MEMORANDUM

Date: January 20, 2016

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **2015 Community Health Needs Assessment for Pima County**

The comprehensive 2015 Community Health Needs Assessment (Assessment) was recently released by a group of community partners. This Assessment is the result of collaboration that began in 2014 and has involved a broad range of healthcare organizations from across this jurisdiction that include Banner-University Medical Center, Carondelet, Tucson Medical Center, Northwest Healthcare, El Rio Community Health Center, Pascua Yaqui Tribe, Healthy Pima, and the Pima County Health Department.

During the development of this document, data was collected and analyzed from a variety of local, state and national sources to create a snapshot of the health of Pima County and the needs of our population. A critical component of the assessment is the inclusion of wide-ranging community input gathered through interviews, focus groups, community forums and a web-based community health survey.

Notably, most such assessments are developed by individual nonprofit hospitals or hospital networks in fulfillment of Affordable Care Act requirements to systematically document the needs of the community they serve every three years. This assessment is unique in Arizona and regionally in that a broad range of partners – including a federally-qualified health center, a for-profit hospital, a federally recognized tribe, a community coalition, the Pima County Health Department and nonprofit hospitals – conducted this collaborative, noncompetitive effort to assess the needs and understand the priorities across the entire County.

Throughout this process, the role of the Health Department has been to serve as the convener and facilitator of this collaboration in the belief that by working together, healthcare organizations across Pima County will have a common foundation to align priorities and actively address needs of Pima County residents in a coordinated and strategic fashion. Ultimately, our goal is to facilitate good decisions regarding the health of Pima County by developing a collective understanding of the strengths and needs of our community in order to provide opportunities for coordinated action and collective impact.

Attached is a copy of the full report that reflects the work of the many partners that participated in this process. The Assessment is also available online at 2015 Community Health Assessment.

CHH/mjk

Attachment

c: Jan Lesher, Deputy County Administrator for Community and Medical Services
Dr. Francisco Garcia, Director, Health Department

PIMA COUNTY

Community Health Needs Assessment

2015

Acknowledgements

The Pima County Community Health Needs Assessment Advisory Team is comprised of the following individuals who have guided and supported the assessment process:

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- Julia Strange, Tucson Medical Center
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We extend our deepest gratitude to and appreciation for the hundreds of community leaders, stakeholders, health and social services professionals, Healthy Pima members, and residents from throughout Pima County who participated in and provided input to this report via the various meetings, interviews, focus groups and surveys.

Carondelet. Be well.

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I. Executive Summary

Pima County's collaborative approach to conducting a community health needs assessment has enabled hospitals, public health, residents and community leaders, nonprofit and social service agencies, academic and governmental institutions, and federally funded community health centers to harness their collective relationships, resources, and expertise to identify and prioritize the major issues confronting the health of Pima County residents.

Methodology

The comprehensive Community Health Needs Assessment conducted in the Fall of 2014 and Spring of 2015 relied on the collection and analysis of secondary, quantitative morbidity and mortality data from a variety of local, state and national sources as well as primary, qualitative data collected from community stakeholders, key informants and community members at large. When available, data is compared to appropriate benchmarks (Arizona, other U.S. counties, the U.S. and/or time trends) to evaluate progress.

Monthly meetings between the project consultants and the Pima County Community Health Needs Assessment Advisory Team, which is comprised of public health, health system, and academic professionals, were held to provide input to the data collection and analysis process. Community input was incorporated through key informant interviews (see Appendix A), focus groups, community forums and a web-based community health survey.

Key Findings: How Are We Doing?

Throughout the assessment process, the team identified areas of community successes and strengths as well as areas for improvement. Of note, **Pima County ranks the best among Arizona's 15 counties for a range of health behaviors, clinical care, social, economic, and environment factors that impact the future health of the county compared to its peers in Health Factors** and in the top third of all counties in Health Outcomes, according to County Health Rankings and Roadmaps. This highly regarded public resource offered through the University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation measures the health of nearly all U.S. counties and ranks them within states, and is frequently utilized by public health professionals throughout the country.

Indeed, the assessment process uncovered several key areas in which the dedication, hard work and commitment of community partners, health systems, public health, and various government, faith-based and social service agencies may be credited with success. These areas include:

Health Behaviors and Risk Factors:

- Pima County performs **better than much of the state** in several health behaviors and risk factors that contribute to health outcomes (tobacco use, adult overweight or obesity, physical inactivity and utilization of recommended cancer screenings and diabetic A1c monitoring).
- Approximately **80% of Pima County residents report being physically active**, performing better than the state average. Strong investment by municipal and community organizations in promoting a walkable, bikeable community, combined with year-round weather conducive to physical activity, may contribute to this success.
- Pima County continues to invest in **The Loop**, a network of trails and paths heavily utilized by cyclists, walkers, hikers, runners and vendors that will total 131 miles when completed.

- Tobacco use among Pima County adults is approximately 16%. While comparable to the state, Pima County has partnered with the Arizona Attorney General and the Department of Public Safety to ensure stores that sell tobacco products are not selling them to kids under 18 – helping to prevent young people from becoming adult smokers.
- Early detection is critical in preventing cancer deaths. More Pima County residents than other Arizona residents receive their recommended screenings, including Pap tests and mammograms.

Health Insurance Coverage:

- The percentage of uninsured adults has declined significantly in Pima County, from 14.4% in 2012 to 10% in 2014, thanks to a strong county-wide collaboration. Southern Arizona's major healthcare providers and other community organizations joined together to advance health insurance enrollment in Southern Arizona, in conjunction with the enrollment period for the federal healthcare marketplace as well as Medicaid expansion.

Southern Arizona Cares - a collaborative effort sponsored in part by Tucson Medical Center, University of Arizona Medical Center, Carondelet Health Network, Northwest Healthcare, Walgreens and Tucson Regional Economic Opportunities, Inc. (TREO) - supported a local ad campaign in 2014 and 2015 to assist with health insurance enrollment by the federal deadline.

- The "Healthcare I Can Afford?" campaign included TV, billboards, radio (English/Spanish), Walgreens store posters/flyers and online components.

Infectious Diseases:

- Pima County has seen tremendous success in limiting the incidence of vaccine-preventable diseases, thanks in large part to **high rates of vaccination** among kindergartners (greater than 96% for recommended vaccines in the 2014-2015 school year).
- Pima County performs **better than the state** in terms of tuberculosis (TB) incidence rate (2.4 versus 2.8 cases/100,000 population).
- In 2013, there were 12.7 per 100,000 cases of vaccine-preventable diseases in Pima County, compared to 12.8 per 100,000 and 23.8 per 100,000 in Maricopa County and statewide, respectively.

Maternal, Infant and Fetal Health:

- Pima County performs **better than the state** in teen birth rates, preterm births, and infant mortality rate. However, the county has a lower percentage than the state of mothers who receive early prenatal care (73.8% versus 81.3%), and is similar to the state in percentage of babies with low birth weight.

Where Do We Need To Focus?

Despite great strides in public and community health, there are several areas that require additional attention to improve the quality of life of all residents. Many of these factors are related to social, economic and geographic status, which can result in health disparities among communities.

Key Drivers of Health:

- While Pima County is **performing well** compared to the state in two of the three identified key drivers of health status (education and insurance coverage), Pima County has a **higher percentage of persons living below the Federal Poverty Level** (18.52%) than the state (17.15%).

Access to Health Care:

- The majority of Pima County residents live in a Health Professional Shortage Area (HPSA) in primary care, mental health care and dental health care. Transportation and a shortage of primary care practitioners are two of the main challenges facing Pima County residents, especially in rural and low-income areas.

Health Outcomes:

- In four out of the top 20 causes of death, Pima County performs worse than the state. **Each of these four areas is related to a top health priority as identified by the Pima County Community Health Assessment prioritization process (substance abuse and dependency).** These causes are drug-induced death (21.9/100,000 versus 16.9/100,000 statewide); opiates/opioids (14.9/100,000 versus 7/100,000); pharmaceutical opioids (11/100,000 versus 5/100,000); and heroin (4.1/100,000 versus 2/100,000).

Health Behaviors and Risk Factors:

- Pima County has a **higher percentage of adults who abuse alcohol** (binge drinking) than the rest of the state (17.5% compared to 13.4%).

Infectious Diseases:

- Pima County has **higher rates** of both syphilis and chlamydia than the state, and lower rates of HIV/AIDS and gonorrhea. However, rates of both chlamydia and gonorrhea throughout Pima County have increased over time.

Natural, Built and Social Environment:

- Pima County **performs poorly against the Air Quality Index** in annual ozone air quality, while performing well in annual particle pollution. Another indicator, Recognized Carcinogens Released Into Air, measures the quantity (in pounds) of reported and recognized carcinogens (compounds with strong scientific evidence that they can induce cancer). Pima County is performing poorly, releasing more carcinogens into the air than in each of the four previous years measured.
- Pima County has a **higher percentage** of the population than other U.S. counties of **food insecurity** among children and adults as well as low-income, elderly and children with limited access to a grocery store. However, Pima County **performs better** than other counties and the state in **adult fruit and vegetable consumption**.
- Pima County **performs poorly** against the benchmark of top U.S. counties in percentage of the population living with **severe housing problems, violent crime rates and social support**.

Pima County Health Priorities

In addition to collection and analysis of secondary health data, the Pima County CHNA team conducted a series of primary data collection activities. These activities included:

- Interviews with key informants representing various public health, government, health care, non-profit, social service, faith-based and public safety organizations to identify health needs and concerns;
- Focus groups with select participants to provide additional insight, or "community snapshots," into community health issues;
- A Community Prioritization Meeting to give stakeholders and community members an opportunity to identify and prioritize the most pressing health issues and needs in Pima County based on emerging themes identified by Key Informants.

In total the process involved 29 key informant interviews, 61 focus group participants, and 42 stakeholders included in the participation exercise on April 15, 2015. Of the 14 health issues identified by key informants, stakeholders overwhelmingly chose four health needs that should be considered priorities for the County:

1. **Anxiety and depression spectrum disorders**
2. **Substance abuse and dependency**
3. **Injuries and Accidents**
4. **Diabetes**

Community Collaboration: Healthy Pima

This assessment was conducted with input from and participation by members of Healthy Pima. Since 2010, the Pima County Health Department has facilitated the development and implementation of Healthy Pima, a comprehensive community health assessment and improvement planning initiative in Pima County. An important result of this initiative was the identification of critical health priorities facing Pima County – healthy lifestyles, health literacy, access to care, and health equity – and the development of a community health improvement plan around which our community partners have mobilized. Together with health care providers and other community stakeholders, the health needs and priorities identified in this assessment will be integrated into the existing Healthy Pima framework, ensuring that both past priorities and current priorities reflect and meet the needs of all Pima County residents.

Community Input: 2015 Pima County Health Survey

A final component of the 2015 Pima County CHNA included the development and distribution of a health behaviors survey. CHNA partners felt that engaging the general population in the assessment process would enrich the data and provide a more robust and comprehensive picture of Pima County populations. As described in Appendix B, while the results of the 2015 Pima County Health Survey are not meant to represent the Pima County population as a whole, they should be viewed as complementary to the existing data sets collected at the state and national levels and presented in the report.

19%

19% of Pima County residents live below the Federal Poverty level

Majority of Pima County residents live in Health Professional Shortage Areas (HPSA's) for primary care, mental health, and dental care.

>96%

Pima County vaccination rates among kindergarteners is greater than 96% for recommended vaccines in the 2014-2015 school year.

Hispanic adults aged 18-34, and people living in low-income households are the most likely to be uninsured.

Those without health insurance are significantly less likely to:

- see a doctor when sick or for routine visits
- take prescribed medication due to cost
- receive dental care.

<62% Less than 62% of Pima County adults reported visiting a dentist or dental clinic within the last year.

The leading cause of unintentional injury for Arizonans age 65+ is falls, followed by vehicle crashes in a distant second.

1 in 7 adults aged 35 – 44 years old have periodontal (gum) disease.

Cancer and heart disease are the leading causes of death among Pima County residents.

HEALTH STATS OF PIMA COUNTY

More then 1 in 4 survey respondents did not eat fruit or vegetables more than once a week in the last month.

61% of respondents engage in moderate physical activities for at least 30 minutes outside of work.

24% of high school students have been diagnosed with asthma.

Pima County is below the U.S. averages for social support.

Pima County performs better than the state in:

- teen birth rates
- vaccination rates
- mammograms
- infant mortality.

9% of respondents are current smokers.

1 in 3 survey respondents reported they sometimes, rarely, or never get the emotional support they need.

II. Introduction and Background

Communities transcend geographic boundaries established by streets, neighborhood names, and zip codes. The Joint Committee on Health Education and Promotion Terminology (2011) defined community as "a collective body of individuals identified by common characteristics such as geography, interests, experiences, concerns, or values." Participants in the 2015 Community Health Needs Assessment (CHNA) pointed to a strong sense of community as one of Pima County's most visible strengths. Residents were described as cooperative, eager to help those in need, and resilient, showcasing diverse and vibrant communities whose presence enhance Pima County.

To protect the health and wellbeing of Pima County communities, it is of critical importance to address those conditions in which we are born, in which we work and play, and in which we raise our families, as these often determine health outcomes at individual and collective levels. The goal of the 2015 CHNA was to learn about these dynamics that are at play in family, community and public health in Pima County:

- How do we harness community assets to promote health and wellbeing?
- How do we impact the factors that are detrimental to community health?

This report outlines the findings of the CHNA and seeks to examine risk and protective factors related to health outcomes, while establishing a foundation for future action based on the recommendations of stakeholders in Pima County.

Part 1 of this report will present and analyze secondary data related to health outcomes, behaviors, morbidity and mortality, and social and economic factors.

Part 2 of the report will present the prioritization process, methodology and analysis of the key informant interview and focus group results, as well as a special section featuring community snapshots of health issues from the perspective of various focus groups (Health Care Providers, *Promotores,* Elementary School Parents and Senior Care Coordinators).

Local Snapshots

Interspersed throughout the report are "local snapshots" that reflect results from the 2015 Pima County Health Survey. These snapshots feature results from the survey that loosely relate to the results gathered in the primary and secondary data collection activities. These snapshots will be identified by .

The Pima County Community Health Needs Assessment Advisory Committee represents a county-wide partnership between the Pima County Health Department, Tucson Medical Center, the University of Arizona Health Network, Carondelet Health Network, El Rio Community Health Center, Northwest Medical Center, the Pascua Yaqui Tribe and the Healthy Pima Coalition.

The Advisory Committee is committed to serving residents and families through health and wellness promotion services to help maintain a vibrant, diverse, healthy Pima County Community.

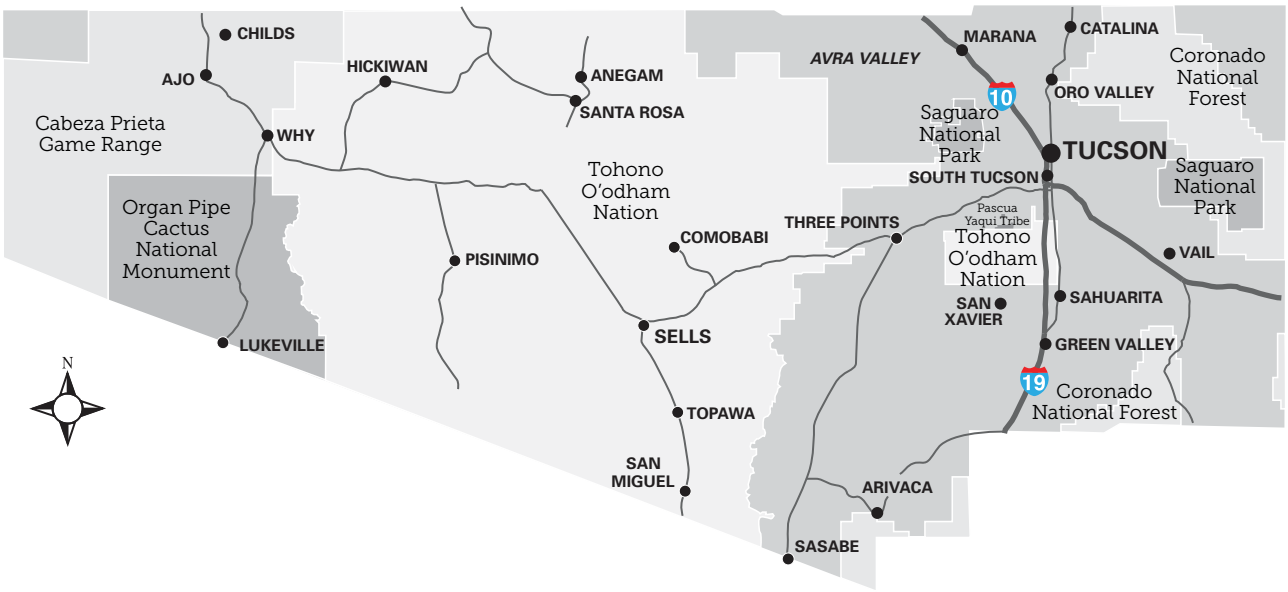
Part 1: Health Data

Geography, Demographics and Socioeconomic Status

Pima County is located in southern Arizona, just north of the state of Sonora, Mexico. Created in 1864, Pima County is one of the four original counties in Arizona, and initially encompassed the entirety of southern Arizona acquired by the Gadsden Purchase.

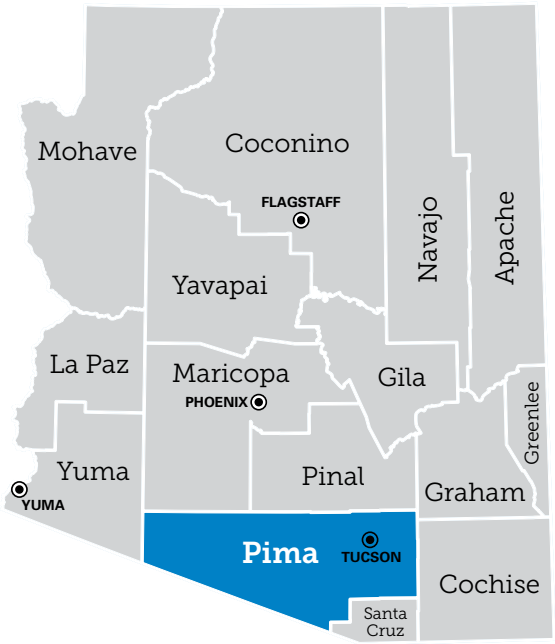
It is comprised of five incorporated jurisdictions (the City of South Tucson, the City of Tucson, and the towns of Marana, Oro Valley and Sahuarita), two Native American tribal reservations (the Tohono O'odham Nation and the Pascua Yaqui Tribe) and a large, unincorporated area. The U.S. Census Bureau American Community Survey 2009-2013 five-year estimates reports a total of 986,981 people residing in Pima County.

Figure 1: Pima County, Arizona



Map source: http://webcms.pima.gov/cms/One.aspx?pageId=30543

Figure 2: Pima County in relation to Arizona



Map source: http://webcms.pima.gov/cms/One.aspx?pageId=30543

Population Density

The majority of the population lives in the eastern half of the county, with approximately one-third of the population residing in unincorporated parts of Pima County. The City of Tucson is the County seat as well as the second largest city in Arizona, with an estimated population of 526,116 in 2013[1].

In addition to accommodating a major land grant university, The University of Arizona, Pima County hosts numerous corporations, hospitals, and non-profit organizations. It is also home to diverse rural and urban communities.

The maps below illustrate Pima County's population density (persons per square mile) by Census tract.

Figure 3: Pima County Population Density by Census Tract, American Community Survey 2009-2013

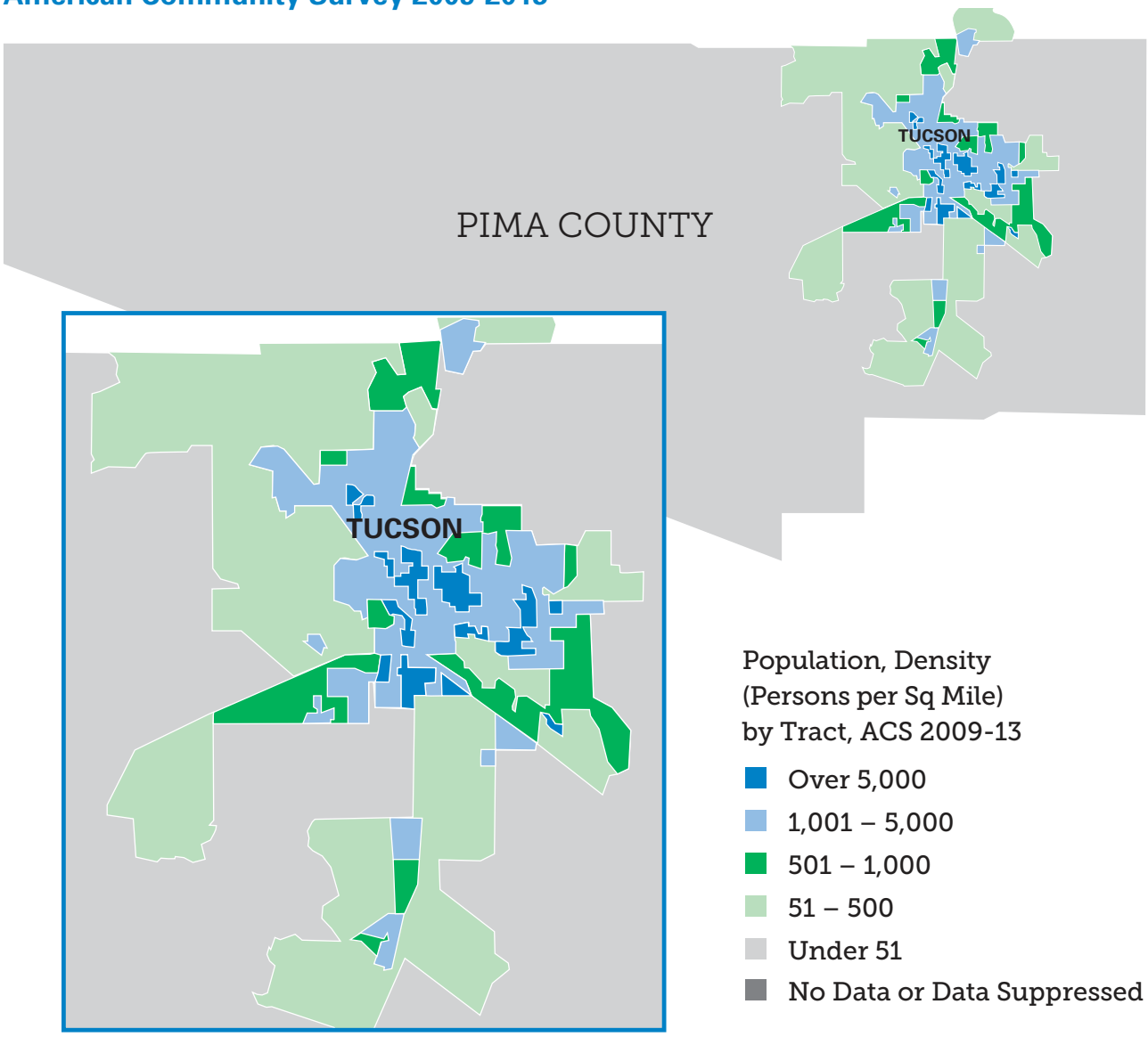


Figure retrieved from www.communitycommons.org

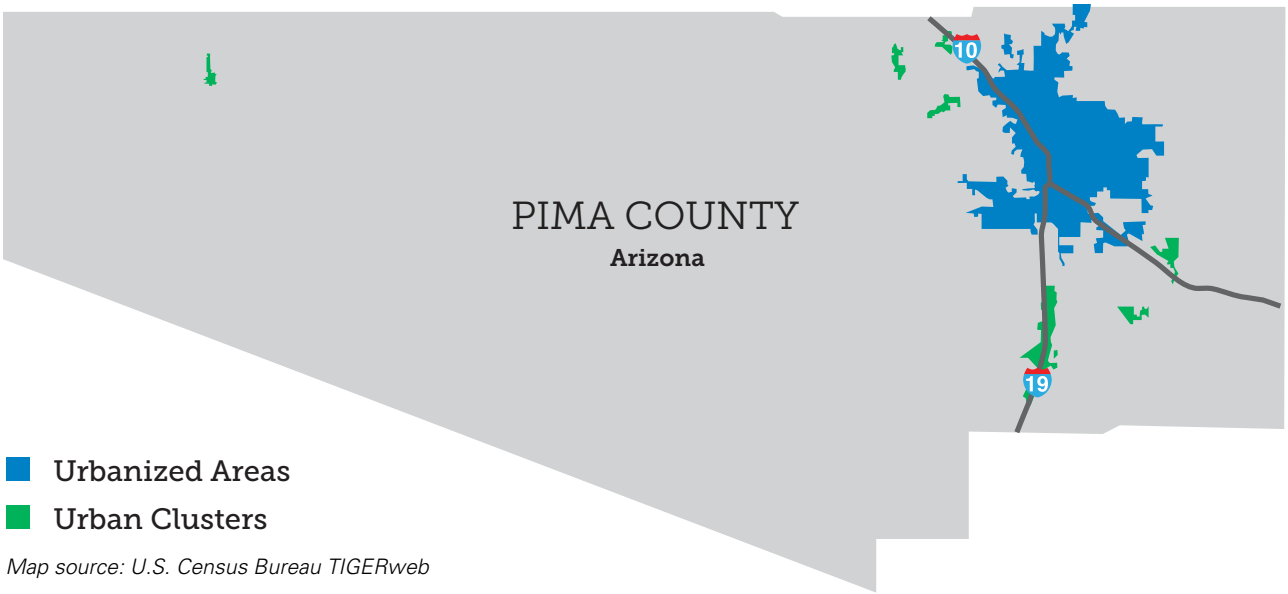
[1]U.S. Census Bureau.(2015). State and County QuickFacts. Retrieved from www.quickfacts.census.gov.

Rural Population

The U.S. Census Bureau defines a rural population as encompassing "all population, housing, and territory not included within an urban area." The Census Bureau identifies two types of urban areas: Urbanized Areas (UAs) of 50,000 or more people, and Urban Clusters (UCs) of at least 2,500 and less than 50,000 people.

Approximately 7.5% of Pima County residents live in a rural area[2] compared to approximately 5% of Arizonans who reside in a rural area[3]. Rural populations are at higher risk for factors such as geographic isolation, lower socio-economic status, higher rates of health risk behaviors, and higher rates of chronic illness and poor overall health compared to urban populations[4].

Figure 4: Urban and Rural Areas of Pima County



Map source: U.S. Census Bureau TIGERweb

Demographics

Pima County shares similar population demographics to neighboring Maricopa County and the rest of Arizona. Pima has a slightly lower percentage of the population aged 19 years old and younger, a slightly higher percentage of the population aged 65 years or older, and a higher percentage of people reporting Hispanic ethnicity. Slightly more Pima County residents than Maricopa or the State speak a language other than English at home, and unemployment is similar at both county and state levels.

[2]U.S. Census Bureau. (2015). 2010 Census Urban and Rural Classification and Urban Area Criteria. Retrieved from http://www.census.gov/geo/reference/ua/urban-rural-2010.html

[3]Rural Assistance Center. (2015). Retrieved from http://www.raconline.org/states/arizona

[4]Rural Assistance Center. (2015). Rural health disparities. Retrieved from http://www.raconline.org/topics/rural-health-disparities

Table 1: Pima County Population Demographics

PIMA COUNTY DEMOGRAPHICS*			
	Arizona	**Maricopa**	**Pima**
Population (2014 Estimate)	6,731,484	4,087,191	1,004,516
% Male	49.7	49.5	49.2
% Female	50.3	50.5	50.8
% under 18 years	24.4	25.3	22.1
% 65 years or older	15.4	13.4	17.2
% of race White	84	84.7	85.8
% of race Black	4.6	5.7	4.0
% race American Indian or Alaskan Native	5.3	2.7	4.2
% race Asian	3.2	4.0	3.0
% Native Hawaiian or Pacific Islander	0.3	0.3	0.2
% Hispanic or Latino ethnicity (any race)	30.3	30.0	35.7
% less than high school degree (2012)	14.56	13.85	12.99
% with high school degree (2012)	24.4	23.18	22.85
% some college education	26.0	25.1	26.4
% college graduate	26.9	29.8	29.8
% no health insurance (2012)	16.67	17.11	14.41
% other language age 5+ spoken at home	26.8	26.3	28.5
% below FPL	17.15	16.7	18.52
% age 18 or less below FPL	25.5	23.9	26.8
% unemployed	6.3	6.1	6.4

*2013 estimates unless otherwise noted. Sources:

1. U.S. Census Bureau State & County Quickfacts. Retrieved from: http://quickfacts.census.gov/qfd/states/04/04019.html
2. U,S, Census Bureau 2009-2013 American Community Survey 5-Year Estimates.
Retrieved from: http://factfinder.ce nsus.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk
3. Community Profiles Dashboard, Arizona Department of Health Services Bureau of Public Health Statistics.
Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Key Driver Indicators

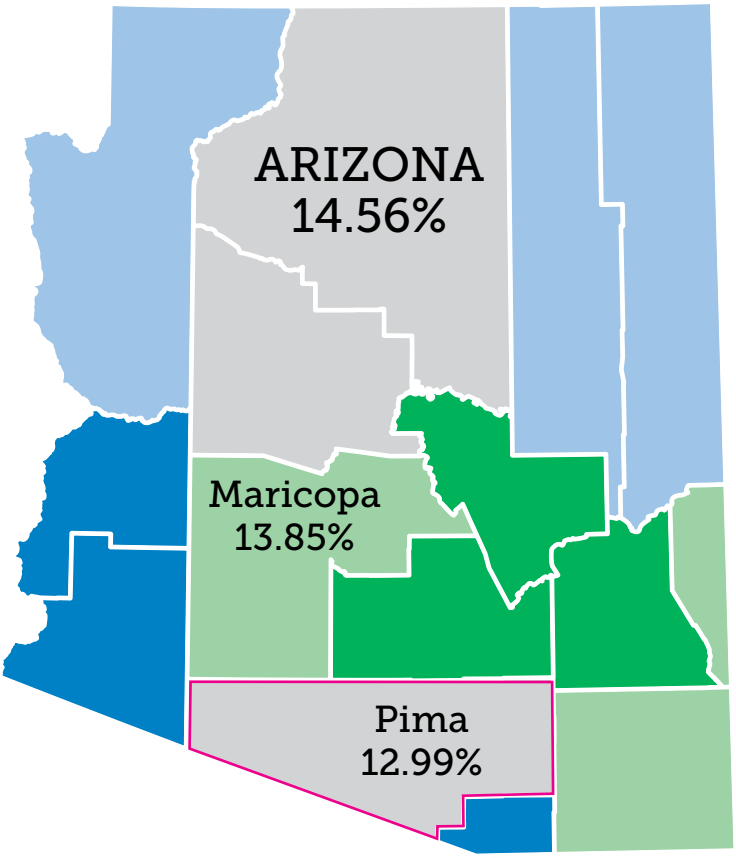
Three population indicators are highlighted as *Key Driver Indicators:* percentage of the population below the Federal Poverty Level, percentage of the population with no high school degree, and percentage of the population with no health insurance. These indicators are differentiated from other indicators because they are among the most predictive indicators of poor health outcomes and they are available at a sub-county geography making it possible to examine and understand the geographies and populations of greatest need throughout the county[5].

For the purposes of this community health needs assessment, these and select other indicators are reviewed more closely through comparison of **Primary Care Area Statistical Profiles (PCAs)**. A Primary Care Area is a geographic area in which most residents seek primary health services from the same place(s). The PCA is meant to depict the "primary care service seeking patterns" of the residents. The most recent data available at the Primary Care Area level for the Key Driver Indicators is from the year 2012 and is presented here for the purposes of illustrating disparities among Primary Care Areas.

In 2012, Pima County performed **better than Arizona** in percentages of population with less than a high school diploma (12.99% versus 14.56%) and population health insurance coverage (14.1% versus 16.67% uninsured). However, Pima County had a **higher percentage of persons living below the Federal Poverty Level** (18.52%) than the state (17.15%).

[5]Community Health Needs Assessment Health Indicators Report. 2015.
Retrieved from http://assessment.communitycommons.org/CHNA/report.aspx?page=6.

Figure 5: Percent of Pima County and Arizona Population with Less than a High School Degree



% With Less Than H.S. Diploma

- 10 – 13
- 14 – 15
- 16
- 17 – 26
- 27 – 29

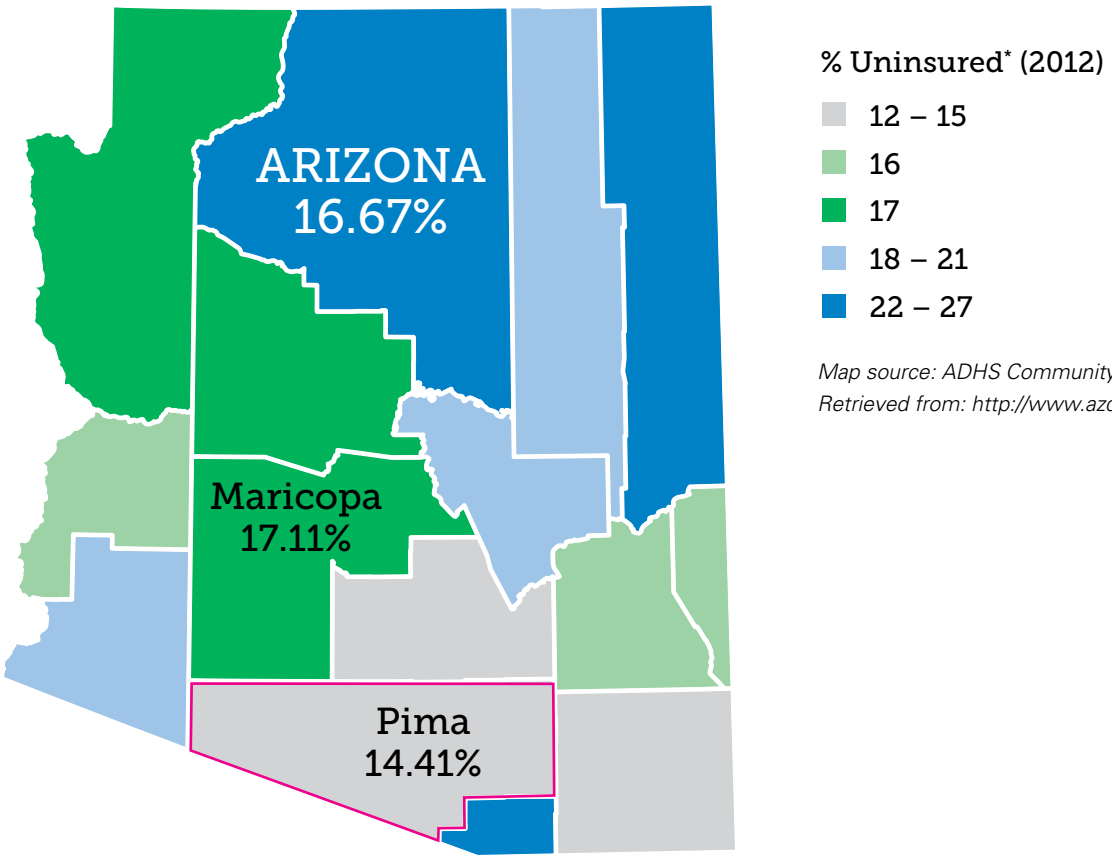
Map source: ADHS Community Profiles Dashboard. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Why High School Education Matters

Educational barriers can negatively impact a person's employment prospects, which can further increase the likelihood of poverty and lack of insurance. Furthermore, education is important to health literacy, which in turn affects a person's ability to understand medical information and determine early signs of illness or disease[6].

[6]Dignity Health. (2014). Community Need Index.
Retrieved from http://www.dignityhealth.org/stellent/groups/public/@xinternet_con_sys/documents/webcontent/231921.pdf

Figure 6: Percent of Pima County and Arizona Adult Population with No Health Insurance, 2012



Map source: ADHS Community Profiles Dashboard. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

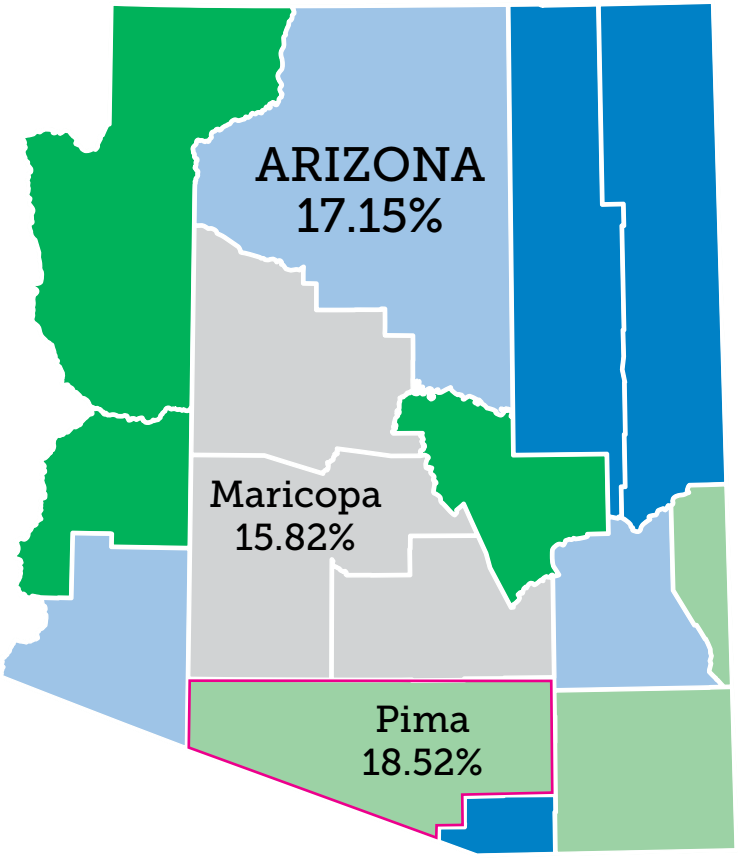
Why Health Insurance Coverage Matters

Due to the high cost of medical care in the United States, few people without health insurance can afford to seek medical care or pay for prescription drugs. People without insurance may avoid seeing primary care providers for routine screenings and checkups, and utilize emergency rooms instead when conditions have worsened and treatment is more costly and/or less effective. Additionally, many small businesses do not offer insurance coverage to employees[7].

NOTE: The local coalition has spearheaded the implementation of the Patient Protection and Affordable Care Act (ACA). This has resulted in a **decrease** in the percentage of the population without health insurance. According to March 2015 data provided by Enroll America, **Pima County's uninsured population fell to 10% in 2014.**

[7]Arizona Health Matters. (2015). Retrieved from http://www.arizonahealthmatters.org

Figure 7: Percent of Adult Population Living Below 100% of the Federal Poverty Level, 2012



% Below Federal Poverty Level

- 15 – 16
- 17 – 19
- 20 – 21
- 22 – 26
- 27 – 34

Map source: ADHS Community Profiles Dashboard. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Why Poverty Matters

Poverty is closely related to other key health indicators. A high poverty rate can be a cause and effect of economic conditions, lower quality schools and education, and decreased business survival. The U.S. Census Bureau determines the federal poverty threshold annually[8]. (Figure 7)

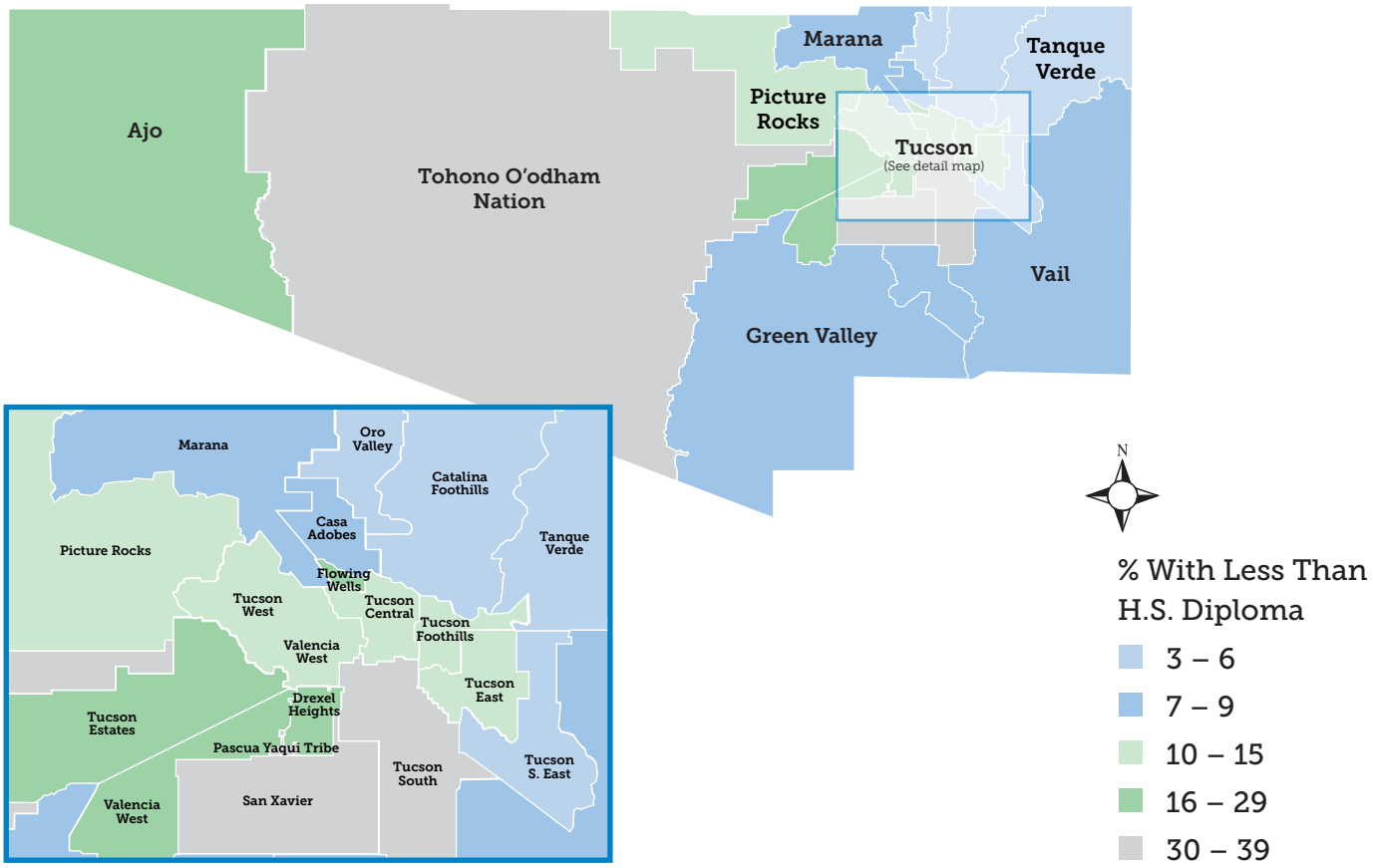
Community-level Disparities: Poverty, Insurance and Education

Significant disparities exist within Pima County Primary Care Areas, with the Pascua Yaqui Tribe, Tohono O'odham Nation (and San Xavier District), Tucson South, Tucson Central, Drexel Heights, Valencia West, Flowing Wells and Ajo all reporting higher percentages than the state of the adult population with less than a high school diploma, no health insurance and living below the Federal Poverty Line.

[8]Arizona Health Matters. (2015). Retrieved from http://www.arizonahealthmatters.org

The following figures illustrate disparities among Pima County PCAs in these indicators.

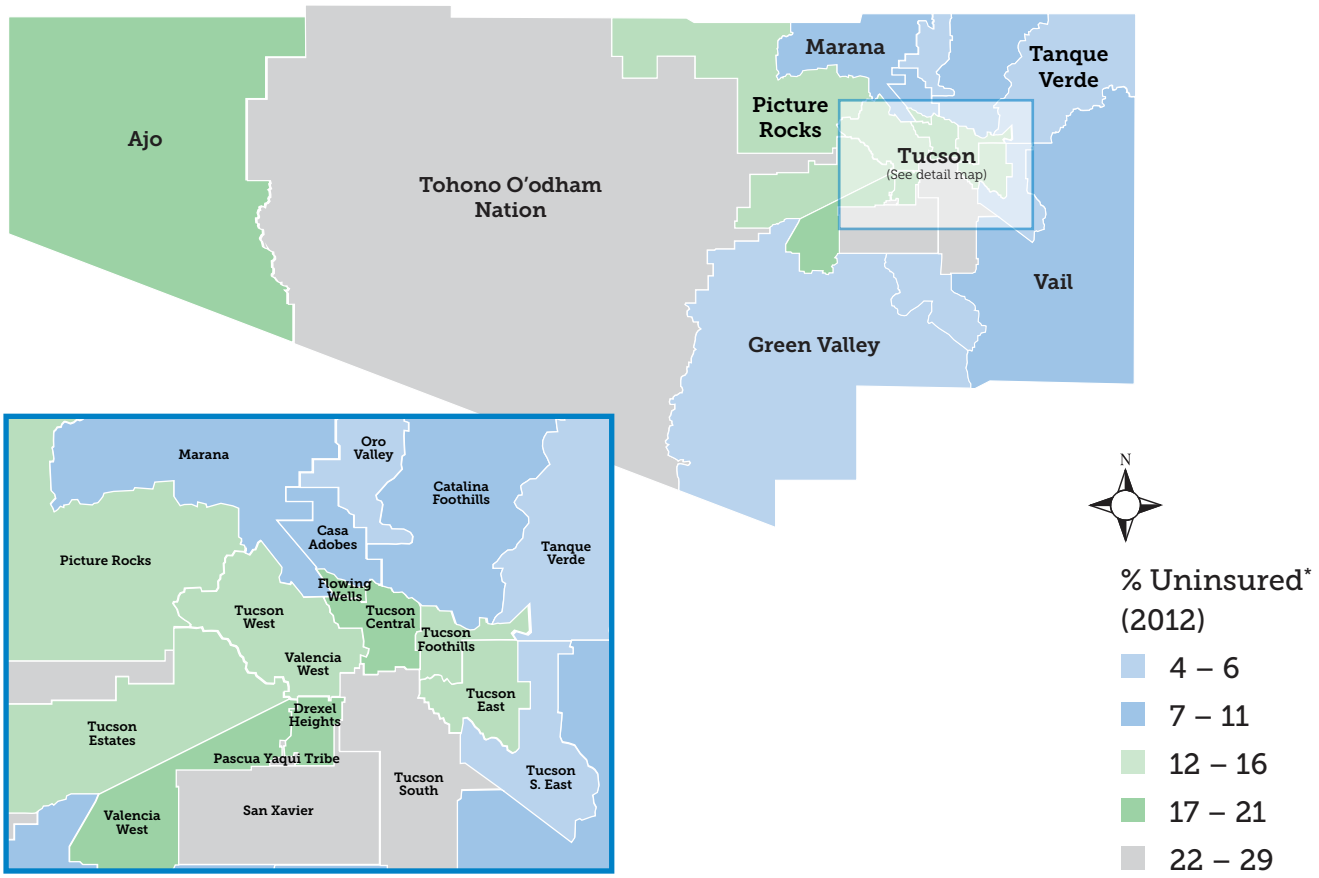
Figure 8: Percent of Pima County Population with Less than a High School Degree - 2012 Primary Care Areas



Map source: ADHS Community Profiles Dashboard. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Primary Care Areas that have higher percentages than the state of population with less than a high school diploma range from 15% in Tucson Central to 39% in San Xavier.

Figure 9: Percent of Adult Population with No Health Insurance



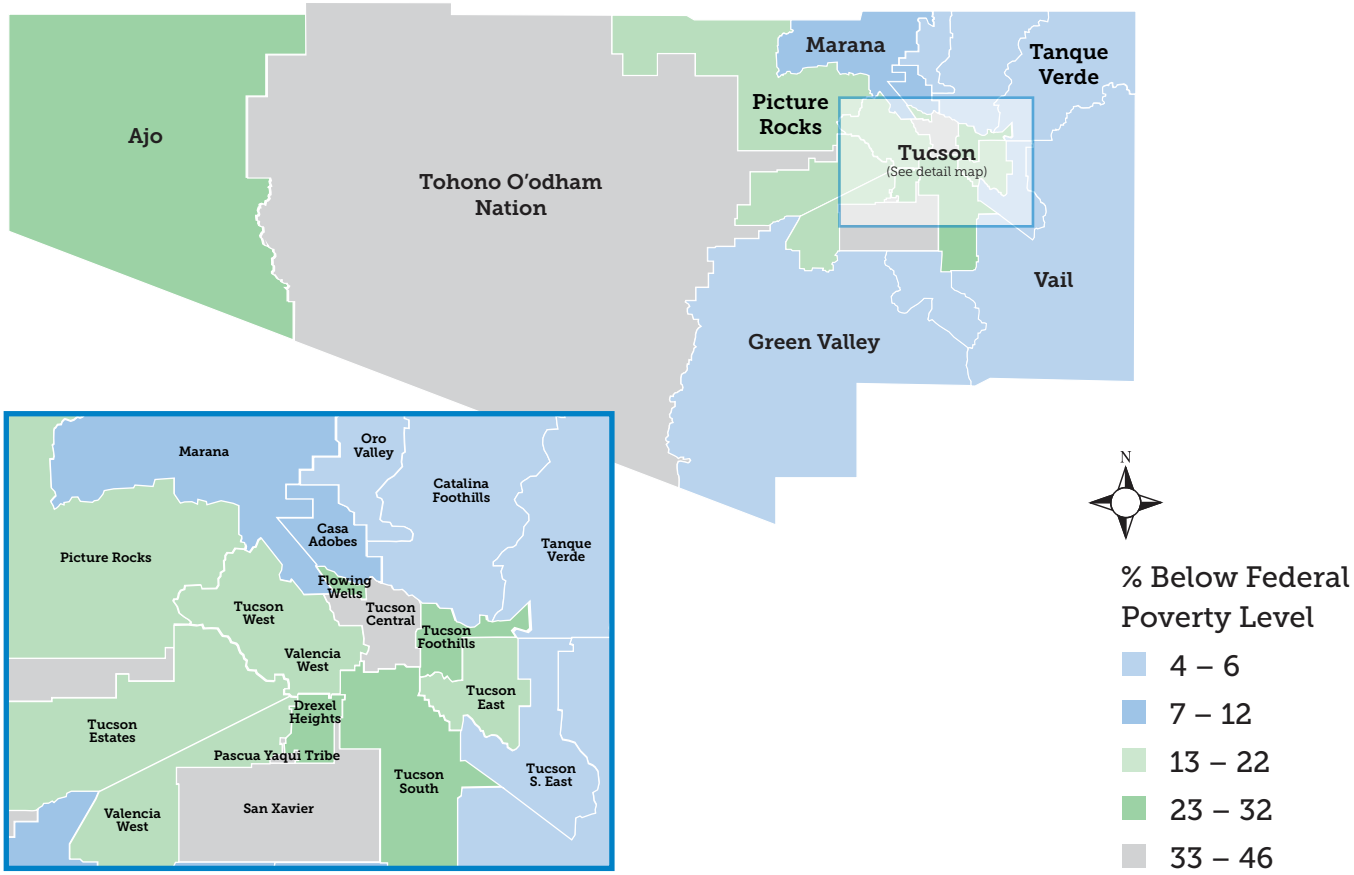
Map source: ADHS Community Profiles Dashboard. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

PCAs with higher percentages than the state of population without health insurance ranged from Ajo at 17% to Pascua Yaqui Tribe at 29%.

Results from the 2015 Pima County Health Survey indicated that Hispanics, adults ages 18-34, and people living in low-income households were the most likely to be uninsured at some point in the past year.

Additionally, survey respondents who did not have health insurance at some point in the last year were significantly less likely to see a doctor or take a prescribed medication in the past year due to cost. Those without health insurance were also significantly less likely to have someone they thought of as a personal doctor, visit a doctor for routine check-up in the past year, or visit a dentist or dental clinic in the past year. For more information, see P. 4 of the Pima County Health Needs Assessment Web-Based Survey Report (Appendix E).

Figure 10: Percent of Population Below 100% of the Federal Poverty Level - 2012 Primary Care Areas



Map source: ADHS Community Profiles Dashboard. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Primary Care Areas that have higher percentages than the state of population living below the Federal Poverty Level range from 19% in Valencia West to 46% in San Xavier.

Access to Health Care

Health Staffing Shortages by Health Professional Shortage Area (HPSA)

According to the U.S. Department of Health and Human Services (HHS) Health Resources and Services Administration (HRSA), Health Professional Shortage Areas (HPSAs) are designated by HRSA as having shortages of primary medical care, dental or mental health providers and may be geographic (a county or service area), population (for example, low income or Medicaid eligible) or facilities (for example, federally qualified health center or other state or federal prisons).

Pima County is designated as a Health Professional Shortage Area in medical care, dental care and mental health care.

Table 2: Access to Primary Health Care, Pima County, 2014

2014 PRIMARY CARE AREA STATISTICAL PROFILES (AZDHS)							
	Primary Care Score*	HPSA**	Primary Care Providers (#)	Primary Care Ratio-Population: Provider	AzMUA***	TransScore	Gen. Hospitals
Arizona			**16243**	**405:1**		**150**	**66**
Pima County			**2702**	**369:1**		**89**	**7**
San Xavier	62	Geographic (Arivaca)	11	176:1	Yes	215	Yes
Tohono O'odham Nation	60	Native American, Tohono O'odham	12	621:1	Yes	316	No
Flowing Wells	56	No	6	2969:1	Yes	148	Yes
Pascua Yaqui Tribe	52	Native American (Pascua Yaqui Tribe)	3	1190:1	Yes	167	Yes
Ajo	44	Geographic, Ajo	5	722:1	Yes	150	No
Green Valley	44	Geographic (Arivaca), Geographic (Continental)	36	705:1	Yes	164	No
Drexel Heights	42	Geographic (Tucson-Southwest), Geographic (Tucson-West)	8	3370:1	Yes	81	Yes

2014 PRIMARY CARE AREA STATISTICAL PROFILES (AZDHS)

	Primary Care Score*	HPSA**	Primary Care Providers (#)	Primary Care Ratio-Population: Provider	AzMUA***	TransScore	Gen. Hospitals
Tucson South	42	Geographic (Continental), geographic (Tucson-Central), Geographic (Tucson-South)	207	814:1	Yes		
Valencia West	42	Geographic (Arivaca), Geographic (Tucson West)	6	2846:1	Yes	112	Yes
Tucson Foothills	38	No	562	173:1	No	89	Yes
Tucson Estates	36	Geographic (Tucson-West)	9	1656:1	Yes	95	Yes
Tucson West	36	Geographic (Tucson-Southwest)	142	273:1	Yes	86	Yes
Picture Rocks	34	Geographic, Marana	10	1075:1	Yes	95	Yes
Tucson Central	34	Geographic (Tucson-Southwest), Geographic (Tucson-Central)	532	240:1	Yes	90	Yes
Tucson East	32	No	163	582:1	No	98	Yes
Tanque Verde	28	No	56	304:1	No	62	Yes
Casas Adobes	26	No	327	210:1	No	79	Yes
Catalina Foothills	24	No	219	281:1	No	78	Yes
Sahuarita	24	Geographic (Arivaca), Geographic (Continental)	34	871:1	Yes	87	Yes
Tucson South East	24	No	100	511:1	No	63	Yes

2014 PRIMARY CARE AREA STATISTICAL PROFILES (AZDHS)

	Primary Care Score*	HPSA**	Primary Care Providers (#)	Primary Care Ratio-Population: Provider	AzMUA***	TransScore	Gen. Hospitals
Marana	20	Geographic, Marana	91	641:1	Yes	73	Yes
Vail	20	Geographic (Continental)	23	831:1	Yes	80	No
Oro Valley	18	No	140	323:1	No	82	Yes

*Primary Care Score: Sum of points given by Primary Care Index applied to data of Primary Care Area (PCA) or Special Area (SArea). The higher the score, the greater the medical underservice. Special Area Profiles may be based on a different but similar Index.

**Health Professional Shortage Area: Number of active providers, and ratio to population of Family Practice, General Practice, Gynecology, Internal Medicine, Obstetrics and Gynecology, Obstetrics, Pediatrics (MD's) physicians, all active Osteopathic Physicians (DOs), Nurse Practitioners (NPs) and Physician Assistants (P's) working in Primary Care (includes federal doctors). NPs and PAs are counted as .8 of an MD FTE. Source: M's and P's from the Arizona Board of Medical Examiners, July 2013; NP's from the Arizona Board of Nursing, July 2013; and DOs from the Arizona Board of Osteopathic Examiners, July 2013.

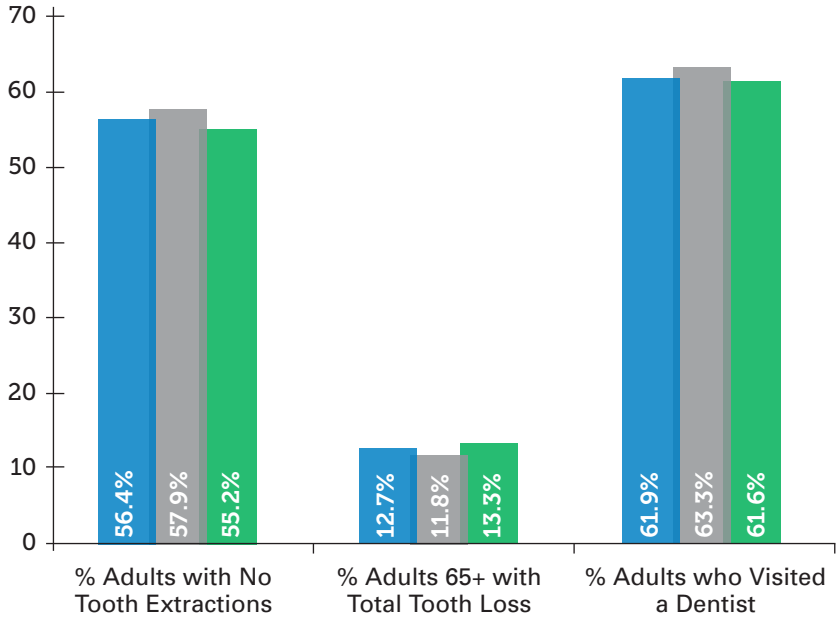
***Arizona Medically Underserved Area: Primary Care Areas scoring in the top 25% or having a score greater than 55, whichever is greater, are designated as medically underserved. Additionally, by Arizona Statute, all federally designated Arizona Primary Care Health Professional Shortage Areas (HPSAs) are also considered AzMUAs.

Source: ADHS, Division of Public Health Records, Data Documentation: Sources and Field Descriptions. Retrieved from: http://www.azdhs.gov/hsd/data/profiles/documents/datadocu.pdf

Adult Dental Care

According to Arizona Health Matters, "Oral health has been shown to impact overall health and wellbeing. Nearly one-third of all adults in the United States have untreated tooth decay, or tooth caries, and one in seven adults aged 35 to 44 years old has periodontal (gum) disease. Given these serious health consequences, it is important to maintain good oral health. It is recommended that adults and children see a dentist on a regular basis. Professional dental care helps to maintain the overall health of the teeth and mouth, and provides for early detection of pre-cancerous or cancerous lesions"[9].

Figure 11: Adult Dental Health and Health Care, 2012



Pima County
Maricopa County
Arizona

Source: 2012 BRFSS.
Retrieved from: www.arizonahealthmatters.org.

According to the 2012 BRFSS, less than 62% of Pima County adults reported visiting a dentist or dental clinic for any reason in the past year, compared to 63.6% of Maricopa County adults. Compared to Maricopa County adults, a higher percentage of Pima County adults aged 65 years or older reported total tooth loss (12.7% vs. 11.8%). Finally, fewer Pima County adults than Maricopa County adults reported no tooth extractions (56.4% vs. 57.9%).

Health Outcomes

Measuring morbidity and mortality rates allows for establishing relationships between social and economic factors of health and health outcomes, such as length of life/premature death and prevalence of disease[10].

[9]Arizona Health Matters. (2015). Retrieved from http://www.arizonahealthmatters.org

[10]Community Health Needs Assessment Health Indicators Report. 2015.
Retrieved from http://assessment.communitycommons.org/CHNA/report.aspx?page=6.

Leading Causes of Death

The leading causes of death among Pima County residents did not vary significantly from the rest of the state. Cancer and heart disease are by far the leading causes of death among Pima County residents as well as the state.

In four out of the top 20 causes of death, Pima County performs worse than the state. **Each of these four areas is related to a top health priority as identified by the Pima County Community Health Assessment process (substance abuse and dependency).** These causes are drug-induced death (21.9/100,000 versus 16.9/100,000 statewide); opiates/opioids (14.9/100,000 versus 7/100,000); pharmaceutical opioids (11/100,000 versus 5/100,000); and heroin (4.1/100,000 versus 2/100,000).

Table 3: Leading Causes of Death in Pima County - 2013

LEADING CAUSES OF DEATH IN PIMA COUNTY - 2013 (AGE-ADJUSTED PER 100,000 PERSONS)				
	Pima	**Maricopa**	**Arizona**	**Pima County vs. Arizona***
All Cancer	**152.1**	149.2	151.8	↔
Heart Disease	**147.3**	137	144.2	↔
Total accidents	**50.1**	40.6	46.3	↔
Chronic Lower Respiratory Diseases	**41.3**	44.2	45.2	↔
Alzheimer's Disease	**36.2**	39.4	33.4	↔
Lung cancer	**34.9**	37.1	37	↔
Stroke	**30.9**	28.3	28.4	↔
Diabetes	**22.4**	23	23.8	↔
Drug-induced deaths	**21.9**	15.5	16.9	↑
Intentional self harm (suicide)	**17.6**	15.1	16.9	↔
Chronic Liver Disease	**15.8**	12	14.7	↔
Opiates/opioids (contributing to death)	**14.9**	5	7	↑
Pharmaceutical Opioids (contributing to death)	**11**	3.4	5	↑
Influenza and Pneumonia	**10.1**	8	10.1	↔
Hypertension	**9.6**	11.2	9.8	↔
Parkinson's disease	**8.5**	8.3	8.2	↔
Assault (Homicide)	**7.3**	5.4	6	↔
Septicemia	**5.7**	3.6	4.9	↔
Nephritis	**4.5**	3.4	5.4	↔
Heroin (contributing to death)	**4.1**	1.7	2	↑
Median age at death	**78**	77	76	

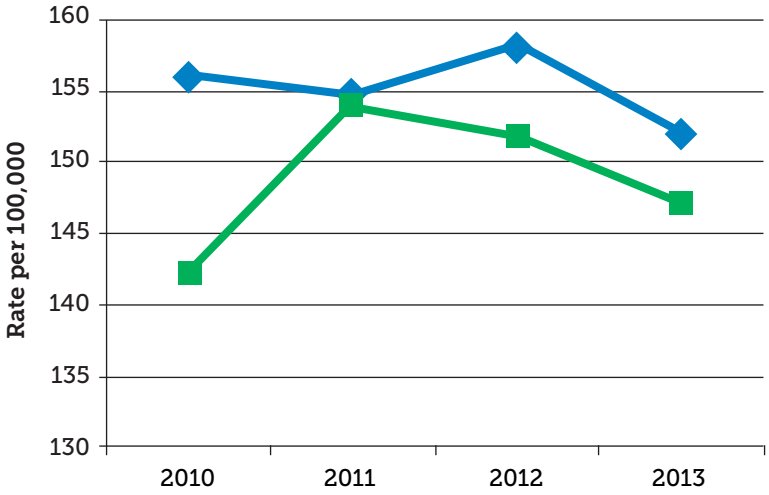
Source: Community Profiles Dashboard. 2015. Arizona Department of Health Services, Population Health and Vital Statistics. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

*How Pima County performs in the indicator compared to the rest of the state (red arrow up indicates statistically significantly poorer; green arrow down indicates statistically significantly better. A ↔ indicates no statistically significant difference).

Mortality Trends

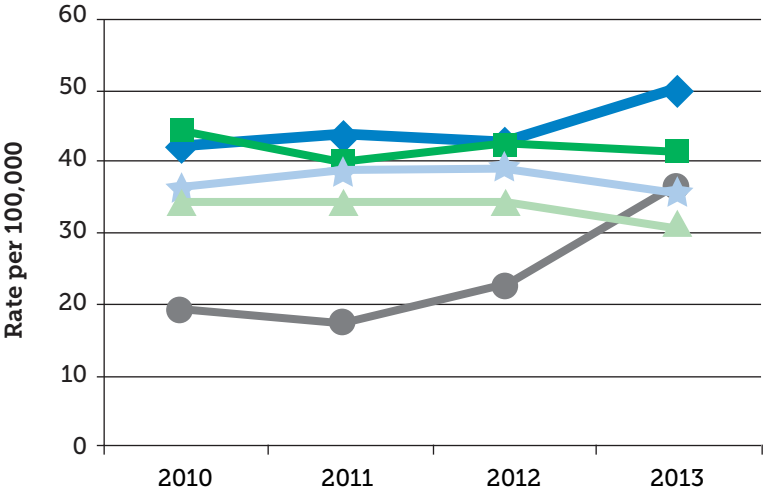
With the exception of Total Accidents and Alzheimer's Disease, the top 10 leading causes of death in Pima County have not varied significantly from 2010-2013. Death rates for Total Accidents have increased during this time period (from 42.5/100,000 to 50.1/100,000) and the death rates for Alzheimer's Disease have nearly doubled (19/100,000 to 36.2/100,000). **Of note: Injuries/accidents has been identified as a top health priority area by the 2015 Pima County Community Health Needs Assessment process.**

Figure 12: Leading Causes of Death in Pima County, 2010-2013



Source: Community Profiles Dashboard. 2015. Arizona Department of Health Services, Population Health and Vital Statistics. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Figure 13: Leading Causes of Death in Pima County, 2010-2013 (excluding heart disease and cancer)



Source: Community Profiles Dashboard. 2015. Arizona Department of Health Services, Population Health and Vital Statistics. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

At the community level, several PCAs had statistically significantly higher mortality rates than the state for selected leading causes of death. They are: **Pascua Yaqui Tribe** (All Cancer), **Tohono O'odham Nation** (All Cancer, Heart Disease, Total Accidents and Diabetes); **Tucson East** (All Cancer, Heart Disease, and Chronic Lower Respiratory Diseases); **Tucson South** (Heart Disease, Diabetes); **Flowing Wells** (Total Accidents, Chronic Lower Respiratory Diseases and Drug-Induced Deaths); **Tucson Foothills** (Total Accidents, Chronic Lower Respiratory Diseases, Alzheimer's Disease and Drug-Induced Deaths); **Drexel Heights** (Chronic Lower Respiratory Diseases); **Picture Rocks** (Chronic Lower Respiratory Diseases) **Tucson West** (Alzheimer's Disease); **Tucson Estates** (Chronic Lower Respiratory Diseases); and **Tucson Central** (Drug-Induced Deaths).

Table 4: Primary Care Areas with Statistically Higher Mortality Rates, 2013

LEADING CAUSE OF DEATH	PRIMARY CARE AREAS					
All Cancer	Pascua Yaqui Tribe	Tohono O'odham Nation	Tucson East	Tucson South		
Heart Disease	Tohono O'odham Nation	Tucson East	Tucson South			
Total accidents	Flowing Wells	Tohono O'odham Nation	Tucson Foothills			
Chronic Lower Respiratory Diseases	Drexel Heights	Flowing Wells	Picture Rocks	Tucson East	Tucson Estates	Tucson Foothills
Alzheimer's Disease	Tucson Foothills	Tucson West				
Diabetes	Tohono O'odham Nation	Tucson South				
Drug-induced deaths	Flowing Wells	Tucson Central	Tucson Foothills			

Source: Community Profiles Dashboard. 2015. Arizona Department of Health Services, Population Health and Vital Statistics. Retrieved from: Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Risk Factor Behaviors and Conditions Related to Top 10 Causes of Death

According to the World Health Organization, "a risk factor is any attribute, characteristic, or exposure of an individual that increases the likelihood of developing a disease or injury"[11]. In this assessment, the specific risk factors among adults include tobacco use, alcohol abuse, adult overweight or obesity, physical inactivity and utilization of recommended screenings including mammogram, Pap test, colon cancer screening and diabetic A1c monitoring.

Table 5: Risk Factors Related to Top 10 Causes of Death

INDICATOR	PIMA	MARICOPA	ARIZONA	PIMA VS. ARIZONA*
Adults who Binge Drink	17.5%	15.2%	13.4%	✖
Adults who Smoke	16.4%	16.7%	16.3%	←→
Adults who are Overweight or Obese	59.5%	60.9%	61.9%	✔
Colon Cancer Screening	15.0%	14.6%	15.0%	←→
Pap Test History	78.8%	73.2%	73.3%	✔
Mammogram History	75.5%	68.4%	69.5%	✔
Diabetic monitoring**	81%	83%	79%	✔
Physical Inactivity**	20%	21%	21%	✔

*How Pima County performs in the indicator compared to the rest of the state (red ✖ indicates worse performance than the state; green ✔ indicates better performance. A ←→ means the indicator is similar or the same as the state).

Source: Behavioral Risk Factor Surveillance System, 2010, 2011, 2012 and 2013. Retrieved from: www.arizonahealthmatters.org and www.countyhealthrankings.org. Note: State percentages indicate 2013 BRFSS data, whereas the latest data available at the county level are from the 2012 BRFSS.

**Physical Inactivity and diabetic monitoring data are collected from County Health Rankings and represent 2010 and 2011 data, respectively.

Pima County performs as well as or better than the rest of the state in the percentage of women aged 40 and over who have had a mammogram in the past two years, the percentage of women aged 18 and over who have had a Pap smear in the past three years, and the percentage of adults aged 50 and over who have had a blood stool test within the past two years. These indicators are important because they may lead to earlier and more effective treatment of breast, cervical and colon cancers.

Approximately 1 in 5 (21.5%) respondents indicated they did no physical activity outside of work in the past month and 9% indicated they are a current smoker.

Among respondents that participated in physical activity outside of work in the past month, most (60.5%) said they typically engage in moderate physical activities for 30 minutes or more. For more information, see P. 6 of the Pima County Health Needs Assessment Web-Based Survey Report (Appendix E).

[11]World Health Organization. 2015. Health topics: Risk Factors. Retrieved from: http://www.who.int/topics/risk_factors/en/.

Pima County performs better than the state in the percentage of adults aged 20 and over who report no leisure-time physical activity, which is related to many diseases and conditions such as diabetes, cancer, stroke, hypertension, and premature mortality, independent of obesity. Pima County also performs better than the state in the percentage of diabetic Medicare enrollees that receive HbA1c monitoring, which helps assess the management of diabetes over the long term[12].

Pima County performs worse than Arizona in the percentage of adults who binge drink. This is important because "binge drinkers are 14 times more likely to report alcohol-impaired driving than non-binge drinkers…and is associated with a variety of negative health and safety outcomes" such as "traffic accidents, employment problems, legal difficulties, financial loss, family disputes and other interpersonal problems"[13]. The percentage of Pima County adults who smoke does not vary much from that of the state.

Infectious Diseases

Sexually Transmitted Diseases and HIV/AIDS

Sexually transmitted diseases including HIV/AIDS are important measures to track and address through public health initiatives. Throughout the United States, syphilis—which is often co-occurring with HIV among men who have sex with men, and can be passed from mother to infant during pregnancy—is on the rise. As many as one in five people who have HIV or AIDS are unaware they have it. Chlamydia and gonorrhea, both bacterial diseases, can be asymptomatic, which can lead people to go undetected and untreated and continue to spread among the population. Both chlamydia and gonorrhea can lead to serious health problems if left untreated[14].

Table 6: Incidence of Sexually Transmitted Diseases and HIV/AIDS, 2013

INDICATOR	PIMA	MARICOPA	ARIZONA	PIMA VS. ARIZONA*
Syphilis	5.5	5.3	4.4	✖
Gonorrhea	80.5	117.9	98.2	✔
Chlamydia	527.7	477.7	466.6	✖
HIV/AIDS	8.0	11.7	9.8	✔

*Cases per 100,000 population

Source: ADHS, office of HIV, STD, and Hepatitis Services. Retrieved from: www.arizonahealthmatters.org.

*How Pima County performs in the indicator compared to the rest of the state (red ✖ indicates worse performance than the state; green ✔ indicates better performance. A ←→ means the indicator is similar or the same as the state).

[12]County Health Rankings & Roadmaps. 2015. Retrieved from: www.countyhealthrankings.org.

[13]Arizona Health Matters. (2015). Retrieved from http://www.arizonahealthmatters.org

[14]Ibid.

Pima County has **higher rates of both syphilis and chlamydia** than the rest of the state, and lower rates of HIV/AIDS and gonorrhea. Rates of both **chlamydia and gonorrhea** throughout Pima County have **increased over time.**

Figure 14: Pima County Chlamydia Incidence Rate, 2008-2013

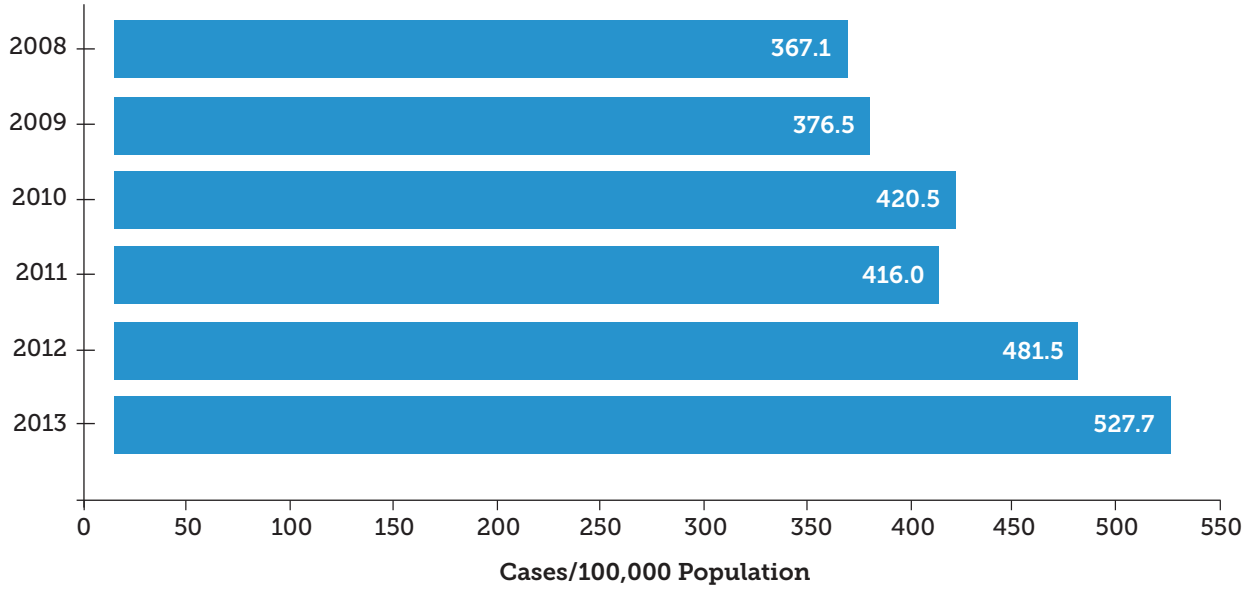


Figure retrieved from www.arizonahealthmatters.org

Figure 15: Pima County Gonorrhea Incidence Rate, 2008-2013

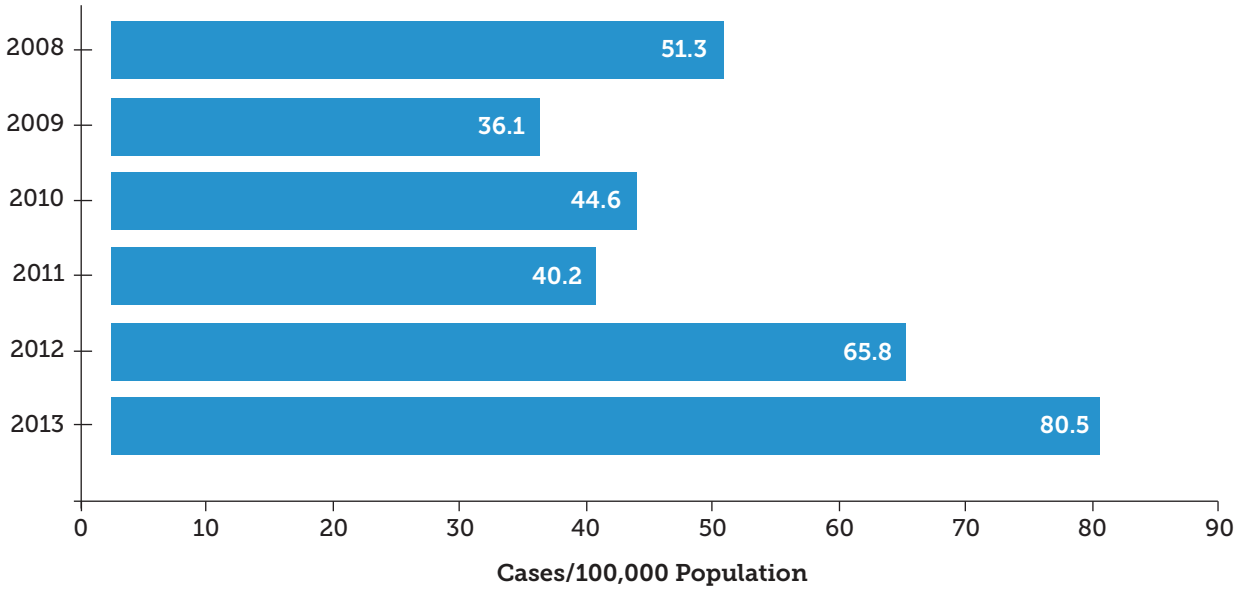


Figure retrieved from www.arizonahealthmatters.org

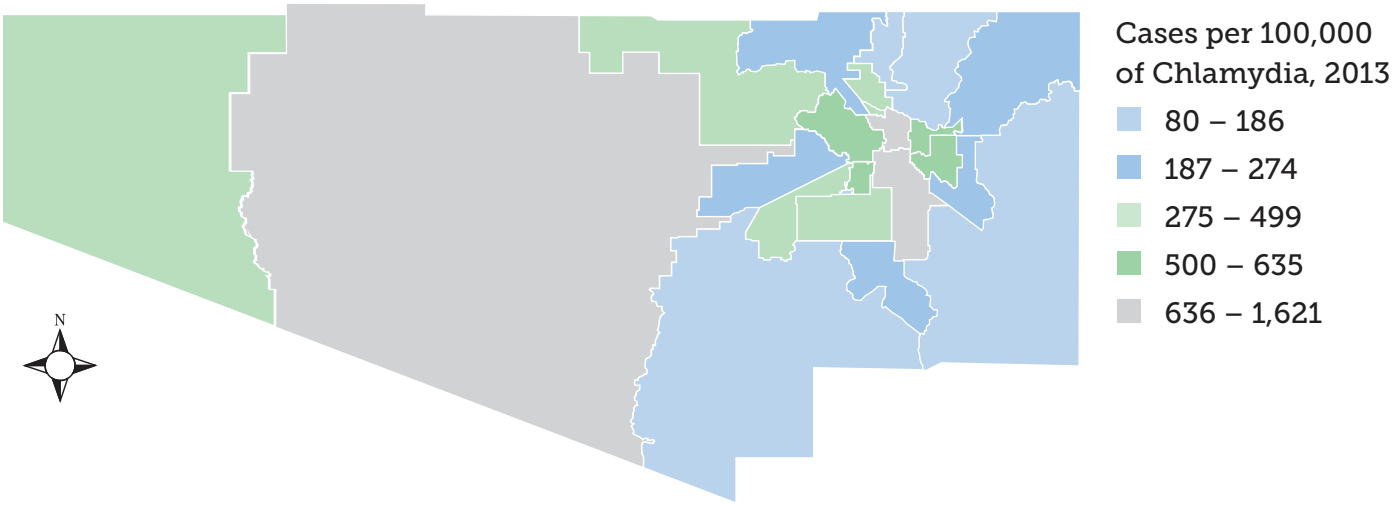
Table 7: Primary Care Incidence* of Sexually Transmitted Disease and HIV/AIDS, 2013

PRIMARY CARE AREA	HIV/AIDS	CHLAMYDIA	GONORRHEA	PRIMARY AND SECONDARY SYPHILIS
Ajo	0	494.6	0	0
Casas Adobes	10.4	339.8	65.6	1.5
Catalina Foothills	3.3	158.2	20	3.3
Drexel Heights	0	593.1	90.1	3.8
Flowing Wells	5.8	543.8	75.2	5.8
Green Valley	12	80.2	20	0
Marana	7.2	231.2	21.5	5.4
Oro Valley	2.2	153.3	26.7	0
Pascua Yaqui Tribe	0	1252.2	58.2	0
Picture Rocks	0	288.3	65.1	0
Sahuarita	0	190.2	16.4	0
San Xavier	0	449.9	0	0
Tanque Verde	6	186.9	24.1	0
Tohono O'odham Nation	0	1621.4	92.3	13.2
Tucson Central	17.4	801.2	131	8.7
Tucson East	11.8	505.1	72	6.5
Tucson Estates	13.3	251.9	19.9	6.6
Tucson Foothills	11.5	576.5	100.4	5.2
Tucson South	17.1	812.7	120	8.8
Tucson South East	7.6	219.9	37.9	5.8
Tucson West	12.9	587.1	113.8	7.8
Vail	0	180.8	25.1	5
Valencia West	0	404	67.3	0

At the community level, the Primary Care Areas that the Arizona Department of Health Services has identified as having **statistically significant higher rates of chlamydia, gonorrhea and syphilis** are Drexel Heights, Flowing Wells, Pascua Yaqui Tribe, Tohono O'odham Nation, Tucson Central, Tucson East, Tucson South and Tucson West (Chlamydia); Tucson Central and Tucson South (Gonorrhea); and Tucson South (Gonorrhea).
*Per 100,000 population.
Source: Arizona Department of Health Services Community Profiles Dashboard. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

The figure below shows the variation among primary care areas in incidence of one of these indicators, chlamydia.

Figure 16: Primary Care Area Chlamydia Incidence per 100,000, 2013



Map source: ADHS Community Profiles Dashboard. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Tuberculosis

Pima County performs **better than the state in terms of tuberculosis (TB) incidence rate** (2.4 versus 2.8 cases/100,000 population). TB is an infectious bacterial disease that usually affects the lungs; however, prolonged exposure to a person with untreated TB is usually necessary for infection to occur. Over time, Pima County has seen a **decrease in TB incidence rates**[15].

Figure 17: Tuberculosis Incidence Rate, Pima County, 2001-2013

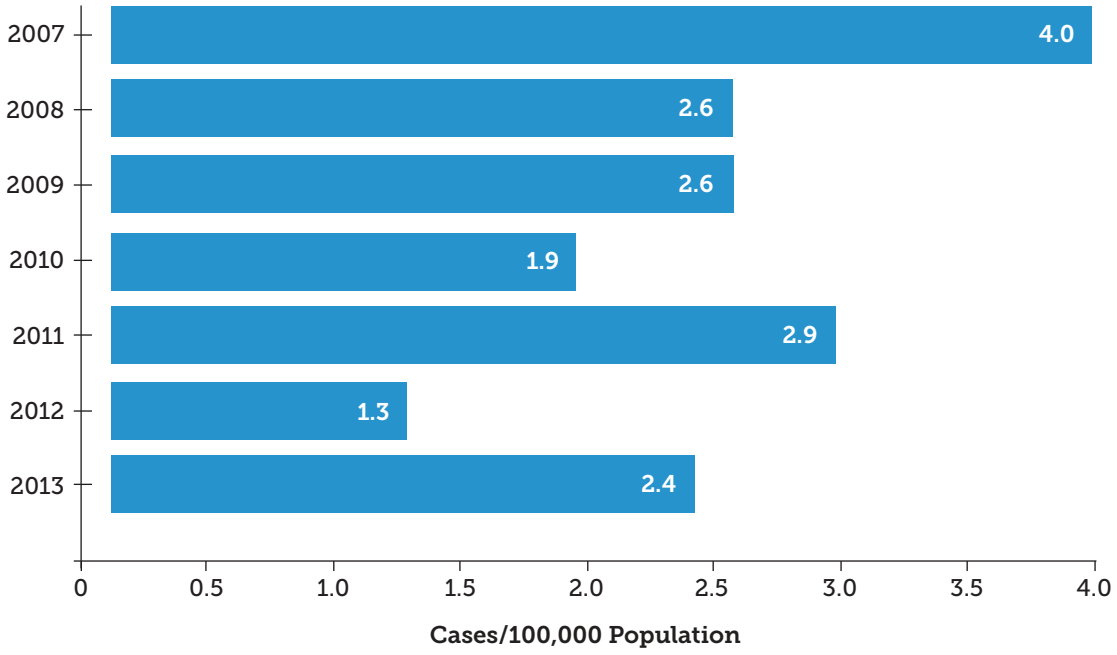


Figure retrieved from www.arizonahealthmatters.org.

[15]Arizona Health Matters. (2015). Retrieved from http://www.arizonahealthmatters.org

Vaccine Preventable Diseases

Among public health achievements of the 20th century, few are as significant and lifesaving as the development of vaccines. The Arizona Department of Health Services tracks the incidence rate of vaccine-preventable diseases such as measles, influenza, mumps, rotavirus, chickenpox (varicella) and others. In 2013, there were 12.7 per 100,000 cases of vaccine-preventable diseases in Pima County, compared to 12.8 per 100,000 and 23.8 per 100,000 in Maricopa County and statewide, respectively. While incidence rates have been calculated at the primary care area level, no PCA stands out as having a statistically significant higher rate of vaccine preventable diseases due to the small count.

Table 8: Primary Care Area Incidence Rate of Vaccine-Preventable Diseases, 2013

PRIMARY CARE AREA	CASES PER 100,000
Ajo	0
Casas Adobes	10.4
Catalina Foothills	13.3
Drexel Heights	11.3
Flowing Wells	17.4
Green Valley	4
Marana	10.8
Oro Valley	8.9
Pascua Yaqui Tribe	58.2
Picture Rocks	18.6
Sahuarita	3.3
San Xavier	0
Tanque Verde	12.1
Tohono O'odham Nation	13.2
Tucson Central	8.8
Tucson East	14
Tucson Estates	0
Tucson Foothills	10.5
Tucson South	7.7
Tucson South East	39.8
Tucson West	0
Vail	40.2
Valencia West	5.6

Source: Arizona Department of Health Services Primary Care Area Statistical Profiles. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Maternal, Fetal and Infant Health

Various factors can influence the health of a mother and her baby, both during and after pregnancy. Babies whose mothers do not receive **prenatal care** in the first trimester of pregnancy are three times more likely to have a low birth weight and five times more likely to die than those whose mothers do receive care.

Premature babies are more likely to stay in the hospital longer and receive more specialized care. Factors that can have an impact on a baby being born prematurely include a mother's smoking, drinking alcohol and taking drugs, and not getting prenatal care.

Low birth weight babies (less than 2,500 grams or 5 pounds, 8 ounces) tend to have more health problems and need more intensive care than healthy weight babies. Early prenatal care and avoiding harmful substances including drugs, alcohol and smoking may be important to preventing a low birth weight.

Teen births can be harmful to teenagers' social, mental and physical health, and babies born to teen mothers are more likely to be born with a low birth weight or pre-term.

Overall, **infant mortality rate** is one of the most widely used indicators of health status of a community, and can be impacted by all the aforementioned indicators.

The table below compares Pima County's maternal, fetal and infant health with the rest of the state. Pima County performs **better than the state** in **teen birth rates, preterm births, and infant mortality rate**. The county has a lower percentage than the state of mothers who receive early prenatal care (73.8% versus 81.3%), and is similar to the state in percentage of babies with low birth weight.

Table 9: Maternal, Fetal and Infant Health, Pima County, 2013

INDICATOR	PIMA	MARICOPA	ARIZONA	PIMA VS. ARIZONA*
Babies with Low Birth Weight	7.1%	6.9%	6.9%	←→
Teen Birth Rate (per 1,000 females 15-19 years)	28.8	30.3	31.3	✔
Preterm Births	8.9%	9.2%	9.0%	✔
Mothers who Received Early Prenatal Care	73.8%	84.7%	81.3%	✖
Infant Mortality Rate (per 1,000 live births)	4.8	5.3	5.3	✔

Source: Arizona Department of Health Services. Retrieved from: www.arizonahealthmatters.org.

*How Pima County performs in the indicator compared to the rest of the state (red ✖ indicates worse performance than the state; green ✔ indicates better performance. A ←→ means the indicator is similar or the same as the state).

At the Primary Care Area level, low birth weight rates are statistically significantly higher than the state in **Tucson East**; late prenatal care rates are higher in **Ajo, Flowing Wells, Tohono O'odham Nation, Tucson Central, Tucson Foothills and Tucson South**; and teen birth rates are higher among the **Pascua Yaqui Tribe, Tohono O'odham Nation and Tucson South.** There is no statistical significance among PCAs in infant mortality rates.

Table 10: Primary Care Area Maternal, Infant and Fetal Health, 2013

RATES PER 1,000 LIVE BIRTHS	BIRTHWEIGHT <2,500 GRAMS	LATE OR NO PRENATAL CARE	PRETERM BIRTH	TEENAGE BIRTH	INFANT MORTALITY (PER 10,000 LIVE BIRTHS)
PCA					
Ajo	58	**130.4**	14.5	115.9	289.9
Casas Adobes	82.8	43.3	1.3	56.1	0
Catalina Foothills	63.2	71.1	5.3	34.2	0
Drexel Heights	83.6	74.9	11.5	100.9	28.8
Flowing Wells	88.9	**122.2**	5.6	127.8	0
Green Valley	130.4	108.7	0	65.2	0
Marana	60.2	43	4.3	40.1	0
Oro Valley	46.3	49.8	0	24.9	71.2
Pascua Yaqui Tribe	13.5	108.1	0	**243.2**	0
Picture Rocks	24.7	74.1	0	86.4	0
Sahuarita	72.4	35.1	18.7	30.4	70.1
San Xavier	0	95.2	0	238.1	476.2
Tanque Verde	93	34.9	0	34.9	0
Tohono O'odham Nation	75.3	**164.4**	6.9	**184.9**	205.5
Tucson Central	72.7	**97.5**	7.8	93.9	42.4
Tucson East	**93.6**	61.3	12.1	74.2	48.4
Tucson Estates	87.9	76.9	0	120.9	0
Tucson Foothills	74.6	**88.3**	7.3	77.8	56.7
Tucson South	66	**110.9**	10.7	**127.9**	62.6
Tucson South East	74.7	31.3	6.9	29.5	104.2
Tucson West	65.7	75.1	16.4	79.8	23.5
Vail	22.8	27.4	9.1	32	0
Valencia West	52.4	74.9	7.5	198.6	112.4

Source: Arizona Department of Health Services Community Profiles Dashboard. Retrieved from: http://www.azdhs.gov/phs/phstats/profiles/

Natural, Built and Social Environment

Natural Environment

Air quality is an important factor in public health. The World Health Organization (WHO) estimates that each year, 800,000 people die from the effects of air pollution. Children exposed to air pollution are more susceptible to respiratory disease[16].

The American Lung Association assigns letter grades of A-F to counties on annual ozone levels and annual particle pollution. The letter grades correspond to numbers (A=1, B=2, C=3, D=4 and C=5). The Environmental Protection Agency (EPA) collects these data[17].

Table 11: Natural Environment, Pima County (2011-2013**)

	PIMA	MARICOPA	BENCHMARK*	COMPARISON AGAINST BENCHMARK
Annual Ozone Air Quality	3	5	2 (U.S. Counties)	✖
Annual Particle Pollution	1	5	2 (U.S. Counties)	✔
Recognized Carcinogens Released Into Air	126,534 lbs	157,980 lbs	Prior Value: Improving over time?	✖

*How Pima County performs in the indicator compared to the identified benchmark (red ✖ indicates worse performance; green ✔ indicates better performance. A ←→ means the indicator is similar or the same as the benchmark).

**Only 2013 data is presented for recognized carcinogens.

Source: U.S. EPA and American Lung Association. Retrieved from: www.arizonahealthmatters.org.

Pima County **performs poorly** against the Air Quality Index in **annual ozone air quality**, and **performs well in annual particle pollution**. Another indicator, **Recognized Carcinogens Released Into Air**, measures the quantity (in pounds) of reported and recognized carcinogens (compounds with strong scientific evidence that they can induce cancer). **Pima County is performing poorly**, releasing more carcinogens into the air than in each of the four previous years measured[18].

Figure 18: Recognized Carcinogens Released Into The Air, Pima County, 2009-2013

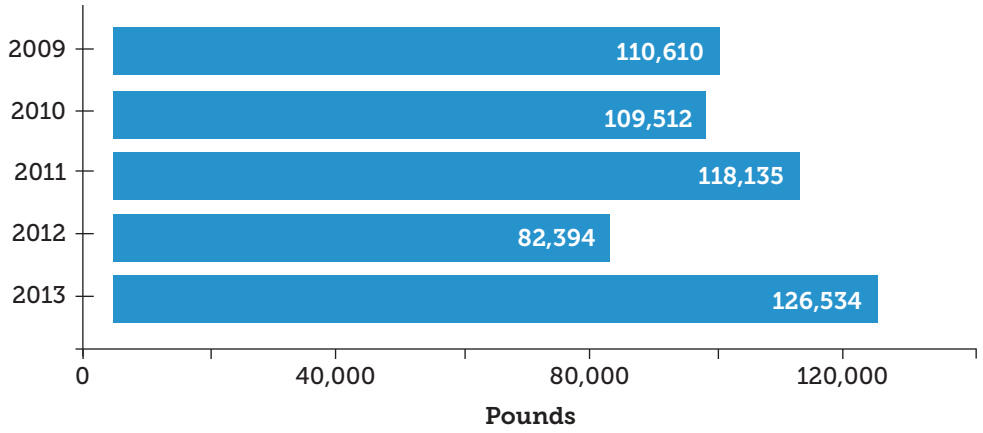


Figure retrieved from www.arizonahealthmatters.org.

[16]United States Environmental Protection Agency. 2015. Retrieved from: http://www.epa.gov/oia/air/pollution.htm

[17]Arizona Health Matters. (2015). Retrieved from http://www.arizonahealthmatters.org

[18]Ibid.

Built Environment: Access to Healthy Foods and Recreation

Access to healthy, nutritious food and recreation opportunities are important factors in a healthy lifestyle. Underserved, low-income people are often disproportionately limited in access to grocery stores, and this can be complicated by factors such as transportation and age. Additionally, food insecurity – defined by the USDA as limited or uncertain availability of nutritionally adequate foods or ability to acquire these foods in socially acceptable ways – are important economic and social indicators of the health of a community[19].

The following indicators show how Pima County compares to other U.S. counties in terms of access to healthy foods, specifically, percentage of total population in a county in percent of children, percent of people age 65+, and percent that are low income and living more than one mile from a supermarket or large grocery store if in an urban area, and more than 10 miles if in a rural area. Additionally, the table below shows the % of the population and the % of children who have experienced food insecurity at some point during the year. Finally, the table also shows the % of the county population that has adequate access to locations for physical activity, which is associated with lower risks of many chronic diseases.

Table 12: Access to Healthy Food and Recreation**

	PIMA	MARICOPA	BENCHMARK*	COMPARISON AGAINST BENCHMARK
People 65+ with Low Access to a Grocery Story	4.5%	2.0%	2.8% U.S. Counties	✖
Children with Low Access to a Grocery Store	5.1%	3.1%	4.4% U.S. Counties	✖
Low-Income and Low Access to a Grocery Store	7.3%	3.7%	6.2% U.S. Counties	✖
Food Insecurity Rate	15.8%	15.9%	14.7% U.S. Counties	✖
Child Food Insecurity Rate	26.1%	25.4%	23.7% U.S. Counties	✖
Adult Fruit and Vegetable Consumption	26.3%	23.8%	24.1% Arizona	✔
Access to physical activity locations	86.0%	88.0%	92% U.S. Counties	✖

*How Pima County performs in the indicator compared to the identified benchmark (red ✖ indicates worse performance; green ✔ indicates better performance. A ←→ means the indicator is similar or the same as the benchmark).

**Years of data vary due to different sources of data, but range from 2009-2013 depending on the indicator.

Sources: Feeding America, BRFSS, U.S. Census Bureau, USDA. Retrieved from: www.arizonahealthmatters.org and www.countyhealthrankings.org.

Over a quarter of respondents indicated they did not eat fruit (26.0%) or vegetables (34.8%) more than once a week in the past month.

For more information, see P. 6 of the Pima County Health Needs Assessment Web-Based Survey Report (Appendix E).

[19]Arizona Health Matters. (2015). Retrieved from http://www.arizonahealthmatters.org

Pima County has a **higher percentage of the population** than other U.S. counties **of food insecurity among children and adults as well as low-income, elderly and children with limited access to a grocery store**. However, Pima County **performs better** than other counties and the state in **adult fruit and vegetable consumption**, yet **poorly** against other U.S. counties in percentage of people with **access to physical activity locations**.

Social Environment

County Health Rankings and Roadmaps lists social and emotional support – measured by the percent of the adult population that responds "never," "rarely" or "sometimes" get the support they need – as a factor in health outcomes. Limited community involvement and support are associated with increased morbidity and early mortality. Pima County adults **fare worse** than the top U.S. counties in terms of **social support**[20].

Severe housing problems is the percentage of the households with at least one or more of the following housing problems: lacks complete kitchen facilities, lacks complete plumbing facilities, is severely overcrowded or severely cost burdened. Poor housing can contribute to problems such as infectious and chronic diseases, infestations and pool childhood development[21].

Violent crimes – including homicide, rape, robbery, and aggravated assault – compromise physical safety and psychological well-being. High crime rates can also deter residents from pursuing healthy behaviors, such as recreation, out of doors[22].

Table 13: Social Environment

	PIMA	MARICOPA	BENCHMARK*	COMPARISON AGAINST BENCHMARK
Severe Housing Problems	**19%**	20%	9%	✖
Violent Crime Rate (per 100,000 population)	**434**	394	64	✖
Inadequate Social Support	**19%**	19%	14%	✖

*How Pima County performs in the indicator compared to the identified benchmark (in this case, top performers among U.S. counties; red ✖ indicates worse performance; green ✔ indicates better performance. A ←→ means the indicator is similar or the same as the benchmark).

Source: U.S. Department of Housing and Urban Development, U.S. Federal Bureau of Investigation, BRFSS.
Retrieved from www.countyhealthrankings.org. Years of data vary based on indicator and range from 2005-2011.

About 1 in 3 (34.4%) respondents indicated they sometimes, rarely or never get the emotional support they need.

For more information, see P. 8-9 of the Pima County Health Needs Assessment Web-Based Survey Report (Appendix E).

[20]County Health Rankings & Roadmaps. 2015. Retrieved from: www.countyhealthrankings.org.

[21]County Health Rankings & Roadmaps. 2015. Retrieved from: www.countyhealthrankings.org.

[22]Ibid.

Pima County **performs poorly** against the benchmark of top U.S. counties in percentage of the population **living with severe housing problems, violent crime rates and social support.**

Resources and Assets

The Internal Revenue Service requires non-profit hospitals to include a list of community assets and resources available to address the health needs identified through the assessment process. Pima County is host to more than 2,000 licensed providers, including four Federally Qualified Health Centers (El Rio, Marana, United and Desert Senita), hospitals, hospice care, urgent care facilities, assisted living facilities, ambulatory surgical centers, adult foster care, child care, and many more.

For the purposes of this assessment, an abbreviated listing of hospitals and Federally Qualified Health Centers, as well as public health clinics run by the Pima County Public Health Department, is provided below.

Table 14: Pima County Hospitals, Federally Qualified Health Centers and Community-Based Health Centers

FACILITY TYPE	NAME	ADDRESS	CITY AND ZIP	PHONE
Community-based Health Center	Altar Valley Health & Wellness - Robles Elementary	9875 South Sasabe Road	Tucson 85736	(520)407-5904
Community-based Health Center	Clinica Del Alma	3690 South Park Avenue, Suite 805	Tucson 85713	(520)616-6760
Community-based Health Center	Santa Catalina Health Center	16701 North Oracle Road, Suite 135	Tucson 85739	(520)825-6763
Federally Qualified Health Center	Desert Senita Community Health Center	410 Malacate Street	Ajo 85321	(520)387-5651

FACILITY TYPE	NAME	ADDRESS	CITY AND ZIP	PHONE
El Rio Community Health Center				
Federally Qualified Health Center	Birth & Women's Health Center	5979 East Grant Road, Suite 107	Tucson 85712	(520)670-3909
Federally Qualified Health Center	El Pueblo Health Center	101 West Irvington, Suite 10	Tucson 85714	(520)670-3909
Federally Qualified Health Center	El Rio Broadway Clinic	1101 East Broadway	Tucson 85719	(520)670-3909
Federally Qualified Health Center	El Rio Community Health Center - Southeast	6950 East Golf Links Road	Tucson 85730	(520)670-3909
Federally Qualified Health Center	El Rio Health Center - Summit Elementary	1900 East Summit Street	Tucson 85706	(520)545-3860
Federally Qualified Health Center	El Rio Northwest Health Center	320 West Prince Road	Tucson 85705	(520)670-3909
Federally Qualified Health Center	El Rio Ob/Gyn Associates	225 West Irvington Road	Tucson 85714	(520)670-3909
Federally Qualified Health Center	El Rio Pascua Clinic	7490 South Camino De Oeste	Tucson 85746	(520)670-3857
Federally Qualified Health Center	El Rio Santa Cruz Neighborhood Health Center	630 North Alvernon Way	Tucson 85711	(520)670-3909
Federally Qualified Health Center	El Rio Santa Cruz Neighborhood Health Center, Inc.	839 West Congress Street	Tucson 85745	(520)670-3909
Federally Qualified Health Center	El Rio Southwest Health Center	1500 West Commerce Court	Tucson 85746	(520)670-3909
Federally Qualified Health Center	St. Elizabeth's Health Center	140 W. Speedway Blvd.	Tucson 85705	(520)628-7871
Federally Qualified Health Center	El Rio Special Immunology Clinic	1701 West Saint Marys Road	Tucson 85745	(520)670-3909

FACILITY TYPE	NAME	ADDRESS	CITY AND ZIP	PHONE
Marana Health Center				
Federally Qualified Health Center	East Side Health Center	8181 East Irvington Road	Tucson 85709	(520)574-1551
Federally Qualified Health Center	Ellie Towne Health Center	1670 West Ruthrauff Road	Tucson 85705	(520)616-6797
Federally Qualified Health Center	Flowing Wells Family Health Center	1323 West Prince Road	Tucson 85705	(520)887-0800
Federally Qualified Health Center	Freedom Park Health Center	5000 East 29Th Street	Tucson 85711	(520)790-5000
Federally Qualified Health Center	Keeling Health Center	435 East Glenn Street	Tucson 85705	(520)616-1560
Federally Qualified Health Center	Marana Health Center Behavioral Health Services	13395 North Marana Main Street, Buildings A & B	Marana 85653	(520)682-1091
Federally Qualified Health Center	Marana Health Center Main	13395 North Marana Main Street, Building A	Marana 85653	(520)682-4111
Federally Qualified Health Center	Marana Health Center Ob/Gyn	2055 West Hospital Drive, Suite 115	Tucson 85704	(520)797-0011
Federally Qualified Health Center	Ortiz Community Health Center	12635 West Rudasill Road	Tucson 85743	(520)682-3777
Federally Qualified Health Center	West Side Health Center	2202 West Anklam Road	Tucson 85709	(520)616-6790
Federally Qualified Health Center	Wilmot Family Health Center	899 North Wilmot Road	Tucson 85711	(520)290-1100
Federally Qualified Health Center	Marana Health Center Primary Care	2355 North Wyatt Drive, Suite 101	Tucson 85712	(520)616-4948

FACILITY TYPE	NAME	ADDRESS	CITY AND ZIP	PHONE
United Community Health Center				
Federally Qualified Health Center	Arivaca Clinic	17388 West 3Rd Street	Arivaca 85601	(520)407-5500
Federally Qualified Health Center	Continental Family Medical Center	1260 South Campbell Road, Building 2	Green Valley 85614	(520)407-5900
Federally Qualified Health Center	Continental Pediatrics	1150 Whitehouse Canyon Road	Green Valley 85614	(520)625-4401
Federally Qualified Health Center	United Community Health Center At Old Vail Middle School	13299 East Colossal Cave Road	Vail 85641	(520)762-5200
Federally Qualified Health Center	United Community Health Center At Sahuarita Heights	2875 East Sahuarita Road	Sahuarita 85629	(520)576-5770
Federally Qualified Health Center	United Community Health Center Maria Auxiliadora Inc	15921 West Ajo Way	Tucson 85736	(520)407-5604
Federally Qualified Health Center	UHC Health Center, Freeport Mcmoran Copper & Gold Building	1260 South Campbell Avenue, Building B	Green Valley 85614	(520)407-5604
Hospitals – Long Term, Psychiatric and Rehabilitation				
Hospital - Long Term	Kindred Hospital - Tucson	355 North Wilmot Road	Tucson 85711	(520)584-4500
Hospital - Psychiatric	Palo Verde Behavioral Health	2695 North Craycroft Road	Tucson 85712	(520)322-2888
Hospital - Psychiatric	Sierra Tucson, Inc	39580 South Lago Del Oro Parkway	Tucson 85739	(520)624-4000
Hospital - Psychiatric	Sonora Behavioral Health Hospital	6050 North Corona Road	Tucson 85704	(520)469-8700
Hospital - Short Term	TMC Geropsychiatric Center At Handmaker	2221 North Rosemont Boulevard, Bldg 3, Suite 200	Tucson 85712	(520)324-1027
Hospital - Rehabilitation	Healthsouth Rehabilitation Hospital Of Southern Arizona	1921 West Hospital Drive	Tucson 85704	(520)742-2800
Hospital - Rehabilitation	Healthsouth Rehabilitation Institute Of Tucson	2650 North Wyatt Drive	Tucson 85712	(520)325-1300

FACILITY TYPE	NAME	ADDRESS	CITY AND ZIP	PHONE
Hospitals – Short Term				
Hospital - Short Term	Banner-University Medical Center South Campus	2800 East Ajo Way	Tucson 85713	(520)874-2000
Hospital - Short Term	Banner-University Medical Center Tucson Campus	1501 North Campbell Avenue	Tucson 85724	(520)694-8888
Hospital - Short Term	Carondelet St Josephs Hospital	350 North Wilmot Road	Tucson 85711	(520)873-3754
Hospital - Short Term	Carondelet St. Marys Hospital	1601 West St Mary'S Road	Tucson 85745	(520)872-3000
Hospital - Short Term	DHHS Tucson Area Indian Health Service Tucson	Po Box 548	Sells 85634	(520)383-7200
Hospital - Short Term	Green Valley Hospital	4455 South I-19 Frontage Road	Green Valley 85614	(602)471-8190
Hospital - Short Term	Northwest Medical Center	6200 North La Cholla Boulevard	Tucson 85741	(520)742-9000
Hospital - Short Term	Oro Valley Hospital	1551 East Tangerine Road	Oro Valley 85755	(520)901-3500
Hospital - Short Term	Tucson Medical Center	5301 East Grant Road	Tucson 85712	(520)324-2931
Hospital - Transplant	University Medical Center At The Arizona Health Sciences Center	1501 North Campbell Avenue	Tucson, 85724	(520)694-7367

Source: ADHS, Public Health Licensing Services, Provider and Facility Databases.
Retrieved from: http://www.azdhs.gov/licensing/index.php#databases

Table 15: Pima County Health Department Clinics and Services

PIMA COUNTY HEALTH DEPARTMENT CLINICS AND SERVICES			
Name	**Address**	**Services**	**Phone**
Ajo Office	120 Estrella Ajo, AZ 85321	Immunizations	(520) 387-7206
Catalina Community Clinic	3535 E. Hawser Street Catalina, AZ 85739	Immunizations	(520) 825-9299
Green Valley Office	601 N. La Canada Green Valley, AZ 85614	Family Planning Immunizations	(520) 648-1626
Centro Del Sur Office	1631 S. 10th Ave. Tucson, AZ 85713	WIC/Food Plus	(520) 724-7777
Abrams Public Health Center	3950 S. Country Club Tucson, AZ 85714	WIC/Food Plus Birth and Death Records Administration	(520) 724-7777 (520) 724-7932 (520) 724-7770
East Office	6920 E. Broadway Tucson, AZ 85710	WIC/Food Plus Public Health Nursing Immunizations Family Planning	(520) 724-7777 (520) 724-9650
Flowing Wells Office	4500 N. Old Romero Rd. Tucson, AZ 85705	WIC/Food Plus	(520) 724-7777
North Office	3550 N. 1st Ave. Tucson, AZ 85719	Public Health Nursing Immunizations Family Planning	(520) 724-2850 (520) 724-2880
Teresa Lee Public Health Center	1493 W. Commerce Ct. Tucson, AZ 85746	HIV/STD Testing Well Woman HealthCheck Family Planning Public Health Nursing Immunizations	(520) 724-7900
Tuberculosis Clinic	2980 E. Ajo Way Tucson, AZ 85713	Tuberculosis Screening and Follow Up	(520) 724-8491

Source: Pima County Health Department. Retrieved from: http://webcms.pima.gov/cms/One.aspx?portalId=169&pageId=359

Community Identified Resources and Assets

As part of the Community Prioritization Process described in the next section, community members were asked to list resources and assets available to help address each of the top four prioritized health needs (anxiety and depression, substance abuse, injuries, accidents, and diabetes). Stakeholders listed several types of agencies, programs and resources available throughout the county to address the identified health needs. The matrix below lists the categories of resources, agencies and organizations available to address the corresponding prioritized health need.

Table 16: Community Identified Resources and Assets

RESOURCES AND ASSETS	ANXIETY AND DEPRESSION	SUBSTANCE ABUSE	INJURIES AND ACCIDENTS	DIABETES
Crisis Centers	x			
Faith-Based Organizations	x	x	x	x
FQHCs	x			x
Hospice Providers	x			
Refugee Resettlement Agencies	x	x		
LGBT Coalitions	x	x		
Mental Health Coalitions	x			
School Districts	x	x		x
Military	x			
Alcohol and Drug Abuse Support		x		
Tobacco Cessation		x		
Medical Disposal		x		
Housing Services		x	x	
Children's Organizations		x		x
Judicial Courts		x		
Tribal Resources		x		
Health Insurance Websites		x		
Public Safety/First Responders			x	
Employee Wellness Programs	x			x
Community Gardens & Farmers Markets				x
Parks & Recreation			x	
Municipal Governments			x	
Childcare & Prenatal Clinics				
Behavioral Health Centers	x			x
Aging Support Services/Coalitions	x		x	x
Higher Education				x
Hospital Programs	x	x	x	x
Nonprofits	x	x	x	x

Part 2: Community Prioritization of Health Needs

To elicit feedback from a representative sample, the Pima County Community Health Needs Assessment Advisory Committee employed a multi-methods approach to data collection and analysis, gathering different types of information from a range of stakeholders, including health providers, policymakers, outreach workers, school health officials, and community members representing minority, low-income, medically underserved populations and populations with chronic conditions in accordance with the requirements of the Patient Protection and Affordable Care Act (IRS, 2010). Detailed descriptions of each are outlined below.

Key Informant Interviews

To bolster quantitative findings and secondary data analysis, the assessment team conducted a wide range of key informant interviews (N=29). Initial key informants were identified by the Pima County Community Health Needs Assessment Advisory Committee. The health assessment team was specifically interested in learning:

- What are the most important health concerns in Pima County?
- What are the perceived root causes of these major health conditions?
- What are the strengths and assets of communities in Pima County?
- What are areas for improvement and community needs?

At the completion of each interview, participants were asked three final questions: (1) Which organizations and/or individuals would you want to see represented in a Pima County Health Coalition?; (2) Is there anyone with whom we should speak as part of this assessment?; and (3) If you were to select one group with whom to conduct a focus group discussion, which group would you choose? Asking these questions of each participant after the main interview created a "spider web" effect spanning Pima County, ensuring that key informants and focus group participants were chosen from a representative sample of those working in health promotion, broadly defined. The health assessment team followed up with individuals and organizations mentioned by participants to schedule key additional key informant interviews. In-depth, semi-structured interviews with key informants were conducted in-person or via phone and lasted approximately 45-60 minutes.

Community Snapshots

Specific groups identified by key informants were asked by the health assessment team to participate in focus group discussions (N=6) to provide community snapshots: insight into challenges and opportunities for specific communities in Pima County, Arizona. Community-based focus groups included health providers (N=3), an elder care coalition (N=1), community health workers/*Promotores* (N=1), and school parents (N=1).

In keeping with key informant interviews, focus group discussions (FGDs) sought to glean information pertaining to salient health concerns and their root causes, as well as strengths and

challenges within specific communities. The FGDs were used to create "community snapshots" and provide specific insight into strengths and challenges identified by key informants.

FGDs were conducted in workplaces, community centers, and schools to increase participation. Discussions generally lasted between 60 and 90 minutes. Spanish language interpretation was provided when needed, and two FGDs were conducted in Spanish: the parents of Summit View elementary school students and the group comprised of community health workers/*Promotores*.

Key themes that arose during the community snapshots are summarized in a later section.

Community Health Needs Assessment Prioritization Forum

A range of Pima County Community health issues were identified by key informants and focus group participants. The Advisory Committee held a Prioritization Forum to which research participants, clinical and public health professionals, and community members were invited. A total of 42 individuals participated in prioritization of health issues in Pima County as well as discussions related to their root causes and potential solutions.

Table 17: Results of the Pima County Community Health Needs Prioritization Forum, 2015

RANK	HEALTH PRIORITY AREA / TOPIC	NUMBER OF VOTES
1	**Anxiety and depression spectrum disorders**	**24**
2	**Substance abuse and dependency**	**15**
3	**Injuries and accidents**	**14**
4	**Diabetes**	**12**
5 (tie)	Cardiovascular disease	6
5	Culturally & linguistically appropriately services	6
7	Oral/dental health	5
8	Financial health	
9	Home environment as tied to health outcomes	3
10 (tie)	Access to early intervention	2
10 (tie)	Degenerative diseases	2
10 (tie)	Direct care workforce	2
10 (tie)	Health literacy	2
14	Lesbian, gay, bisexual and transgender (LGBT) health	1

Prioritization of health issues is based on an activity in which participants voted on the issues they determined to be most pressing in Pima County. Participants were permitted three votes; each vote to be cast for separate health issues. Figure 1 (above) represents the rank and voting frequencies of identified health concerns in Pima County.

Theoretical Framework, Analysis and Limitations

The health assessment team used grounded theory to identify emerging themes as identified by community members and health professionals in Pima County. Grounded theory relies on an inductive reasoning and is considered to be a "bottom-up" approach in which broad questions are asked, and future direction is based on specific patterns (Corbin & Strauss, 1990). The team reviewed interviews on a weekly basis for emerging themes until data saturation occurred and interviewers did not find new information.

Primary data collection and analysis was designed, conducted and analyzed by a public health practitioner with expertise in community-based activities and a doctoral candidate in the University of Arizona College of Public Health who has extensive training and experience using qualitative methods in research and practice.

Limitations were encountered during both data collection and analysis. First, while it would be ideal to conduct more focus group discussions to glean input from a wider range of Pima County community members, this was both cost- and time-prohibitive. For this reason, focus group discussions are not entirely representative of the diversity within Pima County, but are rather meant to serve as "community snapshots," to provide insight into unique experiences of health and health care within specific populations. Second, while discussions pertaining to the prioritization and root causes of illness and disease in Pima County were rich and detailed, few specific, measurable solutions emerged to address health issues.

Health and Community Priorities

An oft-cited definition of health is the all-encompassing perspective of the World Health Organization's preamble to the constitution: "a complete state of physical, mental and social health, and not merely the absence of disease or infirmity."[23] Key informants also understood health in Pima County, Arizona holistically, adding "emotional health" and "spiritual health" to the WHO's depiction of wellbeing.

When asked about priority **community and health concerns**, key informants and focus group participants stressed health outcomes as well as the social, economic and structural drivers that lead to poor health in Pima County. The overarching health-related concerns identified by key informants, focus group discussants, and participants in the Community Health Needs Assessment Prioritization Forum are listed here, and will be described in detail in the following sections.

- **Anxiety and Depression Spectrum Disorders**
- **Substance Abuse and Dependency**
- **Injuries and Accidents**
- **Chronic Diseases and Conditions: Diabetes**

[23]World Health Organization. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June 1946, and entered into force on 7 April 1948.

Respondents discussed the challenge of addressing comorbidities, or the presence of two or more health issues, within a siloed health system that focuses on specific diseases over a holistic approach to wellbeing. The subsequent sections will address priority health areas followed by an assessment of cross-cutting determinants of health, as well as challenges and opportunities identified by participants.

Behavioral and Mental Health

Key informants emphasized the need for behavioral and mental health interventions in Pima County, pointing to challenges and opportunities related to this overarching health priority. Due to the wide-reaching scope of behavioral and mental health issues, CHNA Prioritization Forum participants identified anxiety and depression spectrum disorders (mental health) and substance abuse and dependency (behavioral health) as key issues within this umbrella.

MENTAL HEALTH: ANXIETY AND DEPRESSION SPECTRUM DISORDERS

Physical and mental health are influenced by a number of different factors, including lifestyle choices and genetics, and are important for overall well-being.

In addition, physical and mental health are often linked; people with physical health problems have an increased risk of developing mental health problems. Similarly, people with mental health problems are more likely to develop physical health conditions. Overall, 22.7% of survey respondents indicated they have been told they have depression. Additionally, approximately 29% of respondents at least sometimes are stressed about paying the rent/mortgage. For more information, see P. 7-8 of the Pima County Health Needs Assessment Web-Based Survey Report (Appendix E).

Overview

Mental health was identified as a key challenge by key informants and prioritization forum participants. Depression has a 12.4% prevalence within the Medicare population in Pima County, which is statistically significantly higher than the prevalence in the state of Arizona (11.5%).

Anxiety and depression manifests as family stress and violence, bullying in school and workplaces, and may result in poor coping mechanisms that influence other health outcomes (for example, drug and alcohol use and abuse, violence, etc.). One key informant who works with school-aged adolescents stated that “many children are suffering” in school and with their peers based on their experiences of household stressors.

Specific populations identified as being particularly vulnerable to poor mental health outcomes in Pima County include aging and elder individuals, resettled refugees, the large veteran population, and homeless individuals.

Root Causes

Participants identified several causal determinants of poor mental health outcomes, yet agreed that the primary drivers include **poverty** and **limited economic opportunities** in Pima County.

Social isolation was determined to be an influencing factor in poor mental health for elders and rural-dwelling populations, and this compounded with past **trauma** may affect mental health outcomes in refugees and war veterans.

Finally, **poor treatment** options, characterized by an overreliance on medication was said to exacerbate existing conditions.

Barriers

Stigma surrounding mental health can bring feelings of shame and distress for those living with mental illness as well as those caring for individuals struggling with mental health issues, and creates a barrier to timely and consistent healthcare seeking.

Although the ratio of mental health providers to patients in Pima County is lower than the national average, it is still low: 833 patients per every one provider. Provision of services, as stated above, relies heavily on medication and may not meet the linguistic and/or cultural needs of specific populations, including ethnic and language minorities and members of the LGBT community.

Poor transportation was also identified as a logistical barrier to receiving proper and timely treatment.

Solutions

During the Prioritization Forum, participants provided ways forward that can generally be classified within three broad umbrellas: **Training & Education, Provision of Services,** and **Policy.**

- **Training & Education**
  - Increase educational and training opportunities for health care providers, including first responders
    - Examples: cultural competency, language provision
  - Increase coordination of care among provider agencies
- **Service Provision**
  - Increase the number of mental health providers in Pima Country through recruitment of a diverse workforce
  - Increase number of nurses and school counselors or psychologists in school districts
  - Enhance and increase opportunities for social and cultural engagement
  - Focus on early detection and intervention for mental health issues
- **Policy**
  - Expand insurance coverage to include mental health needs
  - Increase investment in schools
  - Advocate for protective policies for LGBTQ communities
  - Invest in safe public spaces
  - Improve transportation services in Pima County to increase access to services

Substance Abuse and Dependency

Overview

In keeping with the National Council on Alcoholism and Substance Abuse definition of substance abuse as "a primary, chronic disease with genetic, psychosocial and environmental factors influencing its development and manifestations," participants in the 2015 Community Health Needs Assessment pointed to a range of factors influencing substance abuse patterns and behaviors (AZDHS, 2015).

Secondary data analysis for this report shows that Pima County experiences high prevalence rates when compared to statewide and national statistics on the following groups in particular: (1) adults who binge drink (17.5%); (2) teens who have smoked (29.3%); (3) teens who use alcohol (31.5%); and (4) teens who use marijuana (18.3%).

Root Causes

Some participants believe that Pima County bears a high prevalence of substance use and dependency due to its **geographic proximity** to the United States–Mexico border and exposure to narcotrafficking; however, the majority of participants point to **poverty and lack of opportunities for employment** as increasing stress and subsequent negative coping mechanisms. Within the stress-coping umbrella, **adverse childhood experiences** were noted as increasing adolescent and adult likelihood of substance use and dependency.

Prescription and non-prescription opioid use is a major cause of death for certain age and gender groups in Pima County.

Additional influencing factors included **easy access** to alcohol and drugs in tandem with **potency of addictive ingredients**, which is particularly salient for first-time users. Participants also felt that there is an **acceptability of substance use and abuse** in Pima County, possibly related to pop culture and/or changing patterns of social norms.

Barrier

The sole barrier noted by key informants and Prioritization Forum participants was the lack of preventive activities related to substance use and dependency, specifically focusing on targeted education for adolescents in tandem with broad-based employment training and skill-building.

Solutions

The discussion surrounding ways to address substance use and dependency centered primarily on **prevention education** in tandem with **targeted programming.**

- **Prevention Education**
  - Increase prevention activities that focus on family support, youth engagement (education and peer support), and job training
- **Targeted Programing / Services**
  - Provide affordable housing with on-site social and community services
  - Target women of childbearing age and former offenders who are reintegrating into society
  - Enhance and increase diversion and re-entry programs
- **Additional Strategies**
  - Audit provider programs
  - Address zoning laws regarding alcohol distribution

Injuries and Accidents

Overview

Arizona's injury rate is higher than the national average (AZDHS, 2015). Total accidents (including motor vehicle crashes and other fatal injuries) were the third leading cause of death among Pima County residents in 2013, accounting for 50.1/100,000 (age adjusted) compared to the state (46.3) and Maricopa (40.6).

Injuries may be divided into **accidental** and **intentional**, with determinants for each subtype identified and described below.

Root Causes

Accidental. Participants focused primarily on motor vehicle crashes (MVC) as the leading cause of accidental injury and death, as well as specific groups who remain vulnerable to nonfatal and fatal injuries: children, elders, and laborers.

Related to MVC, participants identified several causal pathways, including **poor road maintenance**, failure to obey posted **maximum speed limits**, failure to wear **seatbelts**, **driving while intoxicated**, **texting while driving**, and general carelessness or **distracted driving**.

Children were identified as being vulnerable to drownings in **open, unsupervised pools**, unintentional poisoning if **medications and/or cleaning products are not properly stowed**, and injury as a result of motor vehicle crashes. Elders are vulnerable to fall-related injuries in their homes, particularly if **homes lack structural necessities** such as ramps, railings, and "grab bars" to assist in movement. Additionally, elders may be at increased risk for **misuse of prescription medications**.

Finally, workers may be susceptible to fatal and nonfatal injuries in the workplace if safety protocols are not followed and/or **personal protective equipment (PPE)** is not regulated and properly used.

Intentional. Within the context of intentional violence, participants identified both **stress** (financial, exposure to violence, etc.) and **availability of firearms and other weapons** as equally correlated to family and domestic violence, assaults, homicide, and self-harm (including suicide). There was also an emphasis on the **need for early mental health intervention**, which was also stated in the mental health priority area.

Barriers

The sole barrier to improved health outcomes and a decrease in incidence of injuries was listed as a lack of awareness of preventive resources, including prevention education.

Solutions

- **Prevention Resources & Education**
  - Conduct outreach for *existing* prevention programs and services
  - Form coalition to work on home design improvements for aging and elder population
  - Distribute car seats and provide car seat education
  - Provide resources for school-based fire safety programs
  - Provide training opportunities for first-responders
  - Provide "healthy homes" and anti-bullying education
  - Educate seniors on in-home medication management
- **Community-Building**
  - Social opportunities for elders
- **Built Environment Enhancement**
  - Create more bicycle pathways
  - Promote safe spaces through increased lighting
- **Research & Policy Development**
  - Conduct walkability studies
  - Enforce workplace protocols on use of PPE and access to safety equipment
  - Involve community leaders and politicians in collaborative opportunities
  - Increase surveillance activities

Chronic Conditions: Diabetes

Overview

According to the Arizona Department of Health Services (AZDHS), the state relies exclusively on self-report data from the Behavioral Risk Factor Surveillance System (BRFSS) for its incidence and prevalence data, and does not incorporate data from those served by Indian Health Services (AZDHS, 2011). Nonetheless, current statistics show that the prevalence of Diabetes in Arizona has more than doubled since 2003 (AZDHS, 2011), and key informants, focus group participants, and community forum respondents equally view Type II Diabetes as a major threat to community and public health in Pima County.

Root Causes

Lifestyle, environmental and policy factors were correlated with an increase in type II diabetes in all age groups in Pima County. Participants noted **high stress** leading to **poor diet** and **decreased physical activity**, as well as a **cultural prevalence for foods** that are high in sugar and/or fat in certain ethnic groups. However, it should be noted that several key informants stated the importance of teaching "traditional" ways of cooking and preparing food when working with minority populations.

Low wages in tandem with **poor investment in progressive food policies** limits food choices for low-income individuals. This affects families and individuals in both home (e.g., WIC, SNAP) and school (limited lunch menus) settings. Additionally, **food deserts**, the availability of fast and **convenience foods**, **grocery store layouts**, and poor built environment were listed as contributing factors to an increase in Type II Diabetes.

Barriers

Low rates of education and health literacy in tandem with manipulative food marketing practices was related to an increase in incidence of diabetes. Limited understanding of the magnitude of diabetes and lack of understanding of disease management were correlated to the severity of the disease in medically underserved communities.

Solutions

Participants focused on a range of preventive strategies to reduce the burden of diabetes in Pima County.

- **Education & Training**
  - Health literacy education
  - School-based nutrition & physical education
  - Focus on culturally and linguistically appropriate education
  - Community-based childhood obesity programs
  - Integrate health programs at school district level (scale-up)
  - Faith-based organizations to follow promising interventions

- **Prevention Resources**
  - Free, early screenings
  - Employer-based incentives (rewards)
  - *Promotores* and community health workers to assist with health navigation and prevention activities
  - Walking groups
- **Built Environment**
  - Increase bike paths and walkable areas (paved roads and sidewalks)
- **Policy**
  - SNAP expenditures: increase amount allocated to individuals and families
  - Standardize school-based meals
  - Address food marketing, specifically direct-to-children advertising
  - Provide walkability assessments
  - Focus on wellness over disease model

Community Health in Pima County: Challenges and Opportunities

CHALLENGES

Poverty, Low Wages, "Bad Jobs"

The most visible cross-cutting theme related to poor health outcomes in each of the four priority areas was the overwhelming experience of poverty combined with limited economic opportunities in Pima County. Three key informants noted that Tucson was ranked as the fifth-poorest large metropolitan area in 2015. Many participants pointed to high rates of underemployment and unemployment as a barrier to health insurance, although several mentioned that they have seen promising results related to increased insurance coverage as a result of the Patient Protection and Affordable Care Act (PPACA). Despite the potential advances of the PPACA, a respondent with the Tucson Unified School District cautioned that while enrollment improved, many students and their families became frustrated and overwhelmed by the registration process to the point of not enrolling. This highlights a potential need for targeted enrollment outreach within Pima County.

Poverty was discussed as being cyclical in nature, with poor health both *attributed* to limited economic opportunities and as *the cause* for inability to engage in livelihoods and income-generating activities. Entangled in this cycle is the necessity for safe and affordable housing. Multiple informants discussed homelessness and unstable housing conditions as intricately linked to employment prospects and health outcomes. A health issue that was not addressed in-depth, but that nonetheless was identified by several key informants as being intricately related to poverty is oral and dental health. The need for dental care to augment physical, social, and mental health is best described by a participant based at a broad-spectrum social service agency: "Dental care is a deficit in Pima County, and probably statewide because [adult] dental is not included in AHCCCS. This is *so* key to good health, and also to economic development. If people do not have teeth, they have a hard time getting a job!" Another key informant echoed this view, lamenting that "Medicaid stops at the neck!"

Comorbidities and Siloed Service Provision

The simplest definition of comorbidity is that this concept refers to "the presence of more than one distinct condition in an individual" (Valderas et al., 2009). Indeed, much emphasis by participants during primary data collection was placed on the need for (1) increased collaboration to address the underlying determinants that relate to poor health outcomes in Pima County, and (2) a focus on coordinated health care for individuals experiencing two or more health conditions simultaneously.

Although Pima County was lauded for its robust social service sector by several participants, nearly all key informants were critical of a lack of coordination among agencies resulting in the replication of services. One respondent discussed the critical need for a long-term, community-wide "master plan." Another participant explained that Tucson once had a centralized community referral system that has since dissolved, but was valuable for both providers and those attempting to navigate the array of services in Pima County.

A recurring theme was a lack of knowledge of the availability of resources in Pima County. Participants emphasized the need to change health communication efforts and to engage in outreach of not just service activities, but also to make their services known to the wider community. Key informants stated that residents of Pima County who lack financial stability and a medical home are more likely to use emergency services – including hospital emergency departments and 911 – as an entryway into the health system. A respondent with the Tucson Fire Department noted that "a little more than 90% of the [emergency] calls we receive are actually for medical or social needs."

STRENGTHS & OPPORTUNITIES

"Resilient," "dedicated" and "diverse" were three themes that emerged repeatedly throughout the key informant interviews to address both Pima County community members and health workers. Many hailed Pima County for progressive politics that foster acceptance of diversity and assistance for marginalized populations. This political landscape was viewed as crucial to the continuation of services in the context of state budget cuts to social services and mergers with for-profit entities. Coalitions that stemmed from collaborative grassroots advocacy were stated as being crucial to the advancement of LGBTQ health and the safeguarding of the rights of undocumented persons.

The primary need for communities and health providers was financial support and economic opportunity. Service providers stated challenges in addressing root causes of poor health outcomes when they lack the resources to engage in continuing education and professional development, collaborate with other agencies, and deliver long-term, continuity of care and/or referrals to persons and communities in need.

Some key informants cited financial scarcity as a reason for focusing resources on preventive efforts. Risk-reduction efforts are believed to conserve vital resources, both financial and human. The Tucson Fire Department, for example, has developed partnerships with agencies in Pima County to connect people with social support as a way of deterring them from relying on emergency services to meet their primary health needs. Amidst deep budget cuts, collaborative efforts pay off in the long-term.

Participants frequently referred to the University of Arizona, particularly the colleges that comprise Arizona Health Sciences Center (AHSC), as having a specific role in the provision of resource development and the facilitation of organizational collaboration.

Special Section: Community Snapshots

Healthy Aging in Pima County, Arizona

Ed met Joyce shortly after she moved to Tucson from Michigan, after retiring as an elementary school science teacher. Joyce's husband passed away several years ago, and after their adult children moved away, she decided to move to a warmer climate. As a nature lover, she also appreciated Tucson's rich biodiversity and hiking areas.

Within a few weeks of moving to Arizona, Joyce signed up for a Senior Activity Card through the City of Tucson as a way to meet new people. She joined a coed senior softball team, and soon found herself particularly delighting in the company of Ed, a Tucson native and researcher at the University of Arizona, who played shortstop for the team. In addition to softball, Joyce and Ed enjoyed swimming and walking along the trails of Sabino Canyon. Their friendship eventually turned romantic, and the two eloped among a small group of family and their friends from the softball team.

Ed and Joyce have now been married for six years. Although happy in their lives, they do struggle with new health issues as seniors in their mid-seventies. Shortly after their elopement, Joyce was diagnosed with a rare, painful bone disease that makes it difficult for her to remain active. Begrudgingly, Joyce left the softball league, and now feels socially isolated from the community she created when she first moved to Tucson. Since her diagnosis, Joyce has had episodes of depression, and has fallen twice at home while Ed was at work. On the second occasion, she broke her leg and could not reach the phone to call for help. Ed found her after he came home from work, and took her to the hospital. He now finds himself anxious and distracted at work, frequently calling Joyce to make sure she is okay.

Joyce and Ed are anxious about their futures, but also grateful for the resources and friends they have to help deal with these challenges. Ed had a number of personal days he was able to take off from work to help Joyce with her recovery, and he was able to organize their friends to visit Joyce in shifts during the week.

The above composite vignette is based on conversations with seniors in Pima County, and lends some insight into the health and social complications associated with aging. Pima County hosts a growing number of individuals aged 65 and older: in 2013, seniors 65 and older comprised 17.2% of the population of Pima County, compared to 15.2% in 2008 (AZ Health Matters, 2015a). 8.5% of individuals aged 65+ in Pima County live below the poverty level, and do not have the same access to opportunities and resources as Ed and Joyce (AZ Health Matters, 2015b).

In focus group discussions (FGD) with 20 seniors and senior care providers or program coordinators, participants were asked a series of open-ended questions, prompting discussions pertaining to healthy aging in Pima County.

FGD participants envisioned a healthy senior community as having the following attributes:

- Helpful, caring and reciprocal relationships within the community
- Opportunities for socialization

- Aging-in-place, referring to the capacity to grow old in one's home
- Intergenerational programming that facilitates exchange among persons of different ages
- Access to affordable housing, transportation, food, exercise programs, insurance, and health care
- In-home services, including caregiving and food delivery
- Urgent care during after-hours (particularly for rural communities)
- Access to alternative or integrative treatments
- Emergency services for extreme weather

Joyce and Ed's story reveals the benefits of socialization juxtaposed with Joyce's decline in health after experience social isolation from her friends from the softball league after she was diagnosed with a bone disease and forced to leave her team. Nonetheless, these friendships remained intact and Joyce and Ed had a supportive community to call upon for assistance.

Participants in focus group discussions pointed to several resources already employed to promote a prosocial culture among seniors in Pima County, including:

- Coordinated physical and social activities
  - Board and card games
  - Senior sports leagues
- Faith communities
- Volunteerism

Despite these resources, challenges remain in addressing the health and wellbeing of Pima County seniors, and participants identified several key barriers to healthy aging:

- Poor physical and mental health
  - Lack of physical mobility
  - Social isolation (related to loneliness, stress and depression)
  - Dementia
- Caregiver stress
- Lack of supportive networks and resources
  - Limited financial resources
  - High co-pays, even with health insurance
  - Limited family and community support
- Drug and alcohol use and abuse
  - Including abuse of pain medicines
- Lack of health care choices
- Need for improved pain management options
- Need for fall prevention activities

Main Focus Group Discussion Themes: Senior Health in Pima County

Theme #1: Fragmented Health Care and Overutilization of Urgent and Emergency Care

Although Joyce and Ed had access to a physician in the above story, FGD participants stated that health-seeking among seniors in Pima County is inconsistent and contingent on variables such as access to transportation and strong, positive relationships with primary care providers (PCPs). The lack of relationship with a primary provider paves the way for two related challenges: (1) lack of routine and follow-up care, and (2) overutilization of urgent care centers and emergency departments for routing health care. Participants believed that the use of urgent care centers and emergency departments was also, in part, related to a lack of access to transportation and reliance on ambulances. Additionally, there was some concern that lack of coordinated care resulted in distribution of pain medication as a 'quick fix' to address elder health, with one participant noting, "not everything can be fixed by a pill."

FGD respondents also focused on the fragmentation of care when the PCP is not the central provider for senior health, and noted the need for principal point of contact, as well as the changing role of health providers in the health system. One participant exclaimed, "If you don't have a strong advocate when you're admitted [into the health system], you're up a creek!"

A specific area for improvement in Pima County health services was listed as improving coordinated outreached programs, especially in rural areas. It was noted that there is no public transportation in rural Pima County, prohibiting individuals without access to vehicles from seeking health care.

Despite the need for improvement of senior health access in Pima County, the 2012 Behavioral Risk Factor Surveillance System (BRFSS), a nationwide health survey run by the Centers for Disease Control and Prevention (CDC), showed that 81.4% of seniors aged 65+ had received a routine medical examination within the past year (AZDHS, 2012).

Theme #2: Decline in Mental and Physical Health

In 2013, 76.9% of individuals 65+ living in Pima County reported 'good, very good, or excellent health' (AZDHS, 2012). Despite this, FGD respondents listed dementia (including Alzheimer's disease) and injuries as major impediments to healthy senior aging. In the most recent report on elder morbidity and mortality, Alzheimer's disease was ranked as the fourth leading cause of death for individuals aged 65+ in Arizona (AZDHS, 2013).

The Medicare population in Pima County suffering from Alzheimer's or dementia has decreased from 2010, from 7.9% to 6.8% (AZ Health Matters, 2015c). Following national trends, females in Arizona (7.8%) are more susceptible to Alzheimer's disease or dementia than are their male counterparts (5.5%).

The leading cause of unintentional injury death for Arizonans aged 65+ is falls (679 in 2012) followed by motor vehicle crashes (107 in 2012) in a distant second place (AZDHS, 2012). FGD participants placed an emphasis on the need for a adopting a multi-pronged injury prevention framework, which includes health provider assessments, outreach and educational programs, and home improvements for aging Arizonans (e.g. handrails, ramps).

Theme #3: Caregiver Stress and Lack of Coordinated Support

Finally, participants spoke to the need for coordinated, in-home support and caregiver relief. According to the Pima Council on Aging (PCOA), one in four families is involved in actively caring for an individual aged 60 or older (PCOA, 2015). Although caring for loved ones may be emotionally rewarding, it can also increase stress, depression and anxiety for those involved in caregiving activities. FGD participants believed that coordinated outreach programs would best relieve caregivers, including food delivery and in-home care. Additionally, one participant highlighted the need for emotional support for caregivers through services such as support groups.

Pima County Health Care Providers

On April 8, 2015, a total of 13 health care providers, including primary care, pediatric and specialty physicians, and a nurse practitioner, representing hospitals and community health centers from throughout Pima County, participated in focus groups held throughout the day.

These focus groups provided a vivid snapshot of how various factors – social, economic, cultural, and behavioral – affect the health of various populations from a medical perspective. In addition, the providers were also able to identify specific ways Pima County hospitals can help address some of these factors to assist providers as they work to improve patient health.

Focus group participants envisioned a healthy community as having the following attributes, encompassing a variety of social and economic factors:

- Access to care in a timely fashion
- Engaged, empowered patients able to overcome barriers and achieve goals
- High health literacy and equitably funded education
- Access to healthy food and exercise opportunities for all
- Community-based health: utilizing the "promotora" community health worker model
- A focus on prevention and wellness
- Better coordination of care through a consistent EMR platform and more comprehensive patient records

Pima County has several traits that participants consider healthy. These include:

- Weather conducive to outdoor activities
- A friendly and accepting community that resists class divisions
- A variety of health-focused programs
- Large family units
- Clean water
- Paved roads and bike lanes
- An increase in availability of farmers markets

- A changing healthcare system – specifically, collaboration and communication among systems, health promotion and integrated services
- High level of philanthropy
- Good doctors

Participants also pointed to several community attributes that they considered unhealthy. These include:

- Low education
- High smoking, alcohol, tobacco use
- Incarceration
- Mental illness/fragmented care
- Lack of physical activity/obesity
- Drug abuse
- Overutilization of emergency departments/lack of prevention
- Homelessness

Main Focus Group Discussion Themes: Health Care Providers

Theme #1: Poor health behaviors exacerbated by social and economic factors that lead to poor health outcomes

Many providers stated that health behaviors, specifically, poor diet choices, lack of exercise, tobacco use, abuse of narcotics and pain medications, and alcohol abuse are prominent concerns that directly affect health. For example, Pima County residents overall have a higher % of the population that receives appropriate preventive screenings and a lower percentage of overweight or obesity, the County has a higher percentage adults who binge drink (17.5%) than Arizona (13.4%) (BRFSS, 2012 and 2013). Due to poor quality of education and low health literacy many people are not aware of how their behaviors impact their health.

Economic and social factors can influence mental health, leading to depression, stress, violence, and behaviors that can results in accidents and trauma. Furthermore, providers expressed concern with patients' lack of compliance with medical recommendations and delaying or avoiding care, often due to the unaffordability of insurance co-pays and high deductibles of health plans.

Theme # 2: Fragmented health care and lack of continuity and coordination of care

Providers identified several factors that contribute to a lack of coordination and continuity of care across populations. More and more patients are visiting urgent care facilities or "Minute Clinics" for routine care, rather than seeing their regular primary care doctor. Often, primary care physicians are simply too busy to attend to the health needs of the population.

Many Pima County residents travel to Mexico where they can receive lower-cost treatment, which often times is inappropriate care for their diagnosis. Receiving treatment outside of the country can further complicate an already strained system of care coordination.

Additionally, there is a lack of communication between electronic medical records systems between providers, which prevents a treating physician from seeing the complete medical and pharmaceutical history of a patient. This lack of communication can have varying impacts on patient care, including unnecessary or duplicative tests and procedures. Providers noted that Pima County's Federally Qualified Health Centers do not face these challenges to the extent that other providers do, as they are better integrated with more accessible primary care.

Theme #3: Lack of utilization or awareness of available health-related programs/resources due to inconsistency, funding shortages, or under-promotion

Providers noted that while Pima County health systems, agencies and organizations offer a wide variety of programs to support and promote healthy lifestyles, there are still gaps in essential resources. Discontinuation or interruptions in funding can cause instability in programs. Patients and providers alike are not aware of programs and resources that exist county-wide, so providers are not always able to make referrals or recommendations.

Providers identified a specific need for increased awareness and a central clearinghouse of available programs and resources. They also recommended that hospitals employ patient navigators or liaisons to identify and promote available community resources.

Pima County *Promotores/Promotoras* (Community Health Workers)

On the frontline of Pima County's health efforts are the often unsung heroes of health promotion and disease prevention: the *Promotores de Salud. Promotores*, or lay health promoters, are trusted members of the target communities they serve. These men and women are in the unique and rewarding position of providing basic health services, translating medical information into usable knowledge, and serving as cultural and language liaisons between formal health providers and community members.

The formal use of *promotores* in southern Arizona dates back to the early 1990s when the late Director of the Southwest Border Rural Health Research Center, Joel Meister, PhD, and fellow University of Arizona colleagues noted: [in a Maricopa County study]…"only 21.6% of all mothers identified a formal health care provider as having been their most helpful source of information. **Seventy-one percent of the mothers identified their own mothers, sisters, partners, relatives, or friends as the main source of information**" (Meister et al., 1992).

Recognizing the need to convey vital health information and interventions from trusted community members, Dr. Meister and colleagues adapted a lay health worker model for use in Pima County, Arizona. In the past decades, *promotores* have been used in Pima County for prenatal counseling, diabetes prevention, stress reduction, and increasing access to chronic disease screenings, including cervical cancer (Ingram et al., 2012; McEwen et al., 2010; Meister et al., 1992; Nuno et al., 2011; Reinschmidt et al., 2006; & Staten et al., 2004).

Promotores provide critical insights into the social, economic, and cultural factors that shape the health of specific communities, and are vital stakeholders and partners in achieving health equity in southern Arizona.

On Friday, April 10, the Pima County Health Department conducted a Spanish-language focus group with 13 Pima County *promotores* representing various health promotion organizations and programs throughout Pima County.

Among Pima County *promotores*, a healthy community encompassed the following traits:

- Access to health care and health insurance
- Healthy population
- More resources and assets for exercise, such as gyms
- More places where healthy food is cheaper instead of fast food being cheaper
- Prevention programs and education available at mass levels
- More hospitals and clinics to reduce wait times
- More trees
- More pavement in good repair
- Cleaner air and less dust
- Education for children about health

While focus group participants identified health issues they considered important that are also reflected in published morbidity and mortality data about Pima County, including diabetes and obesity, participants also pointed to other social, economic, and environmental factors. These include:

- Depression and anxiety due to community factors
- Racial profiling by police
- Healthy food (i.e. salads) being too expensive
- Pollution due to excess traffic
- Unsafe walking on roads such as Ajo, Irvington and Valencia
- Sexual predators posing risks to children
- Economic inequality and low salaries
- Social inequity between northern and southern parts of community
- Limited time with and follow-up from physicians
- Poorly maintained parks
- Full, crowded clinics
- Many people travel to Nogales for medical care due to high deductibles

Theme #1: Social and cultural barriers to wellness and health promotion

Promotores acknowledged that many programs exist throughout Pima County to promote health and wellness. However, barriers to success of these programs ranged from too few programs to unrealistic expectations. For example, one participant stated that healthy food is too expensive, particularly for a low-income family, and that the food provided to low-income populations in social programs is not healthy.

Cultural appropriateness was also identified as a challenge. *Promotores* claimed that many programs are not culturally appropriate or sensitive, particularly in relation to food. Because cuisine is different for different cultures, the programs need to be oriented appropriately. Furthermore, there is a sense that the programs need to be relatable to the community. Participants pointed out that the people running the programs should reflect the population they are serving and represent the interests of the community.

Theme #2: Health Literacy, Access to Care and Provider Relationships

Promotores suggested several areas that could be improved upon in regards to access to care and treatment. First, participants identified discrimination among the population they work with. For example, providers report people to Border Patrol, causing a great degree of distrust among the community. Participants noted that more people would take advantage of programs offered by providers if there was a greater sense of trust in the institution. Furthermore, they identified the need for more educated, attentive and sensitive personal at all points of contact – from the receptionist, to the nurse and the doctor. Participants expressed concern that paperwork and insurance status are a greater priority among providers than caring for the patient and their family.

Promotores also noted that programs and services should be more community- and evidence-based. There have been significant cuts to preventive health services and education, and there is a need for more programming and education for young people, especially regarding chronic conditions. Many people do not fully understand co-morbid conditions and/or are unaware of potential counteractions of medications prescribed for multiple conditions.

Summit View Elementary School

The Summit View neighborhood of Tucson sits two miles south of the Tucson International Airport. A 2012 report conducted by the University of Arizona's Mel and Enid Zuckerman College of Public Health (MEZCOPH) provided insight into the social and economic characteristics of Summit View. The community has a population of 8,125 and a land area of approximately 1.5 square miles. Summit View residents have a per-capita income of $7,334 - less than one-third the income of Pima County and the U.S. More than 50% of the population is Hispanic or Latino (MEZCOPH, 2012).

Most of the school-aged children in this community attend Summit View Elementary School within the Sunnyside Unified School District (SUSD). The parents of Summit View are incredibly involved in their children's education, and the school district supports families by empowering parents to be educators for their children (SUSDa, n.d., para. 1). Additionally, Summit View Elementary School partners with programs in the community to increase access to low-cost internet and to create plans to further their children's education (SUSDb, n.d., para. 6; SUSDc, n.d. para. 1).

Summit View Elementary parents were selected to be part of a focus group discussions as they were identified as a resilient community by key informants, and also because they were willing to discuss the strengths and challenges in the Summit View neighborhood. On March 31, 2015 a focus group discussion with 15 parents of schoolchildren at Summit View Elementary was conducted in Spanish.

FGD participants envisioned a healthy community as having the following attributes, primarily focusing on infrastructure and built environment:

- Paved, well-lit streets
- Trash collection and dumpsters available for refuse
- Sanitary removal of dead animals

When asked about what participants considered *unhealthy* about their community, the following concerns were voiced:

- Animal control issues due to abandonment of unwanted animals, and animal carcasses in washes
- Air quality issues, specifically, smoke and exhaust from vehicles
- Bulk trash items in washes, allegedly discarded by Tucson residents or other neighboring communities

Main Focus Group Discussion Themes: Community Health and Safety

Theme #1: Poor Infrastructure and Built Environment Combined with Inadequate Public Safety Inhibits Healthy Behaviors

Approximately 86% of Pima County residents live reasonably close to a location for physical activity, a smaller percentage compared to the top performing counties in the U.S. (County Health Rankings, 2015). However, social and economic factors can prevent full utilization of these locations, as illustrated by the Summit View focus group discussion.

While focus group participants expressed an eagerness to participate in healthy behaviors, such as riding bicycles and taking their families to the park, poor lighting, unpaved roads and lack of safe facilities to exercise prevent residents from fully engaging in activities. Participants are hesitant to encourage their children to ride bikes given the poor condition of the roads and the presence of uncontrolled/loose animals. Poor road conditions create barriers to transportation, such as flat tires on cars or bikes, preventing people from attending school or work. Additionally, participants stated that most people exercise during the day because they do not feel safe at night due to gunshots, as well as poor lighting and a lack of security at the park leading to illicit behavior.

Participants also claimed that police and first responders are often slow to respond to requests for assistance. Some said that due to a lack of clear directions and street signage, police and firefighters have difficulty locating residences. Others felt a general sense of being disregarded by first responders. As one parent stated, “We’re forgotten here.”

Participants expressed the need for a community wellness/recreation center, and also identified strategies they are employing to ensure their health and safety; specifically, returning home at sunset and coordinating meal-sharing for group activities to encourage healthier food consumption.

Theme #2: Air Quality and Exacerbation of Health Issues

Overwhelmingly, asthma and allergies were major health concerns among Summit View focus group participants. Parents claimed that children miss school for up to a week at a time due to allergies. Asthma and allergy triggers were identified as being associated with poor air quality, specifically, dust, animal waste, and overall poor air quality.

While Pima County scores well in national measures of annual particle pollution, the County is performing poorly in annual ozone quality and the amount of recognized carcinogens released into the air (Arizona Health Matters, 2015). Furthermore, in 2013 approximately 24% of Pima County high school students had been diagnosed with asthma, which can contribute to missed school, emergency department visits and limitations on daily activities (Arizona Health Matters, 2015).

Theme #3: Lack of Trust in Systems: Health Care, Government

Participants expressed frustration with the health care system. Some parents described misdiagnoses at a family clinic and a hospital, while others said it took doctors a "long time" to diagnose a condition.

Parents recalled a town hall meeting hosted by government representatives where community members were not allowed to ask questions. Others described challenges with the United States Postal Service placing mail in the wrong mailbox and refusing to allow community members to install donated mailboxes with better signage. These anecdotes represent an overall sentiment of mistrust and disregard shared by the group. As one participant stated, "If you don't live here, you don't know what [the community is going] through."

While challenges abound in this community, the group was quick to identify its strengths. A local pastor often acts as the community advocate on behalf of the residents with local government representatives. A local store owner helps clear the roads during flooding so people can attend work and school. A strong sense of collaboration and commitment to neighborly assistance emerged during this focus group, highlighting the resilience and character of this community.

List of Appendices

- CHNA Key Informants
- Key Informant Interview Guide
- Focus Group Discussion (FGD) Instrument – English
- Focus Group Discussion (FGD) Instrument – Spanish
- Pima County CHNA: Community Forum Guide
- Pima County CHNA Survey Report

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Key informant (KI) interviews will take place face-to-face (or by phone, should the KI be unavailable in-person) and should last approximately 25-35 minutes. The interviewer will introduce herself and explain the purpose of the assessment, allowing time to address any questions or concerns.

Appendices

APPENDIX A: CHNA Key Informants

APPENDIX B: Key Informant Interview Guide

APPENDIX C: Focus Group Discussion (FGD) Instrument – English & Spanish

APPENDIX D: Pima County CHNA: Community Forum

APPENDIX E: Pima County CHNA Survey Report

APPENDIX A: CHNA Key Informants

	POSITION: ROLE IN COMMUNITY	MEDICALLY UNDERSERVED	LOW INCOME PERSONS	MINORITY POPULATIONS	POPULATIONS WITH CHRONIC DISEASE	PUBLIC HEALTH EXPERT	LOCAL ELECTED OFFICIAL	NONPROFIT	HEALTH CARE PROVIDER	MINORITY GROUP R SPECIAL POPULATION	FAITH-BASED	FIRST RESPONDERS	SCHOOLS
KEY INFORMANT													
Alejandra Harris	Community Health Advocate - El Rio	x	x	x	x			x	x	x			
Alonzo Morado	Primavera Foundation	x	x	x	x			x		x			
Beth Carey	Primavera Foundation	x	x	x	x			x		x			
Brad Olson	Tucson Fire Dept, Chief	x	x	x	x							x	
Breeann Hoerning	State Director, Providence of Arizona	x	x	x	x				x				
Cam Jaurez	TUSD School Board	x	x	x	x		x						x
Chris Gates	Tucson Fire Dept, Captain	x	x	x	x							x	
Connie Yrigolla	Community Health Advocate - El Rio	x	x	x	x			x	x	x			
Daisy Jenkins	Community Leader, Rising Star Baptist Church	x	x	x	x					x	x		
Debbie Adams	COO, Pima Council on Aging	x	x	x	x			x		x			
Fran Driver	CEO, Desert Senita CHC	x	x	x	x				x	x			
Jacalyn Sinn	School Nurse at Teen Pregnancy HS (TUSD)	x	x	x	x	x			x				x
Jason Winsky	Sergeant, Tucson Police Dept.	x	x	x	x							x	
Jody Disney	Director of Health Services at SUSD	x	x	x	x	x			x				x
Jonathan Rothschild	Mayor, City of Tucson	x	x	x	x		x						

	POSITION: ROLE IN COMMUNITY	MEDICALLY UNDERSERVED	LOW INCOME PERSONS	MINORITY POPULATIONS	POPULATIONS WITH CHRONIC DISEASE	PUBLIC HEALTH EXPERT	LOCAL ELECTED OFFICIAL	NONPROFIT	HEALTH CARE PROVIDER	MINORITY GROUP R SPECIAL POPULATION	FAITH-BASED	FIRST RESPONDERS	SCHOOLS
KEY INFORMANT													
Kylie Walzak	Living Streets Alliance							x					
L'Don Sawyer	Former TMC Director of Senior Services	x	x	x	x			x	x	x			
Laura Baker	Tucson Fire Dept, Assistant Chief	x	x	x	x							x	
Linda Wojtowicz	CEO, Boys & Girls Club of Tucson	x	x	x	x			x					
Mark Clark	CEO, Pima Council on Aging	x	x	x	x			x		x			
Michael Flood	Director of Social Work, Indian Health Svc	x	x	x	x	x			x	x			
Michael McDonald	CEO, Community Food Bank of Southern AZ	x	x	x	x			x					
Michael Woodward	Community Advocate	x	x	x		x				x			
Neal Cash	CEO, CPSA	x	x	x	x				x	x			
Pam Wessel	Director of Services, Pima Council on Aging	x	x	x	x			x		x			
Paul Sayre	Captain, Tucson Police Dept.	x	x	x	x							x	
Peg Harmon	CEO, Catholic Community Services	x	x	x	x			x		x	x		
Penny Tylor	Director of Coordinated School Health, Catholic Diocese	x	x	x	x	x		x	x		x		x
Sandra Anguiano	Community Health Advocate - El Rio	x	x	x	x			x	x	x			

APPENDIX B: Key Informant Interview Guide

All KIs will be asked eleven (11) questions. Eight (8) questions are universal, for all KI participants (Q1-Q5 and Q9-Q11). Questions six (6) through eight (8) have been tailored for specific respondents, and will vary depending on the KI. For example, if the KI is a community outreach worker, she or he will be asked questions 1-5 (all), followed by questions 6-8 (outreach workers), and finally questions 9-11 (all) for a total of eleven questions.

TARGET	QUESTION(S) and PROMPT(S)	ORIGIN
General / all	1. How do you define health?	CHNA Advisory Team
	2. What are the most important issues in Pima County? - *2a:* Who is most affected by these? - *2b:* What services are in place to address these issues? - *2c:* Do people utilize these services? Why or why not?	Kaiser Permanente
	3. What are the three most serious health issues in Pima County? - *3a:* Who is most affected by these? - *3b:* What services are in place to address these issues? - *3c:* Do people take advantage of these services? Why or why not?	2012 Pima County Health Assessment
	4. What types of programs exist in Pima County to promote… …physical health or exercise? …mental health or psychosocial wellbeing? …health for specific populations (infants, youth, seniors, minority populations, etc.) *Prompts:* Can you name some programs or initiatives?	New
	5. What services are needed in the community? Who most needs them?	Kaiser Permanente
Clinicians	6. Can you talk about the primary population you serve? *Prompts:* What are some of the main health challenges? What are people doing to promote their health?	New
	7. How adequately do you feel you are able to meet the needs of your patients? - *7a:* What resources do you rely on to be able to meet these needs? What are some challenges?	Based on 2012 Pima County Health Assessment
	8. Can you discuss how the PP-ACA has affected health seeking among your patients / in Pima County?	New
Health Department (e.g. IHS, TON)	6. What are the assets of the community you serve? Challenges?	Kaiser Permanente
	7. Where do people go when they need health care? - *7a:* How has the PP-ACA affected health related decision making in this community?	Community Tool Box; New
	8. How adequate and accessible are primary health services for the people you serve? - *8a:* (If inadequate / inaccessible) How could these be improved?	2012 Pima County Health Assessment

TARGET	QUESTION(S) and PROMPT(S)	ORIGIN
Environmental / Occupational Health Workers	6. Can you talk about how your work improves people's health / wellbeing? *Prompts:* Who is your target population? What are their health concerns? How many people access / benefit from programs?	New
	7. What are some of the challenges you face in your work?	New
	8. What are the resources that you rely on for programs?	New
Outreach Workers (e.g. Promotores)	6. What are some of your community's assets? Challenges?	Kaiser Permanente
	7. Where do people in your community go when they need health care? - *7a:* How has the PP-ACA affected health related decision making in this community?	Community Tool Box; New
	8. What are challenges in your day-to-day work? What resources do you rely on?	New
Non-Profit (specific populations)	6. What are some of the assets of the population you serve? Challenges?	Kaiser Permanente
	7. Where do people in your community go when they need health care? - *7a:* How has the PP-ACA affected health related decision making in this community?	Community Tool Box; New
	8. What are challenges in your day-to-day work? What resources do you rely on?	New
General / all	9. If you were organizing a Pima County Health Coalition, what organizations or people would you want involved? Why?	New
	10. Which members of the population you work with / are part of / serve would you recommend we try to gather for a focus group? Why?	New
	11. Is there anyone else you would recommend we speak with?	New

To meet federal guidelines the following information will be collected from each Key Informant:

- Name
- Title
- Affiliation
- Population(s) represented: [1] Medically underserved persons; [2] Low-income persons; [3] minority populations; [4] populations with chronic diseases
- Brief Description of Interviewee's Specialized Knowledge, Expertise, and Representative Role
- Classification(s): [1] Health Expert; [2] Community Leader ; [3] Other
- Other characteristics of Interviewees: [1] Federal Health Department representative; [2] Tribal Health Department representative; [3] State Health Department representative; [4] County Health Department representative; [5] Healthcare consumer advocate; [6] Nonprofit organization; [7] Academic expert; [8] Local government official; [9] Community-based organization; [10] Healthcare provider; [11] Private business; [12] Health insurance or managed care organization.

Next Steps: FOCUS GROUP DISCUSSIONS

Questions for focus group discussions (FGDs) will be tailored to specific sessions. Universal questions will address community assets and challenges.

Potential FGDs include: *Promotores* / outreach workers, hospital-based health professionals / clinicians

APPENDIX C: Focus Group Discussion (FGD) Instrument – English

FGD Logistics

The purpose of focus group discussions (FGDs) is identify a "norm" or average that respondents center toward with regard to attitudes, beliefs, practices / behavior. They can also be used to validate and/or challenge what has been published in prior assessments and/or stated by key informants. To get the best results during these discussions, the following should apply:

- FGDs should be advertised through a trusted community leader, representative, or body;
- Focus groups should be between 6 and 10 people, with no more than 12 participants;
- Participants should have similar characteristics, for example:
    - Same type of work (e.g. *Promotores*, community health workers)
    - Similar "call to action" (e.g. parents of children in a particular school district or diocese; patients / people affected by the same illness)
    - Similar demographic characteristics (e.g. a discussion focused on *elderly* or *members of the LGBT community* or *caregivers*, etc. should have only participants representing said group)
- Discussions should be held at a convenient time in a neutral, easily accessible place.
    - Is the group being scheduled at a time and place that members of *x* community will be able to attend?

        Are there supports in place to offset potential barriers (e.g. a child caregiver to watch children, reimbursement for transportation and/or easy parking)
    - Is the group taking place somewhere where participants will be comfortable speaking? (E.g. If you are asking parents of high school students their perceptions of efforts of the school administration, holding a focus group at a school building may make some participants uncomfortable and unwilling to speak freely.);
- The FGD should be run by an experienced **facilitator**. One to two **recorders** (people) should be present to observe not only what is stated, but *how* statements are made, paying specific attention to tone of voice, body language, etc. of participants. All of this should be recorded with the notes. (There are several pros and cons to using audio recording during FGDs: *pros-* able to capture what people state verbatim, less stress on recorders / note-takers; *cons* – participants may feel uneasy and less likely to speak freely, burdensome and difficult transcriptions with more than one voice. If audio recorders are not used, every effort should be made by note-takers / recorders to capture quotes);
- Participants should not have access to questions ahead of time. The list of questions should be brief and open-ended;
- Notes should be made available to participants in real-time to facilitate discussions / ideas (use a whiteboard, flipchart, etc.).

THE FOCUS GROUP DISCUSSION PROTOCOL

Part I: Sign-In and Introduction (~10 minutes)

1. Participants should sign-in prior to sitting down to start the focus groups. Names and phone numbers and/or emails should be collected in case follow-up is needed. (See appendix I: FGD Sign-In Sheet)
2. The **facilitator** will briefly introduce herself / himself, the purpose of the FGD, and why participants have been chosen.
    a. *Sample Introduction*
        i. *Hello. My name is _____, and I am helping with a county-wide collaboration to assess the health and wellbeing of Pima County residents. You have been asked to participate in this discussion because your knowledge of _____ (e.g. community health outreach work) will help us better understand what works for your community as well as what challenges you face as a community. We are very grateful for your taking the time to speak with us so we can learn from you. Thank you.*
        ii. Spend some time reviewing what you can and cannot do as a result of these groups so that you do not raise expectations. Review how their confidentiality will be kept. (E.g. No names associated with notes, unique ID number, etc.)
    b. After stating the purpose of the FGDs, the facilitator will introduce any assistants (recorders), and ask the participants to introduce themselves. A brief ice-breaker – especially if incorporated into introductions – may help people feel at ease.

Part II: Rapport-Building (~5-10 minutes)

This is to start to get participants used to the idea of answering and discussing questions in a group setting. Questions should be lighthearted and easy to answer. These can be about phone service providers, what people did over the weekend, current events, etc. (Essentially, whatever is most salient to specific participant group.)

Part III: In-Depth Discussion (~45-60 minutes)

1. What is your vision of a healthy community? [National Center for Rural Health Works]
    a. This can be initially vague to get at a broader concept of "health" and wellbeing, but should eventually be specific and focused on the following two questions:
        i. What is healthy about / in your community? [If health providers, change this to "What is healthy about / in the community you serve?"]
        ii. What is unhealthy about / in your community? [If health providers, change this to "What is unhealthy about / in the community you serve?"]

2. What are the most important health issues in your community? [New]
    a. Sub-question:
        i. Can you rank these in order of importance? [You can have people "vote" on these with stickers.]

b. Prompts:

i. What are some struggles people have staying healthy?

1. What are challenges to eating well? Exercising? [Include whatever important health topics were mentioned]

ii. *To ascertain community assets / strengths:* What recommendations would you give to people to eat well / exercise / stay healthy [or insert other behavior] in this community?

3. Where do people in your community go when they need routine health care? [From KI Interview Guide]

a. Sub-question:

i. What if they had an emergency? [New – based on key informant interviews with police and fire department]

b. Prompts:

i. Are services easy to get to?

ii. How do you / people in your community pay for services?

iii. How has the PP-ACA affected your ability to seek treatment for health issues?

4. What is the quality of programs to improve health and wellbeing in your community? [Adapted from Anne Arundel County, Maryland, Community Health Needs Assessment, 2012]

a. Prompts:

i. What programs are available? Can you give us examples?

ii. Why or why not are programs successful?

1. What are they doing well?

2. What can they do to improve services?

5. What can hospitals (and other organizations) do to improve the health and wellbeing of people in your community? [Adapted from NACCHO]

a. Prompts:

i. Can you think of some existing programs that help people in your community? (Ask for details.)

ii. Are there needs that are not being addressed but that you think could be?

<u>Part IV: Closure (~10 minutes)</u>

Ask participants if there is anything they would like to add or any questions they have. Restate the value of their contribution and thank them. Tell participants how they can get in touch with someone if they have any questions about the Pima County CHNA.

APPENDIX C: Focus Group Discussion (FGD) Instrument – Spanish

Instrumento para Grupos Focales (GFs)

Logistica

El propósito de los Grupos Focales (GFs) es identificar una "norma" o promedio que los entrevistados responden en cuanto de las actitudes, creencias, prácticas / comportamiento. También pueden ser utilizados para validar y / o cuestionar lo que se ha publicado en las evaluaciones previas y / o indicado por los informantes clave. Para obtener los mejores resultados durante estas discusiones, el siguiente debe aplicar:

- Los GFs deben ser publicado a través de un líder comunitario, representante u organización de confianza;
- Los Grupos Focales deben tener entre 6 y 10 personas, con no más de 12 participantes;
- Los participantes deben tener características similares, por ejemplo:
    - El mismo tipo de trabajo (por ejemplo, las promotoras, los trabajadores comunitarios de salud)
    - "Llamada a la acción" similares (por ejemplo, los padres de los niños de un distrito escolar en particular o diócesis, pacientes / personas afectadas por la misma enfermedad)
    - Características demográficas similares (por ejemplo, una discusión se centró en ancianos o miembros de la comunidad LGBT o cuidadores, etc. deben tener sólo los participantes que representan a dicho grupo)
- Los GFs deben realizarse en un momento conveniente en un lugar neutral y de acceso fácil.
    - ¿Es el grupo que está siendo convocado a una hora y un lugar que los miembros de la comunidad podrán asistir?
        - ¿Hay apoyo en lugar de superar posibles obstáculos (por ejemplo, un cuidador niño vea los niños, el reembolso de transporte y / o disponibilidad de parqueo)
    - ¿El GF es ocurriendo en algún lugar donde los participantes serán cómodo hablando? (Por ejemplo, si solicita a los padres de los estudiantes de secundaria sus percepciones de los esfuerzos de la administración de la escuela, con un grupo focal en un edificio escolar pueden hacer algunos participantes incómodo y poco dispuesto a hablar libremente.);
- El GF debe ser ejecutado por un **facilitador** con experiencia. Uno a dos **personas para tomar notas** deben estar presentes para observar no sólo lo que se dice, sino cómo se hacen declaraciones, prestando especial atención al tono de la voz, el lenguaje corporal, etc. de los participantes. Todo esto se debe registrar con las notas. (Hay varias ventajas y desventajas de utilizar la grabación de audio durante los GF: *pros*-se puede captar lo que la gente dicen literalmente, menos estrés para los tomadores de notas; *contras*- participantes pueden sentirse incómodos y menos abierto a hablar, a veces es difícil a interpretar las grabadores cuando hay más de una voz. Si no se utilizan grabadoras de audio, todos los esfuerzos deben hacerse por los tomadores de notas para capturar comillas);
- Los participantes no deben tener acceso a las preguntas antes del GF. La lista de preguntas debe ser breve y de composición abierta;
- Las notas deben ser disponibles de los participantes en tiempo real, para facilitar las discusiones / ideas (utilizar una pizarrón, rotafolios, etc.).

PROTOCOLO PARA EL GRUPO FOCAL

Parte I: Inscripción y Presentación (~10 minutos)

3. Los participantes deben inscribirse antes de sentarse a iniciar los grupos focales. Los nombres y números de teléfono y/o correos electrónicos se deben recoger en caso se necesita de seguimiento. (Véase el Apéndice I: GF Hoja de Registro)
4. El **facilitador** presentará brevemente a sí misma / mismo, el propósito de la GF, y por qué se han elegido los participantes.
    a. *Ejemplo de la Presentación*
        i. *Buenos Días/Buenas Tardes/Buenas Noches. Mi nombre es _____ y estoy ayudando con una colaboración para evaluar la salud y el bienestar de los residentes del Condado de Pima. Todos ustedes han sido solicitado para participar en esta discusión por su conocimiento de _____ (por ejemplo, la comunidad de salud de alcance de trabajo) que nos ayudará a entender mejor lo que funciona para su comunidad, así como cuáles son los desafíos que enfrenta como una comunidad. Estamos muy agradecidos por el tiempo que nos han prestado para hablar con nosotros para que podamos aprender de Uds. Gracias.*
        ii. *Dedicar algún tiempo a la revisión de lo que puede y no puede suceder como resultado de estos grupos focales para que no levanta expectativas. Revisar cómo se mantendrá la confidencialidad. (Por ejemplo no hay nombres asociados con las notas, número único de identificación, etc.)*
    b. *Después de explicar el propósito de los GFs, el facilitador presentará los asistentes (tomadores de notas), y pedir a los participantes que se presenten. Una breve para rompehielos - especialmente si se incorporan a las presentaciones - puede ayudar a las participantes sentir cómodos.*

Parte II: Fomentando Confianza (~ 5 a 10 minutos)

Esta es para acostumbrase a los participantes a la idea de responder y discutir las preguntas en el ambiente de grupo. Las preguntas deben ser alegre y fácil de responder. Estos pueden ser acerca de los proveedores de servicios de telefonía, lo que las participantes hicieron el fin de semana, noticias, etc. (En esencia, lo que es más relevante para el grupo específico.)

Parte III: Discusión en profundidad (~ 45 a 60 minutos)

6. ¿Cuál es su visión de una comunidad saludable? [National Center for Rural Health Works]
    a. Esto puede ser inicialmente abierta para llegar a un concepto más amplio de la "salud" y el bienestar, pero con el tiempo debe ser específico y se enfocarse en las siguientes dos preguntas:
        i. ¿Cuál es saludable sobre / en su comunidad? [Si son proveedores de servicios de salud, cambiar a "¿Qué es saludable en la comunidad que usted sirve?"]
        ii. ¿Cuál no es saludable sobre / en su comunidad? [Si son proveedores de servicios de salud, cambiar a "¿Qué no es saludable en la comunidad que usted sirve?"]

7. ¿Cuáles son los problemas de salud más importantes en su comunidad? [Nuevo]
    a. Sub-pregunta:
        i. ¿Puede clasificar estos en orden de importancia? [Puede tener un "voto" de participantes con stickers]
    b. Exploraciones
        i. ¿Cuáles son algunas luchas que personas tienen para mantenerse saludable?
            1. ¿Cuáles son desafíos para comer bien? ¿Hacer ejercicio? [Incluir cualquier cosa se mencionaron como temas importantes de salud]
        ii. *Para determinar los recursos y fortalezas comunitarios*: ¿Qué recomendaciones darían personas para comer bien / hacer ejercicio / mantenerse saludable [o inserte otro comportamiento] en esta comunidad?
8. ¿Dónde va la gente en su comunidad cuando necesitan atención médica ordinaria? [De las entrevistas con Informantes Claves]
    a. Sub-pregunta:
        i. ¿Qué hacen en una emergencia? [Basado en entrevistas con policías y bomberos]
    b. Exploraciones
        i. ¿Los servicios son accesibles?
        ii. ¿Cómo la gente paga para servicios en su comunidad?
        iii. ¿Cómo ha el PP-ACA impactado su capacidad de buscar tratamiento para problemas de salud?
9. ¿Cómo es la calidad de los programas existentes para mejorar la salud y el bienestar de su comunidad? [Adaptado de la Evaluación Comunitaria en en el condado de Anne Arundel, Maryland en 2012]
        i. ¿Qué programas están disponibles? ¿Puede darnos ejemplos?
        ii. ¿Por qué o por qué no son éxitos estos programas?
            1. ¿Qué están haciendo bien?
            2. ¿Cómo pueden mejorar sus servicios?
10. ¿Cómo pueden los hospitales (y otras organizaciones) mejorar la salud y el bienestar de las personas en su comunidad? [Adaptado de NACCHO]
    a. Exploraciones
        i. ¿Pueden pensar en algunos programas existentes que ayudan a las personas en su comunidad? (Pregunte por los detalles.)
        ii. ¿Hay necesidades que no están siendo atendidas, pero que creen que podría ser?

<u>Parte IV: Cierre (~ 10 minutos)</u>

Pregunte a los participantes si hay algo que les gustaría agregar o cualquier pregunta que tengan. Repita el valor de su contribución y agradecerles para su participación. Informar a los participantes cómo pueden ponerse en contacto con alguien si tienen alguna pregunta sobre la Evaluación de Necesidades en Salud Comunitaria (CHNA) en el Condado de Pima.

APPENDIX D: Pima County CHNA: Community Forum

Community Forum Objectives

1. To share information and findings with stakeholders in Pima County;
2. To elicit feedback (validation) pertaining to the emerging themes; and
3. To gain insight into the prioritization of themes by stakeholders.

Forum Facilitation: Good Practices

1. If participants are expected to register, send Community Forum Rules to those who will be in attendance. Also present these rules / expectations to participants at the time of the meeting. (Example of rules: length and content of public statement.)
    a. If participants do register, you can send them a bulleted list of preliminary findings so that they come prepared and already having thought about the topics.
2. Make copies of the questions being asked to help participants focus. On the larger screen (if using PowerPoint), have a separate slide for each question to avoid distraction.
3. Have participants sign in with their email addresses.
    a. Use this information to send thank you notes and the results of the forum.

Welcome & Introduction of Materials (~35-45 minutes)

1. Review purpose of the community forum. Introduce present members of the CHNA team.
2. While there likely will not be time for all participants to introduce themselves, it would be a nice ice-breaker alternative to ask people to raise their hands or stand up if they represent a specific sector or group.
3. Review the rules of the community forum.
4. Ask participants if they have any questions before proceeding.
5. Discuss the preliminary findings of the community assessment (~25-30 minutes)
    a. Background Information and Methods (5 minutes)
    b. Statistical Analyses (5-10 minutes)
    c. Key Informant Interviews (5-10 minutes)
    d. Focus Groups (5-10 minutes)
6. Review the core themes that arose during primary data collection.

Options for Engagement Piece

A. Prioritization Activity (10 minutes)

Part I:

1. Themes/issues are listed on white posters around the room (one theme per poster).
2. Each participant receives three sticky notes and is asked to write their name and contact information on each.

3. Participants are asked to place a sticky note on what they feel are the top three themes/issues.
4. Number of sticky notes are counted for each issue/theme, and the five issues/themes with the most sticky notes are chosen for further group discussion.
5. Note: If additional themes arise that were not on the list, create a new poster so people can add their sticky notes to that issue.

B. Break-Out Groups (~60 minutes)

Note: Will require additional facilitators and note-takers.

1. Separate room into tables by prioritized THEME. (E.g. section focused on 'mental health'; another focused on 'school health'; etc.). A facilitator should be present at each table.
    a. Facilitators: Javier, Montserrat, Alan, Sarah, and Emily.
    b. Note-takers:
2. Ask participants to self-select a table to begin. Inform them that they will have an opportunity to discuss every theme, so it does not matter where they begin.
    a. 10-12 people per group is a good number.
3. Discuss potential reasons / root causes for challenges that emerged.
4. Discuss potential solutions [or] community resources/assets. **[Note: You can have participants create separate solutions / list separate resources, or skip to step iii below and have them rank what was already listed in KI interviews and FGDs. Also be sure to take time to ask if there are any resources that were not listed.]**
    a. Use nominal group technique (a ranking technique)
        i. All participants asked to give solution and reason for stated solution. [Alternately, have them state a community resource]
        ii. After first round of solutions, duplicate solutions are crossed off the list.
        iii. Final list of solutions is written, and participants asked to rank these in order of importance / urgency / feasibility / etc.
            1. "Ranking" activity is to place 1, 2, and 3 next to solutions of highest priority, second highest priority, and third highest priority, respectively.
        iv. Tally points and create your final ranked list of solutions or resources.
5. Invite participants to move to the next table, and repeat steps 1-4 until all groups have provided input into each theme. Each round of discussions will last 10 minutes.

Conclusion and Wrap-Up (~15 minutes)

1. Thank participants for their contributions and feedback.
2. Restate the major themes and give a few examples of how these themes were tackled.
3. Remind participants that they will receive reports / information pertaining to the community forum and how they can contact members of the CHNA team with questions.
4. Send thank you notes to all who participated.

APPENDIX E: Pima County CHNA Survey Report

Introduction

As part of a collaborative Community Health Needs Assessment (CHNA), the partners supported the administration of a web-based survey to collect primary data about the health and health risk factors of adults in Pima County. The survey was administered by Strongpoint Marketing, a marketing firm based out of Tucson that offers secondary, qualitative and quantitative research solutions. Data from the survey was used to complement the qualitative and secondary data collected as part of the CHNA data collection process. The survey data provide an up-to-date snapshot of self-reported health behaviors of a sample of Pima County adults.

Methods

Survey Development

Pima County Health Department (PCHD) staff developed the CHNA survey with input from the CHNA partners. All but one question included in the CHNA survey came from the Centers for Disease Control (CDC) nationally administered Behavioral Risk Factor Surveillance System (BRFSS) survey. Questions from the BRFSS were chosen for inclusion in the CHNA survey for two reasons: (1) the questions have been thoroughly vetted and are considered to be valid and reliable and (2) it allows results from the CHNA survey to be compared loosely to local, state and national BRFSS estimates. The only question included in the CHNA survey that was not from the BRFSS came from the National Victimization Survey. This question asked about unwanted sexual activity.

Data Collection

After the questions were finalized, the survey was provided to Strongpoint for administration and collection of the data. Strongpoint used a web-based approach to administer the survey. Responses to the survey were collected between June 5, 2015 to August 1, 2015.

The web-based survey was administered to individuals who have signed up to participate in an online consumer research panel. Individuals who participate in the online research panel are consumers of the United States' largest retail, travel, and services companies, and participants are offered financial incentives to complete consumer and other surveys. Strongpoint emailed the survey to all Pima County adults 18 and over who participate in the online research panel. Subsequent email reminders were sent to those who did not answer the survey after the initial invitation. Both the initial invitation and email reminders contained unique URLs for each respondent to ensure that the respondent only took the survey once.

Data Analysis

The data were analyzed by PCHD using STATA 13.1 software. Analyses presented in the results section utilized a weight adjustment to account for the underrepresentation of Hispanics in the CHNA survey sample. Univariate and bivariate analyses were conducted to describe the data. Except for Table 1, all data representations use the Hispanic adjusted data set.

Limitations

The primary limitation of this survey is that its generalizability is specific to the subset of Pima County adults who respond to web administered surveys. The survey sample population was more affluent, better educated, older, and had less representation from Hispanics compared to the overall Pima County population (Table 1). Due to this limitation, results from this survey should be compared cautiously to estimates from other surveys, such as the BRFSS, which are more representative of the Pima County population. Despite this limitation, results from this survey provide the most recent (near real-time) assessment of a variety of health behaviors in Pima County adults that can still be used to better understand the secondary and qualitative data that are synthesized in the current report.

As is true for all survey instruments, including those whose data are synthesized as part of the secondary data analysis, responses by participants are subject to recall bias (for example, respondents incorrectly recall information about how much they exercise), as well as social desirability response bias. These issues may affect the quality of the information being collected.

Results

Demographics

A total of 655 adults in Pima County ages 18 and over responded to the web-based CHNA survey. The un-weighted demographics of the CHNA survey respondents are presented in Table 1 below. Overall, the survey sample population was more affluent, better educated, older, and had less representation from Hispanics compared to the overall Pima County population

Table 1. Demographics of CHNA Survey Respondents Compared to All Pima County Adults, CHNA Survey and American Community Survey

Demographic Indicator	CHNA Survey Respondents (Un-weighted)	CHNA Survey Respondents (Weighted)	Pima County
	(Percent)	(Percent)	(Percent)
Sex			
Male	45.0	43.5	48.6
Female	55.0	53.1	51.4
Ethnicity			
Hispanic	12.1	65.5	30.1
Non-Hispanic	87.9	34.5	69.9
Age group			
18-24	2.3	4.0	14.9
25-34	9.2	13.4	16.3

Demographic Indicator	CHNA Survey Respondents (Un-weighted)	CHNA Survey Respondents (Weighted)	Pima County
35-44	11.5	14.5	15.1
45-54	13.2	12.8	16.7
55-64	25.9	24.6	16.2
65+	37.9	30.6	20.8
Household Income			
Less Than $25,000	12.7	16.1	27.4
$25,000-$50,000	23.9	24.2	26.3
$50,000-$75,000	21.0	21.4	17.6
$75,000+	42.4	38.3	28.7
Educational Attainment			
Less Than High School	1.2	2.2	13.4
High School Graduate	11.5	13.4	23.3
Some College	28.0	31.0	36.8
College 4 Years or More (College Graduate)	59.3	54.0	26.6
City	100		
Tucson	81.5	83.7	53.3
Outside of Tucson	18.5	16.3	46.7

SOURCE: 2015 CHNA Survey; 2009-2013 American Community Survey

Access to Care

The ability to access necessary and timely medical care is greatly affected by health insurance status. People without health insurance receive less medical care, have worse health outcomes, and lack financial protection from costly medical treatment.

Table 2 below shows the health insurance status of the survey respondents in the past year by various demographic indicators. Hispanics, adults ages 18-34, and people living in low-income households were the most likely to be uninsured at some point in the past year.

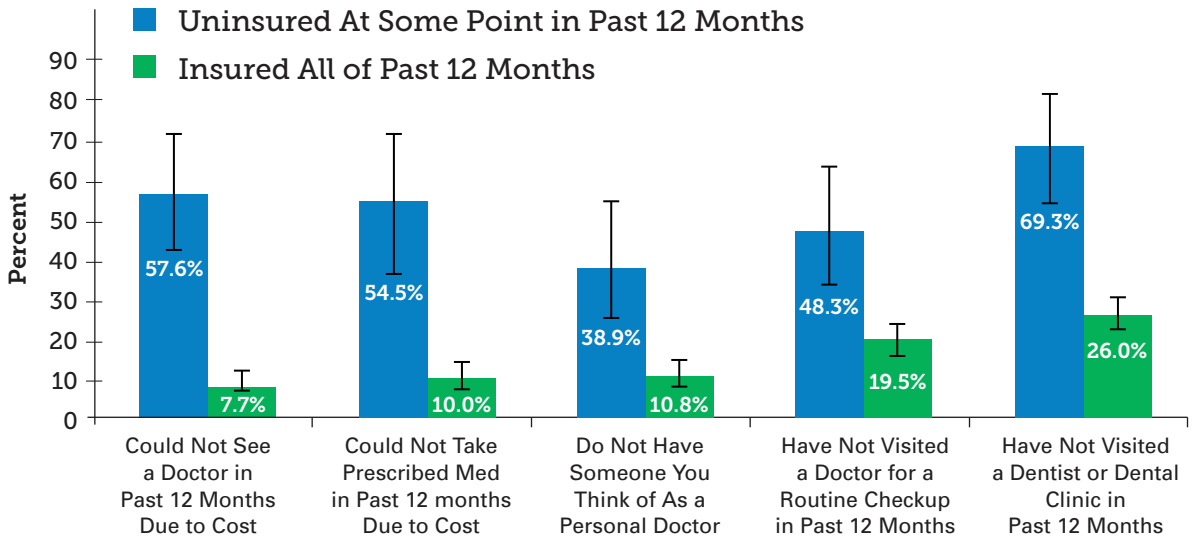
Table 2. Percent of Respondents Indicating They Were Uninsured at Some Point in the Past 12 Months by Demographic Indicators, CHNA Survey

Demographic Indicator	Uninsured in Past Year
	Percent (95% CI)
Sex	
Male	13.7 (8.8-20.8)
Female	13.9 (9.5-19.9)
Ethnicity	
Hispanic	26.9 (18.2-37.8)
Non-Hispanic	7.0 (5.1-9.4)
Age Group	
18-34	36.7 (24.5-50.8)
35-49	18.9 (10.8-31.0)
50-64	11.3 (6.7-18.3)
65+	0.8 (0.2-3.0)
Household Income	
Less Than $25,000	41.3 (26.5-57.8)
$25,000-$50,000	33.1 (19.8-49.7)
$50,000-$75,000	19.2 (9.2-35.8)
$75,000+	6.5 (1.9-19.5)
City of Residence	
Tucson	14.9 (11.1-19.7)
Outside Tucson	8.1 (3.2-19.3)

SOURCE: 2015 CHNA Survey

Health insurance provides people the ability to affordably access the health care system. People who lack health insurance are less likely to regularly visit a health care provider and more likely to forgo recommended health care treatment. Figure 1 below shows the extent to which the survey respondents indicated they regularly access the health care system by whether they had health insurance in the past year. Respondents who did not have health insurance at some point in the last year were significantly less likely to see a doctor or take a prescribed medication in the past year due to cost. Those without health insurance were also significantly less likely to have someone they thought of as a personal doctor, visit a doctor for routine check-up in the past year, or visit a dentist or dental clinic in the past year.

Figure 1. Ability to Access Medial Care by Insurance Status in Past 12 Months, CHNA Survey



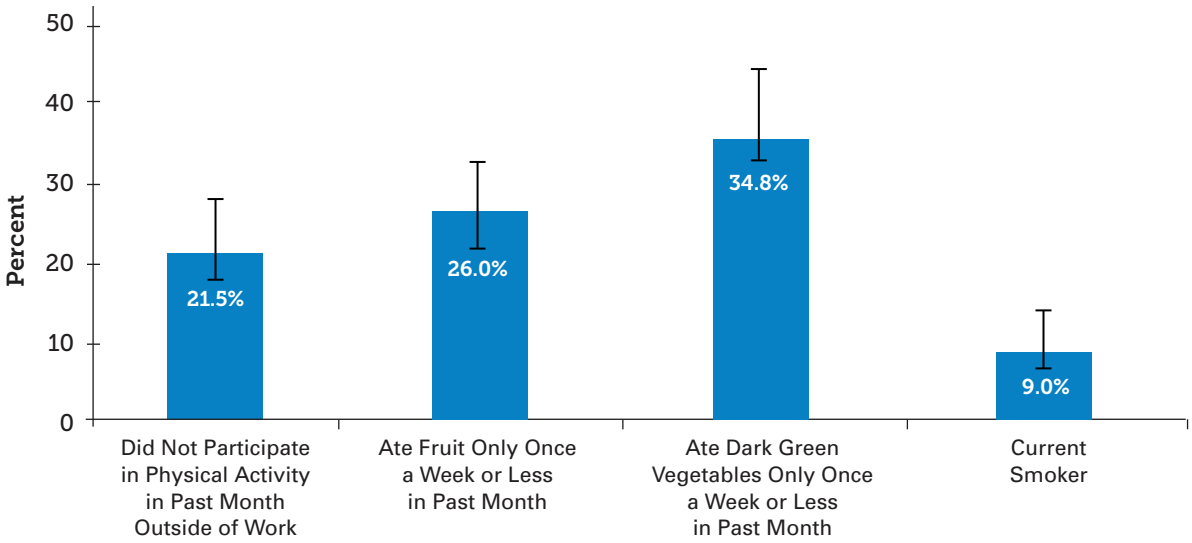
SOURCE: 2015 CHNA Survey

Healthy Lifestyles

To a great extent, lifestyle choices impact our health and wellbeing. People with unhealthy lifestyles (e.g. cigarette smoking, poor diet, lack of physical activity) have more health problems and a lower quality of life compared to people with healthier lifestyles. Because lifestyle choices are largely modifiable, they represent an area in which public health authorities and the health care system can intervene to improve the health and wellbeing of individuals and the community.

Figure 3 below shows the percentage of respondents who have lifestyles that greatly increase the risk for disease and poor health. Approximately 1 in 5 (21.5%) respondents indicated they did no physical activity outside of work in the past month; more than a quarter indicated they did not eat fruit (26.0%) or vegetables (34.8%) more than once a week in the past month; and 9% indicated they are a current smoker.

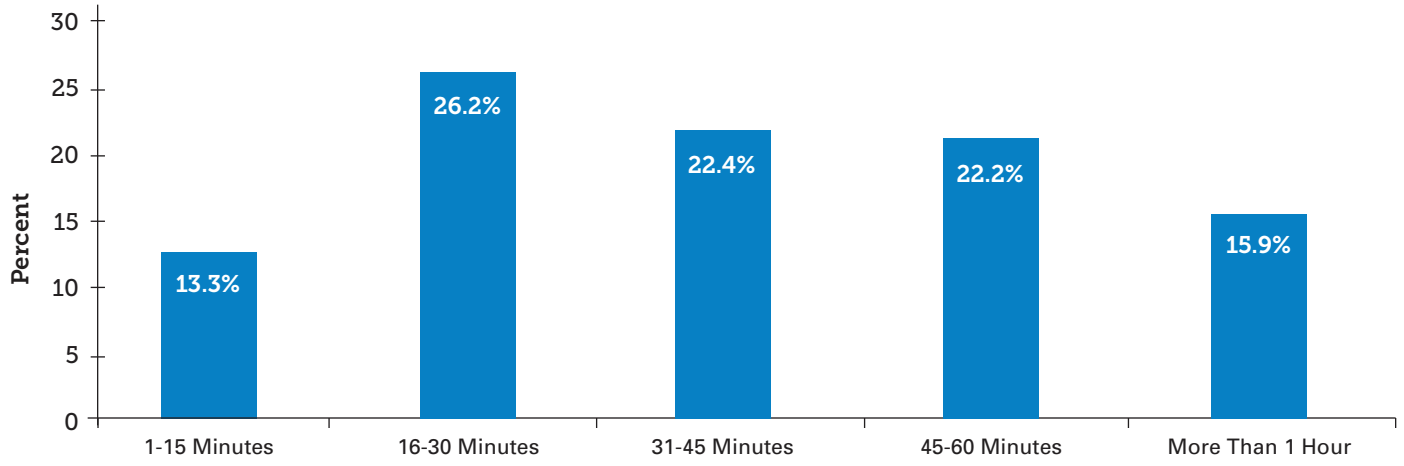
Figure 3. Healthy Lifestyle Indicators, CHNA Survey



SOURCE: 2015 CHNA Survey

Among respondents that participated in physical activity outside of work in the past month, most (60.5%) said they typically engage in moderate physical activities for 30 minutes or more.

Figure 4. Length of Time Respondents* Indicated They Typically Do Moderate Physical Activity, CHNA Survey



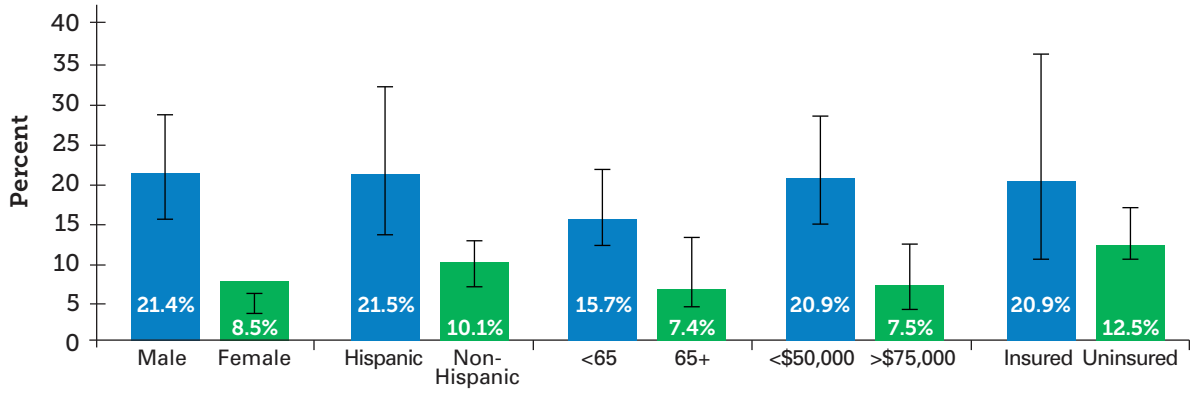
SOURCE: 2015 CHNA Survey
**Among respondents who indicated they did physical activity outside of work.*

Physical and Mental Health

Physical and mental health are influenced by a number of different factors, including lifestyle choices and genetics, and are important for overall wellbeing. In addition, physical and mental health are often linked; people with physical health problems have an increased risk of developing mental health problems. Similarly, people with mental health problems are more likely to develop physical health conditions.

Figure 5 below shows the percentage of survey respondents who rate their health as fair or poor by various demographic indicators. Males, Hispanics, and respondents living in lower income households were significantly more likely to rate their health as fair or poor. Though not statistically significant, uninsured respondents were also more likely rate their health as fair or poor compared to insured respondents.

Figure 5. Rating of General Health as Fair or Poor by Demographic Indicators, CHNA Survey



SOURCE: 2015 CHNA Survey

Table 3 below shows the percentage of survey respondents who indicated they have ever been told they have depression or diabetes (including pre-diabetes). Overall, 22.7% and 18.9% of respondents indicated they have been told they have depression and diabetes/pre-diabetes, respectively.

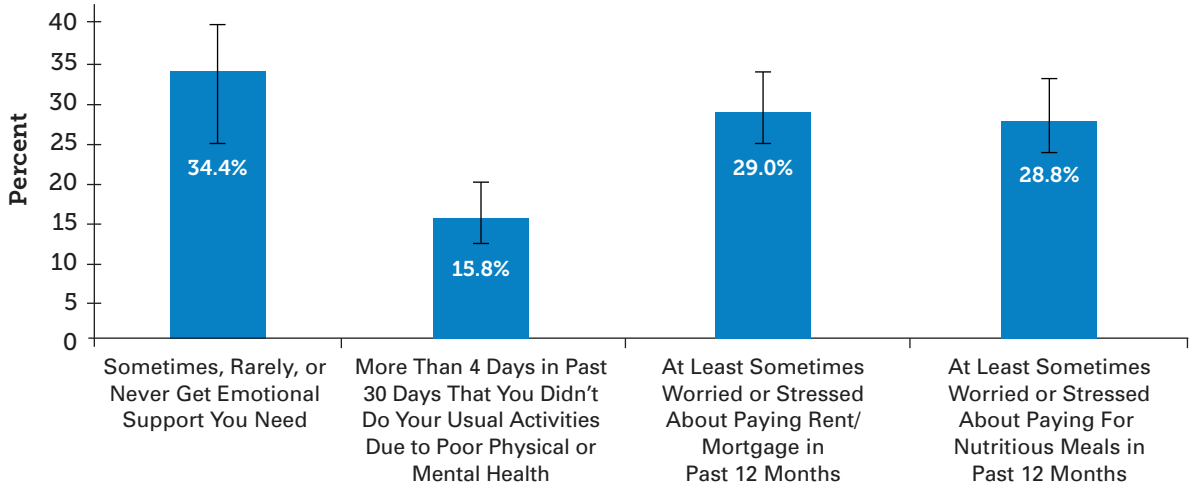
Table 3. Ever Told You Have Depression or Diabetes* (Including Pre-Diabetes) by Demographic Indicators

Demographic Indicator	Depression	Diabetes or Pre-diabetes
	Percent (95% CI)	Percent (95% CI)
Sex		
Male	17.6 (12.7-23.9)	23.6 (18.0-30.3)
Female	26.9 (21.6-33.0)	15.5 (11.3-21.0)
Ethnicity		
Hispanic	23.7 (18.9-25.8)	21.8 (14.0-32.3)
Non-Hispanic	22.2 (15.4-34.5)	17.3 (14.4-20.7)
Age group		
18-34	26.9 (18.2-38.0)	12.4 (5.9-24.1)
35-49	23.7 (16.1-33.5)	16.6 (9.0-28.4)
50-64	30.5 (22.7-39.7)	34.1 (24.4-45.4)
65+	18.9 (13.1-26.4)	36.9 (27.6-47.3)
Household Income		
Less Than $25,000	20.1 (12.9-30.0)	17.3 (9.6-29.1)
$25,000-$50,000	29.4 (21.5-38.8)	30.1 (20.9-41.3)
$50,000-$75,000	15.2 (9.6-23.2)	17.5 (10.5-27.7)
$75,000+	22.4 (15.8-30.8)	27.4 (19.3-37.2)
Uninsured in Past Year		
Yes	32.2 (19.6-48.1)	25.3 (14.0-41.3)
No	21.3 (17.6-25.5)	17.9 (14.4-22.0)
All Respondents	22.7 (19.0-26.9)	18.9 (15.4-22.9)

SOURCE: 2015 CHNA Survey
*Not including diabetes related to pregnancy

Figure 6 below summarizes the degree to which respondents lack emotional support, are affected by their physical and mental health problems, and experience stress due to financial concerns. About 1 in 3 (34.4%) respondents indicated they sometimes, rarely or never get the emotional support they need. In addition, many respondents said they at least sometimes are stressed about paying the rent/mortgage (29.0%) and for nutritious meals (28.0%)

Figure 6. Physical, Mental, and Emotional Well Being Indicators, CHNA Survey



SOURCE: 2015 CHNA Survey

Lastly, Table 4 below shows response rates for individuals who report being forced to engage in unwanted sexual activity in their lifetime. Overall, 13.6% of respondents indicated they had been forced to engage in unwanted sexual activity. Women (20.3%) were significantly more likely than men (4.9%) to say they had been forced to engage in unwanted sexual activity in their lifetime.

Table 4. Ever Been Forced to Engage in Unwanted Sexual Activity, CHNA Survey

Ever Been Forced to Engage in Unwanted Sexual Activity	Percent (95% CI)
All Respondents	13.6 (10.6-17.4)
Male	4.9 (2.5-9.5)
Female	20.3 (15.5-26.2)

SOURCE: 2015 CHNA Survey

Conclusions

Access to Care

Health insurance provides people the ability to affordably access the healthcare system. Survey respondents who lacked health insurance in the past year were less likely to regularly visit a health care provider and more likely to forgo recommended health care treatment. Respondents without health insurance also had worse physical, mental, and emotional health than respondents with health insurance.

Healthy Lifestyles

Improving healthy behavior and appropriate lifestyle choices is an area in which public health and the health care system can have a significant impact. Many survey respondents report behaviors that adversely affect health. Most notably, over a quarter of respondents indicated they ate fruits and vegetables at most 1 time a week. In addition, approximately 1 in 5 respondents said they did not participate in any physical activity outside of work.

Physical and Mental Health

Many survey respondents indicated they have physical and mental health problems. Almost 1 in 5 respondents indicated they have been told they have depression or diabetes (including pre-diabetes). Further, many respondents noted they don't receive enough emotional support, that they worry about day-to-day things such as paying for rent/mortgage or for nutritious meals, and that physical and mental health problems prevent them from doing their usual activities.

***Please contact Adam Resnick (email: adam.resnick@pima.gov; phone: 520-724-7756) at the Pima County Health Department if you have questions about the results in this document. ***

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