2018 Community Health Needs Assessment

Conducted on behalf of

Stanislaus Surgical Hospital
1421 Oakdale Road
Modesto, CA 95355

Conducted by

October 2018

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Introduction and Purpose

Both state and federal law require that nonprofit hospitals conduct a community health needs assessment (CHNA) every three years to identify and prioritize the significant health needs of the communities they serve. The results of the CHNA guide the development of implementation plans aimed at addressing identified health needs. Federal regulations define a *health need* accordingly: "…health needs include requisites for the improvement or maintenance of health status in both the community at large and in particular parts of the community (such as particular neighborhoods or populations experiencing health disparities)" (p. 78963).[1]

This report documents the processes, methods, and findings of a CHNA conducted on behalf of Stanislaus Surgical Hospital (SSH), 1421 Oakdale Road, Modesto, CA 95355. SSH serves Stanislaus County, located in the Central Valley of Northern California. SSH is part of Memorial Medical Center Modesto, a Sutter Health affiliated hospital. The majority of the CHNA was conducted over a period of 10 months, beginning in January 2018. Primary data collected during a previous CHNA for Memorial Medical Center were included in this CHNA, and these data were collected in August and September of 2015. This CHNA report meets requirements of the Patient Protection and Affordable Care Act (and in California of Senate Bill 697) that not-for-profit hospitals conduct a community health needs assessment at least once every three years. SSH previously did not conduct a CHNA; however, after the hospital became affiliated with Sutter Health, it was determined that a CHNA should be completed no later than December 31, 2018.

Community Health Insights (www.communityhealthinsights.com) conducted the CHNA on the behalf of the SSH. Community Health Insights is a Sacramento-based research-oriented consulting firm dedicated to improving the health and well-being of communities across Northern California. Collectively, the managing partners of Community Health Insights have conducted multiple CHNAs over the previous decade. Portions of the CHNA were conducted in collaboration with Sutter Health Memorial Medical Center and Kaiser Foundation Hospital, both located in Modesto, CA.

Organization of this Report

The report follows federal guidelines issued on how to document a CHNA. First, the prioritized listing of significant health needs identified through the CHNA is described, along with a description of the process and criteria used in identifying and prioritizing these needs. Next, the methods used to conduct the CHNA are described, including how data were collected and analyzed. Third, the community served by the SSH and how the community was identified is described. Fourth, a description of how the SSH solicited and considered the input received from persons who represented the broad interests of the community served follows. Resources potentially available to meet these needs are identified and described next. Finally, regulations require a hospital to report a summary of the impact of actions taken to address significant health needs identified in its previous CHNA. However, given that SSH had not previously conducted a CHNA, no such evaluation occurred.

A detailed methodology section title "Stanislaus Surgical Hospital 2018 CHNA Technical Report" is included later in this report (see pp. 13-47) for readers that are interested in an in-depth description of the methods followed in collection, analysis, and results of data to identify and prioritize significant health needs.

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

Findings

Prioritized, Significant Health Needs

Primary and secondary data were analyzed to identify and prioritize the significant health needs within the SSH service area. In all, eight significant health needs were identified. After these were identified they were prioritized based on an analysis of primary data sources that discussed the health need as a significant health need. The findings are displayed in the figure that follows. The length of the bar denotes prioritization. In the figure, the blue portion of the bar represents the percentage of primary data sources that referenced the significant health need. This was combined with the average number of times that each health need was referenced among all primary data sources, shown in the green portion of the bar.

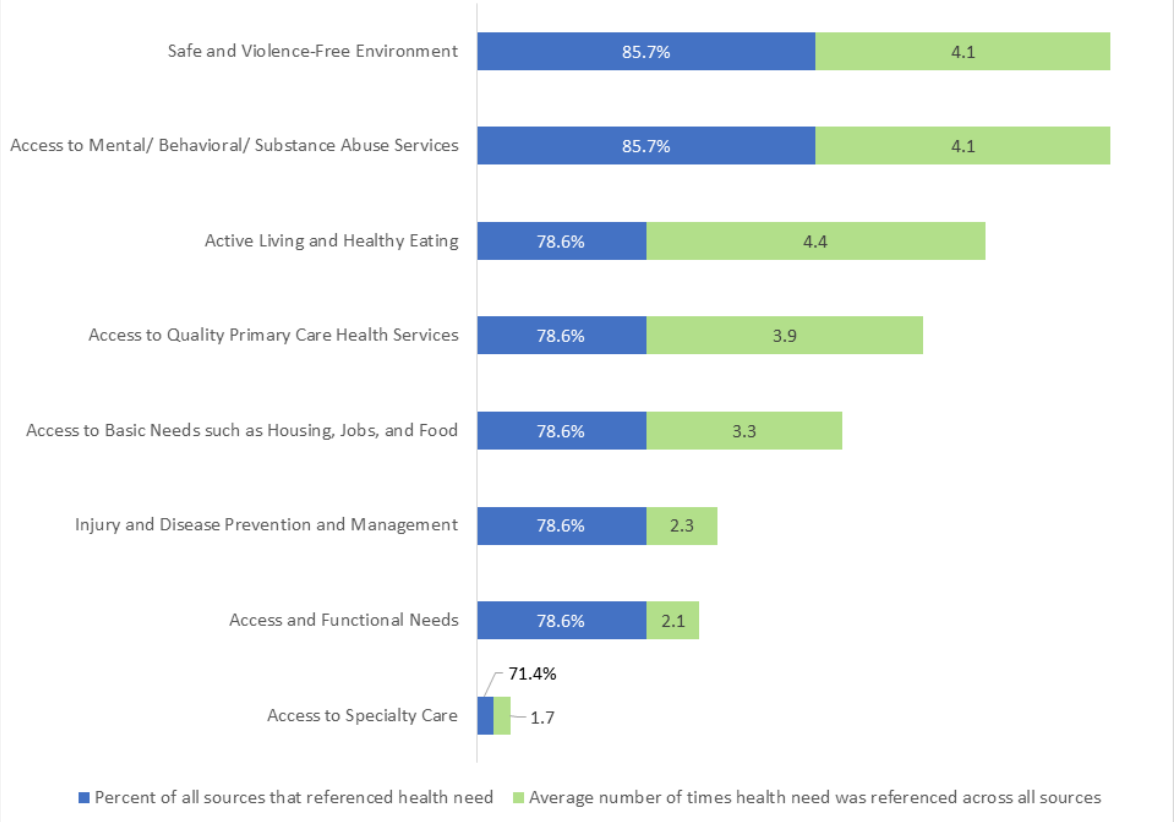

Figure 1: Prioritized, significant health needs for Stanislaus Surgical Hospital service area

The significant health needs are described in more below

1. Safe and Violence-Free Environment

The highest priority significant health need for the SSH service area was safe and violence-free environments. Feeling safe in one's home and community are fundamental to overall health. Next to having basic needs met (food, shelter, clothing) is physical safety. Feeling unsafe affects the way people act and react to everyday life occurrences.

2. Access to Mental/Behavioral/Substance Abuse Services

The second highest priority significant health need for the SSH service area was access to mental, behavioral, and substance abuse services. Individual health and well-being are inseparable from individual mental and emotional outlook. Coping with daily life stressors is challenging for many people, especially when other social, familial, and economic challenges also occur. Adequate access to mental, behavioral, and substance abuse services helps community members to obtain additional support when needed.

3. Active Living/Health Eating

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

4. Access to Quality Primary Care Health Services

The fourth highest priority significant health need for the SSH service area was access to quality primary care health services. Primary care resources include community clinics, pediatricians, family practice physicians, internists, nurse practitioners, pharmacists, telephone advice nurses, and similar. Primary care services are typically the first point of contact when an individual seeks healthcare. These services are the front line in the prevention and treatment of common diseases and injuries in a community.

5. Access to Basic Needs, such as ~~H~~ousing and Employment

The fifth highest priority significant health need for the SSH service area was access to basic needs such as housing and jobs. Access to affordable and clean housing, stable employment, quality education, and adequate food for health maintenance are vital for survival. Maslow's Hierarchy of Needs[2] says that only when members of a society have their basic physiological and safety needs met can they then become engaged members of society and self-actualize or live to their fullest potential, including their health.

6. Injury and Disease Prevention Management

The sixth highest priority significant health need for the SSH service area was prevention of injury and disease, and the management of chronic diseases. Knowledge is important for individual health and well-being, and efforts aimed at prevention are powerful vehicles to improve community health. When community residents lack adequate information on how to prevent, manage, and control their health conditions, those conditions tend to worsen. Prevention efforts focused on reducing cases of injury, infectious disease control (e.g. STI prevention, influenza shots), and intensive strategies around the management of chronic diseases (e.g. diabetes, hypertension, obesity, and heart disease). These are important for community health improvement.

7. Access to Functional Needs – Transportation and Disability that Prevent Access through Movement

The seventh priority significant health need for the SSH service area was access to functional needs, which includes transportation and disability. Having access to transportation services to support individual mobility is a necessity of daily life. Without transportation, individuals struggle to attain their basic needs, including those that promote and support a healthy life. Examining the number of people

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

that have a disability is also an important indicator for community health in an effort to assure that all community members have access to necessities for a high quality of life.

8. Access to Specialty Care

The eighth highest priority significant health need was access to specialty care. Specialty care services are those devoted to a particular branch of medicine and focus on the treatment of a particular disease. Primary and specialty care go hand-in-hand, and without access to specialists such as endocrinologists, cardiologists, and gastroenterologists community residents are often left to manage chronic diseases such as diabetes and high blood pressure on their own.

Populations Experiencing Health Disparities

The figure below describes populations identified by community health experts as those living in the service area that were experiencing disparities. Interview results were analyzed by counting the total number of time all key informants mentioned a particular group as one experiencing disparities. Figure 2 displays the results of this analysis.

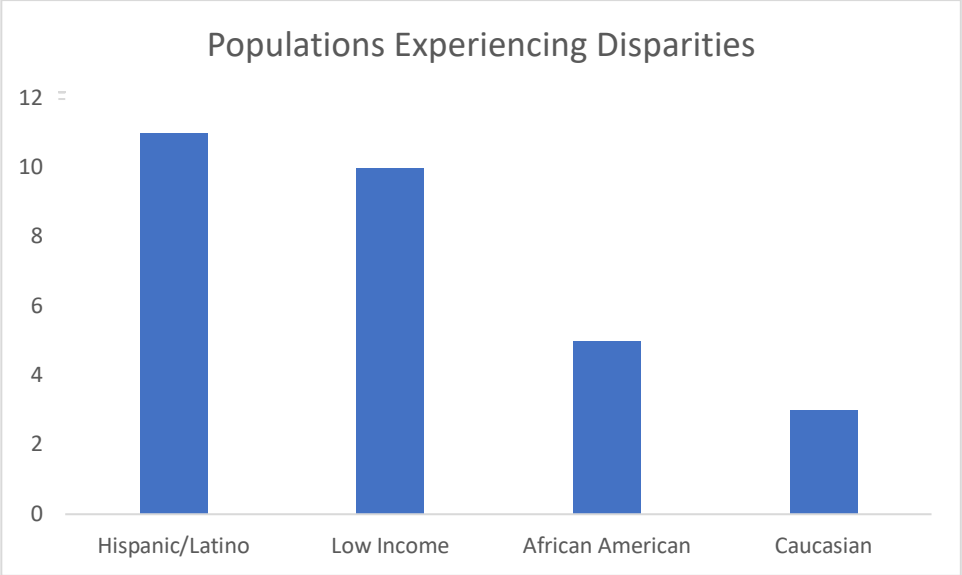

Figure 2: Populations experiencing disparities in the SSH service area

Other population groups mentioned (only once) included: the uninsured (health), Southeast Asian, the deaf, seniors, and single mothers. Heath conditions mentioned by experts specific to each group are noted in Table 1.

Table 1: Health conditions associated with populations experiencing disparities

Hispanic/Latino	Chronic diseases, obesity
Low Income	Mental health, neighborhood safety concerns, lack of basic needs
African American	Chronic diseases, obesity
Caucasian	Substance use

Method Overview

Conceptual and Process Models

The data used to conduct the CHNA were both identified and organized using the widely recognized Robert Wood Johnson Foundation's County Health Rankings model.[3] This model of population health includes the many factors that impact and account for individual health and wellbeing. Further, to guide the overall process of conducting the assessment, a defined set of data collection and analytic stages were developed. These served as the roadmap for the research team as they went about the work of the CHNA.

Public Comments from Previously Conducted CHNAs

Regulations require that nonprofit hospitals include written comments from the public on its previously conducted CHNA and most recently adopted implementation strategy. However, in that this is the first CHNA conducted by SSH, no written comments are available to include in this report.

Data Used in the CHNA

Data collected and analyzed included both primary or qualitative data, and secondary or quantitative data. Primary data included 8 interviews community health experts as well as six focus groups conducted with a total of 54 community residents. (A full listing of all participants can be seen in the Technical Report section of this report).

Secondary data included four datasets selected for use in the various stages of the analysis. A combination of mortality and socio-economic datasets collected at sub-county levels were used to identify portions of the hospital service area with greater concentrations of disadvantaged populations and poor health outcomes. A set of county level indicators was collected from various sources to help identify and prioritize significant health needs. A set of socio-economic indicators was also collected to help describe the overall social conditions within the service area. Health outcome indicators included measures of both mortality (length of life) and morbidity (quality of life). Health factor indicators included measures of 1) health behaviors such as diet and exercise, tobacco, alcohol, and drug use; 2) clinical care including access and quality of care; 3) social and economic factors such as race/ethnicity, income, educational attainment, employment, neighborhood safety, and similar; and 4) the physical environment measures such as air and water quality, transit and mobility resources, and housing affordability. In all, 67 different health outcome and factor indicators were collected for the CHNA.

Data Analysis

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

For an in-depth description of the processes and methods used to conduct the CHNA, including primary and secondary data collection, analysis, and results, see the Technical Report section of this report (pp. 13-47).

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

Description of Community Served

SSH is located in Modesto, California, in the heart of the Central Valley. Modesto is located along the State Highway 99 corridor, approximately 35 miles south of Stockton, CA, and approximately 40 miles north of Merced, CA. Modesto is the County Seat of Stanislaus County, the community served by SSH. This service area is shown in Figure 1.

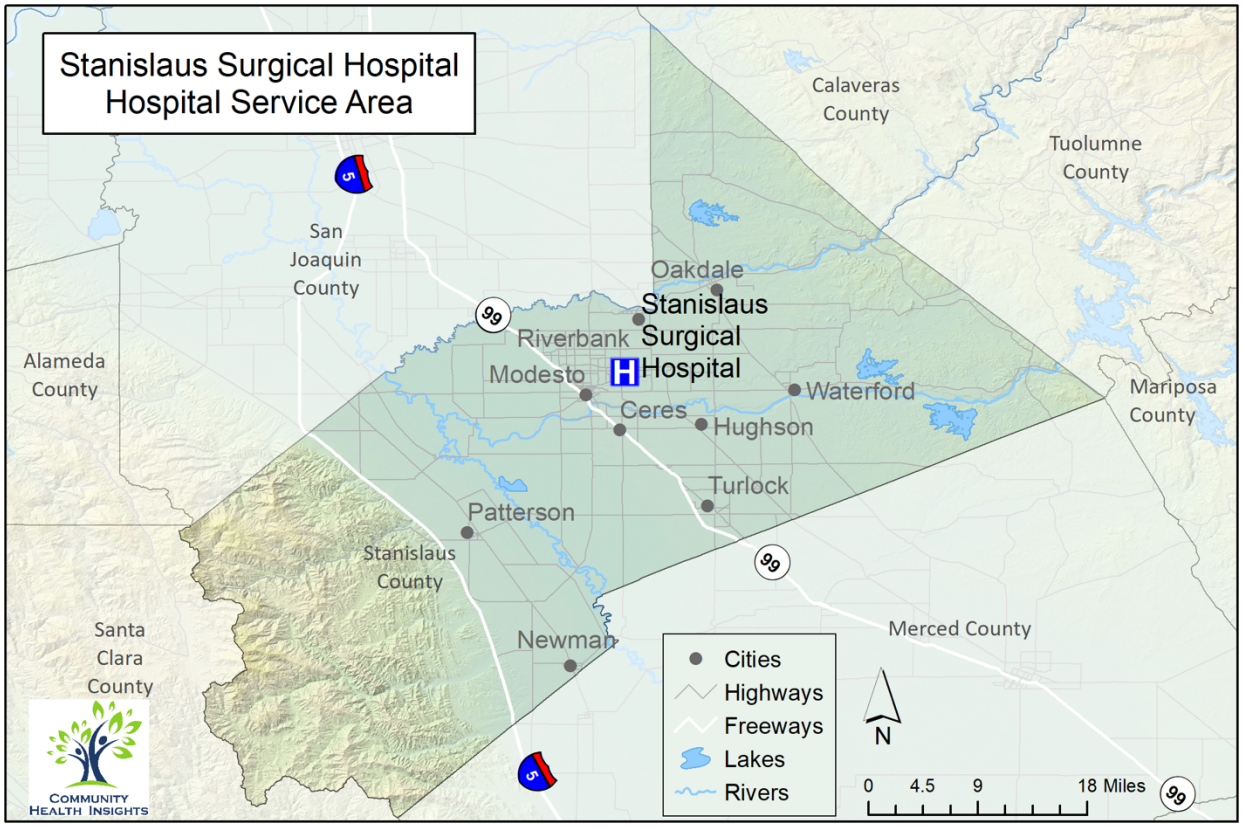

Figure 3: Community Served by Stanislaus Surgical Hospital

Population characteristics for each ZIP code that are located in the service area are presented in Table 2. These are compared to the State and County for descriptive purposes.

Table 2: Population characteristics for each ZIP code located in the HHS service area

ZIP Code	Total Population	% Minority	Median Age	Medina Income	% Poverty	% Unemploy	% Uninsured	% No HS Graduatio	% Living in High	% with Disability
95230	869	59.1	42	$47,865	19.1	0.0	20.1	38.2	39.1	4.4
95307	42,844	68.7	31	$50,051	17.0	15.9	11.1	30.4	42	14.3
95313	1,077	47.7	32	$42,358	15.6	8.7	19.7	20.7	24.1	18.6
95316	6,416	30.4	35	$60,233	22.4	11	7.3	20.7	33	10.3
95319	1,593	65.4	40	$26,503	54.9	19.5	14.1	40.9	43.5	22.6
95323	1,083	36.2	39	$51,528	11.8	8.3	7.5	19.9	26.2	16.1
95326	9,948	36.1	35	$56,037	17.8	11.1	9.7	18.9	38.2	16.1

95328	6,013	75.4	25	$51,048	19.3	27.5	16.5	28.6	38.9	13.5
95329	2,650	21.7	48	$57,000	7.1	5.7	6.5	16.9	37.3	16.7
95350	51,441	46.5	39	$43,876	20	14.4	10.7	16.2	42.5	19.2
95351	49,243	81.4	29	$36,548	31.6	19.9	15.4	44.8	51.5	14
95354	25,485	51.2	33	$41,558	24.9	16.7	14.7	22.4	45.5	17.5
95355	58,872	44.9	38	$59,403	10.7	10.3	8.4	11.7	38.3	13.2
95356	32,827	50.2	36	$66,286	12.4	8.4	10.4	9.7	38.1	11.7
95357	11,717	53.9	36	$58,582	19.8	11.9	11.3	25.1	32.7	11.9
95358	32,758	68.4	31	$51,086	24.2	19.3	15.8	34.7	38.4	11.5
95360	12,243	73.4	33	$48,454	18.3	17.7	21.2	25.1	37	13.4
95361	33,741	31.8	38	$57,649	13.7	11.8	6.9	11.7	39.6	10.7
95363	26,291	75.4	31	$54,440	19.3	14	13.2	26.2	44.2	7.5
95367	24,657	63.8	32	$62,326	10.9	12.1	10.8	24.3	31.9	8.9
95368	13,826	59.3	31	$71,730	8.5	9	7.1	19.9	35.4	10.9
95380	41,865	57.2	33	$41,302	21.7	14.1	13.8	27.2	44.3	14
95382	37,138	37.8	37	$66,116	10.7	8.7	7.7	12.4	36.9	13.4
95385	396	31.8	39	$40,486	2.3	11.8	5.3	22.6	20.5	13.4
95386	10,324	48	33	$52,695	21.7	19.3	13	32.7	34.4	12.8
95387	520	95	16	$21,579	58.7	37	3.7	70.9	69.4	11.5
California	38,654,206	61.6	36	$63,783	15.8	8.7	12.6	17.9	42.9	10.6
Stanislaus County	530,561	55.9	34	$51,591	18.2	13.8	11.5	22.4	40.6	13.4

(Source: 2011-2015 American Community Survey 5-year estimates; US Census Bureau)

Community Health Needs Index

Figure 2 displays the Community Health Needs Index (CHVI) for Stanislaus County. The CHVI is a composite index used to help understand the distribution of health disparities within the service area. Like the *Community Needs Index* or *CNI*[4] on which it was based, the CHVI combines multiple sociodemographic indicators (listed below) to help identify those locations experiencing health disparities. CHVI values indicate a greater concentration of groups supported in the literature as being more likely to experience disparities. (Interested readers are referred to the Technical Report section of this report for further details as to the CHVI construction).

Percent Minority (Hispanic or non-White)	Percent Families with Children in Poverty
Population 5 Years or Older who speak Limited English	Percent Households 65 years or Older in Poverty
Percent 25 or Older Without a High School Diploma	Percent Single Female-Headed Households in Poverty
Percent Unemployed	Percent Renter-Occupied Housing Units
Percent Uninsured	

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

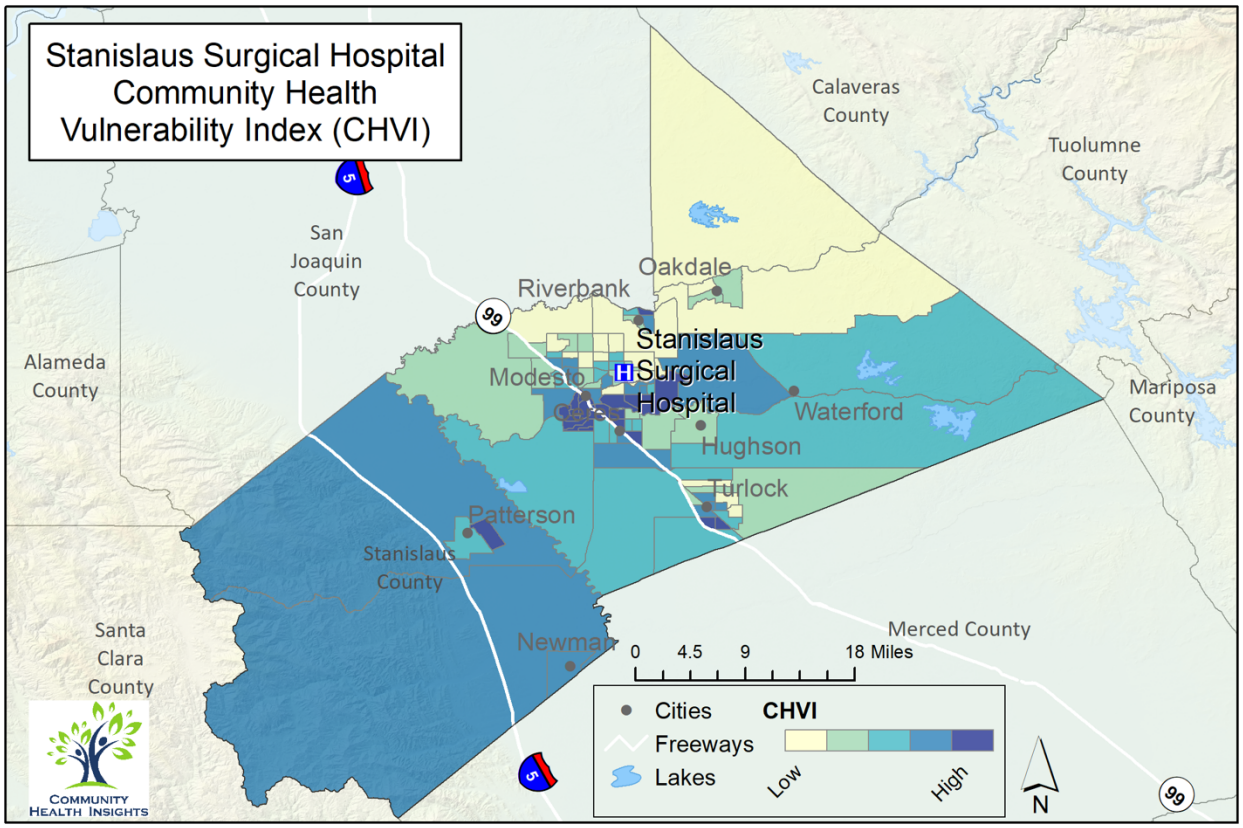

Figure 4: Community Health Vulnerability Index for Stanislaus Surgical Hospital

The census tracks with the highest overall CHVI scores (greatest vulnerability) include those central (along the HWY 99 corridor) and east Modesto. Further, South Turlock and the area surrounding Patterson also had high CHI scores. Last, sections of Riverbank also had among the highest of CHIV scores. These point to the fact that these geographic areas are those likely experiencing health disparities.

Resources Potentially Available to Meet the PSHNs

In all, 248 resources were identified in the SSH service area that were potentially available to meet the eight identified significant health needs. The identification method included starting with the list of resources from the 2016 Sutter Health Memorial Medical Center CHNA, verifying that the resource was still existed, and then adding newly identified resources into the 2018 CHNA report. Examination of the resources revealed the following numbers of resources for each significant health need as shown in Table 3:

Table 3: Resources potentially available to meet significant health needs in priority order

Significant Health Need (in priority order)	Number of resources
Safe and violence free environment	7
Access to mental/behavior/substance abuse services	38
Active living and healthy eating	42
Access to quality primary healthcare services	50
Access to basic needs such as housing, jobs, and food	43
Injury and disease prevention management	47

Access and functional needs	3
Access to specialty care	18
Total Resources	***248***

For more specific examination of resources by significant health need and by geographic locations, as well as the detailed method for identifying these, see the Technical Report.

Impact/Evaluation of Actions Taken by Hospital

Regulations require that each hospital's CHNA report include: "… an evaluation of the impact of any actions that were taken since the hospital facility finished conducting its immediately preceding CHNA to address the significant health needs identified in the hospital facility's prior CHNA(s) (p. 78969)."[5] Prior to this report, SSH had not conducted a CHNA, therefore there is no information to report.

Conclusion

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

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

Stanislaus Surgical Hospital 2018 CHNA Technical Report

The following section presents a detailed account of data collection, analysis, and results, as well as appendages to the CHNA report for SSH.

Results of Data Analysis

Secondary Data

The tables that follow show the specific values for the health need identification indicators included in each conceptual model category for both the county and state. Each indicator was compared to the state benchmark. Indicators where performance was worse in the county than in the state are highlighted.

Length of Life

Table 4: Length of life indicators compared to State benchmarks

Indicator	California	Stanislaus
Infant Mortality	4.5	5.7
Life Expectancy	80.9	77.8
Age Adjusted Mortality	651.6	812.2
Alzheimer's Mortality	35.0	41.7
Child Mortality	38.5	47.6
Premature Age Adjusted Mortality	268.8	369.5
Years of Potential Life Lost	5217.3	7148.5
Stroke Mortality	37.5	40.4
CLD Mortality	34.9	47.3
Diabetes Mortality	22.1	23.6
Heart Disease Mortality	157.3	196.0
Hypertension Mortality	12.6	11.8
Influenza Pneumonia Mortality	16.0	17.4
Suicide Mortality	10.8	10.7
Liver Disease Mortality	13.2	15.5
Cancer Mortality	153.4	168.4
Kidney Disease Mortality	8.3	10.1
Unintentional Injury Mortality	31.2	40.5

Quality of Life

Table 5: Quality of life indictors compared to State benchmarks

Indicator	California	Stanislaus
Cancer Female Breast	120.6	115.2
Cancer Colon and Rectum	37.1	41.8
Percent with Disability	10.6	13.4
Diabetes Prevalence	8.5	9.3

HIV Prevalence	376.4	129.6
Low Birth Weight	6.8	6.3
Cancer Lung And Bronchus	44.6	54.2
Cancer Prostate	109.2	91.3
Poor Mental Health Days	3.5	3.9

Health Behaviors

Table 6: Health behaviors indicators compared to State benchmarks

Indicator	California	Stanislaus
Poor Physical Health Days	3.5	3.9
Excessive Drinking	17.8	17.8
Drug Overdose Deaths	12.2	18.2
Adult Obesity	22.7	30.1
Physical Inactivity	17.9	21.0
Limited Access to Healthy Food	3.3	4.9
Modified Retail Food Environment Index (mRFEI)	0.1	0.1
Access to Exercise	89.6	88.3
STI Chlamydia Rate	487.5	447.4
Teen Birth Rate	24.1	32.0
Adult Smokers	11.0	12.7

Clinical Care

Table 7: Clinical care indicators compared to State benchmarks

Indicator	California	Stanislaus
Health Care Costs	$9,100	$9,111
HPSA Dental Health		No
HPSA Mental Health		Yes
HPSA Primary Care		Yes
HPSA Medically Underserved Area		Yes
Mammography Screening	59.7	60.7
Dentists	82.3	60.9
Mental Health Providers	308.2	183.4
Psychiatry Providers	13.4	4.6
Specialty Care Providers	183.2	98.6
Primary Care Physicians	78.0	65.6
Preventable Hosp Stays	36.2	53.8

Social and Economic/ Demographic Factors

Table 8: Social and economic/demographic factor indictors compared to State benchmarks

Indicator	California	Stanislaus
Homicides	5.0	6.2
Violent Crimes	407.0	533.1
Motor Vehicle Crash Deaths	8.5	13.3
Some College	63.5	52.4
High School Graduation	82.3	84.6
Unemployed	5.4	8.5
Children with Single Parents	31.8	34.4
Social Associations	5.8	5.7
Free Reduced Lunch	58.9	67.1
Children in Poverty	19.9	19.1
Median Household Income	$67,715	$54,060
Uninsured	9.7	8.5

Physical Environment

Table 9: Physical environment indicators compared to State benchmarks

Indicator	California	Stanislaus
Severe Housing Problems	27.9	26.5
Housing Units No Vehicle	7.6	6.9
Public Transit Proximity	50.0	69.8
Pollution Burden	0.5	1.0
Air Particulate Matter	8.0	10.0
Drinking Water Violations		Yes

Primary Data Collection and Analysis

Key Informant and Focus Group Results

Table 10 contains a listing of community health experts and residents that contributed input to the CHNA. The table describes the role or name of both key informants and focus groups, the number of participants, the organization or community the participants represented and their role, and the date the event occurred.

Table 10: Key informant and focus group list

Key informant or focus group	Title/role and organization, or focus group name	Number of participants	Health department representative, minority, medically underserved, and/or low- income	Leader or representative	Date
Key Informant Interview	Public Health Officer, Stanislaus County Health Services Agency	1	Health Department representative	Leader	8/25/15

Key Informant Interview	Chief Executive Officer, United Way of Stanislaus County	1	Community Based Organization representative	Leader	8/24/15
Key Informant Interview	Director of Patient Education, Golden Valley Health Centers	1	Minority, medically underserved, low income	Leader	9/3/15
Key Informant Interview	Executive Director, Center for Human Services	1	Minority, medically underserved, low income	Leader	8/26/15
Key Informant Interview	Director of Student Support Services, Stanislaus County Office of Education	1	Education representative	Leader	8/24/15
Key Informant Interview	Community Development and Empowerment Manager, Stanislaus County	1	County representative	Leader	9/17/15
Key Informant Interview	Chief Executive Officer, Stanislaus County	1	County representative	Leader	9/17/15
Key Informant Interview	Clinical Director, Sierra Vista Child & Family Services	1	Medically underserved, low income	Leader	8/26/15
Focus Group	Ceres Promotores focus group in Spanish (all female)	16	Minority, medically underserved, low income	Members	8/25/15
Focus Group	Modesto/King Kennedy Center community advocates focus group in English	7	Minority, medically underserved, low income	Representatives and Members	8/28/15
Focus Group	Senior Health focus group in English	9	Minority, medically underserved, low income	Representatives and Members	8/28/15
Focus Group	Hughson Family Resource Center focus group in Spanish	9	Minority, medically underserved, low income	Members	9/10/15
Focus Group	Salvation Army focus group in English and Spanish	6	Minority, medically underserved, low income	Representatives and Members	9/11/15
Focus Group	Young at Heart Exercise older adult focus group in English	7	Medically underserved, low income	Representatives and Members	9/18/15

Key Informant and Focus Group Interview Guides

The following questions served at the interview guides for both key informant and focus group interviews:

Key Informant Interview Questions

1. What are Stanislaus County's 3 most critical health issues? Why are these the top priorities?
2. Starting with (health issue #1), what are the factors that contribute to making this a priority?
3. How do the health issues you've identified specifically impact low income, underserved/uninsured populations? Which populations do the issues impact most?

4. How do the health issues you've identified impact ethnic/racial subpopulations? Which populations do the issues impact most?
5. Based on your knowledge and expertise, what are the successful strategies that could be implemented to address the top 3 health issues you have identified? What are some of the challenges to addressing the health issues?
6. What assets and services are available in Stanislaus County to address the top health issues?
7. Beyond the 3 top health issues you've identified, are there any other health issues that you think are also important to address?
8. What are your suggestions for ways to engage community members, particularly low income, underserved/uninsured populations and ethnic/racial subpopulations, in addressing the health issues?
9. What role can Kaiser Permanente Central Valley and Sutter Health Memorial Medical Center play in addressing the health issues?
10. Is there anything else you would like to share about the top health issues in Stanislaus County and how to address the issues?

Focus Group Interview Questions

1. Please describe for me your idea of what a healthy community looks like.
2. Now think about how your community is right now. What is healthy about your community?
    a. What makes it easy to be healthy in your community?
    b. What makes it difficult to be healthy in your community?
3. In 2013, we asked community members to describe the top health issues in the community. Asthma, obesity/overweight/diabetes and access to care came up as top health issues facing your community. How important do you think these issues are today?
    a. What other health issues are important?
    b. Of all the health issues we've discussed what would you say are three most urgent ones?
4. What are the top three things that could be done to make your community healthier?
    a. For each of these, what are some successful ways to address them that you've seen either in your community or other communities you know about?
    b. If you haven't seen or heard about things that have been successful, do you have any ideas for ways to make your community healthier?
5. What are some organizations, services or resources in your community that help people to be healthy?
    a. How do these organizations, services or resources help people to be healthy?
6. What does the County/your community need in terms of health (services, programs, etc.) that does not currently exist in the community?
7. What do you recommend as the best ways to get people in your community involved in making your community healthier? Please be specific.
    a. What are the challenges to engaging people in your community?
    b. How can these challenges be overcome?
8. We're just about ready to wrap up. Is there anything else you feel is important for us to know about health in your community?

Written Comments Received on Previous CHNA

In that this is the first CHNA conducted by SHH, no written comments received on the pervious CHNA were available to collected and integrated into this CHNA.

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 which 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.

Conceptual Model

The conceptual model used in this needs assessment is shown in Figure 5. This model organizes individual health-related characteristics of populations in terms of how they relate to up- or down-stream factors of health and health disparities. In this model, health outcomes (quality and length of life) are understood to result from the influence of health factors describing interrelated individual, environmental, and community characteristics, which in turn are influenced by underlying policies and programs. This model was used to guide the selection of secondary indicators in this analysis, as well as to express in general, how these up-stream health factors lead to the down-stream health outcomes. It also suggests that poor health outcomes within the hospital service area can be modified through policies and programs that address the health factors contributing to them.

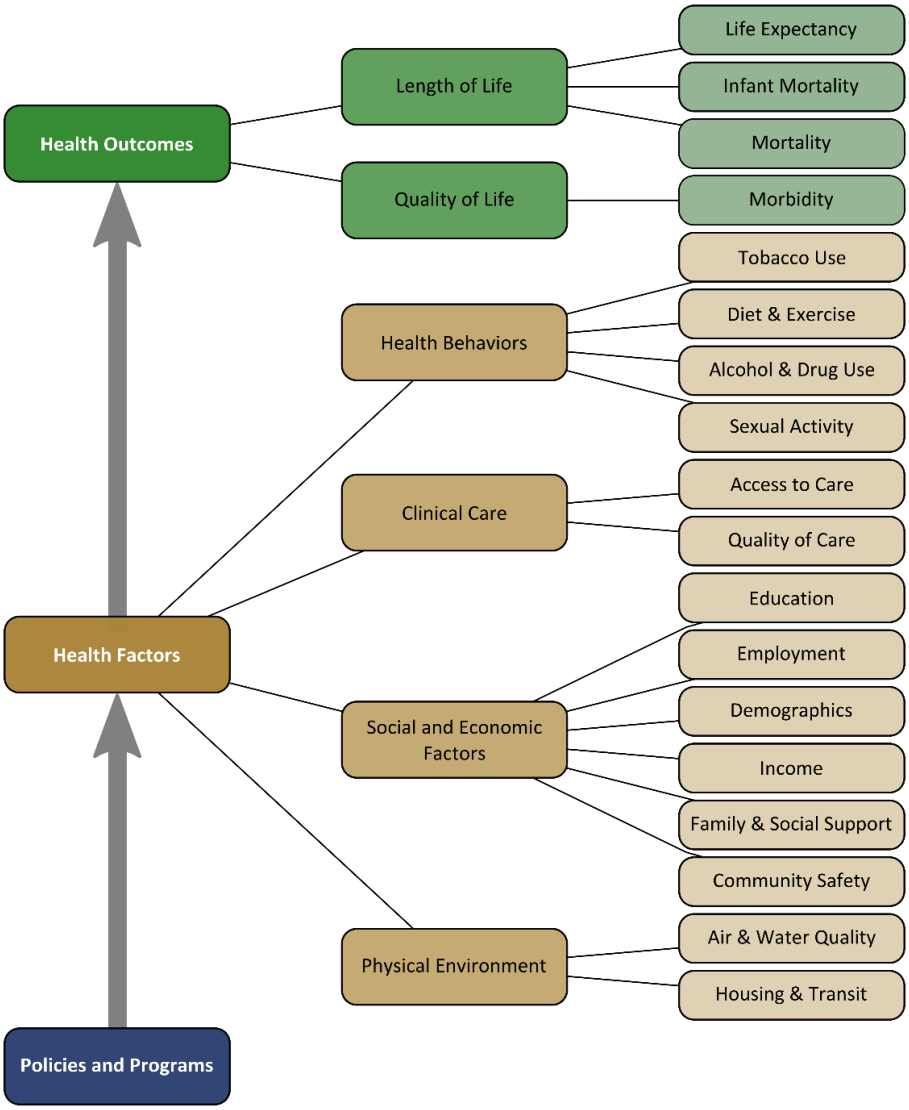

Figure 5: Stanislaus Surgical Hospital Community Health Assessment Conceptual Model as modified from the County Health Rankings Model, Robert Wood Johnson Foundation, and University of Wisconsin, 2015

Process Model

Figure 6 below outlines the data collection and analysis stages of this analysis. The project began by confirming that the hospital service area (HSA). Primary data collection included both key informant and focus group interviews with community health experts and residents. Secondary data, including the health factor and health outcome indicators identified using the conceptual model and the Community Health Vulnerability Index (CHVI) values for each Census Tract within the HSA, were used to identify areas or population subgroups within the HSA experiencing health disparities.

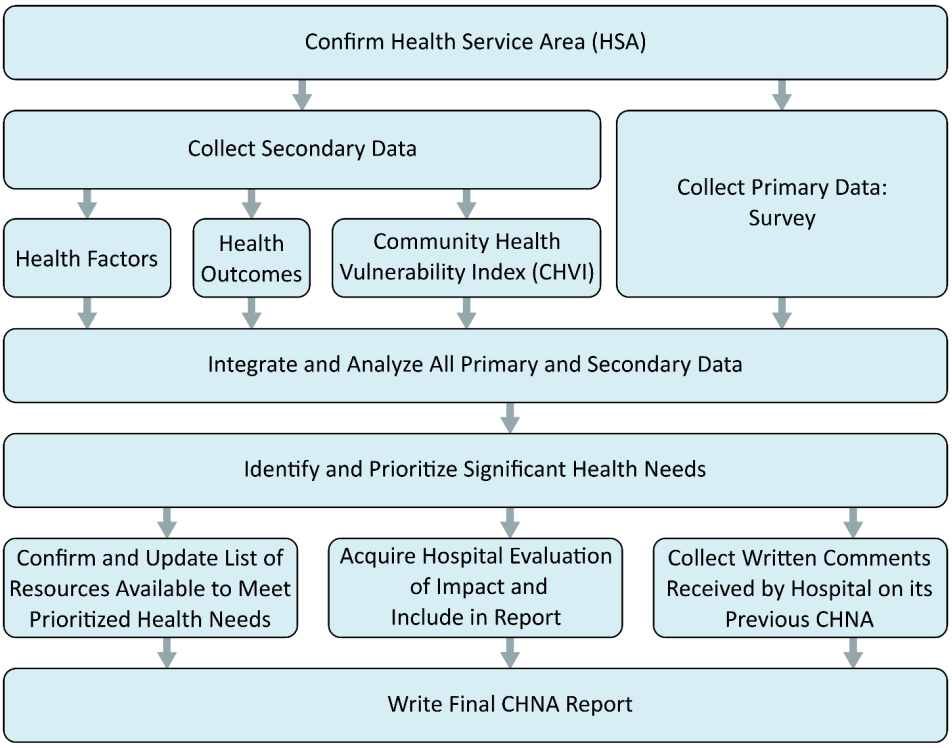

Figure 6: CHNA process model

Overall primary and secondary data were integrated to identify significant health needs for the HSA. Significant health needs were then prioritized based on analysis of the primary data. Finally, information was collected regarding the resources within the community available to meet the identified health needs, an evaluation of the impact of the hospital's prior efforts was obtained from hospital representatives, and written comments on the previous CHNA were gathered and included in the report. However, in that this is the first CHNA conducted by SSH, there was no evaluation of previous efforts taken by SSH to address needs identified in a previous CHNA, nor were there written comments received.

Greater detail on the collection and processing of the secondary and primary data are 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.

Secondary Data Collection and Processing

The secondary data used in the analysis can be thought of as falling into four categories. The first three of these are associated with the various stages outlined in the process model. These include: 1) health outcome indicators, 2) Community Health Vulnerability Index (CHVI) data used to identify areas and population sub-groups experiencing disparities, and 3) health factor and health outcome indicators used to identify significant health needs. The fourth category of indicators is used to help describe the socio-economic and demographic characteristics of the HSA.

Mortality data at the ZIP code level from the California Department of Public Health (CDPH) was used to represent health outcomes. Census Bureau data collected at the tract level was used to create the CHVI. County-wide indicators, representing the concepts identified in the conceptual model and

collected from multiple data sources were used in the identification of significant health needs. In the fourth category, Census Bureau data was collected at the state, county, and Zip Code Tabulation Areas (ZCTA) levels and used to describe general socio-economic and demographic characteristics in the HSA. This section will proceed by detailing the sources and processing steps applied to the CDPH health outcome data; the Census Bureau data used to create the CHVI; the county-wide indicators used to identify significant health needs; and then the sources for the socio-economic and demographic variables obtained from the Census Bureau.

CDPH Health Outcome Data

Mortality and birth related data for each ZIP code within the HSA were collected from the California Department of Public Health (CDPH). The specific indicators used are listed in Table 11 below. To increase the stability of calculated rates, each of these indicators were collected for the years from 2012 to 2016. The specific processing steps used to derive these rates are described below.

Table 11: Mortality and birth related indicators used in the CHNA

Indicator	ICD10 Codes
Heart Disease Mortality	I00-I09, I11, I13, I20-I51
Malignant Neoplasms (Cancer) Mortality	C00-C97
Cerebrovascular Disease (Stroke) Mortality	I60-I69
Chronic Lower Respiratory Disease (CLD) Mortality	J40-J47
Alzheimer's Disease Mortality	G30
Unintentional Injuries (Accidents) Mortality	V01-X59, Y85-Y86
Diabetes Mellitus Mortality	E10-E14
Influenza and Pneumonia Mortality	J09-J18
Chronic Liver Disease and Cirrhosis Mortality	K70, K73, K74
Essential Hypertension and Hypertensive Renal Disease Mortality	I10, I13, I15
Intentional Self-Harm (Suicide) Mortality	Y03, X60-X84, Y87.0
Nephritis, Neprhrotic Syndrome, and Nephrosis (Kidney disease) Mortality	N00-N07, N17-N19, N25-N27
Total Births	
Deaths of those with age less than 1 year	

ZIP Code definitions

All CDPH indicators used at this stage of the analysis are reported by patient mailing ZIP codes. ZIP codes are defined by the US Postal Service as a single location (such as a PO Box), or a set of roads along which addresses are located. The roads that comprise such a ZIP code may not form contiguous areas, and do not match the areas used by the US Census Bureau, which is the main source of population and demographic information in the US. 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 Census Bureau created ZIP Code Tabulation Areas (ZCTAs). ZCTAs are created by identifying the dominant ZIP code for addresses in a given Census block (the smallest unit of Census data available), and then grouping blocks with the same dominant ZIP code into a corresponding ZCTA. The creation of ZCTAs allows us to identify population figures that, in combination the health outcome data reported at the ZIP code level, make it possible to calculate rates for each ZCTA. However, the difference in the definition between mailing ZIP codes and ZCTAs has two important implications for analyses of ZIP 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. Secondly, 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 ZCTA. But residents whose mailing addresses correspond to 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[6] were compared to ZCTA boundaries.[7] These ZIP codes were then assigned to either 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 Box or unique ZIP codes were then added to the ZCTAs to which they were assigned.

For example, 95381 is a PO Box located in Turlock. ZIP Code 95381 is not represented by a ZCTA, but it could have reported patient data. Through the process identified above, it was found that 95831 is located within the 95380 ZCTA. Data for both ZIP codes 95381 and 95380 were therefore assigned to ZCTA 95380 and used to calculate rates. All ZIP code level health outcome variables given in this report are therefore reporting approximate rates for ZCTAs, but for the sake of familiarity of terms they are elsewhere presented as ZIP code rates.

Rate Smoothing

All CDPH indicators were collected for all ZIP codes in California. To protect privacy, CDPH masked the data for a given indicator if there were 10 or fewer cases reported in the ZIP code. ZIP codes with masked values were treated as having NA values reported, while ZIP codes not included in a given year were assumed to have 0 cases for the associated indicator. As described above, patient records in ZIP codes not represented by ZCTAs were added to those ZCTAs that they fell inside or were closest to. When consolidating ZIP codes into ZCTAs, if a PO Box ZIP code with an NA value was combined with a non-PO Box ZIP code with a reported value, then the NA value for the PO Box ZIP code was converted to a 0. Thus, ZCTA values were recorded as NA only if all ZIP codes contributing values to them had their values masked.

The next step in the analysis process was to calculate rates for each of these indicators. However, rather than calculating raw rates, empirical Bayes smoothed rates (EBR) were created for all indicators possible.[8] Smoothed rates are considered preferable to raw rates for two main reasons. First, the small population of many ZCTAs, particularly those in rural areas, meant that the rates calculated for these areas would be unstable. This problem is sometimes referred to as the small number problem. Empirical Bayes smoothing seeks to address this issue by adjusting the calculated rate for areas with small populations so that they more closely resemble the mean rate for the entire study area. The amount of this adjustment is greater in areas with smaller populations, and less in areas with larger populations.

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

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

[8] Anselin, L. (2003). *Rate Maps and Smoothing.* Retrieved February 16, 2013, from http://www.dpi.inpe.br/gi

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

EBR were calculated for each mortality indicator using the total population figure reported for ZCTAs in 2014 American Community Survey 5-year estimate table DP05. Data for 2014 was used because this represented the central year of the 2012 – 2016 range of years for which CDPH data was collected. To calculate infant mortality rate, the total number of deaths for the population under one year old was divided by the total number of births.

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

Empirical Bayes smoothing rates were attempted for every overall indicator, but could not be calculated for some. In these cases, raw rates were used instead. These smoothed or raw mortality rates were then multiplied by 100,000, so that the final rates represent deaths per 100,000 people. In the case of infant mortality, the rates were multiplied by 1,000, so the final rate represents infant deaths per 1,000 live births.

Community Health Vulnerability Index (CHVI)

The CHVI is a health care disparity index largely based on the Community Need Index (CNI) developed by Barsi and Roth.[9] The CHVI uses the same basic set of demographic indicators to address health care disparities as outlined in the CNI, but these indicators are aggregated in a different manner to create the CHVI. For this report, the following nine indicators were obtained from the 2016 American Community Survey 5-year Estimate dataset at the census tract[10] level:

Table 12: Indicators used to create the Community Health Vulnerability Index

Indicator	Description	Source Data Table	Variables Included
Minority	The percentage of the population that is Hispanic or reports at least one race that is not white	B0302	HD01_VD01, HD01_VD03
Limited English	The percentage of the population 5 years or older that speaks English less than "well".	B16004	HD01_DD01, HD01_VD07, HD01_VD08, HD01_VD12, HD01_VD13, HD01_VD17,

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

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

Indicator	Description	Source Data Table	Variables Included
			HD01_VD18, HD01_VD22, HD01_VD23, HD01_VD29, HD01_VD30, HD01_VD34, HD01_VD35, HD01_VD39, HD01_VD40, HD01_VD44, HD01_VD45, HD01_VD51, HD01_VD52, HD01_VD56, HD01_VD57, HD01_VD61, HD01_VD62, HD01_VD66, HD01_VD67
Not a High School Graduate	Percent of population over 25 that are not high school graduates	S1501	HC02_EST_VC17
Unemployed	Unemployment rate among the population 16 or older	S2301	HC04_EST_VC01
Families with Children in Poverty	Percent of families with children that are in poverty	S1702	HC02_EST_VC02
Elderly Households in Poverty	Percent of households with householders 65 years or older that are in poverty	B17017	HD01_VD01, HD01_VD08, HD01_VD14, HD01_VD19, HD01_VD25, HD01_VD30
Single Female Headed Households in Poverty	Percentage of single female headed households with children that are in poverty	S1702	HC02_EST_VC02
Renters	Percentage of the population in renter occupied housing units	B25008	HD01_VD01, HD01_VD03
Uninsured	Percent of population that is uninsured	S2701	HC05_EST_VC01

Each indicator was scaled using a min-max stretch, so that the tract with the maximum value for a given indicator within the study area received a value of 1, the tract with the minimum value for that same indicator within the study area received a 0, and all other tracts received some value between that range proportional to their reported values. All scaled indicators were then summed to form the final CHVI. Areas with higher CHVI values therefore represent locations with relatively higher concentrations of the target index populations and are likely experiencing greater health care disparities.

Significant Health Need Identification Dataset

The third set of secondary data used in the analysis were the health factor and health outcome indicators used to identify the significant health needs. The selection of these indicators was guided by the previously identified conceptual model. Table 13 lists these indicators, their sources, the years they were measured, and the health-related characteristic from the conceptual model they are primarily used to represent.

Table 13: Health factor and health outcome data used in CHNA, including data source and time period in which the data were collected

Conceptual Model Alignment			Indicator	Data Source	Time Period
Health outcomes	Length of life	Infant mortality	Infant Mortality Rate	CHR*	2010-2016
		Life expectancy	Life Expectancy at Birth	CDPH†	2012-2016
		Mortality	Age-adjusted mortality	CDPH	2012-2016
			Alzheimer's Disease mortality	CDPH	2012-2016
			Child mortality	CHR	2013-2016
			Premature age-adjusted mortality	CHR	2014-2016
			Premature death (Years of Potential Life Lost)	CHR	2014-2016
			Cerebrovascular Disease (Stroke)	CDPH	2012-2016
			Chronic Lower Respiratory Disease	CDPH	2012-2016
			Diabetes Mellitus	CDPH	2012-2016
			Diseases of the Heart	CDPH	2012-2016
			Essential Hypertension & Hypertensive Renal Disease	CDPH	2012-2016
			Influenza and Pneumonia	CDPH	2012-2016
			Intentional Self Harm (Suicide)	CDPH	2012-2016
			Liver Disease	CDPH	2012-2016
			Malignant Neoplasms (Cancer)	CDPH	2012-2016
			Nephritis, Nephrotic Syndrome and Nephrosis (Kidney Disease)	CDPH	2012-2016
			Unintentional Injuries (Accidents)	CDPH	2012-2016
	Quality of life	Morbidity	Breast Cancer Incidence	California Cancer Registry	2010-2014
			Colorectal Cancer Incidence	California Cancer Registry	2010-2014
			Diabetes prevalence	CHR	2014
			Disability	Census	2016
			HIV prevalence rate	CHR	2015
			Low birthweight	CHR	2010-2016
			Lung Cancer Incidence	California Cancer Registry	2010-2014
			Prostate Cancer Incidence	California Cancer Registry	2010-2014
			Poor mental health days	CHR	2016
			Poor physical health days	CHR	2016
He	Hea		Excessive drinking	CHR	2016

		Alcohol and drug use	Drug Overdose Deaths	CDPH	2014-2016
		Diet and exercise	Adult obesity	CHR	2014
			Physical inactivity	CHR	2014
			Limited access to healthy foods	CHR	2015
			Modified Retail Food Environment Index (mRFEI)	Census	2016
			Access to exercise opportunities	CHR	2010 population/ 2016 facilities
		Sexual activity	Sexually transmitted infections (Chlamydia Rate)	CHR	2015
			Teen birth rate	CHR	2010-2016
		Tobacco use	Adult smoking	CHR	2016
	Clinical care	Access to care	Health care costs	CHR	2015
			Health Professional Shortage Area - Dental	HRSA‡	2018
			Health Professional Shortage Area - Mental Health	HRSA	2018
			Heath Professional Shortage Area - Primary Care	HRSA	2018
			Medically Underserved Areas	HRSA	2018
			Mammography screening	CHR	2014
			Dentists	CHR	2016
			Mental health providers	CHR	2017
			Psychiatrists	HRSA	
			Specialty Care providers	HRSA	
			Primary care physicians	CHR	2015
		Quality care	Preventable hospital stays (Ambulatory Care Sensitive Conditions)	CHR	2015
	Social & economic/ Demographic factors	Community safety	Homicide rate	CHR	2010-2016
			Violent crime rate	CHR	2012-2014
			Motor vehicle crash death rate	CHR	2010-2016
		Education	Some college (post-secondary education)	CHR	2012-2016
			High school graduation	CHR	2014-2015
		Employment	Unemployment	CHR	2016
		Family and social support	Children in single-parent households	CHR	2012-2016
			Social associations	CHR	2015
		Income	Children eligible for free lunch	CHR	2015-2016
			Children in poverty	CHR	2016
			Median household income	CHR	2016
			Uninsured	CHR	2015
	Phys ical Envi	Housing and transit	Severe Housing problems	CHR	2010-2014
			Households with no vehicle	Census	2012-2016

			Access to Public Transit	Census/ GTSF data	2010,2012-2016,2018
		Air and water quality	Pollution Burden Score	Cal-EnviroScreen	2017
			Air pollution - particulate matter	CHR	2012
			Drinking water violations	CHR	2016

*County Health Rankings
†California Department of Public Health
‡Health Resources and Services Administration

County Health Rankings Data

All indicators listed with County Health Rankings (CHR) as their source were obtained from the 2018 County Health Rankings[11] dataset. This was the most common source of data, with 38 associated indicators included in the analysis. Indicators were collected at both the county and state level. County level indicators were used to represent the health factors and health outcomes in a hospital's service area. State level indicators were collected to be used as benchmarks for comparison purposes. All variables included in the CHR dataset were obtained from other data providers. The original data providers for each CHR variable is given in Table 14.

Table 14: County Health Rankings data set, including indictors, the time period the data were collected, and the original source of the data

CHR Indicator	Time Period	Original Data Provider
Infant Mortality Rate	2010-2016	CDC WONDER mortality data
Child mortality	2013-2016	CDC WONDER mortality data
Premature age-adjusted mortality	2014-2016	CDC WONDER mortality data
Premature death (Years of Potential Life Lost)	2014-2016	National Center for Health Statistics - Mortality Files
Diabetes prevalence	2014	CDC Diabetes Interactive Atlas
HIV prevalence rate	2015	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Low birthweight	2010-2016	National Center for Health Statistics - Natality files
Poor mental health days	2016	Behavioral Risk Factor Surveillance System
Poor physical health days	2016	Behavioral Risk Factor Surveillance System
Excessive drinking	2016	Behavioral Risk Factor Surveillance System
Adult obesity	2014	CDC Diabetes Interactive Atlas
Physical inactivity	2014	CDC Diabetes Interactive Atlas
Limited access to healthy foods	2015	USDA Food Environment Atlas
Access to exercise opportunities	2010 population/ 2016 facilities	Business Analyst, Delorme map data, ESRI, & US Census Tiger line Files
Sexually transmitted infections (Chlamydia Rate)	2015	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Teen birth rate	2010-2016	National Center for Health Statistics - Natality files

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

Adult smoking	2016	Behavioral Risk Factor Surveillance System
Health care costs	2015	Dartmouth Atlas of Health Care
Mammography screening	2014	Dartmouth Atlas of Health Care
Dentists	2016	Area Health Resource File/National Provider Identification file
Mental health providers	2017	CMS, National Provider Identification
Primary care physicians	2015	Area Health Resource File/American Medical Association
Preventable hospital stays (Ambulatory Care Sensitive Conditions)	2015	Dartmouth Atlas of Health Care
Homicide rate	2010-2016	CDC WONDER mortality data
Violent crime rate	2012-2014	Uniform Crime Reporting - FBI
Motor vehicle crash death rate	2010-2016	CDC WONDER mortality data
Some college (post-secondary education)	2012-2016	American Community Survey, 5-year estimates
High school graduation	2014-2015	California Department of Education
Unemployment	2016	Bureau of Labor Statistics Local Area Unemployment Statistics
Children in single-parent households	2012-2016	ACS 5-year estimates
Social associations	2015	County Business Patterns
Children eligible for free lunch	2015-2016	National Center for Education Statistics
Children in poverty	2016	US Census Bureau Small Area Income and Poverty Estimates
Median household income	2016	US Census Bureau Small Area Income and Poverty Estimates
Uninsured	2015	US Census Bureau Small Area Health Insurance Estimates
Severe Housing problems	2010-2014	HUD Comprehensive Housing Affordability Strategy (CHAS) data
Air pollution - particulate matter	2012	CDC's National Environmental Public Health Tracking Network
Drinking water violations	2016	Safe Drinking Water Information System

CDPH Data

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

In addition to the by-cause mortality rates, age-stratified rates were also used to calculate age-adjusted all-cause mortality rates and life expectancy at birth for the counties and the state. This was done by dividing the number of deaths in each age category as reported in the 2014 American Community Survey 5-year estimates Table DP05. Because estimates of age under age 1 and from ages 1 to 4 were not available in the American Community Survey datasets used in this analysis, the proportion

of the population under age 5 that was also under age 1 was calculated using 2010 decennial Census data for each geographic area. These proportions were then compared to the population under 5 reported in the American Community Survey datasets for each geographic area to estimate the values for the population under 1 and from 1 to 4. These estimated values were then used to calculate age stratified rates. Age-stratified EBR were used whenever possible. Each age-stratified rate was then multiplied by the appropriate coefficient from the US standard 2000 population.[12] To calculate age-adjusted all-cause mortality, the resulting values were then summed and multiplied by 100,000 to create age-adjusted rates per 100,000 people.

Life expectancy at birth values are reported in years and were derived from period life tables created in the statistical software program R[13] using the Human Ecology, Evolution, and Health Lab's[14] example period life table function. This function was modified to calculate life tables for each county and state, and to allow the life table to be calculated from the pre-calculated, smoothed, age-stratified mortality rates.

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

HRSA Data

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

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

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[12] National Cancer Institute Surveillance, Epidemiology, and End Results Program. 2018. *Standard Populations – 19 Age Groups*. Available online at: https://seer.cancer.gov/stdpopulations/stdpop.19ages.html. Last accessed July 18, 2018.

[13] R Development Core Team. (2018). *R: A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http://www.R-project.org.

[14] Human Ecology, Evolution, and Health Lab. (2009, March 2). *Life tables and R programming: Period Life Table Construction*. Retrieved February 16, 2013, from Formal Demogrpahy Workshops, 2006 Workshop Labs: http://www.stanford.edu/group/heeh/cgi-bin/web/node/75

[15] California Department of Public Health. 2018. *County Health Status Profiles 2018*. Available online at: https://www.cdph.ca.gov/Programs/CHSI/Pages/County-Health-Status-Profiles.aspx. Last accessed October 23, 2018.

[16] Health Resources and Services Administration. 2018. Data Downloads, Available online at: https://data.hrsa.gov/data/download. Last accessed June 19 2018 (for county level Area Health Resource Files) and 1 August 2018 (for Health Professional Shortage Area files)

The HRSA's Area Health Resource Files provide information on physicians and allied health care providers for US 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, Non-Federal, excluding hospital residents and those 75+ years) from the total number of physicians (both MDs and DOs, Patient Care, Non-Federal) in 2015. This number was then divided by the 2015 total population given in the 2015 American Community Survey 5-year estimates Table B01003, and then multiplied by 100,000 to give the total number of specialty care physicians per 100,000 residents. The total specialty care physicians in each county were 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

Data obtained from the California Cancer Registry[17] includes age-adjusted incidence rates for Colon and Rectum, Female Breast, Lung and Bronchus, and Prostate cancer sites for counties and the state. Reported rates were based on data from 2010 – 2014, and report cases per 100,000. For low population counties, rates were calculated for a group of counties, rather than for individual counties. That group rate was used in this report to represent incidence rates for each individual county in the group.

Census Data

Data from the US Census Bureau was used to calculate three additional indicators: the percentage of households with no vehicle available, the percent of the civilian noninstitutionalized population with some disability, and the Modified Retail Food Environment Index. The sources for the indicators used are given in the Table 15 below.

Table 15: Detailed description of data used to percent of population with disabilities, households without a vehicle, and the Modified Retail Food Environment Index

Indicator	Source Data Table	Variable	NAICS code	Employee Size Category	Data Source
Percent with Disability	S1810	HC03_EST_VC01			2016 American Community Survey 5-year estimates
Households with No Vehicle Available	DP04	HC03_VC85			
Large grocery stores	BP_2016_00A3	Number of establishments	445110	10 or more employees	2016 County Business Patterns
Fruit and vegetable markets	BP_2016_00A3	Number of establishments	445230	All establishments	
Warehouse clubs	BP_2016_00A3	Number of establishments	452910	All establishments	

[17] California Cancer Registry. 2018. *Age-adjusted Invasive Cancer Incidence Rates in California*. Available online at: https://www.cancer-rates.info/ca/. Last accessed: May 11, 2018.

Small grocery stores	BP_2016_00A3	Number of establishments	445110	1 to 4 employees	
Limited-service restaurants	BP_2016_00A3	Number of establishments	722513	All establishments	
Convenience stores	BP_2016_00A3	Number of establishments	445120	All establishments	

The Modified Retail Food Environment Index (mRFEI) indicator reports the percentage of the total food outlets in a ZCTA that are considered healthy food outlets. The mRFEI indicator was calculated using a modification of the methods described by the National Center for Chronic Disease Prevention and Health Promotion[18] using data obtained from the US Census Bureau's 2016 County Business Pattern datasets. Healthy food retailers were defined based on North American Industrial Classification Codes (NAICS), and included:

- Large grocery stores,
- Fruit and vegetable markets, and
- Warehouse clubs

Food retailers that were considered less healthy included:

- Small grocery stores,
- Limited-service restaurants, and
- Convenience stores

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

CalEnviroScreen Data

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

GTFS Data

The final indicator used to identify significant health needs measures proximity to public transportation. This indicator reports the percentage of a county's population that lives in a Census block located within a quarter mile of a fixed transit stop. Census block data from 2010 (the most recent year it is available) was used to measure population.

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[18] National Center for Chronic Disease Prevention and Health Promotion. (2011). *Census Tract Level State Maps of the Modified Retail Food Environment Index (mRFEI).* Centers for Disease Control. Retrieved Jan 11, 2016, from http://ftp.cdc.gov/pub/Publications/dnpao/census-tract-level-state-maps-mrfei_TAG508.pdf

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

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

Table 16 notes the agencies for which transit stops could be obtained for each county in the HSA. It should be noted that while every attempt was made to include as comprehensive a list of data sources as possible, there may be transit stops associated with agencies not included in this list in the HSA. Caution should therefore be used in interpreting this indicator.

Table 16: Transportation agencies used to compile proximity to public transportation indictor

County	Agency
Stanislaus	Turlock Transit, Ceres Area Transit, Stanislaus Regional Transit; Modesto Area Express (MAX)

Descriptive Socio-Economic and Demographic Data

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

Table 17: Descriptive socio-economic and demographic data descriptions

Indicator	Description	Source Data Table	Variables Included
Population	Total population	DP05	HC01_VC03
Minority	The percentage of the population that is Hispanic or reports at least one race that is not white	B0302	HD01_VD01, HD01_VD03
Median Age	Median age of the population	DP05	HC01_VC23
Median Income	Median Household Income	S2503	HC01_EST_VC14
Poverty	Percent of population below the poverty level	S1701	HC03_EST_VC01
Unemployed	Unemployment rate among the population 16 or older	S2301	HC04_EST_VC01
Uninsured	Percent of population that is uninsured	S2701	HC05_EST_VC01
Not a High School Graduate	Percent of population over 25 that are not high school graduates	S1501	HC02_EST_VC17
High Housing Costs	Percentage of the population for whom total housing costs exceed 30% of income	S2503	HC01_EST_VC33, HC01_EST_VC37, HC01_EST_VC41, HC01_EST_VC45, HC01_EST_VC49

Indicator	Description	Source Data Table	Variables Included
Disability	Percent of civilian noninstitutionalized population with a disability	S1810	HC03_EST_VC01

Primary Data Collection and Processing

Detailed Analytical Methodology

The collected and processed primary and secondary data were integrated in two main analytical stages. Primary data were combined with the secondary health need identification data to identify significant health needs within the HAS. Second, primary data were used to prioritize those identified significant health needs. The specific details for these analytical steps are given in the following three sections.

Significant Health Need Identification

The general methods through which significant health needs (SHNs) were identified are shown in Figure 7 above and described here in greater detail. The first step in this process was to identify a set of potential health needs (PHNs) from which significant health needs could be selected. This was done by reviewing the health needs identified during the 2016 CHNA among various hospitals throughout northern California and then supplementing this list based on a preliminary analysis of the primary qualitative data collected for the 2019 CHNA. This resulted in a list of 10 PHNs for the HSA, shown in Table 18 below.

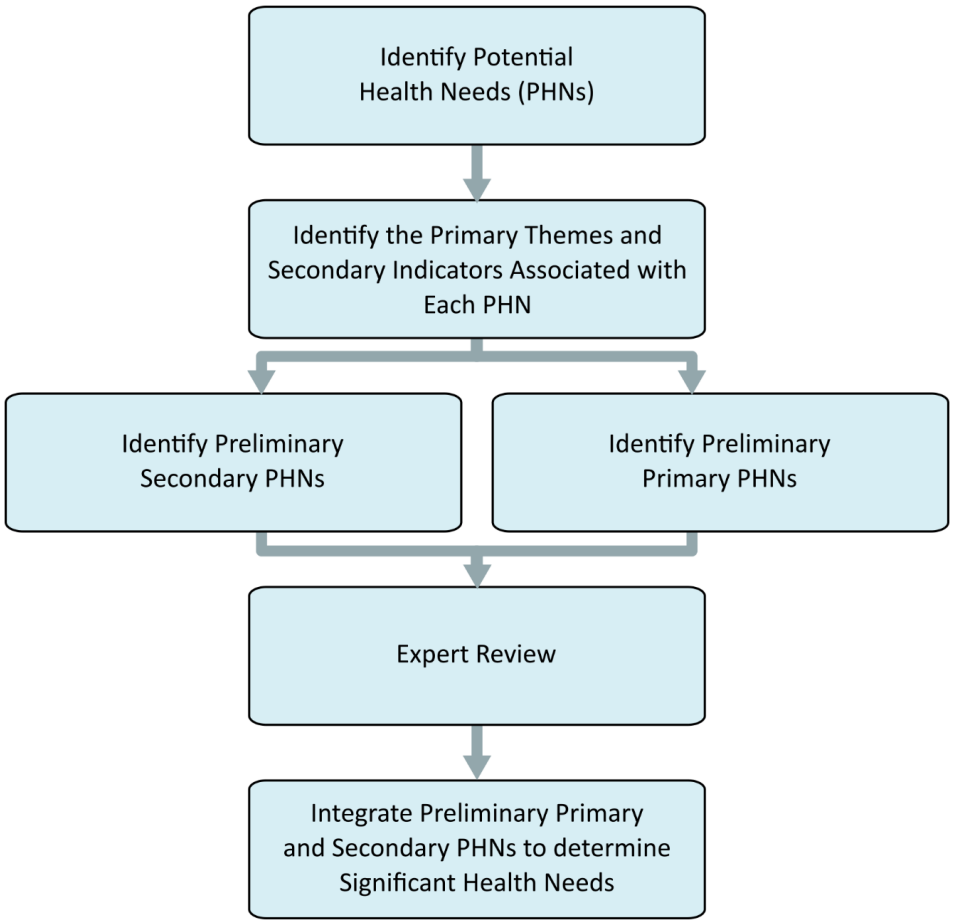

Figure 7: Process followed to identify Significant Health Needs

Table 18: Potential health needs

2016 Potential Health Needs (PHNs)	
PHN1	Access to Mental/ Behavioral/ Substance Abuse Services
PHN2	Access to Quality Primary Care Health Services
PHN3	Active Living and Healthy Eating
PHN4	Safe and Violence-Free Environment
PHN5	Access to Dental Care and Preventive Services
PHN6	Pollution-Free Living Environment
PHN7	Access to Basic Needs such as Housing, Jobs, and Food
PHN8	Access and Functional Needs
PHN9	Access to Specialty Care
PHN10	Injury and Disease Prevention and Management

The next step in the process was to identify primary themes and secondary indicators associated with each of these health needs as shown in Table 19 below. Primary theme associations were used to guide coding of the primary data sources to specific PHNs.

Table 19: Primary theme and secondary indicator associations used to identify Significant Health Needs

Health Need Number	2019 CHI Potential Health Needs	Secondary Indicators	Primary Themes
PHN1	Access to Mental/ Behavioral/ Substance Abuse Services	• Life Expectancy at Birth • Liver Disease Mortality • Suicide mortality • Poor Mental Health days • Poor Physical Health days • Drug Overdose Deaths • Excessive Drinking • Health Professional Shortage Area – Mental Health • Mental Health Providers • Psychiatrists • Social associations	• Self-injury • Mental health and coping issues • Substance abuse • Smoking • Stress • Mentally ill homeless • PTSD • Access to psychiatrist • Homelessness
PHN2	Access to Quality Primary Care Health Services	• Life Expectancy at Birth • Cancer Mortality • Child Mortality • Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Influenza and Pneumonia Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Breast Cancer Incidence • Colorectal Cancer Incidence • Diabetes Prevalence • Low Birthweight • Lung Cancer Incidence • Prostate Cancer Incidence • Health Care Costs • Health Professional Shortage Area – Primary Care	• Issue of quality of care • Access to care • Health insurance • Care for cancer/cancer occurrence • Indicators in PQI: Diabetes, COPD, CRLD, HTN, HTD, Asthma, Pneumonia

		• Medically Underserved Areas • Mammography Screening • Primary Care Physicians • Preventable hospital stays • Percent Uninsured	
PHN3	Active Living and Healthy Eating	• Cancer Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Kidney Disease Mortality • Stroke Mortality • Breast Cancer Incidence • Colorectal Cancer Incidence • Diabetes Prevalence • Prostate Cancer Incidence • Limited Access to Healthy Foods • mRFEI • Access to Exercise Opportunities • Physical Inactivity • Adult Obesity	• Food access/insecurity • Community gardens • Fresh fruits and veggies • Distance to grocery stores • Food swamps • Chronic disease outcomes related to poor eating • Diabetes, HTD, HTN, Stroke, Kidney issues, Cancer • Access to parks • Places to be active • Obesity
PHN4	Safe and Violence-Free Environment	• Life Expectancy at Birth • Poor Mental Health Days • Homicide Rate • Motor Vehicle Crash Death Rate • Violent Crime Rate • Social Associations	• Crime rates • Violence in the community • Feeling unsafe in the community • Substance abuse-alcohol and drugs • Access to safe parks • Pedestrian safety • Safe streets • Safe places to be active
PHN5	Access to Dental Care and Preventive Services	• Dentists • Health Professional Shortage Area – Dental	• Any issues related to dental health • Access to dental care

PHN6	Pollution-Free Living Environment	• Cancer Mortality • Chronic Lower Respiratory Disease Mortality • Breast Cancer Incidence • Colorectal Cancer Incidence • Lung Cancer Incidence • Prostate Cancer Incidence • Adult Smoking • Air Pollution – Particulate Matter • Drinking Water Violations • Pollution Burden	• Smoking • Unhealthy air, water, housing, • Health issues: Asthma, COPD, CLRD, Lung Cancer
PHN7	Access to Basic Needs such as Housing, Jobs, and Food	• Life Expectancy at Birth • Infant Mortality • Age-Adjusted All-Cause Mortality • Child Mortality • Premature Age-Adjusted Mortality • Premature Death (Years of Potential Life Lost) • Low Birthweight • Medically Underserved Areas • Health Care Costs • High School Graduation • Some College (post-secondary education) • Unemployment • Children in Single-Parent Household • Social Associations • Children Eligible for Free Lunch • Children in Poverty • Median Household Income • Uninsured • Severe Housing Problems • Households with no Vehicle • mRFEI • Limited Access to Healthy Food	• Employment and unemployment • Poverty • Housing issues • Homelessness • Education access • Community quality of life • Housing Availability • Housing Affordability

PHN8	Access and Functional Needs	• Access to Public Transportation • Households with no Vehicle • Percent of Population with a Disability	• Physical access issues • Cost of transportation • Ease of transportation access • No car • Disability
PHN9	Access to Specialty Care	• Life Expectancy at Birth • Alzheimer's Mortality • Cancer Mortality • Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Diabetes Prevalence • Lung Cancer Incidence • Psychiatrists • Specialty Care Providers • Preventable Hospital Stays	• Seeing a specialist for health conditions • Diabetes related specialty care • Specialty care for: HTD, HTN, Stroke, Kidney diseases
PHN10	Injury and Disease Prevention and Management	• Infant mortality • Alzheimer's Mortality • Child mortality • Chronic Lower Respiratory Disease Mortality • Diabetes Mortality • Heart Disease Mortality • Hypertension Mortality • Influenza and Pneumonia Mortality • Kidney Disease Mortality • Liver Disease Mortality • Stroke Mortality • Suicide Mortality • Unintentional Injury Mortality • Diabetes Prevalence • HIV Prevalence Rate • Low Birthweight • Drug Overdose Deaths • Excessive Drinking • Adult Obesity • Physical Inactivity	• Anything related to helping people prevent getting a preventable disease or injury • Unintentional injury • Smoking and alcohol/drug abuse • Teen pregnancy • HIV/STD • TB • Influenza and Pneumonia • Obesity • Health classes • Health promotion teams and interventions • Need for health literacy

		• Sexually Transmitted Infections • Teen Birth Rate • Adult Smoking • Motor Vehicle Crash Death Rate	

Next, values for the secondary health factor and health outcome indicators identified were compared to state benchmarks to determine if a secondary indicator performed poorly within the HSA. Some indicators were considered problematic if they exceeded the benchmark, others were problematic if they were below the benchmark, and the presence of certain other indicators, such as health professional shortage areas, within the HSA indicated issues. Table 20 lists each secondary indicator and describes the comparison made to the benchmark to determine if it was problematic.

Table 20: Benchmark comparisons to show indicator performance

Indicator	Benchmark Comparison Indicating Poor Performance
Years of Potential Life Lost	Higher
Poor Physical Health Days	Higher
Poor Mental Health Days	Higher
Low Birth Weight	Higher
Adult Smokers	Higher
Adult Obesity	Higher
Physical Inactivity	Higher
Access to Exercise	Lower
Excessive Drinking	Higher
STI Chlamydia Rate	Higher
Teen Birth Rate	Higher
Uninsured	Higher
Primary Care Physicians	Lower
Dentists	Lower
Mental Health Providers	Lower
Preventable Hosp Stays	Higher
Mammography Screening	Lower
High School Graduation	Lower
Some College	Lower
Unemployed	Higher
Children in Poverty	Higher
Children with Single Parents	Higher
Social Associations	Lower
Violent Crimes	Higher
Air Particulate Matter	Higher
Drinking Water Violations	Present
Severe Housing Problems	Higher

Premature Age Adjusted Mortality	Higher
Child Mortality	Higher
Infant Mortality	Higher
Diabetes Prevalence	Higher
HIV Prevalence	Higher
Limited Access to Healthy Food	Higher
Motor Vehicle Crash Deaths	Higher
Health Care Costs	Higher
Median Household Income	Lower
Free Reduced Lunch	Higher
Homicides	Higher
Cancer Female Breast	Higher
Cancer Colon and Rectum	Higher
Cancer Lung and Bronchus	Higher
Cancer Prostate	Higher
Drug Overdose Deaths	Higher
HPSA Dental Health	Present
HPSA Mental Health	Present
HPSA Primary Care	Present
HPSA Medically Underserved Area	Present
mRFEI	Lower
Housing Units No Vehicle	Higher
Specialty Care Providers	Lower
Psychiatry Providers	Lower
Cancer Mortality	Higher
Heart Disease Mortality	Higher
Unintentional Injury Mortality	Higher
CLD Mortality	Higher
Stroke Mortality	Higher
Alzheimer's Mortality	Higher
Diabetes Mortality	Higher
Suicide Mortality	Higher
Hypertension Mortality	Higher
Influenza Pneumonia Mortality	Higher
Kidney Disease Mortality	Higher
Liver Disease Mortality	Higher
Life Expectancy	Lower
Age Adjusted Mortality	Higher
Pollution Burden	Higher
Public Transit Proximity	Lower
Percent with Disability	Higher

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

These sets of criteria (any mention, 20%, 25%, 33%, 40%, 50%, 60%, 66%, 75%, or 80%) were developed for both the primary and secondary analysis because we could not anticipate which specific standard would be most meaningful within the context of the HSA. Having multiple objective decision criteria allows the process to be more easily described, but still allows for enough flexibility to respond to evolving conditions in the HSA. To this end, a final round of expert review was used to compare the set of primary and secondary SHN selection criteria to find the level at which the criteria converged towards a final set of SHNs. Once the final criteria used to identify the SHN were selected for both primary and secondary analyses, any PHN included in either the Preliminary Primary or Secondary PHN list was included as a final Significant Health Need for the HSA.

For this SSH report, A PHN was selected as a Preliminary Secondary Significant Health need only if 60% of the associated indicators were identified as performing poorly. A PHN was identified as a Preliminary Primary Significant Health Needs only if it was mentioned by 66% or more of the sources as performing poorly.

Health Need Prioritization

Once identified for the HSA, the final set of SHNs could be prioritized. To reflect the voice of the community, significant health need prioritization was based solely on primary data. Results were used to develop two key measures. First, the total percentage of all respondents that mentioned themes associated with a significant health need at any point was calculated. This number was taken to represent how broadly a given significant health need was recognized within the community. Next, the percent of times a theme associated with a significant health was mentioned in both key informant and focus group responses was calculated. This number was taken to represent the intensity of the need.

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

Detailed List of Resources to Address Health Needs

Table 21 contains a listing of resources potentially available to address the significant health needs identified in this CHNA.

Table 21: Resource potentially available to address Significant Health Needs identified in the CHNA

Organization Information			Potential Health Need Met (X)									
Name	Zip Code	Website	1. Access to mental/behavioral/substa	2. Access to quality primary care health	3. Active living and	4. Safe and violent free	5. Access to dental care	6. Pollution-free living	7. Access to basic needs, such as food, housing,	8. Access and functional	9. Access to specialty care	10. Injury and disease prevention and
2-1-1	County-Wide	www.stanislauscounty211.org	X	X	X	X	X	X	X	X	X	X
American Cancer Society	95350	www.cancer.org			X						X	X
American Red Cross	95354	www.redcross.org		X					X			
Behavioral Health and Recovery Services, Stanislaus County	95350	www.stancounty.com/bhrs		X								
Boys and Girls Club	95354	www.bgcstanislaus.org	X		X	X			X			
CASA del Rio FRC – Healthy Start	95367	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Catholic Charities Diocese of Stockton	95354	www.ccstockton.org/areasserved/stanislaus.aspx	X		X	X			X			
Center for Human Services	95350	www.centerforhumanservices.org	X						X			
Ceres Partnership	95307	www.centerforhumanservices.org/what-we-do/family-resource.centers	X	X	X				X			
Ceres Healthy Start FRC	95307	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Church Food Banks	95307, 95350, 95316, 95354, 95355, 95356, 95351, 95358,	https://www.needhelppayingbills.com/html/modesto_food_pantries.html							X			

Organization Information			Potential Health Need Met (X)									
Name	Zip Code	Website	1. Access to mental/behavioral/substa	2. Access to quality primary care health	3. Active living and	4. Safe and violent free	5. Access to dental care	6. Pollution-free living	7. Access to basic needs, such as food, housing,	8. Access and functional	9. Access to specialty care	10. Injury and disease prevention and
	95361, 95363, 95367, 95380, 95386											
Community Hospice, Inc.	95356	www.hospiceheart.org	X	X							X	
Community Housing & Shelter Services	95354	www.communityhousingandshelterservices.org							X			
Community Services Agency	95358	www.csa-stanislaus.com		X	X				X			
Disability Resource Agency for Independent Living	95350	www.drail.org	X						X	X		
Downey Healthy Start FRC	95355	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
El Concilio	95202	www.elconcilio.org	X			X			X			
Franklin Healthy Start FRC	95351	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Grayson-Westley FRC	95387	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Haven's Women's Center of Stanislaus	95354	www.havenwcs.org	X			X			X			
Healthy Aging Association	95355	www.healthyagingassociation.org			X				X			X
Hughson Healthy Start FRC	95326	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Inter-Faith Ministries	95354	www.interfaithmodesto.org							X			
John B. Allard Healthy Start FRC	95354	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Learning Quest - Stanislaus Literacy Centers	95354	www.lqslc.com							X			X
Modesto Senior Center	95354	www.modestogov.com/1717/Senior-Center-Activities			X				X			X
Newman Family Resource Center	95360	www.centerforhumanservices.org/what-we-do/family-resource.centers	X	X	X				X			X

Organization Information			Potential Health Need Met (X)									
Name	Zip Code	Website	1. Access to mental/behavioral/substa	2. Access to quality primary care health	3. Active living and	4. Safe and violent free	5. Access to dental care	6. Pollution-free living	7. Access to basic needs, such as food, housing,	8. Access and functional	9. Access to specialty care	10. Injury and disease prevention and
Oakdale Family Resource and Counseling Center	95361	www.centerforhumanservices.org/what-we-do/family-resource.centers	X	X	X				X			X
Orville Wright Healthy Start FRC	95354	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Parent Institute for Quality Education	95354	www.piqe.org							X			
Parents United Inc.	95354	www.parentsunited.net	X			X			X	X		
Patterson Family Resource Center	95363	www.centerforhumanservices.org/what-we-do/family-resource.centers	X	X	X				X			X
Petersen Alternative Center for Education (PACE) Healthy Start FRC	95358	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Robertson Road Healthy Start FRC	95351	www.stancoe.org/division/educational-options/prevention-programs/healthy-start	X	X	X				X			X
Salvation Army Modesto Corps	95354	www.modestocitadel.salvationarmy.org	X						X			
Salvation Army Red Shield Center	95358	www.modestoredshield.salvationarmy.org	X						X			
Salvation Army Turlock	95380	www.turlock.salvationarmy.org	X						X			
Second Harvest Food Bank	95337	www.localfoodbank.org			X				X			
Sierra Vista Child & Family Services	95354	www.sierravistacares.org	X						X			
STANCO Affordable Housing Corporation	95354	www.stancoahc.com							X			
St. Vincent de Paul Society	95354	www.stvincentdepaulministry.wordpress.com							X			
The First Tee Central Valley	95351	www.thefirstteecentralvalley.org			X							
United Samaritans Foundation	95380	www.unitedsamaritans.org							X			
United Way of Stanislaus County	95354	www.uwaystan.org				X			X			

Organization Information			Potential Health Need Met (X)									
Name	Zip Code	Website	1. Access to mental/behavioral/substa	2. Access to quality primary care health	3. Active living and	4. Safe and violent free	5. Access to dental care	6. Pollution-free living	7. Access to basic needs, such as food, housing,	8. Access and functional	9. Access to specialty care	10. Injury and disease prevention and
West Sacramento King Kennedy Neighborhood Collaborative	95351	www.westmodestocollaborative.com	X		X				X			
Zephyr Clarke Wellness Center	95351	www.westmodestocollaborative.com/programs/zephyrclarkewellnesscenter	X						X			
HEALTH CARE FACILITIES												
Doctor's Medical Center	95350	www.dmc-modesto.com	X	X							X	X
Emanuel Medical Center, Inc.	95382	www.emanuelmedicalcenter.org		X							X	X
Golden Valley Health Center – Ceres	95307	www.gvhc.org/locations/ceres		X			X					X
Golden Valley Health Center – Corner of Hope	95354	www.gvhc.org/locations/modesto/modesto-corner-of-hope	X	X	X							X
Golden Valley Health Center – Florida Suite	95350	www.gvhc.org/locations/modesto/modesto-florida-suites		X	X							X
Golden Valley Health Center – Florida North	95350	www.gvhc.org/locations/modesto/modesto-florida-north	X	X								X
Golden Valley Health Center – Hanshaw School	95358	www.gvhc.org/locations/modesto/modesto-hanshaw-school	X	X	X		X					X
Golden Valley Health Center – Newman	95360	www.gvhc.org/locations/newman		X	X		X					X
Golden Valley Health Center – Patterson	95363	www.gvhc.org/locations/patterson	X	X	X		X					X
Golden Valley Health Center – Riverbank	95367	www.gvhc.org/locations/riverbank		X	X							X
Golden Valley Health Center – Robertson Road School	95351	www.gvhc.org/locations/modesto/modesto-robertson-road		X	X		X					X
Golden Valley Health Center – Tenaya	95354	www.gvhc.org/locations/modesto/modesto-tenaya		X								X
Golden Valley Health Center – Turlock	95382	www.gvhc.org/locations/turlock		X	X							X
Golden Valley Health Center – Westley	95387	www.gvhc.org/locations/westley		X	X							X

Organization Information			Potential Health Need Met (X)									
Name	Zip Code	Website	1. Access to mental/behavioral/substa	2. Access to quality primary care health	3. Active living and	4. Safe and violent free	5. Access to dental care	6. Pollution-free living	7. Access to basic needs, such as food, housing,	8. Access and functional	9. Access to specialty care	10. Injury and disease prevention and
Golden Valley Health Center – West Modesto	95354	www.gvhc.org/locations/modesto/modesto-west	X	X	X						X	X
Golden Valley Health Center – West Turlock	95380	www.gvhc.org/locations/turlock		X	X		X					X
Health Services Agency – Administrative Offices	95353	www.schsa.org		X	X				X		X	X
Health Services Agency - Family and Pediatric	95350	www.schsa.org www.schsa.org/pdf.hsa-clinics.pdf		X	X							X
Health Services Agency – McHenry Medical Office	95350	www.schsa.org www.schsa.org/pdf.hsa-clinics.pdf		X							X	X
Health Services Agency - Paradise	95351	www.schsa.org www.schsa.org/pdf.hsa-clinics.pdf		X							X	X
Kaiser Permanente Modesto Medical Center	95355	www.healthy.kaiserpermanente.org/northern-california/facilities/modesto-medical-center-and-medical-offices	X	X	X						X	X
Memorial Medical Center	95355	www.sutterhealth.org/mmc		X	X						X	X
Modesto Care Center	95354	www.caremore.com	X	X	X			X			X	X
Oakdale Health Center	95361	www.oakvalleycares.org		X			X				X	X
Oak Valley District Hospital	95361	www.oakvalleycares.org		X							X	X
Patterson Care Center	95363	www.caremore.com		X	X			X			X	X
Riverbank Health Center	95367	www.oakvalleycares.org		X								X
Stanislaus Surgical Hospital	95355	www.stanislaussurgical.com		X							X	
Turlock Care Center	95382	www.caremore.com	X	X	X			X			X	X
Valley Family Medicine Residency of Modesto	95350	www.valleymeded.org/familymed		X							X	
Waterford Community Health Center	95386	www.oakvalleycares.org		X								X

Limits and Information Gaps

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

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