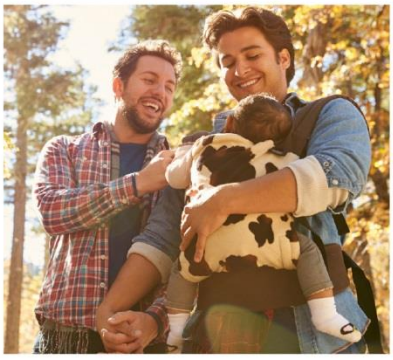
2016

Community Health Needs Assessment (CHNA)



UCDAVIS MEDICAL CENTER

Acknowledgements

This report was prepared by Valley Vision on behalf of UC Davis Medical Center and the Sacramento Region CHNA Collaborative. Through the course of the CHNA project, many organizations and individuals contributed input on the health issues and conditions impacting their communities or the communities they serve. We gratefully acknowledge the contributions of these participants, many of whom shared deeply personal challenges and experiences with us. We hope that the contents of this report serve to accurately represent their voices.

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EXECUTIVE SUMMARY

Community Health Needs Assessment (CHNA) Background/Purpose

As mandated by the Patient Protection and Affordable Care Act (ACA), all nonprofit hospitals must conduct a Community Health Needs Assessment (CHNA) every three years and adopt an implementation strategy to meet the community health needs identified through the CHNA. The final regulations on Section 501(r) of the Internal Revenue Code provide guidance to nonprofit hospitals to comply with the CHNA requirements. The CHNA must define the community served by the hospital, solicit input from broad interests of the community, assess the health needs of the community, prioritize those health needs and identify potential measures and resources available to address the health needs. To clarify the term "health needs," the final regulations expand the examples of health needs to include "not only the need to address financial and other barriers to care but also the need to prevent illness, to ensure adequate nutrition, or to address social, behavioral, and environmental factors that influence health in the community."

This report documents the processes, methods, and findings of the CHNA conducted on behalf of UC Davis Medical Center (UCDMC), an acute-care teaching hospital in Sacramento County, California. Building on federal and state requirements, the objective of the 2016 CHNA was:

> *To identify and prioritize community health needs and identify resources available to address those health needs, with the goal of improving the health status of the community at large and for specific locations and/or populations experiencing health disparities.*

Community Definition

The UC Davis Medical Center (UCDMC) Hospital Service Area (HSA) is the 55 ZIP codes which make up Sacramento County, California. The HSA was determined by analyzing inpatient discharge data where it was determined that more than 60% of all inpatients were Sacramento County residents. Figure 1 shows the UCDMC HSA.

Assessment Process and Methods

The Community Health Needs Assessment (CHNA) was completed as a collaboration of the four major health systems in the Greater Sacramento region: Dignity Health, Kaiser Permanente, Sutter Health and UC Davis Health System. Together, the CHNA Collaborative represented 15 hospitals in the Sacramento Region. The CHNA Collaborative project was conducted over a period of eighteen months, beginning in January 2015 and concluding in June 2016.

The following research questions were used to guide the 2016 CHNA:

1. What is the community or hospital service area (HSA) served by each hospital in the CHNA Collaborative?
2. What specific geographic locations within the community are experiencing social inequities that may result in health disparities?
3. What is the health status of the community at large as well as of particular locations or populations experiencing health disparities?
4. What factors are driving the health of the community?
5. What are the significant and prioritized health needs of the community and requisites for the improvement or maintenance of health status?

6. What are the potential resources available in the community to address the significant health needs?

To meet the project objectives, a defined set of data collection and analytic stages were developed. Data collected and analyzed included both primary or qualitative data, and secondary or quantitative data. To determine geographic locations affected by social inequities, data were compiled and analyzed at the census tract and ZIP code levels as well as mapped by GIS systems. From this analyses as well as an initial preview of the primary data, Focus Communities were identified within the HSA. These were defined as geographic areas (ZIP codes) within the HSA that had the greatest concentration of social inequities that may result in poor health outcomes. Focus Communities were important to the overall CHNA methodology because they allowed for a place-based lens with which to consider health disparities in the HSA.

To assess overall health status and disparities in health outcomes, indicators were developed from a variety of secondary data sources (see Appendix A). These "downstream" health outcome indicators included measures of both mortality and morbidity such as mortality rates, emergency department visit and hospitalization rates. They also included risk behaviors such as smoking, poor nutrition and physical activity. Health drivers/conditions or "upstream" health indicators included measures of living conditions spanning the physical environment, social environment, economic and work environment, and service environment. This also included the indicators on social inequities that were used for the determination of Focus Communities. Overall, more than 170 indicators were included in the CHNA.

Community input and primary data on health needs were obtained via interviews with service providers and community key informants and through focus groups with medically underserved, low-income, and minority populations. Transcripts and notes from interviews and focus groups were analyzed to look for themes and to determine if a health need was identified as significant and/or a priority to address. Primary data for UC Davis Medical Center (UCDMC) included 32 key informant interviews with 47 participants and 19 focus groups conducted with 222 participants including community members and service providers. A complete list of key informant interview data sources is available in Appendix F and a complete list of focus group data is available in Appendix G.

Process and Criteria to Identify and Prioritize Significant Health Needs

In order to identify and prioritize the significant health needs, the quantitative and qualitative data were synthesized and analyzed according to an established criteria outlined later in this report. This included identifying eight potential health need categories based upon the needs identified in the previously conducted CHNA, the grouping of indicators in the Kaiser Permanente Community Commons Data Platform (CCDP), and a preliminary review of primary data. Indicators within these categories were flagged if they compared unfavorably to State benchmarks or demonstrated racial/ethnic disparities according to set of established criteria. Eight potential health needs were validated as significant health needs for the service area. The data supporting the identified significant health needs can be found in the Prioritized Description of Significant Health Needs section of this report. The resources available to address the significant health needs were compiled by using the resources listed in the 2013 CHNA report as a foundation then verifying and expanding these resources to include those referenced through community input. Additional information regarding resources is found below in the Resources section and a comprehensive list of potential resources to address health needs is located in Appendix G.

List of Prioritized Significant Health Needs

The following is a list of eight significant health needs for the UCDMC HSA in prioritized order:

1. Access to Behavioral Health Services
2. Active Living and Healthy Eating
3. Access to High Quality Health Care and Services
4. Disease Prevention, Management and Treatment
5. Safe, Crime and Violence Free Communities
6. Basic Needs (Food Security, Housing, Economic Security, Education)
7. Affordable and Accessible Transportation
8. Pollution-Free Living and Work Environments

Resources Available

An extensive process was used to identify the resources available to address the significant health needs and catalog them for inclusion in the final CHNA report. First, all resources identified in the 2013 CHNA report were included for consideration in a working comprehensive list of resources. Secondly, qualitative data from key informant interviews and focus groups were analyzed to include the resources identified by community input. Resources from community input were added to the list and all resources were then verified to assure that they were current and actively available. Once all resources on the list had been confirmed, each resource was considered in relation to the significant health needs for the HSA. As best as possible, each resource was assessed to determine which of the health needs it most closely addressed.

Through this process, 182 resources were identified pertaining to the significant health needs for UCDMC. The final list of health resources is available in Appendix G, and the methodology for resource identification is further detailed in Appendix B.

ASSESSMENT PURPOSE AND ORGANIZATIONAL COMMITMENT

Purpose for the Community Health Needs Assessment (CHNA)

All nonprofit hospitals must conduct a community health needs assessment (CHNA) every three years and adopt an implementation strategy to help address the community health needs identified through the CHNA. On December 31, 2014, the Internal Revenue Service published the final regulations on requirements related to CHNAs [Section 501(r)]. The final rule provides guidance on the way the CHNA must be conducted and the components that must be included in the CHNA report. As with the earlier proposed regulations, a hospital facility must conduct a CHNA at least once every three years and issue a CHNA report that is widely available to the public. The CHNA report must define the community served by the hospital, assess the health needs of the community, prioritize those health needs and identify potential measures and resources available to address the health needs. To clarify the term "health needs," the final rule expands the examples of health needs to include "not only the need to address financial and other barriers to care but also the need to prevent illness, to ensure adequate nutrition, or to address social, behavioral, and environmental factors that influence health in the community."

The final rule also specifies that a hospital facility solicit and take into account input received from, at a minimum, the following three sources: (1) at least one state, local, tribal, or regional governmental public health department (or equivalent department or agency) with knowledge, information, or expertise relevant to the health needs of the community; (2) members of medically underserved, low-income, and minority populations in the community, or individuals or organizations serving or representing the interests of such populations; and (3) written comments received on the hospital facility's most recently conducted CHNA and most recently adopted implementation strategy (to inform and influence future CHNAs and implementation strategies). In addition, the CHNA report must describe the process and criteria used in prioritizing the significant health needs identified and require a hospital facility to take into account community input not only in identifying significant health needs but also in prioritizing such health needs. For second and subsequent CHNAs, the CHNA must also evaluate the impact of any actions the hospital took to address the identified significant health needs.

Organization of the Report

The remainder of this report is organized in accordance to recommended/required components detailed from the other collaborative health system partners. The report continues with the description of the hospital service area (HSA) including a description of geographical areas of the HSA where low income, underserved, and diverse populations reside. The report then details that CHNA process and methods, including both the process model used for the CHNA and the theoretical model used in the assessment for determination of quantitative indicators to be included. Primary data collection methods, participant demographics and methods are also detailed. Assessment findings are provided in accordance with the theoretical model used for the UC Davis Medical Center (UCDMC) CHNA in the following categories: morbidity and mortality, risk behaviors, and living conditions. A detailed description of the prioritized significant health needs is provided with the corresponding secondary indicators and qualitative findings. The report then closes with a summary of available resources, a conclusion, and corresponding appendices.

DEFINITION OF COMMUNITY SERVED

Community Definition

The hospital service area (HSA) is the 55 ZIP codes which make up Sacramento County, California. The HSA was determined by analyzing inpatient discharge data where it was determined that more than 60% of all inpatients were Sacramento County residents. Figure 1 shows the UCDMC HSA.

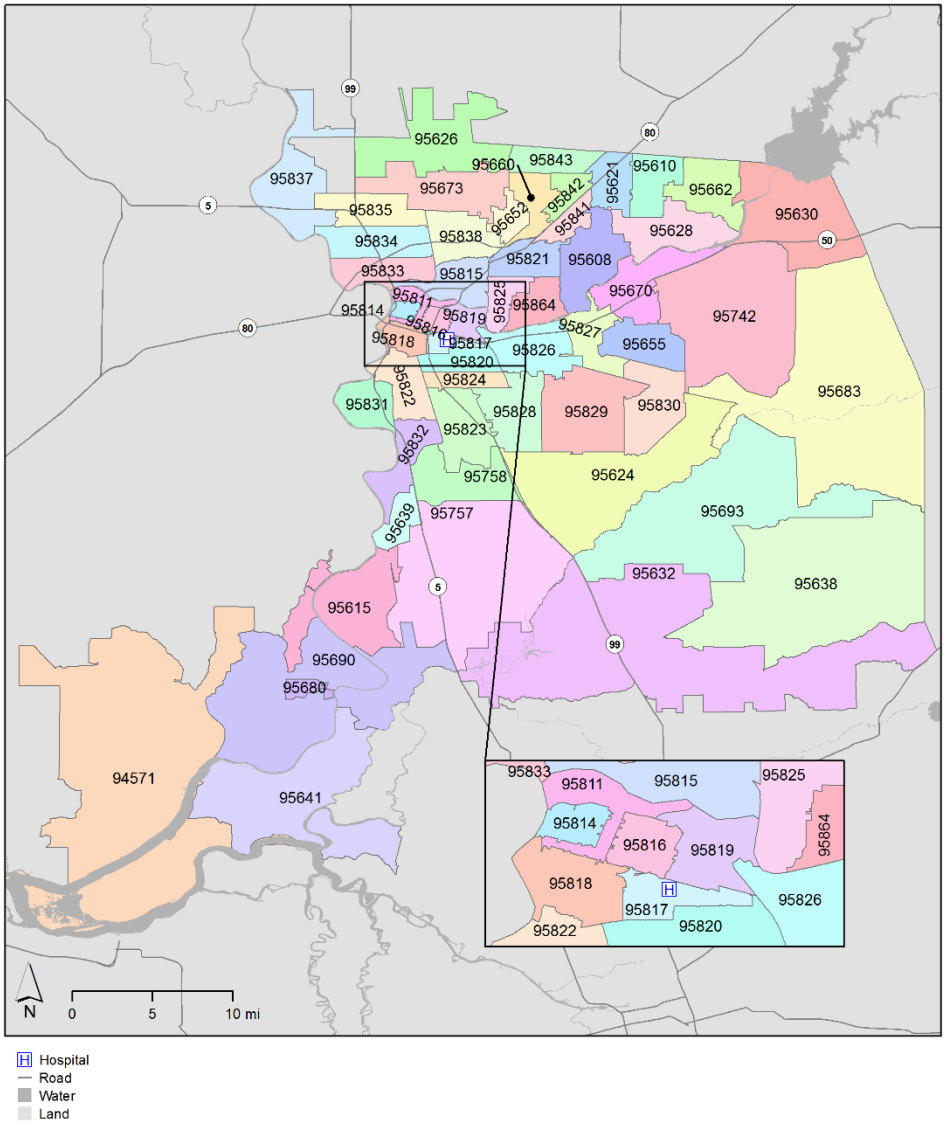

Figure 1: UC Davis Medical Center Hospital Service Area (UCDMC HSA)

Demographics of the HSA

The hospital service area of Sacramento County is located in Northern California and has approximately 1.5 million residents. As Tables 1 and 2 show the area is considerably diverse in population, in economic stability (income and poverty), and insurance status. Table 1 shows the total population count for the UCDMC HSA, the median age of the HSA, and the median income compared to the state benchmarks.

Table 2 provides information on the presence of medically underserved, low income, and minority residents in the UCDMC.

Population characteristics

Table 1: Census population counts, median age, and median income for the UCDMC HSA

ZIP Code	Population	Median Age	Median Income
Sacramento County*	1,435,207	35.1 years	$55,064
CA State	*37,659,181*	*35.4 years*	*$61,094*

Source: US Census, 2013; *the Sacramento County rate is used as the UCDMC HSA rate

The population of Sacramento County makes up four percent of all residents in the State of California. The population count at the ZIP code level varied from 245 residents in ZIP code 95680 (Ryde) to 74,154 residents in ZIP code 95823 (Fruitridge). The median age of the county was similar to the median age of the state. The ZIP code with the youngest median age was 95680 (Ryde) with a median age of 15.6 years and the ZIP code with the eldest median age was 94571 (Rio Vista) with a median age of 56.9 years. The median income for the county was lower than the state median income at $55,064. The ZIP code in the HSA with the lowest median income was seen in ZIP code 95652 (McClellan Park) at $29,583 per year compared to the highest in ZIP code 95630 (Folsom) at $98,547 per year, a range difference of almost $69,000 dollars a year.

Table 2: Percent living below federal poverty level, percent uninsured and percent minority for the UCDMC HSA

	100% below Federal poverty	Percent Uninsured	Percent Minority
Sacramento County*	17.59%	14.6%	52.05%
CA State	*15.94%*	*17.8%*	*60.33%*

Source: US Census, 2013; *the Sacramento County rate is used as the UCDMC HSA rate

The percent of population living in poverty was greater in Sacramento County compared to the state benchmark. The UCDMC HSA ZIP code with the highest percent of population in poverty was 95652 (McClellan Park) at 45.53%, compared to the lowest percent poverty in ZIP code 95630 (Folsom) at 4.13%. The percent of residents uninsured was lower for Sacramento County compared to the state benchmark. The ZIP code with the highest percent uninsured was 95680 (Ryde) at 29.8% and the lowest percent was 5.2% in ZIP code 95830 (Rancho Murrieta). The Sacramento County percent of minority residents was 52.05%, lower than the state at 60.33%. An examination of areas throughout the county revealed a large degree of diversity. ZIP code 95832 (South Meadowview) showed 85.6% population diversity. This percent is drastically different from the Orangevale ZIP code of 95662 which only had 16.8% diversity of residents.

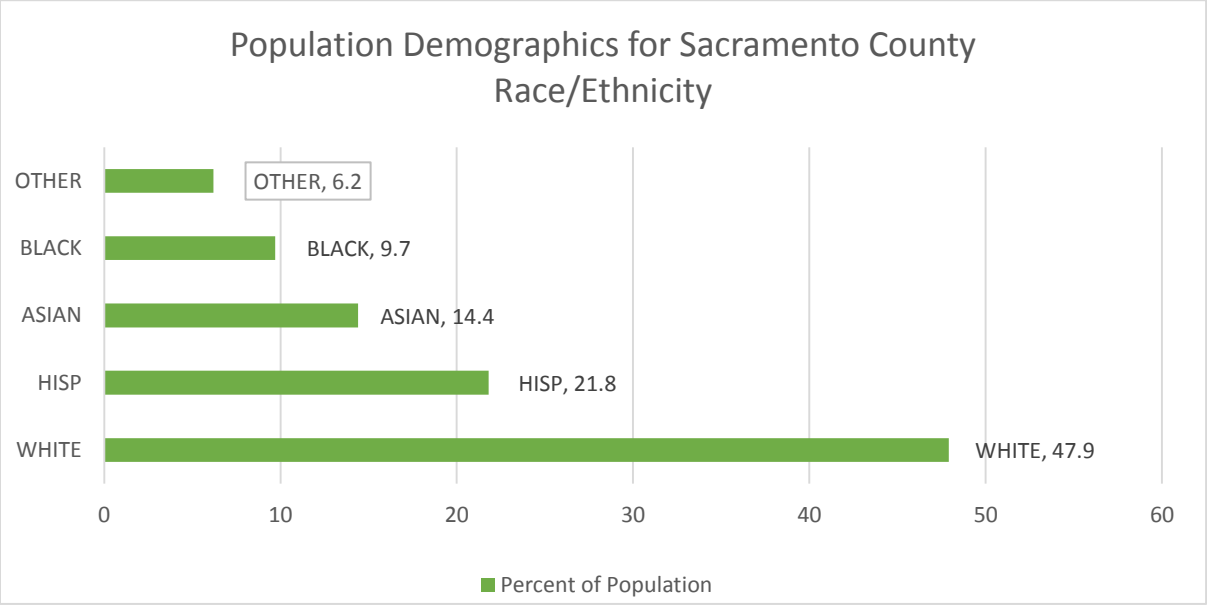

Figure 2: Population demographics for Sacramento County race/ethnicity

Demographics for the UCDMC HSA showed that Whites make up the highest percent of residents in Sacramento County, followed by Hispanics, Asians and Blacks.

Community Health Vulnerability Index and Focus Communities

In an effort to identify the location of medically underserved, low income and diverse populations in the UCDMC HSA two tools were developed. This assessment used a Community Health Vulnerability Index (CHVI) to help identify census tracts within ZIP codes in the HSA where such populations may reside geographically. Also Focus Communities at the ZIP code level were determined to provide a place-based lens within the HSA that had the greatest concentration of health inequities resulting in poor health outcomes. Both the CHVI and the Focus Communities are described in the following passages.

Community Health Vulnerability Index – Overview

The CHVI assisted in the identification of geographical areas in the HSA ZIP codes that may experience health disparities based on the examination of socio-economic drivers of poor health outcomes. The CHVI was also used to help focus primary data collection and in the further determination of Focus Communities, which is discussed next. The indicators used to create the CHVI index were collected at the census tract level and are presented in Table 3 and detailed in Appendix B, Detailed Analytic Methodology including SHN Categorization. The CHVI results for the UCDMC HSA are presented in Figure 3.

Table 3: Indicators included in the CHVI

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	

Source: US Census, 2013

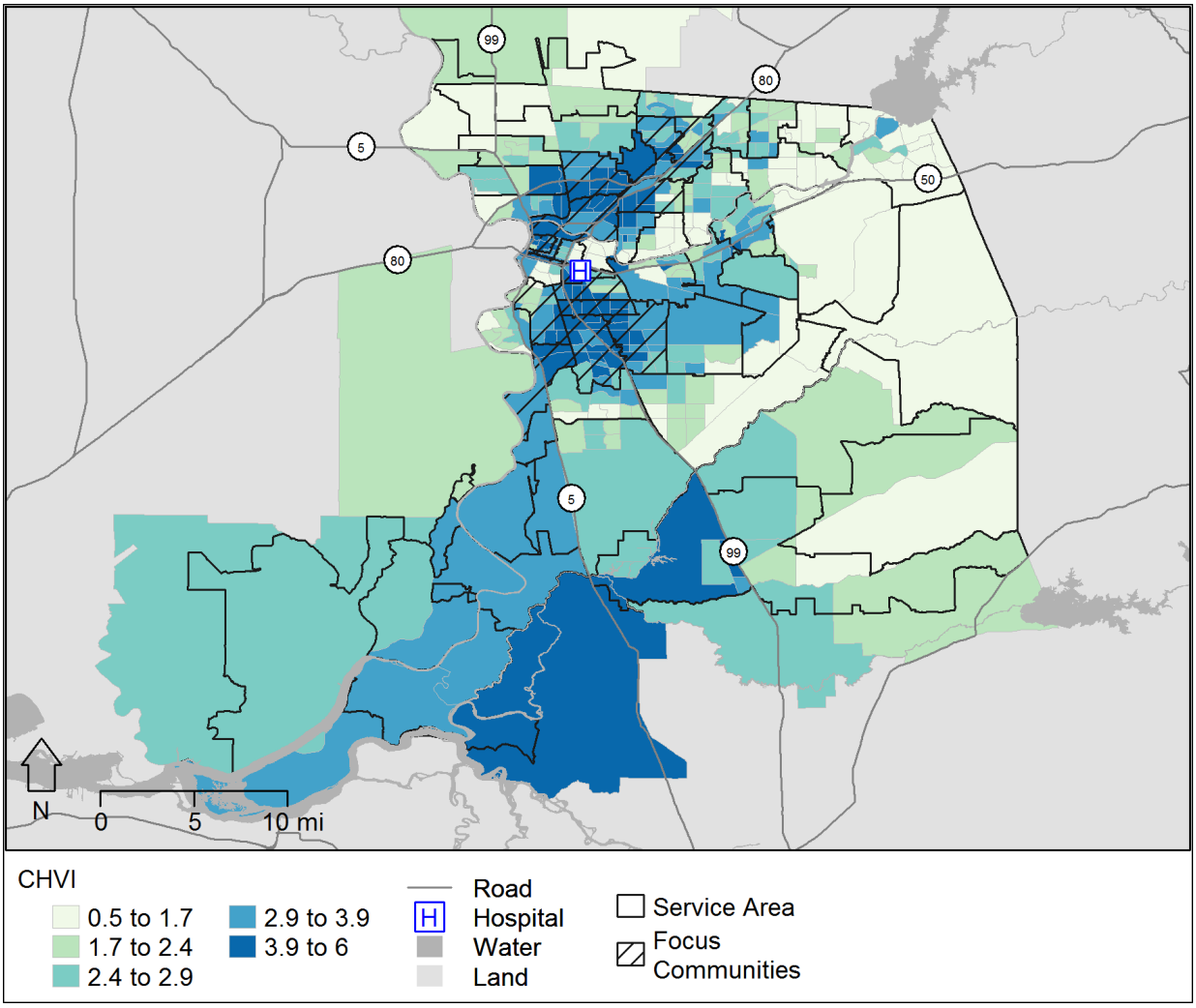

Figure 3: Community Health Vulnerability Index for UCDMC HSA

Focus Communities – Overview

Focus Communities were used to provide a place-based lens within the HSA that have the greatest concentration of health inequities resulting in poor health outcomes. The Focus Communities were defined using four components: 1) preliminary analysis of indicators of social determinants of health and inequities (e.g., poverty and educational attainment) at the ZIP code level, 2) census tract values from the CHVI, 3) initial input from area wide service providers and 4) consideration of ZIP codes that were identified as Focus Communities in the UCDMC 2013 CHNA (previously referred to as Communities of Concern). These inputs provided a unique perspective on social determinants within the HSA and were considered both separately and collectively when selecting Focus Communities.

The social inequities dataset included 22 indicators (presented in Table 4) that were analyzed at the ZIP code level to identify and flag the top 20% of ZIP codes with the highest rates of social inequities compared to county and state benchmarks. For the CHVI, ZIP codes were flagged if they intersected a census tract whose CHVI value fell within the top 20% of the HSA, values 3.9 to 6.0. In addition to quantitative measures, Focus Communities were further verified through analysis of input from initial service area wide key informant interviews. Input on vulnerable locations within the HSA were considered from interviews with public health experts and area service providers. Locations identified as vulnerable were then cross-referenced with the ZIP codes that were flagged in the CHVI and social inequities data, as well as with ZIP codes that were identified as Focus Communities in 2013. This was included to allow greater continuity between CHNA rounds and to reflect the work of the hospitals oriented to serve these disadvantaged communities.

Table 4: Social Inequities indicators to determine Focus Communities

Median income	Percent Non-White or Hispanic population
GINNI coefficient (measure of income inequality)	Foreign born population
Population in poverty (under 100 Federal Poverty Level)	Citizenship status
Percent with public assistance	Population 5 Years or Older who speak Limited English
Percent households 65 years or older in poverty	Single female headed households
Percent families with children in poverty	Percent homeowners with housing expenses greater than 30% of income (homes with mortgages)
Percent single female headed households in poverty	Percent homeowners with housing expenses greater than 30% of income (homes without mortgages)
Percent unemployed	Percent renters with housing expenses greater than 30% of income
Uninsured population	Population over 18 that are civilian veterans
Population with public insurance	Percent renter occupied housing units
Population with any disability	Percent population 25 or older without a high school diploma

Source: US Census, 2013

The Focus Communities for UCDMC are found in Figure 4 and listed in Table 5. Figure 4 displays the 15 ZIP code Focus Communities with diagonal hash marks denoting them from the rest of the HSA. The specific ZIP codes and area names are provided in Table 5, with the census population for each.

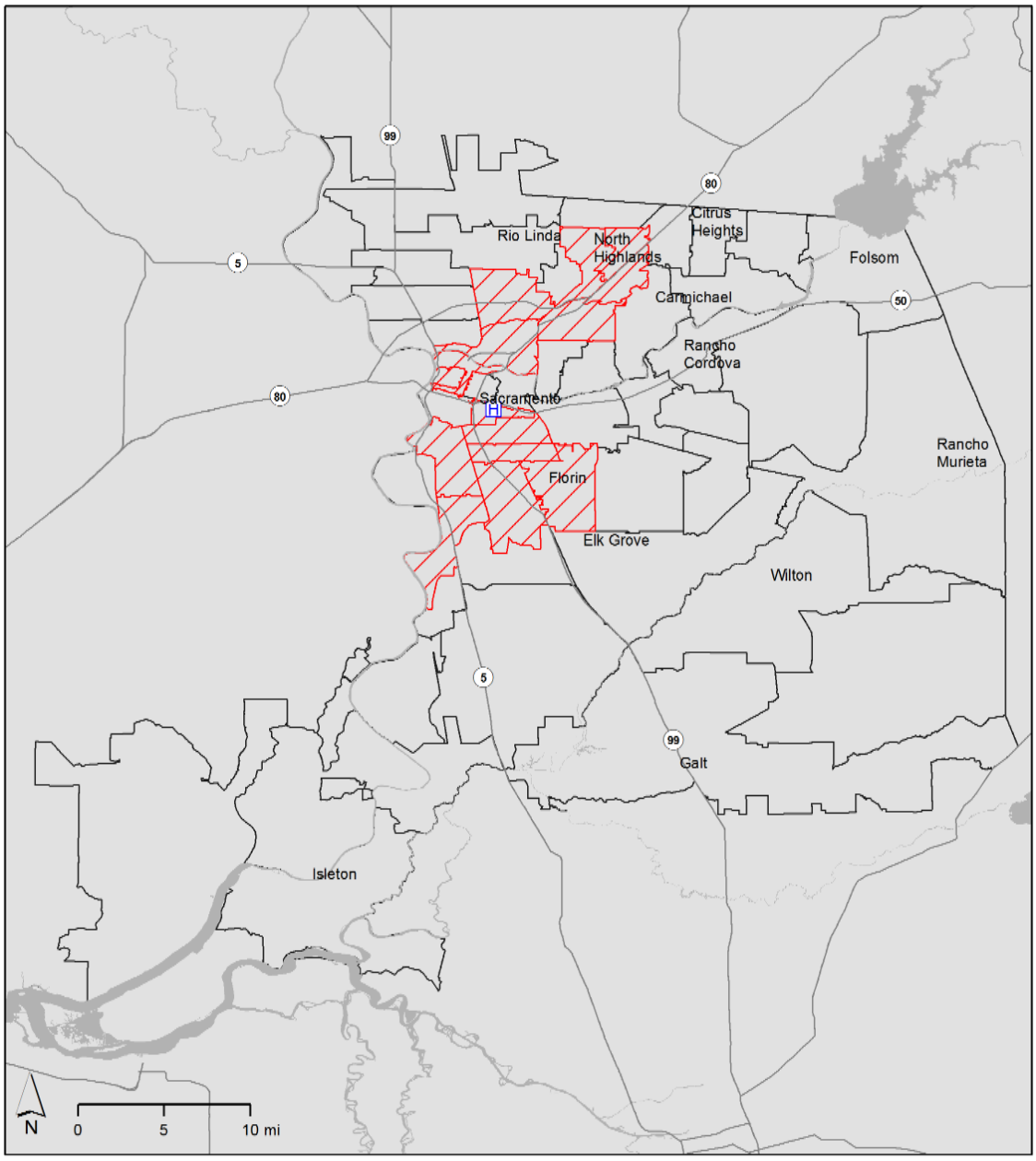

Figure 4: Focus communities for the UCDMC HSA

Table 5: Identified Focus Communities for the UCDMC HSA

ZIP Code	Community/Area*	Population
95660	North Highlands	32,835
95811	Downtown Sacramento	7,370
95814	Downtown Sacramento	9,802
95815	North Sacramento	25,627
95817	Oak Park	14,377
95820	Tahoe Park	33,967
95821	North Watt/Marconi Area	33,190
95822	Sac Executive Airport	43,024
95823	Fruitridge	74,154
95824	Parkway South Sacramento	29,344
95828	Florin	60,993
95832	South Meadowview	12,051
95838	Del Paso Heights	35,584
95841	Madison Ave/Auburn Blvd	18,612
95842	Foothill Farms	31,689
Total Population in the Focus Communities		**462,619**
Total Population in the HSA		**1,435,207**
Percent of the HSA in the Focus Communities		**32%**

* ZIP code and community area name is approximate here and throughout the report (to be placed after the table with ZIP codes and names of community/area; Source: US Census, 2013

Primary data collected in this assessment confirmed the location of vulnerable populations in the UCDMC HSA in the previously mentioned Focus Communities. A specific question of key informant and community members in primary data collection was the identification of geographical areas and populations in the county that were experiencing health inequities. Results from this questioning indicated the mentioning of specific geographic areas like Del Paso Heights, Florin, South Sacramento, North Highlands, McClellan Air Force Base area, North Sacramento, Downtown Sacramento as areas of concern. In terms of population groups, data indicated that Blacks, Latinos, Hmong, Middle Eastern and Russian were among the most mentioned as communities in need of improved health. A major determination of the above mentioned groups was directly related to the absence or presence of poverty in these populations. Poverty appeared to the biggest influence of determining their vulnerability to poor health, a finding detailed later in this report.

ASSESSMENT PROCESSES AND METHODS

Process Overview

Sacramento Region Collaborative Process Model

The CHNA collaborative project was conducted over a period of 18 months, beginning in January 2015 and concluding in June 2016. The project was conducted using a series of data collection and analytical phases. The CHNA process began with the collection and analysis of secondary data indicators of social inequities and proceeded with collection of both “upstream” and “downstream” health indicators. Primary data collection began with interviews of area health experts such as public health and social service representatives. The first stage of data analysis resulted in the identification of vulnerable communities (e.g., low-income, medically underserved and minority populations), which then guided further primary data collection including community member focus groups. These data were considered together with the data in the CHNA Data Platform (CHNA-DP) to develop potential health need categories that provided an organizational structure to integrate these numerous inputs, analyze the

data and identify the significant health needs for the HSA. The significant health needs were then prioritized using established criteria and resources available to address the identified needs were compiled for the final report. The overall process to conduct the CHNAs is depicted in the CHNA Process Model (Figure 5).

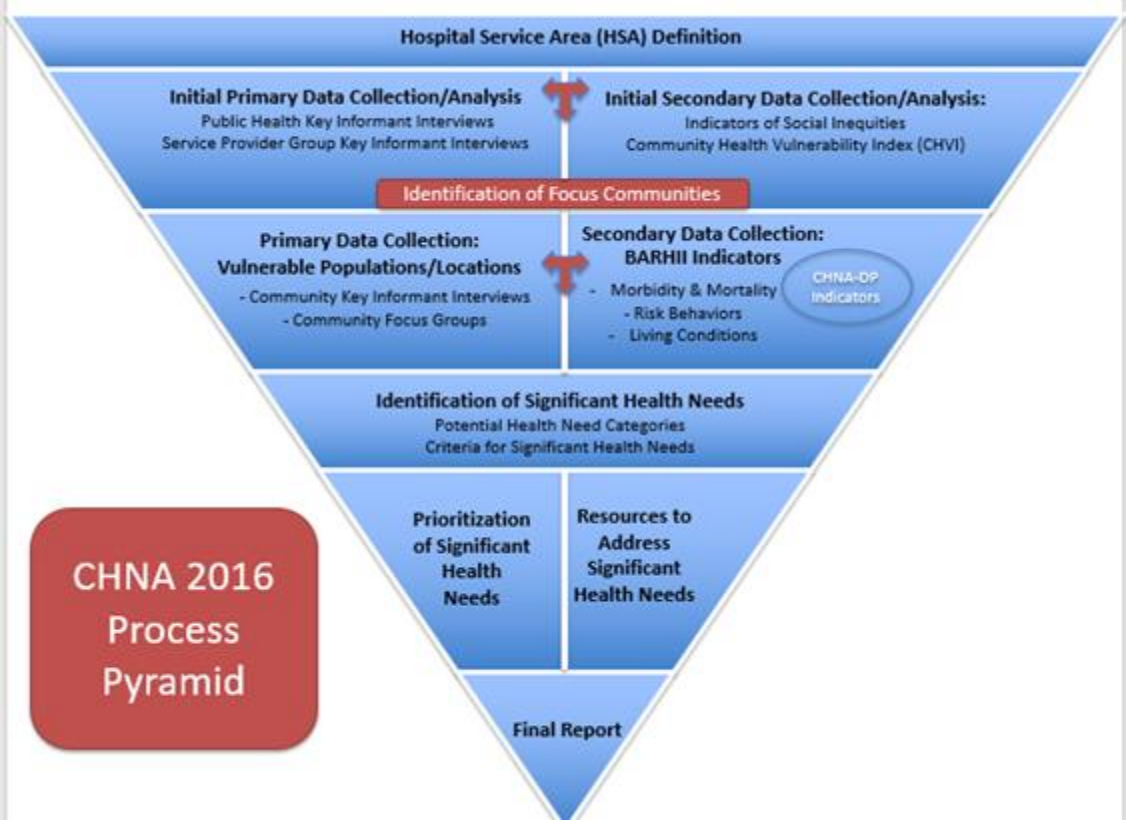

Figure 5: CHNA process model

Bay Area Regional Health Inequities Initiative (BARHII) Model

Quantitative indicators used in this assessment was guided by a conceptual framework developed by the Bay Area Regional Health Inequities Initiative (BARHII)[1] (Figure 6). The BARHII Framework demonstrates the connection between social inequalities and health and focuses attention on measures that had not characteristically been within the scope of public health departments. This CHNA used the BARHII framework to organize quantitative indicators, as well as frame the primary data collection tool, to capture both "upstream" and "downstream" factors influencing health in the HSA. The BARHII framework was also used in the organization of this report beginning in the "Findings" section of the report. The findings are presented in the report starting with the most "downstream factors" like mortality and morbidity, then are followed by risk behaviors and living conditions. Social inequities data is spread throughout the body of the report.

[1] Bay Area Health Inequities Initiative (BARHII). BARHII Framework. Available at: http://barhii.org/framework/. Accessed Jan 20, 2016.

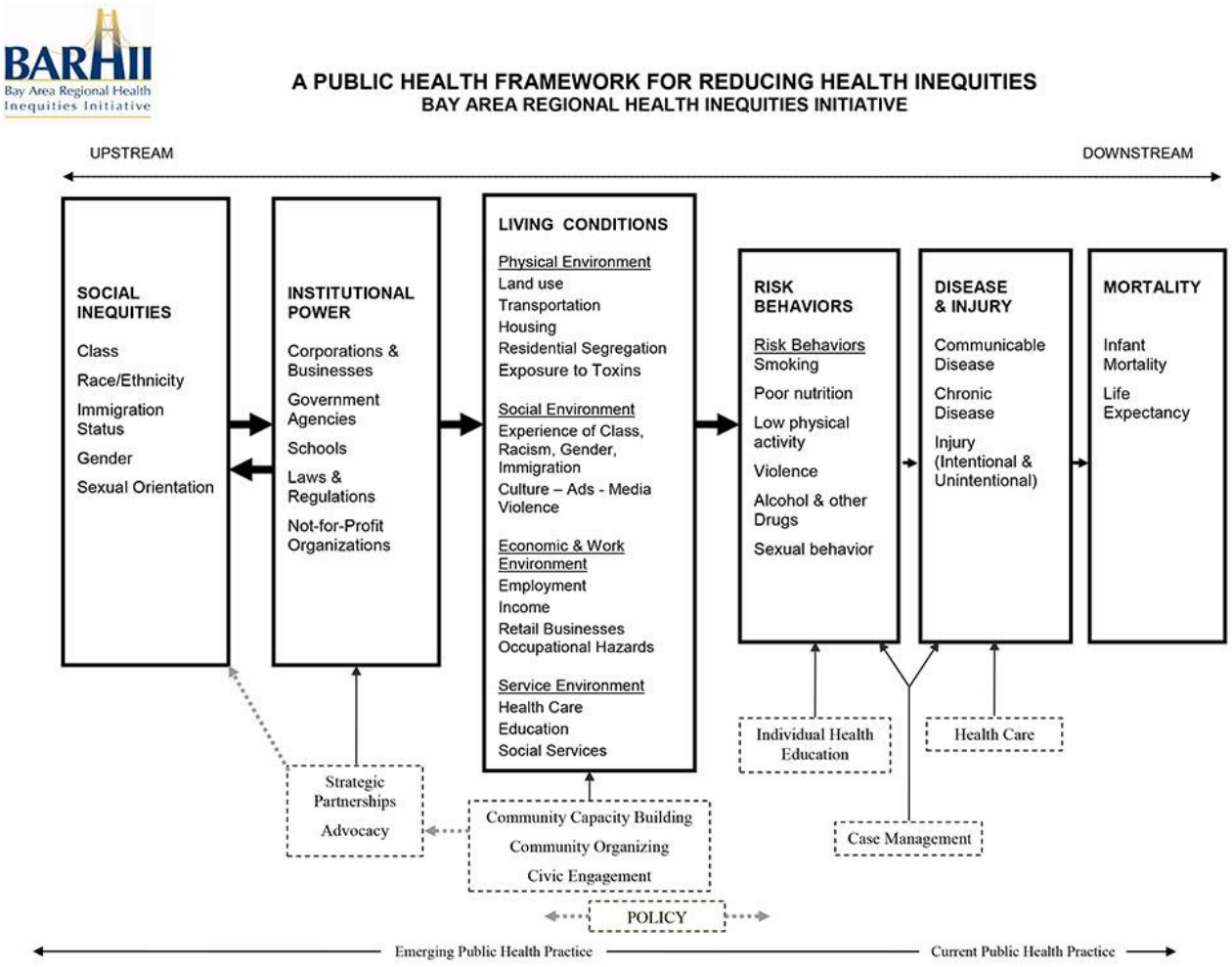

Figure 6: Bay Area Regional Health Inequities Initiative (BARHII) model

Secondary Data Collection – Processing and Analyzing

Data Collection: Overview

This section serves to provide a brief overview of the secondary data collection, processing and analysis approaches used to support the CHNA. For additional detail, including detailed project methodology, please refer to Appendices A and B.

The secondary data supporting the CHNA was collected from a variety of sources, and was processed in multiple stages before it was used for analysis. The selection of secondary data indicators was guided by the BARHII Framework previously illustrated in Figure 6. Specific secondary data indicators were selected to represent the concepts organized in the six categories in the BARHII model that reflect both "upstream" and "downstream" factors influencing health. A number of general principles guided the selection of secondary data indicators to represent these concepts. First, only indicators associated with concepts in the BARHII framework were included in the analysis. Second, indicators available at a sub-county level (such as at a ZIP code or smaller level) were preferred for their utility in revealing variations within the HSA. Finally, indicators were only collected from data sources deemed reliable and reputable, with a preference for indicators that were more current than those used in the 2013 CHNA report.

Mortality data were primarily obtained from California Department of Public Health (CDPH) and morbidity data were primarily obtained from Office of Statewide Health Planning and Development

(OSHPD). These input data were processed using methods described in detail in Appendix A (Secondary Data Dictionary and Processing) to result in a set of indicators for risk behaviors, disease/injury, and mortality. Input CDPH data were used to develop mortality rates and broader measures of health status for each ZIP code in the HSA. Input OSHPD data were used to develop hospitalization (H) and emergency department (ED) discharge rates for each ZIP code in the HSA. The majority of indicators pertaining to living conditions and other "upstream" factors in the report were obtained from the US Census Bureau. These indicators primarily focus on the socio-demographic characteristics of the population within the HSA, and are also listed in Appendix A. Health outcome and health behaviors were also collected from the Kaiser Permanente Community Commons Data Platform (CHNA-DP) to compliment the indicators already collected from additional sources. Indicators in the CHNA-DP platform were only selected for final analysis and inclusion if they did not duplicate indicators that were pulled from other sources. A detailed list of indicators collected for the 2016 CHNA is in Appendix A.

The secondary data was processed in multiple stages before it was analyzed. The three basic processing steps include rate smoothing, age-adjustment, and obtaining benchmark rates. A detailed description of this process is outlined in Appendix A.

Primary Data Collection

Overview of Primary Data Collection

Community input was provided by a broad range of community members through the use of key informant interviews and focus groups. Individuals with the knowledge, information, and expertise relevant to the health needs of the community were consulted. These individuals included representatives from the local public health department as well as leaders, representatives, and members of medically underserved, low-income, and minority populations. Additionally, where applicable, other individuals with expertise of local health needs were consulted. For a complete list of individuals who provided input, see Appendices F and G.

Methodology for collection and interpretation

Primary data were collected from May 2015-November 2015. Instruments used in primary data collection included a participant informed consent, a demographic questionnaire, the interview question guide and a project summary sheet. All participants were given an informed consent form prior to their participation that provided information about the project, asked for permission to record the interview, and listed the potential benefits and risks for involvement in the interview (Appendix C). Participants were also asked to complete a voluntary questionnaire to compile the demographics of all key informant and focus group participants (Appendix D). The same interview guide was used for key informant interviews and community focus groups with slight modifications for focus groups conducted in Spanish and focus groups with youth or low-literacy populations. In brief, the guide prompted participants to share: (1) the quality of life in their communities; (2) the health issues they see and experience in their communities; (3) the most urgent or priority health needs of their communities; and (4) the resources available to help address health needs (see Appendix D for full interview guide). A project summary sheet (Appendix D) was also given to all participants to provide them with information about the project as well as contact information for the CHNA staff leading the interviews.

Key Informant Interviews

Key informant interviews were conducted with area health experts and service providers familiar with health issues and places and populations experiencing health disparities within the HSA. Primary data collection began with group key informant interviews of hospital service providers including nursing managers, medical directors, social workers, case managers, patient coordinators/navigators,

Emergency Department providers, and administrative leadership. Early interviews were also conducted with county Public Health Officers and other public health and social service experts. Input from the initial set of group key informant and service provider interviews solicited expert opinion on vulnerable locations and populations within the HSA. This information was used to conduct additional key informant interviews with service providers in low-income, medically underserved and minority communities.

A total of 32 key informant interviews were completed for the UCDMC HSA which are listed in Appendix E. Key informants represented the following sectors: academic research (2%), community based organizations (53%), health care (38%), public health (4%), and social services (17%), with some individuals representing multiple sectors. These 47 key informants reported working with the following populations: low-income (92%), medically underserved (92%), and racial or ethnic minorities (87%). The racial and ethnic minority groups specified by interviewees included: Latino/Hispanic, African American, Asian Pacific Islander, Southeast Asian, Native American, Slavic and refugees from the former the Soviet Union. Key informants also specified working with the following vulnerable sub-groups: people experiencing homelessness, individuals diagnosed with a developmental disability, individuals diagnosed with serious mental illness and/or substance abuse disorders, pregnant women, teen parents, single parents, undocumented individuals, those with language barriers, individuals identifying as lesbian, gay, bisexual, and/or transgender (LGBT), children and seniors who have experienced abuse and/or neglect, and those utilizing public assistance programs.

Community Focus Groups

Focus group interviews were conducted with community members representing vulnerable populations and locations identified through the initial analysis of key informant input. Recruitment consisted of referrals from designated service providers as well as direct outreach from the CHNA Team to acquire input from medically underserved, minority and low-income populations and/or community members living in vulnerable locations.

Within the UCDMC HSA, 19 focus groups were conducted with 222 participants, which are listed in Appendix G. Of the approximately 218 participants who completed demographic data cards, the median age was 37, and 73% identified as female, 24% as male, and 3% as other. In addition, 30% indicated they were not high school graduates, 14% indicated they were not covered by health insurance, and 65% received some form of public assistance. The self-identified racial composition of focus group participants is presented in Figure 7.

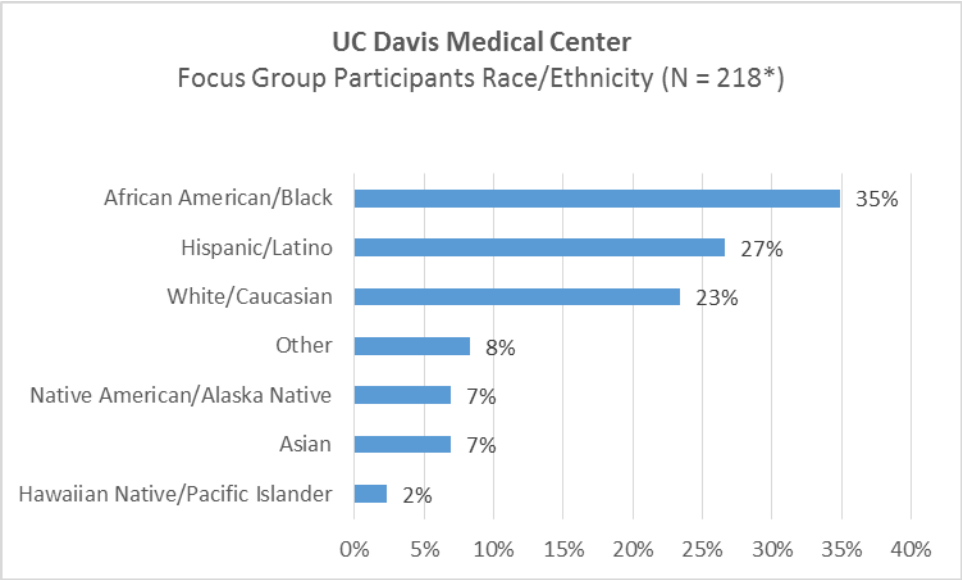

Figure 7: Focus group participant demographics

Processing Primary Data

After each interview or focus group was completed, the recording and any notes were uploaded to a secure server for future analysis. A significant portion of key informant interviews and focus group recordings were sent to a transcription service, with a smaller portion transcribed by CHNA staff or converted into notes corresponding to the order of questions in the interview guides.

Content analysis was done on the key informant and focus group transcripts utilizing NVivo 10/11 Qualitative Analytical Software. This analysis was completed in a two-phase approach. In the first phase of analysis the qualitative data were coded based on the Bay Area Regional Health Inequities Initiative (BARHII) Framework categories and other organically arising thematic areas. Further analysis was then conducted with thematic coding to the eight potential health need categories detailed later in this report and in Appendix B, with additional nodes for vulnerable populations and locations and resource identification.

Information Gaps/Limitations

Some data were only available at a county level, making an assessment of health needs at a neighborhood level challenging. Furthermore, disaggregated data around age, ethnicity, race, and gender are not available for all data indicators, which limited the ability to examine disparities of health within the community. Lastly, data are not always collected on a yearly basis, meaning that some data are several years old.

For primary data collection, it was a challenge to gain access to participants in communities that disproportionately experience health disparities. Measures were taken to reach out to vulnerable populations and locations through the process of Focus Community identification and the recommendations of early key informants. However, recruitment was variable and several key contacts expressed the issue of research fatigue from repeated needs assessments. Community members also frequently mentioned distrust of the research process. As best as possible, the research team attempted to address these concerns and to be open and transparent about the full CHNA process. All participants were given contact information of the staff that conducted their interviews and were encouraged to reach out with any additional questions; key informants were also assured that they would receive notification once the CHNA reports become available.

Another challenge was reconciling the secondary and primary data. The quantitative data used for the identification of significant health needs was examined at the HSA level. Alternately, a large share of the qualitative data was deliberately sourced from low-income, minority and medically underserved populations or their representatives. Owing to this discrepancy, certain health need categories were validated by either the quantitative or the qualitative data, rather than by both of these data sources.

CHNA Collaborative

The 2016 CHNA for UC Davis Medical Center was completed as part of a collaboration of the four major health systems in the Greater Sacramento region: Dignity Health, Kaiser Permanente, Sutter Health and UC Davis Health System. The CHNA Collaborative served to collectively conduct the 2016 CHNA and to support a coordinated approach to community benefit planning for 15 hospitals in the Sacramento Region including:

- **Dignity Health**: Mercy General Hospital, Mercy Hospital of Folsom, Mercy San Juan Medical Center, Methodist Hospital of Sacramento, Sierra Nevada Memorial Hospital, Woodland Memorial Hospital
- **Kaiser Permanente of Greater Sacramento**: Kaiser Permanente Roseville, Kaiser Permanente Sacramento, Kaiser Permanente South Sacramento
- **Sutter Health Valley Area**: Sutter Auburn Faith Hospital, Sutter Center for Psychiatry, Sutter Davis Hospital, Sutter Medical Center – Sacramento, Sutter Roseville Medical Center
- **UC Davis Health System:** UC Davis Medical Center

Consultants used to help conduct the CHNA

The 2016 CHNA was completed by Valley Vision, a regional leadership organization committed to making the Sacramento region a great place to live, work and recreate. The CHNA Collaborative contracted with Valley Vision in 2016 and 2013 to conduct their CHNA and in 2010 and 2007 for the statewide CNA. The collaborative process has built and strengthened partnerships between hospitals and other stakeholders, providing a coordinated approach to identifying priority health needs as well as developing plans to improve the health of the Sacramento region.

Valley Vision was selected to conduct the 2016 CHNAs in the Sacramento Region given its history of working with the CHNA Collaborative, mixed methods research skills and strong commitment to drawing attention to critical unmet health needs. Valley Vision has been a leading social enterprise and nonprofit consultancy for the Sacramento region since 1994 with the ability to deliver trusted research, design and drive multi-stakeholder initiatives and access a set of powerful leadership networks across the region. The CHNA team brought a rich skill-set from years of experience working in public health, health care, social service and other public sectors.

The Valley Vision team conducted primary qualitative data collection, analyzed primary and secondary data, synthesized these data to determine the significant and prioritized health needs, documented findings and wrote the draft and final CHNA reports. Valley Vision also contracted with Community Health Insights who assisted with project design, research methodology, data processing and GIS mapping for the CHNA. Community Health Insights is a Sacramento based research-oriented consulting firm dedicated to improving the health and wellbeing of communities across Northern California.

ASSESSMENT DATA AND FINDINGS

The main findings of this assessment are organized in accordance to the BARHII model beginning with the most downstream factors (mortality and morbidity) moving backwards to the upstream factors (risk behaviors and living conditions).

Mortality and Morbidity (Disease and Injury) in the Focus Communities

Examination of health outcomes for the assessment included measures of illness (morbidity) and death (mortality) including communicable and non-communicable diseases, and injuries. The conditions examined included: Chronic disease, cancer, respiratory health, mental health, substance abuse, sexually transmitted infections (including HIV/AIDS), tuberculosis, and dental health, along with unintentional and self-inflicted injuries. This section begins with an examination of overall health indicators including age-adjusted all-cause mortality, infant mortality, and life expectancy at birth.

Overall Health Status – Rates of Age-adjusted All-Cause Mortality, Infant Mortality and Life Expectancy at birth

These overall health status indicators provide information about what it is like to live in the UCDMC HSA on an everyday basis. Though specific measures of mortality show how communities suffer from specific conditions overall health status indicators communicate length of life, quality of life, socioeconomic factors and the intersection of the environment and personal behaviors. Table 6 examines three common overall health status indicators: Age-adjusted all-cause mortality, infant mortality, and life expectancy at birth for each of the UCDMC Focus Communities. Throughout the entire report: Values in blue are those that fall above or below the desired direction in comparison to county, state and national benchmarks; tables that contain a “0” indicate that the rate for that ZIP code was zero; and tables with a “N/A” notation indicate that data was missing or unavailable for that ZIP code.

Table 6: Overall health status indicators: Age-adjusted all-cause mortality, infant mortality, and life expectancy at birth

	ZIP Code	Age-Adjusted All-Cause Mortality (per 10,000 pop)	Infant Mortality Rate (per 1,000 live births)	Life Expectancy at Birth (years)
Overall Health Status Indicators	95660	77.98	4.88	76.70
	95811	75.59	N/A	79.89
	95814	86.03	4.71	74.35
	95815	88.98	4.46	74.37
	95817	66.82	4.80	77.17
	95820	78.36	5.18	76.85
	95821	73.60	4.96	77.72
	95822	69.29	4.80	78.68
	95823	80.93	6.11	78.11
	95824	71.53	5.62	77.95
	95828	74.59	4.85	77.54
	95832	70.76	4.56	78.40
	95838	90.05	5.46	74.57
	95841	93.48	4.56	75.65
	95842	72.27	4.88	76.70
	Sacramento County	*72.75*	*5.40*	*78.74*
	CA State	*64.60*	*4.90*	*80.50*
	National 2013	N/A	N/A	*78.80*[2]
	Healthy People 2020 Target	N/A	*6.00*[3]	N/A

Source: CDPH, 2010-2012

All Focus Communities had an age-adjusted all-cause mortality rate that were higher than both the county and state benchmarks. Age-adjusted overall mortality was highest in ZIP codes 95841 (Madison Ave/Auburn Blvd., 95838 (Del Paso Heights) and 95815 (North Sacramento). Five of the 15 Focus Communities had rates for infant mortality above the state benchmark at 4.9 deaths per 1,000 live births. ZIP code 95823 (Fruitridge) was the only Focus Community with an infant mortality rate above the Healthy People 2020 benchmark set at 6.0 deaths per 1,000 births. Fourteen of the 15 ZIP codes had lower life expectancy than the county rate at 78.74 years. The Focus Community with the lowest life expectancy was seen in ZIP code 95814 (Downtown Sacramento) at 74.35 years of age.

Chronic Diseases -- Diabetes, Heart Disease, Stroke, Hypertension and Kidney Disease

Both primary and secondary data indicated that most chronic illnesses are common in the UCDMC HSA. Key informant interviews and community members specifically stated challenges with diabetes, hypertension, heart disease and stroke, coupled with many residents living with co-morbidities. Primary data showed that participants recognized these chronic conditions to be an outcome of a lack of other behavioral and environmental factors.

[2] Centers for Disease Control and Prevention. (2015). *Deaths: Final data for 2013*. Retrieved from: http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf

[3] Office of Disease Prevention and Health Promotion. (2014). *Maternal, Infant and Child Health*. Retrieved from: https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Maternal-Infant-and-Child-Health/data

Diabetes

Diabetes was the seventh leading cause of death nationally in 2013.[4] Diabetes is listed first in this CHNA as it was a commonly mentioned health issue for community residents and quantitative findings show clear geographic health disparities across the UCDMC HSA. Table 7 displays rates of mortality, ED visits, and hospitalizations due to diabetes for each Focus Community.

Rates -- Mortality, ED visits and Hospitalizations due to diabetes

Table 7: Mortality, ED visits, and hospitalization rates for diabetes compared to county, state, and Healthy People 2020 benchmarks (rates per 10,000 population)

	ZIP Code	Mortality	ED Visits	Hospitalizations
Diabetes	95660	2.63	429.43	305.55
	95811	2.01	323.51	223.54
	95814	2.77	808.94	474.15
	95815	2.06	494.00	307.55
	95817	2.11	372.65	296.29
	95820	2.33	413.75	293.45
	95821	2.24	355.91	201.01
	95822	2.87	381.08	251.17
	95823	2.06	560.83	330.68
	95824	2.16	420.62	307.13
	95828	2.15	379.98	257.13
	95832	2.32	531.29	361.96
	95838	2.96	500.40	349.71
	95841	2.41	350.03	270.24
	95842	2.13	362.07	262.70
	Sacramento County	2.26	*281.27*	*200.65*
	CA State	*2.10*	*209.15*	*192.30*
	Healthy People 2020 Target	*6.60*	N/A	N/A

Sources: Mortality: CDPH, 2012; ED visits and hospitalizations: OSHPD, 2011-2013

Twelve of the 15 Focus Communities had mortality rates due to diabetes that were clearly higher than the county and state benchmarks, but below the Health People 2020 benchmark set at 6.6 per 10,000. The highest mortality rate due to diabetes was found in 95838 (Del Paso Heights) and 95822 (Sacramento Executive Airport). All 15 Focus Communities had ED visit and hospitalizations rates due to diabetes that were clearly above the county and state benchmarks. ZIP code 95814 (Downtown Sacramento) had the highest rate for both ED visits and hospitalizations due to diabetes.

Percent -- Adults over 20-year-old with diabetes

Reported by the National Center for Chronic Disease Prevention and Health Promotion, the percent of adults over the age of 20 that have ever been told by a doctor that they have diabetes for 2012 was eight percent for Sacramento County, the exact same percent as the state.

[4] Centers for Disease Control and Prevention. (2015). *Leading Causes of Death*. Retrieved from: http://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm

Percent -- Medicare patients with diabetes that received a hA1c exam

Preventive screening for diabetes is important. Lack of screening and follow up care for diabetes was mentioned in the primary data as a big concern for area residents. According to the Dartmouth College Institute for Health Policy & Clinical Practice in 2012, the percent of Medicare patients with diabetes which reported having had a hA1c exam to monitor their diabetes diagnosis in Sacramento County was 80%, just below the state percent of 82%.

Heart Disease

Heart disease is the leading cause of death in the nation for individuals under the age of 85; it includes a number of different types of heart-related conditions, with coronary heart disease the most common and a major cause of heart attacks. More than 600,000 people die of heart disease each year.[5] Table 8 examines rates for mortality, ED visits, and hospitalizations due to heart disease.

Rates -- Mortality, ED visits and hospitalizations due to heart disease

Table 8: Mortality, ED visits and hospitalization rates for heart disease compared to county, state, and Healthy People 2020 benchmarks (rates per 10,000 population)

	ZIP Code	Mortality	ED Visits	Hospitalizations
Heart Disease	95660	16.74	252.35	331.49
	95811	10.59	194.93	295.85
	95814	29.50	423.22	557.72
	95815	15.74	257.23	348.22
	95817	11.70	164.89	306.32
	95820	18.56	202.95	310.35
	95821	24.84	220.05	247.66
	95822	22.66	204.59	278.75
	95823	13.90	307.36	349.19
	95824	15.51	182.82	298.46
	95828	15.85	208.91	278.46
	95832	12.78	279.47	360.96
	95838	14.61	260.84	370.51
	95841	21.89	221.50	310.93
	95842	10.28	247.40	287.87
	Sacramento County	*16.75*	*185.73*	*245.05*
	CA State	*15.82*	*112.64*	*222.00*
	Healthy People 2020 Target	*10.10*	N/A	N/A

Sources: Mortality: CDPH, 2012; ED visits and hospitalizations: OSHPD, 2011-2013

Examination of mortality due to heart disease revealed that all 15 Focus Communities had rates higher than the Healthy People 2020 benchmark. The highest rates were found in ZIP codes 94814 (Downtown Sacramento), 95821 (North Watt/Marconi Area), and 95822 (Sacramento Executive Airport), with 95814 at a rate of 29.5 deaths per 10,000 drastically higher than the county rate at 16.75 per 10,000. ED visits and hospitalizations due to heart disease showed a similar result. All 15 Focus Communities had rates above the county and state benchmarks. Most notably was the ZIP code Focus Community of 95814 (Downtown Sacramento) with an ED visit rate of 423.22 per 10,000 more than twice the county rate at

[5] Centers for Disease Control and Prevention. (2015). *Heart Disease Facts*. Retrieved from: http://www.cdc.gov/heartdisease/facts.htm

185.73 per 10,000 and hospitalizations at 557.72 per 10,000 compared to the county rate of 245.05 per 10,000.

Percent -- Adults over 18 years old with heart disease

The California Health Interview Survey indicates that for 2011-2012, the percent of adults over the age of 18 that have ever been told by a doctor that they have heart disease was 5.2% for the Sacramento County area, lower than the state percentage at six percent.

Stroke, Hypertension and Kidney Disease

The fifth leading cause of death nationally is stroke.[6] Approximately 800,000 people have a stroke each year, with the most common type those which restrict blood flow to the brain.[7] Tobacco smoking and hypertension drastically increase risk for stroke. Hypertension is common in approximately 1 out of every 3 adults.[8] Both stroke, hypertension, and kidney disease are discussed together.

Hypertension also increases risk for kidney diseases, along with heart disease and diabetes. Tables 9, 10, and 11 examine mortality, ED visits, and hospitalizations related to stroke, hypertension, and kidney disease.

[6] Centers for Disease Control and Prevention. (2015). *Leading Causes of Death*. Retrieved from: http://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm

[7] Centers for Disease Control and Prevention. (2015). *Stroke Facts*. Retrieved from: http://www.cdc.gov/stroke/facts.htm

[8] Centers for Disease Control and Prevention. (2015). *Blood Pressure Facts*. Retrieved from: http://www.cdc.gov/bloodpressure/facts.htm

Rates -- Mortality, ED visits and hospitalizations due to stroke

Table 9: Mortality, ED visits and hospitalization rates for stroke compared to county, state, and Healthy People 2020 benchmarks (rates per 10,000 population)

	ZIP Code	Mortality	ED Visits	Hospitalizations
Stroke	95660	4.98	33.76	76.39
	95811	3.74	15.35	58.45
	95814	5.40	43.13	125.72
	95815	5.22	35.27	88.04
	95817	4.23	25.53	67.20
	95820	5.39	29.11	75.06
	95821	5.28	32.52	59.99
	95822	5.26	32.99	71.62
	95823	3.09	50.03	86.71
	95824	3.56	31.36	79.49
	95828	3.95	32.87	77.86
	95832	3.76	36.67	82.8
	95838	3.23	34.87	92.83
	95841	4.00	27.70	75.25
	95842	3.28	33.04	62.49
	Sacramento County	*4.14*	*30.85*	*61.32*
	CA State	*3.60*	*18.55*	*52.23*
	Healthy People 2020 Target	*3.40*	*N/A*	*N/A*

Sources: Mortality: CDPH, 2012; ED visits and hospitalizations: OSHPD, 2011-2013

Mortality rates due to stroke were high in 12 of the 15 Focus Communities with the highest rates seen in ZIP codes 95814 (Downtown Sacramento), 95820 (Tahoe Park) and 95821 (North Watt/Marconi Area). ED visits due to stroke were also clearly above the state benchmark in 14 of the 15 Focus Communities, with the highest rate in 95823 (Fruitridge) at 50.03 ED visits per 10,000 population, more than twice the state benchmark of 18.55 per 10,000.

Rates -- Mortality, ED visits and hospitalizations due to hypertension

Table 10: Mortality, ED visits and hospitalization rates for hypertension compared to county and state benchmarks (rates per 10,000 population)

	ZIP Code	Mortality	ED Visits	Hospitalizations
Hypertension	95660	1.10	780.79	540.72
	95811	1.39	627.50	459.88
	95814	1.35	1377.72	873.34
	95815	1.19	810.93	545.20
	95817	1.09	648.76	509.74
	95820	1.20	656.41	509.90
	95821	1.33	669.34	404.01
	95822	1.52	680.55	451.58
	95823	1.37	990.81	555.50
	95824	1.48	659.74	500.08
	95828	1.37	704.03	466.15
	95832	1.12	897.74	571.32
	95838	1.86	811.14	578.49
	95841	1.17	688.13	546.81
	95842	0.97	663.70	470.48
	Sacramento County	N/A	*555.90*	*398.66*
	CA State	*1.21*	*408.99*	*383.74*

Sources: Mortality: CDPH, 2012; ED visits and hospitalizations: OSHPD, 2011-2013

Mortality rates due to hypertension were above the state benchmark in eight of the 15 Focus Communities. Examination of ED visits and hospitalizations due to hypertension showed all 15 Focus Communities with rates clearly higher than the county and state benchmarks. Specifically, ZIP code 95814 (Downtown Sacramento) had a rate of ED visits of 1377.72, more than twice the county rate and three times the state rate. The rate for hospitalizations due to hypertension was also highest in ZIP code 95814 (Downtown Sacramento) at more than twice the county and state benchmarks.

Primary data showed the participants specifically mentioned high blood pressure as a challenging issue for area residents. Accessing medication refills for blood pressure management was noted as an area challenge with many residents, especially low income, using the emergency room as an avenue to get their medication refills. As one community member stated:

> *A lot of high blood pressure, cholesterol, is something that we see people come in to the ER….come in to the ER for a refill on their high blood pressure medication because they are not able to get in to see their doctor to get that refill soon enough. (FG_14)*

Percent -- Adults with hypertension not taking medication

The Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System survey results for 2006-2010, indicated that the percentage of adults self-reporting high blood pressure which they do not take medication for was 26% for Sacramento County, below the state percent of 30%.

Rates -- Mortality, ED visits and hospitalizations due to kidney disease

Table 11: Mortality, ED visits and hospitalization rates for kidney disease compared to county and state benchmarks (rates per 10,000 population)

	ZIP Code	Mortality	ED Visits*	Hospitalizations*
Kidney Disease	95660	0.59	139.53	234.65
	95811	0.79	87.54	193.72
	95814	0.77	164.00	396.81
	95815	0.63	137.19	264.38
	95817	N/A	95.71	249.59
	95820	0.68	125.39	246.74
	95821	0.69	129.62	176.12
	95822	1.00	140.04	231.39
	95823	0.84	201.42	284.41
	95824	0.80	124.48	251.81
	95828	0.46	143.52	227.73
	95832	N/A	200.74	311.51
	95838	0.86	169.69	307.89
	95841	0.80	112.56	220.93
	95842	0.59	141.70	219.12
	Sacramento County	N/A	*110.76*	*180.68*
	CA State	*0.73*	*57.09*	*160.01*

Sources: Mortality: CDPH, 2012; ED visits and hospitalizations: OSHPD, 2011-2013
*OSHPD data includes data for nephritis, nephrotic syndrome, and nephrosis

Mortality rates due to kidney disease were elevated in seven of the 15 Focus Communities with the highest rate in 95838 (Del Paso Heights). ED visits due to kidney disease were above the county and state benchmarks in all 15 of the Focus Communities, with the highest rates in 95823 (Fruitridge) and 95832 (South Meadowview). Hospitalizations due to kidney disease were also high in all 15 Focus Communities. The highest rate of hospitalizations was found in 95814 (Downtown Sacramento) at 396.81 hospitalization per 10,000, more than twice the state and county benchmarks.

Cancer -- Incidence, ED visits, Hospitalization, Mortality and Screening Rates by Specific Cause of Cancer

Cancer is one of the leading causes of death in the nation, with more than eight percent of the population receiving a cancer diagnosis at least once in their lifetime[9]. In an attempt to gain a better understanding of how the Focus Communities are affected by cancer, the assessment included the examination of cancer incidence for female breast, colorectal, lung and prostate cancers at the ZIP code level. All-cause cancer mortality, ED visits and hospitalizations for specific causes of cancer are also examined by ZIP code and included lung cancer, female breast cancer, prostate cancer, and colorectal cancer. These specific cancers were chosen for this assessment because they are among the leading causes of new cases and/or of deaths of cancer among Americans today. Screening rates for breast cancer, cervical cancer and colorectal cancer were also examined at the HSA level.

[9] Centers for Disease Control and Prevention. (2015). *Cancer*. Retrieved from: http://www.cdc.gov/nchs/fastats/cancer.htm

Rates -- Breast (female), colorectal, lung, and prostate cancer incidence

Cancer incidence communicates risk for cancer within the Focus Communities. Table 12 shows incidence rates for female breast, colorectal, lung and prostate cancer for each of the ZIP code Focus Communities. Rates for each ZIP code were compared to a UCDMC HSA and state rates.

Table 12: Cancer incidence (new cases) for female breast cancer, colorectal cancer, lung cancer and prostate cancer (rates per 10,000 population)

	ZIP Code	Breast-Female	Colorectal	Lung Cancer	Prostate
Cancer Incidence	95660	13.73	4.11	7.28	11.60
	95811	10.35	N/A	N/A	7.15
	95814	21.28	N/A	7.05	12.21
	95815	12.02	3.49	6.05	7.52
	95817	13.96	3.25	4.91	11.37
	95820	12.46	4.52	4.01	9.49
	95821	21.82	4.21	6.14	12.84
	95822	21.59	4.99	7.19	14.37
	95823	11.84	4.10	4.88	8.93
	95824	13.12	3.44	4.29	5.64
	95828	13.66	4.09	4.68	8.75
	95832	10.23	3.31	4.06	8.76
	95838	12.63	2.82	5.30	9.40
	95841	15.25	4.58	7.88	11.45
	95842	15.14	4.26	4.70	8.40
	Sacramento County	*18.44*	*4.16*	*5.46*	*12.31*
	CA State	*13.16*	*3.88*	*4.54*	*11.61*

Source: California Cancer Registry, 2010-2012

The breast cancer incidence rate for the UCDMC HAS/Sacramento County was clearly above the state benchmark of 13.16 per 10,000. Three of the Focus Communities had rates clearly above the state which are ZIP code areas of 95814 (Downtown Sacramento), 95821 (North Watt/Marconi) and 95822 (Sacramento Executive Airport). Five of the 15 Focus Communities had rates above the state benchmark for colorectal cancer incidence, with 95822 (Sacramento Executive Airport) having the highest rate at 4.99 cases per 10,000. Six Focus Communities had rates of lung cancer incidence that were above the county and state benchmarks. Only two Focus Communities had incidence rates for prostate cancer above the benchmarks, with the highest rate in 95822 (Sacramento Executive Airport). Most notably ZIP code Focus Community 95822 (Sacramento Executive Airport) had elevated rates for all four cancer incidence types.

Rates -- All-cause cancer mortality and lung cancer ED visits and hospitalizations

An all-cause cancer mortality rate shows the overall effect of cancer as an illness in the Focus Communities. Unfortunately, mortality data due to specific cancers was not available at the sub county level, and therefore is not included in this assessment. However, ED visits and hospitalization rates due to lung cancer are reported in Table 13, followed by rates for female breast and prostate cancer in Table 14 and colorectal cancer and Table 15.

Table 13: Mortality rates for all-cause cancer, and ED visits and hospitalization rates for lung cancer compared to county, state, and Healthy People 2020 benchmarks (rates per 10,000 population)

ZIP Code	Mortality All-Cause Cancer	ED Visits Lung Cancer	Hospitalizations Lung Cancer
95660	16.63	4.49	11.03
95811	13.53	2.08	5.32
95814	17.98	5.00	13.52
95815	18.94	3.10	6.18
95817	14.04	2.24	7.05
95820	20.97	4.06	6.95
95821	20.92	5.84	11.06
95822	24.40	5.41	9.26
95823	15.56	4.18	9.00
95824	15.47	2.30	6.96
95828	17.06	3.45	7.61
95832	15.22	2.88	5.48
95838	14.36	5.44	9.22
95841	21.77	4.46	19.19
95842	13.16	2.42	9.69
Sacramento County	*17.24*	*3.63*	*8.35*
CA State	*15.41*	*2.68*	*7.95*
Healthy People 2020	*16.10*	N/A	N/A

Source: Mortality: CDPH, 2012; ED visits: OSHPD, 2011-2013

Ten of the 15 ZIP code communities exceeded the state benchmark for mortality due to all-cause cancer. Eight ZIP codes also exceeded the Healthy People 2020 benchmarks set at 16.1, with the highest rate in ZIP code 95841 (Madison Ave/Auburn Blvd.) at 21.77 deaths per 10,000 population. Eleven of the 15 ZIP codes had a rate for ED visits due to lung cancer that was higher than the state benchmark at 2.7 visits per 10,000. Eight of the 15 ZIP codes had lung cancer related hospitalization rates above both the county and state benchmarks, with the highest rate being in ZIP code 95841 (Madison Ave/Auburn Blvd). The rate of hospitalizations due to lung cancer was 19.19 hospitalizations per 10,000 in ZIP Code 95841, more than double both the county and state rate.

Rates -- Female breast, colorectal, prostate cancer ED visits and hospitalizations

A lack of access to primary health care greatly effects the risk for late diagnosis of cancer, especially those cancers for which early diagnosis and prevention are important in order to reduce further related morbidity and mortality. Table 14 examines ED visits and hospitalizations related to female breast cancer and prostate cancer. Table 15 examines ED visits and hospitalizations related to colorectal cancer.

Table 14: Rates of ED visits and hospitalizations for female breast cancer and prostate cancer (rates per 10,000 population)

	ZIP Code	ED visits Female Breast Cancer	Hospitalization Female Breast Cancer	ED visits Prostate Cancer	Hospitalization Prostate Cancer
Cancer: Female Breast and Prostate	95660	9.68	12.72	7.47	7.89
	95811	4.78	7.04	9.38	7.43
	95814	17.43	16.11	10.18	18.05
	95815	8.39	11.01	10.87	7.75
	95817	5.82	7.07	0	8.57
	95820	5.76	5.91	6.10	8.29
	95821	10.56	12.17	12.00	13.43
	95822	9.79	12.39	10.61	17.24
	95823	7.04	7.81	6.80	10.40
	95824	4.69	9.08	2.89	5.83
	95828	7.18	7.95	6.03	8.57
	95832	3.80	7.91	6.12	9.02
	95838	9.30	12.54	9.71	7.12
	95841	10.63	13.72	6.54	10.39
	95842	9.34	7.08	8.09	8.52
	Sacramento County	*8.67*	*10.88*	*7.84*	*10.80*
	CA State	*6.59*	*11.07*	*5.79*	*12.37*

Source: OSHPD, 2011-2013

Examination of ED visits and hospitalizations related to breast cancer in females revealed that 10 ZIP codes had rates above the state benchmark and seven ZIP codes had rates greater than the county benchmark. The highest rates of ED visits and hospitalizations for breast cancer were found in ZIP code 95814 (Downtown Sacramento) at 17.43 ED visits per 10,000 and hospitalization at 16.11 per 10,000, drastically higher than the benchmarks. ED visit rates for prostate cancer were higher than the state rate in 12 of the 15 ZIP code Focus Communities, and higher than the county benchmark in seven of the ZIP codes. Three Focus Communities had hospitalization rates above both the state and county benchmarks for Prostate Cancer. The highest hospitalization rates were seen in ZIP codes 95814 (Downtown Sacramento) and 95822 (Sacramento Executive Airport).

Table 15: Rates of ED visits and hospitalizations for colorectal cancer (rates per 10,000 population)

	ZIP Code	ED visits Colorectal Cancer	Hospitalization Colorectal Cancer
Colorectal Cancer	95660	3.08	6.84
	95811	1.03	2.77
	95814	4.60	12.40
	95815	3.04	7.23
	95817	3.28	3.99
	95820	1.89	8.19
	95821	2.90	7.00
	95822	2.17	6.48
	95823	2.86	6.88
	95824	2.20	6.65
	95828	2.63	5.99
	95832	1.67	4.96
	95838	2.02	3.72
	95841	1.41	5.65
	95842	3.49	8.14
	Sacramento County	*2.36*	*6.25*
	CA State	*1.85*	*6.43*

Source: OSHPD, 2011-2013

Rates for ED visits related to colorectal cancer showed that 11 ZIP codes had rates above the state benchmark and seven above the county for ED visits. Hospitalization data for colorectal cancer showed seven ZIP codes of the 15 Focus Communities had higher rates than both the county and state benchmark rates.

Screening rates -- Breast (mammogram), pap (cervical) and colorectal (sigmoid/colonoscopy) screening rates

Figure 8 shows data on the percent of Medicare enrollees aged 67-69 or older that have received a mammogram within the last two years, and the percentage rate was the same for Sacramento County as the state benchmark. The percent of female adults over the age of 18 that reported having had a pap test in the last three years for Sacramento County was lower than the state percent at 78%. However, more 50 year olds in Sacramento County reported having had a sigmoidoscopy or colonoscopy at least once in their lifetime in compared to the state.

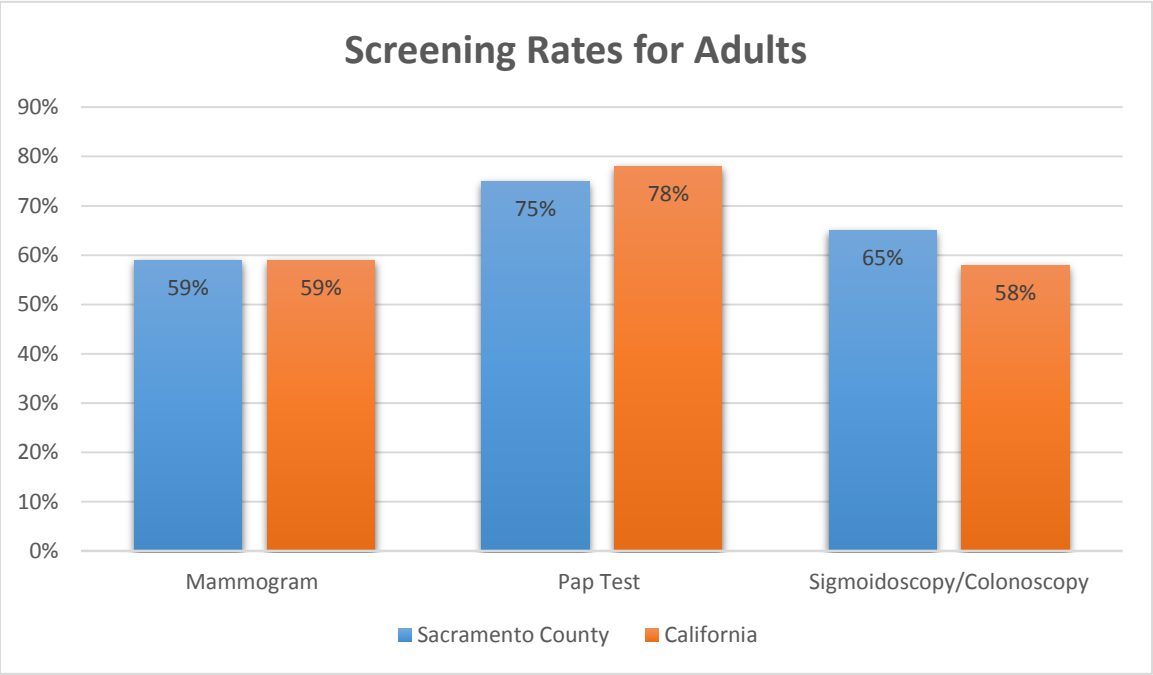

Figure 8: Screening rates in adults for mammograms, pap test and sigmoidoscopy/colonoscopy

Respiratory Health – Chronic Obstructive Pulmonary Disease (COPD), Asthma, and Tuberculosis

Chronic Obstructive Pulmonary Disease (COPD) is a progressive lung disease that makes it very hard to breathe and refers to the two main conditions of emphysema and chronic bronchitis.[10] Tobacco smoking is the biggest risk factor for COPD. As many as 6.8 million people have COPD at the national level. Tuberculosis is a respiratory condition caused by a bacterium called Mycobacterium tuberculosis. In 2014 there were a total of 2.96 cases of TB per 100,000 population in the United States.[11] In an effort to understand the impact of respiratory illness in the Focus Communities, mortality rates for chronic lower respiratory disease (CLRD) are presented in Table 16 along with rates of ED visits and hospitalizations related to COPD. (The difference between the CLRD and COPD designations are due to variations in usage of ICD 10 codes for mortality and ICD 9 codes of ED visit and hospitalization data. Both include the major respiratory illnesses of chronic bronchitis, emphysema, and asthma.) Rates of ED visits and hospitalization due specifically to asthma are examined independently in Table 17.

[10] National Heart, Lung and Blood Institute. (2013). *What is COPD?* Retrieved from: http://www.nhlbi.nih.gov/health/health-topics/topics/copd

[11] Centers for Disease Control and Prevention. (2014). Tuberculosis. Retrieved from: http://www.cdc.gov/tb/statistics/default.htm

Rates – Mortality due to CRLD and ED visits and hospitalizations due to COPD

Table 16: Mortality rates due to CLRD, ED visits and hospitalization rates due to COPD compared to county, state, and Healthy People benchmarks (rates per 10,000 population)

	ZIP Code	Mortality CLRD	ED Visits COPD	Hospitalizations COPD
Chronic Lower Respiratory Disease (CLRD) & Chronic Obstructive Pulmonary Disease (COPD)	95660	5.96	566.20	311.39
	95811	3.12	332.32	206.34
	95814	6.62	847.82	534.02
	95815	5.84	556.70	280.54
	95817	4.39	374.44	259.18
	95820	3.79	394.36	268.82
	95821	5.31	551.13	260.95
	95822	4.90	408.50	254.99
	95823	3.87	542.59	251.66
	95824	3.52	387.54	227.49
	95828	2.94	357.84	205.32
	95832	0	438.54	201.11
	95838	4.70	463.90	240.49
	95841	3.71	537.31	293.48
	95842	3.44	455.94	202.78
	Sacramento County	3.88	340.36	195.19
	CA State	3.46	218.3	154.44
	Healthy People 2020	*N/A*	*56.8*	*50.1*

Source: Mortality: CDPH, 2012; ED visits: OSHPD, 2011-2013

Eleven of the 15 ZIP code Focus Communities had mortality rates due to CLRD above the state benchmark. The Sacramento County benchmark rate is higher than the state rate. All 15 ZIP codes had rates above both the county and state benchmarks for ED visits and hospitalizations due to COPD. The highest rate of ED visits due to COPD was found in 95814 (Downtown Sacramento) at 847.82, more than three times the state benchmark rate and more than 14 times the Healthy People 2020 benchmark. This same ZIP code 95814 (Downtown Sacramento) had the highest rate of hospitalizations due to COPD at 534.02, compared to the county rate of 195.19 per 10,000 and the Healthy People benchmark of 50.1 per 10,000.

Rates -- ED visits and hospitalizations due to asthma

Asthma is one of the leading health issues in the nation. National data indicates that one in 12 adults and one in 11 children have asthma.[12] Table 17 examines ED visits and hospitalizations due to asthma (all ages).

Table 17: ED visits and hospitalization rates due to asthma compared to county and state benchmarks (rates per 10,000 population)

	ZIP Code	ED Visits	Hospitalizations
Asthma	95660	381.80	142.17
	95811	179.93	97.05
	95814	486.50	222.67
	95815	362.61	135.35
	95817	243.61	135.59
	95820	259.82	138.11
	95821	378.96	128.00
	95822	273.72	124.18
	95823	390.32	140.64
	95824	265.52	124.36
	95828	254.64	115.37
	95832	328.69	116.00
	95838	317.39	119.57
	95841	378.33	136.24
	95842	325.39	102.44
	Sacramento County	235.95	101.20
	CA State	148.86	70.55

Source: OSHPD, 2011-2013

All 15 of the Focus Communities had ED visit and hospitalizations rates due to asthma that were above both the county and state benchmarks. The highest rates of ED visits were found in ZIP codes 95814 (Downtown Sacramento) at 486.5 ED visits per 10,000, in 95823 (Fruitridge) at 390.32 visits per 10,000, and in 95660 (North Highlands) at 381.8 ED visits per 10,000, each of these are two times higher than the state rate of 148.86 ED visits per 10,000. ZIP code 95814 (Downtown Sacramento) also has the highest rate of hospitalizations due to asthma at 222.67 per 10,000, way above the state rate of 70.55 per 10,000.

Key informants and community members mentioned asthma as a major issue for area residents. Managing asthma in both the school and home built environment were mentioned as big areas of need. As one key informant expert stated:

> *Asthma awareness, how do you mitigate some of those things for families within their own environments, keeping things clean and diet and behavior, what smoking does for folks? I think that's also a huge part of the reason why there's such a huge problems with asthma and advocacy around kind of built spaces and all that. (KI_10)*

[12] Centers for Disease Control and Prevention. (n.d.) *Asthma Fact Sheet*. Retrieved from: http://www.cdc.gov/asthma/impacts_nation/asthmafactsheet.pdf

Percent -- Adults over age 18 with asthma

As reported by the Centers for Disease Control and Prevention from the Behavioral Risk Factor Surveillance System survey the percent of adults over the age of 18 that have ever been told by a doctor that they have asthma was 18.4% for Sacramento County, above the state percent of 14.2% in 2011-2012.

Rates -- ED visits and hospitalizations due to tuberculosis

Table 18: ED visit and hospitalization rates due to tuberculosis compared to county and state benchmarks (rates per 10,000 population)

	ZIP Code	ED Visits	Hospitalizations
Tuberculosis	95660	0.13	0.57
	95811	0	0.60
	95814	0.28	1.48
	95815	0.14	1.24
	95817	0	0.56
	95820	0.38	0.89
	95821	0.18	0.46
	95822	0.20	0.72
	95823	0.20	0.77
	95824	0.24	1.70
	95828	0.27	1.21
	95832	0.18	1.78
	95838	0.17	0.42
	95841	0	0
	95842	0.13	0.38
	Sacramento County	*0.15*	*0.52*
	CA State	*0.15*	*0.82*

Source: OSHPD, 2011-2013

Nine of the 15 Focus Communities had ED visits due to TB above the county and state benchmark, which are the same. The highest ED visit rate due to TB was in ZIP code 95820 (Tahoe Park). Eleven of the 15 Focus Communities had elevated hospitalization rates due to TB compared to the county and state benchmarks. The highest rate was in ZIP code 95832 (South Meadowview) at 1.78 per 10,000, five times higher than the state benchmark of .52 per 10,000.

Mental Health

Mental illness is defined as "health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning."[13] Depression is the most common type of mental illness in the United States and by 2020 will be the second leading cause of disability worldwide.[14] Mental illness is strongly correlated with many risks for chronic diseases such as, physical inactivity, smoking, excessive drinking, and insufficient sleep.[15] Mental health data at the sub county level is difficult to obtain. This CHNA assessment examined ED visits and

[13]Centers for Disease Control and Prevention. (2013). Mental Health Basics. Retrieved from: http://www.cdc.gov/mentalhealth/basics.htm

[14] Ibid.

[15] Ibid.

hospitalizations due to mental health conditions at the ZIP code level in order to gain increased understanding of health disparity issues at the sub county level. This data is provided in Table 19 for the Focus Communities as a way of examining mental health in the HSA.

Rates -- ED visits and hospitalizations due to mental health

Table 19: ED visit and hospitalization rates due to mental health issues compared to county and state benchmarks (rates per 10,000 population)

	ZIP Code	ED Visits	Hospitalizations
Mental Health	95660	364.34	296.22
	95811	399.70	334.87
	95814	1323.63	827.70
	95815	329.73	304.00
	95817	276.31	384.89
	95820	313.49	306.08
	95821	433.18	327.46
	95822	313.09	283.16
	95823	426.88	296.63
	95824	263.11	236.20
	95828	299.86	226.89
	95832	275.23	189.74
	95838	266.93	242.46
	95841	415.25	364.79
	95842	282.15	220.67
	Sacramento County	*271.38*	*227.04*
	CA State	*149.93*	*186.92*

Source: OSHPD, 2011-2013

ED visits and hospitalizations due to mental health conditions were high in all 15 ZIP code Focus Communities. The highest rates of ED visits due to mental health issues were found in ZIP codes 95814 (Downtown Sacramento), 95821 (North Watt/Marconi Area) and 95823 (Fruitridge). The rate in 95814 (Downtown Sacramento) was drastically higher than any other ZIP code in the HSA at 1,323.63 ED visits per 10,000, more than four times the county rate and eight times the state rate. The ZIP Code 95814 (Downtown Sacramento) also had the highest rate of hospitalizations at 827.70 per 10,000, at approximately four times the rate of the county and state benchmarks.

One of the major findings of the primary data was the high frequency of mental illness in the county and the need for mental health services. Changes in the mental health provider network in the last few years have resulted in many residents going untreated for mental illness. Participants discussed patients needing care for mental illness having a difficult time getting adequate care in the HSA. One community member spoke about seeking care in the emergency department and was placed in a hospital bed for three days in the emergency department hallways while experiencing a psychotic episode.

Another service provider stated:

> *I think that the county has been neglecting its mental health duties for the past several years and then closing the resources that's why it's difficult access to care. That impacts all of the other patients because when the ER's half full with mental health patients I can't see the sick kid, I*

can't see the next cardiac arrest that's coming through and they've been very reluctant to release funds or to actually address the issue for the past five years and you've seen it increase in census in every single ER in terms of psychiatric patients. (FG_22)

The need for access to mental health/behavioral services was mentioned in 49 of the 51 primary data sources. Mental illness ranged from anxiety and depression to schizophrenia. Participants also spoke about mental illness in the homeless populations of the county, stating the majority of the homeless population suffer from mental illness. As one provider stated:

We may be able to get them enrolled in Medi-Cal and we may be able to try to help them navigate those systems or see if we can help with medications but you cant make it over to the pharmacy or get to an appointment with a psychiatrist if you slept in the bushes last night or if you're looking at a housing situation that's dangerous to your health. (FG_7)

Percent-- Adults reporting insufficient social and emotional support

Aggregated data from the Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System survey for 2006-2012 showed that 21% of respondents in Sacramento County, over the age of 18, indicated that they receive insufficient social and emotional support most of the time. This percent was lower than the state percent at 25% of respondents.

Participants also spoke about the importance of residents feeling a sense of social and community connectedness with one another. As one service provider stated:

I could tell you that diabetes is a big issue because it is but its really getting down to the root of what causes diabetes and we start to lose track of the bigger picture of neighborhood and neighborhoods good neighborhoods create healthy people and isolation is one of the biggest problems in low income struggling, poor health neighborhoods. Isolation to me is one of the key components to creating healthy people. (KI_11)

Dental Health

Oral health is important to overall quality of life. Data used in this assessment to examine the status of oral health in the UCDMC HSA was ED visits and hospitalization due to dental conditions. This data is from 2011 – 2013 before the reinstatement of dental coverage under the state Medicaid (Medi-Cal) program.

Rates -- ED visits and hospitalizations due to dental health

Table 20: ED visit and hospitalization rates due to dental issues compared to county and state benchmarks (rates per 10,000 population)

	ZIP Code	ED Visits	Hospitalizations
Dental Health	95660	141.24	12.39
	95811	115.04	13.28
	95814	216.57	29.18
	95815	164.45	15.38
	95817	136.27	14.35
	95820	115.55	12.55
	95821	137.23	12.85
	95822	81.35	9.67
	95823	132.13	11.80
	95824	104.78	12.76
	95828	84.11	9.37
	95832	89.34	8.39
	95838	119.21	11.42
	95841	137.86	12.58
	95842	113.9	8.87
	Sacramento County	*72.66*	*9.77*
	CA State	*41.34*	*7.81*

Source: OSHPD, 2011-2013

Rates of ED visits and hospitalizations due to dental health issues were elevated in all 15 Focus Communities. ZIP code 95814 (Downtown Sacramento) had the highest rates for both ED visits and hospitalizations. The rate for ED visits was more than three times the county rate and more than five times the state rate.

Injury- Intentional (Suicide and Self- inflicted injury) and Unintentional

In 2013, suicide was the 10th leading cause of death nationally, and the second leading cause of death for Americans 15-34 years of age.[16] Unintentional injuries were the third leading cause of death overall but the first leading cause of death for Americans 1-44 years of age.[17] Unintentional injuries are defined as "predictable and preventable when proper safety precautions are taken" and not considered accidents.[18]

[16] Centers of Disease Control and Prevention. (2015). Ten leading causes of death by age group – 2013. Retrieved from: http://www.cdc.gov/injury/wisqars/leadingcauses.html
[17] Ibid.
[18] Ibid.

Rates -- Mortality, ED visits and hospitalizations due to suicide and self-inflicted injury

Table 21: Mortality rates due to suicide and ED visits and hospitalization rates due to self-inflicted injury compared to county, state, and Healthy People 2020 benchmarks (rates per 10,000 population)

	ZIP Code	Mortality	ED Visits	Hospitalizations
Suicide/Self-Inflicted Injury	95660	1.47	15.85	7.59
	95811	0	21.33	5.88
	95814	1.28	48.99	26.75
	95815	1.09	20.60	6.96
	95817	1.15	16.09	6.73
	95820	1.11	14.27	7.92
	95821	1.60	17.11	5.16
	95822	0.57	13.84	3.83
	95823	1.64	22.37	4.60
	95824	0.99	14.00	4.41
	95828	1.46	13.90	3.74
	95832	1.19	12.67	3.40
	95838	0.92	11.16	5.50
	95841	1.66	23.26	8.57
	95842	1.14	8.94	7.19
	Sacramento County	*1.28*	*12.72*	*4.75*
	CA State	*1.04*	*8.18*	*4.40*
	Healthy People 2020	*1.0*	N/A	N/A

Sources: Mortality: CDPH, 2012; ED visits and hospitalizations: OSHPD, 2011-2013

Mortality rates due to suicide varied in the Focus Communities. ZIP codes 95841 (Madison Ave/Auburn Blvd) and 95823 (Fruitridge) had the highest rates of all the Focus Communities, clearly above the county, state, and Healthy People 2020 benchmarks. The Sacramento County rate was also higher than both the state and Healthy People benchmarks. Rates of ED visits due to self-inflicted injury were elevated in all 15 Focus Communities, with ZIP code 95814 (Downtown Sacramento) showing a rate more than four times the county rate and more than six times the state benchmark.

Rates -- Mortality, ED visits and hospitalizations due to unintentional injury

Table 22: Mortality, ED visit and hospitalization rates due to unintentional injury compared to county and state benchmarks (rates per 10,000 population)

	ZIP Code	Mortality	ED Visits	Hospitalizations
Unintentional Injury	95660	3.08	1045.87	238.89
	95811	2.32	848.68	187.54
	95814	5.65	2080.61	528.95
	95815	3.81	1135.11	220.47
	95817	4.31	953.80	214.32
	95820	3.59	974.54	222.01
	95821	4.96	1019.71	215.68
	95822	2.66	861.74	218.37
	95823	3.65	1053.9	178.91
	95824	3.79	871.47	176.26
	95828	3.14	779.63	161.29
	95832	3.40	840.06	149.85
	95838	3.01	971.06	189.32
	95841	4.99	1038.23	248.3
	95842	2.82	876.85	187.93
	Sacramento County	*3.38*	*761.56*	*176.4*
	CA State	*2.88*	*666.38*	*154.85*
	Healthy People 2020	*3.40*	N/A	N/A

Sources: Mortality: CDPH, 2012; ED visits and hospitalizations: OSHPD, 2011-2013

Mortality rates due to unintentional injuries exceeded the state benchmark in 12 of the 15 Focus Communities. Three of the Focus Communities also showed rates that exceeded the Health People 2020 benchmark, with the highest in ZIP codes 95814 (Downtown Sacramento) and 95821 (North Watt/Marconi Area). Rates of ED visits due to unintentional injury were elevated in all 15 Focus Communities. ZIP code 95814 (Downtown Sacramento) had a rate of 2080.61 for ED visits more than three times the state benchmark. For hospitalizations, the same ZIP code 95814 (Downtown Sacramento) had a rate more than three times the state benchmark.

Risk Behaviors and Living Conditions in the Focus Communities

Risk behaviors contribute to increased risk for morbidity and mortality of most health conditions in a community, and are often the focus of community based health promotion efforts. These risk behaviors include smoking, poor nutrition, physical inactivity, violent behavior, alcohol and drug usage, and risky sexual behaviors. In order to gain a clear understanding of reasons behind why individuals engage in risky behavior it is equally important to consider the conditions in which they live. These living conditions include the physical, social, economic/work, and service environment.

Risk Behaviors – Substance Abuse, Poor Nutrition, Physical Inactivity, and Risky Sexual Behavior

This section of the report will detail all indicators used in the assessment to examine the various risk behaviors in the Focus Communities.

Substance Abuse

Substance abuse, specifically the use of alcohol and drugs, is a leading preventable cause of the death in the United States, costing states millions in dollars each year in treatment costs.[19] Alcohol impaired driving is the cause of 33% of all fatal car accidents.[20] This assessment included examination of multiple indicators addressing substance abuse. The indicators presented here include: ED and Hospitalizations due to substance abuse by ZIP code, alcohol and tobacco smoking prevalence, liquor store access and percent of household expenditures for alcohol and tobacco. Prescription drug abuse has also become a major problem for adults nationally.[21]

Rates -- ED visits and Hospitalizations due to Substance Abuse

Table 23: ED visit and hospitalization rates due to substance abuse compared to county and state benchmarks (rates per 10,000 population)

	ZIP Code	ED Visits	Hospitalizations
Substance Abuse*	95660	697.69	348.50
	95811	1001.07	376.18
	95814	2504.54	922.96
	95815	958.20	389.88
	95817	599.43	346.59
	95820	593.27	308.28
	95821	764.68	303.58
	95822	529.72	247.57
	95823	739.11	266.14
	95824	550.25	273.11
	95828	473.24	191.13
	95832	581.99	212.09
	95838	643.76	272.23
	95841	649.87	357.10
	95842	527.76	244.70
	Sacramento County	*438.58*	*196.4*
	CA State	*253.8*	*145.0*

Source: OSHPD, 2011-2013*coded under Mental Health codes

Examination of ED visits and hospitalizations due to substance abuse were elevated in all 15 Focus Communities, Downtown Sacramento ZIP codes 95814 and 95811 had the highest rates of ED visits due to substance abuse in the Focus Communities. The rate in ZIP code 95814 was almost six times the county rate and more than nine times the state rate. ZIP code 95814 also had the highest rate of hospitalizations four times the county and state benchmarks.

Primary data participants also spoke about the need for more inpatient substance abuse treatment facilities in the county, saying that the current infrastructure for care is broken. Many residents seek episodic care in the emergency departments and community clinics in their neighborhoods. However, such lack of consistent intensive care results in a revolving door for many residents struggling with substance abuse. As one provider stated: "*You know, all these things that we don't manage well and so*

[19] Centers for Disease Control and Prevention. (2015.) *Alcohol and Drug Use*. Retrieved from: http://www.cdc.gov/stltpublichealth/didyouknow/topic/alcohol.html
[20] Ibid.
[21] Ibid.

they keep going through a system that's not set up to help them escape that, so it's the wrong system" (FG_20).

Percent – Adults reporting excessive alcohol consumption

Results of the National Center for Disease Control and Prevention, Behavioral Risk Factor Surveillance System survey indicated that approximately 18% of respondents in Sacramento County reported engaging in excessive alcohol consumption (more than 2 drinks per day for males and more than 1 per day for females), a percent higher than the state rate at 17%.

Rate -- Liquor store access per 100,000 population

Data on beer, wine and liquor stores from the US Census Bureau for 2012 revealed that Sacramento County had 8.11 liquor stores per 100,000 people, compared the state rate of 10.02 per 100,000.

Percent -- Home expenditures spent on alcohol

Alcohol expenditure data shows the percent of at home expenditures spent on alcohol at the census tract level from Nielsen. Data for 2014 aggregated to the HSA level showed that the percent of expenditures for the UCDMC HSA was 14.2%, above the state percent at 12.93%.

Rate -- Prevalence of tobacco usage per 10,000 population

Data from the California Health Interview Survey for 2014 showed that the rate of smoking for adults and teens was 14.3 per 10,000 for Sacramento County compared to the state rate at 10.8 per 10,000.

Percent -- Home expenditures spent on tobacco

Tobacco expenditure data indicates the percent of at home expenditures spent on tobacco at the census tract level from Nielsen. This indicator aggregated to the UCDMC HSA level showed that the percent of expenditures for the HSA was 1.29% compared to the state percent at 1.02% for 2014.

Poor Nutrition and Physical Inactivity

Consideration of diet and exercise data for this health assessment also includes an examination of obesity data. Though obesity is a clear outcome of poor dietary choices and a lack of adequate exercise, it is also a contributor to most of the morbidity and mortality health conditions mentioned in the previous sections of the report. Many factors contribute to high rates of obesity, such as poor nutrition, lack of physical activity and chronic disease in the Focus Communities. These factors include conditions of poverty, access to health care and healthy foods, pollution in a community, education to name a few. One key informant described the challenge that area service providers have in addressing the multitude of needs in the Focus Communities. The key informant stated: *"It is just trying to bail the ocean with a teacup" (KI_2).*

Percent -- Overweight and obesity in youth

Table 24: Percent overweight and obesity in youth grades 5th, 7th and 9th as measured by the FitnessGram

Indicator	Percent Overweight	Percent Obese
Sacramento County	*19.4%*	*17.5%*
CA State	*19.3%*	*19%*

Source: California Department of Education, 2013-2014

As the data presented in Table 24 indicates, the percent overweight in youth was slightly higher for Sacramento County in comparison to the state benchmark, yet lower for percent obese. Additionally, data by race and ethnicity indicated that the percent of overweight for White students was 17.6% compared to Black students at 21.7% and for Hispanic students at 21.4%. Unfortunately, overweight and obesity data is seldom available at the sub-county level in order to examine how rates compare within the UCDMC HSA.

Percent -- Mothers reporting breastfeeding

Research indicates that when a child is breastfed exclusively the risk for negative health conditions decreases, especially reducing the risk for infant mortality.[22] According to data from the California Department of Public Health for 2012, the percent of mother's breastfeeding their infants at birth was slightly lower for Sacramento County at 91.7% compared to the state percent at 93%. Data by race and ethnicity revealed that 95.3% of Whites report breastfeeding, 87.3% of Blacks, 93.5% of Hispanic/Latinos, 87.7% of Asians, and 92.3% of Native American/Alaskan Natives report breastfeeding.

Area -- USDA defined Food Desert

The USDA defines a food desert as: "urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food. Instead of supermarkets and grocery stores, these communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable food options."[23] The lack of access to healthy food results in a poor diet and can lead to higher levels of obesity and other diet-related diseases, such as diabetes and heart disease. The USDA further describes a food desert as "a census tract with a substantial share of residents who live in low-income areas that have low levels of access to a grocery store or healthy, affordable food retail outlet."[24] Figure 9 identifies the food deserts for the UCDMC HSA Focus Communities.

[22] World Health Organization. (2016). Exclusive Breastfeeding. Retrieved from: http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/

[23] US Department of Agriculture. (n.d.) *Food Deserts*. Retrieved from: https://apps.ams.usda.gov/fooddeserts/fooddeserts.aspx

[24] Ibid.

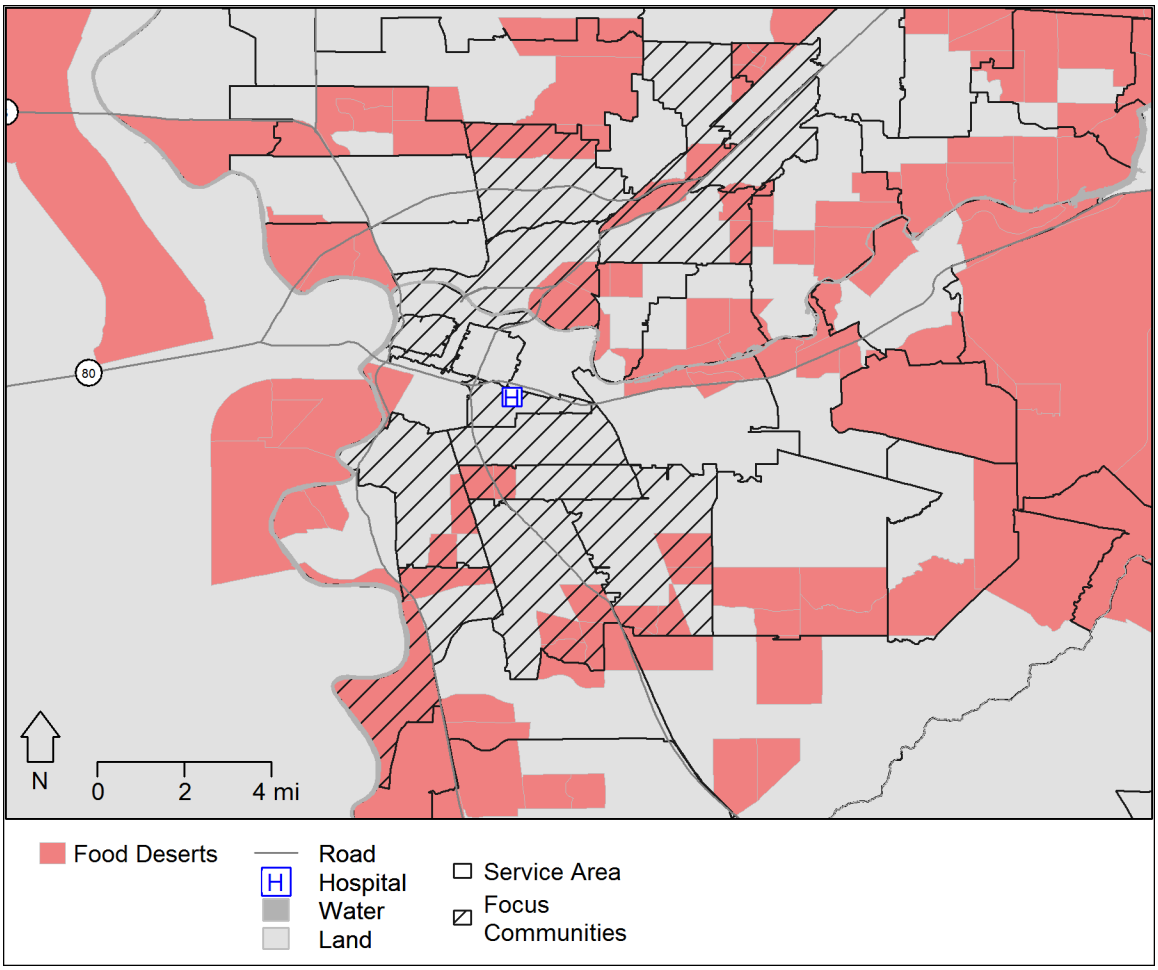

Figure 9: USDA defined food deserts

As shown in Figure 9, portions of 13 of the 15 Focus Communities are designated USDA food deserts. The only ZIP codes that do not contain a food desert are the Downtown ZIP codes of 95811 and 95814.

Primary data indicated that a lack of retail in low income areas in the UCDMC HSA means a lack of access to, as one provider mentioned,: *"fresh produce, quality food, meat" (KI_11) for residents.* Participants spoke about the absence of high quality grocery stores and healthy foods in low income areas of the county, yet an overabundance of unhealthy options. As one community member mentioned:

> *You know, I just want to share an observation. I was thinking of some time ago and it popped in my head right now. In that, so our neighborhoods are Food Source, Food Co, Winco, you walk in these stores and the first thing you see are packaged foods, like processed foods. You see cakes, you see cookies, crackers, but if you walk into a Safeway in a good community, if you walk into Trader Joe's, the first thing you see if produce. You see fresh apples, you see, it's very interesting but if you walk into these other stores that are much cheaper that is the first thing you see is all the processed foods. (FG_14)*

Many participants talked about the saturation of fast food and unhealthy options in lower income communities of the county. Data that follows supports this conclusion. As one community member stated:

You're probably working long hours and to come home and cook a healthy meal it takes more energy, more time, you know there's that and these communities there is a fast food restaurant on every corner. I have like 5 that are surrounding my house so it's so easy, very cheap, so easy to just get off of work and stop at McDonalds or stop, and not to pick something up that doesn't break the bank so for sure I think that income goes into the lifestyle. (FG_14).

Percent -- Population with food insecurity and receiving Supplementary Nutrition Assistance Program

According to Feeding America, the percentage of population with food insecurity in 2013 for Sacramento County was higher than the state percent. Also, the percentage of population receiving SNAP (Supplementary Nutrition Assistance Program) in 2011 was higher for Sacramento County compared to the state percentage.

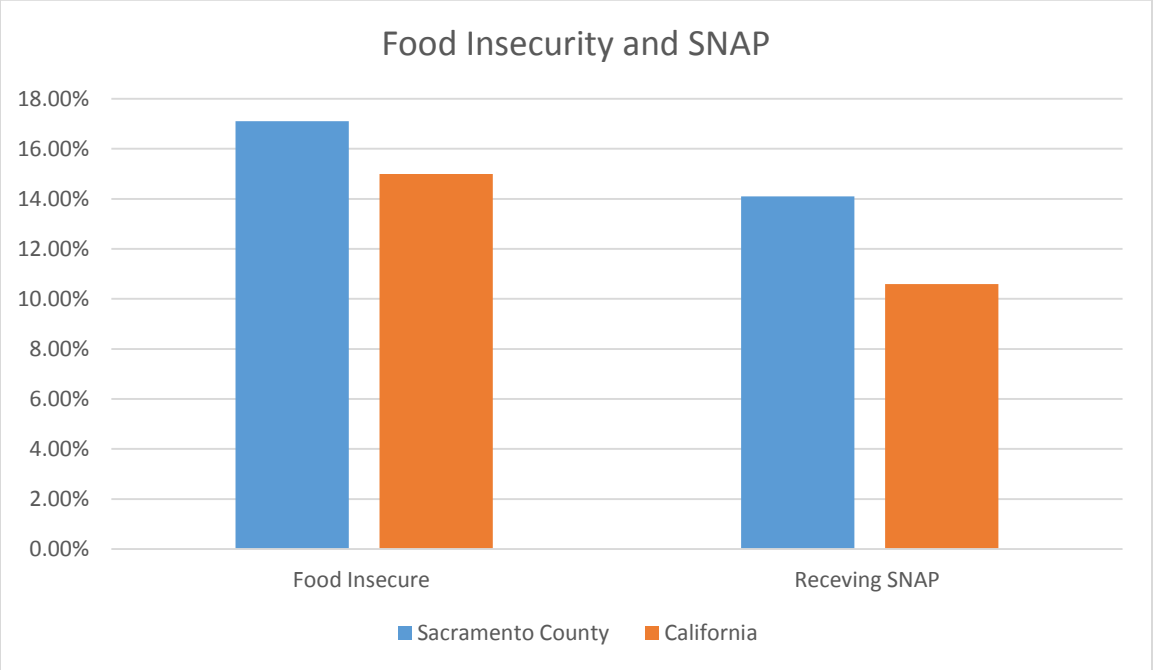

Figure 10: Percent food insecure and percent receiving SNAP

Index -- modified Retail Food Environment Index (mRFEi)

The modified Retail Food Environment Index (mRFEI) consists of two aspects of food availability -- both the presence of food outlets within a ZIP code, as well as the relative abundance of healthier food outlets. Negative mRFEI values occur in areas with no food outlets. All other values report the percentage of healthier food outlets, from among all food outlets, in the ZIP code. Figure 11 shows the mRFEI for the UCDMC HSA. Lighter areas indicate poor or no access to healthy food outlets and darker areas indicate greater access to healthy food outlets.

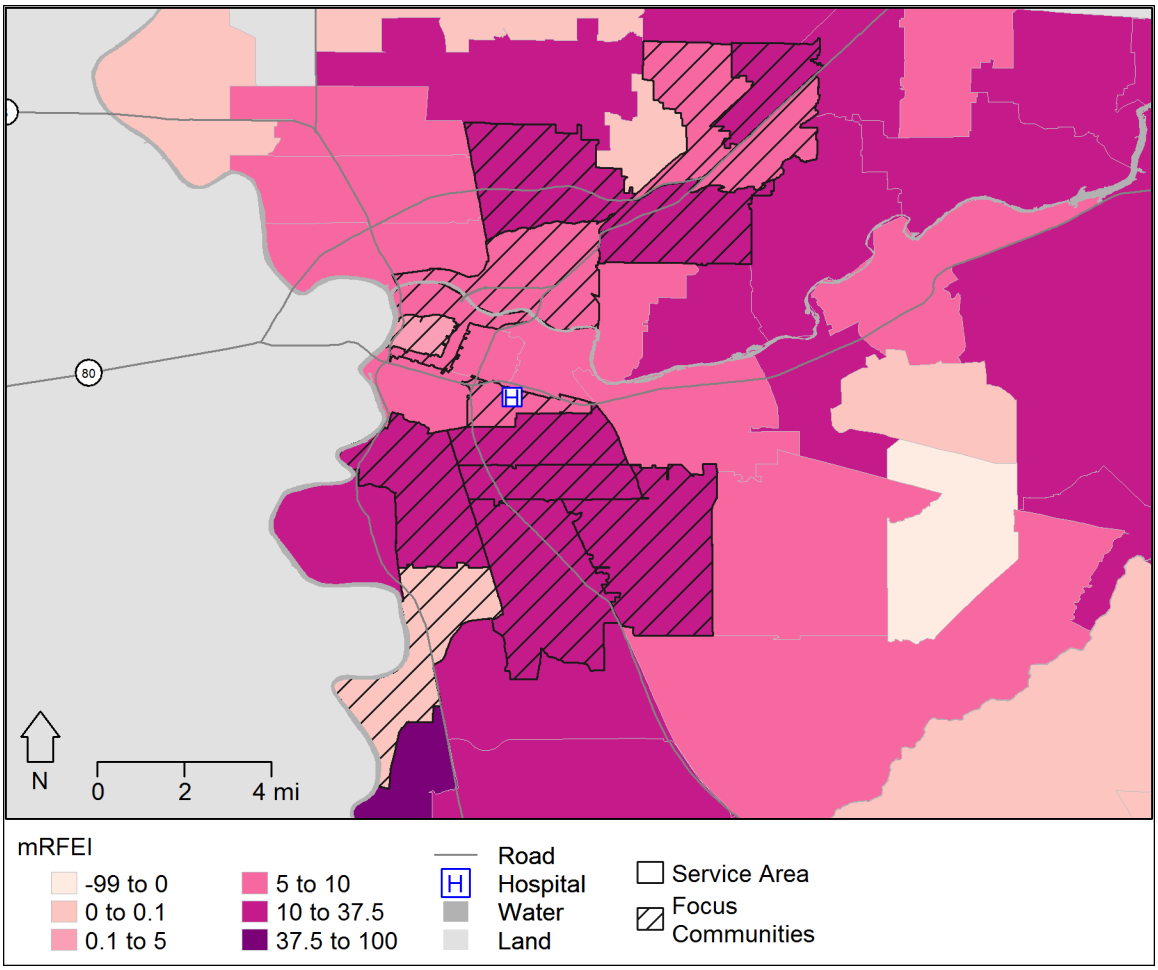

Figure 11: modified Retail Food Environment Index (mRFEI)

As shown in Figure 11, several Focus Communities ZIP codes have lower mRFEI scores, indicating poor or no access to healthy foods. Specific mention are the ZIP code areas of 95832 (South Meadowview) and 95814 (Downtown Sacramento).

Rate -- Fast food restaurants and grocery stores per 100,000 population

As displayed in Figure 12, data reported by the US Census Bureau indicates that the rate of fast food restaurant for the UCDMC HSA was lower than the state rate of 74.51 per 100,000. Additionally, the rate of grocery stores for the UCDMC HSA was also lower than the state rate. The UCDMC HSA has less fast food restaurants but also fewer grocery stores per 100,000 compared to the state.

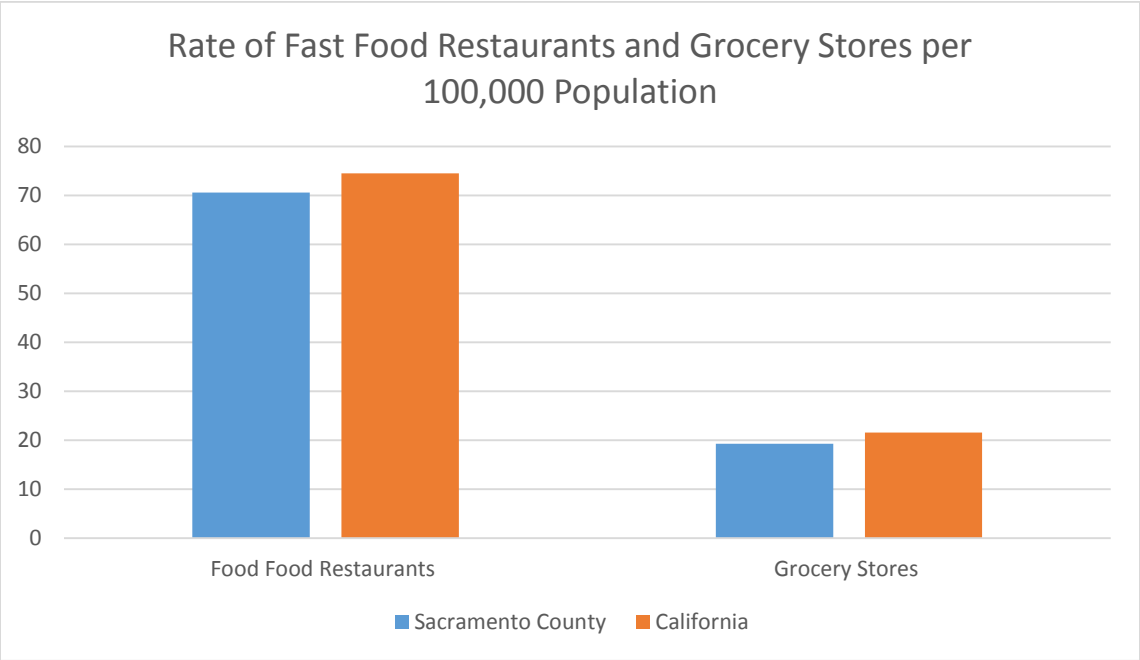

Figure 12: Fast food restaurants and grocery stores per 100,000 population

Percent – Youth eating fewer than five servings of fruits and vegetables a day

Data from the 2011-2012 California Health Interview Survey indicated that 48% of youth in Sacramento County reported eating less than five servings of fruits and vegetables daily, only slightly above the state rate at 47.40%. Examination by race and ethnicity showed that 43.5% of Whites reported eating less than five servings a day, compared to Blacks at 36.2% and Hispanic/Latino at 43%.

Percent – Home expenditures spent on fruits and vegetables and soda

Results for the percent of food-at-home expenditures spent on fruits and vegetables, as well soda were undesirable for the UCDMC HSA. Data from Nielsen for 2014 showed the percent spent for fruits and vegetables for the UCDMC HSA was 13.35%, lower than the state percent at 14.05%. However, the inverse was true for soda expenditures. The soda expenditure percent was 3.89%, above the state percent of 3.62%.

Percent -- Physical inactivity for adults and youth

Indicators which examine physical activity in the HSA are very hard to find. In 2012, the CDC reported that the percent of adults over the age of 20 indicating they perform no regular physical activity for Sacramento County was 16.8%, exactly the same as the state rate. Physical inactivity for youth in the HSA as reported using the Fitnessgram Physical Fitness Test was slightly lower than the state. There were 35.3% of youth in grades 5, 7, and 9 in Sacramento County classified as physically inactive, compared to the state percent at 35.9%. Examination by race and ethnicity revealed that while 30.5% of Whites were classified as physically inactive, 42.3% of Blacks, 31.4% of Asian, 44.6% of Hispanic/Latino and 36.6% of non- Hispanic multiple race were classified as physically inactive.

Percent -- Population living within one-half mile of a park

Access to recreational areas contributes to whether or not people will be physically active. Figure 13 shows the percent of the population by ZIP code in the service area that live within one-half mile of a recreational park. The lighter colors denote fewer residents with nearby park access and darker colors show more residents living within one-half mile of a park.

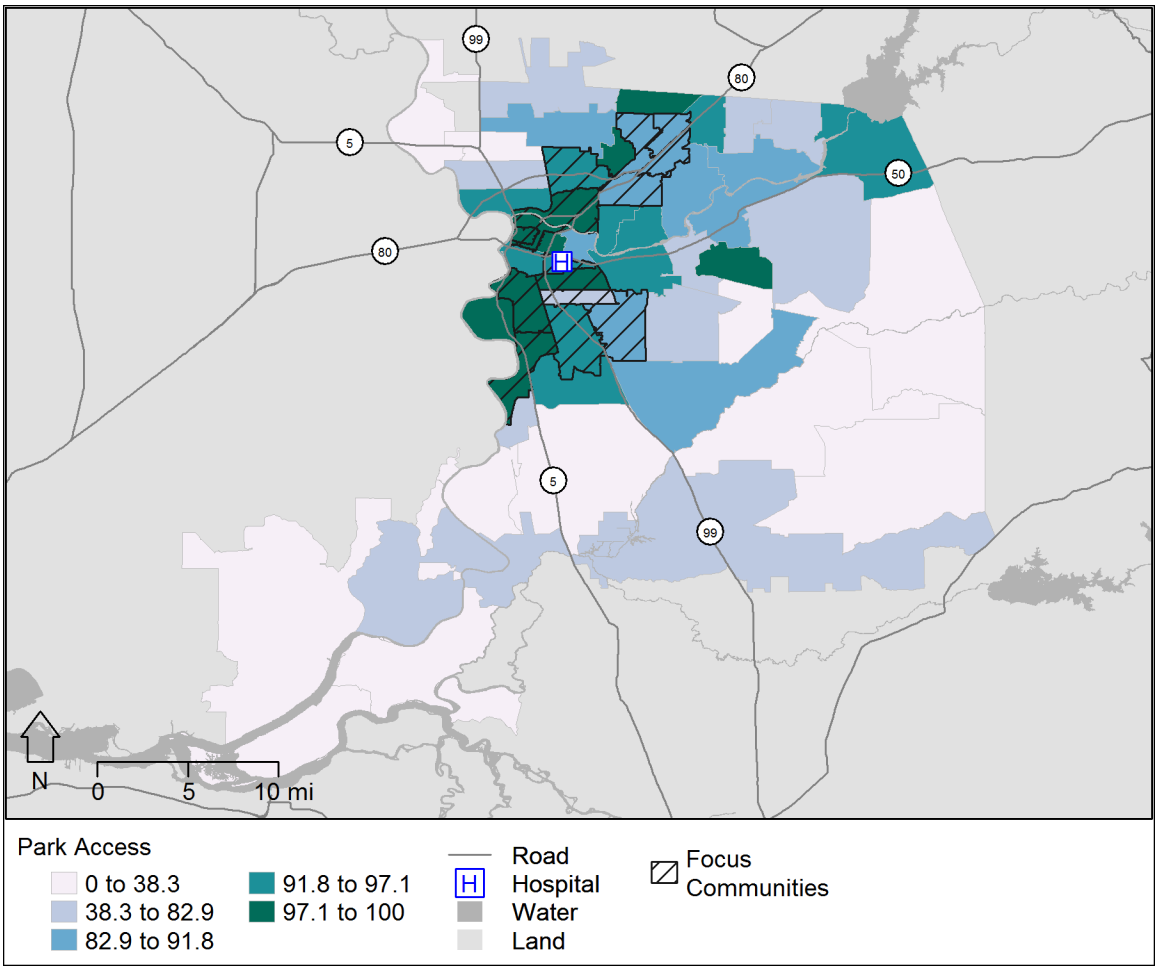

Figure 13: Percent of population with ZIP code that live within one-half mile of a park

As displayed in Figure 13, access to a park varied among the Focus Communities. ZIP codes 95824 (Parkway/South Sacramento), 95828 (Florin), 95841 (Madison Ave/Auburn Blvd), 95842 (Foothill Farms) and 95660 (North Highlands) had the lowest percent of population with access to a park in their community. Having access to a park or physical space where people of all ages can engage in play and be physically active is important for overall health and wellbeing.

Key informants and community members stated that community parks are lacking in Focus Communities of the HSA. Additionally where parks do exist there are concerns of safety and many residents are hesitant to play in the parks or engage in physical activity in the neighborhoods. As one person stated:

> *The geographic location or closeness also are barriers. I say this and I'll provide a little bit of explanation about the way that the person feels in their community. Their safety. If a family doesn't feel safe that they can go to the park and let their kids play, it's difficult for them to make sure that their children are getting enough exercise that they're outdoors and that even in small ways contributes to health benefits. (KI_5)*

Risky Sexual Behavior -- Teen birth rate and sexually transmitted Infections (Chlamydia, Gonorrhea, and HIV/AIDS)

Rate -- Teen births to women under the age of 20

The teen birth rate (births to women under the age of 20) is an indicator used in this assessment to examine sexual behavior throughout the HSA. Data from 2013 indicated that the national rate for teen births (age 15-19) was 26.5 per 1,000 live births.[25] Figure 14 shows the teen birth rate for the UCDMC HSA.

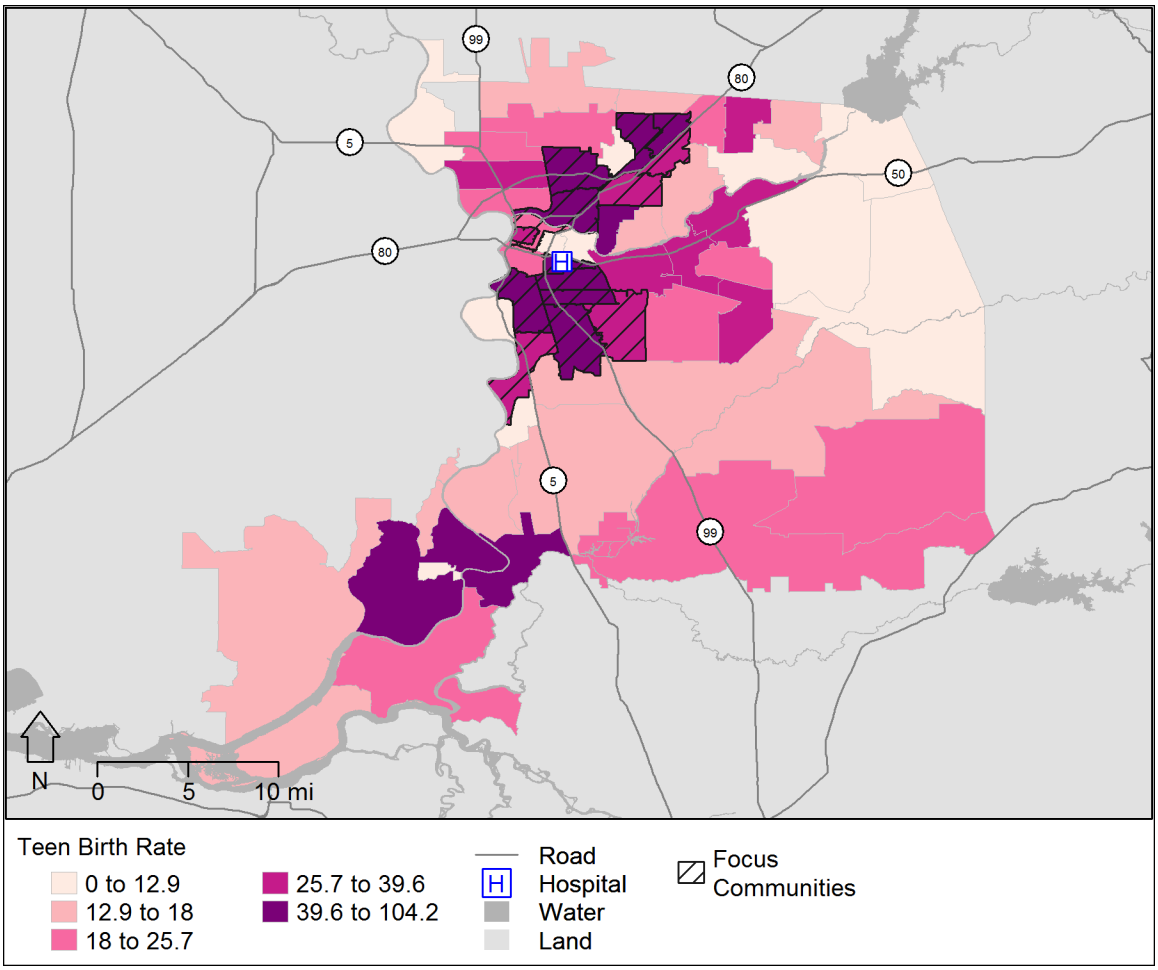

Figure 14: Teen birth rate for 15-19 year olds per 1,000 live births

Compared to the national benchmark, many ZIP codes in the HSA have drastically high teen birth rates. Eight of the 15 Focus Communities have teen birth rates in the 39.6 to 104.2 per 1,000 range of teen births, clearly over the national rate of 26.5 per 1,000 live births. These eight ZIP codes include the areas of 95817 (Oak Park), 95822 (Sacramento Executive Airport), 95823 (Fruitridge), 95824 (Parkway/South Sacramento), 95815 (North Sacramento), 95838 (Del Paso Heights), 95660 (North Highlands), and 95842 (Foothill Farms).

[25] Centers for Disease Control and Prevention. (2015). *Teen Births*. Retrieved from: http://www.cdc.gov/nchs/fastats/teen-births.htm

Sexually transmitted infections -- Chlamydia, Gonorrhea, and HIV/AIDS

Rates of STIs, including chlamydia, gonorrhea, and HIV, illustrate the presence of risky sexual behavior in the HSA. Since STIs are largely preventable, knowing where community members are infected by STIs helps with targeting interventions for treatment and prevention. Table 25 displays incidence rates for chlamydia and gonorrhea among 10-19 year olds by ZIP code for 2014 compared to the HSA, county and state benchmarks. Incidence rates are a measure or risk for a condition. Table 26 shows ED visits and hospitalizations related to STIs, as well as those specific to HIV/AIDS.

Rates -- Chlamydia and gonorrhea incidence

Table 25: Chlamydia and Gonorrhea (new cases) compared to HSA, county and state benchmarks (rates per 10,000 population)

	ZIP Code	Chlamydia Incidence	Gonorrhea Incidence
STI Incidence	95660	59.69	18.27
	95811	86.84	47.49
	95814	93.86	45.91
	95815	82.34	24.97
	95817	76.51	25.04
	95820	63.00	20.02
	95821	57.55	22.90
	95822	57.64	19.52
	95823	85.09	26.16
	95824	65.77	20.79
	95828	52.79	13.61
	95832	107.87	28.21
	95838	70.26	17.14
	95841	66.09	23.64
	95842	68.16	23.98
	Sacramento County	*47.07*	*12.51*
	CA State	*45.34*	*11.68*

Source: Sacramento County Public Health, 2014

Incidence rates for chlamydia in the Focus Communities were above all three benchmarks. The Sacramento County rates were higher than the state rate. ZIP codes 95832 (South Meadowview) and 95814 (Downtown Sacramento) had rates more than twice the state benchmark. Incidence rates for gonorrhea in the Focus Communities were also higher than the state benchmark. Highest rates were present in the Downtown Sacramento ZIP codes of 95811 and 95814 at more than three times the rate of the HSA, county and state benchmarks.

Rates -- ED visits and hospitalization due to STIs and HIV/AIDS

Table 26: ED visit and hospitalization rates due to STIs and HIV/AIDS compared to county and state benchmarks (rates per 10,000 population)

	ZIP Code	ED visits STIs	Hospitalizations STIs	ED visits HIV/AIDS*	Hospitalizations HIV/AIDS*
Sexually Transmitted Infections	95660	6.74	4.35	2.54	2.97
	95811	13.62	14.60	9.23	13.75
	95814	23.03	25.24	10.84	21.82
	95815	11.56	5.76	3.00	3.93
	95817	11.47	11.76	3.77	9.42
	95820	9.90	6.96	3.77	5.87
	95821	8.74	8.56	3.46	7.14
	95822	8.25	5.05	3.70	4.10
	95823	12.60	6.40	5.58	4.24
	95824	9.50	6.54	3.53	4.72
	95828	7.62	4.28	3.03	2.76
	95832	9.93	6.09	3.42	4.77
	95838	8.22	6.86	1.58	4.92
	95841	7.96	5.65	2.01	3.84
	95842	3.75	3.14	0.95	2.10
	Sacramento County	*5.53*	*3.95*	*2.23*	*2.78*
	CA State	*3.20*	*4.58*	*1.95*	*3.36*

Source: OSHPD, 2011-2013

*HIV/AIDS is considered a subcategory of STIs in the ICD 9 diagnostic codes.

Table 26 indicates that rates of ED visits and hospitalizations due to STIs were elevated above the state and county benchmarks in the UCDMC Focus Communities. The highest rate for ED visits due to STIs were seen in the Downtown Sacramento ZIP codes of 95814 and 95811.The rate of ED visits in 95814 was more than seven times the state benchmark, and more than four times the county benchmark. Hospitalizations due to STIs were also highest in the same Downtown Sacramento ZIP codes. ED visits and hospitalization rates for the STI subcategory of HIV/AIDS were also elevated in the Focus Communities. Much like rates for the larger STI grouping, Downtown Sacramento ZIP codes of 95811 and 95814 had the highest rates of ED visits and hospitalizations due to HIV/AIDS, almost ten times the state comparative benchmark.

Rate -- Prevalence of HIV/AIDS per 100,000 population

The CDC reported that for 2010, the prevalence rate for HIV/AIDS in the UCDMC HSA was 272.4 cases per 100,000 population, lower than the state rate at 363 cases per 100,000. Data by race and ethnicity showed that Whites had a rate of 303.65 cases per 100,000, compared to Blacks at 655.7 cases per 100,000 and Hispanic/Latino at 198.85 cases per 100,000.

Percent -- Adults never screened for HIV

Data from the National Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System survey for 2011-2012 indicated that as many as 61% of respondents between 18-70 years of age in Sacramento County reported never being screened for HIV, a percent equal to the state percent.

Living Conditions – Physical Environment, Social Environment, Economic/Work Environment and Service Environment

This section of the report will examine various indicators which help to illuminate the daily living conditions of the residents living in the UCDMC HSA. The indicators are organized in accordance to the BARHII model discussed previously in the sections: physical environment, social environment, economic/work environment, and service environment.

Physical Environment

Examination of the physical environment of the UCDMC HSA includes analyzing indicators of transportation, traffic accidents, housing, and pollution.

Area -- Population living one-half mile near a transit stop

There are limits to the distances community members will travel to access public transportation services. These distances are documented in research and vary due to a number of factors including climate, attractiveness of the area, and the amount of traffic on streets.[26] Most research states that individuals will travel no more than one-fourth to one-third of a mile to access public transportation. Identifying areas in the HSA that are at least one-half mile from a transit station helps to highlight transportation availability in the area. Figure 15 shows areas of the UCDMC HSA that are within one-half mile from a transit stop.

[26] *Building Transit-Friendly Communities: A design and development strategy for the Tri-State Metropolitan Region* (1997). Regional Plan Association. Retrieved from: http://ntl.bts.gov/DOCS/GL.html

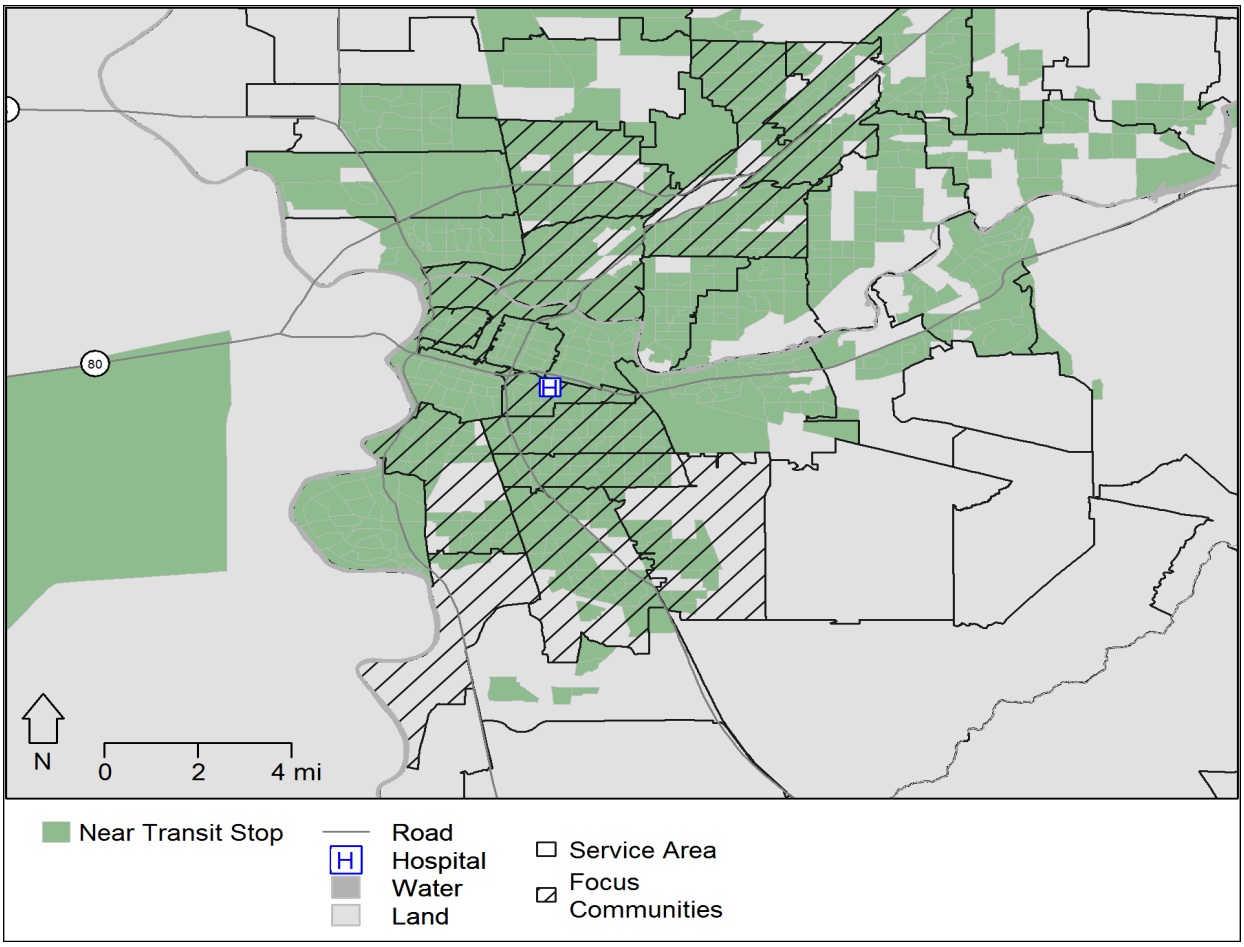

Figure 15: Locations in the HSA within one-half mile of a transit stop

In Figure 15, grey shaded portions of the map are more than a half-mile from a transit stop. As the figure displays, many Focus Communities had areas that do not have transit stops within one-half mile. Of specific mention is ZIP code 95832 (South Meadowview) where a large portion of the ZIP code lacked access to a transit stop close by. Also ZIP codes 95822 (Sacramento Executive Airport), 95823 (Fruitridge) and 95838 (Del Paso Heights) also had areas without access.

Percent -- Households with no vehicle

Having access to a vehicle is an important factor in the determination of a person's ability to access the things they need to stay healthy. A working vehicle means the ability to get to work, to the grocery store, to school, and to access care needed. Figure 16 shows the percent of households with no vehicle in the UCDMC HSA.

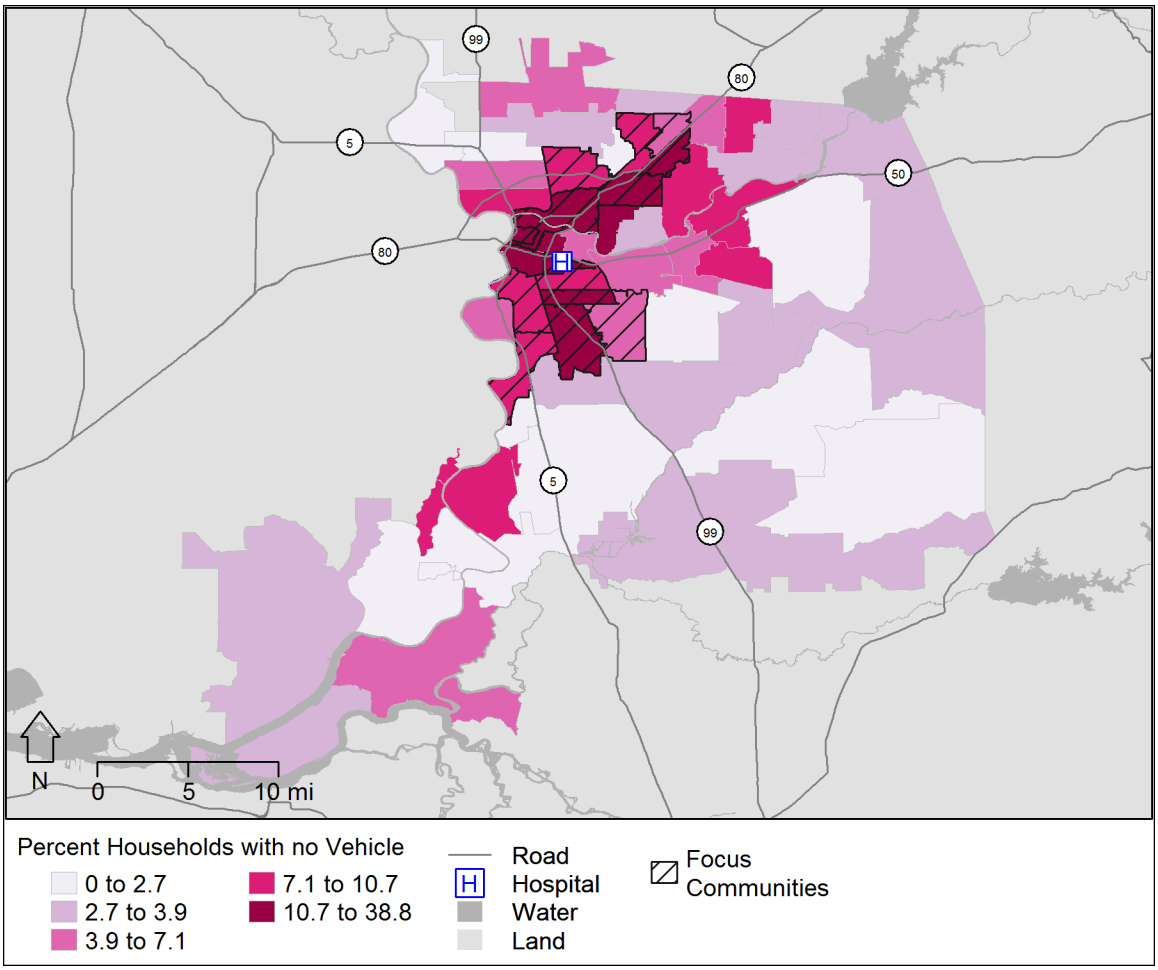

Figure 16: Percent households with no vehicle

The percent of households with no vehicle for the state was 7.8% and in Sacramento County 7.6%. As Figure 16 shows many Focus Communities had a high percent of households with no vehicle. The Downtown Sacramento ZIP codes of 95811 and 95814 had the highest percent at 26.1% and 38.8% respectively. Living in Downtown Sacramento may not necessitate the need for a vehicle as it is a major metropolitan area. However, these two ZIP codes also tend to consistently have poor health outcomes, as noted earlier in this report. Focus Communities 95815 (North Sacramento), 95817 (Oak Park) and 95824 (Parkway/South Sacramento) also had a large percentage of households with no vehicle at 17.5%, 17.3% and 15.8% respectively, more than twice the state at 7.8%.

Lack of safe and affordable transportation was mentioned as a barrier to accessing health care, healthy foods, employment, and education. Participants stated that the current public transportation system in the HSA can be very expensive, sometimes unreliable, and unsafe. Participants said that the public transportation system is far from where they live. One service provider said:

> *Yeah, it is so often that I hear from clients that they can't get there, they either…they are not directly on a bus route or they need or they can't walk to the bus station, the bus doesn't come frequently enough, they can't afford a taxi. (KI_3)*

Many community members said that they would spend four to six hours a day just trying to go get groceries for the family. As one community member stated:

> *The resources are too far away and hard to get to without transportation, especially for single mothers with kids that have health problems. Most of us don't have a car. I have to take two buses and a light rail and it takes too long. (FG_9)*

Many other participants spoke about transportation as a major barrier to accessing health care services. As one provider stated "*I am going to go back to the two that I think are having such a huge impact…it is the transportation thing again; it seems so unrelated to healthcare, but it is enormous" (KI_3).* Participants spoke about many transportation options associated with various health providers, but that the ability to access these services was complicated. The lack of transportation and the time that it takes to get to resources can be very challenging and add unnecessary stress to resident's daily lives. One key informant spoke about barriers to access in care related to transportation and stated:

> *And so all of those challenges make it where by the end of the day for the most part our residents come back home three or four o'clock in the afternoon fairly stressed. Stressed because they've had to go through so many bus changes and transfers to get where they need to get to or because they went too late for their appointment, had to come back. Now they've got to call and try to reschedule. That's kind of a typical day! (KI_8).*

Percent -- Workers that commute than 60 minutes to work

Long commute times are associated with increased likelihood of being overweight, higher blood pressure, increased stress and neck pain, exposure to more pollution, and negative affect.[27] Figure 17 displays the percent of workers in each ZIP code who commute more than 60 minutes to work.

[27] MacMillan, A. (2015). Five ways your commute is hurting your health. Retrieved from: http://news.health.com/2015/03/31/5-ways-your-commute-is-hurting-your-health/

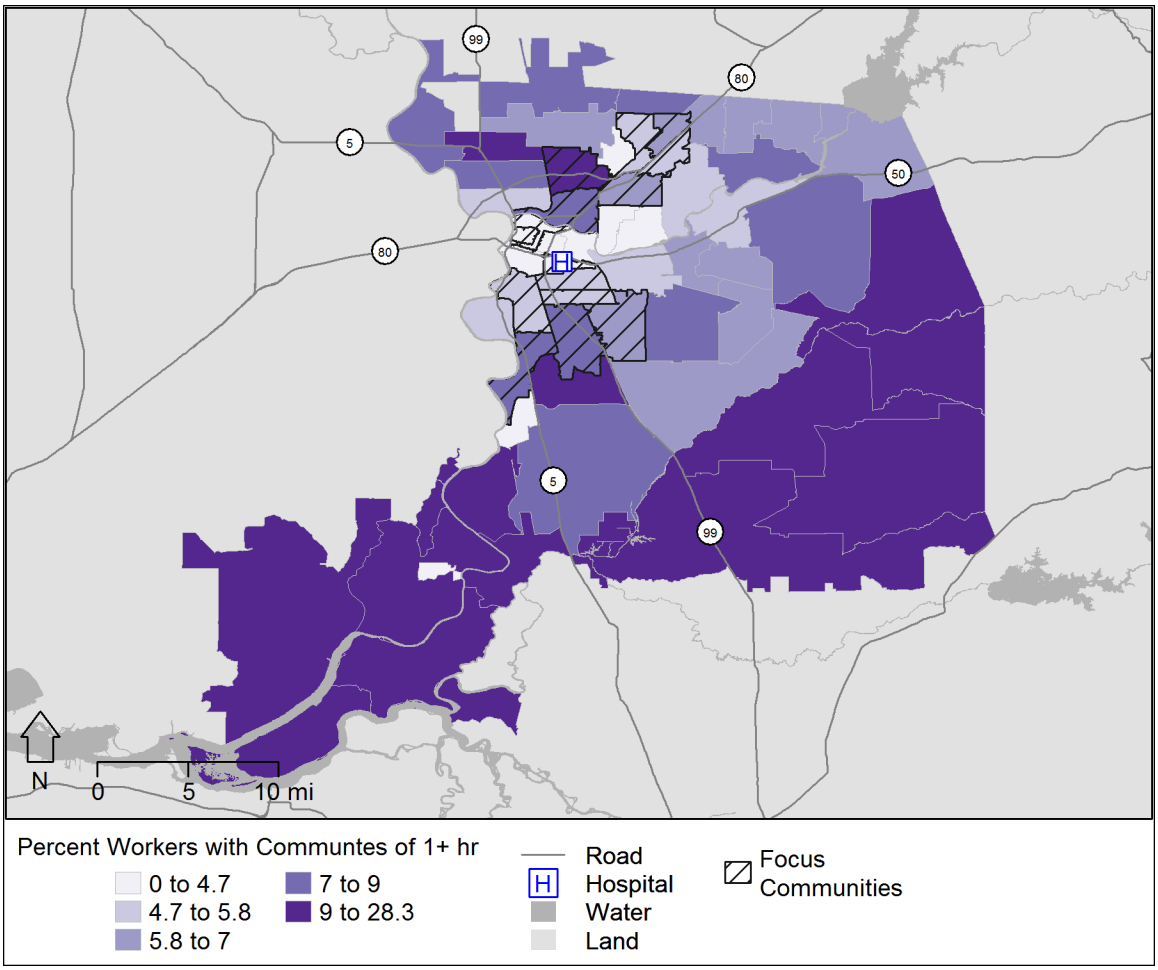

Figure 17: Percent workers with commutes of 1+ hour

Many Focus Communities had a high percentage of residents commuting more than 60 minutes to work. ZIP code 95838 (Del Paso Heights) was in the highest percent range of residents commuting more than 60 minutes, followed by ZIP codes 95815 (North Sacramento), 95823 (Fruitridge) and 95832 (South Meadowview).

Percent -- Workers reporting commuting alone and walking/biking to work

Data from the US Census Bureau (in Figure 18) indicted that 75% of respondents in the UCDMC HSA over the age of 16 years old reported commuting to work alone, higher than the state percent. The Census data also indicated that 3.3% of UCDMC HSA respondents stated that they walk or bike to work, just below the state percent of 3.8%.

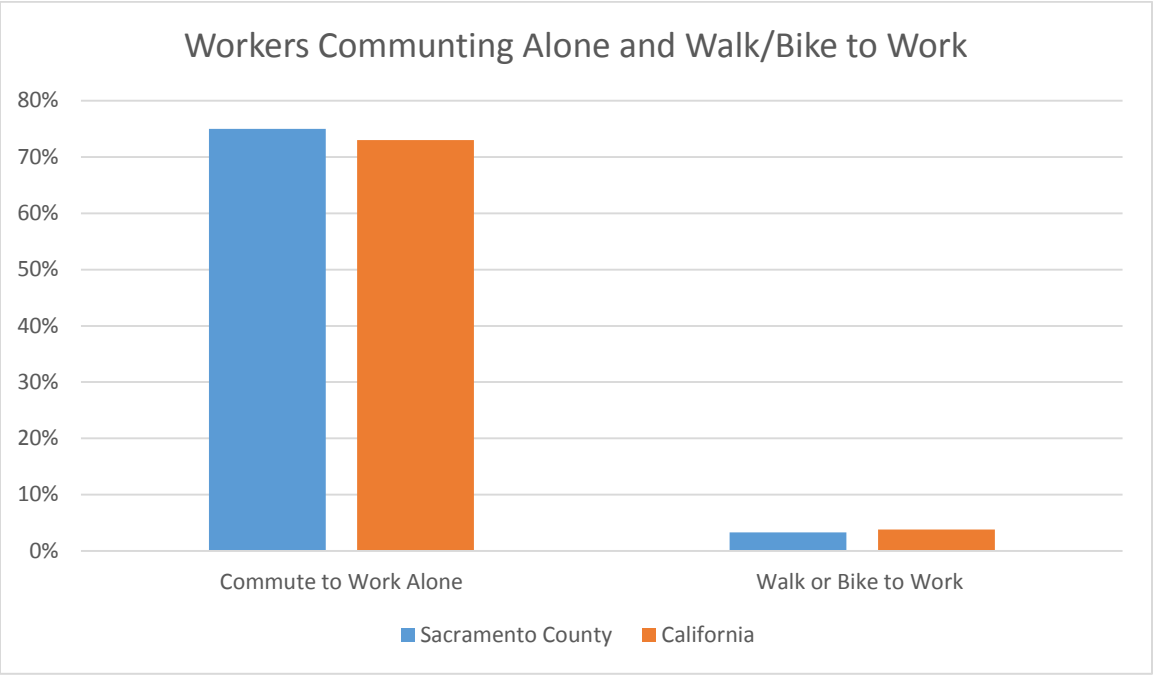

Figure 18: Percent of workers commuting to work alone and walking or biking to work.

Rate -- Road density network per square mile

Examination of road network density revealed that Sacramento County has more roads per square mile than the state rate. The number of roads per square mile for Sacramento County was 6.04 compared to the state rate of 2.02 roads per square mile. Increased road density is related to increased exposure to vehicle emissions and other environmental pollutants which negatively impact health.

Area -- Fatal traffic accidents

ZIP codes 95815, 95823, and 95842 had the most number of fatal accidents of any other ZIP code in the HSA. The North Sacramento ZIP code of 95815 had the most at seven accidents in 2013, followed by 95814 (Downtown Sacramento) at six. Though it can be expected that fatal traffic accidents are more likely to occur on major highways, fatal traffic accidents in residential communities help to illuminate safety issues in the area. ZIP code Focus Community 95815 is a heavily residential area.

Rate-- Fatal accidents per 100,000 population involving a motor vehicle and/or pedestrian

The rate of fatal motor vehicle accidents for 2010-2012 (Figure 19), as reported by the California Department of Public Health, showed that the UCDMC HSA rate of fatal accidents was below the state rate. In addition, fatal accidents involving a pedestrian (motor vehicle killed a pedestrian) was above the state rate.

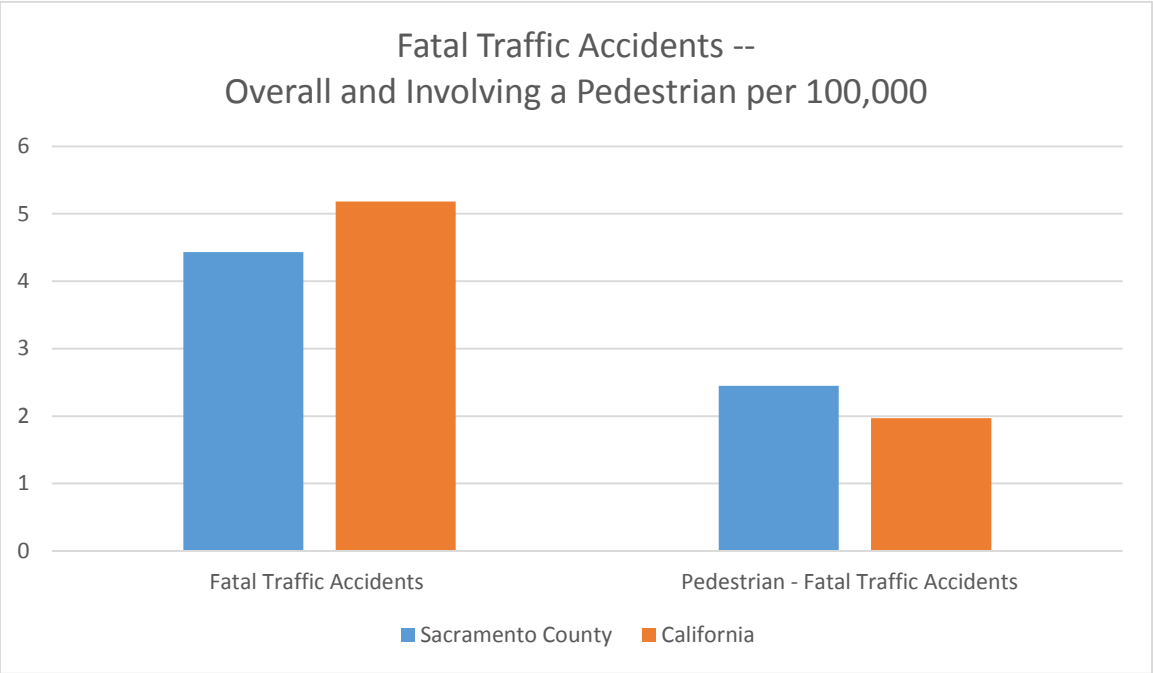

Figure 19: Rate of fatal accidents overall and involving a pedestrian

Key informants spoke about a concern over the built environment in many of the Focus Communities in the HSA. One big issue of concern was the speed at which people drive down very large streets with multiple lanes and little to no sidewalks. As one key informant stated: *"There's a lot of isolation, the roads are big like designed for driving through neighborhoods, multi lanes go very fast not for walking" (KI_11).*

Housing Stability -- Percent housing vacancy, people per housing unit and percent renting

Stable, clean and affordable housing is an essential public health need. The lack of a stable place to live can have negative health effects on individuals and families, making it hard to manage daily life responsibilities.[28] Table 27 shows rates for various housing indicators by ZIP code for the Focus Communities as an indicator of housing stability.

Table 27: Housing vacancy, people living per housing unit, and percent of population renting by ZIP code

ZIP Code	Percent Housing Vacancy	People per Housing Unit	Percent Renting
95660	7.1	3.10	44.4
95811	11.4	1.63	88.9
95814	19.1	1.52	91.3
95815	10.8	2.81	64.5
95817	9.6	2.35	63.7
95820	9.2	2.77	45.9
95821	11.7	2.33	54.2
95822	7.7	2.74	42.4
95823	7	3.20	52.4
95824	7.1	3.18	57.6
95828	6.8	3.43	40.0
95832	8.8	4.02	49.6
95838	9.7	3.37	49.3
95841	12.7	2.43	62.2
95842	6.3	2.78	45.7
Sacramento County	*7.2*	*2.72*	*43.3*
CA State	*8.6*	*2.94*	*44.7*

Source: Census, 2013

The largest percent of vacancies were in 95814 (Downtown Sacramento), 95841 (Madison Ave/Auburn Blvd), 95821 (North Watt/Marconi Area) and 95811 (Downtown Sacramento), higher than the state rate and county rate. High vacancy rates are indicators of housing market conditions[29], specifically the affordability of housing in the area. The number of people per housing unit is an indicator of multiple people living together, which can be an indicator of poverty. The highest people-per-housing unit rates were seen in ZIP codes 95832 (South Meadowview), 95828 (Florin) and 95838 (Del Paso Heights). Also, a large number of renters in a given geographical area can be an indicator of the area's economic stability as well as housing costs. The Downtown Sacramento ZIP codes of 95814 and 95811 had the highest percentage of people renting than any other Focus Communities. This is to be expected given the downtown area is a major metropolitan area, a major hub of employment for the various state departments. Aside from the downtown area, ZIP codes 95815 (North Sacramento), 95817 (Oak Park), and 95841 (Madison Ave/Auburn Blvd have a high percent of residents renting at 64.5%, 63.7% and 62.2% respectively. These are all way above the county and state benchmarks.

[28] John Hopkins University. (2016). Stable Housing. Retrieved from: http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-to-eliminate-cardiovascular-health-disparities/about/influences_on_health/stable_housing.html

[29] Belsky, E.S. (n.d.) *Vacancy rates: A policy primer*. Housing Policy Debate, vol 3(I3), 793-814. Retrieved from: http://content.knowledgeplex.org/kp2/img/cache/kp/2627.pdf

Primary data participants spoke about the housing insecurity and the high cost of housing in areas throughout the HSA, especially in lower income communities where job related skills and employment is also lacking. As one key informant stated: *"We are confronted daily with huge housing crisis in our region and it feels we feel powerless to be able to help people with all the things that we may be able to help them with" (FG_6).* Another informant stated: *"A lot of our communities just have this really overwhelmingly difficult conditions for living" (KI_27).* Though many community members and key informants spoke about housing challenges, a theme that was common was the changing layout of the Sacramento County, specifically the downtown area, and what that means for area residents in terms of housing affordability. As one key informant spoke about the downtown revitalizations, the informant expressed concern over what such revitalization means for vulnerable residents in the HSA and stated:

> *So we need to respond with more humanity and we need to demand from our governmental systems that equal amounts of intention and money be spent on sustainable housing solutions as we move through this, revitalization and what does it mean to really be innovative and how a community can support itself and each other. (KI_7)*

Rate -- Households that are HUD households per 10,000 housing units

The United States Department of Housing and Urban Development (HUD) reported in 2013 that the total number of HUD funded housing units in Sacramento County was 357.08 units per 10,000 housing units, below the state rate of 368.32 units per 10,000. This is an important indicator as access to affordable housing impacts a person's economic stability and ability to access other basic needs such as health care, affordable healthy foods, and places to be physically active.

Percent -- Households with at least one substandard housing condition

HUD also reported that in 2013 the percent of households defined as substandard was 44.8% in Sacramento County, lower than the state percent at 48.4% of households. Substandard is defined by HUD as having at least one of the following conditions: 1) lacking complete plumbing facilities, 2) lacking complete kitchen facilities, 3) with 1.01 or more occupants per room, 4) selected monthly owner costs as a percentage of household income greater than 30 percent, and 5) gross rent as a percentage of household income greater than 30 percent.

Housing Costs -- Households with mortgage costs greater than 30% and households with rental costs greater than 30% of household income

The high cost of housing can be a barrier for community members to maintain stable housing and optimal health. Data on the cost of housing for the UCDMC HSA included the examination of two indicators: housing costs with a mortgage payment greater than 30% of the household's income and rentals with housing costs greater than 30 % of the household income. Figures 20 and 21 show these two indicators across the HSA.

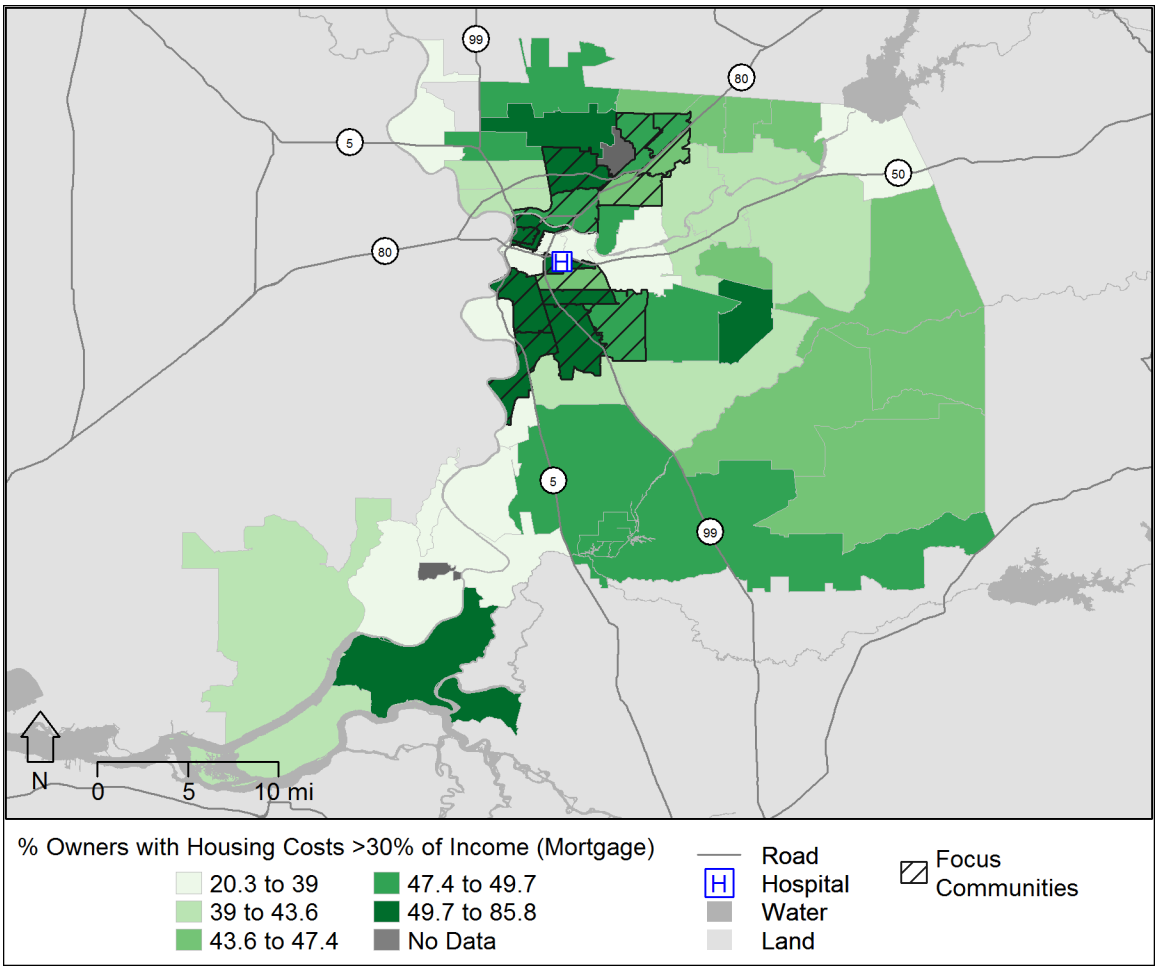

Figure 20: Percent of residents by ZIP code with housing costs above 30% of their household income with a mortgage payment

Six of the 15 Focus Communities fell into the category of having the highest portion of residents with a housing mortgage cost of greater than 30% percent. This category ranged from 49.7% to 85.8% of the households having a mortgage cost above 30%, and included the ZIP codes of 95814 (Downtown Sacramento), 95822 (Sacramento Executive Airport), 95823 (Fruitridge), 95824 (Parkway/South Sacramento), 95832 (South Meadowview) and 95838 (Del Paso Heights).

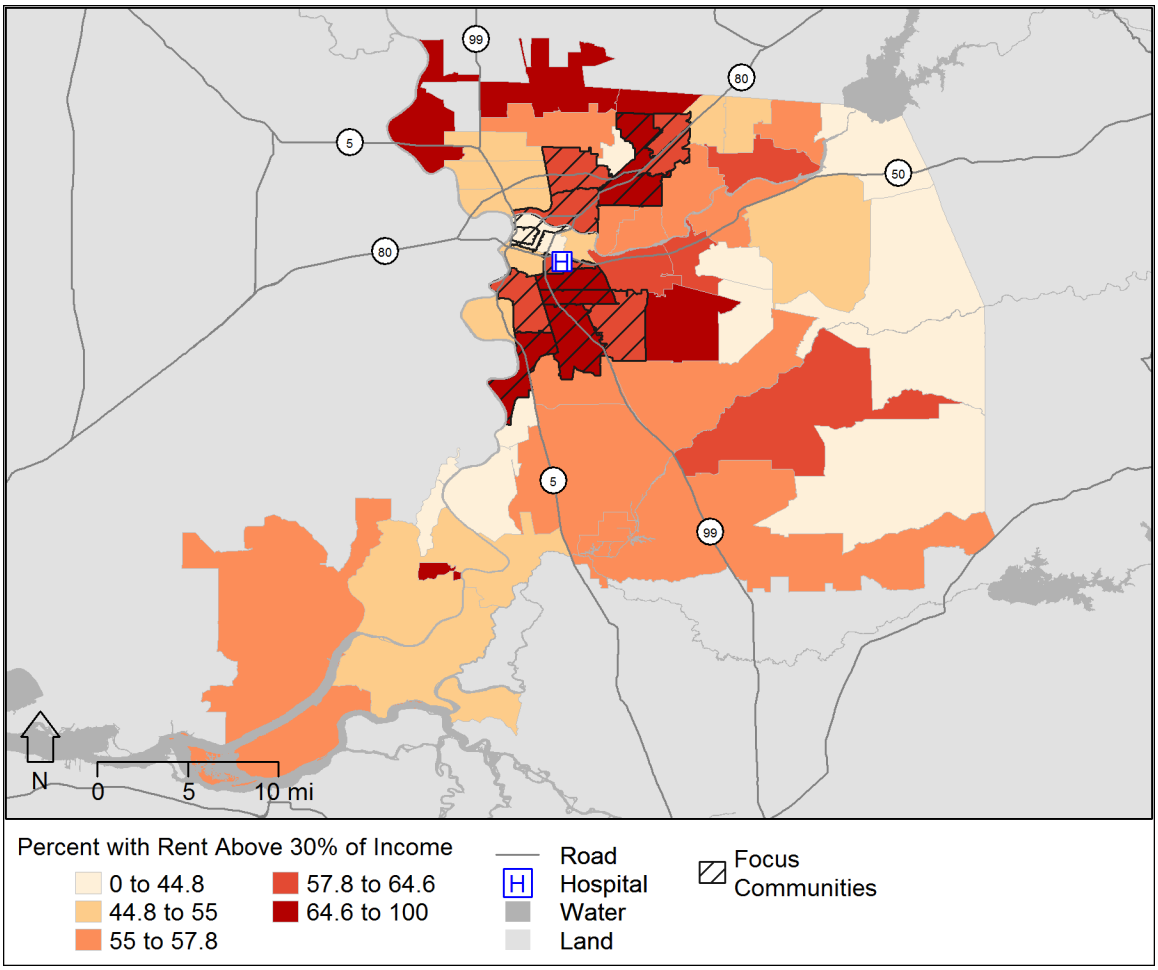

Figure 21: Percent of residents by ZIP code with housing rental costs above 30% of their household income

Many of the Focus Communities with a high percent of income paying for mortgage costs, were also communities with high rental costs. Thirteen of the 15 Focus Communities had a high percent of residents with rent above 30% of their income. This was specifically true for the ZIP codes of 95820 (Tahoe Park), 95824 (Parkway/South Sacramento), 95823 (Fruitridge), 95832 (South Meadowview), 95821 (North Watt/Marconi Area) and 95660 (North Highlands).

Index -- Pollution Burden Score

The California Environmental Protection Agency and the Office of Environmental Health Hazard Assessment developed the California Communities Environmental Health Screening Tool, Version 2.0.[30] This tool was designed to identify California communities that are disproportionately burdened by multiple sources of pollution. The tool combines 13 types of pollution, environmental factors to produce a "pollution burden" score for each census tract in the state ranging between a minimum 0 and a maximum of 100, with higher scores indicator a great pollution burden. The pollution factors included ozone and PM2.5 concentrations, diesel PM emissions, pesticide use, toxic releases from facilities, traffic density, drinking water contaminants, cleanup sites, impaired water bodies, groundwater threats, hazardous wastes facilities and generators, and solid waste sites and facilities.

[30] California Communities Environmental Health Screening Tool, Version 2.0 (CalEnviroScreen 2.0). Guidance and Screen Tool. October 2014. Retrieved from: http://oehha.ca.gov/ej/pdf/CES20FinalReportUpdateOct2014.pdf

A pollution burden score was identified for each census tract in the UCDMC HSA and is displayed in Figure 22. Each census tract's pollution burden score ranged from 0 to 100 and was assigned to a quintile, displayed in the figure using color gradation. In the figure census tracts with darker colors have higher pollution burden scores.

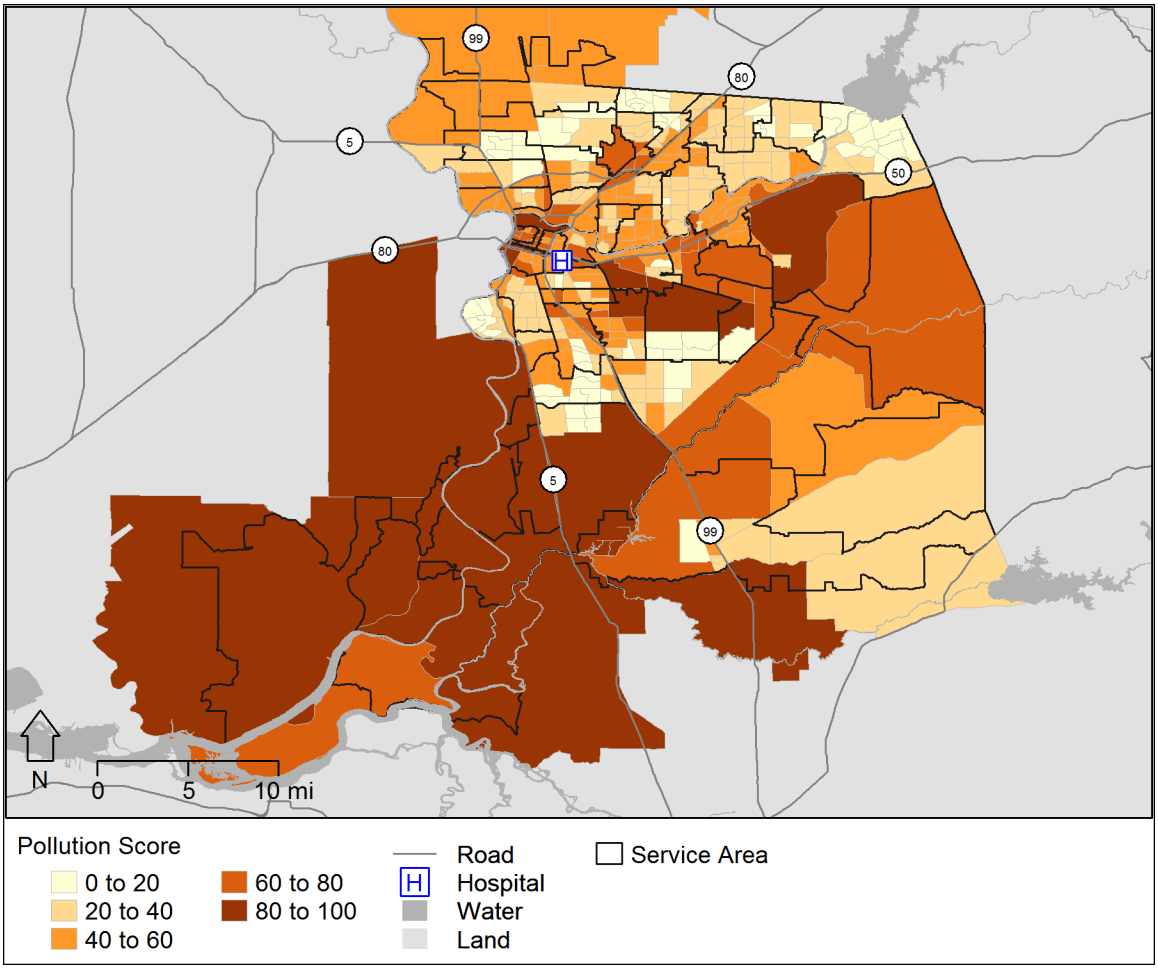

Figure 22: Pollution burden score by census tracts in the HSA

Figure 22 shows that only portions of ZIP code 95815 (North Sacramento) had a pollution burden score in the highest quintile, 80-100. Portions of ZIP codes 95811 (Downtown Sacramento), 95814 (Downtown Sacramento), and 95660 (North Highlands) had census tracts with scores in the second highest quintiles. The effect of exposure to pollution may contribute to the high rates of respiratory illness mentioned previously in this report.

Primary data participants spoke about issues of smoking in low income housing units as a big concern for the health of many residents. Trash removal from community streets and weed abatement were also mentioned as important parts of helping to remove the pollution from many Focus Communities.

Social Environment

This assessment included indicators for crime, assault and homicide in the UCDMC HSA. Crime data included major crimes, violent crime, property crime, arson and domestic violence.

Rates -- Major crime, violent crime, property crime, arson and domestic violence

Criminal activity in a community has a strong effect on a community's actual and perceived safety. Data on major crimes reported to the California Department of Justice are provided for the law enforcement jurisdictions in the UCDMC HSA and compared to an estimated county benchmark.

Table 28: Major crime, violent crime, property crime, arson and domestic violence per 10,000 population by police jurisdiction

Police Municipality	Major Crimes*	Violent Crime	Property Crime	Arson	Domestic Violence
Citrus Heights	354.67	38.00	315.02	1.66	127.17
Elk Grove	221.63	30.19	190.73	0.71	19.05
Folsom	199.38	13.53	184.47	1.38	45.84
Galt	243.36	26.25	215.44	1.67	22.50
Isleton	789.10	129.12	659.97	0	57.39
Rancho Cordova	387.11	53.31	333.5	0.30	37.11
Sacramento	460.40	66.66	390.24	3.50	32.98
Sacramento County Sheriff	344.68	54.56	288.94	1.18	35.44
Sacramento County	*363.10*	*52.36*	*308.85*	*1.90*	*38.64*
CA State	*312.65*	*40.26*	*270.41*	*1.98*	*40.18*

Source: California Department of Justice, 2013; *combination of violent crimes, property crimes, and arson

Table 28 indicates that major crime rates reported for Isleton, Rancho Cordova, and Sacramento jurisdictions are noticeably higher than the Sacramento County estimated major crime rate and California state rate. These jurisdictions also had the highest rates of violent crime, with the addition of Sacramento County Sheriff's Office and the highest rate in Isleton at more than twice the Sacramento County estimated crime rate and the CA state rate. Rates of property crime were highest in the Isleton jurisdiction at more than twice the Sacramento County and state benchmarks. The highest rate of arson was found in the Sacramento City jurisdiction. Rates for domestic violence crimes in the Citrus Heights jurisdiction were more than three times the county and state benchmarks.

Though many participants spoke about crime and violence in the HSA, crime and its impact on youth was a specific finding in the primary data. Many key informants and community members' spoke about the impact witnessing violence has on young area residents, resulting in a feeling of trauma.

One service provider said: "*But, violence is really big for our kids. Our kids are really suffering from a lot of trauma" (KI_14).* Another provider stated: *"It is a scary, scary world for little children in this community and that can be within the house, and certainly it can be just outside the door" (KI_29).* The stress of living in an environment where residents most worry daily about safety issues can have potentially negative effects on health. As one key informant stated:

> *I think one of the things we underestimate is how stress plays a big havoc on our health. If I'm worried about opening my door and there are prostitutes on the corner, or I'm worried about at the top lot drug exchange is going on that does something to me physically, because stress affects us all physically and mentally. (KI_13)*

Rates -- ED visits and hospitalizations due to assault

Understanding safety in the UCDMC HSA requires the examination of both crime rates as shown above as well as incidents of intentional harm, such as rates of assault. Rates of assault (intentionally harming another person) were included in this assessment to gain an understanding of violence in the UCDMC HSA. Figure 23 and 24 show ED visits and hospitalizations related to assaults in the area.

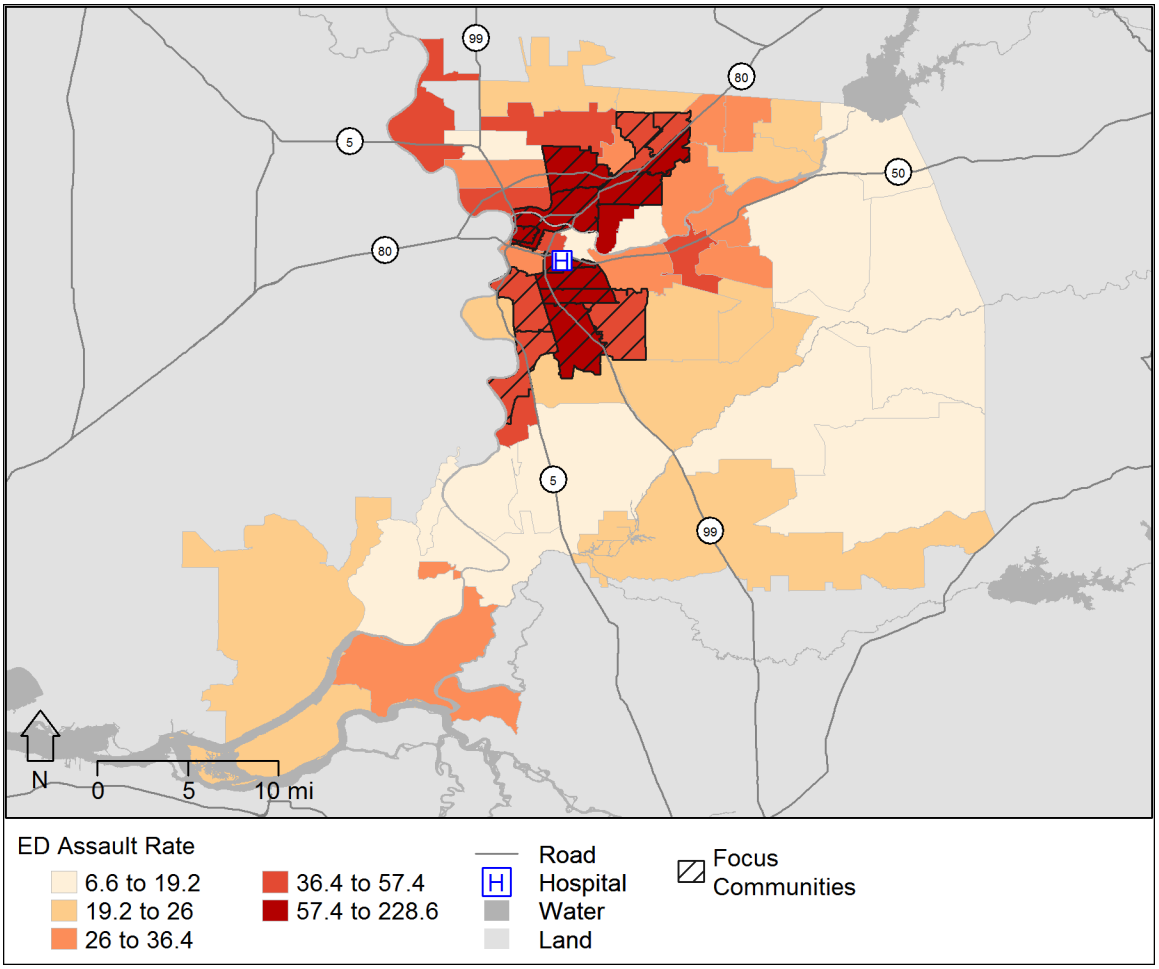

Figure 23: ED visits related to assault

The highest rates of ED visits due to assault were seen in the Focus Communities compared to the rest of the HSA. ZIP codes 95814 (Downtown Sacramento), 95811 (Downtown Sacramento), and 95815 (North Sacramento), had the highest rates of ED visits in the UCDMC HSA, ranging from 87.71 visits to 228.6 visits per 10,000. The Downtown Sacramento ZIP code of 95814 had a rate of 228.6 ED visits per 10,000. These rates were considerably higher than the county benchmark of 38.9 and the state benchmark of 30.4 ED visits per 10,000.

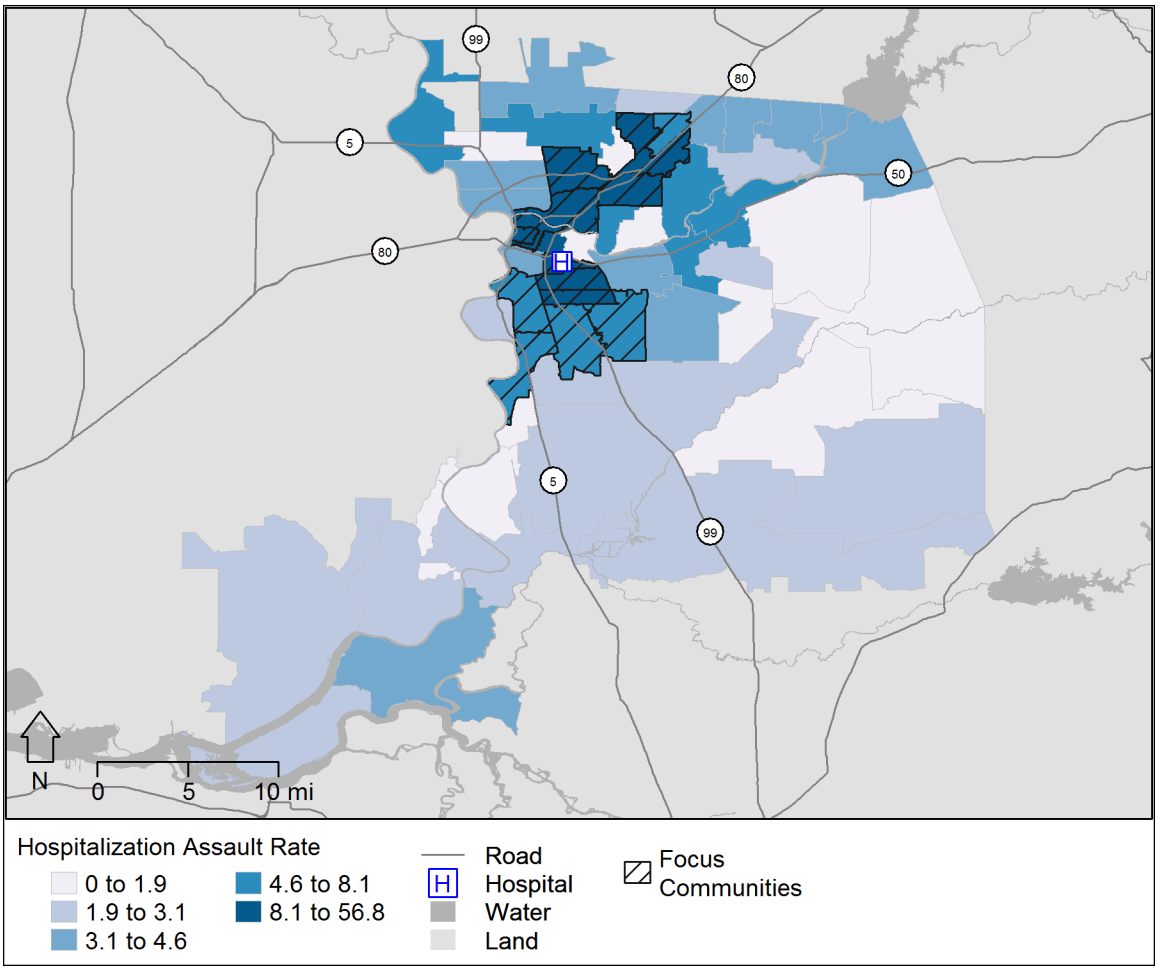

Figure 24: Hospitalization related to assault

As Figure 24 shows the geographic pattern seen for ED visits due to assault was also true for hospitalizations. The Focus Communities also had the highest rates of hospitalizations due to assault. ZIP code 95814 (Downtown Sacramento) had the highest rate of hospitalizations at more than nine times the Sacramento County rate and 14 times the state rate.

Rate -- Mortality due to homicide

Data from the California Department of Public Health on the mortality rate due to homicide collected for the 2010-2012 revealed that the UCDMC HSA had a higher rate than the state benchmark. Mortality due to homicide in the HSA was 5.96 deaths per 100,000 population in the HSA compared to the state rate of 5.15 deaths per 100,000.

Economic & Work Environment

Economic stability is crucial to overall health and wellbeing. Community members that struggle to pay for basic needs like stable housing, adequate food, and health care are at greater risk of negative health outcomes. This assessment examined indicators related to lack of employment, income, poverty and insurance status.

Percent Unemployed and median income by ZIP code

Table 29: Percent unemployed and median income by ZIP code

	ZIP Code	Percent Unemployed	Median Income
Economic Stability	95660	12.0	$41,036
	95811	14.6	$36,421
	95814	9.4	$34,085
	95815	24.1	$31,274
	95817	17.3	$34,990
	95820	18.0	$39,295
	95821	18.9	$38,750
	95822	15.9	$43,624
	95823	19.0	$37,931
	95824	19.5	$29,771
	95828	17.7	$46,820
	95832	20.8	$39,735
	95838	16.7	$38,271
	95841	15.0	$36,967
	95842	14.5	$45,537
	Sacramento County	*13.7*	*$55,064*
	CA State	*11.5*	*$61,094*

Source: Census, 2013

As Table 29 shows, the percent of residents unemployed in the UCDMC HSA was highest in ZIP codes 95815 (North Sacramento) at 24.1% and 95832 (South Meadowview) at 20.8%, both clearly over the Sacramento County percent of 13.7% and state percent of 11.5%. All Focus Communities had median incomes drastically below the county and state median income. The lowest median income was seen in ZIP codes 95824 (Parkway/South Sacramento) and 95815 (North Sacramento).

Percent -- Population living in poverty (Total population, families with children, single female headed households, and elderly households

Table 30: Percent populations living in poverty, percent of families with children in poverty, percent of single FHH in poverty, and percent of elderly households in poverty

	ZIP Code	Percent Under 100% Federal Poverty Level	Percent Families with Children in Poverty	Percent Single Female Headed Households (FHH) in Poverty	Percent Elderly Households in Poverty
Poverty	95660	22.9	26.5	43.3	3.0
	95811	31.1	50.3	70.2	1.9
	95814	28.5	58.6	77.8	5.7
	95815	34.1	46.4	72.5	2.5
	95817	36.2	39.7	55.1	5.3
	95820	26.4	30.3	30.9	2.6
	95821	25.0	33.7	54.0	2.3
	95822	25.3	31.7	42.0	2.7
	95823	30.1	37.2	51.0	2.7
	95824	36.7	40.1	40.4	3.8
	95828	21.6	23.7	33.4	2.4
	95832	30.7	34.8	60.4	2.0
	95838	30.1	34.5	54.5	3.1
	95841	27.9	34.5	51.3	2.7
	95842	25.7	31.1	53.1	1.5
	Sacramento County	17.6	20.1	37.6	1.9
	CA State	15.9	17.8	36.8	2.3

(Source: Census, 2013)

All 15 of the Focus Communities had a percent of the population living under the 100% poverty level that was drastically higher than the county and state benchmarks. ZIP codes 95822 (Sacramento Executive Airport) and 95821 (North Watt/Marconi Area) had substantially higher percent of population in poverty at 36.2% and 34.1% respectively. The percent in these two ZIP codes is more than twice the state percentage. ZIP codes with the highest percentage of children living in poverty were seen in 95820 (Tahoe Park) and 95817 (Oak Park). The ZIP code 95820 (Tahoe Park) also had the highest rate of female headed households and elderly households in poverty in the entire UCDMC HSA.

Many key informants and community members spoke about poverty and its influence in many areas of healthy living, effecting access to quality health care, healthy foods, transportation, stable housing, etc. As one key informant stated so clearly: *"Poverty does not discriminate" (KI_15).* This key informant elaborated:

> *Poverty in itself would indicate a less than satisfactory quality of life. It's not always true, but when you can't put food on the table to feed your family, or you're staying with relatives and moving around from one relative to another, because you don't have a stable place to live, I mean that makes for a really challenging quality of life. (KI_15)*

Percent -- Population uninsured

The percent of population in the UCDMC HSA without health insurance was examined for this assessment. Figure 25 shows the latest available data from the US Census Bureau (2013), prior to the Affordable Care Act implementation and expansion of Medi-Cal/Medicaid.

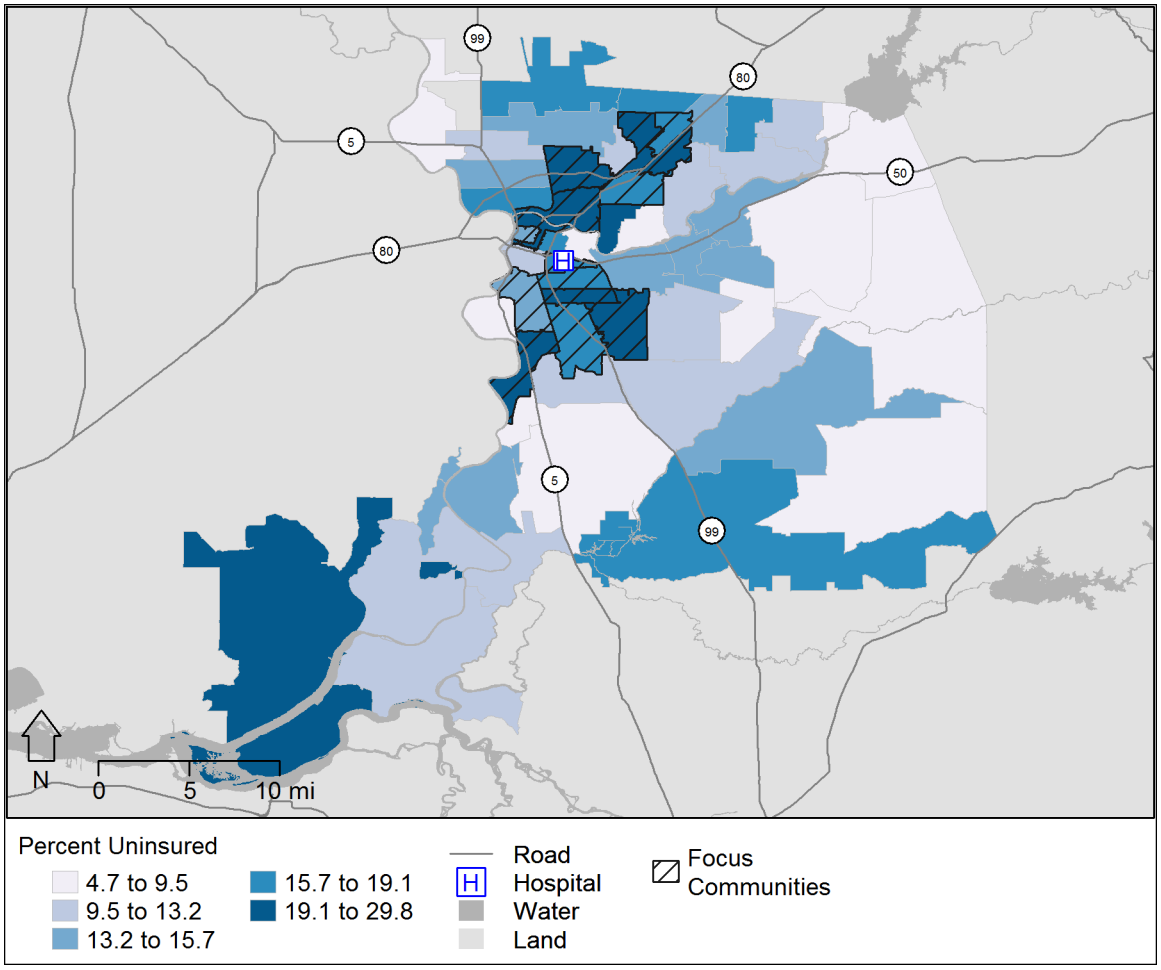

Figure 25: Percent uninsured by ZIP code in the UCDMC HSA

The percent of population without insurance in 2013 for Sacramento County was 14.6% and the state level was 17.8%. Fourteen of the 15 Focus Communities had a larger percent of population that was uninsured compared to the county and state benchmarks. The highest percent was in ZIP codes 95824 (Parkway/South Sacramento) and 95832 (South Meadowview) at 24.7% and 23.6% respectively. Primary data findings related to health insurance are discussed in the "Access to Care" section of this report.

Service Environment

This assessment examined access to care measures and education in order to best understand the service environment for the UCDMC HSA. Information in this section of the report examine access to care for primary care, mental health care and dental health.

Access to care (Primary Care, Mental Health, and Dental)

Rate -- Primary care physicians per 100,000 population

Data from the US Department of Health and Human Services revealed that the rate of primary care physicians per 100,000 population was 79.2 for Sacramento County in 2012, compared to the state rate of 77.2 physicians per 100,000 population.

Area -- Health Professional Shortage Area - Primary Care

Health Professional Shortage Areas (HPSAs) are designated by the US Government Health Resources and Services Administration (HRSA) as having shortages of primary medical, dental, or mental health providers; these shortages may be geographic (e.g., a county or service area), demographic (e.g., a low income population) or institutional (e.g., comprehensive health center, federally qualified health center, or other public facility).[31]

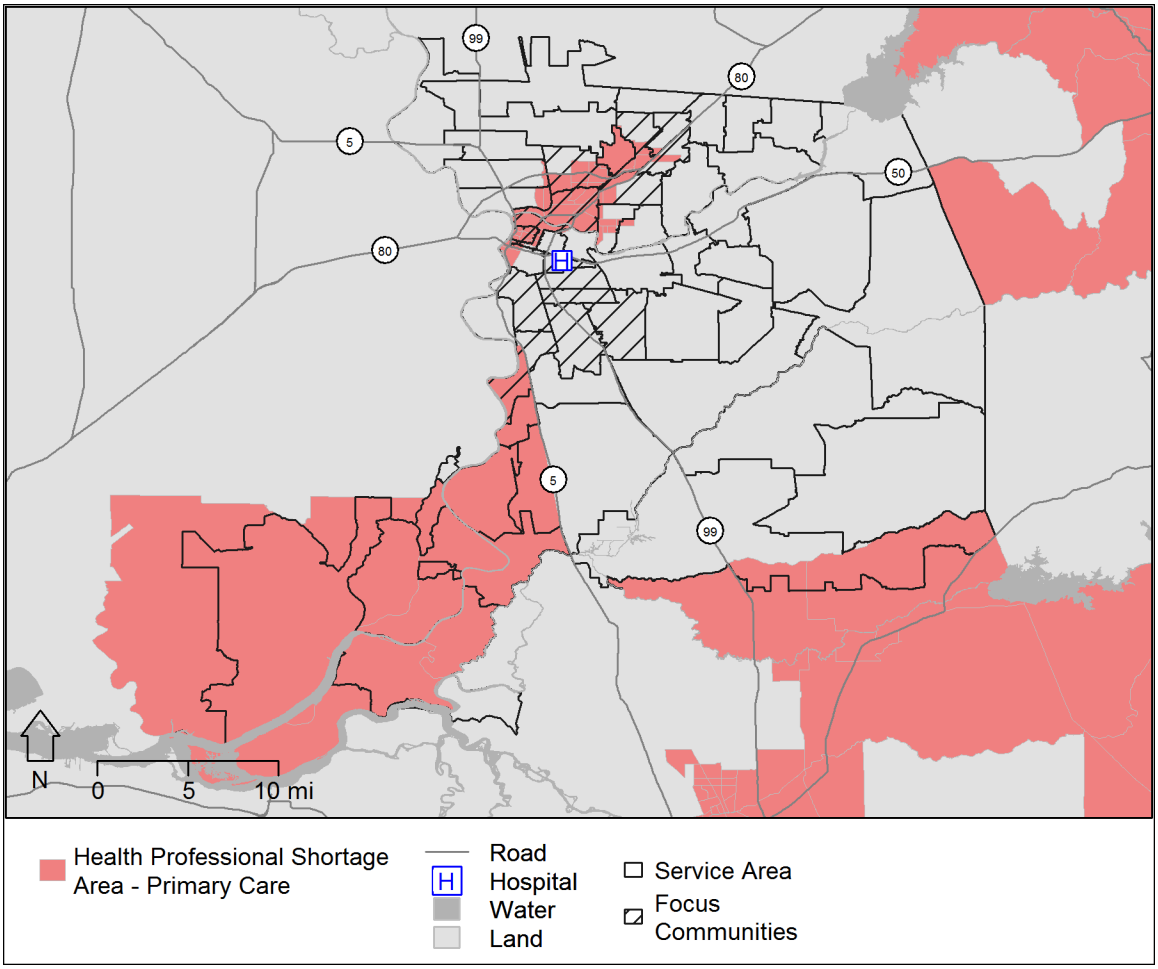

Figure 26: Primary Care Health Professional Shortage Area (HPSA) in the UCDMC HSA

ZIP code Focus Communities 95811 (Downtown Sacramento), 95814 (Downtown Sacramento), 95815 (North Sacramento), 95838 (Del Paso Heights), 95821 (North Watt/Marconi Area) and 95660 (North Highlands) all had portions of their ZIP codes that were designed HPSA for Primary Care.

[31] Health Resources and Services Administration. (n.d.). *Primary Medical Care HPSA: Designation Overview*. Retrieved from: http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/primarycarehpsaoverview.html

One of the biggest findings of the primary data was the need for increased access to primary care for residents of Focus Communities. Additionally, though insurance coverage for residents in the HSA has increased since 2014 as a result of the Affordable Care Act, key informant and community members consistently mentioned a lack of providers in the Focus Communities, especially Medi-Cal providers, and the need for residents to have a medical home.

One community member stated: "*I feel that with the patients being assigned doctors that are not accepting new patients, it's extremely common.*" (FG_14) A key informant spoke about healthcare in Sacramento County: *"We are at the end of the line in terms of 58 counties in the state in terms of service delivery for healthcare." (KI_27)* As one provider stated about Affordable Care Act coverage:

> *…however that hasn't changed whether or not people can actually get care under their coverage in fact its only made it worse, in fact every time that we sign somebody up or try to teach them about their entitlement we know that we are putting them into these impacted systems that are only getting more and more impacted. (FG_7)*

Primary data indicated that many community residents are experiencing long wait times until they are able to see a provider. As one key informant stated: *"The wait time is shorter in the ED than scheduling an appointment with a PCP (Primary Care Provider)." (KI_17)*

Percent -- Prenatal care in the first trimester and low birth weight

Table 31: Percent of live births with the mother receiving prenatal care in the First trimester and percent of births with low birth weight

	ZIP Code	Percent of Live Births with Prenatal Care in First Trimester	Percent of Births with Low Birth Weight
Prenatal Health	95660	70.26	6.64
	95811	80.93	7.13
	95814	80.27	6.80
	95815	72.64	7.18
	95817	75.77	6.80
	95820	76.28	7.22
	95821	74.71	7.00
	95822	75.76	7.44
	95823	73.96	7.11
	95824	71.65	6.98
	95828	77.41	7.55
	95832	75.50	7.21
	95838	70.08	7.67
	95841	74.78	6.51
	95842	72.21	5.78
	Sacramento County	*81.4*	*6.9*
	CA State	*83.6*	*6.8*

Source: CDPH, 2010-2012

Data revealed that fewer mothers received prenatal care in the first trimester in the Focus Communities than the percentage rate for the county and state. The ZIP code with the lowest percentage of mothers receiving prenatal care in the first trimester was in 95815 (North Sacramento). This ZIP code also had the highest percent of low birth weight babies.

Rate -- Federally Qualified Health Centers per 100,000 population

Data from the US Department Health and Human Services for 2015 indicated that the rate of FQHC (Federally Qualified Health Centers) in the UCDMC HSA was less than the state rate. The UCDMC HSA rate was 1.05 FQHCs per 100,000, versus the state rate of 1.97 FQHCs per 100,000.

Rate -- Preventable hospital events per 10,000 population

The rate of preventable hospitalizations reported by the Office of Statewide Health Planning and Development for 2011 in Sacramento County was 80.23 events per 10,000 population versus the state rate of 83.17 per 10,000 population. Preventable hospital events are ambulatory care sensitive conditions which include pneumonia, dehydration, asthma, diabetes, and other conditions which could have been prevented if adequate primary care resources were available and accessed by those patients.

Rate -- Mental health providers per 100,000 population

Data from the US Department of Health and Human Services for 2015 revealed that the rate of mental health providers per 100,000 population was 161.2 for Sacramento County, compared to the state rate of 157.0 per 100,000 population.

Area – Health Provider Shortage Area - Mental Health

There were no federally designated HPSAs for mental health care in the UCDMC HSA. However, key informants and community members mentioned mental health issues as a serious health concern and has already been discussed previously in this report.

Rate -- Dental health providers per 100,000 population

Data from the US Department of Health and Human Services for 2015 revealed that the rate of dental health providers per 100,000 population was 71.9 for Sacramento County, compared to the state rate of 77.5 per 100,000 population.

Area -- Health Provider Shortage Area- Dental Health

There were no federally designated HPSAs for dental care in the UCDMC HSA. However, key informants and community members mentioned dental issues as a health concern. Many participants mentioned the need for access to dental for many adults in need of restoration services. Many community members live without a full mouth of teeth, providing a barrier to eating adequate fruits and vegetables, affecting employability and overall quality of life.

Education

Educational attainment is important for overall health and wellbeing as education is positively associated with health status.

Percent -- High school students graduating in four years

The California Department of Education reports the graduation rate as the percentage of high school students receiving their high school diploma in four years. The high school graduation rate in 2013 for Sacramento County was 79.44% slightly below the state percent at 80.44%. Rates by race and ethnicity showed that 84.1% of Whites graduate in four years, compared to 68.3 % of Blacks, 72.9% of Hispanic/Latinos, 89.7% of Asians and 80.7% of non- Hispanic others. Both key informants and community members stressed the importance of access to quality education for residents of Focus Communities.

Percent -- Adults over the age of 25 with no high school diploma

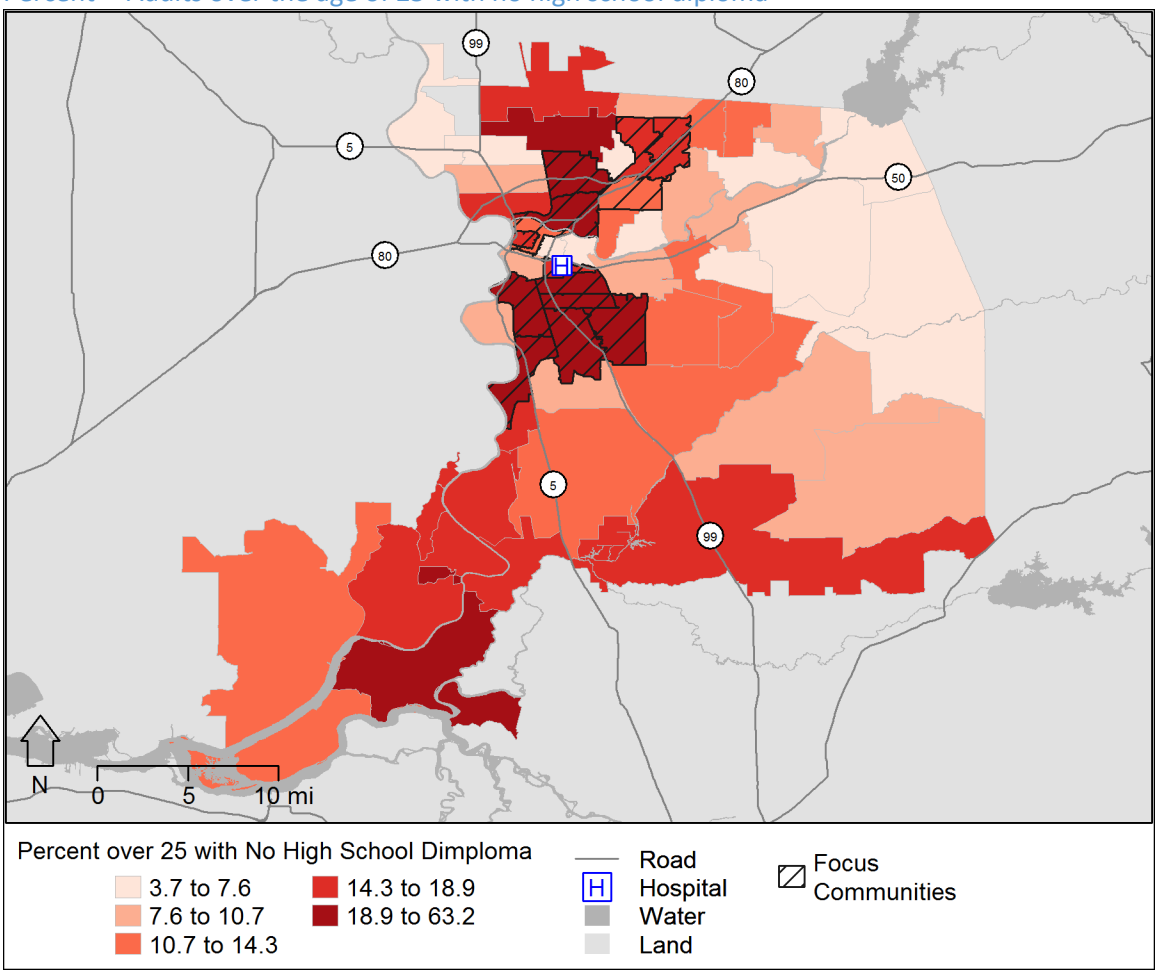

Figure 27: Percent over 25 years old with no high school diploma

The percentage of residents with no high school diploma in the county was 14.1% and the state 18.8%. Ten of the 15 Focus Communities had a higher percentage of residents without a diploma than both the county and state benchmarks. The highest percent was in ZIP Code 95824 (Parkway/South Sacramento) at 39.1%.

Percent -- Non-proficient reading level in fourth grade.

Data from the California Department of Education for 2012-2014 indicated that 38% of 4th graders in Sacramento County are not proficient in reading in the 4th grade, slightly above the state benchmark of 36%. Reading proficiency in fourth grade is important because it is linked to poverty, unemployment and barriers to healthcare access. Percent of reading proficiency differs significantly by race and ethnicity. While 27% of White students were not proficient, 53% of Black students, 49% of Hispanic/Latino students, 50% of Native American/Alaskan Native students, 47% of Native Hawaiian/Pacific Islander students, and 30% of Asian students were not proficient.

Percent -- 3 and 4 year olds enrolled in preschool

Data from the US Census Bureau for 2009-2013 indicated that 45% of 3 and 4 year olds in the UCDMC HSA are in preschool, below the state benchmark of 49%. This data is important as access to early education is a social determinant of health.

Rate -- Suspensions per 100 students

The rate of suspensions as reported by the California Department of Education for the UCDMC HSA was 6.72 per 100 students, above the state rate of 4.04 per 100 students. This is an important health indicator because it is related to educational attainment and crime in the community as an adult.

Social Services

Indicators used in this assessment to examine social services included data on percent of population receiving services including public insurance, Medi-Cal (Medicaid), public assistance, and percent of families eligible for free and reduced lunch.

Percent -- Population on public health insurance

The percent of population with public health insurance is defined as the population enrolled in insurance programs which include Medicare, Medi-Cal (Medicaid) and other medical assistance programs, VA Health Care, the Children's Health Insurance Program (CHIP), and individual state health plans. Data from the US Census Bureau on the percent of population on public health insurance for 2013 is displayed in Figure 28.

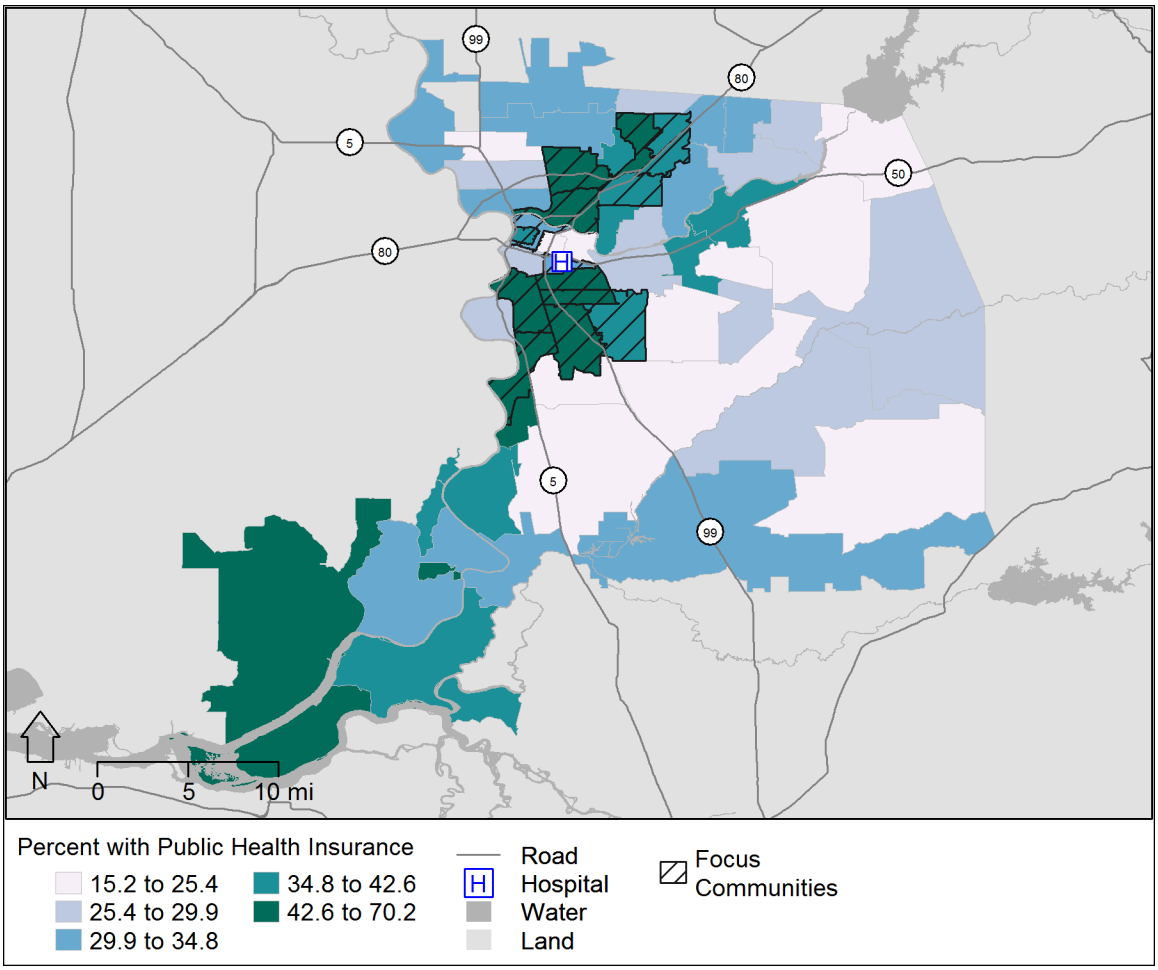

Figure 28: Percent of population on public health insurance

Nine of the 15 Focus Communities had the highest percent of population on public insurance in the range of 42.6% to 70.2% of residents. ZIP code 95824 (Parkway/South Sacramento) had the highest

percentage of the Focus Communities at 50.5% drastically higher than the county percent of 32.5% and state at 29.5%.

Percent -- Population receiving Medi-Cal (Medicaid)

Though the data in Figure 28 provides information on the percent of population on all sources of public health insurance, the US Census Bureau reported the percent of population receiving just Medi-Cal (Medicaid) for 2009-2013. For the UCDMC HSA 26% of residents received Medi-Cal (Medicaid) in 2009-2013, above the state percent at 23%.

Percent -- Population receiving public assistance

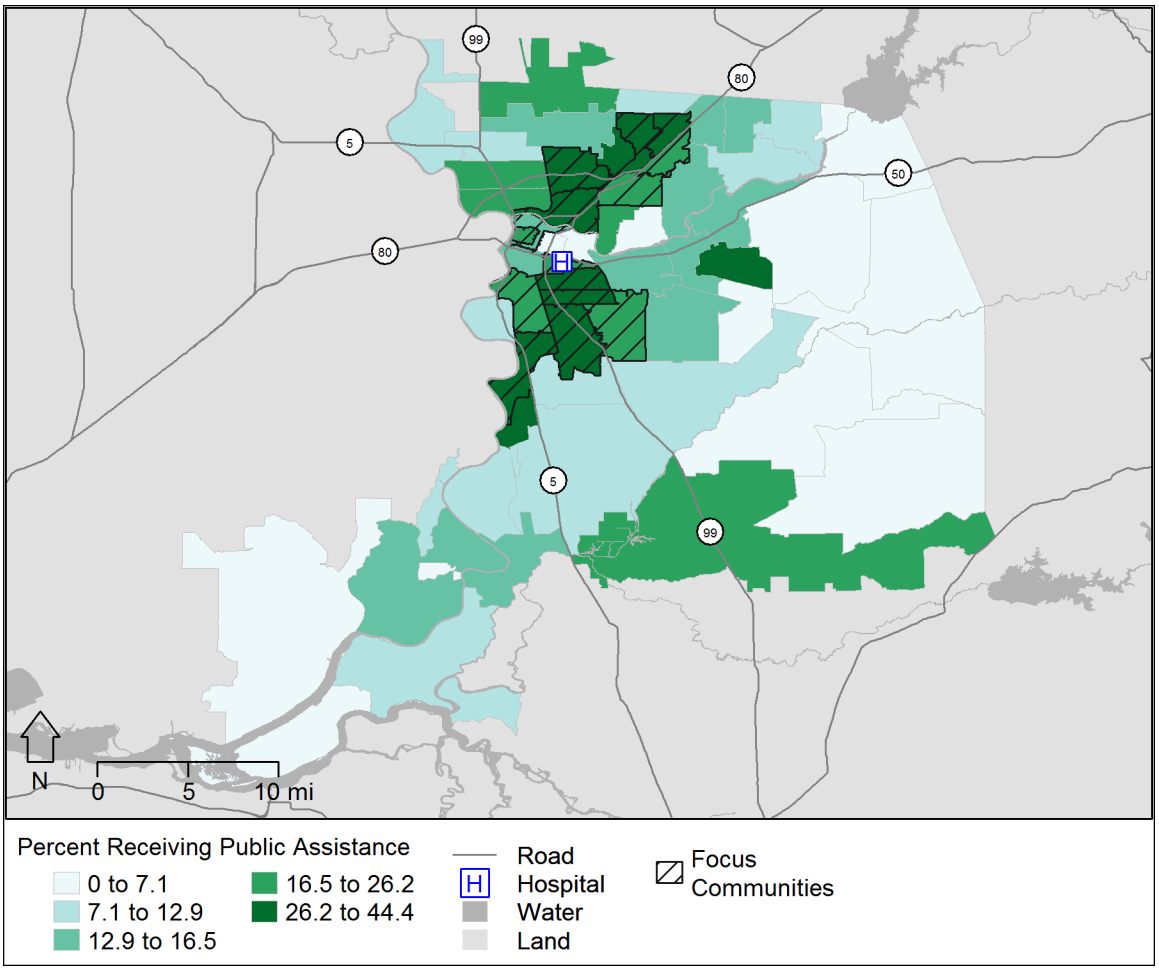

Figure 29: Percent of population receiving public assistance

The percent of population receiving public assistance defined as cash public assistance income, food stamp and/or SNAP benefits within the past 12 months is displayed in Figure 30. The percentage of population receiving public assistance varied greatly across the HSA, though all 15 ZIP codes had higher percentages than the county and state percent. ZIP codes 95832 (South Meadowview) and 95815 (North Sacramento) had the highest percent at 42.9% and 38% respectively.

Percent -- Students eligible for Free and Reduced Lunch in schools

Data from the National Center for Education Statistics in 2013-2014 indicated that 59% of school age children in the UCDMC HSA are eligible for Free and Reduced Lunch, only slightly above the state

percent of 58%. This indicator is important because it identifies service needs associated with poverty which is a social indicator of health status in a community.

PRIORITIZED DESCRIPTION OF SIGNFICANT HEALTH NEEDS

The following is a list of eight significant health needs for the UCDMC HSA in prioritized order. The process and method for the determination of significant health needs and the prioritization criteria follows. Each prioritized significant health needs is then detailed further with the quantitative and qualitative data which supports its inclusion.

1. Access to Behavioral Health Services
2. Active Living and Healthy Eating
3. Access to High Quality Health Care and Services
4. Disease Prevention, Management and Treatment
5. Safe, Crime and Violence Free Communities
6. Basic Needs (Food Security, Housing, Economic Security, Education)
7. Affordable and Accessible Transportation
8. Pollution-Free Living and Work Environments

Process and methods for prioritizing Significant Health Needs

Potential Health Need (PHN) categories

Significant health needs were identified through an integration of both qualitative and quantitative data. The process began with generating a list of eight broad potential health needs (PHN categories) that could exist within the HSA as well as subcategories of these broad needs as applicable. The PHN categories and subcategories were identified through consideration of the following inputs: the health needs identified in the 2013 CHNA process; the categories in the Kaiser Permanente Community Commons Data Platform (CCDP); and a preliminary review of primary data. This resulted in a list of eight PHNs for the UCDMC HSA.

Quantitative/qualitative analysis on PHN categories

Once the PHN categories were created, quantitative and qualitative indicators associated with each category and subcategory were identified in a crosswalk table. The potential health need categories, subcategories and associated indicators were then vetted and finalized by members of the CHNA Collaborative prior to identification of the significant health needs. A full list of the secondary indicators and primary data concepts associated with each PHN category is displayed in Appendix B.

Thresholds for Significant Health Needs

While all of these potential health needs exist within the HSA to a greater or lesser extent, the purpose was to identify those that were most significant. A health need was determined to be significant through extensive analysis of the secondary and primary data for the HSA.

For the secondary (quantitative) data, indicators were flagged that compared unfavorably to state benchmarks or had evident racial/ethnic group disparities. Indicators from the CCDP were flagged if: (a) the HSA value performed poorly (>2% or 2 percentage point difference) or moderately (between 1-2% or 1-2 percentage point difference) compared to the state benchmark. Indicators sourced by Valley Vision were flagged if they compared unfavorably to benchmark by any amount as presented in Appendix A.

Prioritized Significant Health Need Identification Process

Once significant health needs were identified, they were prioritized through the following process. First, health needs were given a score based upon the degree to which they met the criteria outlined above. Health needs that met or exceeded the thresholds for both the primary and secondary data categories were given a score of two (2 points); health needs that met or exceeded the thresholds for only one of the categories were given a score of one (1 point). The health needs were then ranked so that those with two points were put into a higher tier for prioritization than those with one point.

Secondly, health needs were further ranked within their tiers based upon additional analysis of the primary data. As previously mentioned, the interview guide for primary data collection prompted participants to identify the health issues in their communities that were most urgent or important to address. Thematic analysis was conducted on the responses to this question and matched with the significant health need categories. The percentage of sources referring to each health need as a priority was calculated from this analysis, and then used for further prioritization of the health needs within tiers. Health needs with a higher percentage of sources were ranked above those with a lower percentage of sources identifying that health need as a priority.

Prioritized Significant Health Needs for UCDMC

Table 32 displays the full results of data synthesis to identify and prioritize the significant health needs for UCDMC. Each prioritized health need is then listed with the corresponding secondary and primary data which led to its determination as a need.

Table 32: Prioritization of significant health needs with data scoring and ranked by importance

Rank	PHN Category	QUANT	QUAL	TOTAL	Importance
		Percent of indicators	Percent of sources		Percent of sources deemed a priority
		Threshold 50%	Threshold 75%		Threshold 25%
1	Behavioral Health	75%	96%	2	57%
2	Active Living and Healthy Eating	76%	96%	2	45%
3	Access to Care	76%	100%	2	33%
4	Disease Prevention/Management	75%	84%	2	33%
5	Violence	81%	96%	2	24%
6	Basic Needs	57%	98%	2	22%
7	Transport	67%	69%	1	8%
8	Pollution Free Communities	89%	51%	1	1%

1. Access to Behavioral Health Services

This category encompasses the following needs related to behavioral health:

- Access to mental health and substance abuse prevention and treatment services
- Tobacco education, prevention and cessation services
- Social engagement opportunities (especially for youth and seniors)

- Suicide prevention

This category includes health behaviors (e.g. substance abuse), associated health outcomes (e.g. COPD) and aspects of the social and physical environment (e.g. social support and access to liquor stores). In addition, this category includes life expectancy since persons with severe mental health issues may have a lower life expectancy.

Quantitative Indicators	Qualitative Themes
• Alcohol consumption • Alcohol expenditures • Tobacco expenditures • Smoking prevalence • Lung Cancer – ED visits • Lung Cancer incidence • Substance abuse – ED visits • Substance abuse – hospitalizations • CRLD -- Mortality • COPD – ED visits • COPD – Hospitalizations • Life expectancy at birth • Poor mental health days • Mental health – ED visits • Mental health – hospitalizations • Self-Inflicted Injury – ED visits • Self-Inflicted Injury – hospitalizations • Suicide – Mortality	• Depression, anxiety and daily stress common • Barriers in accessing care - lack of providers in general - lack of Medi-Cal providers - delay of appointment times - transportation • Care in the Emergency Department is difficult • Long wait times and provider insensitivity • Accessing behavioral and substance abuse care is difficult • Elderly community have Alzheimer's and dementia issues- need support and care for daily coping • Care system in county lacks capacity - County clinic closures have created a deficit in the care system for the low socio economic status (SES) communities • Adverse childhood experiences have led to increase in children and young adults needing mental health services • Alcohol and drug use a major issue - liquor store access high in low SES communities - drug paraphernalia in streets where kids play • Homelessness drug/alcohol and tobacco abuse common • Youth smoking rates have increased - e-cigarette, marijuana smoking and cigarette smoking on the rise

2. Active Living and Healthy Eating

This category includes all components of healthy eating and active living including health behaviors (e.g. fruit and vegetable consumption), associated health outcomes (e.g. diabetes) and aspects of the physical environment/living conditions (e.g. food deserts). The category does not include food security, which is a component of the Basic Needs category.

Quantitative Indicators	Qualitative Themes
• Physical Inactivity – Adults • Heart disease – ED visits • Heart disease – hospitalizations • Diabetes Management • Diabetes Prevalence • Fruit and vegetable expenditures • Percent youth overweight • Colorectal cancer – ED visits • Colorectal cancer – incidence • Diabetes – ED visits • Diabetes – hospitalizations • USDA defined food desert • Hypertension – ED visits • Hypertension – hospitalizations • Commuting to work – walking • Percent breastfeeding • Soda expenditures	• Lack of access to safe places to be physically active - crime and drug abuse • Lack of parks in low SES communities • Need more walkable communities - areas of the county lack sidewalks and bike lanes - traffic moves very fast on streets in residential areas • Participation in after school sports programs is expensive • Physical Education and physical activity missing in schools • Lack of access to healthy affordable foods in the community • More liquor stores than grocery stores • High cost of eating healthy – cheaper food is more filling • Families on CAL-Fresh and WIC need easier access to fresh foods • Food deserts in low SES communities - lack of grocery stores with quality fruits and vegetables - abundance of unhealthy food options • Knowledge on how to make healthier choices and prepare healthier foods is vital • Healthy food in schools important

3. Access to High Quality Health Care and Services

This category encompasses the following needs related to access to care:

- Access to Primary and Specialty Care
- Access to Dental Care
- Access to Maternal and Infant Care
- Health Education & Literacy
- Continuity of Care, Care Coordination & Patient Navigation
- Linguistically & Culturally Competent Services

This category includes health behaviors that are associated with access to care (e.g. cancer screening), health outcomes that are associated with access to care/lack of access to care (e.g. low birth weight) and aspects of the service environment (e.g. health professional shortage area). The category does not include access to mental health providers, which is a component of the Access to Behavioral Health Services category.

Quantitative Indicators	**Qualitative Themes**
● Cancer screening – Mammogram ● Cancer screening – Pap ● Low birth weight ● 3 and 4 year olds in school ● Percent receiving Medicaid (Medi-Cal) ● Percent of population on public insurance ● Percent breastfeeding ● Soda expenditures ● Access to dentists ● Federally Qualified Health Centers ● Dental Issues – ED visits ● Dental Issues – hospitalizations ● HPSA – Primary Care ● Infant mortality rate ● Percent receiving prenatal care ● Teen pregnancy rate	● Access to a provider is hard for low SES communities ● Affordable Care Act insured low income communities but coverage doesn't equal access ● Medi-Cal providers are hard to find - high turnover rate of providers ● Wait times to see a provider are long – community members seek care in ED ● Language barriers between provider and patient ● Prescription drug costs is expensive ● Dental and vision care are hard to access for low SES communities ● Coordinated care is important - multiple services in one location - transportation barriers to multiple locations mean failure to go to follow up care

4. Disease Prevention, Management and Treatment

This category encompasses the following health outcomes that require disease prevention and/or management measures as a requisite to improve health status:

- Cancer: Breast, Cervical, Colorectal, Lung, Prostate
- CVD/Stroke: Heart Disease, Hypertension, Renal Disease, Stroke
- HIV/AIDS/STDS: Chlamydia, Gonorrhea; HIV/AIDS
- Asthma

This category includes health behaviors that are associated with chronic and communicable disease (e.g., fruit/vegetable consumption, screening), health outcomes that are associated with these diseases or conditions (e.g. overweight/obesity), and associated aspects of the physical environment (e.g. food deserts).

Quantitative Indicators	Qualitative Themes
● Adult physical inactivity ● Alcohol consumption ● Alcohol expenditures ● Tobacco expenditures ● Smoking prevalence ● Heart disease – ED visits ● Heart disease – hospitalizations ● Heart disease – mortality ● Asthma prevalence ● Asthma – ED visits ● Asthma – hospitalizations ● Cancer – mortality ● Pollution Burden Score ● Cancer screening – Mammogram ● Cancer screening – Pap ● Lung cancer – ED visits ● Lung cancer – mortality ● Diabetes – ED visits ● Diabetes – hospitalizations ● USDA defined food desert ● Hypertension – ED visits ● Hypertension – hospitalizations ● Hypertension – mortality ● Cervical cancer incidence ● Breast cancer – ED visits ● Breast cancer – incidence ● Stroke – mortality ● Chlamydia – incidence ● Gonorrhea – incidence ● Lung cancer – hospitalizations ● HIV/AIDS – ED visits ● Prostate cancer – ED visits ● Prostate cancer – incidence ● Sexually transmitted infections – ED visits ● Stroke – ED visits	● Heart disease, stroke and diabetes were most commonly mentioned conditions in the community ● High rates of asthma and allergies in the county ● Need more enforcement of anti-smoking policies in apartment units ● Breast, prostate and lung cancer common to county ● Sexually transmitted infections are high in the county ● Need more STI screenings in the county

5. Safe, Crime and Violence Free Communities

This category includes safety from violence and crime including violent crime, property crimes and domestic violence. This category includes health behaviors (e.g. assault), associated health outcomes (e.g. mortality - homicide) and aspects of the physical environment (e.g. access to liquor stores). In addition, this category includes factors associated with unsafe communities such as substance abuse and lack of physical activity opportunities, and unintentional injury such as motor vehicle accidents.

Quantitative Indicators	Qualitative Themes
● Adult physical inactivity ● Alcohol consumption ● Alcohol expenditures ● Substance Abuse – ED visits ● Substance Abuse – hospitalizations ● Homicide mortality ● Fatal pedestrian accidents ● Assault – ED visits ● Assault – hospitalizations ● Domestic violence rates ● Major crime rates ● Unintentional injuries – ED visits ● Unintentional injuries – hospitalizations	● Community violence are more common in low SES communities of the county ● Gang violence is an issue is area throughout the county ● Domestic, family violence and child abuse are of big concern in the county ● Abuse of elderly is of concern ● Sex trafficking of young females of concern ● Alcohol and substance abuse contribute to increased community and family violence ● Childhood adverse experiences from exposure to violence results in trauma and maladaptive behavior in area youth ● Need safe places to go for families experience domestic violence ● Need for increased screening of sex trafficking and domestic violence by health care providers - victims need access to care in order to get screened - access is limited in the county • Need increased community and law enforcement connectedness

6. Basic Needs (Food Security, Housing, Economic Security, Education)

This category encompasses the following basic needs:

- Economic security (income, employment, benefits)
- Food security/insecurity
- Housing (affordable housing, substandard housing)
- Education (reading proficiency, high school graduation rates)
- Homelessness

Quantitative Indicators	Qualitative Themes
● 3 and 4 year olds in school ● Percent receiving Medicaid (Medi-Cal) ● Percent of population on public insurance ● Life expectancy at birth ● Children eligible for free and reduced lunch ● High school graduation rate ● Reading Proficiency ● Food Insecurity ● Population with SNAP ● School suspensions ● Percent unemployed ● Percent in poverty	● Lack of stable employment ● Need more employment opportunities in the region ● Cost of living is high and wages are low ● Too many families living in poverty ● Large portion of the county the "working poor" who don't qualify for assistance programs yet can't afford services ● Need for job training ● Affordable housing – housing is greater than 30% income ● Affordable housing where services are located is needed – midtown and downtown ● Many vacant building and housing units yet homelessness in the county increases ● High cost of child care keeps families from financial success

7. Affordable and Accessible Transportation

This category includes the need for public or personal transportation options, transportation to health services and options for persons with disabilities.

Quantitative Indicators	Qualitative Themes
● Population living near a transit stop ● Commuting to work by walking ● Commuting to work alone ● Population with a disability	● Many residents lack adequate reliable transportation ● Lack of transportation effects ability to get to grocery stores and other health services ● Residents have to travel far to get comprehensive care services ● County residents have to travel far for work ● Public transportation is expensive for daily usage ● Light rail is located far from many services ● Light rail can have issues of safety ● Bus routes in low SES communities need to be changed to be closer to services and go beyond current routes ● Urban sprawl has pushed residents far from public transportation

8. Pollution-Free Living and Work Environments

This category includes measures of pollution such as air and water pollution levels. This category includes health behaviors associated with pollution in communities (e.g. physical inactivity), associated health outcomes (e.g. COPD) and aspects of the physical environment (e.g. road network density). In addition, this category includes tobacco usage as a pollutant. The category does not include climate related factors such as drought and heat stress.

Quantitative Indicators	Qualitative Themes
• Adult physical inactivity • Tobacco expenditures • Smoking rate • Heart disease – ED visits • Heart disease – hospitalizations • Asthma – prevalence • Asthma – ED visits • Asthma – hospitalizations • Cancer – mortality • Pollution Burden Score	• Smoking is major issue in the county, especially in the lower SES areas • High density of freeways in low SES areas of the county • Asthma and allergies a major issues for area residents • Dust, mold, and asbestos contribute to asthma and allergies • Low SES communities living in older substandard housing units • Pest infestations in low SES housing units are an issue • Skin conditions (eczema and psoriasis) related to allergenics in the air

RESOURCES POTENTIALLY AVAILABLE TO MEET SIGNIFICANT HEALTH NEEDS

One hundred and eighty three resources were identified in the Focus Communities in accordance with the analytical method. The method included starting with the list of resources from the 2013 UCDMC CHNA, verification that the resource was still existed, and adding newly identified resources in the primary data for the 2016 CHNA report. Examination of the resources revealed the following numbers of resources for each significant health need:

Table 33: Number of Resources for Each Significant Health Need in Prioritized Order

Significant Health Need (in priority order)	Number of resources
1. Access to Behavioral Health Services	79
2. Active Living and Healthy Eating	50
3. Access to High Quality Health Care and Services	77
4. Disease Prevention, Management and Treatment	31
5. Safe, Crime and Violence Free Communities	35
6. Basic Needs (Food Security, Housing, Economic Security, Education)	76
7. Affordable and Accessible Transportation	2
8. Pollution-Free Living and Work Environments	5

For more specific examination of resources by significant health need and by geographic locations, see the full list in Appendix G.

IMPACT OF ACTIONS TAKEN SINCE PREVIOUS CHNA

The impact of actions taken since the 2013 CHNA is located in Appendix H.

CONCLUSION

Nonprofit hospitals play an important role in the lives of the communities they serve. CHNAs help 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. The intention of the CHNA is to assist in improving the lives of hospital service area residents, and the larger geographical area served. Results provided in this assessment will help inform efforts with work toward creating a healthier community and a better quality of life.

APPENDICES

Appendix A: Secondary Data Dictionary and Processing

Introduction

The secondary data supporting the 2016 Community Health Needs Assessment was collected from a variety of sources, and was processed in multiple stages before it was used for analysis. This document details those various stages. Approaches used to define ZIP code boundaries, and the approaches that were used to integrate records reported for PO boxes into the analysis are described. General data sources are then listed, followed by a description of the basic processing steps applied to most variables. It concludes by detailing additional specific processing steps used to generate a subset of more complicated indicators.

ZIP Code Definitions

All morbidity and mortality variables collected in this 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 approach of 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, contiguous areas. In an attempt 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 for the identification of population figures that, in combination the morbidity and mortality data reported at the ZIP code level, allow for the calculation of rates for each ZCTA. But the difference in the definition between mailing ZIP codes and ZCTAs has two important implications for analyses of ZIP level data.

First, it should be understood that 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 morbidity and mortality data. This means that rates cannot be calculated for these ZIP codes individually because there are no matching ZCTA population figures.

In order to incorporate these patients into the analysis, the point location (latitude and longitude) of all ZIP codes in California[32] were compared to ZCTA boundaries[33]. Because various morbidity and mortality data sources were available in different years, this comparison was made between the ZCTA boundaries and the point locations of ZIP codes in April of the year (or the final year in the case of variables aggregated over multiple years) for which the morbidity and mortality variables were reported. All ZIP codes (whether PO Box or unique ZIP code) that were not included in the ZCTA dataset were identified. These ZIP codes were then assigned to either ZCTA that they fell inside of, or in the case of rural areas that are not completely covered by ZCTAs, the ZCTA to which they were closest. Morbidity and mortality

[32] Datasheer, L.L.C. (2015, April 15). *ZIP Code Database DELUXE BUSINESS.* Retrieved from Zip-Codes.com: http://www.Zip-Codes.com

[33] U.S. Census Bureau. (2015). *TIGER/Line® Shapefiles and TIGER/Line® Files.* Retrieved August 31, 2011, from http://www.census.gov/geo/maps-data/data/tiger-line.html

information associated with these PO Box or unique ZIP codes were then assigned added to the ZCTAs to which they were assigned.

For example, 94609 is a PO Box located in Carmichael. 94609 is not represented by a ZCTA, but it could have patient data reported as morbidity and mortality variables. Through the process identified above, it was found that 94609 is located within 94608, which does have an associated ZCTA. Morbidity and mortality data for ZIP codes 94609 and 94608 were therefore assigned to ZCTA 94608, and used to calculate rates. All ZIP code level morbidity and mortality variables given in this report are therefore actually reporting approximate rates for ZCTAs. But for the sake of familiarity of terms they are presented in the body of the report as ZIP code rates.

Data Sources

The majority of mortality, morbidity, and socio-economic variables were collected from three main data sources: the US Census Bureau (Census), the California Office of Statewide Health Planning and Development (OSHPD), and the California Department of Public Health (CDPH). Census data was collected both to provide descriptions of population characteristics for the study area, as well as to calculate rates for morbidity and mortality variables. Table 34 lists the 2013 population characteristic variables and sources. Table 35 lists sources for variables used to calculate morbidity and mortality rates, which were collected for 2012, 2013, and 2014. These demographic variables were collected variously at the Census blocks and tracts, ZCTA, county, and state levels. In urban areas, Census blocks are roughly equivalent to a city block, and tracts to a neighborhood. Health outcome and health behavior indicators were also collected from the Kaiser Permanente Community Commons Data Platform (CCDP) to compliment the indicators already collected from other sources.

Kaiser Permanente Community Commons Data Platform

The Kaiser Permanente Community Commons Data Platform (CCDP) is a web-based platform designed to assist hospitals, non-profit organizations, state and local health departments, financial institutions and other organizations seeking to better understand the needs and assets of their communities. The CCDP was used to collect additional indicators, including indicators by race and ethnicity, in order to better understand what is driving health in the community and prioritize issues that require the most urgent attention. The list of CCDP indicators used is detailed in Table 35, Remaining Secondary Indicators.

Table 34: Demographic Variables Collected from the US Census Bureau[34]

Derived Variable Name	Source Variable Names	Source
Percent Minority (Hispanic or non-White)	Total Population - Not Hispanic or Latino: - White alone	2013 American Community Survey 5-year Estimate Table B03002
Population 5 Years or Older who speak Limited English	For age groups 5 to 17; 18 to 64; and 65 years and over: Speak Spanish: - Speak English "not well"; Speak Spanish: - Speak English "not at all"; Speak other Indo-European languages: - Speak English "not well"; Speak other Indo-European languages: - Speak English "not at all"; Speak Asian and Pacific Island languages: - Speak English "not well"; Speak Asian and Pacific Island languages: - Speak English "not at all"; Speak other languages: - Speak English "not well"; Speak other languages: - Speak English "not at all"	2013 American Community Survey 5-year Estimate Table B16004
Percent Households 65 years or Older in Poverty	Income in the past 12 months below poverty level: - Family households: - Married-couple family: - Householder 65 years and over; Income in the past 12 months below poverty level: - Family households: - Other family: - Male householder, no wife present: - Householder 65 years and over; Income in the past 12 months below poverty level: - Family households: - Other family: - Female householder, no husband present: - Householder 65 years and over; Income in the past 12 months below poverty level: - Nonfamily households: - Male householder: - Householder 65 years and over; Income in the past 12 months below poverty level: - Nonfamily households: - Female householder: - Householder 65 years and over; Total Households	2013 American Community Survey 5-year Estimate Table B17017
Median income	Estimate; Median household income in the past 12 months (in 2013 inflation-adjusted dollars)	2013 American Community Survey 5-year Estimate Table B19013
GINNI Coefficient	GINNI Index	2013 American Community Survey 5-

[34] U.S. Census Bureau. (2015). *2013 American Community Survey 5-year estimates; 2012 American Community Survey 5-year estimates; 2011 American Community Survey 5-year estimates..* Retrieved February 14, 2015, from American Fact Finder: http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

		year Estimate Table B19083
Average Population per Housing Unit	Total population in occupied housing units	2013 American Community Survey 5-year Estimate Table B25008
Percent with Income Less Then Federal Poverty Level	Total: - Under .50; Total: - .50 to .99	2013 American Community Survey 5-year Estimate Table C17002
Percent Foreign Born	Total population - Foreign born	2013 American Community Survey 5-year Estimate Table DP02
Percent Non-Citizen	Foreign-born population - Not a U.S. citizen	2013 American Community Survey 5-year Estimate Table DP02
Percent Over 18 that are Civilian Veterans	VETERAN STATUS - Civilian population 18 years and over - Civilian veterans	2013 American Community Survey 5-year Estimate Table DP02
Percent Civilian Noninstitutionalized Population with a Disability	DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION - Total Civilian Noninstitutionalized Population	2013 American Community Survey 5-year Estimate Table DP02
Percent with Public Assistance	Food Stamp/SNAP benefits in the past 12 months With cash public assistance income	2013 American Community Survey 5-year Estimate Table DP03
Percent with Public Insurance	HEALTH INSURANCE COVERAGE - Civilian noninstitutionalized population - With health insurance coverage - With public coverage	2013 American Community Survey 5-year Estimate Table DP03
Percent Renter Occupied Households	Occupied housing units - Renter-occupied	2013 American Community Survey 5-year Estimate Table DP04
Percent Vacant Housing Units	Total housing units - Vacant housing units	2013 American Community Survey 5-year Estimate Table DP04
Percent Households with No Vehicle	Occupied housing units - No vehicles available	2013 American Community Survey 5-year Estimate Table DP04
Percent Households with Commute Times to work 60 minutes or more	Workers with travel times 60 to 89 minutes; workers with travel times 90 minutes or more; Total workers 16 years and over who did not work at home;	2013 American Community Survey 5-Year Estimate Table B08012
Total Population	Total population	2013 American Community Survey 5-year Estimate Table DP05
Percent Asian (not Hispanic)	Total population - Not Hispanic or Latino - Asian alone	2013 American Community Survey 5-year Estimate Table DP05
Percent Black (not	Total population - Not Hispanic or Latino - Black or	2013 American

Hispanic)	African American alone	Community Survey 5-year Estimate Table DP05
Percent Hispanic (any race)	Total population - Hispanic or Latino (of any race)	2013 American Community Survey 5-year Estimate Table DP05
Percent American Indian (not Hispanic)	Total population - Not Hispanic or Latino - American Indian and Alaska Native alone	2013 American Community Survey 5-year Estimate Table DP05
Percent Pacific Islander (not Hispanic)	Total population - Not Hispanic or Latino - Native Hawaiian and Other Pacific Islander alone	2013 American Community Survey 5-year Estimate Table DP05
Percent White (not Hispanic)	Total population - Not Hispanic or Latino - White alone	2013 American Community Survey 5-year Estimate Table DP05
Percent Other or Two or More Races (not Hispanic)	Total population - Not Hispanic or Latino - Some other race alone; Total population - Not Hispanic or Latino - Two or more races	2013 American Community Survey 5-year Estimate Table DP05
Percent Female	Total population - Female	2013 American Community Survey 5-year Estimate Table DP05
Percent Male	Total population - Male	2013 American Community Survey 5-year Estimate Table DP05
Median Age	Median age (years)	2013 American Community Survey 5-year Estimate Table DP05
Population by Age Group	Under 5 years; 5 to 9 years; 10 to 14 years; 10 to 14 years; 20 to 24 years; 25 to 34 years; 35 to 44 years; 5 to 54 years; 55 to 59 years; 60 to 64 years; 65 to 74 years; 75 to 84 years; 85 years and over	2013 American Community Survey 5-year Estimate Table DP05
Percent Single Female Headed Households	Female householder, no husband present, family household	2013 American Community Survey 5-year Estimate Table S1101
Percent 25 or Older Without a High School Diploma	100 - Percent high school graduate or higher	2013 American Community Survey 5-year Estimate Table S1501
Percent Families	All families - Percent below poverty level; Estimate;	2013 American

with Children in Poverty	With related children under 18 years	Community Survey 5-year Estimate Table S1702
Percent Single Female Headed Households in Poverty	Female householder, no husband present - Percent below poverty level; Estimate; With related children under 18 years	2013 American Community Survey 5-year Estimate Table S1702
Percent Unemployed	Unemployment rate; Estimate; Population 16 years and over	2013 American Community Survey 5-year Estimate Table S2301
Percent Uninsured	Percent Uninsured; Estimate; Total civilian noninstitutionalized population	2013 American Community Survey 5-year Estimate Table S2701
Percent of Homeowners with Mortgage with Housing Costs above 30% of Income	Percent; SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI) - Housing units with a mortgage (excluding units where SMOCAPI cannot be computed) - 30.0 to 34.9 percent; Percent; SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI) - Housing units with a mortgage (excluding units where SMOCAPI cannot be computed) - 35.0 percent or more	2013 American Community Survey 5-year Estimate Table DP04
Percent of Homeowners with no Mortgage with Housing Costs above 30% of Income	Percent; SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI) - Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed) - 30.0 to 34.9 percent; Percent; SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI) - Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed) - 35.0 percent or more	2013 American Community Survey 5-year Estimate Table DP04
Percent of Renters with Rent above 30% of Income	Percent; GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) - Occupied units paying rent (excluding units where GRAPI cannot be computed) - 30.0 to 34.9 percent; Percent; GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) - Occupied units paying rent (excluding units where GRAPI cannot be computed) - 35.0 percent or more	2013 American Community Survey 5-year Estimate Table DP04
Percent of All Housing Units with Housing Costs above 30% of Income	Percent; SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI) - Housing units with a mortgage (excluding units where SMOCAPI cannot be computed) - 30.0 to 34.9 percent; Percent; SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI) - Housing units with a mortgage (excluding units where SMOCAPI cannot be	2013 American Community Survey 5-year Estimate Table DP04

	computed) - 35.0 percent or more; Percent; GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) - Occupied units paying rent (excluding units where GRAPI cannot be computed) - 30.0 to 34.9 percent; Percent; GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) - Occupied units paying rent (excluding units where GRAPI cannot be computed) - 35.0 percent or more; Percent; GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) - Occupied units paying rent (excluding units where GRAPI cannot be computed) - 30.0 to 34.9 percent; Percent; GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) - Occupied units paying rent (excluding units where GRAPI cannot be computed) - 35.0 percent or more; Housing units with a mortgage (excluding units where SMOCAPI cannot be computed); Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed);Occupied units paying rent (excluding units where GRAPI cannot be computed)

Table 35: Census Variables used for Mortality and Morbidity Rate Calculations[3,35]

Derived Variable Name	Source Variable Names	Source
Total Population	Total Population	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014) 2010 Decennial Census Summary File 1
Female	Female	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Male	Male	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Age Under 1	DP05: Under 5 years PCT12: Male and Female, ages under 1, 1, 2, 3, and 4	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014); 2010 Decennial Census Summary File 1 Table PCT12
Age 1 to 4	DP05: Under 5 years PCT12: Male and Female, ages under 1, 1, 2, 3, and 4	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014); 2010 Decennial Census Summary File 1 Table PCT12
Age 5 to 14	5 to 9 years; 10 to 14 years	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Age 15 to 24	15 to 19 years; 20 to 24 years	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Age 25 to 34	25 to 34 years	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Age 35 to 44	35 to 44 years	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Age 45 to 54	45 to 54 years	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Age 55 to 64	55 to 59 years; 60 to 64 years	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Age 65 to 74	65 to 74 years	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Age 75 to 84	75 to 84 years	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013,

[35] U.S. Census Bureau. (2013). *2010 Census Summary File 1.* Retrieved February 14, 2013, from American Fact Finder: http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

		2014)
Age 85 and over	85 years and over	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
White	HISPANIC OR LATINO AND RACE - Total population - Not Hispanic or Latino - White alone	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Black	HISPANIC OR LATINO AND RACE - Total population - Not Hispanic or Latino - Black or African American alone	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Hispanic	HISPANIC OR LATINO AND RACE - Total population - Hispanic or Latino (of any race)	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Native American	HISPANIC OR LATINO AND RACE - Total population - Not Hispanic or Latino - American Indian and Alaska Native alone	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)
Asian/Pacific Islander	HISPANIC OR LATINO AND RACE - Total population - Not Hispanic or Latino - Asian alone; HISPANIC OR LATINO AND RACE - Total population - Not Hispanic or Latino - Native Hawaiian and Other Pacific Islander alone	American Community Survey 5-year Estimate Table DP05 (2011, 2012, 2013, 2014)

Collected morbidity and mortality data included the number of emergency department (ED) discharges, hospital (H) discharges, and mortalities associated with a number of conditions, as well as various cancer and STI incidence rates. Aggregated 2011 – 2013 ED and H discharge data were obtained from the Office of Statewide Health Planning and Development (OSHPD). Table 36 lists the specific variables collected by ZIP code and county. These values report the total number of ED or H discharges that listed the corresponding ICD9 code as either a primary or any secondary diagnosis, or a principle or other E-code, as the case may be. In addition to reporting the total number of discharges associated with the specified codes per ZIP code/county, this data was also broken down by sex (male and female), age (under 1 year, 1 to 4 years, 5 to 14 years, 15 to 24 years, 25 to 34 years, 35 to 44 years, 45 to 54 years, 55 to 64 years, 65 to 74, 75 to 84 years, and 85 years or older), and normalized race and ethnicity (Hispanic of any race, non-Hispanic White, non-Hispanic Black, non-Hispanic Asian or Pacific Islander, non-Hispanic Native American.

Table 36: 2011 – 2013 OSHPD Hospitalization and Emergency Department Discharge Data

Category	Variable Name	ICD9/E-Codes
Cancer	Breast Cancer	174, 175
	Colorectal Cancer	153, 154
	Lung Cancer	162, 163
	Prostate Cancer	185
Chronic Disease	Diabetes	250
	Hypertension	401-405
	Heart Disease	410-417, 428, 440, 443, 444, 445, 452
	Chronic Kidney Disease	580-589
	Stroke	430-436, 438
Infectious Disease	HIV/AIDS	042-044
	STIs	042-044, 090-099, 054.1, 079.4
	Tuberculosis	010-018, 137
Injuries[36]	Assault	E960-E969, E999.1
	Self-Inflicted Injury	E950-E959
	Unintentional Injury	E800-E869, E880-E929
Mental Health	Mental Health	290, 293-298, 301,311
	Mental Health: Substance Abuse	291-292, 303-305
Respiratory	Asthma	493-494
	Chronic Obstructive Pulmonary Disease (COPD)	490-496
Other	Hip Fractures	820
	Oral cavity/Dental	520-529
	Osteoporosis	733

Mortality data, along with some birth data, for each ZIP code in 2010, 2011, and 2012 were collected from the California Department of Public Health (CDPH). The specific variables collected are defined in Table 37. The majority of these variables were used to calculate specific rates of mortality for 2012. A smaller number of them were used to calculate more complex derived indicators. To increase the stability of these derived indicators, rates were calculated using data from 2010 to 2012. These variables include the total number of live births, total number of infant deaths (ages under 1 year), all-cause mortality by age, births with low infant birthweight, and births with mother's age at delivery under 20. Table 37 also lists the years for which each variable was collected.

[36] E-code definitions for injury variables derived from CDC. (2011). *Matrix of E-code Groupings.* Retrieved March 4, 2013, from Injury Prevention & Control: Data & Statistics(WISQARS): http://www.cdc.gov/injury/wisqars/ecode_matrix.html

Table 37: CDPH Birth and Mortality Data by ZIP Code

Variable Name	ICD10 Code	Years Collected
Total Deaths		2012
Male Deaths		2012
Female Deaths		2012
Deaths by Age Group: Under 1, 1-4, 5-14, 15-24, 25-34,45-54, 55-64, 65-74, 75-84, and 85 and over		2010 - 2012
Diseases of the Heart	I00-I09, I11, I13, I20-I51	2012
Malignant Neoplasms (Cancer)	C00-C97	2012
Cerebrovascular Disease (Stroke)	I60-I69	2012
Chronic Lower Respiratory Disease	J40-J47	2012
Alzheimer's Disease	G30	2012
Unintentional Injuries (Accidents)	V01-X59, Y85-Y86	2012
Diabetes Mellitus	E10-E14	2012
Influenza and Pneumonia	J09-J18	2012
Chronic Liver Disease and Cirrhosis	K70, K73-K74	2012
Intentional Self Harm (Suicide)	U03, X60-X84, Y87.0	2012
Essential Hypertension & Hypertensive Renal Disease	I10, I12, I15	2012
Nephritis, Nephrotic Syndrome and Nephrosis	N00-N07, N17-N19, N25-N27	2012
All Other Causes	Residual Codes	2012
Total Births		2010 - 2012
Births with Infant Birthweight Under 1500 Grams, 1500-2499 Grams		2010 - 2012
Births with Mother's Age at Delivery Under 20		2010 - 2012

Cancer incidence data were obtained from the California Cancer Registry for each ZIP code. The data reported the total aggregated incidence of cancers from 2010 – 2012 for breast, colorectal, lung, and prostate cancers. ZIP codes with more than zero but fewer than three cases were masked. For processing purposes, these masked values were treated as zeros.

Chlamydia and gonorrhea incidence data for 2014 were obtained from the County Public Health offices in El Dorado, Placer, Sacramento, and Yolo counties. The incidence data were reported by 2014 ZCTA per 10,000 population. A number of steps were taken to process these variables due to differences in reporting geography and data provided. First, some counties provided pre-calculated rates, while others provided raw counts by ZIP code. Second, some counties provided data for all ZIP codes, while others provided only data for those with reported cases exceeding a certain masking standard. Finally, because ZIP codes can cross county boundaries, each county health office provided only information on the cases that occurred in ZIP codes within their respective counties.

The following approaches were applied to address these irregularities. First, pre-calculated rates were only used for those counties for which raw counts were not reported. Second, a consistent standard to mask rates for ZIP codes with five or fewer cases was applied across all counties reporting raw counts, and for counties only reporting rates for a subset of ZIP codes (i.e. Sacramento County), it was assumed that counties for which data was not reported had zero incidence rates. For ZIP codes that fell within

multiple counties providing data, these cases were simply totaled for the given ZIP code. For ZIP codes that fall partially outside of the counties reporting data, the calculated rates are based only on cases occurring within the reporting counties.

The remaining secondary variables were collected from a variety of sources, and at various geographic levels. Table 38 lists the sources of these variables, and lists the geographic level at which they were reported.

Table 38: Remaining Secondary Variables

Variable	Year	Definition	Reporting Unit	Data Source
Current Smokers	2014	Current Smoking Status - Adults and Teens	County	2014 California Health Interview Survey http://ask.chis.ucla.edu/AskCHIS/tools/_layouts/AskChisTool/home.aspx#/geography (last accessed 9 Oct 2015)
Food Deserts	2010	USDA Defined Food Desert; Low Access 1 mile Urban 10 Mile rural	Tract	USDA http://www.ers.usda.gov/data-products/food-access-research-atlas/download-the-data.aspx (Last Accessed 9 Oct 2015)
Modified Retail Food Environment Index (mRFEI)	2013	Table 00CZ2 for the following NAICS codes: 445120, 722513, 445230, 452910, 445110	ZCTA	US Census Bureau 2013 County Business Patterns
Park Access	2010	Percent of 2010 ZCTA Population in blocks located within 1/2 mile of a park	ZCTA	2010 Decennial Census SF1; ESRI U.S. Parks 2014, park_dtl.gdb Series Name Data and Maps for ArcGIS® Issue 2014 - World, Europe, and United States
Health Professional Shortage Areas (Primary Care, Dental, Mental Health)	2015	Current Primary Care, Dental Health, and Mental Health Health Provider Shortage Areas	Shortage Areas (non-point locations)	US Department of Health & Human Services Health Resources and Services Administration; http://datawarehouse.hrsa.gov/data/datadownload/hpsadownload.aspx (last accessed 29 Aug 2015)
Major Crime Rate	2013	Major Crimes (combination of violent crimes, property crimes, and arson)	Law enforcement jurisdiction	California Attorney General - Criminal Justice Statistics Center: Crimes and Clearances http://oag.ca.gov/crime/cjsc/stats/crimes-clearances (last accessed 3 Sep 2015)
Domestic Violence Rate	2013	Domestic Violence-Related Calls for Assistance	Law enforcement jurisdiction	California Attorney General – Criminal Justice Statistics Center: Domestic Violence-Related Calls for Assistance

				http://oag.ca.gov/crime/cjsc/stats/domestic-violence (last access 30 Oct 2015)
Traffic Accidents Resulting in Fatalities	2013	Traffic Accidents Resulting in Fatalities	Point locations	National Highway Traffic Safety Administration Fatality Analysis Reporting System (FARS) ftp://ftp.nhtsa.dot.gov/fars/2013/DBF/ (lass accessed 8 Sep 2015)
Pollution Burden	2014	Cal EnviroScreen Pollution Burden Scores indicator (based on ozone and PM2.5 concentrations, diesel PM emissions, drinking water contaminants, pesticide use, toxic releases from facilities, traffic density, cleanup sites, impaired water bodies, groundwater threats, hazardous waste facilities and generators, and solid waste sites and facilities)	Tract	California Office of Environmental Health Hazard Assessment CalEnviroScreen Version 2.0 http://oehha.ca.gov/ej/ces2.html
Population Living Near a Transit Stop	2012	Population weighted centroid distance to the closest fixed public transit stop	Census Block Group	US EPA Smart Location Database https://edg.epa.gov/data/Public/OP/SLD/SmartLocationDb.zip (last accessed 29 Aug 2015)
Access to Dentists	2013	Dentists, Rate per 100,000 Population	County	US Department of Health and Human Services, Health Resources and Services Administration, Areas Health Resource File http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Access to Mental Health Providers	2014	Mental Health Care Provider, Rate per 100,000 Population	County	University of Wisconsin Population Health Institute, County Health Ranking http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Access to Primary Care	2012	Primary Care Physicians, Rate per 100,000 Population	County	US Department of Health & Human Services, Health Resources and Services Administration, Area Health Resource File http://www.communitycommons.org/groups/community-health-needs-assessment-chna

Alcohol – Excessive Consumption	2006 – 2012	Estimated Adults Drinking Excessively (Age-Adjusted Percentage)	County	Center for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Accessed via the Health Indicators Warehouse. U.S. Department of Health and Human Services, Health Indicators Warehouse http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Alcohol – Expenditures	2014	Alcoholic Beverage Expenditures, Percentage of Total Food-At-Home Expenditures	Tract	Nielsen, Nielsen SiteReports http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Asthma – Prevalence	2011 – 2012	Percent Adults with Asthma	County	Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Additional data analysis by CARES http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Breastfeeding (Any)	2012	Percentage of Mothers Breastfeeding (Any)	County	California Department of Public Health (CDPH) – Breastfeeding Statistics http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Cancer Incidence (Cervical)	2010 – 2012	Total Aggregated Incidence of Cervical Cancers from 2010 -2012, Rate per 100,000 Population	County	California Cancer Registry http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Cancer Screening - Mammogram	2008 - 2012	Annual Cervical Cancer Incidence, Rate per 100,00 Population	County	National Institute of Health, National Cancer Institute, Surveillance, Epidemiology, and End Results Program. State Cancer Provides, 2008-2012 http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Cancer Screening – Pap Test	2012	Percent Adults Females Age 18+ with Regular Pap Test (Age Adjusted)	County	Dartmouth College Institute for Health Policy & Practice, Dartmouth Atlas of Health Care http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Cancer Screening – Sigmoid/	2006 –	Percent Adults Screened for Colon Cancer (Age Adjusted)	County	Centers for Disease Control and Prevention, Behavioral Risk

Colonoscopy	2012			Factor Surveillance System. Accessed via the Health Indicators Warehouse. US Department of Health & Human Services, Health Indicators Warehouse http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Children Eligible for Free/Reduced Price Lunch	2013 - 2014	Percent Students Eligible for Free or Reduced Price Lunch	Address	National Center for Education Statistics, NCES – Common Core of Data http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Commute to Work – Alone in Car	2009 – 2013	Percentage of Workers Commuting by Car, Alone	Tract	US Census Bureau, American Community Survey http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Commute to Work – Walking/Biking	2009 - 2013	Percentage Walking or Biking/Work	Tract	US Census Bureau, American Community Survey http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Diabetes Management (Hemoglobin A1c Test)	2012	Percent Medicare Enrollees with Diabetes with Annual Exam	County	Dartmouth College Institute for Health Policy & Clinical Practice, Dartmouth Atlas of Health Care http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Diabetes Prevalence	2012	Percent Adults with Diagnosed Diabetes (Age Adjusted)	County	Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Economic Security – Commute Over 60 Minutes	2009 - 2013	Percent of Workers Communities More than 60 Minutes	Tract	US Census Bureau, American Community Survey http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Education – High School Graduation Rate	2013	Cohort Graduation Rate	County	California, Department of Education http://www.communitycommons.org/groups/community-health-needs-assessment-chna

Education – Reading Below Proficiency	2012 – 2013	Percentage of Grade 4 ELA Test Score Not Proficient	County	California, Department of Education http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Education – School Enrollment Age 3-4	2009 - 2013	Percentage Population Age 3-4 Enrolled in School	Tract	US Census Bureau, American Community Survey http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Federally Qualified Health Centers	2015	Federally Qualitied Health Centers, Rate per 100,000 Population	Address	U.S. Department of Health & Human Services, Center for Medicare & Medicaid Services, Provider of Services File - Sept. 2015. http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Food Environment – Fast Food Restaurants	2011	Fast Food Restaurants, Rate per 100,000 Population	Tract	U.S. Census Bureau, County of Business Patterns. Additional data analysis by CARES http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Food Environment – Grocery Stores	2011	Grocery Stores, Rate per 100,000 Population	Tract	U.S. Census Bureau, County of Business Patterns. Additional data analysis by CARES http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Food Security – Food Insecurity Rate	2013	Percentage of the Population with Food Insecurity	County	Feeding America http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Food Security – Population Receiving SNAP	2011	Percent Population Receiving SNAP Benefits	County	U.S. Census Bureau, Small Area Income & Poverty Estimates. http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Fruit/Vegetable Expenditures	2014	Fruit / Vegetable Expenditures, Percentage of Total Food-At-Home Expenditures	Tract	Nielsen, Nielsen SiteReports http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Heart Disease Prevalence	2011 – 2012	Percent Adults with Heart Disease	County (Grouping)	University of California Center for Health Policy Research, California Health Interview Survey http://www.communitycommons.org/groups/community-

				health-needs-assessment-chna
High Blood Pressure - Unmanaged	2006 - 2010	Percent Adults with High Blood Pressure	County	Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Additional data analysis by CARES http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Housing – Assisted Housing	2013	HUD – Assisted Units, Rate per 10,000 Housing Units (2010)	County	U.S. Department of Housing and Urban Development http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Housing – Substandard Housing	2009 – 2013	Percent Occupied Housing Units with One or More Substandard Conditions	County	U.S. Census Bureau, American Community Survey http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Insurance – Population Receiving Medicaid	2009 – 2013	Percent of Insured Population Receiving Medicaid	Tract	U.S. Census Bureau, American Community Survey http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Lack of Social or Emotional Support	2006 – 2012	Percent Adult Without Adequate Social / Emotional Support (Age-Adjusted)	County	Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Accessed via the Health Indicators Warehouse. US Department of Health & Human Services, Health Indicators Warehouse http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Liquor Store Access	2012	Liquor Stores, Rate per 100,000 Population	County	U.S. Census Bureau, County Business Patterns. Additional data analysis by CARES http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Low Fruit/Vegetable Consumption (Youth)	2011 - 2012	Percent Population Age 2-13 with Inadequate Fruit/Vegetable Consumption	County (Grouping)	UCLA, University of California Center for Health Policy Research, California Health Interview Survey http://www.communitycommons.org/groups/community-health-needs-assessment-chna

Mental Health – Poor Mental Health Days	2006 - 2012	Average Number of Mentally Unhealthy Days per Month	County	Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Accessed via the Health Indicators Warehouse http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Mortality – Homicide	2010 - 2012	Homicide, Age-Adjusted Mortality, Rate per 100,000 Population	ZIP Code	University of Missouri, Center for Applied Research and Environmental Systems. California Department of Public Health, CDPH - Death Public Use Data http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Mortality – Motor Vehicle Accident	2010 - 2012	Motor Vehicle Accident, Age Adjusted Mortality, Rate per 100,000 Population	ZIP Code	University of Missouri, Center for Applied Research and Environmental Systems. California Department of Public Health, CDPH - Death Public Use Data http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Mortality – Pedestrian Accident	2010 - 2012	Pedestrian Accident – Age Adjusted Mortality, Rate per 100,000 Population	ZIP Code	University of Missouri, Center for Applied Research and Environmental Systems. California Department of Public Health, CDPH - Death Public Use Data http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Obesity (Youth)	2013 - 2014	Percent Obese	County	California Department of Education, FITNESSGRAM® Physical Fitness Testing http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Overweight (Youth)	2013 - 2014	Percent Overweight	County	California Department of Education, FITNESSGRAM® Physical Fitness Testing http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Physical Inactivity (Adult)	2012	Percent Population with no Leisure Time Physical	County	Centers for Disease Control and Prevention, National Center for

		Activity		Chronic Disease Prevention and Health Promotion http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Physical Inactivity (Youth)	2013 - 2014	Percent Physically Inactive	County	California Department of Education, FITNESSGRAM® Physical Fitness Testing http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Preventable Hospital Service Days	2011	Age-Adjusted Discharge, Rate per 10,000 Population	County	California Office of Statewide Health Planning and Development, OSHPD Patient Discharge Data. Additional data analysis by CARES http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Soft Drink Expenditures	2014	Soda Expenditures, Percentage of Total Food-At-Home Expenditures	Tract	Nielsen, Nielsen Site Reports http://www.communitycommons.org/groups/community-health-needs-assessment-chna
STD – HIV Hospitalizations	2011	Age-Adjusted Discharge, Rate per 10,000 Population	County	California Office of Statewide Health Planning and Development, OSHPD Patient Discharge Data. Additional data analysis by CARES http://www.communitycommons.org/groups/community-health-needs-assessment-chna
STD – HIV Prevalence	2010	Population with HIV/AIDS, Rate by 100,000 Population	County	US Department of Health & Human Services, Health Indicators Warehouse. Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention http://www.communitycommons.org/groups/community-health-needs-assessment-chna
STD – No HIV Screening	2011 - 2012	Percent Adults Never Screened for HIV/AIDS	County	Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Additional data analysis by CARES http://www.communitycommons.org/groups/community-health-needs-assessment-chna

Tobacco Expenditures	2014	Cigarette Expenditures, Percentage of Total Household Expenditures	Tract	Nielsen, Nielsen SiteReports http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Transit – Road Network Density	2011	Total Road Network Density (Road Miles per Acre)	County	Environmental Protection Agency, EPA Smart Location Database http://www.communitycommons.org/groups/community-health-needs-assessment-chna
Violence – School Suspensions	2013 - 2014	Suspension Rate	County	California Department of Education. 2013-2014 school year http://www.communitycommons.org/groups/community-health-needs-assessment-chna

General Processing Steps

Rate Smoothing

All OSHPD, as well as all single-year CDPH, variables were collected for all ZIP codes in California. The CDPH datasets included separate categories that included either patients who did not report any ZIP code, or patients from ZIP codes whose number of cases fell below a minimum level. These patients were removed from the analysis. As described above, patient records in ZIP codes not represented by ZCTAs were added to those ZIP codes corresponding to the ZCTAs that they fell inside or were closest to. When consolidating ZIP codes into ZCTAs, any ZIP code with no value reported was treated as having a value of zero. If a two or more ZIP codes were combined into a single ZCTA, and at least one of those ZIP codes had a value reported, all other ZIP codes with a masked value were treated as having values of zero. Thus ZCTA values were recorded as N/A only if all ZIP codes contributing values to them had masked values reported for all associated ZIP codes.

The next step in the analysis process was to calculate rates for each of these variables. However, rather than calculating raw rates, empirical bayes smoothed rates (EBR) were created for all variables possible[37]. Smoothed rates are considered preferable to raw rates for two main reasons. First, the small population of many ZCTAs, particularly those in rural areas, meant that the rates calculated for these areas would be unstable. This problem is sometimes referred to as the small number problem. Empirical bayes smoothing seeks to address this issue by adjusting the calculated rate for areas with small populations so that they more closely resemble the mean rate for the entire study area. The amount of this adjustment is greater in areas with smaller populations, and less in areas with larger populations.

Because the EBR were created for all ZCTAs in the state, ZCTAs with small populations that may have unstable high rates had their rates "shrunk" to more closely match the overall variable 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 variable using the appropriate base population figure reported for ZCTAs in the American Community Survey 5-year estimate tables: overall EBR for ZCTAs were calculated using total population; and sex, age, and normalized race/ethnicity EBR were calculated using the appropriate corresponding population stratification. In cases where multiple years of data were aggregated, populations for the central year were used and multiplied by the number of years of data to calculate rates. For OSHPD data, 2012 population data was used. For multi-year CDPH variables (2010 – 2012), 2011 data was used. Population data from 2012 was used to calculate single-year CDPH variables.

ZCTAs with N/A values recorded were treated as having a value of zero when calculating the overall expected rates for a state as a whole, but were kept as N/A when smoothing the value for the individual ZCTA. This meant that smoothed rates could be calculated for each variable in each area, but if a given ZCTA had a value of N/A for a given variable, it retained that N/A value after smoothing.

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

EBR were attempted for every overall variable, but could not be calculated for certain variables. In these cases, raw rates were used instead. The final rates in either case for H, ED, and the basic mortality variables were then multiplied by 10,000, so that the final rates represent H or ED discharges, or deaths, per 10,000 people.

Age Adjustment

The additional step of age adjustment[38] was performed on the all-cause mortality variables. Because the occurrence of these conditions varies as a function of the age of the population, differences in the age structure between ZCTAs could obscure the true nature of the variation in their patterns. For example, it would not be unusual for a ZCTA with an older population to have a higher rate of ED visits for stroke than a ZCTA with a younger population. In order to accurately compare the experience of ED visits for stroke between these two populations, the age profile of the ZCTA needs to be accounted for. Age adjusting the rates allows this to occur.

To age adjust these variables, the age stratified rates were calculated by dividing the number of occurrences for each age category by the population for that category in each ZCTA. Because estimates of age under 1 and from 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 age under 5 variables from 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 a coefficient that gives the proportion of California's total population that was made up by that age group as reported in the 2010 Census. The resulting values are then summed and multiplied by 10,000 to create age adjusted rates per 10,000 people.

Benchmark Rates

A final step was to obtain or generate benchmark rates to compare the ZCTA level rates to. Benchmarks for all OSHPD variables were calculated at the HSA, county, and state levels. HSA rates were calculated by first summing the total number of cases and relevant populations for each variable across all ZCTAs in the HSA. ZCTAs with N/A values were treated at this stage as having a value of zero. Smoothed EBR rates were then calculated for each HSA using a broader set of HSAs.

County benchmark rates were calculated as raw rates for each county, or in the case of small counties, group of counties, using the relevant population variables. State rates were calculated as raw rates by first summing all county level values (treating and N/A value as a zero), and then dividing these values by the relevant population value.

HSA, county, and state benchmark rates were also provided for CDPH data. HSA benchmarks were calculated in a process similar to that described above for OSHPD HSA benchmarks: the total number of cases and relevant populations were summed for each variable across all ZCTAs in the HSA, and used to calculate smoothed EBR rates using a broader set of HSAs.

[38] Klein, R. J., & Schoenborn, C. A. (2001). *Age adjustment using the 2000 projected U.S. population. Healthy People Statistical Notes, no. 20.* Hyattsville, Maryland: National Center for Health Statistics.

County and state benchmark rates were either calculated using CDPH data reported at the county and state level[39,40], or else obtained from the County Health Status Profiles 2014[41]. The resulting benchmark values for CDPH and OSHPD variable were all reported as rates per 10,000 unless the original variable was reported using some other standard as described below.

Processing for Specific Variables

Additional processing was needed to create the Community Health Vulnerability Index (CHVI), the CDPH related variables, and as well as some of the other variables. The process used to calculate these variables are described in this section below.

Community Health Vulnerability Index (CHVI)

The CHVI is a health care disparity index based in largely based on the Community Need Index (CNI) developed by Barsi and Roth[42]. The CHVI uses the same basic set of demographic variables to address health care disparity as outlined in the CNI, but these variables are aggregated in a different manner to create the CHVI. For this report, the following nine variables were obtained from the 2013 American Community Survey 5-year Estimate dataset at the census tract level:

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

All census tracts that crossed ZCTAs within the HSA were included in the analysis. Each variable was scaled using a min-max stretch, so that the tract with the maximum value for a given variable within the study area received a value of one, and the tract with the minimum value for that same variable within the study area received a zero. All scaled variables were then summed to form the final CHVI. Areas with higher CHVI values therefore represent locations with higher concentrations of the target index populations, and are likely experiencing poorer health care disparities.

Infant Mortality Rate

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[39] California Department of Public Health. (2010,2011,2012). *Ten Leading Causes of Death, California Counties and Selected City Health Departments*. Retrieved July 7, 2015, from http://www.cdph.ca.gov/data/statistics/Documents/VSC-2012-0520.pdf; http://www.cdph.ca.gov/data/statistics/Documents/VSC-2011-0520.pdf; http://www.cdph.ca.gov/data/statistics/Documents/VSC-2010-0520.pdf

[40] California Department of Public Health. (2015a, July 17). Retrieved from Center for Health Statistics and Informatics: Vital Statistics Query System.: http://www.apps.cdph.ca.gov/vsq/

[41] California Department of Public Health. (2015b, July 2). Retrieved from County Health Status Profiles 2014: http://www.cdph.ca.gov/programs/ohir/Documents/OHIRProfiles2014.pd

[42] Barsi, E. L., & Roth, R. (2005). The "Community Need 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

Infant mortality rate reports the number of infant deaths per 1,000 live births. It was calculated by dividing the number of deaths for those with ages below 1 from 2010 - 2012 by the total number of live births for the same time period (using smoothed EBR), and multiplying the result by 1,000.

Teen Pregnancy Rate

Teen Pregnancy Rate reports the number of live births to mothers under the age of 20 per 1,000 females between the ages of 15 and 19. It was calculated by dividing the number of live births to mothers whose age at delivery was under 20 reported in 2010 – 2012 by three times the total population of females from ages 15 to 19 in 2011 (using smoothed EBR), and multiplying the result by 1,000.

Life Expectancy at Birth

Life expectancy at birth values are reported in years, and were derived from period life tables created in the statistical software program R[43] using the Human Ecology, Evolution, and Health Lab's[44] example period life table function. This function was modified to calculate life tables for each ZCTA, and to allow the life table to be calculated from submitted age stratified mortality rates. The age stratified mortality rates were calculated for each ZIP code by dividing the total number of deaths in a given age category from 2010 - 2012 by three times the ZCTA population for that age group in 2010 (smoothed to EBR). The age group population was multiplied by three to match the three years of mortality data that were used to derive the rates. Multiple years were used to increase the stability of the estimates.

Years Potential Life Lost (75)

Years Potential Life Lost (75) is a metric that can be used to compare health status across populations that better accounts for premature loss of life than many other metrics[45]. It was calculated here following the method described by Dranger and Remington[9]. In brief, this involved calculating EBR smoothed age stratified death rates using CDPH data from 2010 – 2011. For each age stratification group under 75 years of age, the midpoint age of the group was subtracted from 75, and the resulting value was multiplied by the smoothed age stratified rate. The resulting values for each age stratification were then age adjusted using a 2010 California base population. These values were then individually multiplied by 10,000 and summed across all age groups to estimate the years of potential life lost before 75 out of 10,000 people.

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[43] R Development Core Team. (2015). R: A language and environment for statistial computing. Vienna, Austria: . R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http://www.R-project.org.

[44] 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

[45] Dranger, E., & Remington, P. (2004). YPPL: A Summary Measure of Preamture Mortality Used in Measuring the Health of Communities. *Wisconsin Public Health & Health Policy Institute Issue Brief, 5*(7), 1-2. Retrieved May 27, 2015, from http://uwphi.pophealth.wisc.edu/publications/issue-briefs/issueBriefv05n07.pdf

Diversity Index

The diversity index was calculated to measure the racial and ethnic diversity of geographic regions within the HSA. It was calculated using concepts from Iceland[46], but using the Shannon's eveness index (Beals, Gross, & Harrell, 2000) rather than the specific methodology described therein. The diversity index represents how evenly population within a given geographic unit is divided between the following seven racial/ethnic groups (described previously): Asian, Black, Hispanic, American Indian, Pacific Islander, White, Other or Two or More Races. Diversity index values range between zero and one, with a value of zero in areas where the entire population belongs to just one racial/ethnic group and a value of one in areas with population evenly divided between the seven groups. Readers interested in the specifics of index calculation are referred to the previously listed sources.

Major Crime and Domestic Violence Rates

Major crimes and domestic violence related calls for assistance reported in the State of California Department of Justices' Crime Data reports are listed by reporting police agency. In order to estimate major crime and domestic violence rates, these values need to be associated with particular geographic areas, and then divided by those area populations. This was done for this report by comparing the names of police agencies to populations reported for "places" (including both incorporated and unincorporated areas) by the US Census. Both crime and population data were obtained for 2013.

Many reporting agencies, such as those associated with hospitals, transit and freight rail lines, university campuses, and state and federal agencies, did not correspond to a specific census place. Internet searches were used to identify the Census places they were associated with, and their cases were added to those places. For example, the crimes or calls for assistance reported by a University police department were added to the city or county in which the university campus was located. Areas where this was unclear based on the name alone, internet searches were conducted to determine the place where an agency was located. Because reported crimes or calls for agencies were organized by county, if the crimes for an agency could not be associated with any specific place, its reported crimes were grouped together with those for the county sheriff's department.

To calculate rates, the total number of crimes or calls for assistance for each Census place resulting from the process described above were was divided by the population of that place and multiplied by 10,000 to report the number of crimes per 10,000 in that place. For crimes reported for (or grouped with) the county sheriff's department, the county population was modified by subtracting the total population of all Census places with reported crimes. This meant that the major crime rate reported for the county was reporting not the total county's crime rate, but the rate of crimes occurring in those portions of the county that were not otherwise covered by another reporting agency.

Overall county major crime rates and domestic violence related calls for assistance were, however, calculated for benchmarking purposes by summing the total number of major crimes reported by any agency within the county, dividing that by the total population of the county, and multiplying the result by 10,000. For further detail as to which specific crimes are covered within the "major crime" category, interested readers are referred to the State of California Department of Justices' Crime Data reports, available online at: http://oag.ca.gov/crime.

[46] Iceland, J. (2004). *The Multigroup Entropy Index (Also Known as Theil's H or the Information Theory Index).* US Census Bureau. Retrieved June 20, 2015, from http://www.census.gov/housing/patterns/about/multigroup_entropy.pdf

Park Access

The park access variable reports the percent of the 2010 population residing within each ZCTA that lives in a Census block that intersects a half of a mile buffer around the closest park. ESRI's U.S. Parks data set[47], which includes the location of local, county, regional, state, and national parks and forests, was used to determine park locations.

Modified Retail Food Environment Index (mRFEI)

The modified Retail Food Environment Index (mRFEI) variable reports the percentage of the total food outlets in a ZCTA that are considered healthy food outlets. Values below zero are given for ZCTAs with no food outlets. The mRFEI variable was calculated using a modification of the methods described by the National Center for Chronic Disease Prevention and Health Promotion[48] using ZIP code level data obtained from the US Census Bureau's 2013 County Business Pattern datasets. Healthy food retailers were defined based on North American Industrial Classification Codes (NAICS), and included:

- Large grocery stores: NAICS code 445110, with 50 or more employees
- Fruit and vegetable markets: NAICS 445230
- Warehouse clubs: NAICS 452910

Food retailers that were considered less healthy included:

- Small grocery stores: NAICS code 445110, with 1 – 4 employees
- Limited-service restaurants: 722513
- Convenience stores: 445120

To calculate the mRFEI, ZIP code values were converted to ZCTAs using previously described processes. The total number of health food retailers was then divided by the total number of healthy and less healthy food retailers for each ZCTA, and the result was multiplied by 100 to calculate the final mRFEI value for the ZCTA. HSA mRFEI benchmark values were calculated by first summing the total number of each type of food retailer that fell within the HSA, and then by following the same approach.

[47] ESRI. (2010). U.S. and Canada Detailed Streets. *ESRI Data & Maps: StreetMap* (10 edition)

[48] 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

Appendix B: Detailed Analytic Methodology including SHN Categorization

Significant Health Need (SHN) Identification Process

The Significant Health Need identification process began with a review of significant health needs identified in the Community Health Need Assessment reports conducted by Valley Vision, Inc. during the 2013 CHNA round. This list of significant health needs was compared to preliminary secondary data, health needs associated with the Kaiser Permanente CCDP and input from health systems participating in the Sacramento Region 2016 collaborative CHNA process. This culminated in the final set of eight potential health needs for the 2016 CHNA shown in Table 39:

Table 39: Potential Health Need Categories

Potential Health Need Category	**Abbreviation**
Access to High Quality Health Care and Services *(i.e., Access to Care, Oral Health, Maternal and Infant Health)*	Access to Care
Access to Behavioral Health Services *(i.e., Mental Health, Substance Abuse)*	Behavioral Health
Affordable and Accessible Transportation	Transportation
Basic Needs *(i.e., Food, Housing, Employment, Education)*	Basic Needs
Disease Prevention, Management and Treatment *(i.e., Cancer, Asthma, CVD/Stroke, HIV/AIDS/STIs)*	Disease Prevention
Active Living and Healthy Eating	ALHE
Pollution Free Living and Work Environments	Pollutant Free
Safe, Crime and Violence-Free Communities	Safe Communities

The next step in the significant health need identification process was to identify those secondary indicators associated with each of these significant health needs. Values for these indicators were then calculated for each hospital service area, and then compared to relevant state benchmarks. The percentage of indicators comparing poorly to state benchmarks for each health need was then calculated. Table 40 below shows the indicator/health need cross walk table, shows which variables were collected directly by Valley Vision and which were obtained through the Kaiser Permanente CCDP. It finally gives a general description of the type of value calculated for the HSA for each variable, as well as the direction of comparison to the state benchmark.

Table 40: Indicators, Health Needs, and Benchmarks

Table KEY	
ALHE = Active Living and Health Eating ABHS = Access to Behavioral Health Services ACT = Access to High Quality Health Care and Services POLL = Pollution- Free Working and Living Environment VIO = Safe, Crime, and Violence Free Communities TRANS = Affordable and Accessible Transportation DIS PRV = Disease Prevention, Management, and Treatment HSA = Hospital service area ED = Emergency Department H = Hospitalizations CCDP = Community Commons Data Platform VV = Valley Vision (data VV pulled directly from source) BM Comp = Benchmark Comparison S = Source of data	

Name	**AL HE**	**ABHS**	**ACT**	**BASIC NEED**	**POLL**	**VIO**	**TRANS**	**DIS PRV**	**HSA Value**	**BM Comp**	**S**
Breastfeeding (Any)	Yes		Yes						County Rate	Below State Benchmark	CCDP
Soft Drink Expenditures	Yes		Yes						Calculated HSA Rate	Exceeds State Benchmark	CCDP
Economic Security - Commute Over 60 Minutes	Yes			Yes			Yes		Kaiser Rate	Exceeds State Benchmark	CCDP
Physical Inactivity (Adult)	Yes				Yes	Yes		Yes	Maximum Rate for Associated County	Exceeds State Benchmark	CCDP
Physical Inactivity (Youth)	Yes				Yes	Yes		Yes	Maximum Rate for Associated County	Exceeds State Benchmark	CCDP
Obesity (Youth)	Yes				Yes			Yes	Maximum Rate for Associated County	Exceeds State Benchmark	CCDP
Heart Disease (ED)	Yes				Yes			Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Heart Disease (H)	Yes				Yes			Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Commute to Work - Walking/Biking	Yes						Yes		Calculated HSA Rate	Below State Benchmark	CCDP
Diabetes Management (Hemoglobin A1c test)	Yes							Yes	Calculated HSA Rate	Below State Benchmark	CCDP
Diabetes Prevalence	Yes							Yes	County Rate	Exceeds State	CCDP

										Benchmark	
Fruit/Vegetable Expenditures	Yes							Yes	Calculated HSA Rate	Below State Benchmark	CCDP
Overweight (Youth)	Yes							Yes	Maximum Rate for Associated County	Exceeds State Benchmark	CCDP
Colorectal Cancer (ED)	Yes							Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Colorectal Cancer (H)	Yes							Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Colorectal Cancer (Incidence)	Yes							Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Diabetes (ED)	Yes							Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Diabetes (H)	Yes							Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Food Deserts	Yes							Yes	HSA Intersects Food Desert	Exceeds 25% of ZCTAs	VV
Hypertension (ED)	Yes							Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Hypertension (H)	Yes							Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Park Access	Yes							Yes	Calculated HSA Rate	Below State Benchmark	VV
Food Environment - Fast Food Restaurants	Yes								Calculated HSA Rate	Exceeds State Benchmark	CCDP
Food Environment - Grocery Stores	Yes								Calculated HSA Rate	Below State Benchmark	CCDP
Low Fruit/Vegetable Consumption (Youth)	Yes								Maximum Rate for Associated County	Exceeds State Benchmark	CCDP
Diabetes Mellitus – MORT	Yes								Calculated HSA Rate	Exceeds State Benchmark	VV
Modified Retail Food Environment Index (mRFEI)	Yes								Calculated HSA Rate	Below State Benchmark	VV
Osteoporosis (ED)	Yes								Calculated	Exceeds	VV

									HSA Rate	State Benchmark	
Osteoporosis (H)	Yes								Calculated HSA Rate	Exceeds State Benchmark	VV
Life Expectancy at Birth		Yes		Yes					Calculated HSA Rate	Below State Benchmark	VV
Tobacco Expenditures		Yes			Yes			Yes	Calculated HSA Rate	Exceeds State Benchmark	CCDP
Tobacco Usage (Adults and Teens)		Yes			Yes			Yes	Maximum Rate for Associated County	Exceeds State Benchmark	VV
Chronic Lower Respiratory Disease - MORT		Yes			Yes				Calculated HSA Rate	Exceeds State Benchmark	VV
COPD (ED)		Yes			Yes				Calculated HSA Rate	Exceeds State Benchmark	VV
COPD (H)		Yes			Yes				Calculated HSA Rate	Exceeds State Benchmark	VV
Alcohol - Excessive Consumption		Yes				Yes		Yes	County Rate	Exceeds State Benchmark	CCDP
Alcohol – Expenditures		Yes				Yes		Yes	Calculated HSA Rate	Exceeds State Benchmark	CCDP
Liquor Store Access		Yes				Yes		Yes	Maximum Rate for Associated County	Exceeds State Benchmark	CCDP
Substance Abuse (ED)		Yes				Yes			Calculated HSA Rate	Exceeds State Benchmark	VV
Substance Abuse (H)		Yes				Yes			Calculated HSA Rate	Exceeds State Benchmark	VV
Lung Cancer (ED)		Yes						Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Lung Cancer (Incidence)		Yes						Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Access to Mental Health Providers		Yes							County Rate	Below State Benchmark	CCDP
Lack of Social or Emotional Support		Yes							County Rate	Exceeds State Benchmark	CCDP

Mental Health - Poor Mental Health Days		Yes							County Rate	Exceeds State Benchmark	CCDP
Alzheimer's Disease		Yes							Calculated HSA Rate	Exceeds State Benchmark	VV
Chronic Liver Disease and Cirrhosis – MORT		Yes							Calculated HSA Rate	Exceeds State Benchmark	VV
Health Professional Shortage Area - Mental Health		Yes							HSA Intersects Mental Health Shortage Area	Intersects HPSA	VV
Intentional Self Harm (Suicide) - MORT		Yes							Calculated HSA Rate	Exceeds State Benchmark	VV
Mental Health (ED)		Yes							Calculated HSA Rate	Exceeds State Benchmark	VV
Mental Health (H)		Yes							Calculated HSA Rate	Exceeds State Benchmark	VV
Self-Inflicted Injuries (ED)		Yes							Calculated HSA Rate	Exceeds State Benchmark	VV
Self-Inflicted Injuries (H)		Yes							Calculated HSA Rate	Exceeds State Benchmark	VV
Education - School Enrollment Age 3-4			Yes	Yes					Calculated HSA Rate	Below State Benchmark	CCDP
Insurance - Population Receiving Medicaid			Yes	Yes					Calculated HSA Rate	Exceeds State Benchmark	CCDP
Population with Public Insurance			Yes	Yes					Calculated HSA Rate	Exceeds State Benchmark	VV
Uninsured Population			Yes	Yes					Calculated HSA Rate	Exceeds State Benchmark	VV
Low Birth Weight			Yes		Yes				Calculated HSA Rate	Exceeds State Benchmark	VV
Cancer Screening - Mammogram			Yes					Yes	County Rate	Below State Benchmark	CCDP
Cancer Screening - Pap Test			Yes					Yes	County Rate	Below State Benchmark	CCDP
Cancer Screening - Sigmoid/Colonoscopy			Yes					Yes	County Rate	Below State Benchmark	CCDP

Access to Dentists			Yes						County Rate	Below State Benchmark	CCDP
Access to Primary Care			Yes						County Rate	Below State Benchmark	CCDP
Federally Qualified Health Centers			Yes						HSA Calculated Rate	Below State Benchmark	CCDP
Preventable Hospital Events			Yes						County Rate	Exceeds State Benchmark	CCDP
Dental/Oral Diseases (ED)			Yes						Calculated HSA Rate	Exceeds State Benchmark	VV
Dental/Oral Diseases (H)			Yes						Calculated HSA Rate	Exceeds State Benchmark	VV
Health Professional Shortage Area - Dental			Yes						HSA Intersects Dental Shortage Area	Intersects HPSA	VV
Health Professional Shortage Area - Primary Care			Yes						HSA Intersects Primary Care Shortage Area	Intersects HPSA	VV
Infant Mortality Rate			Yes						Calculated HSA Rate	Exceeds State Benchmark	VV
Prenatal Care			Yes						Calculated HSA Rate	Below State Benchmark	VV
Teen Births			Yes						Calculated HSA Rate	Exceeds State Benchmark	VV
Households with No Vehicle				Yes			Yes		Calculated HSA Rate	Exceeds State Benchmark	VV
Children Eligible for Free/Reduced Price Lunch				Yes					Calculated HSA Rate	Exceeds State Benchmark	CCDP
Education – High School Graduation Rate				Yes					County Rate	Below State Benchmark	CCDP
Education - Reading Below Proficiency				Yes					County Rate	Exceeds State Benchmark	CCDP
Food Security - Food Insecurity Rate				Yes					County Rate	Exceeds State Benchmark	CCDP

Food Security - Population Receiving SNAP				Yes					County Rate	Exceeds State Benchmark	CCDP
Housing - Assisted Housing--HUD units				Yes					County Rate	Exceeds State Benchmark	CCDP
Housing - Substandard Housing				Yes					County Rate	Exceeds State Benchmark	CCDP
Violence - School Suspensions				Yes					County Rate	Exceeds State Benchmark	CCDP
Households with housing costs greater than 30% of income				Yes					Calculated HSA Rate	Exceeds State Benchmark	VV
Housing Vacancy Rate				Yes					Calculated HSA Rate	Exceeds State Benchmark	VV
Percent Population 25 or Older Without a High School Diploma				Yes					Calculated HSA Rate	Exceeds State Benchmark	VV
Percent Unemployed				Yes					Calculated HSA Rate	Exceeds State Benchmark	VV
Population 5 Years or Older who speak Limited English				Yes					Calculated HSA Rate	Exceeds State Benchmark	VV
Population in Poverty (Under 100% Federal Poverty Level)				Yes					Calculated HSA Rate	Exceeds State Benchmark	VV
Population Living Near a Transit Stop					Yes		Yes		Percent of HSA ZCTAs that intersect census blocks with centroids greater than abt. 1/2 mile from public transit stops	Exceeds 25% of ZCTAs	VV
Asthma - Prevalence					Yes			Yes	County Rate	Exceeds State Benchmark	CCDP
Asthma (ED)					Yes			Yes	Calculated HSA Rate	Exceeds State	VV

										Benchmark	
Asthma (H)					Yes			Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Malignant Neoplasms (Cancer) - MORT					Yes			Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Pollution Burden Score					Yes			Yes	Percent of HSA ZCTAs that intersect census tract within the top 20% of pollution burden scores in the state	Exceeds 25% of ZCTAs	VV
Transit - Road Network Density					Yes				County Rate	Exceeds State Benchmark	CCDP
Mortality - Homicide						Yes			Calculated HSA Rate	Exceeds State Benchmark	CCDP
Mortality - Motor Vehicle Accident						Yes			Calculated HSA Rate	Exceeds State Benchmark	CCDP
Mortality - Pedestrian Accident						Yes			Calculated HSA Rate	Exceeds State Benchmark	CCDP
Assault (ED)						Yes			Calculated HSA Rate	Exceeds State Benchmark	VV
Assault (H)						Yes			Calculated HSA Rate	Exceeds State Benchmark	VV
Domestic violence/intimate partner violence						Yes			Maximum Rate for Associated Agencies	Exceeds State Benchmark	VV
Major Crimes (Violent Crimes, Property Crimes, Larceny/Theft, Arson)						Yes			Maximum Rate for Associated Agencies	Exceeds State Benchmark	VV
Unintentional Injury (ED)						Yes			Calculated HSA Rate	Exceeds State Benchmark	VV
Unintentional Injury (H)						Yes			Calculated HSA Rate	Exceeds State Benchmark	VV

Commute to Work - Alone in Car							Yes		Calculated HSA Rate	Exceeds State Benchmark	CCDP
Population with Any Disability							Yes		Calculated HSA Rate	Exceeds State Benchmark	VV
Cancer Incidence - Cervical								Yes	County Rate	Exceeds State Benchmark	CCDP
Heart Disease Prevalence								Yes	County Rate	Exceeds State Benchmark	CCDP
High Blood Pressure - Unmanaged								Yes	County Rate	Exceeds State Benchmark	CCDP
STD - HIV Hospitalizations								Yes	County Rate	Exceeds State Benchmark	CCDP
STD - HIV Prevalence								Yes	County Rate	Exceeds State Benchmark	CCDP
STD - No HIV Screening								Yes	County Rate	Exceeds State Benchmark	CCDP
Breast Cancer (ED)								Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Breast Cancer (H)								Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Breast Cancer (Incidence)								Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Cerebrovascular Disease (Stroke) - MORT								Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Chlamydia – Incidence								Yes	Maximum Rate for Associated County	Exceeds State Benchmark	VV
Essential Hypertension & Hypertensive Renal Disease – MORT								Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
Gonorrhea – Incidence								Yes	Maximum Rate for Associated County	Exceeds State Benchmark	VV
Heart Disease - MORT								Yes	Calculated HSA Rate	Exceeds State Benchmark	VV
HIV/AIDS (ED)								Yes	Calculated HSA Rate	Exceeds State Benchmark	VV

Lung Cancer (H)								Yes	Calculated HSA Rate	Exceeds State Benchmark	vv
Prostate Cancer (ED)								Yes	Calculated HSA Rate	Exceeds State Benchmark	vv
Prostate Cancer (H)								Yes	Calculated HSA Rate	Exceeds State Benchmark	vv
Prostate Cancer (Incidence)								Yes	Calculated HSA Rate	Exceeds State Benchmark	vv
STIs (ED)								Yes	Calculated HSA Rate	Exceeds State Benchmark	vv
STIs (H)								Yes	Calculated HSA Rate	Exceeds State Benchmark	vv
Stroke (ED)								Yes	Calculated HSA Rate	Exceeds State Benchmark	vv
Stroke (H)								Yes	Calculated HSA Rate	Exceeds State Benchmark	vv

The qualitative indicators associated with each potential health need category were identified in a crosswalk table. The transcripts from the key informant and community focus group interviews were coded to the qualitative indicators or themes in order to get a better understanding of the specific health issues within the communities that were interviewed. A full list of the qualitative indicators with each potential health need category is displayed below in Table 41.

Table 41: Primary Indicators Associated with Potential Health Needs

Potential Health Need Category	Qualitative Indicators
Access to High Quality Health Care and Services	• Continuity of care/coordinated care • Cost of care/prescription cost/copays • Culturally sensitive care • Delayed care • Dental/oral health • Distance/transport to care • ER overwhelm/overutilization • Health care for the undocumented • Health education/health literacy • Insurance restrictions/coverage gaps • Language barriers • Long wait times/limited providers/impacted system • Maternal infant health • Medi-Cal access • Pain management • Patient navigation/referral

Potential Health Need Category	Qualitative Indicators
	• Prevention services/preventative care • Primary care • Senior care services • Specialty care
Access to Behavioral Health Services	<u>Mental Health</u> • Comorbidity • Depression-anxiety • Desire for alternative treatment • Elderly-Alzheimer's-dementia • ER/Hospital • Homelessness • Limited services-lack of capacity • Mental health/substance abuse • Need for culturally sensitive care • Serious mental Illness • Stigma/discrimination • Stress • Suicide • Trauma and/or ACEs <u>Substance Abuse</u> • Alcohol and other drugs • Barriers to accessing services • Co-morbidity • Criminalization of drugs • Geographic-safety concerns • Homelessness • Limited resources/capacity • Methamphetamines-cocaine • Mental health/substance abuse • Opiates • Outreach and education • Parental and pre-natal use • Transition aged youth • Tobacco-E cigarettes
Affordable and Accessible Transportation	• Lack of transport as a barrier to access health care services • Lack of transport as a barrier to access healthy foods • Long distance and difficulty accessing health care services • No active transport infrastructure • Personal transportation barriers • Public transportation barriers
Basic Needs	<u>Housing</u> • Gentrification/displacement • Housing discrimination • Homelessness/shelter crisis • Lack of affordable housing

Potential Health Need Category	Qualitative Indicators
	• Role of public housing agencies • Seniors/aging in place • Substandard housing <u>Food Security</u> • Cost of living/poverty • Food banks, pantries, closets • Lack of quantity and quality of school food • Safety net programs (CalFresh, WIC, Meals on Wheels) • Transportation barriers <u>Economic Security</u> • Loss of safety net benefits • Need for job training resources • Safety net benefits (TANF, CalFresh, WIC) • Stigma/shame of poverty • Unemployment/lack of jobs <u>Education</u> • Differences in K-12 opportunity • Educational attainment (dropouts, GED, higher Ed) • Financial education and literacy • Health education and literacy • High cost of education • Need for cultural sensitivity • School discipline issues
Disease Prevention, Management and Treatment	<u>Asthma</u> • Air pollution/contamination • Anti-smoking laws and regulations • Cost of asthma medications • Environmental triggers (dust, mites, cockroaches, mold) • Secondhand smoke (cigarettes/marijuana) • Smoke shops <u>Cancer</u> • Air pollution exposure • Breast cancer • Cancer screening programs • Cervical cancer • Colorectal cancer • Early detection • Lack of healthy eating and active living opportunities • Lung cancer • Oncology/oncologists • Pesticide exposure • Prevention and education • Prostate cancer • Stomach cancer <u>CVD/Stroke</u> • Congestive heart failure (CHF)

Potential Health Need Category	Qualitative Indicators
	• Cost of medication • CVD/Stroke • Diagnosis, management, and treatment • Lack of healthy eating and active living opportunities • Hypertension • Stroke <u>HIV/AIDS/STDs</u> • Diagnosis, management, and treatment of STIs • Incidence/prevalence • Lack of continuity between health systems and public health • Need for reproductive health education • Stigma/discrimination • Vulnerable populations
Active Living and Healthy Eating	• Biking • CalFresh (EBT) and WIC • Community gardens • Cost barriers • Cost of healthy food • Cultural barriers • Need for education and classes • Farmers markets • Food access issues • Food deserts • Food distribution • Gyms • Lack of motivation • Lack of sidewalks or bike lanes • Lack of time • Lack of transportation • Natural environment (trails and rivers) • Perishability of fresh foods • Public parks/pools • Recreation opportunities • Safety • School physical activity • Technology and screen time • Unhealthy food options • Walking and walkability
Pollution-Free Living and Work Environments	• Air quality • Environmental hazards/toxins (cockroaches, mold, mildew, asbestos) • Respiratory conditions (asthma, COPD, infections, allergies) • Second hand smoke (tobacco and marijuana) • Transportation

Potential Health Need Category	Qualitative Indicators
Safe, Crime and Violence-Free Communities	• Alcohol abuse • Bullying • Child abuse and trauma • Child Protective Services • Domestic Violence • Drug dealing • Gang violence • Gun and knife violence • Hate crimes • Homicide • Human Trafficking • Motor vehicle accidents • Pedestrian accidents • Prostitution • Rape and sexual assault • Substance Use • Tension with police • Theft

Appendix C: Informed Consent

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Informed Consent

Gathering Information for a Community Health Assessment

Purpose:
You have been invited to participate in a community health assessment. This assessment will help to inform area leaders on the specific needs of the communities which they serve. We will focus our questions on two main topics: 1) the health status of the community at large, and 2) the factors that help or prevent community members from living a healthy life. The information we gather from you will be combined with that of other interviews and focus groups. We will summarize these findings and report these to local leaders in your area.

Procedures:
The interview will capture your own experiences and opinions about community health issues. Completion of the questionnaire and the interview will take about 1 hour. We will also record and later transcribe the session. All identifying information will be removed from the transcripts and at the end of the project the recording will be destroyed.

Potential Risks or Benefits:
Some of the interview questions may be emotionally charged; otherwise there are no risks that we are aware of to answering the questions presented. There are no direct benefits to participating in this interview.

Participant's Rights:
Both completion of a short questionnaire and participation in this interview are completely voluntary; you may choose to not participate and terminate your involvement at any time.

Confidentiality and Anonymity:
Should you choose to participate, you will receive a copy of this consent form. The information you provide and anything you share with us will be kept in the strictest confidence. We will list your organization and or job title in the final report and may use quotes from the transcript of your interview; however, these ***will not*** be associated with your name directly. These forms and any information you provide will be kept in a secure location and there will be no link between the information we collect and this document.

How to obtain Additional Information:
If you have any questions or comments regarding this document, interview or final report please contact: **Anna Rosenbaum,** Health Equity Manager at **Valley Vision (**www.valleyvision.org) 916-325-1630.

I hereby agree to participate in this interview, understand that I will be provided a copy of this consent form for my own records, and acknowledge that my responses will be recorded.

_____	_____
Participant Name (Print)	Interviewer Name (Print)
_____	_____
Participant Signature Date	Interviewer Signature Date

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Informed Consent

Gathering Information for a Community Health Assessment

Purpose:

You have been invited to participate in a focus group for a community health needs assessment. This assessment will help to inform area leaders on the specific needs of the communities which they serve. We will focus our questions on two main topics: 1) the general health of the community, and 2) the factors that help or prevent community members from living a healthy life. The information we gather from you will be combined with that of other interviews and focus groups. We will summarize these findings and report these to local leaders in your area.

Procedures:

The focus group will capture your own experiences and opinions about community health issues. Completion of the questionnaire and the focus group will take about 90 minutes. We will also record and later transcribe the session. All identifying information will be removed from the transcripts and at the end of the project the recording will be destroyed.

Potential Risks or Benefits:

Some of the focus group questions may be emotionally charged otherwise there are no risks that we are aware of to answering the questions presented. Benefits include contributing to an important health assessment, along with compensation outlined below.

Participant's Rights:

Both completion of a short questionnaire and participation in this focus group are completely voluntary; you may choose to not participate and terminate your involvement at any time.

Compensation:

For your participation in the focus group you will be given a $10 gift card to a local retail outlet. Gifts cards will be distributed after completion of the focus group. If you are not able to complete the focus group you will not receive a gift card.

Confidentiality and Anonymity:

Should you choose to participate, you will receive a copy of this consent form. The information you provide and anything you share with us will be kept in the strictest confidence. We may use quotes from the focus group transcript; however they will not be associated with your name directly. These forms and any information you provide will be in a secure location and there will be no link between the information we collect and this document.

How to obtain Additional Information:

If you have any questions or comments regarding this document, the questionnaire, focus group, or final report please contact: **Anna Rosenbaum,** Data Manager at **Valley Vision** (www.valleyvision.org) 916-325-1630 (office).

I hereby agree to participate in this focus group, understand that I will be provided a copy of this consent form for my own records, and acknowledge that my responses will be recorded.

_____	_____
Participant Name Print	Interviewer Name Print
_____	_____
Participant Signature Date	Interviewer Signature Date

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Consentimiento Informado

Acumulando Información para conducir una Evaluación de las Necesidades de Salud de la Comunidad

Objetivo:
Usted ha sido invitado a participar en un grupo de enfoque para la evaluación de las necesidades de la salud de la comunidad. Esta evaluación le ayudará a informar a los líderes de la zona en las necesidades específicas de las comunidades a las que sirven. Nuestras preguntas se concentraran en dos temas principales: 1) la salud general de la comunidad, y 2) los factores que ayudan o que impiden a los miembros de la comunidad vivir una vida saludable. La información que juntamos de usted será combinada con los resultados de otras entrevistas y grupos de enfoque. Vamos a resumir estas conclusiones y reportar éstos resultados a los líderes de su área.

Procedimientos:
El grupo de enfoque captura tus propias experiencias y opiniones sobre temas de la salud de la comunidad Realización de un cuestionario y el grupo de enfoque tomara aproximada mente un hora y media (1 ½). Nos gustaría grabar la sesión y luego transcribir la. Toda la información de identificación será borrada de las transcripciones y al final del proyecto, la grabación será destruida.

Riesgos Potenciales o Beneficios:
Algunas preguntas pueden ser emocionalmente cargadas, a lo contrario, no hay ningún riesgo que estemos consciente al contestar las preguntas presentadas. Los beneficios por su participación en este grupo de enfoque incluye la oportunidad de participar en una evaluación importante y una tarjeta de regalo de 10 dólares (más detalles abajo).

Los Derechos del Participante:
La participación en este grupo de enfoque y en el cuestionario es completamente voluntaria, usted puede decidir a no participar y puede terminar su participación en cualquier momento que usted desea.

Compensación
Recibirá una tarjeta de regalo de $10 para una tienda local por participar en el grupo de enfoque. Después de completar el grupo de enfoque, le daremos la tarjeta de regalo. Si no eres capaz de completar el grupo de enfoque no recibirá tarjeta de regalo.

Confidencialidad y Anonimato
Si usted decide participar, usted recibirá una copia de esta forma de consentimiento. La información que usted nos dará será mantenida con la confidencialidad más estricta. Usted no será identificado en ninguna manera, su nombre no aparecerá en ningún documento y sólo el investigador tendrá el acceso a estos documentos. Estas formas y cualquier información coleccionada serán guardadas en una ubicación segura y no habrá ningún enlace entre la información que coleccionamos y este documento.

Como obtener más Información:
Si tienes preguntas en par de esta forma, el cuestionario, el grupo de enfoque o el reporte final, póngase en contacto con **Giovanna Forno,** de **Valley Vision** (www.valleyvision.org) 916-325-1630 (oficina).

Por este medio consiento en participar en el grupo de enfoque y reconozco que mis repuestas serán grabadas. También entiendo que me van a dar una copia de esta forma de consentimiento para mis propios archivos.

Nombre del Participante	Nombre del Entrevistador
Firma del Participante Fecha	Firma del Entrevistador Fecha

Appendix D: Key Informant and Focus Group Interview Documents

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Key Informant Questionnaire

Please complete this short questionnaire, which will give us more information about your professional experience, role and expertise working with special populations. Your answers to these questions will be combined with that of other key informants and cannot be used to identify you individually.

1. What sector do you work in? (Choose only one)

- ☐ Academic/Research
- ☐ Community Based Organization
- ☐ Health Care - Department/Division: _____
- ☐ Public Health - Department/Division: _____
- ☐ Social Services - Department/Division: _____
- ☐ Other (define): _____

2. What is your primary job classification? (Choose all that apply)

- ☐ Administrative or clerical personnel
- ☐ Community Health Worker/Promotora
- ☐ Community Organizer/Advocate
- ☐ Epidemiologist
- ☐ Environmental health worker
- ☐ Health Educator
- ☐ Medical Assistant
- ☐ Nurse
- ☐ Nutritionist
- ☐ Patient Navigator
- ☐ Physician
- ☐ Program Manager/Coordinator
- ☐ Senior Leadership/Upper Management
- ☐ Social Worker/Case Manager
- ☐ Other (define): _____

3. How would you define the geographic area served by your organization?

_____

_____

4. Do you work with any of the following vulnerable populations? (Choose all that apply)

- ☐ Low-Income
- ☐ Medically underserved
- ☐ Racial or ethnic minority (specify): _____
- ☐ Other (specify): _____
- ☐ Other (specify): _____

Thank you for your participation!

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Self-Report Demographic Data Card

Gathering Information for a Community Health Assessment

Please share…
Tell us a little about you….

This questionnaire helps us to gain more information about our community participants. Your answers to the following questions will be confidential and anonymous and cannot be used to identify you personally. Please note completion of this questionnaire is completely voluntary.

For each of the following, please choose ONE that describes you best:

1. **What is your gender identity (example: male, female, transman, transwoman, please specify)?**

   _____

2. **What is your ethnicity?**

   ☐Hispanic/Latino ☐Not Hispanic/Latino

3. **Please check ONE or MORE racial group(s) that describe you:**

   ☐African American/Black
   ☐Asian
   ☐Hawaiian Native/Pacific Islander
   ☐Hispanic/Latino only
   ☐Native American/Alaska Native
   ☐White/Caucasian
   ☐Other (Specify):_____

4. **What year were you born?** _____

5. **Please check the highest level of school you have completed.**

   ☐ High school graduate (diploma or the equivalent, for example, GED)
   ☐ NOT a high school graduate (diploma or the equivalent, for example, GED)

6. **What is your ZIP code of residence (where you live)?** _____

7. **Do you currently participate in any of the following programs? Choose ALL that apply.**

   ☐ CalFresh (Food Stamps, SNAP, EBT)
   ☐ CalWORKS (TANF)
   ☐ Head Start
   ☐ Medi-Cal
   ☐ Reduced Price School Meal
   ☐ Section 8 Public Housing
   ☐ Supplemental Security Income (SSI)
   ☐ Women, Infants, & Children (WIC Program)

8. **Are you CURRENTLY covered by any type of health insurance?**

   ☐Yes ☐No

Thank you for your participation!

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Tarjeta de Datos Demográficos

Acumulando Información para conducir una Evaluación de las Necesidades de Salud de la Comunidad

Cuéntanos un poco acerca de usted…

Este cuestionario nos ayudará a obtener más información acerca de nuestros participantes de la comunidad. Tus respuestas serán confidenciales y anónimas y no se pueden utilizar para identificarte. Tu participación en este cuestionario es voluntaria.

Por cada pregunta, por favor elije UNO que te describe mejor:

1. **¿Con cuál genero identificas? (ejemplo: femenino, masculino, transexual, otro)**

_____

2. ¿Cuál es tu raza?

☐ Latino/Hispano ☐ No Latino/ Hispano

3. Por favor marca UNO o MÁS grupos raciales que te describe:

☐Afroamericano/Negro
☐Asiático
☐Nativo de Hawái/Isleño del Pacifico
☐Solamente Latino/Hispano
☐Nativo Americano/Nativo de Alaska
☐ Caucásico/Blanco
☐ Otro (especifica):_____

4. ¿En qué año naciste? _____

5. Por favor marca el nivel más alto de la escuela que haya completado:

☐ Graduado de la escuela segundaria, (diploma o el equivalente, por ejemplo, el GED)

☐ No un graduado de la escuela secundaria, (diploma o el equivalente, por ejemplo, el GED)

6. ¿Cuál es tu código postal de residencia (donde usted vive)?_____

7. ¿Participa en alguno de los siguientes programas? Elija TODOS que correspondan:

☐ CalFresh (Cupones De Alimentos, SNAP, EBT)
☐ CalWORKS (TANF)
☐ Head Start
☐ Medi-Cal
☐ Comidas escolares gratis y reducido de precio
☐ Vivienda interés social
☐ Seguridad de ingreso suplementario (SSI)
☐ Programa Mujeres, bebes y niños (WIC)

8. ¿Está usted cubierto por algún tipo de seguranza de salud?

☐Sí ☐No

¡Gracias por participar!

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Key Informant Interview Guide - Questions

1. **Please, tell me (us) about the community you serve.**
    - *Follow up*: What are the specific geographic areas and/or populations served?

2. **How would you describe the quality of life in the community you serve?**

3. **Please describe the health of the community you serve.**
    - *Follow up:* What are the biggest health issues and/or conditions that your community struggles with?

4. **Of the health issues you've mentioned, which would you say are the most important or urgent to address?**
    - *Follow up:* How would you rank these health issues in terms of importance?

5. **What specific locations struggle with health issues the most?**
    - *Follow up*: What specific groups in the community struggle with these health issues the most?

6. **What are the challenges to being healthy for the community you serve?**

7. **What policies, laws, or regulations prevent the community from living healthy lives?**

8. **What resources exist in the community to help people live healthy lives?**

9. **What would you say has been the impact of the Affordable Care Act** [may also be known as Covered California, Obamacare] **on the community you serve?**

10. **What is** [or *who* is] **needed to improve the health of your community?**

11. **Can you recommend 1 or 2 additional people, groups or organizations you think would be most important to speak to about the health of the community?**

12. **Is there anything else you would like to share with our team about the health of your community** [that hasn't already been addressed]**?**

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Focus Group Guide- Questions

1. **Please, tell us about the community you live in.**
    - Follow Up: What are the specific neighborhoods?
    - Follow Up: What types of people live there (race, age, legal status)?

2. **How would you describe the quality of life in your community?**

3. **How would you describe the health of the community where you live?**

4. **Of the health issues you've mentioned, which would you say are the most important or urgent to address?**
    - Follow up: How would you rank these health issues in terms of importance?

5. **What specific neighborhoods or places in your community struggle with health issues the most?**
    - Follow up: What specific groups in the community struggle with these health issues the most?

6. **What are the challenges to being healthy in your community?**

7. **What rules or laws prevent your community from being healthy?**

8. **What resources exist in your community to help people live healthy lives?**

9. **What would you say has been the impact of universal health care coverage** [may also be known as Covered California, Obamacare, ACA] **on your community?**

10. **What is needed to improve the health of your community?**

11. **Is there anything else you would like to share with our team about the health of your community [that hasn't already been addressed]?**

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Focus Group Guide- Youth

1. **Please, tell us generally about the community you live in.**
    - What are the specific neighborhoods? What types of people live there?
    - How would you describe your neighborhood to someone who has never been there?
    - How would you describe the physical environment?

2. **Is life easy or difficult for most people? Why?**
    - What does everyday life look like for most people?

3. **What are the biggest health issues that people in your community struggle with?**
    - What health issues do you see or hear about from friends and family?

4. **What specific groups of people in your community struggle with health issues the most?**
    - Do you see any differences in health by age, race, gender, sexual orientation, legal status?
    - Where do these groups live?

5. **What are the challenges to being healthy in your community?**
    - Do people engage in healthy or unhealthy behavior where you live?
    - Is it easy or hard to make healthy choices in your neighborhood? (e.g. access to healthy foods, places to exercise, access to health care)
    - Is your neighborhood supportive of health? (e.g. sidewalks, safe streets, safe places to exercise, social supports)

6. **Of the health issues we've talked about, which would you say are the most important or urgent to address?**
    - How would you rank these health issues in terms of importance?

7. **What resources exist in your community to help people live healthy lives?**
    - What are the barriers to accessing these resources?
    - What are gaps in these resources? What resources are missing?

8. **What is needed to improve the health of your community?**

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Guía de Grupo de Enfoque

Acumulando Información para conducir una Evaluación de las Necesidades de Salud de la Comunidad

1. **Por favor, díganme de la comunidad adonde ustedes viven.**
   - **Seguimiento:** ¿Cuáles son los barrios específicamente?
   - **Seguimiento**: ¿Qué tipos de personas viven allí? (edad, raza, genero, estatus legal)

2. **¿Cómo es la vida en la comunidad adonde ustedes viven?**

3. **Por favor, describen la salud de la comunidad adonde ustedes viven**

4. **¿De los problemas de salud que han comentado, cuales son los más importantes de resolver?**
   - **Seguimiento**: ¿Estos son los problemas de salud que han dijeron… cuales son los más importantes/urgentes de resolver?

5. **¿Qué grupos específicos (*tipos de gente por edad, raza, genero, estatus legal*) en tu comunidad luchan lo más con estos problemas de salud?**
   - **Seguimiento**: **¿Qué áreas o barrios específicos luchan con problemas de salud lo más?**

6. **¿Cuáles son las barreras para vivir saludable en la comunidad adonde ustedes viven?**

7. **¿Qué tipos de leyes, reglas, o prácticas impiden tu comunidad de vivir saludable?**

8. **¿Qué recursos existen en tu comunidad para ayudar las personas vivir saludable?**

9. **¿El Affordable Care Act ha impactado la comunidad adonde ustedes viven?** [también se conoce como Covered California, Obamacare]

10. **¿Qué es necesario para mejorar la salud de tu comunidad?**
    - **Seguimiento: ¿Hay algún tipo de persona que podría ayudar mejorar la salud de la comunidad?**

11. **¿Hay algo más que les gustaría compartir con nosotros la salud de la comunidad?**
    - **Seguimiento: ¿Hay preguntas?**

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2016 Community Health Needs Assessment – Greater Sacramento Region

Project Summary
January 2015 – June 2016

Project Management:

Valley Vision - www.valleyvision.org, (916) 325-1630
2320 Broadway, Sacramento, CA 95818

- **Anna Rosenbaum, MSW, MPH** Senior Project Manager, anna.rosenbaum@valleyvision.org
- **Amelia Lawless, MSW, MPH** Project manager, amelia.lawless@valleyvision.org
- **Giovanna Forno, BA** Project Fellow, giovanna.forno@valleyvision.org
- **Sarah Underwood, MPH** Project Manager, sarah.underwood@valleyvision.org

Organization Information:

Valley Vision is a social enterprise that tackles economic, environmental and social issues. Our vision is a prosperous and sustainable region for all generations. Founded in 1994, Valley Vision provides research, collaboration, and leadership services to make the greater Sacramento Region prosperous and sustainable. We have conducted CHNAs for the four hospital systems the region since 2007.

Project Overview:

The 2016 Community Health Needs Assessment (CHNA) is a collaborative project that assesses the health status of communities in the Sacramento region. Nonprofit hospitals are required to conduct CHNAs every three years and to adopt implementation plans that address the community health needs identified through the assessment. CHNAs collect input from broad interests across the community, including hospitals, public health, residents and other stakeholders. The findings help hospitals to understand the health status and needs of the communities they serve, and to direct their community benefits programs and activities accordingly. The 2013 CHNA reports are available online at www.healthylivingmap.com, and the 2016 reports will be available in the spring of 2016.

Key Deliverables:

Each CHNA report will:

- Describe the health status of the community served by a hospital facility;
- Identify significant health issues that exist within the community and the factors that contribute to those health issues;
- Determine priority areas and actions for health improvement; and
- Identify potential resources that can be leveraged to improve community health.

Strategic Partners:

Lead project consultation:

Dr. Heather Diaz
Associate Professor, Community Health Education
Dept of Kinesiology & Health Sciences
CSU Sacramento

Data collection, analysis and GIS mapping:

Dr. Mathew C. Schmidtlein
Assistant Professor
Dept of Geography
CSU Sacramento

Transcription and translation services:

Cherie Yure
Southern California Transcription Services

Project Orientation:

Health status indicators will be compiled in a database and analyzed to identify geographic areas in each hospital service area (HSA) where socio-economic and demographic factors result in health disparities. Interviews with health service providers and community key informants will be conducted to better understand the health needs of the communities served by each hospital facility. Focus groups will be conducted with medically underserved, low-income, and minority populations to understand their unique and specific health needs and barriers to care. The health needs identified within each HSA will be categorized and organized to identify the significant health needs within each HSA and to prioritize these significant health needs. All findings will be compiled into a comprehensive report that will inform the healthcare systems in creating implementation plans to direct their community benefit programs and activities.

Project Sponsors:

Dignity Health · KAISER PERMANENTE · Sutter Health We Plus You · UCDAVIS HEALTH SYSTEM

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2016 Community Health Needs Assessment (CHNA)

About the CHNA Project

About the CHNA

The 2016 Community Health Needs Assessment (CHNA) is a collaborative project that looks at the health of the Sacramento region. The four nonprofit hospital systems in the region (Sutter, UC Davis, Kaiser and Dignity) work together to conduct health assessments of the communities they serve. The assessments are then used by the hospital systems to develop plans to improve the health of these communities.

The CHNA Reports

Each CHNA report includes:

- A description of the health of the community served by a hospital facility;
- The health issues within the community and the factors contributing to those health issues;
- The areas and communities that are most affected by these health issues;
- The health needs that are most important to improve overall health for the community;
- Potential resources and services that are available to improve community health.

Previous CHNA reports are available online at http://www.healthylivingmap.com (see 2013 CHNA Reports), and the 2016 reports will be available in the Fall of 2016.

How the Project Works

To get information about the health of the community, we talk to many different groups of people including medical providers, public health workers, community organizations, and residents. We ask people to share information with us about: (1) the health issues they see and experience in their communities; (2) the challenges and opportunities to be healthy in their communities; and (3) the resources that may or may not be available to help people live healthy lives. We then look for patterns or themes in what we hear from the community and identify the priority health needs to be included in the CHNA reports. The reports are then used to help the hospital systems decide which community services and programs to support.

About Us

Valley Vision is an organization that works on economic, environmental and social issues. Our vision is to help create a healthy region for all generations through learning about the community, working with other organizations and helping to lead teams of people. We have worked with the four hospital systems in the Sacramento region on this project since 2007.

The Team

Valley Vision - www.valleyvision.org, (916) 325-1630
2320 Broadway, Sacramento, CA 95818

- **Anna Rosenbaum**, Senior Project Manager, anna.rosenbaum@valleyvision.org
- **Amelia Lawless**, Project Manager: amelia.lawless@valleyvision.org
- **Sarah Underwood**, Project Manager: sarah.underwood@valleyvision.org
- **Giovanna Forno**, Project Fellow: giovanna.forno@valleyvision.org

Project Sponsors

Dignity Health · KAISER PERMANENTE · Sutter Health We Plus You · UCDAVIS HEALTH SYSTEM

Evaluación de las necesidades de salud de la comunidad- 2016

Acerca de la evaluación

Acerca de la evaluación

La evaluación de las necesidades de salud de la comunidad del año 2016 es un proyecto colaborativo que analiza la salud de la región de Sacramento. Los cuatro sistemas de hospitales sin fin de lucros en la región (Sutter, UC Davis, Kaiser y Dignity) trabajan juntos para conducir evaluaciones de la salud de las comunidades que ellos sirven. Los resultados de las evoluciones son usados por los sistemas de hospitales para desarrollar planes para mejorar la salud de estas comunidades.

Que incluye la evaluación

Cada evaluación incluye:

- Una descripción de la salud de la comunidad atendida por un centro hospitalario
- Los problemas de salud en la comunidad y los factores que contribuyen a esos problemas de salud
- Las zonas y comunidades que son las más afectadas por estos problemas de salud
- Las necesidades de salud que son las más importante de mejorar para la salud general de la comunidad
- Los recursos y servicios potenciales que están disponibles para mejorar la salud de la comunidad

Evaluaciones anteriores están disponibles por la página http://www.healthylivingmap.com (vea 2013 CHNA Reports), y los reportes de 2016 serán disponibles en el otoño de 2016.

Como se conduce la evaluación

Para obtener información de la salud de la comunidad, hablamos con muchos diferentes grupos de gente incluyendo proveedores médicos, trabajadores de salud pública, organizaciones comunitarias y residentes. Pedimos que personas comparten información con nosotros acerca de (1) los problemas de salud que ellos ven y experiencia en sus comunidades, (2) los desafíos y oportunidades para vivir saludable en sus comunidades y (3) los recursos potenciales que son disponibles para ayudar personas vivir saludable. Después, buscamos patrones o temas en lo que escuchamos de la comunidad para identificar las necesidades de salud prioritarios que serán incluidos en el reporte final. Los reportes son usados para ayudar los sistemas de hospitales decidir cuales servicios y programas comunitarias apoyar.

Acerca de Valley Vision

Valley Vision es una organización que trabaja en problemas económicos, ambientes y sociales. Nuestra visión es ayudar creer una región saludable para todas generaciones atreves de aprender de nuestra comunidad, trabajar con otras organizaciones y ayudar a liderar equipos de gente. Hemos trabajado con los cuatro sistemas de hospitales en la región de Sacramento en este proyecto desde el año 2007.

Nuestro Equipo

Valley Vision - www.valleyvision.org, (916) 325-1630
2320 Broadway, Sacramento, CA 95818

- **Anna Rosenbaum**, Senior Project Manager, anna.rosenbaum@valleyvision.org
- **Amelia Lawless**, Project Manager: amelia.lawless@valleyvision.org
- **Sarah Underwood**, Project Manager: sarah.underwood@valleyvision.org
- **Giovanna Forno**, Project Fellow: giovanna.forno@valleyvision.org

Patrocinadores del proyecto

You're invited to a group conversation!

Please join us for a 1 ½ hour discussion about the health and wellness of your community. We would like your thoughts about the health problems where you live.

Date:
Time:
Location:

We will provide food and a $10 gift card to those who come.

Thanks for helping us learn about the health needs of your community!

Questions? Contact [PM NAME] at Valley Vision, 916.325.1620

¡Usted está invitado a un grupo de enfoque!

Por favor acompáñenos a platicar sobre la salud y bienestar de su comunidad. Nos gustaría saber su opinión sobre los problemas de salud donde usted vive.

¿Cuando?
¿A Qué hora?
¿Donde?

¡Vamos a servir almuerzo y regalar una tarjeta de regalo a cada participante!

Agradecemos su participación en la evaluación de las necesidades de salud en la región de Sacramento del año 2016

¿Preguntas? Llame a Giovanna Forno de Valley Vision, 916.325.1630

Appendix E: List of Key Informants

Organization	Number of Participants	Area of Expertise	Populations Served	Date
Sacramento County Public Health Department	1	Public health	All residents of Sacramento County	5/19/15
Kaiser Permanente Sacramento Medical Center; Mercy San Juan Medical Center	4	Social services; service provider; continuity and coordination of care	All populations living within the designated hospital service area	6/2/15
Mercy General Hospital, Sutter General Hospital; Sutter Center for Psychiatry; UC Davis Medical Center	8	Social work; service provider; case management; program management; managed care; clinical management	All populations living within the designated hospital service area	6/3/15
Methodist Hospital of Sacramento; Kaiser Permanente South Sacramento Medical Center	3	Social work; executive director	All populations living within the designated hospital service area	6/11/15
La Familia Counseling Center	1	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities	6/18/15
Center for Community Health and Well-Being; Peach Tree Health	2	Community Based Organization; Health Care	Low-income; medically underserved; racial or ethnic minorities	6/22/15
Sacramento Native American Health Center	1	Federally Qualified Health Center	Low-income; medically underserved; racial or ethnic minorities	6/23/15
Student Support and Health Services-Sacramento City Unified School District	1	Education; school district	Students in the Sacramento City Unified School District; low-income; medically underserved; racial or ethnic minorities	6/25/15
WEAVE	1	Residential and crisis response	Victims of domestic violence; low-income; medically underserved; racial or ethnic minorities	6/26/15
Sacramento County Department of Human Assistance	1	Human assistance; social services	Low-income; medically underserved; racial or ethnic minorities	7.2.15
Health Education Council	1	Community Based Organization; Public Health	Low-income; medically underserved; racial or ethnic minorities	7.7.15
Saint John's Program	1	Community Based	Low-income; medically	7.8.15

Organization	Number of Participants	Area of Expertise	Populations Served	Date
for Real Change		Organization; Social Services	underserved; racial or ethnic minorities	
TLCS Inc.; Sacramento Steps Forward	2	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities	7.16.15
Folsom Cordova Community Partnership	1	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities	7.16.15
Slavic Assistance Center	1	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities; refugees from former Soviet Union	7.20.15
WellSpace Health	1	FQHC; Community Based Organization; Behavioral Services	Low-income; medically underserved; racial or ethnic minorities	7.22.15
Sheriff's Community Impact Program	1	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities	7.22.15
Sacramento Covered	1	Community Based Organization	Low-income; medically underserved; pregnant women and children ages 0-5; racial or ethnic minorities	7.23.15
Sacramento LGBT Community Center	1	Community Based Organization	LGBT; low-income; medically underserved; racial or ethnic minorities	7.23.15
Hmong Women's Heritage	1	Community Based Organization	Hmong; low-income; medically underserved; racial or ethnic minorities	7.23.15
Mutual Assistance Network	1	Community Based Organization	African American; Hmong; Latino; low-income; medically underserved; racial or ethnic minorities;	7.29.15
Mercy Housing	1	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities;	7.29.15
Life Matters	1	Community Based Organization; Social Services	Low-income; medically underserved; multi-family housing complexes; racial or ethnic minorities;	8.3.15

Organization	Number of Participants	Area of Expertise	Populations Served	Date
Wind Youth Services	1	Community Based Organization	Homeless youth; low-income; medically underserved; racial or ethnic minorities	8.4.15
El Hogar	1	Community Based Organization	Individuals with behavioral health challenges; low-income; medically underserved; racial or ethnic minorities	8.6.15
Eskaton	1	Community Based Organization	Low-income; medically underserved; older adults; racial or ethnic minorities	8.7.15
Child Abuse Prevention Center	1	Community Based Organization	Low-income; medically underserved; older adults; racial or ethnic minorities; vulnerable children	8.10.15
Roberts Family Development Center	1	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities	8.11.15
Strategies for Change	1	Academic Research; Community Based Organization; Substance Abuse and Mental Health Treatment	African American; Asian Pacific Islander; HIV positive; Latino; LGBT; low-income; medically underserved; racial or ethnic minorities	8.21.15
Turning Point Community Programs	1	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities	8.19.15
Southeast Asian Assistance Center	1	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities; Southeast Asian	8.19.15
North Franklin District Business Association	1	Community Based Organization	Low-income; medically underserved; racial or ethnic minorities	8.20.15

Appendix F: List of Focus Groups

Location	Date	Number of Participants	Demographic Information
Gender Health Center	8.21.15	8	Service providers
Sacramento Covered	9.4.15	6	Service providers
La Familia Counseling Center	9.22.15	13	Service providers
Slavic Assistance	9.28.15	10	Slavic/ Ukrainian/ Russian community members
Folsom Cordova Community Partnership	9.30.15	10	Mothers; Rancho Cordova/ Folsom community members
Valley Hi Family Resource Center	10.1.15	8	Spanish-speaking families
Sacramento Food Bank and Family Services	10.2.15	6	Sacramento Food Bank clients
City Church of Sacramento	10.10.15	19	Community member
Sierra Health Foundation- Respite Care Partnership	10.12.15	5	Service providers
WellSpace Sacramento Violence Intervention Program (SVIP)	10.14.15	8	Peer advocates and community members
Mercy Housing	10.15.15	6	Alder Grove/ Marina Vista community members
Strategies for Change (North Sacramento)	10.15.15	9	Community in recovery
Oak Park B.E.S.T.; Oak Park Community Center	10.17.15	15	Oak Park youth

Location	Date	Number of Participants	Demographic Information
Greater Sacramento Urban League	10.20.15	21	Community Member Focus Group
Strategies for Change (South Sacramento)	10.22.15	14	Community in recovery
All Nations Church of God in Christ- Oak Park	10.22.15	8	Members of All Nations Church of God in Christ
Charles E. Mack Elementary	10.27.15	16	Spanish-speaking families
Valley High School	10.29.15	7	Health TECH Academy students
Roberts Family Development Center	11.4.15	23	North Sacramento community members

Appendix G: Resources Potentially Available to Meet Identified Health Needs

Resource/ Organization Name	Service Site Location	Access to Behavioral Health Services	Access to High Quality Health Care and Services	Active Living and Healthy Eating	Affordable and Reliable Transport	Basic Needs	Disease Prevention and Mgmt	Pollution-Free Living and Work Enviro	Safe, Crime and Violence-Free Comm
AIDS Project	Arden-Arcade	x	x	x					x
Alchemist Community Development Corporation	Midtown Sacramento			x					
All Nations Church of God in Christ	Oak Park					x			
Alternatives Pregnancy Center	Arden-Arcade	x	x						
Alzheimer's Association	North Sacramento	x							
American Diabetes Association	North Highlands		x	x			x		
American Heart Association-Sacramento	Midtown Sacramento			x			x		
American Red Cross	North Sacramento		x			x			
Another Choice Another Chance	South Sacramento	x							
Antioch Progressive Baptist Church	South Sacramento					x			
Area 4 Agency on Aging	Arden-Arcade	x	x			x	x		x
Asian Pacific Community Counseling (APCC)	Tahoe Park	x							
Asian Resources Inc.	Oak Park, South Sacramento, Citrus Heights					x			
Bayanihan Clinic	North Sacramento		x						
Birth and Beyond Home Visitation - WellSpace Health	North Highlands	x	x			x			

Boys and Girls Clubs of Greater Sacramento	South Sacramento	x		x		x			x
Breathe California of Sacramento - Emigrant Trails	Downtown Sacramento		x				x	x	
Building Healthy Communities (BHC)	South Sacramento			x					x
C.O.R.E Medical Clinic	Midtown Sacramento	x	x						
Center for AIDS Research, Education and Services - CARES Community Health	Midtown Sacramento	x	x	x					
Center for Community Health and Well Being Inc. (partnered with Peach Tree Health)	Midtown Sacramento		x						
Central Downtown Food Basket	East Sacramento, Midtown Sacramento			x		x			
Child Abuse Prevention Center	North Highlands								x
Child and Family Institute (CFI)	South Sacramento	x							
Children's Receiving Home of Sacramento	Arden-Arcade	x	x	x		x			
Clara's House	Midtown Sacramento		x						
Clean and Sober Homeless Recovery Communities	Downtown Sacramento	x							
Clinica Tepati (located within Wellspace Clinic)	Midtown Sacramento		x						

Community Against Sexual Harm (CASH)	Oak Park	x							x
Community Link	Rosemont	x							
Cordova Lane Center - Folsom Cordova USD	Rancho Cordova	x				x			
Cordova Recreation & Park District	Rancho Cordova	x		x		x			
Crisis Nursery Program-Sacramento Children's Home	Arden-Arcade, South Sacramento	x	x						x
Del Oro Caregiver Resource Center	Citrus Heights						x		
Dignity Health	Carmichael, Folsom, Rancho Cordova, South Sacramento, East Sacramento		x	x			x		
Drug Diversion (PC-1000) Program	South Sacramento	x							
El Hogar Community Services Inc.	Natomas, Downtown Sacramento	x				x			x
Elica Health Centers	Arden-Arcade, Midtown Sacramento		x						
Elk Grove Unified School District	Elk Grove	x	x	x		x			x
Eskaton	Carmichael	x	x			x			
Firehouse Community Center	North Sacramento			x					
First 5 Sacramento Commission	North Sacramento	x	x	x		x	x		x
Folsom Cordova Community Partnership	Rancho Cordova	x	x			x			
Francis House	Downtown Sacramento					x			
Gender Health Center	Oak Park	x	x			x			x

Golden Days Adult Day Health	West Sacramento		x						
Golden Rule Services	South Sacramento		x				x		
Goodwill - Sacramento Valley & Northern Nevada	Rosemont					x			
Greater Sacramento Urban League	North Sacramento					x			
Guest House Homeless Clinic	Downtown Sacramento	x	x						
Harm Reduction Services (HRS)	Oak Park	x	x				x		
Health and Life Organization (HALO Cares) - Sacramento Community Clinic	South Sacramento	x	x						
Health Education Council	West Sacramento			x					x
Health For All Community Clinics	Downtown Sacramento, North Sacramento, South Sacramento		x		x	x			
Health Tech Academy - Valley High School	Elk Grove					x			
Helping Hearts Foundation Inc.	Rancho Cordova					x			x
Heritage Oaks Hospital	Arden-Arcade	x							
HIV/Communicable Disease Prevention	Rosemont		x						
Hmong Women's Heritage Association	South Sacramento	x							
Human Services Coordinating Council (HSCC)	South Sacramento					x			
Imani Clinic	Oak Park	x	x						

Interim HealthCare	Arden-Arcade	x	x			x			x
Johnston Community Center	Arden-Arcade			x		x			
Kaiser Permanente Sacramento Medical Center	Arden-Arcade		x						
Kaiser Permanente South Sacramento Medical Center	South Sacramento	x	x	x			x		
La Familia Counseling Center, Inc.	South Sacramento	x	x	x		x			x
Legal Services of Northern California-Health Rights	Downtown Sacramento					x			
Life Matters	Foothill Farms					x			
Lilliput Children's Services	South Sacramento					x			
Loaves and Fishes	Downtown Sacramento	x	x			x			
MAAP (Mexican American Alcoholism Program)	South Sacramento	x							
Mack Road Partnership	South Sacramento			x		x			x
Mack Road Partnership Community Center	South Sacramento		x	x		x			
McClellan VA Clinic	McClellan		x						
Meadowview Family Resource Center	South Sacramento	x							
Meals on Wheels Sacramento	Rocklin					x			
Mercy Clinic - Loaves & Fishes	Downtown Sacramento		x						
Mercy General Hospital	East Sacramento		x	x			x		
Mercy Housing	South Sacramento					x			

Mercy San Juan Medical Center- Dignity Health	Carmichael	x	x	x			x		
Methodist Hospital of Sacramento - Dignity Health	South Sacramento		x	x			x		
Mexican Consulate General in Sacramento	Natomas					x			x
Molina Healthcare	North Sacramento, South Sacramento, Citrus Heights		x						
Mutual Assistance Network (MAN)	North Sacramento	x		x		x			
My Sister's House	South Sacramento	x	x			x			x
Neil Orchard Senior Activities Center	Rancho Cordova			x					
New Beginnings Health & Wellness Center - Center for Community Health & Well Being	South Sacramento		x						
New Testament Baptist Church	North Highlands	x	x			x			x
Next Move	Oak Park		x			x			x
North Franklin District Business Association	South Sacramento								x
Oak Park Community Center	Oak Park			x					
Oak Park Neighborhood Association	Oak Park								x
Oak Park Sol Community Garden	Oak Park		x						
Paratransit, Inc.	South Sacramento				x				
Paul Hom Asian Clinic	East Sacramento		x				x		

People Reaching Out	North Highlands	x							
Pioneer Congregational United Church of Christ	Midtown Sacramento					x			
Planned Parenthood B Street Health Center	Midtown Sacramento		x				x		
Planned Parenthood Capitol Plaza Health Center	Downtown Sacramento		x				x		
Planned Parenthood Fruitridge Health Center	South Sacramento		x				x		
Planned Parenthood North Highlands Health Center	North Highlands		x				x		
PRIDE Industries	North Sacramento, North Highlands, South Sacramento					x			
Public Health Division - Sacramento County Department of Health and Human Services	South Sacramento		x	x			x	x	
River City Food Bank	Midtown Sacramento			x					
River Oak Center for Children	North Highlands	x							
River Oak Family Resource Center	Oak Park	x		x					
Roberts Family Development Center	North Sacramento			x		x			
Sacramento Area Congregations Together (Sacramento ACT)	Rosemont	x				x			
Sacramento Children's Home	South Sacramento	x		x		x			x

Sacramento Chinese Community Services Center (SCCS)	Downtown Sacramento	x		x					
Sacramento City Church	Upper Land Park					x			
Sacramento City College - Dental Health Clinic	South Sacramento		x						
Sacramento City Unified School District	South Sacramento	x	x			x			
Sacramento County Department of Health and Human Services	South Sacramento	x	x	x			x	x	x
Sacramento County Department of Human Assistance	Arden-Arcade, North Sacramento					x			
Sacramento Covered	Rosemont		x						
Sacramento Employment and Training Agency (SETA)	North Sacramento					x			
Sacramento Food Bank and Family Services	Oak Park			x		x			
Sacramento Housing and Redevelopment Agency (SHRA)	Downtown Sacramento					x			
Sacramento Junior Giants	South Sacramento			x					
Sacramento LGBT Community Center	Midtown Sacramento					x			x
Sacramento Life Center (SLC)	Midtown Sacramento		x						
Sacramento Native American Health Center, Inc.	Midtown Sacramento	x	x	x			x		x
Sacramento Steps Forward	North Sacramento					x			
Sacramento Tree Foundation	Arden-Arcade							x	

Sacramento Violence Intervention Program (SVIP) - WellSapce Health	South Sacramento								x
Sacramento Works Job Center	Galt, Rancho Cordova, South Sacramento, North Sacramento					x			
Saint John's Program for Real Change	South Sacramento	x				x			
Sam & Bonnie Pannell Community Center	South Sacramento			x					
SeniorCare PACE	South Sacramento, Downtown Sacramento		x	x			x		
SETA Head Start	North Sacramento			x		x			
Sherriff Community Impact Program	Arden-Arcade	x		x					x
Shiloh Baptist Church	Oak Park					x			
Shingle Springs Tribal TANF Program	Sacramento					x			
Shriner's Hospital for Children	Oak Park		x						
Sierra Health Foundation	North Sacramento	x	x	x			x		x
Slavic Assistance Center	Arden-Arcade					x			
Smile Keepers - Dental Health Program	Rosemont		x						
South Sacramento Interfaith Partnership (SSIP) Food Closet	South Sacramento					x			
Southeast Asian Assistance Center	South Sacramento	x							
St. Paul Missionary	South Sacramento			x					

Baptist Church									
St. Vincent de Paul Sacramento Council	Broderick					x			
Stanford Settlement	North Sacramento			x		x			
Strategies for Change	North Sacramento, South Sacramento	x				x			x
Su Familia- The National Hispanic Family Health Helpline	Washington, D.C		x						
Summer Night Lights Sacramento-Mack Road Partnership	South Sacramento			x					x
Sutter Center for Psychiatry	Rosemont	x							
Sutter Davis Hospital	Davis	x	x	x			x		
Sutter Medical Center	Midtown Sacramento	x	x				x		
Terra Nova Counseling	Midtown Sacramento	x							
The Birthing Project Clinic - Center for Community Health and Wellbeing	Midtown Sacramento		x						
The Gardens - A Family Care Community Center	South Sacramento	x				x	x		
The Keaton Raphael Memorial	Roseville						x		
The Mental Health Association in California	Midtown Sacramento	x							
The Salvation Army	Midtown, North Sacramento, Oak Park, Rosemont		x			x			
The Salvation Army - Adult Rehabilitation Center	Downtown Sacramento	x							

The SOL Project - Saving Our Legacy, African Americans for Smoke-Free Safe Places	Downtown Sacramento	x							
TLCS (Transitional Living and Community Support)	Arden-Arcade	x	x			x			
Turning Point Community Programs	Rancho Cordova	x				x			
U.S Department of Veterans Affairs - Sacramento Vet Center	Arden-Arcade	x				x			
UC Davis Medical Center	Oak Park	x	x				x		
United lu Mein Community Inc.	South Sacramento	x	x						x
VA Northern California Health Care System	Mather	x	x			x			
Valley Hi Family Resource Center	South Sacramento	x							
Visions Unlimited	South Sacramento	x							
Volunteers of America - Northern California & Norther Nevada	Arden-Arcade					x			
WALK Sacramento	Downtown Sacramento			x					
WarmLine Family Resource Center	Downtown Sacramento								
WEAVE	Midtown Sacramento, South Sacramento	x				x			x
Wellness and Recovery Center - Consumer Self	Rancho Cordova, South Sacramento	x							

Help									
WellSpace Health	Downtown, Folsom, Midtown, North Highlands, Oak Park, Rancho Cordova, South Sacramento	x	x				x		x
WellSpace Health Residential Treatment Center	Downtown, South Sacramento	x							
Wellspring Women's Center	Oak Park	x		x					
West Sacramento Community Center	West Sacramento			x					
Western Career College Dental Clinic	Rosemont		x						
WIC Sacramento	South Sacramento		x	x			x		
Wind Youth Services	Midtown Sacramento	x				x			
Women's Empowerment	Midtown Sacramento	x				x			
Women's Health Specialists	Arden-Arcade, Rancho Cordova		x						
YMCA of Superior California	Downtown Sacramento			x		x			x
YWCA	Midtown Sacramento	x				x	x		

APPENDIX H: Impact of Actions Taken Since Last CHNA

The 2013 Implementation Plan addressed many of the significant health needs identified in the UC Davis Medical Center's Community Health Needs Assessment (CHNA).Below is an overview of the actions taken since the last CHNA.

Priority #1 – Accident and Injury Prevention

Program: UC Davis Trauma Prevention Program Childhood Safety Programs
The UC Davis Trauma Prevention Program supports child and adolescent injury prevention efforts in the Sacramento region. Not only does the program offer education on preventing the most common childhood injuries through the proper use of safety equipment, but also provides car seats, bicycle helmets and life jackets and safety education for children from underserved families.

- *Car seat program* – Provided car seat education classes, car seat installation events and car seat inspection stations for parents and caregivers in the Sacramento region. Parents, caregivers and

community organizations participated in multi-lingual car seat classes that provided comprehensive instruction on how to properly install and use child safety seats. Monthly classes were held in English and Spanish and classes taught in Russian and Hmong were also available through a number of community partnerships. More than 3,000 car and booster seats were distributed between 2013 and early 2016.

- *Helmet Safety program* – Working with school districts, family resource centers and health clinics throughout Sacramento, the helmet safety program provided educational programs and free helmets to underserved children within the community through education courses and community partner helmet safety centers. Close to 13,000 helmets were distributed between 2013 and early 2016.

- *Life Jacket/Water Safety program* – This program focused on increasing the use of life jackets among children by providing comprehensive and pro-active water safety education and resources to the community, as well as distributing life jackets to children and adults in need. More than 300 life jackets were distributed between 2013 and early 2016.

Program: Stepping On Fall Prevention Program

Stepping On is an evidence-based, multi-faceted fall prevention program for community dwelling seniors. The seven week program was intended for seniors ages 65 and older who are living independently, able to ambulate and have experienced a fall. The program addresses multiple risk factors and utilizes a trained facilitator and experts to provide content related to balance and strength exercises, home modification, and vision and medication management. The UC Davis Trauma Prevention Program collaborated with the California Department of Public Health (CDPH) to pilot the first Stepping On program in California. The workshops are offered free of charge and open to community seniors who meet Stepping On class criteria. Seven community-based Stepping On workshops were held during the period from 7/1/13 to 12/31/15, reaching 79 seniors with fall prevention education. The incidence of reported falls decreased among participants who completed the Stepping On workshop as only 16% reported having experienced a fall in the prior three months compared to 64.6% of participants who experienced a fall prior to the program.

Program: Matter of Balance Fall Prevention Program

Matter of Balance is designed to reduce the fear of falling and improve mobility among older adults in the community. The eight-week program taught participants the importance of exercise to improve strength and balance, manage concerns about falling, along with numerous other strategies to reduce the risk of falls. The small weekly classes with 12 participants allowed for group discussions and peer learning. Late in 2015, the UC Davis Trauma Prevention Program class was piloted and currently a third class is nearing completion with a total of 32 seniors reached with fall prevention education. Early participant feedback indicates promising results; however, the program is still in mid-process of evaluating the outcomes.

Program: StopFalls Sacramento Coalition

In an effort to address the alarming trend of increasing senior fall injuries and fall-related deaths in the Sacramento region, the UC Davis Trauma Prevention program convened a hospital consortium of the region's four trauma hospitals to create a community-based fall prevention coalition. The trauma hospital consortium worked together with businesses, agencies and individuals that serve older adults in the greater Sacramento region to launch the StopFalls Sacramento Coalition in April 2015. Since that time, more than 50 stakeholder agencies from the public, private, non-profit and community sectors have been engaged. The goals of the coalition are to increase the number of resources for senior fall

prevention in the community and ensure these resources are accessible by all seniors who are living independently at home.

Program: Every 15 Minutes

The Every 15 Minutes is a program that targets high school juniors and seniors and focuses on the risks associated with underage drinking. The teens witness the consequences of a staged drunk driving crash and are challenged to think about drinking, driving, personal safety, and the impact their decisions have on family, friends and many others. UC Davis Trauma Prevention Program and UC Davis Medical Center Emergency Department have been actively involved with Every 15 Minutes since 1997. From 2013 to early 2016, UC Davis Medical Center participated with and held nine sessions with local high schools. The hospital staff performed a mock resuscitation of the teens that were transported to the emergency department from the staged drunk driving crash. The life like images of injuries and death were filmed along with the staged crash scene and shown at the high school assembly the following day.

Program: The California Poison Control System

The California Poison Control System, managed by the University of California San Francisco, consists of four answering sites including UC Davis Medical Center (Sacramento Division). The Northern California Poison Control Center at UC Davis Medical Center provides parents with a 24-hour hotline, with interpreting available, for emergency information about potential poisoning. Specially trained pharmacists, registered nurses and physicians certified in medical toxicology respond to questions about poison ingestion; irritation from toxic substances; animal, insect, snake or spider bites, and attempted suicides or drug overdoses. The Sacramento Division answers about 200 calls per day. In addition educational materials are provided to the public, including printed materials, videos, and phone applications.

Program: Firefighters Burn Institute Regional Burn Center Programs

In addition to providing excellent care and treatment of patients, the Firefighters Burn Institute Regional Burn Center provides an abundance of educational and recovery programs throughout the Sacramento region. The Center helped raise awareness of burn prevention through community education and outreach in partnership with Shriners Hospital for Children and Firefighters Burn Institute. For burn survivors, the Center publishes a monthly newsletter for former burn patients and families. The Juvenile Firesetters Program identifies the juvenile population that sets fires and the child and family are then provided with education related to burn prevention and/or directed toward professional assistance. In addition to a burn recovery support group, the Center also hosts a variety of camps for both children and adults who are survivors of burns.

Programs: Research related to causes of injury, accidents and fatalities

As a premier academic medical center, research is a cornerstone of UC Davis Health System and UC Davis Medical Center. A number of research programs and projects related to accident and injury prevention have helped advance this mission, including:

- *Burns Outcomes Research Infrastructure Project* – Created as a result of federal legislative efforts, the goal of this project was to develop a system for a data validation/analysis for burn outcomes on a national level. This project provided burn researchers with an infrastructure for multicenter trial research to develop Practice Guidelines for the acute, early treatment of burn patients.

- *UC Davis Violence Research Prevention program* – As a multi-disciplinary program of research and policy development focused on the causes, consequences, and prevention of violence, the

UC Davis Violence Research Prevention program has a particular focus on firearm violence, and on the connections between violence, substance abuse, and mental illness. Multiple research reports and informational sessions were held 2013-2016.

- *UC Davis Pediatric Emergency Care Applied Research Network (PECARN)* - As the only federally funded pediatric emergency care research network in the United States, PECARN hospital emergency departments serve more than 900,000 acutely ill and injured children every year. The UC Davis PECARN program participated in a nationwide study of more than 40,000 children evaluated in hospital emergency departments. Researcher physicians who had patients with head trauma found that if children had only loss of consciousness, and no other signs or symptoms related to the head trauma, they were very unlikely to have sustained serious brain injuries. Children who have only isolated loss of consciousness after head trauma do not routinely require computed tomography (CT) scans of the head.

Programs: Training of current health care professionals
As the region's only Level 1 Trauma Center, educating health professionals in areas related to accident and injuries is of utmost importance to the continued health of those in the community. UC Davis Medical Center offered training for health professionals including the Advanced Burn Life Support (ABLS) Provider Course for physicians, nurses, physician assistants, nurse practitioners, therapists, and paramedics to provide guidelines in the assessment and management of burn patients during the first 24 hours post injury.

Priority #2 – Cardiovascular Health

Program: UC Davis Women's Cardiovascular Medicine Program
The UC Davis Women's Cardiovascular Medicine Program was established to address the lack of awareness that heart disease is a leading killer of women. The program has four major focus areas: patient care, education, research and advocacy. The program is also linked with a variety of community organizations, medical groups and government agencies in resolving the cardiovascular health concerns of women, expanding awareness among physicians and patients about the risks of heart disease among women, and decreasing cardiovascular disease risk and mortality for women. A Women's Heart Care Education and Awareness Forum is held annually during National Heart Month. The event brought more than a thousand community leaders together to learn about the latest information on heart-disease prevention. In addition, the UC Davis Women's Cardiovascular Medicine Program has printed a collection of recipes to help women in the community with heart-disease risk factors change their diets.

Program: Partnership with the American Heart Association and American Stroke Association
As part of its commitment to healthy communities and addressing social determinants that give rise to inequities in health status and outcomes, UC Davis Medical Center partnered with the American Heart Association/American Stroke Association to fund local research projects, education and community programs to fight heart disease and stroke. These organizations fight to reduce disability and death from heart disease, stroke and other cardiovascular diseases. For the past several years, UC Davis Medical Center has provided funding to these organizations to support educational programs, such as the Go Red BetterU, a free 12-week online program to help women make small, simple choices each day to improve cardiovascular health, and the online cardiovascular health resource, My Life Check - Life's Simple 7.

Program: UC Davis Medical Center Stroke Program
UC Davis Medical Center has been using measures developed by the American Heart Association/American Stroke Association to improve care and quality of life for stroke patients. In addition, UC Davis Medical Center was recertified as an advanced primary stroke center by the Joint Commission, recognizing the medical center's exceptional efforts to foster better outcomes in stroke care. In addition, partnerships with the American Stroke Association have help raise awareness of stroke symptoms to those in the community.

Program: Project ADAM
Project ADAM Sacramento is committed to making automated external defibrillators (AEDs) universally available to all children and adolescents, as well as work toward eradicating sudden cardiac death in children through research, education and prevention initiatives. Established at UC Davis Children's Hospital in 2015, Project ADAM Sacramento is the first California affiliate of Project ADAM. Project ADAM Sacramento Project ADAM Sacramento aims to assist schools and communities with this process. Project ADAM Sacramento has hosted several community health fairs and CPR/AED trainings event, including an event to implement a comprehensive CPR and AED program at every school in the St. Hope school district.

Program: Cardiovascular Research and Clinical Trial Outreach programs
To help improve health outcomes in Sacramento, UC Davis conducts a variety of research and clinical trials, including in the area of cardiovascular health. Some of these programs are listed below:

- *Cardiovascular Clinical Research* - To increase the number of cardiovascular clinical trials to residents in the Sacramento region, the UC Davis Cardiovascular Clinical Research Unit conducted clinical trials in conjunction with various pharmaceutical companies and clinical faculty members in all areas of cardiology, including congestive heart failure, unstable angina, hypertension, hyperlipidemia, electrophysiology and myocardial infarction. In addition, the UC Davis stem cell program participated in clinical trials using adult stem cells to address a wide range of diseases, including heart attacks and peripheral vascular disease.

- *UC Davis Clinical and Translational Science Center (CTSC) Community Engagement and Research Program* – The CTSC Community Engagement and Research Program provides health related communication and partnerships between health care providers and researchers and community members. The Research Education Community Advisory Board improves knowledge, skills, and attitudes of both researchers and communities around pressing public health problems. Community-based organizations including civic organizations, clinics and other health service organizations, local businesses, schools, churches and youth agencies have joined with UC Davis investigators in research and educational ventures around academic/community health priorities. The Community Engagement and Research Program provided input to six investigators about the community engagement approaches of their patient-centered outcomes research applications in FY 2014-2015.

Priority #3 – Chronic Disease Management and Care Coordination

Program: Sacramento Covered
Sacramento Covered, a public-private partnership, is responsible for helping to insure thousands of children and their families each year. Started in collaboration with the four health systems in Sacramento, government entities and community organizations, Sacramento Covered has expanded its core outreach and enrollment functions by helping local families navigate new health insurance

coverage options and providing education. UC Davis Medical Center has funded the program since its inception as Cover the Kids in 1998. The Sacramento Covered team of health access specialists and community outreach workers provide in-person assistance across five counties, 15 neighborhoods and in 13 different languages. In 2015, UC Davis Medical Center partnered with Sacramento Covered to employ a Patient Navigator in the emergency department to provide onsite assistance to patients prior to discharge to connect/reconnect patients with their Primary Care Provider and other services. The navigator also assisted in determining eligibility for patients with no coverage, assisted with retention of coverage, and provided assistance with other public benefits such as CalFresh.

Program: WellSpace Health Oak Park Pediatric Program

UC Davis Medical Center funded and partnered with WellSpace Health to assist children and youth in the disadvantaged community of Oak Park by providing additional access to health-care and other services for children and youth. Located at the site of a closed Sacramento County clinic, the WellSpace Oak Park Community Health Center location is staffed by two UC Davis pediatricians. As with other sites, the Oak Park location provides integrated care services including primary care, pediatric dental services, child and adult psychiatry, and counseling / psychotherapy.

Program: Breathe California Improving Asthma Diagnosis and Management at Schools

The objective of this program funded in part by UC Davis Medical Center was to improve asthma awareness, diagnosis, and management among low-income parents whose children are both diagnosed and undiagnosed with asthma, as well as to improve the management of asthmatic children by school site staff. Breathe California of Sacramento-Emigrant Trails (BCSET) initiated contact with several elementary schools in targeted zip codes 95817, 95820 and 95824. Classes focused on helping parents to better manage their children's asthma by understanding the causes and effects of childhood asthma, identifying and reducing triggers, and appropriately accessing and utilizing medical treatment. Asthma classes and screenings were provided by doctors, nurses, respiratory therapists, and/or pharmacists from BCSET's Asthma Collaborative. In 2014, 25 parents and 4 school site staff attended the first round of parent asthma classes, and 23 parents and 1 school site staff attended the second round of classes. Spanish and Hmong translators were provided by BCSET as needed. In 2015, the program was expanded to include mobile spirometry equipment to conduct mobile asthma screenings at one SCUSD site and included distribution of educational materials, incentives for participation, as well as time for parents to consult with healthcare professionals one-on-one. A total of 53 parents attended with their children.

Program: Food Literacy Education for Elementary Students

UC Davis Health System funded the Food Literacy Center to promote child health nutrition education programs. Food Literacy Education for Elementary Students is their program that serves low-income pre-K-6th grade who are most at risk due to lack of access to healthy food. In the Title 1 schools where they teach, 75-100% of kids are on free or reduced lunch programs. 92% are African American, Hispanic and Asian American and many speak English as a second language. During the 2015-2016 academic year, the Food Literacy Center served students in eight afterschool programs with three focused in the Oak Park community: Capitol Heights Academy, St. Hope Public School (PS7), and Oak Ridge Elementary School. More than 250 students were reached at the three schools. They are currently compiling data and evaluating results from the 2015-2016 academic year.

Program: UC Davis Health System Farmers Market

The UC Davis Health System Farmers Market was created to provide access to local, fresh fruits and vegetables to neighbors close to the UC Davis Medical Center campus. The seasonal Farmers Market offers farm-fresh produce, artisan cheeses, grass-fed beef, eggs, baked goods and an assortment of fresh fruits, vegetables and many other specialty items. In addition, UC Davis Health System staff

members provide wellness information and health activities for those attending the market. To help those from underserved communities, the market accepts Cal-Fresh payment and received more than 500 redemptions this past year.

Program: Elmhurst-Med Center Community Garden
In collaboration with the City of Sacramento and elected officials, UC Davis Medical Center created a community garden. The Elmhurst-Med Center Community Garden includes 24 plots, an herb garden, and fruit trees. UC Davis Medical Center staff members utilized some of the plots to grow vegetables and donated the produce to local food banks and other non-profits, including Ronald McDonald House. Other plots have given local neighbors access to grow healthy produce.

Programs: Sponsoring activities that encourage physical fitness and exercise
UC Davis Medical Center sponsored and participated in a number of activities and events that encourage physical fitness and exercise in Sacramento. In addition, many staff members volunteered their time assisting nonprofit organizations holding walks. Some of the events in which UC Davis Medical Center participated and funded, include the California International Marathon, American Heart Association Heart Walk, March of Dimes March for Babies, Northern California National Alliance on Mental Health walk, and Juvenile Diabetes Research Foundation Walk to Cure Diabetes.

Programs: Research in Health Access and Social Determinants of Health
To help improve health outcomes in Sacramento, UC Davis conducts research to address health access and social determinants of health that include some of the programs listed below:

- *Center for Reducing Health Disparities* - The mission of the UC Davis Center for Reducing Health Disparities is to promote the health and well-being of diverse communities by taking a multidisciplinary, collaborative approach to the inequities in health access and quality of care. This includes a comprehensive program for research, education and teaching, and community outreach and information dissemination. The center's wide-ranging focus on health disparities includes an emphasis on improving access, detection and treatment of mental health problems within the primary care setting and achieving a better understanding into the co-morbidity of chronic illnesses such as diabetes, cancer or HIV/AIDS with depression.

- *Institute for Population Health Improvement (IPHI)* - The mission of the Institute for Population Health Improvement is to create, apply and disseminate knowledge about the many determinants of health in order to improve health and health security and to support activities which improve health equity and eliminate health disparities. The IPHI partners with other academic institutions; local, state and federal government agencies; philanthropic and nonprofit organizations; the business sector; and community-based organizations. Some of the programs of which the IPHI is involved include the California Cancer Registry, Medi-Cal Quality Improvement Program and California Department of Public Health: Tobacco Control Program.

Priority #4 – Mental Health and Substance Abuse

Program: The Interim Care Program
In 2005, UC Davis Medical Center, in collaboration with other health systems, community based organizations, and Sacramento County created a respite care shelter for homeless patients discharged from Sacramento hospitals. The Interim Care Program (ICP) provides 20 beds (16 men, 4 women) in a designated wing of a local homeless shelter where clients have three meals a day and a safe, clean place

to recover from their hospitalizations. WellSpace Health provides on-site nursing and social and behavioral health services to support clients in their recuperation and help them move out of homelessness. A WellSpace case manager links clients with mental health services, substance abuse recovery, housing workshops, and provides disability application assistance. Patients are referred from the hospital to the ICP when they are well enough to leave, but need on-going rest and follow-up treatment. On average 50 patients are served a quarter, with more than 2,000 clients served over the course of the entire program.

Program: UC Davis Early Psychosis Program (EDAPT)
To help address the needs of youth and young adults (12-30) experiencing psychotic disorders, UC Davis Health System developed the UC Davis Early Psychosis Program (EDAPT). The EDAPT Clinic provides comprehensive diagnostic and treatment services for children and young adults who have recently developed a psychotic disorder, or who are at high risk for one of these disorders and are experiencing what might be prodromal symptoms. The goal of the clinic is to intervene as early as possible in order to prevent the development of disease-related deficits and treatment-related side effects. The SacEDAPT Clinic represents a collaboration between the UC Davis Department of Psychiatry and Sacramento County Mental Health to provide youth who are on Medi-Cal or are uninsured services for 2 years focusing on 1) reducing and managing symptoms and distress and 2) improving individuals' ability to achieve success in independent roles through appropriate education and employment opportunities.

Programs: Research in mental health disparities with a focus on the Latino population
The Center for Reducing Health Disparities (CRHD) wide-ranging focus on health disparities includes an emphasis on improving access, detection and treatment of mental health problems, especially as it pertains to Latino populations. The Center developed a comprehensive program to reach out, engage, and collect Latino community voices that have not been previously heard. One project developed and implemented an appropriate process for identifying community-defined, strength-based promising practices, models, resources, and approaches that may be used as strategies to reduce disparities in mental health. The Center recently piloted a project in a nearby county to launch a new initiative to help better address access to and utilization of the county's mental health services. This five-year, multi-million dollar project aims to develop quality improvement in cultural and linguistic proficiency and in the access to and delivery of mental health services, particularly for the county's Filipino, Latino and LGBTQ communities.

Programs: TLCS Mental Health Crisis Respite Center
UC Davis Medical Center partners with the TLCS Mental Health Crisis Respite Center to help people find respite during times of mental health crisis. The program is staffed 24/7 and serves any individual living in Sacramento County who is at least 18 years of age experiencing a mental health crisis but is not in immediate danger to self or others. Patients are referred from the Medical Center to TLCS. While at the Crisis Respite Center, the primary goal is to stabilize the individual in crisis while addressing their basic need for a safe environment and social support so that the person is better positioned to explore their crisis with a solution oriented mindset. Every guest leaves with an individualized resource plan. TLCS Crisis Respite Staff provide follow-up to ensure that the crisis has been managed.

Programs: Training of future health care professionals in behavioral health
The Department of Psychiatry and Behavioral Sciences offers extensive educational opportunities for medical students, residents and postdoctoral professionals. Faculty committed to resident education and training, top-notch facilities and opportunities for diverse patient care, research and academic pursuits make UC Davis an ideal place to train. UC Davis has many programs to train physicians including Residency training, Fellowships, Postdoctoral programs and medical student education. The

Department of Psychiatry and Behavioral Sciences provides services at the Sacramento County Main Jail, Sacramento County Mental Health Treatment Center, VA Sacramento Medical Center and the Sacramento County Aftercare Clinic and Bowling Green Clinic. UC Davis has only one of two programs in the nation with both family medicine/psychiatric and internal medicine/psychiatric training programs.