

2022 Community Health Needs Assessment

Conducted on behalf of



2175 Rosaline Avenue
Redding CA 96001

Conducted by



Adopted by the Dignity Health North State community board in April 2022

Acknowledgments

We are deeply grateful to all those who contributed to the community health needs assessment conducted on behalf of Mercy Medical Center Redding. 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 Mercy Medical Center Redding. 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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This community health needs assessment report was adopted by the Dignity Health North State in April 2022. The report is widely available to the public on the hospital's web site (<https://www.dignityhealth.org/north-state/locations/mercy-redding/about-us/community-benefit>, as of April 2022), and a paper copy is available for inspection upon request at the hospital's community health office. Written comments on this report can be submitted to Mercy Medical Center Redding, Attn: Community Health, 2175 Rosaline Avenue, Redding, CA 96001.

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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 Mercy Medical Center Redding (MMCR) 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 was the primary service area of MMCR, including large portions of Shasta County, and a smaller portion of Tehama County. Both counties are considered predominately rural, and are located in Northern California, situated along the north-south Interstate 5 corridor. For the purposes of this assessment, the service area was further defined by 15 ZIP codes, 13 of which were located in Shasta and the remaining two in Tehama. The Shasta County ZIP codes included 96001, 96002, 96003, 96007, 96019, 96024, 96033, 96047, 96052, 96073, 96087, 96088, and 96093. The Tehama County ZIP codes included 96022 and 96080. Collectively the total population of the service area was 208,158. The total population of the service area was 208,158.

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 16 community health experts, social service providers, and medical personnel. Furthermore, 59 community residents or community service provider organizations participated in 7 focus groups across the service area. Finally, 7 community service providers responded to a Community Service Provider (CSP) survey asking about health need identification and prioritization.

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

At the time that this CHNA was conducted, the COVID-19 pandemic was still impacting communities across the United States, including MMCR's service area. The process for conducting the CHNA remained

¹ See: County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2021. Retrieved from: <http://www.countyhealthrankings.org/>.

fundamentally the same. However, there were some adjustments made during the qualitative data collection to ensure the health and safety of those participating. Additionally, COVID-19 data were incorporated into the quantitative data analysis and COVID-19 impact was captured 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.

List of Prioritized Significant Health Needs

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

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

Resources Potentially Available to Meet the Significant Health Needs

In all, 130 resources were identified in the service area that were potentially available to meet the identified significant health needs. The identification method included starting with the list of resources from the 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 MMCR's service area and clearly details the needs of community members living in parts of the service area where the residents experience more 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 Mercy Medical Center Redding (MMCR), located at 2175 Rosaline Ave., Redding, CA, 96001. MMCR’s primary service area includes Shasta County and a small portion of Tehama County, CA. The total population of the service area was 208,158.

MMCR is an affiliate of Dignity Health, a nonprofit healthcare system. The CHNA was conducted over a period of six months, beginning in August, 2021 and concluding in January, 2022. 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 MMCR. 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 multiple health systems and 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 MMCR service area. In all, 9 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 MMCR 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 Mental/Behavioral Health and Substance-Use Services	89%	39%
2. Access to Basic Needs Such as Housing, Jobs, and Food	79%	32%
3. Access to Quality Primary Care Health Services	63%	9%
4. Access to Specialty and Extended Care	68%	3%
5. Increased Community Connections	58%	3%
6. Safe and Violence-Free Environment	47%	7%
7. System Navigation	53%	3%
8. Injury and Disease Prevention and Management	47%	3%
9. Access to Functional Needs	47%	~

~ 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.

Mercy Medical Center Redding 2022 Prioritized Health Needs

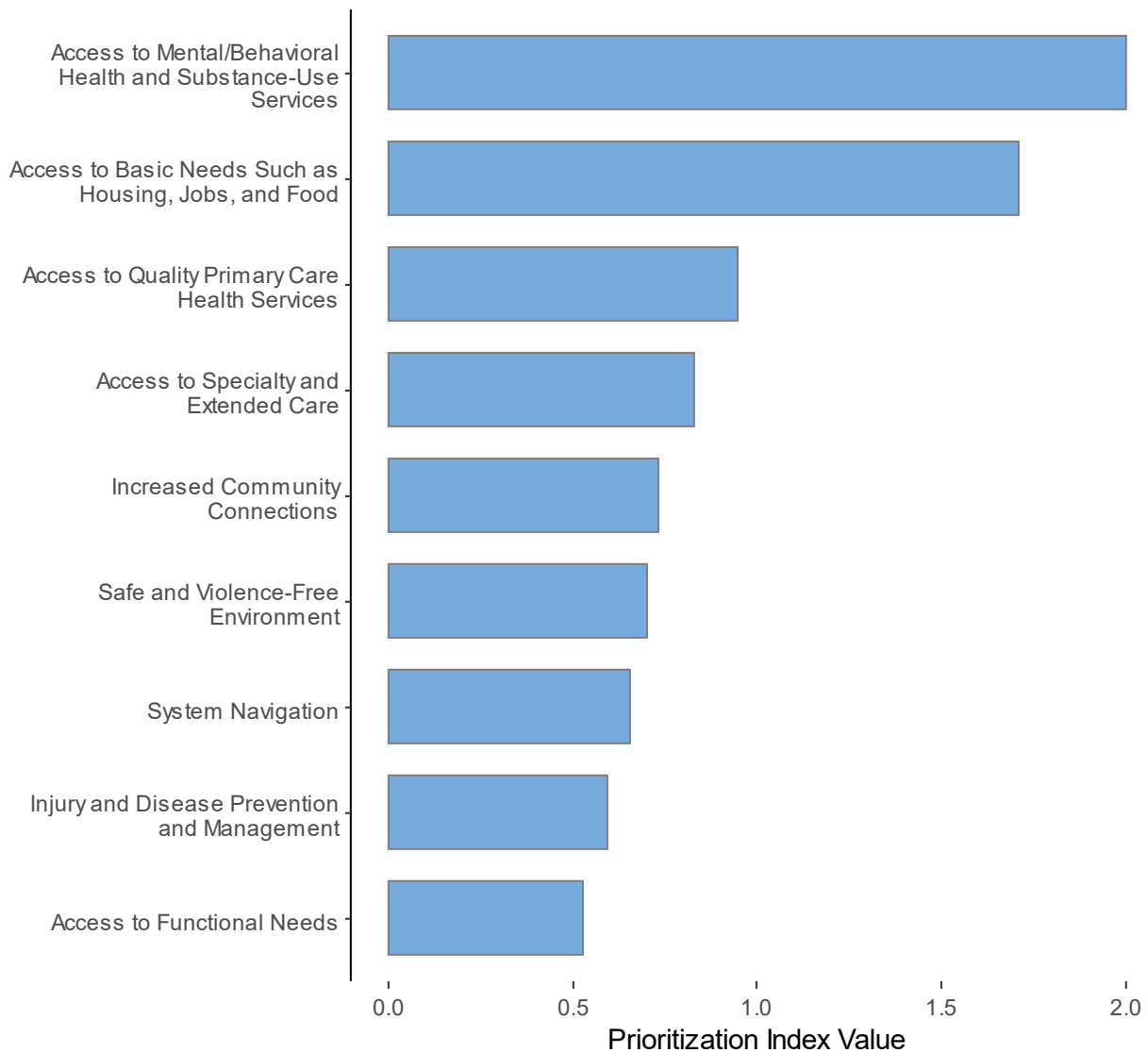


Figure 1: Prioritized significant health needs for MMCR service area.

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. These are 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 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.

Primary Data Analysis	Secondary Data Analysis
<p>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:</p>	<p>The following indicators performed worse in the service area when compared to state averages:</p>
<ul style="list-style-type: none"> • Substance use continues to be a significant issue in the community. • The community seems to overly rely only on the criminal justice system to address substance use. • There are not enough mental health providers available for low-income populations. • There are excessive wait times to get mental health appointments. • Mental health providers treat patients differently based on the type of insurance they have. • Generational trauma is an issue in many communities. • The number of people experiencing homelessness is growing as a result of untreated mental health issues. • Many mental health providers do not take Medi-Cal, adding challenges to accessing care. • Racism is an underlying cause of toxic stress for some in the community. • There is a stigma associated with seeking mental health services, and many avoid treatment as a result. • Many in the LGBTQ community suffer from mental health issues due to discrimination. • Repeated wildfires have traumatized the community. • Reimbursement policies for mental health are problematic in treating some patients. • Adverse childhood experiences are significant in the community. • The area lacks resources to treat acute mental health crises. • Navigating the mental health services system is difficult. • Additional mental health services are needed specifically for youth and those experiencing homelessness. • Untreated mental health issues lead to substance use. • The community needs culturally competent mental health providers. 	<ul style="list-style-type: none"> • 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 • Mental Health Care Shortage Area • Medically Underserved Area • Psychiatry Providers • Firearm Fatalities Rate • Disconnected Youth • Homelessness Rate

2. 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 Needs⁴ 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
<p>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:</p>	<p>The following indicators performed worse in the service area when compared to state averages:</p>
<ul style="list-style-type: none"> • Housing shortages are critical in the community; this contributes to the growing homeless population. • Limited education attainment keeps many in generational poverty. • The community needs more resources for post-secondary education. • The wildfires have contributed to the ongoing housing shortages. • The community needs more housing development in the downtown area. • Economic development throughout the community is needed. • Education attainment is especially low among conservative white males. • "Homelessness is where ACES go to die" (quote). • The community is being inundated with homeless populations. • Relocations from other areas during the pandemic have added to housing shortages. • Rural areas of the community are especially hard-hit with housing shortages. • There is limited day-care in rural communities; this creates challenges for those working with children. • Many residents struggle with food insecurity. • Affordable childcare is a problem for some parents. • Employment opportunities in the community are limited. • Services can be inaccessible for Spanish-speaking and immigrant residents of the community. 	<ul style="list-style-type: none"> • Infant Mortality • Child Mortality • Life Expectancy • Premature Age-Adjusted Mortality • Premature Death • Hypertension Mortality • COVID-19 Mortality • COVID-19 Case Fatality • 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 • Disconnected Youth • Unemployment • Children in Poverty • Median Household Income • Homelessness Rate

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>

3. Access to Quality Primary Care Health Services

Primary care resources include community clinics, pediatricians, family practice physicians, internists, nurse practitioners, pharmacists, telephone advice nurses, and 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
<p>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:</p>	<p>The following indicators performed worse in the service area when compared to state averages:</p>
<ul style="list-style-type: none"> • There are a limited number of providers that take Medi-Cal. • Low-income residents do not have the same level of access as do more affluent populations. • Many low-income residents avoid treatment due to the costs. • Some providers do not spend an adequate amount of time with patients. • For some, there are excessive wait times to get appointments with primary care providers. • It is difficult to recruit and retain healthcare workers to the community. • While telehealth services have grown, low-income populations often do not have access to reliable internet services to utilize these. • Out-of-pocket costs for healthcare services present a barrier for some in the community. • Quality healthcare insurance is unaffordable to many in the community. 	<ul style="list-style-type: none"> • 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 • Poor Mental Health Days • Frequent Mental Distress • Poor Physical Health Days • Frequent Physical Distress • Colorectal Cancer Prevalence • Breast Cancer Prevalence • Lung Cancer Prevalence • Prostate Cancer Prevalence • Primary Care Shortage Area • Medically Underserved Area • COVID-19 Cumulative Full Vaccination Rate • Homelessness Rate

4. Access to Specialty and Extended Care

Extended care services, which include specialty care, are services provided in a particular branch of medicine and 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
<p>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:</p>	<p>The following indicators performed worse in the service area when compared to state averages:</p>
<ul style="list-style-type: none"> • Accessing any specialty is a challenge for those covered by Medi-Cal. • Many have to travel out of the community to see a specialist. • The community lacks an adequate number of skilled nursing facilities. • Wait times for specialist appointments can be excessively long. • It is difficult to recruit and retain specialists in the area. • Not all specialty care is covered by insurance. • Out-of-pocket costs for specialty care is high. • Too few specialty and extended care providers accept Medi-Cal. • The area needs more extended care options for the aging population. • There is not enough OB/GYN care available. • Additional hospice and palliative care options are needed. • There is limited home care in rural areas. 	<ul style="list-style-type: none"> • Infant 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 • Diabetes Prevalence • Poor Mental Health Days • Frequent Mental Distress • Poor Physical Health Days • Frequent Physical Distress • Lung Cancer Prevalence • Drug Induced Death • Psychiatry Providers • Specialty Care Providers • Homelessness Rate

5. 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 in fostering a healthy community. Furthermore, healthcare and community support services are more effective when they are delivered in a coordinated fashion, where individual organizations collaborate with others to build a network of care.

Primary Data Analysis	Secondary Data Analysis
<p>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:</p>	<p>The following indicators performed worse in the service area when compared to state averages:</p>
<ul style="list-style-type: none"> • Isolation, especially among seniors, has been exacerbated during the pandemic. • Some with conservative views are not welcoming of the LGBTQ community. • There needs to be better coordination among the those delivering healthcare services. • A "whole person" approach is needed between mental and healthcare services. 	<ul style="list-style-type: none"> • Infant Mortality • Child Mortality • Life Expectancy • Premature Age-Adjusted Mortality • Premature Death • Stroke Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Suicide Mortality • Unintentional Injuries Mortality • Diabetes Prevalence • Poor Mental Health Days • Frequent Mental Distress • Poor Physical Health Days • Frequent Physical Distress • Excessive Drinking • Drug Induced Death • Access to Exercise Opportunities • Teen Birth Rate • Primary Care Shortage Area • Mental Health Care Shortage Area • Medically Underserved Area • Psychiatry Providers • Specialty Care Providers • COVID-19 Cumulative Full Vaccination Rate • Homicide Rate • Firearm Fatalities Rate • Violent Crime Rate • Disconnected Youth

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:
	<ul style="list-style-type: none"> • Unemployment • Homelessness Rate • Access to Public Transit

6. Safe and Violence-Free Environment

Feeling safe in one’s home and community is 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:
<ul style="list-style-type: none"> • There are a limited number of bike lanes in the community. • Bullying in schools is a contributor to poor mental health for youth. • Many in the LGBTQ community do not feel safe in the community. • Family and domestic violence are issues in the community, resulting in adverse childhood experiences. • Some healthcare providers need training on how to treat those suffering from domestic violence. 	<ul style="list-style-type: none"> • Life Expectancy • Premature Death • Hypertension Mortality • Poor Mental Health Days • Frequent Mental Distress • Frequent Physical Distress • Access to Exercise Opportunities • Homicide Rate • Firearm Fatalities Rate • Violent Crime Rate • Motor Vehicle Crash Death • Disconnected Youth • Homelessness Rate

7. System Navigation

System navigation refers to an individual’s ability to traverse fragmented social services and healthcare systems in order to receive the necessary benefits and supports to improve health outcomes. Research has demonstrated that navigating the complex U.S. healthcare system is a barrier for many that results

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

in health disparities.⁸ Furthermore, accessing social services provided by government agencies can be an obstacle for those with limited resources such as transportation access and English proficiency.

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:
<ul style="list-style-type: none"> • Navigating the healthcare system can be overwhelming for some. • Language barriers prevent many from accessing needed resources. • Healthcare providers often get frustrated dealing with the system's inefficiencies. • Case management is needed to help some navigate social and healthcare services. • People may not be aware of the services they are eligible for. • Dealing with medical and insurance paperwork can be overwhelming for some. 	(There are no secondary indicators associated with this indicator).

8. 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.

⁸ Natale-Pereira, A. et. al .2011. The Role of Patient Navigators in Eliminating Health Disparities. US National Library of Medicine, National Institutes of Health, 117:15, 3543-3552.

Primary Data Analysis	Secondary Data Analysis
<p>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:</p>	<p>The following indicators performed worse in the service area when compared to state averages:</p>
<ul style="list-style-type: none"> • There needs to be a greater focus on prevention in the community. • There is a lack of comprehensive sex education in community schools. • Access to birth control is an issue in the community. • The community has high rates of STIs. • The community needs to move "upstream" to deal with unwanted pregnancies. • The community needs to be more proactive in prevention. 	<ul style="list-style-type: none"> • 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 • Poor Mental Health Days • Frequent Mental Distress • Frequent Physical Distress • Excessive Drinking • Drug Induced Death • Adult Obesity • Teen Birth Rate • Adult Smoking • COVID-19 Cumulative Full Vaccination Rate • Firearm Fatalities Rate • Motor Vehicle Crash Death • Disconnected Youth • Homelessness Rate

9. Access to Functional Needs

Functional needs refer to needs related to adequate transportation access and conditions which promote access for individuals with physical disabilities. 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 for 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:
<ul style="list-style-type: none"> • Commuting in rural communities without a car is difficult. • The community is not easy to get around if you are disabled. • There are large distances between services in the community; this is challenging if you do not have a car. 	<ul style="list-style-type: none"> • Disability • Frequent Mental Distress • Frequent Physical Distress • Adult Obesity • COVID-19 Cumulative Full Vaccination Rate • Homelessness Rate • Access to Public Transit

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. MMCR requested written comments from the public on its 2019 CHNA and most recently adopted implementation strategy in the documents and through its web site at <https://www.dignityhealth.org/north-state/locations/mercy-redding/about-us/community-benefit>.

At the time of the development of this CHNA report, MMCR had not received written comments. MMCR 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 5 interviews with 16 community health experts, 7 focus groups conducted with a total of 59 community residents or community-facing service providers, and 7 responses to the

⁹ See: County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2021. Retrieved from: <http://www.countyhealthrankings.org/>.

Community Service Provider survey. (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 of care; 3) social and economic factors such as race/ethnicity, income, educational attainment, employment, neighborhood safety, and similar; and 4) physical environment measures, such as air and water quality, transit and mobility resources, and housing affordability. In all, 86 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 MMCR service area. This included identifying 12 PHNs in these communities. These potential health needs were those identified in previously conducted CHNAs. Data were analyzed to discover which, if any, of the PHNs were present in the hospital's service area. After these were identified, health needs were prioritized based on an analysis of primary data sources that described the PHN as a significant health need.

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

Description of Community Served

The definition of the community served was the primary service area of MMCR, including large portions of Shasta County, and a smaller portion of Tehama County. Both counties are located in Northern California. Shasta County has a total area of 3,847 square miles, and covers the Redding California Metropolitan Statistical Area. According to the US Census, the county's 2020 population was approximately 180 thousand residents. The county seat is Redding, home to approximately one-half of Shasta County residents. Situated along the north-south Interstate 5 corridor the county is lined with mountains on its north, east, and west sides. Beyond Redding, the county is rural. Only a small portion of the MMCR service area dips into northern Tehama County. This area includes the city of Red Bluff, which is both the Tehama County Seat and the largest city in the county, with a population of just over 14 thousand residents.

For the purposes of this assessment, the service area was further defined by 15 ZIP codes, 13 of which were located in Shasta and the remaining two in Tehama. The Shasta County ZIP codes included 96001, 96002, 96003, 96007, 96019, 96024, 96033, 96047, 96052, 96073, 96087, 96088, and 96093. The Tehama County ZIP codes included 96022 and 96080. Collectively the total population of the service area was 208,158. The service area is shown in Figure 2.

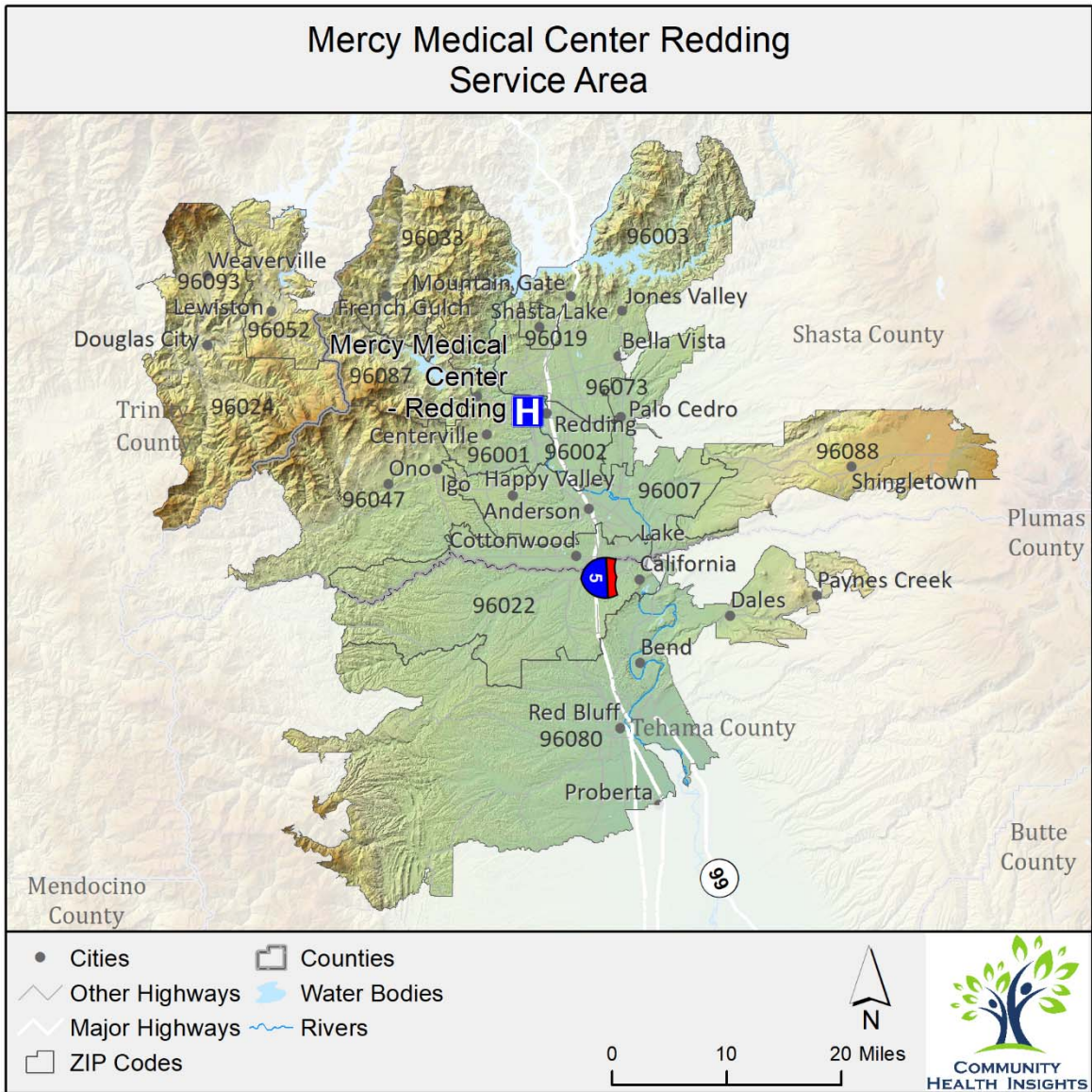


Figure 2: Community served by MMCR.

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

Table 2: Population characteristics for each ZIP code located in the MMCR 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
96001	34,293	18.5	41.6	\$55,821	14.1	5.6	6.5	7.8	38.6	15.5
96002	34,196	27	37.4	\$61,055	17.1	5	7.1	8.2	35.8	15.5
96003	44,328	19.1	40.8	\$53,512	17.1	5	5.5	7.8	37.8	18.4
96007	23,228	23.5	40.2	\$49,044	17.9	6.2	6.6	12.2	35.9	20.6
96019	10,178	20.6	38.5	\$49,583	18.8	6.5	9	10.4	41.2	21.7
96024	846	19.6	58.9	\$40,563	32.6	5.4	15	10	29.6	29.9
96033	490	12.4	51.5	\$43,047	9.2	4.1	8.4	11.4	34.5	27.3
96047	849	19	55.3	\$45,833	22	5.5	6.7	15.2	24.8	25.3
96052	1,574	19.9	52.1	\$43,250	22.2	4.3	5.3	9.7	39.6	25
96073	3,980	10.6	54.5	\$92,222	7.4	3	5.4	1.8	36.4	15.3
96087	544	10.3	50.3	\$40,329	3.7	21.3	9.4	4.1	28	21
96088	4,690	12.6	57.1	\$51,039	9.8	4.2	4	12	33.3	26.7
96093	3,570	11.5	41.1	\$46,039	18.4	12.9	6	11.5	40.4	13.9
Shasta	179,212	20.2	41.5	\$54,667	16.7	5.5	6.5	8.9	36.6	18.3
96022	16,253	18.1	40.7	\$55,049	20.5	5.2	4.9	11.9	38.8	19.7
96080	29,139	24.1	41	\$41,316	21.2	8.8	5.8	10	38.9	19.9
Tehama	63,912	31.7	41	\$44,514	22.1	8.6	6.3	15.5	38.4	18.9
California	39,283,497	62.8	36.5	\$75,235	13.4	6.1	7.5	16.7	40.6	10.6

Source: 2019 American Community Survey 5-year estimates; U.S. Census Bureau.

Note: While the majority of ZIP code 96022 is in Tehama County, a portion extends into Shasta County.

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 the health outcomes of various racial and ethnic groups to one another. Using these comparisons, it is clear that health inequities persist across communities, including Shasta and Tehama 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 service area for life expectancy, mortality, and low birth weight.

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

Health Outcomes	Description	American Indian\ Alaska Native	Asian	Black	Hispanic	White	Overall
Shasta							
Life Expectancy	Average number of years a person can expect to live.	69.7	83.6	75.1	83	75.9	76.2
Child Mortality	Number of deaths among children under age 18 per 100,000 population.	~	~	~	42.3	52.1	52.3
Premature Age-Adjusted Mortality	Number of deaths among residents under age 75 per 100,000 population (age-adjusted).	697.2	259.6	516.8	263.3	445	434.4
Premature Death	Years of potential life lost before age 75 per 100,000 population (age-adjusted).	15,195.8	6,174	12,260.7	5,477.6	9,306.4	9,066.7
Low Birthweight	Percentage of live births with low birthweight (< 2,500 grams).	8.5%	9.4%	15.3%	6.6%	5.8%	6.4%
Tehama							
Life Expectancy	Average number of years a person can expect to live.	~	~	~	84	75.1	76.5

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.

Health Outcomes	Description	American Indian\ Alaska Native	Asian	Black	Hispanic	White	Overall
Premature Age-Adjusted Mortality	Number of deaths among residents under age 75 per 100,000 population (age-adjusted).	519.3	~	~	268.2	494.1	445.4
Premature Death	Years of potential life lost before age 75 per 100,000 population (age-adjusted).	~	~	~	5,898.3	10,998.2	9,503.4
Low Birthweight	Percentage of live births with low birthweight (< 2,500 grams).	~	~	~	6.4%	5.6%	6%

~ Data Not Available

Data sources included in the technical section of the report.

Inequities are apparent when looking across race and ethnic groups. For example, in Shasta County life expectancy for American Indian/Alaskan Natives is notably lower than all other population groups.

Health Factors - Inequities in the Service Area

Inequities can be seen in data that help describe health factors in the service area, 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 MMCR service area.

Health Factors	Description	American Indian\ Alaska Native	Asian	Black	Hispanic	White	Overall
Shasta							
Some College ^a	Percentage of adults ages 25 and over with some post-secondary education.	60.6%	66.5%	70.8%	55%	66.7%	65.7%
High School Completion ^a	Percentage of adults ages 25 and over with at least a high school diploma or equivalent.	85.9%	82.3%	88%	80.9%	92.5%	91.1%
Third Grade Reading Level	Average grade level performance for 3rd graders on English Language Arts standardized tests	~	3.1	2.5	2.9	3.1	3
Third Grade Math Level	Average grade level performance for 3rd graders on math standardized tests	~	2.9	2.4	2.6	2.8	2.8
Children in Poverty	Percentage of people under age 18 in poverty.	26%	35.1%	6.2%	32.5%	20.2%	16.5%

Health Factors	Description	American Indian\ Alaska Native	Asian	Black	Hispanic	White	Overall
Median Household Income	The income where half of households in a county earn more and half of households earn less.	\$40,813	\$80,135	\$41,250	\$43,734	\$55,975	\$61,464
Uninsured Population ^b	Percentage of the civilian non-institutionalized population without health insurance.	8.3%	6.5%	7.6%	9.2%	6%	6.5%
Tehama							
Some College ^a	Percentage of adults ages 25 and over with some post-secondary education.	46.1%	39.9%	54.5%	39.4%	58.8%	54.4%
High School Completion ^a	Percentage of adults ages 25 and over with at least a high school diploma or equivalent.	72.6%	49.8%	80.4%	61.6%	91.2%	84.5%
Third Grade Reading Level	Average grade level performance for 3rd graders on English Language Arts standardized tests	~	~	~	2.4	2.8	2.6
Third Grade Math Level	Average grade level performance for 3rd graders on math standardized tests	~	~	~	2.3	2.6	2.5
Children in Poverty	Percentage of people under age 18 in poverty.	67%	10.6%	~	44%	23.7%	23.7%
Median Household Income	The income where half of households in a county earn more and half of households earn less.	\$30,427	~	\$80,123	\$37,460	\$46,945	\$51,672
Uninsured Population ^b	Percentage of the civilian non-institutionalized population without health insurance.	12.7%	0.4%	0%	11%	4.7%	6.3%

~ Data Not Available

Unless otherwise noted, data sources included in the technical section of the report.

^aFrom 2019 American Community Survey 5-year estimates tables B15002, C15002B, C15002C, C15002D, C15002H, and C15002I.

^bFrom 2019 American Community Survey 5-year estimates table S2701.

Inequities are further apparent when examining health factors across race and ethnic groups. For example, median income varies significantly when compared across groups in both Shasta and Tehama Counties.

Population Groups Experiencing Disparities

The figure below describes populations in the MMCR 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 could 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.

Frequency of Mentions in Interviews

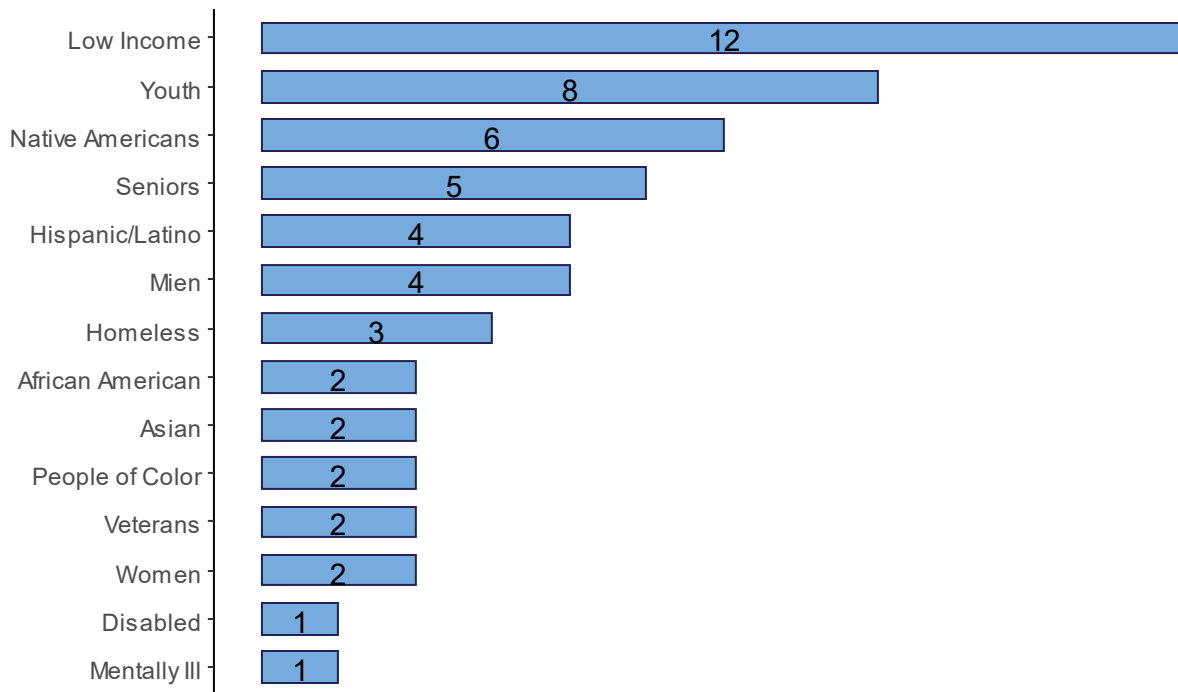


Figure 3: Populations experiencing disparities the MMCR service area.

California Healthy Places Index

Figure 4 displays the California Healthy Places Index (HPI)¹¹ values for the MMCR 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

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

contribute to greater health, and lower HPI values are found in communities where these factors are less present.

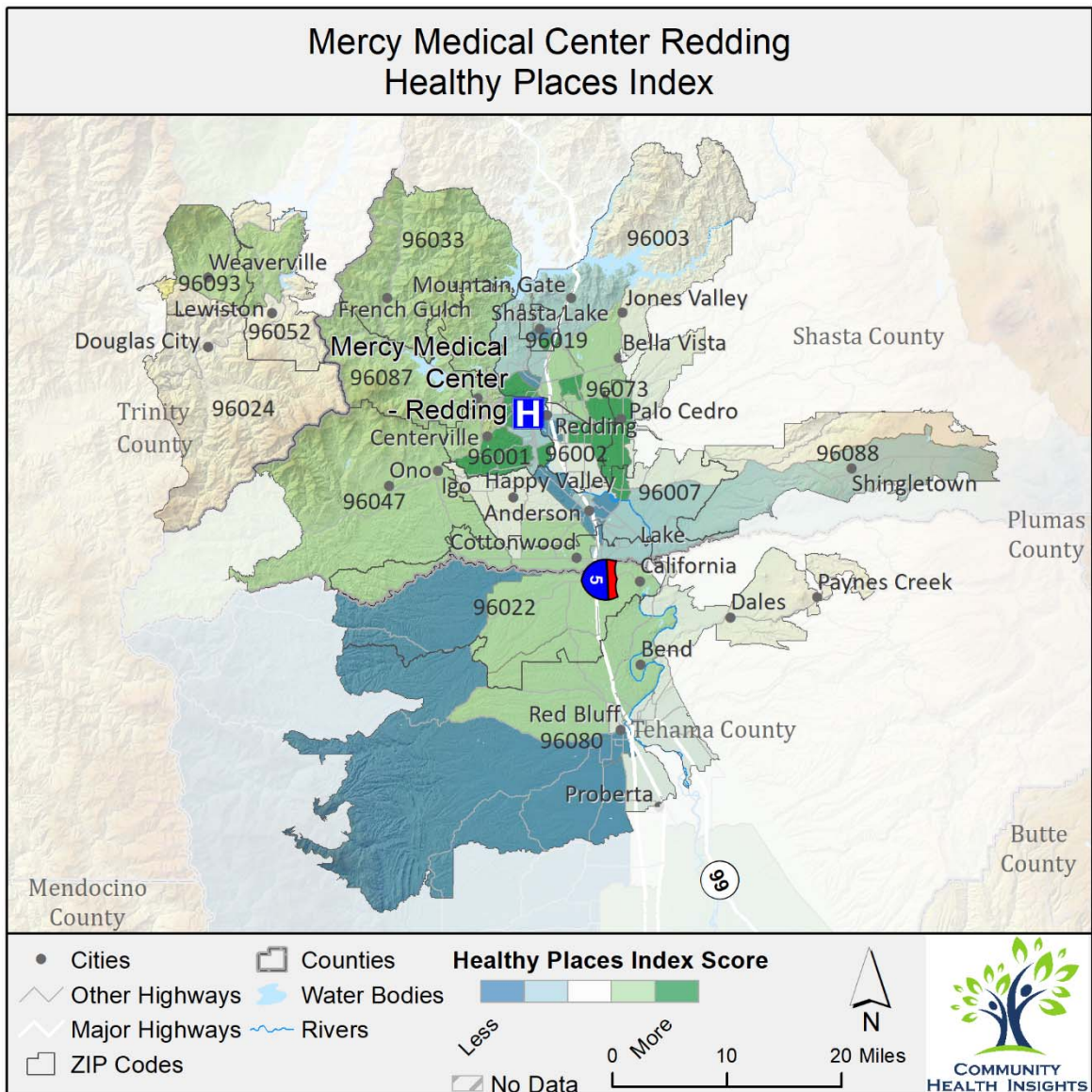


Figure 4: Healthy Places Index for MMCR.

Areas with the darkest blue shading in Figure 4 have the lowest overall HPI scores, indicating factors leading to less healthy residents. There are likely to be a higher concentration of residents in these locations experiencing health disparities. Areas with the lowest HPI scores for the service area include the western portion of ZIP code 96022 and the southern area of ZIP code 96080 in Tehama County. Additionally, areas surrounding Anderson, central Redding, and Shasta Lake likewise had lower HPI scores.

Communities of Concern

Communities of Concern are geographic areas within the service area that have the greatest concentration of poor health outcomes and are home to more medically underserved, low-income, and diverse populations at greater risk for poorer health. Communities of Concern are important to the overall CHNA methodology because, after the service area has been assessed more broadly, they allow for a focus on those portions of the region likely experiencing the greatest health disparities. Geographic Communities of Concern were identified using a combination of primary and secondary data sources. (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 5 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.

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

ZIP code	Community\Area	Population
96001	Central/Southern Redding	34,293
96002	Southeastern Redding/Enterprise	34,196
96003	Northern Redding/Bella Vista/Jones Valley	44,328
96007	Anderson	23,228
96019	Shasta Lake	10,178
<i>Total Population in Communities of Concern</i>		<i>146,223</i>
<i>Total Population in Hospital Service Area</i>		<i>208,158</i>
<i>Percentage of Service Area Population in Community of Concern</i>		<i>70.2%</i>

Source: 2019 American Community Survey 5-year estimates; U.S. Census Bureau.

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

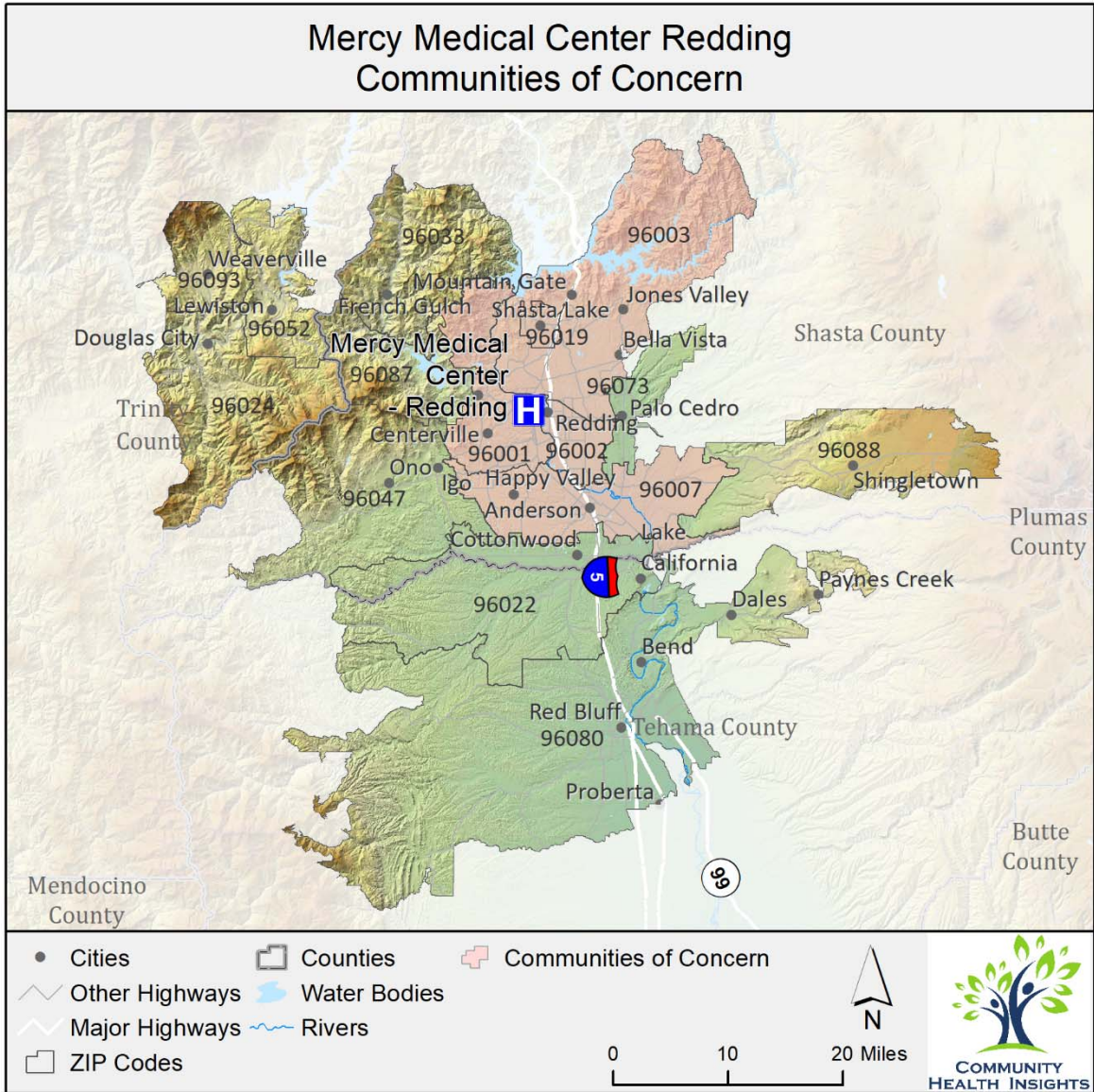


Figure 5: MMCR Communities of Concern.

The Impact of COVID-19 on Health Needs

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

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

Indicators	Description	Shasta	Tehama	California
COVID-19 Mortality	Number of deaths due to COVID-19 per 100,000 population.	250.5	222.2	196.7
		Shasta: 250.5	Tehama: 222.2	California: 196.7
COVID-19 Case Fatality	Percentage of COVID-19 deaths per laboratory-confirmed COVID-19 cases.	1.8%	1.4%	1.1%
		Shasta: 1.8%	Tehama: 1.4%	California: 1.1%
COVID-19 Cumulative Incidence	Number of laboratory-confirmed COVID-19 cases per 100,000 population.	13,938.8	15,440.0	17,147.1
		Shasta: 13,938.8	Tehama: 15,440	California: 17,147.1
COVID-19 Cumulative Full Vaccination Rate	Number of completed COVID-19 vaccinations per 100,000 population.	45,034.9	41,748.0	68,280.1
		Shasta: 45,034.9	Tehama: 41,748	California: 68,280.1

COVID-19 data collected on January 17 2022

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.

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

Key Informant and Focus Group Responses
<ul style="list-style-type: none"> • The pandemic has increased the need for mental health services in the community, especially for youth and seniors. The increased isolation resulting from the pandemic among the community is a contributor to increased needs for mental health services. • The political and ideological divides regarding pandemic and vaccines have polarized the community. • Many of the existing social and living conditions contributing to health needs have been exacerbated by the pandemic; unemployment has risen, those experiencing homelessness have increased, meeting basic needs became more challenging for many. • The healthcare workforce is especially impacted by the pandemic. Many workers are experiencing burn-out and compassion fatigue; staffing has further been reduced due to vaccine mandates by healthcare organizations. • Youth have suffered the loss of many of the services they received while at school (free/reduced lunch, mental/healthcare services). • Childcare facilities were limited, leaving working parents with limited options. • Many in the community have avoided care, including preventative care, during the pandemic.

Key Informant and Focus Group Responses

- While telehealth grew during the pandemic, those without or with limited internet access experienced greater difficulties in accessing care.
 - There has been an increase in family/domestic violence during the pandemic; stress within families significantly increased.
-

Resources Potentially Available to Meet the Significant Health Needs

In all, 130 resources in the service area were identified in the MMCR service area that were potentially available to meet the identified significant health needs. These resources were provided by a total of 58 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 Mercy Medical Center Redding 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 Mental/Behavioral Health and Substance-Use Services	24
Access to Basic Needs Such as Housing, Jobs, and Food	19
Access to Quality Primary Care Health Services	9
Access to Specialty and Extended Care	9
Increased Community Connections	22
Safe and Violence-Free Environment	21
System Navigation	19
Injury and Disease Prevention and Management	3
Access to Functional Needs	4
Total Resources	130

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

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

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 on 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 Mercy Medical Center Redding via <https://www.dignityhealth.org/north-state/locations/mercy-redding/about-us/community-benefit>, with “CHNA Comments” in the subject line. Feedback received will be incorporated into the next CHNA cycle.

2022 CHNA Technical Section

The following section presents a detailed account of data collection, analysis, and results for the Mercy Medical Center Redding (MMCR) 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 Shasta County were compared to the California state benchmark and are highlighted below when performance was worse in the county than in the state. Rates for Tehama 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	Shasta	Tehama	California	
Early Life					
Infant Mortality	Number of all infant deaths (within 1 year), per 1,000 live births.	5.4	5.2	4.2	Shasta: 5.4 Tehama: 5.2 California: 4.2
Child Mortality	Number of deaths among children under age 18 per 100,000 population.	52.3	52.1	36.0	Shasta: 52.3 Tehama: 52.1 California: 36
Life Expectancy	Average number of years a person can expect to live.	76.2	76.5	81.7	Shasta: 76.2 Tehama: 76.5 California: 81.7
Overall					
Premature Age-Adjusted Mortality	Number of deaths among residents under ages 75 per 100,000 population (age-adjusted).	434.4	445.4	268.4	Shasta: 434.4 Tehama: 445.4 California: 268.4

Indicators	Description	Shasta Tehama California			
Premature Death	Years of potential life lost before age 75 per 100,000 population (age-adjusted).	9,066.7	9,503.4	5,253.1	Shasta: 9,066.7 Tehama: 9,503.4 California: 5,253.1
Stroke Mortality	Number of deaths due to stroke per 100,000 population.	56.6	44.7	41.2	Shasta: 56.6 Tehama: 44.7 California: 41.2
Chronic Lower Respiratory Disease Mortality	Number of deaths due to chronic lower respiratory disease per 100,000 population.	100.1	77.9	34.8	Shasta: 100.1 Tehama: 77.9 California: 34.8
Diabetes Mortality	Number of deaths due to diabetes per 100,000 population.	30.2	27.1	24.1	Shasta: 30.2 Tehama: 27.1 California: 24.1
Heart Disease Mortality	Number of deaths due to heart disease per 100,000 population.	290.5	242.8	159.5	Shasta: 290.5 Tehama: 242.8 California: 159.5
Hypertension Mortality	Number of deaths due to hypertension per 100,000 population.	19.7	14.8	13.8	Shasta: 19.7 Tehama: 14.8 California: 13.8
Cancer, Liver, and Kidney Disease					
Cancer Mortality	Number of deaths due to cancer per 100,000 population.	256.7	213.5	152.9	Shasta: 256.7 Tehama: 213.5 California: 152.9
Liver Disease Mortality	Number of deaths due to liver disease per 100,000 population.	24.9	22.5	13.9	Shasta: 24.9 Tehama: 22.5 California: 13.9

Indicators	Description	Shasta	Tehama	California	
Kidney Disease Mortality	Number of deaths due to kidney disease per 100,000 population.	12.6	9.5	9.7	Shasta: 12.6 Tehama: 9.5 California: 9.7
Intentional and Unintentional Injuries					
Suicide Mortality	Number of deaths due to suicide per 100,000 population.	24.6	16.9	11.2	Shasta: 24.6 Tehama: 16.9 California: 11.2
Unintentional Injuries Mortality	Number of deaths due to unintentional injuries per 100,000 population.	65.9	61.6	35.7	Shasta: 65.9 Tehama: 61.6 California: 35.7
COVID					
COVID-19 Mortality	Number of deaths due to COVID-19 per 100,000 population.	250.5	222.2	196.7	Shasta: 250.5 Tehama: 222.2 California: 196.7
COVID-19 Case Fatality	Percentage of COVID-19 deaths per laboratory-confirmed COVID-19 cases.	1.8%	1.4%	1.1%	Shasta: 1.8% Tehama: 1.4% California: 1.1%
Other					
Alzheimer's Disease Mortality	Number of deaths due to Alzheimer's disease per 100,000 population.	80.4	51.1	41.2	Shasta: 80.4 Tehama: 51.1 California: 41.2
Influenza and Pneumonia Mortality	Number of deaths due to influenza and pneumonia per 100,000 population.	25.1	18.6	16.0	Shasta: 25.1 Tehama: 18.6 California: 16

Quality of Life

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

Indicators	Description	Shasta	Tehama	California
Chronic Disease				

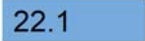

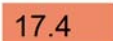


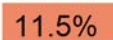
Indicators	Description	Shasta	Tehama	California	
Diabetes Prevalence	Percentage of adults aged 20 and above with diagnosed diabetes.	12.4%	11.2%	8.8%	Shasta: 12.4% Tehama: 11.2% California: 8.8%
Low Birthweight	Percentage of live births with low birthweight (< 2,500 grams).	6.4%	6.0%	6.9%	Shasta: 6.4% Tehama: 6% California: 6.9%
HIV Prevalence	Number of people aged 13 years and older living with a diagnosis of human immunodeficiency virus (HIV) infection per 100,000 population.	131.9	92.6	395.9	Shasta: 131.9 Tehama: 92.6 California: 395.9
Disability	Percentage of the total civilian noninstitutionalized population with a disability	18.3%	18.9%	10.6%	Shasta: 18.3% Tehama: 18.9% California: 10.6%
Mental Health					
Poor Mental Health Days	Average number of mentally unhealthy days reported in past 30 days (age-adjusted).	4.8	5.0	3.7	Shasta: 4.8 Tehama: 5 California: 3.7
Frequent Mental Distress	Percentage of adults reporting 14 or more days of poor mental health per month (age-adjusted).	15.0%	16.1%	11.3%	Shasta: 15% Tehama: 16.1% California: 11.3%
Poor Physical Health Days	Average number of physically unhealthy days reported in past 30 days (age-adjusted).	4.6	5.0	3.9	Shasta: 4.6 Tehama: 5 California: 3.9
Frequent Physical Distress	Percentage of adults reporting 14 or more days of poor physical health per month (age-adjusted).	13.8%	15.8%	11.6%	Shasta: 13.8% Tehama: 15.8% California: 11.6%

Indicators	Description	Shasta	Tehama	California	
Poor or Fair Health	Percentage of adults reporting fair or poor health (age-adjusted).	17.2%	21.9%	17.6%	Shasta: 17.2% Tehama: 21.9% California: 17.6%
Cancer					
Colorectal Cancer Prevalence	Colon and rectum cancers per 100,000 population (age-adjusted).	36.6	41.2	34.8	Shasta: 36.6 Tehama: 41.2 California: 34.8
Breast Cancer Prevalence	Female in situ breast cancers per 100,000 female population (age-adjusted).	29.4	25.0	27.9	Shasta: 29.4 Tehama: 25 California: 27.9
Lung Cancer Prevalence	Lung and bronchus cancers per 100,000 population (age-adjusted).	61.7	57.5	40.9	Shasta: 61.7 Tehama: 57.5 California: 40.9
Prostate Cancer Prevalence	Prostate cancers per 100,000 male population (age-adjusted).	107.5	111.0	91.2	Shasta: 107.5 Tehama: 111 California: 91.2
COVID					
COVID-19 Cumulative Incidence	Number of laboratory-confirmed COVID-19 cases per 100,000 population.	13,938.8	15,440.0	17,147.1	Shasta: 13,938.8 Tehama: 15,440 California: 17,147.1
Other					
Asthma ED Rates	Emergency department visits due to asthma per 10,000 (age-adjusted).	384.0	480.0	422.0	Shasta: 384 Tehama: 480 California: 422
Asthma ED Rates for Children	Emergency department visits due to asthma among ages 5-17 per 10,000 population aged 5-17 (age-adjusted).	413.0	559.0	601.0	Shasta: 413 Tehama: 559 California: 601

Health Behavior











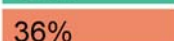
Table 11: County health behavior indicators compared to state benchmarks.

Indicators	Description	Shasta	Tehama	California	
Excessive Drinking	Percentage of adults reporting binge or heavy drinking (age-adjusted).	21.4%	19.9%	18.1%	Shasta: 21.4% Tehama: 19.9% California: 18.1%
Drug Induced Death	Drug induced deaths per 100,000 (age-adjusted).	23.5	9.8	14.3	Shasta: 23.5 Tehama: 9.8 California: 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/m ² .	26.6%	34.7%	24.3%	Shasta: 26.6% Tehama: 34.7% California: 24.3%
Physical Inactivity	Percentage of adults ages 20 and over reporting no leisure-time physical activity.	17.0%	28.1%	17.7%	Shasta: 17% Tehama: 28.1% California: 17.7%
Limited Access to Healthy Foods	Percentage of population who are low-income and do not live close to a grocery store.	8.8%	9.9%	3.3%	Shasta: 8.8% Tehama: 9.9% California: 3.3%
Food Environment Index	Index of factors that contribute to a healthy food environment, from 0 (worst) to 10 (best).	7.2	6.8	8.8	Shasta: 7.2 Tehama: 6.8 California: 8.8
Access to Exercise Opportunities	Percentage of population with adequate access to locations for physical activity.	77.9%	59.0%	93.1%	Shasta: 77.9% Tehama: 59% California: 93.1%
Chlamydia Incidence	Number of newly diagnosed chlamydia cases per 100,000 population.	356.3	294.1	585.3	Shasta: 356.3 Tehama: 294.1 California: 585.3

Indicators	Description	Shasta	Tehama	California	
Teen Birth Rate	Number of births per 1,000 female population ages 15-19.	22.1	29.1	17.4	Shasta:  Tehama:  California: 
Adult Smoking	Percentage of adults who are current smokers (age-adjusted).	17.1%	18.2%	11.5%	Shasta:  Tehama:  California: 

Clinical Care

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

Indicators	Description	Shasta	Tehama	California	
Primary Care Shortage Area	Presence of a primary care health professional shortage area within the county.	Yes	Yes		Shasta:  Tehama:  California:
Dental Care Shortage Area	Presence of a dental care health professional shortage area within the county.	Yes	Yes		Shasta:  Tehama:  California:
Mental Health Care Shortage Area	Presence of a mental health professional shortage area within the county.	Yes	Yes		Shasta:  Tehama:  California:
Medically Underserved Area	Presence of a medically underserved area within the county.	Yes	Yes		Shasta:  Tehama:  California:
Mammography Screening	Percentage of female Medicare enrollees ages 65-74 that received an annual mammography screening.	38.0%	39.0%	36.0%	Shasta:  Tehama:  California: 

Indicators	Description	Shasta	Tehama	California	
Dentists	Dentists per 100,000 population.	78.3	58.4	87.0	Shasta: 78.3 Tehama: 58.4 California: 87
Mental Health Providers	Mental health providers per 100,000 population.	387.1	172.1	373.4	Shasta: 387.1 Tehama: 172.1 California: 373.4
Psychiatry Providers	Psychiatry providers per 100,000 population.	5.0	1.6	13.5	Shasta: 5 Tehama: 1.6 California: 13.5
Specialty Care Providers	Specialty care providers (non-primary care physicians) per 100,000 population.	153.6	45.8	190.0	Shasta: 153.6 Tehama: 45.8 California: 190
Primary Care Providers	Primary care physicians per 100,000 population + other primary care providers per 100,000 population.	180.5	119.2	147.3	Shasta: 180.5 Tehama: 119.2 California: 147.3
Preventable Hospitalization	Preventable hospitalizations per 100,000 (age-sex-poverty adjusted)	875.7	999.2	948.3	Shasta: 875.7 Tehama: 999.2 California: 948.3
COVID					
COVID-19 Cumulative Full Vaccination Rate	Number of completed COVID-19 vaccinations per 100,000 population.	45,034.9	41,748.0	68,280.1	Shasta: 45,034.9 Tehama: 41,748 California: 68,280.1

Socio-Economic and Demographic Factors

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

Indicators	Description	Shasta	Tehama	California
Community Safety				

Indicators	Description	Shasta	Tehama	California	
Homicide Rate	Number of deaths due to homicide per 100,000 population.	5.4	6.1	4.8	Shasta: 5.4 Tehama: 6.1 California: 4.8
Firearm Fatalities Rate	Number of deaths due to firearms per 100,000 population.	16.9	17.2	7.8	Shasta: 16.9 Tehama: 17.2 California: 7.8
Violent Crime Rate	Number of reported violent crime offenses per 100,000 population.	726.1	540.1	420.9	Shasta: 726.1 Tehama: 540.1 California: 420.9
Juvenile Arrest Rate	Felony juvenile arrests per 1,000 juveniles	1.8	2.0	2.1	Shasta: 1.8 Tehama: 2 California: 2.1
Motor Vehicle Crash Death	Number of motor vehicle crash deaths per 100,000 population.	16.7	20.9	9.5	Shasta: 16.7 Tehama: 20.9 California: 9.5
Education					
Some College	Percentage of adults ages 25-44 with some post-secondary education.	68.8%	55.4%	65.7%	Shasta: 68.8% Tehama: 55.4% California: 65.7%
High School Completion	Percentage of adults ages 25 and over with a high school diploma or equivalent.	91.1%	84.5%	83.3%	Shasta: 91.1% Tehama: 84.5% California: 83.3%
Disconnected Youth	Percentage of teens and young adults ages 16-19 who are neither working nor in school.	8.0%		6.4%	Shasta: 8% Tehama: California: 6.4%

Indicators	Description	Shasta	Tehama	California
Third Grade Reading Level	Average grade level performance for 3rd graders on English Language Arts standardized tests	3.0	2.6	2.9
		Shasta: 3	Tehama: 2.6	California: 2.9
Third Grade Math Level	Average grade level performance for 3rd graders on math standardized tests	2.8	2.5	2.7
		Shasta: 2.8	Tehama: 2.5	California: 2.7
Employment				
Unemployment	Percentage of population ages 16 and older unemployed but seeking work.	4.7%	5.5%	4.0%
		Shasta: 4.7%	Tehama: 5.5%	California: 4%
Family and Social Support				
Children in Single-Parent Households	Percentage of children that live in a household headed by single parent.	22.2%	26.2%	22.5%
		Shasta: 22.2%	Tehama: 26.2%	California: 22.5%
Social Associations	Number of membership associations per 10,000 population.	8.1	5.5	5.9
		Shasta: 8.1	Tehama: 5.5	California: 5.9
Residential Segregation (Non-White/White)	Index of dissimilarity where higher values indicate greater residential segregation between non-White and White county residents.	23.0	19.0	38.0
		Shasta: 23	Tehama: 19	California: 38
Income				
Children Eligible for Free Lunch	Percentage of children enrolled in public schools that are eligible for free or reduced price lunch.	55.8%	69.6%	59.4%
		Shasta: 55.8%	Tehama: 69.6%	California: 59.4%

Indicators	Description	Shasta	Tehama	California	
Children in Poverty	Percentage of people under age 18 in poverty.	16.5%	23.7%	15.6%	Shasta: 16.5% Tehama: 23.7% California: 15.6%
Median Household Income	The income where half of households in a county earn more and half of households earn less.	\$61,464.0	\$51,672.0	\$80,423.0	Shasta: \$61,464 Tehama: \$51,672 California: \$80,423
Uninsured Population under 64	Percentage of population under age 65 without health insurance.	7.0%	8.1%	8.3%	Shasta: 7% Tehama: 8.1% California: 8.3%
Income Inequality	Ratio of household income at the 80th percentile to income at the 20th percentile.	4.9	4.8	5.2	Shasta: 4.9 Tehama: 4.8 California: 5.2

Physical Environment

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

Indicators	Description	Shasta	Tehama	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.	22.8%	21.4%	26.4%	Shasta: 22.8% Tehama: 21.4% California: 26.4%
Severe Housing Cost Burden	Percentage of households that spend 50% or more of their household income on housing.	18.6%	19.5%	19.7%	Shasta: 18.6% Tehama: 19.5% California: 19.7%
Homeownership	Percentage of occupied housing units that are owned.	64.0%	65.4%	54.8%	Shasta: 64% Tehama: 65.4% California: 54.8%

Indicators	Description	Shasta Tehama California			
Homelessness Rate	Number of homeless individuals per 100,000 population.	490.7	469.4	411.2	Shasta: 490.7 Tehama: 469.4 California: 411.2
Transit					
Households with no Vehicle Available	Percentage of occupied housing units that have no vehicles available.	6.7%	7.2%	7.1%	Shasta: 6.7% Tehama: 7.2% California: 7.1%
Long Commute - Driving Alone	Among workers who commute in their car alone, the percentage that commute more than 30 minutes.	15.6%	31.2%	42.2%	Shasta: 15.6% Tehama: 31.2% California: 42.2%
Access to Public Transit	Percentage of population living near a fixed public transportation stop	54.2%	45.6%	69.6%	Shasta: 54.2% Tehama: 45.6% California: 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	2.8%	12.2%	51.6%	Shasta: 2.8% Tehama: 12.2% California: 51.6%
Air Pollution - Particulate Matter	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5).	5.0	4.7	8.1	Shasta: 5 Tehama: 4.7 California: 8.1
Drinking Water Violations	Presence of health-related drinking water violations in the county.	Yes	Yes		Shasta: Yes Tehama: Yes California:

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.

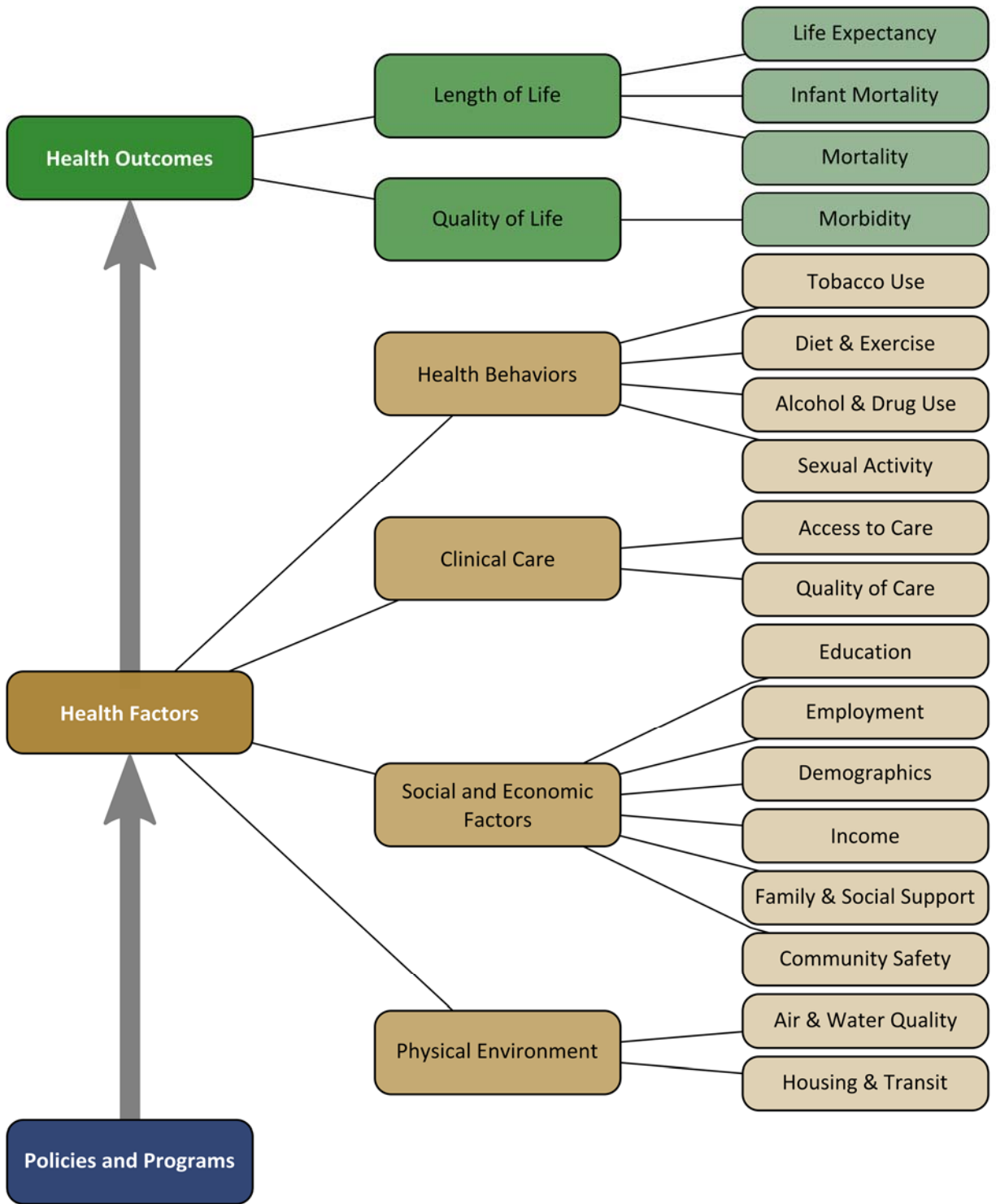


Figure 6: Community Health Assessment Conceptual Model as modified from the County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2015

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 Mercy Medical Center Redding for which the CHNA would be conducted. Primary data collection included key informant interviews and focus-groups 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.

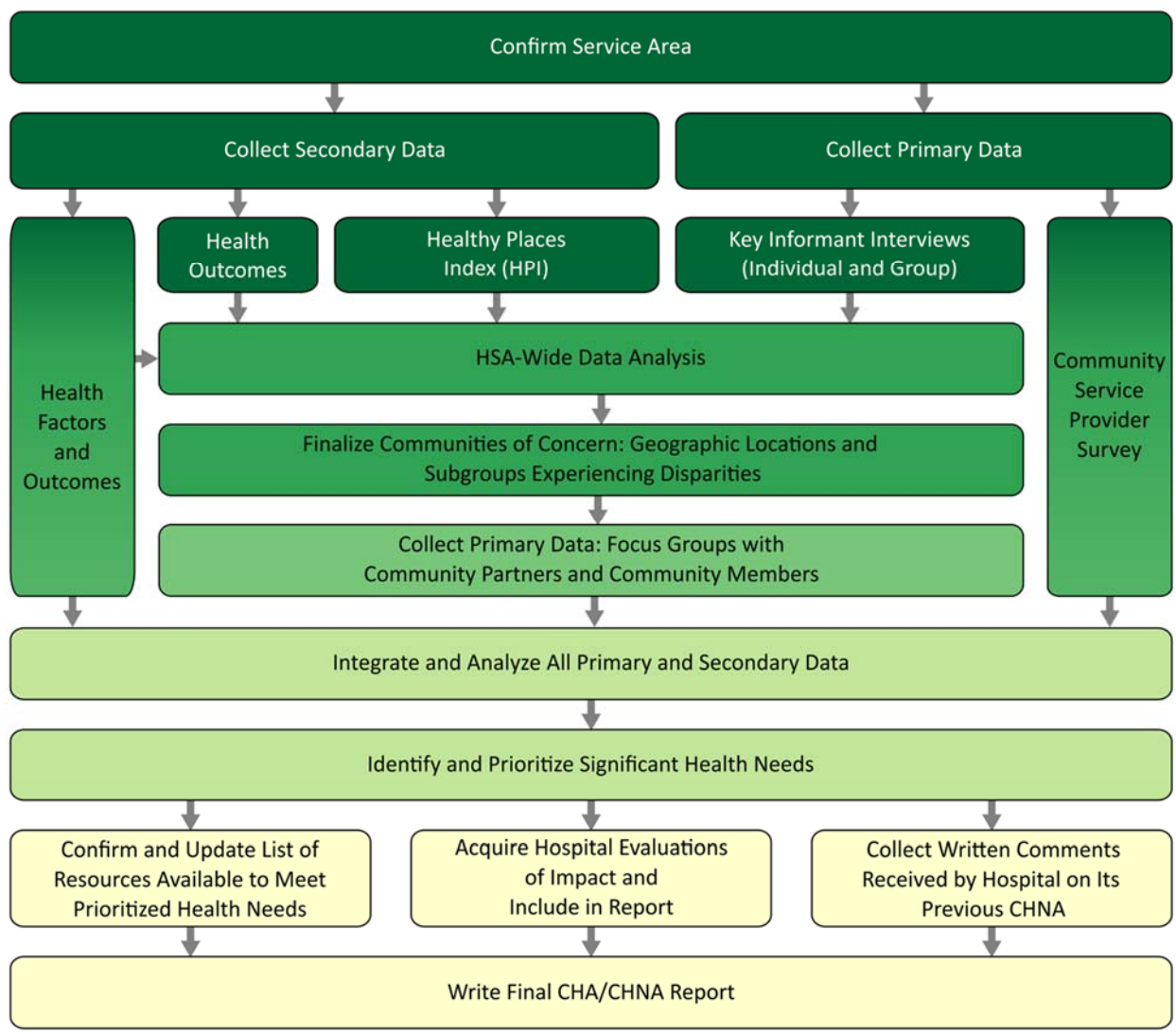


Figure 7: CHNA process model for MMCR

Primary Data Collection and Processing

Primary Data Collection

Input from the community served by Mercy Medical Center Redding 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
Shasta County Public Health and HHSA	10/11/2021	2	Public health	All residents of Shasta County
Shasta County Office of Education	10/13/2021	2	Education	School aged youth
Health Alliance of Northern CA	10/19/2021	1	Healthcare system	Low income, impoverished, rural, isolated communities
Healthcare providers: Hill Country Community Clinic; Mercy Medical Center Redding; Shasta Community Health Center	10/11/2021	5	Healthcare systems and FQHC	Residents of Shasta County; low income
Women & Children's Service Providers; Children's Legacy Center; First 5 Shasta; Northern CA Center for Family Awareness; One Safe Place; Pathways to Hope for Children (previously Shasta County Child Abuse Coordinating Council); Shasta Community Health Center	10/08/2021	6	Women & children, domestic violence; substance use, child abuse and sexual assault	Women, children, families

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?**

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 population represented by focus group members.

Table 16: Focus Group List

Hosting Organization	Date	Number of Participants	Populations Represented
Health Alliance of Northern California's Integrated Care Committee	11/03/2021	16	Low-income
Anderson Teen Center	11/22/2021	8	Adult residents of Anderson, CA
Anderson Teen Center	11/22/2021	8	Youth residents of Anderson, CA
Human Good / Mountain Vistas Apartments in Redding	11/23/2021	9	Low-income seniors

Hosting Organization	Date	Number of Participants	Populations Represented
Shasta County Mien Community / Shasta County Health and Human Services Agency	11/23/2021	1	Mien Community; low-income; those with severe mental illness
NorCal OUTreach	11/24/2021	1	LGBTQI+

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.

Community Service Provider Survey

A web-based survey was administered to community service providers (CSP) who delivered health and social services to community residents of the HSA. We used a list of CSPs affiliated with the nonprofit hospitals included in this report as our initial sampling frame and sent an email recruitment message to these CSPs detailing the survey aims and inviting them to participate. We also implemented a snowball sampling technique, encouraging participants to forward the recruitment message to other CSPs in their

networks. The survey was designed using Qualtrics, an online survey platform, and was available for approximately two weeks. Seven respondents completed the survey. Survey respondents were also given the opportunity to be acknowledged for their participation in the report and are listed as follows:

Crystal Johnson, Irma Amaro, Joe Ayer, Denise Highfill, Angelica Cortez, Marjeanne Stone, and Deirdre Mitchell

After providing socio-demographic information including the county they served and their affiliated organization(s), survey respondents were shown a list of 12 potential health needs and asked to identify which were unmet health needs in their community. In order to reduce any confusion or ambiguity that could introduce bias, participants could scroll over each health need for a definition. Respondents were then asked to select which of the needs they identified as unmet in their community were the priority to address (up to three health needs). Upon selection of these priority unmet health needs, respondents were asked about the characteristics of each as it is expressed in their community. Depending upon the specific health need, respondents were shown a list of between 7-12 characteristics and could select all that apply. Respondents were also offered the opportunity to provide additional information about the health need in their community if it was not provided as a response option. Finally, we included a set of questions about how the COVID-19 pandemic impacted the health needs of the community.

When the survey period was over, incomplete and duplicate responses were removed from the dataset and the survey responses were double-checked for accuracy. Survey responses were analyzed using the framework compiled for qualitative data analysis. This information was used along with other data sources to both identify and rank significant health needs in the community, and to describe how the health needs are expressed.

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 within the MMCR 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.

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.

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 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 California¹⁵ 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 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.

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

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	Child Mortality	County Health Rankings	2016 - 2019
			Life Expectancy	Life Expectancy	County Health Rankings	2017 - 2019
			Premature Age-Adjusted Mortality	Premature Age-Adjusted Mortality	County Health Rankings	2017 - 2019
			Premature Death	Premature Death	County Health Rankings	2017 - 2019
			Stroke Mortality	Stroke Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Chronic Lower Respiratory Disease Mortality	Chronic Lower Respiratory Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Diabetes Mortality	Diabetes Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Heart Disease Mortality	Heart Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Hypertension Mortality	Hypertension Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
	Life Expectancy	Cancer Mortality	Cancer Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019	
		Liver Disease Mortality	Liver Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019	
		Kidney Disease Mortality	Kidney Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019	
		Suicide Mortality	Suicide Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019	
		Unintentional Injuries Mortality	Unintentional Injuries Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019	
		COVID-19 Mortality	COVID-19 Mortality	CDPH COVID-19 Time-Series Metrics by County and State	Collected on 2022-01-17	
		COVID-19 Case Fatality	COVID-19 Case Fatality	CDPH COVID-19 Time-Series Metrics by County and State	Collected on 2022-01-17	
		Alzheimer's Disease Mortality	Alzheimer's Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019	
		Influenza and Pneumonia Mortality	Influenza and Pneumonia Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019	

Conceptual Model Alignment			Indicator	Data Source	Time Period
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	
		COVID-19 Cumulative Incidence	CDPH COVID-19 Time-Series Metrics by County and State	Collected on 2022-01-17	
		Asthma ED Rates	Tracking California	2018	
		Asthma ED Rates for Children	Tracking California	2018	
		Health Factors	Alcohol and Drug Use	Excessive Drinking	County Health Rankings
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	

Conceptual Model Alignment		Indicator	Data Source	Time Period	
		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
			Quality Care	Preventable Hospitalization	California Office of Statewide Health Planning and Development Prevention Quality Indicators for California
	COVID-19 Cumulative Full Vaccination Rate	CDPH COVID-19 Vaccine Progress Dashboard Data		Collected on 2022-01-17	
	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

Conceptual Model Alignment		Indicator	Data Source	Time Period	
			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
		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
			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

Conceptual Model Alignment		Indicator	Data Source	Time Period	
		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 Rankings¹⁸ dataset. This was the most common source of data, with 52 associated indicators included in the analysis. Indicators were collected at both the county and state levels. County-level indicators were used to represent the health factors and health outcomes in the service area. State-level indicators were collected to be used as benchmarks for comparison purposes. All variables included in the CHR dataset were obtained from other data providers. The original data providers for each CHR variable are given in Table 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

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>.

CHR Indicator	Time Period	Data Source
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
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

CHR Indicator	Time Period	Data Source
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-ViDa¹⁹ 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

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/>.

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.

COVID-19 Data

Data on the cumulative number of cases and deaths²⁰ and completed vaccinations²¹ 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 Profiles²² and report age-adjusted deaths per 100,000.

²⁰ State of California, Department of Public Health. 2021. Statewide COVID-19 Cases Deaths Tests. Retrieved January 17 2022 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 January 17 2022 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

U.S. Health Resources and Services Administration

Indicators related to the availability of healthcare providers were obtained from the Health Resources and Services Administration²³ (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 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.

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>.

California Cancer Registry

Data obtained from the California Cancer Registry²⁴ 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 were 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.

California Office of Environmental Health Hazard Assessment

Data used to calculate the pollution burden percent indicator were obtained from the CalEnviroScreen 3.0²⁶ 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.

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.

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/>.

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 Report²⁹ were used to calculate homelessness rates for the counties and state. 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.

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 were 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

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>.

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 TidyTransit³¹ 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 sf³⁷ 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 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.

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 to 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.

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>.

Community of Concern Identification

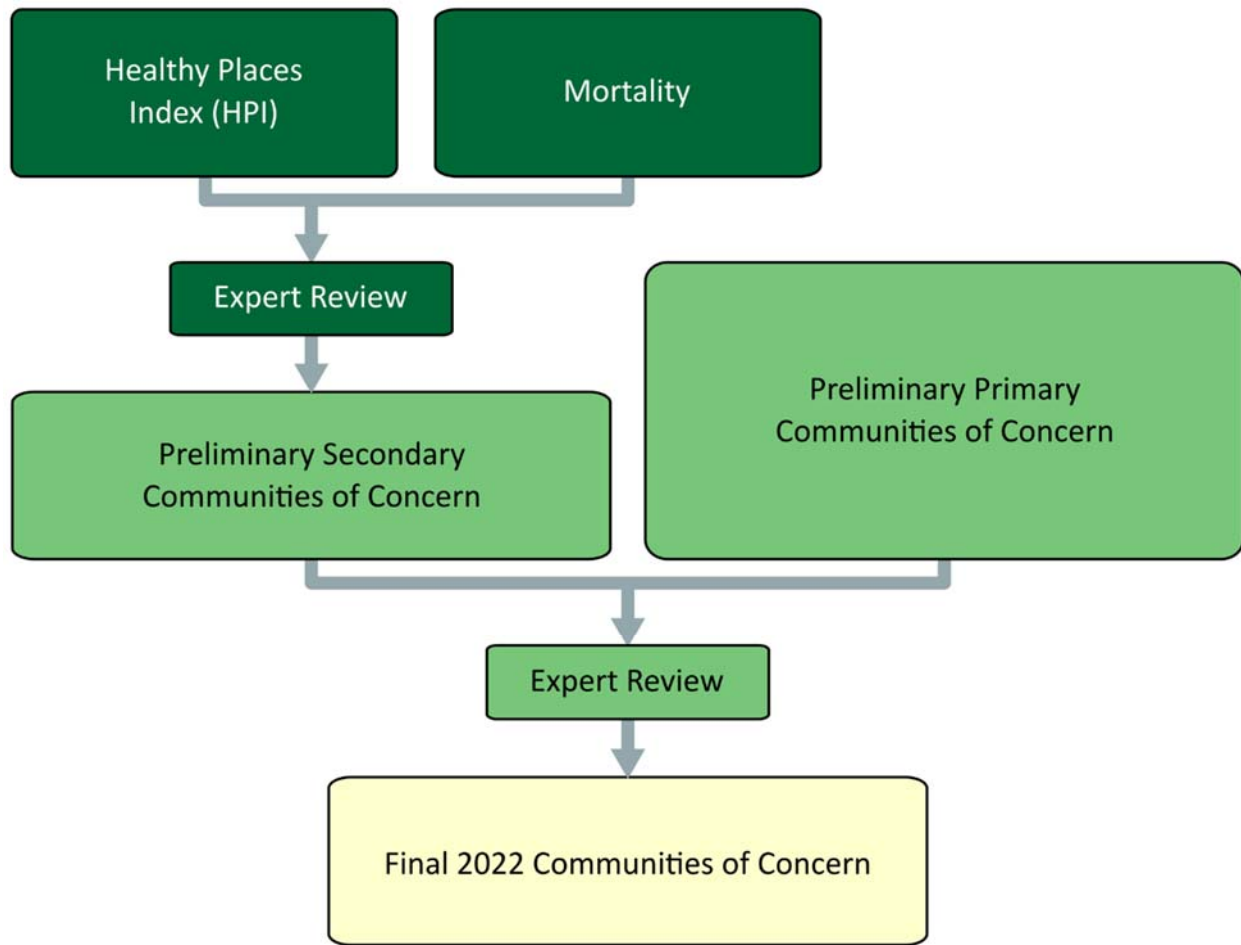


Figure 8: Community of Concern identification process

As illustrated in Figure 8, 2022 Communities of Concern were identified through a process that drew upon both primary and secondary data. Two main secondary data sources were used in this analysis: 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.

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 either of the two selection criteria (HPI, and Mortality) was reviewed for inclusion as a 2022 Community of Concern. 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.

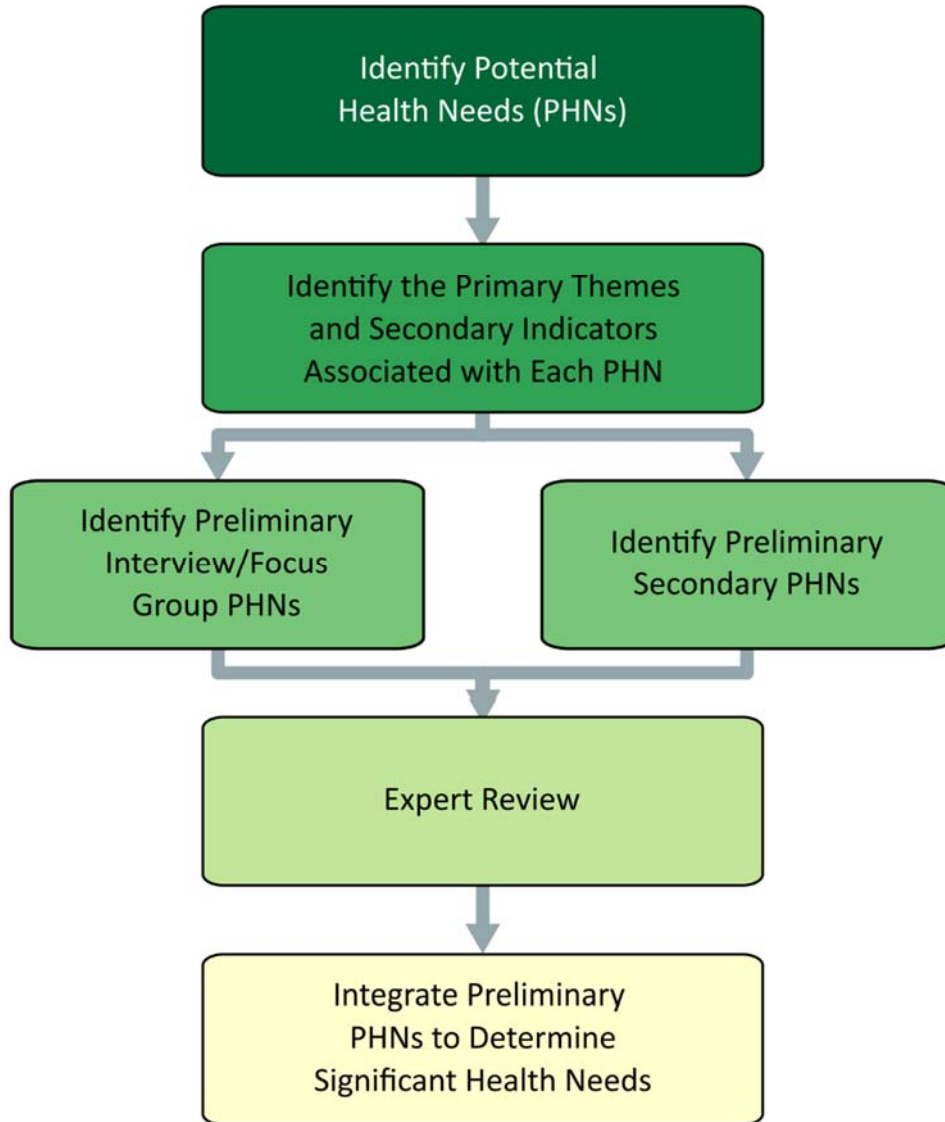


Figure 9: Significant health need identification process.

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

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

Primary Themes	Secondary Indicators
Insurance is unaffordable.	Infant Mortality
Wait times for appointments are excessively long.	Child Mortality
Out-of-pocket costs are too high.	Life Expectancy
There aren't enough primary care service providers in the area.	Premature Age-Adjusted Mortality
Patients have difficulty obtaining appointments outside of regular business hours.	Premature Death
Too few providers in the area accept Medi-Cal.	Stroke Mortality
It is difficult to recruit and retain primary care providers in the region.	Chronic Lower Respiratory Disease Mortality
Specific services are unavailable here (e.g., 24-hour pharmacies, urgent care, telemedicine).	Diabetes Mortality
The quality of care is low (e.g., appointments are rushed, providers lack cultural competence).	Heart Disease Mortality
Patients seeking primary care overwhelm local emergency departments.	Hypertension Mortality
Primary care services are available, but are difficult for many people to navigate.	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

Primary Themes	Secondary Indicators
	Income Inequality
	Homelessness Rate

Active Living and Healthy Eating

Table 23: Primary themes and secondary indicators associated with PHN3

Primary Themes	Secondary Indicators
There are food deserts in the area where fresh, unprocessed foods are not available.	Life Expectancy
Fresh, unprocessed foods are unaffordable.	Premature Age-Adjusted Mortality
Food insecurity is an issue here.	Premature Death
Students need healthier food options in schools.	Stroke Mortality
The built environment doesn't support physical activity (e.g., neighborhoods aren't walk-able, roads aren't bike-friendly, or parks are inaccessible).	Diabetes Mortality
The community needs nutrition education programs.	Heart Disease Mortality
Homelessness in parks or other public spaces deters their use.	Hypertension Mortality
Recreational opportunities in the area are unaffordable (e.g., gym memberships, recreational activity programming).	Cancer Mortality
There aren't enough recreational opportunities in the area (e.g., organized activities, youth sports leagues)	Kidney Disease Mortality
The food available in local homeless shelters and food banks is not nutritious.	Diabetes Prevalence
Grocery store option in the area are limited.	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

Primary Themes	Secondary Indicators
	Alone
	Access to Public Transit

Safe and Violence-Free Environment

Table 24: Primary themes and secondary indicators associated with PHN4

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

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

Healthy Physical Environment

Table 26: Primary themes and secondary indicators associated with PHN6

Primary Themes	Secondary Indicators
The air quality contributes to high rates of asthma.	Infant Mortality
Poor water quality is a concern in the area.	Life Expectancy
Agricultural activity harms the air quality.	Premature Age-Adjusted Mortality
Low-income housing is substandard.	Premature Death
Residents' use of tobacco and e-cigarettes harms the air quality.	Chronic Lower Respiratory Disease Mortality
Industrial activity in the area harms the air quality.	Hypertension Mortality
Heavy traffic in the area harms the air quality.	Cancer Mortality
Wildfires in the region harm the air quality.	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

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

Primary Themes	Secondary Indicators
	Frequent Mental Distress
	Poor Physical Health Days
	Frequent Physical Distress
	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

Primary Themes	Secondary Indicators
Many residents do not have reliable personal transportation.	Disability
Medical transport in the area is limited.	Frequent Mental Distress
Roads and sidewalks in the area are not well-maintained.	Frequent Physical Distress
The distance between service providers is inconvenient for those using public transportation.	Poor or Fair Health
	Adult Obesity

Primary Themes	Secondary Indicators
Using public transportation to reach providers can take a very long time.	COVID-19 Cumulative Full Vaccination Rate
The cost of public transportation is too high.	Income Inequality
Public transportation service routes are limited.	Homelessness Rate
Public transportation schedules are limited.	Households with no Vehicle Available
The geography of the area makes it difficult for those without reliable transportation to get around.	Long Commute - Driving Alone
Public transportation is more difficult for some to residents to use (e.g., non-English speakers, seniors, parents with young children).	Access to Public Transit
There aren't enough taxi and ride-share options (e.g.,Uber, Lyft).	

Access to Specialty and Extended Care

Table 29: Primary themes and secondary indicators associated with PHN9

Primary 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-

Primary Themes	Secondary Indicators
	White/White)
	Income Inequality
	Homelessness Rate

Injury and Disease Prevention and Management

Table 30: Primary themes and secondary indicators associated with PHN10

Primary Themes	Secondary Indicators
There isn't really a focus on prevention around here.	Infant Mortality
Preventive health services for women are needed (e.g., breast and cervical cancer screening).	Child Mortality
There should be a greater focus on chronic disease prevention (e.g. diabetes, heart disease).	Stroke Mortality
Vaccination rates are lower than they need to be.	Chronic Lower Respiratory Disease Mortality
Health education in the schools needs to be improved.	Diabetes Mortality
Additional HIV and STI prevention efforts are needed.	Heart Disease Mortality
The community needs nutrition education opportunities.	Hypertension Mortality
Schools should offer better sexual health education.	Liver Disease Mortality
Prevention efforts need to be focused on specific populations in the community (e.g. youth, Spanish-speaking residents, the elderly, LGBTQ individuals, immigrants).	Kidney Disease Mortality
Patients need to be better connected to service providers (e.g. case management, patient navigation, or centralized service provision).	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

Primary Themes	Secondary Indicators
	Vaccination Rate
	Firearm Fatalities Rate
	Juvenile Arrest Rate
	Motor Vehicle Crash Death
	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

Primary 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

Primary Themes	Secondary Indicators
	Preventable Hospitalization
	COVID-19 Cumulative Full Vaccination Rate
	Homicide Rate
	Firearm Fatalities Rate
	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

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

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
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

Indicator	Benchmark Comparison Indicating Poor Performance
Primary Care Shortage Area	Present
Dental Care Shortage Area	Present
Mental Health Care Shortage Area	Present
Medically Underserved Area	Present
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, focus-group, and CSP survey 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, as a preliminary qualitative significant health need if it was identified by 40% or more of the primary sources and survey respondents as performing poorly. Finally, a PHN was selected as a significant health need if it was included as a preliminary significant health need in both of these categories.

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, focus-group participants, and survey respondents 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 was used to derive two measures for each significant health need.

First, the total percentage of all primary data sources and survey respondents 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 and survey respondents were asked to prioritize health needs in this question, this number was taken to represent the intensity of the need.

These 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 Mental/Behavioral Health and	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Quality Primary Care Health Services	Access to Specialty and Extended Care	Increased Community Connections	Safe and Violence-Free Environment	System Navigation	Injury and Disease Prevention and Management	Access to Functional Needs	Active Living and Healthy Eating	Access to Dental Care and Preventive Services	Healthy Physical Environment
Alcoholics Anonymous NorCal	96099	aanorcal.org	x				x	x						
Anderson Cottonwood Christian Assistance	96007	www.facebook.com/andcca		x										
Burney Lions Club	96013	www.burneylions.com		x			x							
Burney-Fall River Rotary Club	96013	www.burneyrotary.com		x				x						
Children's Legacy Center	96001	www.childrenslegacycenter.org		x				x						
City of Redding	96001	www.cityofredding.org/home												x
Connected Living	Shasta County	www.dignityhealth.org/north-state/locations/connected-living		x		x					x			
Dignity Heath- Mercy Medical Center Redding	96001	www.dignityhealth.org/north-state/locations/mercy-redding	x		x	x	x		x					
Disability Action Center	96001	actionctr.org		x		x	x		x					
Empire Recovery Center	96001	www.empirerecoverycenter.org	x				x		x					
Faith Works Community Coalition, Inc.	96001	www.faith-works.cc		x				x	x					
First 5 Shasta	96001	first5shasta.org	x		x	x	x						x	
Good News Rescue Mission	96001	gnrm.org	x	x	x			x					x	
Health Alliance of Northern California	96099	thehanc.org	x		x				x				x	
Healthy Shasta Collaborative	96001	healthyshasta.org					x					x		x

Organization Information			Significant Health Needs							Other Health Needs				
Name	Primary ZIP code	Website	Access to Mental/Behavioral Health and	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Quality Primary Care Health Services	Access to Specialty and Extended Care	Increased Community Connections	Safe and Violence-Free Environment	System Navigation	Injury and Disease Prevention and Management	Access to Functional Needs	Active Living and Healthy Eating	Access to Dental Care and Preventive Services	Healthy Physical Environment
Hill Country Community Clinic	96002	www.hillcountryclinic.org	x		x	x							x	
Hill Country Community Clinic, Circle of Friends	96013	www.hillcountryclinic.org/our-locations/#circle-of-friends	x	x			x							
Kids' Turn Shasta-Cascade- Northern California Center for Family Awareness Inc.	96099	www.kidsturnredding.org					x	x						
Level Up NorCal	96001	levelupnc.org	x	x				x			x			
Local Indians for Education	96003	localindiansforeducation.weebly.com					x							
Lutheran Social Services	96001	www.lssnorcal.org		x			x							
Mercy Medical Center Redding	96001	www.dignityhealth.org/north-state/locations/mercy-redding	x		x		x			x				
Mountain Vista a Human Good Community- (Low Income Senior Apartments)	96003	www.humangood.org/mountain-vistas		x										
Narcotics Anonymous Shasta County	Shasta County	www.shastana.org	x				x	x	x					
NorCal Outreach	96002	norcaloutreach.org					x	x	x					
Northern Valley Catholic Social Services	96001	nvcss.org	x	x										
One Safe Place	96003	ospshasta.org		x			x	x	x					
Pathways To Hope for Children	96003	hopeshasta.org					x	x	x					

Organization Information			Significant Health Needs							Other Health Needs				
Name	Primary ZIP code	Website	Access to Mental/Behavioral Health and	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Quality Primary Care Health Services	Access to Specialty and Extended Care	Increased Community Connections	Safe and Violence-Free Environment	System Navigation	Injury and Disease Prevention and Management	Access to Functional Needs	Active Living and Healthy Eating	Access to Dental Care and Preventive Services	Healthy Physical Environment
Pathways to Hope for Children- Anderson Teen Center	96003	hopeshasta.org/anderson-teen-center					x	x						x
Reach Higher Shasta	96049	reachhighershasta.com						x						
Redding Loaves and Fishes	96002	www.facebook.com/Redding-Loaves-and-Fishes-495897877217228		x										
Redding Rancheria	96001	www.reddingrancheria-nsn.gov		x			x	x			x			
Restpadd Psychiatric Hospital	96001	www.restpadd.com	x											
Salvation Army Redding Corps Community Center	96002	redding.salvationarmy.org/redding		x				x						
Shascade Community Services	96003	shascade.org/services												
Shasta 211	96001	211norcal.org	x	x	x	x		x	x		x			
Shasta Community Health Center	96001	www.shastahealth.org			x	x		x	x				x	
Shasta Community Health Center- Chronic Care Management	Shasta County	www.shastahealth.org/news/november-patient-newsletter-2021								x				
Shasta Community Health Center- Tobacco Recovery Self-Management and Cessation Programs	Shasta County	www.shastahealth.org/community-partners-education	x											
Shasta County Health and Human Services Agency- Child Welfare	96001	www.co.shasta.ca.us/index/hhsa/childrens-services/child-welfare	x					x						

Organization Information			Significant Health Needs										Other Health Needs	
Name	Primary ZIP code	Website	Access to Mental/Behavioral Health and	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Quality Primary Care Health Services	Access to Specialty and Extended Care	Increased Community Connections	Safe and Violence-Free Environment	System Navigation	Injury and Disease Prevention and Management	Access to Functional Needs	Active Living and Healthy Eating	Access to Dental Care and Preventive Services	Healthy Physical Environment
Shasta County Health and Human Services Agency- Children's Services	96001	www.co.shasta.ca.us/index/hhsa/childrens-services	x											
Shasta County Health and Human Services Agency- Nurse Family Partnership	96001	www.co.shasta.ca.us/index/hhsa/health-safety/nurse-family-partnership										x		
Shasta County Health and Human Services Agency- Public Health	96001	www.co.shasta.ca.us/index/hhsa/public-health												
Shasta County Health and Human Services Agency- Public Health Advisory Board	96001	www.co.shasta.ca.us/index/hhsa/about/advisory-boards/phab							x					
Shasta County Health and Human Services Agency- Quit Tobacco	96001	www.co.shasta.ca.us/index/hhsa/alcohol-tobacco-drugs/tobacco/quit	x						x					
Shasta County Health and Human Services Agency- Stand Against Stigma	96001	www.co.shasta.ca.us/index/hhsa/mental_wellness/stand_against_stigma/Communityeducationcommittee.aspx	x											
Shasta County Health and Human Services Agency- Wellness and Recovery Program	Shasta County	www.co.shasta.ca.us/index/hhsa/alcohol-tobacco-drugs/outpatient-programs	x			x		x	x					

Organization Information			Significant Health Needs							Other Health Needs				
Name	Primary ZIP code	Website	Access to Mental/Behavioral Health and	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Quality Primary Care Health Services	Access to Specialty and Extended Care	Increased Community Connections	Safe and Violence-Free Environment	System Navigation	Injury and Disease Prevention and Management	Access to Functional Needs	Active Living and Healthy Eating	Access to Dental Care and Preventive Services	Healthy Physical Environment
Shasta County Health and Human Services Agency- Women's Recovery and Resiliency Services	Shasta County	www.co.shasta.ca.us/index/hhsa/alcohol-tobacco-drugs/womensrecoveryresiliency	x					x	x					
Shasta County Office of Education	96001	www.shastacoe.org							x					
Shasta County Public Health	Shasta County	www.co.shasta.ca.us/index/hhsa/public-health	x						x	x				
Shasta Family Healthcare Services	96007	www.facebook.com/ShastaFamilyHCS				x								
Shasta Family YMCA	96001	www.sfymca.org												
Shasta Strengthening Families Collaborative	96001	www.shastastrongfamilies.org					x		x					
Shasta Thrive	96001	www.shastathrive.org		x										
Shingletown Medical Center	96088	shingletownmedcenter.org	x		x		x							
Toyon-Wintu Center	96019	wintutribes.org/toyon-wintu-center					x							
Visions of the Cross	96002	www.visionsofthecross.com	x					x	x					
Youth Options Shasta	96001	www.youthoptionsshasta.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, focus groups, and the CSP survey. 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

SHASTA COUNTY – MERCY MEDICAL CENTER REDDING

IMPACT OF ACTIONS TAKEN SINCE THE PRECEDING CHNA

Alcohol and Other Substance Abuse (including Tobacco Use), Child Abuse, Diabetes, and Mental Health were identified as significant health needs in the 2019 CHNA. Since the preceding CHNA several improvements in health behaviors, health outcomes, resources and services have been made in collaboration with the Mobilizing for Action through Planning and Partnerships (MAPP) steering committee of Shasta County. In addition, MMCR's annual Community Benefit Reports and Plans describe actions and impacts in greater detail. The most recent report is available at <http://www.dignityhealth.org/cm/content/pages/community-benefit-reports.asp>.

Below are examples of the programs developed through collaborative efforts with community based organizations that represent actions taken since the preceding CHNA that directly address identified significant health needs:

Alcohol and Other Substance Use

- An opioid awareness community-wide event took place in September, 2019. Over 250 community members attended the event and were shown the movie Written Off. After the movie showing, participants were able to engage in a Q&A session with a panel of local health providers. Additionally, hospital staff gave a presentation to a local Rotary about opioid abuse.
- In partnership with Shasta Community Health Center, four Tobacco Recovery Self-Management workshops were conducted with a total of 26 participants.
- The hospital continued to collaborate with Empire Recovery Center serving as a referral source for clients and provided a community grant for their inpatient and outpatient detox services program for homeless and indigent addicts.
- Expansion of treatment options and availability of medically assisted treatment and detoxification services for residents with substance use disorders
- The hospital based Substance Use Navigator provides support for individuals with mental illness and substance use disorders. The navigator provides individuals with support linkages to primary care physicians and mental health and substance use disorder specialists and other community services.
- A local FQHC, Hill Country Community Clinic, received a community grant to implement the dual diagnosis treatment program. Community grants run calendar year and in the first six months of CY2021 program staff were hired and trained and 20 individuals were served through the dual diagnosis program.

Child Abuse

- Continued collaboration with a local non-profit organization that developed a Children's Legacy Center to ensure that children who are sexually or physically abused, trafficked, or are severely neglected receive services in a compassionate manner that does not re-traumatize the victim.
- Provided financial support to the Children's Legacy Center to help establish an on-site forensic medical exam room for child victims of abuse, neglect and trafficking.
- Continued partnership with Pathways to Hope for Children to offer wraparound services to help break generational cycles of abuse.
- Participation on the Northern ACEs Collaborative (NAC). NAC is a six county collaborative that has formed for the common purpose of promoting healthy families and preventing Adverse Childhood Experiences and ending domestic violence in Northern California
- The North State Healthy Moms Initiative was rolled out during FY20. This program provides a Perinatal Psychiatry Consultation Service for community obstetric, pediatric, primary care, and psychiatric providers in California to connect to discuss how to address the mental health concerns of pregnant or postpartum women.

Diabetes

- Collaboration with Shasta County Public Health, KIXE, and Shasta Community Health Center to bring awareness to health professionals and community members about pre-diabetes. The collaborative developed a pre-diabetes website named "Turn it Around Shasta."
- Mercy Medical Center Redding offered Live Well with Better Nutrition/Diabetes classes taught by a Registered Dietician.
- Collaborated with the Shasta Family YMCA to provide the Diabetes Prevention Program, an evidence-based diabetes education program for people with pre-diabetes.

Mental Health

- Funding through the community grants program was provided to local non-profit agencies in the areas of mental health and substance abuse to support community based organizations who are providing services to underserved populations to improve the quality of life for community residents.
- Tele-Psychiatry services. Psychiatrists are able to provide early evaluation and psychiatric intervention via remote consultations with patients, improving access to timely quality care. Access is available to both the ED and inpatient setting.
- Partnership with Pathways to Hope for Children to provide Hope Navigation training to the community. Over 200 individuals were train as Hope Navigators, including hospital-based staff.

Ongoing collaboration with internal and external key stakeholders, post-acute care services, and the Care Coordinators has proven to be integral when addressing community needs outside the walls of the hospital.