



Community Health Needs Assessment



Mayo Clinic in Arizona
2019



Maricopa County Coordinated Community Health Needs Assessment

This community health needs assessment report is a customized version of the coordinated community health needs assessment that the Maricopa County Department of Public Health (MCDPH) conducted in partnership with Adelante Healthcare, Banner Health, Dignity Health, Mayo Clinic, Native Health, and Phoenix Children's Hospital.

June 21, 2019



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Executive Summary

Community Health Needs Assessment (CHNA) Background

The Patient Protection and Affordable Care Act (ACA) added new requirements which nonprofit hospitals must satisfy in order to maintain their tax-exempt status under section 501(c)(3) of the Internal Revenue Code. One such requirement added by ACA, Section 501(r) of the Code, requires nonprofit hospitals to conduct a Community Health Needs Assessment (CHNA) and adopt implementation strategies to meet the identified needs of the community at least once every three years. As part of the CHNA, each hospital is required to collect input from individuals in the community, including public health experts as well as residents, representatives or leaders of low-income, minority, and medically underserved populations.

Synapse is a coalition of non-profit and federally-qualified health care partners who collaborate to conduct a Community Health Needs Assessment to identify needs for both individual hospitals, health care centers, and the county overall. Beginning in early 2018, Mayo Clinic, in partnership with Synapse worked collaboratively and conducted a community assessment of the health needs of residents of Maricopa County. The CHNA process undertaken and described in this report was conducted in compliance with federal requirements.

Purpose Statement

The purpose of this Community Health Needs Assessment (CHNA) is to identify and prioritize significant health needs for the community served by Mayo Clinic Hospital. The priorities identified in this report help to guide the hospital's community health improvement programs and community benefit activities, as well as its collaborative efforts with other organizations that share a mission to improve health. This CHNA report meets requirements of the Patient Protection and Affordable Care Act that not-for-profit hospitals conduct a CHNA at least once every three years.

Community Definition

The geographic area for this CHNA is Maricopa County, the common community for all partners participating in the Synapse coalition. Although the population served by Mayo Clinic in Arizona extends beyond the county line and the borders of the state, most of our patients are located within Maricopa County. The remaining percentage of Mayo Clinic patients are from the remaining zip codes in Arizona, the surrounding states of the Southwest and a smaller, yet significant number of international patients.

Maricopa County is the fourth most populous county in the United States. With an estimated population of 4 million and growing, Maricopa County is home to well over half of Arizona's residents. Maricopa County encompasses 9,224 square miles, includes 27 cities and towns, as well as the whole or part of five sovereign American Indian reservations. Maricopa County is ethnically and culturally diverse, home to more than 1.2 million Hispanics (30% of all residents), 216,000 African Americans, 157,000 Asian Americans, and 77,000 American Indians. According to the U.S. Census Bureau, 14% percent of the population does not have a high school diploma, 17% are living below the federal poverty level, and over 600,000 are uninsured¹.

Assessment, Process and Methods

The ACA requirements are mirrored in the Public Health Accreditation Board's (PHAB) standard mandating that health departments participate in or conduct a community health assessment every three to five years. Federally funded community health centers must also ensure their target communities are of high need. The similar requirements from IRS, PHAB, and the federally funded health center requirements put forth by the United States Department of Health and Human Services provide an opportunity to catalyze stronger collaboration and better shared measurement systems among hospitals, health centers, and health departments. Additionally, limited resources for comprehensive health assessments and the move toward new population health models have created the need for an organized, collaborative, public-private approach for conducting assessments. As a result, Adelante Healthcare, Banner Health, Dignity Health, Mayo Clinic, Native Health, and Phoenix Children's Hospital have joined forces with Maricopa County Department of Public Health (MCDPH) to identify the communities' strengths and greatest needs in a coordinated community health needs assessment.

The process of conducting this assessment began with a review of approximately 100 indicators to measure health outcomes and associated health factors of Maricopa County residents. The indicators included demographic data, social and economic factors, health behaviors, physical environment, health care, and health outcomes. Health needs were identified through the combined analysis of secondary data and community input. Based on the review of the secondary data, a consultant team developed a primary data collection guide used in focus groups which were made up of representatives of minority and underserved populations who identified community concerns and assets.

Summary of Prioritization Process

To be considered a health need, a health outcome or a health factor had to meet two criteria. First, existing data had to demonstrate a worsening trend in recent years, or indicate an apparent health disparity. Second, the health outcome or factor had to be mentioned in a substantial way in focus groups and key stakeholder meetings. Findings from primary and secondary data were reviewed and prioritized by the Mayo Clinic Community Engagement Committee, Mayo Clinic Diversity & Inclusion Committee, Mayo Clinic Community Advisory Board, and were approved by the Mayo Clinic Arizona Executive Operations Team.

Prioritized needs

The following statements summarize each of the areas of priority for Mayo Clinic and are based on data and information gathered through the CHNA.

1. Access to Care: Appropriate access to care means everyone receives the services and support they need to maintain optimal health and wellbeing throughout their lives. This requires that care services be obtainable, accessible, and affordable to all. Maricopa County community members and key informants overwhelmingly felt that access to care is an important issue for the community. When Maricopa County community survey respondents were asked, what was the most important "Health Problem" impacting their community, access to care was their top concern. Fifteen percent of community respondents also indicated they had no health insurance coverage in 2016 and according to the 2017 Behavioral Risk Factor Surveillance Survey (BRFSS), 12.6% of Arizonians have no health

insurance and 16.3% of Maricopa County respondents indicated they do not have health care coverage.

2. Cancer/Breast Cancer: While advancements continue to be made in the fight against cancer, it remains the leading cause of death in the United States, and for residents in Arizona and Maricopa County. Nationally, the most common cancers (listed in descending order according to estimated new cases in 2018) are breast cancer, lung and bronchus cancer, prostate cancer, colon and rectum cancer, melanoma of the skin, bladder cancer, non-Hodgkin lymphoma, kidney and renal pelvis cancer, endometrial cancer, leukemia, pancreatic cancer, thyroid cancer, and liver cancerⁱⁱ. In the state of Arizona, cancer is a leading cause of disease burden, with an average of 85 new diagnoses every dayⁱⁱⁱ. Among women, specifically in the White and Black populations, breast cancer is one of the most common cancers in Arizona and Maricopa County. Mayo Clinic prioritized breast cancer as a significant need within the community based on statistical data and cancer being one of the health concerns expressed by the focus groups.
3. Social Determinants of Health (SDOH)/Homelessness: Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks^{iv}. Mayo Clinic is dedicated to making a positive impact on the social determinants of health, particularly on the health of those who are experiencing homelessness. By focusing on SDOH, Mayo Clinic believes it will not only improve individual and population health, but also advance health equity and quality of life.

Resources Potentially Available

Resources potentially available to address identified needs include services and programs available through hospitals, government agencies, and community-based organizations. Resources include access to more than 40 hospitals for emergency and acute care services, more than 10 Federally Qualified Health Centers (FQHC), more than 12 food banks, 8 homeless shelters, school-based health clinics, churches, transportation services, health enrollment navigators, free or low cost medical and dental care, and prevention-based community education.

The Health Improvement Partnership of Maricopa County (HIPMC) is a collaborative effort between Maricopa County Department of Public Health (MCDPH) and a wide array of public and private organizations addressing healthy eating, active living, linkages to care and tobacco-free living. With more than 100 partner organizations, this is a valuable resource to help Mayo Clinic connect to other community-based organizations that are targeting many of the same health priorities.^v

This CHNA report was approved by the Mayo Clinic Arizona Executive Operations Team on December 12, 2019.

This report is widely available to the public on the hospital's web site <https://www.mayoclinic.org/>, and a paper copy is available by request from Mayo Clinic Office of Public Affairs. Written comments on this report can be submitted to Marion K. Kelly, director Community & Business Relations, Mayo Clinic 13400 E. Shea Blvd., Scottsdale, AZ 85259, or by email at: Kelly.marion@mayo.edu.

Assessment Purpose and Organizational Commitment

Community Health Needs Assessment (CHNA) Background

Mayo Clinic is dedicated to enhancing the health of the communities it serves. The findings from this Community Health Needs Assessment (CHNA) report will serve as a foundation for understanding the health needs found in the community and will inform the implementation strategies selected. This report complies with federal tax law requirements set forth in Internal Revenue Code section 501(r) requiring hospital facilities owned and operated by an organization described in Code section 501(c)(3) to conduct a CHNA at least once every three years. With regard to the CHNA, the ACA specifically requires nonprofit hospitals to: (1) collect and take into account input from public health experts as well as community leaders and representatives of high need populations—this includes minority groups, low-income individuals, medically underserved populations, and those with chronic conditions; (2) identify and prioritize community health needs; (3) document a separate CHNA for each individual hospital; (4) and make the CHNA report widely available to the public. In addition, each nonprofit hospital must adopt an Implementation Strategy that describes how the hospital will address the identified significant community health needs.

Organizational Commitment

Enterprise Overview:

Mayo Clinic is a not-for-profit, worldwide leader in patient care, research and education. Each year, Mayo Clinic serves more than 1 million patients from communities throughout the world, offering a full spectrum of care from health information, preventive and primary care to the most complex medical care possible. Mayo Clinic provides these services through many campuses and facilities, including 20 hospitals located in communities throughout the United States, including Arizona, Florida, Minnesota, Wisconsin and Iowa.

Mayo Clinic provides a significant benefit to all communities, local to global, through its education and research endeavors. Mayo Clinic reinvests its net operating income funds to advance breakthroughs in treatments and cures for all types of human disease and quickly bring this new knowledge to patient care. With its expertise and mission in integrated, multidisciplinary medicine and academic activities, Mayo Clinic is uniquely positioned to advance medicine and bring discovery to practice more efficiently and effectively. Through its Centers for the Science of Health Care Delivery and Population Health Management, Mayo Clinic explores and advances affordable, effective health care models to improve quality, efficiency and accessibility in health care delivery to people everywhere.

Entity Overview

Mayo Clinic Hospital in Arizona is the first hospital planned, designed and built by Mayo Clinic. Completed in the fall of 1998, the hospital was designed to deliver high-quality inpatient medical care in an efficient, friendly environment. The hospital is a seven-story facility with 268 licensed beds, 21 operating rooms and a Level II emergency department. Emergency room services are available 24 hours a day.

Mayo Clinic Hospital is in the northeast part of Phoenix, 14 miles from the Mayo Clinic campus in Scottsdale. The hospital provides inpatient care to support the medical and surgical specialties and programs at the clinic. Mayo Clinic Hospital serves patients in Maricopa County and from the surrounding area, as well as from all 50 states and about 70 foreign countries annually.

Community Definition

Definition of Community

The geographic area for this CHNA is Maricopa County, the common community for all partners participating in the Synapse Partnership. Although the population served by Mayo Clinic Hospital in Arizona extends beyond the county line and the borders of the state, many patients are located within Maricopa County. The remaining percentage of Mayo Clinic Hospital patients are from the remaining zip codes in Arizona, the surrounding states of the Southwest and a smaller, yet significant number of international patients.

Maricopa County is the fourth most populous county in the United States. With an estimated population of four million and growing, Maricopa County is home to well over half of Arizona's residents. Maricopa County encompasses 9,224 square miles, includes 27 cities and towns, as well as the whole or part of five sovereign American Indian reservations.



Demographics of Community

Maricopa County is ethnically and culturally diverse, home to more than 1.2 million Hispanics (30.6% of all residents), 5.1% African Americans, and 3.9% Asian Americans, and 1.5% American Indians. According to the United States Census, the County had a 24% increase in population from 2010 to 2017.

Table 1 provides the specific age, sex, and race/ethnicity distribution of the population in Maricopa County compared to the state of Arizona.

Table 1. Demographics information for Maricopa County and Arizona

	Maricopa County	Arizona
Population: estimated 2017	4,155,501	6,809,946
Gender		
• Male	49.5%	49.7%
• Female	50.5%	50.3%
Age		
• 0 to 9 years	13.6%	13.1%
• 10 to 19 years	13.8%	13.5%
• 20 to 34 years	21.2%	20.6%
• 35 to 64 years	37.3%	36.6%
• 65 to 84 years	12.4%	14.4%
• 85 years and over	1.7%	1.8%
Race (Not Hispanic or Latino)		
• White	56.3%	55.6%
• Asian/Pacific Islander	3.9%	3.0%
• Black or African American	5.1%	4.1%
• American Indian/Alaska Native	1.5%	3.9%
• Other/Unknown	2.4%	2.3%
Ethnicity		
• Hispanic	30.6%	30.9%
Median Income	\$58,580	\$53,510
Uninsured	12.3%	12.2%
Unemployment	4.3%	5.0%
No HS Diploma	12.9%	13.5%
*% of Population 5+ non-English speaking	9.2%	8.9%
*Renters	39.0%	36.9%
CNI Score	3.4	
Medically Underserved Areas	Yes	

Source: U.S. Census American Community Survey, 5-year estimates 2013-2017

Assessment Process and Methods

Process and Methods

The ACA requirements are mirrored in the Public Health Accreditation Board's (PHAB) standard mandating that health departments participate in or conduct a community health assessment every three to five years. Other PHAB standards require health departments to conduct a comprehensive planning process resulting in a community health improvement plan and implement strategies to improve access to health care. Federally funded community health centers must ensure their target communities are of high need and address the shortage of health services that are occurring within these communities. The similar requirements from IRS, PHAB, and the Federally funded health center requirements put forth by the United States Department of Health and Human Services provides an opportunity to catalyze stronger collaboration and better shared measurement systems among hospitals, health centers, and health departments. Additionally, limited resources for comprehensive health assessments and the move toward new population health models have created the need for an organized, collaborative public-private approach for conducting assessments.

Maricopa County hospitals and health centers play significant roles in the region's overall economy and health. In addition to providing safe and high-quality medical care, these institutions work to improve regional health through programs that promote health in response to identified community needs. Additionally, health care partners are often serving the same or portions of the same communities across Maricopa County. As a result, Adelante Healthcare, Banner Health, Dignity Health, Mayo Hospital, Native Health, and Phoenix Children's Hospital have joined forces with Maricopa County Department of Public Health (MCDPH) to identify the communities' strengths and greatest needs in a coordinated community health needs assessment.

The CHNA utilized a mixed-methods approach that included the collection of secondary or quantitative data from existing data sources and community input or qualitative data from focus groups, surveys, and meetings with community stakeholders. The process was reiterative as both the secondary and primary data were used to help inform each other. The advantage of using this approach is that it validates data by cross-verifying from a multitude of sources.

Secondary Data

Many of the challenging health problems facing the United States in the 21st century require an understanding of the health not just of individuals but also of communities. The challenge of maintaining and improving community health has led to the development of a "population health" perspective^{vi}. Population health can be defined as "the health outcomes of a group of individuals, including the distribution of such outcomes within the group^{vii}." A focus on population health implies a concern for the determinants of health for both individuals and communities. The health of a population grows directly out of the community's social and economic conditions as well as the quality of its medical care. As a result, the CHNA utilized a community health framework for this report to develop criteria for indicators used to measure health needs.

Synapse partners selected approximately 100 data indicators to help examine the health needs of the community (Appendix B). These indicators were based on the Center for Disease Control and Prevention's (CDC) Community Health Assessment for Population Health Improvement: Most Frequently Recommended Health Metrics report^{viii}. While this report does not identify the specific indicators that should be utilized, it does specify the categories of information that should be considered.

The following five data categories describe the type of health factor and health outcome indicators utilized in the CHNA (See Table 2):

- **Health Outcomes** include: morbidity, which refers to how healthy people are by measuring disease burden and quality of life (e.g. obesity rates, asthma incidence, and low birth weight babies, etc.); and mortality, which measures causes of death by density rates (e.g. cancer mortality, motor vehicle deaths, etc.);
- **Health Care** includes access, which refers to factors that impact people’s access to timely, affordable clinical care (e.g. primary care physicians, number of federally qualified health centers, etc.); and health insurance coverage;
- **Health Behavior** refers to the personal behaviors that influence an individual’s health either positively or negatively (e.g. breastfeeding, physical activity, eating fruits and vegetables, etc.). This also includes delivery, which measures clinical care being delivered to the community (e.g. rate of preventive screenings, ambulatory care sensitive discharges, etc.);
- **Demographics and Social Environment** describe the population of interest by measuring its characteristics (e.g. total population, age breakdowns, limited English proficiency, etc.). Unlike other categories, demographic indicators are purely descriptive and not generally compared to benchmarks or viewed as positive or negative. This category also includes measures of social status, educational attainment, and income, all of which have a significant impact on an individual’s health and;
- **Physical Environment** measures characteristics of the built environment of a community that can impact the health of that community either positively or negatively (e.g. parks, grocery stores, walkability, etc.)

Table 2. Health Factor and Health Outcome Indicators

Health Outcome Metrics		Health Determinants and Correlated Metrics			
<i>Mortality</i>	<i>Morbidity</i>	<i>Access to Healthcare</i>	<i>Health Behaviors</i>	<i>Demographics & Social Environment</i>	<i>Physical Environment</i>
Leading Causes of Death	Hospitalization Rates	Health Insurance Coverage	Tobacco Use/Smoking	Age	Air Quality
Infant Mortality	Obesity	Provider Rates	Physical Activity	Sex	Water Quality
Injury-related Mortality	Low Birth Rates	Quality of Care	Nutrition	Race/Ethnicity	Housing
Motor Vehicle Mortality	Cancer Rates		Unsafe Sex	Income	
Suicide	Motor Vehicle Injury		Alcohol Use	Poverty Level	
Homicide	Overall Health Status		Seatbelt Use	Educational Attainment	
	STDs		Immunizations & Screenings	Employment Status	
	Communicable Diseases			Language Spoken at Home	

Source CDC’s Community Health Assessment for Population Health Improvement: Most Frequently Recommended Health Metrics

Quantitative data used in this report are high quality, population-based data sources and were analyzed by Maricopa County Department of Public Health (MCDPH), Office of Epidemiology. Data came from local, state, and national sources such as the MCDPH, Arizona Department of Health Services, Arizona Criminal Justice Commission, U.S. Census Bureau, U.S. Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System survey, and Youth Risk Behavior survey.

Primary Data

The broad interests of the community were incorporated through three means. First, data was collected through focus groups engaging members of underserved populations and communities. Second, surveys were conducted with key informants who serve the primary service area. Finally, a series of meetings were held with key stakeholders from St. Joseph's Hospital Medical Center's primary service area. Members of the Community Health Improvement Network and Arizona's Community of Care Network (ACCN) provided input on the selection of data indicators, provided feedback on data collected, and aided in the selection of final priorities. Membership of the above-mentioned committees and collaborations intentionally represent vulnerable and disenfranchised populations including the homeless, uninsured/underinsured, Medicaid, Medicare, immigrant, disabled, mentally ill, and elderly.

Focus Groups

A series of 36 focus groups with medically underserved populations across Maricopa County were conducted between September 2017 and June 2018. Focus groups helped to identify priority health issues, resources, and barriers to care within Maricopa County through a community-driven process known as Mobilizing for Action through Planning and Partnership (MAPP) ^{ix1}. The focus group process moved through five phases: (1) initial review of literature; (2) focus group discussion guide development; (3) focus group recruitment and securement; (4) focus group collection; and (5) report writing and presentation findings. Additionally, through 152 key informants who provide services throughout Maricopa County we were able to ascertain input to help identify and prioritize community health needs.

Members of the community representing subgroups, defined as groups with unique attributes (race and ethnicity, age, sex, culture, lifestyle, or residents of an area in Maricopa County), were recruited to participate in focus groups. A standard protocol was used for all focus groups (See Appendix B) to understand the experiences of these community members as they relate to accessing health care, health disparities and chronic disease. In all, a total of twelve focus groups were conducted with 127 community members from the following groups: (1) older adults (50-64, 65-74, 75+ years of age); (2) adults without children; (3) adults with children; (4) American Indian adults; (5) lesbian, gay, bisexual, transgender, and questioning (LGBTQ) adults; (6) African American adults; (7) Hispanic/Latino adults (English); (8) adults with children (Spanish); (9) low socio-economic status adults (Spanish), and (10) young adults (18-30 years of age), (11) adult males (Spanish), (12) adult females (Spanish), (13) caregivers, and (14) Asian American adults.

Content analysis was performed on focus group interview transcripts to identify key themes and salient health issues affecting the community residents. The most common problem identified was access to care. Specific barriers discussed includes lack of transportation, high cost of doctor visits, high deductibles, unexpected or complicated bills from insurance, and a perceived lack of cultural competency and respect from providers. Participants also identified mental health, substance abuse, and community safety as important issues.

Additionally, American Indian and African American participants felt diabetes was a significant health concern for their community.

Focus group participants also discussed prevention strategies for health improvement and recommended:

- More educational resources and opportunities, especially for children
- Improved access to physical fitness facilities and activities
- Access to healthy food, nutrition information
- Access to healthcare for special populations (e.g. the elderly, disabled, Native Americans, LGBTQ, and children), shortened wait times for medical appointments, affordable medical transportation services, and additional ADA accessible buildings
- Cultural competency, being mindful of cultural issues especially in Spanish speaking communities
- More trained healthcare system community workers, navigators, advocates, and aides
- Improved affordability services, lower the cost of insurance, copays, and specialists, sliding scale fees

Key Informant Surveys

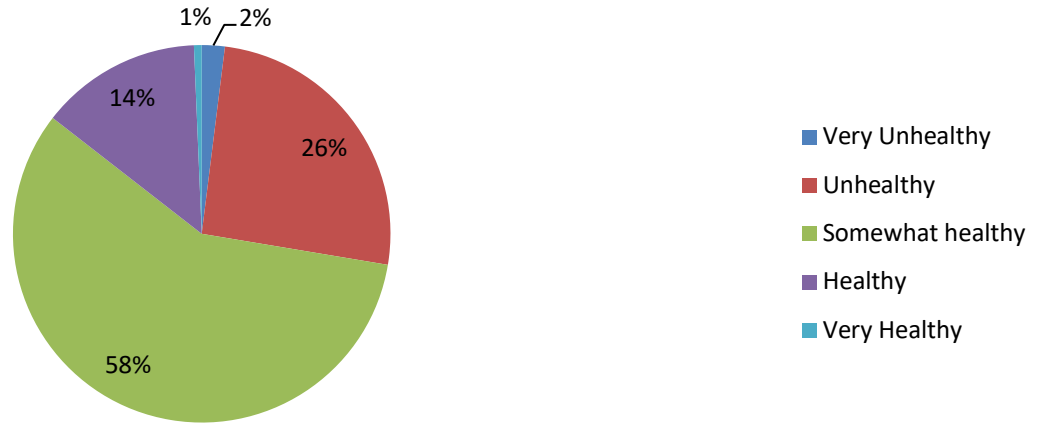
In order to identify and understand community health needs, a community health survey was administered to key informants. Key informants were identified as health or community experts familiar with target populations and geographic areas within Maricopa County. The survey instrument was created by MCDPH based on recommendations from the National Association of County and City Health Officials, Centers for Disease Control and Prevention, and Mayo Clinic leadership.

The survey was administered to 152 key informants who provide services throughout Maricopa County. The survey asked respondents about factors that would improve “quality of life,” most important “health problems,” in the community, “risky behaviors” of concern, and their overall rating of the health of the community (Appendix C).

When surveyed about the overall health of the community, 14% reported “Healthy”, 26% reported it was “unhealthy” and 58% reported “Somewhat healthy” (Graph 1).

Graph 1

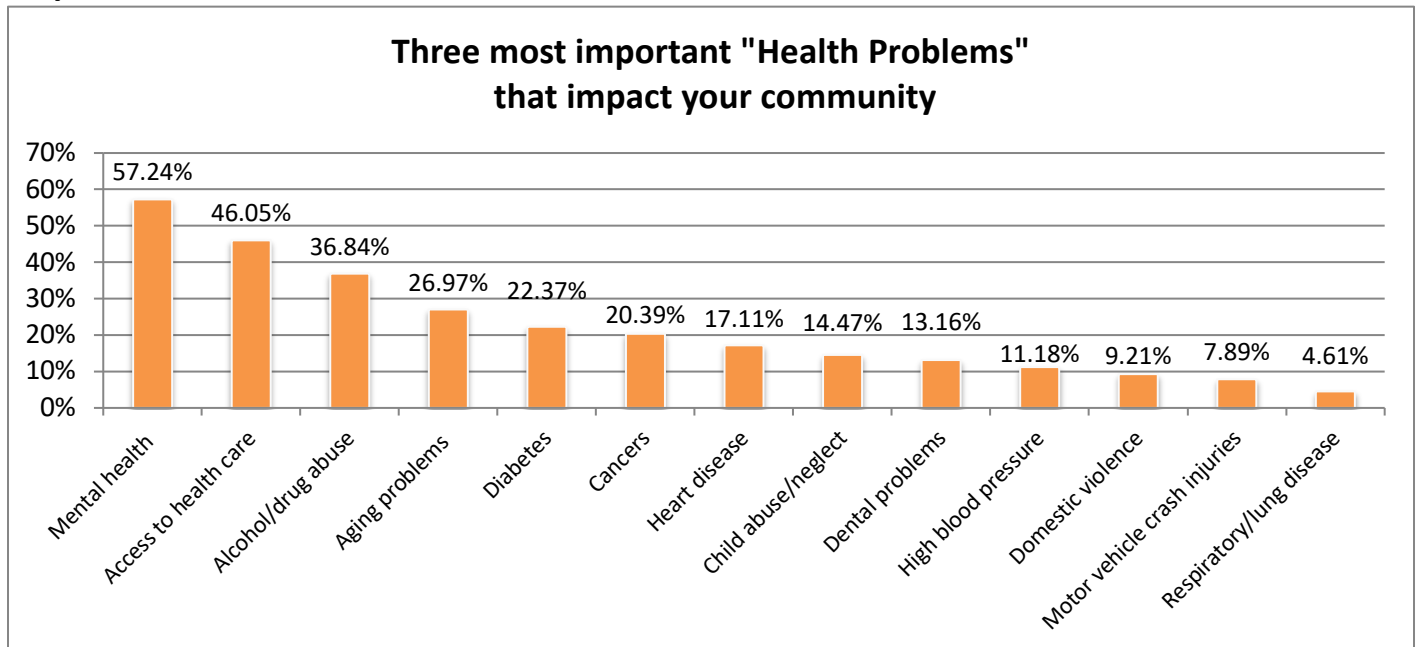
How would you rate the overall health of your community?



Source Key Informant Survey

Key informants felt the most important health problems impacting their community are mental health, access to health care, alcohol/drug abuse, aging problems, and diabetes (Graph 2).

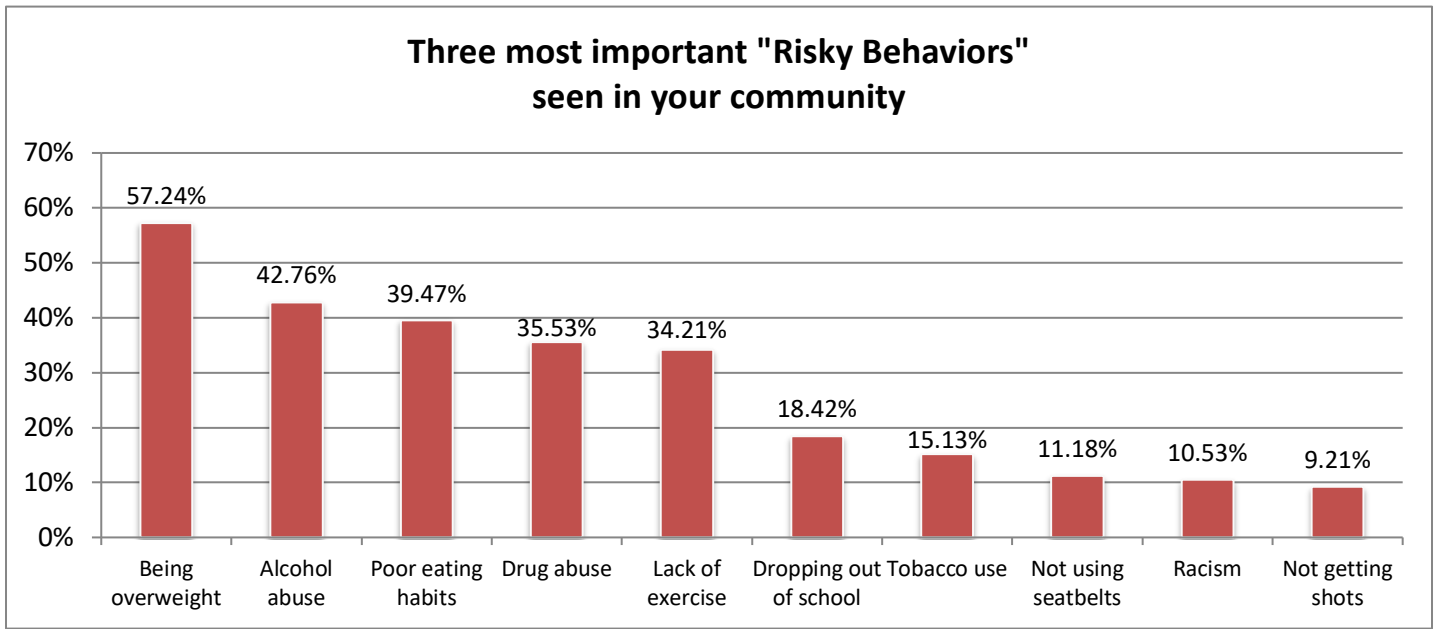
Graph 2



Source Key Informant Survey

When asked to rank the three most important risky behaviors seen in the community, the top five answers selected by respondents included being overweight, alcohol abuse, poor eating habits, drug abuse, and lack of exercise (Graph 3). Though the responses reflect distinct behaviors, there appears to be some overlap with primary concerns of key informants centering on the areas of substance use, healthy eating, and active living.

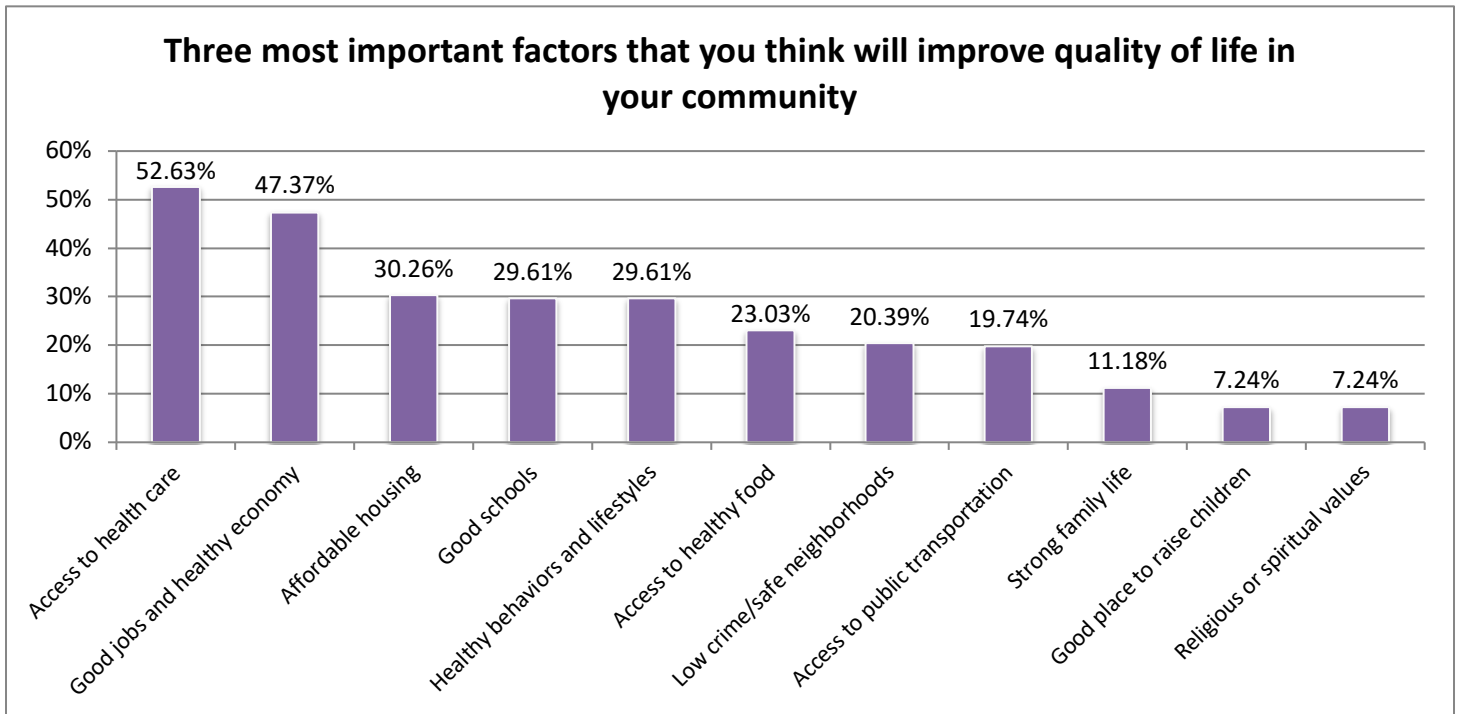
Graph 3



Source Key Informant Survey

Lastly, the most important factors key informants felt would improve the quality of life within their community included access to healthcare, good jobs and healthy economy, affordable housing, good schools, and healthy behaviors and lifestyles (Graph 4).

Graph 4



Source: Key Informant Survey

Community Input/Engagement

Community input for the CHNA included engagement from the following Mayo Clinic sponsored stakeholder groups:

- Community Engagement Committee (meets every 3rd Wednesday of the month)
- Mayo Clinic Community Advisory Board (meets quarterly at appointed times for the board)
- Mayo Clinic Executive Office Team (meets biweekly on Wednesday)
 - The CHNA reports each year and updates EOT at the midpoint of the Implementation Plan

The information from the key informant survey along with the key findings from the MCDPH assessment data report was presented on TBD to the Mayo Clinic Arizona Executive Operations Team.

Data limitations and Gaps

The data used in this report are from various reliable sources, but there are limitations to the data that need to be considered. When reviewing birth and death records some of the fields in these records are filled in based on memory recall. For example, a mother is asked when she began prenatal care and may have an estimate but typically not the exact date. A family member assists with death records when filling in information on the death certificate. If the individual doesn't know about an individual's personal habits (like smoking) it may not get recorded on the death certificate. With Hospital Discharge Data (HDD) for Inpatient (IP) discharges and Emergency Department (ED) visits the data is from all licensed facilities, but does not include Federal, military, and the Department of Veteran Affairs. Also, there are various reasons why an individual does not go to a hospital for care (like lack of money to pay) or individuals may use the ED for routine care that they could receive if they had a primary care physician which may skew health care utilization information. When reviewing this data, we must consider that these are potential information gaps.

The survey data used from our state and national partners also have limitations since they are self-reported surveys. The Behavioral Risk Factor Surveillance System survey (BRFS) is a survey of adults within Maricopa County. The survey questions can be personal in nature and individuals have the option of not responding, or they may answer what they feel the best answer is, causing limits with the data.

Identification and Prioritization of Community Health Needs

Identifying Community Health Needs

The process began with a review of nearly 100 indicators to measure health outcomes and associated health factors of Maricopa County residents. The indicators included demographic data, social and economic factors, health behaviors, physical environment, health care and health outcomes. Health needs were identified through the combined analysis of secondary data and community input. Based on the review of the secondary data, a consultant team developed a primary data collection guide used in focus groups, which were made up of representatives of minority and underserved populations who identified community concerns and assets.

Process and Criteria for Prioritization

To be considered a health need, a health outcome or factor had to meet two criteria: existing data had to demonstrate a worsening trend in recent years or indicate an apparent health disparity; and the health outcome or factor had to be mentioned in a substantial way in focus groups and key stakeholder meetings. Findings from primary and secondary data were reviewed and prioritized by the Mayo Clinic Community Advisory Board, Mayo Clinic in Arizona's Community and Business Relations Work Group and were approved by the Executive Operations Team.

Description of Prioritized Community Health Needs

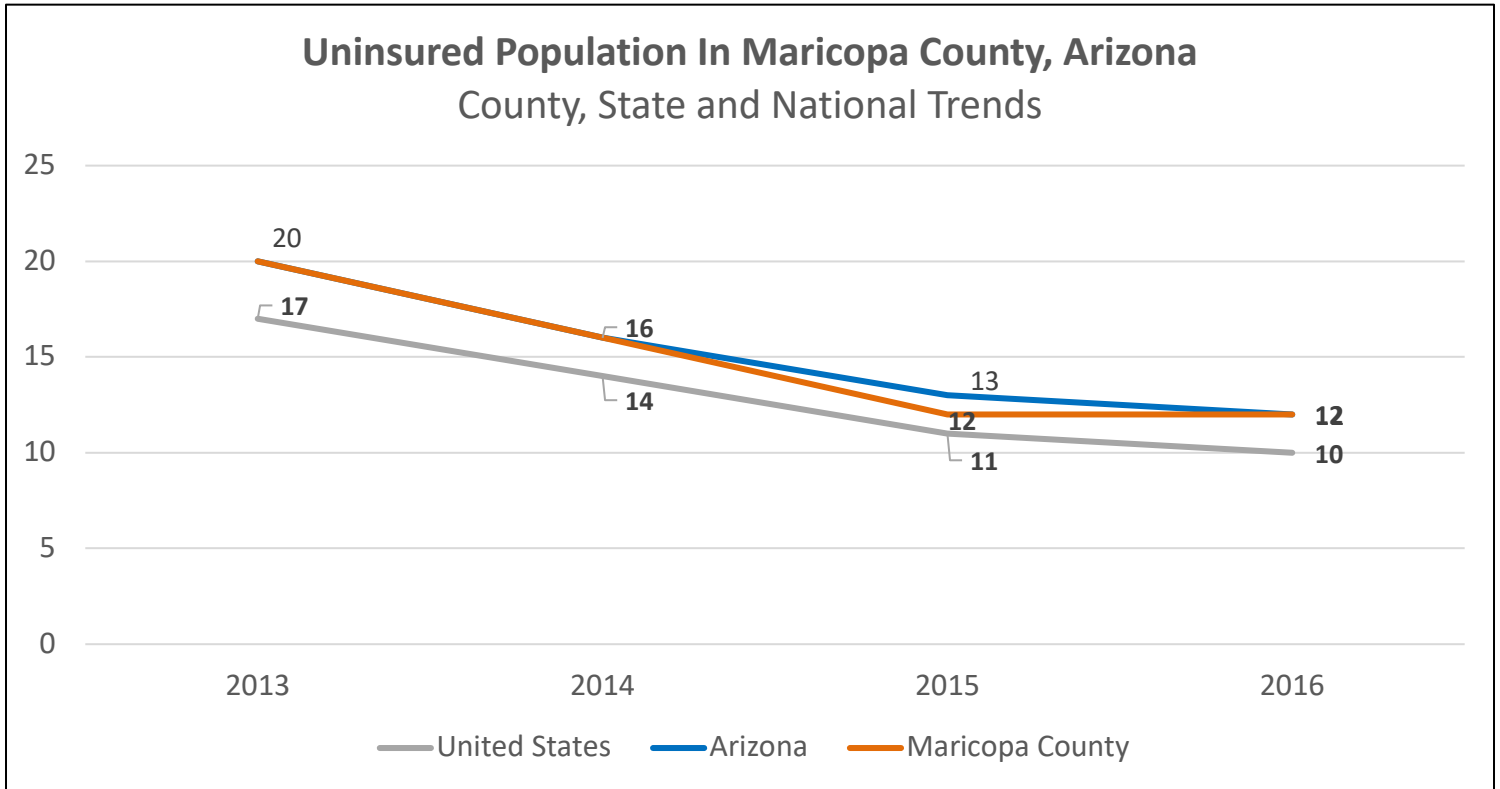
The following statements summarize each of the areas of priority for Mayo Clinic Hospital and are based on data and information gathered through the CHNA.

1. Access to Care

Access to comprehensive, quality health care is important for promoting and maintaining health, preventing and managing disease, and achieving health equity for all people. Access to Care impacts one's overall physical, social, and mental health status and quality of life^x. Improved access to care requires that health services can be obtained, accessible, and affordable to all.

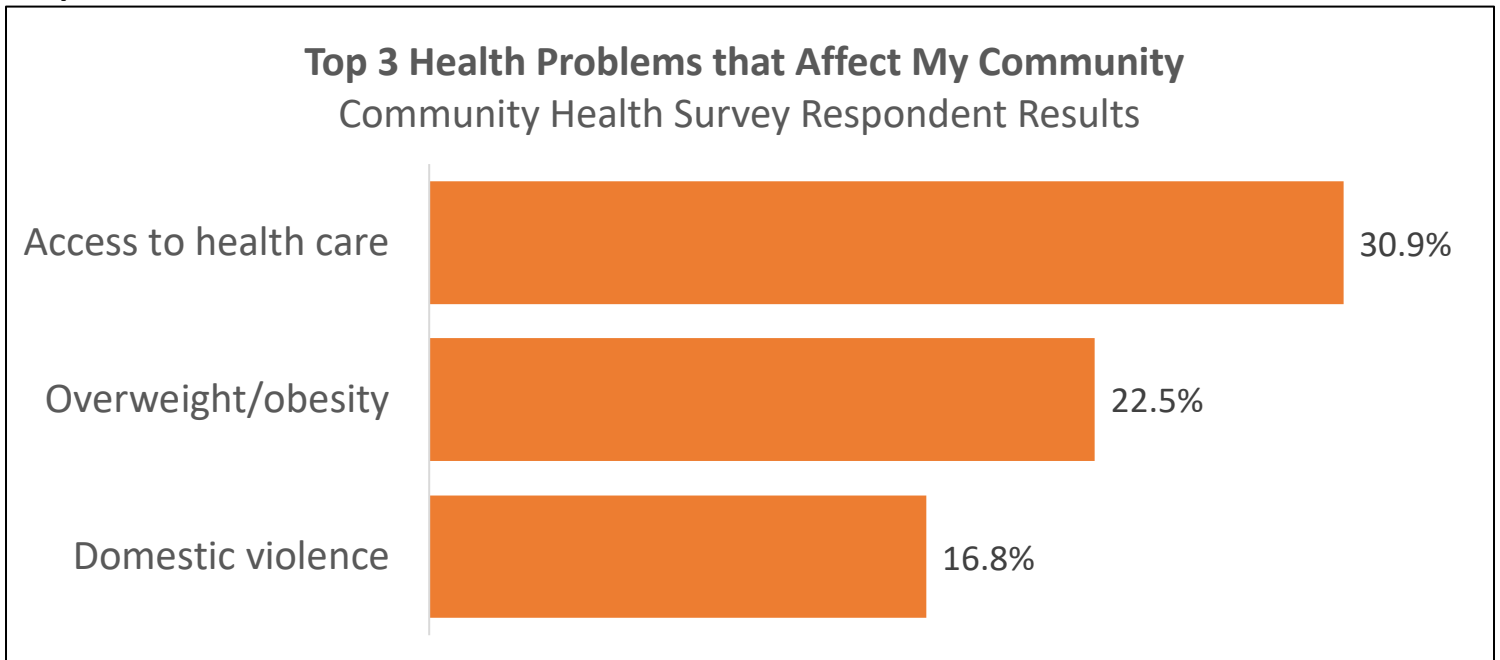
According to the Behavioral Risk Factor Surveillance Survey (BRFSS), in the state of Arizona, 14.1% of respondents indicated that in the past year they could not see a doctor because of cost, and 16.3% of Maricopa County residents indicated they had no health insurance. According to the 2019 County Health Ranking, from 2013 to 2016, uninsured rates for Maricopa County improved, but still were higher than the National rate.^{xi} (Graph 5). More than 80% of both males and females have health insurance, but females have a slightly higher percentage than males, and the age group with the lower percentage of insurance coverage is the 25-34-year-old populations^{xii}. When Community Survey respondents in Maricopa County were asked about health care affordability, 60% indicated they *sometimes or never* have enough money to pay for health care^{xiii} and when asked what three *health problems* are impacting their community, access to health care was ranked highest (Graph 6).

Graph 5



Source: County Health Ranking, 2019

Graph 6

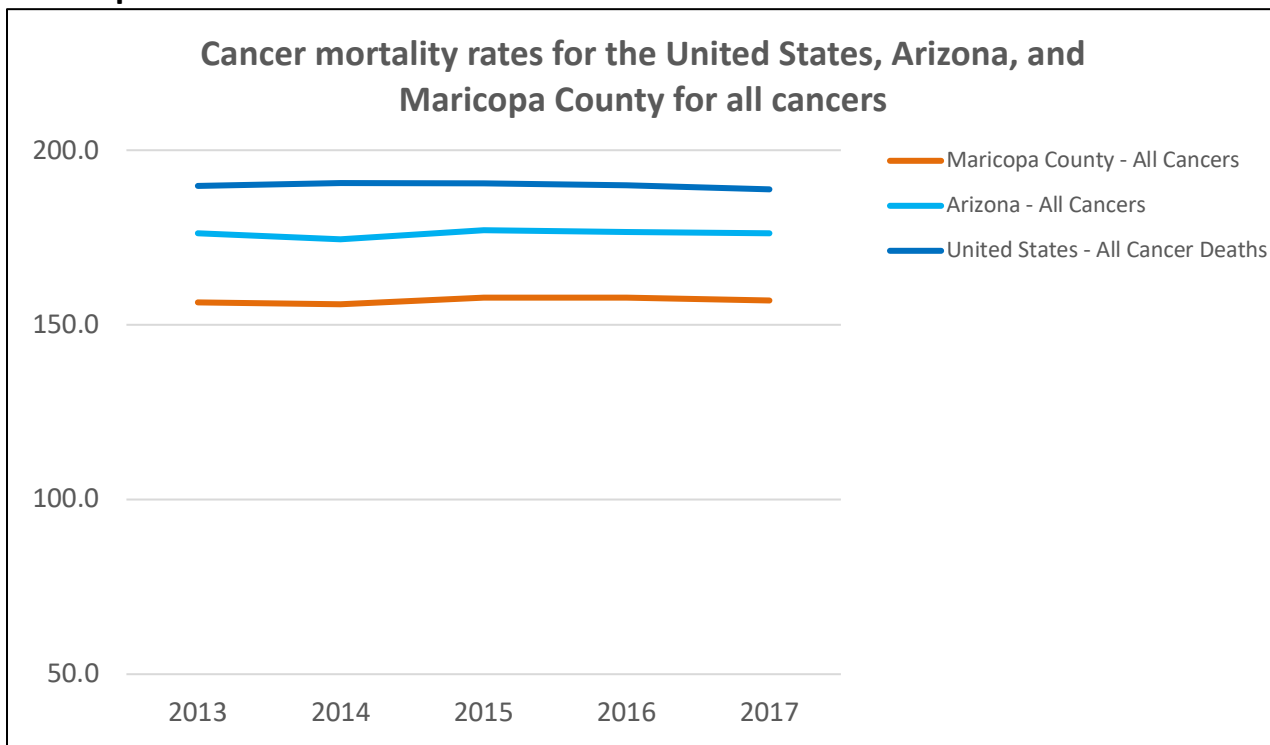


Source: MCDPH Community Health Assessment Survey results (2016)

2. Cancer/Breast Cancer

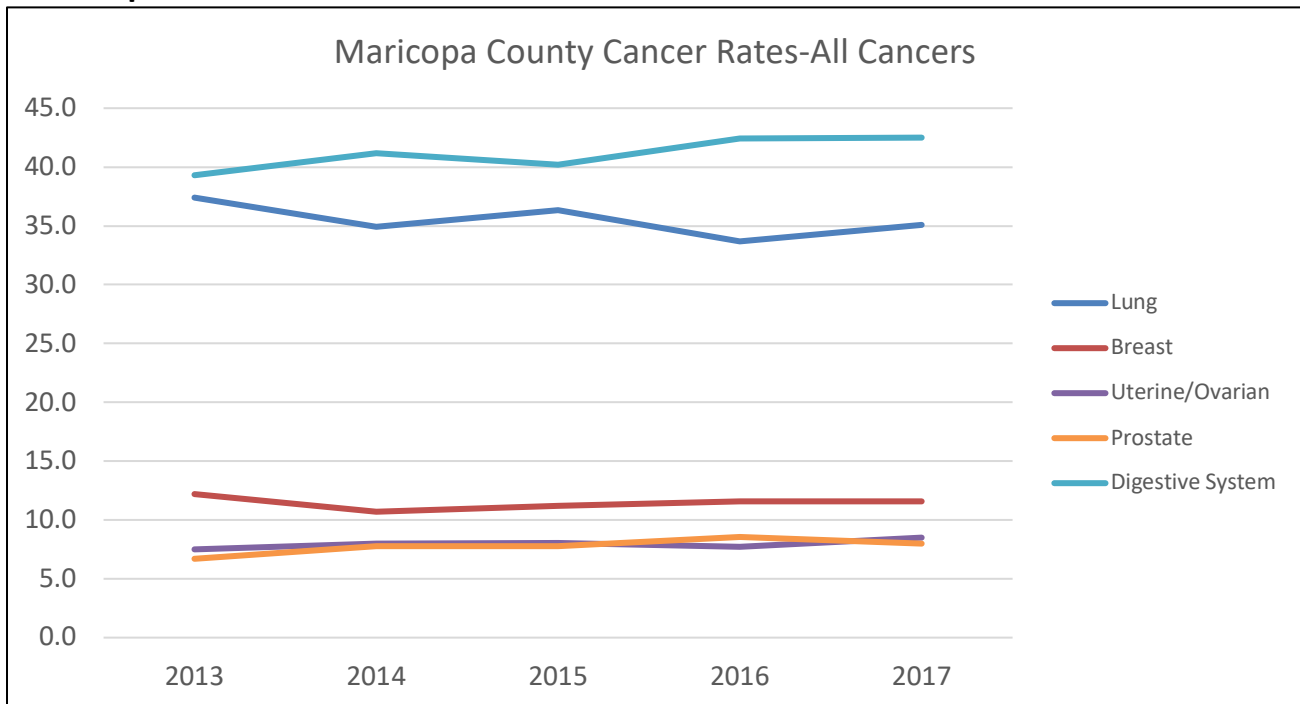
While advancements continue to be made in the fight against cancer, it remains one of the leading causes of death in the United States, Arizona, and in Maricopa County (graph 7). According to the most recent data from the Arizona Death Certificate Database in the Arizona Department of Health Services (ADHS) Bureau of Vital Records, 12,160 Arizonans lost their lives to cancer in 2016, and the American Cancer Society estimates 37,490 new cases of Arizonans will be diagnosed with cancer and 12,470 will lose their life to cancer in 2019^{xiv}. In the past five years, Maricopa County's top 5 cancer mortality rates for all cancers (in descending order) are digestive system (including but not limited to esophagus, stomach, small intestine, colon, rectum, anus, liver, bile ducts, gallbladder, and pancreas), lung, breast, uterine/ovarian, and prostate (graph 8). Not counting some kinds of skin cancer, breast cancer in the United States is the most common cancer in women, no matter the race or ethnicity^{xv}. In the state of Arizona, breast cancer is the most common cancer in females^{xvi}. In Maricopa County, in the state of Arizona, and in the United States, incidence rates by race indicate that White and Black/African American populations have higher rates per 100,000 (Table 3) compared to other races. In Maricopa County these populations also have higher death rates (Graph 9), per 100,000, due to breast cancer compared to the overall rates. In Maricopa County the White population have the highest percentage diagnosed in 2016 and just over 70% of all diagnosed cases of breast cancer are women 55 years and older^{xvii}.

Graph 7



Source: CDC Wonder database and data from ADHS, analyzed by MCDPH

Graph 8



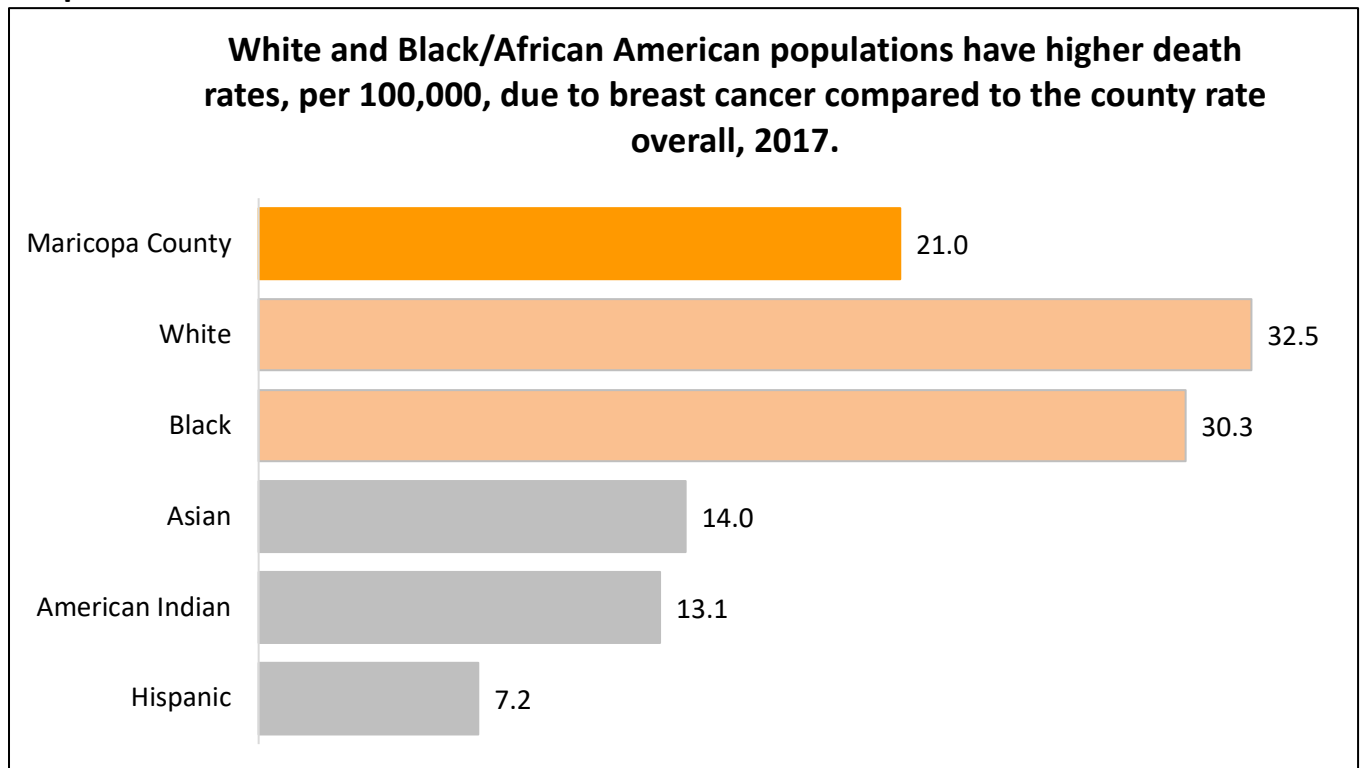
Source: Data from ADHS, analyzed by MCDPH

Table 3

Breast Cancer			
Incidence Rates per 100,000			
	Maricopa County	Arizona	United States
Females	120.5 CI: (118.4, 122.6)	112.9 CI: (111.4, 114.4)	124.7 CI: (124.4, 124.9)
Asian	79.8 CI: (71.4, 89.0)	77.2 CI: (70.3, 84.6)	92.3 CI: (91.4, 93.1)
Black/African American	114.5 CI: (104.8, 124.9)	106.7 CI: (98.6, 115.3)	123.8 CI: (123.1, 124.5)
Hispanic	92.5 CI: (87.9, 97.4)	90.1 CI: (86.9, 93.4)	93.4 CI: (92.8, 94.0)
American Indian	69.4 CI: (56.2, 84.5)	57.52 CI: (52.1, 63.4)	73.8 CI: (71.9, 75.7)
White	127.4 CI: (124.9, 130.0)	120.7 CI: (118.8, 122.6)	130.0 CI: (129.7, 130.2)

Source: Arizona Cancer Registry, 2016 (CI: Confidence Interval)

Graph 9



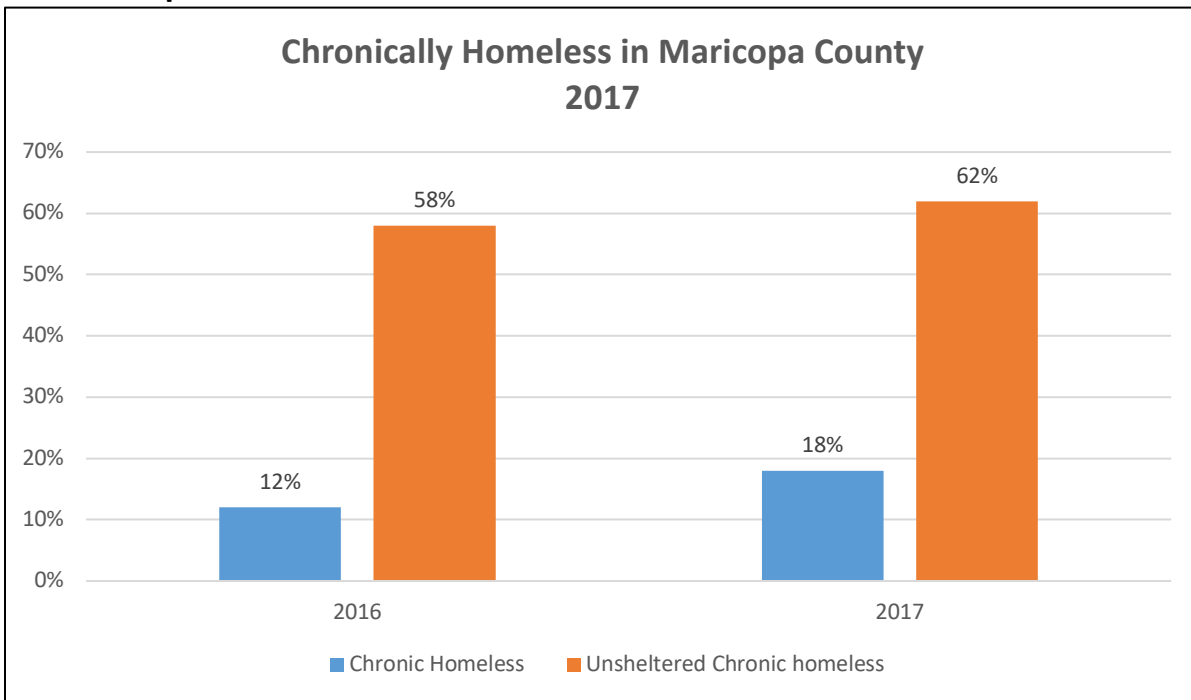
Source: Maricopa County Death Data (2017) from ADHS, analysis performed by Maricopa County

3. Social Determinants of Health/Homelessness

According to Healthy People 2020, a social determinant of health is a condition in the environment in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality of life outcomes and risks^{xviii}. Social determinants of health have contributed to and continue to perpetuate the difficult situations faced by people without homes. Compared to the general housed population, people without homes have been and are now more severely impacted by Social Determinants of Health (SDOH), leading to increased mortality, chronic health conditions, mental illness, substance abuse, and risky health behaviors^{xix}.

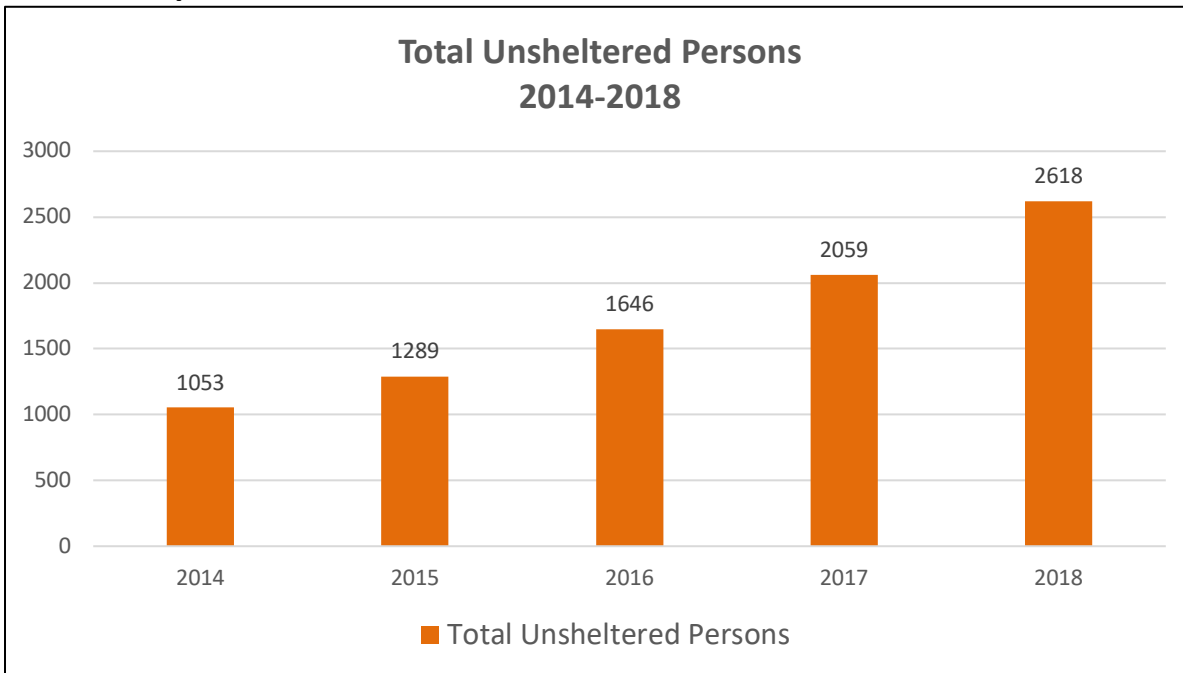
Maricopa County represents 61 percent of the state’s population and reports 54 percent of the state’s homeless population^{xx}. In Maricopa County, 67 percent of those who experienced homelessness were single adults, while 12 percent were adult members of families, and 21 percent were children in families^{xxi}. According to the Homelessness in Arizona 2017 Annual Report, there were 3,546 homeless individuals housed in shelters and 2,059 unsheltered individuals on the streets^{xxii}. The graph below shows the increase in the chronically homeless and the unsheltered homeless population from 2016 to 2017. Every January, the Point-In-Time Homeless Count (PIT) takes place. The PIT is an annual street and shelter count to determine the number of people experiencing homelessness in Maricopa County coordinated by Maricopa Association of Governments (MAG)^{xxiii}. In 2018, the PIT identified 6,298 people experiencing homelessness in Maricopa County. Of this population, 2,618 were unsheltered and 3,680 were in a shelter, which is approximately a 12% increase from 2017^{xxiv}. Graph 9 shows the increase and total of unsheltered persons from 2014-2018. Homelessness is closely connected to declines in physical and mental health; homeless persons experience high rates of health problems such as HIV infection, alcohol and drug abuse, mental illness, tuberculosis, and other conditions^{xxv}.

Graph 10



Source: Homelessness in Arizona Annual Report, 2017

Graph 11



Source: Maricopa Association of Governments, 2019

Resources Potentially Available to Address Needs

Resources potentially available to address identified needs include services and programs available through hospitals, government agencies, and community-based organizations. Resources include access to hospital emergency and acute care services, Federally Qualified Health Centers (FQHC), food banks, homeless shelters, school-based health clinics, churches, transportation services, health enrollment navigators, free or low cost medical and dental care, and prevention-based community education. Below is a listing of some potential resources to address prioritized community health needs:

- Mayo Clinic Hospital Cancer Center and Proton Beam Program
- Mayo Clinic Office of Disparate Health Research-Outreach to Disparate Populations
- Community-based clinic partnerships
- Partnerships with federally qualified community clinics
- Clinical Trial collaborations with existing community partnerships
- Mayo Clinic Diversity & Inclusion Committee
- Mayo Clinic Mayo Employee Resource Groups
- Mayo Clinic Department of Education Graduate Medical Education Division
- Mayo Clinic Faculty & staff
- Maricopa County Public Health
- Mountain Park Health Centers
- Circle the City Respite Facility for the Homeless
- St. Vincent de Paul Medical & Dental Clinic
- Phoenix Indian Medical Center
- Maricopa Integrated Health System/Valley wide Health
- Turn A New Leaf-Mesa Men's Center
- Adelante Medical Clinic

The Health Improvement Partnership of Maricopa County (HIPMC) is a collaborative effort between MCDPH and a diverse array of public and private organizations addressing healthy eating, active living, linkages to care and tobacco-free living. The HIPMC provides a forum to share ideas and resources as well as a data-driven process to identify gaps and barriers to health improvement, especially among vulnerable populations. With more than 100 partner organizations, this is a valuable resource to help Mayo Clinic Hospital connect to other community-based organizations that are targeting many of the same health priorities^{xxvi}.

Impact of Actions Taken Since Preceding CHNA

- Expansion of clinical outreach to community, specifically populations that have issues with clinical care access. i.e., Mountain Park Health Center, Phoenix Indian Medical Center, an apartment off the I-17 & Northern with Mayo Clinic medical students. As a result tenants of this 56 unit apartment unit have had direct access to clinical patient care and education. From September 2017 to May 2019 there has been direct outreach to greater than 200 tenants of this complex.
- In 2018 Mayo Clinic established a GI Clinic at Adelante Healthcare for uninsured patients for colonoscopy. Adelante patients may be referred to Mayo Clinic Department of Gastroenterology for abnormal FIT lab test. Agreeable patients and those suitable for conscious sedation will be referred to Mayo for diagnostic colonoscopy (3-4/month).
- Mayo Clinic Employee Resource Group outreach to *Feed My Starving Children*, *St. Mary's Food Bank*, *Circle the City Respite Facility for the Homeless*. Each quarter beginning in 2017 20 – 50 Mayo Clinic Employee Resource Group members volunteer at one of the three partnering organizations.
- In the final quarter of 2018 Mayo Clinic provided \$50,000 in grants to three not-for-profit organizations that treat homeless and underserved, chronically ill people, *Circle the City Respite Facility for the Homeless*, *Mountain Park Health Center*, and *Hope Lodge Facility* for transplant and cancer patients. Funds were used by the community partners for transportation to and from appointments, to sustain an ongoing clinical outreach to the disparate populations of the partnering organization and/or to meet an internal need of the partnering organization.
- Mountain Park Health Center (MPHC) continues to be a significant partner for mammography screening community outreach. Mayo Clinic Hospital has continued its commitment to see up to 8 uninsured patients from MPHC for biopsy, breast cancer surgery, radiation treatment and breast restoration surgery. The direct financial impact to Mayo Clinic Hospital is approximately \$2M per year for this charity care outreach.

Input Received on Most Recent CHNA and Implementation Strategy

Mayo Clinic is working with the Health Improvement Partnership of Maricopa County (HIPMC) to establish a formal process to receive and track written comments regarding the Maricopa County Community Health Needs Assessment and Plan from stakeholders. Mayo Clinic invites feedback on its Webpages for written comments for the most recently conducted CHNA and Implementation Plan. Positive feedback on the value and benefit of the CHNA report has been received verbally by many internal and external stakeholders. In addition, many individuals and agencies have requested the CHNA report to use for grant applications, assessments, and planning.

Mayo Clinic has received no written comments regarding the 2016 Community Health Need Assessment through its CHNA Web portal.

This report is widely available to the public on the hospital's web site <https://www.mayoclinic.org/>, and a paper copy is available by request from Mayo Clinic Office of Public Affairs. Written comments on this report can be submitted to Marion K. Kelly, director Community & Business Relations, Mayo Clinic 13400 E. Shea Blvd., Scottsdale, AZ 85259, or by email at: Kelly.marion@mayo.edu.

Appendix A – List of Data Sources

Data Sources

- Vital statistics (birth, death) – obtained from the Arizona Department of Health Services (ADHS). Data analysis completed by MCDPH Office of Epidemiology staff.
- Hospital Discharge Data (inpatient and emergency department) - obtained from the Arizona Department of Health Services. Data analysis completed by MCDPH Office of Epidemiology staff.
- Behavioral Risk Factor Surveillance Survey (BRFSS)
- Arizona Youth Survey (AYS)
- Youth Risk Behavioral Surveillance Survey (YRBSS)
- Centers for Disease Control (CDC) Environmental Public Health Tracking (EPHT)
- ADHS EPHT Explorer
- US Census, American FactFinder

Data Indicators

1. Population Demographics

- Total population
- Population by race/ethnicity
- Population by gender
- Population by age group
- Population by educational attainment
- Median household income
- Persons below poverty level
- Households below poverty level
- Under age 18 in poverty
- Unemployment rate
- Housing vacancy rate
- Owner occupied housing
- Renter occupied housing
- Housing burden - homeowner
- Housing burden - renter
- SNAP
- Households with person with disability
- Refugee population info

2. Access to Care

- Insurance status by age group
- Insurance status by race/ethnicity
- Insurance status by education
- Insurance status by nativity/citizenship
- Insurance status by employment status
- Insurance status by income
- Insurance status by poverty level
- Primary payer - ED visits
- Primary payer - IP visits
- Usual source of care
- Routine checkup
- Couldn't afford needed care

3. Birth Statistics

- IMR
- Low birth weight

- Prenatal care
- Preterm births

4. Weight, Nutrition, and Physical Activity

- Overweight (overall and by gender)
- Obesity (overall and by gender)
- Overweight/obese (overall)

5. Environmental

- Air quality
- Lead poisoning

6. Substance Abuse

- Alcohol use (Binge, Heavy drinking)
- Tobacco use (current, former)
- Alcohol use
- Tobacco use
- Drug use

7. Mental Health, Suicide

- Organic psychotic
- Other psychoses

8. Injury

- Motor vehicle
- Motorcycle
- Pedestrian

9. Chronic Disease

- Arthritis
- Asthma
- Told they have asthma
- COPD
- Told they have COPD
- CVD
- Cholesterol checked in last 5 years
- Congestive heart failure

10. Cancer

- Breast
- Mammogram screening
- Lung
- Cervical
- Gastrointestinal

- Teen births

- Obese (overall, gender, race/ethnicity)
- Fruit/vegetable consumption
- Aerobic Recommendation

- Extreme heat days
- Heat related illness

- Opiates
- Heroin
- Benzodiazepine
- Opioid prescribing pattern

- Neurotic
- Suicide

- Bicycle
- Falls
- Violence

- Told they have coronary heart disease
- Told they have had a heart attack
- Diabetes
- Told they have diabetes
- Stroke
- Been told they had a stroke
- Been told they have high blood pressure

- PAP screening
- Prostate
- Prostate screening
- Brain

11. Solid Organ Transplants

- By age, gender, race/ethnicity
- By organ
- By wait time
- By wait time by specific organ

12. Neurological Disorders

- Epilepsy & recurrent seizures
- Migraines
- Movement disorders
- Curvature of the spine

13. Social Determinants of Health

- Low income/low food access
- Housing/Transportation

14. Top 10 Leading Causes of Death in Maricopa County and Top 10 Leading Causes of death by Race/Ethnicity for 2017 (below).

Top 10 Leading Causes of Death in Maricopa County

	2017	2016	2015	2014	2013
	Maricopa County	Maricopa County	Maricopa County	Maricopa County	Maricopa County
1	Heart Disease	Cancer	Heart Disease	Cancer	Cancer
2	Cancer	Heart Disease	Cancer	Heart Disease	Heart Disease
3	Chronic Lower Respiratory	Chronic Lower Respiratory	Chronic Lower Respiratory	Chronic Lower Respiratory	Chronic Lower Respiratory
4	Alzheimer's	Alzheimer's	Alzheimer's	Alzheimer's	Alzheimer's
5	Unintentional Injury	Unintentional Injury	Stroke	Stroke	Stroke
6	Stroke	Stroke	Unintentional Injury	Unintentional Injury	Unintentional Injury
7	Diabetes	Diabetes	Diabetes	Diabetes	Diabetes
8	Suicide	Suicide	Suicide	Suicide	Suicide
9	Falls	Falls	Falls	Falls	Falls
10	Liver Disease	Liver Disease	Liver Disease	Liver Disease	Liver Disease

Top 10 Leading Causes of Death by Race/Ethnicity for 2017

	Overall	White	Hispanic	Black	American Indian	Asian
1	Heart Disease	Heart Disease	Cancer	Cancer	Heart Disease	Cancer
2	Cancer	Cancer	Heart Disease	Heart Disease	Unintentional Injury	Heart Disease
3	Chronic Lower Respiratory	Chronic Lower Respiratory	Unintentional Injury	Unintentional Injury	Cancer	Diabetes
4	Alzheimer's	Alzheimer's	Diabetes	Diabetes	Liver Disease	Stroke
5	Unintentional Injury	Stroke	Stroke	Stroke	Diabetes	Unintentional Injury
6	Stroke	Unintentional Injury	Alzheimer's	Alzheimer's	<i>Numbers too small to report.</i>	
7	Diabetes	Diabetes	Liver Disease	Homicide		
8	Suicide	Falls	Homicide	Chronic Lower Respiratory		
9	Falls	Suicide	Suicide	Pregnancy/ Early Life		
10	Liver Disease	Liver Disease	Chronic Lower Respiratory	Suicide		

Appendix B– Primary Data Collection Tools

Focus Groups

Conducted in 2016

Total Number of Participants = 127

CHNA Focus Group Questions

For the purposes of this discussion, “community” is defined as where you live, work, and play.

Opening Question (5 minutes)

1. *To begin, why don’t we go around the table and introduce ourselves. State your name (or whatever you would like us to call you) and what makes you most proud of your community.*

General Community Questions (20 minutes)

I want to begin our discussion today with a few questions about health and quality of life in your community.

2. What does quality of life mean to you?
3. What makes a community healthy?
4. Who are the healthy people in your community?
 - a. What makes them healthy?
 - b. Why are these people healthier than those who have (or experience) poor health?
5. What do you believe are the 2-3 most important issues that must be addressed to improve health and quality of life in your community?
 - a. What are the biggest health problems/conditions in your community?

Family Questions (20 minutes)

Now we are going to transition a bit and focus a bit more on your family and experiences.

6. What types of services or support do you (your family, your children) use to maintain your health?
 - a. Why do you use these particular services or supports?
7. Where do you get the information you need related to your (your family’s, your children’s) health?
8. What keeps you (your family, your children) from going to the doctor or from caring for your health?
 - a. Are there any cost issues that keep you from caring for your health? (Such as co-pays or high-deductible insurance plans)
 - b. If you are uninsured, do you experience any barriers to becoming insured?

Improvement Questions (20 minutes)

Next I’d like to ask a few questions about ways to improve community health.

9. What are some ideas you have to help your community get or stay healthy?
10. What else do you (your family, your children) need to maintain or improve your health?

[Prompts]

- a. Services, support or information to manage a chronic condition or change health behaviors such as smoking, eating habits, physical activity, or substance use?
- b. Preventive services such as flu shots or immunizations?

- c. Specialty healthcare services or providers?

CHNA Focus Group Questions Cont'd

11. What resources does your community have that can be used to improve community health?

Ending Question (5 minutes)

12. Is there anything else related to the topics we discussed today that you think I should know that I didn't ask or that you have not yet shared?

Facilitator Summary & Closing Comments (5-10 minutes)

Let's take a few minutes to reflect on responses you provided today. We will review the notes we took and the themes we observed. This is your opportunity to clarify your thoughts or to provide alternative responses.

[Co-facilitator provides a brief summary of responses for each of the questions or asks clarifying questions if she thinks she may have missed something.]

Thank you for your participation in this focus group meeting. You have all raised a number of great issues for us to consider. We will look at what you have told us and use this information to make recommendations to area hospitals and the Maricopa County Department of Public Health.

Key Informant Survey Total Number & Percentage of Participants

Total number of participants	152
Characteristic	Percentage of participants
Male	22%
Female	78%
0-17	0%
18-24	1%
25-39	16%
40-54	39%
55-64	29%
65 or older	15%
American Indian/Alaskan Native	1%
Asian/Pacific Islander	1%
African American	7%
Hispanic	15%
White	76%

Community Health Assessment (CHA) Survey Questions

Please take a minute to complete the survey below. The purpose of this instrument is to get your opinions about community health issues. In collaboration with our public health partners we plan to compile this information and use it as input for the development of Dignity healthcare’s community health improvement plan.

Thank you for your time and interest in helping us to identify our most pressing problems and issues.

In this survey, “community” refers to the major area where you provide services. Please check one from the following list:

- Northeast (Scottsdale, Carefree, Fountain Hills, Cave Creek)
- Northwest (Peoria, Surprise, El Mirage, Sun City)
- Central (Phoenix, Paradise Valley)
- Central west (Glendale, Avondale, Litchfield Park)
- Central East (Tempe, Mesa)
- Southeast (Chandler, Ahwatukee, Gilbert)
- Southwest (Tolleson, Buckeye, Goodyear)

Part I: Community Health

1. Please check the **three most important factors that you think will improve the quality of life in your community?**

Check only three:

<input type="checkbox"/> Good place to raise children	<input type="checkbox"/> Excellent race/ethnic relations
<input type="checkbox"/> Low crime / safe neighborhoods	<input type="checkbox"/> Good jobs and healthy economy
<input type="checkbox"/> Low level of child abuse	<input type="checkbox"/> Strong family life
<input type="checkbox"/> Good schools	<input type="checkbox"/> Healthy behaviors and lifestyles
<input type="checkbox"/> Access to health care (e.g., family doctor)	<input type="checkbox"/> Low adult death and disease rates
<input type="checkbox"/> Safe Parks and recreation	<input type="checkbox"/> Low infant deaths
<input type="checkbox"/> Clean environment	<input type="checkbox"/> Religious or spiritual values
<input type="checkbox"/> Affordable housing	<input type="checkbox"/> Emergency preparedness
<input type="checkbox"/> Arts and cultural events	<input type="checkbox"/> Access to public transportation
<input type="checkbox"/> Access to Healthy Food	<input type="checkbox"/> Other _____

2. In your opinion, what are **the three most important “health problems”** that impact your community?

Check only three:

<input type="checkbox"/> Access to Health care	<input type="checkbox"/> Heart disease and stroke	<input type="checkbox"/> Rape / sexual assault
<input type="checkbox"/> Aging problems (e.g., arthritis, hearing/vision loss, etc.)	<input type="checkbox"/> High blood pressure	<input type="checkbox"/> Respiratory / lung disease
<input type="checkbox"/> Cancers	<input type="checkbox"/> HIV / AIDS	<input type="checkbox"/> Sexually Transmitted Diseases (STDs)
<input type="checkbox"/> Child abuse / neglect	<input type="checkbox"/> Homicide	<input type="checkbox"/> Suicide
<input type="checkbox"/> Drug and Alcohol abuse	<input type="checkbox"/> Infant Death	<input type="checkbox"/> Teenage pregnancy
<input type="checkbox"/> Dental problems	<input type="checkbox"/> Infectious Diseases (e.g., hepatitis, TB, etc.)	<input type="checkbox"/> Other _____
<input type="checkbox"/> Diabetes	<input type="checkbox"/> Mental health problems	
<input type="checkbox"/> Domestic Violence	<input type="checkbox"/> Motor vehicle crash injuries	
<input type="checkbox"/> Firearm-related injuries		

3. In the following list, what do you think are **the three most important “risky behaviors”** seen in your community?

Check only three:

<input type="checkbox"/> Alcohol abuse	<input type="checkbox"/> Racism
<input type="checkbox"/> Being overweight	<input type="checkbox"/> Tobacco use
<input type="checkbox"/> Dropping out of school	<input type="checkbox"/> Not using birth control
<input type="checkbox"/> Drug abuse	<input type="checkbox"/> Not using seat belts / child safety seats/bike helmets
<input type="checkbox"/> Lack of exercise	<input type="checkbox"/> Unsafe sex
<input type="checkbox"/> Lack of maternity care	<input type="checkbox"/> Unsecured firearms
<input type="checkbox"/> Poor eating habits	<input type="checkbox"/> Other _____
<input type="checkbox"/> Not getting “shots” to prevent disease	

4. If you selected drug abuse in question 3 please specify substances of use here:

5. How would you rate the overall health of your community?

Very unhealthy Unhealthy Somewhat healthy Healthy Very healthy

Part II: Demographics

Please answer questions #5-8 so we can see how different types of people feel about local health issues.

6. Zip code where you work: _____

7. Age:

- 0-17
- 18-25
- 26-39
- 40-54
- 55-64
- 65 or over

8. Sex: Male Female

9. Ethnic group you most identify with:

- | | | |
|---|---|--|
| <input type="checkbox"/> African American | <input type="checkbox"/> Asian/Pacific Islander | <input type="checkbox"/> Hispanic/Latino |
| <input type="checkbox"/> Native American | <input type="checkbox"/> White/Caucasian | <input type="checkbox"/> Other: _____ |

Appendix C- References

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