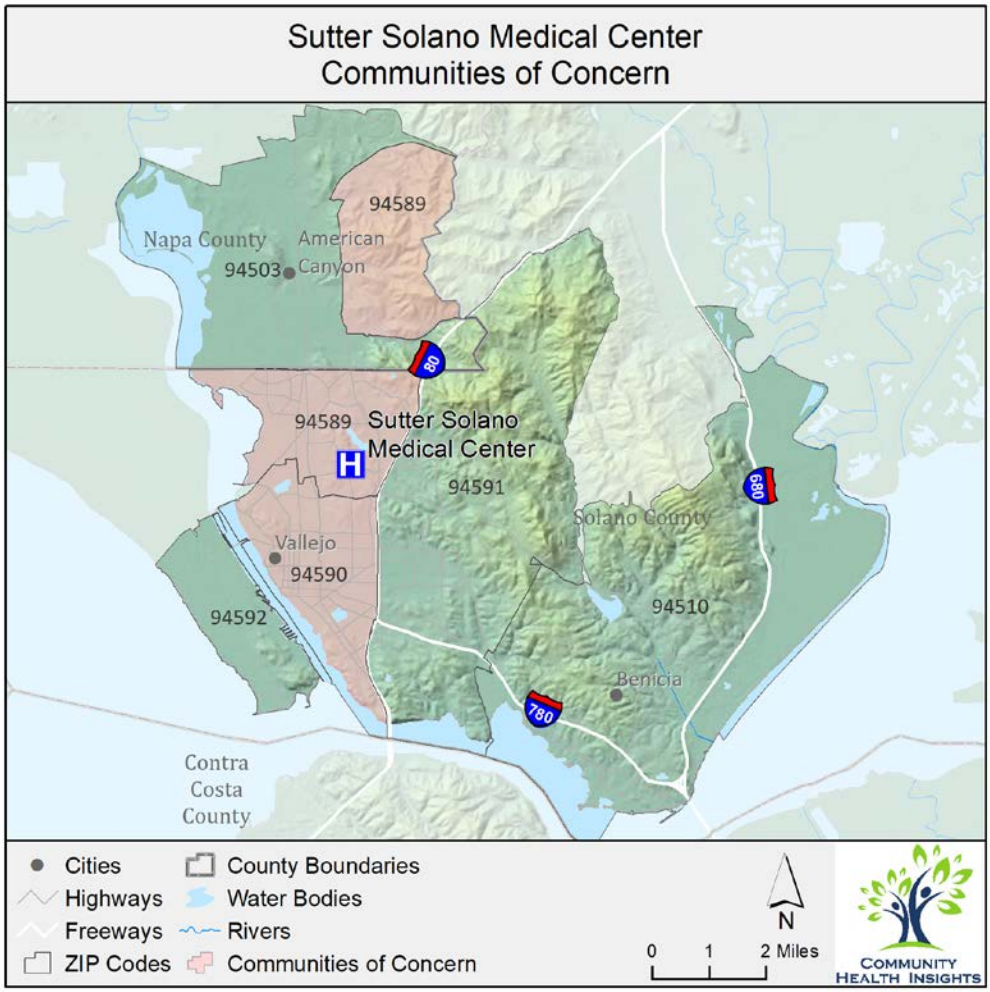


Figure 5: SSMC Communities of Concern.

Table 5: Identified Communities of Concern for the SSMC service area.

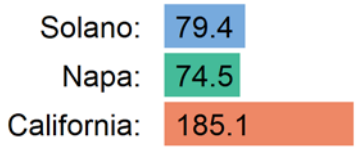
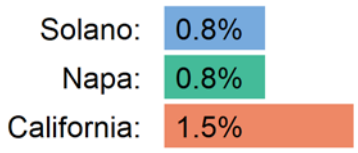
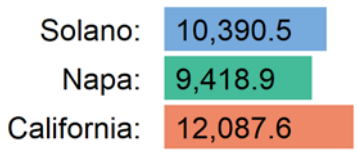
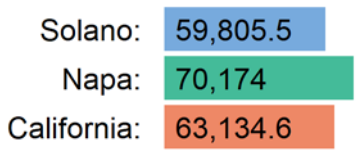
ZIP Code	Community\Area	Population
94589	Northern Vallejo	31,536
94590	Southern Vallejo	37,280
Total Population in Communities of Concern		*68,816*
Total Population in Hospital Service Area		*173,551*
Percentage of Service Area Population in Community of Concern		*39.7%*

Figure 5 displays the ZIP Codes highlighted in pink that are Communities of Concern for the SSMC service area.

The Impact of COVID on Health Needs

COVID related health indicators regarding the HSA are noted in Table 6.

Table 6: COVID-19-related rates for the SSMC service area.

Indicators	Description	Solano	Napa	California	
COVID-19 Mortality	Number of deaths due to COVID-19 per 100,000 population.	79.4	74.5	185.1	
COVID-19 Case Fatality	Percentage of COVID-19 deaths per laboratory-confirmed COVID-19 cases.	0.8%	0.8%	1.5%	
COVID-19 Cumulative Incidence	Number of laboratory-confirmed COVID-19 cases per 100,000 population.	10,390.5	9,418.9	12,087.6	
COVID-19 Cumulative Full Vaccination Rate	Number of completed COVID-19 vaccinations per 100,000 population.	59,805.5	70,174	63,134.6	

COVID-19 data collected on November 17 2021

Data indicated that both Solano and Napa Counties had a COVID-19 mortality rate, case fatality rate, and cumulative incidence rate that was lower than the state average. However, Solano County had a completed vaccination rate that was lower than the state rate, while Napa County had a rate that was higher than the state rate.

Key informants and focus group participants were asked how the COVID-19 pandemic had impacted the health needs they described during interviews. A summary of their responses is shown in Table 7. These are listed in the order based on the number of times key informants and focus group participants mentioned the theme.

Table 7: The impacts of COVID-19 on health needs as identified in primary data sources.

Key Informant and Focus Group Responses
• Community residents have been avoiding care due to fear of going into healthcare organizations. • The challenges many in the community faced in making ends meet have been exacerbated by the pandemic. • More community residents have been pushed into homelessness due to the pandemic. • Lower income populations struggle to quarantine when contracting the virus; they must continue employment to make ends meet; increases the spread of COVID-19. • For some, the distrust in government institutions and public health functions has grown. • The disinformation spreading in the community has caused some to avoid getting vaccinated. • For some, economic relief funding has caused a dis-incentive to return to employment. • Lower income populations often cannot work from home. • For youth, the additional resources they get while at school have been missed. • Many have stay indoors during the pandemic, limiting physical activity.

The most mentioned impact of the pandemic on health needs was that community residents had avoided, delayed, or postponed seeking preventative healthcare services. Also, a majority of respondents indicated that the pandemic had exacerbated or intensified the existing social, economic, and health conditions that many faced prior to the pandemic.

Resources Potentially Available to Meet the Significant Health Needs

In all, 326 resources were identified in the SSMC service area that were potentially available to meet the identified significant health needs. These resources were provided by a total of 118 social-service, nonprofit, and governmental organizations, agencies, and programs identified in the CHNA. The identification method included starting with the list of resources from the 2019 SSMC CHNA, verifying that the resources still existed, and then adding newly identified resources to the 2022 CHNA report. Examination of the resources revealed the following numbers of resources for each significant health need as shown in Table 8.

Table 8: 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	58
Access to Mental/Behavioral Health and Substance-Use Services	62
Injury and Disease Prevention and Management	33
Access to Quality Primary Care Health Services	27
Access to Functional Needs	17
Access to Specialty and Extended Care	20
Increased Community Connections	50
Active Living and Healthy Eating	26
Safe and Violence-Free Environment	25

Significant Health Needs (in Priority Order)	Number of Resources
Healthy Physical Environment	8
Total Resources	**326**

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 and 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] SSMC invested efforts to address the significant health needs identified in the prior CHNA. Appendix A includes details of those efforts.

Conclusion

CHNAs play an important role in helping nonprofit hospitals and other community organizations determine where to focus community benefit and health improvement efforts, including targeting efforts in geographic locations and specific populations experiencing inequities leading to health disparities. Data in the CHNA report can help provide nonprofit hospitals and community service providers with content to work in collaboration to engage in meaningful community work.

Please send any feedback about this CHNA report to SHCB@sutterhealth.org with "CHNA Comments" in the subject line. Feedback received will be incorporate into the next CHNA cycle.

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

2022 CHNA Technical Section

The following section presents a detailed account of data collection, analysis, and results for the Sutter Solano Medical Center (SSMC) Hospital Service Area (HSA).

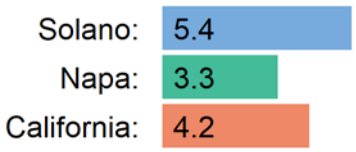
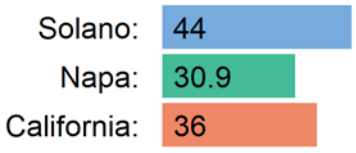
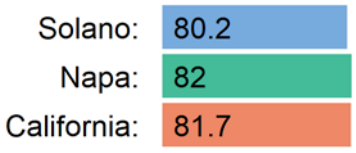
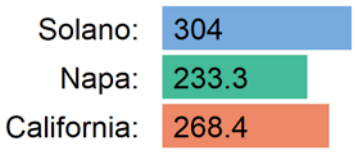
Results of Data Analysis

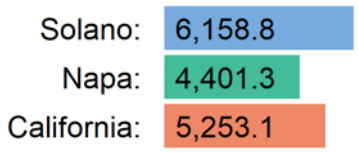
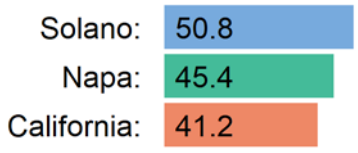
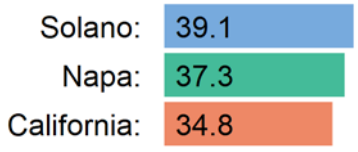
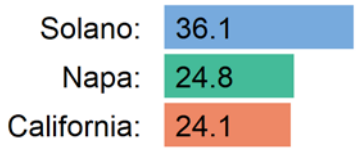
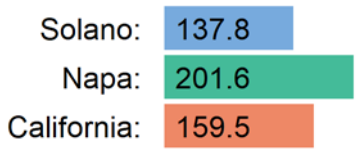
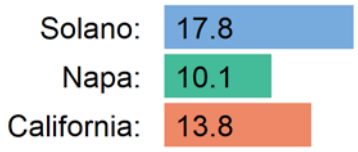
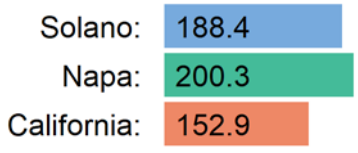
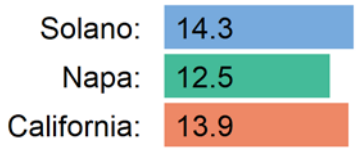
Compiled Secondary Data

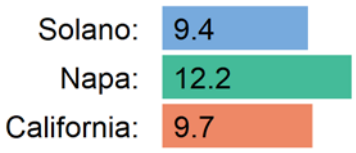
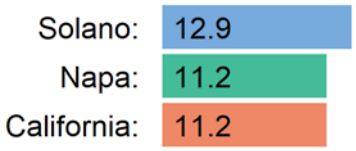
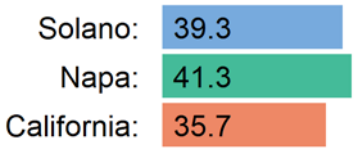
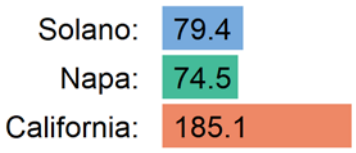
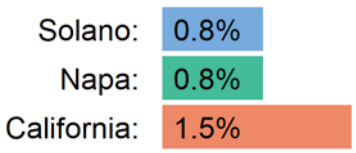
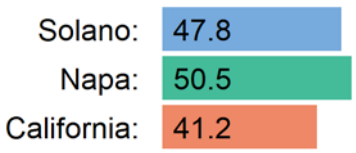
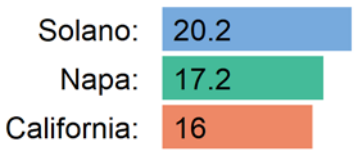
The tables and figures that follow show the specific values for the health need indicators used as part of the health need identification process. Indicator values for Solano County were compared to California state benchmarks and are highlighted below when performance was worse in the county than in the state. Rates for Napa County are also included in the tables and figures below. The associated figures show rates for the counties compared to the California state rates.

Length of Life

Table 9: County length of life indicators compared to state benchmarks.

Indicators	Description	Solano	Napa	California	
Early Life					
Infant Mortality	Number of all infant deaths (within 1 year), per 1,000 live births.	5.4	3.3	4.2	
Child Mortality	Number of deaths among children under age 18 per 100,000 population.	44	30.9	36	
Life Expectancy	Average number of years a person can expect to live.	80.2	82	81.7	
Overall					
Premature Age-Adjusted Mortality	Number of deaths among residents under age 75 per 100,000 population (age-adjusted).	304	233.3	268.4	

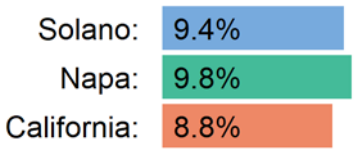
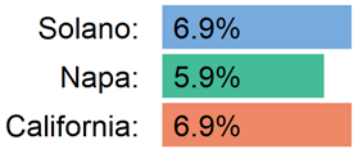
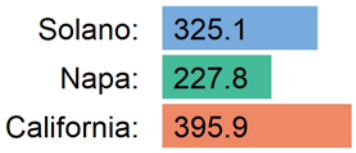
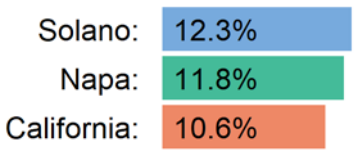
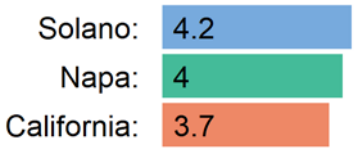
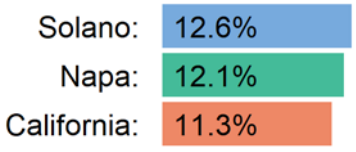
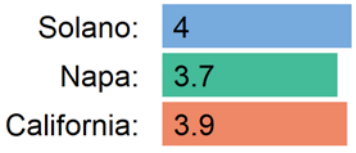
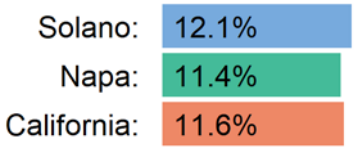
Indicators	Description	Solano	Napa	California	
Premature Death	Years of potential life lost before age 75 per 100,000 population (age-adjusted).	6,158.8	4,401.3	5,253.1	
Stroke Mortality	Number of deaths due to stroke per 100,000 population.	50.8	45.4	41.2	
Chronic Lower Respiratory Disease Mortality	Number of deaths due to chronic lower respiratory disease per 100,000 population.	39.1	37.3	34.8	
Diabetes Mortality	Number of deaths due to diabetes per 100,000 population.	36.1	24.8	24.1	
Heart Disease Mortality	Number of deaths due to heart disease per 100,000 population.	137.8	201.6	159.5	
Hypertension Mortality	Number of deaths due to hypertension per 100,000 population.	17.8	10.1	13.8	
Cancer, Liver, and Kidney Disease					
Cancer Mortality	Number of deaths due to cancer per 100,000 population.	188.4	200.3	152.9	
Liver Disease Mortality	Number of deaths due to liver disease per 100,000 population.	14.3	12.5	13.9	

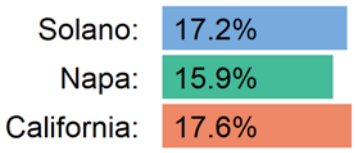
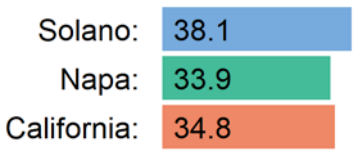
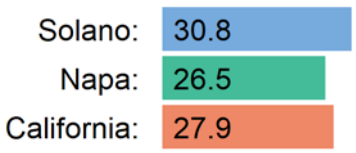
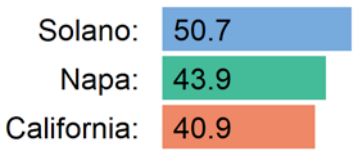
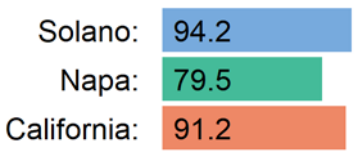
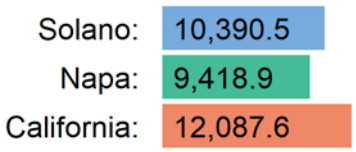
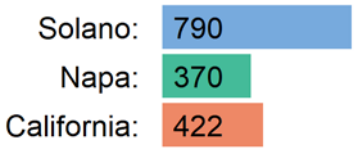
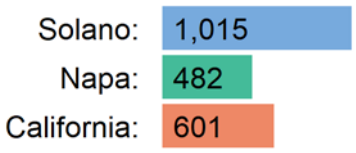
Indicators	Description	Solano	Napa	California	
Kidney Disease Mortality	Number of deaths due to kidney disease per 100,000 population.	9.4	12.2	9.7	
Intentional and Unintentional Injuries					
Suicide Mortality	Number of deaths due to suicide per 100,000 population.	12.9	11.2	11.2	
Unintentional Injuries Mortality	Number of deaths due to unintentional injuries per 100,000 population.	39.3	41.3	35.7	
COVID					
COVID-19 Mortality	Number of deaths due to COVID-19 per 100,000 population.	79.4	74.5	185.1	
COVID-19 Case Fatality	Percentage of COVID-19 deaths per laboratory-confirmed COVID-19 cases.	0.8%	0.8%	1.5%	
Other					
Alzheimer's Disease Mortality	Number of deaths due to Alzheimer's disease per 100,000 population.	47.8	50.5	41.2	
Influenza and Pneumonia Mortality	Number of deaths due to influenza and pneumonia per 100,000 population.	20.2	17.2	16	

Quality of Life

Table 10: County quality of life indicators compared to state benchmarks.

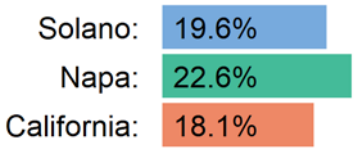
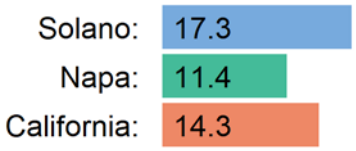
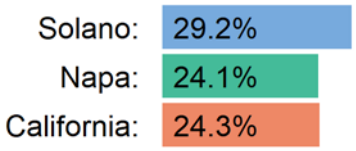
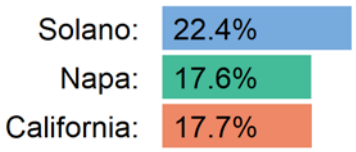
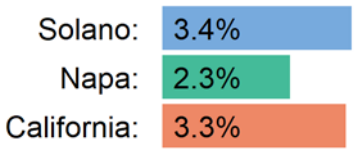
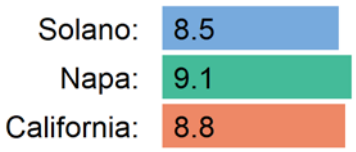
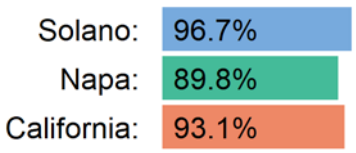
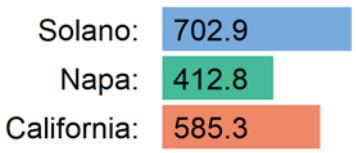
Indicators	Description	Solano	Napa	California
Chronic Disease				

Indicators	Description	Solano	Napa	California	
Diabetes Prevalence	Percentage of adults ages 20 and above with diagnosed diabetes.	9.4%	9.8%	8.8%	
Low Birthweight	Percentage of live births with low birthweight (< 2,500 grams).	6.9%	5.9%	6.9%	
HIV Prevalence	Number of people ages 13 years and older living with a diagnosis of human immunodeficiency virus (HIV) infection per 100,000 population.	325.1	227.8	395.9	
Disability	Percentage of the total civilian noninstitutionalized population with a disability	12.3%	11.8%	10.6%	
Mental Health					
Poor Mental Health Days	Average number of mentally unhealthy days reported in past 30 days (age-adjusted).	4.2	4	3.7	
Frequent Mental Distress	Percentage of adults reporting 14 or more days of poor mental health per month (age-adjusted).	12.6%	12.1%	11.3%	
Poor Physical Health Days	Average number of physically unhealthy days reported in past 30 days (age-adjusted).	4	3.7	3.9	
Frequent Physical Distress	Percentage of adults reporting 14 or more days of poor physical health per month (age-adjusted).	12.1%	11.4%	11.6%	

Indicators	Description	Solano	Napa	California	
Poor or Fair Health	Percentage of adults reporting fair or poor health (age-adjusted).	17.2%	15.9%	17.6%	
Cancer					
Colorectal Cancer Prevalence	Colon and rectum cancers per 100,000 population (age-adjusted).	38.1	33.9	34.8	
Breast Cancer Prevalence	Female in situ breast cancers per 100,000 female population (age-adjusted).	30.8	26.5	27.9	
Lung Cancer Prevalence	Lung and bronchus cancers per 100,000 population (age-adjusted).	50.7	43.9	40.9	
Prostate Cancer Prevalence	Prostate cancers per 100,000 male population (age-adjusted).	94.2	79.5	91.2	
COVID					
COVID-19 Cumulative Incidence	Number of laboratory-confirmed COVID-19 cases per 100,000 population.	10,390.5	9,418.9	12,087.6	
Other					
Asthma ED Rates	Emergency department visits due to asthma per 10,000 (age-adjusted).	790	370	422	
Asthma ED Rates for Children	Emergency department visits due to asthma among ages 5-17 per 10,000 population ages 5-17 (age-adjusted).	1,015	482	601	

Health Behavior

Table 11: County health behavior indicators compared to state benchmarks.

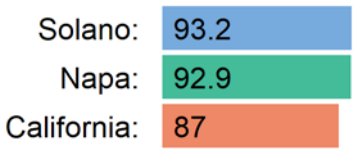
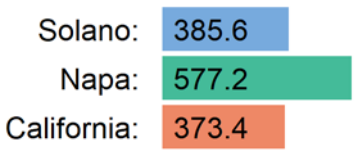
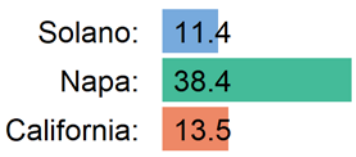
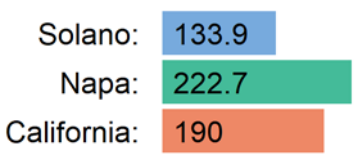
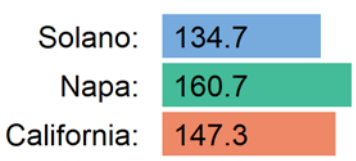
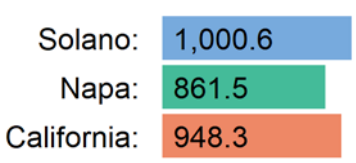
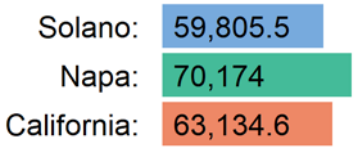
Indicators	Description	Solano	Napa	California	
Excessive Drinking	Percentage of adults reporting binge or heavy drinking (age-adjusted).	19.6%	22.6%	18.1%	
Drug Induced Death	Drug induced deaths per 100,000 (age-adjusted).	17.3	11.4	14.3	
Adult Obesity	Percentage of the adult population (ages 20 and older) that reports a body mass index (BMI) greater than or equal to 30 kg/m2.	29.2%	24.1%	24.3%	
Physical Inactivity	Percentage of adults ages 20 and over reporting no leisure-time physical activity.	22.4%	17.6%	17.7%	
Limited Access to Healthy Foods	Percentage of population who are low-income and do not live close to a grocery store.	3.4%	2.3%	3.3%	
Food Environment Index	Index of factors that contribute to a healthy food environment, from 0 (worst) to 10 (best).	8.5	9.1	8.8	
Access to Exercise Opportunities	Percentage of population with adequate access to locations for physical activity.	96.7%	89.8%	93.1%	
Chlamydia Incidence	Number of newly diagnosed chlamydia cases per 100,000 population.	702.9	412.8	585.3	

Indicators	Description	Solano	Napa	California	
Teen Birth Rate	Number of births per 1,000 female population ages 15-19.	16.3	12.1	17.4	Solano: 16.3 Napa: 12.1 California: 17.4
Adult Smoking	Percentage of adults who are current smokers (age-adjusted).	13.8%	12.3%	11.5%	Solano: 13.8% Napa: 12.3% California: 11.5%

Clinical Care

Table 12: County clinical care indicators compared to state benchmarks.

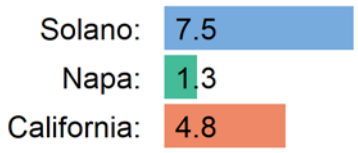
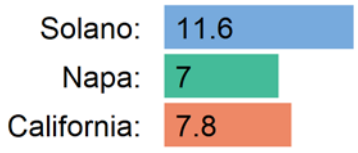
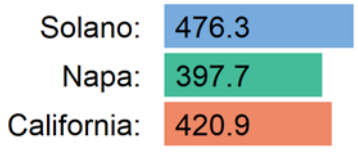
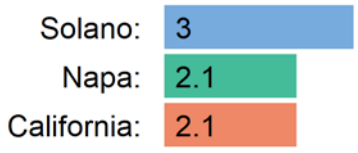
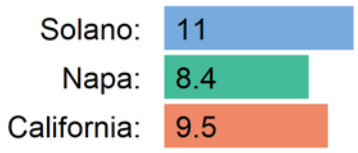
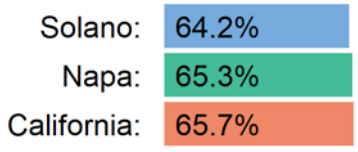
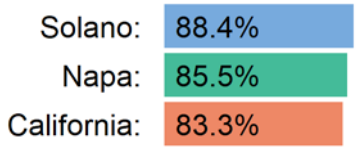
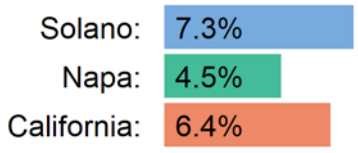
Indicators	Description	Solano	Napa	California	
Primary Care Shortage Area	Presence of a primary care health professional shortage area within the county.	Yes	Yes		Solano: Yes Napa: Yes California:
Dental Care Shortage Area	Presence of a dental care health professional shortage area within the county.	No	No		Solano: No Napa: No California:
Mental Health Care Shortage Area	Presence of a mental health professional shortage area within the county.	No	No		Solano: No Napa: No California:
Medically Underserved Area	Presence of a medically underserved area within the county.	Yes	Yes		Solano: Yes Napa: Yes California:
Mammography Screening	Percentage of female Medicare enrollees ages 65-74 that received an annual mammography screening.	33%	42%	36%	Solano: 33% Napa: 42% California: 36%

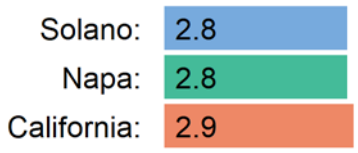
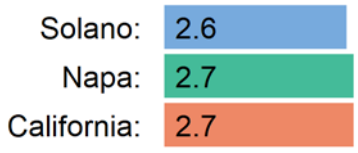
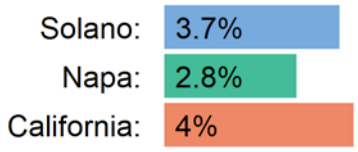
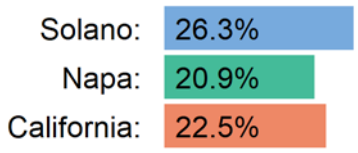
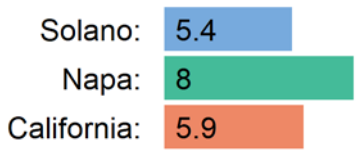
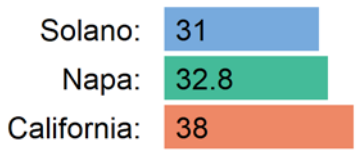
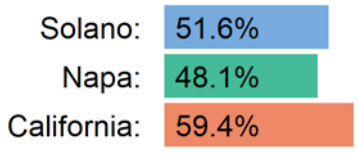
Indicators	Description	Solano	Napa	California	
Dentists	Dentists per 100,000 population.	93.2	92.9	87	
Mental Health Providers	Mental health providers per 100,000 population.	385.6	577.2	373.4	
Psychiatry Providers	Psychiatry providers per 100,000 population.	11.4	38.4	13.5	
Specialty Care Providers	Specialty care providers (non-primary care physicians) per 100,000 population.	133.9	222.7	190	
Primary Care Providers	Primary care physicians per 100,000 population + other primary care providers per 100,000 population.	134.7	160.7	147.3	
Preventable Hospitalization	Preventable hospitalizations per 100,000 (age-sex-poverty adjusted)	1,000.6	861.5	948.3	
COVID					
COVID-19 Cumulative Full Vaccination Rate	Number of completed COVID-19 vaccinations per 100,000 population.	59,805.5	70,174	63,134.6	

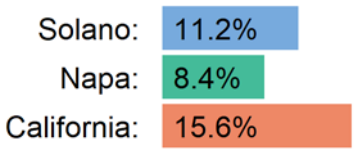
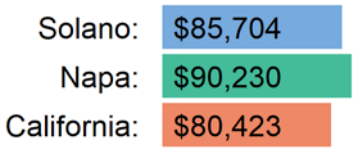
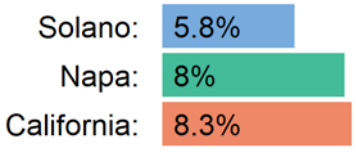
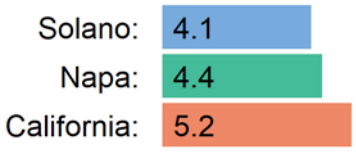
Socio-Economic and Demographic Factors

Table 13: County socio-economic and demographic factors indicators compared to state benchmarks.

Indicators	Description	Solano	Napa	California
Community Safety				

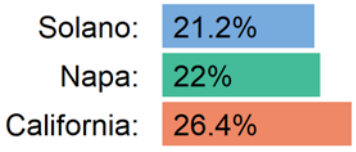
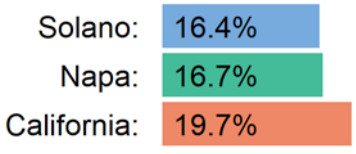
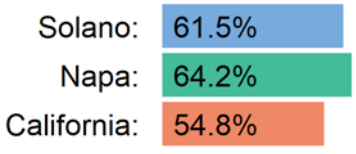
Indicators	Description	Solano	Napa	California	
Homicide Rate	Number of deaths due to homicide per 100,000 population.	7.5	1.3	4.8	
Firearm Fatalities Rate	Number of deaths due to firearms per 100,000 population.	11.6	7	7.8	
Violent Crime Rate	Number of reported violent crime offenses per 100,000 population.	476.3	397.7	420.9	
Juvenile Arrest Rate	Felony juvenile arrests per 1,000 juveniles	3	2.1	2.1	
Motor Vehicle Crash Death	Number of motor vehicle crash deaths per 100,000 population.	11	8.4	9.5	
Education					
Some College	Percentage of adults ages 25-44 with some post-secondary education.	64.2%	65.3%	65.7%	
High School Completion	Percentage of adults ages 25 and over with a high school diploma or equivalent.	88.4%	85.5%	83.3%	
Disconnected Youth	Percentage of teens and young adults ages 16-19 who are neither working nor in school.	7.3%	4.5%	6.4%	

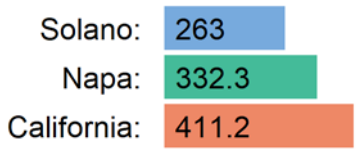
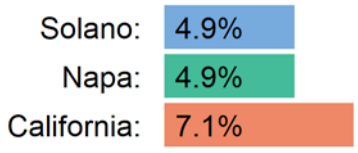
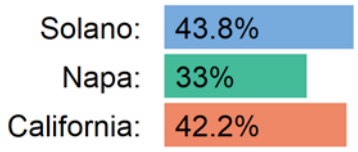
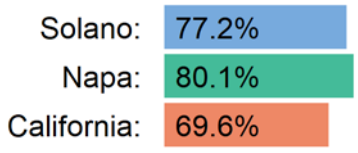
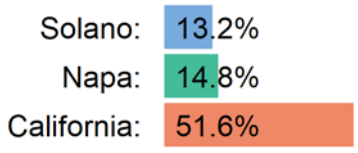
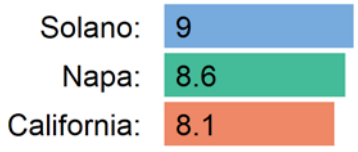
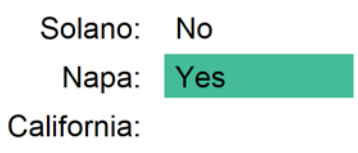
Indicators	Description	Solano	Napa	California	
Third Grade Reading Level	Average grade level performance for 3rd graders on English Language Arts standardized tests	2.8	2.8	2.9	
Third Grade Math Level	Average grade level performance for 3rd graders on math standardized tests	2.6	2.7	2.7	
Employment					
Unemployment	Percentage of population ages 16 and older unemployed but seeking work.	3.7%	2.8%	4%	
Family and Social Support					
Children in Single-Parent Households	Percentage of children that live in a household headed by single parent.	26.3%	20.9%	22.5%	
Social Associations	Number of membership associations per 10,000 population.	5.4	8	5.9	
Residential Segregation (Non-White/White)	Index of dissimilarity where higher values indicate greater residential segregation between non-White and White county residents.	31	32.8	38	
Income					
Children Eligible for Free Lunch	Percentage of children enrolled in public schools that are eligible for free or reduced price lunch.	51.6%	48.1%	59.4%	

Indicators	Description	Solano	Napa	California	
Children in Poverty	Percentage of people under age 18 in poverty.	11.2%	8.4%	15.6%	
Median Household Income	The income where half of households in a county earn more and half of households earn less.	$85,704	$90,230	$80,423	
Uninsured Population under 64	Percentage of population under age 65 without health insurance.	5.8%	8%	8.3%	
Income Inequality	Ratio of household income at the 80th percentile to income at the 20th percentile.	4.1	4.4	5.2	

Physical Environment

Table 14: County physical environment indicators compared to state benchmarks.

Indicators	Description	Solano	Napa	California	
Housing					
Severe Housing Problems	Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, lack of kitchen facilities, or lack of plumbing facilities.	21.2%	22%	26.4%	
Severe Housing Cost Burden	Percentage of households that spend 50% or more of their household income on housing.	16.4%	16.7%	19.7%	
Homeownership	Percentage of occupied housing units that are owned.	61.5%	64.2%	54.8%	

Indicators	Description	Solano	Napa	California	
Homelessness Rate	Number of homeless individuals per 100,000 population.	263	332.3	411.2	
Transit					
Households with no Vehicle Available	Percentage of occupied housing units that have no vehicles available.	4.9%	4.9%	7.1%	
Long Commute - Driving Alone	Among workers who commute in their car alone, the percentage that commute more than 30 minutes.	43.8%	33%	42.2%	
Access to Public Transit	Percentage of population living near a fixed public transportation stop	77.2%	80.1%	69.6%	
Air and Water Quality					
Pollution Burden Percent	Percentage of population living in a census tract with a CalEnviroscreen 3.0 pollution burden score percentile of 50 or greater	13.2%	14.8%	51.6%	
Air Pollution - Particulate Matter	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5).	9	8.6	8.1	
Drinking Water Violations	Presence of health-related drinking water violations in the county.	No	Yes		

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 6. 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.

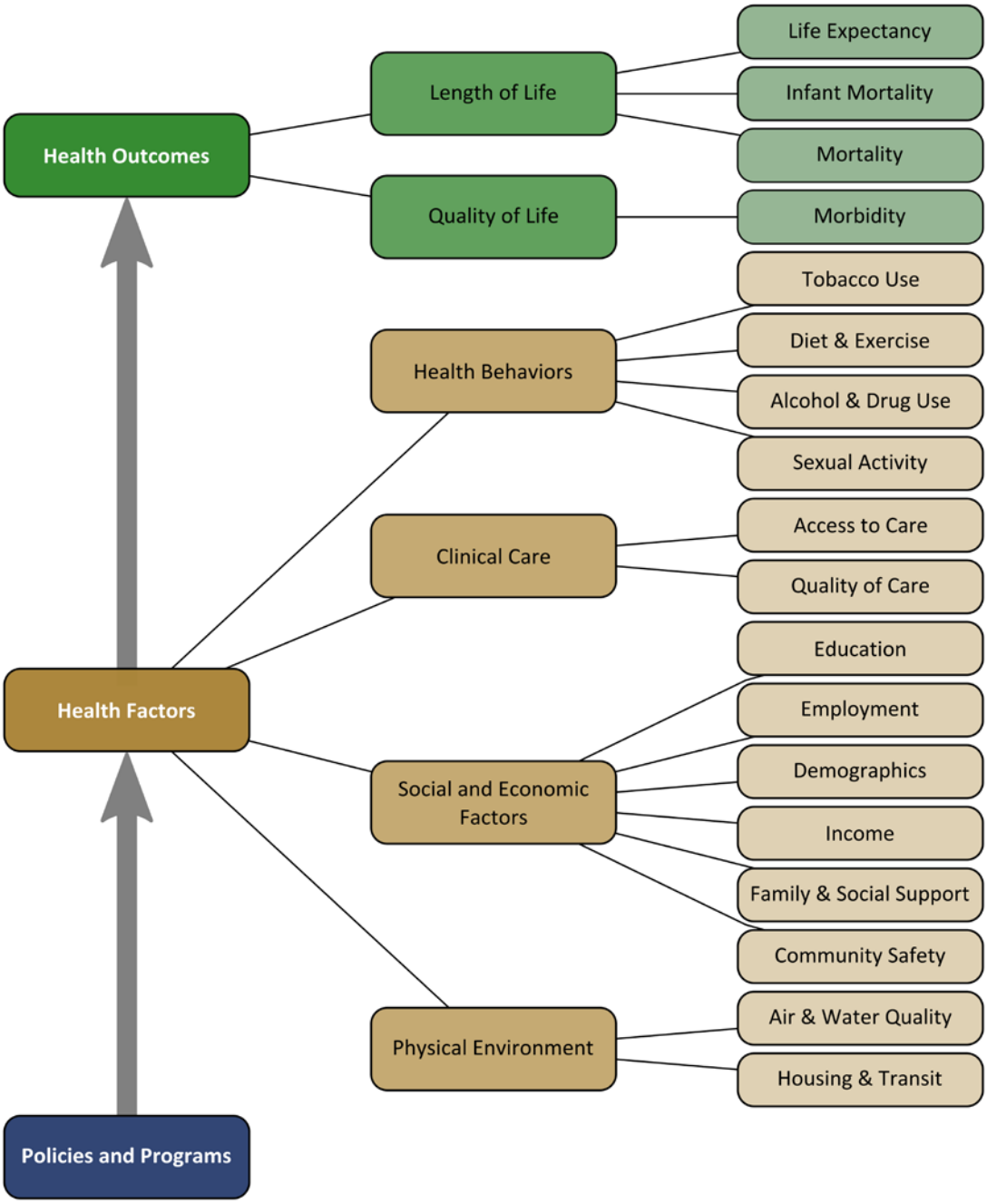


Figure 6: Community Health Assessment Conceptual Model as modified from the County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2015

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.

Process Model

Figure 7 outlines the data collection and analysis stages of this process. The project began by confirming the HSA for Sutter Solano Medical Center 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.

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 any 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.

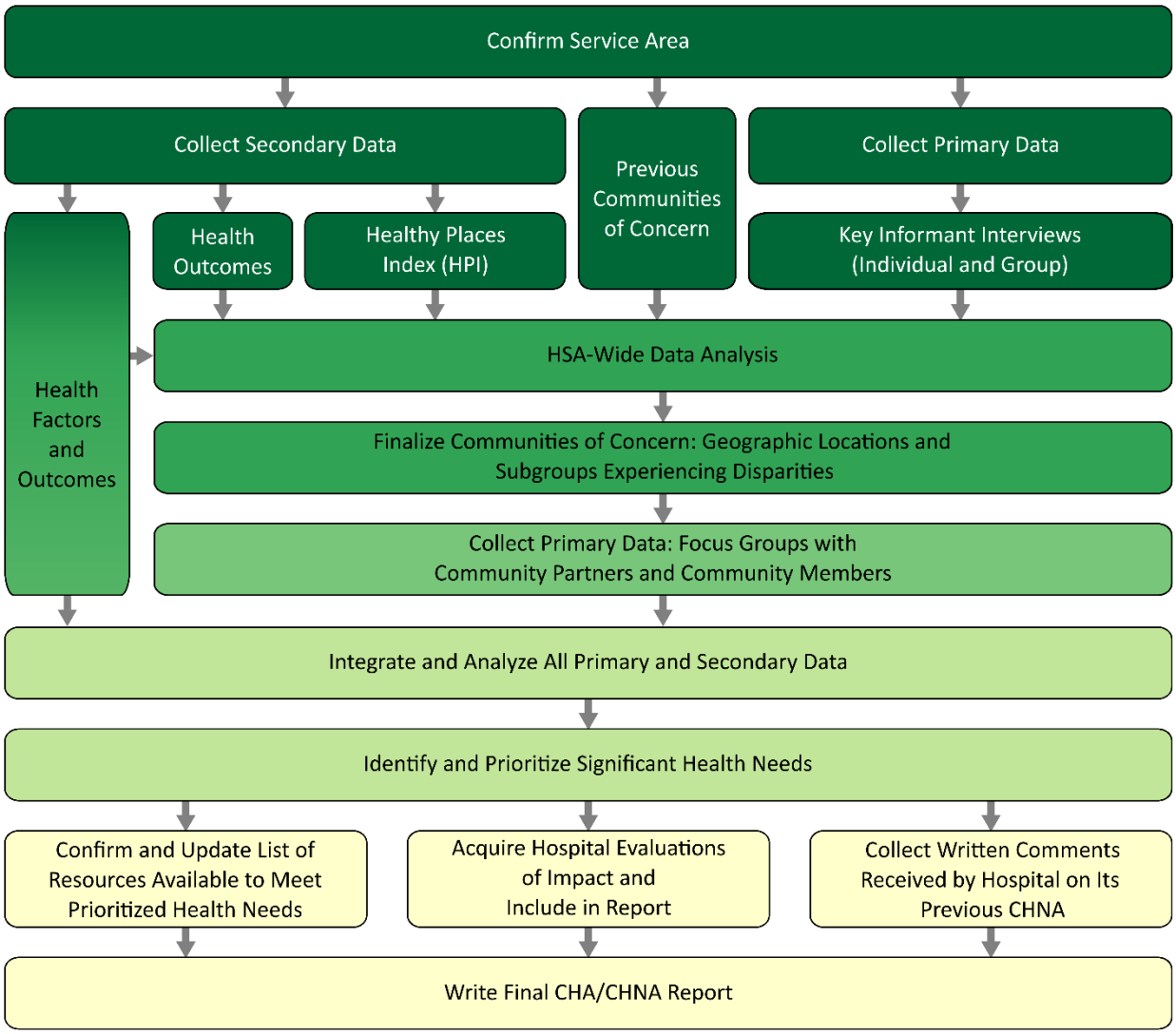


Figure 7: CHNA process model for SSMC

Primary Data Collection and Processing

Primary Data Collection

Input from the community served by Sutter Solano Medical Center 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 15 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 15: Key Informant List

Organization	Date	Number of Participants	Area of Expertise	Populations Served
Solano County Health and Social Services	07/02/2021	1	Public Health	Residents of Solano County
Touro University	07/22/2021	3	Mobile diabetes service	Low income, uninsured
Napa County Public Health	07/27/2021	1	Public Health	Residents of Napa County
Community Clinic Consortium	07/29/2021	1	Access to healthcare	Low income, immigrant, African American, Latino
On the Move	08/02/2021	1	Foster youth, homeless	Napa and Solano Counties
Napa COAD (Community Organizations Active in Disaster)	08/09/2021	1	Disaster preparedness	All of Napa County
Napa/Solano Area Agency on Aging	08/11/2021	1	Seniors	All of Napa County
Partnership HealthPlan of CA	08/16/2021	2	Medi-Cal benefits	Medi-Cal recipients in Solano County
Solano Family Justice Center	08/18/2021	1	Low income populations	All of Solano County
Napa Valley Education Foundation	08/23/2021	1	K12 schools	All of Napa County
OLE Health	08/24/2021	1	Healthcare providers	Low income in Napa County

Organization	Date	Number of Participants	Area of Expertise	Populations Served
Sutter Solano Medical Center - ED Navigators	08/31/2021	2	Acute care hospital: Healthcare services	Low income, unemployed, Medi-Cal recipients
Puertas Abiertas Community Resource Center	09/10/2021	1	Mental Health	All of Napa County

Key Informant Interview Guide

The following questions served as the interview guides for key informant interviews.

2022 CHNA Group/Key Informant Interview Protocol

1. **BACKGROUND**
    a) **Please tell me about your current role and the organization you work for?**
        i. Probe for:
            1. Public health (division or unit)
            2. Hospital health system
            3. Local non-profit
            4. Community member
    b. **How would you define the community (ies) you or your organization serves?**
        i. Probe for:
            1. Specific geographic areas?
            2. Specific populations served?
            3. *Who? Where? Racial/ethnic make-up, physical environment (urban/ rural, large/small)*
2. **CHARACTERISTICS OF A HEALTHY COMMUNITY**
    a. **In your view, what does a healthy community look like?**
        i. Probe for:
            1. Social factors
            2. Economic factors
            3. Clinical care
            4. Physical/built environment (food environment, green spaces)
            5. Neighborhood safety
3. **HEALTH ISSUES**
    a. **What would you say are the biggest health needs in the community?**
        i. Probe for:
            1. How has the presence of COVID impacted these health needs?
    b. **INSERT MAP exercise: Please use the map provided to help our team understand where communities that experience the greatest health disparities live?**
        i. Probe for:
            1. What specific geographic locations struggle with health issues the most?
            2. What specific groups of community members experience health issues the most?
4. **CHALLENGES/BARRIERS**

a. **Looking through the lens of equity, what are the challenges (barriers or drivers) to being healthy for the community as a whole?**
    i. **Do these inequities exist among certain population groups?**
    ii. Probe for:
        1. Health Behaviors (maladaptive, coping)
        2. Social factors (social connections, family connectedness, relationship with law enforcement)
        3. Economic factors (income, access to jobs, affordable housing, affordable food)
        4. Clinical Care factors (access to primary care, secondary care, quality of care)
        5. Physical (Built) environment (safe and healthy housing, walkable communities, safe parks)

5. **SOLUTIONS**
    a. **What solutions are needed to address the health needs and or challenges mentioned?**
        i. Probe for:
            1. Policies
            2. Care coordination
            3. Access to care
            4. Environmental change
6. **PRIORITY**
    a. **Which would you say are currently the most important or urgent health issues or challenges to address (at least 3 to 5) in order to improve the health of the community?**
7. **RESOURCES**
    a. **What resources exist in the community to help people live healthy lives?**
        i. Probe for:
            1. Barriers to accessing these resources.
            2. New resources that have been created since 2019
            3. New partnerships/projects/funding
8. **PARTICIPANT DRIVEN SAMPLING:**
    a. **What other people, groups or organizations would you recommend we speak to about the health of the community?**
        i. Name 3 types of service providers that you would suggest we include in this work?
        ii. Name 3 types of community members that you would recommend we speak to in this work?
9. **OPEN: Is there anything else you would like to share with our team about the health of the community?**

1.

Focus Group Results

Focus group interviews were conducted with community members or service providers living or working 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 16 contains a listing of community resident groups that contributed input to the CHNA. The table describes the hosting organization of the focus group, the date it occurred, the total number of participants, and populations represented for focus group members.

Table 16: Focus Group List

Hosting Organization	Date	Number of Participants	Population(s) Represented
Emmanuel Temple Apostolic Church	08/16/2021	12	Low income, food insecure
Fighting Back Partnership	08/25/2021	3	Low income, struggling families, undocumented, homeless
NAMI	08/27/2021	1	African American, Latinx, LGBTQ, Filipino, Native American

Focus Group Interview Guide

The following questions served as the interview guides for focus group interviews.

2022 CHNA Focus Group Interview Protocol

1. Let's start by introducing ourselves. Please tell us your name, the town you live in, and one thing that you are proud of about your community.
2. We would like to hear about the community where you live. Tell us in a few words what you think of as "your community". What it is like to live in your community?
3. What do you think that a "healthy environment" is?
4. When thinking about your community based on the healthy environment you just described, what are the biggest health needs in your community?
5. Are needs more prevalent in a certain geographic area, or within a certain group of the community?
6. How has the presence of COVID impacted these health needs?
7. What are the challenges or barriers to being healthy in your community?
8. What are some solutions that can help solve the barriers and challenges you talked about?
9. 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?
10. Are these needs that have recently come up or have they been around for a long time?
11. 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?
12. Is there anything else you would like to share with our team about the health of the community?

Primary Data Processing

Key informant and focus group data were analyzed using qualitative analytic software. 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

We use "secondary data" to refer to those quantitative variables used in this analysis that were obtained from third party sources. Secondary data were used to 1) inform the identification of Communities of Concern, 2) support the identification of health needs, and 3) describe the population and illuminate issues of health equity within the SSMC HSA. This section details the data sources and processing steps used to obtain the secondary data used in each of these steps and prepare them for analysis.

Community of Concern Identification Datasets

Two main secondary data sources were used in the identification of Communities of Concern: California Healthy Places Index (HPI)[13], derived from health factor indicators available at the US Census tract level, and mortality data from the California Department of Public Health (CDPH)[14], health outcome indicators available at the ZIP Code level. The CDPH mortality data reports the number of deaths that occurred in each ZIP Code from 2015-2019 due to each of the causes listed in Table 17.

Table 17: Mortality indicators used in Community of Concern Identification

Cause of Death	ICD 10 Codes
Alzheimer's disease	G30
Malignant neoplasms (cancers)	C00-C97
Chronic lower respiratory disease (CLRD)	J40-J47
Diabetes mellitus	E10-E14
Diseases of heart	I00-I09, I11, I13, I20-I51
Essential hypertension and hypertensive renal disease	I10, I12, I15
Accidents (unintentional injuries)	V01-X59, Y85-Y86
Chronic liver disease and cirrhosis	K70, K73-K74
Nephritis, nephrotic syndrome and nephrosis	N00-N07, N17-N19, N25-N27
Pneumonia and influenza	J09-J18
Cerebrovascular disease (stroke)	I60-I69
Intentional self-harm (suicide)	*U03, X60-X84, Y87.0

While the HPI dataset was used as-is, additional processing was required to prepare the mortality data for analysis. This included two main steps. First, ZIP Codes associated with PO Boxes needed to be merged with the larger ZIP Codes in which they were located. Once this was completed, smoothed mortality rates were calculated for each resulting ZIP Code.

ZIP Code Consolidation

The mortality indicators used here included deaths reported for the ZIP Code at the decedent's place of residence. 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

[13] Public Health Alliance of Southern California. 2021. HPI_MasterFile_2021-04-22.zip. Data file. Retrieved 1 May 2021 from https://healthyplacesindex.org/wp-content/uploads/2021/04/HPI_MasterFile_2021-04-22.zip.
[14] State of California, Department of Public Health. 2021. California Comprehensive Master Death File (Static), 2015-2019.

contiguous areas and do not match the areas used by the U.S. Census Bureau (the main source of population and demographic data in the United States) to report population. 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 make it possible to calculate mortality 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[15] were compared to ZCTA boundaries[16]. 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.

Rate Calculation and Smoothing

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[17]. Smoothed rates are considered preferable to raw rates for two main reasons. First, the small population of many ZCTAs 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

[15] Datasheer, L.L.C. 2018. ZIP Code Database Free. Retrieved 16 Jul 2018 from http://www.Zip-Codes.com.
[16] US Census Bureau. 2021. TIGER/Line Shapefile, 2019, 2010 nation, U.S., 2010 Census 5-Digit ZIP Code Tabulation Area (ZCTA5) National. Retrieved 9 Feb 2021 from https://www.census.gov/cgi-bin/geo/shapefiles/index.php.
[17] Anselin, Luc. 2003. Rate Maps and Smoothing. Retrieved 14 Jan 2018 from http://www.dpi.inpe.br/gilberto/tutorials/software/geoda/tutorials/w6_rates_slides.pdf

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 2017 American Community Survey 5-year Estimates table B03002. Data for 2017 were used because this represented the central year of the 2015–2019 range of years for which CDPH data were collected. The population data for 2017 were multiplied by five to match the five years of mortality data used to calculate smoothed rates. The smoothed mortality rates were then multiplied by 100,000 so that the final rates represented deaths per 100,000 people.

Significant Health Need Identification Dataset

The second main set of data used in the CHNA includes the health factor and health outcome indicators used to identify significant health needs. The selection of these indicators was guided by the previously identified conceptual model. Table 18 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 18: Health factor and health outcome indicators used in health need identification.

Conceptual Model Alignment			Indicator	Data Source	Time Period
Health Outcomes	Length of Life	Infant Mortality	Infant Mortality	County Health Rankings	2013 - 2019
		Life Expectancy	Child Mortality	County Health Rankings	2016 - 2019
			Life Expectancy	County Health Rankings	2017 - 2019
			Premature Age-Adjusted Mortality	County Health Rankings	2017 - 2019
			Premature Death	County Health Rankings	2017 - 2019
			Stroke Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Chronic Lower Respiratory Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Diabetes Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Heart Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Hypertension Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Cancer Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019

Conceptual Model Alignment			Indicator	Data Source	Time Period
			Liver Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Kidney Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Suicide Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Unintentional Injuries Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			COVID-19 Mortality	CDPH COVID-19 Time-Series Metrics by County and State	Collected on 2021-11-17
			COVID-19 Case Fatality	CDPH COVID-19 Time-Series Metrics by County and State	Collected on 2021-11-17
			Alzheimer's Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Influenza and Pneumonia Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
	Quality of Life	Morbidity	Diabetes Prevalence	County Health Rankings	2017
			Low Birthweight	County Health Rankings	2013 - 2019
			HIV Prevalence	County Health Rankings	2018
			Disability	2019 American Community Survey 5 year estimate variable S1810_C03_001E	2015 - 2019
			Poor Mental Health Days	County Health Rankings	2018
			Frequent Mental Distress	County Health Rankings	2018
			Poor Physical Health Days	County Health Rankings	2018
			Frequent Physical Distress	County Health Rankings	2018
			Poor or Fair Health	County Health Rankings	2018
			Colorectal Cancer Prevalence	California Cancer Registry	2013 - 2017
			Breast Cancer Prevalence	California Cancer Registry	2013 - 2017
			Lung Cancer Prevalence	California Cancer Registry	2013 - 2017
			Prostate Cancer Prevalence	California Cancer Registry	2013 - 2017

Conceptual Model Alignment			Indicator	Data Source	Time Period
			COVID-19 Cumulative Incidence	CDPH COVID-19 Time-Series Metrics by County and State	Collected on 2021-11-17
			Asthma ED Rates	Tracking California	2018
			Asthma ED Rates for Children	Tracking California	2018
Health Factors	Health Behavior	Alcohol and Drug Use	Excessive Drinking	County Health Rankings	2018
			Drug Induced Death	CDPH 2021 County Health Status Profiles	2017 - 2019
		Diet and Exercise	Adult Obesity	County Health Rankings	2017
			Physical Inactivity	County Health Rankings	2017
			Limited Access to Healthy Foods	County Health Rankings	2015
			Food Environment Index	County Health Rankings	2015 & 2018
			Access to Exercise Opportunities	County Health Rankings	2010 & 2019
		Sexual Activity	Chlamydia Incidence	County Health Rankings	2018
			Teen Birth Rate	County Health Rankings	2013 - 2019
		Tobacco Use	Adult Smoking	County Health Rankings	2018
	Clinical Care	Access to Care	Primary Care Shortage Area	U.S. Heath Resources and Services Administration	2021
			Dental Care Shortage Area	U.S. Heath Resources and Services Administration	2021
			Mental Health Care Shortage Area	U.S. Heath Resources and Services Administration	2021
			Medically Underserved Area	U.S. Heath Resources and Services Administration	2021
			Mammography Screening	County Health Rankings	2018
			Dentists	County Health Rankings	2019
			Mental Health Providers	County Health Rankings	2020
			Psychiatry Providers	County Health Rankings	2020
			Specialty Care Providers	County Health Rankings	2020
			Primary Care Providers	County Health Rankings	2018; 2020

Conceptual Model Alignment			Indicator	Data Source	Time Period
		Quality Care	Preventable Hospitalization	California Office of Statewide Health Planning and Development Prevention Quality Indicators for California	2019
			COVID-19 Cumulative Full Vaccination Rate	CDPH COVID-19 Vaccine Progress Dashboard Data	Collected on 2021-11-17
	Socio-Economic and Demographic Factors	Community Safety	Homicide Rate	County Health Rankings	2013 - 2019
			Firearm Fatalities Rate	County Health Rankings	2015 - 2019
			Violent Crime Rate	County Health Rankings	2014 & 2016
			Juvenile Arrest Rate	Criminal Justice Data: Arrests, OpenJustice, California Department of Justice	2015 - 2019
			Motor Vehicle Crash Death	County Health Rankings	2013 - 2019
		Education	Some College	County Health Rankings	2015 - 2019
			High School Completion	County Health Rankings	2015 - 2019
			Disconnected Youth	County Health Rankings	2015 - 2019
			Third Grade Reading Level	County Health Rankings	2018
			Third Grade Math Level	County Health Rankings	2018
		Employment	Unemployment	County Health Rankings	2019
		Family and Social Support	Children in Single-Parent Households	County Health Rankings	2015 - 2019
			Social Associations	County Health Rankings	2018
			Residential Segregation (Non-White/White)	County Health Rankings	2015 - 2019
		Income	Children Eligible for Free Lunch	County Health Rankings	2018 - 2019
			Children in Poverty	County Health Rankings	2019
			Median Household Income	County Health Rankings	2019

Conceptual Model Alignment			Indicator	Data Source	Time Period
			Uninsured Population under 64	County Health Rankings	2018
			Income Inequality	County Health Rankings	2015 - 2019
	Physical Environment	Housing and Transit	Severe Housing Problems	County Health Rankings	2013 - 2017
			Severe Housing Cost Burden	County Health Rankings	2015 - 2019
			Homeownership	County Health Rankings	2015 - 2019
			Homelessness Rate	US Dept. of Housing and Urban Development 2020 Annual Homeless Assessment Report	2020
			Households with no Vehicle Available	2019 American Community Survey 5-year estimate variable DP04_0058PE	2015 - 2019
			Long Commute - Driving Alone	County Health Rankings	2015 - 2019
			Access to Public Transit	OpenMobilityData, Transitland, TransitWiki.org, Santa Ynez Valley Transit; US Census Bureau	2021; 2020
		Air and Water Quality	Pollution Burden Percent	California Office of Environmental Health Hazard Assessment	2018
			Air Pollution - Particulate Matter	County Health Rankings	2016
			Drinking Water Violations	County Health Rankings	2019

The following sections give further details about the sources of these data and any processing applied to prepare them for use in the analysis.

County Health Rankings Data

All indicators listed with County Health Rankings (CHR) as their source were obtained from the 2021 County Health Rankings[18] dataset. This was the most common source of data, with 52 associated

[18] University of Wisconsin Population Health Institute. 2021. County Health Rankings State Report 2021. Retrieved 6 May 2021 from https://www.countyhealthrankings.org/app/oregon/2021/downloads and https://www.countyhealthrankings.org/app/california/2021/downloads.

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 19.

Table 19: Sources and time periods for indicators obtained from County Health Rankings.

CHR Indicator	Time Period	Data Source
Infant Mortality	2013 - 2019	National Center for Health Statistics - Mortality Files
Child Mortality	2016 - 2019	National Center for Health Statistics - Mortality Files
Life Expectancy	2017 - 2019	National Center for Health Statistics - Mortality Files
Premature Age-Adjusted Mortality	2017 - 2019	National Center for Health Statistics - Mortality Files
Premature Death	2017 - 2019	National Center for Health Statistics - Mortality Files
Diabetes Prevalence	2017	United States Diabetes Surveillance System
Low Birthweight	2013 - 2019	National Center for Health Statistics - Natality files
HIV Prevalence	2018	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Poor Mental Health Days	2018	Behavioral Risk Factor Surveillance System
Frequent Mental Distress	2018	Behavioral Risk Factor Surveillance System
Poor Physical Health Days	2018	Behavioral Risk Factor Surveillance System
Frequent Physical Distress	2018	Behavioral Risk Factor Surveillance System
Poor or Fair Health	2018	Behavioral Risk Factor Surveillance System
Excessive Drinking	2018	Behavioral Risk Factor Surveillance System
Adult Obesity	2017	United States Diabetes Surveillance System
Physical Inactivity	2017	United States Diabetes Surveillance System
Limited Access to Healthy Foods	2015	USDA Food Environment Atlas
Food Environment Index	2015 & 2018	USDA Food Environment Atlas, Map the Meal Gap from Feeding America
Access to Exercise Opportunities	2010 & 2019	Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files
Chlamydia Incidence	2018	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Teen Birth Rate	2013 - 2019	National Center for Health Statistics - Natality files
Adult Smoking	2018	Behavioral Risk Factor Surveillance System
Mammography Screening	2018	Mapping Medicare Disparities Tool
Dentists	2019	Area Health Resource File/National Provider Identification file
Mental Health Providers	2020	CMS, National Provider Identification

CHR Indicator	Time Period	Data Source
Psychiatry Providers	2020	Area Health Resource File
Specialty Care Providers	2020	Area Health Resource File
Primary Care Providers	2018; 2020	Area Health Resource File/American Medical Association; CMS, National Provider Identification
Homicide Rate	2013 - 2019	National Center for Health Statistics - Mortality Files
Firearm Fatalities Rate	2015 - 2019	National Center for Health Statistics - Mortality Files
Violent Crime Rate	2014 & 2016	Uniform Crime Reporting - FBI
Motor Vehicle Crash Death	2013 - 2019	National Center for Health Statistics - Mortality Files
Some College	2015 - 2019	American Community Survey, 5-year estimates
High School Completion	2015 - 2019	American Community Survey, 5-year estimates
Disconnected Youth	2015 - 2019	American Community Survey, 5-year estimates
Third Grade Reading Level	2018	Stanford Education Data Archive
Third Grade Math Level	2018	Stanford Education Data Archive
Unemployment	2019	Bureau of Labor Statistics
Children in Single-Parent Households	2015 - 2019	American Community Survey, 5-year estimates
Social Associations	2018	County Business Patterns
Residential Segregation (Non-White/White)	2015 - 2019	American Community Survey, 5-year estimates
Children Eligible for Free Lunch	2018 - 2019	National Center for Education Statistics
Children in Poverty	2019	Small Area Income and Poverty Estimates
Median Household Income	2019	Small Area Income and Poverty Estimates
Uninsured Population under 64	2018	Small Area Health Insurance Estimates
Income Inequality	2015 - 2019	American Community Survey, 5-year estimates
Severe Housing Problems	2013 - 2017	Comprehensive Housing Affordability Strategy (CHAS) data
Severe Housing Cost Burden	2015 - 2019	American Community Survey, 5-year estimates
Homeownership	2015 - 2019	American Community Survey, 5-year estimates
Long Commute - Driving Alone	2015 - 2019	American Community Survey, 5-year estimates
Air Pollution - Particulate Matter	2016	Environmental Public Health Tracking Network
Drinking Water Violations	2019	Safe Drinking Water Information System

The provider rates for the primary care physicians and other primary care providers indicators obtained from CHR were summed to create the final primary care provider indicator used in this analysis.

California Department of Public Health

By-Cause Mortality Data

By-cause mortality data were obtained at the county and state level from the CDPH Cal-ViDa[19] online data query system for the years 2015-2019. Empirically bayes smoothed rates (EBRs) were calculated for each mortality indicator using the total county population figure reported in the 2017 American Community Survey 5-year Estimates table B03002. Data for 2017 were used because this represented the central year of the 2015–2019 range of years for which CDPH data were collected. The population data for 2017 were multiplied by five to match the five years of mortality data used to calculate smoothed rates. The smoothed mortality rates were then multiplied by 100,000 so that the final rates represented deaths per 100,000 people.

CDPH masks the actual number of deaths that occur in a county for a given year and cause if there are between 1 and 10 total deaths recorded. Because of this, the following process was used to estimate the total number of deaths for counties whose actual values were masked. First, mortality rates for each cause and year were calculated for the state. The differences between the by-cause mortality for the state and the total by-cause mortality reported across all counties in the state for each cause and year were also calculated.

Next, we applied the state by-cause mortality rate for each cause and year to estimate mortality at the county level if the reported value was masked. This was done by multiplying the cause/year appropriate state-level mortality rate by the 2017 populations of counties with masked values. Resulting estimates that were less than 1 or greater than 10 were set to 1 and 10 respectively to match the known CDPH masking criteria.

The total number of deaths estimated for counties that had masked values for each year/cause was then compared to the difference between the reported total county and state deaths for the corresponding year/cause. If the number of estimated county deaths exceeded this difference, county estimates were further adjusted. This was done by iteratively ranking county estimates for a given year/cause, then from highest to lowest, reducing the estimates by 1 until they reached a minimum of 1 death. This continued until the estimated deaths for counties with masked values equaled the difference between the state and total reported county values.

[19] State of California, Department of Public Health. 2021. California Vital Data (Cal-ViDa), Death Query. Retrieved 1 Jun 2021 from https://cal-vida.cdph.ca.gov/.

COVID-19 Data

Data on the cumulative number of cases and deaths[20] and completed vaccinations[21] for COVID-19 were used to calculate mortality, case-fatality, incidence, and vaccination rates. County mortality, incidence, and vaccination rates were calculated by dividing each of the respective values by the total population variable from the 2019 American Community Survey 5-year estimates table B01001, and then multiplying the resulting value by 100,000 to create rates per 100,000. Case-fatality rates were calculated by dividing COVID-19 mortality by the total number of cases, then multiplying by 100, representing the percentage of cases that ended in death.

Drug-Induced Deaths Data

Drug-induced death rates were obtained from Table 19 of the 2021 County Health Status Profiles[22] and report age-adjusted deaths per 100,000.

U.S. Heath Resources and Services Administration

Indicators related to the availability of healthcare providers were obtained from the Health Resources and Services Administration[23] (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.

Health Professional Shortage Areas

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.

Psychiatry and Specialty Care Providers

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

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[20] State of California, Department of Public Health. 2021. Statewide COVID-19 Cases Deaths Tests. Retrieved 18 November 2021 from https://data.chhs.ca.gov/dataset/f333528b-4d38-4814-bebb-12db1f10f535/resource/046cdd2b-31e5-4d34-9ed3-b48cdbc4be7a/download/COVID-19cases_test.csv.

[21] State of California, Department of Public Health. 2021. COVID-19 Vaccine Progress Dashboard Data . Retrieved 18 November 2021 from https://data.chhs.ca.gov/dataset/e283ee5a-cf18-4f20-a92c-ee94a2866ccd/resource/130d7ba2-b6eb-438d-a412-741bde207e1c/download/COVID-19vaccinesbycounty.csv.

[22] State of California, Department of Public Health, Vital Records Data and Statistics. 2021. County Health Status Profiles 2021: CHSP 2021 Tables 1-29. Spreadsheet. Retrieved on 21 Jul 2021 from https://www.cdph.ca.gov/Programs/CHSI/CDPH%20Document%20Library/CHSP_2021_Tables_1-29_04.16.2021.xlsx.

[23] US Health Resources & Services Administration. 2021. Area Health Resources Files and Shortage Areas. Retrieved on 3 Feb 2021 from https://data.hrsa.gov/data/download.

rate of psychiatrists for each county and for the state. For the purposes of this analysis, a specialty care provider was defined as a physician who was not defined by the HRSA as a primary care provider. This was found by subtracting the total number of primary care physicians (both MDs and DOs, primary care, patient care, and non-federal, excluding hospital residents and those 75 years of age or older) from the total number of physicians (both MDs and DOs, patient care, non-federal) in 2018. This number was then divided by the 2018 total population given in the 2018 American Community Survey 5-year Estimates table B03002, 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, non-federal 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[24] 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 2013 to 2017, 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.

Tracking California

Data on emergency department visits rates for all ages as well as children aged 5 to 17 were obtained from Tracking California[25]. These data reported age-adjusted rates per 10,000. They were multiplied by 100 in this analysis to convert them to rates per 100,000 to make them more comparable to the standard used for other rate indicators.

US Census Bureau

Data from the US Census Bureau was used for two additional indicators: the percentage of households with no vehicles available (table DPO4, variable 0058PE), and the percentage of the civilian non-institutionalized population with some disability (table S1810, variable C03_001E). Values for both of these variables were obtained from the 2019 American Community Survey 5-year Estimates dataset.

[24] California Cancer Registry. 2021. Age-Adjusted Invasive Cancer Incidence Rates in California. Retrieved on 22 Jan 2021 from https://www.cancer-rates.info/ca/.
[25] Tracking California, Public Health Institute. 2021. Asthma Related Emergency Department & Hospitalization data. Retrieved on 24 Jun 2021 from www.trackingcalifornia.org/asthma/query.

California Office of Environmental Health Hazard Assessment

Data used to calculate the pollution burden percent indicator were obtained from the CalEnviroscreen 3.0[26] dataset produced by the California Office of Environmental Health Hazard Assessment. This indicator reports the percentage of the population within a given county, or within the state as a whole, that live in a US Census tract with a CalEnviroscreen 3.0 Pollution Burden score in the 50th percentile or higher. Data on total population came from Table B03002 from the 2019 American Community Survey 5-year Estimates dataset.

California Department of Health Care Access and Information

Data on preventable hospitalizations were obtained from the California Department of Health Care Access and Information (formerly Office of Statewide Health Planning and Development) Prevention Quality Indicators[27]. These data are reported as risk-adjusted rates per 100,000.

California Department of Justice

Data reporting the total number of juvenile felony arrests was obtained from the California Department of Justice[28]. This indicator reports the rate of felony arrests per 1,000 juveniles under the age of 18. It was calculated by dividing the total number of juvenile felony arrests for each county or state from 2015 - 2019 by the total population under 18 as reported in Table B01001 in the 2017 American Community Survey 5-year Estimates program. Population data from 2017 were used as this was the central year of the period over which juvenile felony arrest data were obtained. Population figures from 2017 were multiplied by 5 to match the years of arrest data used. Empirical bayes smoothed rates were calculated to increase the reliability of rates calculated for small counties. Finally, juvenile felony arrest rates were also calculated for Black, White, and Hispanic populations following the same manner, but using input population data from 2017 American Community Survey 5-year Estimates Tables B01001H, B01001B, and B01001I respectively.

US Department of Housing and Urban Development

Data from the US Department of Housing and Urban Development's 2020 Annual Homeless Assessment Report[29] were used to calculate homelessness rates for the counties and states. This data reported point-in-time (PIT) homelessness estimates for individual Continuum of Care (CoC) organizations across the state. Each CoC works within a defined geographic area, which could be a group of counties, an individual county, or a portion of a county.

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[26] California Office of Environmental Health Hazard Assessment. 2018. CalEnviroScreen 3.0. Retrieved on 22 Jan 2021 from https://oehha.ca.gov/calenviroscreen/maps-data.
[27] Office of Statewide Health Planning and Development. 2021. Prevention Quality Indicators (PQI) for California. Data files for Statewide and County. Retrieved on 12 Mar 2021 from https://oshpd.ca.gov/data-and-reports/healthcare-quality/ahrq-quality-indicators/.
[28] California Department of Justice, OpenJustice. 2021. Criminal Justice Data: Arrests. Retrieved on 17 Jun 2021 from https://data-openjustice.doj.ca.gov/sites/default/files/dataset/2020-07/OnlineArrestData1980-2019.csv.
[29] US Department of Housing and Urban Development. 2021. 2020 Annual Homeless Assessment Report: 2007 - 2020 Point-in-Time Estimates by CoC. Retrieved on 14 Jul 2021 from https://www.huduser.gov/portal/sites/default/files/xls/2007-2020-PIT-Estimates-by-CoC.xlsx.

To calculate county rates, CoC were first related to county boundaries. Rates for CoC that covered single counties were calculated by dividing the CoC PIT estimate by the county population. If a given county was covered by multiple CoC, their PIT was totaled and then divided by the total county population to calculate the rate. When a single CoC covered multiple counties, the CoC PIT was divided by the total of all included county populations, and the resulting rate was applied to each individual county.

Population data came from the total population value reported in Table B03002 from the 2019 American Community Survey 5-year Estimates dataset. Derived rates were multiplied by 100,000 to report rates per 100,000.

Proximity to Transit Stops

The proximity to transit stops variable reports the percent of county and state population that lives in a US Census block located within 1/4 mile of a fixed transit stop. Two sets of information were needed in order to calculate this indicator: total population at the Census block level, and the location of transit stops. Likely due to delays in data releases stemming from the COVID-19 pandemic, the most recent Census block population data available at the time of the analysis was from the 2010 Decennial Census[30], so this was the data used to represent the distribution of population for this indicator.

Transit stop data were identified first by using tools in the TidyTransit[31] library for the R statistical programming language[32]. This was used to identify transit providers with stops located within 100 miles of the state boundaries. A search for transit stops for these agencies, as well as all other transit agencies in the state, was conducted by reviewing three main online sources: OpenMobilityData[33], Transitland[34], Transitwiki.org[35], and Santa Ynez Valley Transit[36]. Each of these websites list public transit data that have been made public by transit agencies. Transit data from all providers that could be identified were downloaded, and fixed transit stop locations were extracted from them.

The sf[37] library in R was then used to calculate 1/4 mile (402.336 meter) buffers around each of these transit stops, and then to identify which Census blocks fell within these areas. The total population of all

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[30] US Census Bureau. 2011. Census Blocks with Population and Housing Counts. Retrieved on 7 Jun 2021 from https://www2.census.gov/geo/tiger/TIGER2010BLKPOPHU/.

[31] Flavio Poletti, Daniel Herszenhut, Mark Padgham, Tom Buckley and Danton Noriega-Goodwin. 2021. tidytransit: Read, Validate, Analyze, and Map Files in the General Transit Feed Specification. R package version 1.0.0. https://CRAN.R-project.org/package=tidytransit.

[32] R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

[33] OpenMobilityData. 2021. California, USA. Retrieved all feeds listed on 31 May to 1 June 2021 from https://openmobilitydata.org/l/67-california-usa.

[34] Transitland. 2021. Transitland Operators. Retrieved all operators with California locations on 31 May to 1 June 2021 from https://www.transit.land/operators.

[35] Transitwiki.org. 2021. List of publicly-accessible transportation data feeds: dynamic and others. Retrieved on 31 May to 1 June 2021 from https://www.transitwiki.org/TransitWiki/index.php/Publicly-accessible_public_transportation_data#List_of_publicly-accessible_public_transportation_data_feeds:_dynamic_data_and_others.

[36] Santa Ynez Valley Transit. GTFS Files. Retrieved on 1 Jun 2021 from http://www.cityofsolvang.com/DocumentCenter/View/2756/syvt_gtfs_011921.

[37] Pebesma, E., 2018. Simple Features for R: Standardized Support for Spatial Vector Data. The R Journal 10 (1), 439-446, https://doi.org/10.32614/RJ-2018-009.

tracts within the buffer of the stops was then divided by the total population of each county or state to generate the final indicator value.

Service Area Description and Health Equity Datasets

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 were combined with secondary health need identification data to identify significant health needs within the service area. Finally, primary data were 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

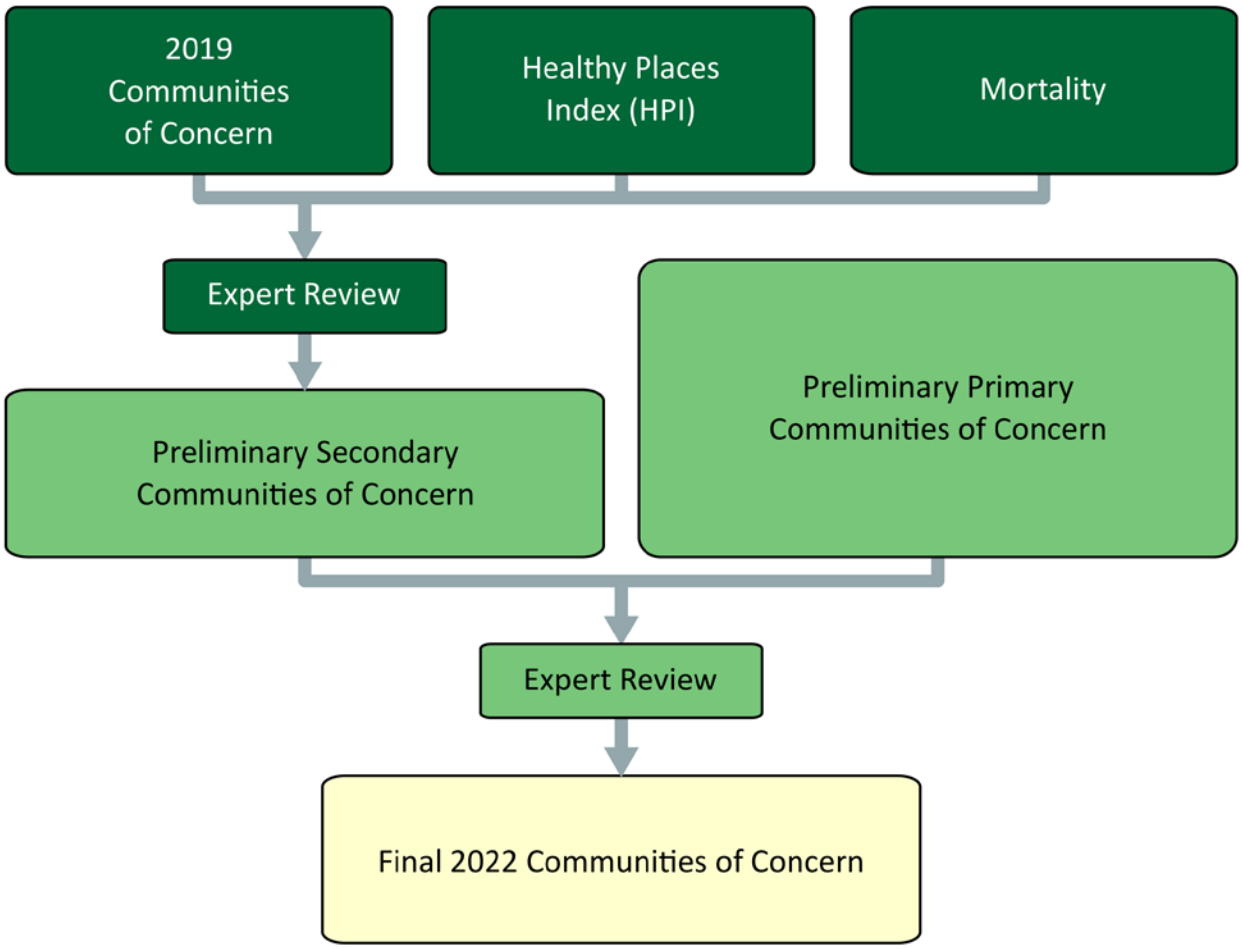

Figure 8: Community of Concern identification process

As illustrated in Figure 8, 2022 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 2019 CHNA; the census tract-level California Healthy Places Index (HPI); 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.

2019 Community of Concern

A ZCTA was included if it was included in the 2019 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.

Healthy Places Index (HPI)

A ZCTA was included if it intersected a census tract whose HPI value fell within the lowest 20% of those in 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.

CDPH Mortality Data

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. 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 (2019 Community of Concern, HPI, and Mortality) was reviewed for inclusion as a 2022 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 2022 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 2022 Communities of Concern.

Significant Health Need Identification

The general methods through which significant health needs (SHNs) were identified are shown in Figure 9 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 prior CHNAs among various hospitals throughout Central and Northern California and then supplementing this list based on a preliminary analysis of the primary qualitative data collected for the current CHNA. This resulted the list of PHNs shown in Table 20.

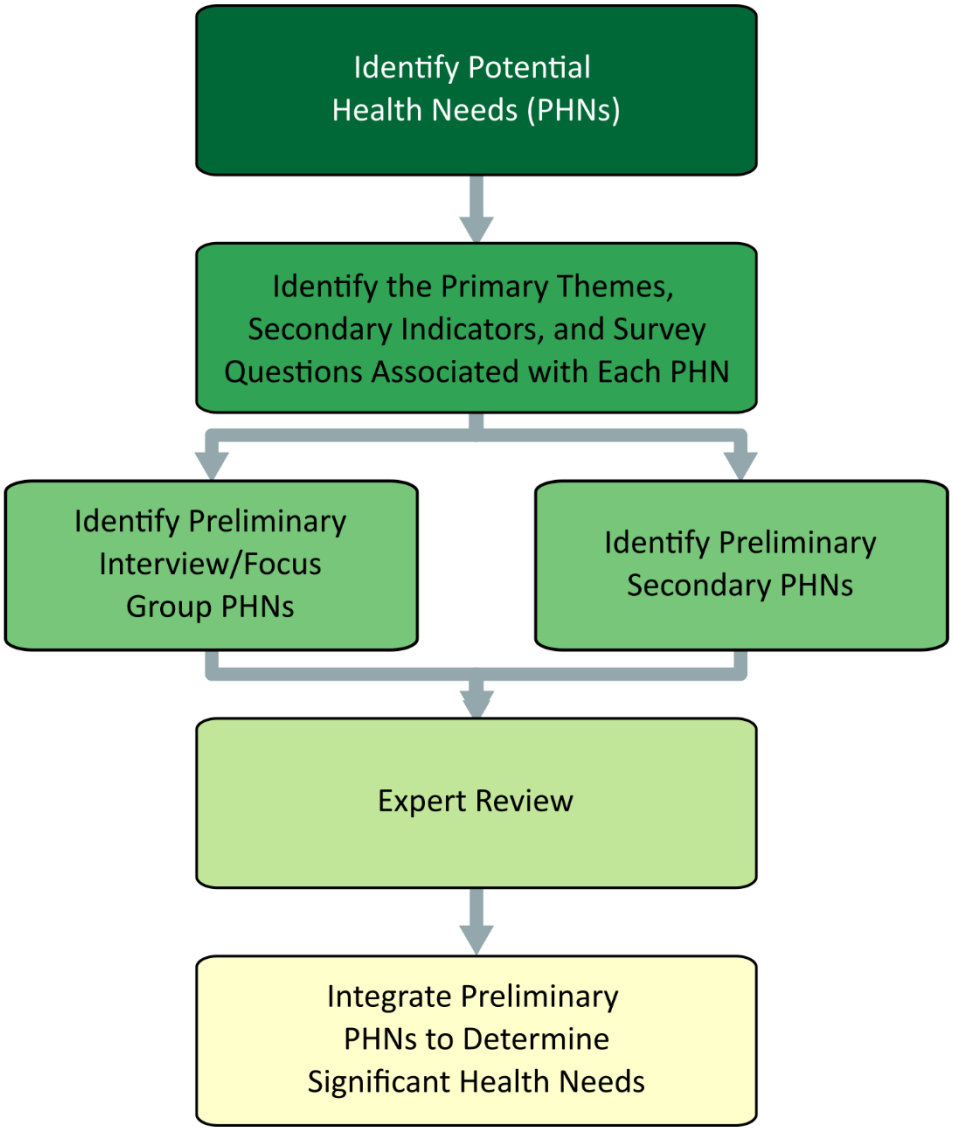

Figure 9: Significant health need identification process.

Table 20: 2022 Potential Health Needs.

Potential Health Needs (PHNs)	
PHN1	Access to Mental/Behavioral Health and Substance-Use 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	Healthy Physical Environment
PHN7	Access to Basic Needs Such as Housing, Jobs, and Food
PHN8	Access to Functional Needs
PHN9	Access to Specialty and Extended Care
PHN10	Injury and Disease Prevention and Management

Potential Health Needs (PHNs)	
PHN11	Increased Community Connections
PHN12	System Navigation

The next step in the process was to identify primary themes and secondary indicators associated with each of these health needs as shown in Tables 21 through 32. Primary theme associations were used to guide coding of the primary data sources to specific PHNs.

Access to Mental/Behavioral Health and Substance-Use Services

Table 21: Primary themes and secondary indicators associated with PHN1

Qualitative Themes	Secondary Indicators
There aren't enough mental health providers or treatment centers in the area (e.g., psychiatric beds, therapists, support groups). The cost for mental/behavioral health treatment is too high. Treatment options in the area for those with Medi-Cal are limited. Awareness of mental health issues among community members is low. Additional services specifically for youth are needed (e.g., child psychologists, counselors and therapists in the schools). The stigma around seeking mental health treatment keeps people out of care. Additional services for those who are homeless and dealing with mental/behavioral health issues are needed. The area lacks the infrastructure to support acute mental health crises. Mental/behavioral health services are available in the area, but people do not know about them. It's difficult for people to navigate for mental/behavioral healthcare. Substance-use is a problem in the area (e.g., use of opiates and methamphetamine, prescription misuse). There are too few substance-use treatment services in the area (e.g., detox centers, rehabilitation centers). Substance-use treatment options for those with Medi-cal are limited. There aren't enough services here for those who are homeless and dealing with substance-use issues. The use of nicotine delivery products such as e-cigarettes and tobacco is a problem in the community. Substance-use is an issue among youth in particular. There are substance-use treatment services available here, but people do not know about them.	Life Expectancy Premature Age-Adjusted Mortality Premature Death Liver Disease Mortality Suicide Mortality Poor Mental Health Days Frequent Mental Distress Poor Physical Health Days Frequent Physical Distress Poor or Fair Health Excessive Drinking Drug Induced Death Adult Smoking Primary Care Shortage Area Mental Health Care Shortage Area Medically Underserved Area Mental Health Providers Psychiatry Providers Firearm Fatalities Rate Juvenile Arrest Rate Disconnected Youth Social Associations Residential Segregation (Non-White/White) Income Inequality Severe Housing Cost Burden Homelessness Rate

Access to Quality Primary Care Health Services

Table 22: Primary themes and secondary indicators associated with PHN2

Qualitative Themes	Secondary Indicators
Insurance is unaffordable. Wait-times for appointments are excessively long. Out-of-pocket costs are too high. There aren't enough primary care service providers in the area. Patients have difficulty obtaining appointments outside of regular business hours. Too few providers in the area accept Medi-Cal. It is difficult to recruit and retain primary care providers in the region. Specific services are unavailable here (e.g., 24-hour pharmacies, urgent care, telemedicine). The quality of care is low (e.g., appointments are rushed, providers lack cultural competence). Patients seeking primary care overwhelm local emergency departments. Primary care services are available, but are difficult for many people to navigate.	Infant Mortality Child Mortality Life Expectancy Premature Age-Adjusted Mortality Premature Death Stroke Mortality Chronic Lower Respiratory Disease Mortality Diabetes Mortality Heart Disease Mortality Hypertension Mortality Cancer Mortality Liver Disease Mortality Kidney Disease Mortality COVID-19 Mortality COVID-19 Case Fatality Alzheimer's Disease Mortality Influenza and Pneumonia Mortality Diabetes Prevalence Low Birthweight Poor Mental Health Days Frequent Mental Distress Poor Physical Health Days Frequent Physical Distress Poor or Fair Health Colorectal Cancer Prevalence Breast Cancer Prevalence Lung Cancer Prevalence Prostate Cancer Prevalence Asthma ED Rates Asthma ED Rates for Children Primary Care Shortage Area Medically Underserved Area Mammography Screening Primary Care Providers Preventable Hospitalization COVID-19 Cumulative Full Vaccination Rate Residential Segregation (Non-White/White) Uninsured Population under 64 Income Inequality Homelessness Rate

Active Living and Healthy Eating

Table 23: Primary themes and secondary indicators associated with PHN3

Qualitative Themes	Secondary Indicators
There are food deserts in the area where fresh, unprocessed foods are not available. Fresh, unprocessed foods are unaffordable. Food insecurity is an issue here. Students need healthier food options in schools. The built environment doesn't support physical activity (e.g., neighborhoods aren't walk-able, roads aren't bike-friendly, or parks are inaccessible). The community needs nutrition education programs. Homelessness in parks or other public spaces deters their use. Recreational opportunities in the area are unaffordable (e.g., gym memberships, recreational activity programming. There aren't enough recreational opportunities in the area (e.g., organized activities, youth sports leagues) The food available in local homeless shelters and food banks is not nutritious. Grocery store option in the area are limited.	Life Expectancy Premature Age-Adjusted Mortality Premature Death Stroke Mortality Diabetes Mortality Heart Disease Mortality Hypertension Mortality Cancer Mortality Kidney Disease Mortality Diabetes Prevalence Poor Mental Health Days Frequent Mental Distress Poor Physical Health Days Frequent Physical Distress Poor or Fair Health Colorectal Cancer Prevalence Breast Cancer Prevalence Prostate Cancer Prevalence Asthma ED Rates Asthma ED Rates for Children Adult Obesity Physical Inactivity Limited Access to Healthy Foods Food Environment Index Access to Exercise Opportunities Residential Segregation (Non-White/White) Income Inequality Severe Housing Cost Burden Homelessness Rate Long Commute - Driving Alone Access to Public Transit

Safe and Violence-Free Environment

Table 24: Primary themes and secondary indicators associated with PHN4

Qualitative Themes	Secondary Indicators
People feel unsafe because of crime. There are not enough resources to address domestic violence and sexual assault. Isolated or poorly-lit streets make pedestrian travel unsafe. Public parks seem unsafe because of illegal activity taking place. Youth need more safe places to go after school. Specific groups in this community are targeted because of characteristics like race/ethnicity or age. There isn't adequate police protection police protection. Gang activity is an issue in the area. Human trafficking is an issue in the area. The current political environment makes some concerned for their safety.	Life Expectancy Premature Death Hypertension Mortality Poor Mental Health Days Frequent Mental Distress Frequent Physical Distress Poor or Fair Health Physical Inactivity Access to Exercise Opportunities Homicide Rate Firearm Fatalities Rate Violent Crime Rate Juvenile Arrest Rate Motor Vehicle Crash Death Disconnected Youth Social Associations Income Inequality Severe Housing Problems Severe Housing Cost Burden Homelessness Rate

Access to Dental Care and Preventive Services

Table 25: Primary themes and secondary indicators associated with PHN5

Qualitative Themes	Secondary Indicators
There aren't enough providers in the area who accept Denti-Cal. The lack of access to dental care here leads to overuse of emergency departments. Quality dental services for kids are lacking. It's hard to get an appointment for dental care. People in the area have to travel to receive dental care. Dental care here is unaffordable, even if you have insurance.	Frequent Mental Distress Poor Physical Health Days Frequent Physical Distress Poor or Fair Health Dental Care Shortage Area Dentists Residential Segregation (Non-White/White) Income Inequality Homelessness Rate

Healthy Physical Environment

Table 26: Primary themes and secondary indicators associated with PHN6

Qualitative Themes	Secondary Indicators
The air quality contributes to high rates of asthma. Poor water quality is a concern in the area. Agricultural activity harms the air quality. Low-income housing is substandard. Residents' use of tobacco and e-cigarettes harms the air quality. Industrial activity in the area harms the air quality. Heavy traffic in the area harms the air quality. Wildfires in the region harm the air quality.	Infant Mortality Life Expectancy Premature Age-Adjusted Mortality Premature Death Chronic Lower Respiratory Disease Mortality Hypertension Mortality Cancer Mortality Frequent Mental Distress Frequent Physical Distress Poor or Fair Health Colorectal Cancer Prevalence Breast Cancer Prevalence Lung Cancer Prevalence Prostate Cancer Prevalence Asthma ED Rates Asthma ED Rates for Children Adult Smoking Income Inequality Severe Housing Cost Burden Homelessness Rate Long Commute - Driving Alone Pollution Burden Percent Air Pollution - Particulate Matter Drinking Water Violations

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

Table 27: Primary themes and secondary indicators associated with PHN7

Qualitative Themes	Secondary Indicators
Lack of affordable housing is a significant issue in the area. The area needs additional low-income housing options. Poverty in the county is high. Many people in the area do not make a living wage. Employment opportunities in the area are limited. Services for homeless residents in the area are insufficient. Services are inaccessible for Spanish-speaking and immigrant residents. Many residents struggle with food insecurity. It is difficult to find affordable childcare. Educational attainment in the area is low.	Infant Mortality Child Mortality Life Expectancy Premature Age-Adjusted Mortality Premature Death Hypertension Mortality COVID-19 Mortality COVID-19 Case Fatality Diabetes Prevalence Low Birthweight Poor Mental Health Days Frequent Mental Distress Poor Physical Health Days Frequent Physical Distress

Qualitative Themes	Secondary Indicators
	Poor or Fair Health COVID-19 Cumulative Incidence Asthma ED Rates Asthma ED Rates for Children Drug Induced Death Adult Obesity Limited Access to Healthy Foods Food Environment Index Medically Underserved Area COVID-19 Cumulative Full Vaccination Rate Some College High School Completion Disconnected Youth Third Grade Reading Level Third Grade Math Level Unemployment Children in Single-Parent Households Social Associations Residential Segregation (Non-White/White) Children Eligible for Free Lunch Children in Poverty Median Household Income Uninsured Population under 64 Income Inequality Severe Housing Problems Severe Housing Cost Burden Homeownership Homelessness Rate Households with no Vehicle Available Long Commute - Driving Alone

Access to Functional Needs

Table 28: Primary themes and secondary indicators associated with PHN8

Qualitative Themes	Secondary Indicators
Many residents do not have reliable personal transportation. Medical transport in the area is limited. Roads and sidewalks in the area are not well-maintained. The distance between service providers is inconvenient for those using public transportation. Using public transportation to reach providers can take a very long time. The cost of public transportation is too high. Public transportation service routes are limited.	Disability Frequent Mental Distress Frequent Physical Distress Poor or Fair Health Adult Obesity COVID-19 Cumulative Full Vaccination Rate Income Inequality

Qualitative Themes	Secondary Indicators
Public transportation schedules are limited.	Homelessness Rate
The geography of the area makes it difficult for those without reliable transportation to get around.	Households with no Vehicle Available
Public transportation is more difficult for some to residents to use (e.g., non-English speakers, seniors, parents with young children).	Long Commute - Driving Alone
There aren't enough taxi and ride-share options (e.g.,Uber, Lyft).	Access to Public Transit

Access to Specialty and Extended Care

Table 29: Primary themes and secondary indicators associated with PHN9

Qualitative Themes	Secondary Indicators
Wait-times for specialist appointments are excessively long.	Infant Mortality
It is difficult to recruit and retain specialists in the area.	Life Expectancy
Not all specialty care is covered by insurance.	Premature Age-Adjusted Mortality
Out-of-pocket costs for specialty and extended care are too high.	Premature Death
People have to travel to reach specialists.	Stroke Mortality
Too few specialty and extended care providers accept Medi-Cal.	Chronic Lower Respiratory Disease Mortality
The area needs more extended care options for the aging population (e.g. skilled nursing homes, in-home care)	Diabetes Mortality
There isn't enough OB/GYN care available.	Heart Disease Mortality
Additional hospice and palliative care options are needed.	Hypertension Mortality
The area lacks a kind of specialist or extended care option not listed here.	Cancer Mortality
	Liver Disease Mortality
	Kidney Disease Mortality
	COVID-19 Mortality
	COVID-19 Case Fatality
	Alzheimer's Disease Mortality
	Diabetes Prevalence
	Poor Mental Health Days
	Frequent Mental Distress
	Poor Physical Health Days
	Frequent Physical Distress
	Poor or Fair Health
	Lung Cancer Prevalence
	Asthma ED Rates
	Asthma ED Rates for Children
	Drug Induced Death
	Psychiatry Providers
	Specialty Care Providers
	Preventable Hospitalization
	Residential Segregation (Non-White/White)
	Income Inequality
	Homelessness Rate

Injury and Disease Prevention and Management

Table 30: Primary themes and secondary indicators associated with PHN10

Qualitative Themes	Secondary Indicators
There isn't really a focus on prevention around here. Preventive health services for women are needed (e.g., breast and cervical cancer screening). There should be a greater focus on chronic disease prevention (e.g. diabetes, heart disease). Vaccination rates are lower than they need to be. Health education in the schools needs to be improved. Additional HIV and STI prevention efforts are needed. The community needs nutrition education opportunities. Schools should offer better sexual health education. Prevention efforts need to be focused on specific populations in the community (e.g. youth, Spanish-speaking residents, the elderly, LGBTQ individuals, immigrants). Patients need to be better connected to service providers (e.g. case management, patient navigation, or centralized service provision).	Infant Mortality Child Mortality Stroke Mortality Chronic Lower Respiratory Disease Mortality Diabetes Mortality Heart Disease Mortality Hypertension Mortality Liver Disease Mortality Kidney Disease Mortality Suicide Mortality Unintentional Injuries Mortality COVID-19 Mortality COVID-19 Case Fatality Alzheimer's Disease Mortality Diabetes Prevalence Low Birthweight HIV Prevalence Poor Mental Health Days Frequent Mental Distress Frequent Physical Distress Poor or Fair Health COVID-19 Cumulative Incidence Asthma ED Rates Asthma ED Rates for Children Excessive Drinking Drug Induced Death Adult Obesity Physical Inactivity Chlamydia Incidence Teen Birth Rate Adult Smoking COVID-19 Cumulative Full Vaccination Rate Firearm Fatalities Rate Juvenile Arrest Rate Motor Vehicle Crash Death

Qualitative Themes	Secondary Indicators
	Disconnected Youth
	Third Grade Reading Level
	Third Grade Math Level
	Income Inequality
	Homelessness Rate

Increased Community Connections

Table 31: Primary themes and secondary indicators associated with PHN11

Qualitative Themes	Secondary Indicators
Health and social-service providers operate in silos; we need cross-sector connection.	Infant Mortality
Building community connections doesn't seem like a focus in the area.	Child Mortality
Relations between law enforcement and the community need to be improved.	Life Expectancy
The community needs to invest more in the local public schools.	Premature Age-Adjusted Mortality
There isn't enough funding for social services in the county.	Premature Death
People in the community face discrimination from local service providers.	Stroke Mortality
City and county leaders need to work together.	Diabetes Mortality
	Heart Disease Mortality
	Hypertension Mortality
	Suicide Mortality
	Unintentional Injuries Mortality
	Diabetes Prevalence
	Low Birthweight
	Poor Mental Health Days
	Frequent Mental Distress
	Poor Physical Health Days
	Frequent Physical Distress
	Poor or Fair Health
	Excessive Drinking
	Drug Induced Death
	Physical Inactivity
	Access to Exercise Opportunities
	Teen Birth Rate
	Primary Care Shortage Area
	Mental Health Care Shortage Area
	Medically Underserved Area
	Mental Health Providers
	Psychiatry Providers
	Specialty Care Providers
	Primary Care Providers
	Preventable Hospitalization
	COVID-19 Cumulative Full Vaccination Rate
	Homicide Rate
	Firearm Fatalities Rate

Qualitative Themes	Secondary Indicators
	Violent Crime Rate
	Juvenile Arrest Rate
	Some College
	High School Completion
	Disconnected Youth
	Unemployment
	Children in Single-Parent Households
	Social Associations
	Residential Segregation (Non-White/White)
	Income Inequality
	Homelessness Rate
	Households with no Vehicle Available
	Long Commute - Driving Alone
	Access to Public Transit

System Navigation

Table 32: Primary themes and secondary indicators associated with PHN12

Qualitative Themes	Secondary Indicators
People may not be aware of the services they are eligible for.	
It is difficult for people to navigate multiple, different health care systems.	
The area needs more navigators to help to get people connected to services.	
People have trouble understanding their insurance benefits.	
Automated phone systems can be difficult for those who are unfamiliar with the healthcare system	
Dealing with medical and insurance paperwork can be overwhelming.	
Medical terminology is confusing.	
Some people just don't know where to start in order to access care or benefits.	

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

Table 33: Benchmark comparisons to show indicator performance.

Indicator	Benchmark Comparison Indicating Poor Performance
Infant Mortality	Higher
Child Mortality	Higher

Indicator	Benchmark Comparison Indicating Poor Performance
Life Expectancy	Lower
Premature Age-Adjusted Mortality	Higher
Premature Death	Higher
Stroke Mortality	Higher
Chronic Lower Respiratory Disease 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 Injuries Mortality	Higher
COVID-19 Mortality	Higher
COVID-19 Case Fatality	Higher
Alzheimer's Disease Mortality	Higher
Influenza and Pneumonia Mortality	Higher
Diabetes Prevalence	Higher
Low Birthweight	Higher
HIV Prevalence	Higher
Disability	Higher
Poor Mental Health Days	Higher
Frequent Mental Distress	Higher
Poor Physical Health Days	Higher
Frequent Physical Distress	Higher
Poor or Fair Health	Higher
Colorectal Cancer Prevalence	Higher
Breast Cancer Prevalence	Higher
Lung Cancer Prevalence	Higher
Prostate Cancer Prevalence	Higher
COVID-19 Cumulative Incidence	Higher
Asthma ED Rates	Higher
Asthma ED Rates for Children	Higher
Excessive Drinking	Higher
Drug Induced Death	Higher
Adult Obesity	Higher
Physical Inactivity	Higher
Limited Access to Healthy Foods	Higher
Food Environment Index	Lower
Access to Exercise Opportunities	Lower
Chlamydia Incidence	Higher
Teen Birth Rate	Higher
Adult Smoking	Higher
Primary Care Shortage Area	Present
Dental Care Shortage Area	Present
Mental Health Care Shortage Area	Present
Medically Underserved Area	Present

Indicator	Benchmark Comparison Indicating Poor Performance
Mammography Screening	Lower
Dentists	Lower
Mental Health Providers	Lower
Psychiatry Providers	Lower
Specialty Care Providers	Lower
Primary Care Providers	Lower
Preventable Hospitalization	Higher
COVID-19 Cumulative Full Vaccination Rate	Lower
Homicide Rate	Higher
Firearm Fatalities Rate	Higher
Violent Crime Rate	Higher
Juvenile Arrest Rate	Higher
Motor Vehicle Crash Death	Higher
Some College	Lower
High School Completion	Lower
Disconnected Youth	Higher
Third Grade Reading Level	Lower
Third Grade Math Level	Lower
Unemployment	Higher
Children in Single-Parent Households	Higher
Social Associations	Lower
Residential Segregation (Non-White/White)	Higher
Children Eligible for Free Lunch	Higher
Children in Poverty	Higher
Median Household Income	Lower
Uninsured Population under 64	Higher
Income Inequality	Higher
Severe Housing Problems	Higher
Severe Housing Cost Burden	Higher
Homeownership	Lower
Homelessness Rate	Higher
Households with no Vehicle Available	Higher
Long Commute - Driving Alone	Higher
Access to Public Transit	Lower
Pollution Burden Percent	Higher
Air Pollution - 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 10%, 20%, 30%, 40%, 50%, 60%, 70%, or 80% of the associated indicators were found to perform poorly. A similar set of standards was used to identify the preliminary interview and

focus-group health needs: if at least 10%, 20%, 30%, 40%, 50%, 60%, 70%, or 80% of the respondents mentioned an associated theme.

These sets of criteria (any mention, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 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.

For this report, a PHN was selected as a preliminary quantitative significant health need if 50% of the associated quantitative indicators were identified as performing poorly and as a preliminary qualitative significant health need if it was identified by 50% or more of the primary sources as performing poorly. Finally, a PHN was selected as a significant health need if it was included as a preliminary significant health need in at least one of these two categories.

Significant Health Need Prioritization

The final step in the analysis was to prioritize the identified SHNs. 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 then 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 34: Resources available to meet health needs.

Organization Information			Significant Health Needs											Other Health Needs	
Name	Primary ZIP Code	Website	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Mental/Behavioral Health and	Injury and Disease Prevention and Management	Access to Quality Primary Care Health Services	Access to Functional Needs	Access to Specialty and Extended Care	Increased Community Connections	Active Living and Healthy Eating	Safe and Violence-Free Environment	Healthy Physical Environment	Access to Dental Care and Preventive Services	System Navigation
211 Solano County	Throughout Solano County	www.211bayarea.org/solano	x	x		x	x	x					x	
A Better Way Inc.	94533	www.abetterwayinc.net		x					x					
A Place 2 Live, Inc.	94590	www.ap2l.org	x						x					
Access Line- Mental Health or Substance Use	94533	www.solanocounty.com/depts/mhs/default.asp		x										
African American Faith Based Initiative	94533, 94590	www.solanocounty.com/depts/bh/diversity/aa.asp		x										
Alternative Family Services of Northern California	94590	www.afs4kids.org	x	x	x									
Amador Street Hope Center	94590	solano.networkofcare.org/family/services/agency.aspx?pid=AmadorStreetHopeCenterAngelFoodMinistries_5_1202_1	x							x				
ARC-Solano (Association for Retarded Citizens)	94590	thearcsolano.org	x	x	x	x	x		x	x	x			
Baby First Solano Collaborative	94590	www.babyfirstsolano.org/default.asp	x	x	x	x	x	x	x		x	x		x
Bay Area Community Services Solano	94609	bayareacs.org	x	x					x					
Benicia Community Action Council	94510	www.bencac.com		x					x					x
Born to Age	Napa and Solano Counties	borntoage.com/about	x		x					x				

Organization Information			Significant Health Needs											Other Health Needs	
Name	Primary ZIP Code	Website	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Mental/Behavioral Health and	Injury and Disease Prevention and Management	Access to Quality Primary Care Health Services	Access to Functional Needs	Access to Specialty and Extended Care	Increased Community Connections	Active Living and Healthy Eating	Safe and Violence-Free Environment	Healthy Physical Environment	Access to Dental Care and Preventive Services	System Navigation
CA Dept of Education: Summer Meal Sites	Multiple Locations	www.cde.ca.gov/ds/sh/sn/summersites.asp	x											
CACFP Day Care Home Sponsors	94534, 94535	www.cdss.ca.gov/cacfp	x											
Caminar, Inc.	94590	www.caminar.org	x	x	x	x		x	x	x	x			x
CASA Solano	94533	casasolano.org		x					x					
Catholic Charities of Yolo Solano	94590, 95695	www.ccyoso.org	x						x		x			
Catholic Social Services of Solano County	94590	www.ccyoso.org	x	x	x		x			x	x			
Child Start Inc	94592, 94589, 94590	www.childstartinc.org/index.html	x		x	x			x	x	x			
Childhaven	94533	www.child-haven.org		x										
Children's Mental Health Solano	Solano County	www.solanocounty.com/depts/mhs/default.asp		x										
Christian Help Center	94590	www.christianhelpcenter.org	x	x		x	x			x	x			x
City Church	94533	citychurchfairfield.com/ministries		x					x					
Community Action North Bay	94533	canbinc.org	x						x					x
Community Clinic Consortium	94805	clinicconsortium.org												x
Community Medical Centers	95687	www.communitymedicalcenters.org		x										x
Drug Safe Solano- Touro University	94590	www.drugsafesolano.org		x							x			
Emmanuel Temple Apostolic Church	94590	emmanueltemplevallejo.com							x		x			

Organization Information			Significant Health Needs											Other Health Needs	
Name	Primary ZIP Code	Website	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Mental/Behavioral Health and	Injury and Disease Prevention and Management	Access to Quality Primary Care Health Services	Access to Functional Needs	Access to Specialty and Extended Care	Increased Community Connections	Active Living and Healthy Eating	Safe and Violence-Free Environment	Healthy Physical Environment	Access to Dental Care and Preventive Services	System Navigation
Fairfield PAL	94533	www.fairfield.ca.gov/gov/depts/police/fairfield_pal/default.asp		x					x					
Fairfield PD Homeless Intervention Team	94533	www.fairfield.ca.gov/gov/depts/manager/homeless_services/default.asp		x										
Fairfield Senior Day Program	94533	www.fairfield.ca.gov/gov/depts/cr/seniors/center.asp	x					x	x					x
Faith Food Fridays	94590	faithfoodfridays.com	x				x							x
Faith in Action	94534	www.faithinactionsolano.org						x	x					
Family Resource Centers	Multiple Locations	www.solanocounty.com/depts/fvp/community_resources/family_resource_center_(frc).asp	x				x		x	x				
Fighting Back Partnership	94590	fight-back.org	x	x	x					x	x	x		
First 5 Solano	95625	www.solanocounty.com/depts/first5/default.asp	x	x		x				x			x	x
First Baptist Church	94590	www.fbcvallejo.com/#home							x	x				
Florence Douglas Center	94590	www.florencedouglasseniorcenter.org	x							x				
Food Bank of Contra Costa & Solano	94533	www.foodbankccs.org	x						x					
For A Child's H.E.A.R.T.	94591	www.forachildsheart.org	x	x	x	x		x	x		x			
Friendship Missionary Baptist Church	94590	befmbc.org		x					x					
Genesis House	94591	www.genesis-house.com		x	x						x			
GEO Reentry Services	94533	www.georeentry.com		x										
Global Center for Success	94592	www.globalcenterforsuccess.com	x	x	x	x			x		x			
Greater Vallejo Recreation District	94590	www.gvrd.org							x	x	x			
HomeBase	94102	www.homebaseccc.org	x											

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House of Acts	94590	www.houseofacts.org	x	x	x									
Housing First Solano	94590, 94533	www.housingfirstsolano.org/get-help--resource-connect-solano.html	x											x
Kaiser Permanente - Bethel Health Center	94591	jbhs-vcusd-ca.schoolloop.com/pf4/cms2/view_page?d=x&group_id=1536391165920&vdid=i19g1xgbv4k1ky	x	x	x	x			x					
Kaiser Permanente L.A.U.N.C.H. (High School Summer Internship Program)	94589	kplaunch.kaiserpermanente.org	x		x									
Kaiser Permanente Vallejo Medical Center	94589	healthy.kaiserpermanente.org/northern-california/facilities/Kaiser-Permanente-Vallejo-Medical-Center-100316				x		x						x
La Clinica de La Raza - All services including Dental	94590	laclinica.org/location/la-clinica-vallejo											x	x
La Clinica de La Raza - North Vallejo	94589	laclinica.org/location/la-clinica-north-vallejo	x	x	x	x		x		x				x
La Clinica de La Raza-Great Beginnings Prenatal Clinic	94589	laclinica.org/location/la-clinica-vallejo-great-beginnings	x	x	x	x								
Legal Services of Northern California	94590	lsnc.net/office/vallejo	x											
Meals on Wheels	94585	www.mealsonwheelssolano.org	x						x					
MedMark Treatment Centers	94590	medmark.com/medmark-treatment-centers-vallejo		x	x						x			x
Mission Solano	94533	www.homelessshelterdirectory.org/shelter/ca_mission-solano-rescue-mission-inc	x											x
NAACP	94590	www.tri-citynaacp.org	x		x									

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NAMI	94533	namisolanocounty.org		x					x					
Napa COAD (Community Organizations Active in Disaster)	94558	napavalleycoad.org							x					
Napa County Public Health, American Canyon office	94503	www.countyofnapa.org/574/American-Canyon-Office	x		x	x	x		x	x				x
Napa Valley Education Foundation	94558	www.nvef.org							x		x			x
Napa/Solano Area Agency on Aging	94533	www.aaans.org	x					x	x		x	x		x
New Dawn Vallejo	94590	newdawnvallejo.org	x						x					
North American Mental Health	94533	namhs.com		x										
North Bay Regional Center	Throughout Solano County	nbrc.net/about-us	x						x	x				
OLE Health	94533	www.olehealth.org/new-fairfield-location		x					x					x
On the Move- Voices Youth programs	94590	www.voicesyouthcenter.org/voices-solano							x					x
Partnership HealthPlan	94534	www.partnershiphp.org/Pages/PHC.aspx	x	x		x	x	x		x				x
Planned Parenthood of Northern California	94589	www.plannedparenthood.org/planned-parenthood-northern-california/get-care		x										x
Practice Counseling Services	94533	www.thepracticecs.com		x										x
Puertas Abiertas Community Resource Center	94559	www.puertasabiertasnapa.org		x					x					x

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Resource Connect Solano	94590	www.resourceconnectsolano.org	x	x										
Rio Vista CARE	94571	www.riovistacare.org		x					x					x
Safe Quest Solano	94590	www.safequestsolano.org	x	x	x				x		x			x
Salvation Army Kroc Center Suisun City	94585	gokroc.org/kroc-suisun-city							x		x	x		
Second Baptist Church	94591	(707) 643-6496							x	x				
Shamia Recovery Center	94590	shamia-recovery-center.hub.biz		x	x									
Share the Care Napa Valley	94559	www.sharethecarenv.org	x			x	x							x
Shelter, Inc.	94520	shelterinc.org	x											x
Solano ADHC (Adult Day Health Center)	94590	www.solanocbas.com						x						x
Solano Advocates for Victims of Violence	94533	www.savvcenter.org		x										
Solano Cares	Throughout Solano County	www.solanocares.org	x	x		x	x	x	x				x	x
Solano Coalition for Better Health	94533	solanocoalition.org	x			x				x				
Solano County Behavioral Health	Throughout Solano County	www.solanocounty.com/depts/mhs/default.asp	x	x	x	x	x	x	x	x	x	x	x	x

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Solano County- Benicia Family Resource Center	94510	www.solanocounty.com/depts/fvp/community_resources/family_resource_center_(frc).asp, www.ci.benicia.ca.us/index.asp?SEC=7D71BE63-0B78-4751-B1FF-E1C7AEBB9814&DE=AB5F1A13-5FEF-4177-B9FE-DFDA87B5F3D9		x	x		x		x					x
Solano County Department of Health and Social Services	94533	www.solanocounty.com/depts/hss	x	x	x	x	x	x		x	x	x	x	x
Solano County Family Health Services	Throughout Solano County	www.solanocounty.com/depts/ph/fhs	x	x		x							x	x
Solano County Network of Care: In Home Assistance	Throughout Solano County	solano.networkofcare.org/dd/services/subcategory.aspx?tax=PH-3300						x						x
Solano County Office of Education	94534	www.solanocoe.net		x										
Solano County Older & Disabled Adult Services	Throughout Solano County	www.solanocounty.com/depts/hss/odas	x	x	x	x								x
Solano County Probation Center for positive change	94590	www.solanocounty.com/depts/probation/contact/default.asp		x										
Solano County Public Health Department	94590, 94533	www.solanocounty.com/depts/ph/default.asp	x	x	x	x	x	x		x	x	x	x	x
Solano Family & Children's Services	Throughout Solano County	solanofamily.org						x						x

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Solano Family Justice Center	94533	www.solanocounty.com/depts/fvp/fjc/default.asp												x
Solano HEALS	Throughout Solano County	www.solanoheals.org					x							x
Solano Pride Center	94533	www.solanopride.org		x										x
Solano Trauma Recovery Center	94533	solano.networkofcare.org/mh/services/agency.aspx?pid=SolanoTraumaRecoveryCenterSTRC_1_49_1		x										x
Sparkpoint - Solano	94589	www.childnet.org/sparkpoint	x											
Sutter Solano Medical Center	94589	www.sutterhealth.org/ssmc		x	x	x		x						x
The Hill Vallejo	94591	www.thehillvallejo.com	x	x										x
The Leaven- Leaven Kids	94533	leavenkids.org							x	x	x			
The Salvation Army – Community Center	94590	www.salvationarmyusa.org/usn/plugins/gdosCenterSearch?query=94590&mode=query_3		x	x				x	x				
Touro University Student-Run Free Clinic	94590	tu.edu/srfc			x	x	x		x					x
Unite Us Callifornia	Throughout Solano County	california.uniteus.com	x	x		x		x						x
Uplift Family Services	94534	upliftfs.org		x					x					x
Vacaville PAL	95688	vacavillepal.com							x					x
Vacaville PD - Mental Health	95688	www.ci.vacaville.ca.us/departments/police-department		x										
Vacaville Solano Services- Opportunity House	95688	vsscorp.org	x								x			

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Vacaville Unified School District - Special Education Department	95687	www.vacavilleusd.org/speceddept		x					x					
Vacaville Youth Reach Coalition	95688	www.ci.vacaville.ca.us/residents/vacaville-youth/vacaville-reach-youth-coalition									x			x
Vallejo Community Change Coalition (part of Fighting Back)	94590	fight-back.org/Vallejo-Community-Change-Coalition			x				x			x		x
Vallejo Health Center-Planned Parenthood	94590	www.plannedparenthood.org/health-center/california/vallejo/94590/vallejo-health-center-2699-90200			x	x		x						
Vallejo People's Garden	94592	www.vallejopeoplesgarden.org/p/about.html							x	x				
Vallejo USD- Full Service Community Schools	94592	hes-vcusd-ca.schoolloop.com/FSCS	x		x									
Vallejo WIC Clinic	94590	www.solanocounty.com/depts/ph/nsp/wic/links.asp			x					x				x
Workforce Development Board of Solano County	94534	www.solanoemployment.org	x											

Limits and Information Gaps

Study limitations for this CHNA included obtaining secondary quantitative data specific to population subgroups, and assuring community representation through primary data collection. Most quantitative 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.

For primary data, gaining access to participants that best represent the populations needed for this assessment was a challenge for the key informant interviews and focus groups. The COVID-19 pandemic made this more difficult as community members were more difficult to recruit for focus groups. Though an effort was made to verify all resources (assets) through a web search, ultimately some resources that exist in the service area may not be listed.

Finally, though this CHNA was conducted with an equity focus, data that point to differences among population subgroups that are more “upstream” focused are not as available as those data that detail the resulting health disparities. Having a clearer picture of early-in-life opportunity differences experienced among various populations that result in later-in-life disparities can help direct community health improvement efforts for maximum impact.

Appendix A: Impact of Actions Taken

ACCESS TO MENTAL/BEHAVIORAL/SUBSTANCE ABUSE SERVICES

Name of program/activity/initiative	**Area Wide Mental Health Strategy**
Description	The need for mental health services and resources, especially for the underserved, has reached a breaking point across the Sutter Health Valley Operating Unit. This is why we are focused on building a comprehensive mental health strategy that integrates key elements such as policy and advocacy, county specific investments, stigma reduction, increased awareness and education, with tangible outreach such as expanded mental health resources to professionals in the workplace and telepsych options to the underserved.
Goals	By linking these various strategies and efforts through engaging in statewide partnerships, replicating best practices, and securing innovation grants and award opportunities, we have the ability to create a seamless network of mental health care resources so desperately needed in the communities we serve.
Outcomes	In 2020, the mental health strategy helped with the following initiatives: • Advance legislation that expands the California Mental Health Parity Act and ensures that medical necessity coverage determinations are consistent with generally accepted standards of care. This legislation -- Senate Bill 855 – passed in June 2020. • Additionally, based on parity advocacy, the Governor publicly touted parity enforcement as a priority on a number of occasions and the enacted budget for California includes over $2.7 million in additional resources for the Department of Managed Health Care (DMHC) to enforce parity this year with $4.7 million annually thereafter. In 2021, the mental health strategy helped with the following initiatives: • Launch the 988 crisis line going live on July 26, 2022 • Pass SB803 for peer certification. • Secure funding for SB71/Bring CA Home in amount of $2 billion over two years and an unspecified amount future funding. • Advocate for funding for board and care with the County Behavioral Health Directors Association and other organizations serving people living with severe mental illness and/or substance use disorder. Resulting in securing $803 million, with program details still to be fleshed out. Propose Children and Youth Initiative and assist Secretary Ghaly to develop what became one of the Governor's signature budget achievements: $4.5 billion over five years to meet the behavioral health needs of children.

INJURY AND DISEASE PREVENTION AND MANAGEMENT

Name of program/activity/initiative	**Mobile Diabetes Education**
Description	The Mobile Diabetes Education Center will deliver care to the most vulnerable residents of Solano County and provide direct diabetes

	prevention programs and diabetes education services. The mobile diabetes clinic will provide not only diabetes screening for members of the community who may not otherwise have adequate access to healthcare but also education to the public about their risk factors, thus aiming to prevent diabetes and prediabetes in their lives.
Goals	Delivering primary health services to the underserved and connecting them to resources for ongoing care, as well as providing diabetes testing and education.
Outcomes	In 2019, MOBEC served 1,269 individuals and provided 262 individuals with service referrals to community resources. In 2020, MOBEC served 1,061 individuals and provided 556 individuals with service referrals to community resources. Between Jun-July 2021, MOBEC served 1,119 individuals and provided 103 individuals with service referrals to community resources. Due to COVID-19, MOBEC met community needs by using our investment to support Touro's efforts to administer the flu and COVID-19 vaccination in Solano County.

Name of program/activity/initiative	**Pharmacist-Led Post Hospitalization Surveillance Initiative**
Description	Extend health professional reach into the daily lives where health behaviors drive disease management by providing pharmacist-based interventions to improve safety, improve adherence, reduce utilization of rescue therapies and services, and better inform public on chronic disease and treatment.
Goals	Delivering primary health services to the underserved and connecting them to resources for ongoing care.
Outcomes	Due to COVID-19, there are not outcomes for 2020. Between Jan-June 2021, 13 individuals were served and provided 25 referral services.

ACCESS TO QUALITY PRIMARY CARE HEALTH SERVICES

Name of program/activity/initiative	**Emergency Department Navigator (ED Navigator)**
Description	The ED Navigator serves as a visible ED-based staff member. Upon referral from a Sutter employee (and after patient agreement), ED Navigators attend to patients in the ED and determines the type of resources and support this patient needs. Upon assessment, the ED Navigator identifies patient needs for community-based resources and/or case-management services, such as providing a patient linkage to a primary care provider and establishing a medical home.
Goals	The goal of the ED Navigator is to connect patients with health and social services, and ultimately a medical home, as well as other community programs when appropriate.
Outcomes	In 2019, 1,169 individuals were served, with a total of 1,561 service referrals to community resources. In 2020, 1,030 individuals were served and provided 1,116 service referrals to community resources. From Jan-June 2021, 543 individuals were served and provided 410 service referrals to community resources.

Name of program/activity/initiative	**Triage, Treatment, and Transport Plus (T3+)**
Description	T3+ patients are identified in an inpatient setting and are often battle complex health and social issues. The T3+ navigator follows patients after discharge and works with Sutter Health staff to provide a follow-up health plan, tele-health, pain management, etc. All of this occurs while the T3+ navigators address the patient's other needs (including housing, insurance enrollment, etc.) and ensure a connection is made to primary and preventive care to reduce further hospitalization.
Goals	The goal of T3+ is to wrap patients with health and social services, and ultimately a medical home.
Outcomes	In 2019, 84 individuals were served, with a total of 429 service provided. In 2020, 316 individuals were served and provided 509 services provided From Jan-June 2021, 154 individuals were served and provided 346 services provided.

Name of program/activity/initiative	**Transitional Care Program (TCP)**
Description	The Transitional Care Program (TCP) provides a place to discharge and connect homeless patients, who are traditionally underserved residents, with resources and support. SSMC, along with other local health providers, provide this program to some of Solano County's most vulnerable residents. This program links homeless adults to vital community services while giving them a place to heal, as well as medical follow up and case management. The clients who are enrolled in the TCP are individuals who otherwise would be discharged to the street or cared for in an inpatient setting only. In addition, the TCP allows patients to focus on recovery and developing a long-term plan to get off the streets, all while being linked to vital community and medical services. The TCP has produced impressive client outcomes by providing "wraparound" services including connection to a medical home, enrollment in eligible programs and support services for clients.
Goals	The TCP seeks to connect patients with a medical home, social support and housing.
Outcomes	In 2019, 13 individuals were served, with a total of 46 service referrals to community resources. In 2020, 34 individuals were served and provided 101 service referrals to community resources.

Name of program/activity/initiative	**Operation Access**
Description	Operation Access (OA) enables care providers to donate vital surgical and specialty care to people in need.
Goals	The overall goal of the program is to provide uninsured patients with outpatient surgeries they otherwise couldn't afford.
Outcomes	In 2019, 1,692 individuals were served, with a total of 2,245 service referrals to community resources. In 2020, 1,346 individuals were served and provided 5,817 service referrals to community resources.

ACCESS TO BASIC NEEDS, SUCH AS HOUSING, JOBS, AND FOOD

Name of program/activity/initiative	**Solano Economic Development Corporation**
Description	The Solano Economic Development Corporation (EDC) is a public-private, nonprofit, dedicated to the economic growth of Solano County – scaling local traded sector industries, attracting new jobs and investment and maintaining competitive advantages for both existing and new businesses. The EDC provides confidential site location assistance to new businesses seeking to locate in Solano County. Pulling from the large and diverse portfolio of buildings and sites throughout the county, the EDC will prepare a comprehensive package of space opportunities, workforce and other resources that will assist the business in their decision process. The EDC will connect businesses to key contacts at the cities. The cities will facilitate location and permitting assistance, workforce development and education, financing, and incentive programs, such as energy savings.
Goals	Solano EDC's positively impact the economic growth of Solano County by maintaining and enhancing a competitive location for businesses to expand and locate, providing direct service to scale local traded sector industries, attracting new jobs and investment, and connecting businesses with resources to meet their needs. The EDC collaborates with the cities, county, workforce development, utilities, and education to deliver all resources.
Outcomes	In 2020, the Solano EDC reached 200,000 individuals by events/outreach providing direct service to work with Solano business to access resources, programs and services and identify specific business needs.

Name of program/activity/initiative	**Homeless Navigation Center**
Description	This center will be a temporary stay for people looking to find a permanent place to live. The "Path to Dignity" navigation shelter will be developed using a sustainable model where basic services are provided to people working to find housing and overcome issues contributing to their homelessness. This homeless navigation shelter will be the first in the region to provide the homeless with short term shelter (up to 3 months that can be extended based on a person's lease start date). The shelter will make use of referrals for intake of homeless individuals, couples, and military veterans who will complete an orientation, sign a shelter agreement and immediately exit the street, receive access to a bed, access three meals per day, receive mental health support, case management, and other services.
Goals	To support low-barrier housing programs to help reduce the root causes and effects of homelessness.
Outcomes	The Center is not currently running due to Covid-19 and financial barriers. The City of Vallejo is working with investors, the community and health systems to begin groundbreaking in 2022.

ACTIVE LIVING AND HEALTHY EATING

Name of program/activity/initiative	**Healthy Food Access Programs**
Description	Work with organizations to provide a collective effort to promote healthy eating and active living to low-income Solano County residents through advocacy, environmental change, collaboration, resource sharing, and education.
Goals	Increase access to fresh fruits and vegetables and improves beverage choices in Solano County to promote food security and equity by marketing and promoting healthier living.
Outcomes	In 2021, MOBEC launched Zoom into Wellness, a series of webinars with the goal of facilitating conversations regarding health and wellness with community members during this challenging year, and to raise awareness about chronic condition management and focus on healthy eating and nutrition. The series served 74 individuals.

Name of program/activity/initiative	**Walking for Health**
Description	Work with senior individuals to promote active living by making it a habit to take daily walks and providing comfortable walking shoes.
Goals	Increase active living for senior individuals.
Outcomes	In 2019, 149 individuals were served, participating in weekly walking events. In 2020, 1,400 individuals were served, participating in weekly walking events.