2022
Community Health Needs Assessment

Sutter Health
Novato Community Hospital

2022 Community Health Needs Assessment

of

Marin County

Conducted on behalf of

MarinHealth Medical Center

250 Bon Air Rd,
Greenbrae, CA 94904

Novato Community Hospital

180 Rowland Way,
Novato, CA 94945

In collaboration with

Healthy Marin Partnership

Conducted by

COMMUNITY
HEALTH INSIGHTS

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Acknowledgments

We are deeply grateful to all those who contributed to the community health needs assessment conducted on behalf of the many partners of Marin County. 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 informants to help guide and inform the findings of the assessment. Community residents also 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. We also appreciate the collaborative spirit of Kaiser Permanente (and Harder+Company) and their willingness to share the data they gathered while conducting a similar health assessment in the Marin County area. To everyone who supported this important work, we extend our heartfelt gratitude.

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

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Report Summary

Purpose

The purpose of this community health needs assessment (CHNA) was to identify and prioritize significant health needs (SHNs) using a health equity lens for Marin County. 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 local community leaders and 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 CHNA at least once every three years. The CHNA was conducted by Community Health Insights (www.communityhealthinsights.com).

Community Definition

Marin County was chosen as the geographical area for the CHNA because it is the primary service area of the two hospitals participating in the joint assessment and is the statutory service area of the public health department collaborating on the work. Marin County covers 520 square miles, much of which is preserved as parks, tidelands, and agricultural areas. The county seat is San Rafael, one of the largest cities in the county. Marin County has the 6th largest income per capita of all counties in the USA yet is also home to areas of the county with larger proportions of economically vulnerable populations which include Novato, Marin City, the communities of West Marin, and portions of San Rafael, to name a few.

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, 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 32 community health experts, social service providers, and medical personnel. Furthermore, four community residents or community service provider organizations participated in one focus group for Marin County.

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[1] Robert Wood Johnson Foundation, and University of Wisconsin, 2021. County Health Rankings Model. Retrieved 31 Jan 2022 from http://www.countyhealthrankings.org/.

Finally, 25 community service providers responded to a Service Provider 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. Various indicators were also examined by race and ethnicity at the subcounty level to illuminate the health and social inequities in the county.

At the time that this CHNA was conducted, the COVID-19 pandemic was still impacting communities across the United States, including Marin County. The process for conducting the CHNA remained 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 SHNs. This began by using 12 potential health needs (PHNs). These PHNs were derived from a list of common health needs in previously conducted CHNAs throughout Northern California[2]. Data were analyzed to discover which, if any, of the PHNs were present in Marin County and were selected as SHNs. These SHNs 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 SHNs identified for Marin County are listed below in prioritized order.

1. Access to Basic Needs Such as Housing, Jobs, and Food
2. Access to Mental/Behavioral Health and Substance Use Services
3. Access to Quality Primary Care Health Services
4. Increased Community Connections

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[2] Descriptions of each of these PHNs can be found in Appendix A, Table 25.

5. Access to Functional Needs[3]

Resources Potentially Available to Meet the Significant Health Needs

In all, 143 resources were identified in Marin County that were potentially available to meet the identified SHNs. 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. This resource list is not intended to be inclusive of all the resources available.

Conclusion

This collaborative CHNA details the process and findings of a comprehensive health 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 Marin County and highlights the needs of community members living in parts of the county 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 in the communities they serve.

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[3] Functional needs refers to an individual's access to adequate transportation and conditions which promote access for individuals with physical disabilities. Detailed description in Appendix A, Table 25

Introduction and Purpose

Nationwide, nonprofit hospitals and local public health departments conduct community health assessments to guide communitywide prevention investments. California state and federal laws require that nonprofit hospitals conduct a community health needs assessment (CHNA) every three years. Nationally, state, local, and tribal health departments pursue public health accreditation from the national Public Health Accreditation Board (PHAB), and a community health assessment (CHA) is a required component. Though titled differently, CHNAs and CHAs both focus on important key components: using a systematic collection and analysis of data; reporting on the health status, health needs, and other key social determinants of health for the community; ensuring community engagement and input; fostering collective participation; and identifying community assets and resources. The results of the CHNA and CHA 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).[4]

The collaborative work featured in this report will be referred to as a CHNA, and the service area chosen for all partners was Marin County with a total population of 259,943. This report documents the processes, methods, and findings of a collaborative CHNA conducted on behalf of a primary partnership between MarinHealth Medical Center and Novato Community Hospital, in collaboration with Healthy Marin Partnership which includes but is not limited to Marin County Health and Human Services, Marin Community Foundation, and Kaiser Permanente Northern California for the Marin-Sonoma Service Area. The CHNA was conducted over a period of seven months beginning in November 2021 and concluding in May 2022.

Community Health Insights (www.communityhealthinsights.com) conducted the CHNA on behalf of the Marin partnership described above. 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 and CHAs for multiple health systems and local health departments over the previous decade.

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

Findings

Prioritized Significant Health Needs

Primary and secondary data were analyzed to identify and prioritize the SHNs for Marin County. Analysis of data resulted in five significant health needs meeting a threshold for inclusion as an outcome[5]. Primary data were then used to prioritize these SHNs. The PHN categories are organized in this way to facilitate examination by commonalities. The health needs are not mutually exclusive, and many characteristics of the health needs are drivers of or outcomes of other needs. Also, though other health needs exist in the Marin County area, the five prioritized SHNs detailed in this CHNA are those where primary data clearly supports their focus as a priority.

Prioritization was based on three measures of community input. The first two measures 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. The last measure was the percentage of Service Provider survey respondents that identified a health need as a top priority. Table 1 shows the value of these measures for each SHN.

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[5] Criteria set for the determination of a significant health need for this assessment included two of the three following conditions: 50% of the associated quantitative indicators were identified as performing poorly; 50% or more of the primary sources as performing poorly; and/or if it at least 40% of survey respondents indicated it was a need.

Table 1: Health need prioritization inputs for Marin County.

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	Percentage of Provider Survey Respondents that Identified Health Need as a Top Priority
Access to Basic Needs Such as Housing, Jobs, and Food	92%	38%	80%
Access to Mental/Behavioral Health and Substance Use Services	85%	24%	60%
Access to Quality Primary Care Health Services	92%	18%	4%
Increased Community Connections	77%	4%	20%
Access to Functional Needs	54%	2%	8%

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.[6] The prioritization index values are shown in Figure 1 on the following page, where health needs are ordered from highest priority at the top of the figure to lowest priority at the bottom.

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

Marin County 2022 Prioritized Health Needs
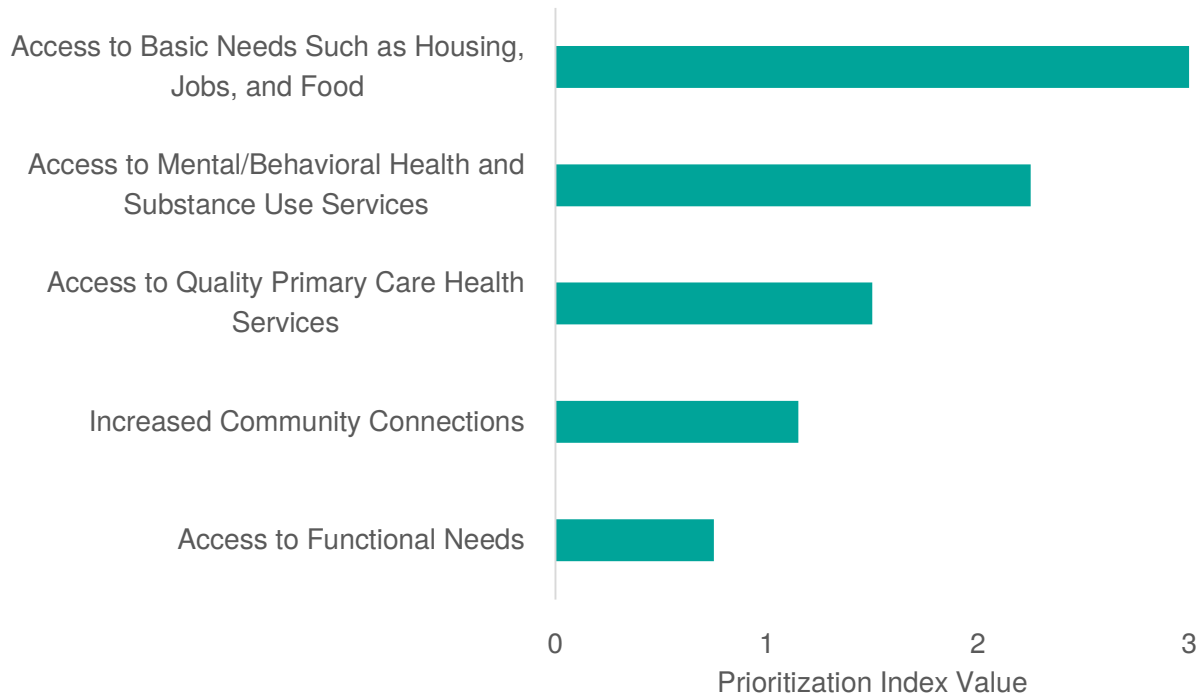
Figure 1: Prioritized Significant Health Needs for Marin County.

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 SHNs are described below. Those secondary data indicators used in the CHNA that performed poorly compared to benchmarks are listed in the table below each SHN. They 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 data analysis section of this report).

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

Access to affordable and clean housing, stable employment, quality education, and adequate food for good health are vital for survival. Maslow's Hierarchy of Needs[7] suggests that only when people have their basic physiological and safety needs met can they become engaged

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[7] McLeod, S. 2020. Maslow's Hierarchy of Needs. Retrieved 31 Jan 2022 from http://www.simplypsychology.org/maslow.html.

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.[8]

Primary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants, focus group participants, and survey respondents:	
Key Informant and Focus Group Responses	Service Provider Survey Responses
Housing • Access to adequate, safe, and affordable housing. • A need for workforce housing. Those that serve the county must often commute to work in the county. • A need for "universal design housing." • Gentrification of many neighborhoods. • Devaluing of properties in highly ethnically diverse communities. • Supportive housing for those with behavioral health challenges. Economic and Education Inequities • The working poor and those with middle incomes are getting left behind in care. • Employers unwilling to pay a livable wage for workers to live in Marin County. • Financial instability results in not accessing care in a timely manner. • Access to quality affordable education. • The people who remain unemployed have significant barriers physically and mentally • Inequities are clear in Marin County between those that have economic stability and those that do not. • There is a real lack of workforce to support the aging population in Marin. • Economic insecurity affects housing stability.	• Lack of affordable housing is a significant issue in the area. • It is difficult to find affordable childcare. • The area needs additional low-income housing options. • Many people in the area do not make a living wage. • Many residents struggle with food insecurity. • Services are inaccessible for Spanish-speaking and immigrant residents. • Services for homeless residents in the area are insufficient. • Employment opportunities in the area are limited. • Poverty in the county is high.

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[8] Robert Wood Johnson Foundation, and University of Wisconsin, 2022. Research Articles. Retrieved 31 Jan 2022 from http://www.countyhealthrankings.org/learn-others/research-articles#Rankingsrationale.

Primary Data Analysis
The manner in which the health need appeared or was expressed in the community was described as follows by key informants, focus group participants, and survey respondents:

Key Informant and Focus Group Responses	Service Provider Survey Responses
- Bilingual, bicultural, culturally-competent, culturally-sensitive staff in the health and social sectors. - More family support systems needed - affordable childcare, access to early education (pre-school). Homelessness - Lack of services for homeless people who are aging and/or have dementia. - Lack of services for homeless people that are undocumented. - Lack of services for homeless families. - Training needed to support empathetic engagement for those chronically homeless with mental illness. - Emergency shelters are needed; demand consistently exceeds availability. Access to Healthy Food - Marginalized populations lack access to healthy food. - Food insecurity in older adults.	Educational attainment in the area is low.

Secondary Data Analysis
The following indicators performed worse in Marin County when compared to state averages:
- Medically Underserved Area   - Colon Cancer Screening   - Income Inequality   - Long Commute - Driving Alone

2. Access to Mental/Behavioral Health and Substance Use Services

Individual health and well-being are inseparable from individual mental and emotional outlook. Coping with daily life stressors is challenging for many people, especially when other social, familial, and economic challenges occur. Access to mental, behavioral, and substance use services is an essential ingredient for a healthy community where residents can obtain additional support when needed.

Primary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants, focus group participants, and survey respondents:	
Key Informant and Focus Group Responses	Service Provider Survey Responses
Substance use • Higher rates of substance abuse than most other counties. • Increased opioid and alcohol usage in the county. • Deaths due to overdoses are becoming endemic to the county. Substance use care • Lack of substance use recovery centers in the county. • Substance use treatment for non-English speakers in the county is limited. • Wait times for recovery services are long. • County Behavioral Health Recovery Services don't comprehensively address substance use disorders. • Detox beds in the county are limited, resulting in the use of the emergency room for detoxing. • Need for more trained behavioral health staff in the county. • Many behavioral health providers are not interested in coming to Marin County as reimbursement rates are low • Need for full access reimbursement for behavioral telehealth. Homelessness and mental health • Lack of services for homeless with severe mental illness. Youth and mental health • Youth mental health services are limited in the county.	• The stigma around seeking mental health treatment keeps people out of care. • There aren't enough mental health providers or treatment centers in the area (e.g., psychiatric beds, therapists, support groups). • It's difficult for people to navigate for mental/behavioral healthcare. • Substance-abuse is a problem in the area (e.g., use of opiates and methamphetamine, prescription misuse). • The cost for mental/behavioral health treatment is too high. • Additional services specifically for youth are needed (e.g., child psychologists, counselors, and therapists in the schools). • Treatment options in the area for those with Medi-Cal are limited. • Substance-abuse is an issue among youth in particular. • There are too few substance-abuse treatment services in the area (e.g., detox centers, rehabilitation centers). • Awareness of mental health issues among community members is low. • Additional services for those who are homeless and experiencing mental/behavioral health issues are needed.

Primary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants, focus group participants, and survey respondents:	
Key Informant and Focus Group Responses	Service Provider Survey Responses
- Youth mental health treatment is often outsourced to other counties. - Socio-emotional well-being among youth is very compromised right now due to COVID-19. - High rates of eating disorders and substance use across all income levels among youth. - More licensed psych facilities are needed, especially for youth. Access to mental health care - Need to build collective competency around mental health using a service integrated approach. - Increased investment in prevention and early intervention efforts. - Mobile mental health crisis resources in the county are inadequate. - Most patients with dual diagnosis of substance use and mental illness are outsourced to other counties for care. - Inadequate mental and behavioral health services in the county results in patients coming to the emergency room. - Emergency room hospital staff lack core competencies to take care of people with complex mental health disorders. - Need for more health navigators in the emergency rooms. Demand for health navigators outweighs current availability. - Change the stigma of mental health in the community.	- Substance-use treatment options for those with Medi-Cal are limited. - Mental/behavioral health services are available in the area, but people do not know about them. - The area lacks the infrastructure to support acute mental health crises. - The use of nicotine delivery products such as e-cigarettes and tobacco is a problem in the community. - There are substance-abuse treatment services available here, but people do not know about them. - There aren't enough services here for those who are homeless and dealing with substance-abuse issues.

Secondary Data Analysis
The following indicators performed worse in Marin County when compared to state averages:
• Suicide Mortality • Excessive Drinking • Medically Underserved Area • Juvenile Arrest Rate • Income Inequality

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	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants, focus group participants, and survey respondents:	
Key Informant and Focus Group Responses	Service Provider Survey Responses
Underinsured residents • Medi-Cal patients are not admitted quickly for the extent of care needs they have. • Lack of primary care for lower income families on Medi-Cal. • Many patients are treated quickly in the emergency room, and then released only to return multiple times. • Homeless individuals have clear lack of access to primary care. Barriers to primary care • Access to primary care in the county is expensive for many. • Lack of adequate transportation a major barrier to access care. • More resources needed in the county to identify health issues in early childhood and youth.	• Out-of-pocket costs are too high. • Patients have difficulty obtaining appointments outside of regular business hours. • Primary care services are available but are difficult for many people to navigate. • The quality of care is low (e.g., appointments are rushed, providers lack cultural competence).

Primary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants, focus group participants, and survey respondents:	
Key Informant and Focus Group Responses	Service Provider Survey Responses
• Increased need to make primary care more accessible via telehealth. • Wait times are long across the county for primary care. • Primary care providers are retiring in record numbers post COVID-19, reducing the number of providers in the county even further. • Lack of access to a primary care doctor is a reason many youth are not yet COVID vaccinated • Lack of access to pharmacists and pharmacies in the county. Solutions to improve primary care access • Increase bilingual/bicultural primary care providers. • Expand local FQHC and community clinic capacity to reduce burden on emergency department usage for primary care. • Engage young bilingual members of community to go into healthcare professions to help meet the need for culturally sensitive care. • County lacks school health model, no federally qualified health centers (FQHC) at any county schools. • Establish a volunteer transportation network to get people to care, similar to that in Sonoma County.	• There aren't enough primary care service providers in the area. • Wait-times for appointments are excessively long.

Secondary Data Analysis
The following indicators performed worse in Marin County when compared to state averages:
• Cancer Mortality • Alzheimer's Disease Mortality • Influenza and Pneumonia Mortality • Breast Cancer Prevalence • Medically Underserved Area • Colon Cancer Screening • Income Inequality

4. 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."[9] Assuring that community members have ways to connect with each other through programs, services, and opportunities is important in fostering a healthy community. Further, 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
The manner in which the health need appeared or was expressed in the community was described as follows by key informants, focus group participants, and survey respondents:

Key Informant and Focus Group Responses	Service Provider Survey Responses
Culturally appropriate connections • Care centers at every school with race and cultural representation will increase connection of communities to care. • Increased need for coordinated culturally appropriate community opportunities. • Building relationships with the community to provide access to traditional healing approaches for those most vulnerable, especially the indigenous communities. Senior connection • Community opportunities for seniors to conjoin, exercise, and socialize. Community • Create more connection with the community to increase awareness of what services are available in the county.	• Building community connections doesn't seem like a focus in the area. • Health and social-service providers operate in silos; cross-sector connections needed. • City and county leaders need to work together. • Relations between law enforcement and the community need to be improved. • There isn't enough funding for social services in the county. • People in the community face discrimination from local service providers.

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[9] Robert Wood Johnson Foundation. 2016. Building a Culture of Health: Sense of Community. Retrieved 31 Jan 2022 from https://www.rwjf.org/en/cultureofhealth/taking-action/making-health-a-shared-value/sense-of-community.html

Primary Data Analysis	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants, focus group participants, and survey respondents:	
Key Informant and Focus Group Responses	Service Provider Survey Responses
• Not in my backyard (NIMBY) is very prominent in the county. • Clear communication with the community about the needs and what is being done to address them results in creating a "caring community." • Use an intersectional lens and find a way to collaborate together on all of the 'isms' using a disability justice framework. • More resources are needed for case management to place those coming out of jail with medical needs, instead of sending them to the hospitals.	• The community needs to invest more in the local public schools.

Secondary Data Analysis
The following indicators performed worse in Marin County when compared to state averages:
• Suicide Mortality • Unintentional Injuries Mortality • Excessive Drinking • Medically Underserved Area • Juvenile Arrest Rate • Income Inequality • Long Commute - Driving Alone

5. Access to Functional Needs

Functional needs refers to an individual's access to adequate transportation 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	
The manner in which the health need appeared or was expressed in the community was described as follows by key informants, focus group participants, and survey respondents:	
Key Informant and Focus Group Responses	Service Provider Survey Responses
Serving those with disabilities • Lack of services for disabled people who are homeless. • Need more supportive services for those with physical disabilities. • Increased need to use a Universal Design concept from a disability justice framework for transportation in the county. Transportation barriers • Increased transportation to services in county is needed. • High bridge tolls are a barrier to access care. • Marin County public transportation needs to be better coordinated with health and social services. • The bus system in the county is inconsistent. • Transportation problems cause people to avoid follow up care. • Transportation problems result in a fairly high cancellation rate for many providers. Built environment • Assure all sidewalks have "Curb Cut" for increased accessibility • The county is hugely car dependent and many area leaders have negative attitudes about investing in more public transit in a region that identifies as rural. • A lot of older adults live on hills with lots of steps, as their mobility declines they become more isolated.	• Many residents do not have reliable personal transportation. • Public transportation is more difficult for some residents to use (e.g., non-English speakers, seniors, parents with young children). • The geography of the area makes it difficult for those without reliable transportation to get around.

Secondary Data Analysis
The following indicators performed worse in Marin County when compared to state averages:
• Income Inequality • Long Commute - Driving Alone

Other Health Needs - Transforming Marin

Key informant and focus group participants spoke about the need for a transformation in the approach that health, social and educational partners work together in Marin County. Though not listed as a significant priority health as it emerged from only the primary data, the mention was so pervasive in the key informant interviews and the focus group that it is detailed here.

Below is a list of some key themes mentioned related to transforming Marin County:

- Reducing historical racial stigma associated with mental health and violence in the county is greatly needed to improve the quality of life of the county's most vulnerable residents.
- The segregation of resources is clearly defined between the haves and have nots, and it's often divided along racial lines.
- Consolidate and combine efforts to address the health workforce shortage in Marin County.
- Reduce the division between those that have high financial resources and those that lack such financial resources.
- Care providers (mental health, social service, health care) working out of silos on key initiatives to improve the health of the community.
- Marin County is unwelcoming to diverse groups and those with lower levels of financial security.
- Utilize resources to "de-silo" social justice movements in the county.
- Fear of losing power keeps organizations from engaging in strategic collaborative work, which keeps the community unhealthy and unwell.
- Deconstruct the historical and normative practices that have been used for many years, which still create great division between the resources and care that community members need.
- Need for an intersectoral/collective impact approach to health strategies, combined with a better definition of equity, something that's actionable.

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.[10] 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 data analysis section of this report.

Public Comments from Previously Conducted CHNAs

Regulations require that nonprofit hospitals include written comments from the public on their previously conducted CHNAs and most recently adopted implementation strategies. Both MarinHealth Medical Center and Novato Community Hospital requested written comments from the public on its 2019 CHNA and most recently adopted Implementation Strategy through their respective websites.

At the time of the development of this CHNA report, both MarinHealth Medical Center and Novato Community Hospital received no written comments. However, input from the broader community was incorporated in the 2022 CHNA through key informant interviews, a focus group, and the Service Provider survey. MarinHealth Medical Center and Novato Community Hospital will continue to use their respective websites 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 12 small group interviews with 32 community health experts, 1 focus group conducted with a total of 4 community residents or community-facing service providers, and 25 responses to the Service Provider survey. A full listing of all participants can be seen in the data analysis section of this report.

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[10] Robert Wood Johnson Foundation, and University of Wisconsin, 2021. County Health Rankings Model. Retrieved 31 Jan 2022 from http://www.countyhealthrankings.org/.

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 Marin County 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 SHNs. Additionally, socioeconomic indicators were collected to help describe the overall social conditions In Marin County. 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, exercise, and tobacco, alcohol, and drug use; 2) clinical care, including access to quality care; 3) social and economic factors such as race/ethnicity, income, educational attainment, employment, neighborhood safety, and similar; and 4) physical environment measures, such as air and water quality, transit and mobility resources, and housing affordability. In all, 91 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 SHNs for Marin County. This included identifying 12 PHNs in these communities. These PHNs were those identified in previously conducted CHNAs.[11] Data were analyzed to discover which, if any, of the PHNs were present in Marin County. This identification occurred by coding (assigning) data to each health need and setting minimal thresholds for each health need described further below[12]. Tables 26 – 37 provide the coding mechanism used for both primary theme associations and secondary indicators to each specific PHN. After these were identified, health needs were prioritized based on an analysis of primary data sources that described the PHN as a SHN. 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 data analysis section of this report.

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[11] Descriptions of each of these PHNs can be found in Appendix A, Table 25.

[12] Criteria set for the determination of a significant health need for this assessment included two of the three following conditions:50% of the associated quantitative indicators were identified as performing poorly; 50% or more of the primary sources as performing poorly; and/or if it at least 40% of survey respondents indicated it was a need.

Description of Community Served

Marin County is the defined service area for the collaborative partners of this CHNA. Marin County includes the cities of; Belvedere, Corte Madera, Fairfax, Larkspur, Mill Valley, Novato, Ross, San Anselmo, San Rafael (the county seat), Sausalito, Tiburon, and the coastal towns of Stinson Beach, Bolinas, Point Reyes, Inverness, Marshall, and Tomales.

Marin County covers 520 square miles, much of which is preserved as parks, tidelands, and agricultural areas. Among them are the Point Reyes National Seashore, Mount Tamalpais State Park and Game Refuge and Samuel P. Taylor State Park. A large part of the population lives along the Highway 101 corridor, dividing the county into a more urban environment in the eastern part of the county , and more rural environment along the coast and the western side of the county. The county is home to San Quentin State Prison, a maximum security prison, located in the eastern portion of the county. Marin County has the 6th largest income per capita of all counties in the USA, yet areas of the county have large proportions of economically vulnerable populations which include Novato, Marin City, the communities of West Marin, and portions of San Rafael, to name a few.

The total population of Marin County was 259,943[13]. Marin County is shown in Figure 2 (following page) and consists of 30 ZIP Codes.

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[13] Source for this data is 2019 American Community Survey 5-year estimates; U.S. Census Bureau The assessment team choose to use this as 2019 census data was used for all rate calculations for this assessment.

Figure 2: Marin County

Table 2: Population characteristics for each ZIP Code located in Marin County.

ZIP Code	Total Population	% Non-White or Hispanic\Latinx	Median Age (yrs.)	Median Income	% Poverty	% Unemployment	% Uninsured	% Without High School	% With High Housing Costs	% With Disability
94901	41,713	46.2	39.2	$90,440	14.3	3.4	7.3	17.7	42	7.5
94903	30,427	31.3	47.1	$105,783	6.6	5.1	4.6	6	40.7	11.4
94904	12,994	22.2	47.7	$139,500	6.8	2.9	1.4	3.1	35.9	9.4
94920	12,740	16.4	51.1	$165,807	3.1	4.3	1.9	0.8	35.3	9.2
94924	1,127	14.4	62.2	$68,250	18.7	3.2	2.4	0.7	40.5	9.7
94925	9,838	21.5	46.5	$149,439	3.5	5.5	1.2	0.6	37.9	8.7
94929	254	17.7	38.9	$119,706	0	9.4	5.1	0	54.2	10.2
94930	8,728	16.9	48.2	$105,219	4.9	3.1	2.7	3.9	39	9.8
94933	837	43.8	40.8	$91,384	27.2	0	5.7	9.6	28.9	7.9
94937	742	14.6	61.8	$87,273	6.9	4.5	13.6	12.6	41.6	5.7
94938	920	4.5	40.8	$126,429	7.3	6	1.1	0	52.1	12.4
94939	6,747	12.5	48.9	$119,158	5.9	3.3	3.6	1.5	39.1	7
94940	287	28.9	63.2	$107,625	2.8	0	0	0	41.6	9.8
94941	32,009	17.3	47.7	$152,125	4.6	2.8	0.9	1.7	33.5	8.7
94945	19,043	32.8	47.3	$120,020	8.8	3.6	4.7	9.6	36.7	9.3
94946	658	16.9	57.8	$140,625	4.9	1.8	0.5	6.5	31.5	6.2
94947	25,867	32.1	48.1	$110,274	5.4	2.8	2.8	6.4	39.4	10
94949	18,695	39.2	46.6	$93,580	5.6	5.1	4.5	4.9	44.7	9.1
94950	123	13.8	48.4	~	13.8	0	0	0	25.5	20.3
94952	35,503	26.2	43.5	$88,848	7.1	4.1	4.4	8.7	36.6	9.5
94956	1,146	8.8	56.4	$74,926	9	1.5	1.6	5.3	43.4	10.6
94957	1,219	12.2	49.1	$250,001	7.4	5.1	1.1	8.6	23	8.6
94960	15,868	13.8	47.5	$133,381	3.1	4.5	1.4	3	38.6	7.8
94963	404	4	40.3	$118,272	9.9	0	2.5	7.2	48.1	10.9
94964	3,155	79.1	35	~	0	0	0	35.9	77.1	29.2
94965	11,394	27.9	51.5	$105,391	8.8	2.9	2.3	2.7	40.7	10.9
94970	698	9.6	60.2	$121,071	5.6	1.8	4	1	34.2	0.9
94971	226	12.8	62.3	~	3.1	0	0	0	37.9	3.1
94972	25	0	~	~	0		0	52	0	0
94973	1,228	4.6	64.1	$56,379	8.3	5.6	2.9	5.3	40.8	13
County	259,943	28.8	46.8	$115,246	7.2	3.7	3.5	6.7	38.9	9.1

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

~ Data not available.

Population characteristics for each of the 30 ZIP Codes in Marin County 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..

Population race and ethnicity data for the counties in the service area are shown in Table 3.

Table 3: Percent race and ethnicity profile for Marin County.

Race or Ethnic Group	Marin Percent of Population
Hispanic or Latinx	16%
White	71.2%
Black or African American	2.1%
American Indian and Alaska Native	0.2%
Asian	5.8%
Native Hawaiian and Other Pacific Islander	0.1%
Some other race	0.9%
Two or more races	3.8%

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

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."*[14]

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."[15]

In the US, and many parts of the world inequities are most apparent when comparing various racial and ethnic groups to one another. Using these comparisons between racial and ethnic populations, it's clear that health inequities persist across communities, including in Marin County. 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 prevention interventions.

Health Outcomes - The Result of Inequity

The table on the next page displays disparities among race and ethnic groups for Marin County for life expectancy, mortality, and low birthweight.

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[14] Robert Wood Johnsons Foundation. 2017. What is Health Equity? And What Difference Does a Definition Make?. Health Equity Issue Brief #1. Retrieved 31 Jan 2022 from https://buildhealthyplaces.org/content/uploads/2017/05/health_equity_brief_041217.pdf .

[15] Center for Disease Control and Prevention. 2008. Health Disparities Among Racial/Ethnic Populations. Community Health and Program Services (CHAPS): Atlanta: U.S. Department of Health and Human Services.

Table 4: Health outcomes comparing race and ethnicity in Marin County.

Health Outcomes	Description	Asian	Black	Hispanic	White	Overall
Life Expectancy	Average number of years a person can expect to live.	90.3	78.4	88.1	85.4	85.4
Child Mortality	Number of deaths among children under age 18 per 100,000 population.	~	~	18.6	13.6	15.3
Premature Age-Adjusted Mortality	Number of deaths among residents under age 75 per 100,000 population (age-adjusted).	111.8	389.4	136.4	162.9	166.8
Premature Death	Years of potential life lost before age 75 per 100,000 population (age-adjusted).	2,042.4	7,437.7	3,125.8	3,105	3,239
Low Birthweight	Percentage of live births with low birthweight (< 2,500 grams).	7.6%	10.6%	6.1%	5.4%	5.9%

~ Data Not Available.

Data was not available for any of the listed health outcomes for American Indian/Alaska Native

Data sources are listed in Appendix A Table 23.

The Black population in Marin County had the lowest life expectancy, highest premature age-adjusted mortality, highest premature death, and highest percent of babies born low birth weight, compared to any other race/ethnic group. The Black population in Marin had a premature age-adjusted death rate and premature deaths (YPLL) more than twice that of all other groups.

Health Factors - Inequities in Marin County

Inequalities can be seen in data that help describe health factors in Marin County, such as education attainment and income. These health factors are displayed in the table on the following page and are compared across race and ethnic groups. Additionally, data for school suspensions by race/ethnicity and the student/teacher diversity gap is provided.

Table 5: Health factors comparing race and ethnicity in Marin County.

Health Factors	Description	American Indian\ Alaska Native	Asian	Black	Hispanic	White	Overall
Some College[a]	Percentage of adults ages 25 and over with some post-secondary education.	53.1%	82.6%	64.1%	46.3%	89.4%	82.8%
High School Completion[a]	Percentage of adults ages 25 and over with at least a high school diploma or equivalent.	77.7%	92.8%	84%	67%	97.8%	93.3%
Third Grade Reading Level	Average grade level performance for 3rd graders on English Language Arts standardized tests.	~	3.5	~	2.5	3.7	3.3
Third Grade Math Level	Average grade level performance for 3rd graders on math standardized tests.	~	3.5	~	2.3	3.5	3.2
Children in Poverty	Percentage of people under age 18 in poverty.	~	12.6%	8.9%	22.3%	2.4%	7.2%
Median Household Income	The income where half of households in a county earn more and half of households earn less.	~	$107,849	$48,602	$67,125	$126,501	$112,069
Uninsured Population[b]	Percentage of the civilian non-institutionalized population without health insurance.	12.6%	2.8%	6.8%	12.4%	1.6%	3.5%

~ Data Not Available

Unless otherwise noted, data sources are listed in Appendix A Table 23.

[a]From 2019 American Community Survey 5-year estimates tables B15002, C15002B, C15002C, C15002D, C15002H, and C15002I.

[b]From 2019 American Community Survey 5-year estimates table S2701.

Health factor data showed the Hispanic population having lower high school completion rates, lower college rates, lower third grade reading and math levels, a higher percentage of the population living in poverty and the highest uninsured population in comparison to all other race and ethnic groups. Data on median income reveled the lowest median income was among the Black population in Marin County despite higher levels of educational attainment and some college than Hispanic/Latino.

Further examination of health and social equity data includes the indicators of suspension rate by race/ethnicity and the Marin County teacher/student diversity gap. Data in Table 6 reveals that Black or African American student suspension rates in Marin County schools are twice that of any other group. Further the diversity gap, shown in Table 7, between teachers of color to that of students of color in Marin County schools is 32%.

Table 6: Suspension rate by race/ethnicity for Marin County schools

Race/Ethnic Group	2018 - 2019
American Indian or Alaska Native	0.8
Asian	1.1
Black or African American	10.4
Filipino	1.8
Hispanic or Latino	3.7
Native Hawaiian or Pacific Islander	4.5
None Reported	1.9
Two or More Races	2
White	1.8

Source: EdData: Education Data Partnership. Marin County. Retrieved from http://www.ed-data.org/ShareData/Html/51187 on 26 March 2022.

Table 7: Marin County teacher/student diversity gap.

Credentialed Teachers of Color	All Students of Color	Gap
11%	43%	32%

Source: Marin Promise Partnership. 2021. Students and Educators of Color in Marin County. Retrieved from https://www.marinpromisepartnership.org/students-educators-of-color/ on 25 May 2022

Population Groups Experiencing Disparities

The figure below describes populations in Marin County 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 where participants mentioned a population more than five times. 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.
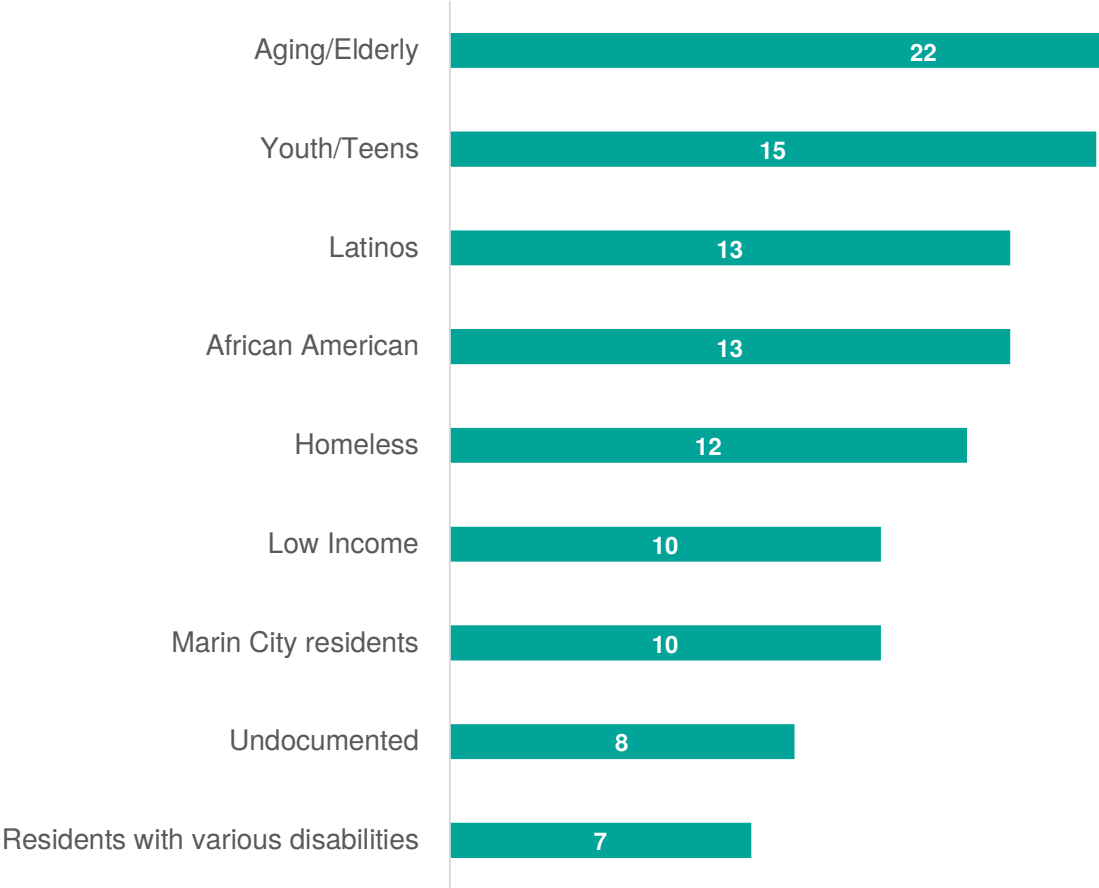
Frequency of Mentions in Interviews

Population	Mentions
Aging/Elderly	22
Youth/Teens	15
Latinos	13
African American	13
Homeless	12
Low Income	10
Marin City residents	10
Undocumented	8
Residents with various disabilities	7

Figure 3: Populations experiencing disparities in Marin County.

California Healthy Places Index

Figure 4 displays the California Healthy Places Index (HPI)[16] values for Marin County. The HPI is an index based on 25 health-related measures for communities across California. These measures included in the HPI were selected based on their known relationship to life expectancy and other health outcomes. These values are combined into a final score representing the overall health and well-being of the community which can then be used to compare the factors influencing health between communities. Higher HPI index values are found in communities with a collection of factors that contribute to greater health, and lower HPI values are found in communities where these factors are less present.
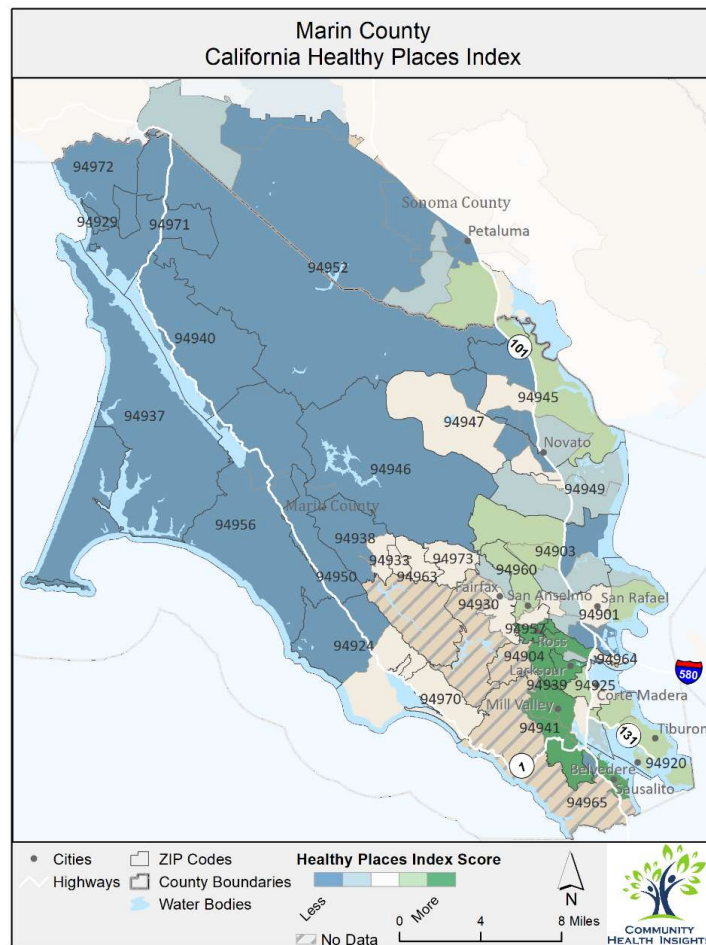

Figure 4: Healthy Places Index for Marin.

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

Areas with the darkest blue shading in Figure 4 have the lowest overall HPI scores, indicating factors leading to less healthy neighborhoods These areas are clearly in the western portions of Marin County, areas of San Rafael, the area of Marin City, and Novato. There are likely to be a higher concentration of residents in these locations experiencing health disparities.

Communities of Concern

Communities of Concern are geographic areas within Marin County 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 county 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 data analysis section of this report for an in-depth description of how these are identified). Analysis of both primary and secondary data revealed 12 ZIP Codes that met the criteria to be classified as Communities of Concern. These are noted in Table 8, with the census population provided for each, and are displayed in Figure 5.

Table 8: Identified Communities of Concern for Marin County.

ZIP Code	Community\Area	Population
94901	San Rafael - Canal District	41,713
94903	San Rafael	30,427
94945	Novato	19,043
94947	Novato	25,867
94965	Marin City	11,394
94924	West Marin - Bolinas, Five Brooks, Woodville	1,127
94929	West Marin - Dillion Beach	254
94937	West Marin – Inverness, Seahaven	742
94940	West Marin - Marshall	287
94971	West Marin - Valley Ford; Tomales Bay	226
94950	West Marin - Point Reyes Station	123
94956	West Marin - Point Reyes Station, Inverness	1,146
Total Population in Communities of Concern		*132,349*
Total Population in Marin County Service Area		*294,615*
Percentage of Marin County Service Area Population in Communities of Concern		*44.9%*

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

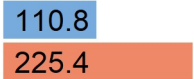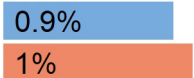Figure 5 displays the ZIP Codes highlighted in pink that are Communities of Concern for Marin County.
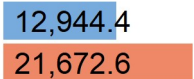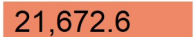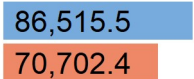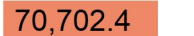

Figure 5: Marin Communities of Concern.

The Impact of COVID-19 on Health Needs

COVID-19 related health indicators for Marin County are noted in Table 9.

Table 9: COVID-19-related rates for Marin County.

Indicators	Description	Marin	California	
COVID-19 Mortality	Number of deaths due to COVID-19 per 100,000 population.	110.8	225.4	Marin: 110.8 California: 225.4
COVID-19 Case Fatality	Percentage of COVID-19 deaths per laboratory-confirmed COVID-19 cases.	0.9%	1.0%	Marin: 0.9% California: 1%
COVID-19 Cumulative Incidence	Number of laboratory-confirmed COVID-19 cases per 100,000 population.	12,944.4	21,672.6	Marin: 12,944.4 California: 21,672.6
COVID-19 Cumulative Full Vaccination Rate	Number of completed COVID-19 vaccinations per 100,000 population.	86,515.5	70,702.4	Marin: 86,515.5 California: 70,702.4

COVID-19 data collected on 11 April 2022

COVID-19 data related to mortality, cumulative incidence, and vaccination rates at the county aggregate level show that Marin County fairs well in all four areas in comparison to state rates. Marin County has lower COVID-19 death rates, a lower case fatality rate, lower cumulative incidence rate, and a higher full vaccination rate than the state of California. Table 10 (next page) shows how COVID-19 cases, deaths, and hospitalizations varied in Marin County between groups defined by race/ethnicity, age, and sex.

Table 10: Marin County COVID-19 outcomes by race/ethnicity, age, and gender.

	Avg. Population	Percent of Total Cumulative Incidence	Percent of Total Deaths	Percent of Total Hospitalized
White	71%	49.0%	74.1%	56.7%
Hispanic/ Latinx	16%	37.0%	13.4%	26.8%
Multiracial or Other	4%	7.1%	3.1%	5.7%
Asian	6%	4.3%	4.9%	5.6%
Black/ African American	3%	2.6%	4.5%	5.2%
Age 0-11	13%	13.0%	0.0%	0.8%
Age 12-18	7%	11.5%	0.0%	0.5%
Age 19-34	16%	24.3%	0.0%	5.8%
Age 35-49	16%	22.6%	3.3%	15.0%
Age 50-64	23%	17.5%	7.1%	25.4%
Age 65-74	14%	6.1%	18.0%	20.6%
Age 75-89	10%	4.1%	41.8%	23.5%
Age 90+	1%	1.0%	29.7%	8.4%
Female	51%	50.9%	47.3%	42.3%
Male	49%	49.1%	52.7%	57.7%

COVID-19 cumulative incidence, deaths and hospitalizations by race and ethnicity, age, and sex show inequities. Specifically, the Hispanic/Latinx population represent only 16% of the county population, yet 37% of all cases and 26.8% of hospitalizations. Additionally, Black/African American county members represent a greater percentage of deaths (4.5%) and hospitalizations (5.2%), than their representation of 3% of the county population.

Key informants and focus group participants were asked how the COVID-19 pandemic had impacted the health needs they described during interviews. Service Provider survey respondents were also asked to identify ways in which COVID-19 impacted health needs in the communities they served. A summary of their responses is shown in Table 11.

Table 11: The impacts of COVID-19 on health needs as identified in primary data sources.

Key Informant and Focus Group Responses
• People came together to serve vulnerable populations, especially seniors.
• There were pockets of people not accessing the care they needed.
• Many people could not get care because the clinics were shut down.
• COVID-19 has shown us where the gaps in care are for some populations.

Key Informant and Focus Group Responses

- Cases surged in certain communities like the Latinx community.
- Essential workers were unable to work from home and often didn't have sick leave offered at their jobs, which contributed to economic hardship.
- Living conditions contributed to the rapid spread of COVID-19, such as low-income families sharing the same household and not being able to isolate a sick household member.
- COVID-19 created economic hardship, especially for those already struggling before the pandemic.
- Exacerbation of pre-existing conditions. COVID-19 made everything worse.
- COVID-19 pulled the curtain back on the sharp inequities that exist.
- A switch to telemedicine created easier access to access care for some people, but for those that struggle with computer literacy like the elderly, it was difficult to use.
- Community service organizations were forced to provide services differently.
- There was a big push to get people out of jails during COVID-19, which changed prosecution policies, especially on chronic homeless. They are going to jail less, but also getting less services.
- COVID-19 created a major workforce problem – healthcare workers were exhausted and there was a lot of burnout and people left.
- Youth development has been delayed.
- There was an acceleration of social media use by youth.
- Higher mental health needs for students and families during the pandemic.
- Suicidal ideation among youth increased.
- Families struggled to find childcare during the pandemic.
- The digital divide was exposed during the pandemic – you saw kids without devices or internet connectivity.
- Some kids did not have adult oversight for their online learning and fell behind.
- Isolation in the elderly increased.
- Calls to the County increased for people seeking help paying rent or accessing food.
- Substance use disorder residential treatment programs for Medi-Cal shut down due to COVID-19.
- COVID-19 made poverty and economic need obvious for all to see.
- Shelters shut down and people were left on the streets.
- People delayed accessing healthcare during the pandemic.

Service Provider Survey Responses

- Isolation is harming the mental health of community members.
- Residents encounter economic hardships from lost or reduced employment.
- Residents delay or forgo healthcare to limit their exposure to the virus.

Service Provider Survey Responses
• Youth no longer have ready access to the services they previously received at school (e.g., free/reduced lunch, mental and physical health services).
• Residents in the community are being evicted from their homes.

Resources Potentially Available to Meet the Significant Health Needs

In all, 143 resources were identified in Marin County that were potentially available to meet the identified SHNs. These resources were provided by a total of 79 social service, nonprofit, and governmental organizations, agencies, and programs identified in the CHNA. The resource list is not intended to be comprehensive of all potentially available resources available in Marin County. The resource list contains entries like 211, where a more extensive list of social and community resources can be found. The identification method included starting with the list of resources from the 2019 Marin County CHNA, verifying that the resources still existed, and then adding newly identified resources into the 2022 CHNA report. Examination of the resources revealed the following numbers of resources for each SHN as shown in Table 12.

Table 12: Resources potentially available to meet Significant Health Needs in priority order.

Significant Health Needs (in Priority Order)	Number of Resources
Access to Basic Needs Such as Housing, Jobs, and Food	42
Access to Mental/Behavioral Health and Substance Use Services	22
Access to Quality Primary Care Health Services	15
Increased Community Connections	47
Access to Functional Needs	17
Total Resources	**143**

For more specific examination of resources by SHN and by geographic location, as well as the detailed method for identifying these, see the data analysis section of this report, Appendix B.

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 SHNs identified in the hospital facility's prior CHNA(s) (p. 78969)."[17] Novato Community Hospital invested efforts to address the SHNs identified in the prior CHNA. Appendix C includes details of those efforts.

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

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 and are county level data. County level data masks what is occurring at the local level in Marin County and should be interpreted with caution. 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 Service Provider survey. The COVID-19 pandemic made this more challenging as community members were more difficult to recruit for focus groups, especially with new strains of the COVID-19 emerging so frequently. Though an effort was made to verify all resources (assets) through a web search, ultimately some resources that exist in Marin County 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.

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.

2022 CHNA Data Analysis Section

The following section presents a detailed account of data collection, analysis, and results for Marin County.

 Secondary data is reported at the county level and does not represent inequities occurring at the subcounty for many areas and communities in Marin County. Data provided earlier in this report at the ZIP Code and census tract showing clear inequities for many communities of concerns and race/ethnic groups in the county should be considered when interpreting county level data versus the California state benchmark provided in following.

Results of Data Analysis

Compiled Secondary Data
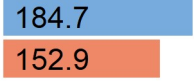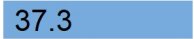
The tables and figures that follow show the specific values for the health need indicators used as part of the health need identification process. Indicator values for Marin County were compared to the California state benchmark and are highlighted below (in grey) when performance was worse in the county than in the state. The associated figures show rates for the county compared to the California state rates. Sources for all indicators that follow are found Appendix A, Tables 23 and 24.
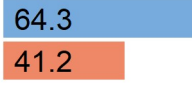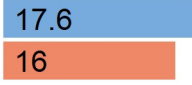
Length of Life

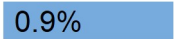*Table 13: County length of life indicators compared to state benchmarks.*

Indicators	Description	Marin	California	
Early Life				
Infant Mortality	Number of all infant deaths (within 1 year), per 1,000 live births.	2.2	4.2	Marin: 2.2 California: 4.2
Child Mortality	Number of deaths among children under age 18 per 100,000 population.	15.3	36.0	Marin: 15.3 California: 36
Life Expectancy	Average number of years a person can expect to live.	85.4	81.7	Marin: 85.4 California: 81.7
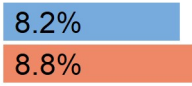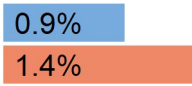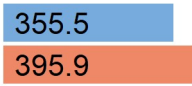
Indicators	Description	Marin	California	
Overall				
Premature Age-Adjusted Mortality	Number of deaths among residents under age 75 per 100,000 population (age-adjusted).	166.8	268.4	Marin: 166.8 California: 268.4
Premature Death	Years of potential life lost before age 75 per 100,000 population (age-adjusted).	3,239.0	5,253.1	Marin: 3,239 California: 5,253.1
Stroke Mortality	Number of deaths due to stroke per 100,000 population.	39.9	41.2	Marin: 39.9 California: 41.2
Chronic Lower Respiratory Disease Mortality	Number of deaths due to chronic lower respiratory disease per 100,000 population.	31.7	34.8	Marin: 31.7 California: 34.8
Diabetes Mortality	Number of deaths due to diabetes per 100,000 population.	13.6	24.1	Marin: 13.6 California: 24.1
Heart Disease Mortality	Number of deaths due to heart disease per 100,000 population.	157.8	159.5	Marin: 157.8 California: 159.5
Hypertension Mortality	Number of deaths due to hypertension per	9.9	13.8	Marin: 9.9 California: 13.8
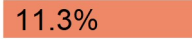
Indicators	Description	Marin	California	
	100,000 population.			
Cancer, Liver, and Kidney Disease				
Cancer Mortality	Number of deaths due to cancer per 100,000 population.	184.7	152.9	Marin: 184.7 California: 152.9
Liver Disease Mortality	Number of deaths due to liver disease per 100,000 population.	8.8	13.9	Marin: 8.8 California: 13.9
Kidney Disease Mortality	Number of deaths due to kidney disease per 100,000 population.	7.5	9.7	Marin: 7.5 California: 9.7
Intentional and Unintentional Injuries				
Suicide Mortality	Number of deaths due to suicide per 100,000 population.	15.4	11.2	Marin: 15.4 California: 11.2
Unintentional Injuries Mortality	Number of deaths due to unintentional injuries per 100,000 population.	37.3	35.7	Marin: 37.3 California: 35.7
COVID-19				
COVID-19 Mortality	Number of deaths due to COVID-19 per 100,000 population.	110.8	225.4	Marin: 110.8 California: 225.4
COVID-19 Case Fatality	Percentage of COVID-19 deaths per laboratory-	0.9%	1.0%	Marin: 0.9% California: 1%
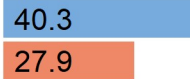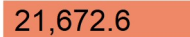
Indicators	Description	Marin	California	
	confirmed COVID-19 cases.			
Other				
Alzheimer's Disease Mortality	Number of deaths due to Alzheimer's disease per 100,000 population.	64.3	41.2	Marin: 64.3 California: 41.2
Influenza and Pneumonia Mortality	Number of deaths due to influenza and pneumonia per 100,000 population.	17.6	16.0	Marin: 17.6 California: 16

Quality of Life

Table 14: County quality of life indicators compared to state benchmarks.
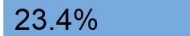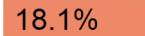
Indicators	Description	Marin	California	
Chronic Disease				
Diabetes Prevalence	Percentage of adults ages 20 and above with diagnosed diabetes.	8.2%	8.8%	Marin: 8.2% California: 8.8%
Low Birthweight	Percentage of live births with low birthweight (< 2,500 grams).	5.9%	6.9%	Marin: 5.9% California: 6.9%
Babies with Very Low Birth Weight	Percentage of births with very low birthweight (<1,500 grams).	0.9%	1.4%	Marin: 0.9% California: 1.4%
HIV Prevalence	Number of people ages 13 years and older living with a diagnosis of human immunodeficiency virus (HIV) infection	355.5	395.9	Marin: 355.5 California: 395.9
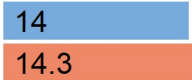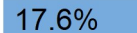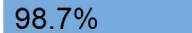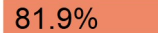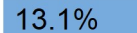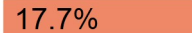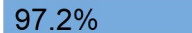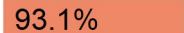
Indicators	Description	Marin	California	
	per 100,000 population.			
Disability	Percentage of the total civilian noninstitutionalized population with a disability	9.1%	10.6%	Marin: 9.1% California: 10.6%
Mental Health				
Poor Mental Health Days	Average number of mentally unhealthy days reported in past 30 days (age-adjusted).	3.6	3.7	Marin: 3.6 California: 3.7
Frequent Mental Distress	Percentage of adults reporting 14 or more days of poor mental health per month (age-adjusted).	10.8%	11.3%	Marin: 10.8% California: 11.3%
Poor Physical Health Days	Average number of physically unhealthy days reported in past 30 days (age-adjusted).	3.3	3.9	Marin: 3.3 California: 3.9
Frequent Physical Distress	Percentage of adults reporting 14 or more days of poor physical health per month (age-adjusted).	9.6%	11.6%	Marin: 9.6% California: 11.6%
Poor or Fair Health	Percentage of adults reporting fair or poor health (age-adjusted).	11.8%	17.6%	Marin: 11.8% California: 17.6%
Cancer				
Colorectal Cancer Prevalence	Colon and rectum cancers per 100,000 population (age-adjusted).	33.1	34.8	Marin: 33.1 California: 34.8
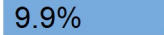
Indicators	Description	Marin	California	
Breast Cancer Prevalence	Female in situ breast cancers per 100,000 female population (age-adjusted).	40.3	27.9	Marin: 40.3 California: 27.9
Lung Cancer Prevalence	Lung and bronchus cancers per 100,000 population (age-adjusted).	33.8	40.9	Marin: 33.8 California: 40.9
Prostate Cancer Prevalence	Prostate cancers per 100,000 male population (age-adjusted).	90.3	91.2	Marin: 90.3 California: 91.2
COVID-19				
COVID-19 Cumulative Incidence	Number of laboratory-confirmed COVID-19 cases per 100,000 population.	12,944.4	21,672.6	Marin: 12,944.4 California: 21,672.6
Other				
Asthma ED Rates	Emergency department visits due to asthma per 10,000 (age-adjusted).	241.0	422.0	Marin: 241 California: 422
Asthma ED Rates for Children	Emergency department visits due to asthma among ages 5-17 per 10,000 population ages 5-17 (age-adjusted).	275.0	601.0	Marin: 275 California: 601

Health Behavior

Table 15: County health behavior indicators compared to state benchmarks.

Indicators	Description	Marin	California	
Excessive Drinking	Percentage of adults reporting binge or heavy	23.4%	18.1%	Marin: 23.4% California: 18.1%
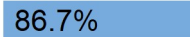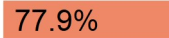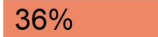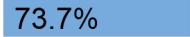
Indicators	Description	Marin	California	
	drinking (age-adjusted).			
Drug Induced Death	Drug induced deaths per 100,000 (age-adjusted).	14.0	14.3	Marin: 14 California: 14.3
Adult Obesity	Percentage of the adult population (age 20 and older) that reports a body mass index (BMI) greater than or equal to 30 kg/m2.	17.6%	24.3%	Marin: 17.6% California: 24.3%
Mothers who Breastfeed	Percentage of mothers who breastfed their new baby after delivery.	98.7%	81.9%	Marin: 98.7% California: 81.9%
Physical Inactivity	Percentage of adults ages 20 and over reporting no leisure-time physical activity.	13.1%	17.7%	Marin: 13.1% California: 17.7%
Limited Access to Healthy Foods	Percentage of population who are low-income and do not live close to a grocery store.	1.7%	3.3%	Marin: 1.7% California: 3.3%
Food Environment Index	Index of factors that contribute to a healthy food environment, from 0 (worst) to 10 (best).	9.2	8.8	Marin: 9.2 California: 8.8
Access to Exercise Opportunities	Percentage of population with adequate access to locations for physical activity.	97.2%	93.1%	Marin: 97.2% California: 93.1%
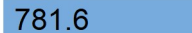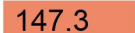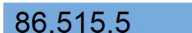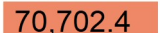
Indicators	Description	Marin	California	
Chlamydia Incidence	Number of newly diagnosed chlamydia cases per 100,000 population.	310.0	585.3	Marin: 310 California: 585.3
Teen Birth Rate	Number of births per 1,000 female population ages 15-19.	6.0	17.4	Marin: 6 California: 17.4
Adult Smoking	Percentage of adults who are current smokers (age-adjusted).	9.9%	11.5%	Marin: 9.9% California: 11.5%

Clinical Care

Table 16: County clinical care indicators compared to state benchmarks.
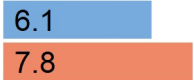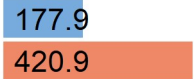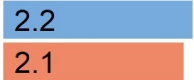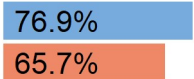
Indicators	Description	Marin	California	
Primary Care Shortage Area	Presence of a primary care health professional shortage area within the county.	No		Marin: No California:
Dental Care Shortage Area	Presence of a dental care health professional shortage area within the county.	No		Marin: No California:
Mental Health Care Shortage Area	Presence of a mental health professional shortage area within the county.	No		Marin: No California:
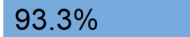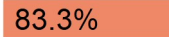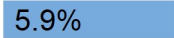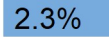
Indicators	Description	Marin	California	
Medically Underserved Area	Presence of a medically underserved area within the county.	Yes		Marin: Yes California:
Mothers who received early prenatal care	Percentage of births to mothers who began prenatal care in the first trimester of their pregnancy.	86.7%	77.9%	Marin: 86.7% California: 77.9%
Mammography Screening	Percentage of female Medicare enrollees ages 65-74 that received an annual mammography screening.	43.0%	36.0%	Marin: 43% California: 36%
Colon Cancer Screening	Percentage of respondents aged 50-75 who have had either a fecal occult blood test in the past year, a sigmoidoscopy in the past five years AND a fecal occult blood test in the past three years, or a colonoscopy exam in the past ten years.	73.7%	74.4%	Marin: 73.7% California: 74.4%
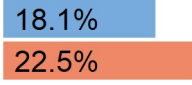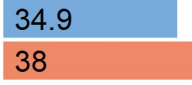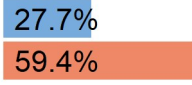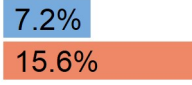
Indicators	Description	Marin	California		
Dentists	Dentists per 100,000 population.	119.0	87.0	Marin:	119
				California:	87
Mental Health Providers	Mental health providers per 100,000 population.	781.6	373.4	Marin:	781.6
				California:	373.4
Psychiatry Providers	Psychiatry providers per 100,000 population.	48.4	13.5	Marin:	48.4
				California:	13.5
Specialty Care Providers	Specialty care providers (non-primary care physicians) per 100,000 population.	388.4	190.0	Marin:	388.4
				California:	190
Primary Care Providers	Primary care physicians per 100,000 population + other primary care providers per 100,000 population.	209.7	147.3	Marin:	209.7
				California:	147.3
Preventable Hospitalization	Preventable hospitalizations per 100,000 (age-sex-poverty adjusted)	501.3	948.3	Marin:	501.3
				California:	948.3
COVID-19					
COVID-19 Cumulative Full Vaccination Rate	Number of completed COVID-19 vaccinations per 100,000 population.	86,515.5	70,702.4	Marin:	86,515.5
				California:	70,702.4
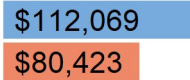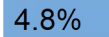
Socio-Economic and Demographic Factors

Table 17: County socio-economic and demographic factors indicators compared to state benchmarks.

Indicators	Description	Marin	California	
Community Safety				
Homicide Rate	Number of deaths due to homicide per 100,000 population.	2.0	4.8	Marin: 2 / California: 4.8
Firearm Fatalities Rate	Number of deaths due to firearms per 100,000 population.	6.1	7.8	Marin: 6.1 / California: 7.8
Violent Crime Rate	Number of reported violent crime offenses per 100,000 population.	177.9	420.9	Marin: 177.9 / California: 420.9
Juvenile Arrest Rate	Felony juvenile arrests per 1,000 juveniles	2.2	2.1	Marin: 2.2 / California: 2.1
Motor Vehicle Crash Death	Number of motor vehicle crash deaths per 100,000 population.	5.2	9.5	Marin: 5.2 / California: 9.5
Education				
Some College	Percentage of adults ages 25-44 with some post-secondary education.	76.9%	65.7%	Marin: 76.9% / California: 65.7%
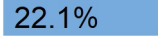
Indicators	Description	Marin	California	
High School Completion	Percentage of adults ages 25 and over with a high school diploma or equivalent.	93.3%	83.3%	Marin: 93.3% California: 83.3%
Disconnected Youth	Percentage of teens and young adults ages 16-19 who are neither working nor in school.	5.9%	6.4%	Marin: 5.9% California: 6.4%
Third Grade Reading Level	Average grade level performance for 3rd graders on English Language Arts standardized tests	3.3	2.9	Marin: 3.3 California: 2.9
Third Grade Math Level	Average grade level performance for 3rd graders on math standardized tests	3.2	2.7	Marin: 3.2 California: 2.7
Employment				
Unemployment	Percentage of population ages 16 and older unemployed	2.3%	4.0%	Marin: 2.3% California: 4%
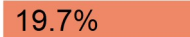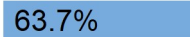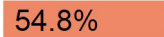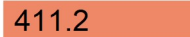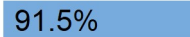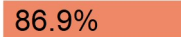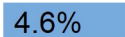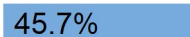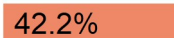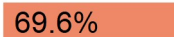
Indicators	Description	Marin	California	
	but seeking work.			
Family and Social Support				
Children in Single-Parent Households	Percentage of children that live in a household headed by single parent.	18.1%	22.5%	Marin: 18.1% California: 22.5%
Social Associations	Number of membership associations per 10,000 population.	9.4	5.9	Marin: 9.4 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.	34.9	38.0	Marin: 34.9 California: 38
Income				
Children Eligible for Free Lunch	Percentage of children enrolled in public schools that are eligible for free or reduced price lunch.	27.7%	59.4%	Marin: 27.7% California: 59.4%
Children in Poverty	Percentage of people	7.2%	15.6%	Marin: 7.2% California: 15.6%

Indicators	Description	Marin	California	
	under age 18 in poverty.			
Median Household Income	The income where half of households in a county earn more and half of households earn less.	$112,069.0	$80,423.0	Marin: $112,069 California: $80,423
Uninsured Population under 64	Percentage of population under age 65 without health insurance.	4.8%	8.3%	Marin: 4.8% California: 8.3%
Income Inequality	Ratio of household income at the 80th percentile to income at the 20th percentile.	5.8	5.2	Marin: 5.8 California: 5.2

Physical Environment

Table 18: County physical environment indicators compared to state benchmarks.

Indicators	Description	Marin	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	22.1%	26.4%	Marin: 22.1% California: 26.4%

Indicators	Description	Marin	California	
	plumbing facilities.			
Severe Housing Cost Burden	Percentage of households that spend 50% or more of their household income on housing.	18.9%	19.7%	Marin: 18.9% California: 19.7%
Homeownership	Percentage of occupied housing units that are owned.	63.7%	54.8%	Marin: 63.7% California: 54.8%
Homelessness Rate	Number of homeless individuals per 100,000 population.	397.0	411.2	Marin: 397 California: 411.2
Households with Internet Access	Percentage of households with an internet subscription	91.5%	86.9%	Marin: 91.5% California: 86.9%
Transit				
Households with no Vehicle Available	Percentage of occupied housing units that have no vehicles available.	4.6%	7.1%	Marin: 4.6% California: 7.1%
Long Commute - Driving Alone	Among workers who commute in their car alone, the percentage that commute more than 30 minutes.	45.7%	42.2%	Marin: 45.7% California: 42.2%
Access to Public Transit	Percentage of population living near a fixed public	75.0%	69.6%	Marin: 75% California: 69.6%

Indicators	Description	Marin	California	
	transportation stop			
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	8.8%	51.6%	Marin: 8.8% California: 51.6%
Air Pollution - Particulate Matter	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5).	6.4	8.1	Marin: 6.4 California: 8.1
Drinking Water Violations	Presence of health-related drinking water violations in the county.	Yes		Marin: Yes California:

Service Provider Survey Results

Table 19: Service Provider survey results for Marin County.

Service Provider Survey Snapshot	Marin County (N=25)	
Health Needs	**% Reporting**
Most Frequently Reported	
Access to Basic Needs	84%
Access to Mental/Behavioral Health and Substance-Abuse Services	76%
Increased Community Connection	76%
System Navigation	76%
Top 3/ Priority *(Most Frequently Reported Characteristics)*	
Access to Basic Needs	80%
Lack of affordable housing is a significant issue in the area.	
It is difficult to find affordable childcare.	
The area needs additional low-income housing options.	
Many people in the area do not make a living wage.	

Service Provider Survey Snapshot | Marin County (N=25)	
Health Needs	**% Reporting**
Access to Mental/Behavioral Health and Substance-Abuse Services	60%
The stigma around seeking mental health treatment keeps people out of care.	
There aren't enough mental health providers or treatment centers in the area (e.g., psychiatric beds, therapists, support groups).	
It's difficult for people to navigate for mental/behavioral healthcare.	
Substance-abuse is a problem in the area (e.g., use of opiates and methamphetamine, prescription misuse).	
System Navigation	40%
Some people just don't know where to start in order to access care or benefits.	
Dealing with medical and insurance paperwork can be overwhelming.	
It is difficult for people to navigate multiple, different health care systems.	
People may not be aware of the services they are eligible for.	

Appendix A: Technical Section of the Report

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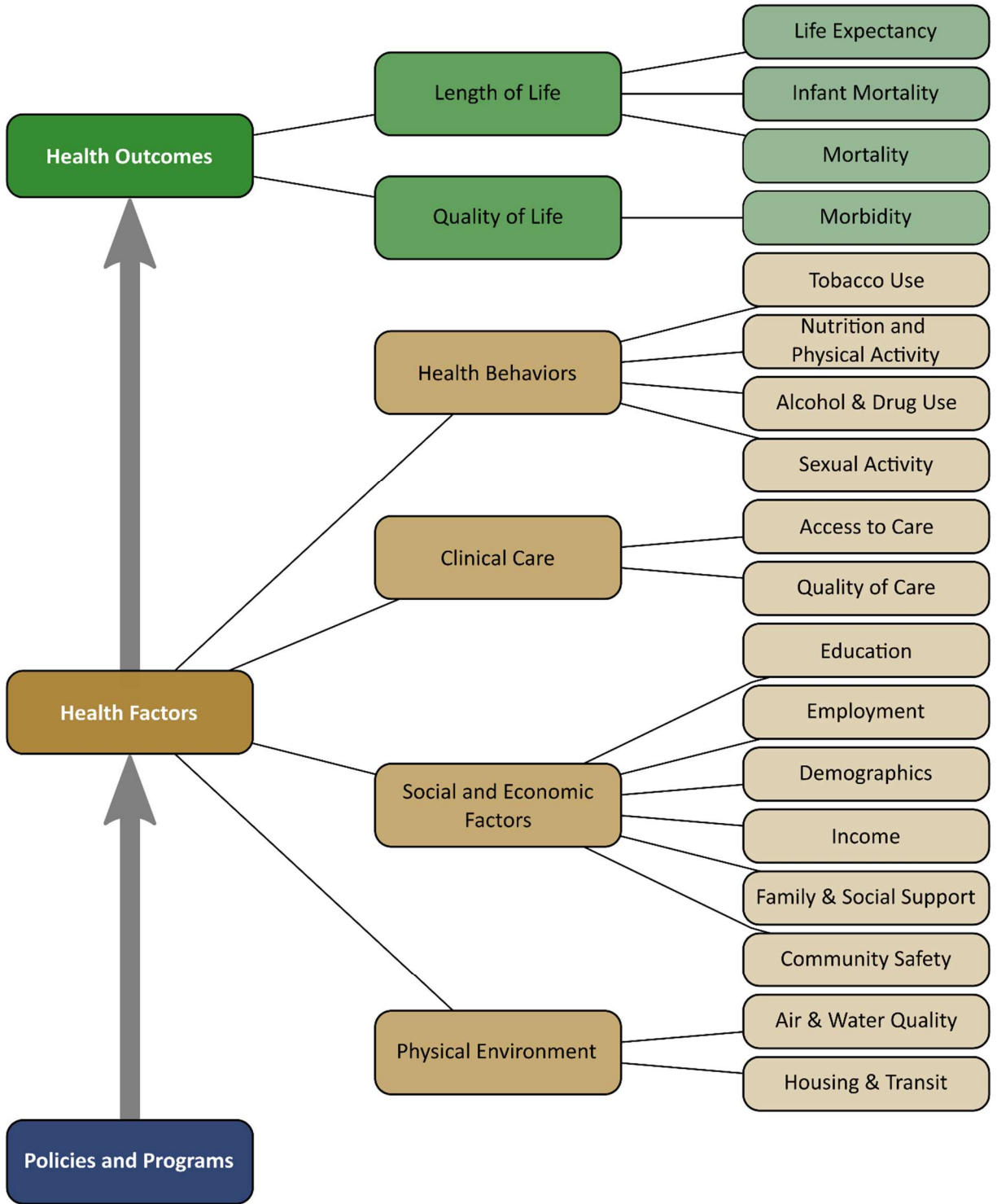
Figure 6: Community Health Assessment Conceptual Model as modified from the County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2015.

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 Marin County 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 (next page) outlines the data collection and analysis stages of this process. The project began by confirming the health service area, which was Marin County, for which the CHNA would be conducted. Primary data collection included key informant interviews and focus groups with community health experts and residents as well as a Service Provider survey. 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 SHNs for Marin County. SHNs 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.

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┌─────────────────────────────────────────────────────────────────────────────┐
│                            Confirm Service Area                              │
└─────────────────────────────────────────────────────────────────────────────┘
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Figure 7: CHNA process model for Marin.

Primary Data Collection and Processing

Primary Data Collection

Input from the community served by Marin County was collected through two main mechanisms. First, key informant interviews were conducted with community health experts and area service providers (e.g., members of social service nonprofit organizations and related healthcare organizations). These interviews occurred in both one-on-one and in group interview settings. Second, a focus group was conducted with community residents that were identified to represent 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

Figure flowchart text:

Confirm Service Area

→ Collect Secondary Data → Previous Communities of Concern → Collect Primary Data

Collect Secondary Data:
- Health Outcomes
- Healthy Places Index (HPI)

Collect Primary Data:
- Key Informant Interviews (Individual and Group)
- Community Service Provider Survey

Health Factors and Outcomes

HSA-Wide Data Analysis

Finalize Communities of Concern: Geographic Locations and Subgroups Experiencing Disparities

Collect Primary Data: Focus Groups with Community Partners and Community Members

Integrate and Analyze All Primary and Secondary Data

Identify and Prioritize Significant Health Needs

- Confirm and Update List of Resources Available to Meet Prioritized Health Needs
- Acquire Hospital Evaluations of Impact and Include in Report
- Collect Written Comments Received by Hospital on Its Previous CHNA

Write Final CHA/CHNA Report

Figure 7: CHNA process model for Marin.

Primary Data Collection and Processing

Primary Data Collection

Input from the community served by Marin County was collected through two main mechanisms. First, key informant interviews were conducted with community health experts and area service providers (e.g., members of social service nonprofit organizations and related healthcare organizations). These interviews occurred in both one-on-one and in group interview settings. Second, a focus group was conducted with community residents that were identified to represent 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. Phase one began by interviewing area-wide service providers with knowledge of Marin County, 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 Marin County to directly point to the geographic locations of these vulnerable communities. Phase two included additional key informant interviews focused on the geographic locations and/or subgroups identified in the earlier phase.

Table 20 contains a listing of community health experts, or key informants, which 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 20: Key informant list.

Organization	Date	Number of Participants	Area of Expertise	Populations Served
West Marin Community Services*	09/22/2021	1	Food pantry, youth services, financial assistance	West Marin, rural population, immigrant, agricultural workers
Marguerita C. Johnson Senior Center*	10/04/2021	1	Senior services	Older Adults, African American, Marin City
Marin County Health and Human Services*	10/19/2021	1	Public Health	Marin County
Marin City People's Plan;	10/20/2021	2	Climate and environmental	Marin City; Marin County; Immigrant, San

Organization	Date	Number of Participants	Area of Expertise	Populations Served
Multicultural Center of Marin*			justice, Marin County	Rafael/Canal, African American
MarinHealth Medical Center Staff	01/11/2022	7	Acute Care Hospital	Marin County
Marin Health and Human Services	01/21/2022	6	Public Health	Marin County
Integrated Community Services	01/31/2022	1	Disability Justice	People with disabilities
Redwood Community Health Coalition	02/14/2022	1	Healthcare	Low-income; Medi-Cal recipients
Behavioral Health Providers: Marin County Behavioral Health and Recovery Services Prevention and Outreach Team; Marin County Suicide Prevention Collaborative; Marin County Probation Department	02/16/2022	3	Behavioral Health	Marin County; schools; youth ages 9- 25; adults and youth using probation services
Novato Community Hospital and Kaiser Permanente Staff	02/25/2022	5	Acute Care Hospital	Marin County
Education Partners: Marin County Office of Education; Marin Promise	02/28/2022	3	Education/schools	K-12 education; higher education

Organization	Date	Number of Participants	Area of Expertise	Populations Served
Partnership; College of Marin				
Marin City Health and Wellness	03/24/2022	1	Healthcare	Low-income; Medi-Cal recipients; Marin City, African American

*interviews provided by Kaiser Permanente, via Harder+Company, for this Marin County CHNA as a part of a data sharing agreement.

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-19 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

The focus group interview was conducted with service providers working in the geographic area of Marin County 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. Though the collaborative team aimed to conduct more focus groups in Marin County, COVID-19 surges created difficulty in doing so within the timeframe given for the project. The collaborative team felt comfortable closing qualitative data collection for this joint CHNA as all Communities of Concern population groups were already represented by either a key informant interview or as a participant in the Service Provider survey.

Table 21 contains information about the community focus group 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(s) represented.

Table 21: Focus group list.

Hosting Organization	Date	Number of Participants	Populations Represented
Ritter Center; Homeward Bound	03/28/2022	4	Homeless/unhoused and marginally housed individuals and families, low-income residents in Marin County

The following questions served as the interview guide for the focus group interview.

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-19 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 PHN categories, the identification of special populations experiencing health issues, and the identification of resources. In some instances, data were coded in accordance with the interview question guide. Results were aggregated to inform the determination of prioritized SHNs.

Service Provider Survey

A web-based survey was administered to community service providers who delivered health and social services to community residents of Marin County. A list of community service providers affiliated with the nonprofit hospitals included in this report was used as an initial sampling frame. An email recruitment message was sent to these community service providers

detailing the survey aims and inviting them to participate. Participants were also encouraged to forward the recruitment message to other community service providers in their networks. The survey was designed using Qualtrics, an online survey platform, and was available for approximately two weeks. 25 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:

Liza Alvarez, Stephanie Alvarez, Jason Beers, Robin Berenson, Alaina Cantor, Don Carney, Jeannine Curley, Alexa Davidson, Pegah Faed, Balandra Fregoso, Aideen Gaidmore, Lauren Jacobson, Chris Kughn, Angel Minor, Alex Porteshawver, Juliet Schiller, and Jim Tubridy

After providing socio-demographic information including the county they served and their affiliated organization(s), survey respondents were shown a list of 12 PHNs 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. Descriptive statistics and frequencies were used to summarize the health needs. This information was used along with other data sources to both identify and rank SHNs 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 Marin County. 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),[18] derived from health factor indicators available at the US Census tract level, and mortality data from the California Department of Public Health (CDPH),[19] 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 22.

Table 22: 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

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[18] 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.

[19] State of California, Department of Public Health. 2021. California Comprehensive Master Death File (Static), 2015-2019.

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 California[20] were compared to ZCTA boundaries.[21] 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

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[20] Datasheer, L.L.C. 2018. ZIP Code Database Free. Retrieved 16 Jul 2018 from http://www.Zip-Codes.com.

[21] 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.

created for all indicators possible.[22] 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 match the overall indicator rate more closely 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 match the state norm more closely. 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 SHNs. The selection of these indicators was guided by the previously identified conceptual model. Table 23 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.

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[22] 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 23: Health factor and health outcome indicators used in health need identification.

Conceptual Model Alignment			Indicator	Data Source	Time Period
Health Outcomes	Length of Life	Infant Mortality	Infant Mortality	County Health Rankings	2013 - 2019
		Life Expectancy	Child Mortality	County Health Rankings	2016 - 2019
			Life Expectancy	County Health Rankings	2017 - 2019
			Premature Age-Adjusted Mortality	County Health Rankings	2017 - 2019
			Premature Death	County Health Rankings	2017 - 2019
		Mortality	Stroke Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Chronic Lower Respiratory Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Diabetes Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Heart Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Hypertension Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Cancer Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Liver Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Kidney Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Suicide Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Unintentional Injuries Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			COVID-19 Mortality	CDPH COVID-19 Time-Series Metrics by County and State	Collected on 2022-04-11
			COVID-19 Case Fatality	CDPH COVID-19 Time-Series Metrics by County and State	Collected on 2022-04-11

Conceptual Model Alignment			Indicator	Data Source	Time Period
			Alzheimer's Disease Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
			Influenza and Pneumonia Mortality	CDPH California Vital Data (Cal-ViDa)	2015 - 2019
	Quality of Life	Morbidity	Diabetes Prevalence	County Health Rankings	2017
			Low Birthweight	County Health Rankings	2013 - 2019
			Babies with Very Low Birth Weight	Healthy Marin Partnership	2013
			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 2022-04-11

Conceptual Model Alignment			Indicator	Data Source	Time Period
			Asthma ED Rates	Tracking California	2018
			Asthma ED Rates for Children	Tracking California	2018
Health Factors	Health Behavior	Alcohol and Drug Use	Excessive Drinking	County Health Rankings	2018
			Drug Induced Death	CDPH 2021 County Health Status Profiles	2017 - 2019
		Nutrition and Physical Activity	Adult Obesity	County Health Rankings	2017
			Mothers who Breastfeed	Healthy Marin Partnership	2015 - 2017
			Physical Inactivity	County Health Rankings	2017
			Limited Access to Healthy Foods	County Health Rankings	2015
			Food Environment Index	County Health Rankings	2015 & 2018
			Access to Exercise Opportunities	County Health Rankings	2010 & 2019
		Sexual Activity	Chlamydia Incidence	County Health Rankings	2018
			Teen Birth Rate	County Health Rankings	2013 - 2019
		Tobacco Use	Adult Smoking	County Health Rankings	2018
	Clinical Care	Access to Care	Primary Care Shortage Area	U.S. Heath Resources and Services Administration	2021
			Dental Care Shortage Area	U.S. Heath Resources and Services Administration	2021
			Mental Health Care Shortage Area	U.S. Heath Resources and Services Administration	2021
			Medically Underserved Area	U.S. Heath Resources and Services Administration	2021

Conceptual Model Alignment			Indicator	Data Source	Time Period
			Mothers who received early prenatal care	Healthy Marin Partnership	2015 - 2017
			Mammography Screening	County Health Rankings	2018
			Colon Cancer Screening	Healthy Marin Partnership	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	2019
			COVID-19 Cumulative Full Vaccination Rate	CDPH COVID-19 Vaccine Progress Dashboard Data	Collected on 2022-04-11
	Socio-Economic and Demographic Factors	Community Safety	Homicide Rate	County Health Rankings	2013 - 2019
			Firearm Fatalities Rate	County Health Rankings	2015 - 2019
			Violent Crime Rate	County Health Rankings	2014 & 2016
			Juvenile Arrest Rate	Criminal Justice Data: Arrests, OpenJustice, California Department of Justice	2015 - 2019
			Motor Vehicle Crash Death	County Health Rankings	2013 - 2019
		Education	Some College	County Health Rankings	2015 - 2019

Conceptual Model Alignment			Indicator	Data Source	Time Period
			High School Completion	County Health Rankings	2015 - 2019
			Disconnected Youth	County Health Rankings	2015 - 2019
			Third Grade Reading Level	County Health Rankings	2018
			Third Grade Math Level	County Health Rankings	2018
		Employment	Unemployment	County Health Rankings	2019
		Family and Social Support	Children in Single-Parent Households	County Health Rankings	2015 - 2019
			Social Associations	County Health Rankings	2018
			Residential Segregation (Non-White/White)	County Health Rankings	2015 - 2019
		Income	Children Eligible for Free Lunch	County Health Rankings	2018 - 2019
			Children in Poverty	County Health Rankings	2019
			Median Household Income	County Health Rankings	2019
			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

Conceptual Model Alignment			Indicator	Data Source	Time Period
			Households with Internet Access	2019 American Community Survey 5-year estimate Table S2801	2015 - 2019
			Households with no Vehicle Available	2019 American Community Survey 5-year estimate variable DP04_0058PE	2015 - 2019
			Long Commute - Driving Alone	County Health Rankings	2015 - 2019
			Access to Public Transit	OpenMobilityData, Transitland, TransitWiki.org, Santa Ynez Valley Transit; US Census Bureau	2021; 2020
		Air and Water Quality	Pollution Burden Percent	California Office of Environmental Health Hazard Assessment	2018
			Air Pollution - Particulate Matter	County Health Rankings	2016
			Drinking Water Violations	County Health Rankings	2019

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

County Health Rankings Data

All indicators listed with County Health Rankings (CHR) as their source were obtained from the 2021 County Health Rankings[23] 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 Marin County. State-level indicators were collected to be used as benchmarks for

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[23] 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.

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 24.

Table 24: Sources and time periods for indicators obtained from County Health Rankings.

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

CHR Indicator	Time Period	Data Source
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
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

CHR Indicator	Time Period	Data Source
Income Inequality	2015 - 2019	American Community Survey, 5-year estimates
Severe Housing Problems	2013 - 2017	Comprehensive Housing Affordability Strategy (CHAS) data
Severe Housing Cost Burden	2015 - 2019	American Community Survey, 5-year estimates
Homeownership	2015 - 2019	American Community Survey, 5-year estimates
Long Commute - Driving Alone	2015 - 2019	American Community Survey, 5-year estimates
Air Pollution - Particulate Matter	2016	Environmental Public Health Tracking Network
Drinking Water Violations	2019	Safe Drinking Water Information System

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

California Department of Public Health

By-Cause Mortality Data

By-cause mortality data were obtained at the county and state level from the CDPH Cal-ViDa[24] online data query system for the years 2015-2019. Empirically bayes smoothed rates (EBRs) were calculated for each mortality indicator using the total county population figure reported in the 2017 American Community Survey 5-year Estimates table B03002. Data for 2017 were used because this represented the central year of the 2015–2019 range of years for which CDPH data were collected. The population data for 2017 were multiplied by five to match the five years of mortality data used to calculate smoothed rates. The smoothed mortality rates were then multiplied by 100,000 so that the final rates represented deaths per 100,000 people.

CDPH masks the actual number of deaths that occur in a county for a given year and cause if there are between 1 and 10 total deaths recorded. Because of this, the following process was used to estimate the total number of deaths for counties whose actual values were masked.

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[24] 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/.

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 deaths[25] and completed vaccinations[26] 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.

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[25] State of California, Department of Public Health. 2021. Statewide COVID-19 Cases Deaths Tests. Retrieved April 11, 2022, from https://data.chhs.ca.gov/dataset/f333528b-4d38-4814-bebb-12db1f10f535/resource/046cdd2b-31e5-4d34-9ed3-b48cdbc4be7a/download/covid19cases_test.csv.

[26] State of California, Department of Public Health. 2021. COVID-19 Vaccine Progress Dashboard Data . Retrieved April 11 2022 from https://data.chhs.ca.gov/dataset/e283ee5a-cf18-4f20-a92c-ee94a2866ccd/resource/130d7ba2-b6eb-438d-a412-741bde207e1c/download/covid19vaccinesbycounty.csv.

Drug-Induced Deaths Data

Drug-induced death rates were obtained from Table 19 of the 2021 County Health Status Profiles[27] and report age-adjusted deaths per 100,000.

U.S. Heath Resources and Services Administration

Indicators related to the availability of healthcare providers were obtained from the Health Resources and Services Administration[28] (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

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[27] 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 21 Jul 2021 from https://www.cdph.ca.gov/Programs/CHSI/CDPH%20Document%20Library/CHSP_2021_Tables_1-29_04.16.2021.xlsx.

[28] 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.

divided by the 2018 total population given in the 2018 American Community Survey 5-year Estimates table B03002, and then multiplied by 100,000 to give the total number of specialty care physicians per 100,000 residents.

The total of specialty care physicians in each county was summed to find the total specialty care physicians in the state, and state rates were calculated following the same approach as used for county rates. This same process was also used to calculate the number of psychiatrists per 100,000 for each county and the state using the number of total patient care, non-federal psychiatrists from the Area Health Resource Files. It should be noted that psychiatrists are included in the list of specialty care physicians, so that indicator represents a subset of specialty care providers rather than a separate group.

California Cancer Registry

Data obtained from the California Cancer Registry[29] 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.[30] These data reported age-adjusted rates per 10,000. They were multiplied by 100 in this analysis to convert them to rates per 100,000 to make them more comparable to the standard used for other rate indicators.

US Census Bureau

Data from the US Census Bureau was used for two additional indicators: the percentage of households with no vehicles available (table DPO4, variable 0058PE), and the percentage of the civilian non-institutionalized population with some disability (table S1810, variable

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[29] California Cancer Registry. 2021. Age-Adjusted Invasive Cancer Incidence Rates in California. Retrieved on 22 Jan 2021 from https://www.cancer-rates.info/ca/.

[30] Tracking California, Public Health Institute. 2021. Asthma Related Emergency Department & Hospitalization data. Retrieved on 24 Jun 2021 from www.trackingcalifornia.org/asthma/query.

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 3.0[31] 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.[32] These data are reported as risk-adjusted rates per 100,000.

California Department of Justice

Data reporting the total number of juvenile felony arrests was obtained from the California Department of Justice.[33] 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

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[31] California Office of Environmental Health Hazard Assessment. 2018. CalEnviroScreen 3.0. Retrieved on 22 Jan 2021 from https://oehha.ca.gov/calenviroscreen/maps-data.

[32] Office of Statewide Health Planning and Development. 2021. Prevention Quality Indicators (PQI) for California. Data files for Statewide and County. Retrieved 12 Mar 2021 from https://oshpd.ca.gov/data-and-reports/healthcare-quality/ahrq-quality-indicators/.

[33] California Department of Justice, OpenJustice. 2021. Criminal Justice Data: Arrests. Retrieved 17 Jun 2021 from https://data-openjustice.doj.ca.gov/sites/default/files/dataset/2020-07/OnlineArrestData1980-2019.csv.

data from 2017 American Community Survey 5-year Estimates Tables B01001H, B01001B, and B01001I, respectively.

US Department of Housing and Urban Development

Data from the US Department of Housing and Urban Development's 2020 Annual Homeless Assessment Report[34] 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 Census block population data available at the time of the analysis was from the 2010 Decennial Census,[35] so this was the data used to represent the distribution of population for this indicator.

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[34] US Department of Housing and Urban Development. 2021. 2020 Annual Homeless Assessment Report: 2007 - 2020 Point-in-Time Estimates by CoC. Retrieved 14 Jul 2021 from https://www.huduser.gov/portal/sites/default/files/xls/2007-2020-PIT-Estimates-by-CoC.xlsx.

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

Transit stop data were identified first by using tools in the TidyTransit[36] library for the R statistical programming language.[37] 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,[38] Transitland,[39] Transitwiki.org,[40] and Santa Ynez Valley Transit.[41] Each of these websites list public transit data that have been made public by transit agencies. Transit data from all providers that could be identified were downloaded, and fixed transit stop locations were extracted from them.

The sf[42] 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

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[36] 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. Retrieved 10 Sep 2021 from https://CRAN.R-project.org/package=tidytransit.

[37] 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/.

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

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

[40] 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.

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

[42] 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.

remaining interview and focus-group collection efforts on those areas and subpopulations. Next, the resulting data, along with the results from the Service Provider survey, were combined with secondary health need identification data to identify SHNs within Marin County. Finally, primary data were used to prioritize those identified SHNs. The specific details for these analytical steps are given in the following three sections.

Community of Concern Identification
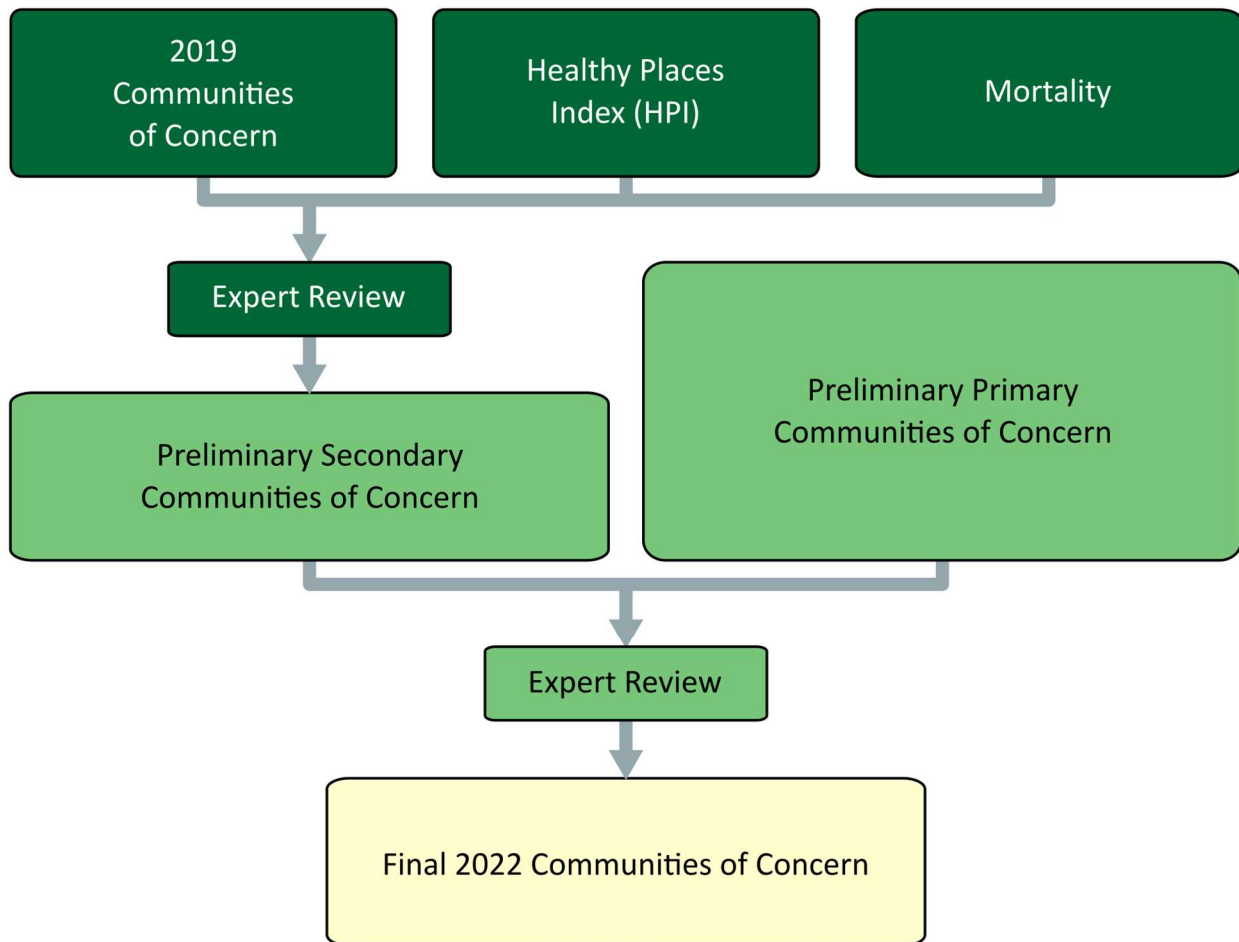
Figure 8: Community of Concern identification process.

As illustrated in Figure 8, 2022 Communities of Concern were identified through a process that drew upon both primary and secondary data. Three main secondary data sources were used in this analysis: Communities of Concern identified in the 2019 CHNA (if available); the census tract-level California Healthy Places Index (HPI); and the CDPH ZCTA-level mortality data. Communities of Concern were not identified in the previous CHNA in 2019 for Marin County.

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

2019 Community of Concern

A ZCTA was included if it was incorporated in the 2019 CHNA Community of Concern list for Marin County. This was done to allow greater continuity between CHNA rounds and reflects the work of the hospital systems oriented to serve these disadvantaged communities.

Healthy Places Index (HPI)

A ZCTA was included if it intersected a census tract whose HPI value fell within the lowest 20% of those in Marin County. 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, CLRD, 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 Marin County was counted. Those ZCTAs whose counted values exceeded the 80th percentile for all of the ZCTAs in Marin County met the Community of Concern mortality selection criteria.

Integration of Secondary Criteria

Any ZCTA that met any of the three selection criteria (2019 Community of Concern, HPI, and Mortality) was reviewed for inclusion as a 2022 Community of Concern, with greater weight given to those ZCTAs meeting two or more of the selection criteria. An additional round of expert review (by public health professors on our research team) 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 (by public health professors on our research team) 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 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 PHNs from which SHNs 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 25.
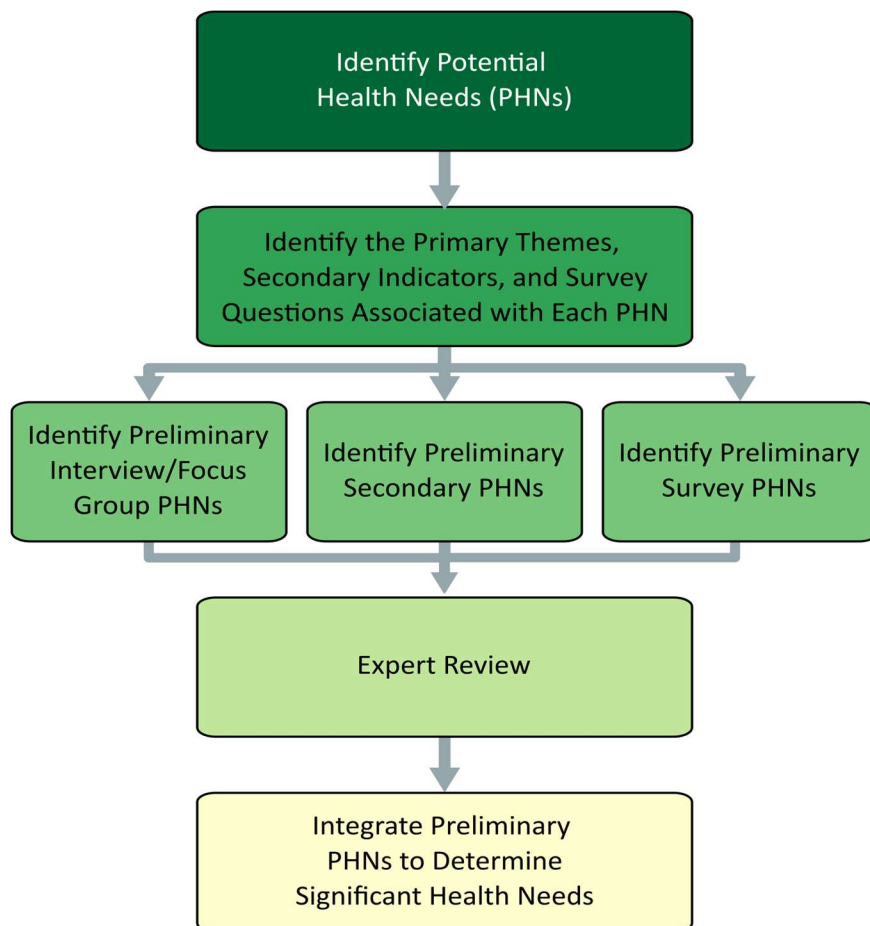
Figure 9: Significant health need identification process.

Table 25: 2022 Potential Health Needs (PHNs).

Potential Health Need (PHN)	Name	Health Need Description
PHN1	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.
PHN2	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.
PHN3	Active Living and Healthy Eating	Physical activity and eating a healthy diet are important for one's overall health and well-being. Frequent physical activity is vital for prevention of disease and maintenance of a strong and healthy heart and mind. When access to healthy foods is challenging for community residents, many turn to unhealthy foods that are convenient, affordable, and readily available. Communities experiencing social vulnerability and poor health outcomes often live in areas with fast food and other establishments where unhealthy food is sold. Under resourced communities may be challenged with food insecurity, absent the means to consistently secure food for themselves or their families, relying on food pantries and school meals often lacking in sufficient nutrition for maintaining health

Potential Health Need (PHN)	Name	Health Need Description
PHN4	Safe and Violence-Free Environment	Feeling safe in one's home and community are fundamental to overall health. Next to having basic needs met (e.g., food, shelter, and clothing) is having physical safety. Feeling unsafe affects the way people act and react to everyday life occurrences. Further, 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.[43]
PHN5	Access to Dental Care and Preventive Services	Oral health is important for overall quality of life. When individuals have dental pain, it is difficult to eat, concentrate, and fully engage in life. Oral health disease, including gum disease and tooth decay are preventable chronic diseases that contribute to increased risk of other chronic disease, as well as play a large role in chronic absenteeism from school in children. Poor oral health status impacts the health of the entire body, especially the heart and the digestive and endocrine systems.
PHN6	Healthy Physical Environment	Living in a pollution-free environment is essential for health. Individual health is determined by a number of factors, and some models show that one's living environment, including the physical (natural and built) and sociocultural environment, has more impact on individual health than one's lifestyle, heredity, or access to medical services.[44]

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

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

Potential Health Need (PHN)	Name	Health Need Description
PHN7	Access to Basic Needs Such as Housing, Jobs, and Food	Access to affordable and clean housing, stable employment, quality education, and adequate food for good health are vital for survival. Maslow's Hierarchy of Needs[45] 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.[46]
PHN8	Access to Functional Needs	Functional needs refers to an individual's access to adequate transportation 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.

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[45] McLeod, S. 2020. Maslow's Hierarchy of Needs. Retrieved 31 Jan 2022 from http://www.simplypsychology.org/maslow.html.

[46] Robert Wood Johnson Foundation, and University of Wisconsin, 2022. Research Articles. Retrieved 31 Jan 2022 from http://www.countyhealthrankings.org/learn-others/research-articles#Rankingsrationale.

Potential Health Need (PHN)	Name	Health Need Description
PHN9	Access to Specialty and Extended Care	Extended care services, which include specialty care, are care 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.
PHN10	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.

Potential Health Need (PHN)	Name	Health Need Description
PHN11	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."[47] Assuring that community members have ways to connect with each other through programs, services, and opportunities is important in fostering a healthy community. Further, healthcare and community support services are more effective when they are delivered in a coordinate fashion, where individual organizations collaborate with others to build a network of care.
PHN12	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 in health disparities.[48] Further, accessing social services provided by government agencies can be an obstacle for those with limited resources such as transportation access and English proficiency.

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 26 through 37. This

[47] Robert Wood Johnson Foundation. 2016. Building a Culture of Health: Sense of Community. Retrieved 31 Jan 2022 from https://www.rwjf.org/en/cultureofhealth/taking-action/making-health-a-shared-value/sense-of-community.html

[48] 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.

identification occurs by coding (assigning) data to each health need and setting minimal thresholds for each health need described further below. Tables 26 – 37 provide the coding mechanism used for both primary theme associations and secondary indicators to each specific PHNs.

Access to Mental/Behavioral Health and Substance Use Services

Table 26: 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). - The cost for mental/behavioral health treatment is too high. - Treatment options in the area for those with Medi-Cal are limited. - Awareness of mental health issues among community members is low. - Additional services specifically for youth are needed (e.g., child psychologists, counselors, and therapists in the schools). - The stigma around seeking mental health treatment keeps people out of care. - Additional services for those who are homeless and dealing with mental/behavioral health issues are needed. - The area lacks the infrastructure to support acute mental health crises. - Mental/behavioral health services are available in the area, but people do not know about them. - It's difficult for people to navigate for mental/behavioral healthcare. - Substance use is a problem in the area (e.g., use of opiates and methamphetamine, prescription misuse). - There are too few substance use treatment services in the area (e.g., detox centers, rehabilitation centers). - Substance use treatment options for those with Medi-Cal are limited. - There aren't enough services here for those who are homeless and dealing with substance use issues.	- Life Expectancy - Premature Age-Adjusted Mortality - Premature Death - Liver Disease Mortality - Suicide Mortality - Poor Mental Health Days - Frequent Mental Distress - Poor Physical Health Days - Frequent Physical Distress - Poor or Fair Health - Excessive Drinking - Drug Induced Death - Adult Smoking - Primary Care Shortage Area - Mental Health Care Shortage Area - Medically Underserved Area - Mental Health Providers - Psychiatry Providers - Firearm Fatalities Rate - Juvenile Arrest Rate - Disconnected Youth - Social Associations

Primary Themes	Secondary Indicators
• The use of nicotine delivery products such as e-cigarettes and tobacco is a problem in the community. • Substance use is an issue among youth in particular. • There are substance use treatment services available here, but people do not know about them.	• Residential Segregation (Non-White/White) • Income Inequality • Severe Housing Cost Burden • Homelessness Rate

Access to Quality Primary Care Health Services

Table 27: Primary themes and secondary indicators associated with PHN2.

Primary Themes	Secondary Indicators
• Insurance is unaffordable. • Wait-times for appointments are excessively long. • Out-of-pocket costs are too high. • There aren't enough primary care service providers in the area. • Patients have difficulty obtaining appointments outside of regular business hours. • Too few providers in the area accept Medi-Cal. • It is difficult to recruit and retain primary care providers in the region. • Specific services are unavailable here (e.g., 24-hour pharmacies, urgent care, telemedicine). • The quality of care is low (e.g., appointments are rushed, providers lack cultural competence). • Patients seeking primary care overwhelm local emergency departments. • Primary care services are available but are difficult for many people to navigate.	• Infant Mortality • Child Mortality • Life Expectancy • Premature Age-Adjusted Mortality • Premature Death • Stroke Mortality • Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Cancer Mortality • Liver Disease Mortality • Kidney Disease Mortality • COVID-19 Mortality • COVID-19 Case Fatality • Alzheimer's Disease Mortality • Influenza and Pneumonia Mortality • Diabetes Prevalence • Low Birthweight • Babies with Very Low Birth Weight • Poor Mental Health Days • Frequent Mental Distress • Poor Physical Health Days

Primary Themes	Secondary Indicators
	- 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 - Mothers who received early prenatal care - Mammography Screening - Colon Cancer Screening - Primary Care Providers - Preventable Hospitalization - COVID-19 Cumulative Full Vaccination Rate - Residential Segregation (Non-White/White) - Uninsured Population under 64 - Income Inequality - Homelessness Rate

Active Living and Healthy Eating

Table 28: 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. - Fresh, unprocessed foods are unaffordable. - Food insecurity is an issue here. - Students need healthier food options in schools. - The built environment doesn't support physical activity (e.g., neighborhoods aren't walk-able, roads aren't bike-friendly, or parks are inaccessible).	- Life Expectancy - Premature Age-Adjusted Mortality - Premature Death - Stroke Mortality - Diabetes Mortality - Heart Disease Mortality - Hypertension Mortality

Primary Themes	Secondary Indicators
- The community needs nutrition education programs. - Homelessness in parks or other public spaces deters their use. - Recreational opportunities in the area are unaffordable (e.g., gym memberships, recreational activity programming). - There aren't enough recreational opportunities in the area (e.g., organized activities, youth sports leagues) - The food available in local homeless shelters and food banks is not nutritious. - Grocery store options in the area are limited.	- Cancer Mortality - Kidney Disease Mortality - Diabetes Prevalence - Poor Mental Health Days - Frequent Mental Distress - Poor Physical Health Days - Frequent Physical Distress - Poor or Fair Health - Colorectal Cancer Prevalence - Breast Cancer Prevalence - Prostate Cancer Prevalence - Asthma ED Rates - Asthma ED Rates for Children - Adult Obesity - Mothers who Breastfeed - Physical Inactivity - Limited Access to Healthy Foods - Food Environment Index - Access to Exercise Opportunities - Residential Segregation (Non-White/White) - Income Inequality - Severe Housing Cost Burden - Homelessness Rate - Long Commute - Driving Alone

Primary Themes	Secondary Indicators
	• Access to Public Transit

Safe and Violence-Free Environment

Table 29: Primary themes and secondary indicators associated with PHN4.

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

Access to Dental Care and Preventive Services

Table 30: Primary themes and secondary indicators associated with PHN5.

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

Healthy Physical Environment

Table 31: Primary themes and secondary indicators associated with PHN6.

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

Primary Themes	Secondary Indicators
	• 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 32: 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
• Many residents struggle with food insecurity.	• COVID-19 Case Fatality
• It is difficult to find affordable childcare.	• Diabetes Prevalence
• Educational attainment in the area is low.	• Low Birthweight
	• Babies with Very Low Birth Weight
	• Poor Mental Health Days
	• 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
	• Mothers who Breastfeed
	• Limited Access to Healthy Foods
	• Food Environment Index
	• Medically Underserved Area
	• Colon Cancer Screening

Primary Themes	Secondary Indicators
	• 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 Internet Access
	• Households with no Vehicle Available
	• Long Commute - Driving Alone

Access to Functional Needs

Table 33: Primary themes and secondary indicators associated with PHN8.

Primary Themes	Secondary Indicators
• Many residents do not have reliable personal transportation. • Limited medical transport in the area. • Roads and sidewalks in the area are not well-maintained. • The distance between service providers is inconvenient for those using public transportation.	• Disability • Frequent Mental Distress • Frequent Physical Distress • Poor or Fair Health • Adult Obesity • COVID-19 Cumulative Full Vaccination Rate

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

Access to Specialty and Extended Care

Table 34: Primary themes and secondary indicators associated with PHN9.

Primary Themes	Secondary Indicators
• Wait-times for specialist appointments are 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 and extended care are too high. • People have to travel to reach specialists. • Too few specialty and extended care providers accept Medi-Cal. • The area needs more extended care options for the aging population (e.g., skilled nursing homes, in-home care) • There isn't enough OB/GYN care available. • Additional hospice and palliative care options are needed. • The area lacks a kind of specialist or extended care option not listed here.	• 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

Primary Themes	Secondary Indicators
	- Frequent Physical Distress
	- Poor or Fair Health
	- Lung Cancer Prevalence
	- Asthma ED Rates
	- Asthma ED Rates for Children
	- Drug Induced Death
	- Psychiatry Providers
	- Specialty Care Providers
	- Preventable Hospitalization
	- Residential Segregation (Non-White/White)
	- Income Inequality
	- Homelessness Rate

Injury and Disease Prevention and Management

Table 35: Primary themes and secondary indicators associated with PHN10.

Primary Themes	Secondary Indicators
- There isn't really a focus on prevention around here. - Preventive health services for women are needed (e.g., breast and cervical cancer screening). - There should be a greater focus on chronic disease prevention (e.g., diabetes, heart disease). - Vaccination rates are lower than they need to be. - Health education in the schools needs to be improved. - Additional HIV and STI prevention efforts are needed. - The community needs nutrition education opportunities. - Schools should offer better sexual health education. - Prevention efforts need to be focused on specific populations in the community (e.g., youth, Spanish-speaking residents, the elderly, LGBTQ individuals, immigrants). - Patients need to be better connected to service providers (e.g., case management, patient navigation, or centralized service provision).	- Infant Mortality - Child Mortality - Stroke Mortality - Chronic Lower Respiratory Disease Mortality - Diabetes Mortality - Heart Disease Mortality - Hypertension Mortality - Liver Disease Mortality - Kidney Disease Mortality - Suicide Mortality - Unintentional Injuries Mortality - COVID-19 Mortality - COVID-19 Case Fatality

Primary Themes	Secondary Indicators
	• Alzheimer's Disease Mortality • Diabetes Prevalence • Low Birthweight • Babies with Very Low Birth Weight • 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 • Mothers who Breastfeed • Physical Inactivity • Chlamydia Incidence • Teen Birth Rate • Adult Smoking • Mothers who received early prenatal care • Colon Cancer Screening • COVID-19 Cumulative Full Vaccination Rate • Firearm Fatalities Rate • Juvenile Arrest Rate • Motor Vehicle Crash Death • Disconnected Youth

Primary Themes	Secondary Indicators
	• Third Grade Reading Level • Third Grade Math Level • Income Inequality • Homelessness Rate

Increased Community Connections

Table 36: 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. • Building community connections doesn't seem like a focus in the area. • Relations between law enforcement and the community need to be improved. • The community needs to invest more in the local public schools. • There isn't enough funding for social services in the county. • People in the community face discrimination from local service providers. • City and county leaders need to work together.	• 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 • 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

Primary Themes	Secondary Indicators
	• Medically Underserved Area • Mental Health Providers • Psychiatry Providers • Specialty Care Providers • Primary Care Providers • Preventable Hospitalization • COVID-19 Cumulative Full Vaccination Rate • Homicide Rate • Firearm Fatalities Rate • 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 37: Primary themes and secondary indicators associated with PHN12.

Primary Themes	Secondary Indicators
• People may not be aware of the services they are eligible for. • It is difficult for people to navigate multiple, different health care systems. • The area needs more navigators to help to get people connected to services. • People have trouble understanding their insurance benefits.	

Primary Themes	Secondary Indicators
- Automated phone systems can be difficult for those who are unfamiliar with the healthcare system. - Dealing with medical and insurance paperwork can be overwhelming. - Medical terminology is confusing. - Some people just don't know where to start in order to access care or benefits.	

Next, values for the secondary health-factor and health-outcome indicators identified were compared to state benchmarks to determine if a secondary indicator performed poorly within the county. Some indicators were considered problematic if they exceeded the benchmark, others were considered problematic if they were below the benchmark, and the presence of certain other indicators within the county, such as health professional shortage areas, indicated issues. Tables 38 - 40 lists each secondary indicator and describes the comparison made to the benchmark to determine if it was problematic.

Table 38: Indicators where poor performance is indicated by being higher than the relevant benchmark.

Indicator
Infant Mortality
Child Mortality
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
Suicide Mortality
Unintentional Injuries Mortality
COVID-19 Mortality
COVID-19 Case Fatality
Alzheimer's Disease Mortality
Influenza and Pneumonia Mortality
Diabetes Prevalence

Indicator
Low Birthweight
Babies with Very Low Birth Weight
HIV Prevalence
Disability
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
COVID-19 Cumulative Incidence
Asthma ED Rates
Asthma ED Rates for Children
Excessive Drinking
Drug Induced Death
Adult Obesity
Physical Inactivity
Limited Access to Healthy Foods
Chlamydia Incidence
Teen Birth Rate
Adult Smoking
Preventable Hospitalization
Homicide Rate
Firearm Fatalities Rate
Violent Crime Rate
Juvenile Arrest Rate
Motor Vehicle Crash Death
Disconnected Youth
Unemployment
Children in Single-Parent Households
Residential Segregation (Non-White/White)
Children Eligible for Free Lunch
Children in Poverty
Uninsured Population under 64
Income Inequality

Indicator
Severe Housing Problems
Severe Housing Cost Burden
Homelessness Rate
Households with no Vehicle Available
Long Commute - Driving Alone
Pollution Burden Percent
Air Pollution - Particulate Matter

Table 39: Indicators where poor performance is indicated by being lower than the relevant benchmark.

Indicator
Life Expectancy
Mothers who Breastfeed
Food Environment Index
Access to Exercise Opportunities
Mothers who received early prenatal care
Mammography Screening
Colon Cancer Screening
Dentists
Mental Health Providers
Psychiatry Providers
Specialty Care Providers
Primary Care Providers
COVID-19 Cumulative Full Vaccination Rate
Some College
High School Completion
Third Grade Reading Level
Third Grade Math Level
Social Associations
Median Household Income
Homeownership
Households with Internet Access
Access to Public Transit

Table 40: Indicators where poor performance is indicated by being present in the county.

Indicator
Primary Care Shortage Area
Dental Care Shortage Area
Mental Health Care Shortage Area
Medically Underserved Area
Drinking Water Violations

Once these poorly performing quantitative indicators were identified, they were used to determine preliminary secondary SHNs. This was done by calculating the percentage of all secondary indicators associated with a given PHN that were identified as performing poorly within Marin County. While all PHNs represented actual health needs within Marin County to a greater or lesser extent, a PHN was considered a preliminary secondary health need if the percentage of poorly performing indicators exceeded one of a number of established thresholds: any poorly performing associated secondary indicators; or at least 10%, 20%, 30%, 40%, 50%, 60%, 70%, or 80% of the associated indicators were found to perform poorly. A similar set of standards was used to identify the preliminary interview and focus-group health needs: any of the survey respondents mentioned a theme associated with a PHN, or if at least 10%, 20%, 30%, 40%, 50%, 60%, 70%, or 80% of the respondents mentioned an associated theme. Finally, similar thresholds (any mention, 10%, 20%, 30%, 40%, 50%, 60%, 70%, or 80%) were also applied to the percent of survey respondents selecting a particular health need as one of the top health needs in Marin County.

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 Marin County. 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 Marin County. To this end, a final round of expert reviews (by public health professors on our research team) 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 SHN if 50% of the associated quantitative indicators were identified as performing poorly; as a preliminary qualitative SHN if it was identified by 50% or more of the primary sources as performing poorly; and as a preliminary service provider survey SHN if it was identified by at least 40% of survey respondents. Finally, a PHN was selected as a SHN if it was included as a preliminary SHN in at least two 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, SHN prioritization was based solely on primary data. Key informants and focus-group participants were asked to identify the three most SHNs in their communities. These responses were associated with one or more of the PHNs. This, along with the responses across the rest of the interviews and the focus group, were used to derive two measures for each SHN.

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

These three 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.

Appendix B: Detailed List of Resources to Address Health Needs

Table 41: Resources available to meet health needs.

Organization Information			Significant Health Needs					Other Health Needs						
Name	Primary ZIP Code	Website	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Mental/Behavioral Health and Substance Use Services	Access to Quality Primary Care Health Services	Increased Community Connections	Access to Functional Needs	Active Living and Healthy Eating	Safe and Violence-Free Environment	Access to Dental Care and Preventive Services	Healthy Physical Environment	Access to Specialty and Extended Care	Injury and Disease Prevention and Management	System Navigation
211 Marin County	County Wide	www.211bayarea.org/marin	x	x	x	x	x	x	x	x	x	x	x	x
Age Song Marin	94903	agesongmarin.org				x								
Agricultural Institute of Marin	94901	agriculturalinstitute.org	x											
American Association of Retired Persons (AARP) San Rafael	94901	local.aarp.org/san-rafael-ca				x								
Bridge the Gap College Prep	94965	btgcollegeprep.org	x			x								
Buckelew Programs	94949	buckelew.org	x	x		x							x	
Canal Alliance	94901	canalalliance.org	x	x										x
Casa Allegra	94903	www.casaallegra.org	x			x	x			x				
Center Point, Inc.	94901	www.cpinc.org	x	x							x		x	x
Ceres Community Project	95473	www.ceresproject.org	x			x								

Organization Information			Significant Health Needs					Other Health Needs						
Name	Primary ZIP Code	Website	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Mental/Behavioral Health and Substance Use Services	Access to Quality Primary Care Health Services	Increased Community Connections	Access to Functional Needs	Active Living and Healthy Eating	Safe and Violence-Free Environment	Access to Dental Care and Preventive Services	Healthy Physical Environment	Access to Specialty and Extended Care	Injury and Disease Prevention and Management	System Navigation
City of San Rafael	94901	www.cityofsanrafael.org									x			
Coastal Health Alliance	94924, 94956	coastalhealth.net		x	x					x	x		x	x
College of Marin	94904	www1.marin.edu	x											
Community Action Marin	County Wide	camarin.org	x	x	x			x						x
Community Institute for Psychotherapy	94901	cipmarin.org		x		x								x
Conservation Corps North Bay	94901	ccnorthbay.org	x			x					x			
County of Marin-Community Development Agency	County Wide	www.marincounty.org/depts/cd							x					
Digital Marin (network of organizations addressing digital equity)	94903	godigitalmarin.org				x								
Enterprise Resource Center	94901	mhamarin.org		x										
Extrafood.org	94904	extrafood.org	x											

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First 5 Marin	94903	www.first5marin.org	x			x								x
First Congregational Church of San Rafael	94903	http://fccsanrafael.org	x			x								
Golden Gate Regional Center	94903	ggrc.org				x								x
Healthy Marin Partnership	County Wide	hmp.marinhhs.org			x			x						
Homeward Bound of Marin	94901	hbofm.org	x			x								x
Huckleberry Youth Programs	94901	www.huckleberryyouth.org/marin-health-care-health-education	x				x	x	x		x			x
IHSS Public Authority Marin County	94903	pamarin.org					x					x		
Integrated Community Services	94901	www.connectics.org		x		x	x							x
Jewish Family & Children's Services	County Wide	www.jfcs.org	x			x	x			x		x		
Kaiser Permanente San Rafael Medical Center	94903	healthy.kaiserpermanente.org/northern-california/facilities/San-Rafael-Medical-Center-100327		x	x							x	x	x

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Kids Cooking for Life	94903	marinlink.org/portfolio-items/kids-cooking-life				x		x						
Latino Council of Marin	County Wide	www.marinhhs.org/community-resource-guide/latino-council-marin				x								x
Legal Aid of Marin	County Wide	www.legalaidmarin.org				x								x
Life House	94903, 94954	www.lifehouseagency.org					x					x		
Love is the Answer	County Wide	litamarin.org	x				x					x		
MarinCAN	County Wide	www.marincounty.org/depts/cd/divisions/sustainability/climate-and-adaptation/marincan									x			
Marin Center for Independent Living	County Wide	www.marincil.org				x	x					x		
Marin Child Care Council	94903	mc3web.org	x											
Marin City Community Development Corp	94965	www.marincitycdc.org		x		x				x				
Marin City Health and Wellness Center	County Wide	www.marincityclinic.org	x	x	x			x	x				x	x

Organization Information			Significant Health Needs					Other Health Needs						
Name	**Primary ZIP Code**	**Website**	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Mental/Behavioral Health and Substance Use Services	Access to Quality Primary Care Health Services	Increased Community Connections	Access to Functional Needs	Active Living and Healthy Eating	Safe and Violence-Free Environment	Access to Dental Care and Preventive Services	Healthy Physical Environment	Access to Specialty and Extended Care	Injury and Disease Prevention and Management	System Navigation
Marin Community Clinics	County Wide	www.marinclinic.org		x	x					x			x	x
Marin Community Foundation	94949	www.marincf.org	x	x	x	x	x	x		x	x	x		x
Marin County Aging and Adult Services, Area Agency on Aging	County Wide	www.marinhhs.org/area-agency-aging	x				x					x	x	x
Marin County Clinics	County Wide	www.marincounty.org/residents/health-wellness/clinics			x	x				x			x	x
Marin County Commission on Aging	County Wide	www.marinhhs.org/boards/commission-aging				x								
Marin County Cooperation Team	94965	marincountycooperationteam.org				x			x					
Marin County of Health and Human Services- Behavioral Health and Recovery	County Wide	www.marinhhs.org/mhsus-service-categories/237		x										x
Marin County Office of Education	94903	www.marinschools.org	x			x		x	x					

Organization Information			Significant Health Needs					Other Health Needs						
Name	Primary ZIP Code	Website	Access to Basic Needs Such as Housing, Jobs, and Food	Access to Mental/Behavioral Health and Substance Use Services	Access to Quality Primary Care Health Services	Increased Community Connections	Access to Functional Needs	Active Living and Healthy Eating	Safe and Violence-Free Environment	Access to Dental Care and Preventive Services	Healthy Physical Environment	Access to Specialty and Extended Care	Injury and Disease Prevention and Management	System Navigation
Marin County Public Health	County Wide	www.marinhhs.org/public-health		x	x	x	x	x					x	
Marin County Suicide Prevention Collaborative	County Wide	prevention.marinbhrs.org/marin-county-suicide-prevention-collaborative		x										
Marin Promise Partnership (collaborative focused on education)	94903	www.marinpromisepartnership.org	x			x								
Marin Senior Coordinating Council (dba Vivalon)	County Wide	vivalon.org	x			x	x	x	x			x		
Marin Transit	County Wide	marintransit.org					x							
Marin Ventures	94903	marinventures.org				x	x							
Marin YMCA	94903	www.ymcasf.org/locations/marin-ymca	x			x		x	x					
MarinHealth Medical Center	94904	www.mymarinhealth.org/locations/medical-center		x	x							x	x	x
Multi-cultural Center of Marin	94901	multiculturalmarin.org	x			x								

Organization Information			Significant Health Needs					Other Health Needs						
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National Alliance of Mental Illness Marin	94903	www.namimarin.org		x		x								x
North Bay Leadership Council	94954	northbayleadership.org/about-us				x								
North Marin Community Services	County Wide	www.northmarincs.org				x		x	x					x
Novato Chamber of Commerce	94945	www.novatochamber.com	x			x								
Novato Community Hospital, Sutter Health	94945	www.sutterhealth.org/novato		x	x			x					x	x
Novato Unified School District	94945	nusd.org	x			x								
Opening the World	94903	openingtheworld.org/	x			x								
Operation Access	94108	www.operationaccess.org										x		x
Parent Services Project	94901	marinhhs.org/community-resource-guide/parent-services-project-inc	x			x								
Planned Parenthood San Rafael	94901	www.plannedparenthood.org/health-center/california/san-rafael/94901/san-rafael-health-center-4114-90200			x							x	x	x

Organization Information			Significant Health Needs					Other Health Needs						
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Redwood Community Health Coalition	94999	www.rchc.net	x											
Ritter Center	94901	rittercenter.org	x	x	x					x				x
Rotacare Clinic of San Rafael	94901	www.rotacarebayarea.org/sanrafael			x								x	x
Salvation Army	94901	sanrafael.salvationarmy.org	x			x								
San Geronimo Valley Community Center	94963	www.sgvcc.org	x			x			x					
San Rafael Chamber of Commerce	94901	srchamber.com	x			x								
SF Marin Food Bank-Food Policy Council	94901	www.sfmfoodbank.org/advocacy-old/marin-food-policy-council	x			x		x						
St. Vincent de Paul Society of Marin County	County Wide	www.vinnies.org	x			x								
The Spahr Center	County Wide	thespahrcenter.org	x	x		x	x						x	

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United Way	County Wide	www.unitedway.org/local/united-states/california/united-way-bay-area	x											
West Marin Senior Services	94956	wmss.org	x			x	x					x		
Youth Transforming Justice	94901	ytjustice.org	x			x				x				

Appendix C: Evaluation of the Impact of Actions Taken Since 2019 CHNA – Novato Community Hospital

This section is based on the 2019–2021 Implementation Strategy that described how Sutter Health's Novato Community Hospital (NCH) planned to address significant health needs identified in its 2019 Community Health Needs Assessment (CHNA). The 2019 CHNA identified ten community health needs. Working within its mission and capabilities, Novato Community Hospital Center selected the following needs to address in its Implementation Strategy:

1. Access to Care
2. Violence and Injury Prevention
3. Mental Health and Substance Abuse

The Implementation Strategy provided details of actions the hospital intended to take, including programs and resources it planned to commit. The tables below highlight the 2019, 2020, and 2021 impacts achieved by the programs that Novato Community Hospital featured in its 2019–2021 Implementation Strategy.

ACCESS TO CARE

Name of Program, Activity, or Initiative	Novato Unified School District – Registered Nurses
Description	Novato Community Hospital manages Registered Nurses who work one- on-one with public school students who have acute chronic health conditions such as type 1 diabetes, spina bifida and epilepsy. The support from nurses makes it possible for these students to attend school with their peers.
Goals	Manage the students' diseases throughout the day so they are able to attend school in their regular classrooms with their peers.
Anticipated Outcomes	Decrease in absences by students and increase in performance as a result of support to manage ongoing medical needs.
2019–2021 Impact	62 persons served

Name of Program, Activity, or Initiative	**RotaCare Clinic of San Rafael – free outpatient lab services**
Description	RotaCare Clinic of San Rafael provides free medical care for adults with the greatest need and the least access to health care resources. RotaCare Clinic of San Rafael is the only free clinic in Marin County. Adults living in the region with an urgent medical need, including the working poor, the uninsured, the underinsured, the newly employed, and people that cannot afford their deductible are eligible for primary, quality health services at no cost. NCH partners with RotaCare Clinic by providing lab services for patients at no cost.
Goals	To increase access to medical care for those who have the greatest need.
Anticipated Outcomes	- Reduction in Emergency Department admissions for primary care. - Patients are able to monitor health conditions by obtaining necessary lab work.
2019–2021 Impact	1,380 people served

Name of Program, Activity, or Initiative	**Homeward Bound of Marin**
Description	The Transition to Wellness Program provides beds for homeless acute care patients discharged from hospitals that require a safe, supervised environment to heal. The partnership between NCH and Homeward also facilitates a connection for a patient to begin the process of seeking permanent housing.
Goals	To discharge every homeless patient with acute needs to the Transition to Wellness Program.
Anticipated Outcomes	To achieve long term health and wellness by connecting patients with services and resources including medical insurance, housing, and primary care home.
2019–2021 Impact	216 people served

VIOLENCE AND INJURY PREVENTION

Name of Program, Activity, or Initiative	**Novato Unified School District – Athletic Trainers**
Description	NCH hires and manages two athletic trainers placed in the local district's two high schools.
Goals	Certified athletic trainers provide emergency care, development of injury prevention programs, and providing appropriate preventative measures and devices for NUSD high school athletes.
Anticipated Outcomes	• To provide concussion Management/Baseline Assessment and Safe Return to Play; • Conduct baseline testing for all student athletes via computerized cognitive assessment tool; • Development, Education, and Implementation of site/venue specific Emergency Action Plan: Develop site/venue specific Emergency Action Plan (EAP) with chain of command, emergency contact information, venue specific directions for EMS, Map with outlined routes. Educate all onsite personnel (coaches, administrators, support staff, parents, student athletes, volunteers, etc.) Implement at each given site, ask each coach to complete a short survey to evaluate their understanding of the EAP. • Evaluate the physical well-being of student athletes following injury.
2019–2021 Impact	4,944 persons served

MENTAL HEALTH AND SUBSTANCE ABUSE

Name of Program, Activity, or Initiative	Grants and Sponsorships addressing Mental Health
Description	Grants and sponsorships are decided annually based on community need. Selected executed grants and sponsorships will be reported at year end.
Goals	• Promote mental health and the healthy development of children and families in both the broader community and at-risk communities; • Prevent adverse childhood experiences
Anticipated Outcomes	Examples: 1) Increase support to families in need of resources, such as parent education classes, housing, childcare & shelters. 2) Increase intensive assessment, counseling, and referral services to help families and individuals avert homelessness. 3) Increase mental health services to homeless and at-risk youth. 4) Increase linguistically and culturally appropriate support groups and counseling. 5) Increase early childhood education for at-risk families. 6) Increase integration of behavioral health services into existing primary care settings for at-risk Marin County residents.
2019–2021 Impact	173 persons served