2019 Community Health Needs Assessment

St. John Owasso | Tulsa County, Okla.

St. John

Ascension

Table of Contents

Table of Contents....2
Acknowledgments....4
Introduction....5
Our Health System....7
St. John Owasso....9
Community Served....10
CHNA Process: Methodology....13
Our Approach....13
Geographic Areas of Greatest Need....18
Priority Populations....18
Community Engagement and Collaboration....18
Limitations and Information Gaps....19
Secondary Data: Community Overview....20
Methodology and Sources....20
Demographics....21
Health Outcomes....27
Health Factors....74
Social and Economic Factors....76
Clinical Care....112
Health Behaviors and Risk Factors....141
Physical (Built) Environment....156
Secondary Data Analysis and Scoring....166
Methodology and Sources....166
Final Data Summary Scores....168
Geographic Areas of Greatest Need....169
Methodology and Sources....169
SocioNeeds Index....170
Primary Data: Community Input....174
Community Health Forum....175
Community Focus Groups....181
Online Survey....200
Prioritization of Community Health Needs....354
Preceding CHNA Efforts and Evaluation of Impact....361
Community Feedback....363

Conclusion 364
Appendix 1: Executive Summary 365
Community Served 365
Demographics 365
Methods for Identifying Community Health Needs 366
How Are We Doing? 367
Summary of Findings 367
Prioritized Areas 369
Conclusion 370
Appendix 2: Secondary Data Analysis and Scoring Sources 371
Appendix 3: Tulsa County Secondary Data Scores 372
Appendix 4: Focus Group Discussion Guide 387
Appendix 5: Online Survey 389
Appendix 6: Prioritization Toolkit 390
Appendix 7: FY 2017-2019 Impact Report 391
Appendix 8: Board Resolutions 401

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Introduction

It's said that home is where the heart is. And the home of Ascension St. John is our community. Since the arrival of its founding sponsor, the Sisters of the Sorrowful Mother, in Tulsa in 1914, the heart of St. John's mission has been to meet the needs of the communities it serves, especially those most vulnerable.

To ensure our efforts best meet the needs of our communities and will have a lasting and meaningful impact, each of St. John's six hospitals conduct a triennual community health needs assessment (CHNA). The needs of populations deemed vulnerable are a central focus of the assessment.

> According to the Catholic Health Association of the United States, a CHNA is "a systematic process involving the community to identify and analyze community health needs and assets in order to prioritize, plan and act upon unmet community health needs."

CHNAs help identify the most pressing needs of our communities, build relationships with community partners, and direct resources where they are most needed. This community-driven process has the potential to leverage resources, enhance program effectiveness and strengthen communities. The process serves as the foundation for identifying those in greatest need, recognizing existing assets and resources, developing strategic plans and mobilizing hospital programs and community partners to work together to promote the health and well-being of the community. CHNAs are essential to community building and health improvement efforts. These powerful tools have the potential to be catalysts for immense community change.

The 2010 Patient Protection and Affordable Care Act, more commonly known as the Affordable Care Act (ACA), requires nonprofit, tax-exempt hospitals to conduct a CHNA every three years. To meet requirements, hospitals must analyze and identify the health needs of their communities, then develop and adopt an implementation strategy to meet the identified needs. The findings from the assessment and implementation strategy are made widely available to the public.

This report includes the following:

- A description of the community served by the hospital
- The process and methods used to obtain, analyze and synthesize secondary and primary (community input) data
- The significant health needs in the community, taking into account the needs of those most vulnerable and geographic areas of greatest need
- The process and criteria used to prioritize the most significant health needs of the community
- An overview of the prioritized health needs to be addressed in this CHNA cycle, as well as needs that will not be part of the implementation strategy
- An evaluation of the impact of any actions that were taken by the hospital and health system since the preceding CHNA to address those priority health needs

St. John's six hospital facilities — St. John Medical Center, St. John Owasso, St. John Broken Arrow, St. John Sapulpa, Jane Phillips Medical Center and Jane Phillips Nowata Health Center — conducted the first set of CHNAs and implementation strategies in fiscal year 2013. The second cycle of CHNAs and implementation strategies was completed in FY 2016. Over the past three years, the health system and its hospitals have worked diligently to address a set of prioritized health needs based on our FY 2016 assessments and implementation strategy. An updated set of CHNAs were conducted by St. John's six hospitals during FY 2019.

St. John is pleased to present the 2019 CHNA reports for each of its six hospitals, providing an overview of the significant community health needs identified in the communities served by each hospital. This report is the St. John Owasso (SJO) CHNA. For the purposes of this assessment, SJO's primary service area, or community, is defined as Tulsa County, Okla.

The goal of this report is to offer a meaningful understanding of the most pressing health needs across the Tulsa County community, as well as to guide planning efforts to address those needs. Special attention has been given to the needs of vulnerable populations, unmet health needs or gaps in services, and input gathered from the community. Findings from this report will be used to identify, develop and target hospital, health system and community initiatives and programming to better serve the health and wellness needs of our community.

For an executive summary of this report, see Appendix 1.

Our Health System

Established in 1926 with the opening of St. John's Hospital (now St. John Medical Center) in Tulsa, Okla., Ascension St. John is a fully integrated healthcare delivery system encompassing six hospitals and more than 90 clinics and facilities in eastern Oklahoma and southeastern Kansas. St. John was founded by our legacy sponsors, the Sisters of the Sorrowful Mother.

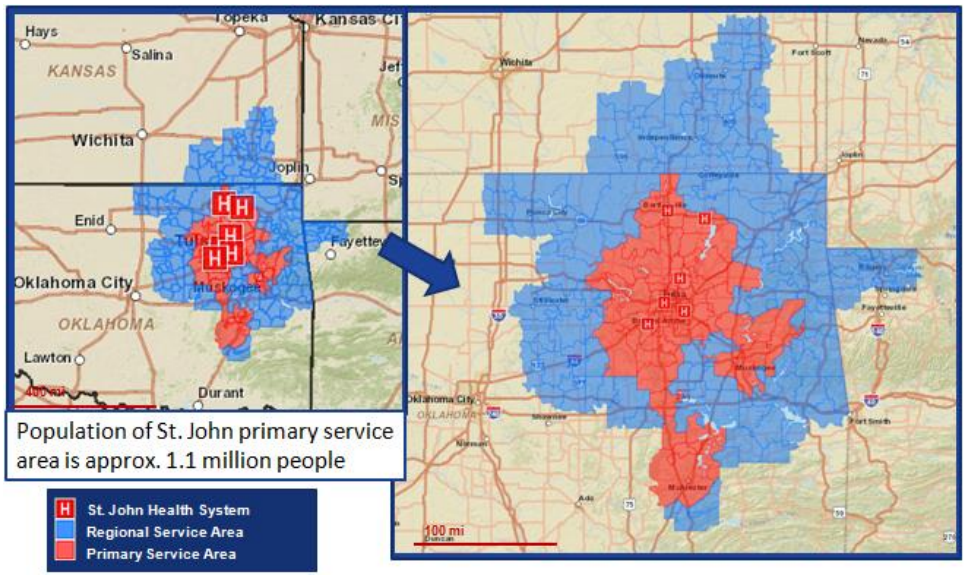
Now, St. John is part of Ascension, the largest nonprofit health system in the U.S. and the world's largest Catholic health system. Ascension is dedicated to transformation through innovation across the continuum of care and committed to delivering compassionate, personalized care to all, with special attention to those living in poverty or otherwise deemed vulnerable. Ascension operates about 2,500 sites of care — including 141 hospitals and more than 30 senior living facilities — in 22 states and the District of Columbia. With Ascension, St. John has access to additional resources to help us continue to transform the quality of care we provide our patients.

St. John is organized as a tax-exempt integrated healthcare delivery system. Our mission is to continue the healing ministry of Jesus Christ by providing medical excellence and compassionate care to everyone we serve. Across the region, St. John provided more than $109 million in community benefit and care of people living in poverty in fiscal year 2018. In fiscal year 2018, Ascension provided nearly $2 billion in care of people living in poverty and other community benefit programs.

Together, St. John and Ascension are focused on delivering healthcare that is safe, healthcare that works and healthcare that leaves no one behind. St. John serves as an important safety-net provider of a broad continuum of healthcare services to the citizens of northeastern Oklahoma and the surrounding region. The health system's service area contains 260 ZIP codes in 32 counties in Oklahoma, Kansas and Arkansas. The health system's primary service area is around 1.1 million people (Figure 1). We are working to transform healthcare not just in our local communities, but across the nation, promoting high quality and cost effectiveness and emphasizing prevention, holistic wellness and episodic care.

St. John hospitals include St. John Medical Center, St. John Owasso, St. John Broken Arrow, St. John Sapulpa, Jane Phillips Medical Center and Jane Phillips Nowata Health Center, together having about 800 beds in service. Each of these six hospitals operates a full-service, 24-hour, 365-day emergency room providing both urgent and emergency care to all individuals, regardless of their ability to pay. St. John also has an array of partner and subsidiary healthcare facilities. Other St. John entities include Regional Medical Laboratory (RML), St. John Clinic and St. John Urgent Care. St. John joint ventures include Oklahoma Cancer Specialists and Research Institute, Prairie House Assisted Living & Memory Care, and Tulsa Bone & Joint Associates.

Figure 1: St. John service area



Facts and figures

- St. John owns six hospitals in northeastern Oklahoma, with about 800 total beds in service.
- Around 7,000 associates work within St. John (not including ministry-wide functions or joint ventures).
- St. John owns and operates St. John Clinic, which operates as a multi-specialty physician clinic, employing more than 500 physicians, physician assistants, nurse practitioners and certified nurse anesthetists. St. John Clinic has dozens of physician offices and clinics (including Urgent Care clinics) throughout Tulsa and northeastern Oklahoma.
- St. John owns RML, one of the region's largest reference laboratories, providing services to many hospitals and physician practices throughout the area.
- St. John owns 50 percent of CommunityCare Managed Health Care Plans of Oklahoma, one of the area's largest health insurers. CommunityCare offers many healthcare insurance options for individuals and families, including the region's highest-rated Medicare Advantage plan for those 65 or older.
- St. John touches the lives of thousands of patients every day:
    - More than 52,000 annual hospital admissions, including 14,000 "observation" patients.
    - More than 31,000 annual surgeries performed in St. John hospitals. St. John also is a minority owner in two ambulatory surgery centers that perform more than 28,000 annual outpatient surgeries.
    - More than 3,800 annual births at St. John hospitals.
    - More than 148,000 annual patient visits to St. John hospital emergency departments.
    - More than 83,000 annual urgent care visits to Urgent Care clinics.
    - Nearly 500,000 annual patient visits to St. John Clinic physician offices.
    - RML performs more than 9.1 million annual laboratory tests.

Mission, Vision and Values

Our Mission, Vision and Values guide everything we do at St. John and Ascension. They are foundational to our work to transform healthcare and express our priorities when providing care and services, particularly to those most in

need. As the health system develops initiatives to address needs within the communities we serve, we strive to ensure that our Mission, Vision, and Values are upheld.

Mission

Rooted in the loving ministry of Jesus as healer, we commit ourselves to serving all persons with special attention to those who are poor and vulnerable. Our Catholic health ministry is dedicated to spiritually-centered, holistic care which sustains and improves the health of individuals and communities. We are advocates for a compassionate and just society through our actions and our words.

Vision

We envision a strong, vibrant Catholic health ministry in the United States which will lead to the transformation of healthcare. We will ensure service that is committed to health and well-being for our communities and that responds to the needs of individuals throughout the life cycle. We will expand the role of laity, in both leadership and sponsorship, to ensure a Catholic health ministry in the future.

Values

Service of the poor: generosity of spirit, especially for people most in need
Reverence: respect and compassion for the dignity and diversity of life
Integrity: inspiring trust through personal leadership
Wisdom: integrating excellence and stewardship
Creativity: courageous innovation
Dedication: affirming the hope and joy of our ministry

St. John Owasso

St. John Owasso (SJO) is a four-story, 36-bed hospital located in one of Oklahoma's fastest-growing cities. Opened in 2006, SJO was Owasso's first hospital. SJO offers a wide range of healthcare services and features a 24/7 emergency center; medical/surgical and women's units; all-digital diagnostic imaging; and patient appointments for the St. John Clinic Urgent Care in its emergency center. SJO's Center for Women's Health includes a full-service labor and delivery unit, postpartum rooms and a newborn nursery. A medical office building connected to the hospital offers easy access to outpatient services for patients.

SJO touches the lives of patients and their loved ones every day:

- More than 2,600 annual hospital admissions, including "observation" patients
- More than 1,600 annual surgeries performed
- More than 500 annual births
- More than 20,000 annual patient visits to the emergency department
- More than 43,000 "other" annual patient visits for diagnostic testing and treatment

With quality as a top priority, SJO is nationally recognized and has received various recent awards, including the following:

- Only hospital in Oklahoma to be named one of the nation's "Top 100 Hospitals" by Truven Health Analytics in 2017
- Numerous awards from Professional Research Consultants, a healthcare market research firm, for 2017

Community Served

The definition of the community served by the hospital provided the foundation on which our community health needs assessment (CHNA) and subsequent implementation strategy decisions were based. In defining the community served by St. John Owasso (SJO), the following were taken into consideration:

- General geographic area
- Geopolitical definitions
- Primary and regional service areas
- Patient population
- Areas and populations served by the hospital's community benefit programs
- Opportunity areas, or geographic areas encompassing at-risk, vulnerable and/or underserved populations
- Availability of health information and data

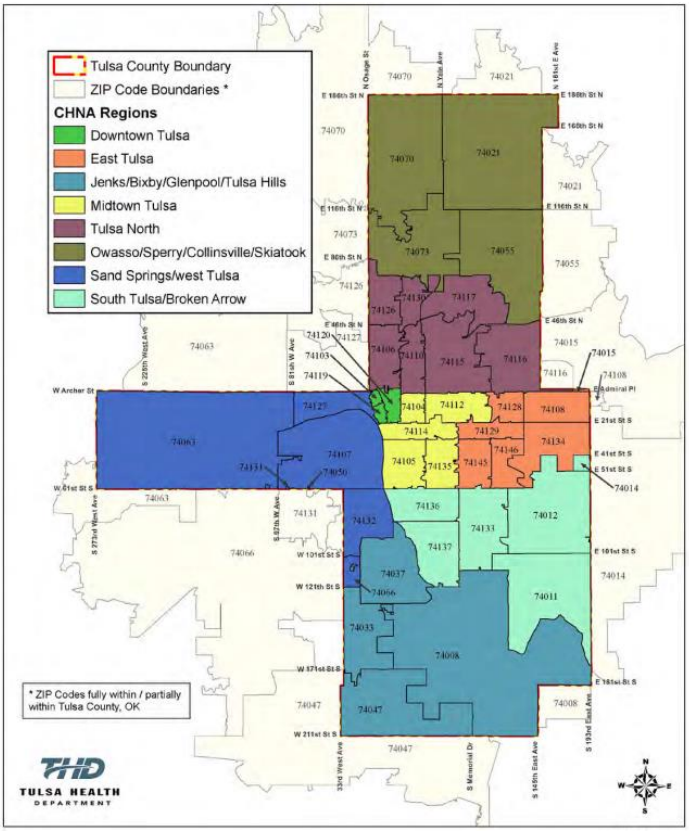
SJO is a growing community hospital whose primary service area is Tulsa County, Okla., and the surrounding counties. However, SJO serves patients who live throughout the northeastern Oklahoma region and beyond. For the purposes of this CHNA, the "community served" is defined as Tulsa County. The decision to focus on the geopolitical definition of Tulsa County was largely influenced by the fact that a significant number of patients who utilize SJO services reside in Tulsa County. In fact, an estimated 64.2 percent of inpatient and outpatient visits originated from Tulsa County in the 2018 calendar year. Within Tulsa County, the top five ZIP codes of patient origin in CY 2018 were 74055, 74021, 74073, 74126 and 74115.

In addition to the fact that a large number of patients served by the hospital reside in Tulsa County, most public data is available at the county level. Additional factors influencing the definition of the community were the areas and populations served by the hospital's community benefit programs and the geographic areas for populations deemed heavily at-risk or vulnerable. A number of the hospital's community benefit programs serve residents in Tulsa County. Many of these programs serve residents who are living in poverty and deemed particularly vulnerable. One of these programs is the Medical Access Program (MAP), which works to improve access to medical care among the uninsured in the Tulsa area.

Tulsa County is divided into eight geographic regions based on ZIP codes and associated communities: downtown Tulsa; east Tulsa; Jenks, Bixby and Glenpool; midtown Tulsa; north Tulsa; Owasso, Sperry, Collinsville and Skiatook; Sand Springs and west Tulsa; and south Tulsa and Broken Arrow (Figure 2). All ZIP codes either fully or partially within Tulsa County are assigned regions.

SJO is based out of the city of Owasso. Accordingly, the Owasso, Sperry, Collinsville and Skiatook region serves as the primary area of focus within the Tulsa County community. SJO's community health improvement efforts that result from this CHNA will primarily center on the Owasso, Sperry, Collinsville and Skiatook region. However, an effort was made to consider the health needs and assets of Tulsa County as a whole. Other Tulsa County regions will be the focus of community health improvement efforts of St. John Medical Center and St. John Broken Arrow.

Figure 2: Tulsa County regional map



Source: Tulsa Health Department

Tulsa County

Tulsa County is located in the U.S. state of Oklahoma. Its county seat and largest city is Tulsa. Founded at statehood in 1907, it was named after the previously established city of Tulsa. Before statehood, the area was part of both the Creek Nation and Cooweescoowee District of Cherokee Nation in Indian Territory.[1] The county is often referred to as Oklahoma's gateway to "Green Country" due to its lush and rolling hills.[2] The area has a rich and, at times, turbulent history. This history includes early Native American inhabitants, cattlemen, the advent of the railroads, the 1920s Tulsa Race Riot and the oil boom.[1]

Tulsa County is located in northeastern Oklahoma on the Arkansas River. Counties adjacent to Tulsa County include Washington, Rogers, Wagoner, Okmulgee, Creek, Pawnee and Osage counties. The cities and towns officially recognized in Tulsa County are Tulsa, Bixby, Broken Arrow, Collinsville, Glenpool, Jenks, Liberty, Lotsee, Owasso, Sand Springs, Sapulpa (partial inclusion), Skiatook and Sperry. Major highways include Interstate 44, U.S. Historic Route 66, U.S. Route 75 and U.S. Route 169.

City of Owasso

SJO is based out of Owasso, the third-largest city in Tulsa County and 13th largest in Oklahoma, with an estimated population of 36,215 in 2017.[3] Owasso is primarily located in the northern part of Tulsa County. A portion of the city,

[1] The Encyclopedia of Oklahoma History and Culture by the Oklahoma Historical Society (retrieved from www.okhistory.org/publications)
[2] Tulsa County History by Tulsa County (retrieved from www.tulsacounty.org/tulsacounty/default.aspx)
[3] QuickFacts by the U.S. Census Bureau (retrieved from www.census.gov/quickfacts)

however, is located in Rogers County. Owasso is considered a suburb of the city of Tulsa. An estimated 6.9 percent of residents live below the poverty line.[4]

Town of Skiatook

The town of Skiatook is primarily located in the northwestern portion of Tulsa County. However, a portion of the town lies in eastern Osage County. The estimated population of Skiatook was 7,924 in 2017.[3] An estimated 18.9 percent of residents live below the poverty line.[4]

Town of Collinsville

The town of Collinsville is located in northern Tulsa County. The estimated population of Collinsville was 6,897 in 2017.[3]

Town of Sperry

The town of Sperry is located in the northwestern part of Tulsa County. The estimated population of Sperry was 1,206 in 2018. An estimated 21.7 percent of residents live below the poverty line.[4]

[4] 2013-2017 American Community Survey 5-Year Estimates by the American Community Survey (retrieved from https://factfinder.census.gov)

CHNA Process: Methodology

Community health needs and assets for Tulsa County were determined using a combination of secondary and primary data (community input). Secondary data is existing data that has already been collected and published by another party. Secondary data about the health status of the population at the state and county level is routinely collected by governmental and non-governmental agencies through surveys and surveillance systems. In contrast, primary data is new data and is collected or observed directly through firsthand experience. Many methods can be used to gather community input, including key informant interviews, focus groups, listening circles, community meetings and forums, and surveys.

Including multiple data sources as well as resident and stakeholder input is especially important when prioritizing community health needs. If alternative data sources support similar conclusions, then confidence is increased regarding the most pressing health needs in a community. Data included in this assessment were obtained through multiple sources and methods designed to gather both qualitative and quantitative information. Qualitative data is descriptive information, and quantitative data is numeric information. Data collection methods and sources used in this assessment include the following:

- Comprehensive review of secondary data
- Six community health forums with around 120 community leaders and 13 health system leaders (three forums with more than 80 community leaders and six health system leaders in Tulsa County)
- Twenty-two focus groups with 233 community members (18 focus groups with 193 community members in Tulsa County)
- Online survey of 801 community members (682 in Tulsa County)
- Input from the public health workforce and local coalitions/partnerships
- Input from the health system's Community Engagement Committee

A comprehensive review of secondary data sources served as the foundation for assessing the community. Recognizing its vital importance in understanding the health needs and assets of the community, this assessment primarily focused on gathering and summarizing community input. Accordingly, input from community members, community leaders and representatives, local coalitions/partnerships, and health system leadership was obtained to expand upon information gleaned from the secondary data review. A concerted effort was made to obtain community input from persons who represent the broad interests of the community, including those with special knowledge and expertise of public health issues and populations deemed vulnerable.

Detailed descriptions of our approach, the secondary data and community input used in this assessment, and the methods of collecting and analyzing this information are included in the sections that follow.

Our Approach

To effectively identify and address the health needs of a community, it is essential to have an understanding of health and the conditions that contribute to health and well-being. According to the World Health Organization, health is defined as a "state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity."[5] A person's state of health is a result of several interwoven and contributing factors and levels of influence. Accordingly, our goal was to follow a more holistic approach to assessment and community health improvement. This assessment reflects a multitude of factors influencing the health of our community.

[5] World Health Organization. (1948). *Preamble to the Constitution of the World Health Organization*. Adopted by the International Health Conference, N.Y. 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.

Social-ecological model

The social-ecological model (SEM) of health is a public health framework used to describe the multilevel systems of influence that explain the complex interaction between individuals and the social context in which they live and work (see Figure 3). The SEM provides a framework to help understand the various factors and behaviors that affect health and wellness. Health and well-being is shaped not only by behavior choices of individuals, but also by complex factors that influence those choices within the social environment through reciprocal causation.[6,7] With this model, we can closely examine a specific health issue in a particular setting or context. For example, the model can help identify factors that contribute to heart disease in specific populations. With this knowledge, effective heart disease interventions can be developed for a specific population with the greatest impact in mind.

Human behavior is difficult to change and is nearly impossible to modify without understanding the environment in which one lives. To promote behavior that supports health and wellness, efforts need to focus on behavior choices and the multitude of factors that influence those choices. The SEM helps identify factors that influence behavior by considering the complex interplay between five hierarchical levels of influence: 1) individual or intrapersonal, 2) interpersonal, 3) institutional or organizational, 4) community, and 5) societal/public policy factors (see Figure 3). The model demonstrates how the changes and interactions between these five levels over the course of one's life affect health and wellness. Through utilizing the SEM, the likelihood of developing sustainable interventions with the broadest impact on health and wellness is increased.

Figure 3: social-ecological model of health

Source adapted from: Hanson, D., Hanson, J., Vardon, P., McFarlane K., Lloyd, J., Muller, R., et al. (2005). The injury iceberg. An ecological approach to planning sustainable community safety interventions. Health Promotion of Australia, 16(1), 5-10.

[6] Hanson, D., Hanson, J., Vardon, P., McFarlane K., Lloyd, J., Muller, R., et al. (2005). The injury iceberg. An ecological approach to planning sustainable community safety interventions. *Health Promotion of Australia, 16*(1), 5-10.

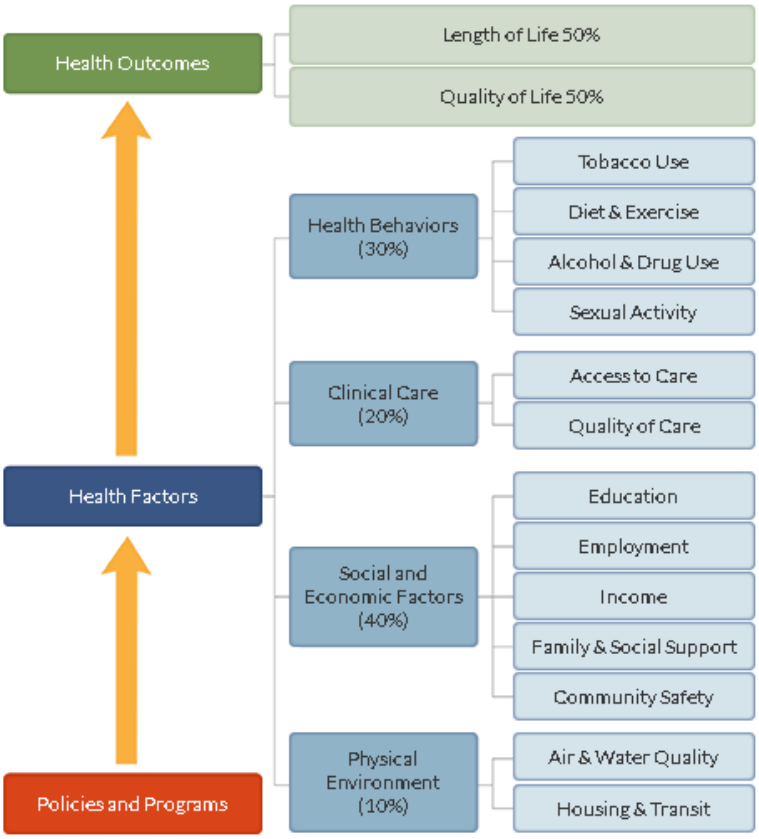
[7] McLeroy, K.R., Bibeau, D., Steckler, A. & Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly, 15*(4), 351-377.

Source: McLeroy, K.R., Bibeau, D., Steckler, A. & Glanz, K. (1988). An ecological perspective on health promotion programs. Health Education Quarterly, 15(4), 351-377.

Determinants of health

Health is a complex and multidimensional concept. The Centers for Disease Control and Prevention describes health as "influenced by the health care we receive, our own choices and our communities."[8] To better understand the factors that contribute to the health of our community, this assessment utilizes a population health model developed by the University of Wisconsin Population Health Institute known as the county health rankings model (see Figure 4).

Figure 4: University of Wisconsin Population Health Institute's county health rankings model



Source: Courtesy of University of Wisconsin Population Health Institute. (2016). County Health Rankings & Roadmaps. Retrieved from: www.countyhealthrankings.org.

Health outcomes signify a community's overall health. Two types of health outcomes are typically assessed: length of life (how long people live) and quality of life (how healthy people feel while alive).[9] Health factors contribute to health and are otherwise known as determinants of health. There are five commonly recognized determinants of health[10]:

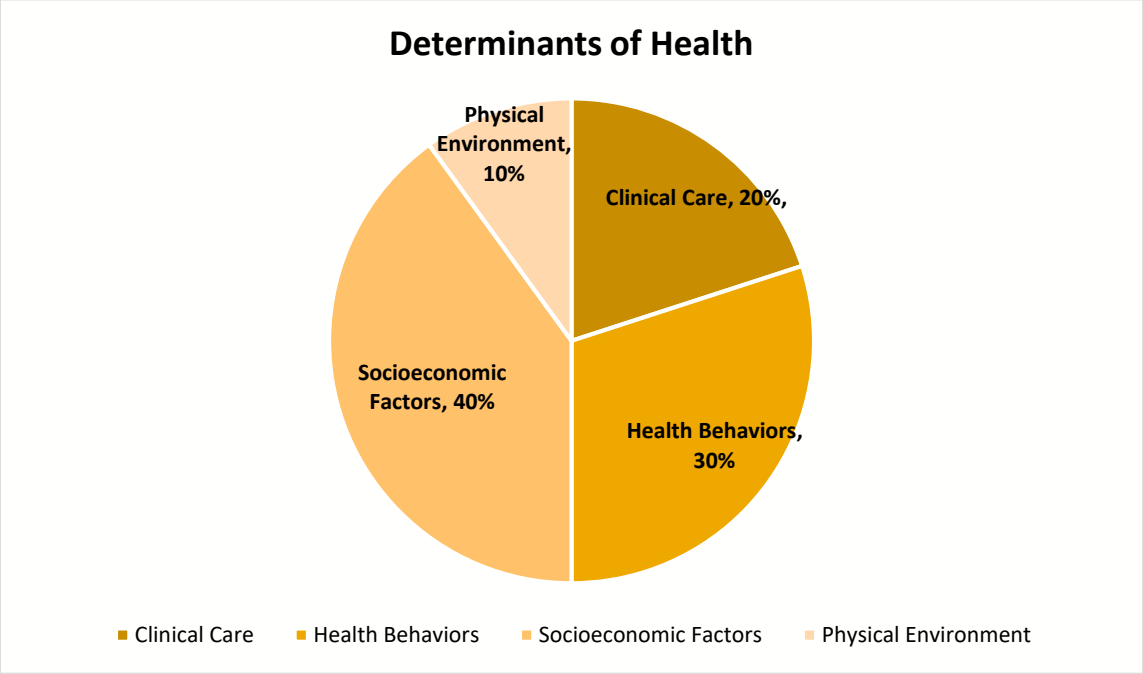
1. Biology and genetics
2. Clinical care

[8] Centers for Disease Control and Prevention. (2015). *Community Health Improvement Navigator*. Retrieved from: http://www.cdc.gov/chinav/.
[9] University of Wisconsin Population Health Institute. (2016). *County Health Rankings & Roadmaps.* Retrieved from: www.countyhealthrankings.org.
[10] Centers for Disease Control and Prevention. (2014). *NCHHSTP Social Determinants of Health: Definitions*. Retrieved from: http://www.cdc.gov/nchhstp/socialdeterminants/definitions.html.

3. Health behaviors
4. Physical environment
5. Social and economic factors

This assessment focuses on four of the five aforementioned determinants of health: clinical care, health behaviors, physical environment and socioeconomic factors. Each of these determinants of health is, in turn, based on several measures (see Figure 4).[7] Some determinants of health are more modifiable than others. It is important to note that clinical care alone is not enough to improve community health, as it only accounts for 20 percent of the factors that influence health.[6] Together, clinical care and health behaviors account for only 50 percent of the intervenable factors that contribute to health. Socioeconomic factors and the physical environment account for the remaining 50 percent of impactable health determinants (see Figure 5)[6]. Therefore, to have a greater impact on the health of the community, it is important to focus on all four determinants of health for assessment and intervention.

Figure 5: social determinants of health



Source: University of Wisconsin Population Health Institute. (2016). County Health Rankings & Roadmaps. Retrieved from: www.countyhealthrankings.org.

Health disparities

As aforementioned, this community health needs assessment (CHNA) process included input from the broad community, as well as populations deemed underserved, at-risk or otherwise vulnerable. To highlight the health needs of these populations, this assessment examines health disparities in the community served. Health disparities are defined by Healthy People 2020 as "a particular type of health difference that is closely linked with social, economic and environmental disadvantage."[11]

[11] U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. (2010). *The Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020. Phase I report: Recommendations for the framework and format of Healthy People 2020. Section IV: Advisory Committee findings and recommendations*. Retrieved from: http://www.healthypeople.gov/sites/default/files/PhaseI_0.pdf.

Certain disadvantaged populations are at greater risk of experiencing of health disparities. Health People 2020 asserts "health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion."[7]

Health inequities and health equity

Health inequities are closely linked to health disparities and are also closely examined in this assessment. Health inequities are "differences in health that are avoidable, unfair and unjust."[12] Health inequities are closely associated with social, economic and environmental conditions. In contrast, health equity is focused on the elimination of health and healthcare disparities. Healthy People 2020 defines health equity as the "attainment of the highest level of health for all people."[9] In short, health equity pertains to efforts to ensure that all people have full and equal access to opportunities that enable them to lead healthy lives.

Social determinants of health

When examining health disparities health inequities, it is important to consider the social determinants of health. These conditions include the social, economic and physical factors and resources contributing to a range of environments and settings and are often responsible for health disparities and inequities. According to Healthy People 2020, there are five generally recognized categorical types of social determinants of health[12]:

> Healthy People 2020 describes social determinants of health as the "conditions in the places where people live, learn, work and play" that affect a wide range of health risks and outcomes."

1. Economic stability
    - Access to economic and job opportunities
    - Poverty
    - Food security
    - Housing stability
2. Education
    - Access to higher education opportunities
    - High school graduation
    - Early childhood education and development
    - Language
    - Literacy
3. Social and community context
    - Social cohesion and support
    - Availability of community-based resources and resources to meet daily living needs
    - Discrimination
    - Incarceration
4. Health and healthcare
    - Access to healthcare services (e.g., primary and specialty care)
    - Health literacy

[12] U.S. Department of Health and Human Services, Office of Minority Health. National Partnership for Action to End Health Disparities. (2010). *The National Plan for Action.* Retrieved from: http://www.minorityhealth.hhs.gov/npa/templates/browse.aspx?&lvl=2&lvlid=34.

5. Neighborhood and physical (built) environment
    - Environmental conditions (e.g., exposure to toxins and other physical hazards, green spaces, physical barriers, aesthetics of environment)
    - Access to sidewalks and bike lanes
    - Safe and affordable housing
    - Access to healthy foods
    - Public safety (e.g., crime and violence)

Addressing health disparities, health equity and social determinants of health through community building and improvement initiatives is an important component of improving the health of the community. Therefore, indicators of health-related health disparities, health equity and social determinants of health are a central focus of this assessment and our health system's community health improvement efforts. Central to our efforts to improve the health of individuals and communities is our focus on promoting health and well-being of all people — and a commitment to health equity and eliminating barriers to good health.

Geographic Areas of Greatest Need

Our health and well-being are products of not only the health care we receive, but also the places where we live, learn, work and play.[6] As a result, our ZIP code can be more important than our genetic code. Identifying areas of greatest need was an important component of this assessment, as it helped us to identify where there are at-risk and vulnerable populations most in need. This allows us to ensure our efforts include programs to address vulnerable populations, as such programs and populations have the potential for greatest gains.[6]

Priority Populations

Although this assessment aims to include information on all populations in the geographic area, a special effort was made to incorporate information on the health and well-being of priority populations, or those most in need. Priority populations focused on in this assessment include, but were not limited to, people living in poverty, children, pregnant women, older adults, people who are uninsured and underinsured, members of ethnic or minority groups, members of medically underserved populations, and otherwise vulnerable or at-risk populations. This focus ensures alignment with our mission and that subsequent implementation strategies specifically meet the needs of the most vulnerable.

Community Engagement and Collaboration

The process of conducting CHNAs and developing implementation strategies serves as an ideal opportunity for St. John to initiate and strengthen mutually beneficial relationships within the communities we serve. Recognizing this opportunity and the fact that we cannot do this work alone, we engaged, partnered and collaborated with a diverse set of community stakeholders in this process. These stakeholders represented a variety of community sectors, including community members, nonprofit and community-based organizations, safety-net providers, local schools and educational institutions, local government officials and agencies, churches and other faith-based organizations, healthcare providers, private businesses, community developers, law enforcement agencies, community health centers, healthcare consumer advocates, and the public health workforce. It is important to note that each sector in the community, including community members, has a unique role. Each sector brings critical strengths and insights to our collaboration.

Working together has a greater impact than working alone. Engaging the community and joining forces with community stakeholders allows all involved to share in the experience of understanding community health needs and to work collaboratively with the communities we serve. Working in partnership with a diverse set of community stakeholders ensures we are well-positioned to help improve health outcomes among vulnerable and disparate

populations. This work will ultimately allow us to address the social determinants of health to measurably improve the health outcomes of the entire community. Furthermore, it is our hope that our engagement of the community will serve to empower community-driven solutions for community health improvement.

Limitations and Information Gaps

Although it is quite comprehensive, this assessment cannot measure all possible aspects of health and cannot represent every possible population within Tulsa County. This constraint limits the ability to fully assess all the community's health needs.

For example, certain population groups such as the transient population, institutionalized people or those who only speak a language other than English or Spanish may not be adequately represented in the secondary data and community input. Other population groups such as lesbian/gay/bisexual/transgender+ residents, undocumented residents and members of certain racial/ethnic or immigrant groups might not be identifiable or might not be represented in numbers sufficient for independent analysis. In addition, the following challenges resulted in limitations for assessing the health needs of the community:

- Irregular intervals of time in which indicators are measured
- Changes in standards used for measuring indicators
- True service area encompasses several partial counties, but most health data is not available at that level
- Some sources of valuable data are completed with grant funds or budgeted under a prior administration and not repeated, so comparisons cannot be made
- Inconsistencies in reported data
- Limitation in representation from all sectors of the community
- Not all health process and outcome measures available through secondary health data were reviewed due to the broad focus of the assessment

Despite the data limitations, we are reasonably confident of the overarching themes and health needs represented through our assessment data. This is based on the fact the data collection included multiple methods, both qualitative and quantitative, and engaged the hospital as well as participants from the community.

Secondary Data: Community Overview

In identifying the health needs and assets of Tulsa County, a review of publicly available secondary data was conducted. Ascension St. John consulted with the Tulsa Health Department for the data collection and analysis presented in this section.

Methodology and Sources

The most current secondary data was reviewed for the purpose of providing a comprehensive overview of the community. A variety of non-governmental and governmental data sources were used, including a broad set of indicators from local, state and federal agencies. Indicators are measurements that summarize the state of health and quality of life in the community. County, state and national level public health surveillance was an especially important source of secondary data. Specific data source citations are included throughout the report.

In addition to general indicators of health status, this assessment includes indicators covering many of the social determinants of health. Measures that reflect the health and well-being of priority populations, or those most in need, were also included. Some data comparisons were made at the ZIP code, region, county, state and national levels to allow for evaluation of geographic disparities. Other data considerations included trends over time, county and state level rankings, benchmark comparisons at the state and national levels, organizational needs and priorities, and disparities by age, gender, race/ethnicity, income level and educational attainment. Additionally, the U.S. Department of Health and Human Service's Healthy People 2020 initiative goals were used as indicators for areas for improvement or success.

Recommendations by Ascension, the Catholic Health Association of the United States, the Centers for Disease Control and Prevention, the Oklahoma State Department of Health, the United Health Foundation, the American Hospital Association's Association for Community Health Improvement, and the University of Wisconsin Population Health Institute were considered in determining which health indicators to review. Additional considerations were the indicators reviewed and reported in the partnering entities' assessments as well as the availability of secondary data.

The review covered the following health indicator topics:

- Demographics
- Health outcomes
    - Health outcomes ranking
    - Health status
        - Life expectancy
        - Mortality (causes of death)
        - Hospital utilization
        - Mental health and substance abuse
        - Maternal and child health
        - Infectious diseases
- Health factors
    - Health factors ranking
    - Social and economic factors
        - Educational attainment
        - Unemployment

        - Social environment
    - Clinical care
        - Access to care
        - Quality of care
    - Health behaviors and risk factors
        - Fruit and vegetable consumption
        - Physical activity
        - Weight (obese/overweight)
        - High blood pressure and blood pressure management
        - Dental care
        - Teen births
        - Tobacco use
        - Alcohol consumption
        - Drug use
    - Physical (built) environment
        - Air and water quality
        - Housing and transit
        - Food access
        - Access to physical activity opportunities

Oklahoma continues to rank near the bottom in multiple key health status indicators. Many of these outcomes are related to conditions that Oklahomans must live with every day. Poverty, lack of insurance, limited access to primary care, and inadequate prenatal care contribute to the poor health status of our residents, along with risky health behaviors associated with these determinants, such as low fruit/vegetable consumption, low physical activity and a high prevalence of smoking. In 2018, Oklahoma ranked 47th in the nation in health, according to the United Health Foundation.[13] Similar to the state, Tulsa County ranks poorly in multiple key health status indicators.

Demographics

Population

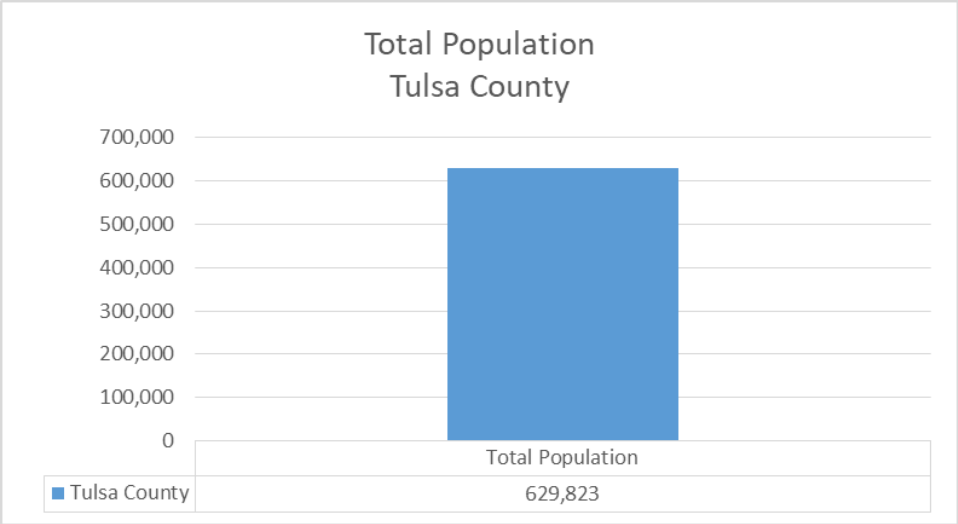
Total population

The total population is presented simply as the number of individuals living in each ZIP code, according to the 2016 5-year population estimates by the American Community Survey.[14]

Why is this indicator important?

The numeric size of the population is used as the basis for deriving many of the rates for the community health indicators presented later in this report, such as ZIP code specific rates and gender, age, and racial/ethnic specific rates.

[13] America's Health Rankings by the United Health Foundation (retrieved from www.americashealthrankings.org/ok)
[14] U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

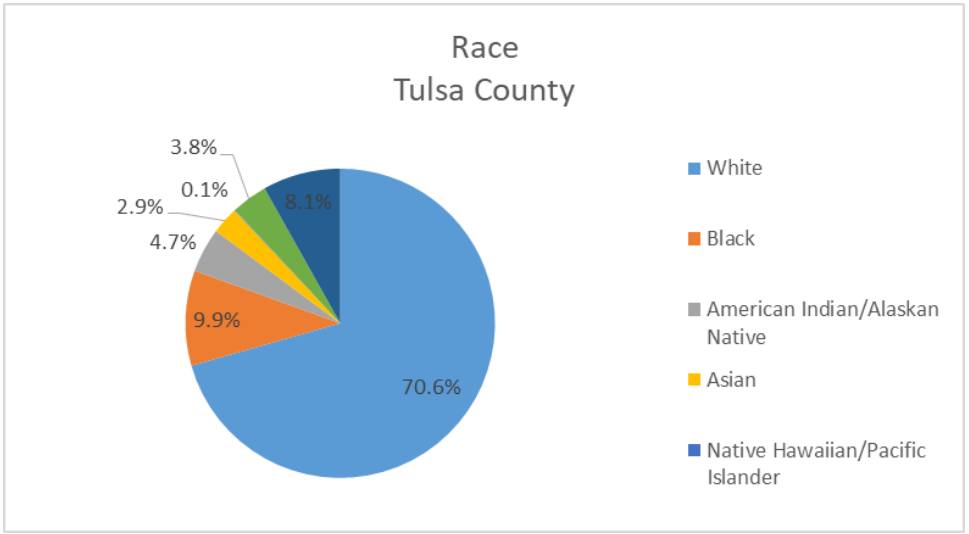


Sources: U.S. Census Bureau, 2009-2013 5-Year American Community Survey, 2012-2016 American Community Survey 5-Year Estimates

How are we doing?

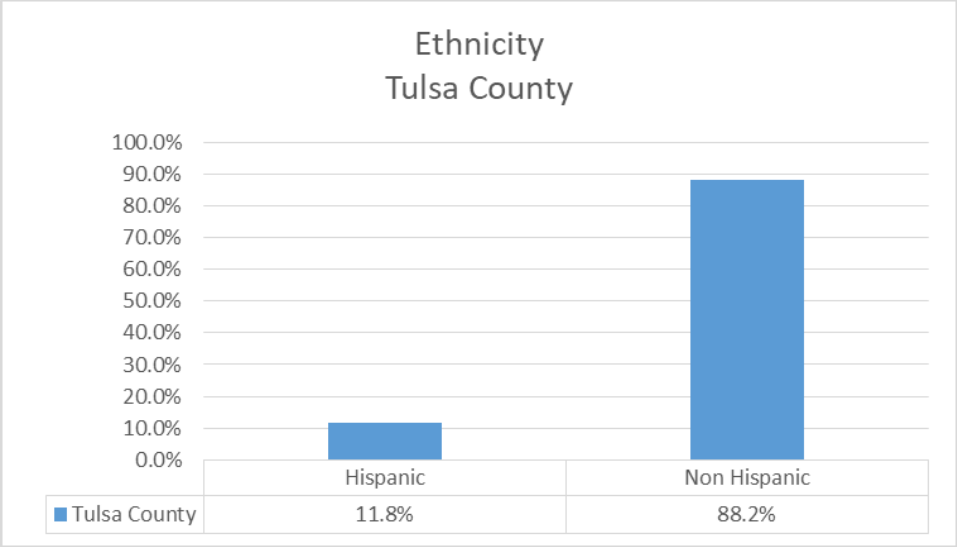
The Tulsa County population size of 629,823 has remained relatively consistent from 2012 to 2016 with changes in this time frame numbering approximately 20,000 people. Older age groups have captured a greater relative share of the population over the past several decades, while the share represented by children has declined

For many of the indicators, when the data was broken down by specific demographics (age group, race, ethnicity), there were too few cases to be reported within the year and/or the time-period specified, and the data was suppressed. Tulsa County's overall population is becoming increasingly diverse racially, but the trend is most evident among children.



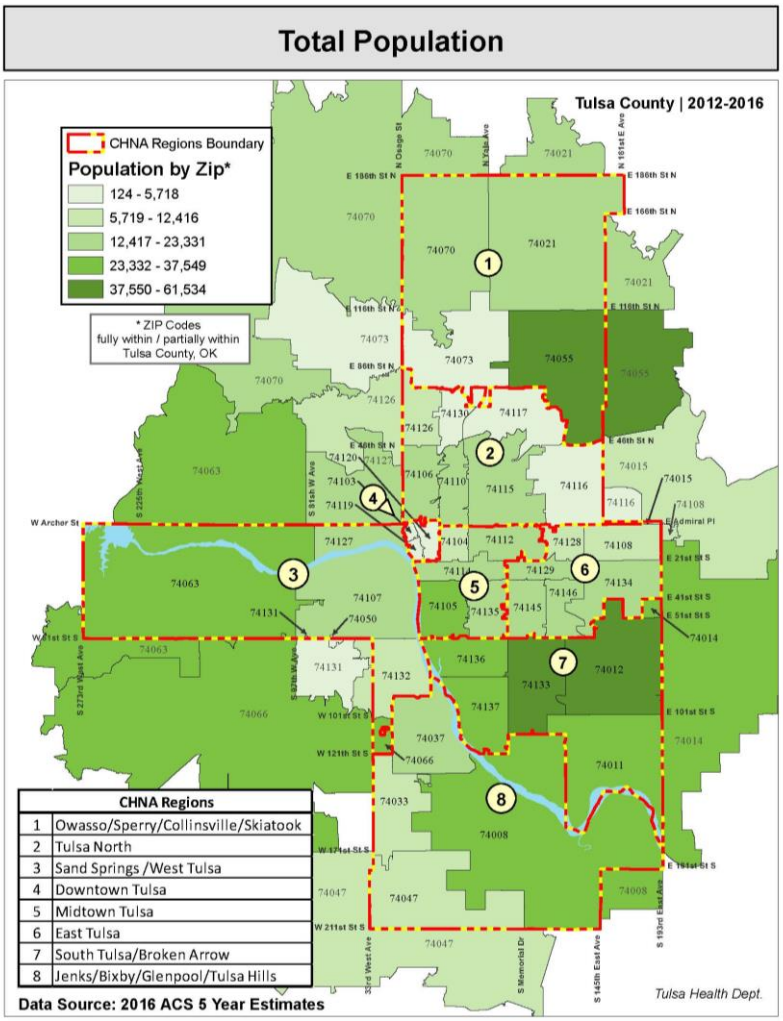
Source: 2016 American Community Survey 5-year estimates

Although the highest percentage of the population in Tulsa County is white (70.6%), it is important to note that 9.9% is Black or African American.



Source: 2016 American Community Survey 5-year estimates

Assessing the population as a whole, Tulsa County has a relatively high percentage of those that are Hispanic living in the community (11.8%).



Areas with the largest population in Tulsa County (37,500 – 61,534) include ZIP codes 74055, 74133, and 74012. These ZIP codes encompass Owasso and parts of South Tulsa and Broken Arrow. Areas with the lowest population in Tulsa County (124 – 5,718) include ZIP codes 74130, 74117 and 74116 in Tulsa North, 73131 and 74050 in West Tulsa and in downtown Tulsa ZIP codes 74103, 74119, and 74120.

Please note that the majority of West Tulsa ZIP codes 74131 and 74050 are in Creek County and will be reflected in greater detail in the Creek County analysis.

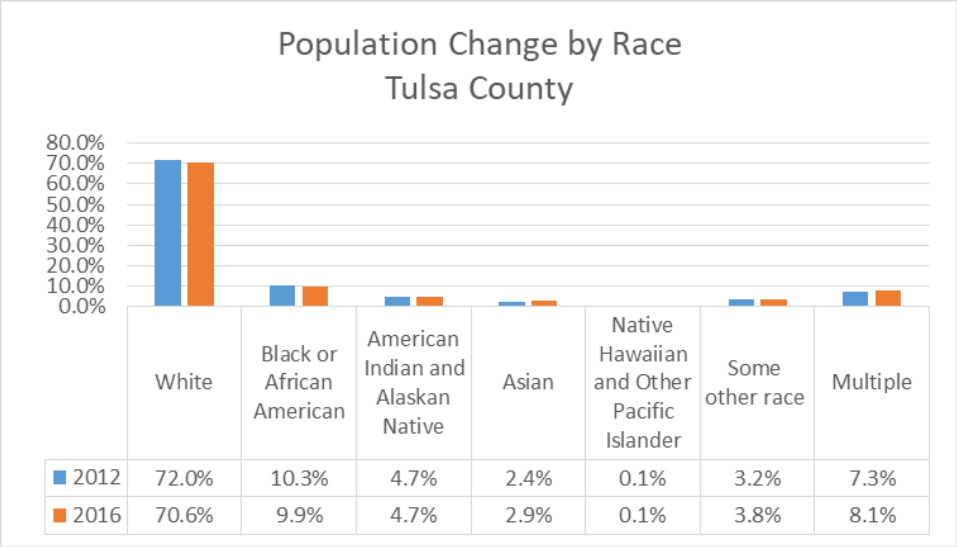
Population change

This demographic indicator is presented as the percentage change in the population within each ZIP code from the 2012 Census to the 2016 American Community Survey 5-year estimates. There was minimal change in ZIP code boundaries in this intervening period.

Why is this indicator important?

Trends in general population growth and decline help target specific locations and/or demographic groups where public health efforts should be focused to ensure adequate access to community-based programs.

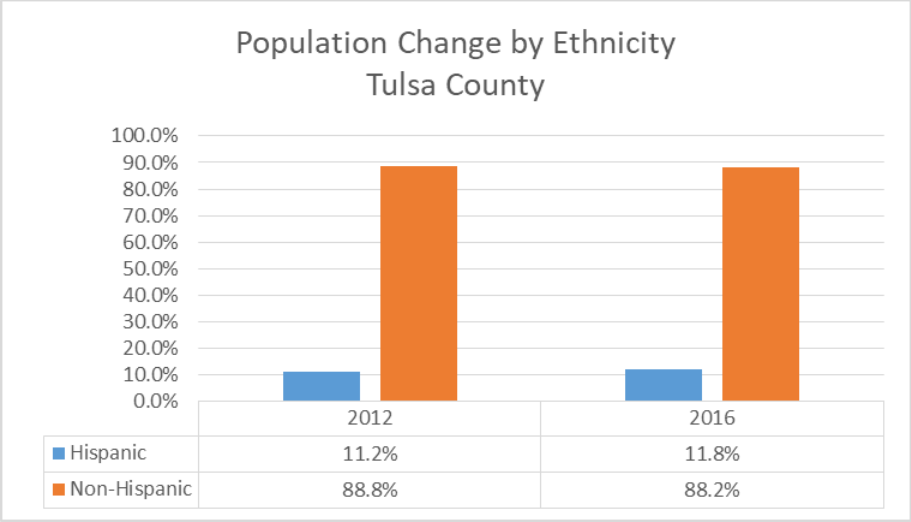
How are we doing?



	White	Black or African American	American Indian and Alaskan Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Multiple
2012	72.0%	10.3%	4.7%	2.4%	0.1%	3.2%	7.3%
2016	70.6%	9.9%	4.7%	2.9%	0.1%	3.8%	8.1%

Sources: U.S. Census Bureau, 2009-2013 5-Year American Community Survey, 2012-2016 American Community Survey 5-Year Estimates

Race across Tulsa County remained relatively stable from 2013 to 2016.



Sources: U.S. Census Bureau, 2009-2013 5-Year American Community Survey, 2012-2016 American Community Survey 5-Year Estimates

There was almost no change in the distribution of Hispanics and Non-Hispanics in Tulsa County between 2013 and 2016.

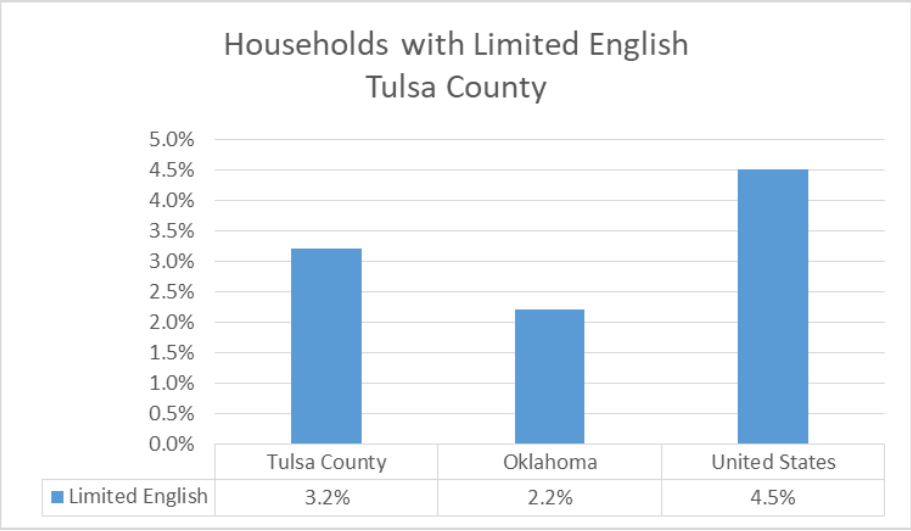
Households with limited English

This demographic indicator reports the percentage of the population aged 5 and older living in Limited English speaking households. A "Limited English speaking household" is one in which no member 14 years old and over (1) speaks only English at home or (2) speaks a language other than English at home and speaks English "very well."

Why is this indicator important?

This indicator is significant as it identifies households and populations that may need English-language assistance. These indicators are relevant because an inability to speak English well creates barriers to healthcare access, provider communications, and health literacy/education.

How are we doing?



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

The percentage of people who reportedly speak limited English at 3.2% in Tulsa County.

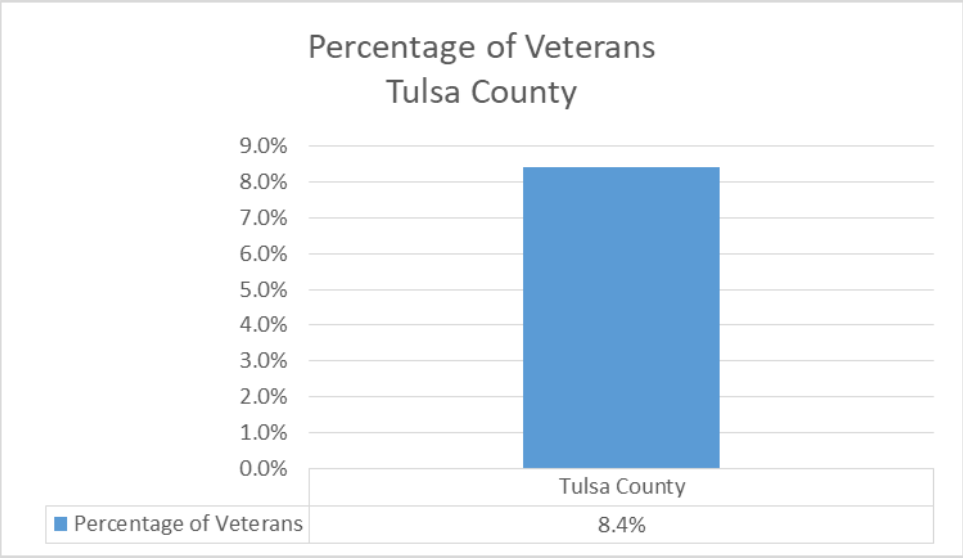
Veterans

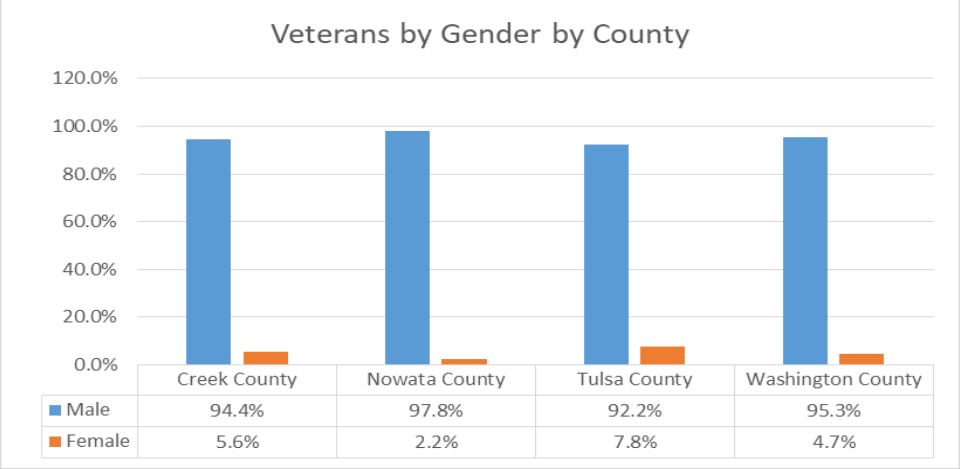
This demographic indicator reports the percentage of the veterans among the civilian population who are 18 years and older, according to the 2016 5-year population estimates by the American Community Survey.

Why is this indicator important?

This indicator is significant as it identifies veterans and their needs at the community level. Data about veterans helps plan and fund programs that provide assistance or services for veterans and evaluate other programs and policies to ensure they fairly and equitably serve the needs of veterans. These statistics are also used to enforce laws, policies, and regulations against discrimination in society.

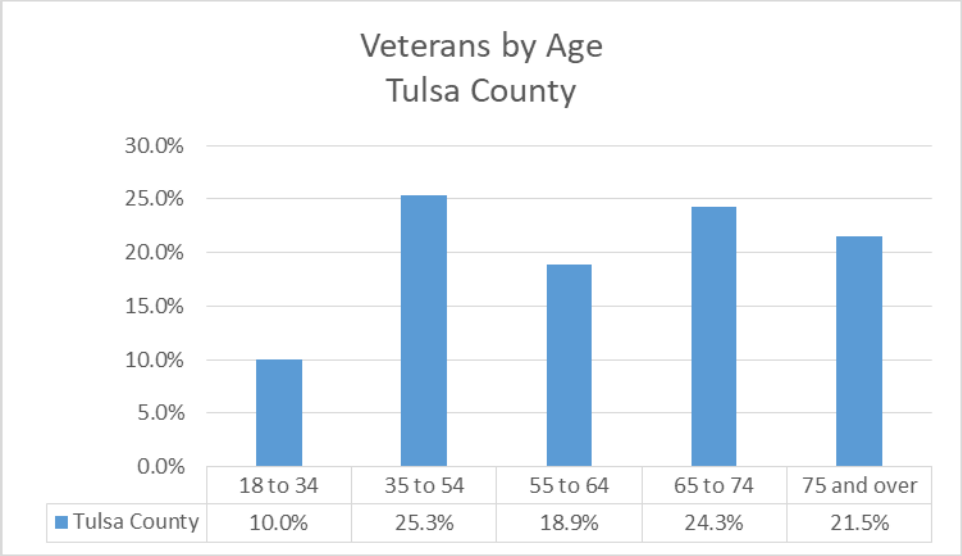
How are we doing?





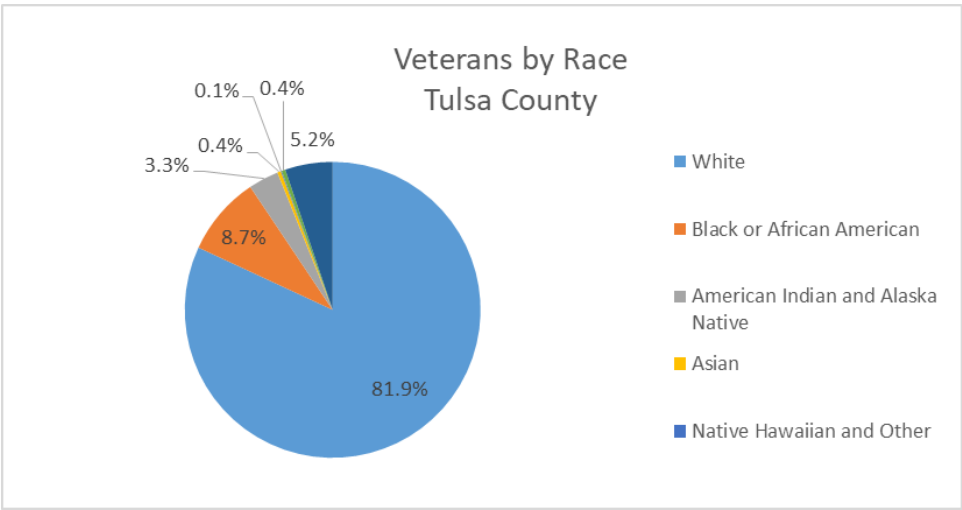
Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Of the 8.4% of veterans in Tulsa County, 92.2% of them are male with only 7.8% being female.



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

There were two age groups that were very similar in Tulsa County with Veterans aged 35-54 making up 25.3% and Veterans aged 64-74 making up 24.3% of the Veteran population.



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Although the highest percentage of the veteran population in Tulsa County is white (81.9%), it is important to note that 8.7% is Black/African American.

Health Outcomes

Examining a community's health outcomes allows linkages between social determinants of health and outcomes to be assessed. By comparing, for example, the prevalence of certain chronic diseases to indicators in other categories (e.g., poor diet and exercise) with outcomes (e.g., high rates of obesity and diabetes), various causal relationship may emerge, allowing a better understanding of how certain community health needs may be addressed.

Health outcomes ranking

This indicator demonstrates overall rankings in health outcomes for counties throughout the state. The healthiest county in the state is ranked #1. The ranks are based on two types of measures: how long people live (length of life)

and how healthy people feel while alive (quality of life). The distribution of health outcomes is based on an equal weighting of length and quality of life. This information is based on the 2018 County Health Rankings & Roadmaps courtesy of the University of Wisconsin Population Health Institute.[15]

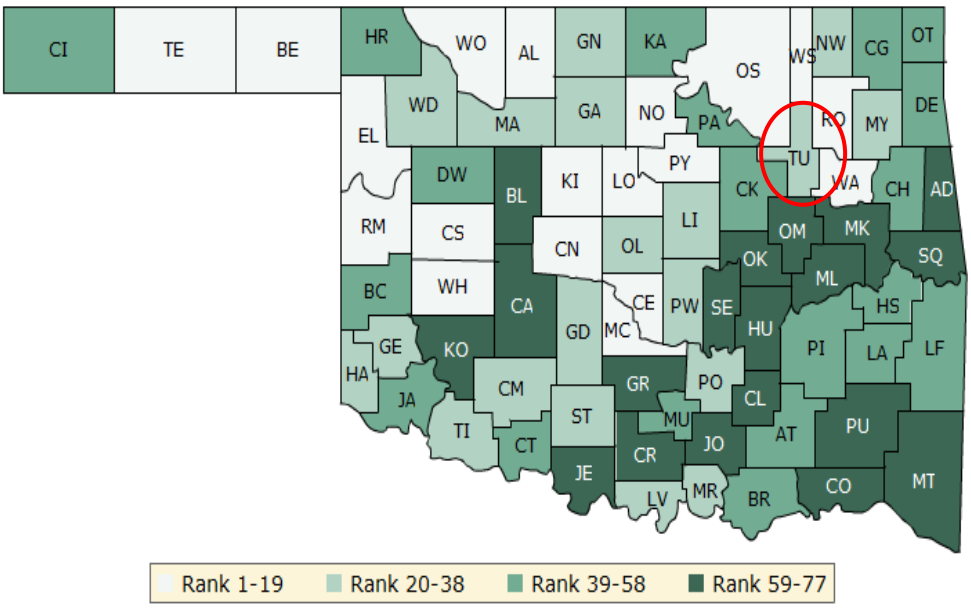
Why is this indicator important?

The overall rankings in health outcomes represent how healthy counties are within the state.

How are we doing?

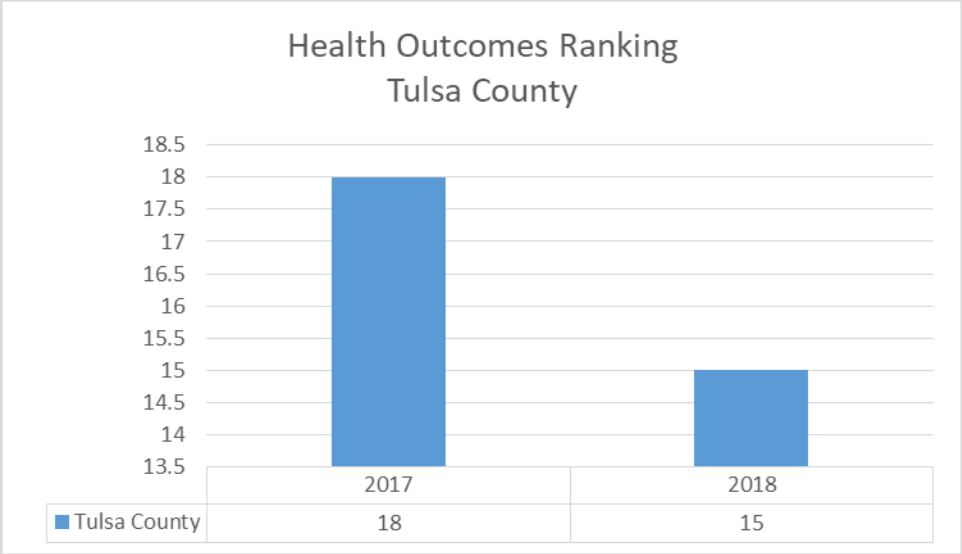
The map below, demonstrates the distribution of health outcomes in Oklahoma. Lighter shades indicate better performance in the respective summary rankings. In 2018, Tulsa County ranked 15th out of 77 counties in Oklahoma in health outcomes.

Update: In 2019, Tulsa County ranked 13th out of 77 counties in Oklahoma in health outcomes.



Source: Courtesy of University of Wisconsin Population Health Institute. (2018). *County Health Rankings & Roadmaps.* Retrieved from: www.countyhealthrankings.org.

[15] University of Wisconsin Population Health Institute. (2018). *County Health Rankings & Roadmaps.* Retrieved from: www.countyhealthrankings.org.



Source: County Health Rankings

The graph above shows that Tulsa County moved up from 18 of 77 in 2017 to 15 of 77 in 2018.

Update: In 2019, Tulsa County ranked 13th out of 77 counties in Oklahoma in health outcomes.

County	Health Outcomes	Health Factors
Adair	75	77
Alfalfa	2	13
Atoka	57	75
Beaver	20	5
Beckham	42	37
Blaine	45	31
Bryan	38	44
Caddo	73	63
Canadian	3	1
Carter	67	48
Cherokee	62	57
Choctaw	76	76
Cimarron	61	19
Cleveland	7	4
Coal	60	74
Comanche	26	40
Cotton	56	43
Craig	35	35
Creek	40	46
Custer	16	26
Delaware	52	58
Dewey	48	24
Ellis	19	6
Garfield	24	27
Garvin	58	55
Grady	21	18
Grant	22	3
Greer	36	53
Harmon	23	45
Harper	12	10
Haskell	51	73
Hughes	46	70
Jackson	43	22
Jefferson	64	60
Johnston	68	59
Kay	33	42
Kingfisher	1	2
Kiowa	65	51
Latimer	55	62
Le Flore	49	65
Lincoln	44	38
Logan	6	15
Love	41	20
Major	25	12
Marshall	31	47
Mayes	50	50
McClain	17	7
McCurtain	70	72
McIntosh	72	68
Murray	54	34
Muskogee	66	66
Noble	13	11
Nowata	34	54
Okfuskee	74	69
Oklahoma	27	21
Okmulgee	53	56
Osage	28	39
Ottawa	59	61
Pawnee	47	41
Payne	8	16
Pittsburg	63	52
Pontotoc	37	29
Pottawatomie	39	33
Pushmataha	77	67
Roger Mills	4	28
Rogers	10	9
Seminole	71	64
Sequoyah	69	71
Stephens	32	49
Texas	11	25
Tillman	29	36
Tulsa	15	14
Wagoner	9	17
Washington	18	23
Washita	30	32
Woods	5	8
Woodward	14	30

Source: Courtesy of University of Wisconsin Population Health Institute. (2018). *County Health Rankings & Roadmaps.* Retrieved from: www.countyhealthrankings.org.

Health status

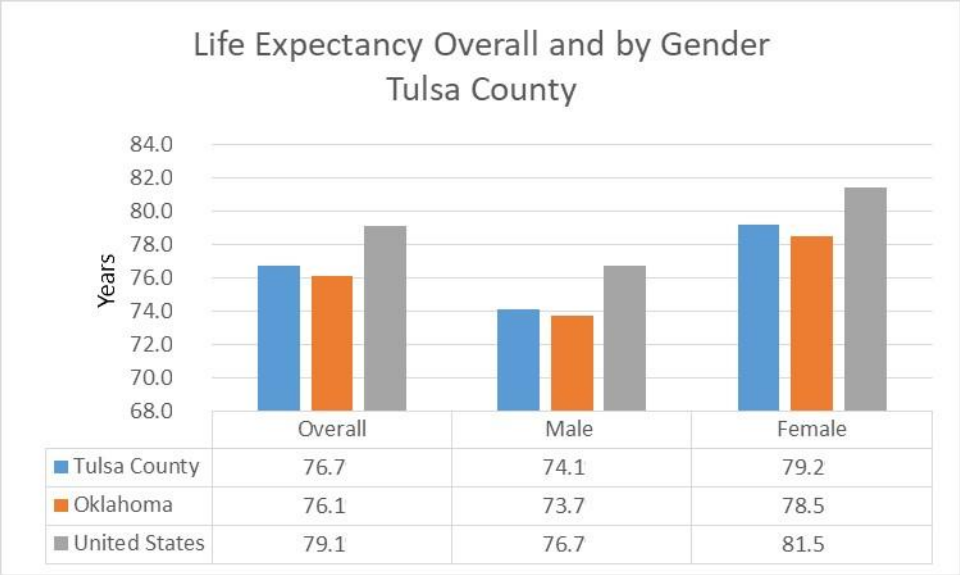
Life expectancy

Life expectancy is the average additional number of years a person can expect to live at a certain age. The term 'life expectancy' it is generally referring to the average number of years a person may expect to live when they are born. Here, the three-year totals for life expectancy at birth are given for county and ZIP code.

Why is this indicator important?

Life expectancy trends, along with other health indicators, can help public health officials identify health disparities in the community and measure health improvement outcomes. Health officials can use this information to implement health policies and interventions to target issues that negatively and positively impact health within the community.

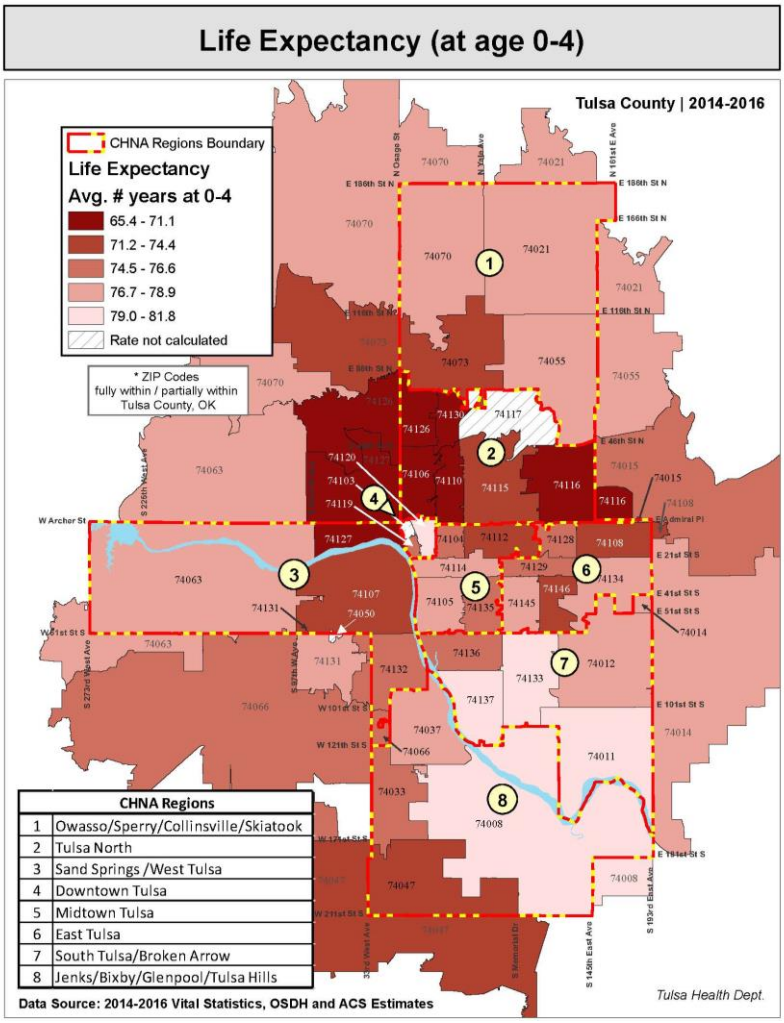
How are we doing?



	Overall	Male	Female
Tulsa County	76.7	74.1	79.2
Oklahoma	76.1	73.7	78.5
United States	79.1	76.7	81.5

Source: https://vizhub.healthdata.org/subnational/usa 2014 Data

The latest available life expectancy data for this assessment was for 2016. The graph above shows life expectancies broken down by gender for the county compared to Oklahoma overall and the United States. Life expectancies for both genders and in total were lower for Tulsa County and Oklahoma than for the United States, with male life expectancy approximately five years less than female life expectancy.



From 2014-2016, Tulsa County residents had a life expectancy of 76.2 years. This was lower than the United States (78.8 years), but slightly higher than Oklahoma (75.4 years).

Overall, 'multiple races' had the highest life expectancy (84.3 years). Black or African American individuals and American Indian/ Alaskan Natives had a life expectancy that was about six years shorter than Tulsa County overall.

The lowest life expectancy age range is 65.4 – 71.1 years of age. This lifespan was found in ZIP codes 74126, 74130, 74106, 74110, 74116 and 74127 which are all located in Tulsa North except 74127 which is in West Tulsa. The ZIP code with the lowest life expectancy was 74130, which is in north Tulsa (65.4 years). The ZIP code with the highest life expectancy was 74120, which is close to downtown Tulsa (81.8 years). There is a difference of 16.4 years between these two ZIP codes.

Overall mortality

The mortality rate from all causes is presented as the number of deaths per 100,000 population, over the years 2014-2016. The rates were age-adjusted to account for differences in age distribution among localities, ZIP codes, and races/ethnicities.

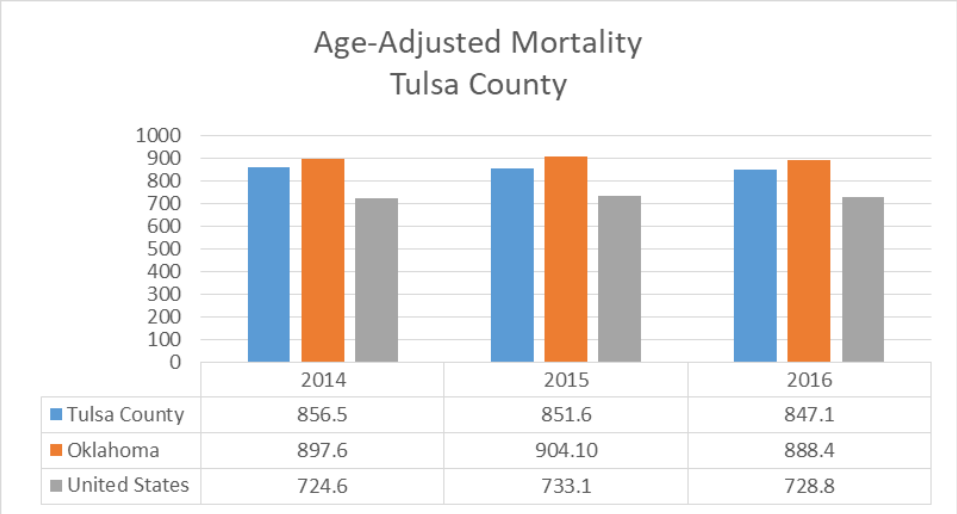
Why is this indicator important?

Mortality rates are important in the measurement of disease and health as it relates to public health planning. Analyzing trends in mortality in specific demographic groups over time can reflect changes in health and highlight areas that need to be targeted through public health services and interventions.[16,17]

How are we doing?

Mortality rates remained relatively stable for Tulsa County from 2014 to 2016 although Tulsa County showed slight downward trend from 856.5 to 847.1 deaths per 100,000 population during the time-period.

However, overall mortality rates for all four counties and the state of Oklahoma were higher than the overall mortality rate for the U.S. for 2016 (728.8 deaths per 100,000 population).[18]



	2014	2015	2016
Tulsa County	856.5	851.6	847.1
Oklahoma	897.6	904.10	888.4
United States	724.6	733.1	728.8

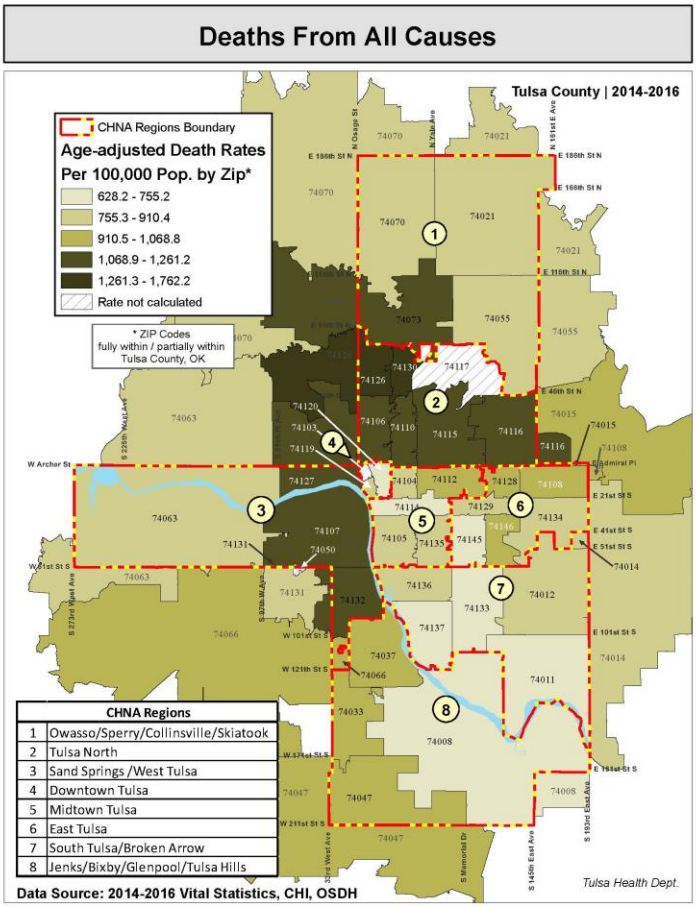
Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

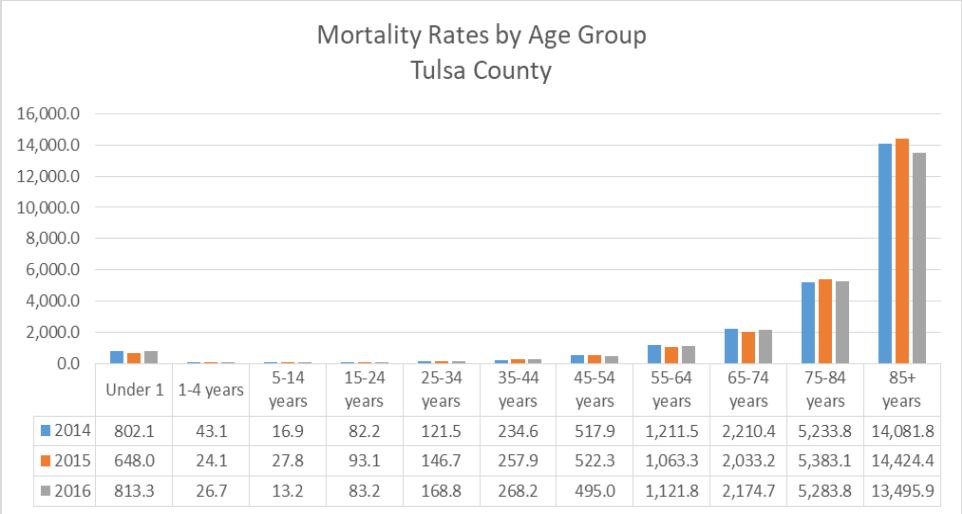
[16] Australian Institute of Health and Welfare. (2016). *Why are Mortality Data Important?* Retrieved from: http://www.aihw.gov.au/why-are-mortality-data-important/.

[17] Braveman P, Arkin E, Orleans T, Proctor D, and Plough A. What Is Health Equity? And What Difference Does a Definition Make? Princeton, NJ: Robert Wood Johnson Foundation, 2017.

[18] NCHS, National Vital Statistics System, Mortality



The highest death rates by ZIP code in Tulsa County include 74126 and 74130 located in Tulsa North. Other areas with high death rates include the majority of Tulsa North (74106, 74110, 74115, 74116) and almost all West Tulsa (74132, 74107, 74127).

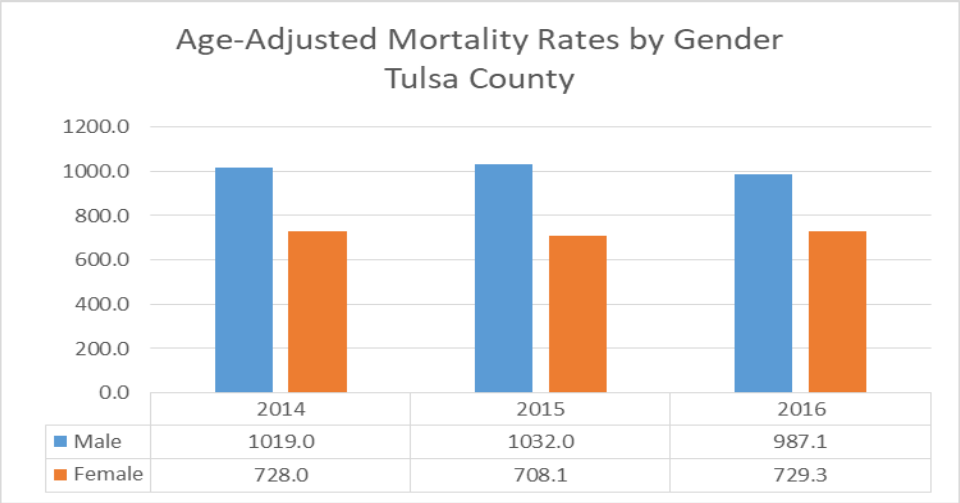


	Under 1	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85+ years
2014	802.1	43.1	16.9	82.2	121.5	234.6	517.9	1,211.5	2,210.4	5,233.8	14,081.8
2015	648.0	24.1	27.8	93.1	146.7	257.9	522.3	1,063.3	2,033.2	5,383.1	14,424.4
2016	813.3	26.7	13.2	83.2	168.8	268.2	495.0	1,121.8	2,174.7	5,283.8	13,495.9

Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20).

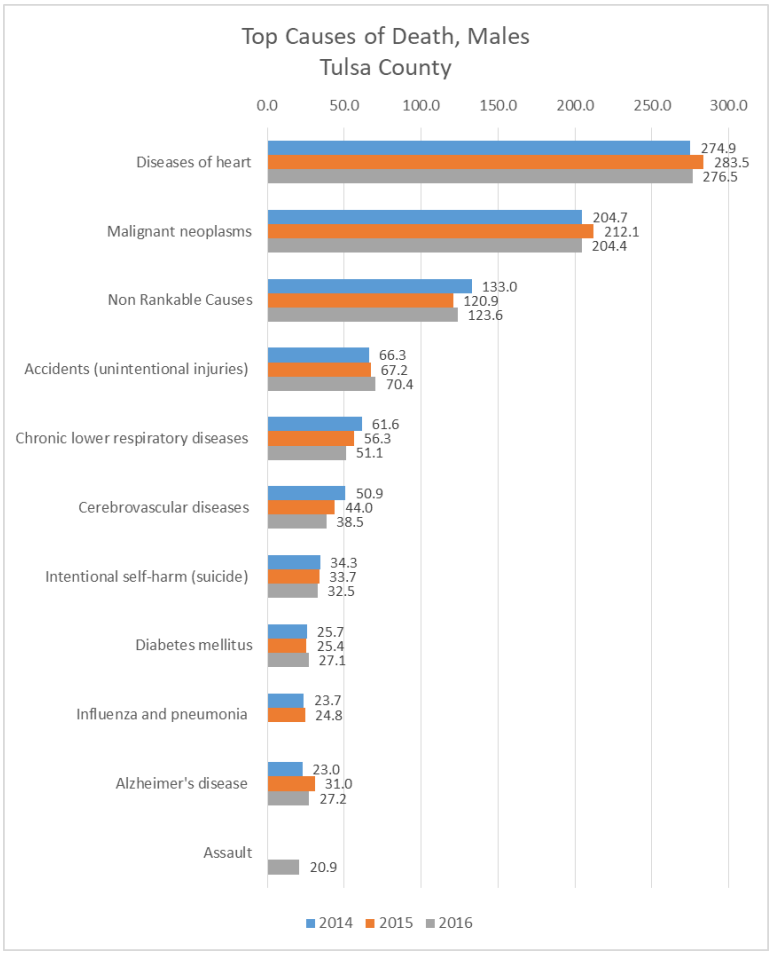
The mortality rates across age groups in Tulsa County remained relatively stable over the time-period examined in this assessment.



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

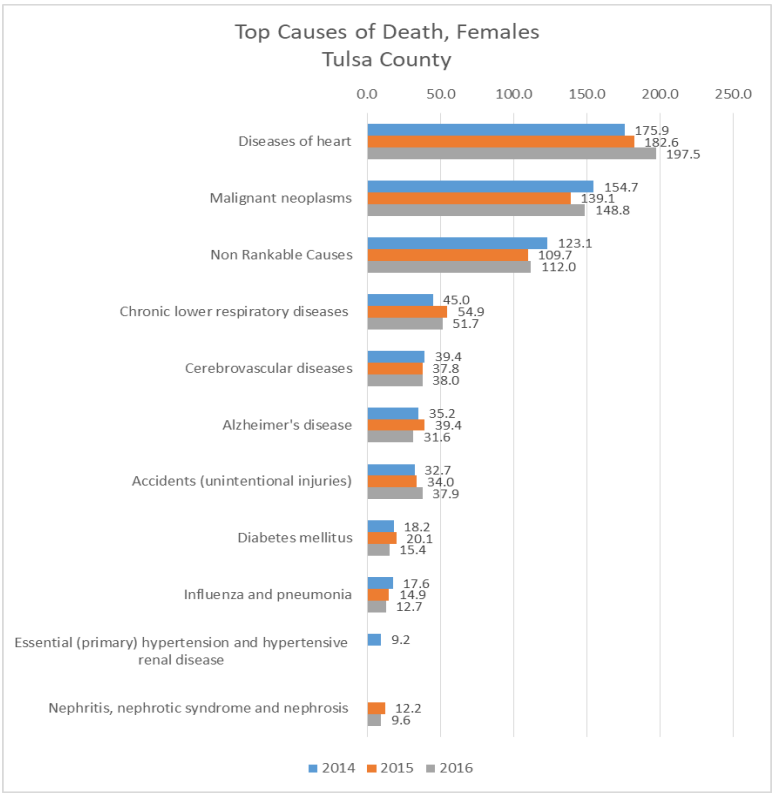
As illustrated in the figure above, the mortality rates by gender were strikingly similar across the years examined in this assessment, with the mortality rates being consistently higher for males than for females.



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population.

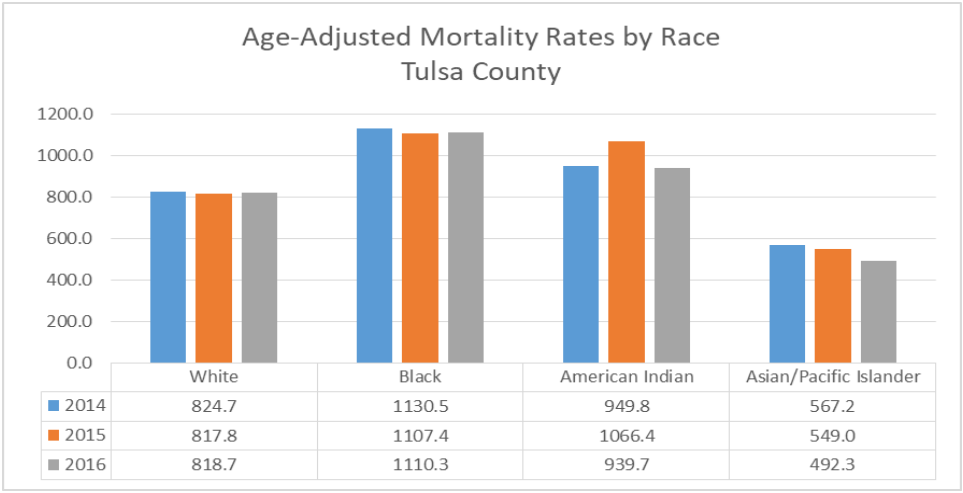
The top causes of death for males in Tulsa County were consistent with those reported at the national level. As illustrated in the above graph, the mortality rates for the top causes of death in Tulsa County remained remarkably consistent over the time-period examined.



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population.

While the top causes of death for females in Tulsa County were consistent with those at the national level, the mortality rate for heart disease among women in Tulsa County appears to be trending slightly upwards during the time-period examined.

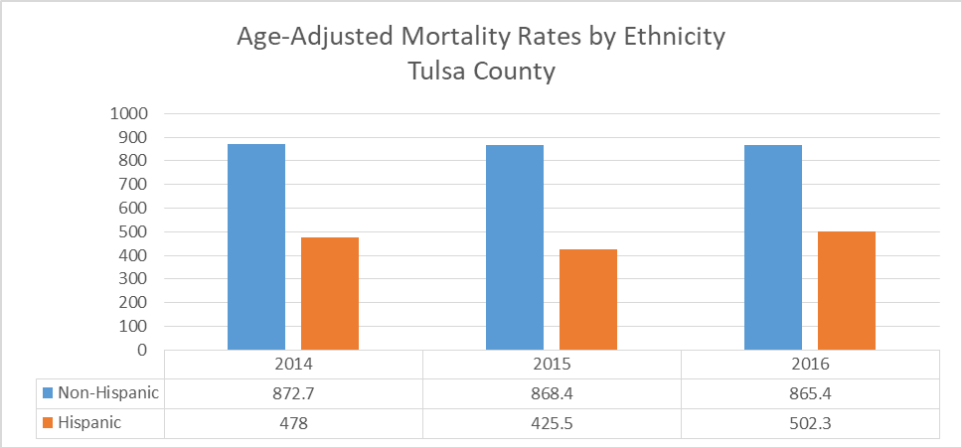


	White	Black	American Indian	Asian/Pacific Islander
2014	824.7	1130.5	949.8	567.2
2015	817.8	1107.4	1066.4	549.0
2016	818.7	1110.3	939.7	492.3

Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

Mortality rates across race in Tulsa County showed remarkable stability over the time-period examined. Mortality rates were highest for the black or African American and American Indian populations and lowest for those in the Asian/Pacific Islander population.



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

Mortality rates for Non-Hispanics were almost double the rates for Hispanics in Tulsa County over the time-period examined for this assessment.

Diabetes mortality

The diabetes death rate is the number of deaths due to diabetes mellitus per 100,000 population over the years 2014-2016. The rates were age-adjusted to account for differences in age distribution among locations, ZIP codes and races/ethnicities.

Why is this indicator important?

Diabetes mellitus (commonly known as diabetes) was the seventh leading cause of death in Tulsa County from 2014-2016. Diabetes affects an estimated 29.1 million people in the United States and is also the seventh leading cause of death nationally. It increases the all-cause mortality rate 1.8 times compared to persons without diagnosed diabetes, doubles the risk of heart disease and is the leading cause of kidney failure, lower limb amputations and adult-onset blindness[19].

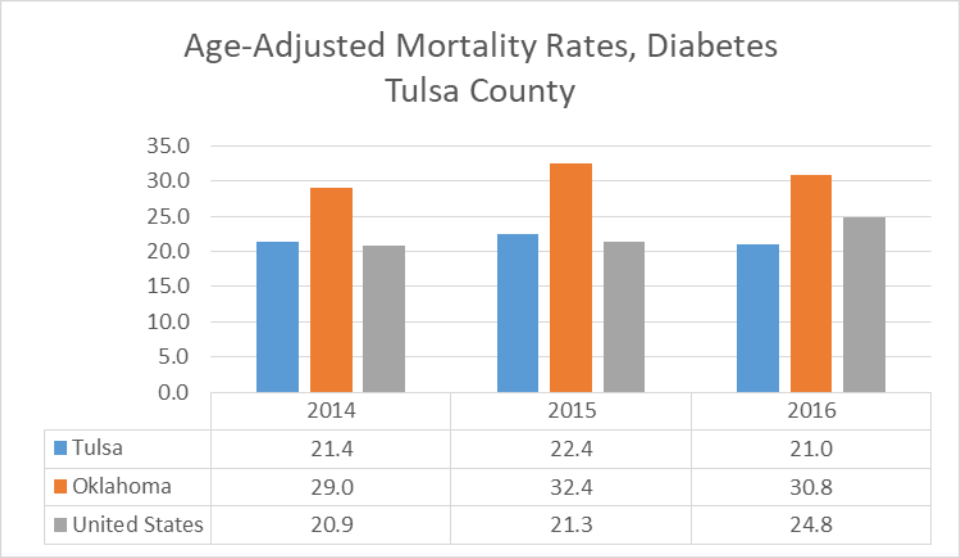
How are we doing?

A total of 438 Tulsa County residents died from diabetes from 2014-2016. This is an age-adjusted rate of 22.4 deaths per 100,000 individuals.

In 2016, Tulsa County had an age-adjusted diabetes death rate of 21.8. This was lower than Oklahoma and very similar to the United States (31.9 and 21.3 respectively; US data from 2015). All of these regions met the Healthy People 2020 national goal of 66.6 deaths per 100,000 population.

The ZIP codes with the highest diabetes death rates were 74106, 74110, 74127, 74132 and 74134.

[19] Diabetes. Healthy People 2020. U.S. Department of Health and Human Services.

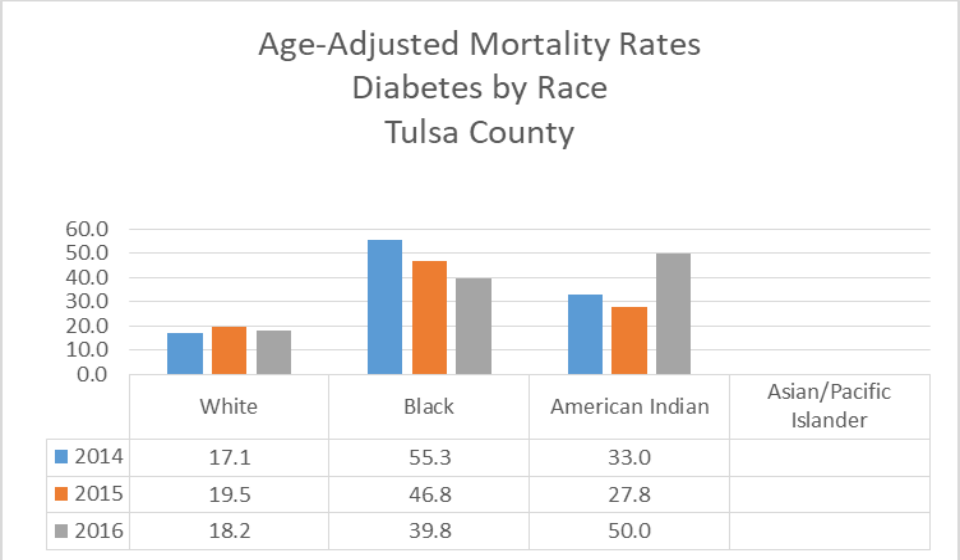


	2014	2015	2016
Tulsa	21.4	22.4	21.0
Oklahoma	29.0	32.4	30.8
United States	20.9	21.3	24.8

Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

In Tulsa County over the time-period 2014 to 2016, men showed consistently higher mortality rates for diabetes than women.

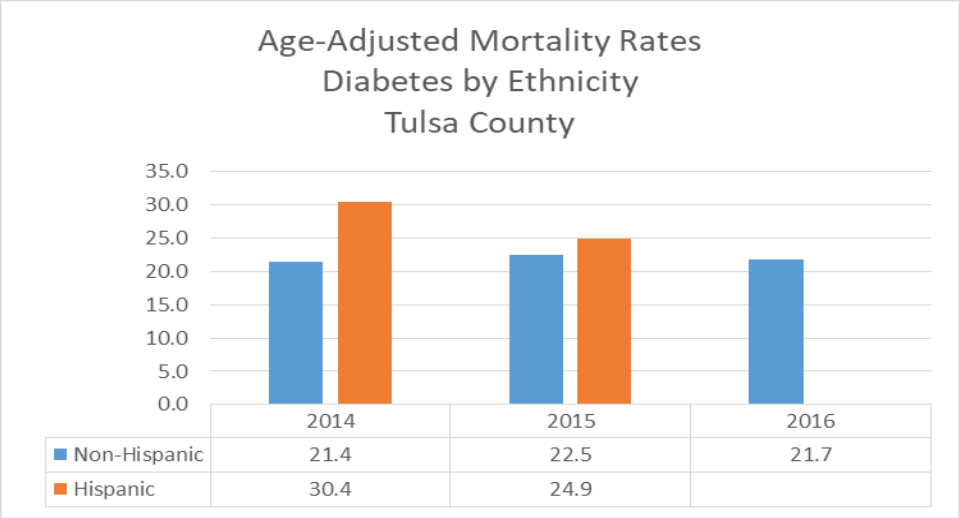


	White	Black	American Indian	Asian/Pacific Islander
2014	17.1	55.3	33.0	
2015	19.5	46.8	27.8	
2016	18.2	39.8	50.0	

Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

Black or African American and American Indian populations had higher mortality rates due to diabetes in Tulsa County than Whites. The age-adjusted death rate for 'other' races was more than seven times higher than that of whites (135.4 compared to 18.4). Mortality rates for diabetes for American Indians increased fairly sharply in 2016 compared to the previous two years.



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

The death rate was slightly higher in Hispanics compared to non-Hispanics (26.3 compared to 22.5).

Cardiovascular disease mortality

The mortality rate from heart disease, or cardiovascular disease, is presented as the number of deaths from heart disease per 100,000 population over the years 2014-2016. The rates were age-adjusted to account for differences in age distribution among locations, ZIP codes and races/ethnicities.

Why is this indicator important?

Heart disease has been the number one cause of death for Tulsa County residents, as well as Oklahomans and United States residents, for many years. The most common type of heart disease in the U.S. is coronary heart disease. Risk factors for heart disease include conditions such as high cholesterol, high blood pressure and diabetes, behaviors such as tobacco use, poor diet, physical inactivity, obesity, excessive alcohol use and genetic factors. Most of these risk factors can be controlled through healthy lifestyle choices, and well as medications when necessary.[20]

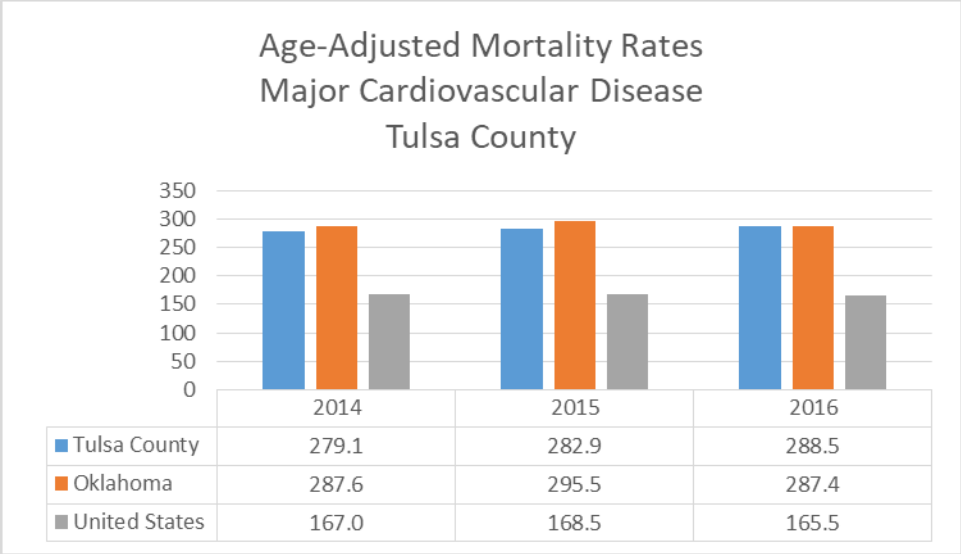
How are we doing?

From 2014-2016, the age-adjusted death rate from heart disease in Tulsa County was 235.1 deaths per 100,000 individuals.

In 2016, Tulsa County had a heart disease death rate of 243.5, which was slightly higher than that of Oklahoma (236.8). However, they were both higher than the death rate in the United States, which was 168.5. None of these regions meet the Healthy People 2020 goal of 100.8 deaths per 100,000 population.

The ZIP codes with the highest overall heart disease death rates were 74073, 74126 and 74130.

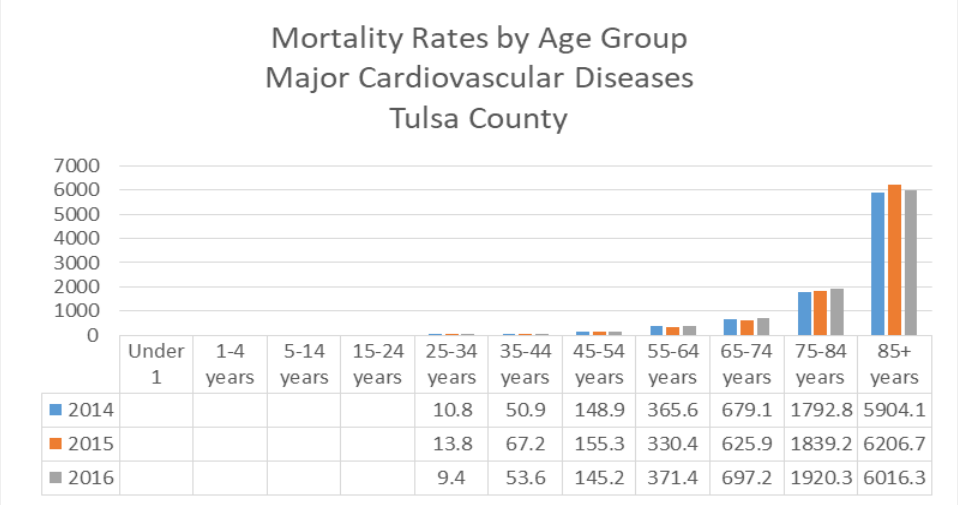
[20] Heart Disease Fact Sheet. Centers for Disease Control and Prevention.



	2014	2015	2016
Tulsa County	279.1	282.9	288.5
Oklahoma	287.6	295.5	287.4
United States	167.0	168.5	165.5

Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

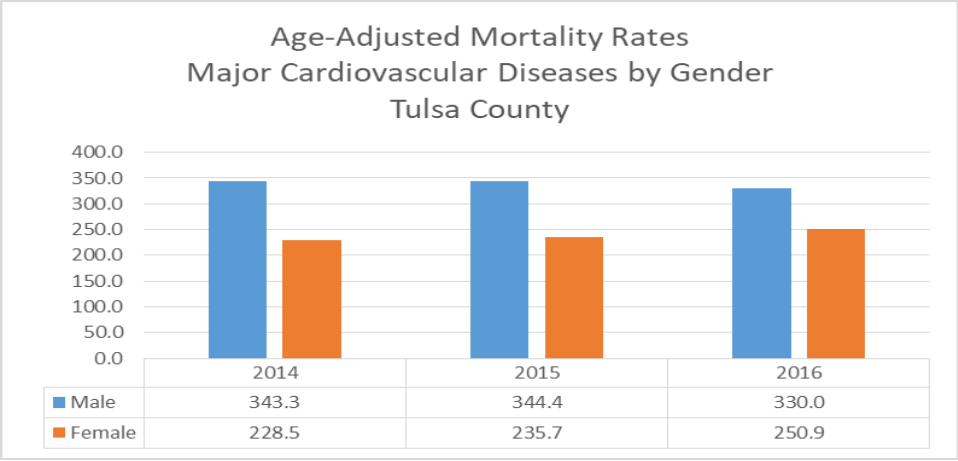


	Under 1	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85+ years
2014					10.8	50.9	148.9	365.6	679.1	1792.8	5904.1
2015					13.8	67.2	155.3	330.4	625.9	1839.2	6206.7
2016					9.4	53.6	145.2	371.4	697.2	1920.3	6016.3

Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population.

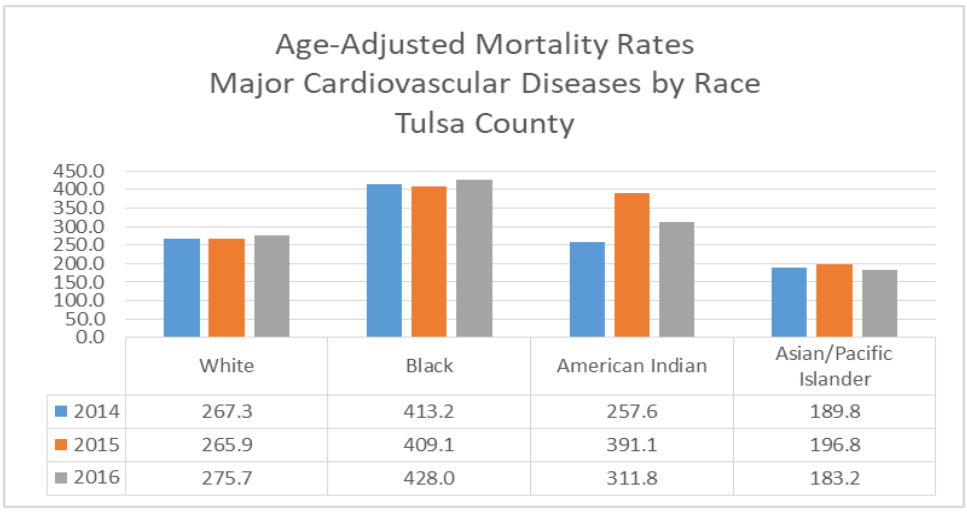
Mortality rates for major cardiovascular diseases increased sharply as age increased in Tulsa County. Mortality rates for people in Tulsa County age 85 and over were high but relatively stable from 2014 to 2016.



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

Mortality rates for major cardiovascular diseases remained relatively stable for males and females in Tulsa County from 2014 to 2016, with the mortality rate for males consistently higher than that for women.

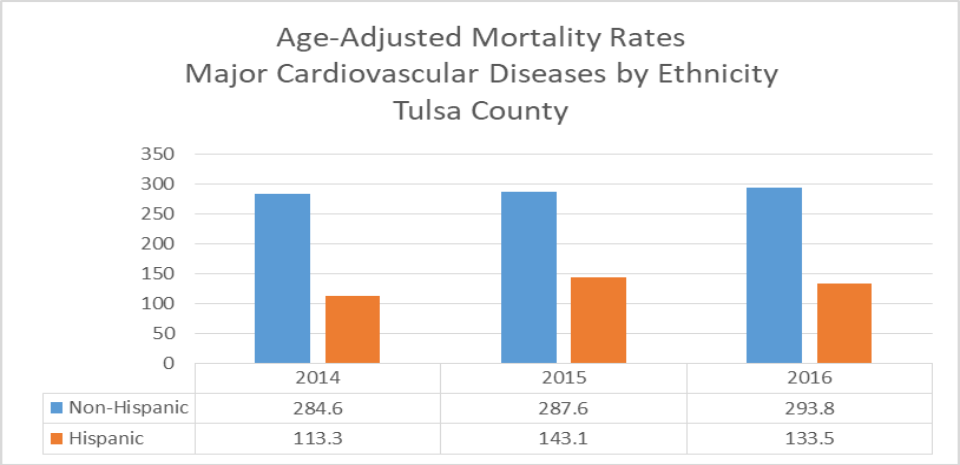


Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

Mortality rates for major cardiovascular diseases in the white, black and Asian/Pacific Islander populations in Tulsa County remained relatively stable from 2014 to 2016, although the rates were much higher in the black population than any other race category.

The rates for American Indians showed more variation than other race groups, with a slight upward trend over the time-period examined in this assessment.



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

The heart disease death rate in non-Hispanics was more than twice that of Hispanics between 2014 and 2016. Rates for each group, however remained relatively stable over the same time-period.

Cancer mortality

The mortality rate from cancer is presented as the number of deaths from all cancers per 100,000 population, over the years 2014-2016. The rates were age-adjusted to account for differences in age distribution among locations, ZIP codes and races/ethnicities.

Why is this indicator important?

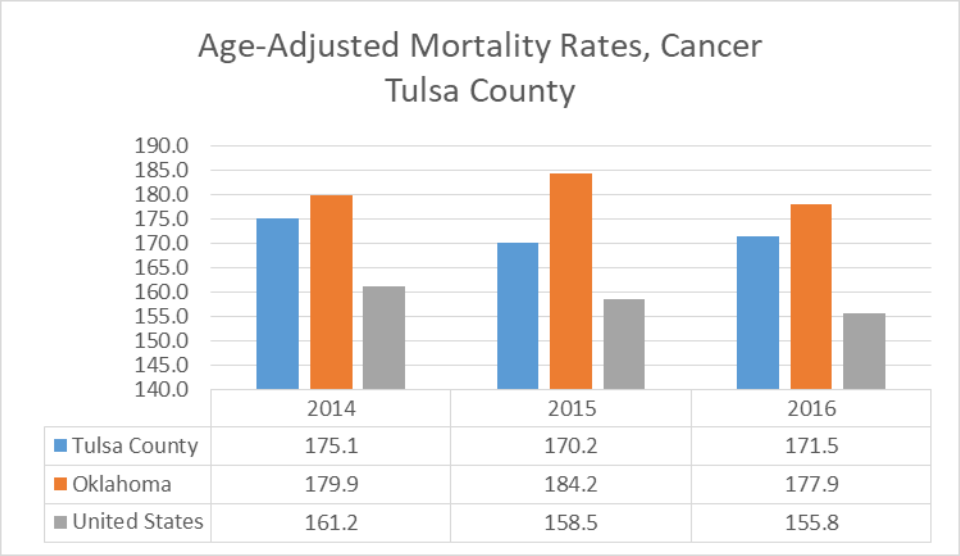
Cancer was the second leading cause of death from 2014-2016. Continued advances in cancer research, detection and treatment have resulted in a decline in both incidence and death rates for all cancers, although it is still one of the leading causes of death in the United States. More than half of all individuals who develop cancer will be alive in five years. Many cancers are preventable by reducing risk factors such as use of tobacco products, physical inactivity and poor nutrition, obesity, and UV light exposure. Other cancers can be prevented by getting vaccinated against human papillomavirus and hepatitis B virus. Cancer screenings are also effective at identifying some types of cancer early, often in highly treatable stages. These include breast, cervical and colon cancer. [21]

How are we doing?

From 2014-2016, the death rate due to cancer in Tulsa County was 179.0 deaths per 100,000 individuals.

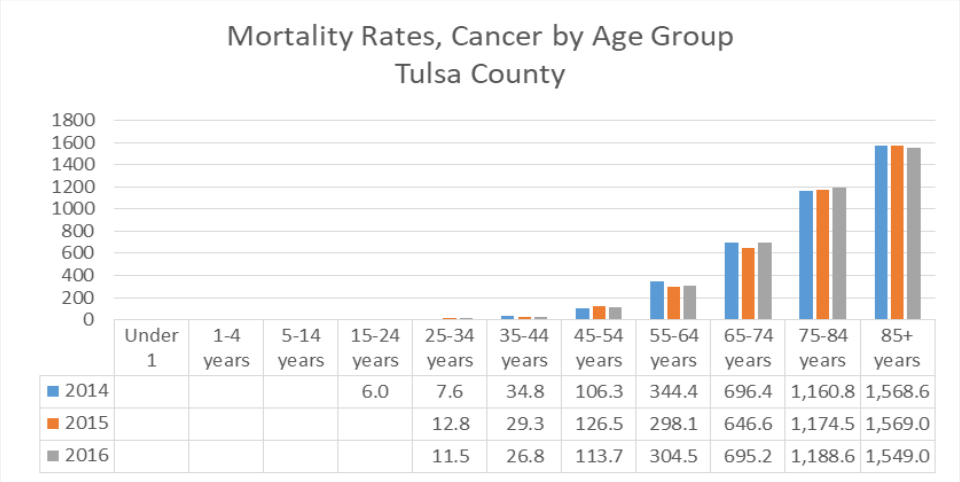
In 2016, the cancer mortality rate was 178.3 deaths per 100,000 population in Tulsa County. This was similar to Oklahoma (183.8) and higher than the United States (158.5; most recent available data from 2015). Only the U.S. met the Healthy People 2020 national goal of 160.6 cancer deaths per 100,000 individuals.

[21] Cancer. Healthy People 2020. U.S. Department of Health and Human Services.



	2014	2015	2016
Tulsa County	175.1	170.2	171.5
Oklahoma	179.9	184.2	177.9
United States	161.2	158.5	155.8

The ZIP code with the highest overall cancer death rate was 74130.

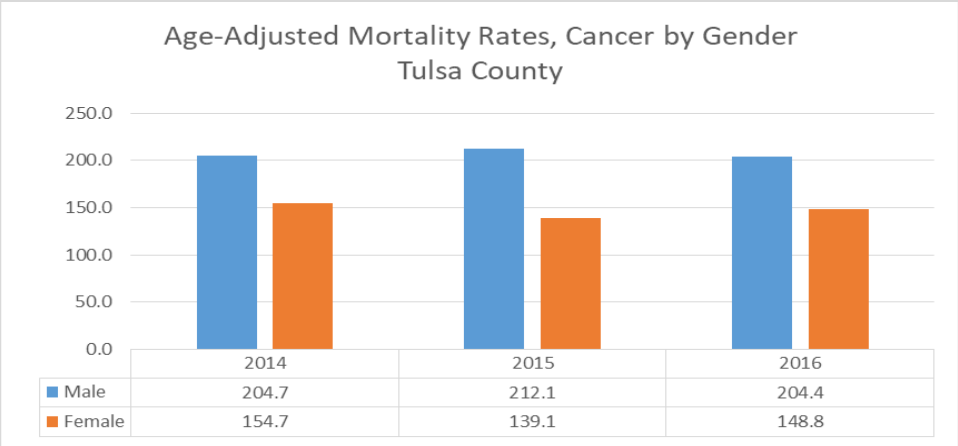


	Under 1	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85+ years
2014				6.0	7.6	34.8	106.3	344.4	696.4	1,160.8	1,568.6
2015					12.8	29.3	126.5	298.1	646.6	1,174.5	1,569.0
2016					11.5	26.8	113.7	304.5	695.2	1,188.6	1,549.0

Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population.

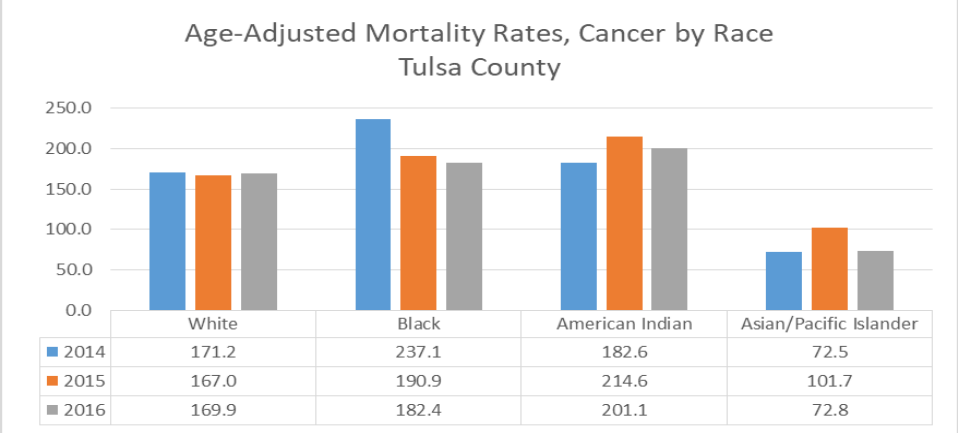
Mortality rates for cancer in Tulsa County showed steady increases as age increased. This pattern was extremely consistent across the time-period examined in this report.



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

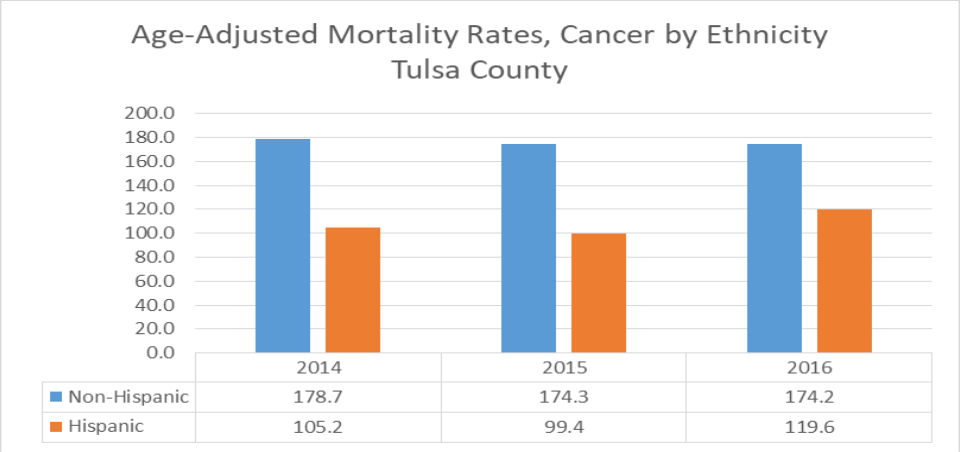
Cancer mortality rates in Tulsa County were higher for males than for females. While the rate for males exceeded the rate (both genders) for the U.S. and Oklahoma, the rate for females in Tulsa County were below the rates reported for the U.S. and Oklahoma.



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

In terms of cancer mortality across race, rates were lowest for Asian/Pacific Islander in Tulsa County across the time-period examined. The highest rate reported was for the black population in Tulsa County in 2014, at 237.1 deaths per 100,000 population. The rates for the white population in Tulsa County remained relatively stable over the time-period examined, while the rates for the American Indian population showed a slight upward trend for the time period from 182.6 deaths per 100,000 population in 2014 to 201.1 deaths per 100,000 population in 2016.

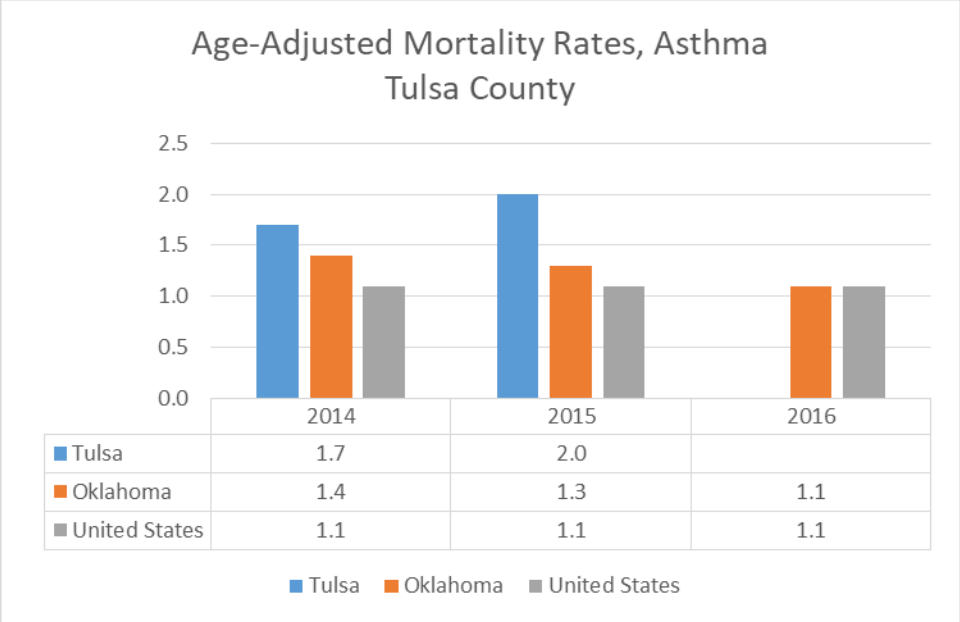


Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

The non-Hispanic population in Tulsa County consistently had higher mortality rates for cancer than did the Hispanic community over the time-period from 2014 to 2016.

Asthma mortality



Sources: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, Oklahoma Statistics on Health Available for Everyone

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20).

The graph above shows a rate of 2.0 for deaths from asthma in Tulsa County for the year 2015 which is much higher than the rate for both Oklahoma and the United States. However, for the year 2016 the data was not available because there were too few deaths from asthma for any further breakdown analyses to be made.

Lung disease mortality

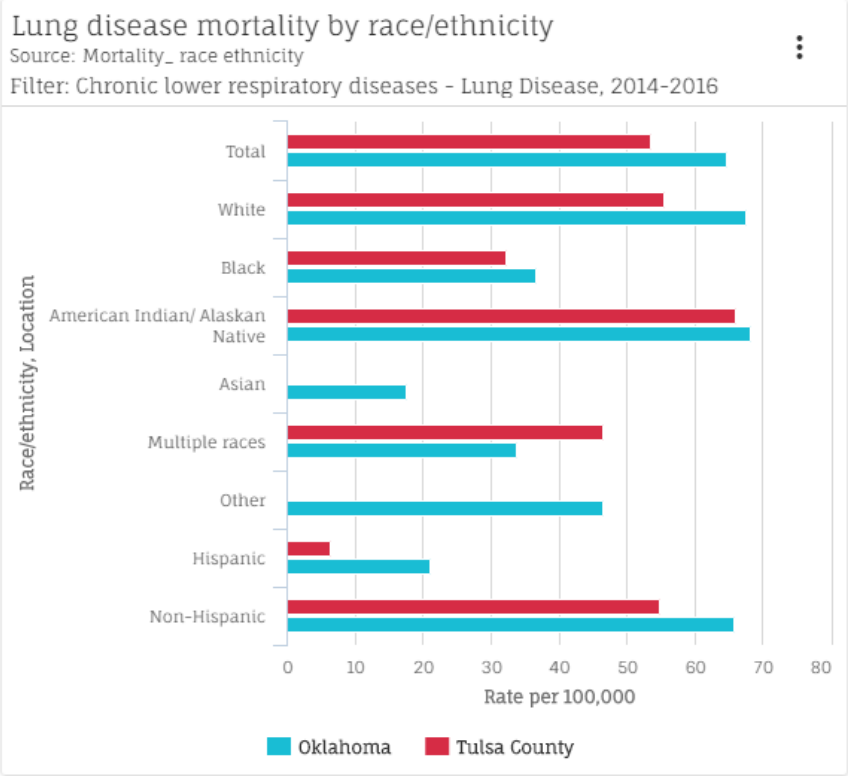
Lung disease includes chronic bronchitis and emphysema (collectively referred to as chronic obstructive pulmonary disease or COPD). The death rate from lung disease is presented as the number of deaths per 100,000 population over the years 2014-2016. The rates were age-adjusted to account for differences in age distribution among locations, ZIP codes and races/ethnicities.

Why is this indicator important?

Lung disease was the third leading cause of death in Tulsa County from 2014-2016. Tobacco smoke (including secondhand smoke) is a key factor for the development of COPD, although exposure to air pollutants, genetic factors and respiratory factors can also play a role. Currently, about 14.8 million adults in the U.S. have been diagnosed with COPD, and an additional 12 million people have not yet been diagnosed. This causes a significant burden on the healthcare system, including higher insurance rates and lost productivity.[22]

How are we doing?

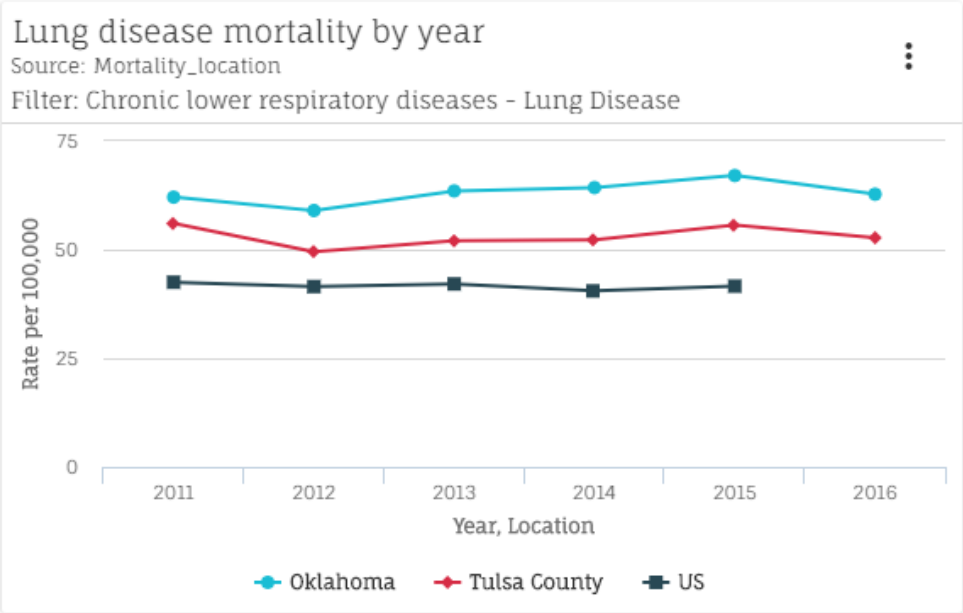
From 2014-2016, there were 1,044 deaths due to lung disease in Tulsa County, which was an age-adjusted rate of 55.5 deaths per 100,000 individuals.



Sources: Tulsa Health Department, LiveStories: Mortality, 2018, https://insight.livestories.com/s/v2/mortality/1d8ea5c0-6f23-41a4-8737-dc05d57976de/

The death rate due to lung disease was highest among American Indian/ Alaskan Natives (66.1). The lung disease death rate was more than eight times as high in non-Hispanics than Hispanics (6.4 compared to 54.8).

[22] Respiratory Diseases. Healthy People 2020. U.S. Department of Health and Human Services.



Source: Tulsa Health Department (THD), LiveStories: Mortality, 2018
https://insight.livestories.com/s/v2/mortality/1d8ea5c0-6f23-41a4-8737-dc05d57976de/

In 2016, the lung disease death rate was 52.7 deaths per 100,000 population in Tulsa County. This was lower than Oklahoma (62.8) but higher than the rate in the United States (41.6; most recent available data from 2015).

The ZIP codes with the highest overall lung disease death rates were 74047, 74073 and 74116.

Hospital utilization

This indicator is an estimate of the use of acute care hospitals by county residents during 2016. An acute care hospital is a short-term hospital (generally less than 30 days) where a patient is treated for a brief but severe episode of illness, for conditions that are the result of disease or trauma, and during recovery from surgery. It is presented as the number of hospital discharges per 1,000 population.

Why is this indicator important?

Hospital inpatient utilization data give an indication of the magnitude and types of illnesses experienced by a population. It also identifies trends in age, gender, and race/ethnicity distributions among those who are admitted to the hospital. These data can be used to gain the attention of policy makers, identify public health priorities, and focus public health programs. The data is also important for conducting epidemiological studies of diseases. [23]

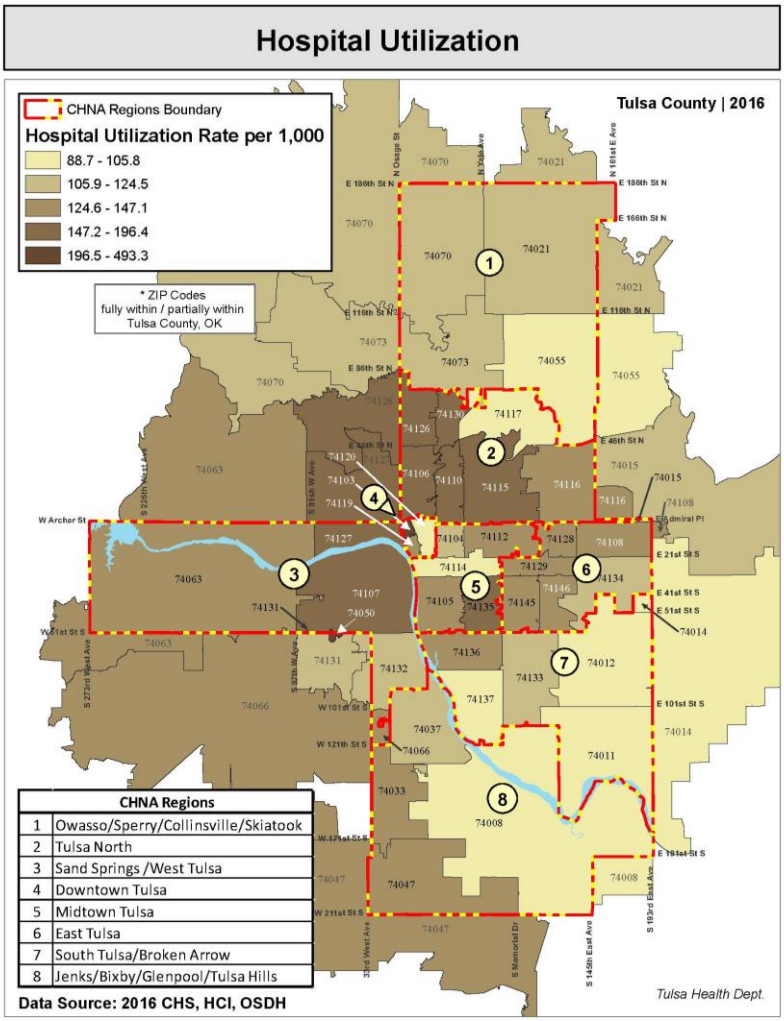
How are we doing?

The overall hospital utilization rate for Tulsa County in 2016 was 129.7 discharges per 1,000 population. This was slightly higher than the rate in Oklahoma, which was 117.8 discharges per 1,000 population. By race, whites made up the majority of discharges (70.2 percent), followed by blacks (14.2 percent). The largest percentage of hospital stays were paid for by Medicare (38.2 percent) followed by private insurance (27.4 percent) and Medicaid (23.7 percent).

Conditions related to diseases of the circulatory system made up 14.4 percent of all hospital stays in 2016. This includes heart diseases such as congestive heart failure, heart attack, coronary artery disease, and irregular

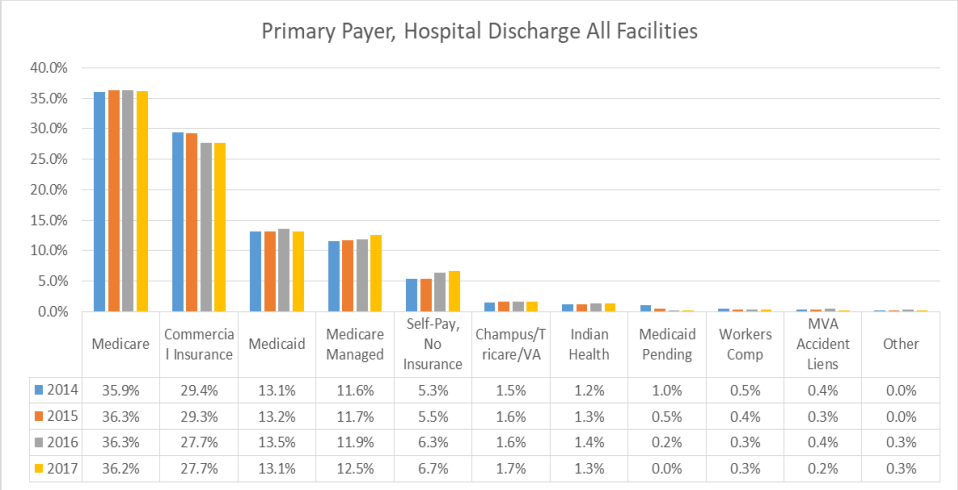
[23] Hospital Discharge Data. New York State Department of Health.

heartbeat. The second most common reason was complications of pregnancy, childbirth, and puerperium (12.1 percent). The puerperium refers to the six weeks following childbirth.



In Tulsa County, hospital utilization rates were high in ZIP codes 74126, 74130, 74106, 74110, 74115,74103, 74127, 74050, 74107 and 74135 which includes many areas in Tulsa North, downtown Tulsa, West Tulsa, and a portion of midtown Tulsa.

Please note that the majority of West Tulsa ZIP codes 74131 and 74050 are in Creek County and will be reflected in greater detail in the Creek County analysis.

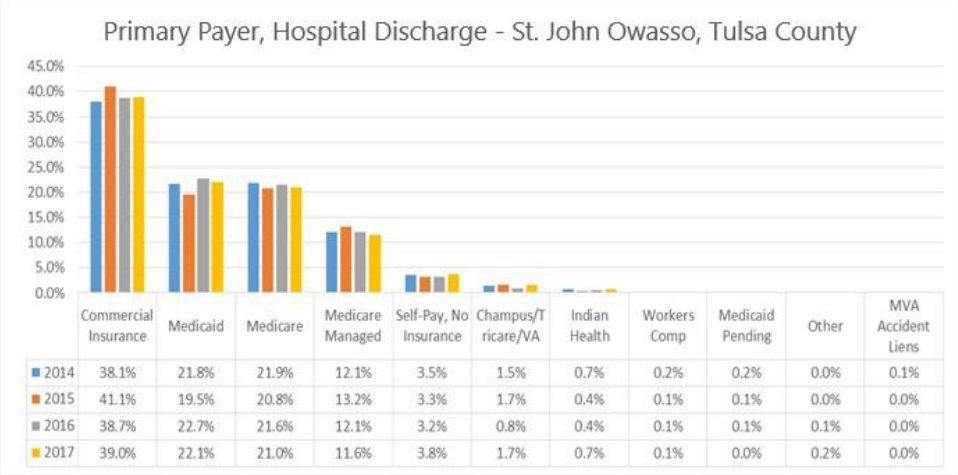


	Medicare	Commercial Insurance	Medicaid	Medicare Managed	Self-Pay, No Insurance	Champus/Tricare/VA	Indian Health	Medicaid Pending	Workers Comp	MVA Accident Liens	Other
2014	35.9%	29.4%	13.1%	11.6%	5.3%	1.5%	1.2%	1.0%	0.5%	0.4%	0.0%
2015	36.3%	29.3%	13.2%	11.7%	5.5%	1.6%	1.3%	0.5%	0.4%	0.3%	0.0%
2016	36.3%	27.7%	13.5%	11.9%	6.3%	1.6%	1.4%	0.2%	0.3%	0.4%	0.3%
2017	36.2%	27.7%	13.1%	12.5%	6.7%	1.7%	1.3%	0.0%	0.3%	0.2%	0.3%

Source: St. John's Information System, 2014 to 2017

The primary sources of payment for all of St. John's facilities from 2014 to 2017 in the region were Medicare, Commercial or Private Insurance, Medicaid and Medicare Managed.

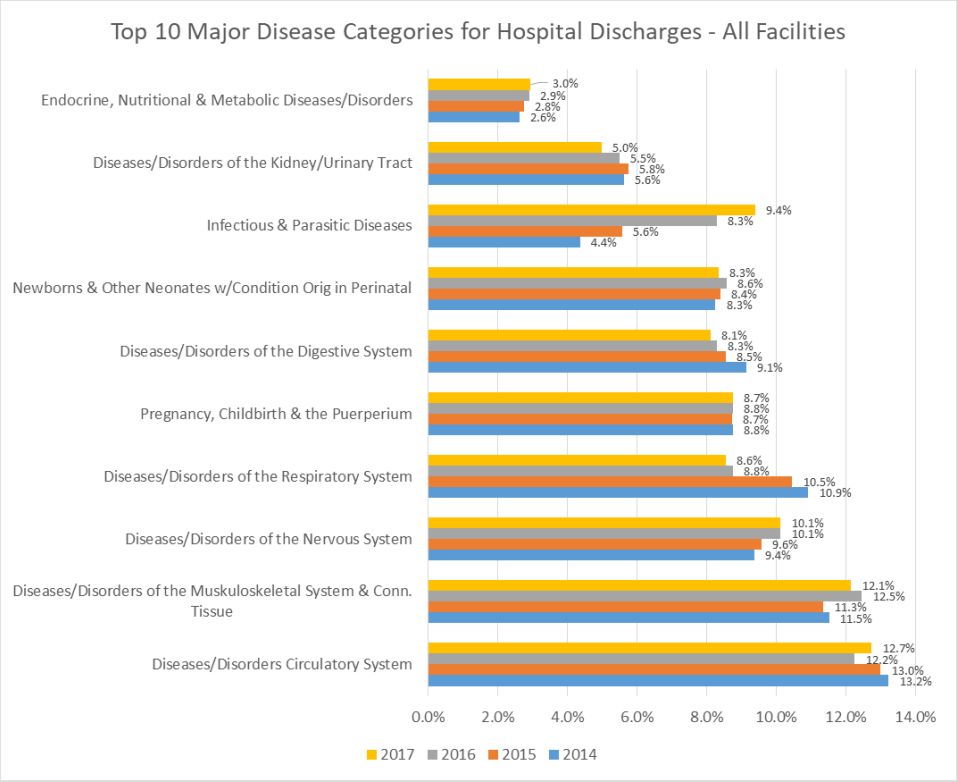
The following table breaks down the primary payer at hospital discharge for St. John Owasso in Tulsa County.



	Commercial Insurance	Medicaid	Medicare	Medicare Managed	Self-Pay, No Insurance	Champus/Tricare/VA	Indian Health	Workers Comp	Medicaid Pending	Other	MVA Accident Liens
2014	38.1%	21.8%	21.9%	12.1%	3.5%	1.5%	0.7%	0.2%	0.2%	0.0%	0.1%
2015	41.1%	19.5%	20.8%	13.2%	3.3%	1.7%	0.4%	0.1%	0.1%	0.0%	0.0%
2016	38.7%	22.7%	21.6%	12.1%	3.2%	0.8%	0.4%	0.1%	0.1%	0.1%	0.0%
2017	39.0%	22.1%	21.0%	11.6%	3.8%	1.7%	0.7%	0.1%	0.0%	0.2%	0.0%

Source: St. John's Information System, 2014 to 2017

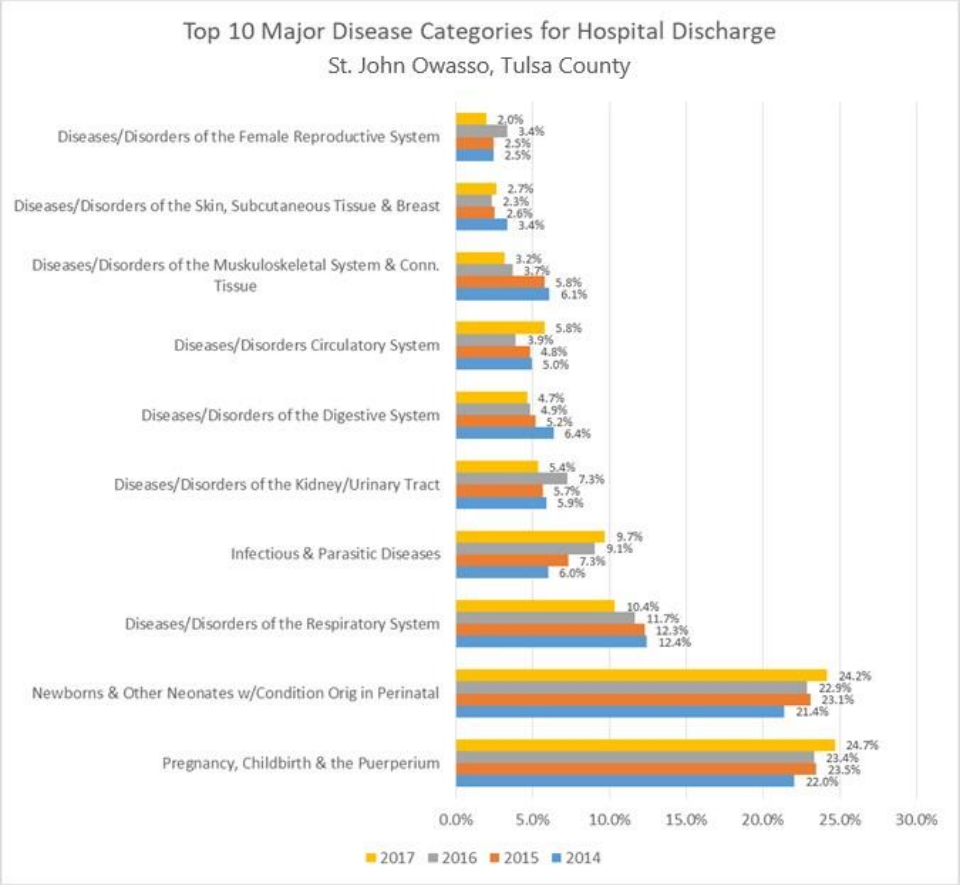
Between 2014 and 2017, the primary payment sources at hospital discharge for St. John Owasso included the same top primary payers in the top 4 or 5, Medicaid, Commercial or Private Insurance, Medicaid and Medicare Managed, although the facility also had some Self-Pay, No Insurance. Medicare was the number one payer at hospital discharge.



Source: St. John's Information System, 2014 to 2017

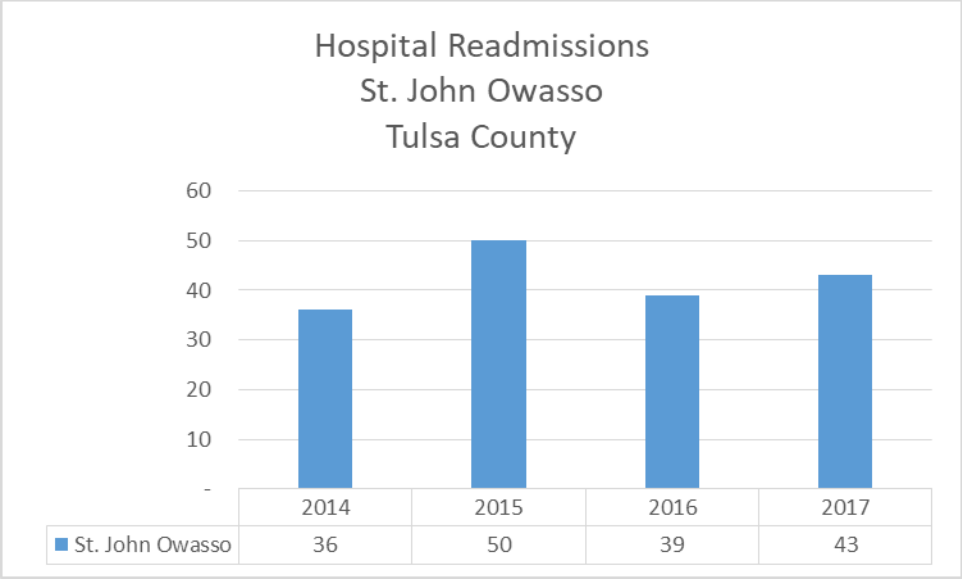
The above graph shows the top 10 major disease categories for hospital discharges for all of Ascension St. John's facilities in the region from 2014 to 2017. Diseases/Disorders of the circulatory system were the number one disease category for the time-period examined in this assessment, followed very closely by diseases/disorders of the musculoskeletal system and connective tissue.

Disease categories that showed increases from 2014 to 2017 were diseases/disorders of the musculoskeletal system and connective tissue (from 11.5% to 12.1%), diseases/disorders of the nervous system (9.4% to 10.1%), endocrine, nutritional and metabolic diseases/disorders (from 2.6% to 3%) and, showing very large increases each year since 2014, infectious and parasitic diseases (from 4.4% to 9.4%). Diseases that showed overall decreases from 2014 to 2017 were diseases/disorders of the circulatory system (13.2% to 12.7%), diseases/disorders of the respiratory system (from 10.9% to 8.6%), and diseases/disorders of the kidney/urinary tract (from 5.6% to 5%).



Source: St. John's Information System, 2014 to 2017

At St. John Owasso in Tulsa County, two major disease categories were tied for number one: diseases related to pregnancy, childbirth and the puerperium and conditions related to newborns and other neonates with a condition originating in the perinatal period. Both of these categories showed increases from 2014 to 2017 (22% to 24.7% and 21.4% to 24.2% respectively). Again, at this facility, there was a sharp increase in infectious and parasitic diseases (from 6% to 9.7%) from 2014 to 2017. Diseases/disorders of the respiratory system and diseases/disorders of the digestive system showed decreases from 2014 to 2017 (12.4% to 10.4% and 6.4% to 4.7% respectively). The rest of the major disease categories at this facility remained relatively stable over the time period examined in this assessment.



Source: St. John's Information System, 2014 to 2017

The graph above shows the number of hospital readmissions for St. John Owasso in Tulsa County from 2014-2017.

Mental health and substance abuse

Mentally unhealthy days in the past month

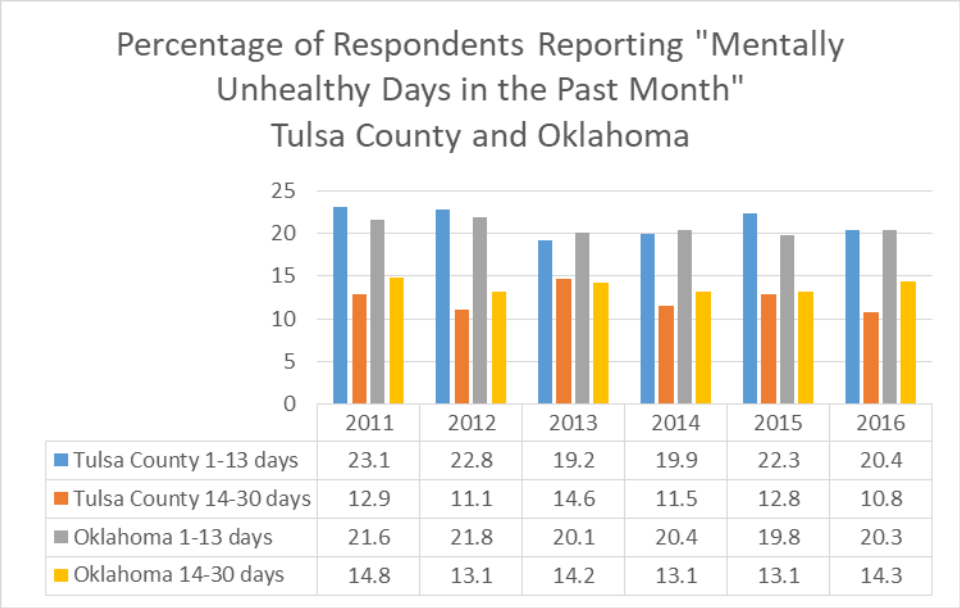
This indicator represents the average number of mentally unhealthy days reported in past 30 days (age-adjusted). This measure is based on survey responses to the question: "Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?" The value is the average number of days a county's adult respondents report that their mental health was not good. The measure is based on 2011-2016 BRFSS data and is age-adjusted to the 2000 U.S. population.[24]

Why is this indicator important?

Overall health depends on both physical and mental well-being. Measuring the number of days when people report that their mental health was not good, i.e., poor mental health days, represents an important facet of health-related quality of life.

How are we doing?

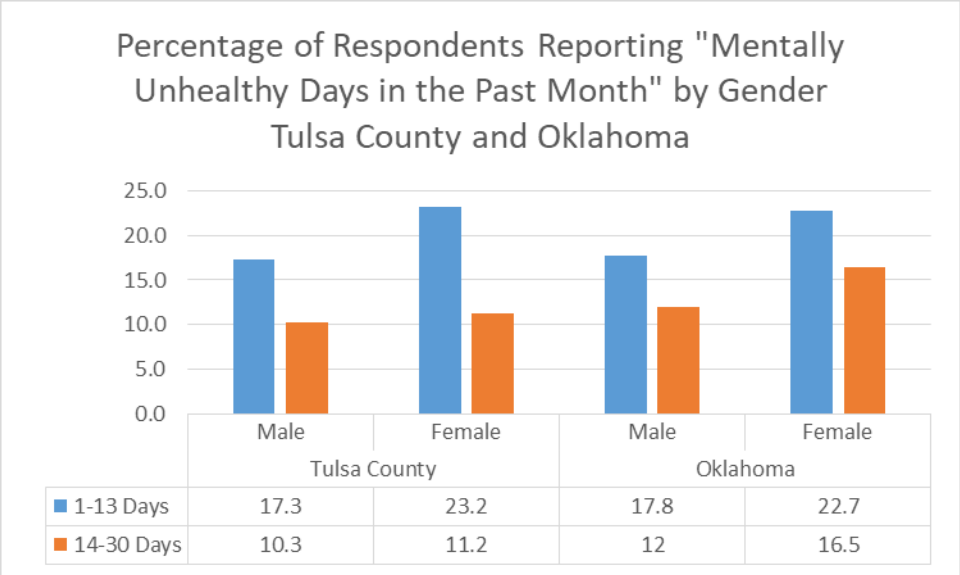
[24] Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2011 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).



	2011	2012	2013	2014	2015	2016
Tulsa County 1-13 days	23.1	22.8	19.2	19.9	22.3	20.4
Tulsa County 14-30 days	12.9	11.1	14.6	11.5	12.8	10.8
Oklahoma 1-13 days	21.6	21.8	20.1	20.4	19.8	20.3
Oklahoma 14-30 days	14.8	13.1	14.2	13.1	13.1	14.3

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2011 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

When looking at self-reported "mentally unhealthy days," both regions showed the highest percentages of people who reported mentally unhealthy days in the past 1-13 days, rather than the past 14-30 days. These percentages for both regions remained consistently around 20%.



	Male	Female	Male	Female
	Tulsa County		Oklahoma	
1-13 Days	17.3	23.2	17.8	22.7
14-30 Days	10.3	11.2	12	16.5

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2011 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Both males and females had higher percentages reporting having mentally unhealthy days in the past 1-13 days than in the past 14 to 30 days, with females consistently reporting higher percentages than males.

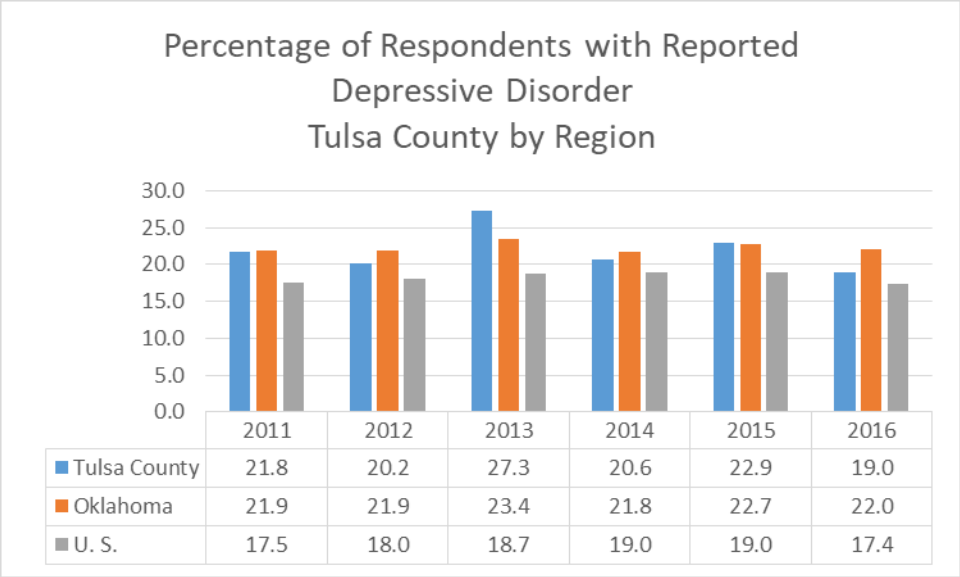
Depression

This indicator is presented as the percentage of adults who reported that they had ever been diagnosed with a depressive disorder, based on 2015 BRFSS data.

How are we doing?

In 2016, 19.0 Tulsa County adults reported that they had been diagnosed with a depressive disorder. This was lower compared to Oklahoma (22 percent), but higher than the US (17.4 percent).

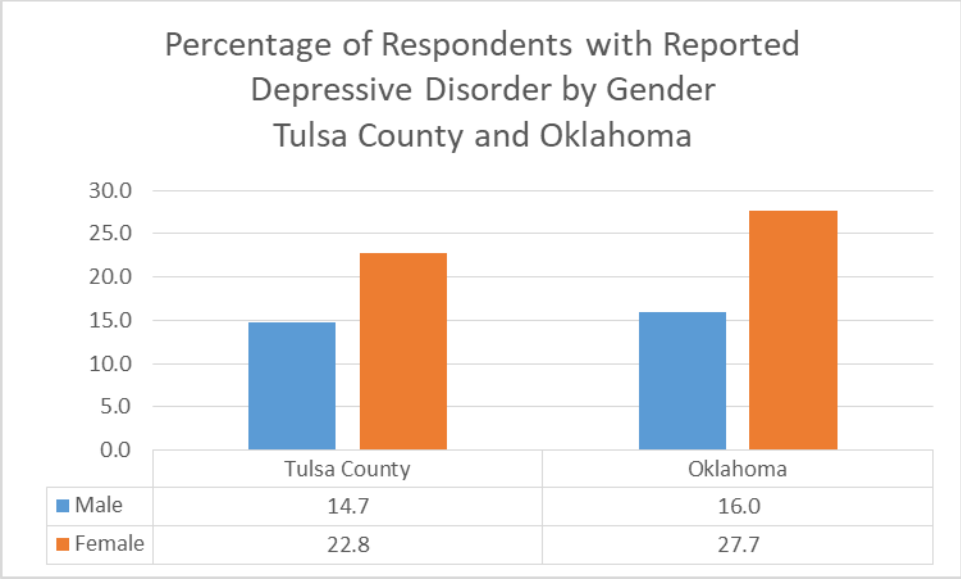
Depressive disorder diagnosis decreased as income increased until 'over $75,000.' Adults with an income of less than $15,000 had the highest prevalence of depressive disorder. Adults with less than a high school education had a higher prevalence of depressive disorder.



	2011	2012	2013	2014	2015	2016
Tulsa County	21.8	20.2	27.3	20.6	22.9	19.0
Oklahoma	21.9	21.9	23.4	21.8	22.7	22.0
U. S.	17.5	18.0	18.7	19.0	19.0	17.4

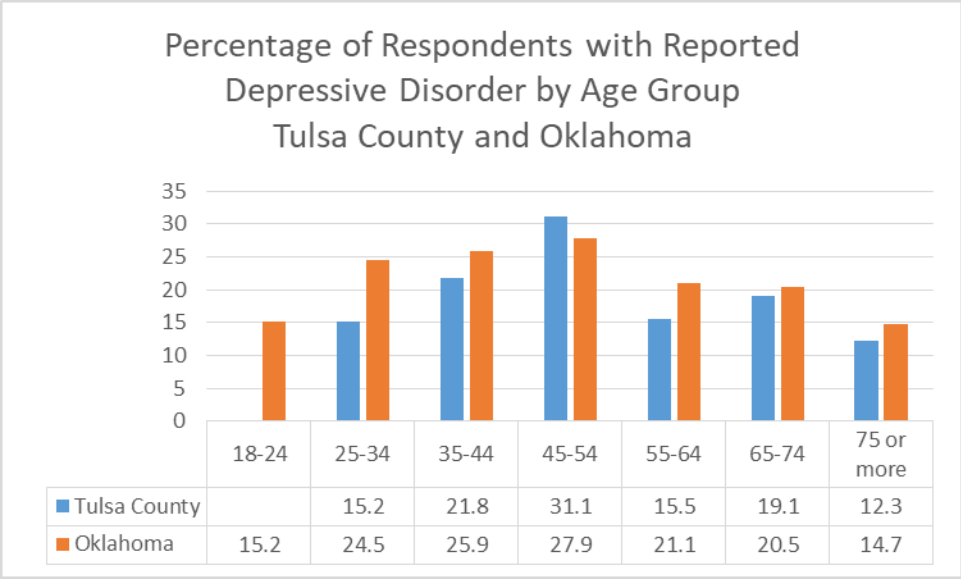
Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2011 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE

For those reporting having a depressive disorder, percentages remained relatively stable for Tulsa County, except in 2013, where Tulsa County had 27.3% of respondents reporting having a depressive disorder.



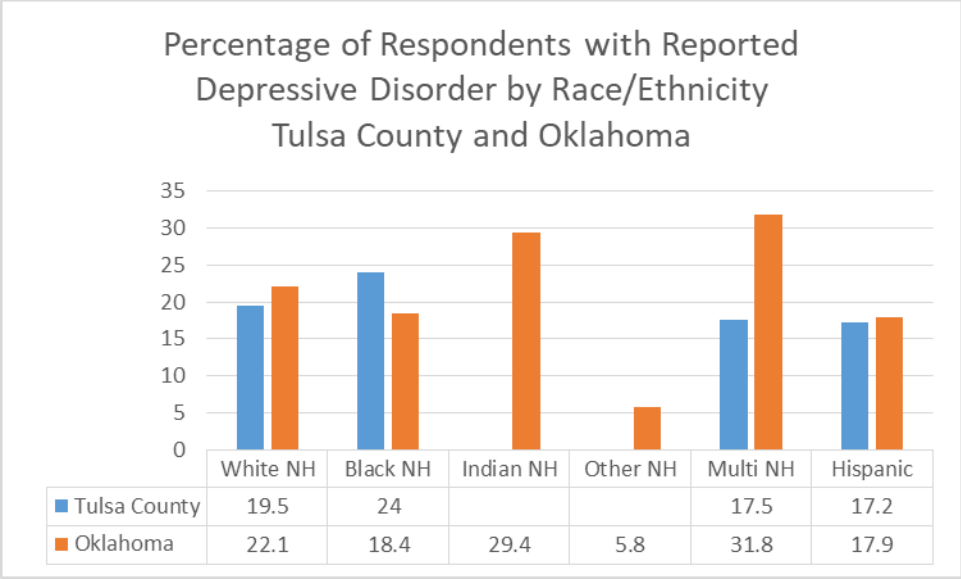
Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2011 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE

For both Tulsa County and Oklahoma, females had higher percentages of those reporting having a depressive disorder, with percentages close to two times those reported by males.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2011 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

In Tulsa County, the age group with the highest percentage of those reported to have a depressive disorder was ages 45 to 54 (26.4%).



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2011 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

For both areas, those in the white, non-Hispanic population reported significantly higher percentages of those with depressive disorders than any other racial or ethnic group.

Mental health and substance abuse visits

This indicator is presented as the number of individuals who received outpatient mental health services and substance abuse services funded by Medicaid or Oklahoma Department of Mental Health and Substance Abuse Services per 1,000 population. Demographic data is presented for unique clients only. It is important to note that this indicator does not include any mental health and substance abuse visits that were paid for through private insurance, self-pay, Veteran's Affairs, tribal healthcare, etc. Outpatient substance abuse services does not include social support groups such as Alcoholics Anonymous or Narcotics Anonymous, or inpatient rehab services.

Why is this indicator important?

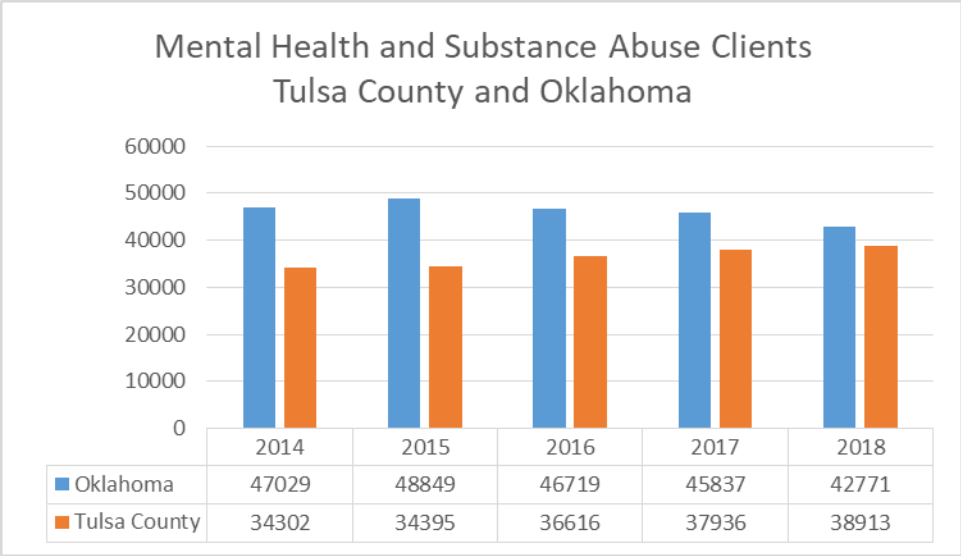
Mental health is a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with challenges. It is essential to personal well-being, family and interpersonal relationships and the ability to contribute to community or society. Mental health disorders are the leading cause of disability in the United States and Canada, accounting for 25 percent of all years of life lost to disability and premature mortality. Mental health and physical health are closely connected. Mental health plays a major role in people's ability to maintain good physical health. Mental illnesses, such as depression and anxiety, affect people's ability to participate in health-promoting behaviors. In turn, problems with physical health, such as chronic diseases, can have a serious impact on mental health and decrease a person's ability to participate in treatment and recovery.[25]

In 2012, an estimated 23.1 million Americans age 12 and older needed treatment for substance abuse. Substance abuse generally refers to alcohol and both prescription and illegal drug abuse. Disorders related to substance abuse cause some of the highest rates of disability and disease burden in the U.S. This can result in high costs to families, employers, and publicly funded health care systems. Additionally, chronic diseases such as diabetes and heart disease

[25] Mental Health and Mental Disorders. Healthy People 2020. US Department of Health and Human Services.

can be caused by drug and alcohol use. Addressing the impact of substance use alone is estimated to cost Americans more than $600 billion each year.[26]

How are we doing?



From ODMHSAS Online Query System.

The graph above shows the raw numbers of mental health and substance abuse clients for Tulsa County and for the state of Oklahoma overall.

In 2016, there were a total of 14,077 unduplicated individuals who received outpatient mental health services in Tulsa County, which was a rate of 22.4 mental health visits per 1,000 population. When taking multiple visits into account (duplicate clients), there was a rate of 1,617.6 visits per 1,000 population.

From 2016, there were a total of 2,480 unduplicated individuals who received outpatient substance abuse services in Tulsa County, which is a rate of 3.9 substance abuse visits per 1,000 population. When taking multiple visits into account (duplicate clients), there was a rate of 225.3 visits per 1,000 population.

Children age 5 – 9 made up almost one-quarter of mental health visits. With regard to race, about two-thirds of mental health visits were white individuals (66 percent). Non-Hispanics accounted for 86.1 percent of visits. Adults ages 35 – 44 made up the largest percentage of substance abuse visits (21.4 percent). Two-thirds of mental health visits were white individuals (67.1 percent). Non-Hispanics accounted for 92.9 percent of visits.

The ZIP code with the highest number of mental health and substance abuse visits was 74103. It is important to note that these rates include duplicate clients.

Suicide mortality

The mortality rate from suicide is presented as the number of deaths from suicide per 100,000 population, over the years 2014-2016. The rates were age-adjusted to account for differences in age distribution among locations, ZIP codes and races/ethnicities.

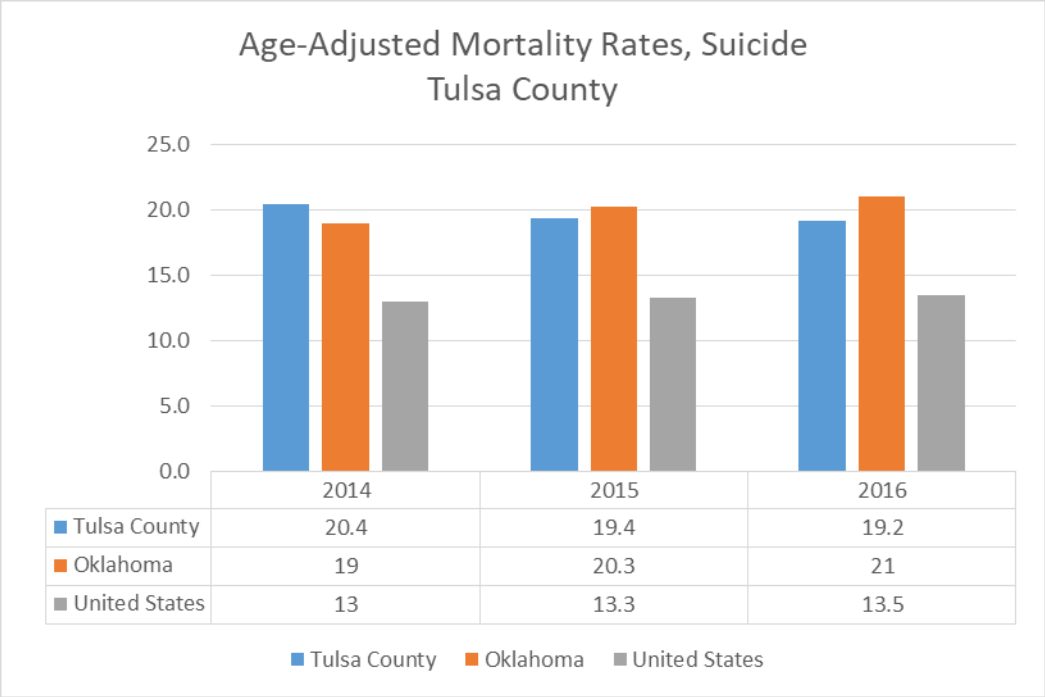
Why is this indicator important?

[26] Prevention of Substance Abuse and Mental Illness. Substance Abuse and Mental Health Services Administration.

Suicide was the eighth leading cause of death in Tulsa County from 2014-2016. Although the causes of suicide are complex and determined by multiple factors, the goal of suicide prevention is to reduce risk factors and increase factors that promote resilience (protective factors). Risk factors include family history of suicide or child maltreatment, previous suicide attempts, history of mental disorders and substance abuse and barriers to mental health treatment. Protective factors include effective clinic care for mental, physical, and substance abuse disorders, family and community support and easy access to a variety of clinical interventions and support for help seeking. Prevention aims to address all levels of influence (individual, relationship, community and societal).[27]

How are we doing?

From 2014-2016, there were 372 suicide deaths in Tulsa County, which was an age-adjusted death rate of 20.1 deaths per 100,000 individuals.

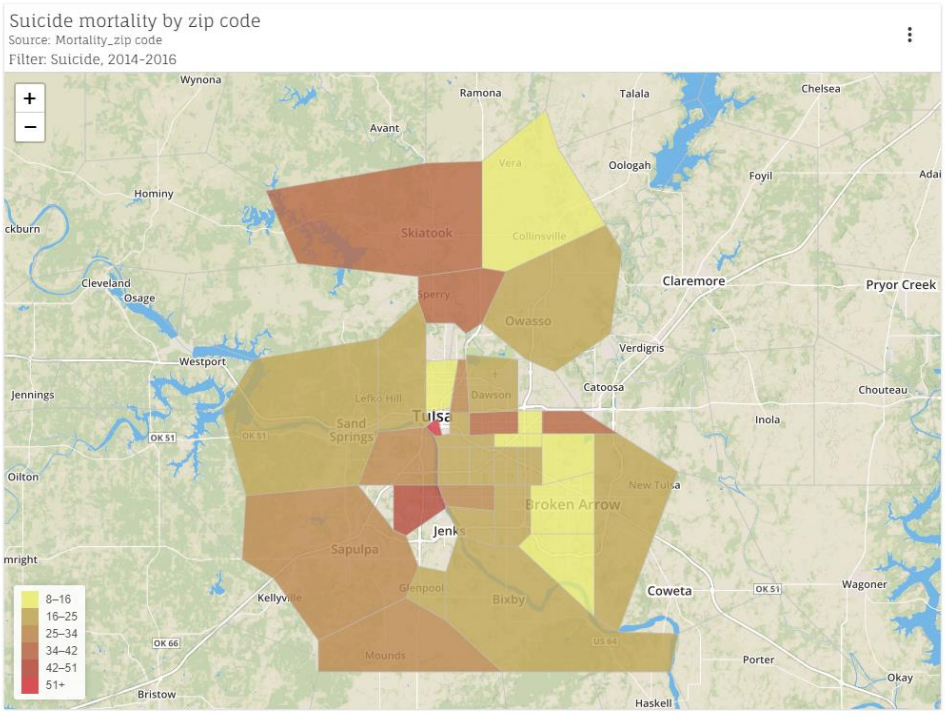


Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

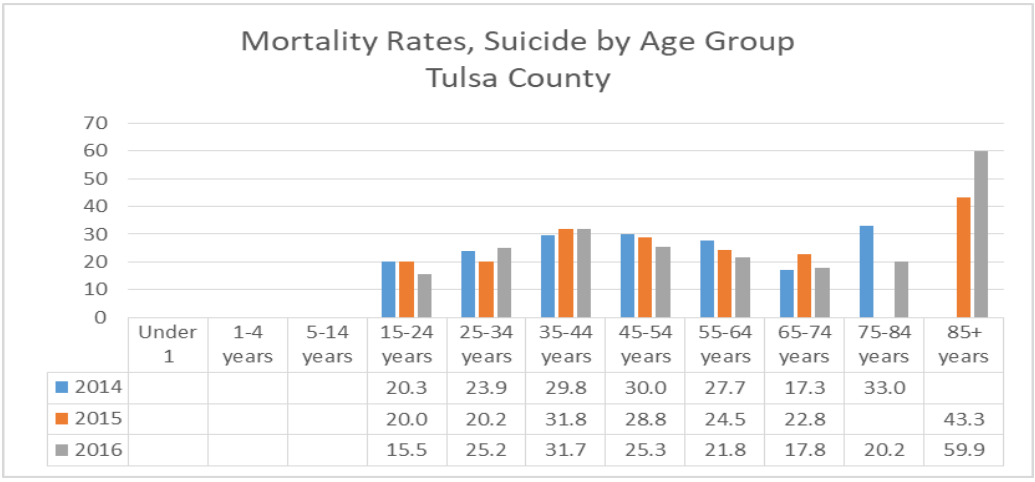
In 2016, Tulsa County had a suicide death rate of 19.2, which was lower than that of Oklahoma (21) but higher than the United States (13.5). The suicide mortality rate has fluctuated over time, but it has been decreasing in Tulsa County since 2014. Additionally, the rates in Oklahoma and Tulsa County have consistently been higher than the rate in the U.S. since 2011. None of these regions met the Healthy People 2020 goal of 10.2 deaths from suicide per 100,000 population.

[27] Injury Prevention and Control: Suicide: Risk and Protective Factors. Centers for Disease Control and Prevention.



Tulsa Health Department (THD), LiveStories: Mental Health and Substance Abuse, 2018 https://insight.livestories.com/s/v2/mental-health-and-substance-abuse/eb2c043c-0502-4e89-8880-91a99c3b8357/

The ZIP code with the highest overall suicide death rate was 74119.

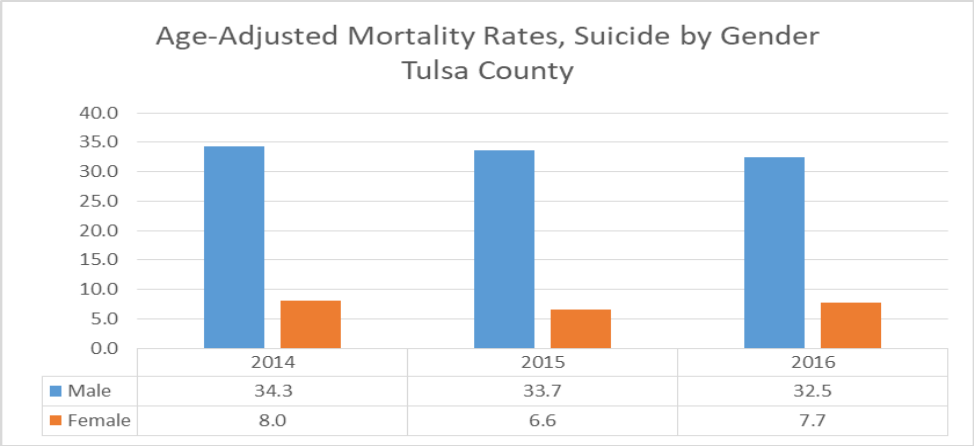


	Under 1	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85+ years
2014				20.3	23.9	29.8	30.0	27.7	17.3	33.0	
2015				20.0	20.2	31.8	28.8	24.5	22.8		43.3
2016				15.5	25.2	31.7	25.3	21.8	17.8	20.2	59.9

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

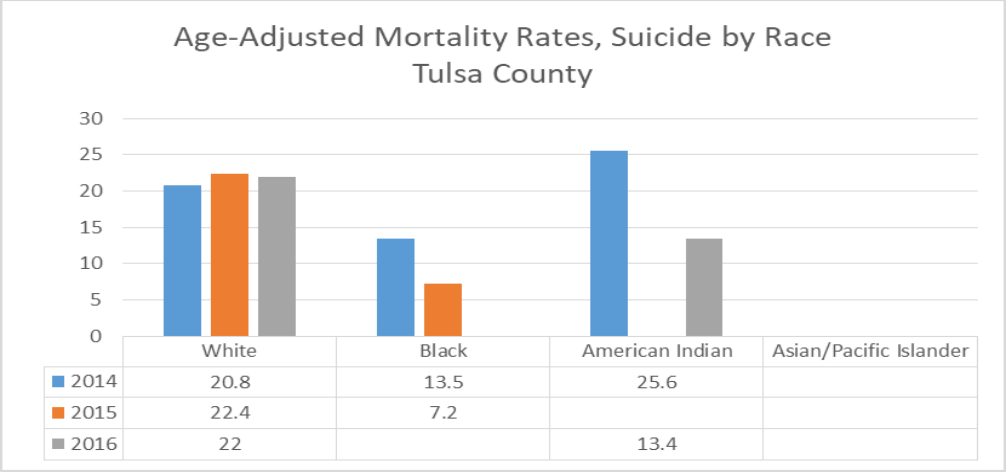
Interestingly, the highest mortality rates for suicide in Tulsa County were in the age groups 75-84 (33.0 deaths per 100,000 population in 2014) and 85 and older (43.3 deaths per 100,000 population in 2015 and 59.9 deaths per 100,000 population in 2016.) Outside of these two age groups, the next highest mortality rates from suicide in Tulsa County from 2014 to 2016 were in the 35-44 age group.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

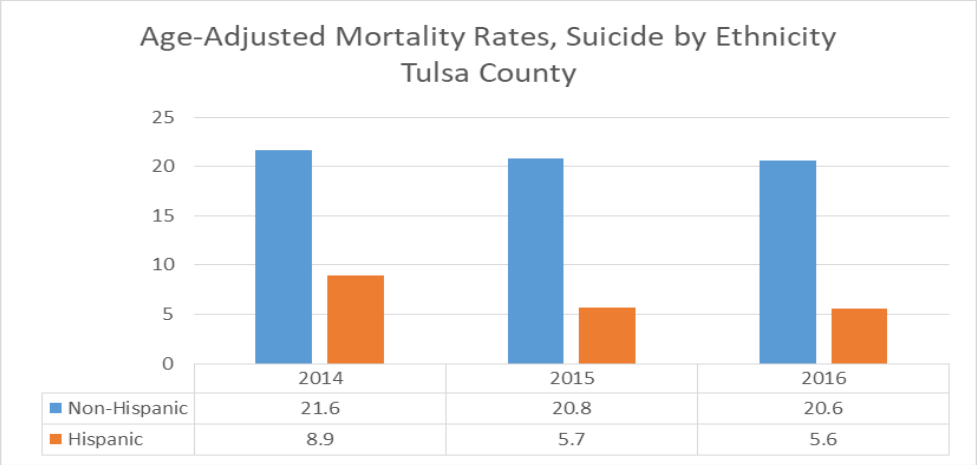
Males overwhelmingly committed suicide at higher rates than females in Tulsa County over the time-period examined in this assessment. Rates for suicide in males are as much as 5 times the rates for females in Tulsa County.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

Suicide rates by race in Tulsa County show that for the white population they seem to be relatively stable from 2014 to 2016. Suicide rates for the black and American Indian communities in Tulsa County show a slight decrease from 2014 to 2016.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). Age-adjusted rates based on 2000 US population standard. All rates are deaths per 100,000 population.

The suicide rate was more than three times higher in non-Hispanics compared to Hispanics.

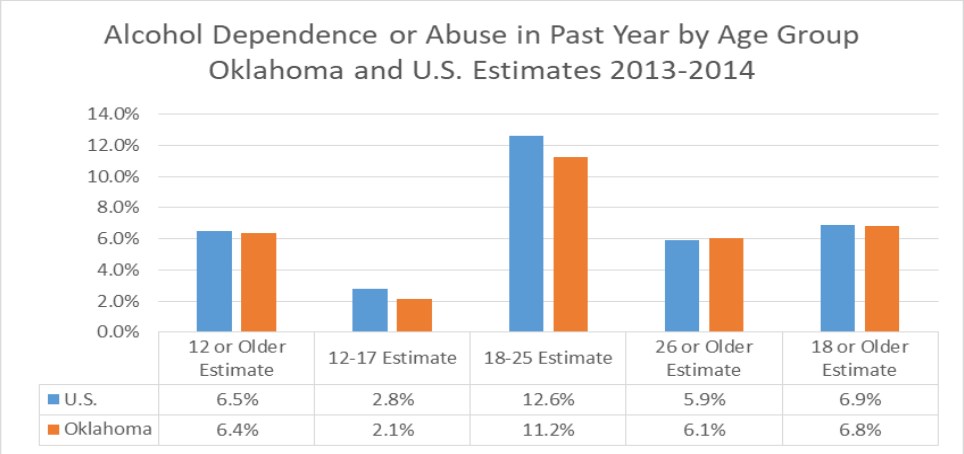
Alcohol dependency

This indicator represents the percentage of teens (12-17) and adults (18+) reporting alcohol dependence in the past year. Dependence is based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).23 The values were reported are from the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2013 and 2014.

Why is this indicator important?

When consumed in excess, alcohol is harmful to the health and well-being of those that drink as well as their families, friends, and communities.

How are we doing?



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014.

The graph above shows the latest available data on alcohol dependence or abuse in the past year for Oklahoma and the U.S. overall for 2013-2014. In all age categories except the 26 and older category, Oklahoma has lower percentages than the U.S. overall. The highest percentages for both the U.S. and Oklahoma are in the 18-25 age range.

Illicit drug dependency

This indicator represents the percentage of teens (12-17) and adults (18+) reporting illicit drug dependence or abuse in the past year. Dependence and abuse are based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).23 The values were reported are from the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2013 and 2014.

Why is this indicator important?

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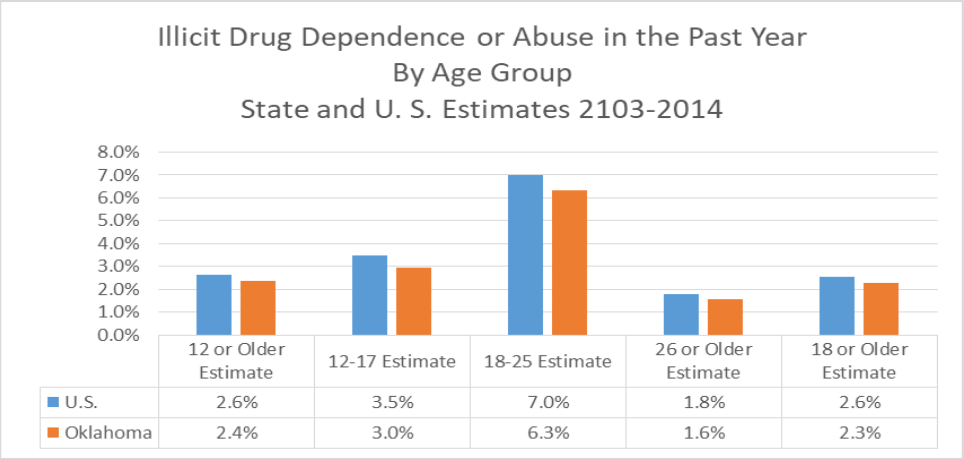
How are we doing?



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014.

Percentages of illicit drug dependence in both Oklahoma and the U.S. overall are dramatically higher in the 18-25-year-old age group than in any other age group. This indicator was not available at the county or region level.

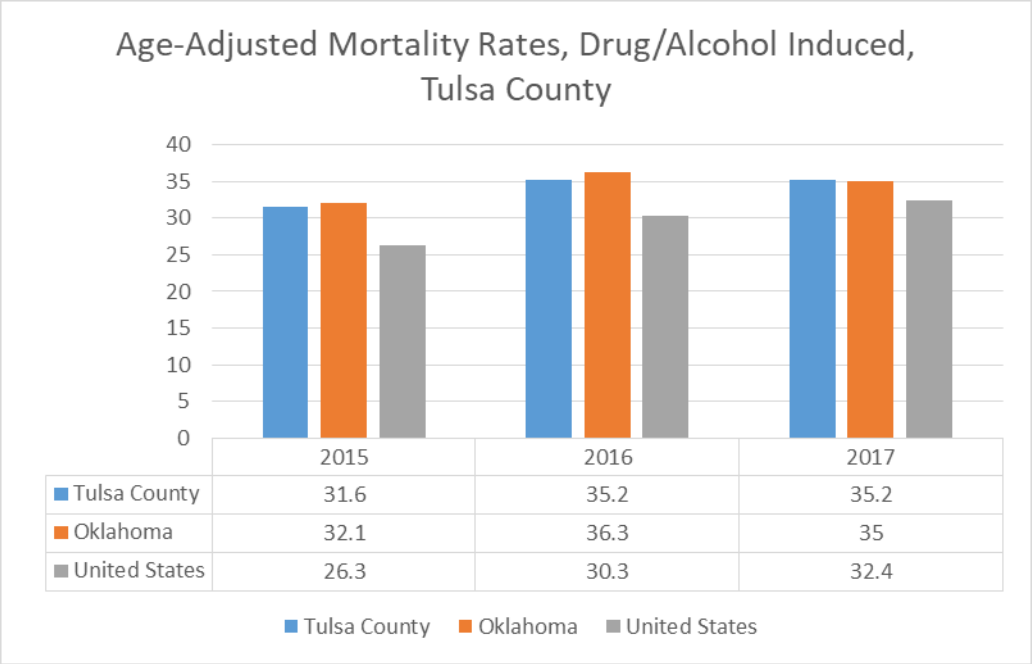
Drug- and alcohol-induced mortality rates

Over 70,000 (70,237) drug overdose deaths occurred in the United States in 2017. The age-adjusted rate of overdose deaths increased significantly by 9.6% from 2016 (19.8 per 100,000) to 2017 (21.7 per 100,000). Opioids—mainly synthetic opioids (other than methadone)—are currently the main driver of drug overdose deaths. Opioids were involved in 47,600 overdose deaths in 2017 (67.8% of all drug overdose deaths).[28]

[28] CDC/NCHS, National Vital Statistics System, Mortality

As heroin use has increased, so have heroin-related overdose deaths. During 2017, over 15,000 people died from drug overdoses involving heroin in the United States, a rate of almost 5 deaths for every 100,000 Americans.[29] Heroin-related overdose deaths increased five-fold from 2010 to 2017.[30] From 2016-2017, heroin overdose death rates remained stable.[16] In 2017, males aged 25-44 had the highest heroin death rate at 14.8 per 100,000, which was a decrease of -4.5% from 2016.

Heroin overdoses alone - in Oklahoma, 2016 there were 53 heroin overdoses alone for rate of 1.4. In 2017 there were 61 heroin overdoses for a rate of 1.6.[31]



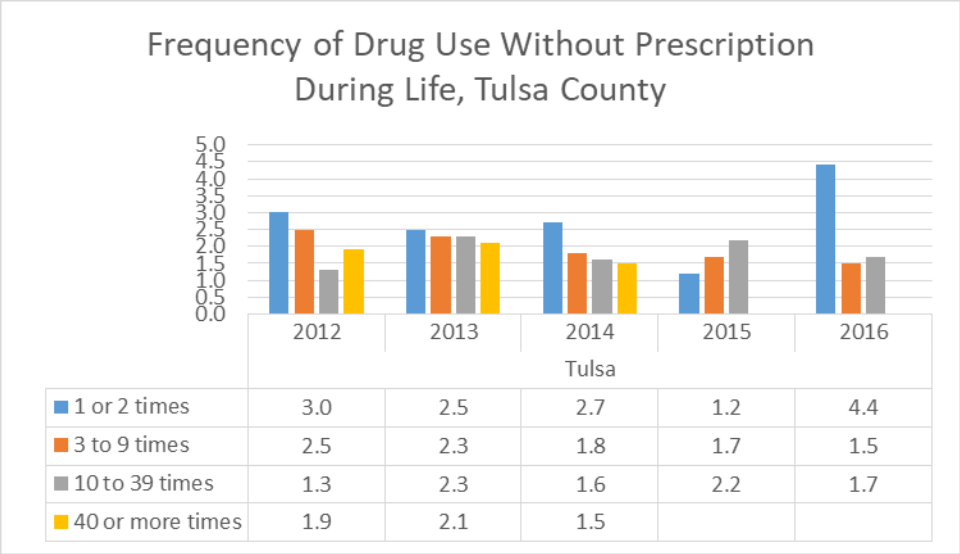
Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2017 on CDC WONDER Online Database, released December 2018. Data are from the Multiple Cause of Death Files, 1999-2017, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Rate Per 100,000

The graph above shows age-adjusted mortality rates for drug/alcohol related deaths. Looking at 2015 – 2017, Tulsa County was almost equal to the rate for the state of Oklahoma and consistently higher than the rate for the United States.

[29] Scholl L, Seth P, Kariisa M, Wilson N, Baldwin G. Drug and Opioid-Involved Overdose Deaths – United States, 2013-2017(https://www.cdc.gov/mmwr/volumes/67/wr/mm675152e1.htm?s_cid=mm675152e1_w). Morb Mortal Wkly Rep. ePub: 21 December 2018.

[30] Hedegaard H, Miniño AM, Warner M. Drug overdose deaths in the United States, 1999–2017. NCHS Data Brief, no 329. Hyattsville, MD: National Center for Health Statistics. 2018.

[31] SAMHSA, Center for Behavioral Health Statistics and Quality, https://www.samhsa.gov/data/



	2012	2013	2014	2015	2016
	Tulsa				
1 or 2 times	3.0	2.5	2.7	1.2	4.4
3 to 9 times	2.5	2.3	1.8	1.7	1.5
10 to 39 times	1.3	2.3	1.6	2.2	1.7
40 or more times	1.9	2.1	1.5		

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2011 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50

The graph above shows the frequency of prescription drug use without a prescription by region for the time-period 2011 to 2016. By far the highest percentage was in Tulsa County in 2016 for people who used prescription drugs without a prescription 1 to 2 times in their lives.

*There were too few cases to break down by age, sex, race/ethnicity and socioeconomic status for both prescription use without prescription in life and in past 30 days. There were only cases in past 30 days for 2013, and no other breakdowns were possible due to suppressed data.

Maternal and child health

Infant mortality

Infant mortality is defined as the death of a child in the first year of life. The infant mortality rate is presented as the number of infant deaths per 1,000 live births, over the years 2014-2016.

Why is this indicator important?

Infant mortality is often used as an indicator to measure the health and well-being of a community because factors affecting the health of an entire population can also influence the mortality rate of infants. There are obvious disparities in infant mortality by age, race, and ethnicity of the mother. Some of the causes of infant mortality are serious birth defects, premature birth, SIDS, maternal complications of pregnancy, and injuries such as suffocation. Many of these factors can be influenced by good preconception and prenatal care for mothers.[32]

How are we doing?

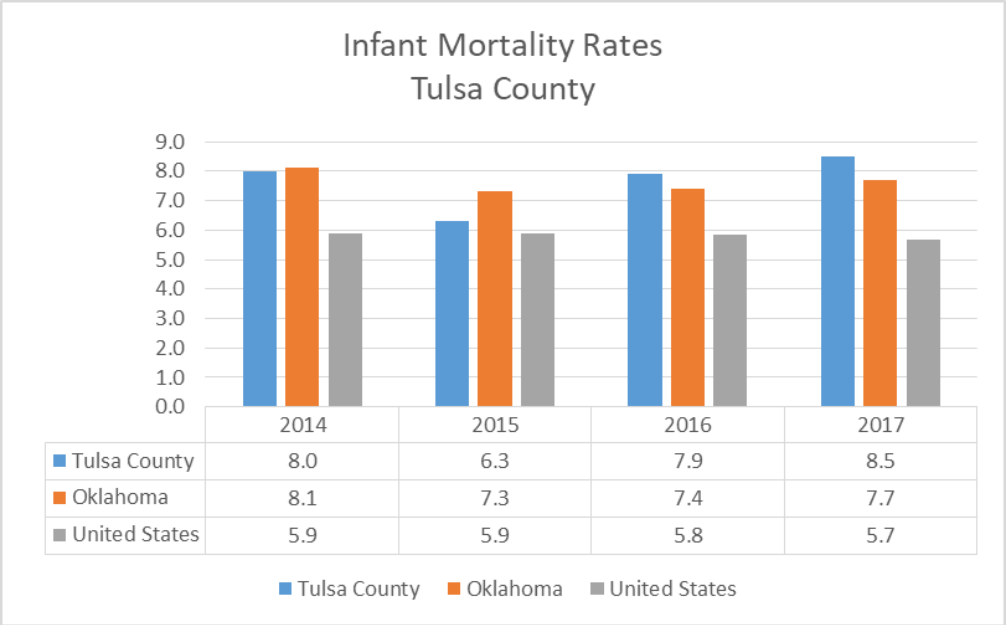
Between 2014 and 2016, 212 Tulsa County infants died before the age of one, which was a rate of 7.7 deaths per 1,000 live births.

The infant mortality rate in Tulsa County in 2016 was 7.9 deaths per 1,000 live births. This was higher than Oklahoma (7.4) and the US (5.9; 2015 latest data available). The US overall was the only region to meet the Healthy People 2020 target for infant mortality of 6.0 deaths per 1,000 live births.

[32] Reproductive Health: Infant Mortality. Centers for Disease Control and Prevention.

The ZIP codes with the highest rates of infant mortality were 74106 and 74126.

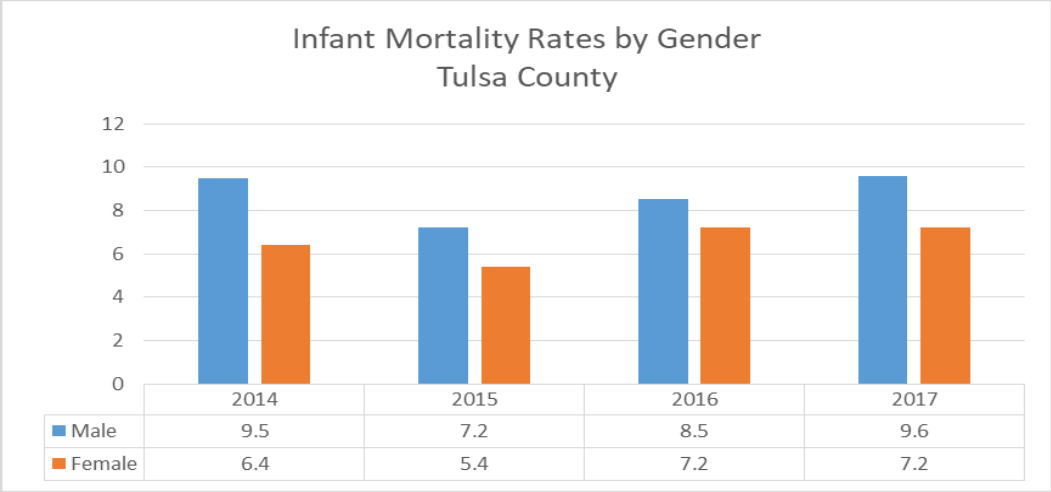
Low birth weight is defined as infants who weigh less than 2,500 grams (5 pounds, 8 ounces) at birth. Very low birth weight is defined as infants who weigh less than 1,500 grams (3 pounds, 4 ounces). This indicator is expressed as a percentage of all births to Tulsa County mothers, over the years 2015 – 2017.



	2014	2015	2016	2017
Tulsa County	8.0	6.3	7.9	8.5
Oklahoma	8.1	7.3	7.4	7.7
United States	5.9	5.9	5.8	5.7

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50. All Infant Mortality Rates are deaths per 1,000 births.

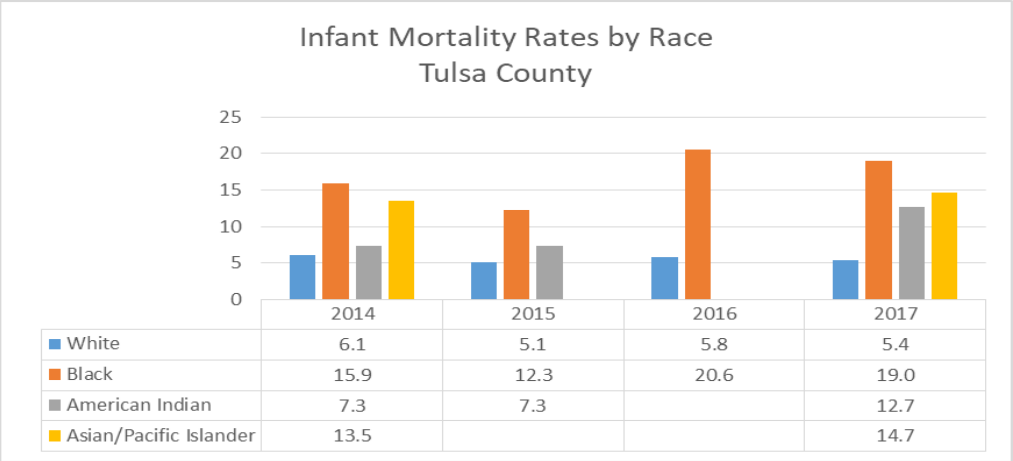


	2014	2015	2016	2017
Male	9.5	7.2	8.5	9.6
Female	6.4	5.4	7.2	7.2

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50. All Infant Mortality Rates are deaths per 1,000 births.

In Tulsa County the mortality rate for male infants was higher than the mortality rates for female infants over the time-period included in this assessment.

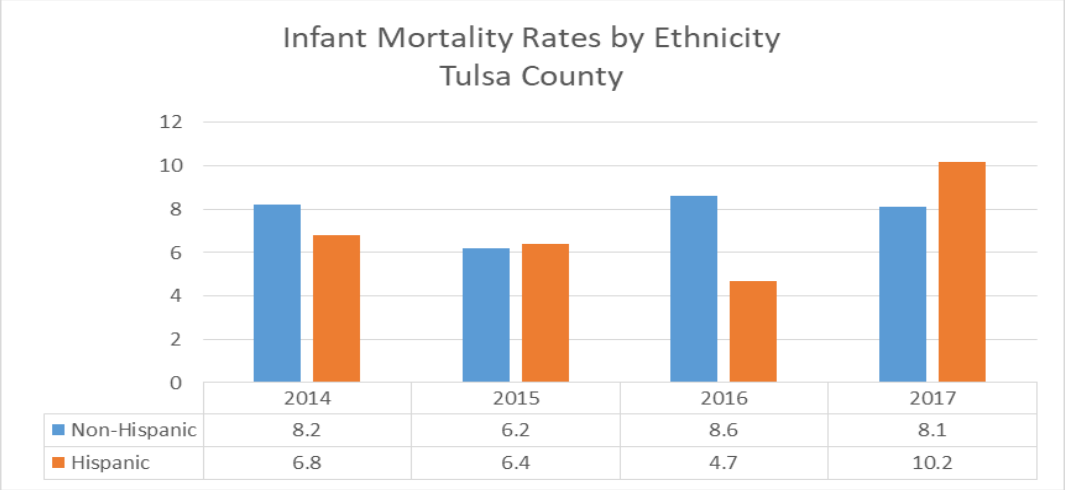


	2014	2015	2016	2017
White	6.1	5.1	5.8	5.4
Black	15.9	12.3	20.6	19.0
American Indian	7.3	7.3		12.7
Asian/Pacific Islander	13.5			14.7

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50. All Infant Mortality Rates are deaths per 1,000 births.

For each year examined in this assessment, mortality rates for children in the black community were consistently higher than any other race category. Mortality rates for infants in the white community were consistently the lowest across the time-period examined in Tulsa County. Mortality rates in the American Indian community showed an increase from 2014 to 2017 (with too few cases to be calculated in 2016).



	2014	2015	2016	2017
Non-Hispanic	8.2	6.2	8.6	8.1
Hispanic	6.8	6.4	4.7	10.2

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50. All Infant Mortality Rates are deaths per 1,000 births.

Infant mortality rates in the Hispanic community in Tulsa County increased overall from 2014 to 2017 (6.8 deaths per 1,000 births in 2014 to 10.2 deaths per 1,000 births in 2017), with a slight decrease in 2016.

Low birth weight

Low birth weight is defined as infants who weigh less than 2,500 grams (5 pounds, 8 ounces) at birth. Very low birth weight is defined as infants who weigh less than 1,500 grams (3 pounds, 4 ounces). This indicator is expressed as a percentage of all births to county mothers, over the years 2015 – 2017.

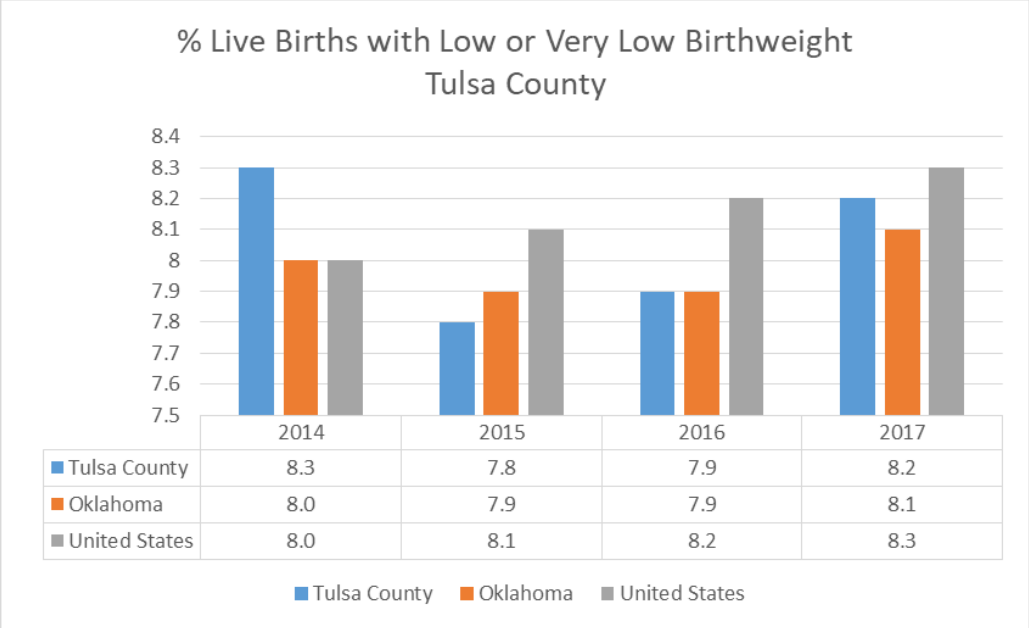
Why is this indicator important?

Low birth weight infants who survive are at increased risk for health problems ranging from neurodevelopmental disabilities to respiratory disorders. Risk factors for low birth weight infants include smoking, alcohol use, lack of weight gain, age, low income, low education level, stress, domestic violence or other abuse, and exposure to air pollution or drinking water contaminated by lead. Prevention includes early and regular prenatal care to help identify conditions and behaviors that can result in low birth weight infants.[33]

How are we doing?

Overall, 8.0 percent of Tulsa County infants were born weighing less than 2,500 grams from 2015 – 2017.

In 2016, 7.9 percent of infants in Tulsa County weighed less than 2,500 grams at birth. This was lower (more favorable) than the United States (8.2 percent). Since 2012, Tulsa County has been generally trending downward, in contrast to the US, which has been trending slightly upward (less favorable). Oklahoma met the Healthy People 2020 target of 7.8 percent.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

** Very low < 1500 grams, low 1500-2499 grams*

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50

Overall, the percentage of babies born with low or very low birth weight remained relatively stable from 2014 to 2017 for Tulsa County.

Infectious disease: sexually transmitted infections/diseases

[33] Low birthweight: March of Dimes.

This indicator includes reported cases of sexually transmitted infections (chlamydia, gonorrhea, syphilis, HIV, and AIDS). It is presented as the number of cases and/or rate per 100,000 of each disease individually. It is presented as newly diagnosed cases.

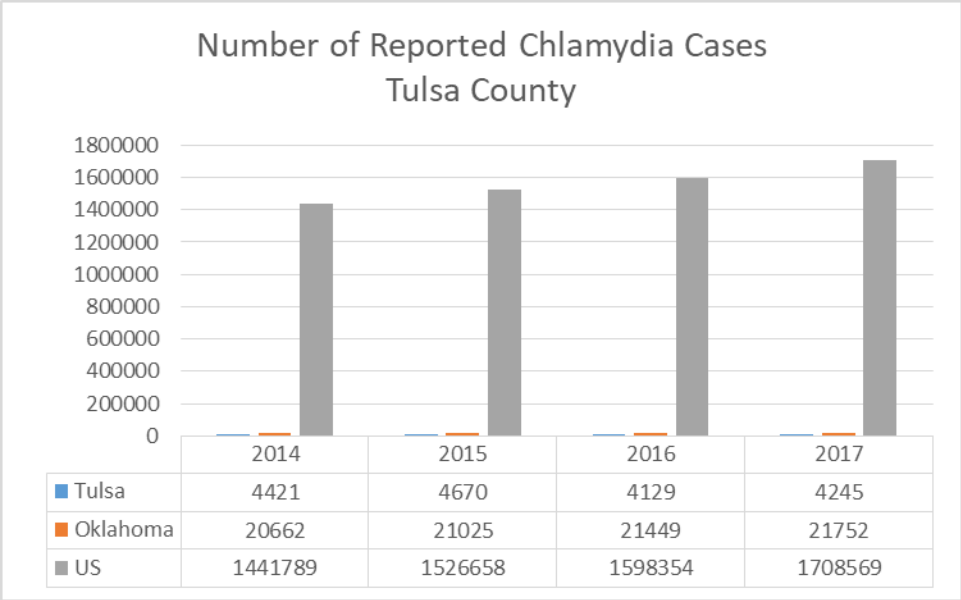
Why is this indicator important?

The Centers for Disease Control and Prevention (CDC) estimates that there are approximately 20 million new sexually transmitted infections (STIs) in the US each year, with almost half of those occurring young adults age 15 - 24. The cost burden of STIs on the health care system is significant- it is estimated to be as high as $16 billion annually. STIs are also commonly undiagnosed and therefore unreported, indicating that the true burden may be much higher.

Untreated STIs can have serious health complications, including reproductive health problems, fetal and perinatal health problems, cancer, and facilitation of sexual transmission of HIV. CDC also estimates that undiagnosed and untreated STIs cause about least 24,000 US women to become infertile each year.[34]

How are we doing?

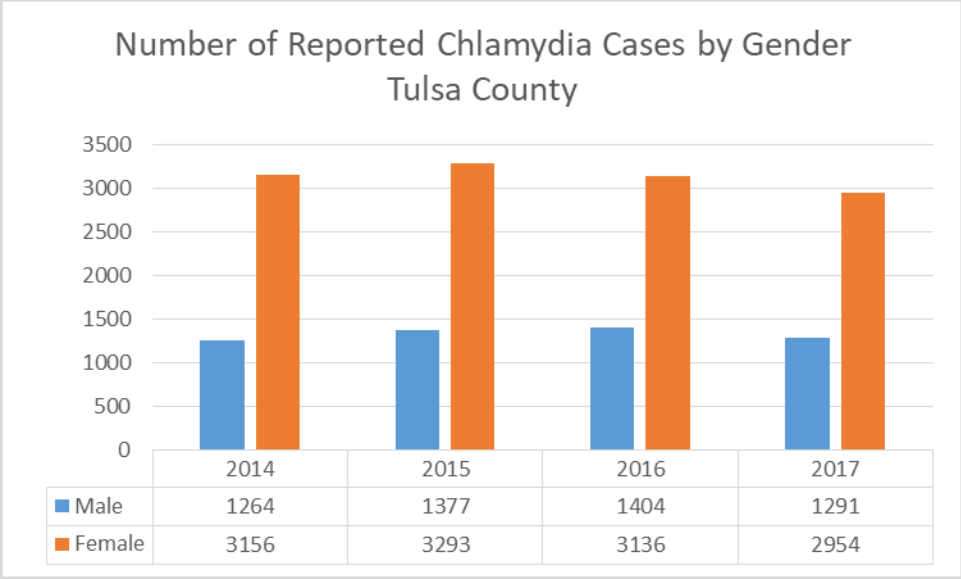
Chlamydia



	2014	2015	2016	2017
Tulsa	4421	4670	4129	4245
Oklahoma	20662	21025	21449	21752
US	1441789	1526658	1598354	1708569

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014-2017.

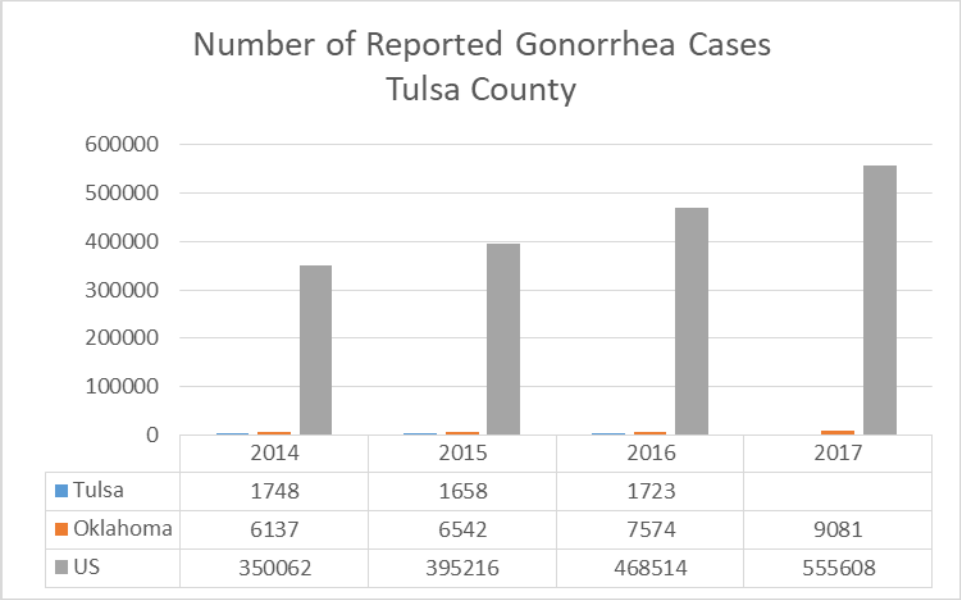
[34] Sexually Transmitted Diseases. Healthy People 2020. U.S. Department of Health and Human Services.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014-2017.

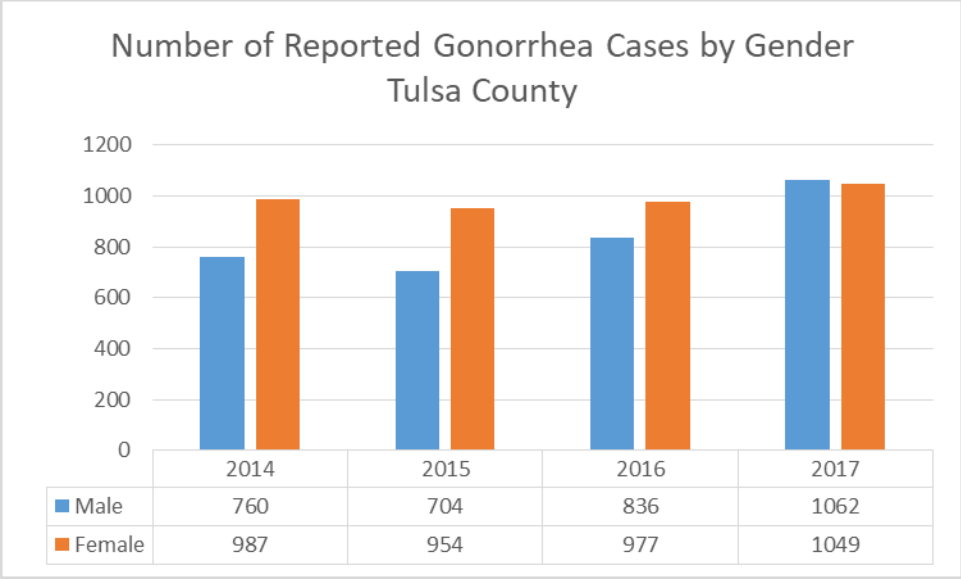
Females overwhelmingly had more reported cases of chlamydia than did males over the time period examined in this assessment.

Gonorrhea



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014-2017.

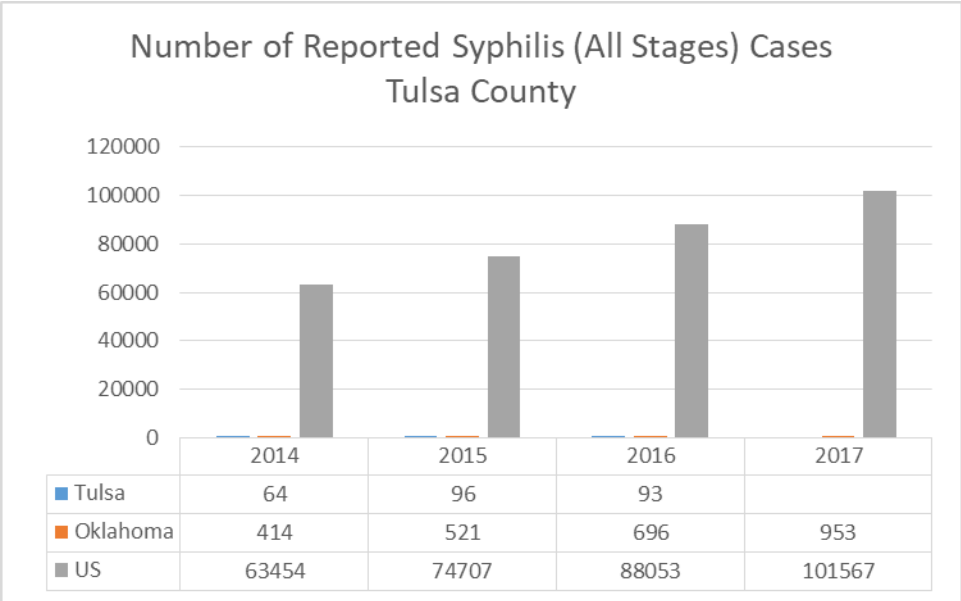
Gonorrhea cases seem to have fluctuated slightly from 2014-2016.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014-2017.

Females consistently had higher numbers of reported cases of gonorrhea over the time-period examined in this assessment, however the gap between the numbers reported for males and females was smallest in 2017.

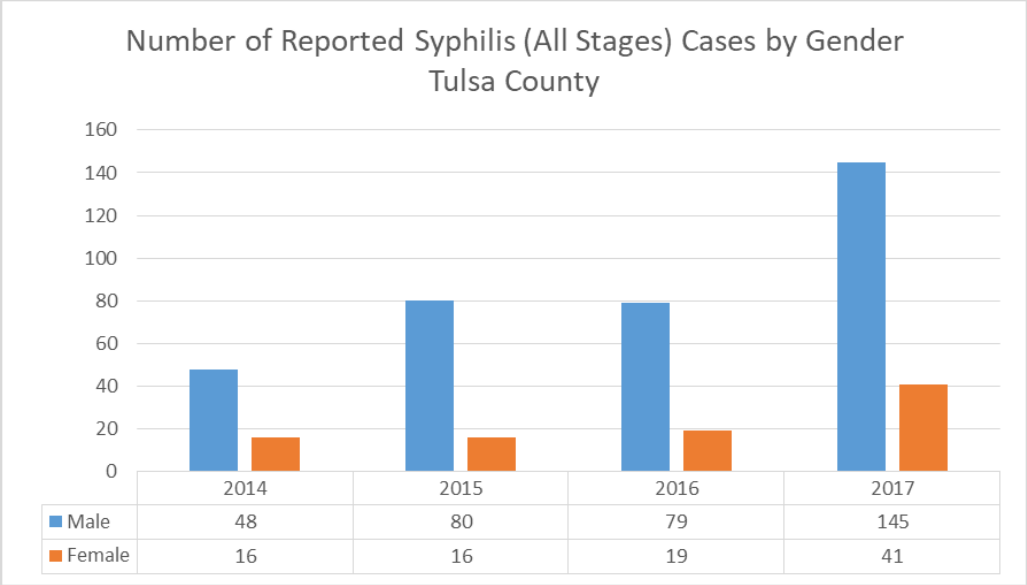
Syphilis



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014-2017.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Numbers of cases of reported syphilis were too few to be broken down by specified ZIP code. Overall, however, the number of cases of syphilis reported almost tripled from 2014 to 2017 across the region examined in this assessment.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014-2017.

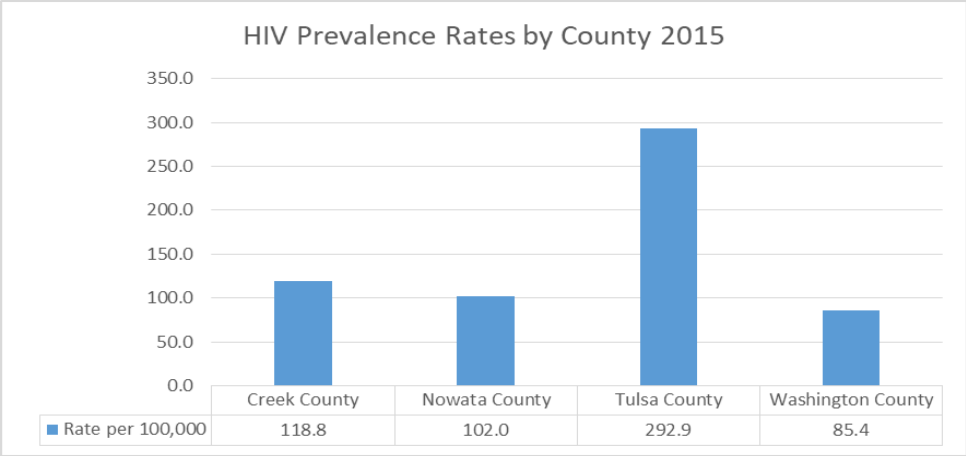
(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

There were too few cases of syphilis reported across the time-period for females to be broken down by year. However, the graph above shows in a striking fashion that there were more reported cases of syphilis among males from 2014 to 2017 than among females, with more than twice the total number of males with reported cases than females.

HIV

In 2015, an estimated 39,393 people in the United States were diagnosed with HIV, the virus that causes AIDS. About 1 in 7 people with HIV in the United States do not know that they are infected.

In 2015, an estimated 319 adults and adolescents were diagnosed with HIV in Oklahoma. Oklahoma ranked 27th among the 50 states in the number of HIV diagnoses in 2015.[35]

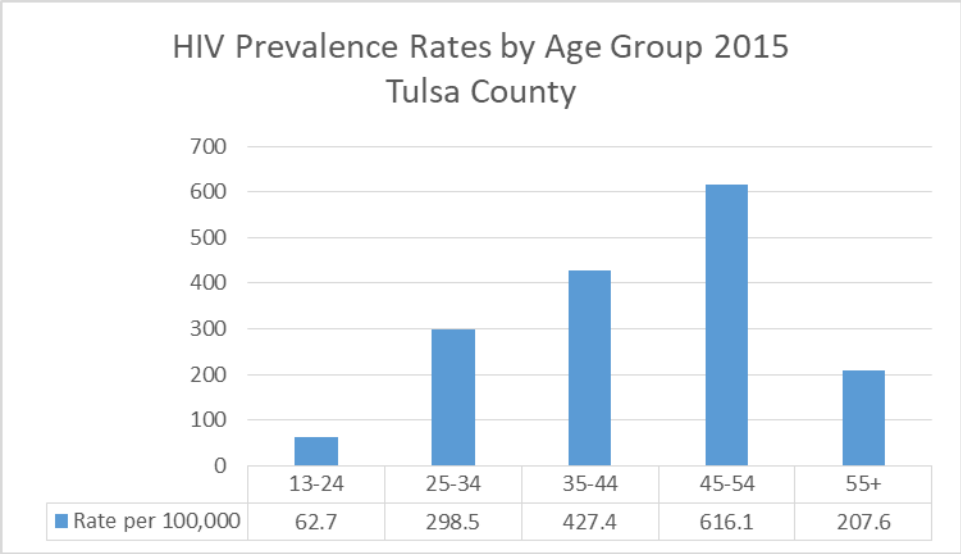


[35] Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. Updated 2017. https://www.cdc.gov/nchhstp/atlas/index.htm(https://www.cdc.gov/nchhstp/atlas/index.htm).

Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. Updated 2017.

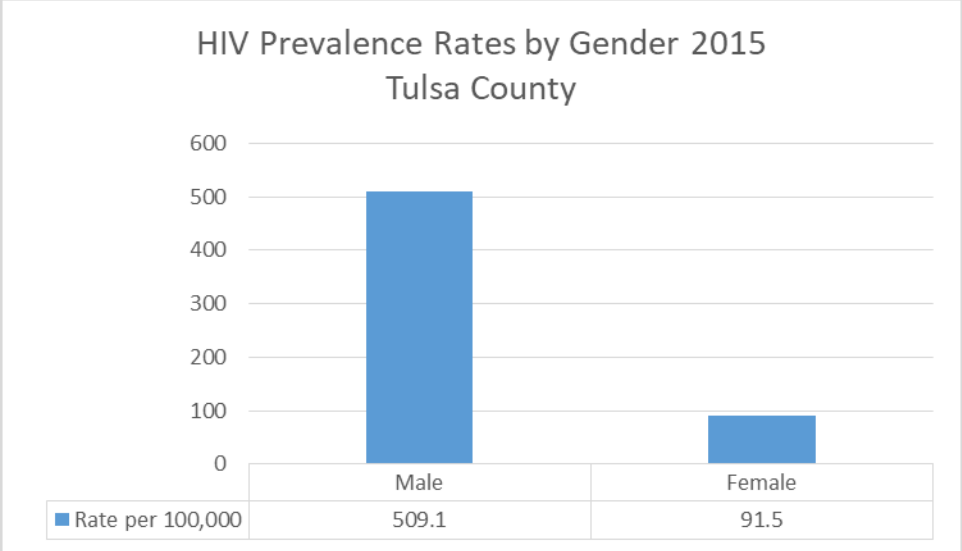
(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

The latest data available on HIV prevalence rates is for 2015. At this point in time, Tulsa County had almost triple the rate of HIV than the other three counties.



Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. Updated 2017.

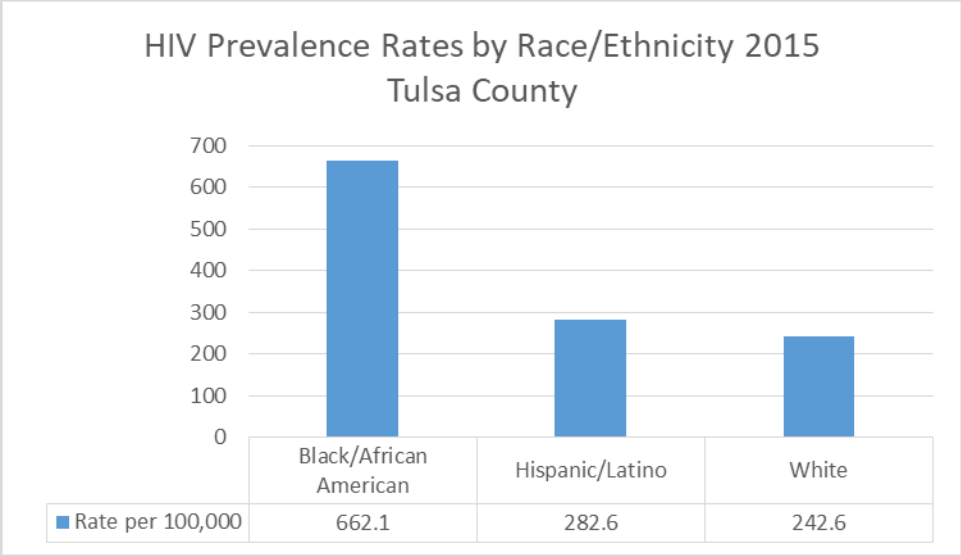
(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.



Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. Updated 2017.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

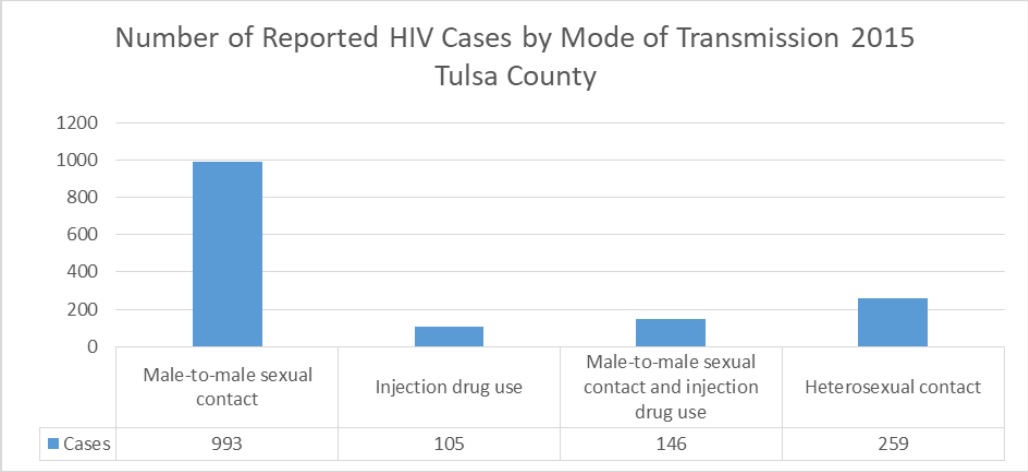
The graph above shows that the prevalence of HIV in Tulsa County was extremely higher among males than among females.



Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. Updated 2017.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Prevalence rates for HIV in the black community were more than double the rates for whites and Hispanics during the time period examined for this assessment. Tulsa County consistently had higher prevalence rates for HIV than did the other three counties included in this analysis.



Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. Updated 2017.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

The above graph shows the number of cases of HIV by the mode of transmission according the latest data available for 2015. Male-to-male sexual contact was the most frequent mode of transmission and about a third of the cases in Tulsa County were transmitted through heterosexual contact.

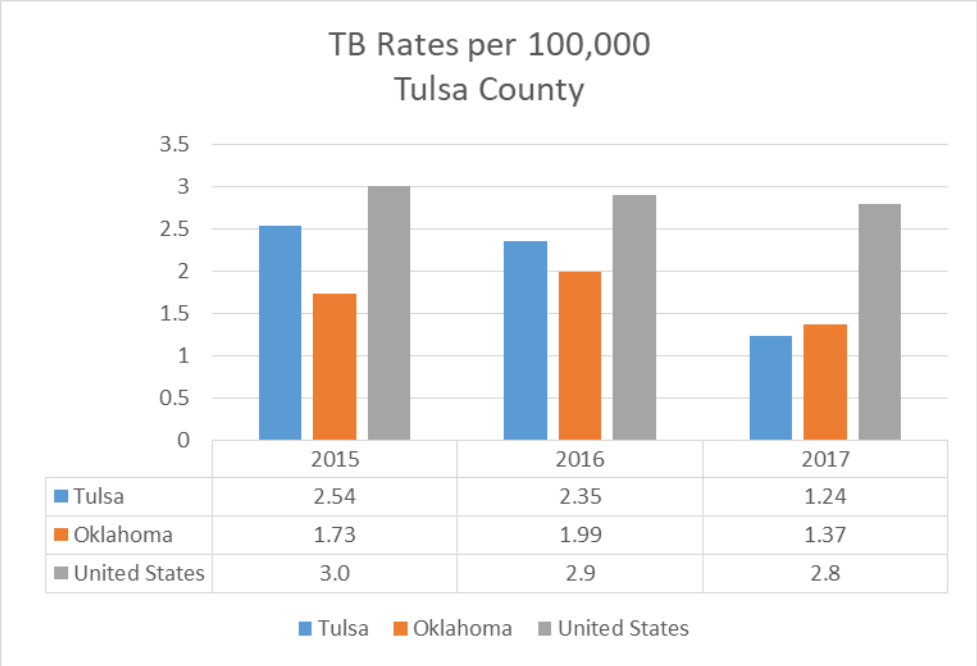
Infectious disease: tuberculosis

This indicator is presented as the number of newly reported cases of tuberculosis per 100,000 population.

Why is this indicator important?

Tuberculosis (TB) is a disease caused by a bacterium called Mycobacterium tuberculosis. It usually affects the lungs but can also attack other parts of the body such as the kidneys, spine, and brain. It is spread through the air when someone with TB of the lungs or throat coughs, sneezes, speaks, or sings. Individuals with TB are treated by taking several drugs for 6 – 12 months. It is very important to take the drugs exactly as prescribed, in order to lower the risk of becoming sick again or developing resistance to the drugs. Worldwide, over nine million individuals become sick with TB each year.[36]

How are we doing?



Public Health Investigation and Disease Detection of Oklahoma (PHIDDO) System data 2015-2017.

(*) Calculations may have been suppressed due to small cell sizes.

The available data for tuberculosis rates were from 2015 to 2017. There were too few cases for further analysis to be done by gender, age, race or ethnicity. The graph above shows that in Tulsa County as well as in Oklahoma as a whole, the rates of tuberculosis were lower in 2017 than they were in 2015.

Health Factors

Health factors are based on four types of measures: health behaviors, clinical care, social and economic, and physical environment factors. Health factors contribute to health and are otherwise known as determinants of health.

Health factors ranking

This indicator demonstrates the overall rankings in health factors for counties throughout the state. The ranks are based on weighted scores four types of measures: health behaviors, clinical care, social and economic, and physical environment factors. The healthiest county in the state is ranked #1. This information is based on the 2018 County Health Rankings & Roadmaps courtesy of the University of Wisconsin Population Health Institute.

[36] Centers for Disease Control and Prevention. (2016). *Tuberculosis Fact Sheet*.

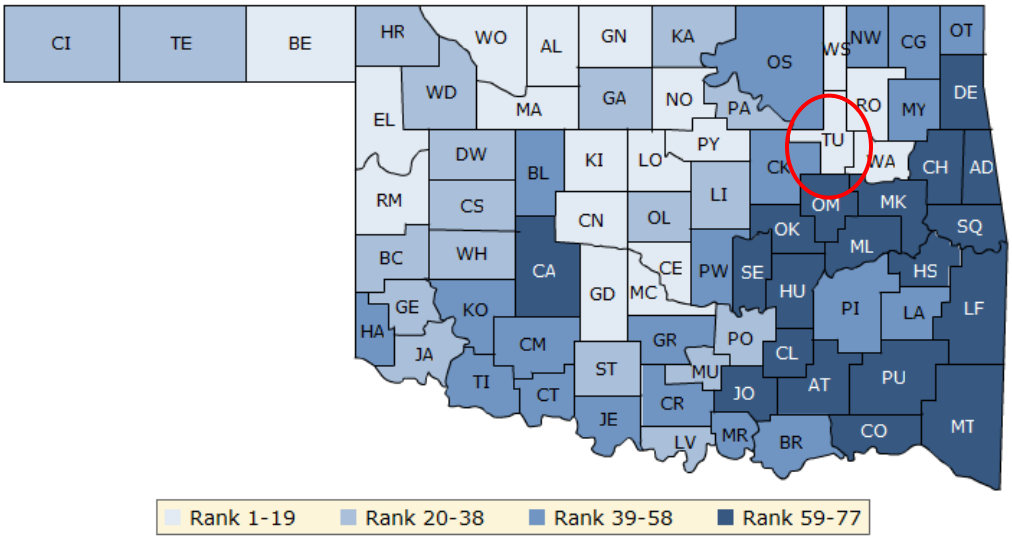
Why is this indicator important?

The overall rankings in health factors represent what influences the health of a county. They are an estimate of the future health of counties as compared to other counties within a state.

How are we doing?

The map below, displays Oklahoma's summary rankings for health factors. Lighter shades indicate better performance in the respective summary rankings. In 2018, Tulsa County ranked 14th out of 77 counties in Oklahoma in health factors.

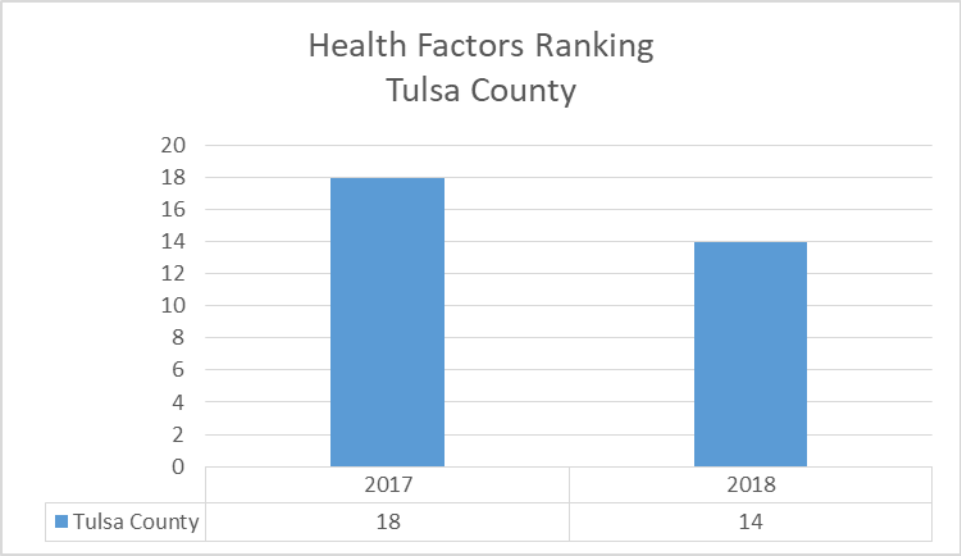
Update: In 2019, Tulsa County ranked 12th out of 77 counties in Oklahoma in health factors.



2018 County Health Rankings for the 77 Ranked Counties in Oklahoma

County	Health Outcomes	Health Factors
Adair	75	77
Alfalfa	2	13
Atoka	57	75
Beaver	20	5
Beckham	42	37
Blaine	45	31
Bryan	38	44
Caddo	73	63
Canadian	3	1
Carter	67	48
Cherokee	62	57
Choctaw	76	76
Cimarron	61	19
Cleveland	7	4
Coal	60	74
Comanche	26	40
Cotton	56	43
Craig	35	35
Creek	40	46
Custer	16	26
Delaware	52	58
Dewey	48	24
Ellis	19	6
Garfield	24	27
Garvin	58	55
Grady	21	18
Grant	22	3
Greer	36	53
Harmon	23	45
Harper	12	10
Haskell	51	73
Hughes	46	70
Jackson	43	22
Jefferson	64	60
Johnston	68	59
Kay	33	42
Kingfisher	1	2
Kiowa	65	51
Latimer	55	62
Le Flore	49	65
Lincoln	44	38
Logan	6	15
Love	41	20
Major	25	12
Marshall	31	47
Mayes	50	50
McClain	17	7
McCurtain	70	72
McIntosh	72	68
Murray	54	34
Muskogee	66	66
Noble	13	11
Nowata	34	54
Okfuskee	74	69
Oklahoma	27	21
Okmulgee	53	56
Osage	28	39
Ottawa	59	61
Pawnee	47	41
Payne	8	16
Pittsburg	63	52
Pontotoc	37	29
Pottawatomie	39	33
Pushmataha	77	67
Roger Mills	4	28
Rogers	10	9
Seminole	71	64
Sequoyah	69	71
Stephens	32	49
Texas	11	25
Tillman	29	36
Tulsa	15	14
Wagoner	9	17
Washington	18	23
Washita	30	32
Woods	5	8
Woodward	14	30

Source: Courtesy of University of Wisconsin Population Health Institute. (2018). *County Health Rankings & Roadmaps.* Retrieved from: www.countyhealthrankings.org.



Source: Courtesy of University of Wisconsin Population Health Institute. (2018). *County Health Rankings & Roadmaps.* Retrieved from: www.countyhealthrankings.org.

Data indicators specific to the four health measures (social and economic factors, clinical care, health behaviors and physical environment factors) used to compile the health factors rankings were reviewed and are presented below. Social and economic factors are the first health factor measure presented, as they are essential to understanding the barriers to health in the community. Furthermore, the availability of socioeconomic data for specific sub-populations and sub-county geographies provides a framework for identifying the populations most vulnerable to the poor health outcomes identified. Geographic areas of highest need are also presented in this section (based on socioeconomic need).

Social and Economic Factors

Economic and social insecurity often are associated with poor health. Poverty, unemployment, and lack of educational achievement affect access to care and a community's ability to engage in healthy behaviors. Ensuring access to social and economic resources provides a foundation for a healthy community.

Median household income

The median household income is the mid-point in the range of reported household incomes. Half of households reported incomes above the median income and half of households reported incomes below the median income. Per capita income is the average income of each individual. These measures are both based on 2016 American Community Survey 5-year estimates.

Why is this indicator important?

Income is a common measure of socioeconomic status. Current income provides a direct measure of the quality of food, housing, leisure-time amenities, and health care an individual is able to acquire, as well as reflecting their relative position in society.[37]

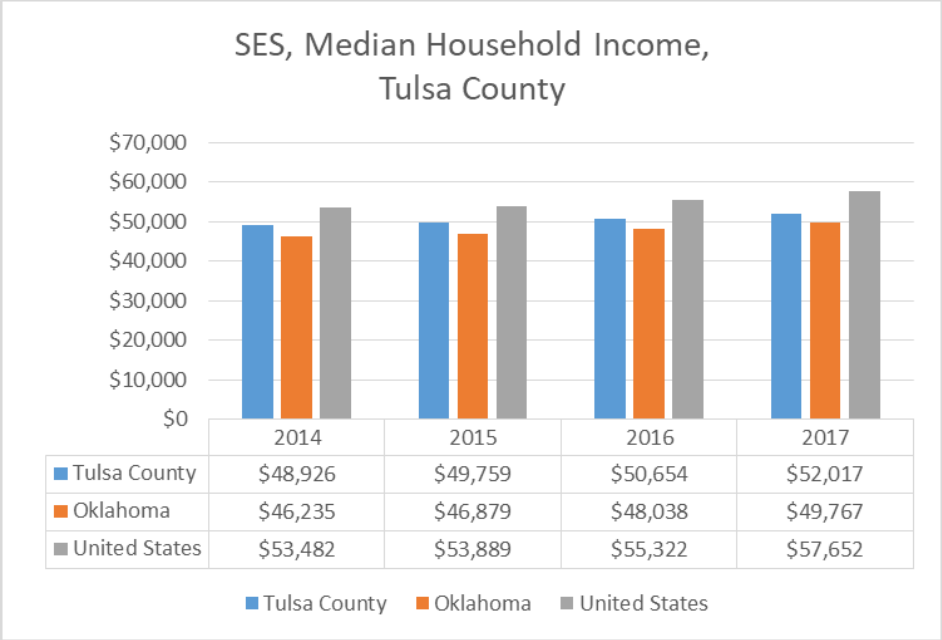
How are we doing?

[37] General Data Issues. Healthy People 2010. U.S. Department of Health and Human Services.

The estimated median household income for Tulsa County ranged from $48,926 in 2014 to $52,017 in 2017.

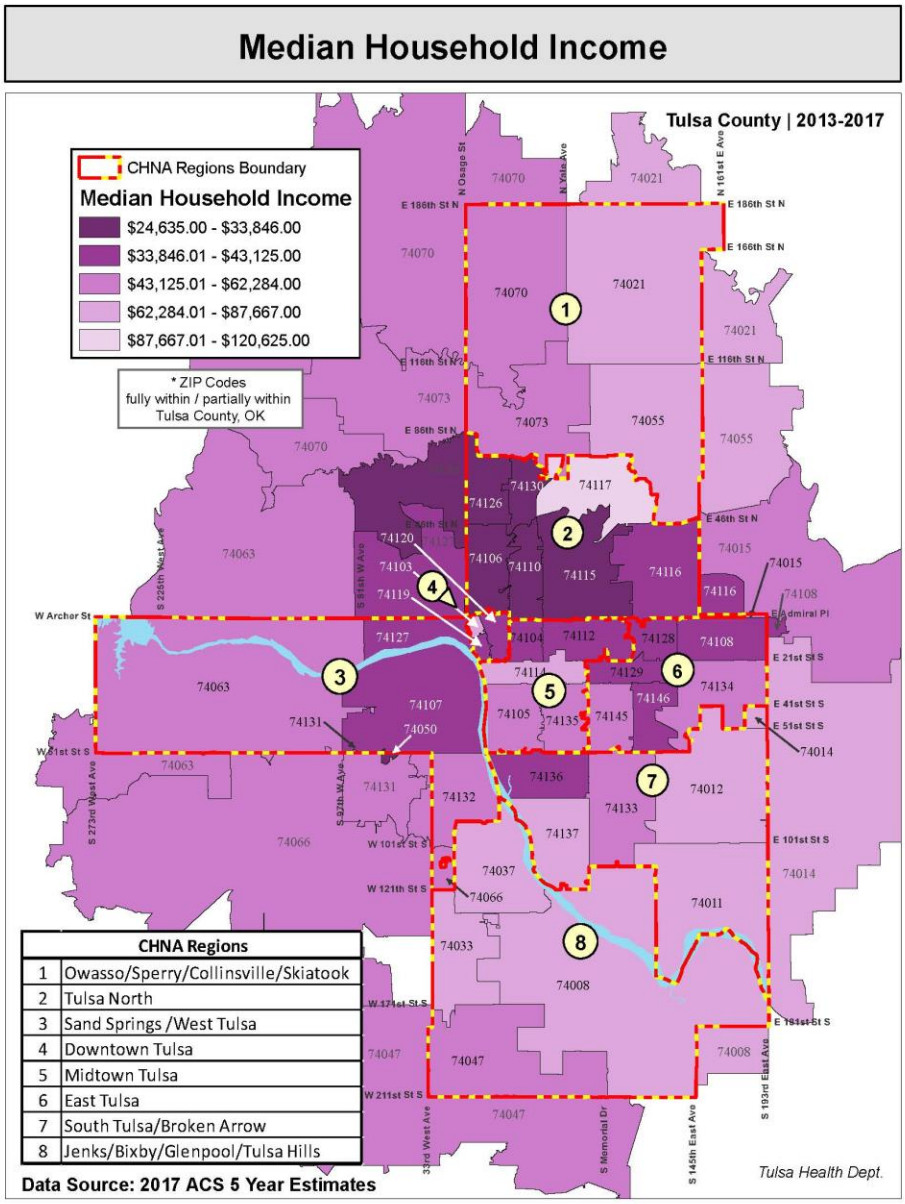
In 2017, Tulsa County had a higher median household income compared to Oklahoma ($52,017 compared to $49,767). It was lower than the United States overall ($57,652). This trend has been consistent since 2011.

Another measure of economic health, per capita income, showed that Tulsa County had a higher per capita income than Oklahoma and the United States in 2016 ($29,970, $25,628, and $29,828, respectively).



Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

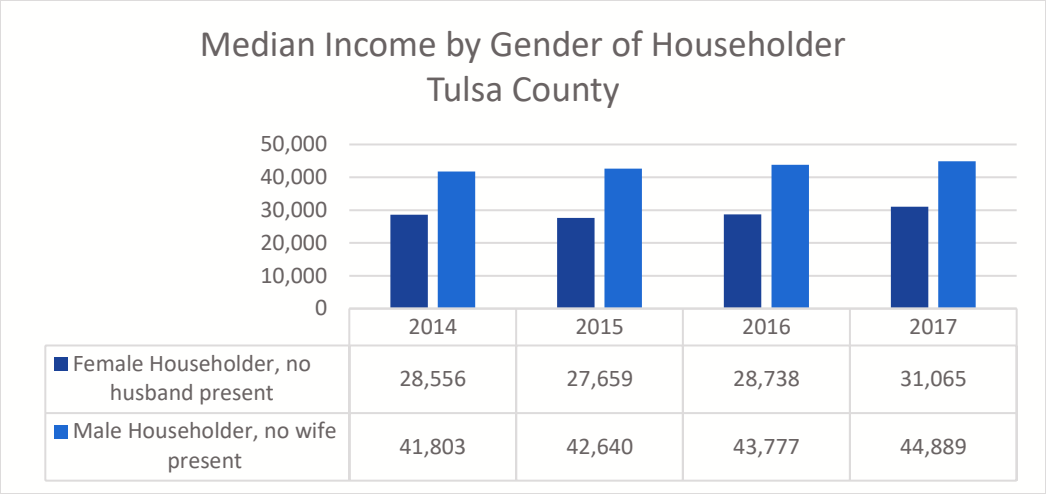
Median incomes in Tulsa County, ranged from $48,926 in 2014 to $52,017 in 2017.



In Tulsa County, the lowest median houshold income of $24,635.00 - $33,846.00 was found in ZIP codes 74126, 74130,74106,74110, and 74115 which are all a part of Tulsa North and 74050 which is part of West Tulsa. On the opposite end the scale, a median household income of $87, 667.01 - $120, 625.00 was found in ZIP code 74117 which is also a part of Tulsa North.

Please note that the majority of West Tulsa ZIP codes 74131 and 74050 are in Creek County and will be reflected in greater detail in the Creek County analysis.

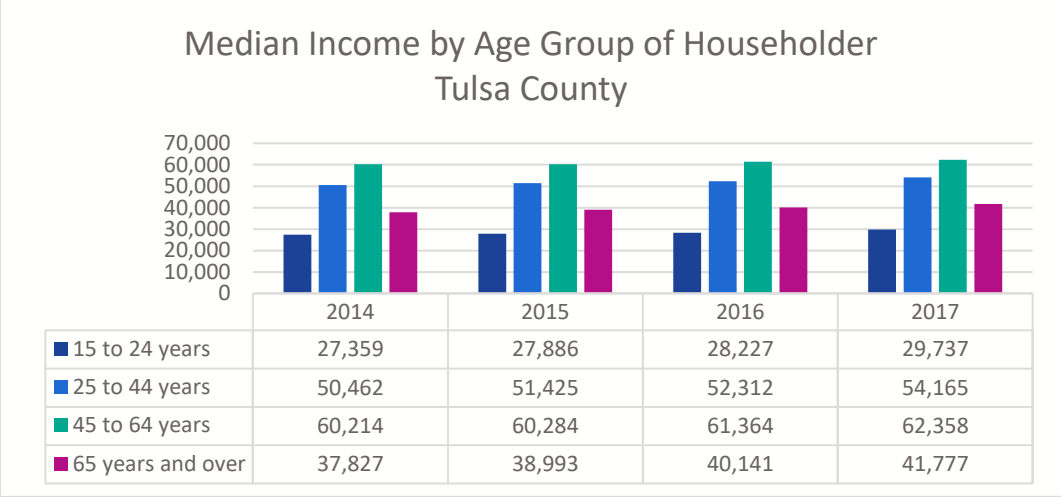
Please note that the ZIP code 74117 also reflects the lowest population in Tulsa County (124 – 5,718) which could affect the outcome of the data.



	2014	2015	2016	2017
Female Householder, no husband present	28,556	27,659	28,738	31,065
Male Householder, no wife present	41,803	42,640	43,777	44,889

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

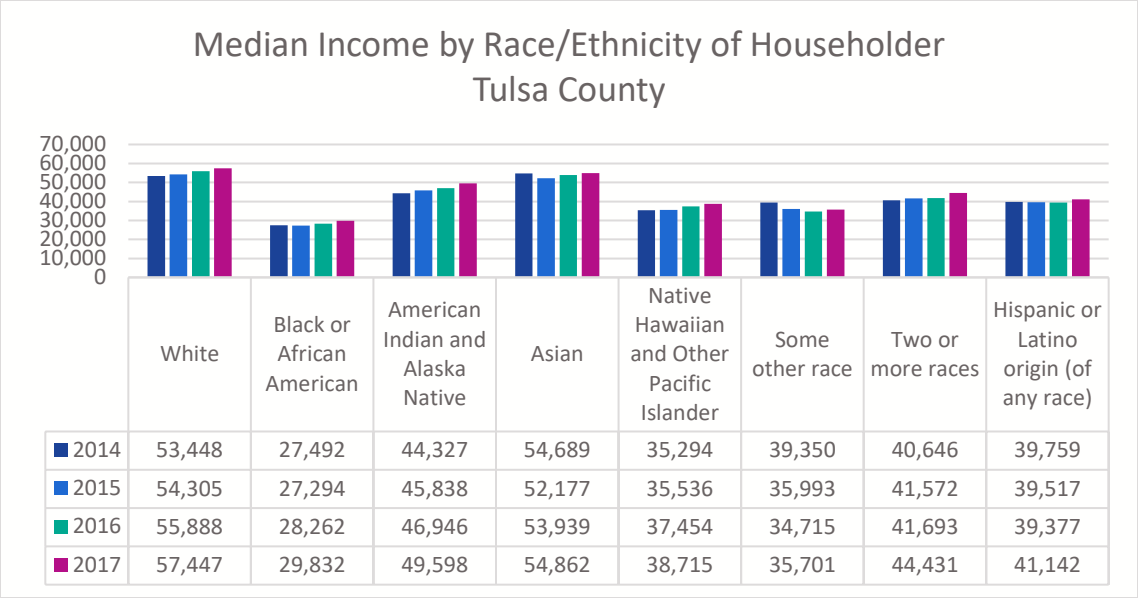
Median incomes for homes with a female householder and no husband present in Tulsa County were substantially lower than those for homes with a male householder and no wife present. Median incomes for both types of households in Tulsa County increased from 2014 to 2017.



	2014	2015	2016	2017
15 to 24 years	27,359	27,886	28,227	29,737
25 to 44 years	50,462	51,425	52,312	54,165
45 to 64 years	60,214	60,284	61,364	62,358
65 years and over	37,827	38,993	40,141	41,777

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

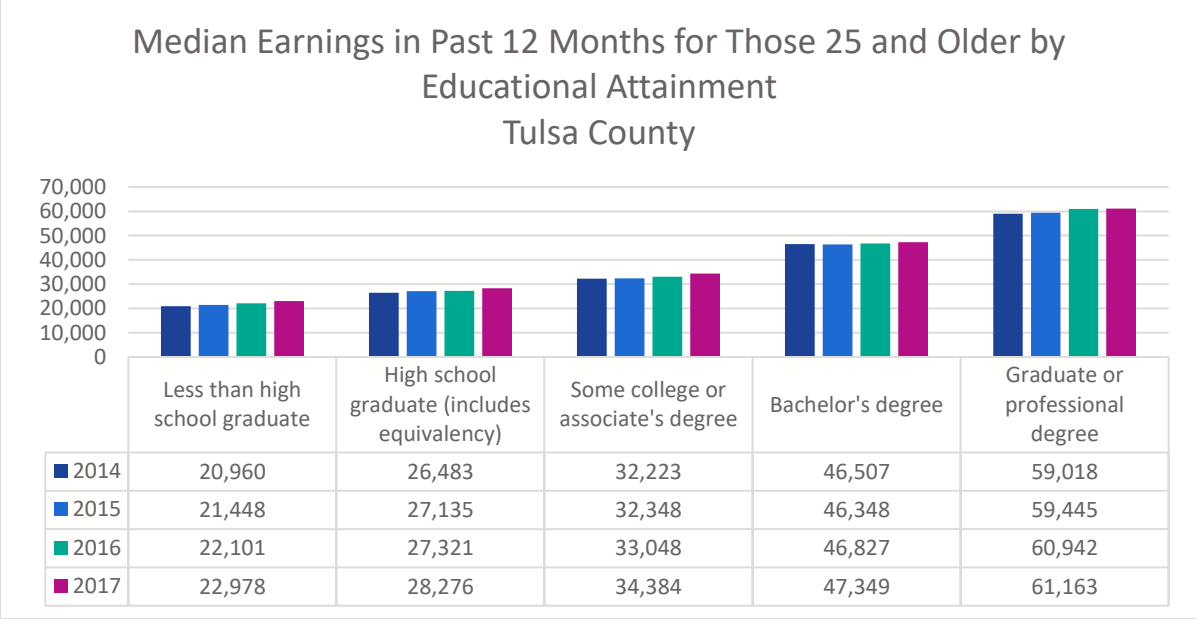
In Tulsa County, median incomes were highest for those in the 45 to 64-year-old age group, ranging from $60,214 in 2014 to $62,358 in 2017. As illustrated in the graph above, median incomes for all age groups in Tulsa County remained relatively stable over the time-period examined in this assessment.



	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Hispanic or Latino origin (of any race)
2014	53,448	27,492	44,327	54,689	35,294	39,350	40,646	39,759
2015	54,305	27,294	45,838	52,177	35,536	35,993	41,572	39,517
2016	55,888	28,262	46,946	53,939	37,454	34,715	41,693	39,377
2017	57,447	29,832	49,598	54,862	38,715	35,701	44,431	41,142

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

There was clear racial inequality among median household incomes as incomes were highest for those in the white community, followed by those in the Asian community. Median incomes were lowest for the black community in Tulsa County. The graph above illustrates that median household incomes by race remained relatively stable from 2014 to 2017.



	Less than high school graduate	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree	Graduate or professional degree
2014	20,960	26,483	32,223	46,507	59,018
2015	21,448	27,135	32,348	46,348	59,445
2016	22,101	27,321	33,048	46,827	60,942
2017	22,978	28,276	34,384	47,349	61,163

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

In Tulsa County, those with a graduate or professional degree had median earnings almost $40,000 higher than those with less than a high school education.

Population below poverty level

This indicator is the percentage of persons living below the federal poverty level in the past 12 months and is taken from the 2016 American Community Survey. The Census Bureau determines poverty levels using a set of income thresholds that vary by family size and composition. In 2016, the Census Bureau designated that the weighted average poverty threshold for a family of four was $24,563.

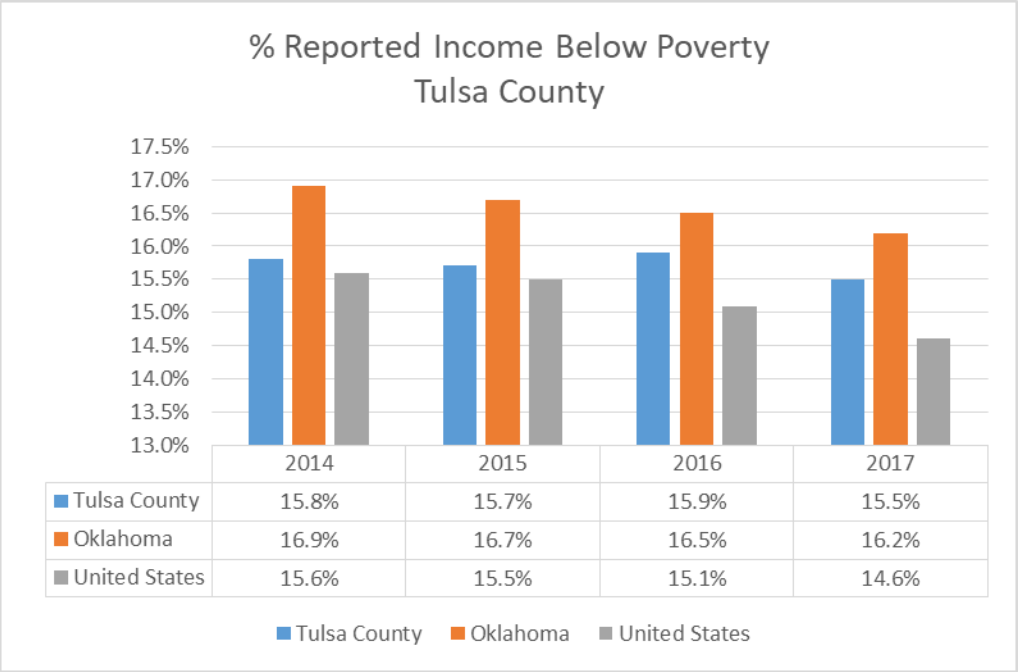
Why is this indicator important?

Health outcomes are worse for individuals with low incomes than for their more affluent counterparts. Lower-income individuals experience higher rates of chronic illness, disease, and disabilities, and also die younger than those who have higher incomes. Individuals living in poverty are more likely than their affluent counterparts to experience fair or poor health or suffer from conditions that limit their everyday activities. They also report higher rates of chronic conditions such as hypertension, high blood pressure, and elevated serum cholesterol, which can be predictors of more acute conditions in the future.[38]

How are we doing?

Estimates for 2017 stated that the poverty rate for Tulsa County was 15.5 percent. In 2017, the estimated poverty rate in Tulsa County (15.5 percent) was lower than Oklahoma (16.2 percent) but above the national rate (14.6 percent).

The ZIP codes with the highest percentages of residents living in poverty were primarily concentrated in north and downtown Tulsa. ZIP code 74050 in west Tulsa, which is very small and difficult to see on the map below, had a poverty rate of over 50 percent in 2016.



Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

[38] Poverty in America: Economic Research Shows Adverse Impacts on Health Status and Other Social Conditions as well as the Economic Growth Rate (2007). United States Government Accountability Office.

Educational attainment

Educational attainment is defined as completion of at least a high school education by the population age 25 and older. It is presented as a percentage of the total population 25 and older, based on 2016 American Community Survey 5-year estimates.

Why is this indicator important?

Education is a basic component of socioeconomic status, because it shapes future occupational opportunities and achievement. Children from low SES households and communities tend to develop academic skills more slowly and have increased dropout rates, which can perpetuate low SES in the community. [39]

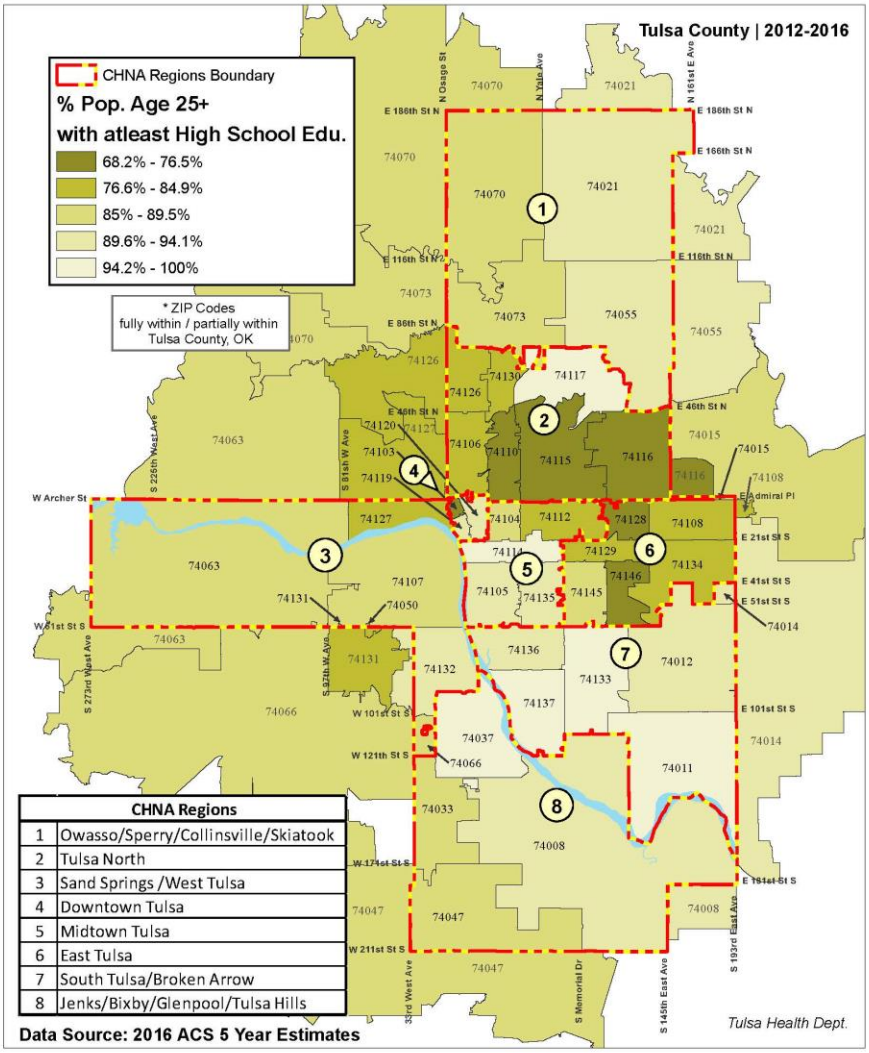
How are we doing?

Tulsa County was estimated to have an overall educational attainment of 88.8 percent in 2016, according to the American Community Survey.

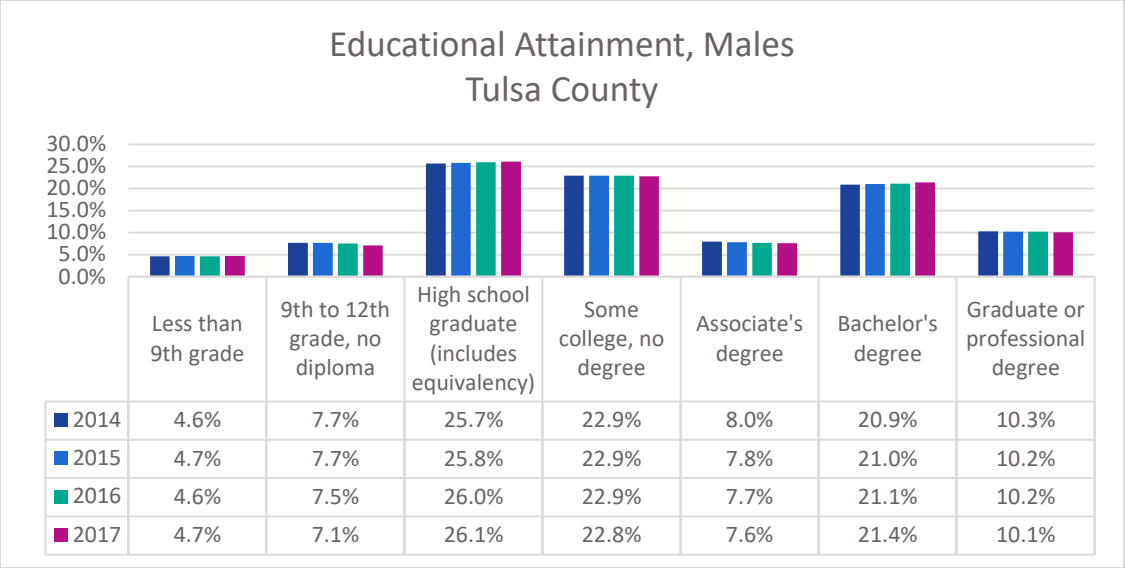
In 2016, educational attainment for Tulsa County was 88.8 percent, which was higher than both Oklahoma (87.3 percent) and the U.S. (87 percent). This trend has been consistent since 2011.

[39] Education and Socioeconomic status. American Psychological Association.

Educational Attainment



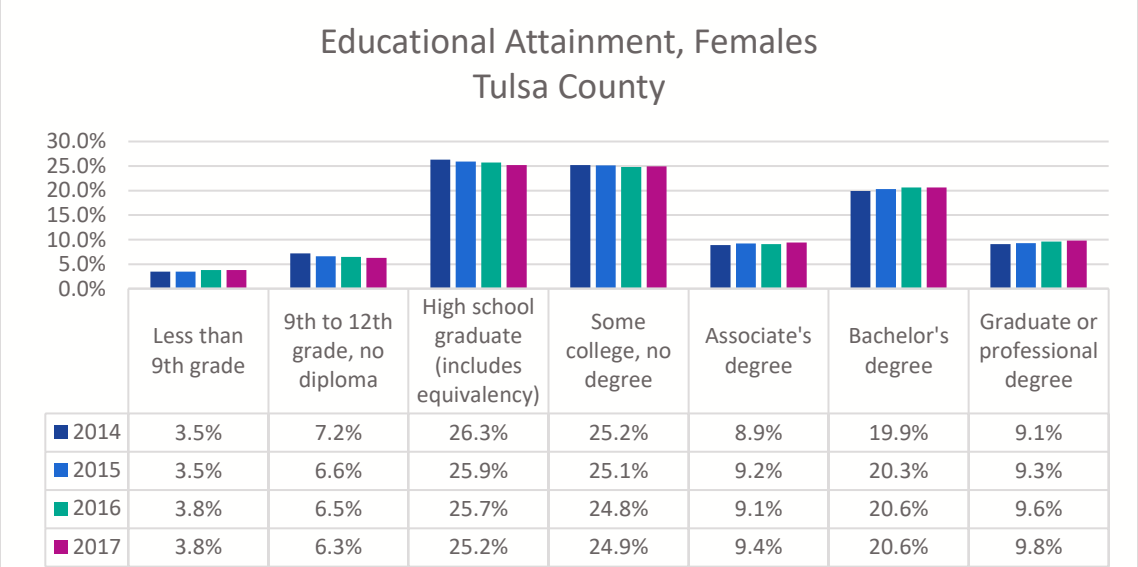
In Tulsa County, the lowest percentage rate of the population age 25+ that had at least a high school education was 68.2% - 76.5%. This precetange rate was found in ZIP codes 74110, 74115 and 74116 which are located on the south side of the Tulsa North boundary, 74103 located in downtown Tulsa, and in east Tulsa ZIP codes 74128 and 74146. The ZIP codes with the highest educational attainment were concentrated in the midtown area, south Tulsa, and the south suburbs.



	Less than 9th grade	9th to 12th grade, no diploma	High school graduate (includes equivalency)	Some college, no degree	Associate's degree	Bachelor's degree	Graduate or professional degree
2014	4.6%	7.7%	25.7%	22.9%	8.0%	20.9%	10.3%
2015	4.7%	7.7%	25.8%	22.9%	7.8%	21.0%	10.2%
2016	4.6%	7.5%	26.0%	22.9%	7.7%	21.1%	10.2%
2017	4.7%	7.1%	26.1%	22.8%	7.6%	21.4%	10.1%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

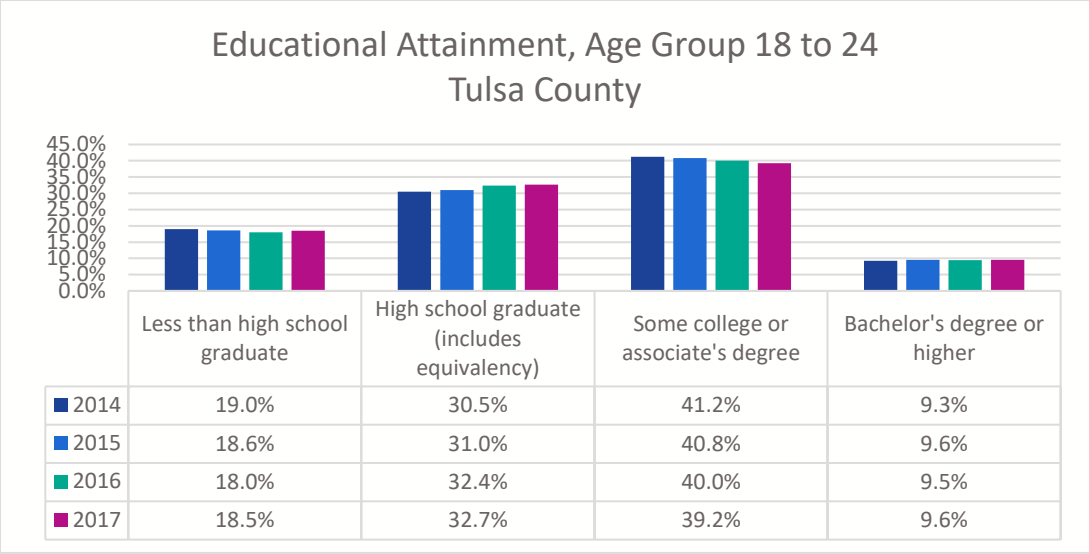
From 2014 to 2017, roughly 40% of males in Tulsa County had some sort of college degree, whether it be an Associate's degree, a Bachelor's degree or a graduate or professional degree. Less than 15% of males in Tulsa County had less than a high school diploma during the same time-period. Roughly 50% of males in Tulsa County were either high school graduates or had some college but no degree.



	Less than 9th grade	9th to 12th grade, no diploma	High school graduate (includes equivalency)	Some college, no degree	Associate's degree	Bachelor's degree	Graduate or professional degree
2014	3.5%	7.2%	26.3%	25.2%	8.9%	19.9%	9.1%
2015	3.5%	6.6%	25.9%	25.1%	9.2%	20.3%	9.3%
2016	3.8%	6.5%	25.7%	24.8%	9.1%	20.6%	9.6%
2017	3.8%	6.3%	25.2%	24.9%	9.4%	20.6%	9.8%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

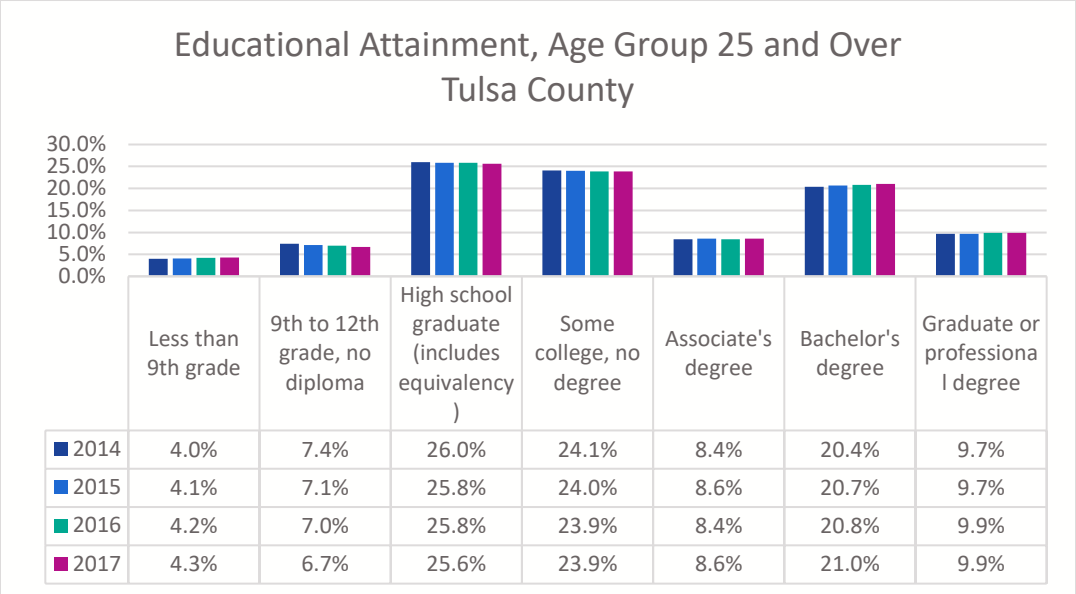
The graph above shows a very similar pattern of educational attainment for females in Tulsa County from 2014 to 2017.



	Less than high school graduate	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
2014	19.0%	30.5%	41.2%	9.3%
2015	18.6%	31.0%	40.8%	9.6%
2016	18.0%	32.4%	40.0%	9.5%
2017	18.5%	32.7%	39.2%	9.6%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

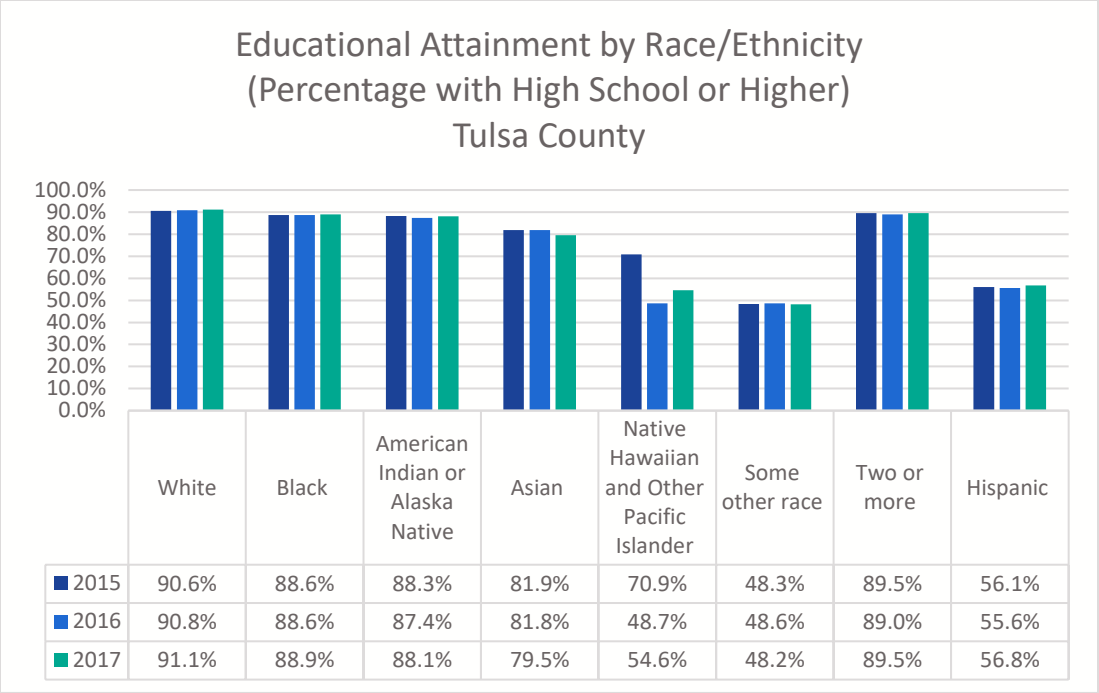
For each year examined in this assessment, the age group of 18 to 14 years old had roughly 70% of people who had either graduated from high school (or equivalent) or had some college but no degree. About 20% of the people in this age group in Tulsa County had less than a high school education. The remaining roughly 10% had a Bachelor's degree or higher.



	Less than 9th grade	9th to 12th grade, no diploma	High school graduate (includes equivalency)	Some college, no degree	Associate's degree	Bachelor's degree	Graduate or professional degree
2014	4.0%	7.4%	26.0%	24.1%	8.4%	20.4%	9.7%
2015	4.1%	7.1%	25.8%	24.0%	8.6%	20.7%	9.7%
2016	4.2%	7.0%	25.8%	23.9%	8.4%	20.8%	9.9%
2017	4.3%	6.7%	25.6%	23.9%	8.6%	21.0%	9.9%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

The percentages for people 25 years old or older in Tulsa County who have some college degree was also roughly 40% from 2014 to 2017. The percentages for this age group were overall very similar to those of the 18 to 24 age group in Tulsa County, with about 50% having completed high school (or equivalent) or some college, less than 15% having less than a high school education, and around 10% having a graduate or professional degree.



	White	Black	American Indian or Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more	Hispanic
2015	90.6%	88.6%	88.3%	81.9%	70.9%	48.3%	89.5%	56.1%
2016	90.8%	88.6%	87.4%	81.8%	48.7%	48.6%	89.0%	55.6%
2017	91.1%	88.9%	88.1%	79.5%	54.6%	48.2%	89.5%	56.8%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

Percentages of those with a high school education or higher were very high for people in Tulsa County across all racial/ethnic categories. The lowest percentages were seen for Native Hawaiian and other Pacific Islander and those reported to be some other race.

Unemployment

This indicator is presented as the percentage of the total civilian labor force (age 16 and older) that was unemployed in 2017, based on American Community Survey 5-year estimates. It is important to note that Bureau of Labor Statistics data for this indicator is often reported in the media, etc. and it is calculated slightly differently.

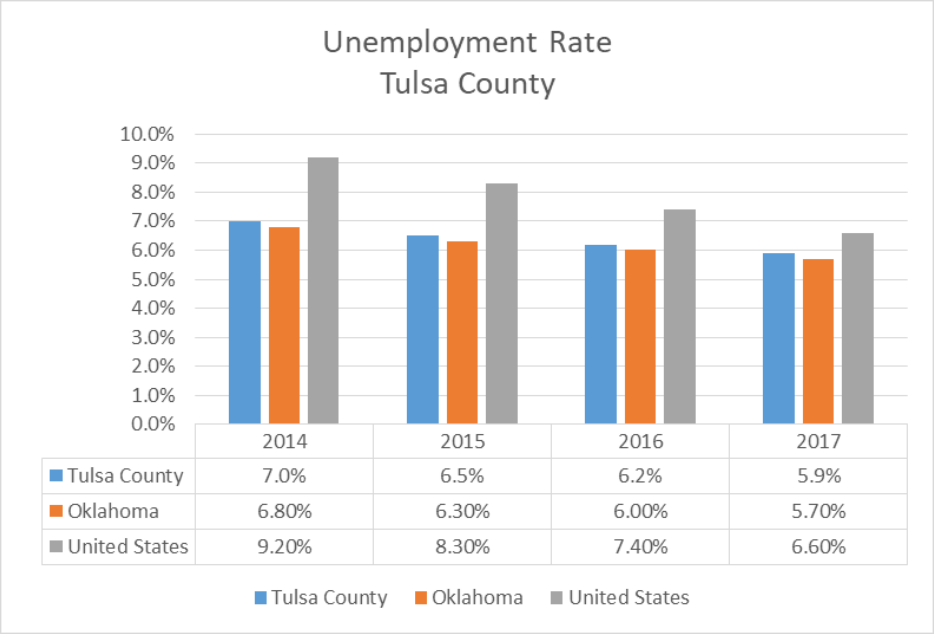
Why is this indicator important?

Health insurance is a major determinant of access to both preventive and acute health care. Most Americans rely on employer-provided insurance. Thus, unemployment affects their access to health services, due to both loss of employer-sponsored health insurance and reduced income. Unemployed adults have poorer mental and physical health than employed adults; this pattern is also found for insured and uninsured adults. Unemployed adults are less likely to receive needed medical care and prescription drugs due to cost than the employed in each insurance category.[40]

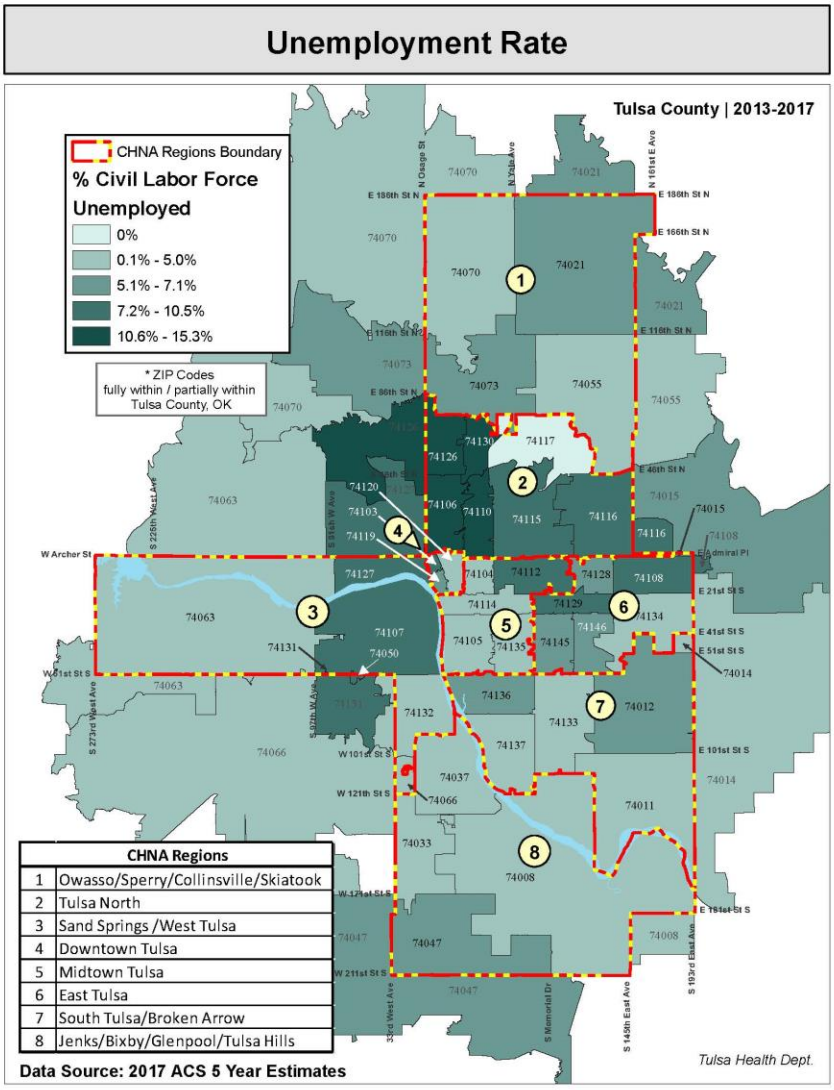
How are we doing?

The overall unemployment rate in 2017 for Tulsa County was 5.9 percent. This was slightly higher than Oklahoma (5.7 percent) but lower than the United States (6.6 percent). The unemployment rate in Tulsa County has been decreasing since 2013. This trend is consistent with trends in Oklahoma and the US.

[40] Health and Access to Care among Employed and Unemployed Adults: United States, 2009–2010. National Center for Health Statistics. Centers for Disease Control and Prevention.

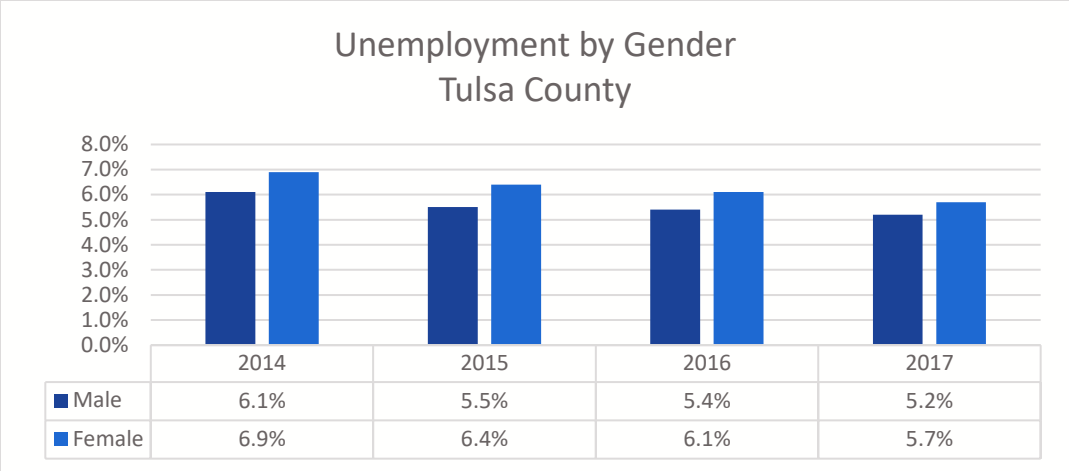


	2014	2015	2016	2017
Tulsa County	7.0%	6.5%	6.2%	5.9%
Oklahoma	6.80%	6.30%	6.00%	5.70%
United States	9.20%	8.30%	7.40%	6.60%



The only ZIP code that had a 0% unemployment rate was 74117 which is located at the north end of the Tulsa North boundary. On the opposite end, areas with the highest unemployment percentage rate (10.6%-15.3%) were 74106, 74110, 74126, and 74130 which are located on the west side of the Tulsa North boundary. Other areas of Tulsa County that showed an unemployment rate of 7.2%-10.5% were 74129 in east Tulsa, 74112 in midtown Tulsa, 74103 in downtown Tulsa, and 74107, 74131, 74050 and 74127 in West Tulsa.

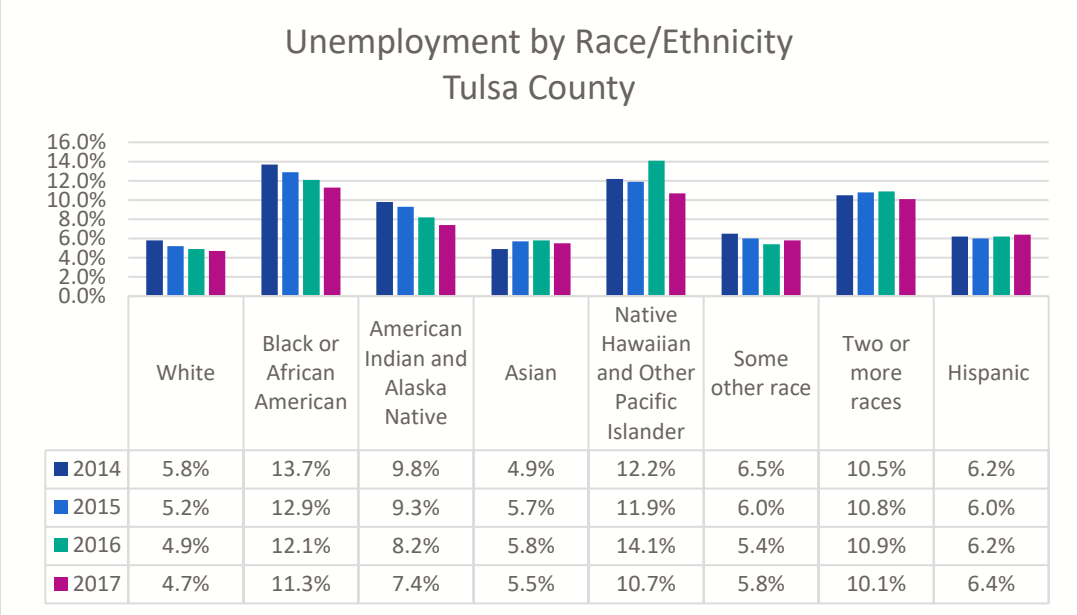
Please note that the majority of West Tulsa ZIP codes 74131 and 74050 are in Creek County and will be reflected in greater detail in the Creek County analysis.



	2014	2015	2016	2017
Male	6.1%	5.5%	5.4%	5.2%
Female	6.9%	6.4%	6.1%	5.7%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

Unemployment rates for males were slightly lower than rates for females in Tulsa County from 2014 to 2017. Both genders showed a downward trend over the time-period examined in this assessment, from 6.1% to 5.2% for males, and from 6.9% to 5.7% for females.



	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Hispanic
2014	5.8%	13.7%	9.8%	4.9%	12.2%	6.5%	10.5%	6.2%
2015	5.2%	12.9%	9.3%	5.7%	11.9%	6.0%	10.8%	6.0%
2016	4.9%	12.1%	8.2%	5.8%	14.1%	5.4%	10.9%	6.2%
2017	4.7%	11.3%	7.4%	5.5%	10.7%	5.8%	10.1%	6.4%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

In Tulsa County, people in the white community had the overall lowest unemployment rate in 2017. However, unemployment rates for whites, blacks and American Indian or Native Alaskans showed downward trends from 2014 to 2017. Unemployment rates for the other racial and ethnic groups either remained relatively stable over the time-period examined for this assessment or showed very slight decreases.

Social environment

Social environments lacking safe living environments and supportive social networks present a high public health risk for serious illness and premature death. Without a network of support and a safe community, individuals and families cannot thrive.

Violent crime

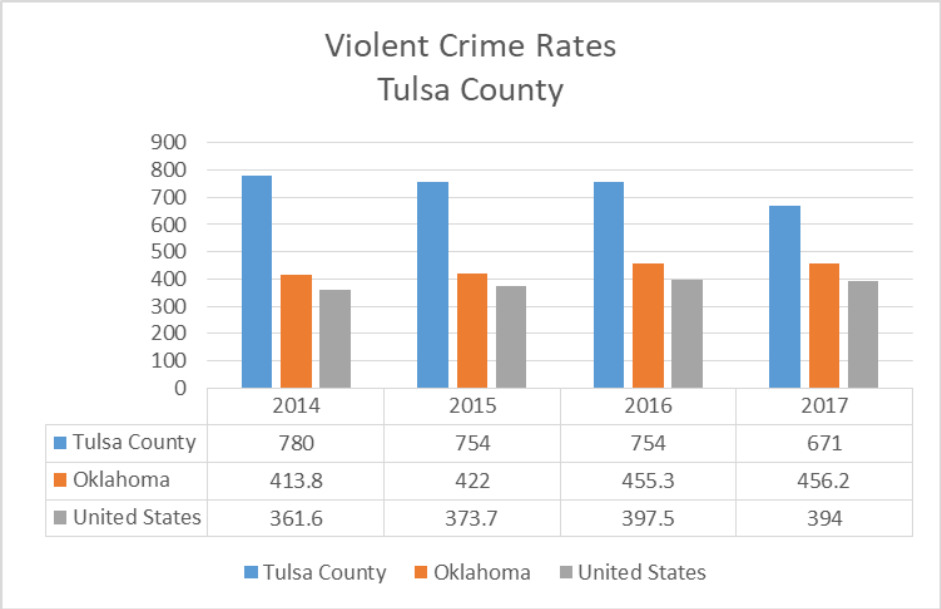
This indicator is defined as the number of violent crimes (homicide, rape, robbery and aggravated assault) per 100,000 population in the county.

Why is this important?

Violent crime is a visible risk to health as it can result in premature death as well as poor mental health, disability, and high medical costs. [41] Both physical and mental trauma can be experienced as a result of violent behavior. Violence can also have an effect on communities - it can reduce productivity, decrease property values and disrupt social services. [42] Public health interventions that focus on social norms, relationships, community environments and societal-level factors can influence violence. [25]

How are we doing?

In 2016, there was a rate of 671 violent crimes per 100,000 population in Tulsa County. This was higher than both Oklahoma and the U.S. In fact, the violent crime rate in Tulsa County was double the rate in the U.S.



Homicide mortality

The mortality rate from homicide (murder) is presented as the number of deaths from homicide per 100,000 population over the years 2014 – 2017. The rates were age-adjusted to account for differences in age distribution among locations, ZIP codes and races/ethnicities. Rates were based on the residence of the victim; not the location of the crime.

Why is this indicator important?

Almost three-quarters of the total homicides in 2016 were caused by assault with firearms. In the U.S., there are significant disparities in homicide deaths by age, race/ethnicity and sex. The homicide rate is particularly high among

[41] Injury and Violence Prevention. Healthy People 2020. U.S. Department of Health and Human Services.

[42] Violence Prevention. Centers for Disease Control and Prevention.

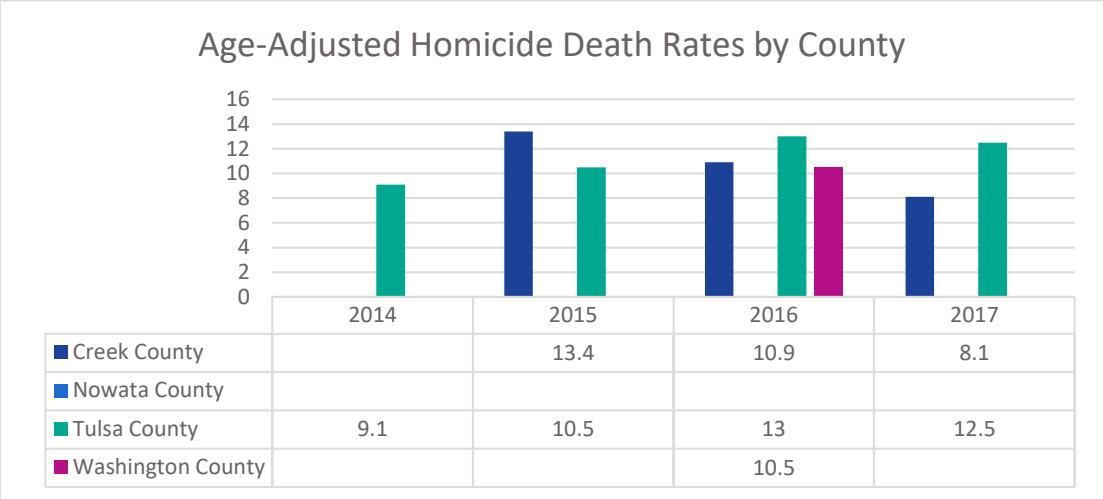
young, black males. [43] Additionally, homicide was the fifth leading cause of death in black men in Tulsa County from 2014 - 2016. Overall, it was the 12th leading cause of death.

How are we doing?

In 2017, 203 Tulsa County had an age-adjusted homicide death rate of 12.5 deaths per 100,000 individuals.

In 2016, Tulsa County had a homicide death rate of 13.2, which was higher than that of Oklahoma (8.7) and the United States (5.7; most recently available data from 2015). This trend has been true since 2011. Additionally, the homicide rate has been increasing in Tulsa County since 2014. However, there was a very slight decrease from 2016 to 2017. The Healthy People 2020 national goal is to reduce the homicide death rate to 5.5 deaths per 100,000 population. The United States overall met this target, but Tulsa County and Oklahoma did not.

The ZIP codes with the highest overall homicide death rates were 74106 and 74126.

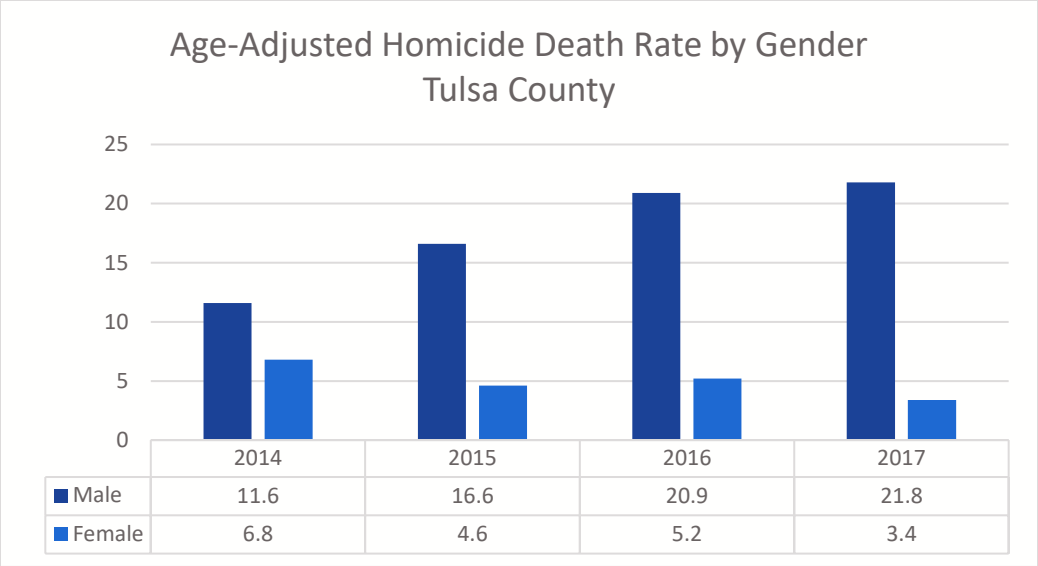


	2014	2015	2016	2017
Creek County		13.4	10.9	8.1
Nowata County				
Tulsa County	9.1	10.5	13	12.5
Washington County			10.5	

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population. Age-adjusted rates based on 2000 US population standard.

[43] Health Disparities in Homicides Fact Sheet. Centers for Disease Control and Prevention.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population. Age-adjusted rates based on 2000 US population standard.

The graph above shows the age-adjusted death rates by homicide by gender in Tulsa County from 2014 to 2017. The homicide death rate for males in Tulsa County almost doubled in the time-period examined, from 11.6 deaths per 100,000 population in 2014 to 21.8 deaths per 100,000 in 2017. For females in Tulsa County during the same time-period, homicide death rates decreased from 6.8 deaths per 100,000 population to 3.4 deaths per 100,000 population.

Unintentional injuries (accidents)

Unintentional injuries (accidents) include motor vehicle accidents, accidental falls, drownings, fires, and poisonings. The death rate from unintentional injuries is the number of deaths per 100,000 population, over the years 2014 – 2017. The rates were age-adjusted to account for differences in age distribution among locations, ZIP codes, and races/ethnicities.

Why is this indicator important?

Accidents were the fourth leading cause of death in Tulsa County from 2014-2016. The top three accident categories are accidental poisonings (38 percent), motor vehicle accidents (24 percent) and falls (22 percent). Accidental poisonings can include unintentional drug overdoses, as well as poisonings from household chemicals or carbon monoxide.[44]

Motor vehicle safety prevention efforts often aim to improve car/booster seat and seat belt use, reduce impaired driving, as well as focus on high risk groups such as child passengers, teen drivers and older adult drivers.[45]

[44] Tips to Prevent Poisonings. Centers for Disease Control and Prevention.

[45] Motor Vehicle Safety. Centers for Disease Control and Prevention.

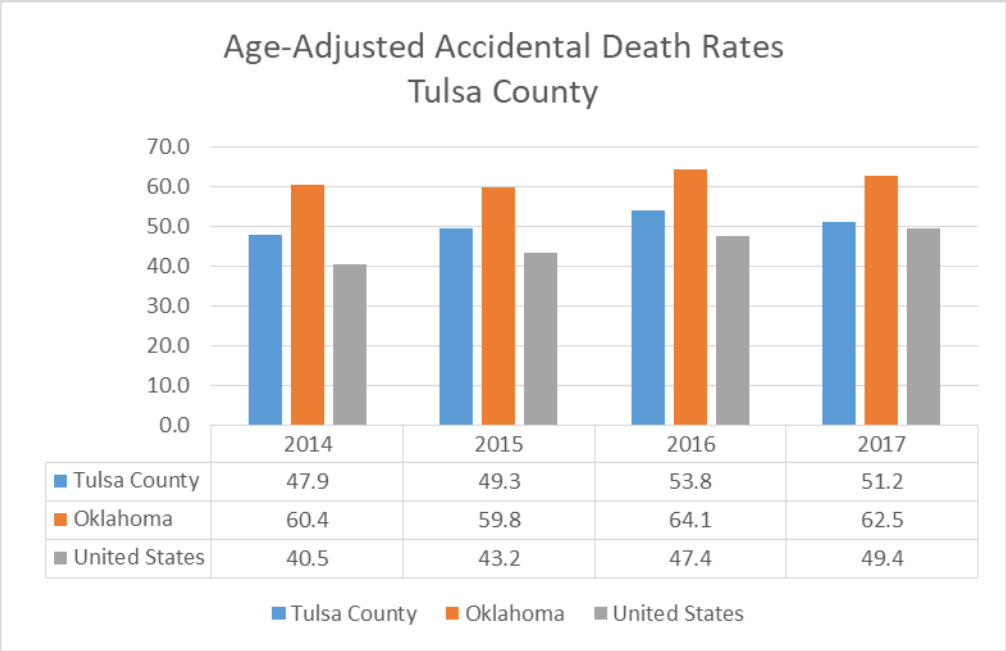
Risk factors for falls include lower body weakness, difficulties with walking and balancing, vision problems, foot pain or poor footwear and home hazards such as uneven steps or clutter that could be tripped over. Most falls are caused by a combination of risk factors. [46]

How are we doing?

Accidents killed 985 Tulsa County residents from 2014 to 2017, for a death rate of 50.5 deaths per 100,000 individuals. With regard to race, the death rate was highest among 'other' races (95.5 deaths per 100,000 population). The unintentional injury death rate was higher among non-Hispanics than Hispanics (52.9 compared to 36.2).

In 2017, Tulsa County had an age-adjusted unintentional injury death rate of 1.2. This was lower than Oklahoma (62.5) but higher than the U.S. (49.4). None of these regions met the Healthy People 2020 target of 36.0 deaths from unintentional injuries per 100,000 population.

The ZIP code with the highest overall unintentional injury death rate was 74130.



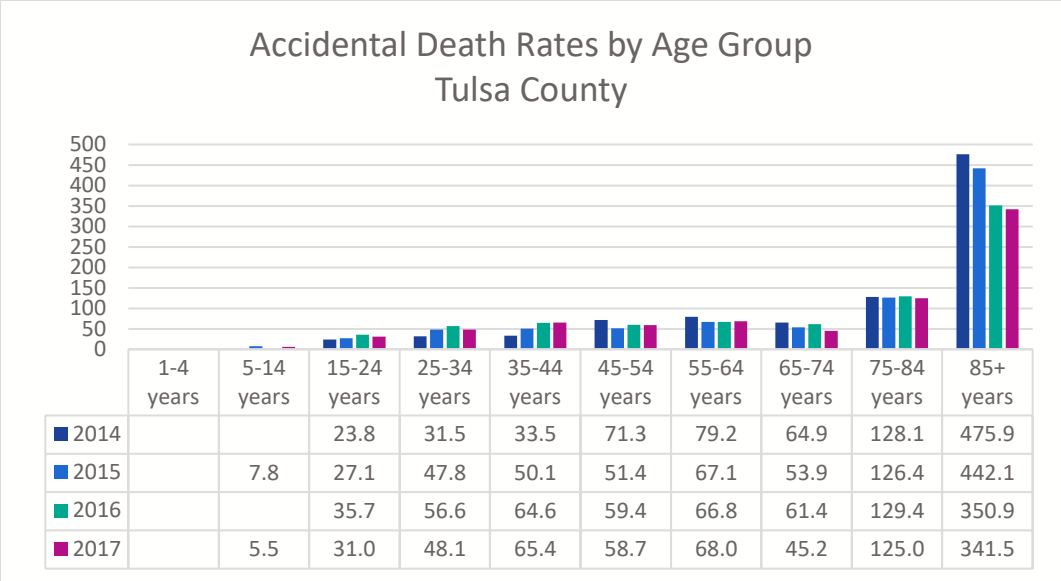
	2014	2015	2016	2017
Tulsa County	47.9	49.3	53.8	51.2
Oklahoma	60.4	59.8	64.1	62.5
United States	40.5	43.2	47.4	49.4

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population. Age-adjusted rates based on 2000 US population standard.

Accidental death rates remained relatively stable across the counties included in this assessment from 2014 to 2017.

[46] Important Facts about Falls. Centers for Disease Control and Prevention.

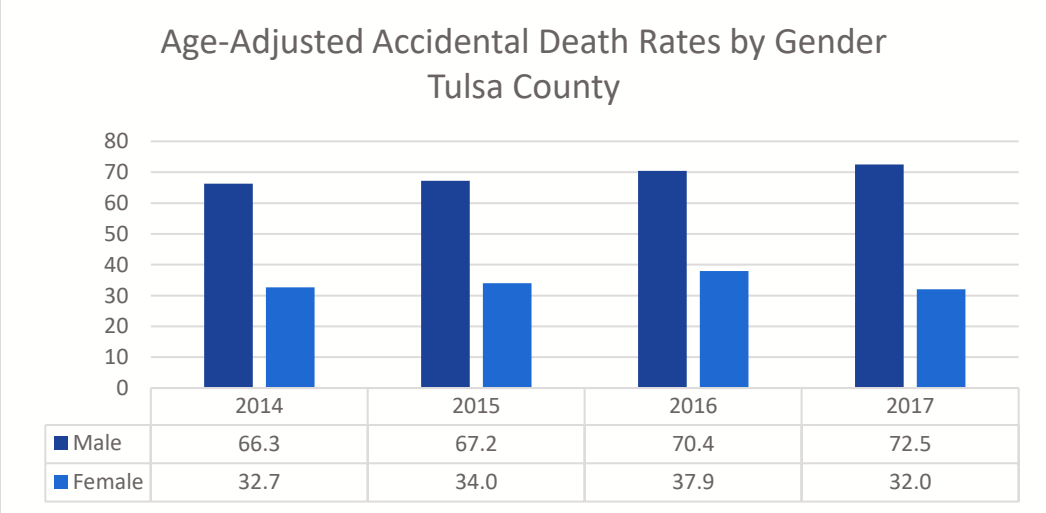


	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85+ years
2014			23.8	31.5	33.5	71.3	79.2	64.9	128.1	475.9
2015		7.8	27.1	47.8	50.1	51.4	67.1	53.9	126.4	442.1
2016			35.7	56.6	64.6	59.4	66.8	61.4	129.4	350.9
2017		5.5	31.0	48.1	65.4	58.7	68.0	45.2	125.0	341.5

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population. Age-adjusted rates based on 2000 US population standard.

The graph above shows the accidental death rates by age group for Tulsa County from 2014 to 2017. Accidental death rates for all groups remained fairly stable with slight variation across all age groups except for those in the 85 and older age group, which, although being extremely elevated over the other age groups examined, did show a decrease over the time period from 475.9 deaths per 100,000 population in 2014 to 341.5 deaths per 100,000 population in 2017. The graph also illustrates how the accidental death rate increases substantially from age group 65 to 74 to age group 75 to 84, and then increases again dramatically from age group 75 to 84 to age group 85 and older.

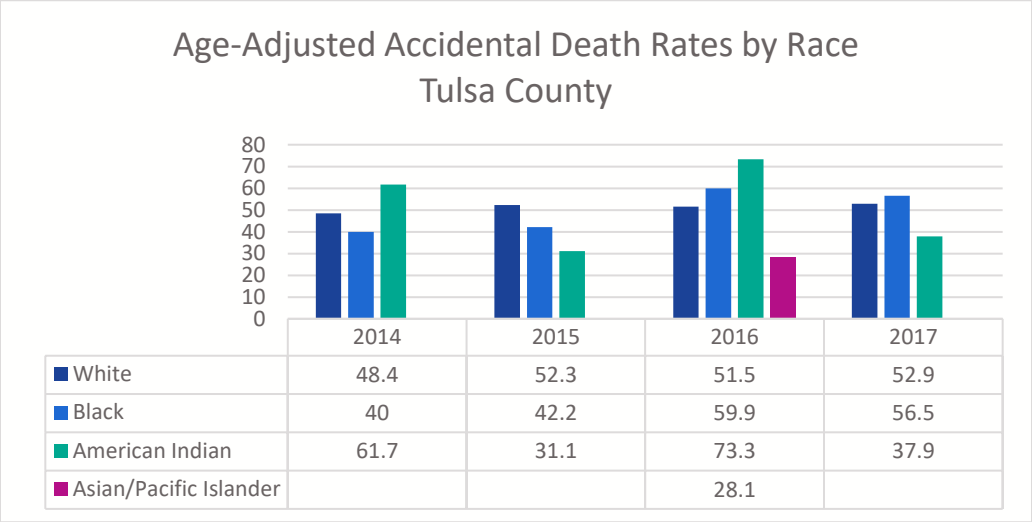


	2014	2015	2016	2017
Male	66.3	67.2	70.4	72.5
Female	32.7	34.0	37.9	32.0

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population. Age-adjusted rates based on 2000 US population standard.

Age-adjusted accidental death rates from 2014 to 2017 in Tulsa County for males were approximately double what they were for females. Rates for both genders remained relatively stable over the time-period.

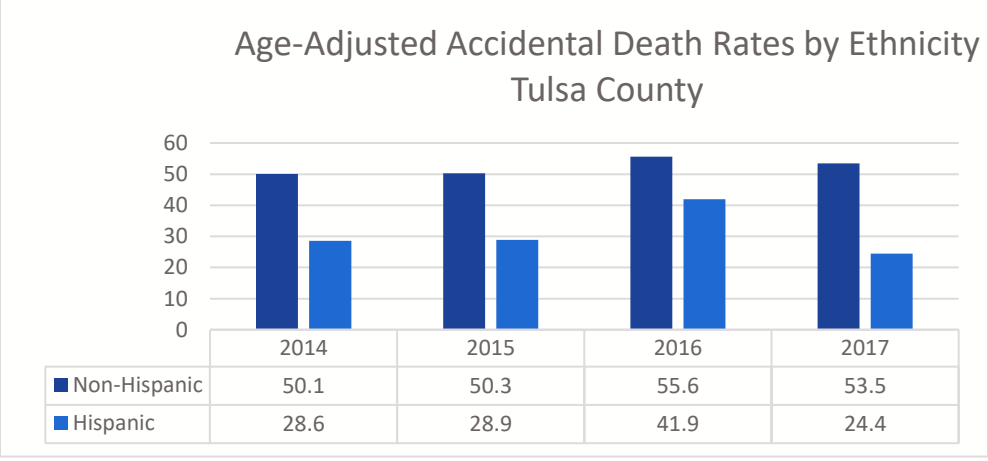


	2014	2015	2016	2017
White	48.4	52.3	51.5	52.9
Black	40	42.2	59.9	56.5
American Indian	61.7	31.1	73.3	37.9
Asian/Pacific Islander			28.1	

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population. Age-adjusted rates based on 2000 US population standard.

Accidental death rates for the white population in Tulsa County remained relatively stable from 2014 to 2017. For the black population, there was a general upward trend from 40 deaths per 100,000 population in 2014 to 56.5 in 2017. Accidental death rates for the American Indian population in Tulsa County showed more seemingly random variation, likely due to smaller numbers in this population as a whole, where even small changes in number of deaths from year to year have greater effect on the death rate.



	2014	2015	2016	2017
Non-Hispanic	50.1	50.3	55.6	53.5
Hispanic	28.6	28.9	41.9	24.4

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 deaths/populations less than 20). All rates are deaths per 100,000 population. Age-adjusted rates based on 2000 US population standard.

The accidental death rate for non-Hispanics in Tulsa County was higher than the accidental death rate for Hispanics from 2014 to 2017. Accidental death rates for both groups remained relatively stable over the time-period.

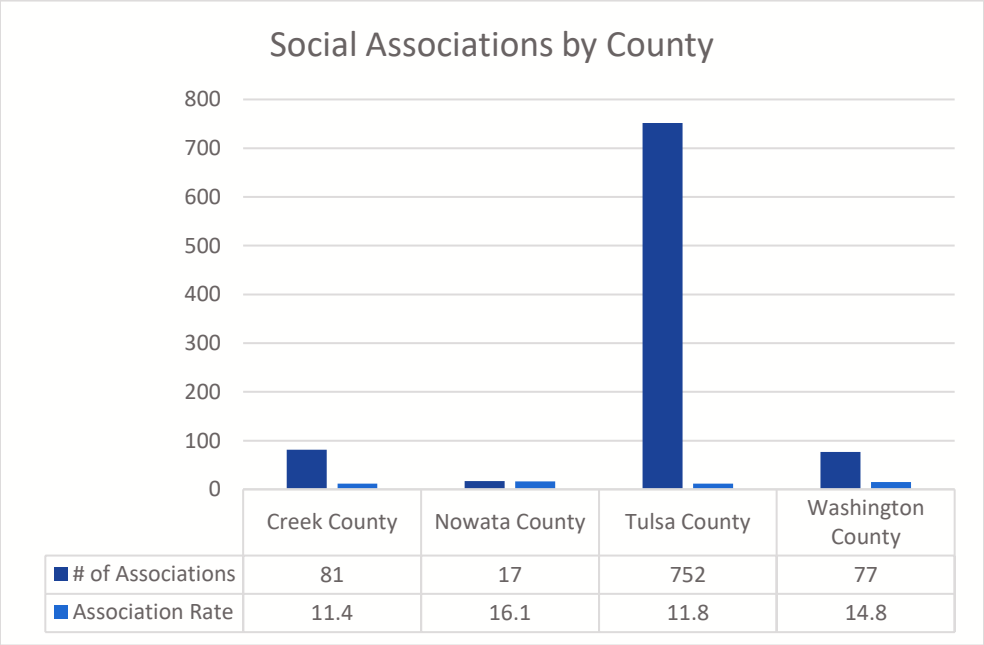
Social and emotional support

Social associations

Social associations measure the number of organizations per 10,000 population in a county. The numerator is the number of organizations or associations in a county. Associations include membership organizations such as civic organizations, bowling centers, golf clubs, fitness centers, sports organizations, political organizations, labor organizations, business organizations, and professional organizations. Social Associations do not measure all of the social support available within a county.

Data and business codes are self-reported by businesses in a county. County Health Rankings used the primary business code of organizations, which in some cases may not match up with our notion of what should be labeled as a civic organization. This measure does not consider other important social connections offered via family support structures, informal networks, or community service organizations, all of which are important to consider when understanding the amount of social support available within a county.[47]

How are we doing?



Data Source: Social Associations from County Health Rankings, Number of membership associations per 10,000 population.2015 Data

All of the counties included in this assessment ranked within the top 20 counties in Oklahoma in terms of their Social Association Rates from County Health Rankings as defined above.

[47] County Health Rankings, http://www.countyhealthrankings.org/learn/explore-health-rankings/what-and-why-we-rank/health-factors/social-and-economic-factors/family-social-support/social-associations.

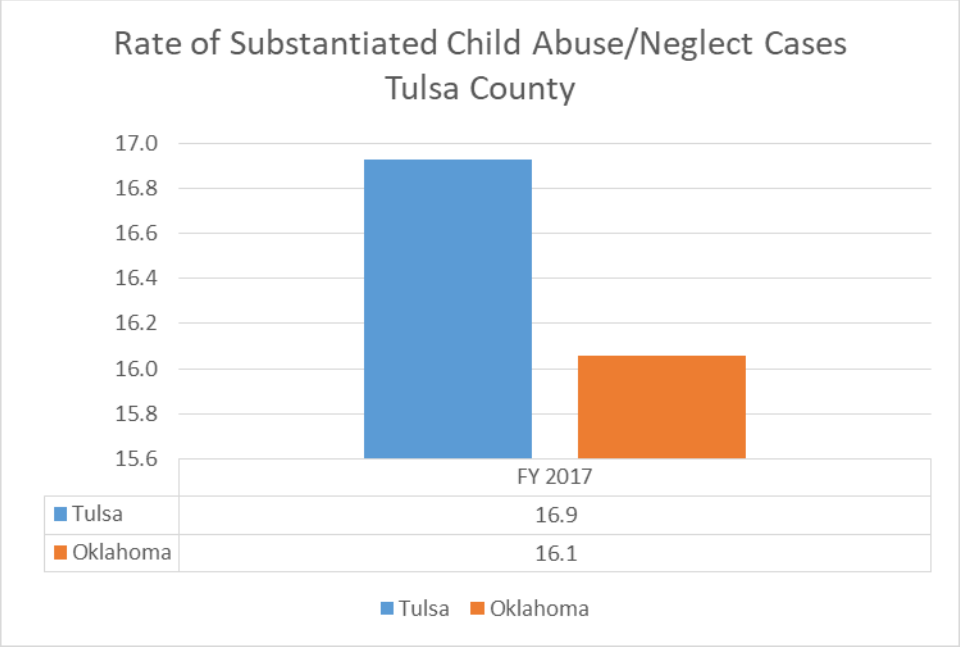
Child abuse and neglect

The Oklahoma Department of Human Services (OKDHS) assesses all accepted reports of alleged child abuse and neglect and, if necessary, investigates individuals responsible for the child's care. Investigations are conducted when the report contains allegations of serious threats to the child's safety, whereas assessments are conducted when the allegation of abuse or neglect does not constitute a serious or immediate threat to a child's health or safety. This indicator is presented as the number of confirmed cases of child abuse or neglect per 1,000 children. Please note that these rates reflect a duplicated count of children confirmed to be victims of child abuse and neglect. The child abuse and neglect data presented below are the latest available from the Oklahoma Department of Human Services for the state's FY2017 and provide a point-in-time snapshot of this indicator for this assessment.

Why is this indicator important?

Healthy and safe environments are important to the well-being and development of children. Victims of child abuse are at higher risk of having a number of adverse outcomes throughout their life, including physical, psychological, and behavioral consequences. Physical consequences include abusive head trauma, impaired brain development, and poor physical health. Psychological consequences include difficulties during infancy, poor mental and emotional health, cognitive difficulties, and social difficulties. Behavioral consequences include difficulties during adolescence, juvenile delinquency, adult criminality, substance abuse, and abusive behavior.[48]

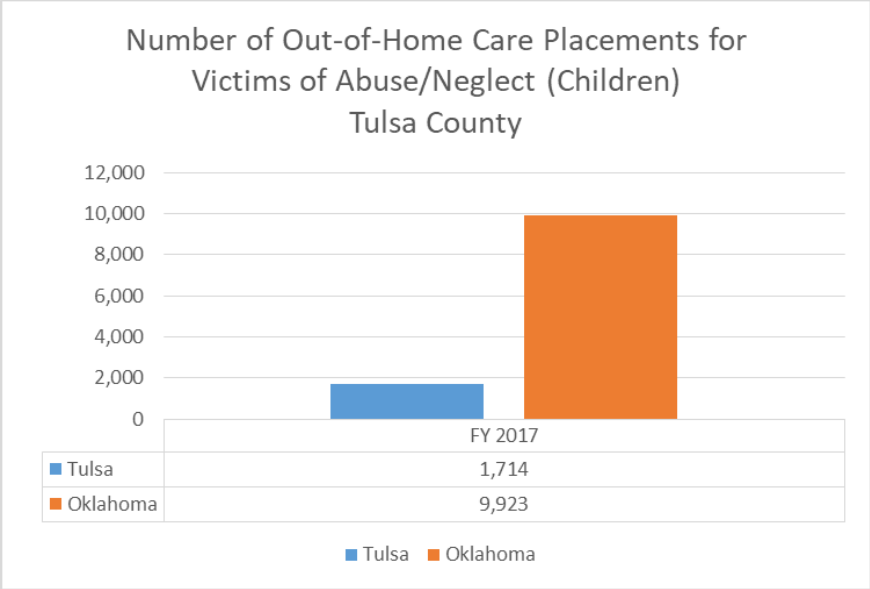
How are we doing?



Child Abuse and Neglect Statistics SFY 2017 July 2016 - June 2017, Oklahoma Department of Human Services.

Tulsa County's rate was slightly higher than the rate for Oklahoma as a whole (16.9 and 16.1 respectively).

[48] U.S. Department of Health and Human Services. (2016). *Child Welfare Information Gateway: Long-Term Consequences of Child Abuse and Neglect Fact Sheet.* Retrieved from: .



Child Abuse and Neglect Statistics SFY 2017 July 2016 - June 2017, Oklahoma Department of Human Services.

The graph above shows the number of out-of-home care placements for child victims of abuse and neglect for the county and for the state of Oklahoma as a whole.

Adverse childhood experiences (ACEs)

The Adverse Childhood Experiences (ACE) study – a collaboration between the Centers for Disease Control and Prevention and Kaiser Permanente's Health Appraisal Clinic in San Diego, with lead researchers Robert Anda, MD and Vincent Felitti, MD, in the late 1990s – found correlations between childhood neglect, abuse and household dysfunction with later-life health and well-being. This is one of the largest investigations ever conducted to assess relationships between child maltreatment and later-life health and well-being.[49] The data presented below are the latest available from Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

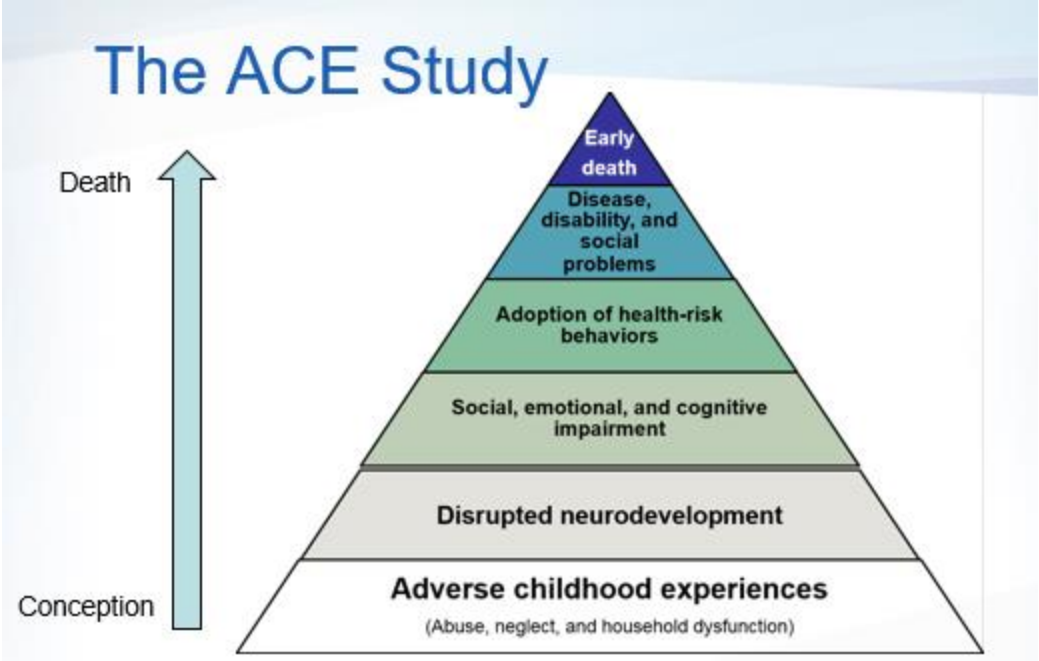
Why is this indicator important?

This study has received renewed interest in recent years as a conceptual model to examine the potential for changes in well-being through the life cycle of the child. The implications for our state are dramatic with the large number of children experiencing child abuse and neglect, incarcerated parents, single parenting, as well as other negative indicators.

The study found that children who experience adverse childhood trauma may have disrupted neurodevelopment which increases their risk for school failures and ultimately poorer well-being throughout the life span, including greater incidences of premature death. Risk for health problems increases as number of ACEs increases. Adolescent pregnancy, early initiation of sexual activity and long-term psychosocial consequences have been shown to correlate inversely with childhood family strengths – the greater the number of strengths, the lower the risk of these events occurring.[50]

[49] Centers for Disease Control and Prevention. *Adverse Childhood Experiences.* Retrieved from: https:/ov/violenceprevention/acestudy/.

[50] Felitti, V.J. et al. (1998). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. *American Journal of Preventive Medicine (14)*4, 245 – 258.



Centers for Disease Control and Prevention. *Adverse Childhood Experiences.* Retrieved from: https://www.cdc.gov/violenceprevention/acestudy/.

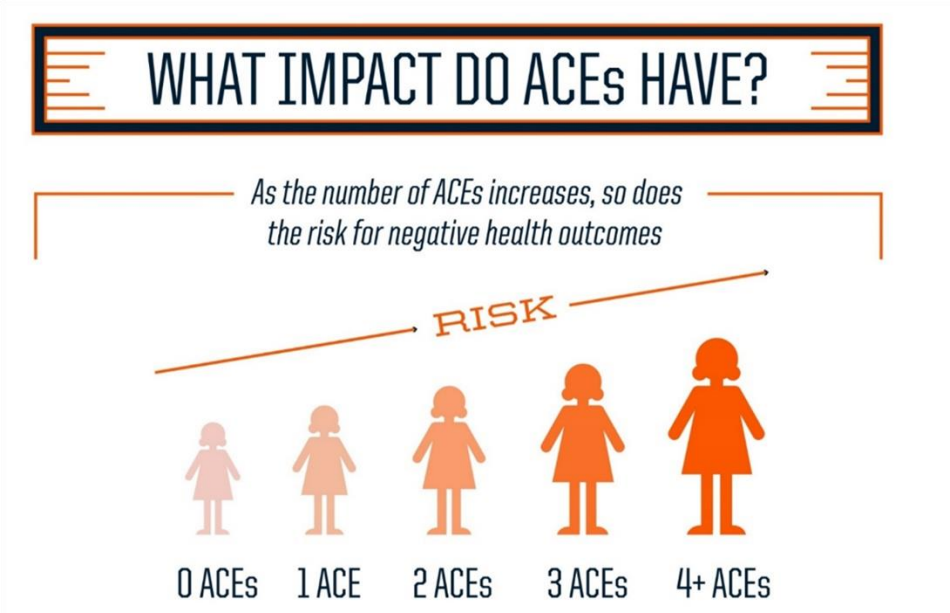
A child's early years matter because early relationships and experiences help shape the architecture and wiring of the brain, creating either a sturdy or fragile foundation for a young child's cognitive, emotional and behavioral development. Nurturing relationships with parents and other caregivers, as well as stimulating and educationally rich environments, help young children thrive. But the experience of poverty and related risk factors — such as poor parenting, inadequate nutrition, frequent moves and changes in non-parental caregivers, insufficient cognitive stimulation and unsafe environments — can suppress brain development and have lasting effects.[34]

Adverse childhood experiences include, but are not limited to:

- Recurrent physical abuse
- Recurrent emotional abuse
- Sexual abuse
- An alcohol or drug abuser in the household
- An incarcerated household member
- Household member who is chronically depressed, suicidal, institutionalized or mentally ill
- Mother being treated violently
- One or neither parent living with child
- Emotional or physical neglect

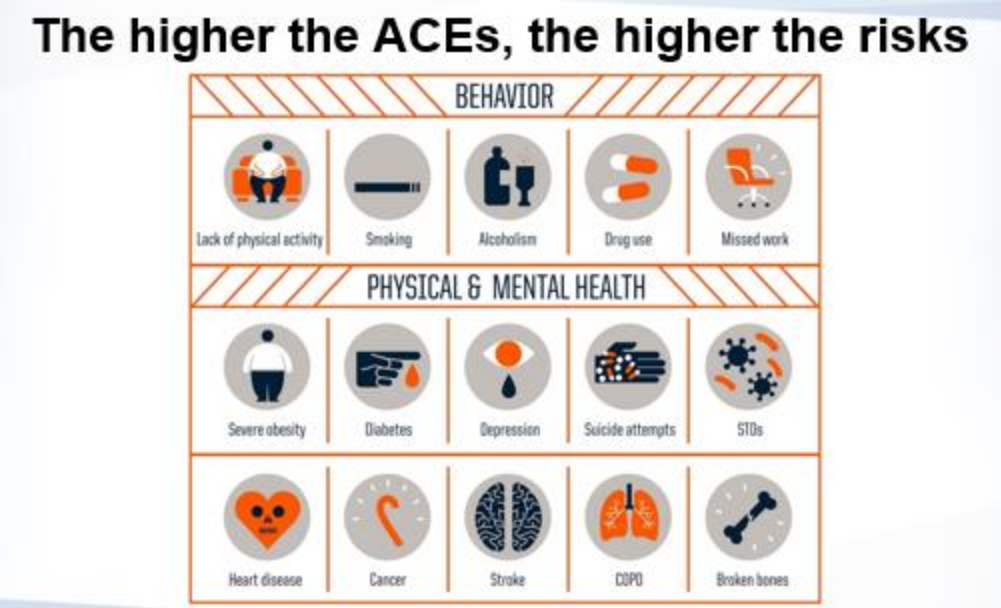
Centers for Disease Control and Prevention. *Adverse Childhood Experiences.* Retrieved from: https://www.cdc.gov/violenceprevention/acestudy/.

Any one of these experiences may be traumatic enough by itself to create changes in neurodevelopment, but the increase in the number of adverse childhood experiences increases the correlation with negative lifetime outcomes. According to the study, approximately 13% of average middle-class Americans experienced 4 or more of these conditions as a child (15% of women, 9% of men). [34]



Centers for Disease Control and Prevention. *Adverse Childhood Experiences.* Retrieved from: https://www.cdc.gov/violenceprevention/acestudy/.

Some of the resulting conditions include drug, alcohol and nicotine addiction, obesity, depression and suicide, unintentional pregnancy, heart disease, cancer and premature death.[34]

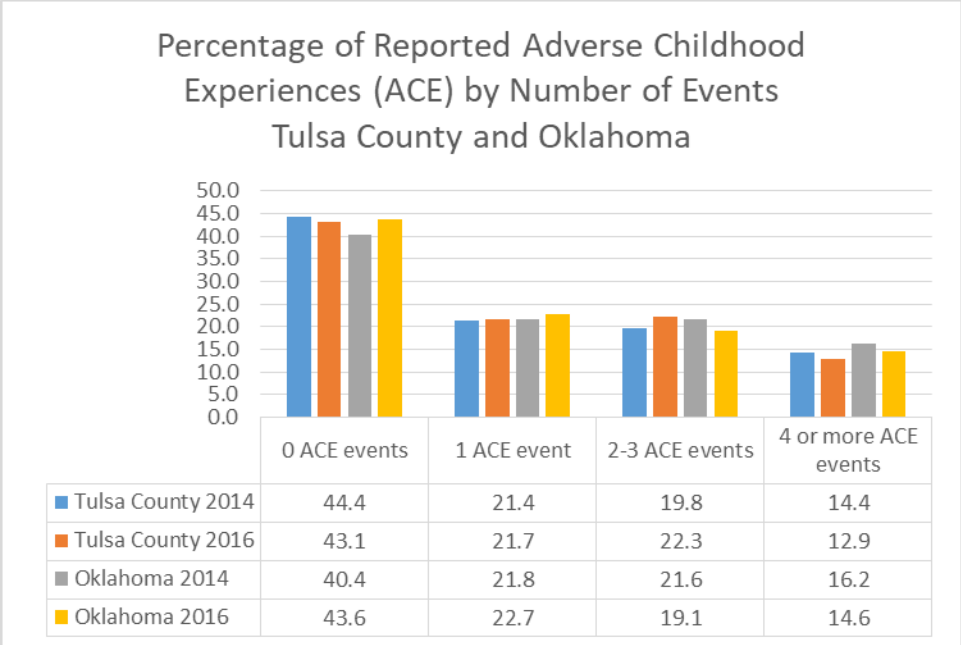


Centers for Disease Control and Prevention. *Adverse Childhood Experiences.* Retrieved from: https://www.cdc.gov/violenceprevention/acestudy/..

A child's relationships and experiences matter. Early intervention can prevent, or at least reduce, some of the negative effects associated with adverse childhood experiences.

How are we doing?

Oklahoma ranked 41st in the nation and had the ninth highest percent of children experiencing two or more ACES (26.6%) in the nation in 2018.[51]



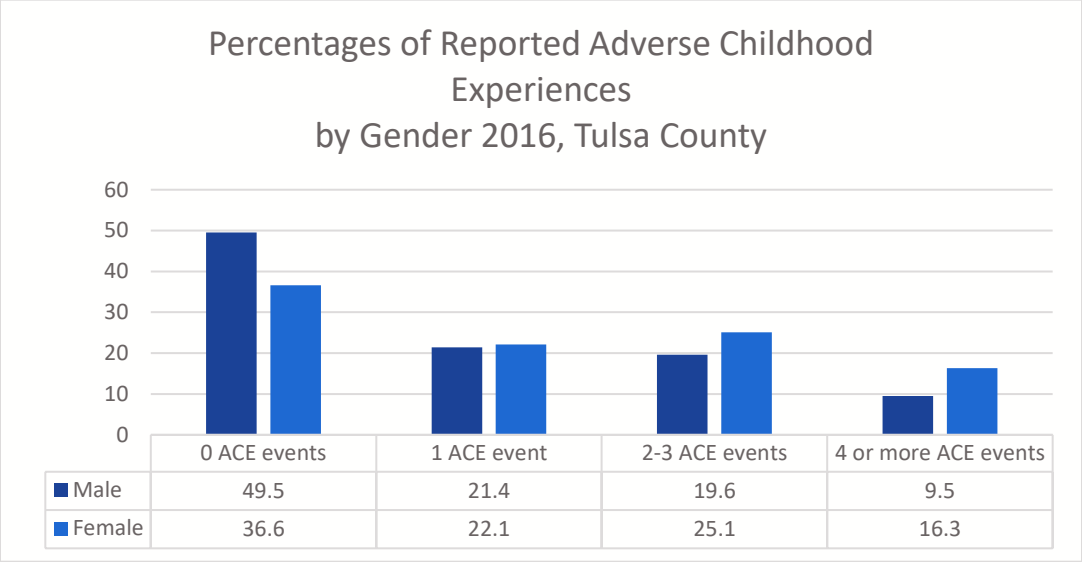
	0 ACE events	1 ACE event	2-3 ACE events	4 or more ACE events
Tulsa County 2014	44.4	21.4	19.8	14.4
Tulsa County 2016	43.1	21.7	22.3	12.9
Oklahoma 2014	40.4	21.8	21.6	16.2
Oklahoma 2016	43.6	22.7	19.1	14.6

[51] United Health Foundation. America's Health Rankings: Adverse Childhood Experiences.

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis. (*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

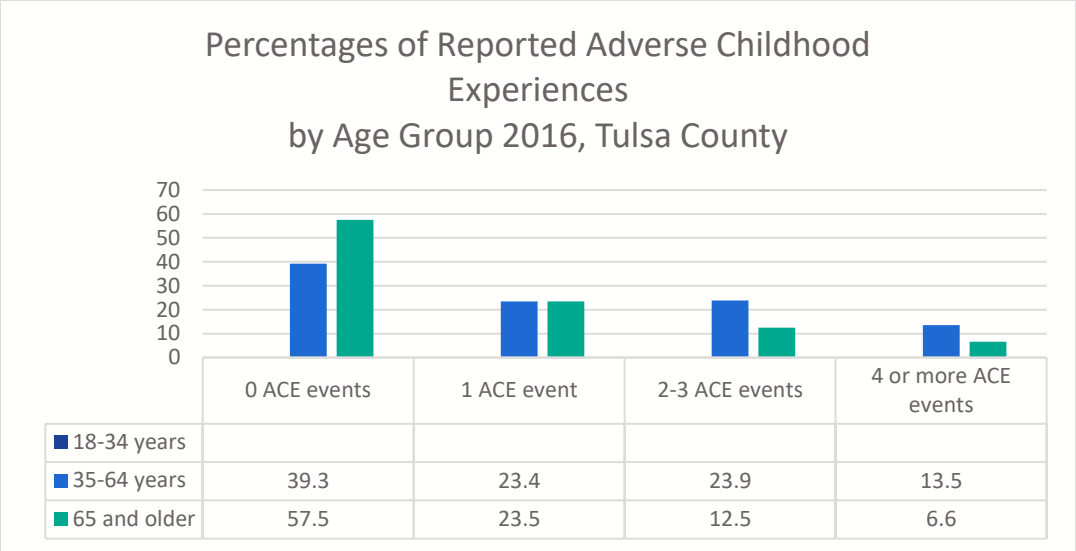
The graph above shows the percentage of respondents reporting number of adverse childhood experiences by Tulsa County and Oklahoma. The majority of people in both regions (between 50% and 60%) reported one or more adverse childhood experiences.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis. (*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

In Tulsa County, a higher percentage of males (49.5%) reported having 0 adverse childhood experiences than did females (36.6%). Males and females were almost equal in terms of the percentages having had one adverse childhood experience (males 21.4%, females 22.1%). As the number of adverse childhood experiences reported increased, the gap between males and females widened with a higher percentage of females reporting more adverse childhood experiences than males.



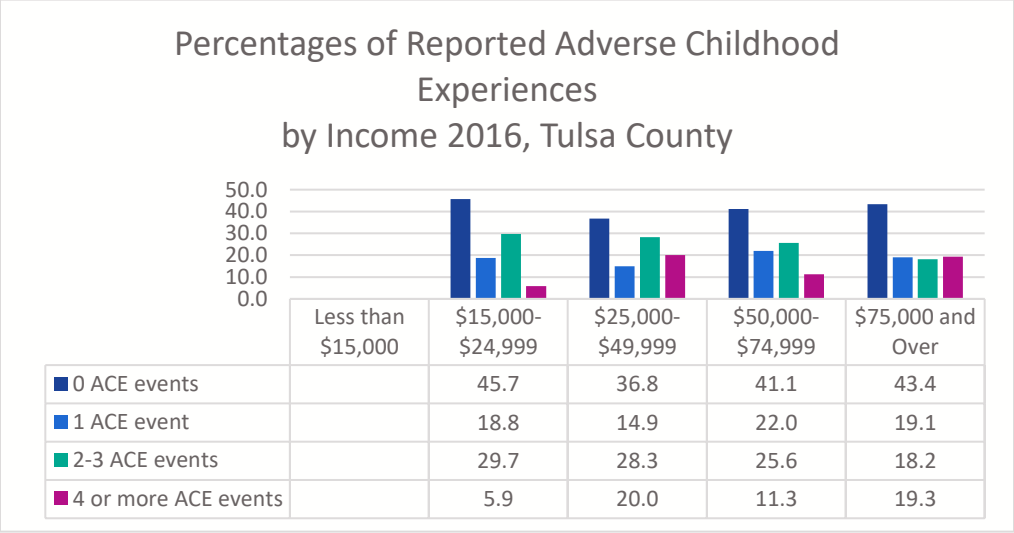
	0 ACE events	1 ACE event	2-3 ACE events	4 or more ACE events
18-34 years				
35-64 years	39.3	23.4	23.9	13.5
65 and older	57.5	23.5	12.5	6.6

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis. (*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

A higher percentage of people in the 65 and older age group reported having had no adverse childhood experiences than those in the 35 to 64-year-old age group (57.5% and 39.3% respectively). The two age groups were almost identical on the percentage that reported one adverse childhood experiences at just over 23%. The percentages in the 35 to 64-year-old age group reporting 2-3 adverse childhood experiences and 4 or more adverse childhood experiences were about double those for the 65 and older age group. There were not enough cases in Tulsa County in the 18-34 age group for analysis to be performed on this indicator.

In Tulsa County, there were too few cases for meaningful breakdowns of race and ethnicity on number of adverse childhood experiences.



	Less than $15,000	$15,000-$24,999	$25,000-$49,999	$50,000-$74,999	$75,000 and Over
0 ACE events		45.7	36.8	41.1	43.4
1 ACE event		18.8	14.9	22.0	19.1
2-3 ACE events		29.7	28.3	25.6	18.2
4 or more ACE events		5.9	20.0	11.3	19.3

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis. (*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

For the income categories with enough cases for calculations to be made for Tulsa County, the percentages reporting 0 adverse childhood experiences was around 40% across categories. For those who reported 2 to 3 adverse childhood experiences, the percentages decreased as income increased. There was no discernable pattern noted in the distribution of responses for those reporting 1 or 4 or more adverse child experiences.

Incarceration

This indicator examines the number of justice-involved individuals in corrections facilities, the rate of female incarceration, and incarceration trends within the state. Estimates are based on data from the Oklahoma Department of Corrections and the Bureau of Justice Statistics.

Why is this indicator important?

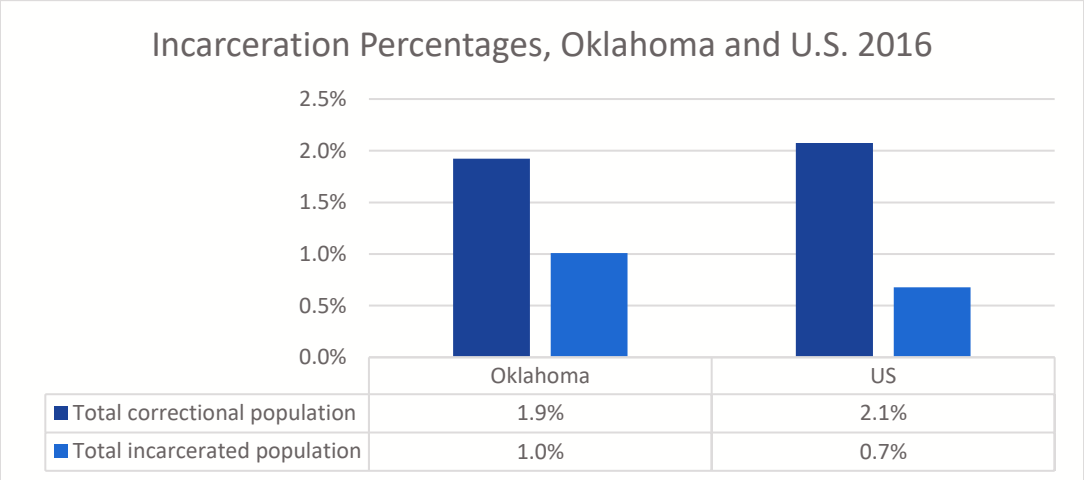
The health disparities that exist in our communities are especially evident in the population that cycles in and out of our jails and prisons. For many obvious reasons, justice-involved populations in prison are among the unhealthiest members of society. Most come from impoverished communities where chronic and infectious diseases, drug abuse and other physical and mental stressors are present at much higher rates than in the general population. Health care in those communities also tends to be poor or nonexistent.

The experience of being locked up — which often involves dangerous overcrowding and inconsistent or inadequate health care — exacerbates these problems or creates new ones. Justice-involved populations have very high rates of physical illness, mental illness, and substance use disorders. And their health problems have significant impacts on the communities from which they come and to which they return.

How are we doing?

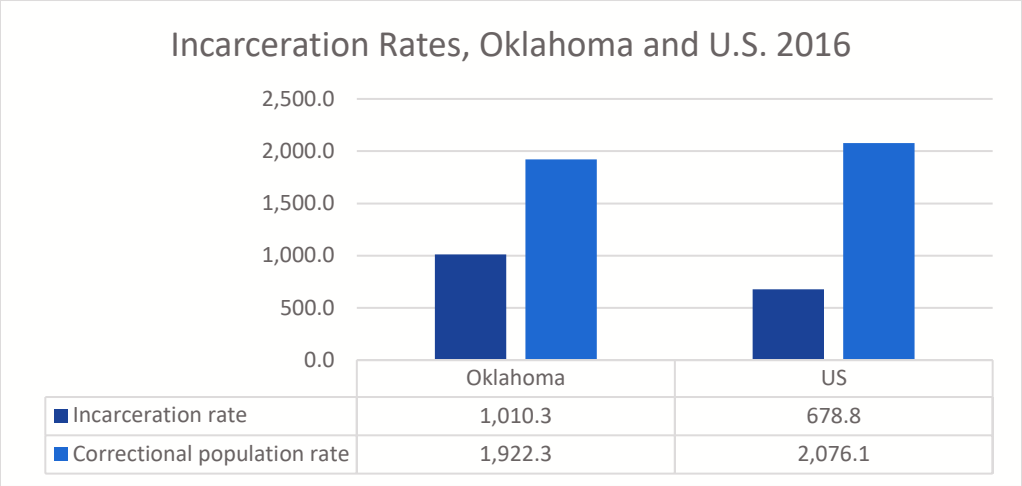
Despite efforts to reduce incarceration, Oklahoma's incarnated justice-involved population is growing at a steady pace. The trend includes a surge of state justice-involved populations being held in county jails in recent months and the rate of women in prison reaching its highest recorded level.

Incarceration rates were not available at the county or region level. The graphs below present data for incarceration rates for the state of Oklahoma and the United States.



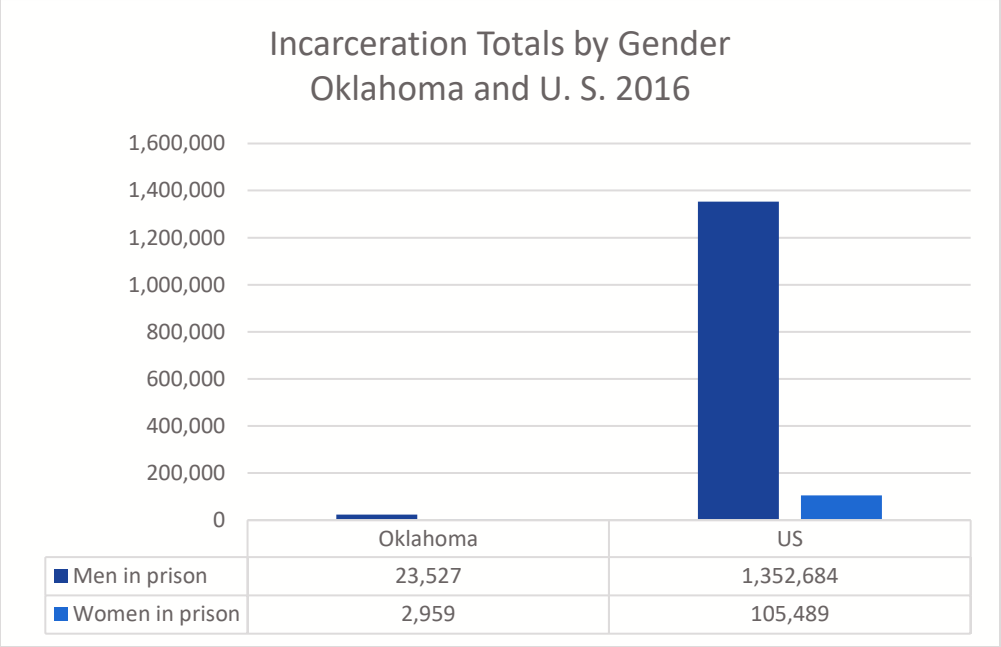
Corrections Population: U.S. Bureau of Justice Statistics; The Sentencing Project

The state of Oklahoma had a lower percentage than the U.S. for the percentage of the total correctional population, but a higher percentage than the U.S. for the percentage of the total incarcerated population.



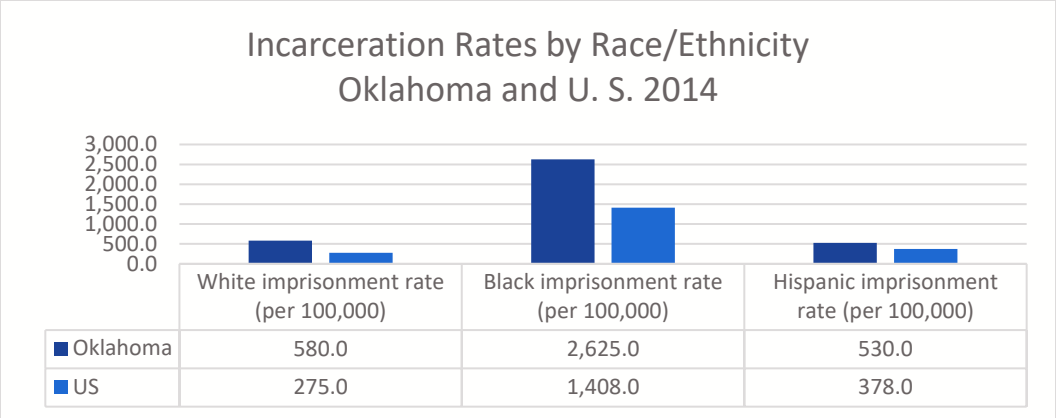
Corrections Population: U.S. Bureau of Justice Statistics; The Sentencing Project

Oklahoma had a higher incarceration rate (1,010.3) than the U.S. overall (678.8), but a lower correctional population rate (1,922.3) than the U.S. overall (2,076.1).



Corrections Population: U.S. Bureau of Justice Statistics; The Sentencing Project

The graph above basically gives a snapshot of the number of men and women incarcerated in the state of Oklahoma and the U.S. in 2016.



Corrections Population: U.S. Bureau of Justice Statistics; The Sentencing Project

Incarceration rates by race reveal that both the U.S. and Oklahoma have higher rates for the black population than for the white and Hispanic populations. For each racial/ethnic category shown in the above graph, Oklahoma had higher incarceration rates than did the U.S. overall.

Homelessness

The annual Point -In-Time (PIT) count offers a snapshot of homelessness—of both sheltered and unsheltered homeless populations— on a single night. One-night counts are conducted across our nation during the same week in January using the same Department of Housing and Urban Development (HUD) standards. Communities across the nation typically conduct their PIT counts during a defined period of time (e.g., dusk to dawn) on a given night to minimize the risk of counting any person more than once. On January 25, 2018, the A Way Home for Tulsa (AWH4T), the Tulsa City/County local Continuum of Care partner organizations and staff with other local organizations and volunteers conducted a Point-In-Time (PIT) survey of homeless and formerly homeless individuals. In addition to the total counts of homelessness, the PIT count provides Tulsa with an estimate of the number of people experiencing homelessness within particular populations, such as people with chronic patterns of homelessness and veterans.

Tulsa conducts a PIT count in shelters and on the street (or unsheltered) every year. PIT counts are reported to HUD nationally by an estimated 403 CoCs, covering virtually the entire United States. PIT counts are useful because they account for both sheltered and unsheltered people experiencing homelessness. However, the estimates of homelessness on a single night can be influenced by changes in local methodologies used to count people experiencing homelessness, especially those in unsheltered locations. In addition, the estimates are not designed to count people who experience homelessness throughout the year, and thus provides limited information on how people use the homeless service system. Participating agencies and local institutions conducted the surveys of homeless and formerly homeless individuals, youth and families experiencing homelessness. In accordance with HUD, the count did not include individuals who are sharing the housing of other persons due to loss of housing, economic hardship, or a similar reason (often referred to as “doubled up” or “couch surfing”) or those living in hotels, motels, trailer parks, or camping grounds due to the lack of alternative adequate accommodations.[52]

Why is this indicator important?

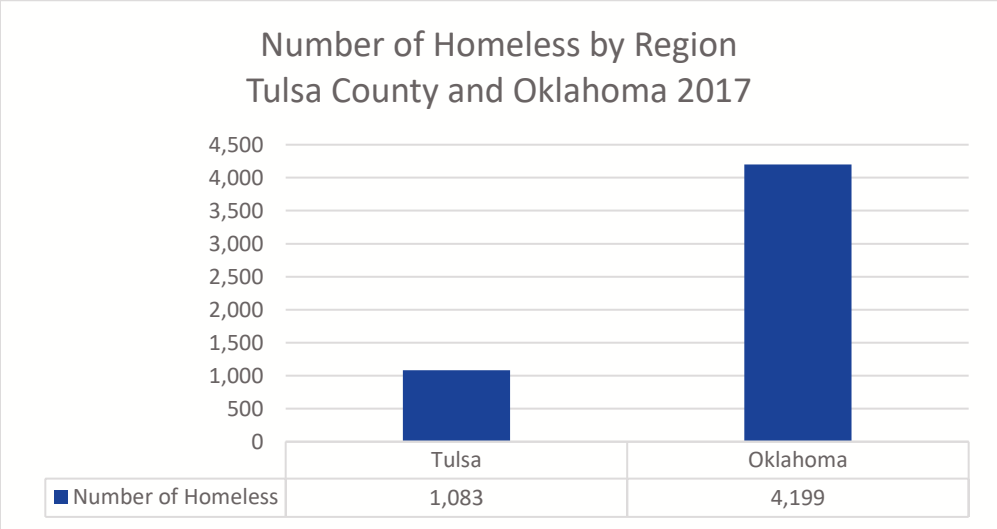
Homelessness is a growing public health problem. It is associated with behavioral, social and environmental risks that lead to poor health outcomes such as heart diseases, cancer, liver disease, kidney disease, skin infections, HIV/AIDS, pneumonia, and tuberculosis. Furthermore, homelessness often presents barriers to healthcare access. As a result,

[52] Community Service Council. (2018). *Homelessness in Tulsa, April 2018: Single Year Data 2017 / Single Night Count 01.25.18.* Retrieved from: https://www.csctulsa.org/wp-content/uploads/2018/05/CSC-Homelessness-Annual-Report_5.11.18.compressed.pdf

people experiencing homelessness have a life expectancy that is estimated to be about 25 – 35 years shorter than the general population.[53]

How are we doing?

Data on homelessness was only available for Tulsa County and Oklahoma as a whole for 2017. The following graphs give a point-in-time snapshot of homelessness for these two geographical areas.

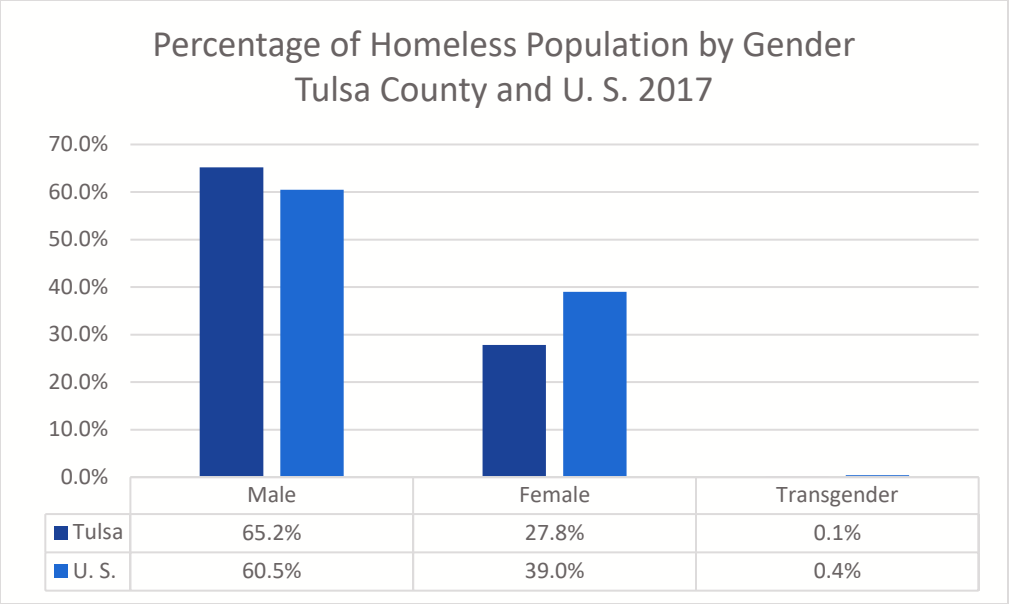


Tulsa Data: 2018, https://csctulsa.org/housing-homelessness/

OK, US data: 2017, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf

Tulsa County had about a fourth (roughly 25.8%) of the homeless individuals reported for Oklahoma as a whole in 2017. The estimated number of homeless for the U.S. overall for 2017 was 554,000, according to the U.S. Department of Housing and Urban Development. This means that the homeless population in Oklahoma accounted for less than 1% (approximately 0.75%) of the total homeless population in the U.S. in 2017.

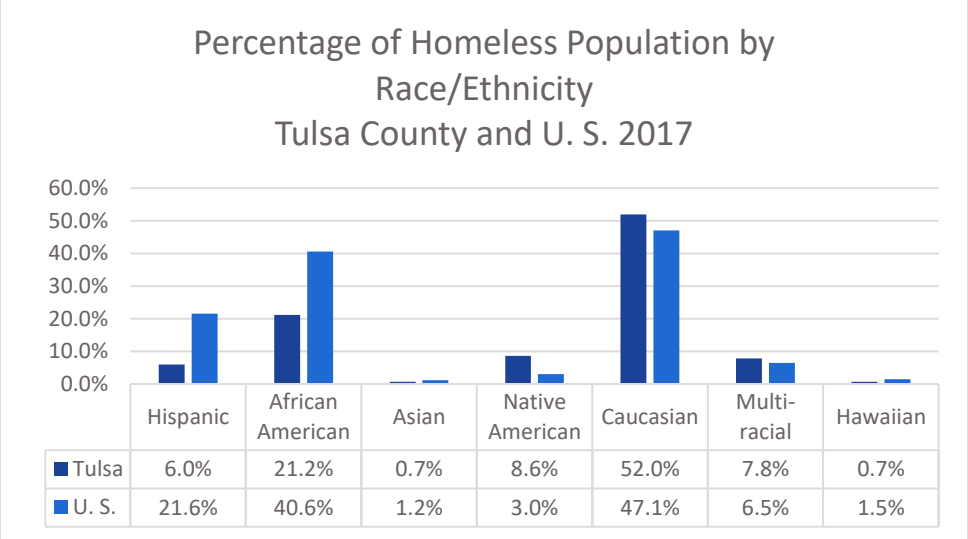
[53]. National Coalition for the Homeless. (2016). *Health Care and Homelessness*. Retrieved from: http://www.nationalhomeless.org/factsheets/health.html.



Tulsa Data: 2018, https://csctulsa.org/housing-homelessness/

OK, US data: 2017, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf

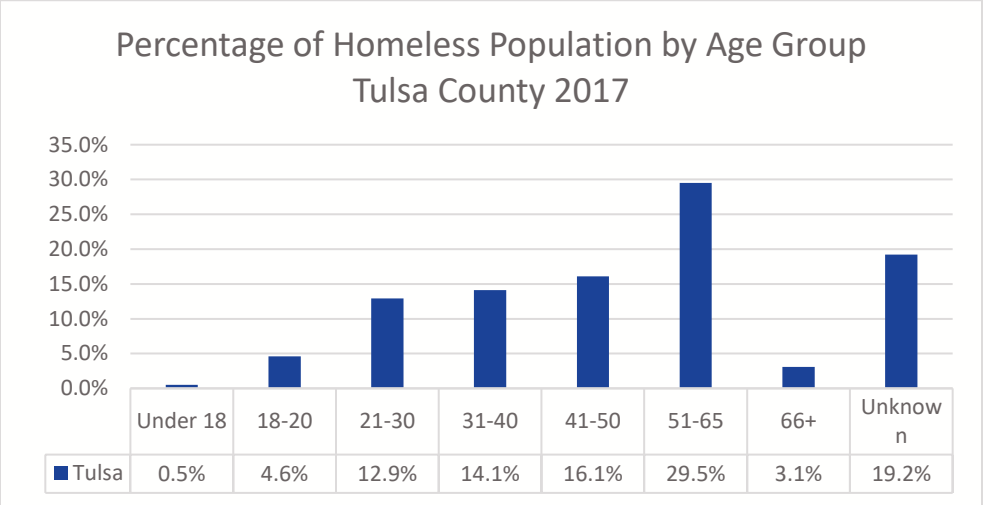
For both the U.S. and Tulsa County, there were more males reportedly homeless than females. Tulsa County had a higher percentage of males who were homeless than the U.S., and the U.S. had a higher percentage of females who were homeless than Tulsa County.



Tulsa Data: 2018, https://csctulsa.org/housing-homelessness/

OK, US data: 2017, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf

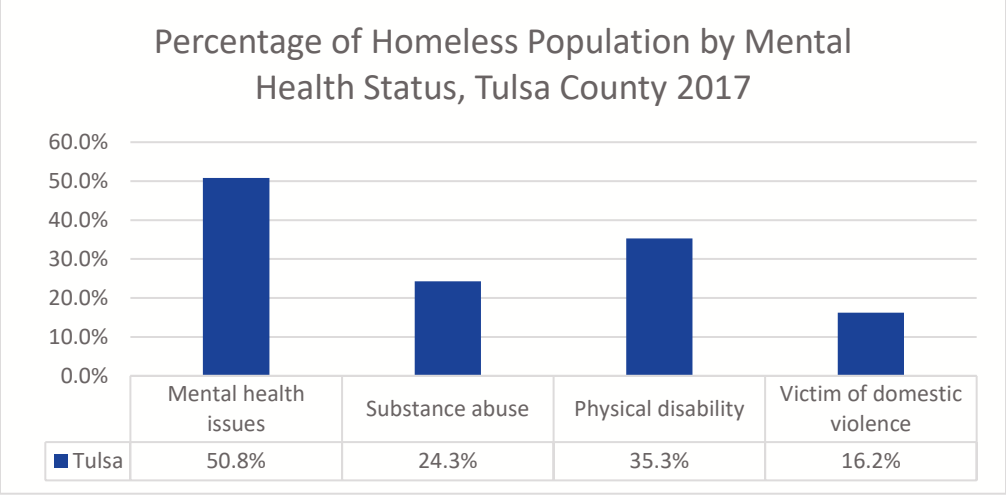
For Tulsa County and for the U.S. overall, the highest percentage of homeless people were white or Caucasian. The next highest percentage for both geographical areas was for blacks or African Americans. Tulsa County had lower percentages of homeless people across all of the other racial/ethnic categories than the U.S. except for Native Americans, for which Tulsa County had 8.6% who were reportedly homeless, while the U.S. overall had 3.0% who were reportedly homeless.



Tulsa Data: 2018, https://csctulsa.org/housing-homelessness/

OK, US data: 2017, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf

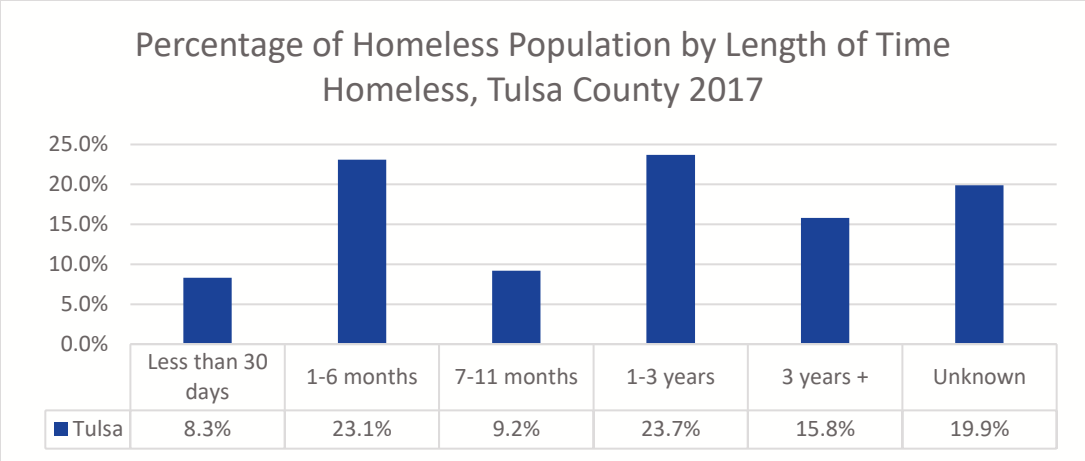
The graph above shows the percentage of those reportedly homeless by age group for Tulsa County for 2017. The age group with the highest percentage of homeless people was age 51 to 65 with 29%. Less than 1% (0.5%) of the homeless population in Tulsa County were reported to be under 18 years old. Less than 5% (3.1%) of the homeless population in Tulsa County were reported to be 66 years old or over. However, there was about 20% (19.3%) for whom age was either missing or unknown.



Tulsa Data: 2018, https://csctulsa.org/housing-homelessness/

OK, US data: 2017, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf

About half (50.8%) of the homeless population in Tulsa County in 2017 were reported to have mental health issues. About a quarter (24.3%) were reported to have substance abuse issues, 35.3% were reported to have a physical disability, and 16.2% were reported to have been a victim of domestic violence.

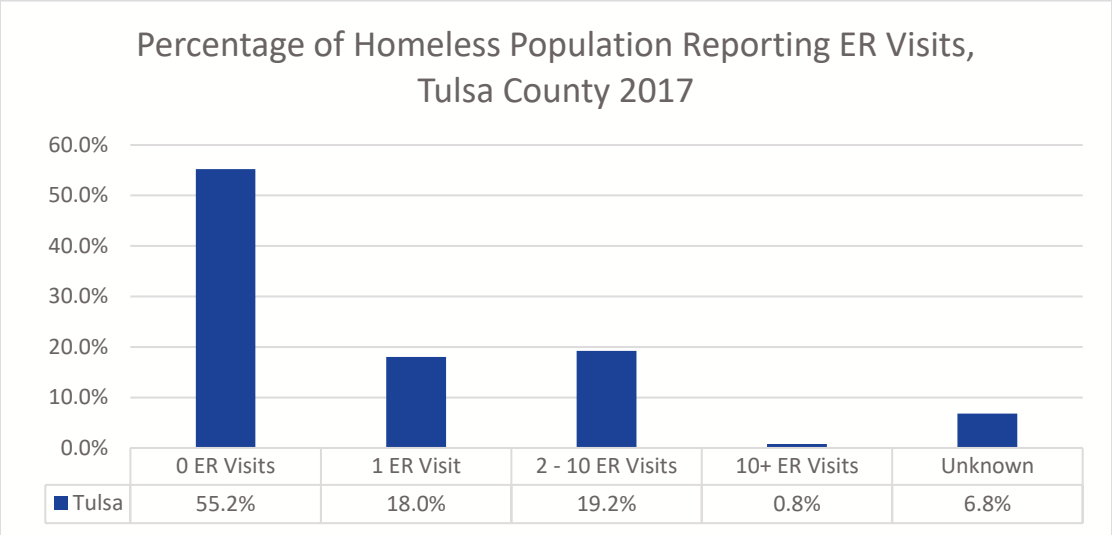


Tulsa Data: 2018, https://csctulsa.org/housing-homelessness/

OK, US data: 2017, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf

The graph above shows the percentages of the homeless population in Tulsa County broken out by the length of time they had reportedly been homeless. About 8% had been homeless for less than 30 days. The highest percentages of the homeless population reported they had been homeless for either 1 to 6 months (23.1%) or from 1 to 3 years (23.7%). About 16% (15.8%) of the homeless population in Tulsa County reported they had been homeless for 3 or more years. Almost 20% (19.9%) of the homeless population in Tulsa County either did not report how long they'd been homeless or did not know how long they had been.

About 12% (11.5%) of homeless population in Tulsa County reported that they were veterans.



Tulsa Data: 2018, https://csctulsa.org/housing-homelessness/

OK, US data: 2017, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf

Over 50% (55.2%) of the homeless population in Tulsa County in 2017 reported they had 0 emergency room visits in the past year. Eighteen percent reported 1 emergency room visit in the past year, 19.2% reported 2 to 10 emergency room visits in the past year, and less than 1% (0.8%) reported 10 or more emergency room visits in the past year.

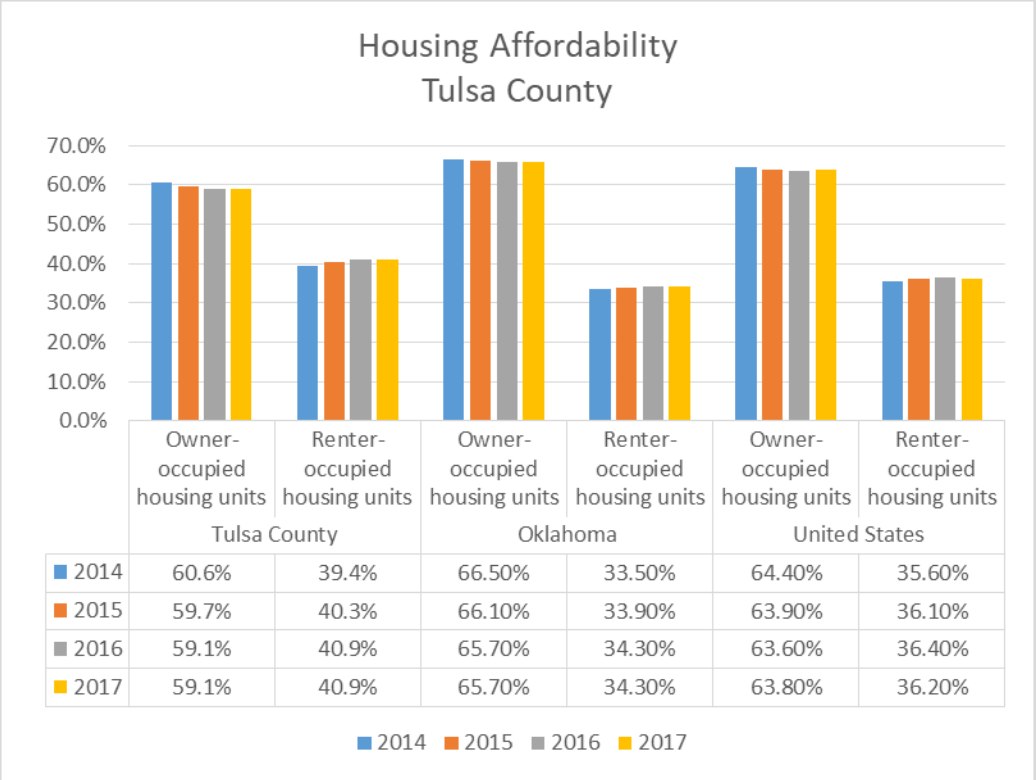
Housing affordability

This indicator reports the percentage of the households where housing costs exceed 30% of total household income. This indicator provides information on the cost of monthly housing expenses for owners and renters.

Why is this indicator important?

Where we live is at the very core of our daily lives. Housing is generally an American family's greatest single expenditure, and, for homeowners, their most significant source of wealth. Given its importance, it is not surprising that factors related to housing have the potential to help–or harm–our health in major ways. This information offers a measure of housing affordability and excessive shelter costs.

How are we doing?



	Tulsa County		Oklahoma		United States	
	Owner-occupied housing units	Renter-occupied housing units	Owner-occupied housing units	Renter-occupied housing units	Owner-occupied housing units	Renter-occupied housing units
2014	60.6%	39.4%	66.50%	33.50%	64.40%	35.60%
2015	59.7%	40.3%	66.10%	33.90%	63.90%	36.10%
2016	59.1%	40.9%	65.70%	34.30%	63.60%	36.40%
2017	59.1%	40.9%	65.70%	34.30%	63.80%	36.20%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

The above graph illustrates that the percentages of homeowners and renters in each county remained remarkably stable from 2014 to 2017.

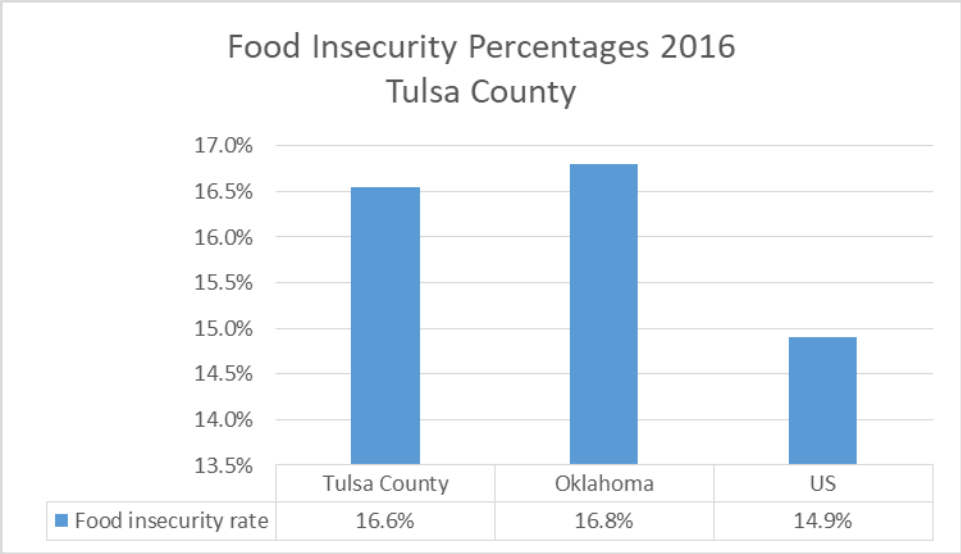
Food insecurity

This indicator reports three different measures: the estimated percentage of the population that experienced food insecurity at some point during the report year. Food insecurity is the household-level economic and social condition of limited or uncertain access to adequate food.

Why is this indicator important?

Food insecurity refers to the inability to afford enough food for an active, healthy life. Associations exist between food insecurity and adverse health outcomes among children adults.

How are we doing?



Data: Community Commons, 2016

In terms of food insecurity, Tulsa County had higher food insecurity rates than the U.S. as a whole.

Clinical Care

Access to care

A lack of access to care presents barriers to good health. The supply and accessibility of facilities and physicians, the rate of un-insurance, financial hardship, transportation barriers, cultural competency, and coverage limitations all affect access.

Rates of morbidity, mortality, and emergency hospitalizations can be reduced if community residents access services such as health screenings, routine tests, and vaccinations. Prevention indicators can call attention to a lack of access or knowledge regarding one or more health issues and can inform program interventions.

Health professional shortage areas

This indicator reports the designation of an area as a Health Professional Shortage Area (HPSA). HPSAs demonstrate a critical shortage of either primary care, dental, or mental health providers, in accordance with the federal U.S. Health Resources and Services Administration (HRSA) Shortage Designation Branch guidelines. There are three types of HPSA designations: Primary Care, Dental, and Mental Health. Each type of HPSA is further classified into one of the following categories: geographic, population group, facility, or automatic. This information was sourced from the Oklahoma State Department of Health Center for Health Innovation and Effectiveness, Office of Primary Care and Rural Health Development's *Oklahoma Health Workforce Data Book 2014-2015.*

Primary Care HPSA: identifies within an area that there is insufficient access to primary care physicians (M.D. and D.O.) that primarily practice in one of the following specialties: family practice, general practice, internal medicine, pediatrics, OB/GYN, and general geriatrics. A population-to-provider ratio based on the number of provider FTEs (full time equivalents, 1 Full Time Equivalent (FTE) = 40 hours of direct patient care per week) is used to determine eligibility.[54]

[54] Oklahoma State Department of Health Center for Health Innovation and Effectiveness, Office of Primary Care and Rural Health Development's *Oklahoma Health Workforce Data Book 2014-2015.*

Dental HPSA: Identifies an area's access to dental care. Unlike the Primary Care and Mental Health HPSAs, dental provider FTEs (full time equivalents) are calculated by weighting the number of patient care hours provided by a dentist (general and pediatric) per week by the dentist's age and the number of assistants the dentist employs. [38]

Mental Health HPSA: Identifies an area's access to either psychiatrists only, or core mental health professionals (CMHPs) which include psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage and family therapists. Similar to Primary Care and Dental HPSAs, a population-to-provider ratio is used to help determine eligibility. Several different population-to-provider ratios are available for consideration depending on whether the population to-provider ratios include psychiatrists only or include all CMHPs. [38]

HPSA Sub-Categories: Each type of HPSA must be categorized into one of the following categories. Each category has a different set of qualifying criteria.

- **Geographic:** This designation demonstrates a shortage for the total population of an area. (e.g., if a county has a population-to-provider ratio of greater than 3,500 to 1, the entire county is likely a geographic HPSA).
- **Population Group**: This designation demonstrates a shortage of providers for population groups. A population group must be one of the following:
    - Low income populations (greater than 30% of population with incomes at or below 200% of the Federal
    - Poverty Level).
    - Migrant and/or seasonal farm workers and families
    - Medicaid-eligible
    - Native American/Native Alaskan
    - Homeless Populations
    - Other populations isolated from access by means of a specified language, cultural barriers, or handicap.
- **Facility:** Facilities can be designated as a HPSA if the facility is located in a Medically Underserved Area (MUA). Facilities that can apply for this designation include community health centers, rural health clinics, federal correctional facilities, and state hospitals. Some of the factors used to evaluate a facility's designation eligibility are outpatient census, wait times, patients' residences, and in-house faculty.
- **Automatic:** All Federally Qualified Health Centers and Rural Health Clinics that provide access to care regardless of ability to pay receive automatic facility HPSA designation. [38]

HPSA scoring

Each HPSA is given a score by the Shortage Designation Branch based on certain specific criteria for each type of HPSA. This score indicates the degree of shortage. The federal Shortage Designation Branch calculates a score (0 to 25 for both primary care and mental health, and 0 to 26 for dental) with 25 / 26 representing the highest degree of shortage for each designated HPSA. The score is used to prioritize areas of greatest need for providers including National Health Service Corps placements. Each HPSA application is evaluated and scored based on the criteria listed below. [38]

Primary care:

- Population-to-provider ratio
- Percent of individuals below 100% of the federal poverty level

- Infant health index (infant mortality rate or low birth weight rate)
- Average travel time or distance to nearest source of non-designated accessible care

Dental:

- Population-to-provider ratio
- Percent of individuals below 100% of the federal poverty level
- Water fluoridation status
- Average travel time or distance to nearest source of non-designated accessible care

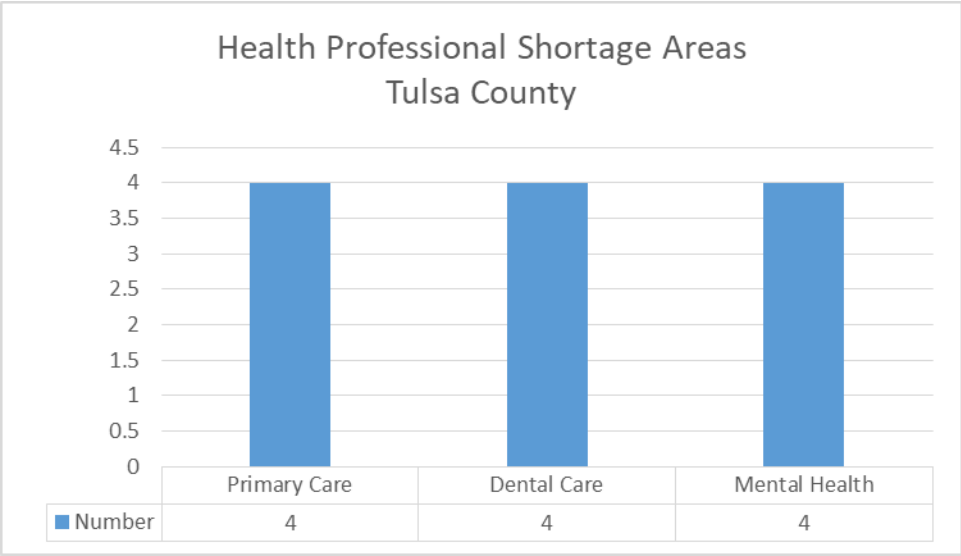
Mental health:

- Population-to-provider ratio
- Percent of individuals below 100% of the federal poverty level
- Youth ratio (ratio of children under 18 to adults ages 18-64)
- Elderly ratio (ratio of adults over 65 to adults ages 18-64)
- Substance abuse prevalence
- Alcohol abuse prevalence
- Average travel time or distance to nearest source of non-designated accessible care

Why is this indicator important?

This indicator is relevant because a shortage of health professionals contributes to access and health status issues.

How are we doing?



US HHS: HRSA, Accessed 2018, https://data.hrsa.gov

The graph above shows the number of Health Professional Shortage Areas (HPSAs) for the county for primary care providers, dental care providers and mental health providers.

Facilities designated as health professional shortage areas

This indicator reports the number and location of healthcare facilities designated as Health Professional Shortage Areas (HPSAs), defined as having shortages of primary medical care, dental or mental health providers. Facilities can

be designated as a HPSA if the facility is located in a Medically Underserved Area (MUA). Facilities that can apply for this designation include community health centers, rural health clinics, federal correctional facilities, and state hospitals. Some of the factors used to evaluate a facility's designation eligibility are outpatient census, wait times, patients' residences, and in-house faculty. Health Professional Shortage Area (HPSA) facility files were acquired from the U.S. Health Resources and Services Administration (HRSA) GIS data warehouse. The point locations of these institutions, along with their designation type, were intersected with geographic areas to provide a count of the total number of facilities in an area.

Why is this indicator important?

This indicator is relevant because a shortage of health professionals contributes to access and health status issues.

How are we doing?

The following series of table show the HPSA facilities for the county and by type of care provided.

Tulsa County		
Primary Care		
HPSA Name	**Designation Type**	**Rural Status**
Low Income - Tulsa County	Low Income Population HPSA	Non-Rural
Community Health Connection, Inc.	Federally Qualified Health Center	Non-Rural
Morton Comprehensive	Federally Qualified Health Center	Non-Rural
Wilma P. Mankiller Health Center	Indian Health Service Facility	Non-Rural
Cherokee Nation Health Division	Native American/Tribal Facility/Population	Non-Rural
Indian Health Care Resource Center of Tulsa	Native American/Tribal Facility/Population	Non-Rural
Dental Health		
HPSA Name	**Designation Type**	**Rural Status**
Low Income - North Tulsa	Low Income Population HPSA	Non-Rural
Community Health Connection, Inc.	Federally Qualified Health Center	Non-Rural
Morton Comprehensive	Federally Qualified Health Center	Non-Rural
Wilma P. Mankiller Health Center	Indian Health Service Facility	Non-Rural
Indian Health Care Resource Center of Tulsa	Native American/Tribal Facility/Population	Non-Rural
Mental Health		
HPSA Name	**Designation Type**	**Rural Status**
Low Income - Tulsa County	Low Income Population HPSA	Non-Rural

Community Health Connection, Inc.	Federally Qualified Health Center	Non-Rural
Morton Comprehensive	Federally Qualified Health Center	Non-Rural
Indian Health Care Resource Center of Tulsa	Native American/Tribal Facility/Population	Non-Rural

US HHS: HRSA, Accessed 2018, https://data.hrsa.gov

Medically underserved areas

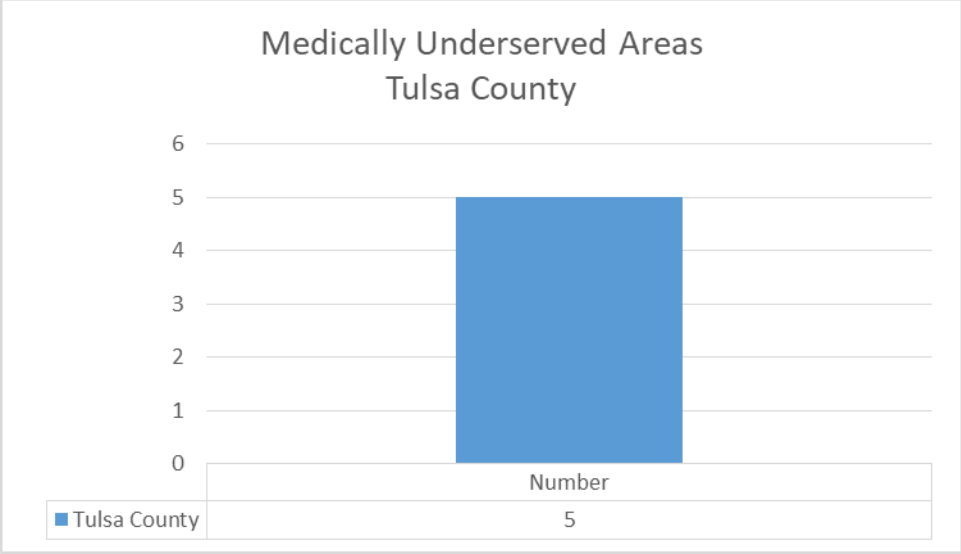
A Medically Underserved Area designation identifies areas with a shortage of healthcare services. Designation is based on the explanation as to why the area in question is rational (similar to the HPSA process) and the documentation of four factors; health care provider-to-population ratio, infant mortality rate, percentage of population below 100% of the federal poverty level, and the percentage of population aged 65 and over. 2018 data on Medically Underserved Areas was acquired from the U.S. Health Resources and Services Administration (HRSA) data warehouse.

Why is this indicator important?

This indicator is relevant because a shortage of healthcare services leads to access and health status issues.

How are we doing?

According to the US Health Resources and Services Administration (HRSA) data warehouse, there are five areas designated as Medically Underserved Areas in Tulsa County in 2018. Tulsa County is considered a partial Medically Underserved Area.



US HHS: HRSA, Accessed 2018. https://data.hrsa.gov

The graph above shows the number of Medically Underserved Areas for the county.

Top provider specialties

A list of Tulsa County physicians and dentists and their location of practice was obtained from the database ReferenceUSA. Reference USA is an internet-based reference service that compiles data from a number of sources including state licensing information.

Why is this indicator important?

For many people, having good access to health care means having a regular doctor, being able to schedule timely appointments, and being able to find new doctors when needed. Good access to doctors is especially important for people with Medicare—seniors and adults with permanent disabilities—because they are significantly more likely than others to need healthcare services.[55]

How are we doing?

The top specialties for those listed for Tulsa County were Dental, General Practice, Physicians: Family Practice, Emergency Medicine.

Primary care provider access

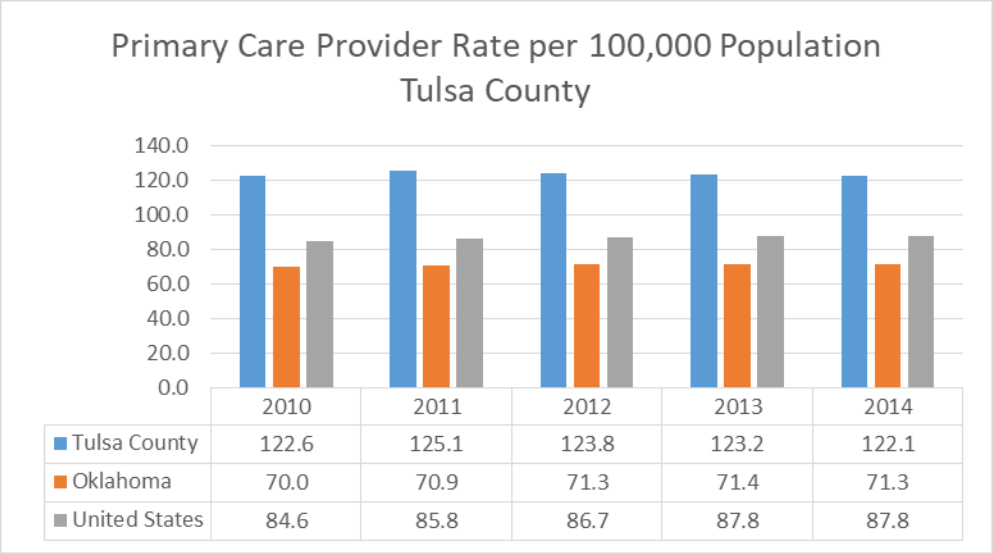
This indicator reports the number of primary care physicians per 100,000 population. Doctors classified as "primary care physicians" by the American Medical Association include: General Family Medicine MDs and DOs, General Practice MDs and DOs, General Internal Medicine MDs and General Pediatrics MDs. Physicians age 75 and over and physicians practicing sub-specialties within the listed specialties are excluded. This physician data was acquired from the 2010-2014 Health Resources and Services Administration (HRSA) Area Health Resource File (AHRF).

Why is this indicator important?

This indicator is relevant because a shortage of health professionals contributes to access and health status issues. This indicator is relevant because access to regular primary care is important to preventing major health issues and emergency department visits.

How are we doing?

In 2014, there was a rate of 122.1 primary care physicians per 100,000 population in Tulsa County according to the 2010-14 Health Resources and Services Administration (HRSA) Area Health Resource File (AHRF). The rate of primary care physicians per 100,000 population is higher in Tulsa County than in Oklahoma (71.3) and the U.S. (87.8).



	2010	2011	2012	2013	2014
Tulsa County	122.6	125.1	123.8	123.2	122.1
Oklahoma	70.0	70.9	71.3	71.4	71.3
United States	84.6	85.8	86.7	87.8	87.8

[55] Boccuti, C, Swoope, C, Damico, A, & Neuman, P. (2013). *Medicare Patients' Access to Physicians: A Synthesis of the Evidence.* The Henry J. Kaiser Family Foundation. Retrieved from: http://kaiserfamilyfoundation.files.wordpress.com/2013/12/8526-medicare-patients-access-to-physicians2.pdf.

Area	Number of PCP	PCP Ratio
Creek	20	3,540 to 1
Nowata	2	5,270 to 1
Tulsa	710	900 to 1
Washington	27	1,930 to 1
Top U.S. Performers		1,030 to 1
Oklahoma		1,590 to 1

http://www.countyhealthrankings.org/app/oklahoma/2018/measure/factors/4/data; 2015 Data

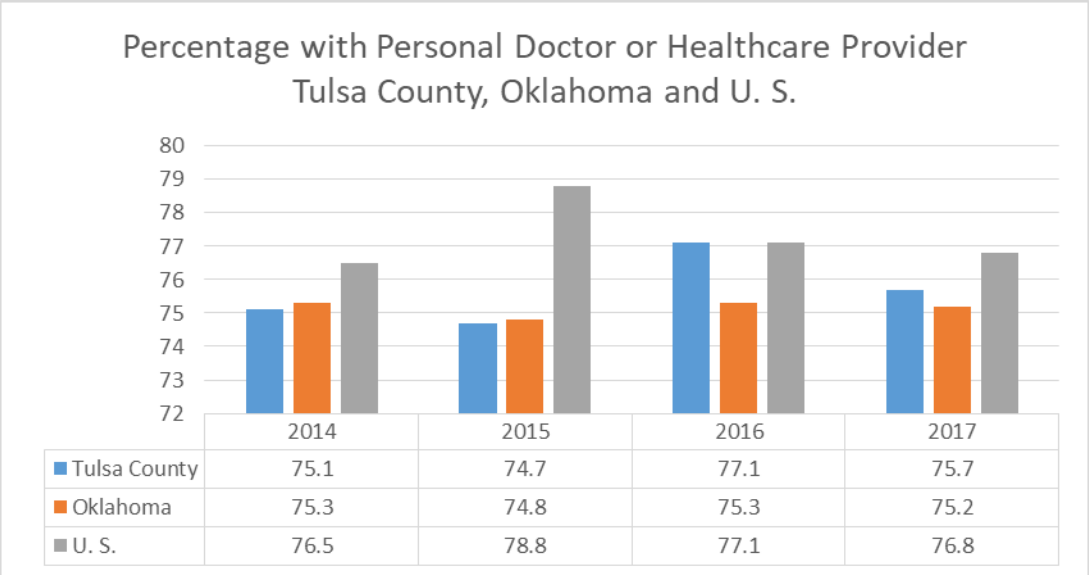
Consistent source of care

This indicator reports the percentage of adults aged 18 and older who self-report that they have at least one person who they think of as their personal doctor or health care provider. This data was acquired from the acquired from analysis of annual survey data from the Center for Disease Control and Prevention's Behavioral Risk Factor Surveillance System (BRFSS) for years 2014-2017.

Why is this indicator important?

This indicator is relevant because access to regular primary care is important to preventing major health issues and emergency department visits.

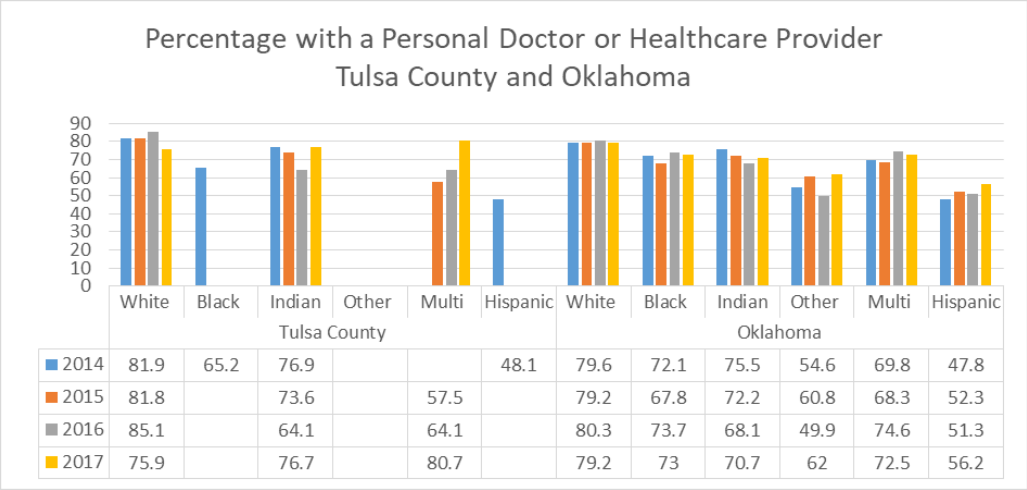
How are we doing?



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at http://www.health.ok.gov/ok2share on 09JAN2019:14:51:21

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

About 75% of the people in Tulsa County were reported to have a personal doctor or health care provider from 2014 to 2017. These percentages remained remarkably steady over the time-period.

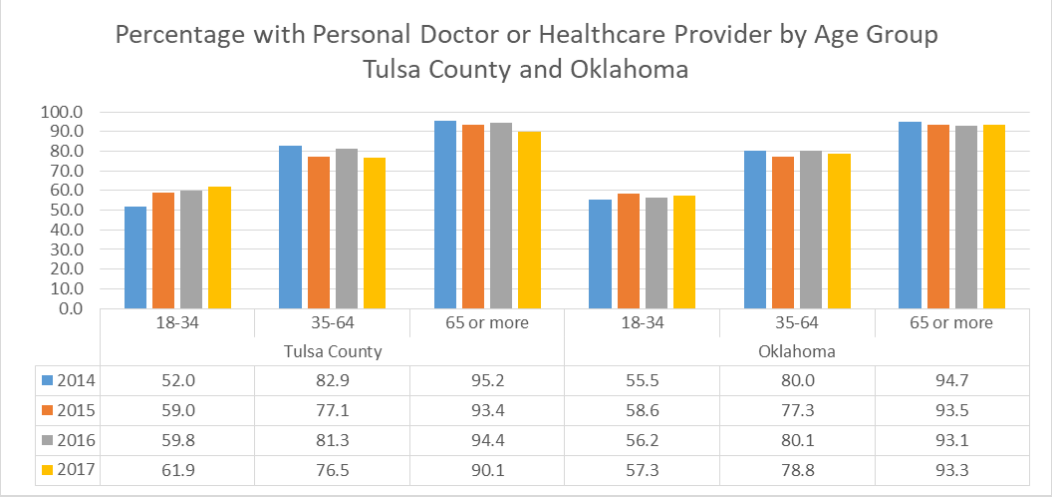


	White	Black	Indian	Other	Multi	Hispanic	White	Black	Indian	Other	Multi	Hispanic
	Tulsa County						Oklahoma					
2014	81.9	65.2	76.9			48.1	79.6	72.1	75.5	54.6	69.8	47.8
2015	81.8		73.6		57.5		79.2	67.8	72.2	60.8	68.3	52.3
2016	85.1		64.1		64.1		80.3	73.7	68.1	49.9	74.6	51.3
2017	75.9		76.7		80.7		79.2	73	70.7	62	72.5	56.2

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at http://www.health.ok.gov/ok2share on 09JAN2019:14:51:21

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Unfortunately, there were too few cases for some of the race categories for calculations to be made regarding the percentages who were reported to have a personal doctor or health care provider by region. For the white population in Tulsa County, the overwhelming majority (between 75% and 85%) were reported to have a personal doctor or health care provider. There was a slight decrease in the percentages with a personal doctor or health care provider in Tulsa County in 2017, to the lowest percentage of the time-period 75.9%. The percentages of American Indians showed a downward trend from 2014 to 2016, and then returned to prior levels in 2017. In Tulsa County, the percentages of those with a personal doctor or health care provider increased from 2015 to 2017.

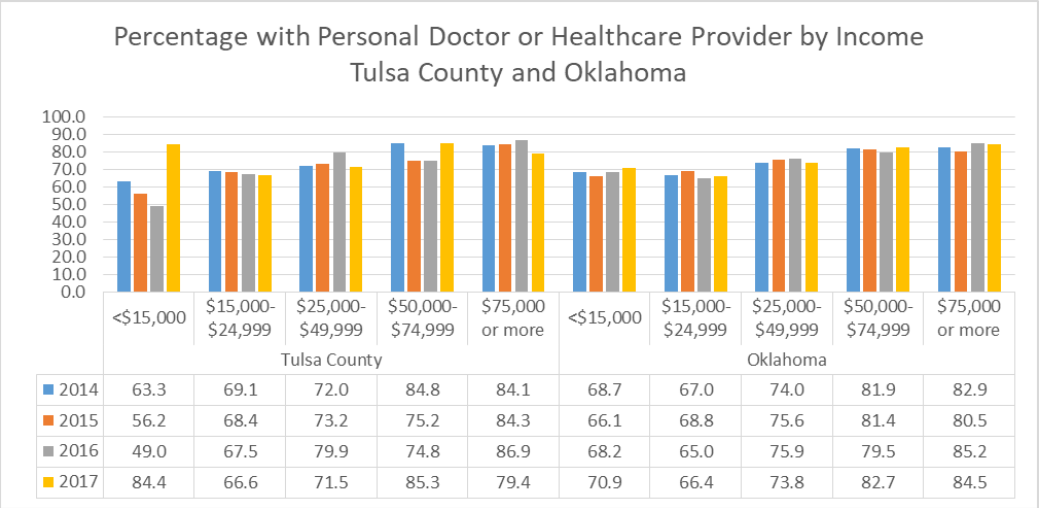


	18-34	35-64	65 or more	18-34	35-64	65 or more
	Tulsa County			Oklahoma		
2014	52.0	82.9	95.2	55.5	80.0	94.7
2015	59.0	77.1	93.4	58.6	77.3	93.5
2016	59.8	81.3	94.4	56.2	80.1	93.1
2017	61.9	76.5	90.1	57.3	78.8	93.3

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at http://www.health.ok.gov/ok2share on 09JAN2019:14:51:21

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50

In Tulsa County, the percentages of people who report having a personal doctor or health care provider increased as age increased. The percentages of those with a personal doctor or health care provider in the age group 18 to 34 showed a slight upward trend in Tulsa County from 2014 to 2017. The percentages of those with a personal doctor or health care provider for the other age groups in both areas remained relatively stable from 2014 to 2017.

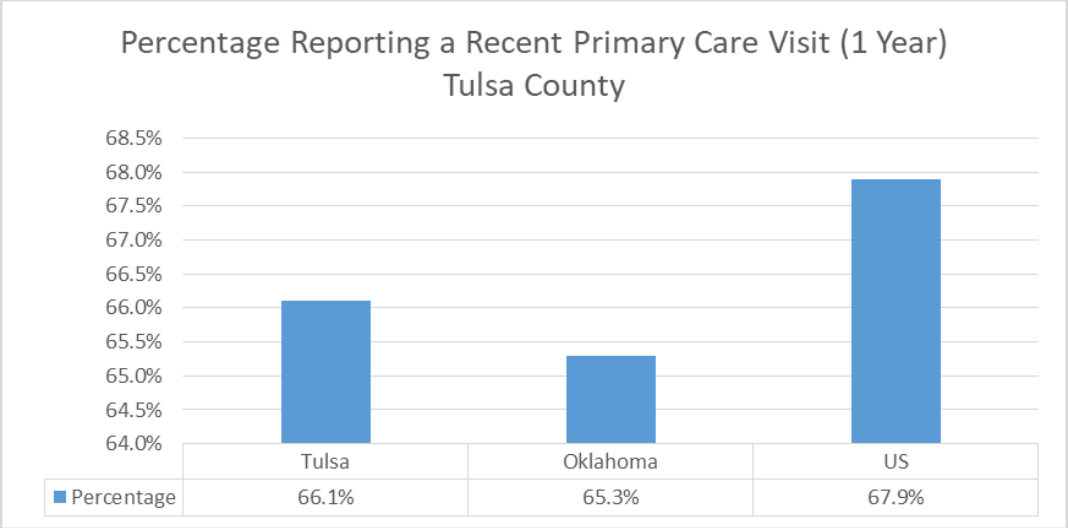


	Tulsa County					Oklahoma				
	<$15,000	$15,000-$24,999	$25,000-$49,999	$50,000-$74,999	$75,000 or more	<$15,000	$15,000-$24,999	$25,000-$49,999	$50,000-$74,999	$75,000 or more
2014	63.3	69.1	72.0	84.8	84.1	68.7	67.0	74.0	81.9	82.9
2015	56.2	68.4	73.2	75.2	84.3	66.1	68.8	75.6	81.4	80.5
2016	49.0	67.5	79.9	74.8	86.9	68.2	65.0	75.9	79.5	85.2
2017	84.4	66.6	71.5	85.3	79.4	70.9	66.4	73.8	82.7	84.5

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at http://www.health.ok.gov/ok2share on 09JAN2019:14:51:21.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Percentages in Tulsa County for those who reported having a personal doctor or health care provider were also relatively high, although the most noticeable thing about the graph above it the decrease in percentages for those in the less than $15,000 income bracket from 2014 to 2016 and then the sharp increase from 2016 to 2017 (from 49% in 2016 to 84.4% in 2017). On the whole, as income increased, percentages of those who reportedly had a personal doctor or health care provider increased as well.



Data source: Community Commons

The graph above shows that at least 66% of those in Tulsa County were reported to have had a recent primary care visit (within the past year). These percentages for both counties were higher than the percent reported for the state of Oklahoma as a whole (65.3%) but lower than that reported for the U.S. (67.9%).

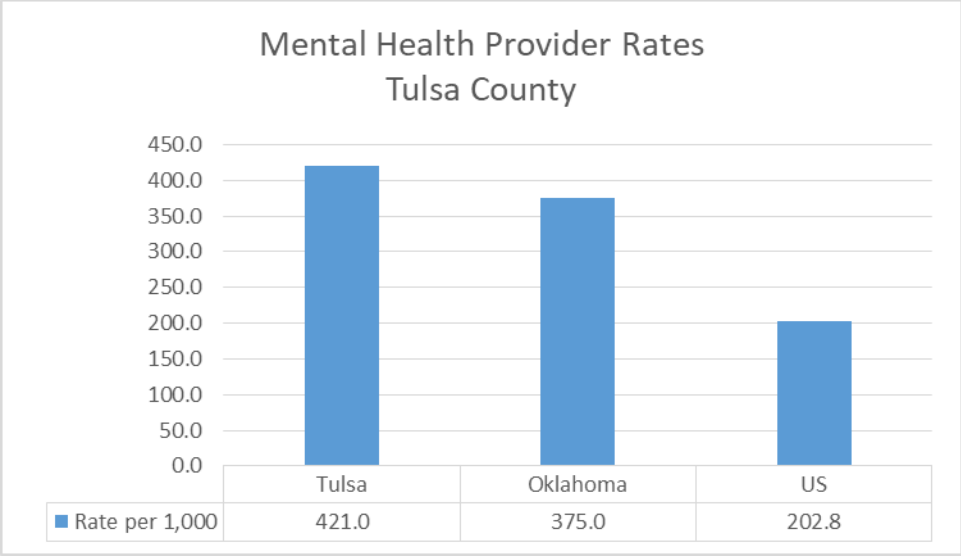
Access to mental health providers

This indicator reports the rate of the county population to the number of mental health providers including psychiatrists, psychologists, clinical social workers, and counselors that specialize in mental health care.

Why is this indicator important?

This indicator is relevant because a shortage of mental health providers contributes to access issues and worsening mental health conditions. Access to mental health services, especially early treatment, greatly improves outcomes and can change the course of an individual's life, increasing the chances for a brighter future.

How are we doing?



Data source: Community Commons

Tulsa County is higher on this indicator than both Oklahoma (375.0 per 1,000 population) and the U.S. (202.8 per 1,000 population), with a rate of 421.0 mental health providers per 1,000 population.

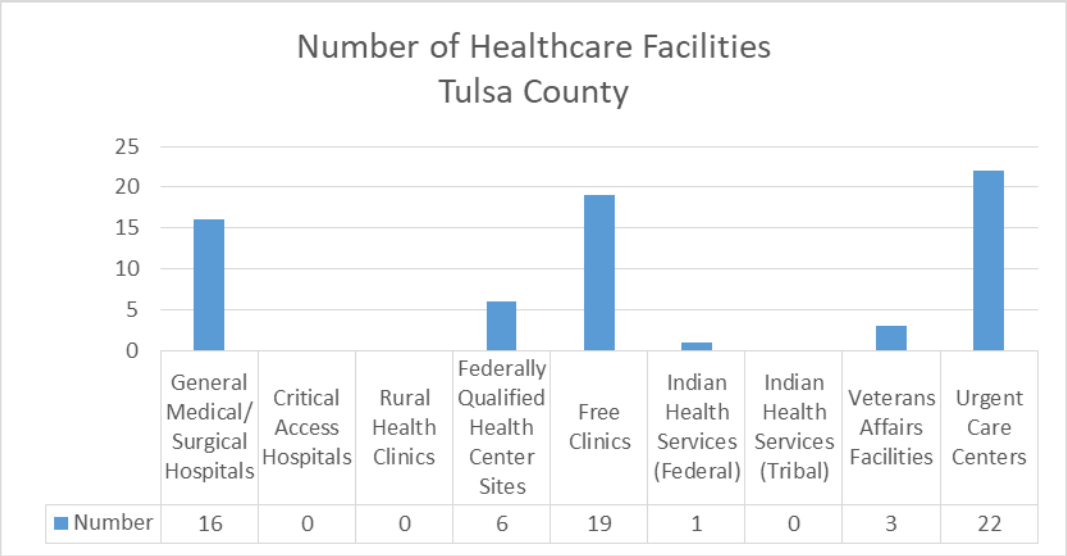
Number of healthcare facilities and beds

This indicator reports the number of healthcare facilities and beds as reported by the Oklahoma State Department of Health Center for Health Innovation and Effectiveness, Office of Primary Care and Rural Health Development's *2014-2015 Oklahoma Health Workforce Data Book*.

Why is this indicator important?

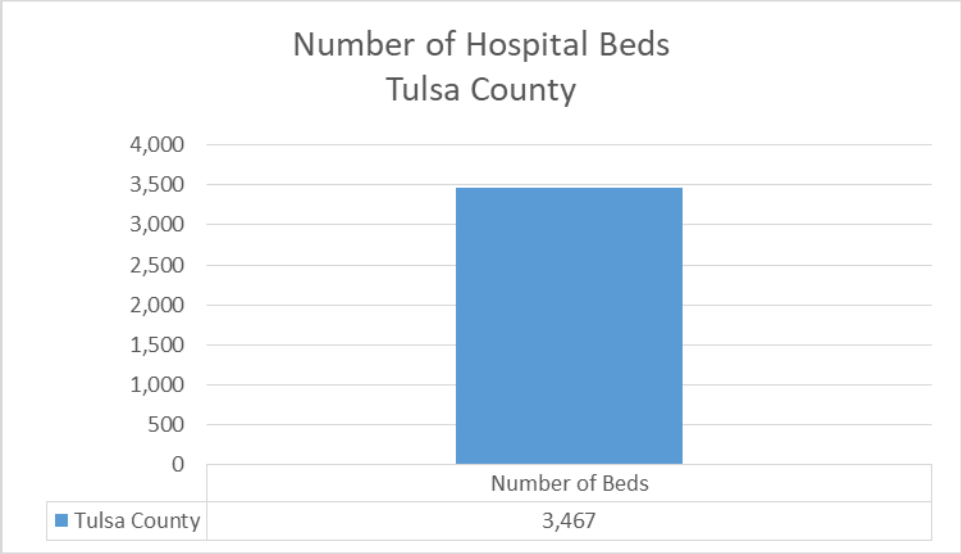
This indicator is relevant because the supply and accessibility of facilities and beds affect access and health status.

How are we doing?



Oklahoma Health Workforce Data Book, Oklahoma State Department of Health Center for Health Innovation and Effectiveness Office of Primary Care and Rural Health Development, 2014-2015.

Tulsa County is reported to have 16 general medical/surgical hospitals, 6 federally qualified health center sites, 19 free clinics, 1 Indian Health Services provider (federal), 3 Veteran's Affairs Facilities and 22 urgent care centers.



Oklahoma Health Workforce Data Book, Oklahoma State Department of Health Center for Health Innovation and Effectiveness Office of Primary Care and Rural Health Development, 2014-2015.

As the only county with a major metropolitan area, Tulsa County was reported to have almost 3,500 hospital beds (3,467).

Health insurance coverage

This indicator is the percentage of residents who had health care coverage in 2015-2017, based on American Community Survey 5-year estimates. Insurance coverage rates are shown for children under 18, adults 18-64, and the total population. Adults 65 and over are not shown, as all adults should have health care coverage due to Medicare. Medicaid enrollment is also presented as a separate indicator.

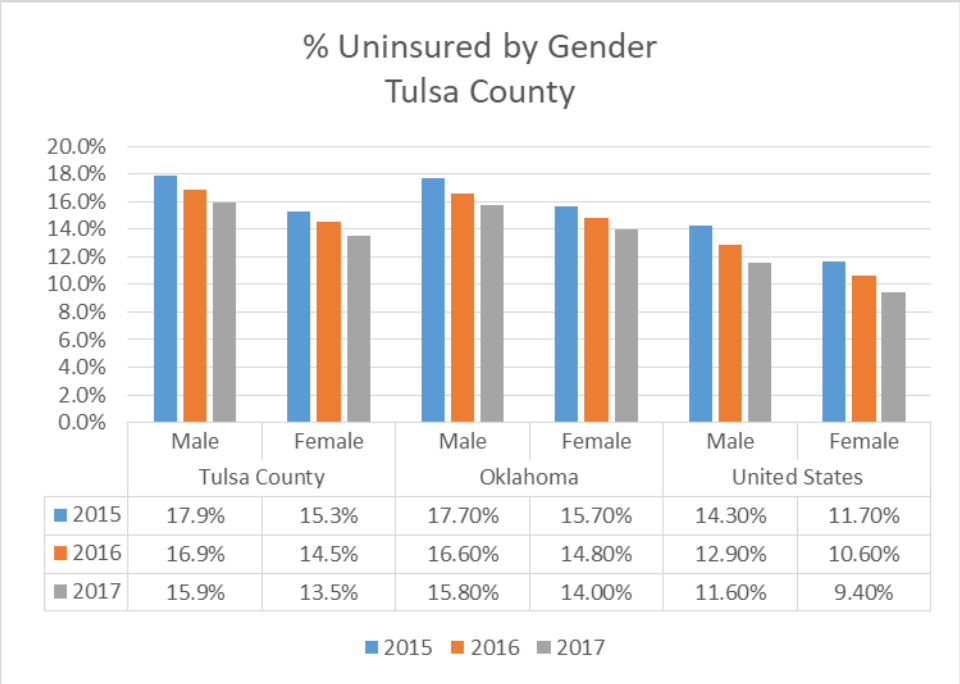
Why is this indicator important?

This indicator is relevant because lack of insurance is a primary barrier to healthcare access including regular primary care, specialty care, and other health services that contributes to poor health status. The lack of health insurance is considered a key driver of health status.

How are we doing?

In 2016, 84.3 percent of Tulsa County residents had insurance coverage (15.7 percent uninsured). The percentage of children (under 18) who had insurance coverage was 92.4 percent. The percentage of adults age 18-64 who had insurance coverage was 77.9 percent.

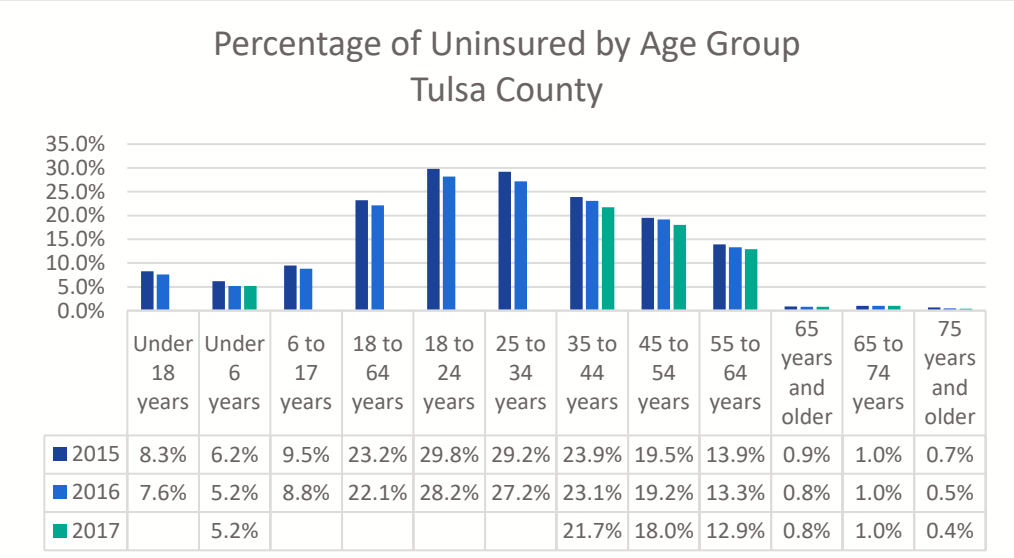
All three of these percentages increased in Tulsa County from 2015 to 2017.



	Male	Female	Male	Female	Male	Female
	Tulsa County		Oklahoma		United States	
2015	17.9%	15.3%	17.70%	15.70%	14.30%	11.70%
2016	16.9%	14.5%	16.60%	14.80%	12.90%	10.60%
2017	15.9%	13.5%	15.80%	14.00%	11.60%	9.40%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

Tulsa County showed decreases in the percentages of those reported to be uninsured for both genders from 2015 to 2017.

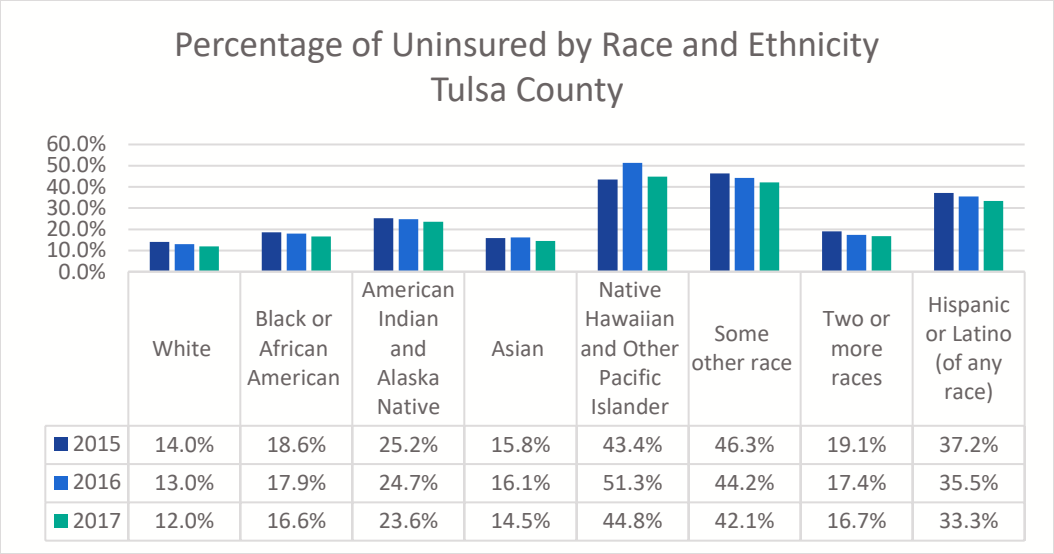


	Under 18 years	Under 6 years	6 to 17 years	18 to 64 years	18 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and older	65 to 74 years	75 years and older
2015	8.3%	6.2%	9.5%	23.2%	29.8%	29.2%	23.9%	19.5%	13.9%	0.9%	1.0%	0.7%
2016	7.6%	5.2%	8.8%	22.1%	28.2%	27.2%	23.1%	19.2%	13.3%	0.8%	1.0%	0.5%
2017		5.2%					21.7%	18.0%	12.9%	0.8%	1.0%	0.4%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

* 2017 Census changed how they grouped age

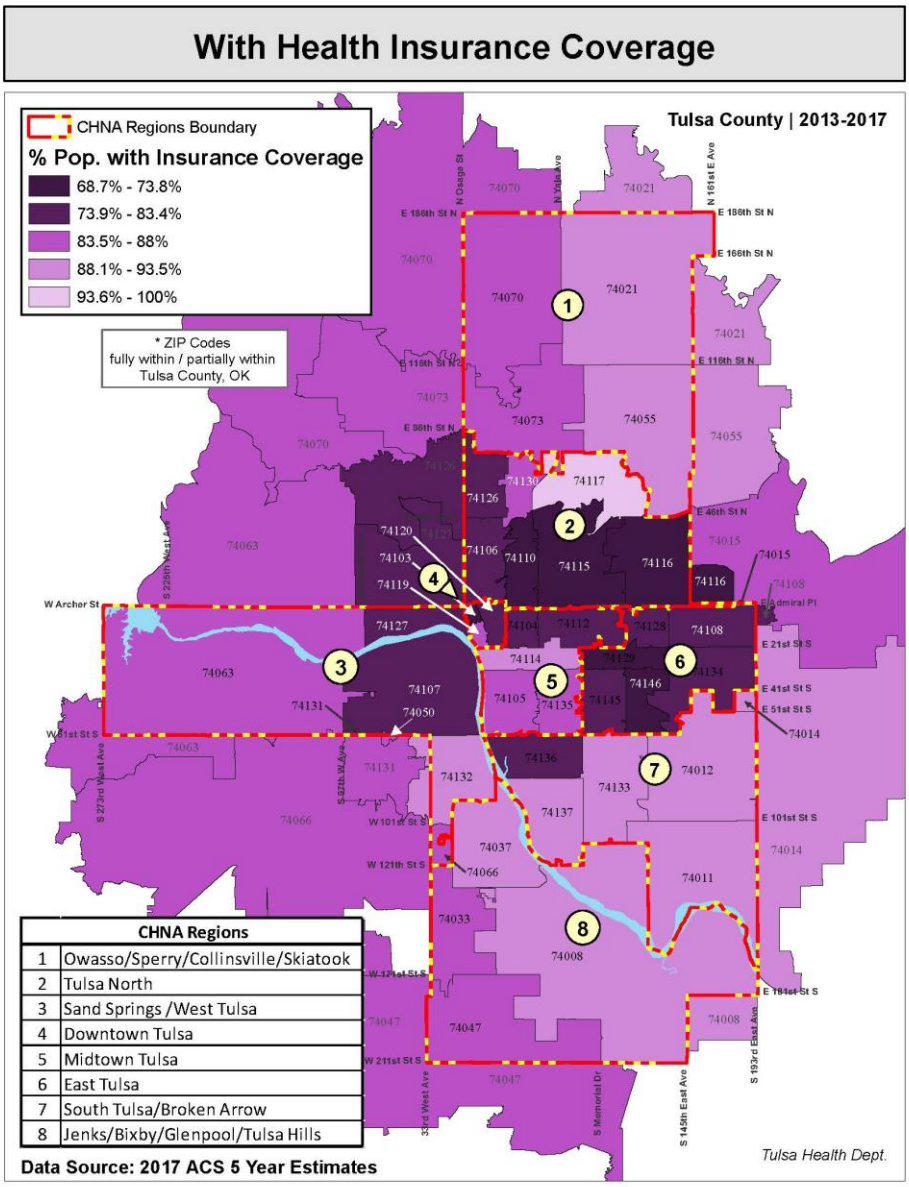
The same pattern as was seen in the previous counties in terms of those who were reportedly uninsured was seen in Tulsa County. In Tulsa County, the percentage of those aged 18 through 64 who were uninsured reached a peak of 29.8% in age group 18 to 24 years in 2015.



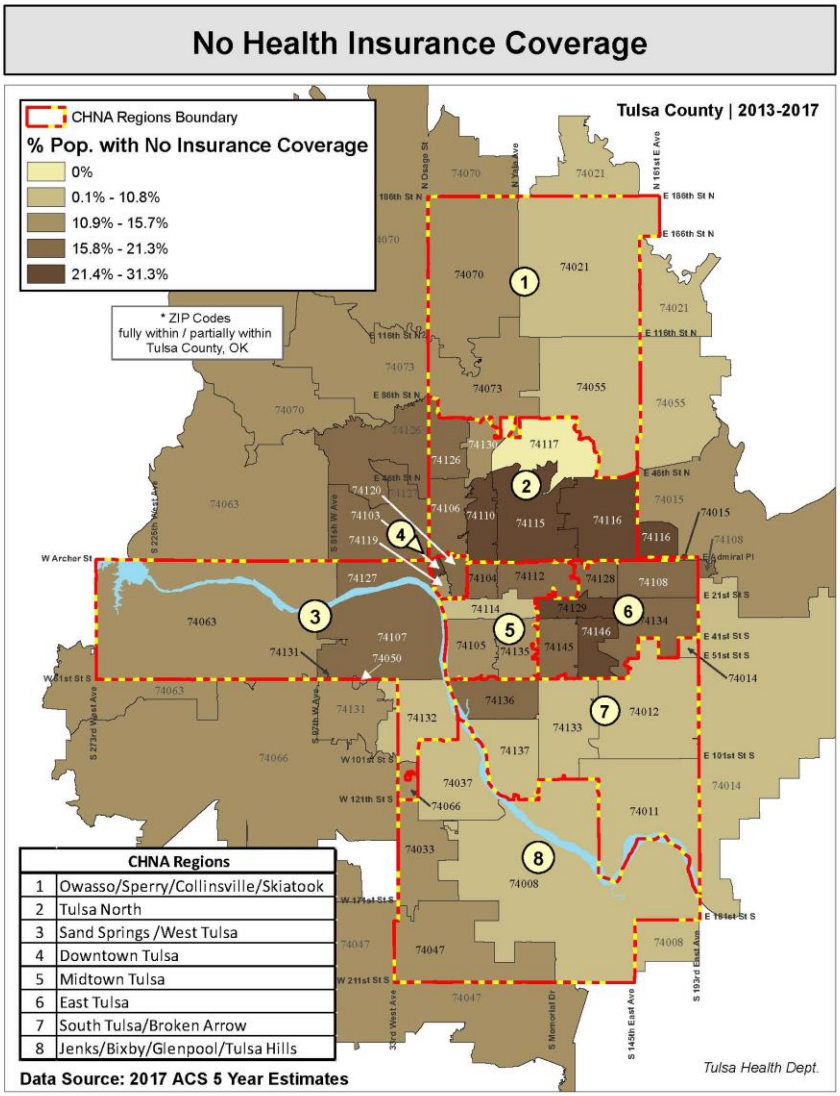
	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Hispanic or Latino (of any race)
2015	14.0%	18.6%	25.2%	15.8%	43.4%	46.3%	19.1%	37.2%
2016	13.0%	17.9%	24.7%	16.1%	51.3%	44.2%	17.4%	35.5%
2017	12.0%	16.6%	23.6%	14.5%	44.8%	42.1%	16.7%	33.3%

Source: U.S. Census Bureau, 2010-2014, 2011-2015, 2012-2016, 2013-2017 American Community Survey 5-Year Estimates

Percentages of those who were reported to be uninsured in Tulsa County were relatively low (under 30%) for all racial/ethnic categories except Native Hawaiian and Other Pacific Islanders, those of some other race and those of Hispanic origin. The latter two groups did show decreases in the percentages uninsured from 2015 to 2017, however Native Hawaiian or Pacific Islanders showed an overall increase in the percentage uninsured for the time-period.



Areas in Tulsa County with the lowest rate of health insurance converage (68.7% - 73.8%) include 74110, 74115, and 74116 in Tulsa North, 74103 in downtown Tulsa, and 74129 and 74146 in east Tulsa.



The only ZIP code in Tulsa County that had no lack of health insurance (0%) was 74117 which is located at the north end of the Tulsa North boundary. On the opposite end, areas with the highest percentage rate for lack of health insurance coverage (21.4%-31.3%) were 74110, 74115 and 74116 which are located on the south side of the Tulsa North boundary, 74103 located in downtown Tulsa, and in east Tulsa ZIP codes 74129 and 74146.

Please note that the ZIP code 74117 also reflects the lowest population in Tulsa County (124 – 5,718) which could affect the outcome of the data.

Medicaid enrollment

Medicaid is an entitlement program that provides medical benefits to low-income individuals and families who have inadequate or no health insurance. This indicator is presented as the percentage of the population enrolled in Medicaid in fiscal year 2017.

Why is this indicator important?

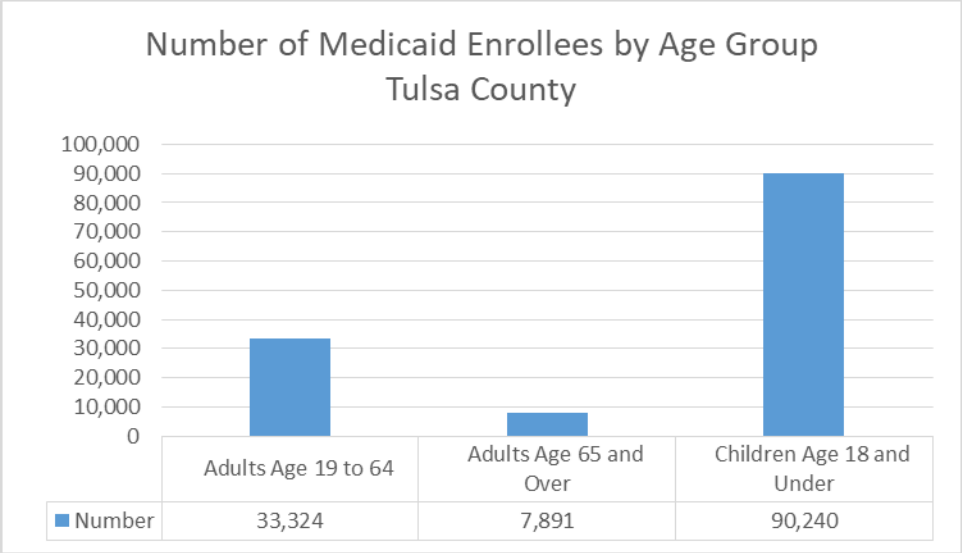
Medicaid provides health coverage for certain low-income individuals, such as families and children, pregnant women, the elderly and people with disabilities. It covers one in five Americans, including two in five children and

three in five nursing home residents.[56] Medicaid coverage of children and pregnant women has led to increased access to care and improved child health and birth outcomes. Relative to the uninsured, adults with Medicaid have increased access to preventive and primary care, reduced out-of-pocket burdens, and they are less likely to forgo care due to cost. However, provider shortages and low provider participation in Medicaid, particularly among specialists, are a major concern.[57]

How are we doing?

Tulsa County had 163,642 unduplicated Medicaid enrollees during fiscal year 2017 which represents 26 percent of the total population. This was very similar to Oklahoma (26.2 percent) and higher than the U.S. (23 percent). However, U.S. data is based on enrollment at a specific point (June of fiscal year) and may not encompass all unduplicated clients over the year.

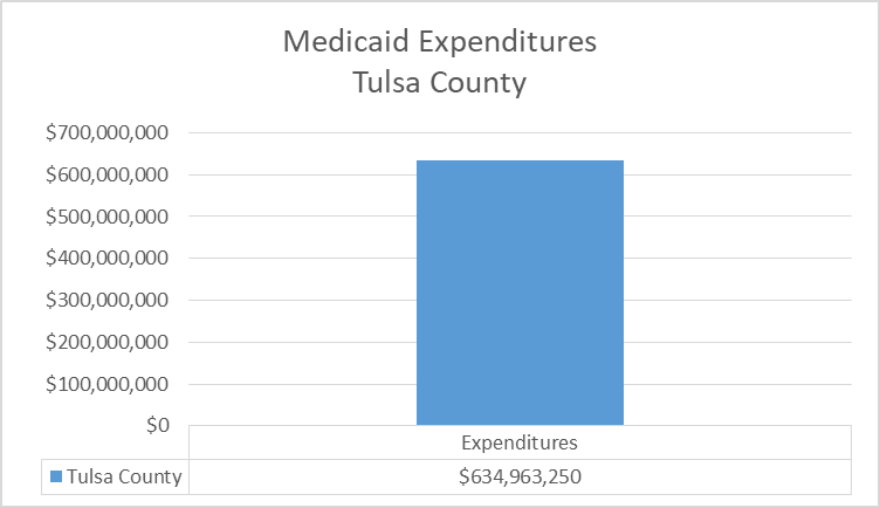
The ZIP codes with the highest percentages of Medicaid enrollees were 74106, 74126, 74110, 74115, 74127 and 74146.



Data valid through Dec. 10, 2018. www.okhca.org. November 2018 Fast Facts

The graph above shows the number of Medicaid enrollees by age group and by county according to data from the Oklahoma Health Care Authority in November of 2018. The largest numbers of those enrolled in Medicaid for all counties were children age 18 and under.

[56] Why Does the Medicaid Debate Matter? The Henry J. Kaiser Family Foundation.
[57] Medicaid: A Primer. The Kaiser Commission on Medicaid and the Uninsured.



Data valid through Dec. 10, 2018. www.okhca.org. November 2018 Fast Facts

With the largest population and the highest numbers of Medicaid enrollees, it is not surprising that Tulsa County had the highest Medicaid expenditures at $634,963,250. The graph above shows the Medicaid expenditures for the other three counties examined in this assessment.

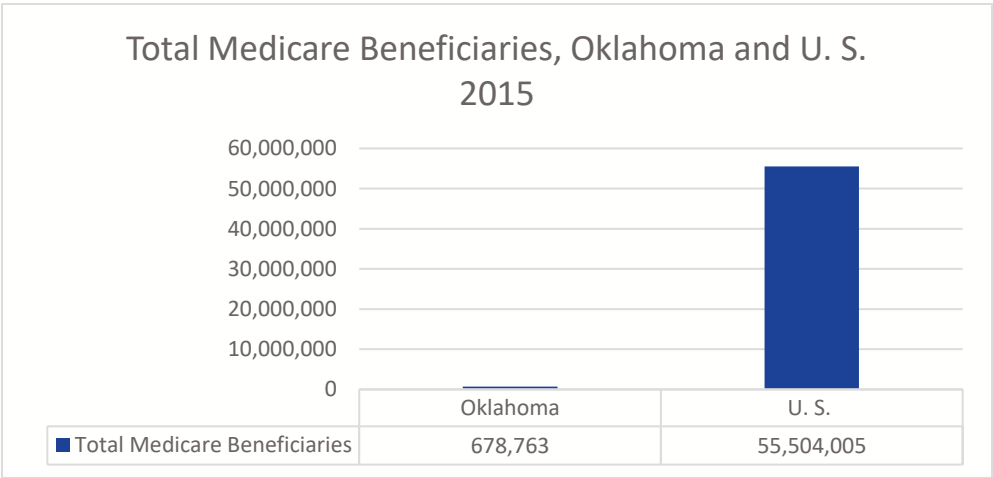
Medicare enrollment

This indicator represents the number of aged and/or disabled individuals enrolled in Medicare Part A and/or B through Original Medicare or Medicare Advantage and Other Health Plans during 2016. Medicare enrollment is based on CMS administrative enrollment data and are calculated using a person-year methodology**.**

Why is this indicator important?

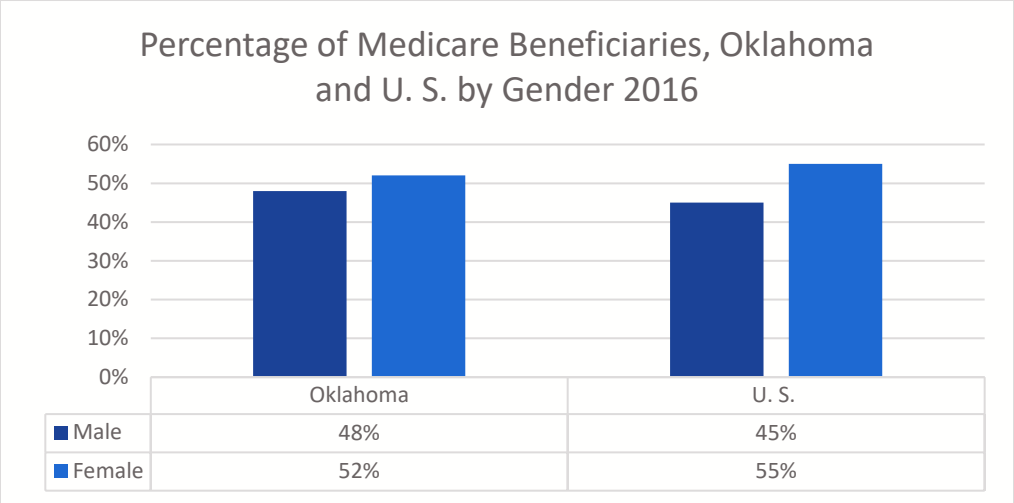
Medicare provides health coverage for older adults, and people with disabilities. The program protects the well-being and financial security of millions of American families as they age or if they become disabled. Medicare beneficiaries depend on the program to provide critical health services such as preventive services, including flu shots and diabetes screenings, hospital stays, lab tests and critical supplies like wheelchairs and prescription drugs.

How are we doing?



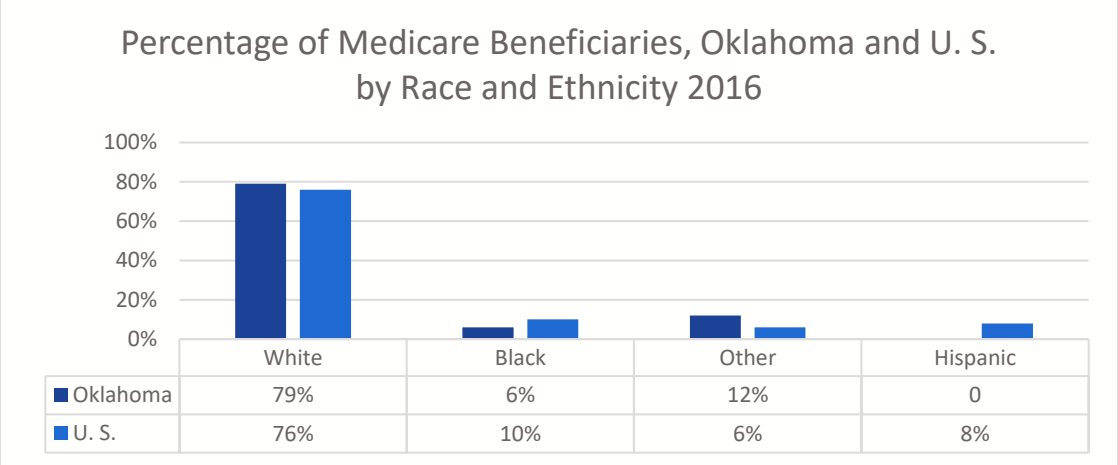
www.kff.org/state-category/medicare/. TimeFrame 2015.

The graph above shows the total number of Medicare beneficiaries for the state of Oklahoma as a whole and for the United States. Data at the county level was not available.



www.kff.org/state-category/medicare/. TimeFrame 2016

The graph above shows the percentages of Medicare beneficiaries by gender for the state of Oklahoma and the U.S. overall. Oklahoma showed similar percentages of beneficiaries by gender as were reported for the nation.



Data valid through Dec. 10, 2018. www.okhca.org. November 2018 Fast Facts

The next graph shown above shows the percentages of Medicare beneficiaries by race/ethnicity for Oklahoma as whole compared to those for the nation. Percentages for Oklahoma were very similar to those of the nation, although Oklahoma had more beneficiaries in the category “other” than the U.S. and the U.S. had more beneficiaries of Hispanic origin than Oklahoma.

Emergency department visits

This indicator is the number of emergency department (ED) visits to the nine Tulsa County hospitals by Tulsa County residents in 2016. It is presented as a rate per 1,000 population. It is important to note that while all of the hospitals are in Tulsa County, there may be patients from outside counties. Overall Tulsa County rates reflect these additional individuals. ZIP code rates are calculated using only those individuals who reside in that ZIP code.

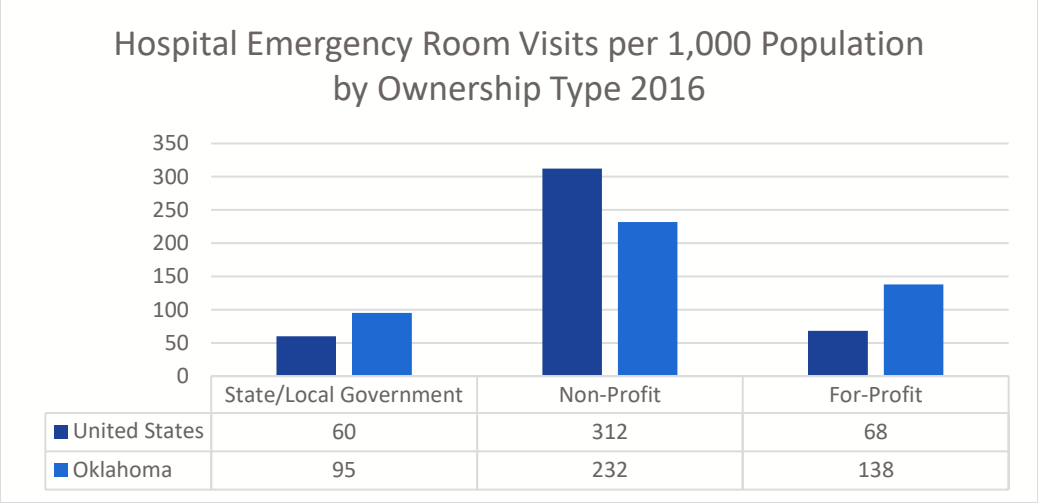
Why is this indicator important?

Lack of access to adequate and timely health care services can lead to increased use of the hospital ED as a source of primary care. According to the CDC, uninsured adults were more likely than those with private health insurance or a public health plan to visit the emergency department due to having no other place to go. This can place unnecessary strain on the hospital ED.[58]

How are we doing?

In 2016, over 332,000 visits were made to the nine Tulsa County EDs for an approximate overall rate of 527 visits per 1,000 population. This is likely an overestimate for county residents for two reasons: ZIP code information was unknown for over 11 percent of visits, and at least seven percent of visits were from individuals who lived in ZIP codes that are not within Tulsa County.

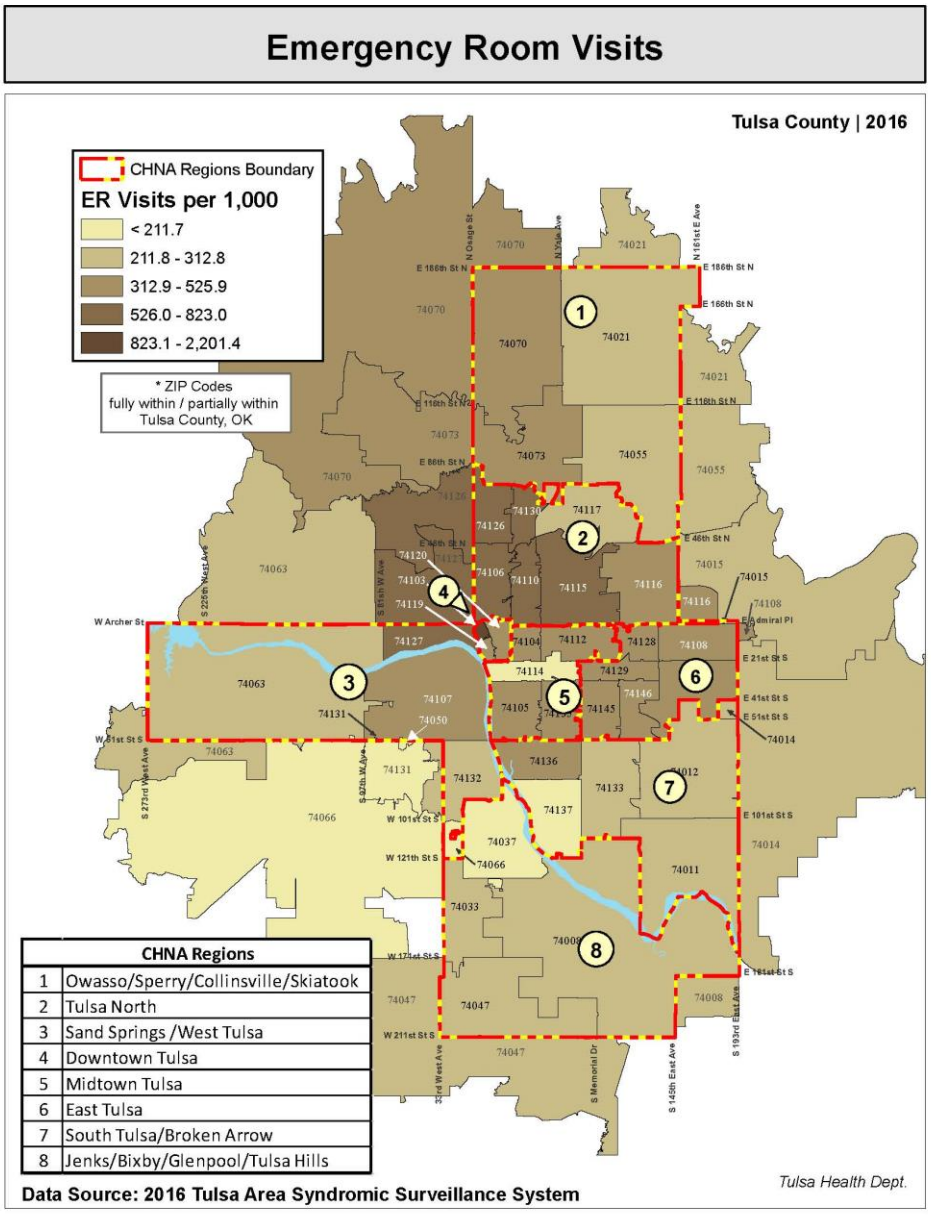
Tulsa County's rate of 527 visits per 1,000 population was higher than both Oklahoma and the Unites States. ED visit rates were 466 and 440 per 1,000 population for Oklahoma and the United States, respectively.



https://www.kff.org/other/state-indicator/emergency-room-visits-by-ownership/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

The graph above shows that Oklahoma had the same pattern of emergency room visits by ownership type as the nation did, with the largest number of visits taking place at non-profit hospital emergency rooms followed by visits to non-profit hospital emergency room and then emergency rooms owned by state or local governments.

[58] Gindi RM, Cohen RA, Kirzinger WK. Emergency room use among adults aged 18 – 64. Early release of estimates from the National Health Interview Survey, January – June 2011. National Center for Health Statistics. May 2012.



The number of emergency room visits in Tulsa County were highest in the Tulsa North ZIP codes of 74115, 74110, 74106, 74126, 74130. They were also high in the downtown Tulsa ZIP code of 74103 and in the West Tulsa ZIP code of 74127.

Late or no prenatal care

This indicator is defined as births to Tulsa County mothers who had no prenatal care or did not begin prenatal care until after the first trimester (greater than 12 weeks gestation). It is presented as a percentage of all births, over the years 2014-2016.

Why is this indicator important?

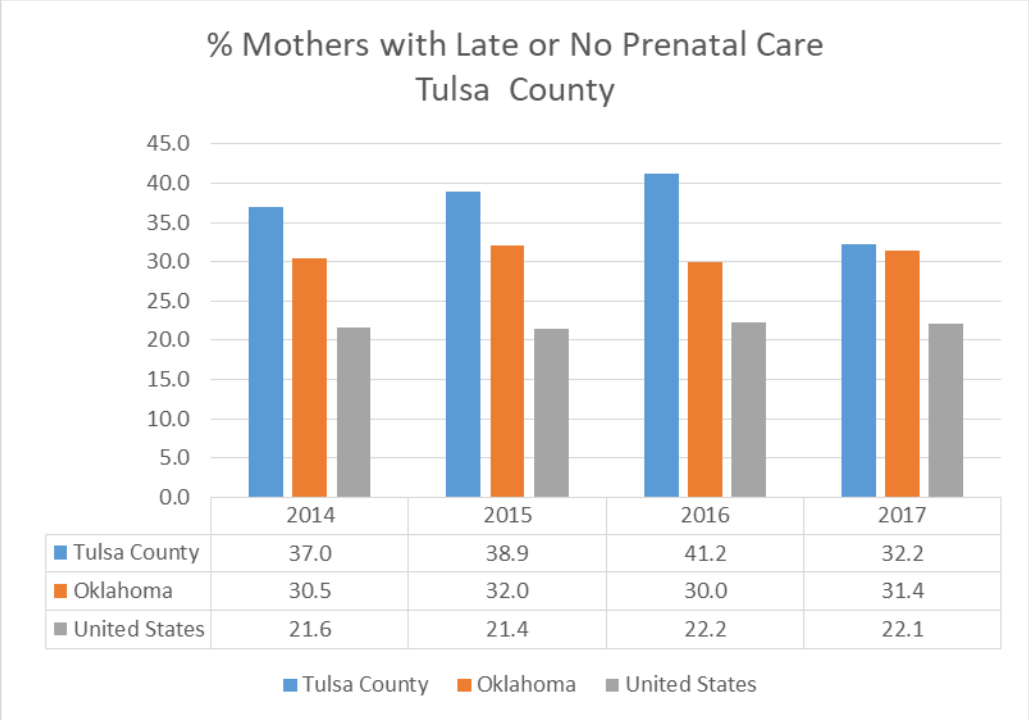
Prenatal care is medical attention for expecting mothers and their developing babies. It also includes the mother caring for herself by following her healthcare provider's advice, practicing good nutrition, getting plenty of rest,

exercising sensibly, and avoiding things that could harm her or her baby, such as smoking and alcohol. Babies born to mothers who received late or no prenatal care are more likely to be born at a low birth weight and are more likely to die.[59]

How are we doing?

From 2014 – 2017, a total of 37.3 percent of Tulsa County mothers did not receive prenatal care or received delayed prenatal care (after the first trimester).

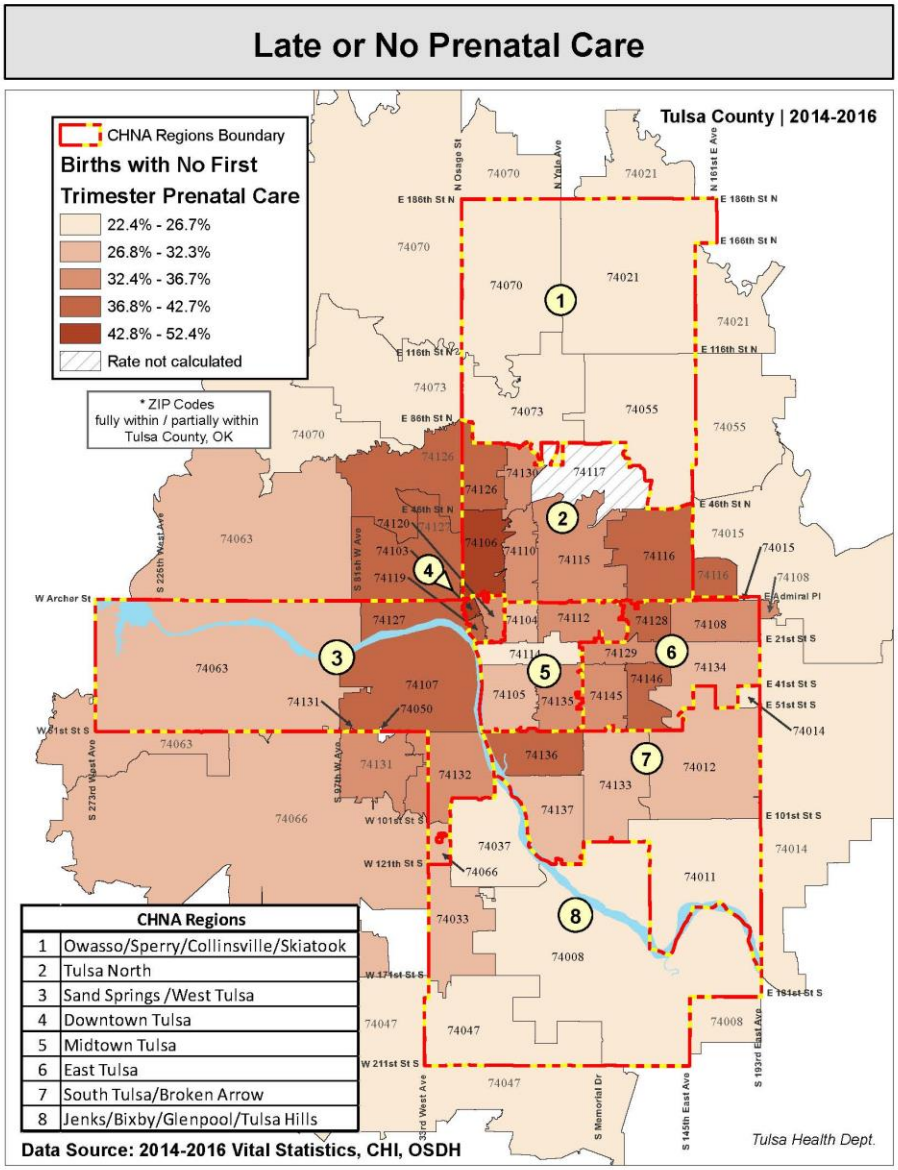
In 2017, 32.2 percent of Tulsa County mothers received late or no prenatal care. This was higher than the rate of late or no prenatal care in both Oklahoma (31.4 percent) and the United States (22.1 percent). Tulsa County, Oklahoma, and the U.S. all fell short of the Healthy People 2020 first trimester prenatal care goal of 77.9 percent (or 22.1 percent reporting late or no prenatal care). In general, the rate of late or no prenatal care has been decreasing (improving) since 2011. However, Oklahoma and Tulsa County both saw an increase in the rate from 2015 to 2016.



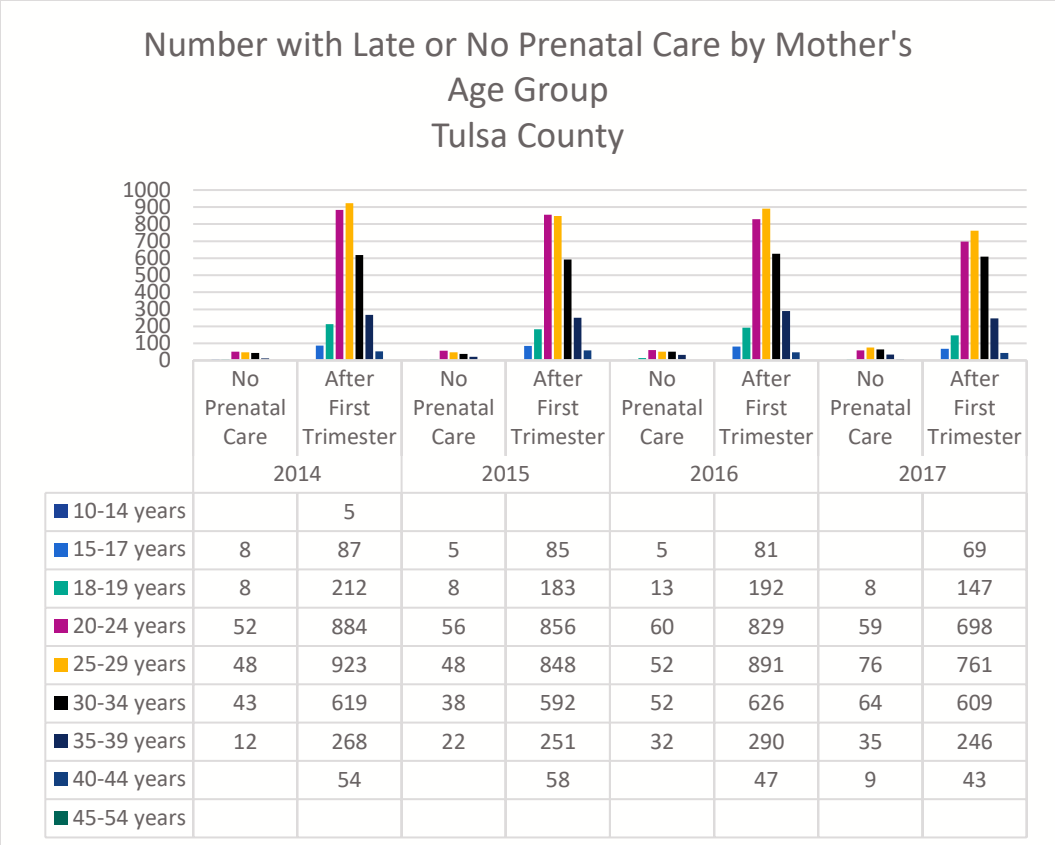
Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 births)

[59] Prenatal Care. Office of Women's Health. U.S. Department of Health and Human Services.



In Tulsa County, ZIP code 74106 located in Tulsa North and 74103 located in downtown Tulsa both have a high birth rate (42.8%-52.4%) where no first trimester prenatal care was sought.

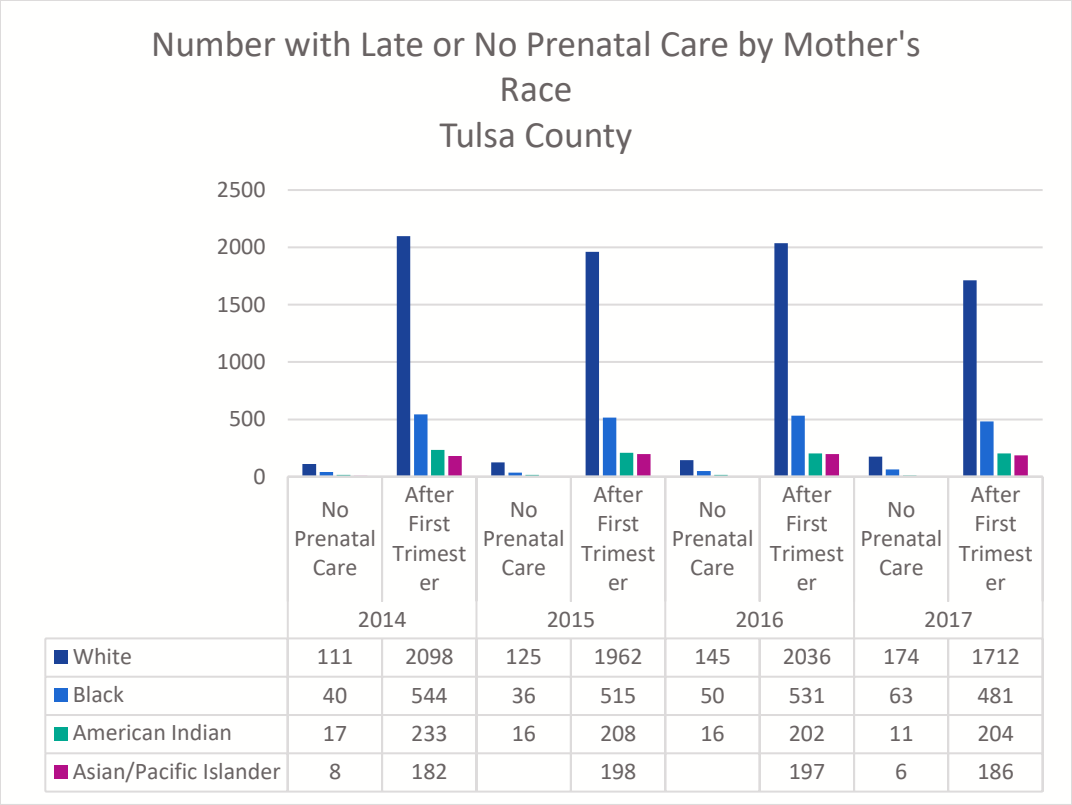


	2014		2015		2016		2017	
	No Prenatal Care	After First Trimester	No Prenatal Care	After First Trimester	No Prenatal Care	After First Trimester	No Prenatal Care	After First Trimester
10-14 years		5						
15-17 years	8	87	5	85	5	81		69
18-19 years	8	212	8	183	13	192	8	147
20-24 years	52	884	56	856	60	829	59	698
25-29 years	48	923	48	848	52	891	76	761
30-34 years	43	619	38	592	52	626	64	609
35-39 years	12	268	22	251	32	290	35	246
40-44 years		54		58		47	9	43
45-54 years								

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 births

In Tulsa County, the number of mothers who received no prenatal care increased from 2014 to 2017 for three age groups, mothers 25 to 29, 30 to 34 and 35 to 39. Numbers of mothers in the other age groups who did not receive prenatal care remained relatively stable. For mothers in Tulsa County who began receiving prenatal care after the first trimester, numbers decreased from 2014 to 2017 for age groups 15 to 17, 18 to 19, 20 to 24, 25 to 29 and 40 to 44.

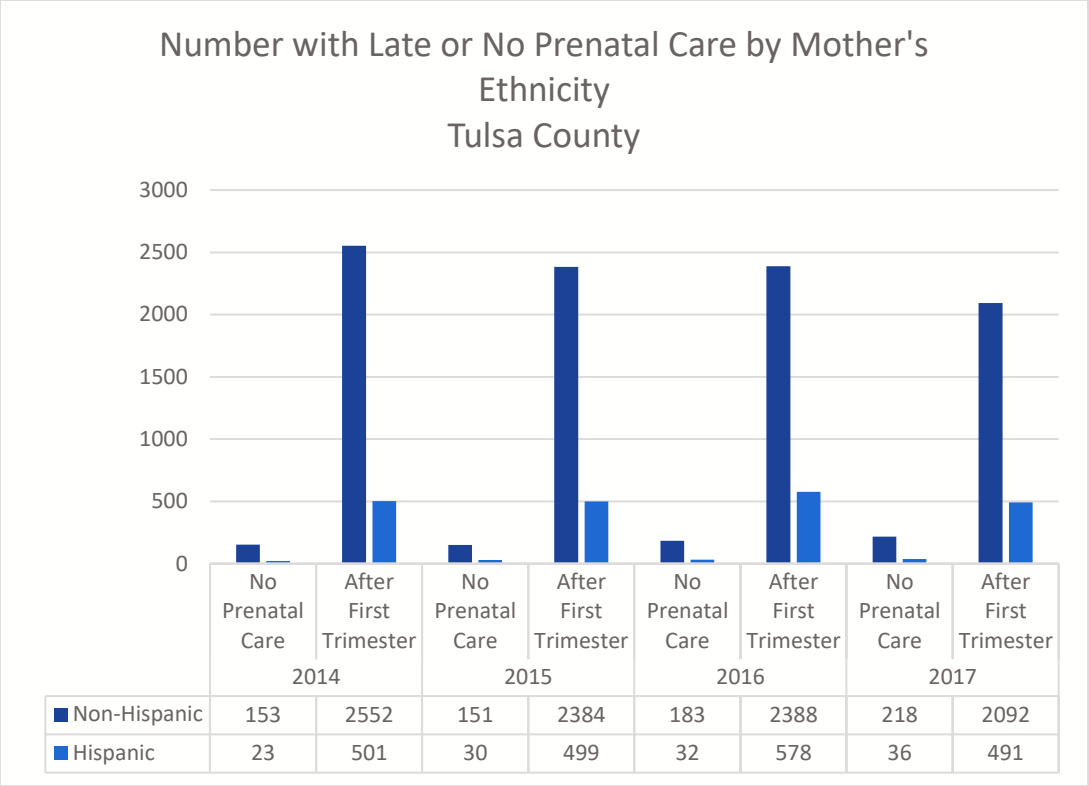


	2014		2015		2016		2017	
	No Prenatal Care	After First Trimester	No Prenatal Care	After First Trimester	No Prenatal Care	After First Trimester	No Prenatal Care	After First Trimester
White	111	2098	125	1962	145	2036	174	1712
Black	40	544	36	515	50	531	63	481
American Indian	17	233	16	208	16	202	11	204
Asian/Pacific Islander	8	182		198		197	6	186

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 births

When examining prenatal care by race, we find that the number of mothers who were white and mothers who were black and who received no prenatal care increased from 2014 to 2017. Numbers of mothers who were American Indian and who received no prenatal care decreased from 2014 to 2017.

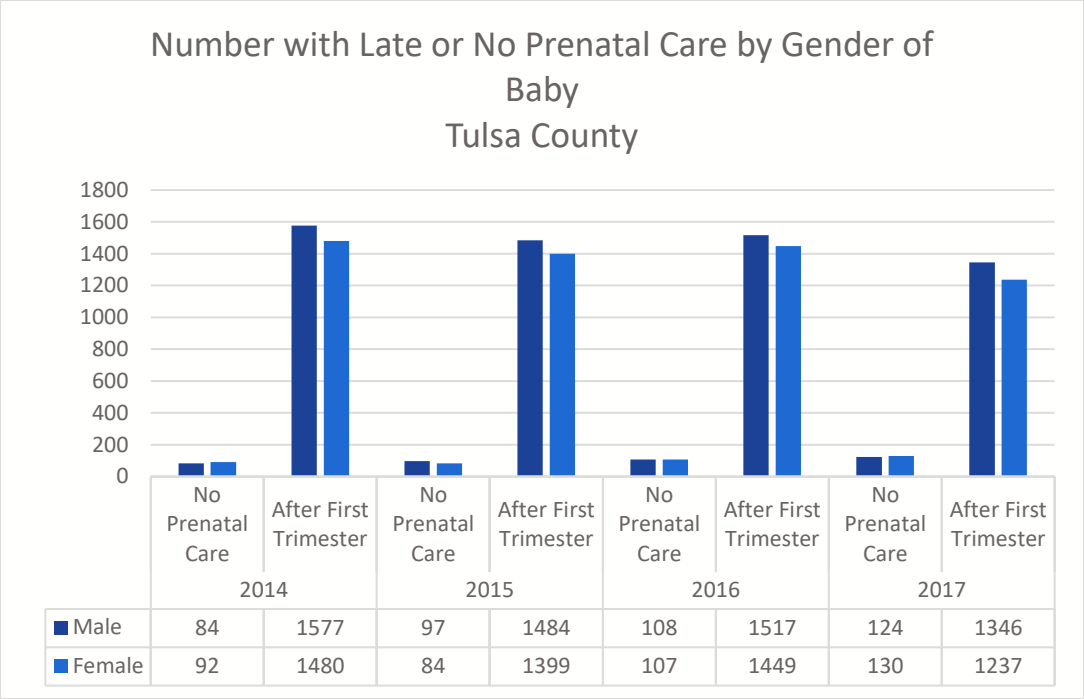


	No Prenatal Care	After First Trimester	No Prenatal Care	After First Trimester	No Prenatal Care	After First Trimester	No Prenatal Care	After First Trimester
	2014		2015		2016		2017	
Non-Hispanic	153	2552	151	2384	183	2388	218	2092
Hispanic	23	501	30	499	32	578	36	491

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 births

The number of non-Hispanic mothers in Tulsa County who received no prenatal care increased overall from 2014 to 2017, from 153 to 218. The number of mothers of Hispanic origin in Tulsa who received no prenatal care also increased from 2014 to 2017, from 23 to 36. However, the number of mothers who were not of Hispanic origin and who began receiving prenatal care after the first trimester decreased overall from 2,552 in 2014 to 2,092 in 2017.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Calculations may have been suppressed due to small cell size (less than 5 births

In Tulsa County from 2014 to 2017, there were more mothers who began receiving prenatal care after the first trimester that gave birth to male babies than there were who gave birth to female babies, but there was otherwise no discernable pattern in this indicator when broken out by gender.

Quality of care

High quality health care is timely, safe, effective, and affordable–the right care for the right person at the right time. High quality care in inpatient and outpatient settings can help protect and improve health and reduce the likelihood of receiving unnecessary or inappropriate care.

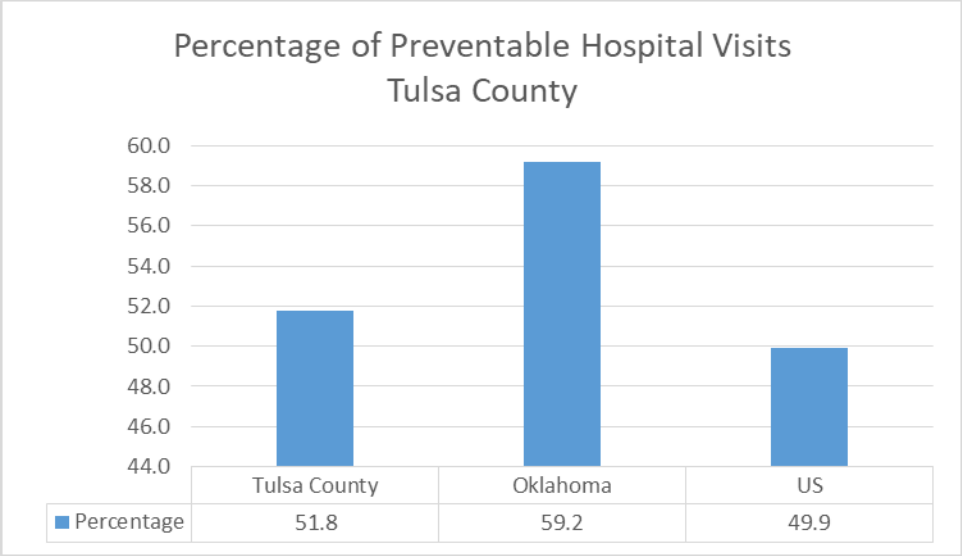
Preventable hospital stays

This indicator reports the discharge rate (per 1,000 Medicare enrollees) for conditions that are ambulatory care sensitive (ACS). ACS conditions include pneumonia, dehydration, asthma, diabetes, and other conditions which could have been prevented if adequate primary care resources were available and accessed by those patients.

Why is this indicator important?

This indicator is relevant because analysis of ACS discharges allows demonstrating a possible “return on investment” from interventions that reduce admissions (for example, for uninsured or Medicaid patients) through better access to primary care resources. Diseases typically associated with preventable hospitalization include diabetes, hypertension, congestive heart failure, angina, asthma, dehydration, bacterial pneumonia and urinary infections. Patients who actively participate in their care and adopt healthy lifestyle behaviors may avoid some hospital admissions. Comprehensive, coordinated outpatient care has been shown to reduce preventable hospitalizations.

How are we doing?



Data source: Community Commons

Tulsa County had lower percentages of preventable hospital visits than the state of Oklahoma, but higher than the U.S. overall, although Tulsa County was very close to the U.S. percentage (Tulsa County 51.8%, U.S. 49.9%).

Mammograms

This indicator is the percentage of women in the county over 40 who received a mammogram in the previous two years.

Why is this indicator important?

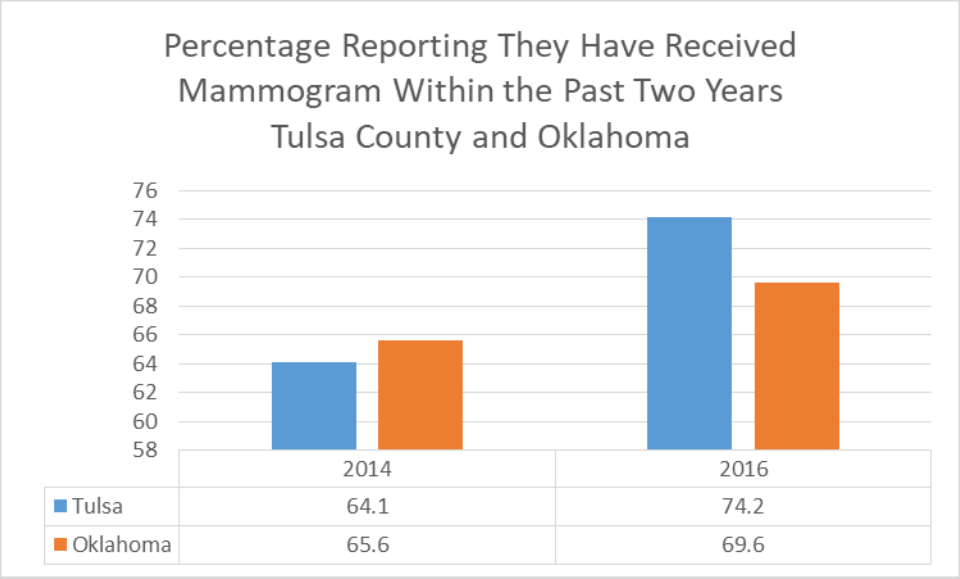
Breast cancer starts when cells in the breast begin to grow out of control, which usually forms a tumor that can be felt as a lump. After skin cancer, breast cancer is the most common cancer in American woman. The American Cancer Society estimates that in 2018 there will be about 266,120 cases of invasive breast cancer diagnosed and 40,920 women will die from breast cancer. Deaths rates from breast cancer decreased 39 percent from 1989 to 2015, which is believed to be a result of finding breast cancer earlier though screening and increased awareness, as well as better treatments. Mammograms are recommended for women age 45 and older who are at average risk of breast cancer. Women at higher risk are recommended to get an MRI and mammogram annually starting at age 30. High risk includes family history, certain genes, specific medical conditions, or history of radiation. [60]

How are we doing?

In 2016, 74.2 percent of Tulsa County women over 40 reported that they had received a mammogram in the previous two years. This was higher than both Oklahoma (69.6) and the US (72.5).

The percentage of women who had received a mammogram was highest in women 65 - 74. Additionally, the percentage of women who reported a mammogram increased with income until $75,000; the percentage of women who had an income over $75,000 who had received a mammogram in the previous two years was lower than that of women with an income of $50,000-$74,999. It is also important to note that only one-third of women with an income of less than $15,000 had received a mammogram in the past two years.

[60] Breast Cancer. American Cancer Society.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Tulsa County and Oklahoma showed increases from 2014 to 2016 in the percentage of those reporting they had received a mammogram within the past 2 years.

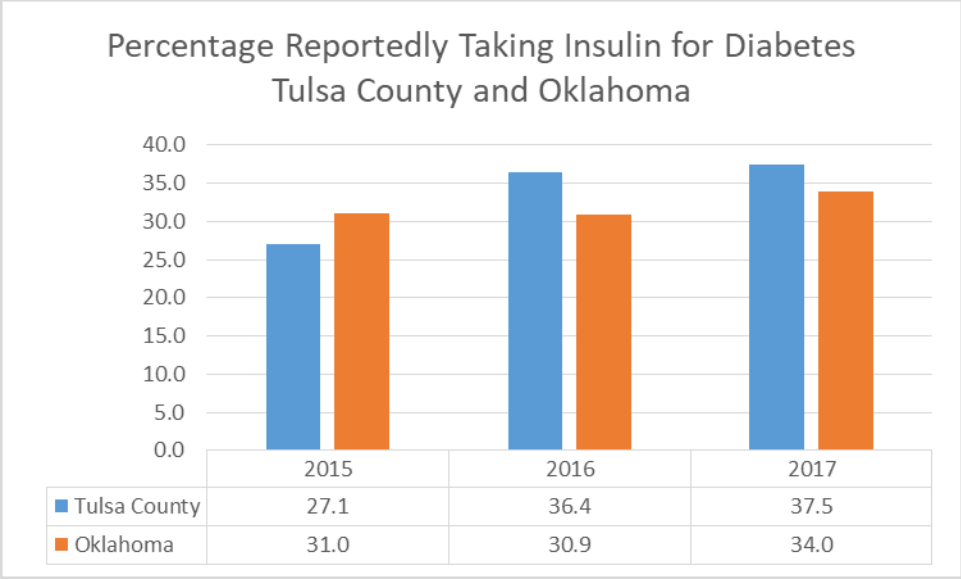
Diabetes treatment

This indicator reports the percentage of residents with diabetes who self-report having taken insulin for diabetes in the past year.

Why is this indicator important?

This indicator is relevant because engaging in preventive behaviors allows for early treatment of health problems. This indicator can also highlight a lack of access to preventive care, a lack of health knowledge, insufficient provider outreach, and/or social barriers preventing utilization of services.

How are we doing?



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

The percentages of those reportedly taking insulin for diabetes increased in Tulsa County from 2015 to 2017 (27.1% to 37.5%).

Health Behaviors and Risk Factors

Health behaviors such as poor diet, a lack of exercise, substance abuse, and other risk factors contribute to poor health status.

Fruit consumption

This indicator is the percentage of Tulsa County residents who reported that they consumed less than one serving of fruit daily in 2015 and 2017.

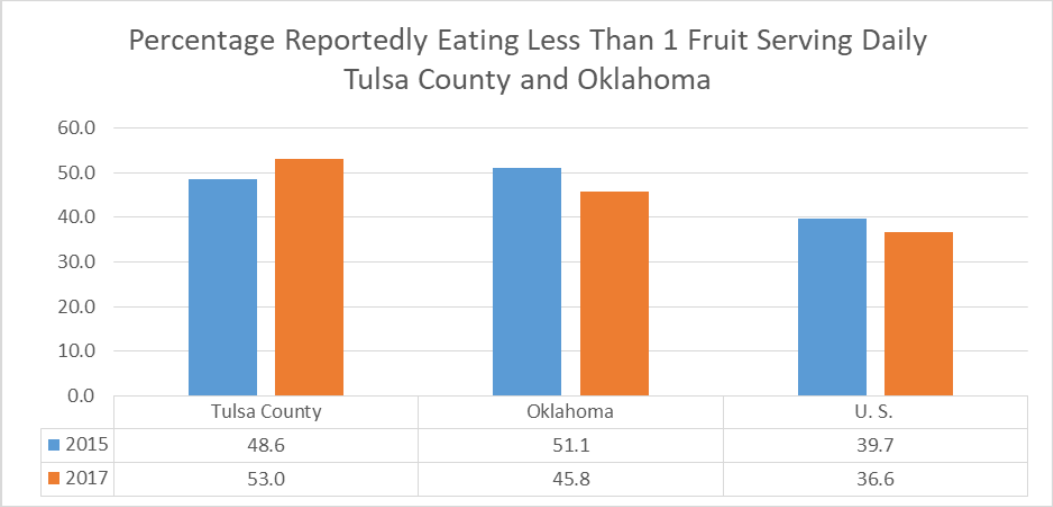
Why is this indicator important?

Fruits and vegetables are part of a well-balanced and healthy diet. Eating more fruits and vegetables along with whole grains and lean meats, nuts, and beans is a way to lose weight or maintain a healthy weight. Along with helping to control weight, diets rich in fruits and vegetables may reduce the risk of some types of cancer and other chronic diseases. Fruits and vegetables also provide essential vitamins and minerals, fiber, and other substances that are important for good health.[61]

How are we doing?

In 2017, 53 percent of Tulsa County residents reported that they consumed less than one serving of fruit daily. This was higher than Oklahoma (45.8 percent) and the United States (36.6 percent).

[61] Fruits and Vegetables. Centers for Disease Control and Prevention.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

The percentage of those who reportedly ate less than 1 fruit serving daily increased in Tulsa County from 2015 to 2017, from 48.6% to 53%, while the percentage for the Northeast Region decreased from 52% to 48.8% for the same time-period.

Vegetable consumption

This indicator is the percentage of Tulsa County residents who reported that they consumed less than one serving of vegetables daily in 2015 and 2017.

Why is this indicator important?

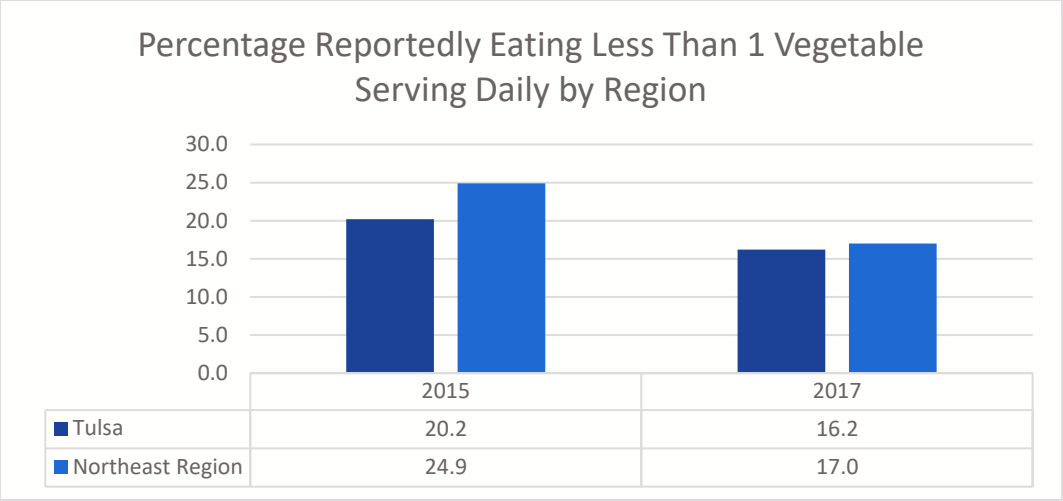
Most fruits and vegetables are naturally low in fat, sodium, and calories. None have cholesterol. Nutrients that are obtained from fruits and vegetables include potassium, dietary fiber, folate (folic acid), vitamin A, and vitamin C. These nutrients can help lower cholesterol and blood pressure, as well as keep the body healthy overall. Consumption of folate (folic acid) is especially important for women of childbearing age who may become pregnant. Folate (folic acid) lowers the risk of birth defects during fetal development. [62]

How are we doing?

*For the purposes of this assessment, the Northeast region consists of Creek County, Washington County, and Nowata County. Data for the specific measure were not available at the county level for these communities

In 2017, 16.2 percent of Tulsa County residents reported that they consumed less than one serving of vegetables daily. This was lower than both Oklahoma and the US (24.5 percent and 22.1 percent, respectively).

[62] Food Groups. Choose My Plate. United States Department of Agriculture.

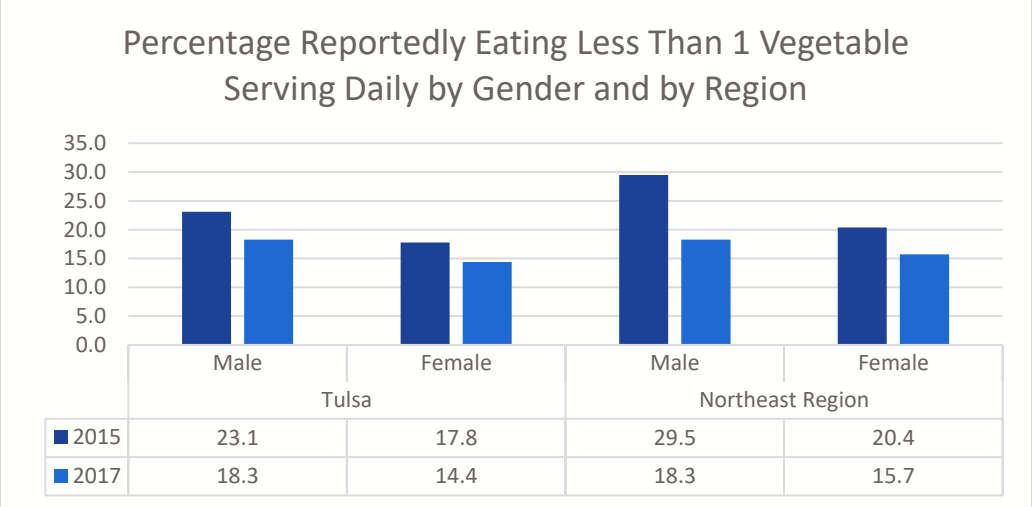


Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

For those who reported eating less than 1 vegetable serving daily, the Northeast Region had slightly higher percentages than did Tulsa County in 2015 and in 2017. Both geographic areas showed decreases in percentages from 2015 to 2017.

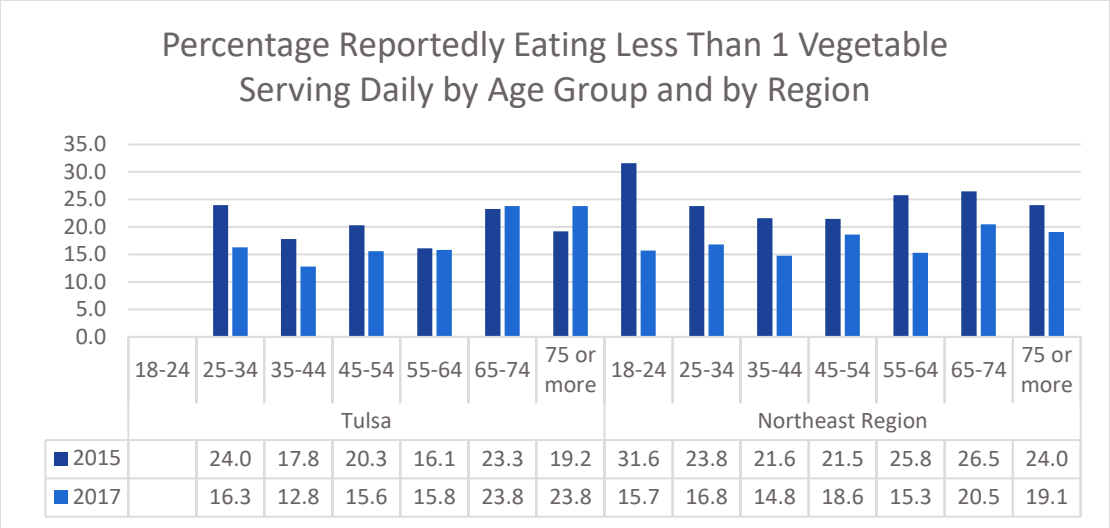


Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Both geographic areas showed decreases in the percentages of those who reported they ate less than 1 vegetable serving daily for both genders. Overall the percentages were higher in the Northeast Region than in Tulsa County from 2015 to 2017.

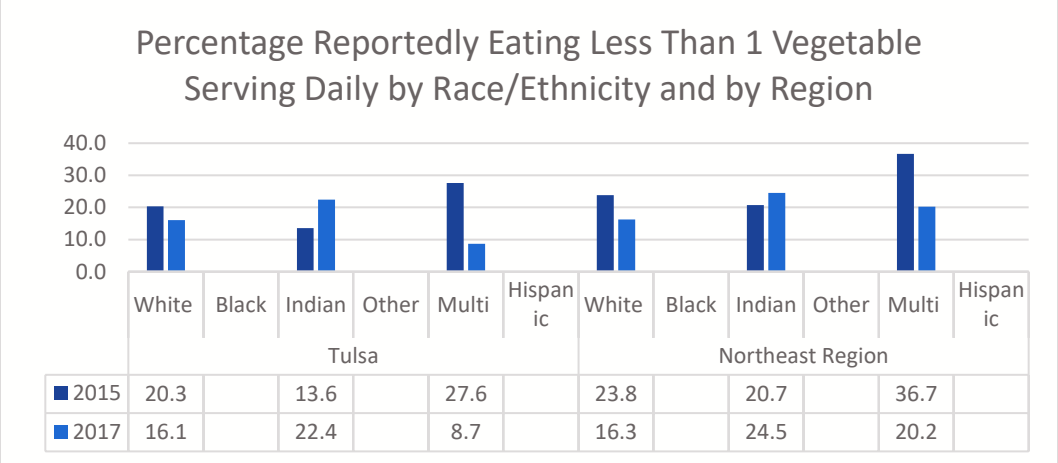


Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

For both years reported and for both geographic regions examined, the percentages show a pattern of higher percentages eating less than 1 vegetable daily in younger age groups, a slight decline in these percentages as age increased, than a surprise increase again as age increases from 45 and older.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

When examining vegetable consumption by race/ethnicity and by region, we see that the percentages of those eating less than 1 vegetable daily in the white population of both geographic areas decreased from 2015 to 2017. The percentages of those eating less than 1 vegetable daily in the American Indian population in both geographic areas increased, although the increase was greater in Tulsa County. The percentage of those eating less than 1 vegetable daily for those who are multiracial, however, decreased substantially in both geographic areas, from 27.6% to 8.7% in Tulsa County and from 36.7% to 20.2% in the Northeast Region.

Physical activity

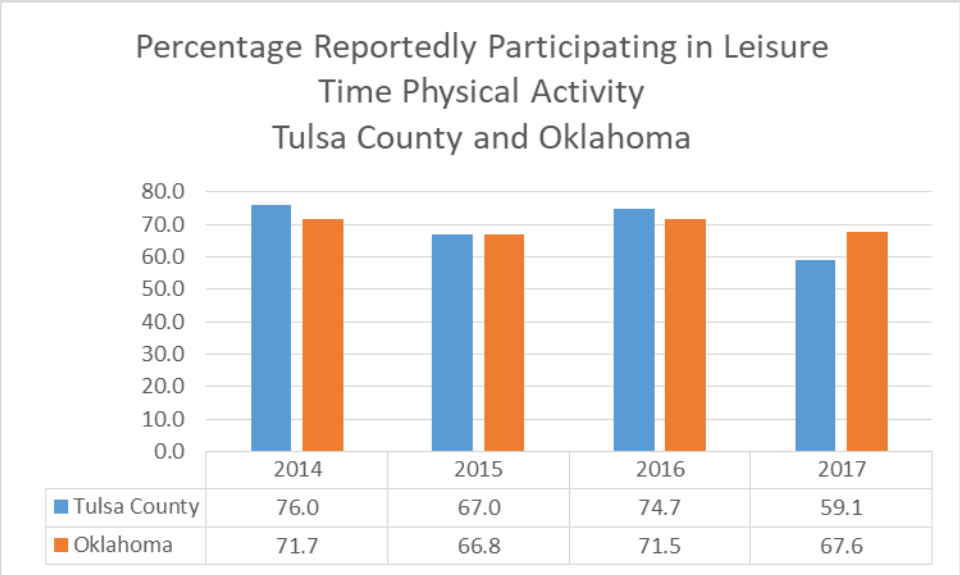
This indicator is presented as the percentage of adults in 2014-2017 who reported physical activity in the past month, other than their regular job.

Why is this indicator important?

Regular physical activity can improve the health and quality of life of people of all ages, regardless of the presence of a chronic disease or disability. Among adults and older adults, physical activity can lower the risk of early death, coronary heart disease, stroke, high blood pressure, type 2 diabetes, breast and colon cancer, falls, and depression. Among children and adolescents, physical activity can improve bone health, improve cardiorespiratory and muscular fitness, decrease levels of body fat, and reduce symptoms of depression. For people who are inactive, even small increases in physical activity are associated with health benefits. Although there are many factors that can increase physical activity, some environmental influences include the presence of sidewalks, access to public transportation, low traffic density, and access to a neighborhood or school play area.[63]

How are we doing?

Overall, 59.1 percent of Tulsa County adults reported leisure time physical activity in the previous month in 2017. This is lower than Oklahoma (67.6 percent) and the United States (73.8 percent). This trend has been true since 2011, although the rate of no leisure time physical activity has been variable for all regions. The county did not meet the Healthy People 2020 national target of 32.6 percent of adults reporting no leisure time physical activity (40.6 percent).



	2014	2015	2016	2017
Tulsa County	76.0	67.0	74.7	59.1
Oklahoma	71.7	66.8	71.5	67.6

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

[63] Physical Activity. Healthy People 2020. U.S. Department of Health and Human Services.

Weight (obese/overweight)

This indicator is the percentage of Tulsa County residents who were overweight or obese (total overweight) in 2014-2017. Overweight is defined by the World Health Organization as individuals who have a body mass index (BMI) greater than or equal to 25. Obesity refers to individuals who have a BMI greater than or equal to 30. BMI is calculated by taking the person's weight in kilograms divided by the square of his height in meters (kg/m2).

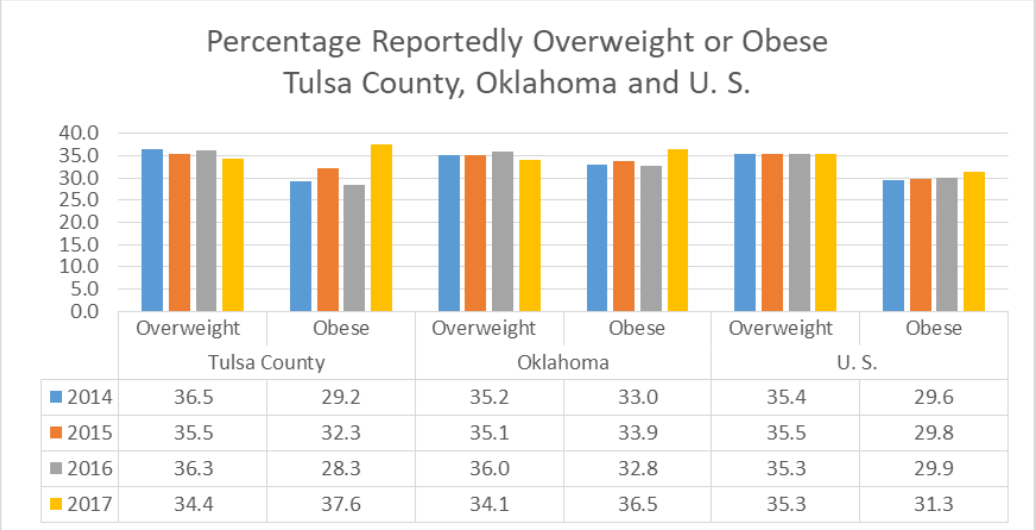
Why is this indicator important?

A variety of factors, including behavioral, environmental, and genetic factors can all play a role in being overweight/obese. Individuals who are overweight or obese have an increased risk of many health conditions: heart disease, type 2 diabetes, certain cancers, hypertension, and stroke, as well as other conditions. Obesity and overweight (and associated health problems) have a significant economic impact on the health system through direct medical costs, lost productivity in the general workforce, and early death. [64]

How are we doing?

In 2015, 72 percent of Tulsa County residents were overweight or obese (34.4 percent overweight; 37.6 percent obese). In general, the percentage of obese Tulsa County residents has been lower than the percentage of overweight residents since 2011.

In 2017, Tulsa County had a higher percentage of individuals who were overweight or obese compared to Oklahoma and the US (70.6 percent and 66.6 percent, respectively).



	Tulsa County		Oklahoma		U. S.	
	Overweight	Obese	Overweight	Obese	Overweight	Obese
2014	36.5	29.2	35.2	33.0	35.4	29.6
2015	35.5	32.3	35.1	33.9	35.5	29.8
2016	36.3	28.3	36.0	32.8	35.3	29.9
2017	34.4	37.6	34.1	36.5	35.3	31.3

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

There was not much variability, across geographic areas or over the time span examined in this assessment, in the percentages of people who were reportedly overweight or obese. Both geographic areas showed decreases in percentages of those who were reportedly overweight from 2014 to 2017 and increases in the percentages of those who were reportedly obese for the same time-period.

64 Overweight and Obesity: Causes and Consequences. Centers for Disease Control and Prevention.

High blood pressure

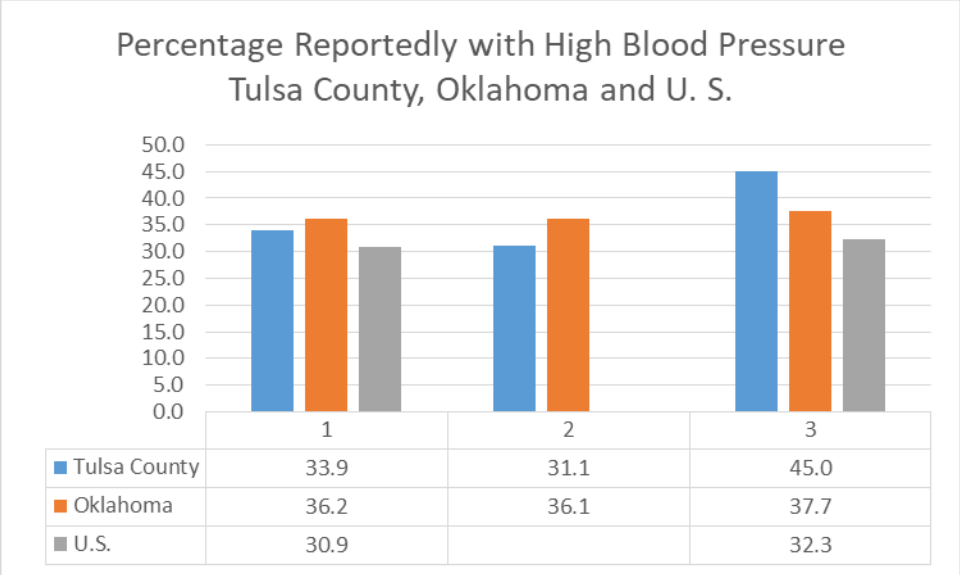
This indicator is presented as the percentage of Tulsa County residents who had ever been diagnosed with high blood pressure in 2015-2017.

Why is this indicator important?

Uncontrolled high blood pressure can lead to serious health consequences if untreated. It is sometimes called 'the silent killer,' because it has no symptoms, so individuals may not be aware that it is damaging their arteries, heart, and other organs. Possible health consequences include heart disease, stroke, kidney damage, as well as other complications. Risk factors for high blood pressure include family history, age, low physical activity, poor diet, overweight/obese, and high alcohol consumption.[65]

How are we doing?

In 2017, 45 percent of Tulsa County residents reported having high blood pressure. This was higher than in Oklahoma (37.7 percent) and the United States (32.3 percent). The county did not meet the Healthy People 2020 national goal of reducing the proportion of individuals with high blood pressure to 26.9 percent.



	1	2	3
Tulsa County	33.9	31.1	45.0
Oklahoma	36.2	36.1	37.7
U.S.	30.9		32.3

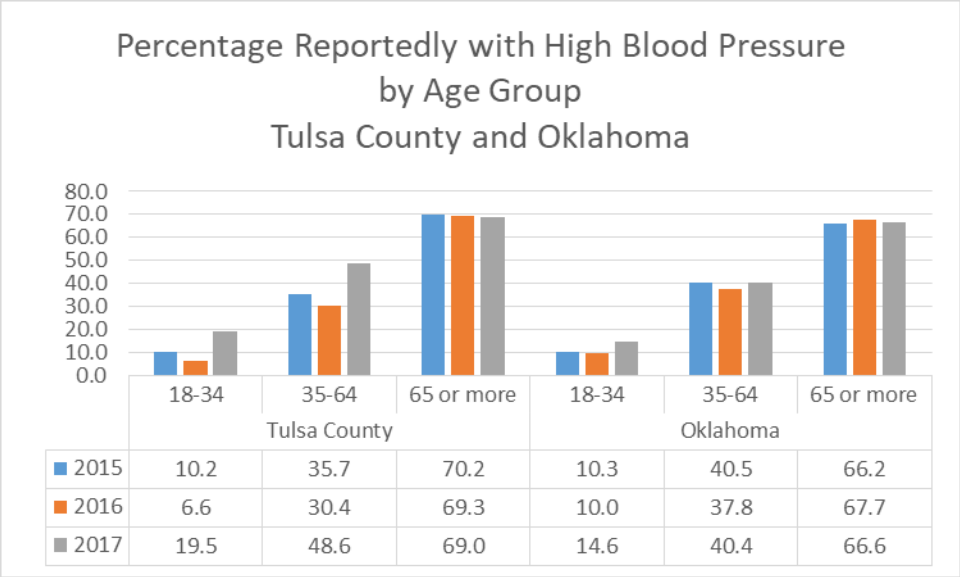
Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

The percentages of those reportedly with high blood pressure increased overall in Tulsa County from 2015 to 2017 from 33.9% to 45.0%.

[65] High Blood Pressure. American Heart Association.



	Tulsa County			Oklahoma		
	18-34	35-64	65 or more	18-34	35-64	65 or more
2015	10.2	35.7	70.2	10.3	40.5	66.2
2016	6.6	30.4	69.3	10.0	37.8	67.7
2017	19.5	48.6	69.0	14.6	40.4	66.6

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

The graph above shows very clearly that as age increased the percentages of those reported to have high blood pressure in both regions from 2015 to 2017 also increased. Those 65 and older in Tulsa County saw overall higher percentages of those who were reported to have high blood pressure.

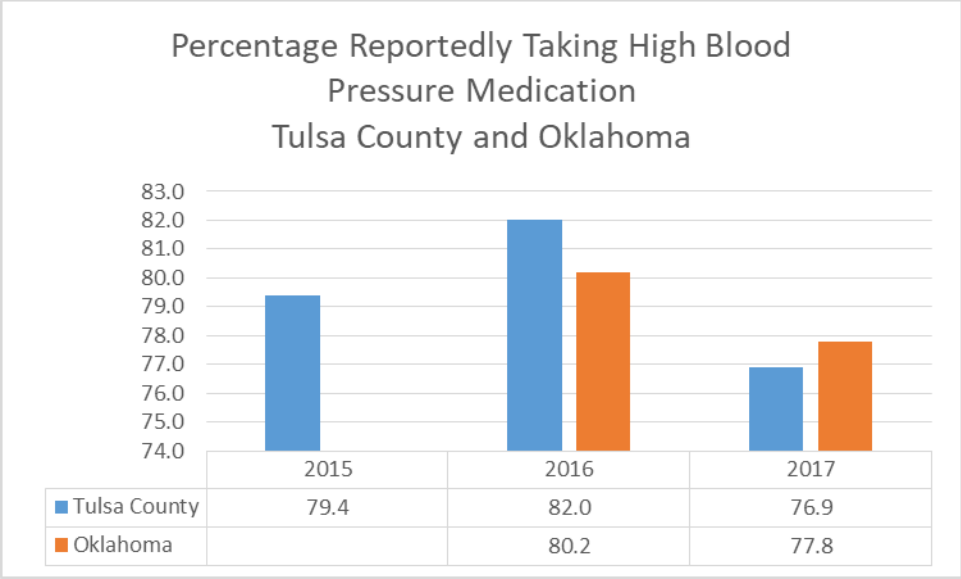
High blood pressure management

This indicator is presented as the percentage of adults who self-reported that they are not taking medication for their high blood pressure according to the CDC's Behavioral Risk Factor Surveillance System (2015-2017).

Why is this indicator important?

This indicator is relevant because engaging in preventive behaviors decreases the likelihood of developing future health problems. When considered with other indicators of poor health, this indicator can also highlight a lack of access to preventive care, a lack of health knowledge, insufficient provider outreach, and/or social barriers preventing utilization of services.

How are we doing?



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

The percentages of those who were reported to be taking medication for high blood pressure started out at about 80% in 2015 (79.4%) increased in 2016 (82.0%) and then decreased in 2017 for Tulsa County (76.9%).

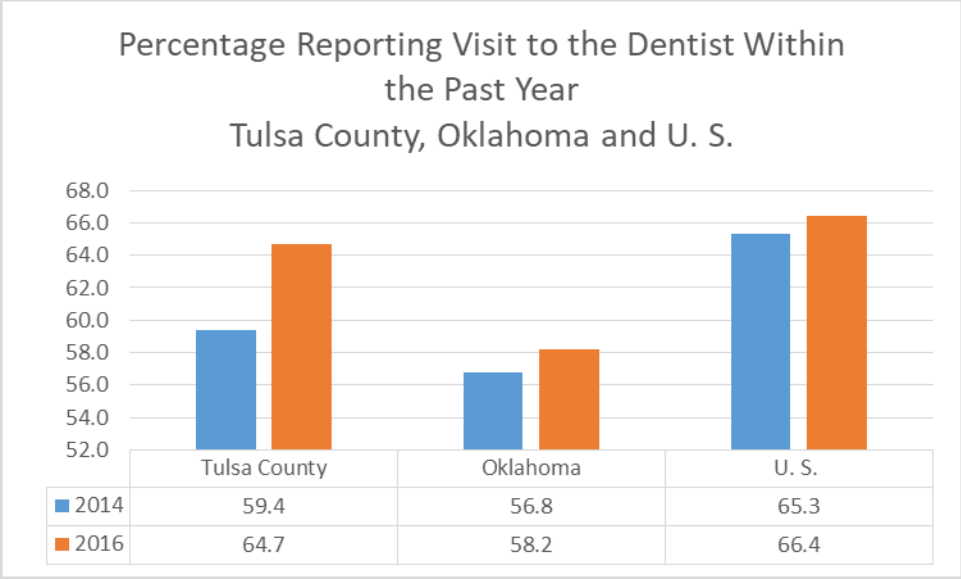
Dental care

This indicator reports the percentage of adults aged 18 and older who self-report that they have not visited a dentist, dental hygienist or dental clinic within the past year.

Why is this indicator important?

This indicator is relevant because engaging in preventive behaviors decreases the likelihood of developing future health problems. This indicator can also highlight a lack of access to preventive care, a lack of health knowledge, insufficient provider outreach, and/or social barriers preventing utilization of services.

How are we doing?



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Tulsa County showed an increase from 2014 to 2016 in the percentages of those who reported visiting a dentist in the past year (from 59.4% to 64.7%).

Teen births

This indicator is presented as the number of live births to Tulsa County teenagers (ages 15 – 17 and 15 - 19) per 1,000 females in this age group, over the years 2014 – 2017.

Why is this indicator important?

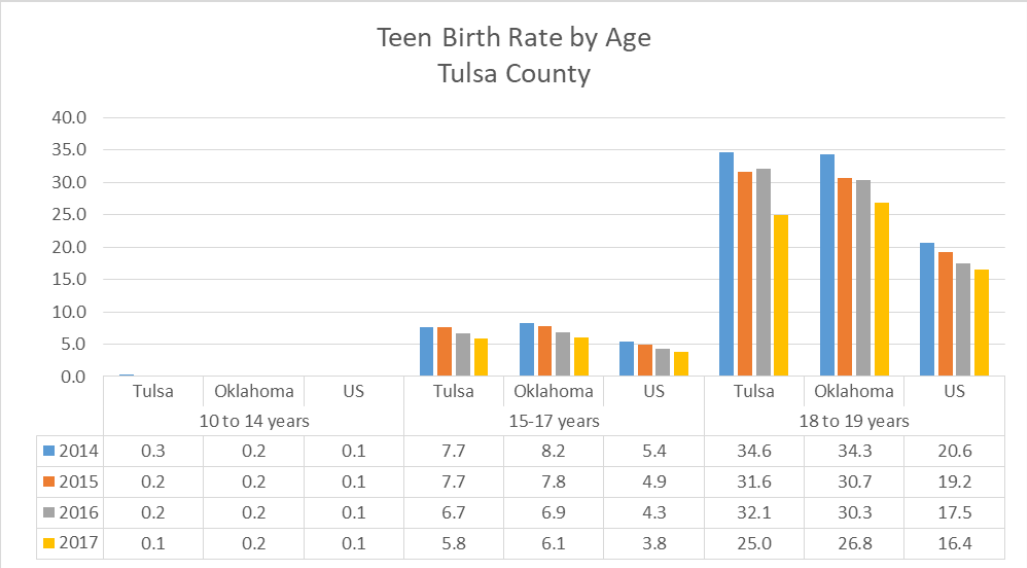
Although teen birth rates are declining, there are still significant disparities among racial and ethnic minorities, as well as socioeconomically disadvantaged youth of any race or ethnicity. Social and economic costs related to teen parents and childbirth include increased health care and foster care costs, increased high school dropout rates, and lower educational attainment for teen mothers and their children. The children of teen mothers are also more likely to be incarcerated at some time during adolescence, have more health problems, give birth as a teenager, and face unemployment as a young adult. [66]

How are we doing?

Teen birth rate trends have been decreasing in Tulsa County, Oklahoma, and the US since 2011, but the US teen birth rates are still much lower than Tulsa County and Oklahoma.

The highest teen birth rates (15- 17) were primarily in ZIP codes in north Tulsa. The ZIP codes with the highest teen birth rates (15-19) were in east Tulsa.

66 Teen Pregnancy: About Teen Pregnancy. Centers for Disease Control and Prevention.



	Tulsa	Oklahoma	US	Tulsa	Oklahoma	US	Tulsa	Oklahoma	US
	10 to 14 years			15-17 years			18 to 19 years		
2014	0.3	0.2	0.1	7.7	8.2	5.4	34.6	34.3	20.6
2015	0.2	0.2	0.1	7.7	7.8	4.9	31.6	30.7	19.2
2016	0.2	0.2	0.1	6.7	6.9	4.3	32.1	30.3	17.5
2017	0.1	0.2	0.1	5.8	6.1	3.8	25.0	26.8	16.4

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Tulsa County showed an overall decrease in the teen birth rates from 8.6 live births to 1,000 population in 2104 to 6.4 live births per 1,000 population in 2017.

Tobacco use

This indicator is the percentage of Tulsa County residents who smoked cigarettes in 2014-2017.

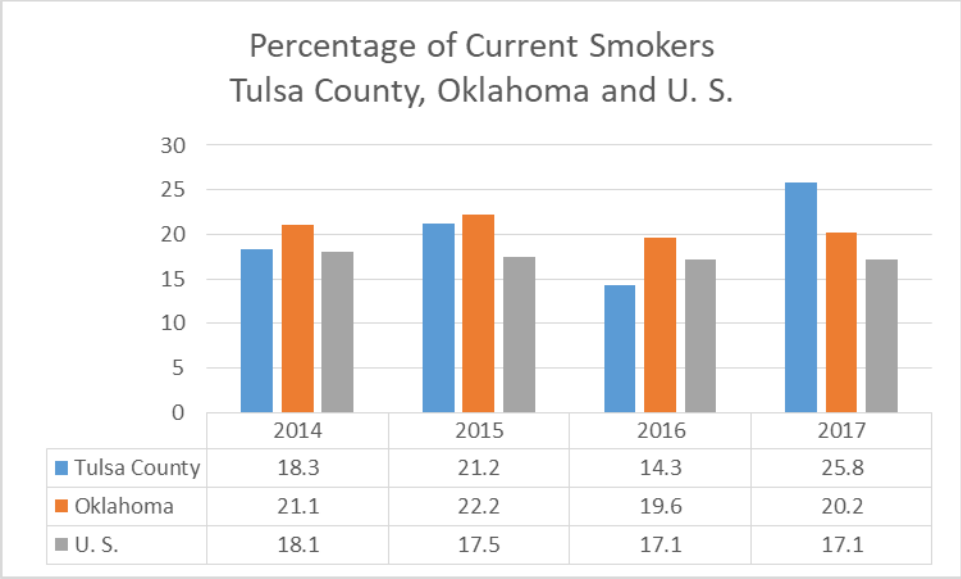
Why is this indicator important?

Tobacco use is the single most preventable cause of death and disease in the United States. Tobacco use causes cancer, heart disease, lung diseases (including emphysema, bronchitis, and chronic airway obstruction), premature birth, low birth weight, stillbirth, and infant death. Secondhand smoke causes heart disease and lung cancer in adults and a number of health problems in infants and children, including severe asthma attacks, respiratory infections, ear infections, and is associated with Sudden Infant Death Syndrome (SIDS). There is no risk-free level of exposure to secondhand smoke.[67]

How are we doing?

In 2017, 25.8 percent of Tulsa County residents reported smoking cigarettes on some days or every day (current smokers). This was higher than Oklahoma (20.2 percent) and the United States (17.1 percent). None of these regions met the Healthy People 2020 national goal of reducing smoking prevalence to 12.0 percent. The prevalence of cigarette smoking has fluctuated over time but increased in 2017.

[67] Tobacco Use. Healthy People 2020. U.S. Department of Health and Human Services.



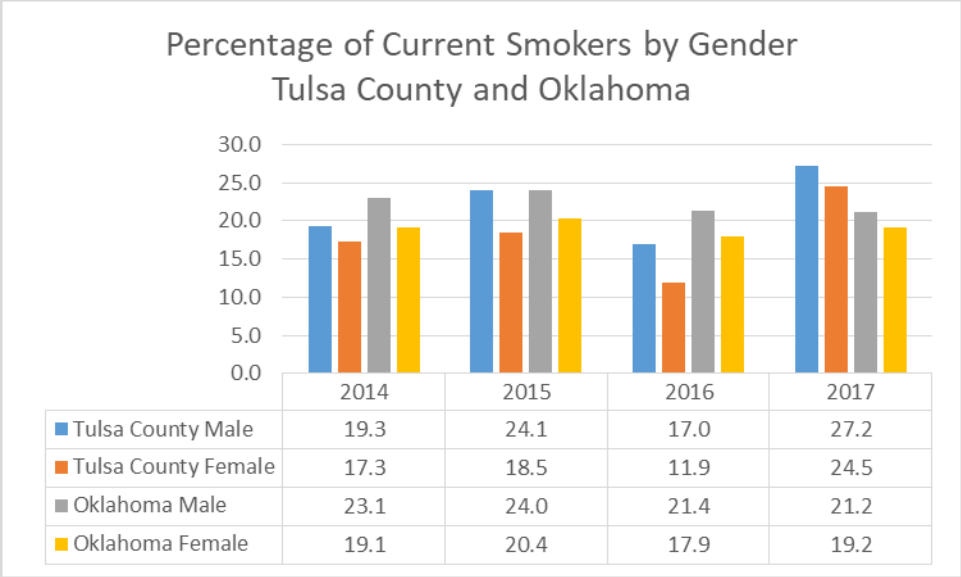
	2014	2015	2016	2017
Tulsa County	18.3	21.2	14.3	25.8
Oklahoma	21.1	22.2	19.6	20.2
U. S.	18.1	17.5	17.1	17.1

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Tulsa County showed an overall increase in the percentage of current smokers from 18.3% in 2014 to 25.8% in 2017.



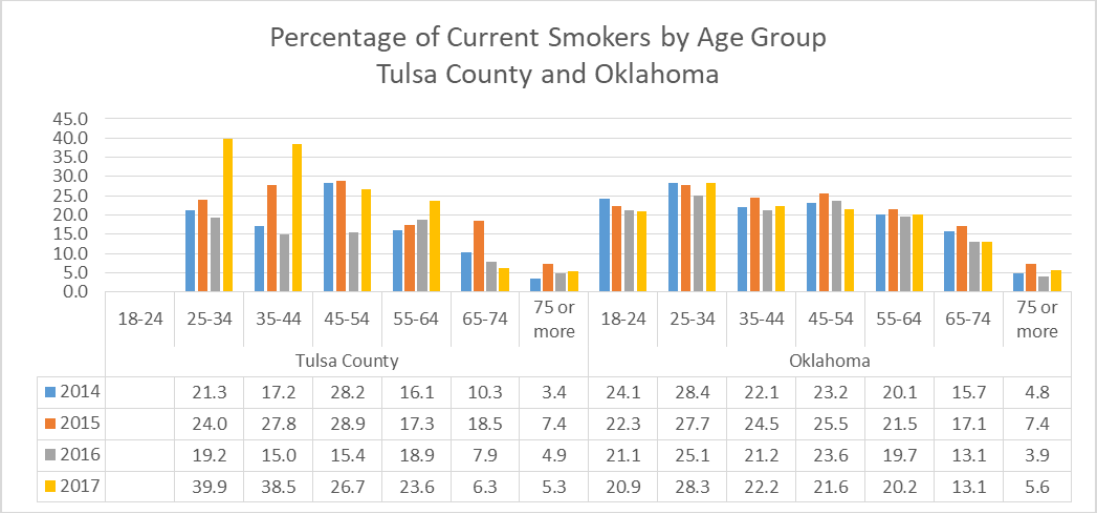
	2014	2015	2016	2017
Tulsa County Male	19.3	24.1	17.0	27.2
Tulsa County Female	17.3	18.5	11.9	24.5
Oklahoma Male	23.1	24.0	21.4	21.2
Oklahoma Female	19.1	20.4	17.9	19.2

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

In Tulsa County, male smokers outnumbered female smokers across all four years examined.



	Tulsa County							Oklahoma						
	18-24	25-34	35-44	45-54	55-64	65-74	75 or more	18-24	25-34	35-44	45-54	55-64	65-74	75 or more
2014		21.3	17.2	28.2	16.1	10.3	3.4	24.1	28.4	22.1	23.2	20.1	15.7	4.8
2015		24.0	27.8	28.9	17.3	18.5	7.4	22.3	27.7	24.5	25.5	21.5	17.1	7.4
2016		19.2	15.0	15.4	18.9	7.9	4.9	21.1	25.1	21.2	23.6	19.7	13.1	3.9
2017		39.9	38.5	26.7	23.6	6.3	5.3	20.9	28.3	22.2	21.6	20.2	13.1	5.6

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

The graph above shows strikingly that as age increased, the percentages who are reported to be current smokers decreased sharply.

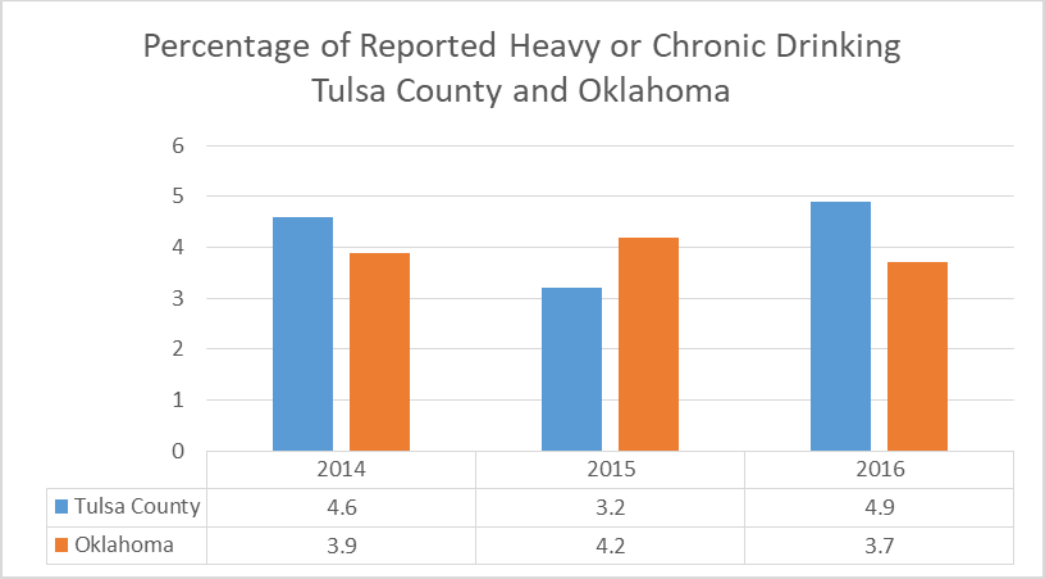
Alcohol consumption: heavy or chronic drinking

This indicator reports the percentage of adults aged 18 and older who self-report heavy or chronic alcohol consumption (defined as more than two drinks per day on average for men and one drink per day on average for women).

Why is this indicator important?

This indicator is relevant because current behaviors are determinants of future health and this indicator may illustrate a cause of significant health issues, such as cirrhosis, cancers, and untreated mental and behavioral health needs.

How are we doing?



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2016, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Tulsa County showed an overall increase in the percentage of reported heavy or chronic drinking from 2014 to 2016, with a slight dip in 2015.

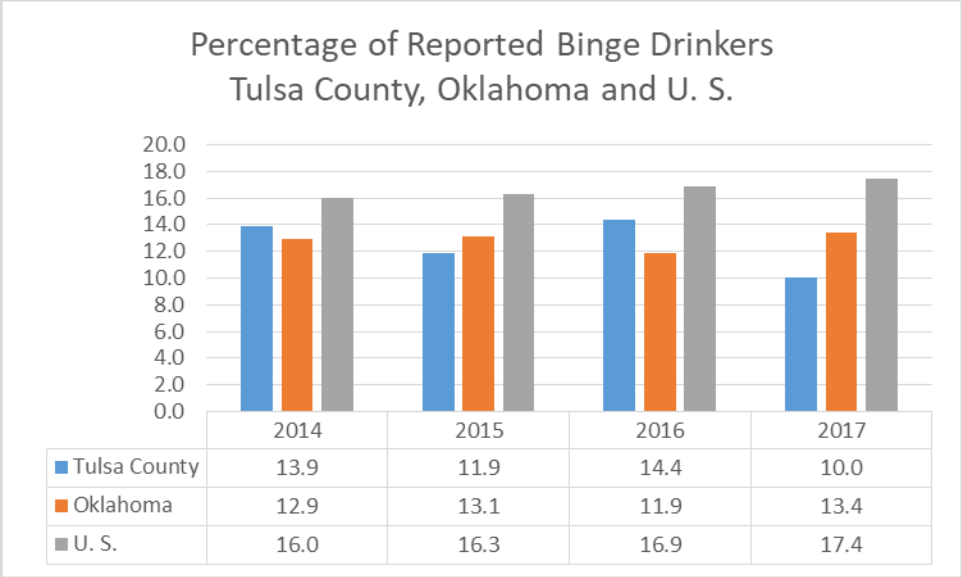
Alcohol consumption: binge drinking

This indicator reports the percentage of adults aged 18 and older who self-report binge drinking (defined as five or more drinks on occasion for men and four or more drinks on occasion for women).

Why is this indicator important?

This indicator is relevant because current behaviors are determinants of future health and this indicator may illustrate a cause of significant health issues, such as cirrhosis, cancers, and untreated mental and behavioral health needs.

How are we doing?



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Tulsa County showed variability in the percentages of those reported to be binge drinkers from 2014 to 2017.

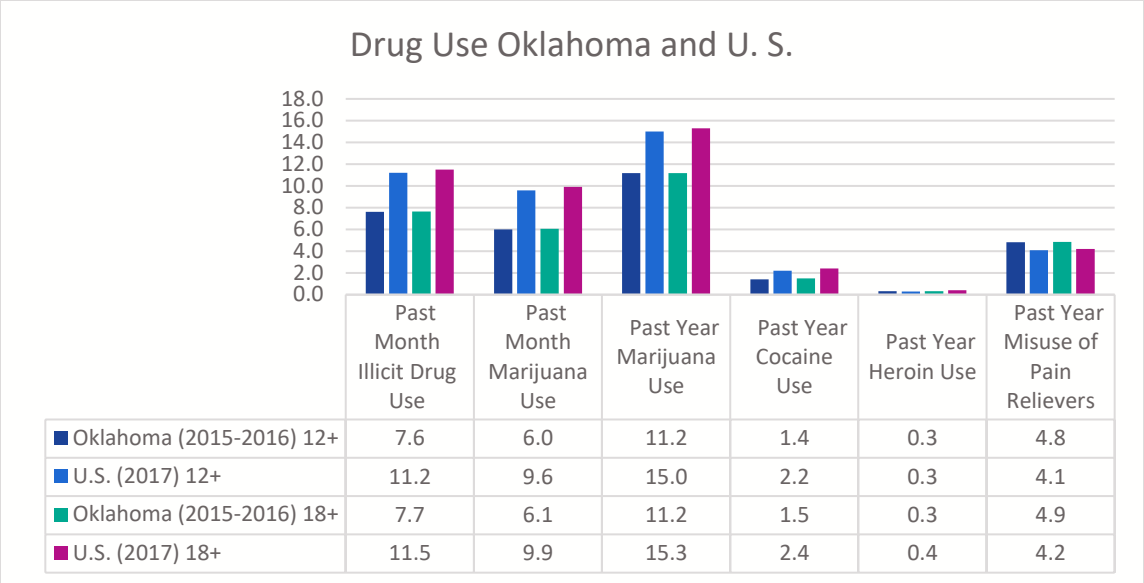
Drug use

This indicator represents the percentage of teens (12-17) and adults (18+) reporting drug use in the past year. The values based on estimates from the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2015-2017.

Why is this indicator important?

Prescription drug misuse and illicit drug use also have substantial health, economic, and social consequences.

How are we doing?



	Past Month Illicit Drug Use	Past Month Marijuana Use	Past Year Marijuana Use	Past Year Cocaine Use	Past Year Heroin Use	Past Year Misuse of Pain Relievers
Oklahoma (2015-2016) 12+	7.6	6.0	11.2	1.4	0.3	4.8
U.S. (2017) 12+	11.2	9.6	15.0	2.2	0.3	4.1
Oklahoma (2015-2016) 18+	7.7	6.1	11.2	1.5	0.3	4.9
U.S. (2017) 18+	11.5	9.9	15.3	2.4	0.4	4.2

Source: SAMSHA

Data were not available at the county or regional level when examining drug use. Data is presented in the table above for the U.S. and the state of Oklahoma broken out by age groups 12 and older and 18 and older. When examining the percentage of drug use across categories, the first thing we notice is that the percentages for the two age groups in Oklahoma and in the U.S. as a whole are very similar to each other. For all categories, the U.S. rates are higher than the Oklahoma rates except for heroin use in the past year and the misuse of pain relievers in the past year.

Physical (Built) Environment

A community's health also is affected by the physical environment or built environment. A safe, clean environment that provides access to healthy food and recreational opportunities is important to maintaining and improving community health.

Air and water quality

Clean air and safe water are prerequisites for health. Poor air or water quality can be particularly detrimental to vulnerable populations such as the very young, the elderly, and those with chronic health conditions.

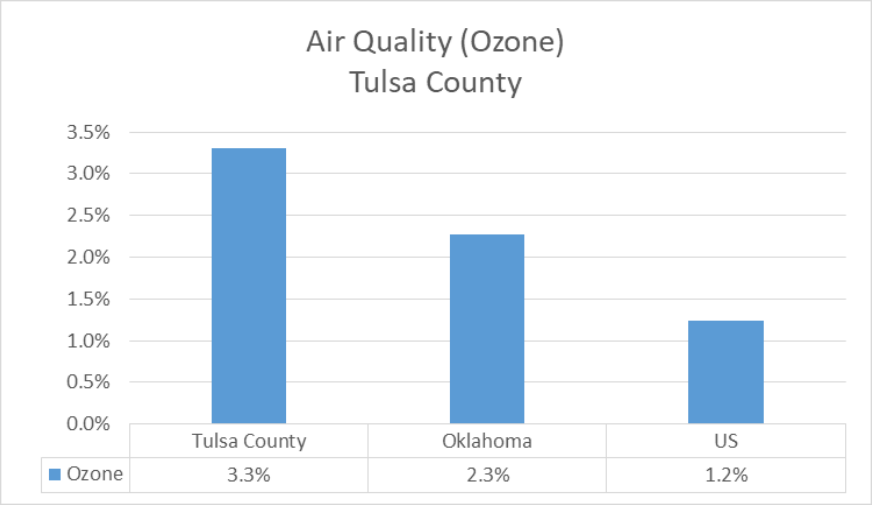
Air quality (ozone)

This indicator reports the percentage of days per year with Ozone (O3) levels above the National Ambient Air Quality Standard of 75 parts per billion (ppb). Figures are calculated using data collected by monitoring stations and modeled to include census tracts where no monitoring stations exist.

Why is this indicator important?

This indicator is relevant because poor air quality contributes to respiratory issues and overall poor health.

How are we doing?



Source: Community Commons

When examining levels of ozone, Tulsa County measured at 3.3%. This was higher than both Oklahoma as a whole (2.3%) the U.S. (1.2%).

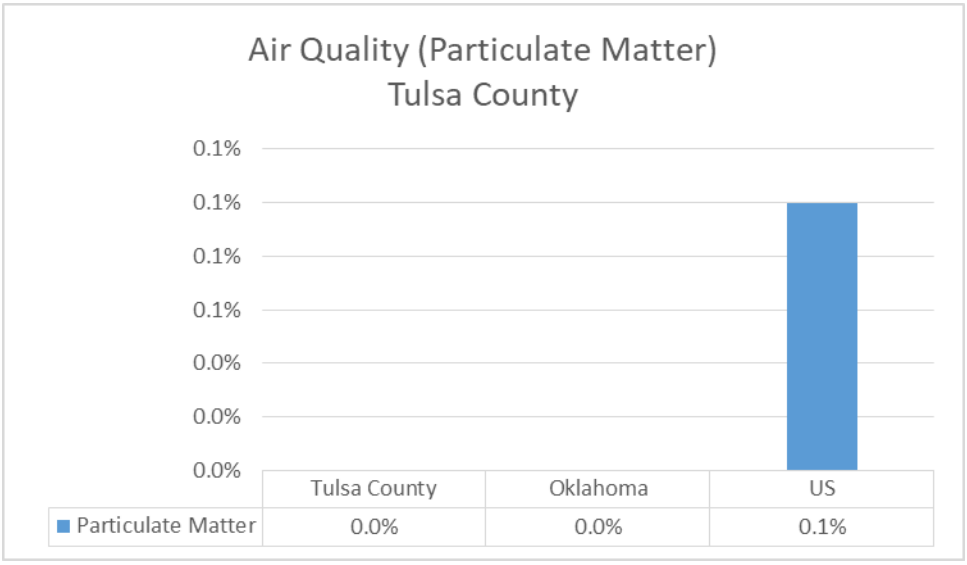
Air quality: pollution (particulate matter)

Air Pollution - Particulate Matter is the average daily density of fine particulate matter in micrograms per cubic meter (PM2.5) in a county. Fine particulate matter is defined as particles of air pollutants with an aerodynamic diameter less than 2.5 micrometers. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air.

Why is this indicator important?

The relationship between elevated air pollution, particularly fine particulate matter and ozone, and compromised health has been well-documented. Negative consequences of ambient air pollution include decreased lung function, chronic bronchitis, asthma, and other adverse pulmonary effects. [7]

How are we doing?



Source: Community Commons

The graph above shows that Tulsa County in Oklahoma as well as the state of Oklahoma as a whole were below the U.S. in terms of air pollution.

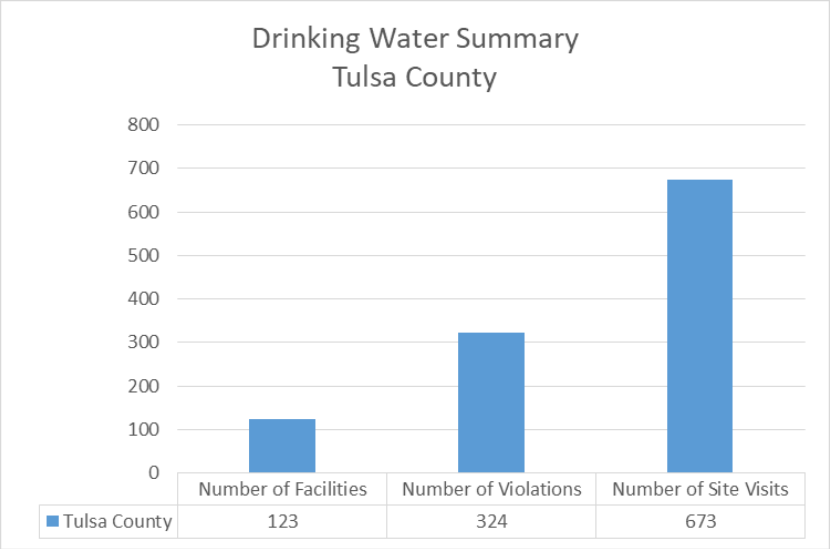
Drinking water

Drinking Water Violations is an indicator of the presence or absence of health-based drinking water violations in counties served by community water systems. Health-based violations include Maximum Contaminant Level, Maximum Residual Disinfectant Level and Treatment Technique violations. A "Yes" indicates that at least one community water system in the county received a violation during the specified time frame; while a "No" indicates that there were no health-based drinking water violations in any community water system in the county.

Why is this indicator important?

Recent studies estimate that contaminants in drinking water sicken 1.1 million people each year. 7 Ensuring the safety of drinking water is important to prevent illness, birth defects, and death for those with compromised immune systems. A number of other health problems have been associated with contaminated water, including nausea, lung and skin irritation, cancer, kidney, liver, and nervous system damage.7

How are we doing?



SDWIS Fed Reporting Services system. Submission Year is 2018 and Quarter is 3 and Primacy Agency in (OK) and Activity Status is A and County Served is Tulsa

The graph above illustrates that Tulsa County had a high number of site visits and violations based on their 673 facilities.

Housing and transit

The housing options and transit systems that shape our communities' built environment affect where we live and how we get from place to place. The choices we make about housing and transportation, and the opportunities underlying these choices, also affect our health.

Substandard housing

This indicator is the percentage of households with inadequate kitchen or plumbing facilities, presented separately. Data is from 2016 and is based on American Community Survey 5-year estimates for Tulsa County.

Why is this indicator important?

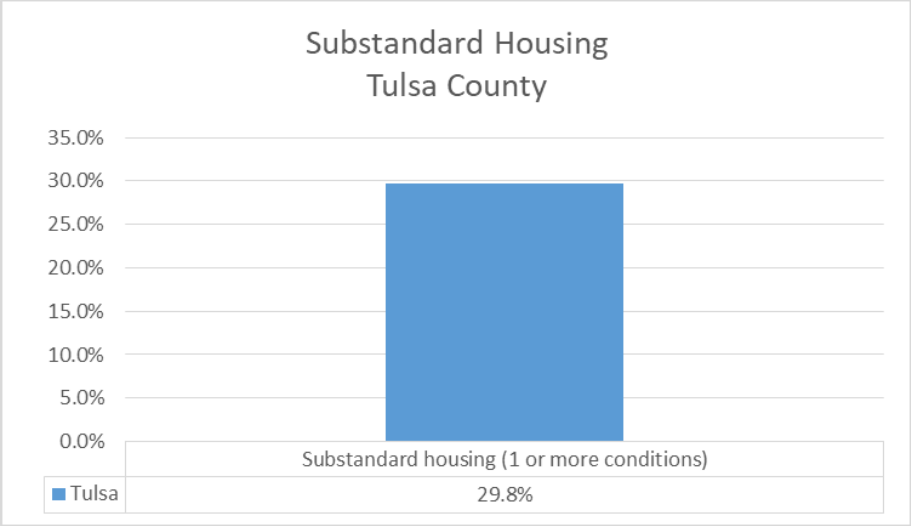
Good health depends on having homes that are safe and free from physical hazards such as poor indoor air quality, lead paint, and lack of home safety devices. Adequate housing can protect individuals and families and provide them with security, privacy, stability and control. Inadequate housing can contribute to health problems such as infectious and chronic disease, injuries, and poor childhood development. Families with fewer financial resources are more likely to experience unhealthy and unsafe housing conditions and are usually less able to remedy them, contributing to disparities in health across socioeconomic groups.[68]

How are we doing?

In 2016, 0.3 percent of Tulsa County households had inadequate plumbing facilities and 0.7 percent had inadequate kitchen facilities. These percentages have been decreasing since 2011.

Tulsa County had a lower percentage of households with inadequate plumbing and kitchen facilities compared to both Oklahoma and the US. This trend has been consistent since 2013.

Although most ZIP codes had low percentages of households that has inadequate plumbing or kitchen facilities, ZIP code 74130 had over 2 percent of households with inadequate facilities. This is significantly higher than Tulsa County overall.



Source: Community Commons

Tulsa County shows a 29.8% substandard housing rate based on 1 or more conditions.

Use of public transportation

This indicator reports the percentage of population using public transportation as their primary means of commute to work. Public transportation includes buses or trolley buses, streetcars or trolley cars, subway or elevated rails, and ferryboats (excludes taxi cabs).

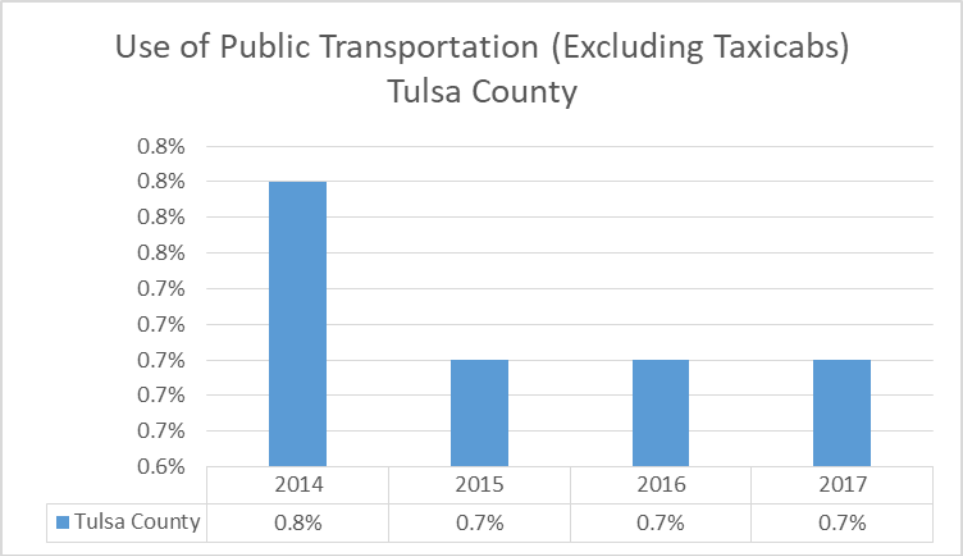
Why is this indicator important?

The transportation choices that communities and individuals make have important impacts on health through active living, air quality, and traffic crashes. The choices for commuting to work can include walking, biking, taking public

[68] Braveman P, Dekker M, Egeter S, Sadegh-Nobari T, and Pollack C. Issue Brief #7. Robert Wood Johnson Foundation [cited 11/24/2015].

transit, carpooling, or the most damaging to the health of communities which is individuals commuting alone by car. In most counties, the latter is the primary form of transportation to work.

How are we doing?



Source: U.S. Census Bureau, 2014, 2015, 2016, and 2017 American Community Survey 1-Year Estimates

For Tulsa County, total percentages of those who reportedly used public transportation are very small, less than 1%.

Food access

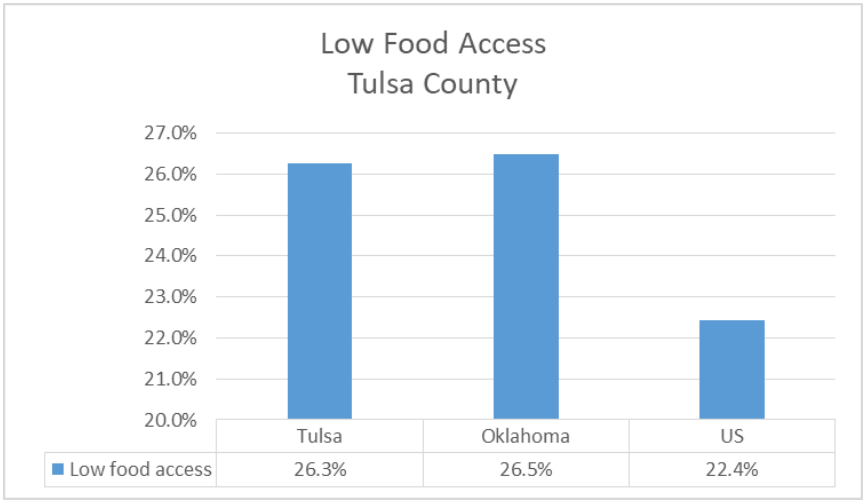
Low food access

This indicator reports the percentage of the population living in census tracts designated as low food access. Low food access is defined as living more than 1/2 mile from the nearest supermarket, supercenter, or large grocery store.

Why is this indicator important?

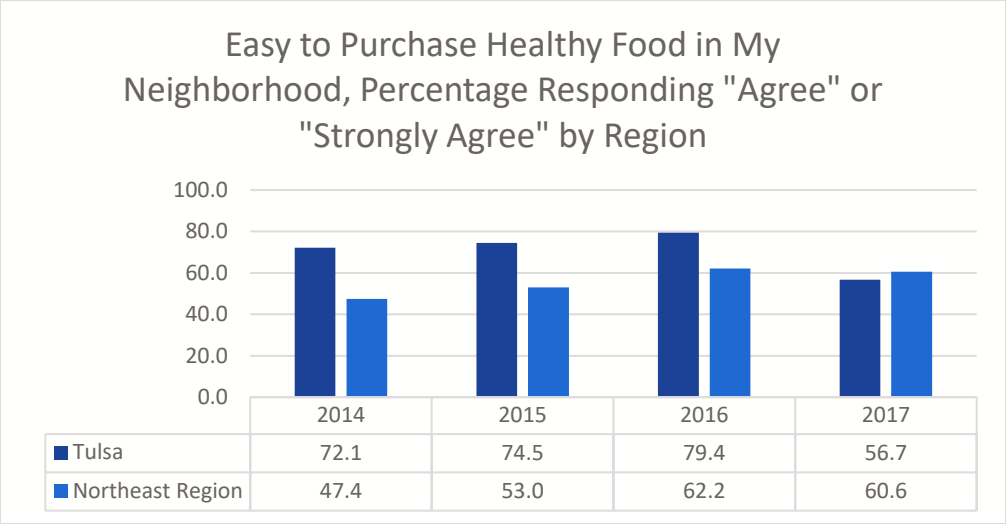
This indicator is relevant because it highlights populations and geographies facing food insecurity.

How are we doing?



Source: Community Commons

Tulsa County was slightly lower than Oklahoma as a whole (Tulsa at 26.3% and Nowata 24.9%), but higher than the U.S.



Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Tulsa County had higher percentages of those who responded “agree” or “strongly agree” to the question of whether they had easy to purchase healthy food in their neighborhood. These percentages for Tulsa County showed increases from 2014 to 2016, but then a decrease in 2017. The same pattern held true for the Northeast Region, although the decrease in this region in 2017 was not as much as the decrease in Tulsa County.

Access to healthy foods

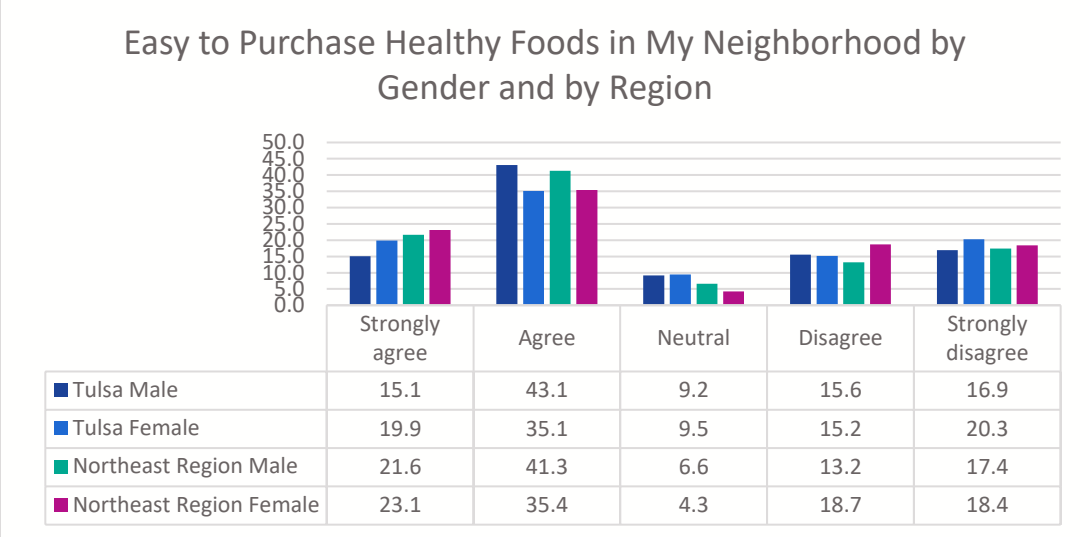
This indicator reports the percentage of population living in census tracts with no or low access to healthy retail food stores.

Why is this indicator important?

There is strong evidence that residing in a food desert is correlated with a high prevalence of overweight, obesity, and premature death. Supermarkets traditionally provide healthier options than convenience stores or smaller grocery stores. Additionally, lack of access to fresh fruits and vegetables is a substantial barrier to consumption and is related to premature mortality.

How are we doing?

For the purposes of this assessment, the Northeast region consists of Creek County, Washington County, and Nowata County. Data for the specific measure were not available at the county level for these communities.



	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Tulsa Male	15.1	43.1	9.2	15.6	16.9
Tulsa Female	19.9	35.1	9.5	15.2	20.3
Northeast Region Male	21.6	41.3	6.6	13.2	17.4
Northeast Region Female	23.1	35.4	4.3	18.7	18.4

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

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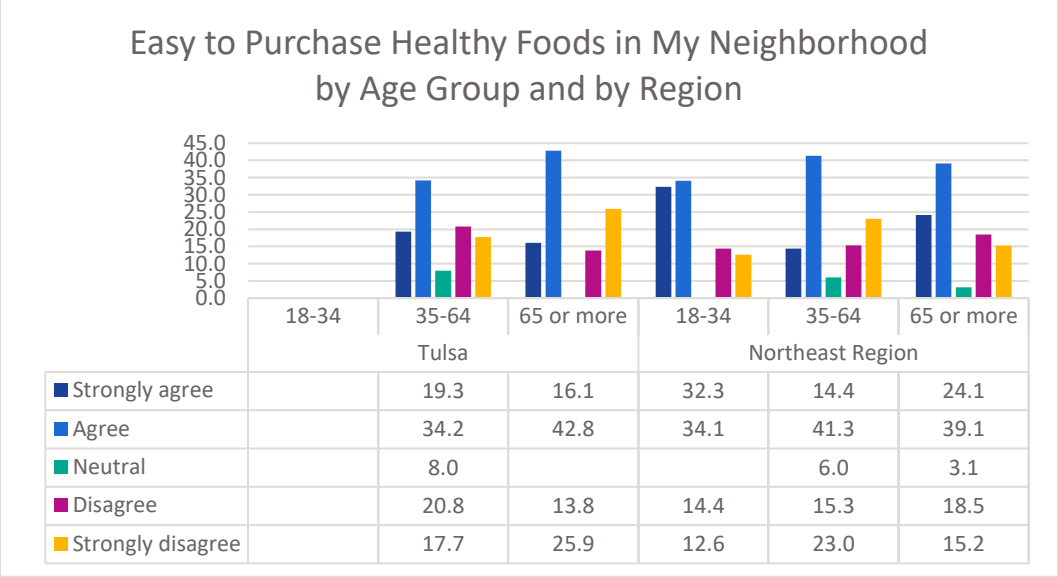
The graph above shows that close to 60% of males and females in each geographic region either agreed or strongly agreed that they had easy to purchase healthy foods in their neighborhood. About 30% of respondents in both geographic regions reportedly disagreed or strongly disagreed with the statement.



	18-34	35-64	65 or more	18-34	35-64	65 or more
	Tulsa			Northeast Region		
Strongly agree		19.3	16.1	32.3	14.4	24.1
Agree		34.2	42.8	34.1	41.3	39.1
Neutral		8.0			6.0	3.1
Disagree		20.8	13.8	14.4	15.3	18.5
Strongly disagree		17.7	25.9	12.6	23.0	15.2

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

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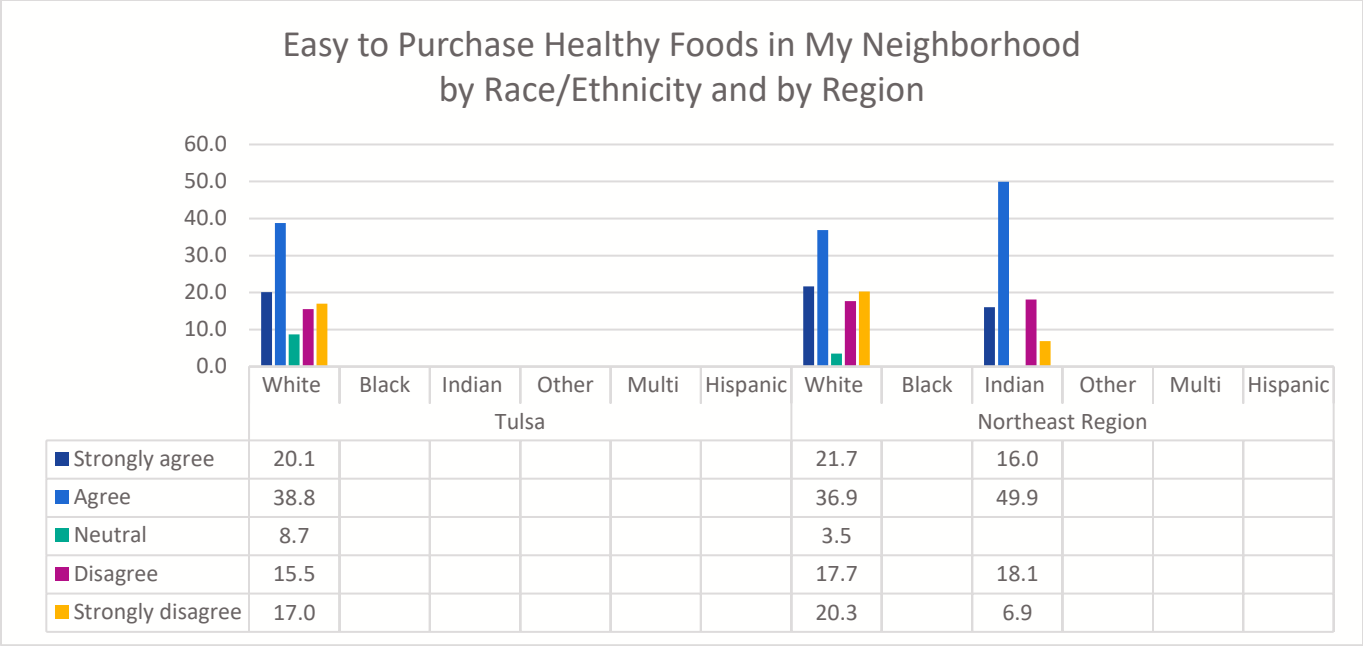
For the most part, the largest percentage of respondents across age groups and across regions agreed that they had easy to purchase healthy foods in their neighborhood. In the age group 65 and older, in both Tulsa County and the Northeast Region, about 40% reported that they disagree or strongly disagree with the statement.



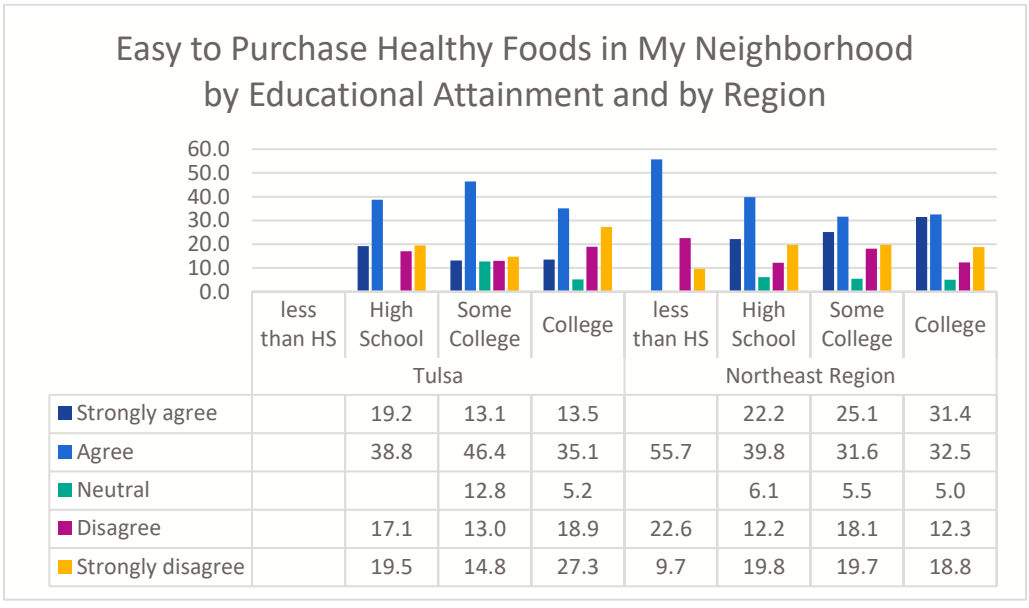
	Tulsa						Northeast Region					
	White	Black	Indian	Other	Multi	Hispanic	White	Black	Indian	Other	Multi	Hispanic
Strongly agree	20.1						21.7		16.0			
Agree	38.8						36.9		49.9			
Neutral	8.7						3.5					
Disagree	15.5						17.7		18.1			
Strongly disagree	17.0						20.3		6.9			

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Unfortunately, most of the data on the availability of easy to purchase healthy food was suppressed when broken down by race and ethnicity. The graph above shows that about 60% of white respondents in both regions either agreed or strongly agreed that easy to purchase healthy foods were available in their neighborhoods.



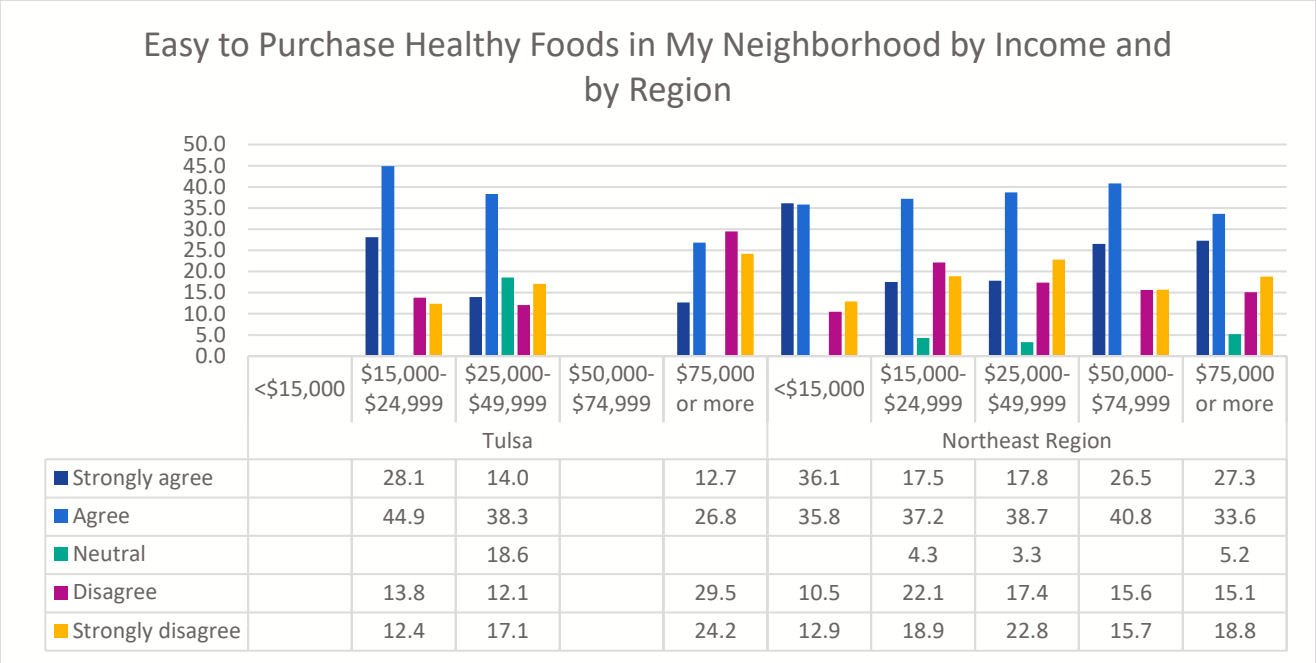
	Tulsa				Northeast Region			
	less than HS	High School	Some College	College	less than HS	High School	Some College	College
Strongly agree		19.2	13.1	13.5		22.2	25.1	31.4
Agree		38.8	46.4	35.1	55.7	39.8	31.6	32.5
Neutral			12.8	5.2		6.1	5.5	5.0
Disagree		17.1	13.0	18.9	22.6	12.2	18.1	12.3
Strongly disagree		19.5	14.8	27.3	9.7	19.8	19.7	18.8

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

The largest percentages across levels of educational attainment in both regions either agreed or strongly agreed that they had easy to purchase healthy foods available in their neighborhood. The highest percentage of those who disagreed with that statement were college graduates in Tulsa County at 27.3%.



	Tulsa					Northeast Region				
	<$15,000	$15,000-$24,999	$25,000-$49,999	$50,000-$74,999	$75,000 or more	<$15,000	$15,000-$24,999	$25,000-$49,999	$50,000-$74,999	$75,000 or more
Strongly agree		28.1	14.0		12.7	36.1	17.5	17.8	26.5	27.3
Agree		44.9	38.3		26.8	35.8	37.2	38.7	40.8	33.6
Neutral			18.6				4.3	3.3		5.2
Disagree		13.8	12.1		29.5	10.5	22.1	17.4	15.6	15.1
Strongly disagree		12.4	17.1		24.2	12.9	18.9	22.8	15.7	18.8

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Behavioral Risk Factor Surveillance System 2014 to 2017, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE).

Note: Records with unknown values are excluded from the analysis.

(*) Calculations may have been suppressed due to cell size less than 5 or total less than 50.

Again, the majority of respondents either strongly agreed or agreed that they had easy to purchase healthy foods available in their neighborhoods for both geographic regions. The highest percentages of those who either disagreed or disagreed strongly were in the $75,000 or more income category in Tulsa County with 29.5% saying they disagreed and 24.2% saying they strongly disagreed.

Access to physical activity opportunities

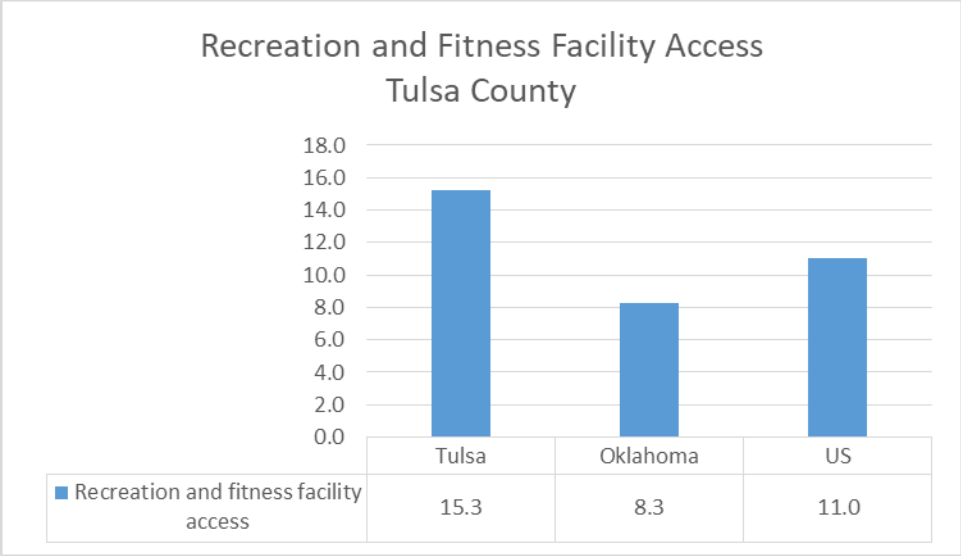
Access to recreation and fitness facilities

This indicator reports the number per 100,000 population of recreation and fitness facilities as defined by North American Industry Classification System (NAICS) Code 713940.

Why is this indicator important?

This indicator is relevant because the role of the built environment is important for encouraging physical activity. Individuals who live closer to sidewalks, parks, and gyms are more likely to exercise and other healthy behaviors.

How are we doing?

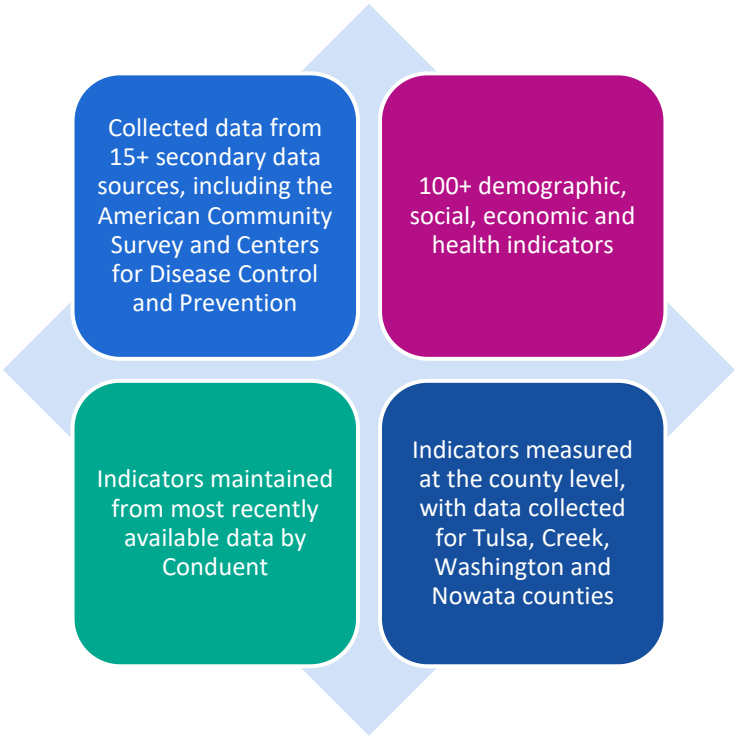


Tulsa County had more access to recreation and fitness facilities (15.3) than the state of Oklahoma overall (8.3) and the U.S. (11.0), according 2016 data from Community Commons.

Secondary Data Analysis and Scoring

Ascension St. John consulted with Conduent Healthy Communities Corp. for support with the secondary data analysis below. The analysis included a comprehensive set of more than 100 community health and quality-of-life indicators covering more than 20 topic areas. Indicator values for Tulsa County were compared with other counties in Oklahoma and nationwide to compare social, economic and health topics. Other considerations for areas of health need included trends over time; Healthy People 2020 targets; Oklahoma targets; and disparities by age, gender and race/ethnicity. The value for each of these indicators was compared with other communities, nationally or locally set targets and previous time periods. Conduent's data scoring tool was used to systematically summarize multiple comparisons of the data to rank indicators based on highest need.

Figure 6: secondary data analysis and scoring methodology



Methodology and Sources

Data scoring consists of three stages, which are summarized in Figure 7. Sources are listed in Appendix 2.

Comparison scores

For each indicator, Tulsa County was assigned up to five comparison scores based on its comparison with other communities and whether health targets have been met. Comparison scores range from 0-3, where 0 indicates the best outcome and 3 indicates the worst outcome.

Up to five comparison scores were used to assess the status of Tulsa County. The possible comparisons include a comparison of Tulsa, Creek, Washington and Nowata counties with all Oklahoma counties, all U.S. counties, the Oklahoma state value, the U.S. value and Healthy People 2020 targets. Availability of each type of comparison varied by indicator and was dependent on the data source, comparability with data collected for other communities, and changes in methodology over time. The determination of comparison scores for each type of comparison is discussed in more detail below.

Missing values

Indicator scores were calculated using the comparison scores, the availability of which depended on the data source. If an indicator does not have data for a specific comparison type that is included for indicator score calculations, the missing comparison is substituted with a neutral score. When information is unknown due to lack of comparable data, the neutral value assumes that the missing comparison score is neither good nor bad and does not impact the indicator's weighted average.

Indicator scores

Indicator scores were calculated as a weighted average of comparison scores. Indicator scores range from 0-3, where 0 indicates the best outcome and 3 indicates the worst outcome.

Indicator scores were calculated as a weighted average of all included comparison scores. If none of the included comparison types were possible for an indicator, no score was calculated, and the indicator was excluded from the data scoring results.

Topic scores

Figure 7: secondary data scoring overview

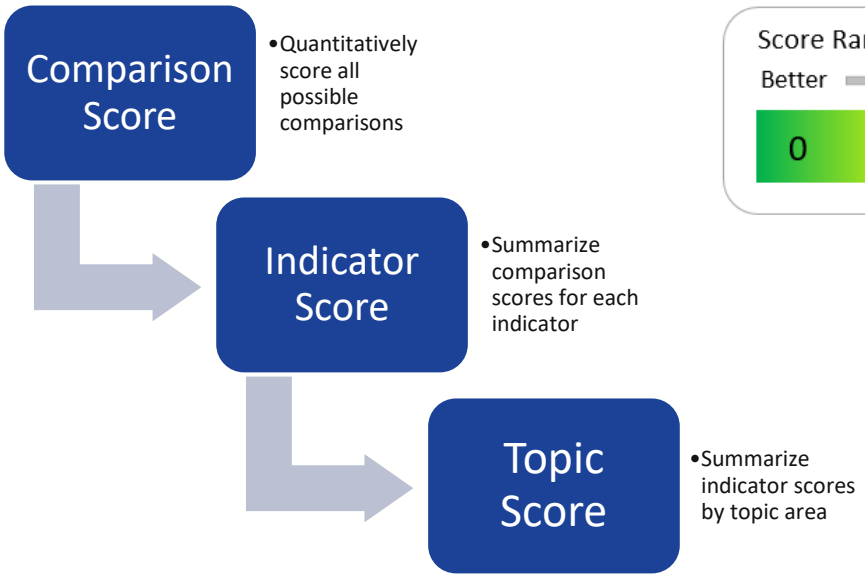
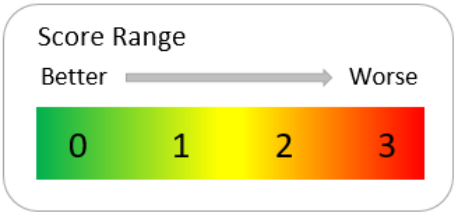


Figure 8: score range



Indicators were then categorized into topic areas. Topic scores were calculated by averaging all relevant indicator scores, with indicators equally weighted. Topic scores range from 0-3, where 0 indicates the best outcome and 3 indicates the worst outcome. Indicators may be categorized into more than one topic area.

Indicator scores are averaged by topic area to calculate topic scores. Each indicator may be included in up to three topic areas if appropriate. Resulting scores range from 0-3, where a higher score indicates a greater level of need as evidenced by the data. A topic score is only calculated if it includes at least three indicators.

Age, gender and race/ethnicity disparities

When a given indicator has data available for population subgroups, such as age, gender and race/ethnicity, and values for these subgroups include confidence intervals, we are able to determine whether there is a significant difference between the subgroup's value and the overall value. A significant difference is defined as two values with non-overlapping confidence intervals. Confidence intervals are not available for all indicators. In these cases,

disparities cannot be determined because there is not enough data to conclude whether two values are significantly different from each other.

Final Data Summary Scores

Figure 9: final data summary scores by topic for Tulsa County

Health Topic	Indicators	Score
Immunizations & Infectious Diseases	4	2.30
Other Chronic Diseases	4	2.04
Women's Health	5	1.81
Children's Health	4	1.80
Men's Health	3	1.77
Environmental & Occupational Health	3	1.64
Cancer	14	1.63
Exercise, Nutrition, & Weight	17	1.62
Older Adults & Aging	22	1.56
Mental Health & Mental Disorders	7	1.55
Prevention & Safety	4	1.55
Respiratory Diseases	7	1.49
County Health Rankings	6	1.33
Substance Abuse	6	1.33
Maternal, Fetal & Infant Health	6	1.27
Heart Disease & Stroke	8	1.26
Wellness & Lifestyle	7	1.11
Diabetes	3	1.00
Access to Health Services	9	0.94

Health Determinants	Indicators	Score
Public Safety	4	1.93
Economy	21	1.54
Environment	18	1.46
Social Environment	13	1.45
Transportation	8	1.40
Education	4	1.20

Conduent's Healthy Communities Institute data scoring tool was used to analyze health indicators. Indicator scores were calculated by taking the weighted average of all of the comparisons available for each indicator, for example, all Oklahoma counties, all U.S. counties, the Oklahoma state value, the U.S. value, Healthy People 2020 targets and trends over four years. The availability of each type of comparison varied by the indicator and was dependent on the data source, comparability with data collected from other communities, and changes in methodology over time. Finally, after calculating all of the indicator scores, topic scores were calculated by taking the average of all indicators of related health topics.

The health topic and health determinants tables are listed from the highest level of concern and need to the lowest level. Health topic areas directly related to the health of the population and health determinants are those factors that can affect the health of the individual and population. In these tables, a score of 3 means the most need and concern based on data scoring, while 0 means the least. Generally, scores 1.5 and above would be considered to fall in the worse half of the score range, while a score above 2 indicates definite need.

A list of all secondary data indicators analyzed is included in Appendix 3. Presented in the chart above (see Figure 9) and narrative below is a final summary of data scores.

In Tulsa County, two of the top 10 highest scoring topic areas have data scores above 2: immunizations and infectious diseases and other chronic diseases. Following that is women's health, which also has a score that signifies need for the county.

Geographic Areas of Greatest Need

Ascension St. John consulted with Conduent Healthy Communities Corp. for support with identifying geographic areas of greatest need in Tulsa County. To do so, Conduent developed the SocioNeeds Index® to easily compare multiple socioeconomic factors across geographies. This tool incorporates estimates for six different social and economic determinants of health — income, poverty, unemployment, occupation, educational attainment and linguistic barriers — that are associated with poor health outcomes, including preventable hospitalizations and premature death.

Methodology and Sources

The 2018 SocioNeeds Index, created by Conduent's Healthy Communities Institute (HCI), is a measure of socioeconomic need correlated with poor health outcomes. All ZIP codes, counties and county equivalents in the U.S. were given an index value from 0 (low need) to 100 (high need). To help find the areas of highest need in Tulsa County, the selected locations were ranked from 1 (low need) to 5 (high need) based on their index value.

Why is this important?

Community health improvement efforts must determine what sub-populations are most in need to most effectively focus services and interventions. Social and economic factors are well-known to be strong determinants of health outcomes; those with a low socioeconomic status are more likely to suffer from chronic conditions such as diabetes, obesity and cancer. The SocioNeeds Index summarizes multiple socioeconomic indicators into one composite score for easier identification of high need areas by ZIP code or county.

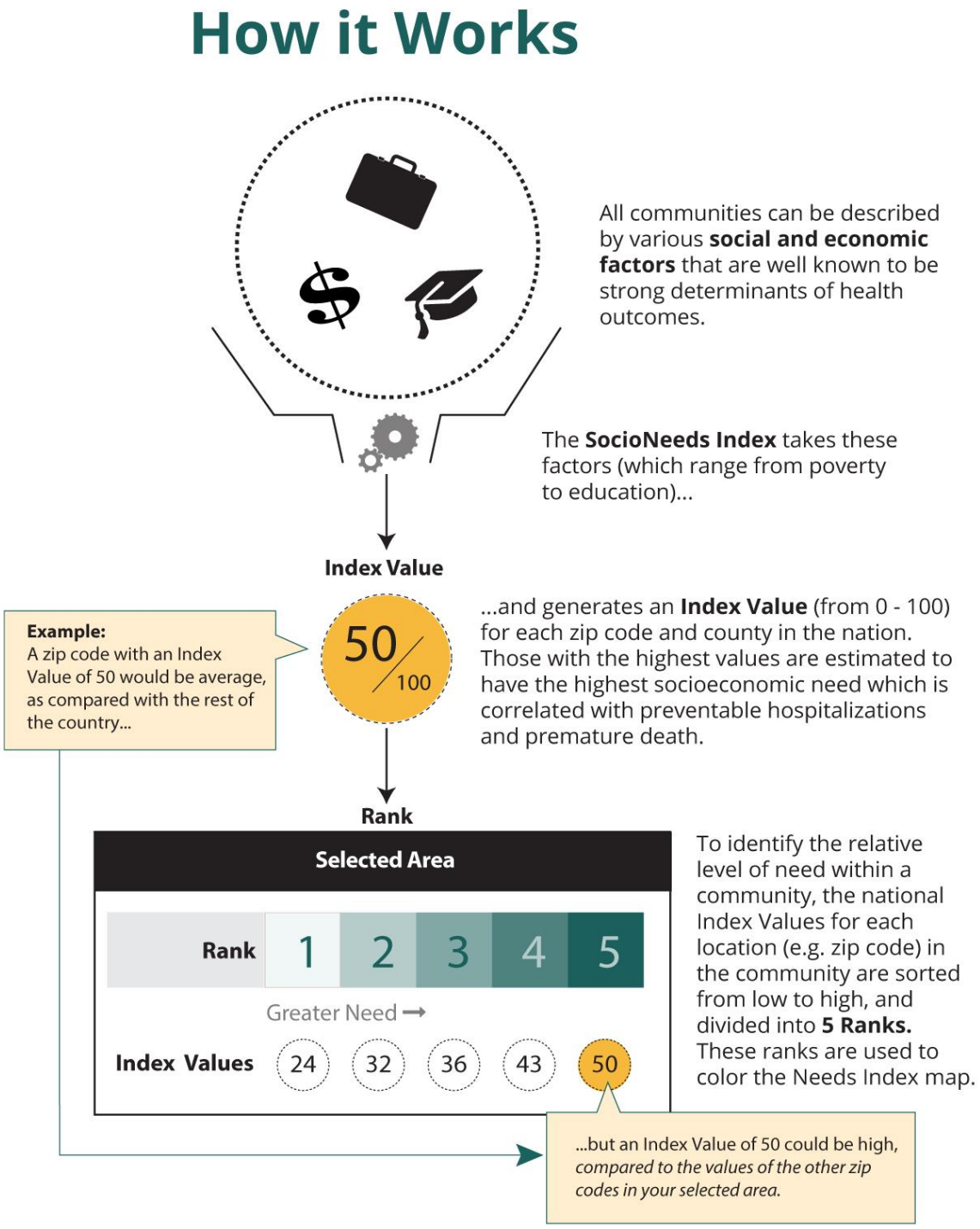
How do I use the SocioNeeds Index?

Within Tulsa County, the ZIP codes or counties with the highest index values were estimated to have the highest socioeconomic need. The index value for each location was compared with all other similar locations (i.e., counties were compared with other counties, and ZIP codes with other ZIP codes) within the comparison area to assign a relative rank (1-5). ZIP codes were ranked using natural breaks classification, which grouped the ZIP codes into clusters based on similar index values.

What is this tool based on?

The SocioNeeds Index is calculated for a community from several social and economic factors, ranging from poverty to education, that may impact health or access to care. The index is correlated with potentially preventable hospitalization rates and is calculated using Claritas estimates for 2018.

Figure 10: How it works, Socioneeds Index



SocioNeeds Index

The SocioNeeds Index, developed at HCI, is a summary measure of socioeconomic need that correlates with poor health outcomes, including preventable hospitalizations and premature death. The SocioNeeds Index incorporates estimates for six different social and economic determinants of health for all ZIP codes across the U.S. These

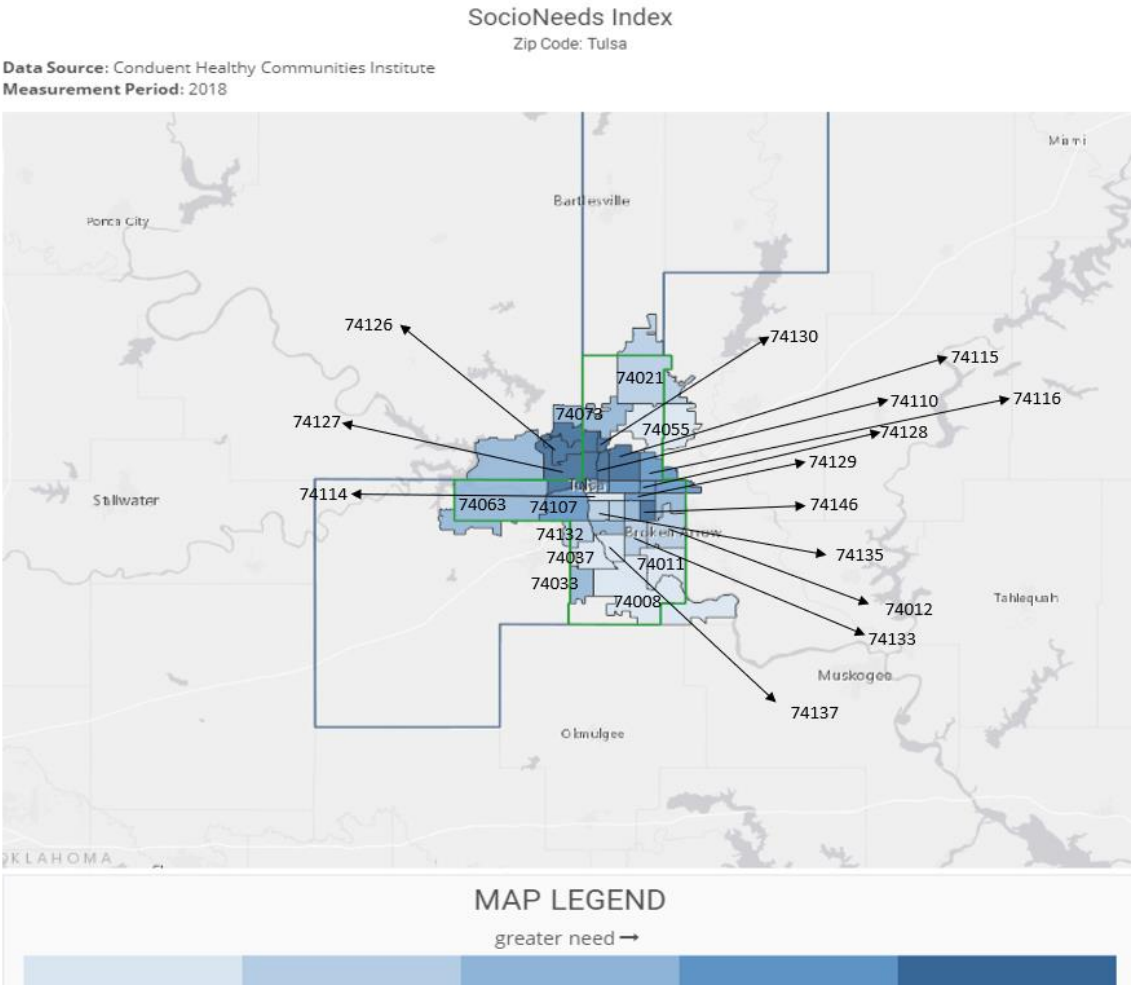
indicators, covering income, poverty, unemployment, occupation, educational attainment and linguistic barriers, were standardized and averaged to create one composite index value for each ZIP code or county, which ranges from 0 to 100. ZIP codes and counties with higher values are estimated to have a greater socioeconomic need and correlation with poor health outcomes. ZIP codes with a population of 300 people or less are not calculated in the SocioNeeds Index.

The SocioNeeds Index map (see Figure 11) shows the breakdown of all ZIP codes in Tulsa County. The darker shades of blue on the map represent higher index scores and thus greater need areas, while the lighter blues signify lower need.

Tulsa County has many ZIP codes with very high index scores, indicating geographic areas that have high socioeconomic need to be addressed (see Figure 12). For example, ZIP code 74110 has an index score of 98.9 — almost the maximum for the index. The greater number of ZIP codes with high index values signify that Tulsa County needs greater socioeconomic help.

Overall, Tulsa County has a significant number ZIP codes identified as having high socioeconomic need, with the highest need in several ZIP codes of north Tulsa, and east Tulsa and west Tulsa ZIP codes next in ranking for highest need. Women and minority populations experience the highest socioeconomic need in the county. The Owasso, Sperry, Collinsville and Skiatook region ZIP codes were identified as having relatively lower socioeconomic need in comparison to other Tulsa County ZIP codes.

Figures 11 and 12: SocioNeeds Index map and ZIP code ranking for Tulsa County (total population = 646,266)



ZIP code	Index	Rank	Measurement period
74110	98.9	5	2018
74106	96.3	5	2018
74115	95.8	5	2018
74126	95.5	5	2018
74146	93.2	5	2018
74130	89.5	5	2018
74127	89.3	5	2018
74103	87.3	5	2018
74116	85.4	4	2018
74129	83.9	4	2018
74107	83.4	4	2018
74128	83.4	4	2018
74108	78.5	4	2018
74104	73.9	4	2018
74112	73.3	4	2018
74120	62.4	3	2018
74145	58.6	3	2018
74136	52.7	3	2018
74073	46.1	3	2018
74134	40.2	3	2018
74033	39.5	3	2018
74063	38.4	3	2018
74135	35.4	2	2018
74132	30.8	2	2018
74119	24.4	2	2018
74012	23.1	2	2018
74105	22.9	2	2018
74021	21.4	2	2018
74133	18.6	2	2018
74008	14.9	1	2018
74055	14.5	1	2018
74011	14.3	1	2018
74171	8.8	1	2018
74037	8.1	1	2018
74114	5.9	1	2018
74137	3.7	1	2018

Primary Data: Community Input

Community input provides information and insights about the health and well-being of the community that cannot be obtained through secondary data alone. Community stakeholders understand the "why" and "how" behind the numbers and can share details on barriers to health services that exist within the community. Sometimes the numbers are missing for certain issues, and experts or professionals who have special knowledge of community health needs can fill in information or "data gaps" not covered by the available secondary data. Community stakeholders also know where strengths and assets exist within the community, including resources and programs to address areas of concern. Given the vital importance of community input in understanding the health needs of a community, the Internal Revenue Service requires that community input be taken into consideration during the community health needs assessment (CHNA) process.

Community input is a primary focus of this assessment. Accordingly, input from community members, community leaders and representatives, and Ascension St. John's Community Engagement Committee was obtained to expand upon information gleaned from the secondary data review. A concerted effort was made to obtain input from people who represent broad interests of the communities served by the hospitals, including those with special knowledge and expertise of public health issues and populations deemed vulnerable. This assessment also took into account the importance of engaging communities on an ongoing basis and the promotion of a continual dialogue. This includes disseminating the results of the assessment within the community and engaging the community in mutually reinforcing and community-driven activities to improve the community's health and well-being.

Methodology

As aforementioned, community input is a form of primary data collection. Many methods can be used to gather community input, including key informant interviews, forums, focus groups, listening circles and surveys. St. John employed several methods of community input to yield the desired results, including the following:

- Six community health forums with around 120 community leaders and 13 health system leaders (three forums with more than 80 community leaders and six health system leaders in Tulsa County)
- Twenty-two focus groups with 233 community members (18 focus groups with 193 community members in Tulsa County)
- Online survey of 801 community members (682 in Tulsa County)
- Input from the public health workforce and local coalitions/partnerships
- Input from the health system's Community Engagement Committee

Sources

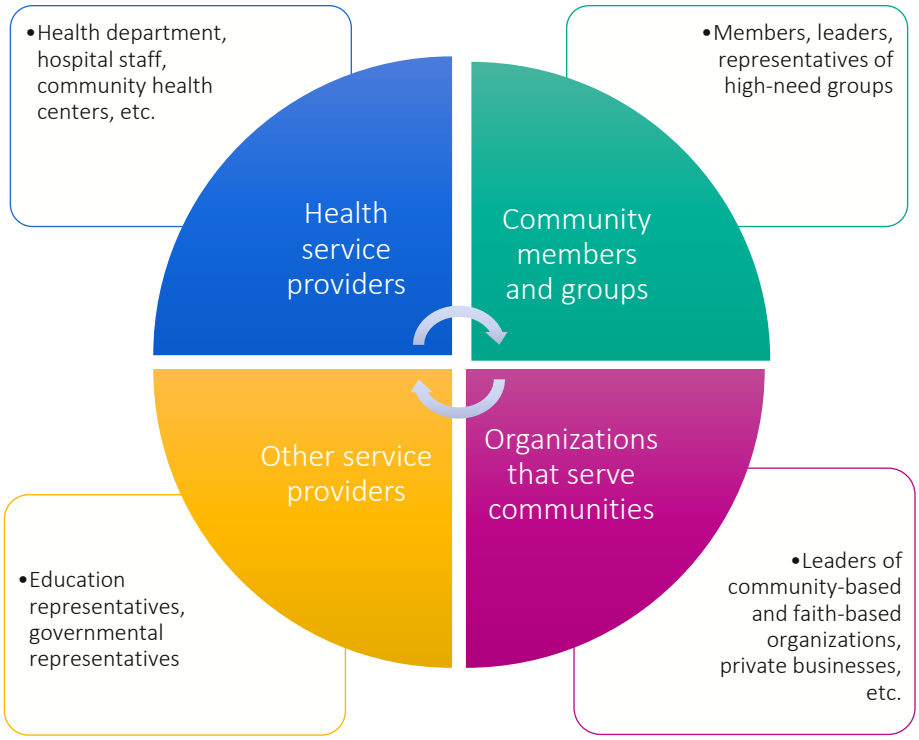
Community input is best obtained from a diverse set of community stakeholders such as community members, community organizations and the public health workforce. A variety of sources ensures that as many different perspectives as possible are represented while satisfying the broad interests of the community. Sources of community input for this assessment were as follows:

- Community members who participated in the online survey and focus groups
- Community leaders and representatives
- Public health workforce and local coalitions/partnerships
- Members and representatives of medically underserved, low-income, minority, at-risk and otherwise vulnerable populations
- Health system and hospital leadership

Community stakeholders who provided input represented a variety of community sectors, including healthcare, education and academia, nonprofit, private business, community development, faith-based communities and

organizations, government, safety-net services, economic and workforce development, behavioral health, law enforcement and first responders, public health and other interest groups working with at-risk and vulnerable populations. This assessment especially focused on community input from those with special knowledge or expertise in public health, as well as members and representatives of medically underserved, low-income, minority, at-risk or otherwise vulnerable populations. Participants offered critical insights into the health needs and assets of the community. See Figure 13 for a visual representation of the constituents who contributed community input throughout the CHNA process.

Figure 13: community input sources



Source: Community Input Guide by Ascension

Community Health Forum

In July and August 2018, more than 80 community leaders, along with six health system leaders, participated in a community health forum conducted at the Ascension St. John hospitals in Tulsa County: St. John Medical Center, St. John Owasso (SJO) and St. John Broken Arrow. The purpose of these forums was to solicit input from various representatives from the community on health needs of the community and to foster a dialogue on social determinants and other factors that may impact health and wellness. These forums were intended to obtain input specific to the region surrounding its respective hospital.

The community health forum at SJO took place Aug. 8, 2018, and had 18 community leaders and three hospital leaders participate. The following section summarizes the design of and findings from this qualitative source of primary data. Each of the three Tulsa County community health needs assessments (CHNA) summarizes findings from their respective hospital forum. Therefore, this assessment only includes findings from the SJO forum.

Design

Community leaders who represent the broad interests of the community were identified and invited to attend this forum by this assessment's authors. The forum took place over a 1.5-hour period and consisted of an overview of

St. John's CHNA process and three main exercises:

- Hospital assessment exercise
- Priority health concerns exercise
- Community perception group exercise

Each participant was asked to give a brief introduction to the group at the beginning of the forum. With a PowerPoint presentation, the overview of the CHNA process was conducted at the beginning of the session to orient participants.

Then, the group was asked to engage in a hospital assessment exercise through discussion. Participants were asked two questions about their perceptions of SJO: one about what SJO is doing well to improve the health of the community, and one about what opportunities exist for SJO to improve the health of the community. Flip charts were utilized to record input.

To identify and prioritize significant community health needs, participants were engaged in a nominal group exercise using wall charts and dot stickers to measure a specific need by cross-referencing the level of ability to change (high or low) with the level of health impact (high or low). Participants were asked to consider the following question for ability to change: To what degree is it feasible that the hospital and partners in our community have the control and influence to make the changes necessary to see improvement in this focus area? Participants were asked to consider the following question for health impact: If improved, to what degree would this focus area improve overall community health? The results for each of the 18 specified needs were reviewed afterward.

Finally, participants broke up into groups of four or five to engage in a community perception exercise. Participants were asked to identify and discuss the top three things they would change about the community to improve its health and the top three things about the community that they are proud of. Each group shared their answers with the room and recorded them on index cards.

Objectives

The main objectives of hosting a community health forum at the hospital were as follows:

- Solicit community input and facilitate dialogue
- Engage community stakeholders
- Initiate or strengthen partnerships and collaborations
- Identify community perceptions of SJO in terms of health improvement strengths and opportunities
- Determine and prioritize top community health concerns
- Assess the availability and types of resources and assets within the community to address top community health needs

Participants

The participant constituency was diverse and included those with professional experience and/or the ability to represent populations that are medically underserved, low-income, minority and/or with chronic disease needs. Community representatives and leaders also included those with special knowledge of and/or expertise in public health. Participants represented areas of healthcare, safety-net services, law enforcement, education, government, economic and work force development, housing and homelessness, nonprofit and other groups that work with vulnerable populations.

Findings

Hospital assessment exercise

Among all of the responses (from all six health forums) for the first hospital assessment question — "What is [facility] doing well that improves the health of the community?" — "partnerships" and "community" were the most frequent responses, which would suggest that across all communities, St. John is generally proficient in facilitating partnerships and establishing a presence in the community. Among the responses for the second hospital assessment question — "What opportunities exist for [facility] to improve the health of the community?" — "communication" was the standout response, suggesting that better channels of communication could be established between the hospital system and the communities for services and resources to be better known. Below is a compilation of answers from the SJO session.

Question 1: What is SJO doing well?

- Positive reports on emergency services and staff
- Convenient clinic locations
- Staff courtesy / bedside manner
- Partnerships with community organizations
- Excellent reputation with higher-education students and staff, internships
- Education/training opportunities for students from varying cultures and income levels
- Participation with the business community, strong member of the Owasso Chamber of Commerce
- Contribution to economic development in Owasso (medical services are considered when people move to a new community)

Question 2: What opportunities exist for SJO?

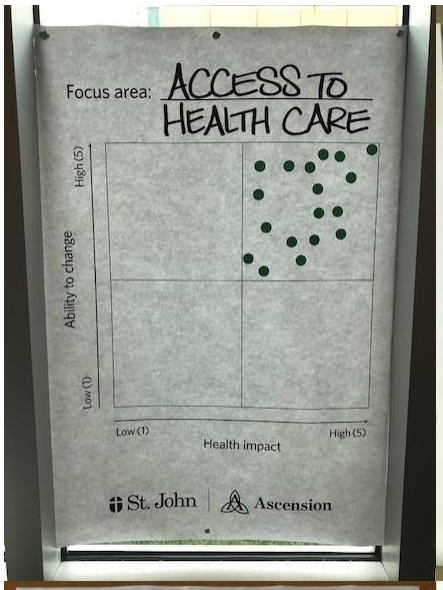
- Expansion of services (reduce referrals to Tulsa facilities)
- Partnerships and program collaborations
- Shadowing for local pharmacy students to keep them in the community
- More local resources for special needs patients (e.g., behavioral pediatrics)
- Awareness of and programs for the most critical issues impacting society (e.g., veterans' issues and opioid crisis)
- Crisis management related to behavioral health issues, homelessness
- Senior care collaboration/programs
- Food services for families in need, nutrition education
- Health education seminars/classes at the Owasso Library
- Encouraging of physicians and other staff to volunteer
- A central hub for outside referrals (e.g., social services, adult protective services, child services, etc.)
- Patient transportation
- Medical marijuana regulation education/updates

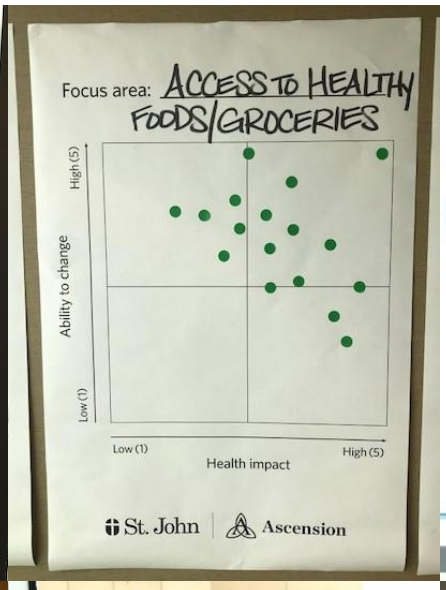
Priority health concerns exercise

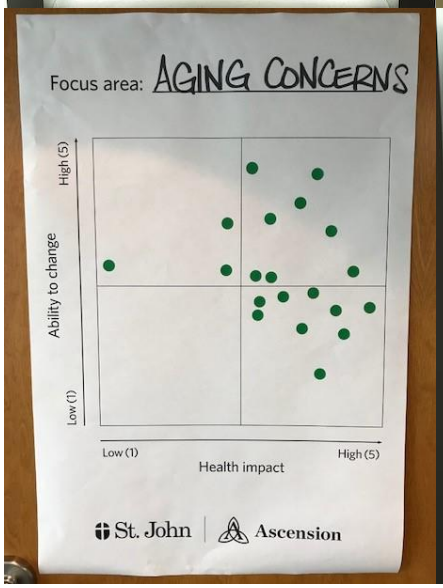
System-wide, the health concerns ranked by participants as both high in ability to change and high in health impact included mental health, lack of education, access to healthcare, child abuse and neglect, and access to healthy foods/groceries. During the SJO health forum, participants ranked the following health concerns highest:

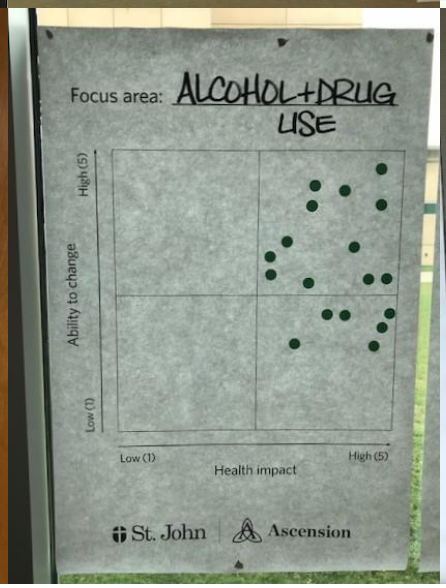
- Access to healthcare
- Poor diet, inactivity
- Mental health

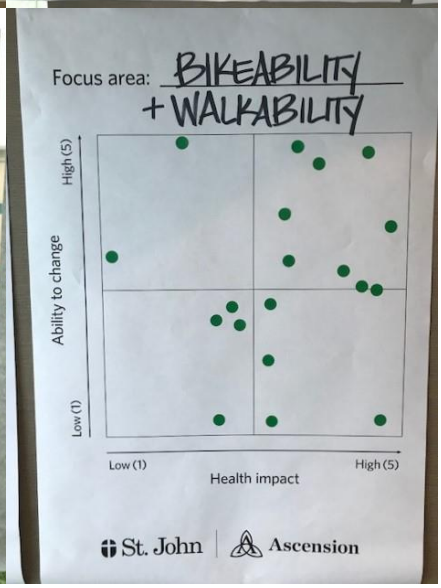
- Sexually transmitted infections or diseases
- Lack of education











Focus area: CHILD ABUSE + NEGLECT
Focus area: CHRONIC DISEASE
Focus area: LACK OF EDUCATION
Focus area: MENTAL HEALTH
Focus area: POOR DIET + INACTIVITY
Focus area: POVERTY / ECONOMIC STABILITY
Focus area: SAFETY CONCERNS + VIOLENCE
Focus area: SEXUALLY TRANSMITTED INFECTIONS/DISEASES
Focus area: TEEN PREGNANCY
Ability to change
High (5)
Low (1)
Health impact
St. John
Ascension

Community perception group exercise

Among all six community health forums, the most popular responses to the first question — "If you had the power, what are the top three things you would change about the community to improve its health?" — included "transportation," "access" and "health education." "Transportation" had nearly double the responses of "access" and "health education," suggesting that transportation is an area of considerable deficiency for the region. As for the second question — "What are the top three things about the community that you are proud of?" — "community," "education" and "services" were among the most popular responses. This suggested to St. John that involvement in each community through schools and expansion of diverse services may be the most effective way to engage with and benefit the communities we serve. Below is a compilation of answers from the SJO session.

Question 1: If you had the power, what are the top three things you would change about the community to improve its health?

- Better, individualized health education
- Access to transportation (i.e., Uber vouchers)
- More assistance for underinsured
- People taking responsibility of their own health
- Economical, local public transportation
- Transportation options to get to Tulsa
- Behavioral health providers locally for both children and adults
- Reduction in opioid usage, opioid safety education
- More people involved at the local level, increased attendance in Northern Tulsa County Coalition
- Comprehensive education on behavioral health issues and available resources for treatments, costs, options, medications, support communities, etc.
- Affordability of healthcare overall (services, insurance premiums, medicine/prescriptions, tests, etc.)
- Increased importance of holistic health approach (mind, body and spirit) — nutrition, activity, community, education, etc.
- More public transportation; transportation that is regular, reliable and expanded beyond work hours; better access for people with special mobility needs

- Biking and walking trails that are accessible to all throughout the city and county
- Better education on teen pregnancy and support for teen parents, access to birth control

Question 2: What are the top three things about the community that you are proud of?

- Education system — good public schools, higher attainment levels
- More self-contained than other areas without losing the small-town feel
- Continued growth and development
- Support of education, the Owasso Library
- Accessibility/location of Owasso
- Collaboration efforts between local groups and organizations
- Tulsa Technology Center, availability of educational events
- Abundance of services and resources available
- Growth as a city in business and community
- Downtown area renewal, Owasso Gathering on Main monthly event
- Common perception of community as a good place to live and work, great businesses
- Volunteerism
- Character Consult, with inspirational character words changing monthly
- Arubah Community Clinic
- Focus on healthier lifestyle
- SJO, especially the emergency department

Additional comments from discussions included:

- There is a difference between availability and access. Also, “same-day” access is not the same as readily available in an emergency. Access could also tie in with lack of transportation.
- Using Uber or Lyft could help with transportation issues. Could there be a program that utilizes donations to cover this cost? Expand Ascension’s current contract with Lyft to areas outside Tulsa.

Community Focus Groups

This section provides a review of some of the qualitative data derived from one of this assessment’s primary data (community input) research methods, the 2019 Tulsa County CHNA focus groups. The focus groups were conducted in collaboration with The University of Oklahoma Anne and Henry Zarrow School of Social Work and Tulsa Health Department. The three main objectives of the focus groups were as follows:

- Determine top community health concerns
- Identify perceptions of barriers to addressing community health concerns
- Assess awareness of available community resources

Methodology

Sample approach and design

Twenty-two focus groups were conducted in the St. John service area between Jan. 5 and March 9, 2019. These groups garnered participation from 233 total residents. The sample was drawn from the non-institutionalized adult populations in Tulsa, Creek, Washington and Nowata counties. Participants for the groups were primarily recruited by a third-party, private market research firm, Consumer Logic, from its extensive database of participants. In regions

where the database was lacking, recruitment efforts were supplemented with email campaigns purchased through Tea Leaves Health. In addition, St. John posted recruitment messaging to Facebook and Twitter for those regions.

Efforts were made to identify and invite individuals to participate in focus groups based on how representative they were of the community in which they lived. The CHNA focus group study incorporated a non-randomized design. The demographic variables are unlikely to perfectly match the demographic makeup of Tulsa County. To account for this gap, respondent requirements included a mix of gender, age, race/ethnicity, household income level and health insurance status. A specially designed database was utilized to obtain an even mix of respondents to appropriately represent the service area as a whole.

In addition to regional focus groups, two special groups were conducted with vulnerable populations: individuals experiencing homelessness and individuals from the LGBTQ+ community. Community partners in those areas of service recruited individuals representative of these populations.

Each focus group lasted around 90 minutes. A meal was provided to participants, as well as a $50 gift card. The groups were facilitated by a trained social worker using an open-ended discussion guide (see Appendix 4). The discussion guide was created with input from community partners and experts in the field. All sessions were audio recorded and transcribed for analysis purposes by social work graduate students specifically trained for this project. Thematic data analysis was conducted using NVivo.

Community defined

While focus groups were conducted in all St. John service areas, the report below specifically reflects results from the groups done in Tulsa County. Tulsa County was divided into eight geographical regions based on ZIP codes and associated communities: downtown Tulsa; east Tulsa; Jenks, Bixby and Glenpool; midtown Tulsa; north Tulsa; Owasso, Sperry, Collinsville and Skiatook; Sand Springs and west Tulsa; and south Tulsa and Broken Arrow. All ZIP codes either fully or partially within Tulsa County were assigned regions, although only Tulsa County residents were able to participate in the focus groups.

Results

Tulsa County

A primary theme emerging from focus groups in Tulsa County was the role stress played as a barrier to the adoption of healthier lifestyles. Across the county, participants noted a number of stressors that varied by region. For example, in some regions, traffic and road construction were named as significant stressors. In other areas, crime and/or the threat of victimization were stressors that affected participant sleep patterns, their perceived ability to exercise safely in their communities and even their eating habits. Still others noted the pursuit of consumerism and the desire to live grander lifestyles as a source of stress. Stress and a hectic pace to everyday life left participants feeling exhausted or unmotivated to take time to prepare healthier meals for their family. Participants often felt the pursuit of exercise or healthy meal preparation or self-care activities required them to sacrifice what little time they had left at the end of a busy day — time they preferred to spend with family rather than engaging in health-focused activities.

A second theme that emerged was the lack of knowledge regarding community resources to help individuals attain healthier lives. The most frequently named source for information was the internet, but no universal or central location was known where an individual could locate information about community resources in this area. Participants felt the area probably had sufficient resources and often named local, private gyms, area physicians or local health food stores as sources of information, but nonprofit and public resources were less likely to be considered. Some individuals were aware of 211 and had used the service successfully, but a significant number of participants were unaware of the service, and the consensus was that participants were less likely to use the telephone to look for resources than the internet.

Commonly mentioned social problems across the community included concerns regarding the homeless, criminal activity and the use of illegal drugs. Concerns regarding these issues were more prevalent in some areas but tended to be mentioned throughout the region. Some comments regarding the homeless could more accurately be described as complaints regarding panhandlers or individuals the community felt were trying to portray themselves as in need when in fact, they were not. Criminal activity tended to be isolated to minor crimes such as stealing packages from one's front porch or breaking into a car to steal a wallet or home invasions. However, crime in some areas included hearing gun shots at night or more serious offenses related to homicides. Illegal drug activity was often thought to be the source of criminal activity. The community perceived individuals on drugs were most likely to perpetrate crimes in order to obtain resources for additional drugs. Participants noted such problems in the community made them uncomfortable to spend time exercising outdoors and in some cases affected their ability to sleep well through the night, which in turn adversely affected their health.

In a similar vein, the community noted the need for mental health services in the community with particular thought to the homeless and those involved with illegal or addictive drugs. Greater case management services were suggested for the homeless to assist them in obtaining permanent housing as well as medications and medication compliance to better maintain their lives in the community. Participants were also supportive of efforts to reduce stigma associated with mental illness and mental healthcare. These issues were seen as barriers to individuals seeking out treatment for issues underlying homelessness and drug misuse.

The final area commonly mentioned throughout the county was a widespread concern for the health of children. Many felt health education, including nutrition, physical education, stress management and self-care, as well as vaccinations and some health screenings, should be a part of all children's education. Throughout the region, there was a call to put measures in place to educate children and create a culture of health within schools that would permeate into their home lives and set them up for healthier lives. Many felt they were too old to change their ways and adopt healthier lifestyles, which drove their desire to focus on younger generations. The community also stressed the need for after-school activities geared to meet the physical health, mental health, and social and emotional needs of youth.

Other, more isolated issues noted or suggested services included poor walkability and bikeability; greater access to fresh foods through more farmers markets or community gardens; a desire for more variety in social activities offered for older adults; a need for greater transparency with healthcare costs; more specialized healthcare services in outlying areas of the county; and additional services for the poor, as well as those who may be working yet still unable to afford healthcare services.

Downtown Tulsa

Two community-based focus groups were held in downtown Tulsa with 21 total participants. Following is a summary of findings from those sessions.

Community problems

The primary problem identified by participants in both focus groups was the number of homeless individuals in downtown area. Participants speculated downtown was a hub for the homeless because of a greater police presence giving the homeless a sense of safety or because most resources for the homeless are located in the downtown area. Participants were especially concerned that the community did not have a sufficient mental healthcare system in place to meet the needs of homeless individuals in their community. Participants also had a desire to help homeless individuals they encountered access resources in the community on their behalf, but there was a general sense of helplessness on their part. Most had no idea where to go for programs and services or how to find out about resources in their community. Some suggested nonprofit organizations should take a more active role in advertising their services and making the community aware of how to access their programs on behalf of the homeless.

A second area of concern was the growing presence of panhandlers in the area. One participant observed, “I see lots of panhandlers in my area … and I don’t think they are really homeless or they need the money. … They [are] doing it every day, and the police is not doing anything about it. It is not harmful to me, but it is just annoying. … They come to your car, and that is, like, scary.” Another speculated, “There’s a lot of panhandlers, and they’re just out making money for drugs. You can tell — you can just see someone’s arm. You can see track marks. You just know that they’re out just for drugs.”

Another participant explained how the homeless and panhandlers in the community made him/her feel unsafe. The participant stated, “When I am going to work or whatever … I am very, very cautious. So, when I see somebody is walking down the street with a backpack on, moving his arm, I feel he is doing something. … I feel I am not safe.”

Other problems noted by participants include the lack of affordable grocery stores in the community and a poor public transportation system. Participants also pointed out that parts of their community are dark at night because of streetlights not working. One participant stated, “People steal the copper out of the lights.”

Suggested services

The most common suggestion in the focus groups was the creation of a centralized resource directory. Participants were also vocal about the need for centralized, one-stop mental health services with a more individualized focus on the homeless and case management. Participants wanted greater community outreach to the homeless. As one participant noted, “I think healthcare in general is so confusing and frustrating that, you know, a liaison for the ordinary person on the street could improve people’s lives.”

The second most common suggestion from participants was a call for transparency with healthcare costs. One personal likened the situation to going to a grocery store to purchase a loaf of bread, asking for the price of the bread and being told the store would bill you for the bread. When you receive the bill you learn the bread was $700. Had you known the price of bread up front, the participant pointed out, consumers could price shop, budget for needs and make informed decisions about whether to incur such charges.

Other suggestions included greater access to affordable groceries and an improved transit system.

East Tulsa

Two focus groups were held in east Tulsa with 24 total participants. Following is a summary of findings from those sessions.

Community problems

One of the biggest problems discussed in the east Tulsa community was crime. Several instances of home invasions and criminal activity involving firearms was provided by group members. One participant stated, “We've had gunshots through our house before through our picture windows.” Another stated, “And I was broke in to there, but it was like last year, and there was like a thousand houses broken into all in one week. Like, it was just a bad week. Somebody just came and started breaking into everywhere. I was gone for two hours, and I had a TV and gun and a whole bunch of stuff stolen.” Still another shared, “We were actually home and in bed sleeping. And at 5:15 [a.m.], we hear this noise. Sounded like glass breaking. … [We] come out of the bedroom. First thing I hear my husband say is, ‘Get out.’ I just sank. There was a guy standing at the end of the hall. [He] had [a] club. Him and my husband fought up and down the hallway, got into the bedroom. … We finally got him out of the bedroom and got the door shut. My husband's holding the door, calling 911.” Another explained, “I manage a hotel, and we have people who come in, who break into rooms or break into cars, and [the police] never get there fast enough.”

The most extreme example was provided by one participant who recalled, “The lady next door to us shot a guy here about … six months ago. Three [men] broke in the house. She was a single lady, hard of hearing, very much a working

lady. She told them, 'I got a pistol,' and they just kept walking in the hallway, and she popped 'em." Several other participants added that they kept firearms in their homes to protect themselves from victimization as well.

In addition to widespread examples of crimes, participants discussed a growing problem with homelessness in their community. One participant said, "I have to shoo off homeless people. They're in the front yard or the side yard or on the porch sleeping at least three times a week or more. … The kids never play in the front yard." Another participant added observations about homeless individuals at his/her place of employment. The participant stated, "We have homeless men who are sleeping on our stairs … and we have to wait hours for them. So, we just handle it on our own. We go in there, we kick them out of the room, we kick them out of the stairs."

Others mentioned more minor crimes, such as porch pirates stealing packages from porches, while others brought to our attention issues regarding dilapidated or unsafe housing conditions. Drug and gang activity was mentioned as well as bullying in schools. One participant offered, "I had to take [my daughter] out of public school. I now homeschool her because every time we'd turn around they were trying to beat her up and always calling her racial things, even though she's white." The participant went on to say her daughter has since been placed on antidepressants to help her cope with the aftermath of the bullying behavior.

Another participant added, "My son faces the same thing because he's not the tough little boy, and he joined the jump roping team and gymnastics and stuff instead of soccer, so they always call him gay. They don't even let him go into the boys' restroom at school. So, I have to pick him up every day. He doesn't want to pull away because he says he's not going to let them win, but he's afraid to walk home by himself."

Participants also regretted the loss of local businesses in their community, including grocery stores, which created a "food desert," according to one participant. One participant pointed out the problem was greater than the loss of a grocery supplier; the loss of businesses had created a ripple effect with young people being unable to find entry-level jobs out of high school or college.

Participants stated these problems greatly affect their mental health, creating stress and anxiety. As one participant stated, "We live more anxious, and that makes us sick."

Barriers to healthier lifestyles

The most commonly offered barrier to the adoption of healthier lifestyles was over-extended and busy lives. As one participant stated, "I think that families are on the go. We're always just on the go. You know, getting to school, sports, this, that. It's always just easier to stop by and do something that's fast food or, you know, pack something quick than actually sit down and have meals. Like, when I grew up, we all sat down and had a meal. Now it's just grab and go. I feel like I am always stressed."

Others complained that lack of sufficient streetlights and the growth of criminal activity in their community deterred them from wanting to be physically active.

Suggested services

The most commonly identified service needed in the community was mental health services to deal with behaviors driving criminal activity. One participant summed up the group's thought, suggesting "more free services or resources in the mental health field," as "perpetrators … have a lot of mental health issues, and it's really taboo to go out and reach out to them."

Another participant summed up another commonly offered suggestion, saying, "We don't get out and, you know, meet our neighbors anymore. … We don't socialize with our neighbors. Most of us are in our homes, or we're tied to our phones or TVs or whatever, and we're not getting out like we used to back in the '50s and the '60s and meeting neighbors. And once you know the people in your neighborhood, it's hard to have enemies, you know."

Jenks, Bixby and Glenpool

Two focus groups were held in the Jenks, Bixby and Glenpool area with 20 total participants. Following is a summary of findings from those sessions.

Community problems

Participants identified few community problems. A few participants mentioned crime as a problem with examples of car break-ins, porch pirates and some drug activity around marijuana.

More frequently cited problems revolved around stress associated with consumerism and the quest to live outside of one's means.

Barriers to healthier lifestyles

A lack of personal motivation or desire to change was the most widespread barrier to the adoption of healthier lifestyles. Some suggested the cost of healthy food or gym memberships could be a barrier for some. Others cited a lack of education as a primary barrier. One participant stated, "I just took nutrition as a class, and you learn that the diet is one of the key things, and your health and nutrition is not taught. … It's the first time that I had access to basic nutritional values." The participant went on to explain, "We're not teaching our children [about good health]. We're complaining that they're not healthy, but we're not teaching them at the right age to be healthy."

Suggested services

There was little consensus as to needed services in the community. Some suggested the addition of more gyms in the community, while others named a plethora of exercise opportunities through gyms or local parks. Some suggested healthier fast food options to accommodate the modern, hectic lifestyle.

Several participants suggested more health-related education geared toward school-aged children. Participants suggested topics including nutrition, exercise and communicable diseases.

Others suggested more mental health services in the community and more nutritional education and support. One participant talked about taking a nutritional course in college but indicated knowledge on it's own wasn't enough to succeed. As the participant stated, "Sometimes you have to have some accountability." The participant added, "If I had a nutritionist who sat down and made my meal plan for me, then I could probably do it. But by just telling me to eat greens and eat less of this and more of that, it's not enough. You do need help. Sometimes you're not enough."

Midtown Tulsa

Two focus groups were held in midtown Tulsa with 22 total participants. Following is a summary of findings from those sessions.

Community problems

The primary problem discussed in midtown was the condition of roadways and traffic. Consensus was almost unanimous in this regard. When asked how roadways, construction and traffic affect their health, one participant gave the following example: "I do think the traffic and construction does affect people's health, like my husband, he went from a job where he was [physically active]. He worked in home construction and he had his own business, versus now where he's working for somebody else and he's working all over northeast Oklahoma and he's on the Turner Turnpike a lot. I mean, he thinks he's having a heart attack every day. He's put on, like, 20-30 pounds. He's just in traffic. He's stressed. He's stress-eating. He used to be a lot more active and healthy before he had this job, and a lot of it had to do with the fact that he's just in the truck, and he's just stressed out all the time. … So, I definitely feel like the construction that's constantly going on in Tulsa … it's the stress of that when you're, like, commuting your kids to school and the after-school care, that is definitely really stressful, I think."

Other participants agreed, using words such as stress, depressed, annoyed, angry and frustrated to describe the traffic and road construction in town. One participant stated, “It’s stress[ful] sitting at a light, and it just won’t change, and you just wanna, you know, run past the light.” Another participant attributed stress on the roadway to hectic lifestyles and the fast pace of life. The participant stated, “Instead of leaving five minutes early, they’re just, you know, they’re honking at you. They’re cutting you off because they just — everybody seems to be in such a rush. Everyone just seems to be in such a rush all the time now.”

In response to the stress experienced in traffic and road construction, another participant explained, “I have a lot of stress going on in my life lately. I’ve been noticing that I’ve been having more flare-ups from my asthma. The more stressed I am, I’ll have a flare-up from shingles now. Insomnia is just out of control.” Another participant summarized the situation, saying, “Physical, mental, social well-being will affect your health. Stress will kill you.”

In addition to stress associated with traffic and road construction, participants also noted a decline in the community’s appearance, and thus it’s health. One participant explained, “You feel like … things have gone down … when you see everything falling apart around you — from the storefronts closing, the lights not working, the streets not working. Why should I? I mean, what’s the point of living?” Another participant likened the loss of retail at venues like Promenade Mall to a “virus.” Still another stated, “It just makes me want to move.”

Some examples of minor crimes were offered, particularly in regard to abandoned storefronts along with a rise in homelessness and panhandling. As one participant explained, “I see a hole broken into, say, one of those old, abandoned business fronts that we were talking about, because it’s a homeless person looking for a place to sleep. You know we do see that, and we see a lot more people on the side of the road flagging a sign panhandling. … I’ve had them come up and knock on the window of my car when I’m at a stoplight ‘cause they know I’m not going anywhere. So, that is an issue. That’s something I have experienced.”

A final problem that surfaced in focus groups related to the school system in these communities. As one participant explained, “Nobody wants to be in midtown schools. Nobody wants to be in Tulsa Public Schools.” Participants readily agreed schools were poor and did not receive priority consideration or funding. As a result, schools do not take an active role in monitoring the health of students or encouraging them to adopt healthy lifestyles. Some parents noted they used the address of other relatives to enroll their children in schools outside the midtown designated public schools.

Barriers to healthier lifestyles

Focus group participants offered insight into several barriers to the adoption of healthy lifestyles. Unaffordable healthcare services and unaffordable insurance premiums were noted. One participant explained, “Our kids are on SoonerCare. My husband is Cherokee, so if he’s really sick, he can always go to the Indian clinic. But both of us, in order for us to get insurance, it’s like we either buy groceries for our family or we have insurance for ourselves. So, like, I’m not insured now. I make good decisions. I'm hygenic, and I eat well. We’re into what we eat and try to be wise about that, but … like, I have a cyst on my right ovary that I was supposed to have checked out eight months ago. I don’t what’s going on with that, and every month, I’m like, is it the normal month? Every month I have to worry … just because we’re right at that level where we don’t make quite enough for us to be able to afford our own health insurance, but we don’t qualify for assistance. Our kids do, luckily, but if we make $1,000 more every year, then our kids won’t receive [health insurance] either, but then that means health [insurance] for our family of five is like $10,000 per year.”

Another participant made a similar comment, stating, “I mean, my son and I are relatively healthy. He’s in really good shape. I’m a little overweight, and I’m a smoker. … I could work on both of those things, too. But I don’t have health insurance; it’s not super affordable through my job. It’s also not affordable through the [Health Insurance] Marketplace for me at all. I’m in that donut hole, where if I made a little less money it’d be super cheaper for me. So, now I just don’t have health insurance and neither does my son. I just can’t afford to spend $150 a month on health insurance when we are relatively healthy, all things considered otherwise.”

In a similar vein, another participant who did not currently have insurance expressed confusion over the cost of care. The participant explained, “I remember one time I went to the doctor, when I had pretty good insurance, and he calls me. I don’t know co-pay was like $50 or $60 to see him, and I looked at the insurance bill, and according to [the bill, the office visit] was $300. OK, so now I’m not with insurance, and I’m sitting there going, I can’t afford $300 to get in to see him, plus what he’s going to want to do for testing, which is gonna cost me $500, so I don’t go. Now I talk to somebody else who says, ‘Oh, that’s the insurance price. If you’d asked him for the cash price, there’s a difference.’ … There’s so many hoops.”

Another barrier to primary care was the availability of the physician. One participant explained, “It’s so hard to get in to see my doctor for a general check-up and prescription, you know, things like that. I’ve been going to the man since ’90. The last time I went to try to get an appointment it was four to five weeks out. It’s just that backed up. I don’t want to change [doctors], but, you know, I have to go see other people … and you sometimes wind up just doing without, just ‘cause you can’t get in.”

Other barriers discussed included a lack of motivation to eat healthier diets, stop smoking or exercise. As one participant noted, “If you have 30 minutes, you know, by the time you get home, are you gonna spend that 30 minutes cooking a meal with limited resources or are you gonna go to McDonald’s and bring it home?” The sentiment was reiterated by many in the group.

Suggested services

Community participants of focus groups suggested the use of more community-based mobile health clinics, greater transparency in healthcare pricing, mental health services and health-related education.

One participant stated, “We need more of those, like, mobiles, you know how they got the book mobile, like the health mobile. You see it, you be like, I was supposed to see you last month, and you never see it again.” Others expanded on the suggestion, stating such mobile health clinics could provide services such as breast exams, prostate exams and general health check-ups for those with limited financial means.

For those without health insurance, transparency in healthcare pricing was suggested. One individual stated, “I would like to know somehow to get an approximation of how much it’s going to cost for me to go to the doctor. I’d like to know about mental health. I have no idea how much it costs for one thing, who to go to, how to go to, but I think there’s some issues that would help with me and my wife, and we could go talk to someone, but we’re totally clueless. It’s not something that you discuss, and there’s no place [to find information]. I can go look up information about California or New York [on the internet], but there’s no place I can go [here]. Nobody will sit there and say, ‘Well, it’s going to cost somewhere between this and this and take somewhere between this and this number of visits.’ We’re totally lost.” Another participant added that we need a culture of transparency and education: “Like, having that education out there for all the different resources. Also, transparency with pricing [and] what services are out there. If you know … we can get some counseling [and] it’s going to cost us $150 and we’re going to have to go for a month, or you know one appointment a month, it’s a lot easier to take that next step and take care of yourself and do what is needed, rather than just for, like, two years, we’re going to keep thinking about it because we don’t know, and then we get to the point where maybe there’s some things that shouldn’t have been said, instances that shouldn’t have happened, it could have been prevented had that education, that transparency just been out there.” Others agreed with these sentiments, and one focus group agreed more mental health services were needed in the community in general.

Participants also suggested community-based education on how to eat healthy on a budget. As one participant stated, “Not everybody can afford to eat organic foods. Not everybody can afford to eat fresh all the time. … You have a single parent who works two jobs, and the kid has to eat frozen burritos. I mean, it happens, and so there has to be education as to where there’s help and how we can help them. Instead of berating me because I feed my kid a frozen burrito, help me understand how easy it is to make something else, whatever, if it’s crockpots, but education is the key to everything.”

Others suggested such education needed to be occurring in public schools. As one participant explained, “If we don’t make a serious change with education, like the core of public education and health being part of that, we’re gonna keep putting Band-Aids on these health problems and socioeconomic problems.” Almost unanimous consensus to this sentiment was made with participants suggesting nutritional education and physical education be a key component of public school education for all children.

Participants also voiced a desire for a more pedestrian-friendly, bikeable community. As one participant observed, “If you don’t have a sidewalk, you’re less likely to walk. … I walk with my kid, and even in my neighborhood without a sidewalk, [I] fear … somebody just won’t see [us] and kill [my] family. It’s just not safe. I don’t trust that somebody is going to [see us and slow down].”

The final suggestion made by participants was improved access to affordable, healthy foods. One participant stated he or she would like to garden fresh fruits and vegetables but felt that was not possible when residing in an apartment. Other participants requested more local farmers markets. One participant stated, “I mean, you see one every now and again. You see one on Cherry Street or what have you, but it would be nice to see … fresh food [that is not] prohibitively expensive.”

North Tulsa

Two focus groups were held in north Tulsa with 19 total participants. Following is a summary of findings from those sessions.

Community problems

Participants in both focus groups were very outspoken and adamant that they were the victims of stereotypical thinking as residents of north Tulsa. As one participant stated, “The media plays a huge role. … When people think of north Tulsa, they think of poor black people — everybody does. And so, I feel like it’s a perception. I mean, I’ve heard someone say, ‘Don’t go to north Tulsa.’ And I’m like, you know, I think it’s fine. I feel perfectly safe. I’ve never had a problem. … I go wherever I want to go, anytime, day or night. I’ve never had an issue. I think it’s perceived. I mean, you can look up crime maps. I do when I look at houses, and sure, there are things that are happening, but no different from other things that are happening everywhere. … I think that people are so ingrained with that idea that they cannot get past it, and that’s what they think, and I think they literally feel fear when they think of north Tulsa.” This sentiment was shared by the majority of participants.

One participant who had been a recent victim of a criminal act that left him/her hospitalized for a lengthy period of time seemed to contribute such acts to “a few bad apples” in their community and felt that these isolated incidents were magnified by the media, resulting in a misrepresentation of their community.

Beyond the pervasive message of feeling misunderstood, other problems in their community emerged. Another pervasive problem was access to healthy foods. As one participant explained, “Dollar General and Family Dollar is our grocery store.” This was especially problematic for individuals relying on public transportation.

Participants did acknowledge some criminal activity in their community and felt that several features of their community enhanced criminal opportunities. One participant pointed out that traffic lights are on timers in their communities rather than sensors. One participant noted, “It can be dangerous at night. I look both ways and keep going [at traffic lights]. Another stated, “I look both ways, and I keep on going — they will mail me a ticket.” When asked why they were running traffic lights at nights, one participant explained, “Bad apples. It’s nighttime. I’m trying to get back home to my safe place.”

Another problem noted by participants was the absence of adequate lighting in their community. One participant explained, “There haven’t been lights ... in over six years. They say someone stole the copper. Well, you can’t steal it if the power’s on. They cut the lights off five years ago, didn’t they?” Another participant added, “A lot of times, well … there was a guy that sold drugs. They would bust the light out purposely.”

Participants also noted that the community is not very walkable. One participant explained, “I’ll see parents, like, in the rain or snow, and you know they’ve got their kids and they’re walking through mud or they have to get in the streets. There’s no sidewalks.”

Transportation issues were compounded by public transportation issues. As one participant explained, “You may have to wait two hours to catch a bus or get up two hours early and hope you don’t miss this one because then the next driver isn’t gonna come for another hour.” Another added, “Some of the bus drivers will drive right past you sometimes.” Many participants agreed.

Participants explained these problems primarily affect their health by increasing their stress.

Barriers to healthier lifestyles

Several barriers to the adoption of healthier lifestyles were provided. For many, time was a factor. One participant explained, “I’ve started a master’s program. So, I work … full-time, go home, and I’m in this master’s program, and it is consuming all of my time. By the time I’m done with that, I don’t want to do anything. I’m exhausted, I’m drained. So for me personally, it’s a time thing.” Another explained, “I have two jobs. I have a fitness center near me. Of course you gotta pay to get in there, but again, I work two jobs. Straight outta my first job gotta go straight to my second job. By the time I get home, I’m exhausted. I don’t have time, you know, to go to the gym. Gotta take a care of my kid, make sure they got dinner. It’s just time.” Still another added, “By the time I get home from my second job, it’s 11:30 at night. The last thing I want to do is get into a pair of sweatpants and tennis shoes and everything and go violate a curfew, get a violation, have to pay a ticket because I’m walking, and then have to show up at court because I was walking. It’s more of a hassle for me.”

Others pointed again to the impediments to walking in the community. One participant observed, “I ain’t seen no sidewalks here. I’m like, don’t people walk here? And I notice there’s a lot of loose dogs constantly here, too. If you don’t start to walk with a bat or something, you gotta be careful to get bit.”

Suggested services

Participants were especially concerned about children in their community. As one participant stated, “I just think that in our community I would rather have more things for our children to do instead of just what they have now, like, I think rec centers, just something that the kids can do … so they won’t be stereotyped of just running the streets. Because, you know, kids go in the streets regardless because they don’t have nothing else to do. In north Tulsa, there’s really nothing to do. … [The community has] given us nothing to succeed. They’re not giving us nothing to show our kids. Like, hey, you gonna be great growing up here. But our kids only see the bad apples because there’s nothing to keep their mind off of those bad apples. Our children ... are our future. So, if they bring anything for our children, I think it will bring our community a little closer.”

Others suggested a community center. One participant suggested “some type of center to where the community can be educated”: “There’d be resources there, technical resources. Whether someone needs to get on the internet and this, that and the other. There’d be resources for … extracurricular activities for some of these kids.” Others pointed to major metropolitan areas in the Northeast as models for a community center. One participant explained, “There are these big, major community centers [up north], and they’re always outside. They’re doing outreach, the kids can come in and the adults or whomever … can come in, there’s counselors there. There’s gaming there, there’s this, that and the other. They’re having a picnic out there for the community, and there’s free this and they invite everybody with their different resources there.”

Some suggested the addition of more doctor’s offices in north Tulsa and one healthcare professional offered the following observation: “I work in healthcare. … [Sometimes people are] treated a certain way because of your income or lack thereof. I’ve heard a lot of stories about Morton — specific positions that look down on their patients. … We need people who care about their patients, who have an interest in the health of the community, who are not just

here because you're getting paid big money to take care of people." Others summarized her view as a call for cultural sensitivity from healthcare professionals regarding people of lower socioeconomic positions in their community.

Other suggestions included the recruitment of more businesses, more grocery stores and an improved transit system for their community.

Owasso, Sperry, Collinsville and Skiatook

Two focus groups were held in the Owasso, Sperry, Collinsville and Skiatook area with 22 total participants. Following is a summary of findings from those sessions.

Community problems

Overall, residents of these communities are happy and have positive things to say about their community. Identifying problems was a challenge for many in the group. Participants primarily focused on two problems in the community: crime and traffic.

One participant stated, "I've been living in Owasso for about six years, and I've noticed probably in the last two two years the crime rate is actually increasing, and that's a little disappointing." There was a great deal of discussion in the group as to whether crime rates were increasing or the community was just becoming more aware of criminal activity now through social media.

The most commonly mentioned criminal activity noted by the group was car theft or vandalism. One participant explained, "I've been part of a vehicle break-in — and in a little nicer neighborhood, too. … I guess I didn't close my door all the way or I didn't lock my door, and all of a sudden I heard a car alarm go off, and it's mine. Thankfully, we had security cameras, and one thing I've noticed is it's younger children. I think it is the growth of the city." Many agreed with this participant's sentiment that the rising crime was a product of the growth in the community, but some speculated otherwise. One participant added, "It's kids looking for drugs or alcohol or a couple of extra dollars — it's really unfortunate things."

A more serious incident recalled by a group member was a shooting at a local fast food restaurant. The participant explained, "We had a Whataburger shooting. [There] was a gentleman shot there." The same participant also recalled an incident in which the local school was placed on lockdown due to a student bringing a gun to school in his backpack. Another participant brought up a recent crime that occurred in a community park's parking lot. The participant explained, "There was a suicide or homicide in that parking lot; they think it may have been a suicide. And that's unheard of in our area."

Despite these examples, many people wanted to reiterate their perceived safety of the community and the positive aspects of the area. Many stated they did not feel threatened to the point that they left their vehicles unlocked without concern about theft or vandalism. Others explained they felt safe because they took safety into their own hands by arming themselves with firearms. Still others complimented the Owasso Police Department and their prompt response to calls to help and quick arrests following criminal activities.

The second area of concern was traffic, with the majority of participants complaining about the growth of the area without sufficient infrastructure to support the added traffic. One participant stated they were often screaming at the traffic in their car. The participant explained, "People can be very rude and inconsiderate. It's like everybody's in a hurry. … Their time and effort is more important than yours, and we just need a little more patience, and sometimes I get a little upset."

Barriers to healthier lifestyles

The most frequently mentioned barrier to the adoption of healthier diets and exercise routines was a perceived lack of time. As one participant explained, "I have three kids, and they're all in, like, sports and all this stuff, so sometimes out of convenience … the drive-thru menu over here is just quicker for [my] lifestyle." Another participant explained,

“I work two jobs, and going between the two of them, sometimes I don’t have enough time in the morning to pack a lunch for my first job [or] a dinner in between jobs. And to keep that up with me and my husband as well? And it’s easier to buy carbs, and when you go to the produce it’s, like, well, I can buy fresh broccoli and steam it for 20 minutes, or I can buy the frozen ones that’s already done, and that’s more expensive to buy fresh.”

Another barrier mentioned was cost. One participant explained, “Part of my problem is financial. It’s more expensive to eat healthy.” Several participants agreed with this sentiment.

An older adult participating in the focus group indicated loneliness and social isolation was an impediment to healthier eating. The participant explained, “Part of my problem is I live alone, and cooking for one person, I’m just, like, (sighs) I don’t want to, you know. And it makes it difficult. I do much better if I am eating with someone, but I don’t have that opportunity.”

Suggested services

The most commonly mentioned service requested was support and education. As one participant stated, “You know, I think we need people to team up together to keep you both wanting to do it and continue to do it.” With regard to education, one participant reminisced about a community-based program that provided mobile education and access to healthy food for individuals in the community. The participant explained, “Back when I was a baby, they used to have these brown trucks sitting around. They would give out potatoes and chicken, and they taught people how to make food instead of just buying fish sticks, and they ate better and had fewer carbs. So, yeah, bring back the brown trucks.” Several other participants verbalized a desire for more education on how to eat healthier given the constraints of modern living.

It is worth noting that one focus group was very vocal about bringing better services the community to promote physical activity. While the group conceded the community had parks, they did not feel the parks were well-suited to support a variety of activities for adults. A community pool was greatly desired, as well.

The final suggestion from the focus groups was a desire for more healthcare professionals, particularly specialists, in their community. Residents of Owasso seemed inconvenienced by needing to commute into Tulsa for healthcare services. Some suggested a rotation of specialists into their communities on specific days of the week. The two most frequently requested specialists were oncology and physicians specializing in diabetic care.

Sand Springs and west Tulsa

Two focus groups were held in the Sand Springs and west Tulsa area with 20 total participants. Following is a summary of findings from those sessions.

Community problems

A prevailing problem that was identified by participants was crime. One participant explained, “A few times in my neighborhood, there’s been times three or four cars been stolen in one night, and it’s like, we only have 20 houses in my neighborhood, it’s not a lot. But, like, in [other neighborhoods] there’s always stuff that’s getting stolen.” Another participant added, “We have things stolen from our porch. The kids’ bicycles, secure or unsecure. ... I had my water can disappear from my porch. Our neighbor got their furniture [stolen off their porch]. So, crime is a problem.”

Another commonly discussed problem in the community was drug activity. One participant noted the presence of several drug houses, and there was a pervasive concern that with the extension of a highway from the Gilcrease area that drug activity would increase.

Criminal activity and drug activity contributed to stress and exhaustion among many of the participants.

Barriers to healthier lifestyles

Many participants identified criminal activity as a deterrent to the adoption of healthier lifestyles. As one participant pointed out, “If you live in … an area that is overrun with people, you don’t wanna be around bad stuff. You don’t let your kids out, you don’t get out; you stay in your house more. Because you’re not comfortable.” Another explained, “You don’t get out and meander around, so you do become more of a shut-in when you go home, and because of that there’s not as much community. It makes it harder, and when people aren’t out doing things, you have to go find activities to do. So, you can’t be healthy in your community, and it makes it hard.”

Another pointed out that there is not a sufficient amount of activities for children to do in a safe environment. As one participant said, “there’s no riding bikes around the neighborhood” because of safety concerns.

Another participant explained a lack of education as a barrier to the adoption of a healthier lifestyle. The participant stated, “I can burn water! I don’t know how to cook. That’s very difficult. You get home [and] you’re tired after a long day. You’re just exhausted — mentally, physically. And then you’re like, ‘Well, I’ve gotta eat.’ So, you take the easy route — you go and ‘Oh, here’s Braum’s’ and you know you get your dinner for this evening. And, so, yeah, you run through the week, Monday through Friday, and you hit all of ‘em. And so that’s how I cook.”

Another cited cost as a barrier, stating, “The healthier foods are, the more expensive foods [are]. And sometimes it’s harder for … lower-class, middle-class [people] to be able to eat the way that the doctor wants you to eat.”

Yet another summarized a commonly discussed barrier, saying, “I think one thing is we overload ourselves so much that … we forget to take care of ourselves. Even though I don’t work a job, I’ve got so much that I do, you know? It’s hard to just take time for myself and just, you know, be OK to take a little time off and just have some ‘me’ time.”

Suggested services

Several participants voiced a desire for more mental health services. One participant explained, “I was an addict three years ago … but there’s not any programs over here. There’s one AA in the whole community over.” Another echoed this participant’s sentiments, saying, “They arrest people and send them to the jail because they are mentally ill, not because they are doing something. I mean, you have people who are taken to the jail that may be autistic or that maybe just have lost it for whatever reason that don't have the access [to mental health services]. We don’t take mental illness seriously, and it is very serious. You know, we have kids that are 4 or 5 years old chunking chairs. We need to do something about this before they are 13 or 14 and blowing up a school. … We need to think about mental illness.”

Many participants asked for more affordable services for those who have limited financial means but are not in poverty. The consensus seemed to be that there were plenty of services for the more affluent and for those with SoonerCare but nothing for those in need of assistance who earned too much for SoonerCare.

A final suggestion from participants was a desire for more education about how to live healthier lives. In particular, participants were interested in nutritional classes. As one participant stated, “The ability to have cooking classes would be really nice. I would attend those. I would use this time, like on a Saturday, and go to a cooking class. And understand … how you make [a meal] from beginning to end or a preparation for the week where you can go to your freezer [then] … just dump it all in a skillet. … I would like that.”

South Tulsa and Broken Arrow

Two focus groups were held in the south Tulsa and Broken Arrow area with 19 total participants. Following is a summary of findings from those sessions.

Community problems

Several community problems emerged in focus groups with the community, including concerns regarding illegal drug activity, crime, traffic, homelessness and vagrants.

Concerns regarding illegal drug activity centered around methamphetamines and opioids. One participant stated, "Once a child or a family member gets consumed with [illegal drugs] there's really no way … there's really no solution in place at least at a state level to help kids [with recovery], especially if they have no money." Several participants indicated that drugs were easy to acquire in the community. As one participant stated, "Pull up to the gas station, and someone will come up to your car." One participant provided a more serious example of the drug problem in the community: "There was a meth lab explosion at one of the nearby houses in the neighborhood, and so obviously the police and fire department got involved, and that was the first time I've ever actually seen … where they actually had to cover the body … on the stretcher … somebody who was, like, making meth in the house. And I think it finally blew up their face." Another offered, "There's more meth labs in Broken Arrow than in North Tulsa." Many agreed with the sentiment.

Another pointed to drugs as the source of increased criminal activity in the community. Five out of 10 participants in one focus group reported being a victim of crime in their community. The participant stated, "[Drugs] leads some of [them] to do some of the weirdest things for crime. Tailgates now … I heard that last night, that people are stealing tailgates. I thought that was really strange. Car lots are dealing with it, residents are dealing with it." However, stealing tailgates was only part of the criminal activity discussed.

Several participants provided examples of car theft, vandalism and home invasions. One participant said, "Oh, about once a year I'll leave my [truck] door unlocked, and someone will go in my truck and empty out my glovebox for me. [I] leave the door unlocked so … the windows don't get broken." Another stated, "[I've had] two different cars [vandalized]. One car was broken into three different times, and then it was actually stolen. … They [drove] it up to Claremore and then burnt it to the ground. Then, the other car was broken into once. All at the same apartment complex that I was living in." Other examples of theft included porch pirates. One participant explained, "We've had incidences of people digging through mailboxes trying to get medicine and information out of them. … We also have people driving through our neighborhoods, sometimes looking for open garage doors that they can take equipment and stuff out of it." Another explained, "My grandma actually lost one of her checks because somebody … took [the] check out of her mailbox."

A couple of participants voiced concerns about child abduction and child trafficking. One stated, "I heard a lot of vans coming around when the little girls are walking home from school and into the neighborhoods. I heard a lot about that." Another added, "Yeah, I heard that, too — in the morning on the way to school. That's scary! Or even after school." In response, one respondent stated, "I just don't let the kids go out without having somebody with them all the time."

Others acknowledged criminal activity in their community but were not concerned about it because, as one participant stated, "[My family] is not really that concerned because we all have concealed/carry licenses." Several other participants shared this participant's sentiment.

Finally, a number of participants complained of vagrants begging for money at gas stations and the mall. As one participant stated, "They flag you down and ask you if you have any money, you know, 'cause they ran out of gas or something like that, and you give 'em a couple of dollars or say you don't have any." The participant went on to say he or she was concerned the vagrants were going to hijack the car. Participants also noted a growing number of homeless people on the border to Broken Arrow.

Some participants also complained about the construction and growing traffic in the community, while another was worried about the "overall health of people" in the community, stating, "I think that [poor diet and lack of exercise] affect the community more than crime, really, 'cause more people die."

Participants stated these problems affect their health in a number of ways. The most common effect was increased stress and fear of victimization, causing individuals to be less likely to engage in activities outdoors and restrict their child(ren)'s engagement in outdoor activities. One participant stated, "I don't want my kids to go anywhere by themselves, even [though they are] 16 and 12."

Barriers to healthier lifestyles

Participants complained that the walkability of the streets in downtown Broken Arrow was poor. One participant explained, “There’s no sidewalks … so you are walking in the road.” Others stated the lighting in the community was poor and a hazard to one’s personal safety while exercising in the dark. One participant stated, “Well, when I jog, it’s usually early morning or sometimes late evening, but it seems like every once in a while cars don’t see you. And even though I carry a flashlight when I’m running, and sometimes people [get too close to me]…”

Other barriers included a lack of personal motivation, lack of finances, lack of support and lack of time. One stated, “It’s a lot easier to feed a bunch of kids with fast food or maybe a lot of high-carb diets than it is to maybe do lean and fresh vegetables.” Another added, “All the fast food, it’s just so convenient and tempting. And it’s all bad for you.”

One participant summed up the most commonly voiced barriers in this manner: “I personally hate grocery shopping, if it takes up a lot of time and you have to get the bags and you have to put them up in the kitchen and you have to worry about the plastic bags. You know, it’s just a lot of work for a lot of people. And so, what they just usually prefer to do is just pick up something quick on the way home, and then we [say] … I’ll just go to the gym tomorrow. You know, it’s no big deal for a couple days. Then it becomes a habit because they get so tired from … [our] very busy culture. Nobody seems to have time for … self-improvement, which would be like going to the gym or like going grocery shopping for healthier foods or like taking the time to cook something at home.”

In terms of finances, one participant stated, “We [can’t] afford to go to the doctor because of the high deductibles. I’m 64 now, and I haven’t had [a physical] in 14 years.” Another stated, “[The] insurance premium for me and my wife is $12,000 a year out of my pocket, so I'll play $1,000 a month.”

Others complained of “hidden charges” with healthcare services. One participant was told by a physician that a medical procedure was necessary by the physician. The participant inquired as to the cost and was only told what the physician would charge for the procedure. The participant was unable to learn how much the hospital services would cost and therefore unable to budget or plan for the procedure.

Suggested services

One participant suggested changing the culture around our approach to healthy food. The participant suggested adding “little commercials on the radio that are really friendly … [about] kids eating vegetables [and] making it look cool.” The participant noted that as more individuals were seen adopting healthy lifestyles in the community, others would want to join them.

Others suggested the need for education and tips on how to hide vegetables in different recipes. As one participant stated, “I think a big problem for me is I don’t know what [works]. … You can go on the internet, and [it] say[s] this diet is fashionable now. The keto diet, let’s try that, let’s try this one. This one didn’t work, and I didn’t like it so I’m gonna try this one. Help educate us on what we should eat or how much exercise.” Neighborhood farms and greenhouses were also suggested as a way to increase the availability of affordable, healthy produce to individuals in the community.

Others offered ideas to increase exercise in the community. Bike rental stations, the construction of sidewalks and the addition of bike lanes were offered. Also suggested were a community center and physician-supervised gym serving all ages, particularly the elderly. As one participant stated, “There’s a lot of elderly out there that … need somewhere to get some exercise, but they’re limited. They can only do so many things, and they need someone to look and make sure they don’t break their leg.” More free places for adults to walk indoors that are not located in churches was specifically requested by several participants.

Several participants suggested better street lighting. As one participant stated, “LED streetlights … they’re very inexpensive. … It’s unsafe at night for one driving, especially as our eyes get older. And the second part of it is you can’t go walking at night because it’s too dark to go walking. Just swap them out; put the LEDs and then you save

electricity, and it's making things lighter for people and then groups of people want to go walk at night. At least you don't have to take flares with you."

Suggestions for kid-friendly physical activities were offered as well. Participants suggested an indoor skateboard park, Sky Zone, ropes courses and rock climbing walls.

Several participants indicated a need for greater access to their primary care physician. One participant explained, "Well, like, my primary [care doctor] I can never get into. And so I have to take an alternative person [or] … you have to go to an urgent care [center]."

Others voiced a need for more mental health services to address drug addictions. As one participant explained, "When my son was younger … he started self-medicating. … I had nowhere to take him, or I'd take him somewhere, and it was just a big hassle to find a place, and then when you get there you're not really comfortable with the results because they're just sitting there listening. Well, you know, anyone can listen." Another participant — a grandparent raising grandchildren — echoed these sentiments and expressed frustration at finding effective mental health services for the children in his/her custody.

Finally, participants voiced a desire for more resources for low-income and budget-minded individuals. As one participant noted, "When it comes to the Broken Arrow area … so many people look at it as a well-endowed area." Participants noted this hurt them when it came to attracting nonprofit organizations and services to their community.

Vulnerable populations: individuals experiencing homelessness

One focus group was held with 13 individuals experiencing homelessness. Following is a summary of findings from that session.

Community problems

One of the major problems identified by these residents of the Tulsa Day Center for the Homeless related to how they were treated or perceived to be treated by members of healthcare and social service agencies, and how that affected their ability to move forward. The responses were quite divided. On the one hand, some participants indicated many providers were kind and respectful. On the other hand, some participants suggested that providers looked down on them and were not willing to help them.

Discussing the chances of finding a job or new place to live, another participant stated, "And they say, 'Where are you living now?' And I'm like, 'The shelter.' And you automatically hear the voice and tone change, and it's just — I feel like I'm looked down on. I've been dealing with this specifically lately."

Other focus group members pointed out their concerns with law enforcement and how they were viewed in the community. They felt that law enforcement look down on them and assume they are criminals, drug addicts or mentally unstable. One described the situation, saying, "Our law enforcement, especially right here with us people, we would be labeled as low-downs." Several people also indicated they were concerned about the racial attitudes of the police and how they treated African Americans and singled them out. One participant said, "If you're an interracial couple, it's a lot of slow-trolling and waiting until you walk out of a parking lot somewhere or making sure he's not hurting me [referring to an African American participant] and just judgmental when you see them and they're stopping you and things like that."

Barriers to healthier lifestyles

One of the greatest barriers to a healthy lifestyle was dependence upon the generosity of others. As one participant stated, "I was kind of a health nut. … I'm grateful for what I get, [but] I would feel healthier and stronger if there were a lot more fresh fruits and vegetables offered to us here."

Other participants reported feelings of helplessness, depression and anxiety with their current homeless state. Those

feelings seem to increase over time.

One said, “I came here. I’ve never been homeless. I’ve always been independent, able to take care of myself. [I] just got myself in a bad situation. It plummeted and led me here. I mean, the first three and a half to four months I was here every day actively seeking employment. A couple of disappointments, where I actually had the job and the job just didn’t pan out, and that did throw me into a depression. But from that point on I just shut down. I stopped showering in the morning, stopped brushing my teeth, and I’m not a person that does that. I’ve never been that way ever.”

The respondents indicated they did not feel they had quick access to mental health facilities. They also indicated that when they were given access to mental health treatment, they were often prescribed medications that were too strong, in their opinion, and they did not want to take them.

One participant explained, “I tried some new medication. It made me sick. I can’t take those types of meds. It’s something about it that makes me physically sick. My thinking with depression is that I’m the kind of person who gets sad or mad or depressed, then I get over it. I don’t stay there, but this thing, I was told, is called ‘homeless depression.’”

Another explained, “I have severe depression, high anxiety, OK? … They put me on a lot of medication. I mean, I walked around — I was a zombie, and I was a person I didn’t know no more. I took myself off everything.”

Suggested services

The members of this focus group were clear that they felt there were a couple of areas where services could be approved. Several respondents thought there was money available but not supporting lower-income people.

“To me, [the local government has] improved and developed a lot of things. As they were doing that, it seems like a certain group is pushed away and treated in a way that’s disrespectful to me. ‘Cause everybody is human no matter where they came from and who they are. But, when the system did that, they said we built the BOK [Center] for concerts, we got the Gathering Place for well-to-do people, but for the low-income people? Get them out of here.”

Group members would like to see more affordable housing options in the community and swifter turnaround to help them obtain stable housing. Group members also want more services for elderly adults without a place to live. One person said, “The elderly in this place need to be removed from here and put into a facility for elderly people. It’s awful.” Participants said there are elderly in the shelter who are in wheelchairs and incontinent with no one taking care of their needs. Someone said, “The Day Center has just recently adopted that policy: If you can’t support yourself, you can’t stay here. So, all the elderly here, even in the wheelchairs now, they are self-supportive. If they weren’t, they can’t stay.” Another said, “What I have seen is you go up to a hospital, and they keep you there until they find you a facility. I don’t care if it takes six months.” Group members wanted the elderly to be better taken care of at more appropriate facilities.

Vulnerable populations: individuals from the LGBTQ+ community

One focus group was held with 13 individuals from the LGBTQ+ community. Following is a summary of findings from that session.

Community problems and barriers to healthy lifestyles

Several themes emerged in the course of this community session, including LGBTQ+ patients having to teach physicians about their healthcare needs, prevalent discriminatory practices, fear of discrimination, assumption of high-risk status, an unavailability of healthcare and mental healthcare providers willing to care for them, religious trauma and unwelcoming healthcare environments.

To begin, several instances were provided of LGBTQ+ patients having to teach their physicians about their unique healthcare needs. This was especially problematic for transgender patients, gay men seeking PrEP or PEP (pre-exposure prophylaxis) treatments, and lesbians. One participant explained, "Right now I have a current doctor who … I'm teaching them. I'm his first patient for PrEP. And so, I've had to teach several doctors about PrEP." Another stated, "I have never had a gynecologist who understood the health needs of a lesbian — ever. It's really frustrating because the internet seems to think that lesbians can't get STDs, which isn't true." Others gave examples of providing physicians with fliers or information from the internet about their health needs. A parent of a transgender child spoke of educating the pediatrician. The parent stated, "We have a 7-year-old who is trans[gender], and I had to do a lot of educating with the pediatrician. She was open to it but had no clue. She thought, Oh my gosh, have you done surgery? or Is this 7-year-old on hormones? What are you doing to this child?" Once I calmed [the pediatrician's] panic, they [said], 'OK, well, we'll just see how this goes then.'"

Several instances of discriminatory care practices were provided. Several individuals were told a specific procedure was necessary, then no longer necessary when their LGBTQ+ status was revealed. One participant shared, "I had a medical condition. [The doctor] sent me to a hospital to do some tests. [As the] doctor is getting ready to conduct the tests … [he] specifically says, 'What do you do?' And I told him [that I work with the LGBTQ+ community] … and he stopped in the middle of [preparing to do the procedure] and said, 'What is your status?' I thought he meant insured or uninsured. [He asked], 'What, are you HIV positive?' And I said, 'No.' And he said, 'I think I want us to get an HIV test before I proceed.' And he forced me to have an HIV test. … I get tested every three months; I know my status. And I was furious, because they hijacked my afternoon and sent me [for an HIV test and] … didn't bother to come back and report to me, 'Oh, yeah, it's negative.'" Not only was the participant denied a medical procedure that was medically necessary until the participant's LGBTQ+ status was revealed, but he was required to take an unnecessary medial test, thereby incurring additional charges for his/herself and his/her health insurance provider.

Transgender individuals indicated several area hospitals refused to allow gender affirmation surgeries at their facilities. Same-sex, non-birth parents reported being denied access to healthcare and healthcare information for their child despite being listed as a parent on the birth certificate. Several participants also reported presenting for a cold, pain or something unrelated to their LGBTQ+ status only to find healthcare practitioners fixated on their sexual identity or orientation. One participant recalled, "We had a couple years ago a teen who was suicidal be admitted to a local hospital, and the local hospital staff was so obsessed with trying to figure out, they were so involved with the fact that the patient was transgender that they completely ignored the fact that this kid is suicidal."

Because of the prevalence of such discriminatory behaviors, several participants reported hiding their sexual orientation or identity from healthcare providers or postponing care until situations became emergent. One lesbian participant stated, "I hid that I was gay the entire time I was pregnant and [referred to] my spouse … as a friend, because we didn't want to get discriminated against."

Several participants brought to light that many healthcare providers presume members of the LGBTQ+ community to be engaged in high-risk/at-risk behaviors. One transgender individual stated, "I had doctors assume that because I am a transgender woman, I must be extremely slutty and promiscuous; therefore I need all sorts of unnecessary laboratory tests."

A polyamorous individual noted that many healthcare professionals presume s/he is involved in abusive relationships and engaged in high-risk sexual behaviors without obtaining a sufficient biopsychosocial history on him/her. The individual went on to say healthcare providers tend to try to convert him/her to monogamy without showing any acceptance of his/her orientation.

Many participants also noted great difficulty in finding healthcare providers willing to care for them. Participants noted that when an LGBTQ+ friendly provider is found, the community inundates the provider.

Several participants spoke of experiencing religious trauma in their lives that resurfaced in interactions with healthcare providers who attempted to pray with them. As one participant explained, "For us, that is a trigger

because we don't know if your faith is inclusive. … I am a person of faith, but as an [LGBTQ+ individual] that's a trigger for me because I'm making the assumption that you think I'm in danger of God's punishment — so I've got to pray that God will have mercy on you while we treat you. It's been a very awkward feeling to have it happen, and I've had it happen recently as I was ready for a medical procedure. And the physician said, 'I'd like for us to have prayer' … and I felt like that was super awkward." Another stated, "I'm just here for my health. I don't need prayer. I've had that experience, and I'm not an atheist, but I know many of our community is, so separate health from faith." Nine out of 13 participants expressed similar experiences.

A numbers of comments were made regarding the unwelcoming nature of health and mental health environments. From the pictures featured on brochures and handouts to the attitudes of clerical staff to the forms patients are asked to complete, participants provided examples of ways in which they felt excluded. One participant stated, "Waiting rooms generally don't look like the world that I live in; generally they look like a cis-hetero-normative world that's not at all like mine."

Participants explained that paperwork they are asked to complete does not take into consideration their sexual identity or orientation. For trans individuals in particular, healthcare forms do not ask for their preferred name or preferred pronouns. The parent of a transgender child explained, "I fought with my pediatrician's office for six months to change [my child's name], to somewhere document and to not call my daughter a boy and to call her by her preferred name. And finally, I got someone who would document that somehow. And then nobody ever reads it and we get called … and my daughter's still playing. She has no clue what's going on [because] she doesn't even answer to that name anymore. Nobody pays attention."

Because of the unaffordability of healthcare services, several participants gave examples of ordering hormone replacement therapy, PrEP or PEP, or other medications online or in person through questionable sources.

The use of culturally insensitive terminology by healthcare professionals was also noted. In particular, participants took offense to use of the word "homosexual," to being labeled at-risk or high-risk, and to referencing "gender reassignment" rather than "gender affirmation." As one participant noted, "I will say that the terminology is ever evolving. It seems like anymore, everybody wants their own specific label. And, so, you never know with clients. I always ask them, 'Well, what does that mean to you? What does that look like for you?' Because it's important to understand their personal experience." Participants welcomed such inquiry from healthcare providers when appropriate. However, they noted that professionals must be cautious to make sure questions are asked in an effort to get to know the client's biopsychosocial history, rather than putting the individual in a position where they are being examined as a novelty.

Suggested services

Participants offered several suggestions on how healthcare and mental healthcare services can better meet their needs. To begin, participants strongly advocated for greater education for providers, starting in medical school. As one participant stated, "What I want to say is, not just LGBT 101 but 201, 301, 401." The participant was advocating for more than a basic understanding of the LGBTQ+ community and asking for more advanced courses to be taught to students as well as practicing healthcare and mental healthcare providers.

In terms of services, participants voiced a need for:

- Low-cost hormone replacement therapy
- LGBTQ+ friendly smoking cessation programs
- LGBTQ+ friendly AA and NA programs for both adults and youth
- Colorectal cancer screenings
- Spanish healthcare and mental healthcare resources for LGBTQ+ individuals
- Trauma-informed services

- A transgender health clinic
- Primary care physicians who openly welcome LGBTQ+ individuals
- More welcoming healthcare and mental healthcare environments that are secure and affirmative of all identities
- A gay men's health clinic housed at the Equality Center featuring primary care physicians and physician assistance that can provide care on a sliding-scale basis

While the two special focus groups focused on vulnerable populations were physically conducted within Tulsa County, the authors of this report feel it is important to note that the resulting qualitative data is representive of these populations in Creek, Washington and Nowata counties as well.

Online Survey

This section of the assessment provides a review of the quantitative data derived from one of this assessment's primary data (community input) research methods, the 2019 online survey. The actual survey can be found in Appendix 5.

Methodology

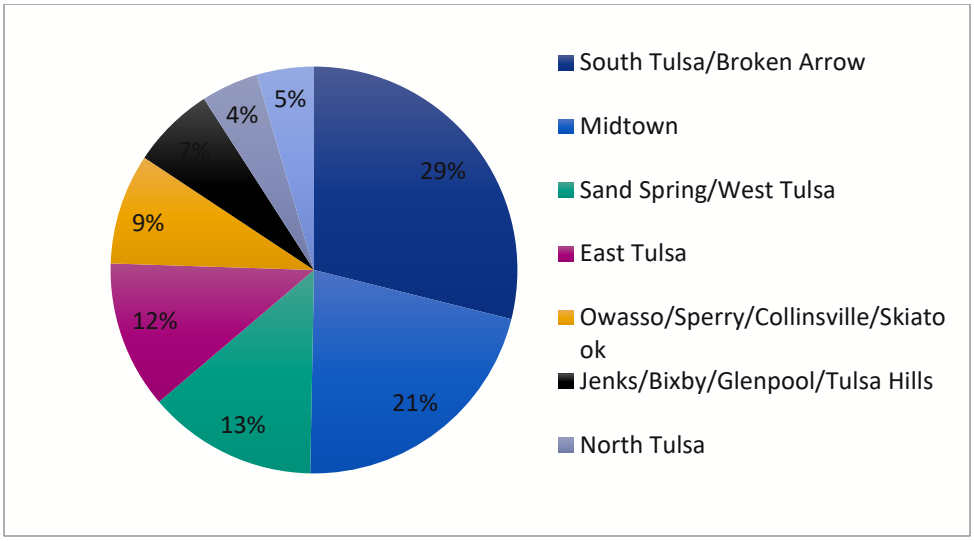
Sample approach and design

This survey relied on a convenience sample of individuals primarily recruited through Facebook and other social media outlets. Announcements regarding the availability of the survey and invitations to participate were posted by St. John, the OU Anne and Henry Zarrow School of Social Work and the Tulsa Health Department. Other community partners helped spread the word about the survey as well. In addition, the Tulsa Health Department shared a link to the survey through the Nextdoor application, and St. John ordered email campaigns with Tea Leaves Health, targeting low-income households in a percentage of the query (no criteria other than geography for the remaining percentage) in an attempt to balance out the demographics.

Community defined

While the survey was open for completion by any adult, only responses from ZIP codes within the St. John service area (Tulsa, Creek, Washington and Nowata counties) were included in the analysis. This report summarizes the Tulsa County survey results. Other counties' results are summarized in their respective hospital CHNA. Tulsa County responses were further broken down by region. Regions were defined by parameters set by the Tulsa Health Department and included downtown Tulsa; east Tulsa; Jenks, Bixby and Glenpool; midtown Tulsa; north Tulsa; Owasso, Sperry, Collinsville and Skiatook; Sand Springs and west Tulsa; and south Tulsa and Broken Arrow. See Figure 14 for the count of participants from each region: downtown Tulsa (n = 31, 4%); east Tulsa (n = 80, 12%); Jenks, Bixby and Glenpool (n = 45, 7%); midtown Tulsa (n = 146, 21%); north Tulsa (n = 31, 4%); Owasso, Sperry, Collinsville and Skiatook (n = 60, 9%); Sand Springs and west Tulsa (n = 92, 14%); and south Tulsa and Broken Arrow (n = 197, 29%).

Figure 14: response rate by Tulsa County region



Measurement instruments

The electronic survey was designed with input from a number of community partners, and many items from the previous survey were adapted for use in this survey. In addition, several standardized measurement instruments were used, including the Short Stress Overload Scale; Sampson, Raudenbush & Earls Neighborhood Social Cohesion Scale; Mujahid, Diez Roux, Morenoff & Raghunathan Neighborhood Safety Scale; Patient Health Questionnaire – 4; Patient-Reported Outcomes Measurement Information System Social Isolation Short Form; and Three Item Loneliness Scale. In addition, numerous questions were added to assess whether individuals had received recommended screenings and vaccinations with input from a variety of healthcare experts.

Limitations

Based on sample characteristics reported in the results, caution is recommended in the generalization of findings beyond those sampled. It is unlikely that individuals without access to Facebook were aware of the survey. Males, individuals in poverty, the uninsured and children were not considered in this research. Members of the LGBTQ+ community were underrepresented in the responses received for this survey as well. Caution is especially recommended in the generalization of inferential statistics considering subpopulations within the service region. While the overall response rate to the survey from Tulsa County was robust, the response rate for many regions was not sufficient to generate powerful results.

Sample characteristics

In Tulsa County, a total of 682 individuals completed the survey. The response rate by region of Tulsa County is broken down as follows: 31 in downtown Tulsa; 80 in east Tulsa; 45 in Jenks, Bixby and Glenpool; 146 in midtown Tulsa; 31 in north Tulsa; 60 in Owasso, Sperry, Collinsville and Skiatook; 92 in Sand Springs and west Tulsa; and 197 in south Tulsa and Broken Arrow.

Sex: Tulsa County

Over three quarters of respondents were female (n = 522, 77%), 156 were male (23%) and 4 individuals (<1%) did not provide information regarding the sex that was assigned to them at birth. Only four individuals identified as transgender or gender questioning. Given the minimal response rate from the transgender community, no statements regarding transgender individuals will be made based on quantitative data collected through the electronic survey.

Sex: downtown Tulsa

Almost 68% of the sample was female (n = 21), while 10 (32%) respondents were male.

Sex: east Tulsa

Almost 74% of the sample was female (n = 59), while 19 (23.8%) respondents were male and 2 (2.5%) did not identify a sex that was assigned to them at birth.

Sex: Jenks, Bixby and Glenpool

Almost 80% of the sample was female (n = 36), while 9 (20%) respondents were male.

Sex: midtown Tulsa

Almost 71% of the sample was female (n = 104), while 40 (27%) respondents were male and 2 (1%) did not identify a sex that was assigned to them at birth.

Sex: north Tulsa

Almost 87% of the sample was female (n = 27), while 4 (13%) respondents were male.

Sex: Owasso, Sperry, Collinsville and Skiatook

Almost 78% of the sample was female (n = 47), while 13 (22%) respondents were male.

Sex: Sand Springs and west Tulsa

Almost 82% of the sample was female (n = 75), while 17 (18%) respondents were male.

Sex: south Tulsa and Broken Arrow

Almost 78% of the sample was female (n = 153), while 44 (22%) respondents were male.

Marital status: Tulsa County

The majority of respondents were married (n = 409, 61%). About 14% of the sample was divorced or separated (n = 97). Eleven percent were never married (n = 77) and 6% (n = 43) were widowed. An additional 6% (n = 41) identified as a member of an unmarried couple and just over 2% (n = 15) did not provide information regarding their marital status. For analysis purposes, a bivariate variable was created called “married.” Individuals that were married or a member of an unmarried couple were categorized as married and the remaining were labeled as not married.

Roughly 7% of the sample identified as a member of the LGBTQ+ community (n = 51), while the majority identified as a heterosexual (n = 623, 92%) and 8 respondents (n = 1%) did not provide information regarding their sexual orientation.

Marital status: downtown Tulsa

The majority of respondents were married (n = 12, 39%), while 8 (26%) stated they had never been married. Almost 10% (n = 3) indicated they were widowed and only 9 (19%) indicated they were divorced or separated. Two respondents (7%) identified as a member of an unmarried.

Marital status: east Tulsa

A majority of respondents were married (n = 48, 60%), while 7 (8.8%) stated they had never been married. Just over 6% (n = 5) indicated they were widowed and 12 (15%) indicated they were divorced or separated. Six respondents (7.5%) identified as a member of an unmarried couple and 2.5% (n = 2) did not report their marital status.

Marital status: Jenks, Bixby and Glenpool

The majority of respondents were married (n = 35, 78%), while 1 (2%) stated they had never been married. None indicated they were widowed and only 7 (16%) indicated they were divorced or separated. One respondent (2%) identified as a member of an unmarried couple.

Marital status: midtown Tulsa

Half of respondents were married (n = 73, 50%), while 11 (8%) stated they had never been married. Almost 4% (n = 6) indicated they were widowed and 24 (16%) indicated they were divorced or separated. Eleven respondents (8%) identified as a member of an unmarried couple and 3% (n = 5) did not report their marital status.

Marital status: north Tulsa

Twenty-three percent of respondents were married (n = 7), while 8 (26%) stated they had never been married. Almost 23% (n = 7) indicated they were widowed and 4 (13%) indicated they were divorced or separated. Four respondents (13%) identified as a member of an unmarried couple and 3% (n = 1) did not report their marital status.

Marital status: Owasso, Sperry, Collinsville and Skiatook

The majority of respondents were married (n = 38, 63%), while 5 (8%) stated they had never been married. Almost 7% (n = 4) indicated they were widowed and only 10 (17%) indicated they were divorced or separated. Three respondents (5%) identified as a member of an unmarried.

Marital status: Sand Springs and west Tulsa

The majority of respondents were married (n = 54, 59%), while 7 (8%) stated they had never been married. About 5% (n = 5) indicated they were widowed and 16 (17%) indicated they were divorced or separated. Six respondents (7%) identified as a member of an unmarried couple and 4% (n = 4) did not report their marital status.

Marital status: south Tulsa and Broken Arrow

The majority of respondents were married (n = 142, 72%), while 13 (7%) stated they had never been married. Almost 7% (n = 13) indicated they were widowed and only 18 (9%) indicated they were divorced or separated. Eight respondents (4%) identified as a member of an unmarried couple and 2% (n = 3) did not report their marital status. For inferential statistics marital status was recoded into a bivariate variable with 1 indicating married or a member of an unmarried couple and 0 indicating not married (the remaining categories).

Age: Tulsa County

Respondent ages ranged from 18-90 years. The average age of respondents was 53 with a standard deviation of 15.81 years suggesting most respondents were between the ages of 37 and 69. About 25% of the sample was aged 65 or older (n = 191). Six respondents (1%) did not provide their age.

Age: downtown Tulsa

Respondents ranged in age from 19-76 years. The average age of respondents was 48.97 with a standard deviation of 17.5 meaning the majority of the sample was between the ages of 31 and 66.

Age: east Tulsa

Respondents ranged in age from 23-83 years. The average age of respondents was 53.15 with a standard deviation of 17.03 meaning the majority of the sample was between the ages of 36 and 70. One (1%) did not provide their age.

Age: Jenks, Bixby and Glenpool

Respondents ranged in age from 26-85 years. The average age of respondents was 53.64 with a standard deviation of 14 meaning the majority of the sample was between the ages of 39 and 67.

Age: midtown Tulsa

Respondents ranged in age from 23-90 years. The average age of respondents was 53.91 with a standard deviation of 16.43 meaning the majority of the sample was between the ages of 37 and 70. One (<1%) did not provide their age.

Age: north Tulsa

Respondents ranged in age from 22-76 years. The average age of respondents was 48.94 with a standard deviation of 15.38 meaning the majority of the sample was between the ages of 34 and 64.

Age: Owasso, Sperry, Collinsville and Skiatook

Respondents ranged in age from 18-74 years. The average age of respondents was 51.41 with a standard deviation of 16.47 meaning the majority of the sample was between the ages of 35 and 67. One (2%) did not provide their age.

Age: Sand Springs and west Tulsa

Respondents ranged in age from 24-74 years. The average age of respondents was 51.51 with a standard deviation of 14.85 meaning the majority of the sample was between the ages of 36 and 66. One (1%) did not provide his/her age.

Age: south Tulsa and Broken Arrow

Respondents ranged in age from 23-86 years. The average age of respondents was 54.66 with a standard deviation of 15.19 meaning the majority of the sample was between the ages of 40 and 69.

Household size: Tulsa County

Almost half the sample reported living with one other person (n = 311, 46%). Nineteen percent (n = 132) reported living alone. Fourteen percent (n = 97) reported living with two other people and 12% (n = 79) reported living with three other people. Eight percent (n = 56) reported living with four or more other people. One percent (n = 7) did not report household size.

Household size: downtown Tulsa

Twenty-nine percent of the sample reported living with one other person (n = 9, 29%), 7% (n = 2) with two other people, 10% (n = 3) with three other people, 3% (n = 1) with four or more people and 52% (n = 16) reported living alone.

Household size: east Tulsa

Over one third of the sample reported living with one other person (n = 31, 38.8%), 10% (n = 8) with two other people, 15% (n = 12) with three other people, 8.7% (n = 6) with four or more people and 26.3% (n = 21) reported living alone. Two (2.6%) individuals did not provide information regarding household size.

Household size: Jenks, Bixby and Glenpool

Almost half of the sample reported living with one other person (n = 2, 49%), 11% (n = 5) with two other people, 16% (n = 7) with three other people, 18% (n = 8) with four or more people and 7% (n = 3) reported living alone.

Household size: midtown Tulsa

Half of the sample reported living with one other person (n = 73, 50%), 13% (n = 19) with two other people, 8% (n = 11) with three other people, 3% (n = 4) with four or more people and 26% (n = 38) reported living alone. One (1%) individuals did not provide information regarding household size.

Household size: north Tulsa

Forty-two percent of the sample reported living with one other person (n = 13), 13% (n = 4) with two other people, 7% (n = 2) with three other people, 13% (n = 4) with four or more people and 19% (n = 6) reported living alone. Two (7%) individuals did not provide information regarding household size.

Household size: Owasso, Sperry, Collinsville and Skiatook

Forty-two percent of the sample reported living with one other person (n = 25), 18% (n = 11) with two other people, 17% (n = 10) with three other people, 25% (n = 5) with four or more people and 15% (n = 9) reported living alone.

Household size: Sand Springs and west Tulsa

Forty percent of the sample reported living with one other person (n = 37), 17% (n = 16) with two other people, 9% (n = 8) with three other people, 12% (n = 11) with four or more people and 20% (n = 18) reported living alone. Two (2%) individuals did not provide information regarding household size.

Household size: south Tulsa and Broken Arrow

Half of the sample reported living with one other person (n = 101, 51%), 16% (n = 32) with two other people, 13% (n = 26) with three other people, 5% (n = 9) with four or more people and 11% (n = 21) reported living alone.

Households with children: Tulsa County

Sixty nine percent of the sample (n = 472) reported that no individuals under the age of 18 lived in their household. Eleven percent (n = 72) reported one child in the household, 9% (n = 63) had two children in the household, 4% (n = 26) had three children in the household and 3% (n = 18) had four or more children in the household. Five percent (n = 31) did not respond to the question regarding the presence of children in their household.

Households with children: downtown Tulsa

Over half the sample reported no children under the age of 18 were in their household (n = 23, 74%). About 13% (n = 4) had one child in their household, 7% (n = 2) had two children in their household, 3% (n = 1) had three or more children in their house. One (3%) respondents did not provide information regarding the number of children in their household.

Households with children: east Tulsa

Over half the sample reported no children under the age of 18 were in their household (n = 55, 69%). Only three (4%) had one child in their household, 10% (n = 8) had two children in their household, 9% (n = 7) had three or more children in their house. Seven (8.8%) respondents did not provide information regarding the number of children in their household.

Households with children: Jenks, Bixby and Glenpool

Over half the sample reported no children under the age of 18 were in their household (n = 29, 64%). About 7% (n = 3) had one child in their household, 13% (n = 6) had two children in their household, 7% (n = 3) had three children in their household, 4 (9%) respondents had four or more children in their household.

Households with children: midtown Tulsa

Three fourths of the sample reported no children under the age of 18 were in their household (n = 110, 75%). About 12% (n = 17) had one child in their household, 8% (n = 6) had two children in their household, 3% (n = 4) had three or more children in their house. Seven (5%) respondents did not provide information regarding the number of children in their household.

Households with children: north Tulsa

Over half the sample reported no children under the age of 18 were in their household (n = 19, 61%). About 16% (n = 5) had one child in their household, 7% (n = 2) had two children in their household, 10% (n = 3) had three or more children in their house. Two (7%) respondents did not provide information regarding the number of children in their household.

Households with children: Owasso, Sperry, Collinsville and Skiatook

Over half the sample reported no children under the age of 18 were in their household (n = 41, 68%). About 12% (n = 7) had one child in their household, 15% (n = 9) had two children in their household, 3% (n = 2) had three or more children in their house. One (2%) respondent did not provide information regarding the number of children in their household.

Households with children: Sand Springs and west Tulsa

Over half the sample reported no children under the age of 18 were in their household (n = 61, 66%). About 12% (n = 11) had one child in their household, 7% (n = 6) had two children in their household, 9% (n = 8) had three or more children in their house. Six (7%) respondents did not provide information regarding the number of children in their household.

Households with children: south Tulsa and Broken Arrow

Over half the sample reported no children under the age of 18 were in their household (n = 134, 68%). About 11% (n = 22) had one child in their household, 11% (n = 11) had two children in their household, 6% (n = 12) had three or more children in their house. Seven (4%) respondents did not provide information regarding the number of children in their household.

Households with older adults: Tulsa County

Sixty three percent of the sample (n = 430) reported there were no individuals aged 65 or over in their household. Twenty-two percent (n = 148) reported having one individual over the age of 65 in the household, 13% (n = 85) reported having two in the household and less than 1% (n = 3) reported having three or more in the household. Sixteen respondents (2%) did not report the number of older adults in their household.

Households with older adults: downtown Tulsa

Over half the sample reported no individuals aged 65 or over in their household (n = 18, 58%), 29% (n = 9) reported one older adult in their household, 7% (n = 2) reported two older adults in their household, none reported 3 older adults in their household and 7% (n = 2) did not report the number of older adults in their household.

Households with older adults: east Tulsa

Over half the sample reported no individuals aged 65 or over in their household (n = 47, 59%), 26.3% reported one older adult in their household (n=21), 11%(n=9) reported two older adults in their household. No one reported more than 2 older adults, and 4% (n = 3) did not report the number of older adults in their household.

Households with older adults: Jenks, Bixby and Glenpool

Over half the sample reported no individuals aged 65 or over in their household (n = 30, 67%), 18% (n = 8) reported one older adult in their household, 13% (n = 6) reported two older adults in their household, and 2% (n = 1) reported 3 older adults in their household

Households with older adults: midtown Tulsa

Over half the sample reported no individuals aged 65 or over in their household (n = 91, 62%), 23% (n = 34) reported one older adult in their household, 12% (n = 18) reported two older adults in their household , none reported 3 older adults in their household and 2% (n = 3) did not report the number of older adults in their household.

Households with older adults: north Tulsa

Over half the sample reported no individuals aged 65 or over in their household (n = 20, 65%), 23% (n = 7) reported one older adult in their household, 7% (n = 2) reported two older adults in their household and 7% (n = 2) did not report the number of older adults in their household.

Households with older adults: Owasso, Sperry, Collinsville and Skiatook

Over half the sample reported no individuals aged 65 or over in their household (n = 42, 70%), 15% (n = 9) reported one older adult in their household, 10% (n = 6) reported two older adults in their household, 2% (n = 1) reported 3 older adults in their household and 3% (n = 2) did not report the number of older adults in their household.

Households with older adults: Sand Springs and west Tulsa

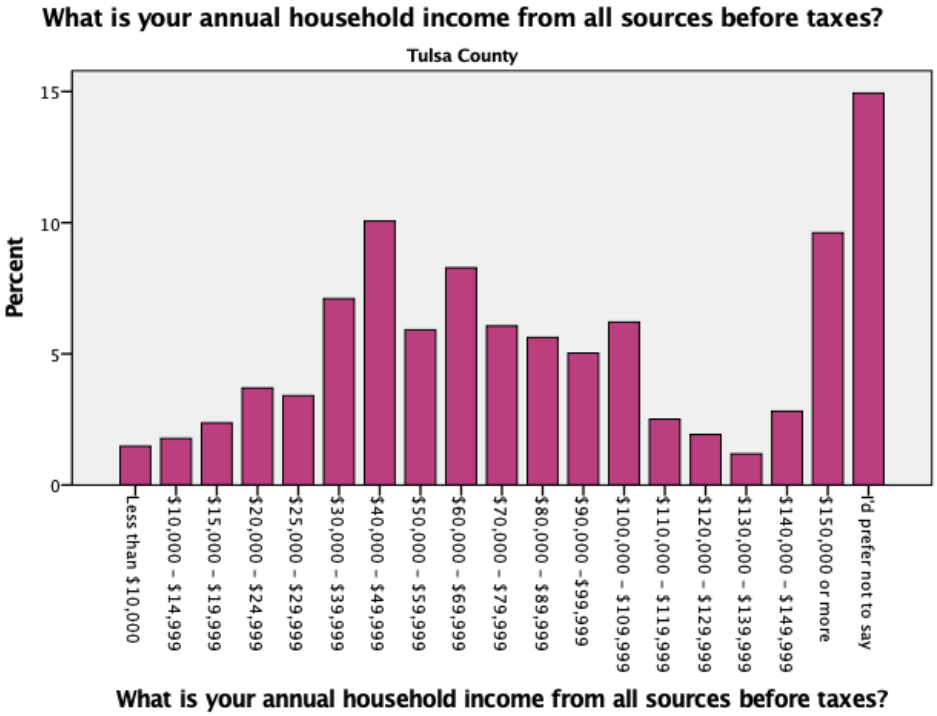
Over half the sample reported no individuals aged 65 or over in their household (n = 64, 70%), 20% (n = 18) reported one older adult in their household, 8% (n = 7) reported two older adults in their household and 3% (n = 3) did not report the number of older adults in their household.

Households with older adults: south Tulsa and Broken Arrow

Over half the sample reported no individuals aged 65 or over in their household (n = 118, 60%), 21% reported one older adult in their household, 18% (n = 35) reported two older adults in their household, 1% (n = 1) reported 3 older adults in their household and 1% (n = 1) did not report the number of older adults in their household.

Household income: Tulsa County

Almost one third of respondents reported an annual household income ranging from $30,000-$69,999 (31%). About 13% (n = 86) reported household incomes of less than $30,000, 17% reported ranging from $70,000-$99,999, 15% reported incomes ranging from $100,000-$149,000 and 10% reported incomes of $150,000 or greater. Almost 165 of the sample did not report income.

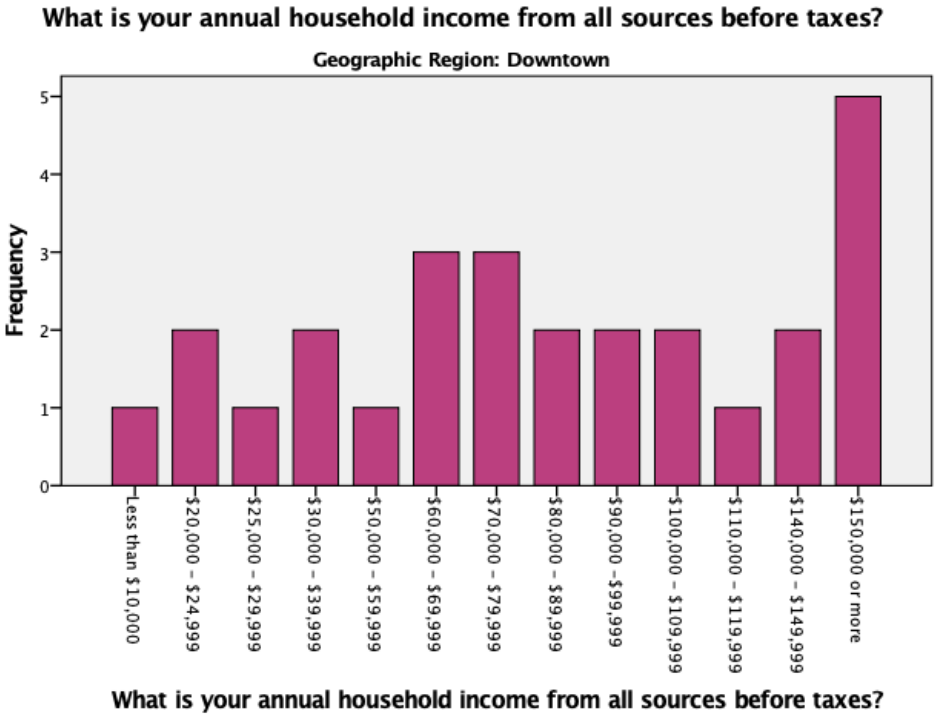


Poverty was estimated based on reported income and household size. Only 28 (5%) individuals appeared to be in poverty.

Household income: downtown Tulsa

Almost 13% (n = 4) of respondents reported an annual household income ranging from $25,000-$59,999. About 10% (n = 3) reported household incomes of less than $24,999, with one (3%) reported an annual income of less than $10,000. Nineteen percent (n = 6) reported an income ranging from $60,000-$79,999, 13% (n = 4) reported incomes ranging from $80,000-$99,999, and 16% (n = 5) reported incomes ranging from $100,000-$149,000. Sixteen percent (n = 5) reported incomes of $150,000 or greater. Four (13%) individuals did not report income.

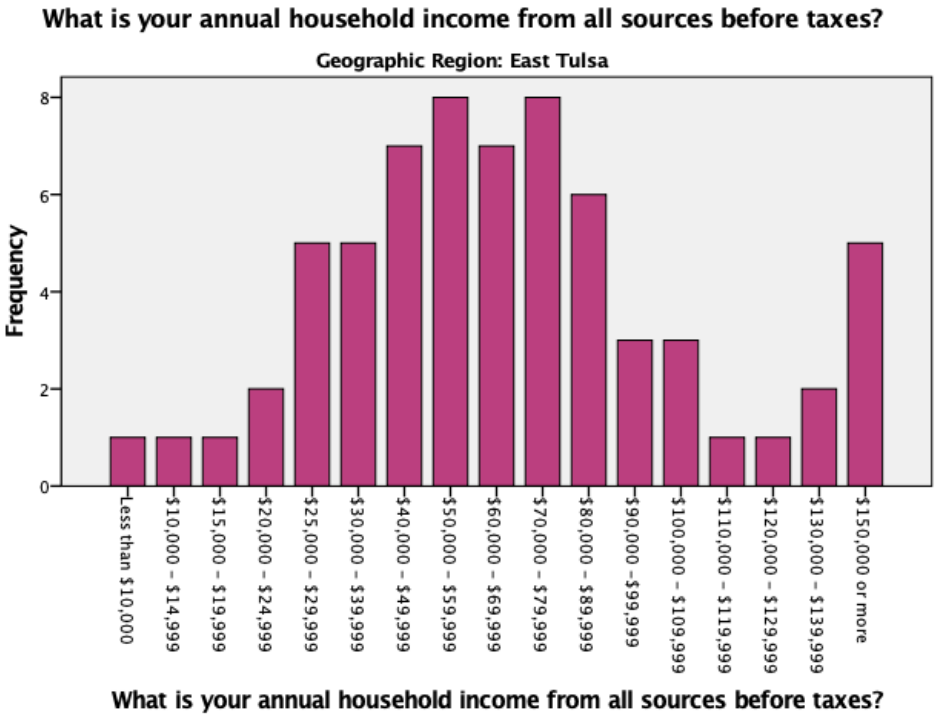
Poverty was estimated based on reported income and household size. Only 1 (3%) individual appeared to be in poverty.



Household income: east Tulsa

Thirty one percent of respondents (n=25) reported an annual household income ranging from $25,000-$59,999. Five respondents (6.5%) reported household incomes of less than $24,999. Fifteen (18.8%) reported an income ranging from $60,000-$79,999, 9% (n = 9) reported incomes ranging from $80,000-$99,999, and 9% (n = 7) reported incomes ranging from $100,000-$139,000. Just over six percent (n = 5) reported incomes of $150,000 or greater. Fourteen people failed to provide information on their incomes (17.5%).

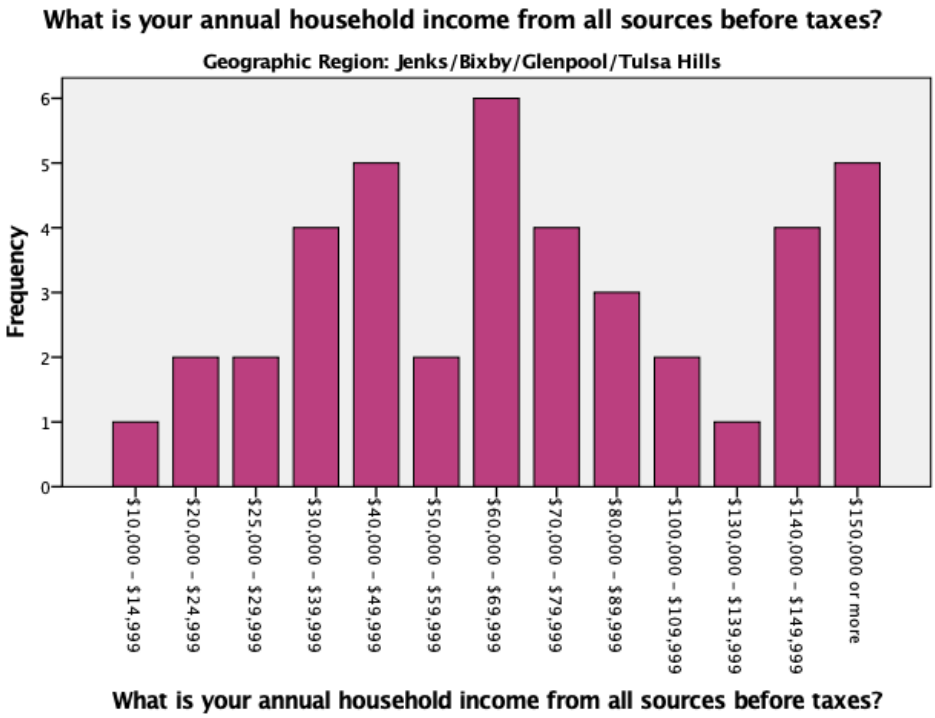
Poverty was estimated based on reported income and household size. Only 4 (5%) individuals appeared to be in poverty.



Household income: Jenks, Bixby and Glenpool

Almost 29% (n =13) of respondents reported an annual household income ranging from $25,000-$59,999. About 7% (n = 3) reported household incomes of less than $24,999. Twenty-two percent (n = 10) reported an income ranging from $60,000-$79,999, 7% (n = 3) reported incomes ranging from $80,000-$99,999, and 16% (n = 7) reported incomes ranging from $100,000-$149,000. Eleven percent (n = 5) reported incomes of $150,000 or greater. Four (9%) individuals did not report income.

Poverty was estimated based on reported income and household size. Only 1 (2%) individual appeared to be in poverty.



Household income: midtown Tulsa

Almost 27% (n = 40) of respondents reported an annual household income ranging from $25,000-$59,999. About 14% (n =20) reported household incomes of less than $24,999, four (3%) reported an annual income of less than $10,000. Fifteen percent (n = 22) reported an income ranging from $60,000-$79,999, 12% (n = 17) reported incomes ranging from $80,000-$99,999, and 11% (n = 21) reported incomes ranging from $100,000-$149,000. Six percent (n = 8) reported incomes of $150,000 or greater. Eighteen (12%) individuals did not report income.

Poverty was estimated based on reported income and household size. Only 7 (5%) individuals appeared to be in poverty.

Household income: north Tulsa

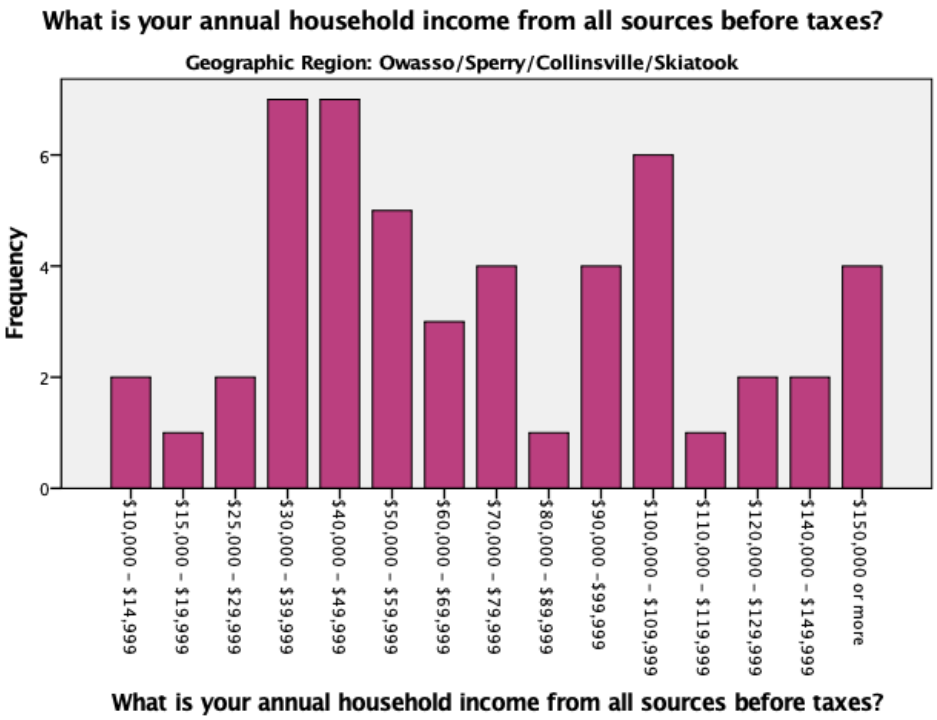
Almost 36% (n = 11) of respondents reported an annual household income ranging from $30,000-$59,999. About 16% (n = 9) reported household incomes of less than $24,999, with one of these individuals (n= 3%) reporting an annual income of less than $10,000. Seven percent (n = 2) reported an income ranging from $80,000-$89,999 and 7% (n = 2) reported incomes ranging from $100,000-$109,000. Seven (23%) individuals did not report income.

Poverty was estimated based on reported income and household size. Only 2 (7%) individuals appeared to be in poverty.

Household income: Owasso, Sperry, Collinsville and Skiatook

Thirty-five percent (n = 21) of respondents reported an annual household income ranging from $25,000-$59,999. About 5% (n = 3) reported household incomes of less than $24,999, with two individuals (3%) reported an annual income of less than $10,000. Twelve percent (n = 7) reported an income ranging from $60,000-$79,999, 8% (n = 5) reported incomes ranging from $80,000-$99,999, and 18% (n = 11) reported incomes ranging from $100,000-$149,000. Seven percent (n = 4) reported incomes of $150,000 or greater. Nine (15%) individuals did not report income.

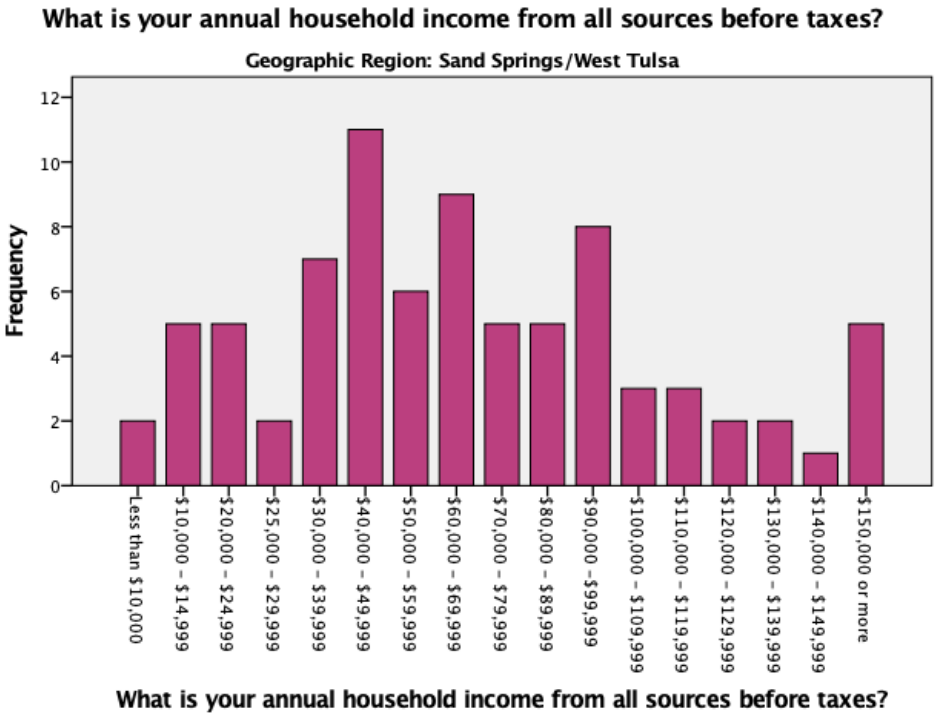
Poverty was estimated based on reported income and household size. Only 2 (3%) individuals appeared to be in poverty.



Household income: *Sand Springs and west Tulsa*

About 28% (n = 26) of respondents reported an annual household income ranging from $25,000-$59,999. About 5% (n = 8) reported household incomes of less than $24,999, with 1 (1%) reporting an annual income of less than $10,000. Twelve percent (n = 23) reported an income ranging from $60,000-$79,999, 14% (n = 19) reported incomes ranging from $80,000-$99,999, and 12% (n = 10) reported incomes ranging from $100,000-$149,000. Five percent (n = 5) reported incomes of $150,000 or greater. Eleven (12%) individuals did not report income.

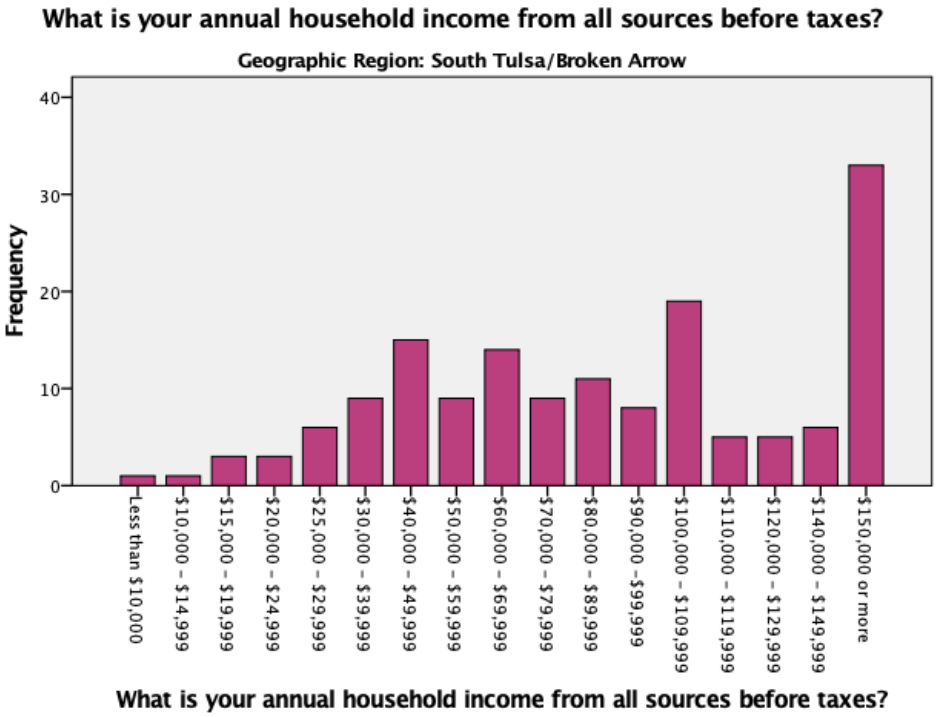
Poverty was estimated based on reported income and household size. Only 6 (7%) individual appeared to be in poverty.



Household income: south Tulsa and Broken Arrow

Almost 20% (n = 39) of respondents reported an annual household income ranging from $25,000-$59,999. About 3% (n = 5) reported household incomes of less than $24,999. Twelve percent (n = 23) reported an income ranging from $60,000-$79,999, 10% (n = 19) reported incomes ranging from $80,000-$99,999, and 18% (n = 16) reported incomes ranging from $100,000-$149,000. Almost 17% (n = 33) reported incomes of $150,000 or greater. Forty (20%) individuals did not report income.

Poverty was estimated based on reported income and household size. Only 5 (3%) individuals appeared to be in poverty.



Education: Tulsa County

Seven percent of respondents indicated they had completed high school (n = 47). Thirty percent (n = 204) had attended college or possessed a technical degree. Almost one third (n = 221) possessed a bachelor's level education and 30% (n = 205) reported having a master's level education or higher. One respondent (<1%) did not complete high school and four respondents (1%) did not provide information regarding their education.

Education: downtown Tulsa

All respondents provide information regarding education. Almost 7% (n = 2) completed high school or obtained a GED. Thirteen percent of the sample (n = 4) had attended some college or technical school program. Forty-five percent possessed a bachelor's level education (n = 14) and the remainder (n = 11, 36%) completed a master's level education or higher.

Education: east Tulsa

Only four percent (n = 3) completed high school or obtained a GED. Thirty six respondents (45%) had attended some college or technical school program. Right at a third possessed a bachelor's level education (n = 26, 32.5%) and 14 (17.5%) completed a master's level education or higher. One person did not respond.

Education: Jenks, Bixby and Glenpool

All respondents provide information regarding education. Eleven percent (n = 5) completed high school or obtained a GED. Over a quarter of the sample (n = 12, 27%) had attended some college or technical school program. Over a third possessed a bachelor's level education (n = 17, 38%) and the remainder (n = 11, 24%) completed a master's level education or higher.

Education: midtown Tulsa

six percent (n = 19) completed high school or obtained a GED. Almost a quarter of the sample (n = 35, 24%) had attended some college or technical school program. Thirty-one percent possessed a bachelor's level education (n =

45) and the remainder (n = 56, 38%) completed a master's level education or higher. One respondent (1%) did not provide information regarding education.

Education: north Tulsa

One (3%) individual reported having less than a high school education. Almost 13% (n = 4) completed high school or obtained a GED. Almost half of the sample (n = 14, 45%) had attended some college or technical school program. Twenty-three percent possessed a bachelor's level education (n = 7, 23%) and the remainder (n = 4, 13%) completed a master's level education or higher. One (3%) did not report education.

Education: Owasso, Sperry, Collinsville and Skiatook

All respondents provide information regarding education. Eight percent (n = 5) completed high school or obtained a GED. A third of the sample (n = 20, 33%) had attended some college or technical school program. Just over a third possessed a bachelor's level education (n = 23, 38%) and the remainder (n = 212, 20%) completed a master's level education or higher.

Education: Sand Springs and west Tulsa

All respondents provide information regarding education. Fifteen percent (n = 14) completed high school or obtained a GED. Over a third of the sample (n = 36, 39%) had attended some college or technical school program. Twenty-three percent possessed a bachelor's level education (n = 21) and the remainder (n = 21, 23%) completed a master's level education or higher.

Education: south Tulsa and Broken Arrow

All respondents provide information regarding education. Three percent (n = 5) completed high school or obtained a GED. Almost 24% (n = 47) had attended some college or technical school program. Just over a third possessed a bachelor's level education (n = 68, 35%) and the remainder (n = 76, 39%) completed a master's level education or higher. One individual (1%) did not report education.

Employment status: Tulsa County

About 61% (n = 417) of the sample was employed while 37% (n = 254) was not employed and 2% (n = 11) did not provide employment information. A total of 421 individuals reported the total number of hours worked in a typical week considering all sources of income. Twenty-eight individuals (7%) worked less than 20 hours a week. Seventy-one individuals (17%) worked 20-39 hours a week. The majority of the sample worked 40-49 hours a week (n = 239, 56%). Eighty-three (20%) individuals worked 50 hours or more each week.

Employment status: downtown Tulsa

Most of the sample reported being employed (n = 25, 81%), while the remainder was not employed (n = 6, 19%). Of the 25 participants that were employed, three (10%) worked less than 30 hours a week. Six (19%) individuals worked 30-39 hours a week, 11 (36%) worked 40-49 hours a week, while two (7%) worked 50 hours a week or more.

Employment status: east Tulsa

Two thirds of the sample reported being employed (n = 54, 67.5%), while the remainder was not employed (n = 24, 30%). Two people did not respond. Of the 54 participants that were employed, five (6.4%) worked less than 30 hours a week. Nine (11.3%) individuals worked 30-39 hours a week, 30 (37.5%) worked 40-49 hours a week, while ten (12.5%) worked 50 hours a week or more.

Employment status: Jenks, Bixby and Glenpool

Over half the sample reported being employed (n = 24, 53%), while most of the remaining were not employed (n = 20, 44%). One respondent (2%) did not provide information regarding employment status. Of the 24 participants that

were employed, two (8%) worked less than 30 hours a week. Three (13%) individuals worked 30-39 hours a week, 18 (75%) worked 40-49 hours a week, while one (4%) worked 50 hours a week or more.

Employment status: midtown Tulsa

Over half the sample reported being employed (n = 86, 59%), while the remainder was not employed (n = 57, 39%). Three (2%) did not report their employment status. Eighty-seven participants reported the number of hours they worked each week. Twelve (8%) worked less than 30 hours a week. Eight (6%) individuals worked 30-39 hours a week, 48 (33%) worked 40-49 hours a week, while 14 (10%) worked 50 hours a week or more.

Employment status: north Tulsa

Over half the sample reported being employed (n = 19, 61%), while the remainder was not employed (n = 12, 39%). Of the 19 participants that were employed, 5 (26%) worked less than 30 hours a week. One (5%) individual worked 30-39 hours a week, 11 (58%) worked 40-49 hours a week, while two (6%) worked 50 hours a week or more.

Employment status: Owasso, Sperry, Collinsville and Skiatook

Over half the sample reported being employed (n = 38, 63%), while the remainder was not employed (n = 22, 37%). Of the 38 participants that were employed, three (5%) worked less than 30 hours a week. Four (7%) individuals worked 30-39 hours a week, 24 (40%) worked 40-49 hours a week, while 4 (7%) worked 50 hours a week or more.

Employment status: Sand Springs and west Tulsa

Over half the sample reported being employed (n = 55, 59%), while the remainder was not employed (n = 33, 38%). Of the 55 participants that were employed, six (7%) worked less than 30 hours a week. Five (5%) individuals worked 30-39 hours a week, 32 (35%) worked 40-49 hours a week, while fourteen (16%) worked 50 hours a week or more. Two did not report the number of hours worked.

Employment status: south Tulsa and Broken Arrow

Over half the sample reported being employed (n = 116, 59%), while the remainder was not employed (n = 78, 40%). Three individuals did not report their employment status. Data on the number of hours worked was provided by 117 participants. Fifteen participants (23%) worked less than 30 hours a week. Ten (9%) individuals worked 30-39 hours a week, 65 (56%) worked 40-49 hours a week, while twenty (21%) worked 50 hours a week or more.

Military service: Tulsa County

Only 7% (n = 47) reported serving in the U.S. Armed Forced Forces.

Military service: downtown Tulsa

Two (7%) respondents reported serving in the U.S. Armed Forces, while 29 (93%) did not.

Military service: east Tulsa

Only three (4%) respondents reported serving in the U.S. Armed Forces, while 76 (95%) did not and 1 (1%) did not provide information about military service.

Military service: Jenks, Bixby and Glenpool

Five (11%) respondents reported serving in the U.S. Armed Forces, while 40 (89%) did not.

Military service: midtown Tulsa

Seven (5%) respondents reported serving in the U.S. Armed Forces, while 138 (95%) did not and 1 (<1%) did not provide information about military service.

Military service: north Tulsa

One (3%) respondent reported serving in the U.S. Armed Forces, while 30 (97%) did not.

Military service: Owasso, Sperry, Collinsville and Skiatook

Six (10%) respondents reported serving in the U.S. Armed Forces, while 54 (90%) did not.

Military service: Sand Springs and west Tulsa

Four (4%) respondents reported serving in the U.S. Armed Forces, while 88 (96%) did not.

Military service: south Tulsa and Broken Arrow

Nineteen (10%) respondents reported serving in the U.S. Armed Forces, while 177 (90%) did not and 1 (<1%) did not provide information about military service.

Health insurance: Tulsa County

With the exception of a few individuals, respondents had some form of health insurance. Twenty-eight (n = 4%) individuals did not have insurance. Over half the sample had insurance that was purchased through one's employer or the employer of another family member (n = 382, 56%). Twenty-two percent (n = 152) had Medicare. Six percent (n = 41) purchased insurance from a source other than an employer. Almost 3% (n = 17) were covered under TRICARE, VA or another military insurance. Only 1% (n = 8) received Sooner Care or Medicaid benefits and 1% (n = 6) received Indian or Tribal Health Services. About 7% (n = 46) reported being insured by another source. Less than 1% (n = 2) did not provide information regarding health insurance coverage.

Of the 28 individuals that did not have insurance, 2 (7%) indicated their employer did not provide insurance, 19 (68%) indicated they could not afford to purchase insurance, 5 (18%) were unemployed, 2 (7%) said they did not need insurance or that they were healthy.

Health insurance: downtown Tulsa

None respondents indicated they did not have health insurance. Over half of those surveyed indicated they were insured by a policy through an employer or an employer of a family member (n = 21, 68%). Only two (7%) respondents indicated that he/she purchased health insurance through another mechanism. About 13% (n= 4) were Medicare recipients. Four (10%) indicated they were insured by another source and one (3%) did not report health insurance information.

Health insurance: east Tulsa

Only two (2.5%) respondents indicated they did not have health insurance. Over half of those surveyed indicated they were insured by a policy through an employer or an employer of a family member (n=46, 57.5%). Four (5%) respondents indicated that he/she purchased health insurance through another mechanism. Fourteen (17.5%) were Medicare recipients, one received benefits from Medicaid or Sooner Care, one (1.3%) received health insurance through Tribal Health Services and two (2.5%) received benefits from TRICARE, VA or the military. Nine indicated they were insured by another source. One did not respond.

Health insurance: Jenks, Bixby and Glenpool

Only three (7%) respondents indicated they did not have health insurance. Over half of those surveyed (n = 27, 60%) indicated they were insured by a policy through an employer or an employer of a family member. Twenty percent (n= 9) were Medicare recipients, 4 (9%) received benefits from TRICARE, VA or the military and two (4%) had some other form of insurance.

Of the 3 individuals that did not have insurance, 2 indicated they could not afford to purchase insurance and 1 was unemployed.

Health insurance: midtown Tulsa

Only six (4%) respondents indicated they did not have health insurance. Over half of those surveyed indicated they were insured by a policy through an employer or an employer of a family member (n = 80, 55%). Only twelve (8%) respondents indicated that he/she purchased health insurance through another mechanism. About 25% (n= 37) were Medicare recipients, three (2%) received health insurance through Tribal Health Services and one (1%) received Sooner Care or Medicaid. Seven (5%) indicated they were insured by another source.

Of the 6 individuals that did not have insurance, 1 indicated his/her employer did not provide insurance, 3 indicated they could not afford to purchase insurance and 2 were unemployed.

Health insurance: north Tulsa

Four (13%) respondents indicated they did not have health insurance. Over half of those surveyed indicated they were insured by a policy through an employer or an employer of a family member (n = 17, 55%). Two (7%) respondents indicated that he/she purchased health insurance through another mechanism. About 19% (n= 6) were Medicare recipients, one (3%) received health insurance through Tribal Health Services, one received insurance through Sooner Care or Medicaid and one (3%) received benefits from TRICARE, VA or the military. The four individuals that did not have insurance indicated they could not afford to purchase insurance.

Health insurance: Owasso, Sperry, Collinsville and Skiatook

Only 1 (2%) respondent indicated they did not have health insurance. Over half of those surveyed indicated they were insured by a policy through an employer or an employer of a family member (n = 35, 58%). Four (7%) respondents indicated that he/she purchased health insurance through another mechanism. Twenty-five percent (n= 15) were Medicare recipients, one (2%) received health insurance through Tribal Health Services and four (7%) were insured by another source. The one individual without insurance indicated s/he could not afford to purchase insurance.

Health insurance: Sand Springs and west Tulsa

Eight (9%) respondents indicated they did not have health insurance. Over half of those surveyed indicated they were insured by a policy through an employer or an employer of a family member (n = 52, 57%). Only five (5%) respondent indicated that he/she purchased health insurance through another mechanism. About 17% (n = 16) were Medicare recipients, one (1%) received health insurance through Tribal Health Services, four (4%) received Sooner Care or Medicaid, and three (3%) received benefits from TRICARE, VA or the military. Eight (9%) indicated they were insured by another source.

Of the 8 individuals that did not have insurance, 1 indicated their employer did not provide insurance, 6 indicated they could not afford to purchase insurance and 1 said they did not need insurance or that they were healthy.

Health insurance: south Tulsa and Broken Arrow

Only four (2%) respondents indicated they did not have health insurance. Over half of those surveyed (n = 121, 61%) indicated they were insured by a policy through an employer or an employer of a family member. Only twelve (6%) respondents indicated that he/she purchased health insurance through another mechanism. About 26% (n= 51) were Medicare recipients, one (<1%) received health insurance through Tribal Health Services, one received insurance through Sooner Care or Medicaid, and six (3%) received benefits from TRICARE, VA or the military. Thirteen (7%) indicated they were insured by another source.

Of the 4 individuals that did not have insurance, 3 indicated they could not afford to purchase insurance and 1 was unemployed.

Race/ethnicity: Tulsa County

The majority of respondents were Caucasian (n = 590, 87%), followed by Native American (n = 52, 8%) and African Americans (n = 52, 5%). Thirty (4%) of respondents identified as Asian, Pacific Islander or another race/ethnicity). Additionally, 26 (4%) identified as Hispanic.

Race/ethnicity: downtown Tulsa

The majority of respondents were Caucasian (n = 26, 84%), followed by African American (n = 2, 7%), Hispanic (n = 1, 3%) and other (n = 1, 3%). For analysis purposes categories were combined into a single variable indicating white or not white.

Race/ethnicity: east Tulsa

The majority of respondents were Caucasian (n = 66, 83%), followed by Native American (n = 3, 4%), Hispanic (n = 3, 4%), African Americans (n = 4, 5%) and other (n = 3, 4%). One (1%) individual did not provide information regarding race. For analysis purposes categories were combined into a single variable indicating white or not white.

Race/ethnicity: Jenks, Bixby and Glenpool

The majority of respondents were Caucasian (n = 37, 82%), followed by Native American (n = 4, 9%), Hispanic (n = 1, 2%), African Americans (n = 1, 2%) and other (n = 1, 2%). For analysis purposes categories were combined into a single variable indicating white or not white.

Race/ethnicity: midtown Tulsa

The majority of respondents were Caucasian (n = 122, 84%), followed by Native American (n = 12, 8%), Hispanic (n = 3, 2%), African Americans (n = 1, 1%) and other (n = 5, 3%). Three (2%) individuals did not provide information regarding race/ethnicity. For analysis purposes categories were combined into a single variable indicating white or not white.

Race/ethnicity: north Tulsa

The majority of respondents were split evenly between Caucasian (n = 12, 39%), and African Americans (n = 12, 39%). Four (13%) participants were Hispanic and three (10%) were Native American. For analysis purposes categories were combined into a single variable indicating white or not white.

Race/ethnicity: Owasso, Sperry, Collinsville and Skiatook

The majority of respondents were Caucasian (n = 50, 83%), followed by Native American (n = 3, 5%), African Americans (n = 3, 5%), Hispanic (n = 2, 3%) and other (n = 1, 2%). For analysis purposes categories were combined into a single variable indicating white or not white.

Race/ethnicity: Sand Springs and west Tulsa

The majority of respondents were Caucasian (n = 72, 78%), followed by Native American (n = 9, 10%), African Americans (n = 5, 5%), Hispanic (n = 2, 2%) and other (n = 1, 1%). For analysis purposes categories were combined into a single variable indicating white or not white.

Race/ethnicity: south Tulsa and Broken Arrow

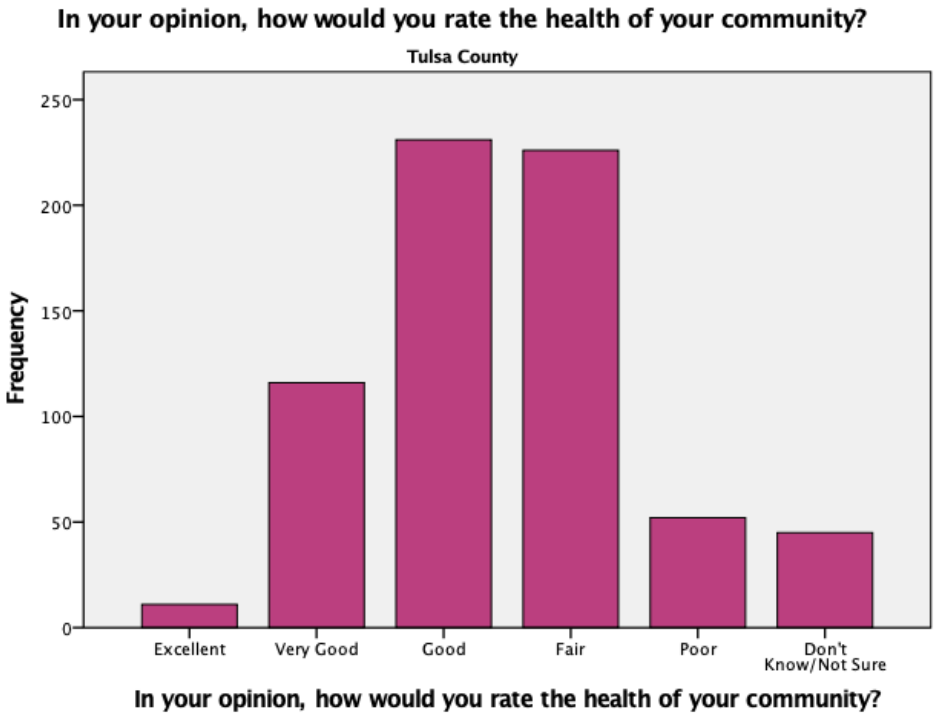
The majority of respondents were Caucasian (n = 159, 81%), followed by Native American (n = 12, 6%), Hispanic (n = 10, 5%), African Americans (n = 5, 3%) and other (n = 9, 5%). For analysis purposes categories were combined into a single variable indicating white or not white.

Results

Community health

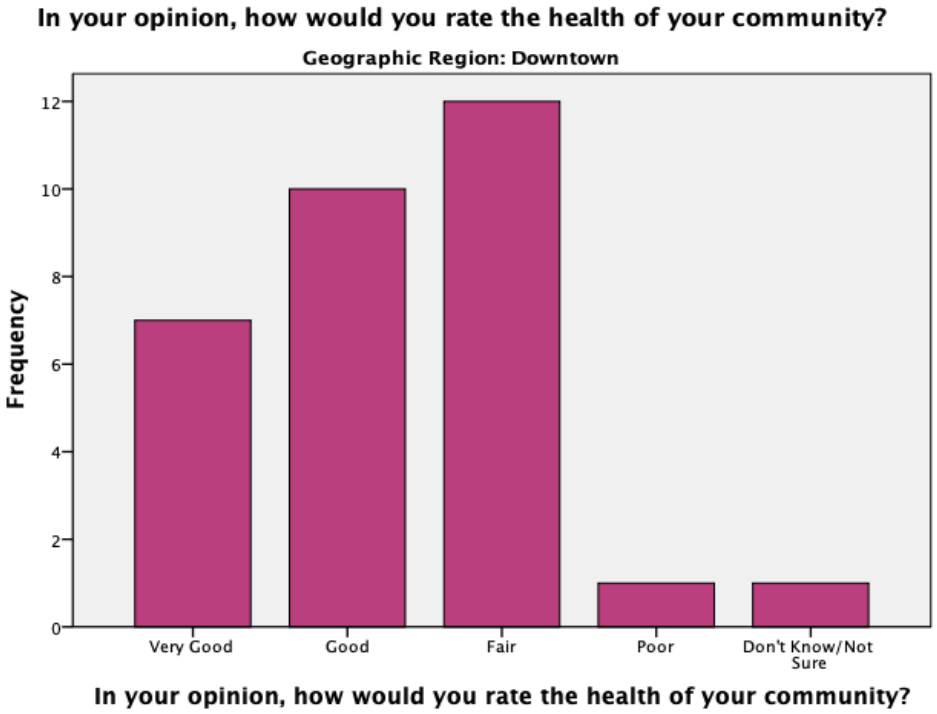
Tulsa County

Respondents were asked to rate the health of the community on a five-point scale ranging from excellent to poor. Four out of ten rated the health of their community as fair or poor (n = 278, 41%). About one third of respondents rated the health of their community as good (n = 231, 34%), while 127 (19%) rated the health of their community as excellent or very good. Forty-five (6%) individuals indicated they did not know the health of their community. One participant (<1%) did not respond to the question regarding community health.



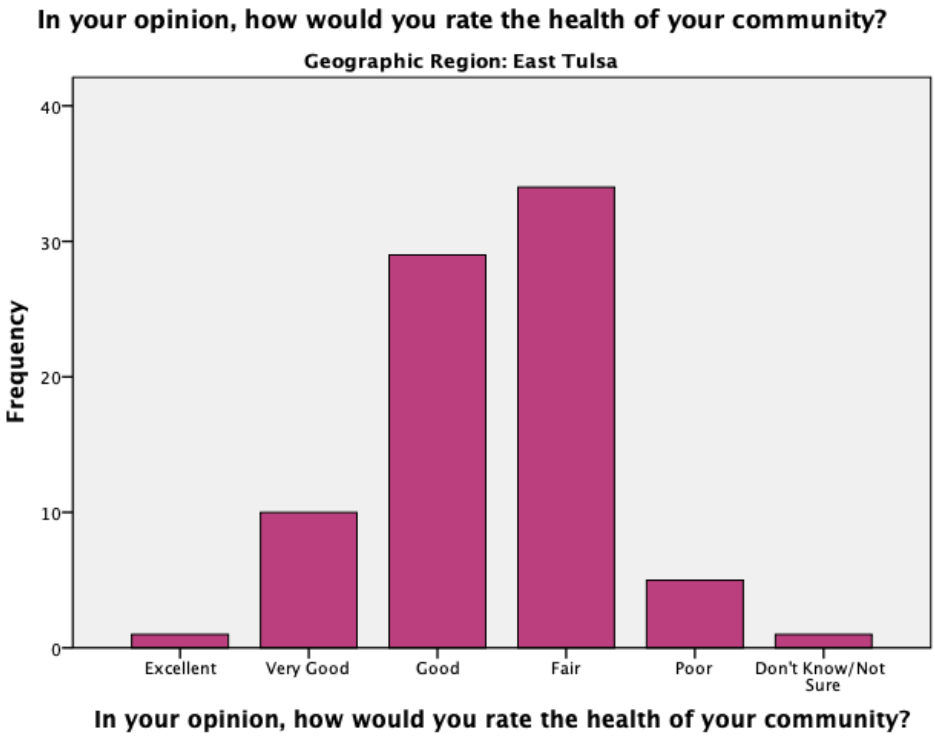
Downtown Tulsa

Respondents were asked to rate the health of the community on a five point scale ranging from excellent to poor. Almost one third of respondents rated the health of their community as good (n = 10, 32%). Almost 42% rated the health of their community as fair or poor (n = 13), while 7 (23%) rated the health of their community as very good and none rated the community's health as excellent. One (3%) individual indicated they did not know the health of their community.



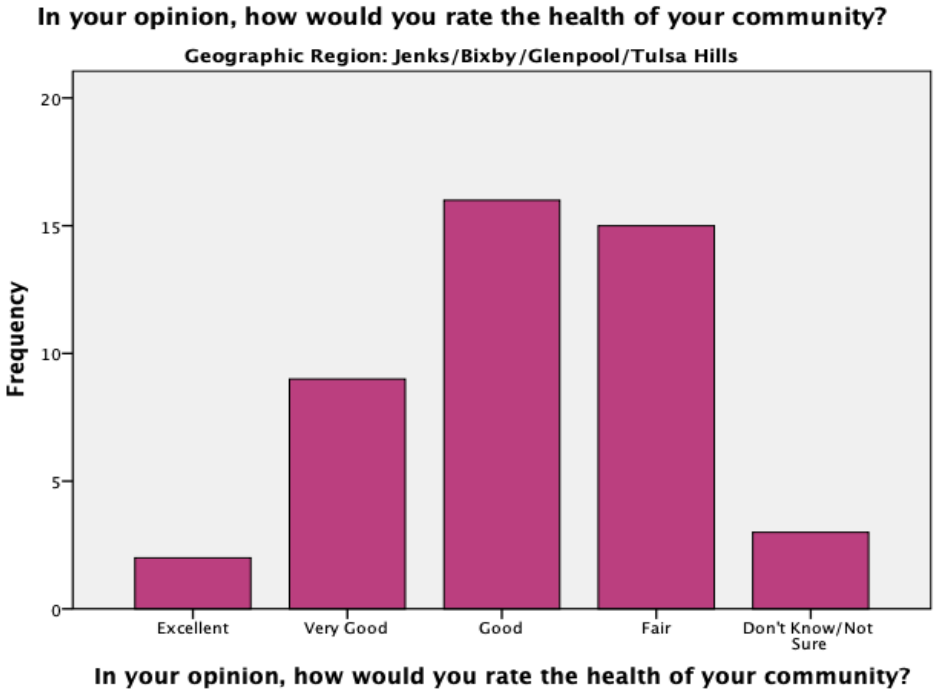
East Tulsa

Respondents were asked to rate the health of the community on a five point scale ranging from excellent to poor. Over one third of respondents rated the health of their community as good (n = 29, 36.3%). Nearly half of the respondents rated the health of their community as fair or poor (n = 39, 48.8%), while only 11 (13.8%) rated the health of their community as excellent or very good. One person indicated they did not know the health of their community.



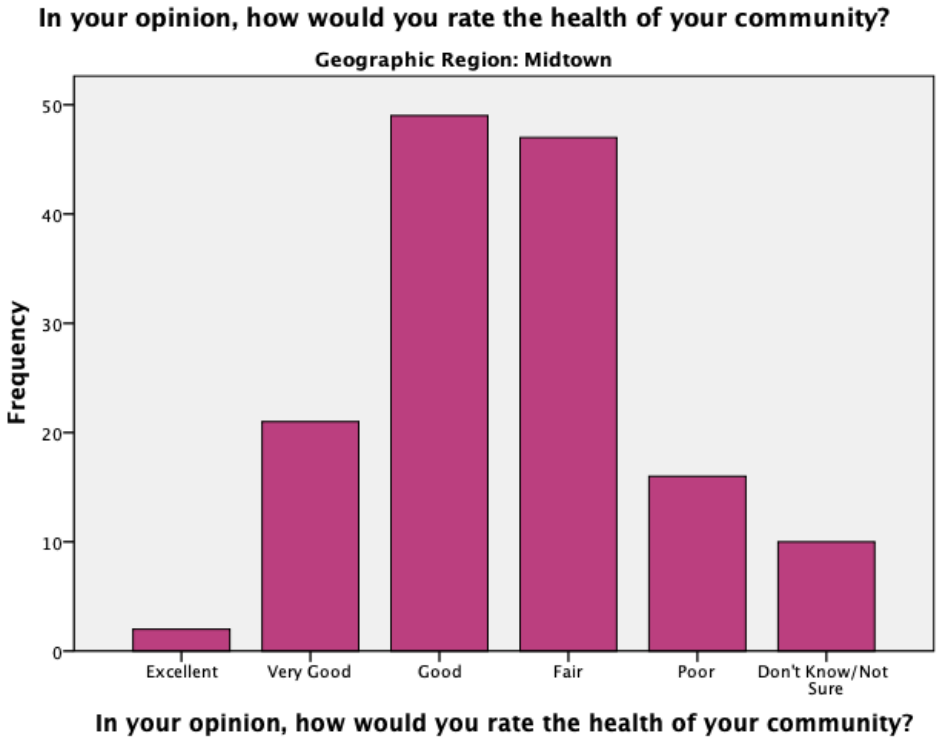
Jenks, Bixby and Glenpool

Respondents were asked to rate the health of the community on a five point scale ranging from excellent to poor. Over one third of respondents rated the health of their community as good (n = 16, 36%). A third rated the health of their community as fair or poor (n = 15, 33%), while 11 (24%) rated the health of their community as excellent or very good. Three (7%) individuals indicated they did not know the health of their community.



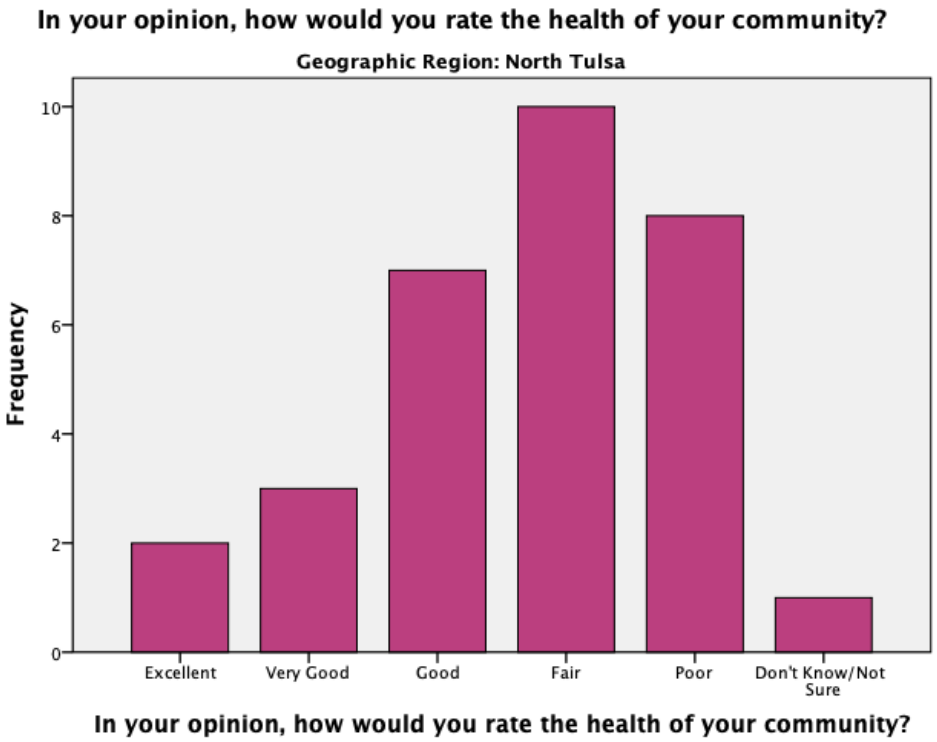
Midtown Tulsa

Respondents were asked to rate the health of the community on a five point scale ranging from excellent to poor. About one third of respondents rated the health of their community as good (n = 49, 34%). Forty-three percent rated the health of their community as fair or poor (n = 63), while 23 (16%) rated the health of their community as excellent or very good. Eleven (8%) individuals indicated they did not know the health of their community or did not respond to the question.



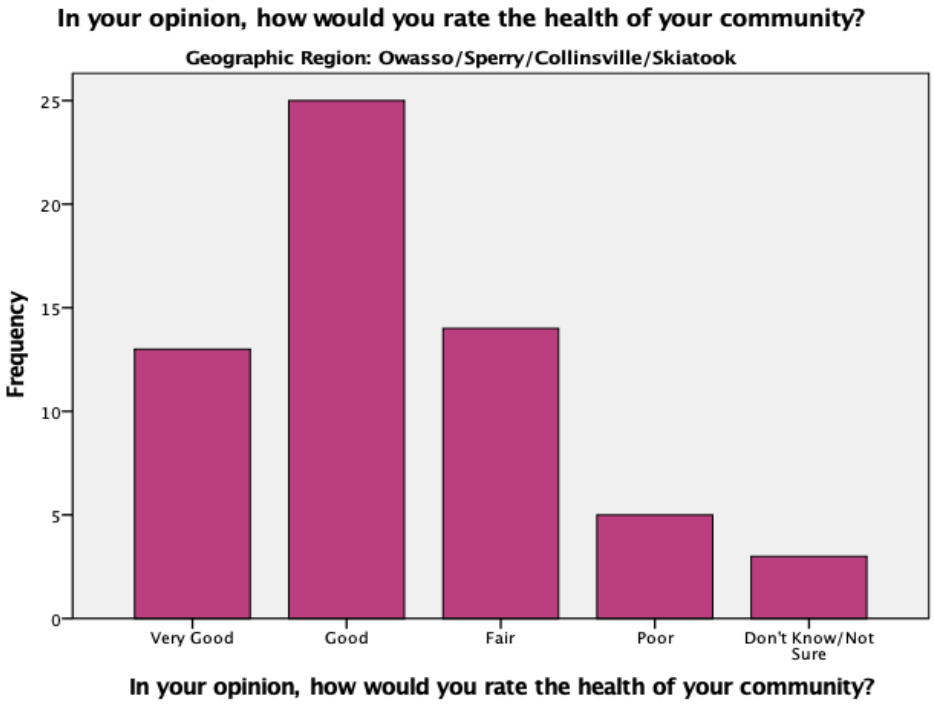
North Tulsa

Respondents were asked to rate the health of the community on a five point scale ranging from excellent to poor. Twenty-three percent of respondents rated the health of their community as good (n = 7). Over half rated the health of their community as fair or poor (n = 18, 58%), while 5 (16%) rated the health of their community as excellent or very good. One (3%) individual indicated s/he did not know the health of their community.



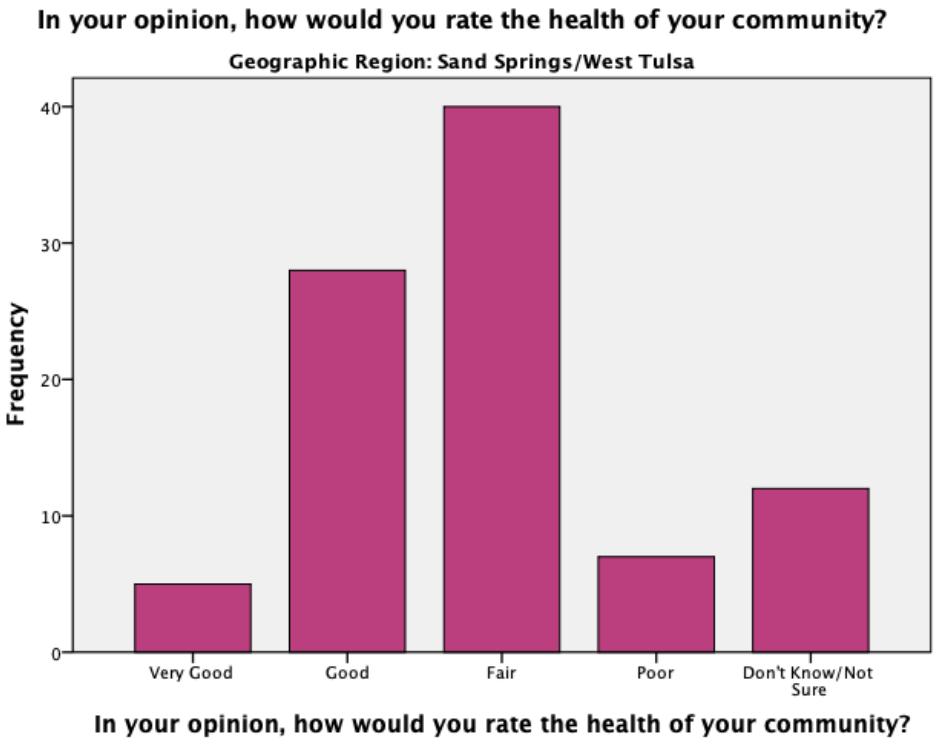
Owasso, Sperry, Collinsville and Skiatook

Respondents were asked to rate the health of the community on a five point scale ranging from excellent to poor. Over one third of respondents rated the health of their community as good (n = 25, 42%). Almost a quarter rated the health of their community as fair or poor (n = 19, 32%), while 13 (22%) rated the health of their community as very good and none rated it as excellent. Three (5%) individuals indicated they did not know the health of their community.



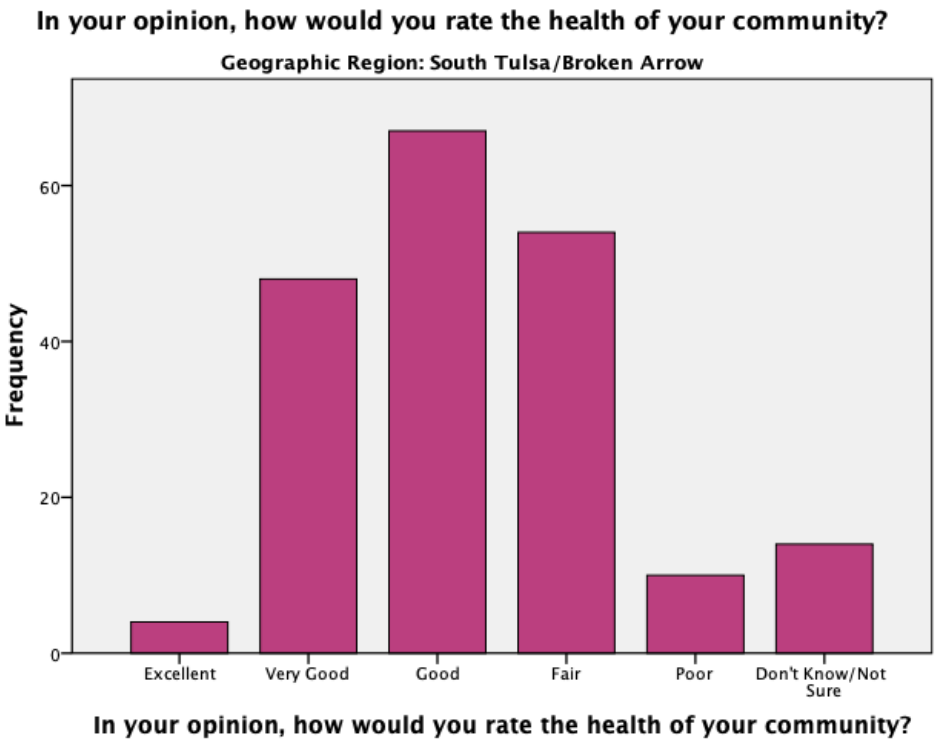
Sand Springs and west Tulsa

Respondents were asked to rate the health of the community on a five point scale ranging from excellent to poor. Thirty percent of respondents rated the health of their community as good (n = 28). Over a quarter rated the health of their community as fair or poor (n = 47, 51%), while 33 (36%) rated the health of their community as excellent or very good. Twelve (13%) individuals indicated they did not know the health of their community.



South Tulsa and Broken Arrow

Respondents were asked to rate the health of the community on a five point scale ranging from excellent to poor. Over one third of respondents rated the health of their community as good (n = 67, 34%). Another third rated the health of their community as fair or poor (n = 64, 33%), while 52 (26%) rated the health of their community as excellent or very good. Fourteen (7%) individuals indicated they did not know the health of their community.

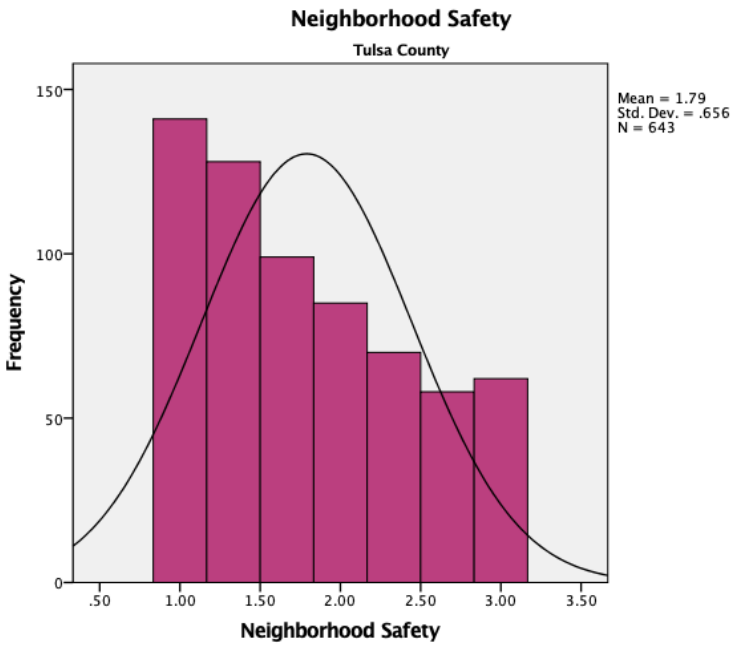


Neighborhood safety

Tulsa County

Respondents were asked three commonly used questions to assess their perception of their neighborhoods safety: I feel safe walking in my neighborhood, day or night; Violence is not a problem in my neighborhood; and My neighborhood is safe from crime. Participant level of agreement with the statements is made on a three point scale. The average score for the three items becomes a neighborhood safety score. Scores can range from 1-3 with high scores indicating less safety.

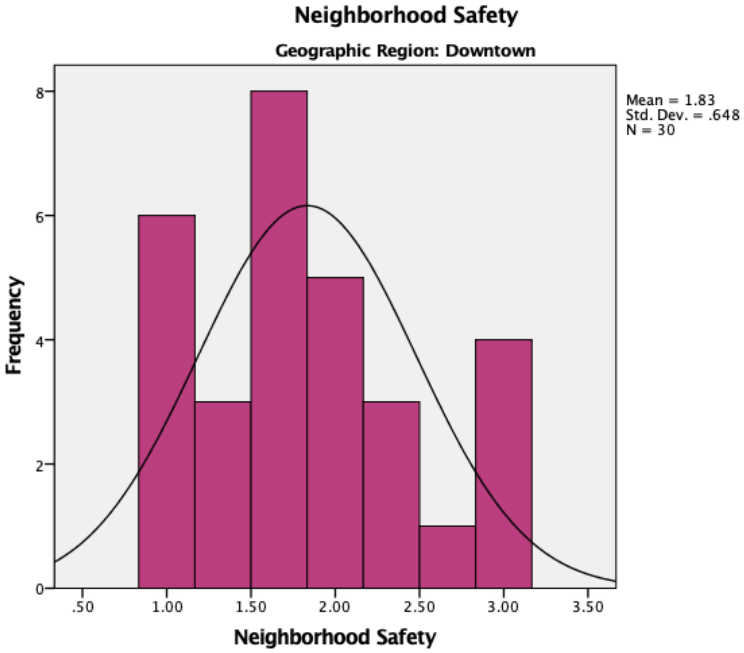
The average neighborhood safety score was 1.79 with a standard deviation of 0.66. Scores were skewed slightly indicating individuals surveyed were slightly more likely to perceive their neighborhood as safe.



Downtown Tulsa

Respondents were asked three commonly used questions to assess their perception of their neighborhoods safety: I feel safe walking in my neighborhood, day or night; Violence is not a problem in my neighborhood; and My neighborhood is safe from crime. Participant level of agreement with the statements is made on a three point scale. The average score for the three items becomes a neighborhood safety score. Scores can range from 1-3 with high scores indicating less safety.

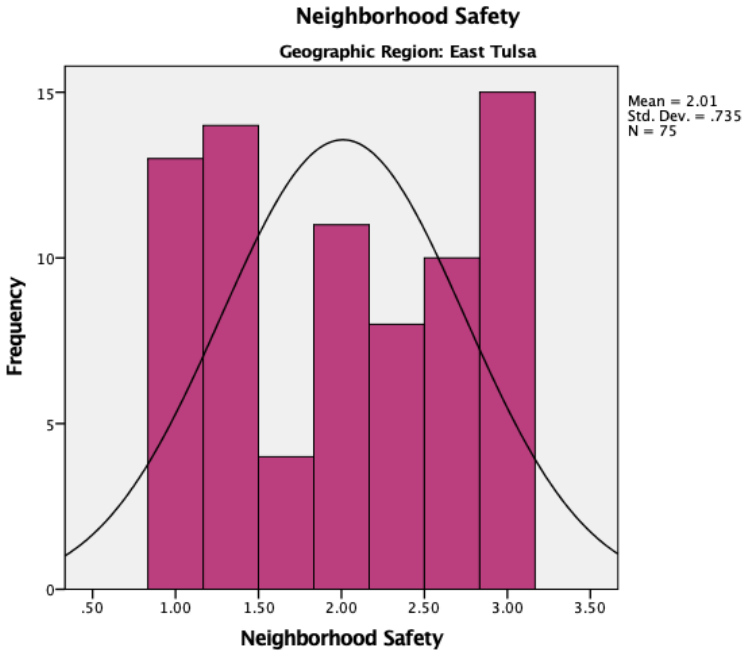
The average neighborhood safety score was 1.83 with a standard deviation of 0.65. Scores were skewed indicating most individuals surveyed perceived their neighborhood to be safe.



East Tulsa

Respondents were asked three commonly used questions to assess their perception of their neighborhoods safety: I feel safe walking in my neighborhood, day or night; Violence is not a problem in my neighborhood; and My neighborhood is safe from crime. Participant level of agreement with the statements is made on a three point scale. The average score for the three items becomes a neighborhood safety score. Scores can range from 1-3 with high scores indicating less safety.

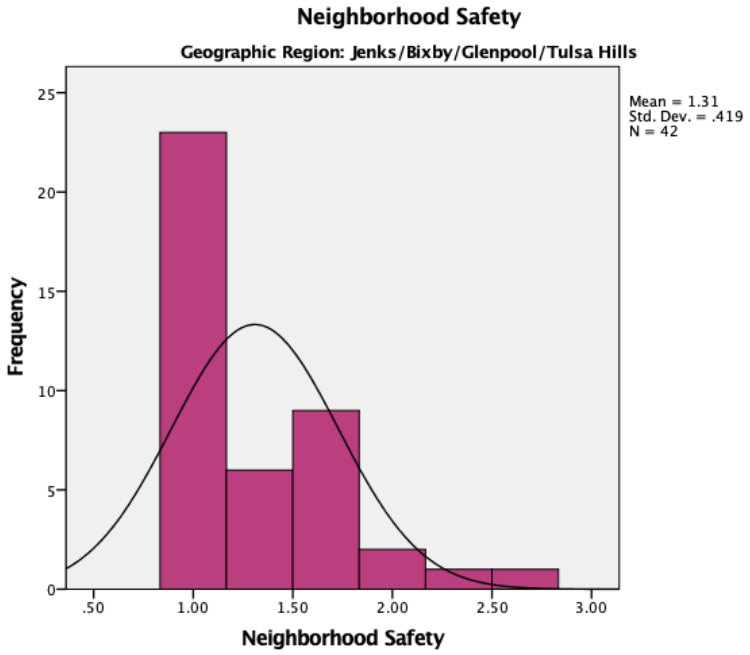
The average neighborhood safety score was 2.01 with a standard deviation of 0.735. Respondents were fairly divided about the safety of their neighborhood.



Jenks, Bixby and Glenpool

Respondents were asked three commonly used questions to assess their perception of their neighborhoods safety: I feel safe walking in my neighborhood, day or night; Violence is not a problem in my neighborhood; and My neighborhood is safe from crime. Participant level of agreement with the statements is made on a three point scale. The average score for the three items becomes a neighborhood safety score. Scores can range from 1-3 with high scores indicating less safety.

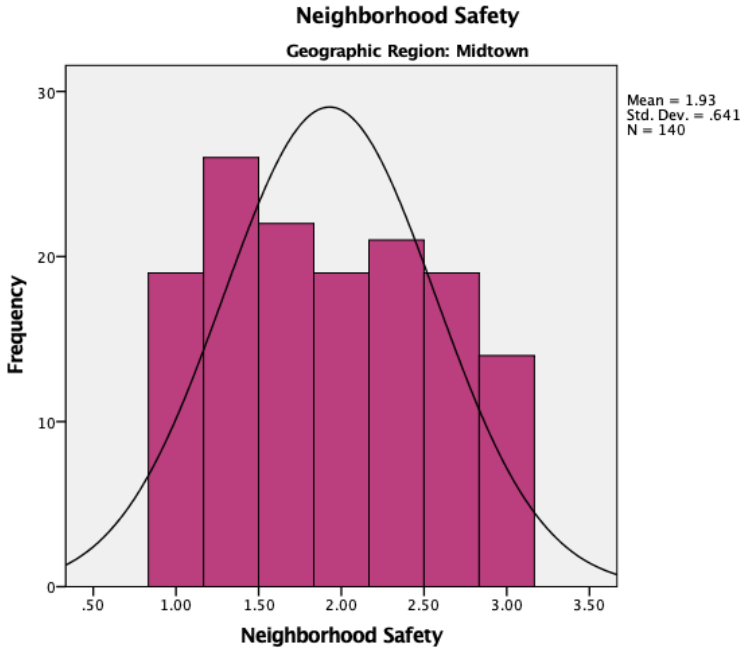
The average neighborhood safety score was 1.31 with a standard deviation of 042. Scores were skewed indicating most individuals surveyed perceived their neighborhood to be safe.



Midtown Tulsa

Respondents were asked three commonly used questions to assess their perception of their neighborhoods safety: I feel safe walking in my neighborhood, day or night; Violence is not a problem in my neighborhood; and My neighborhood is safe from crime. Participant level of agreement with the statements is made on a three point scale. The average score for the three items becomes a neighborhood safety score. Scores can range from 1-3 with high scores indicating less safety.

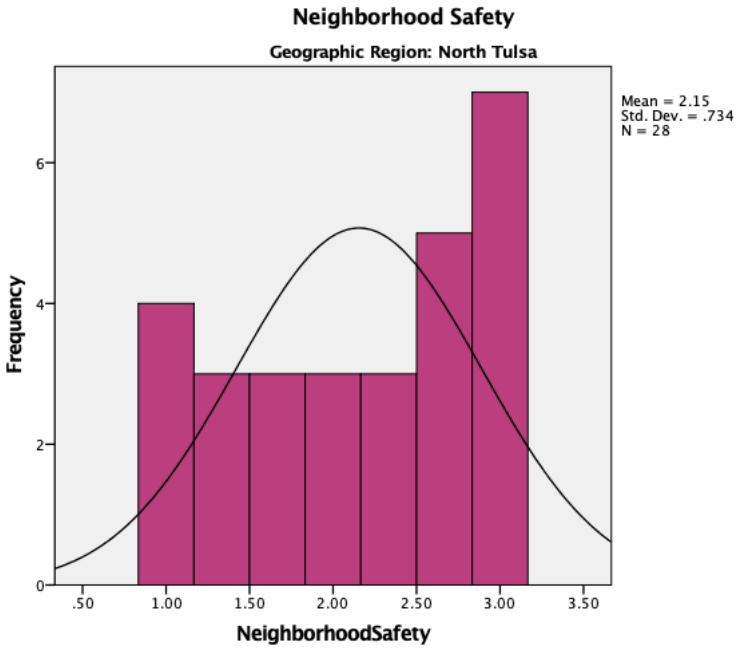
The average neighborhood safety score was 1.93 with a standard deviation of 0.64.



North Tulsa

Respondents were asked three commonly used questions to assess their perception of their neighborhoods safety: I feel safe walking in my neighborhood, day or night; Violence is not a problem in my neighborhood; and My neighborhood is safe from crime. Participant level of agreement with the statements is made on a three point scale. The average score for the three items becomes a neighborhood safety score. Scores can range from 1-3 with high scores indicating less safety.

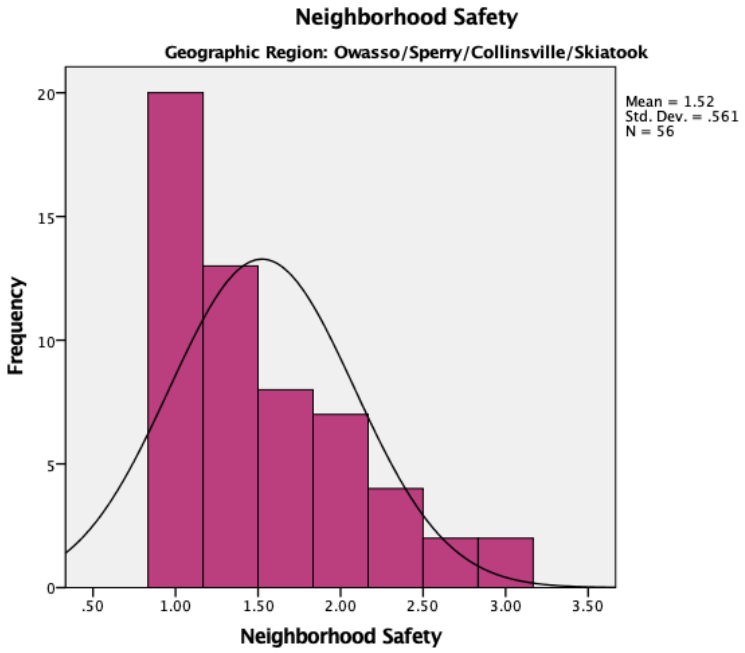
The average neighborhood safety score was 2.15 with a standard deviation of 0.73. Scores were skewed indicating most individuals surveyed perceived their neighborhood to be unsafe.



Owasso, Sperry, Collinsville and Skiatook

Respondents were asked three commonly used questions to assess their perception of their neighborhoods safety: I feel safe walking in my neighborhood, day or night; Violence is not a problem in my neighborhood; and My neighborhood is safe from crime. Participant level of agreement with the statements is made on a three point scale. The average score for the three items becomes a neighborhood safety score. Scores can range from 1-3 with high scores indicating less safety.

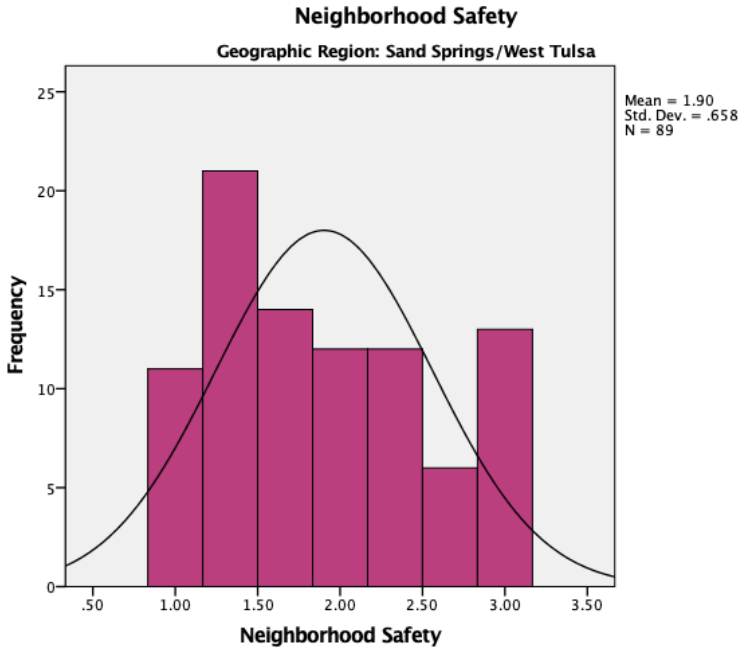
The average neighborhood safety score was 1.52 with a standard deviation of 0.56. Scores were skewed indicating most individuals surveyed perceived their neighborhood to be safe.



Sand Springs and west Tulsa

Respondents were asked three commonly used questions to assess their perception of their neighborhoods safety: I feel safe walking in my neighborhood, day or night; Violence is not a problem in my neighborhood; and My neighborhood is safe from crime. Participant level of agreement with the statements is made on a three point scale. The average score for the three items becomes a neighborhood safety score. Scores can range from 1-3 with high scores indicating less safety.

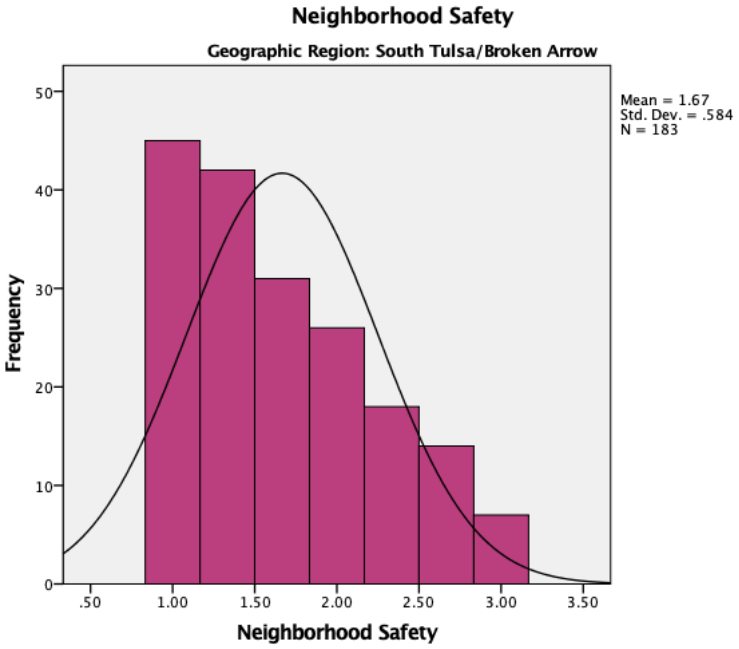
The average neighborhood safety score was 1.9 with a standard deviation of 0.66. Scores were skewed indicating most individuals surveyed perceived their neighborhood to be safe.



South Tulsa and Broken Arrow

Respondents were asked three commonly used questions to assess their perception of their neighborhoods safety: I feel safe walking in my neighborhood, day or night; Violence is not a problem in my neighborhood; and My neighborhood is safe from crime. Participant level of agreement with the statements is made on a three point scale. The average score for the three items becomes a neighborhood safety score. Scores can range from 1-3 with high scores indicating less safety.

The average neighborhood safety score was 1.67 with a standard deviation of 0.58. Scores were skewed indicating most individuals surveyed perceived their neighborhood to be safe.

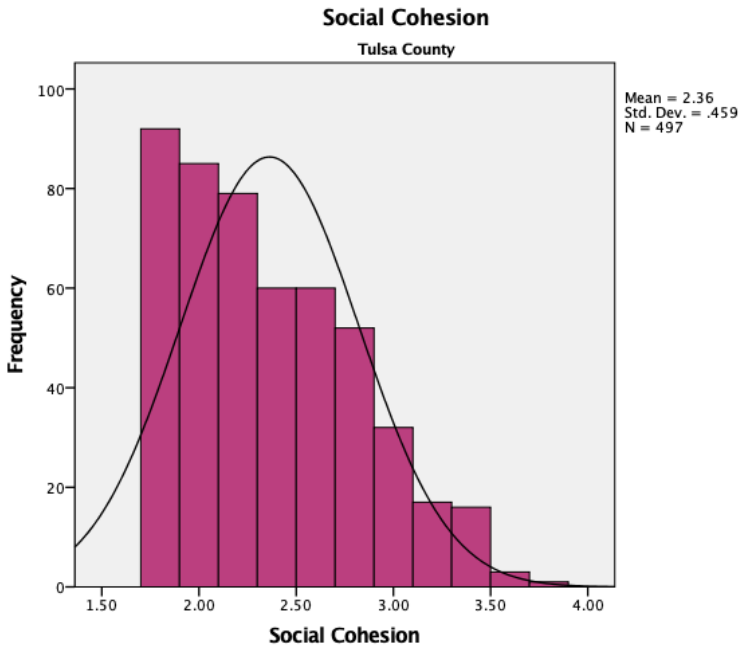


Social cohesion

Tulsa County

Neighborhood social cohesion speaks to the safety of a community and its connectedness to one another. Social cohesion was measured with five commonly used questions: People are here are willing to help their neighbors; This is a close knit neighborhood; People in this neighborhood can be trusted; People in this neighborhood do not get along with one another; and People in this neighborhood do not share the same values. Respondents rate their level of agreement with each statement on a scale of 1-5. The fourth and fifth questions were reverse scored. An average social cohesion score was calculated for each participant. Scores range from 1-5 with lower scores indicating greater social cohesion.

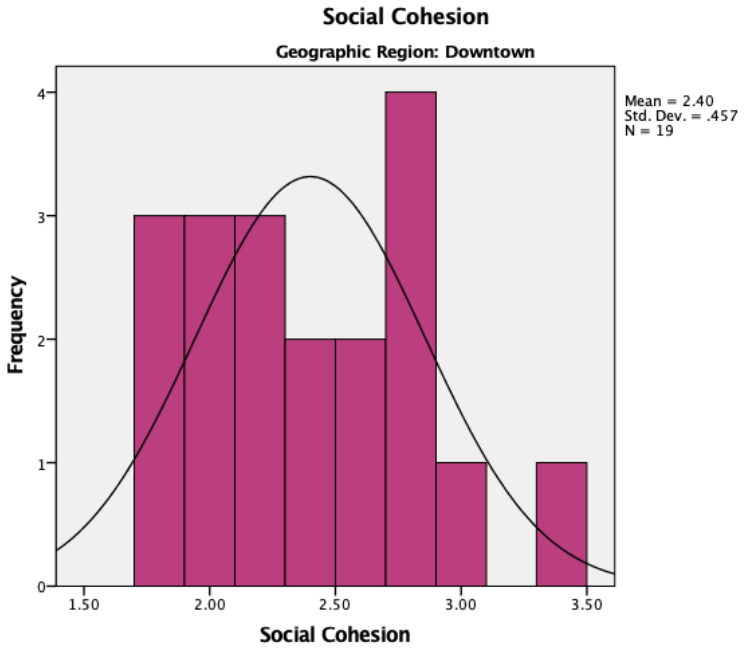
Scores ranged from 1.8 to 3.8. The average social cohesion score was 2.36 with a standard deviation of 0.46. Scores were skewed indicating a somewhat high level of social cohesion. Interestingly, 185 (27%) respondents did not complete at least one item related to social cohesion resulting in their exclusion from analysis.



Downtown Tulsa

Neighborhood social cohesion speaks to the safety of a community and its connectedness to one another. Social cohesion was measured with five commonly used questions: People are here are willing to help their neighbors; This is a close knit neighborhood; People in this neighborhood can be trusted; People in this neighborhood do not get along with one another; and People in this neighborhood do not share the same values. Respondents rate their level of agreement with each statement on a scale of 1-5. The fourth and fifth questions were reverse scored. An average social cohesion score was calculated for each participant. Scores range from 1-5 with lower scores indicating greater social cohesion.

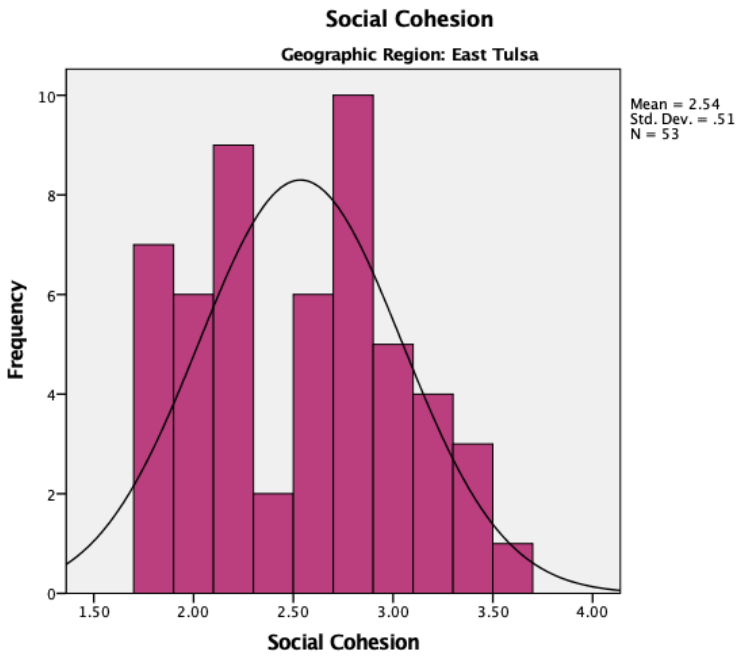
Scores ranged from 1.8 to 3.4. The average social cohesion score was 2.4 with a standard deviation of 0.46. Scores were skewed indicating a somewhat high level of social cohesion. Interestingly, 12 (39%) respondents did not complete at least one item related to social cohesion eliminating their responses from consideration.



East Tulsa

Neighborhood social cohesion speaks to the safety of a community and its connectedness to one another. Social cohesion was measured with five commonly used questions: People are here are willing to help their neighbors; This is a close knit neighborhood; People in this neighborhood can be trusted; People in this neighborhood do not get along with one another; and People in this neighborhood do not share the same values. Respondents rate their level of agreement with each statement on a scale of 1-5. The fourth and fifth questions were reverse scored. An average social cohesion score was calculated for each participant. Scores range from 1-5 with lower scores indicating greater social cohesion.

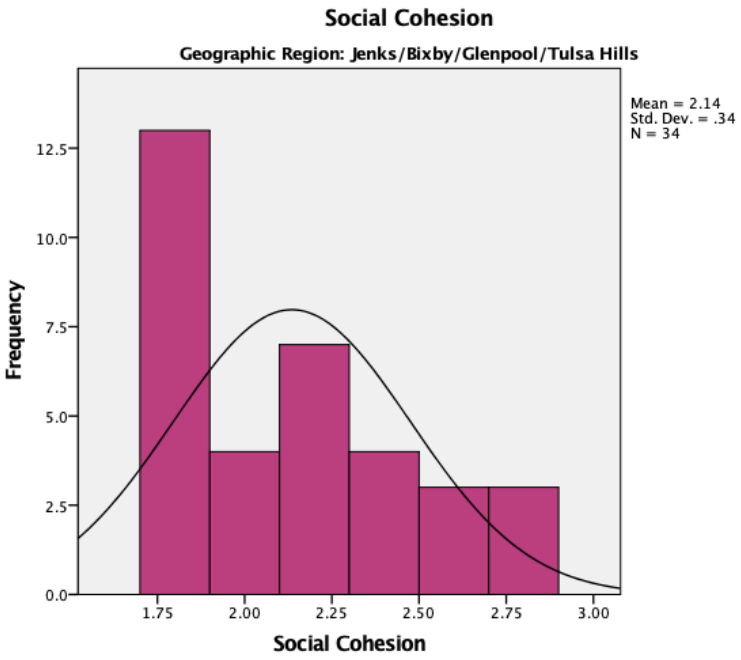
Scores ranged from 1.8 to 3.6. The average social cohesion score was 2.54 with a standard deviation of 0.51. Interestingly, 27 (34%) respondents did not complete at least one item related to social cohesion eliminating their responses from consideration.



Jenks, Bixby and Glenpool

Neighborhood social cohesion speaks to the safety of a community and its connectedness to one another. Social cohesion was measured with five commonly used questions: People are here are willing to help their neighbors; This is a close knit neighborhood; People in this neighborhood can be trusted; People in this neighborhood do not get along with one another; and People in this neighborhood do not share the same values. Respondents rate their level of agreement with each statement on a scale of 1-5. The fourth and fifth questions were reverse scored. An average social cohesion score was calculated for each participant. Scores range from 1-5 with lower scores indicating greater social cohesion.

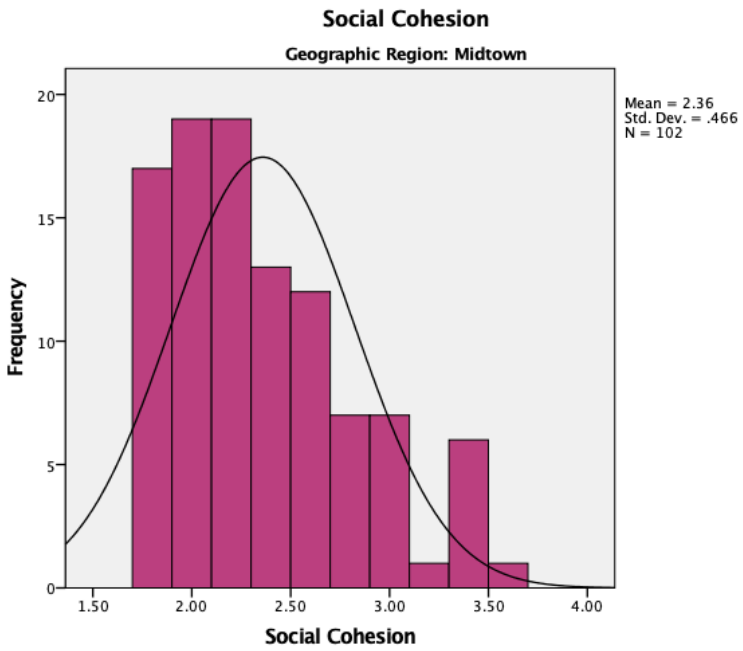
Scores ranged from 1.8 to 2.8. The average social cohesion score was 2.14 with a standard deviation of 0.34. Scores were skewed indicating a somewhat high level of social cohesion. Interestingly, 11 respondents did not complete at least one item related to social cohesion eliminating their responses from consideration.



Midtown Tulsa

Neighborhood social cohesion speaks to the safety of a community and its connectedness to one another. Social cohesion was measured with five commonly used questions: People are here are willing to help their neighbors; This is a close knit neighborhood; People in this neighborhood can be trusted; People in this neighborhood do not get along with one another; and People in this neighborhood do not share the same values. Respondents rate their level of agreement with each statement on a scale of 1-5. The fourth and fifth questions were reverse scored. An average social cohesion score was calculated for each participant. Scores range from 1-5 with lower scores indicating greater social cohesion.

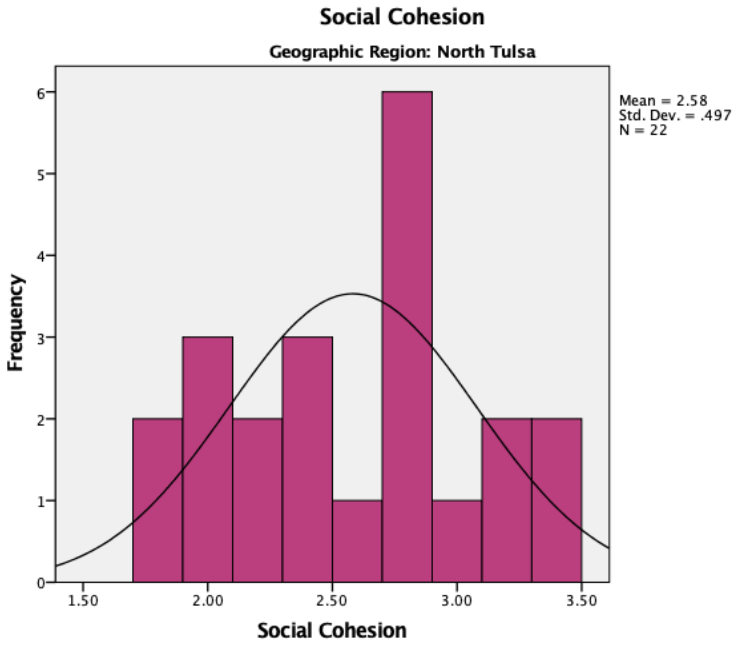
Scores ranged from 1.8 to 3.6. The average social cohesion score was 2.36 with a standard deviation of 0.47. Scores were skewed indicating a somewhat high level of social cohesion. Interestingly, 44 (30%) respondents did not complete at least one item related to social cohesion eliminating their responses from consideration.



North Tulsa

Neighborhood social cohesion speaks to the safety of a community and its connectedness to one another. Social cohesion was measured with five commonly used questions: People are here are willing to help their neighbors; This is a close knit neighborhood; People in this neighborhood can be trusted; People in this neighborhood do not get along with one another; and People in this neighborhood do not share the same values. Respondents rate their level of agreement with each statement on a scale of 1-5. The fourth and fifth questions were reverse scored. An average social cohesion score was calculated for each participant. Scores range from 1-5 with lower scores indicating greater social cohesion.

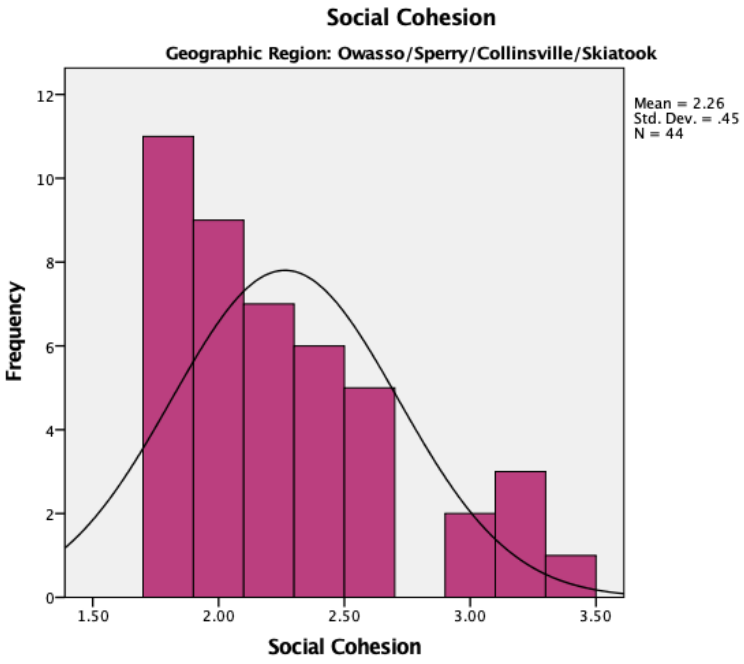
Scores ranged from 1.8 to 3.4. The average social cohesion score was 2.58 with a standard deviation of 0.5. Interestingly, 22 (71%) respondents did not complete at least one item related to social cohesion eliminating their responses from consideration.



Owasso, Sperry, Collinsville and Skiatook

Neighborhood social cohesion speaks to the safety of a community and its connectedness to one another. Social cohesion was measured with five commonly used questions: People are here are willing to help their neighbors; This is a close knit neighborhood; People in this neighborhood can be trusted; People in this neighborhood do not get along with one another; and People in this neighborhood do not share the same values. Respondents rate their level of agreement with each statement on a scale of 1-5. The fourth and fifth questions were reverse scored. An average social cohesion score was calculated for each participant. Scores range from 1-5 with lower scores indicating greater social cohesion.

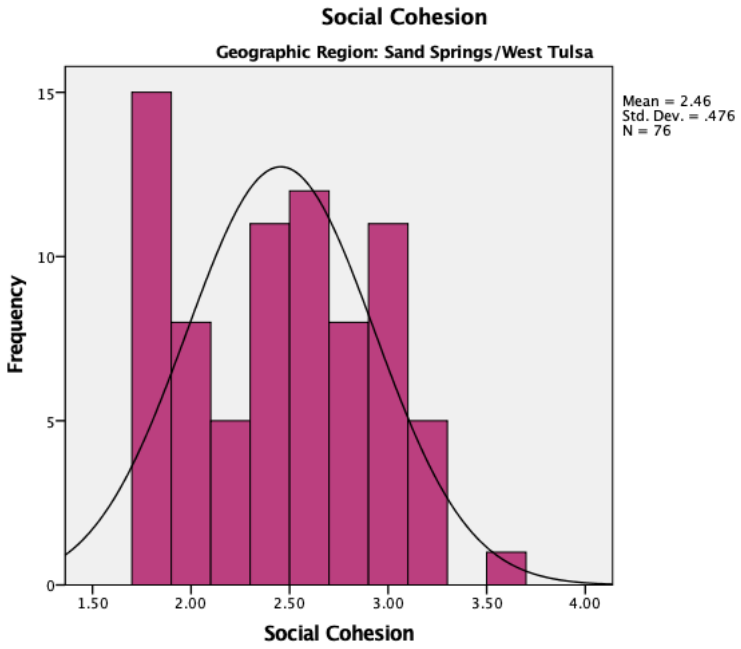
Scores ranged from 1.8 to 3.4. The average social cohesion score was 2.26 with a standard deviation of 0.45. Scores were skewed indicating a somewhat high level of social cohesion. Interestingly,16 (27%) respondents did not complete at least one item related to social cohesion eliminating their responses from consideration.



Sand Springs and west Tulsa

Neighborhood social cohesion speaks to the safety of a community and its connectedness to one another. Social cohesion was measured with five commonly used questions: People are here are willing to help their neighbors; This is a close knit neighborhood; People in this neighborhood can be trusted; People in this neighborhood do not get along with one another; and People in this neighborhood do not share the same values. Respondents rate their level of agreement with each statement on a scale of 1-5. The fourth and fifth questions were reverse scored. An average social cohesion score was calculated for each participant. Scores range from 1-5 with lower scores indicating greater social cohesion.

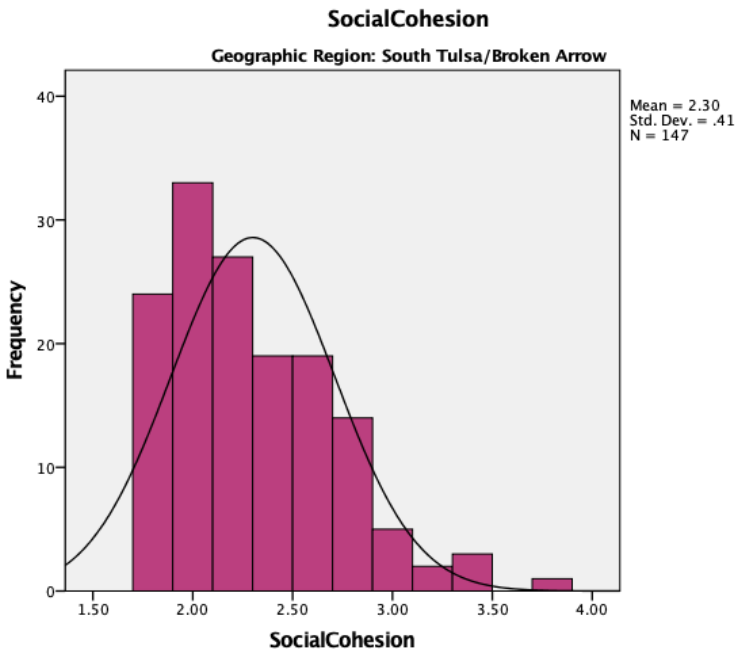
Scores ranged from 1.8 to 3.6. The average social cohesion score was 2.46 with a standard deviation of 0.48. Scores were skewed indicating a somewhat high level of social cohesion. Interestingly, 16 (17%) respondents did not complete at least one item related to social cohesion eliminating their responses from consideration.



South Tulsa and Broken Arrow

Neighborhood social cohesion speaks to the safety of a community and its connectedness to one another. Social cohesion was measured with five commonly used questions: People are here are willing to help their neighbors; This is a close knit neighborhood; People in this neighborhood can be trusted; People in this neighborhood do not get along with one another; and People in this neighborhood do not share the same values. Respondents rate their level of agreement with each statement on a scale of 1-5. The fourth and fifth questions were reverse scored. An average social cohesion score was calculated for each participant. Scores range from 1-5 with lower scores indicating greater social cohesion.

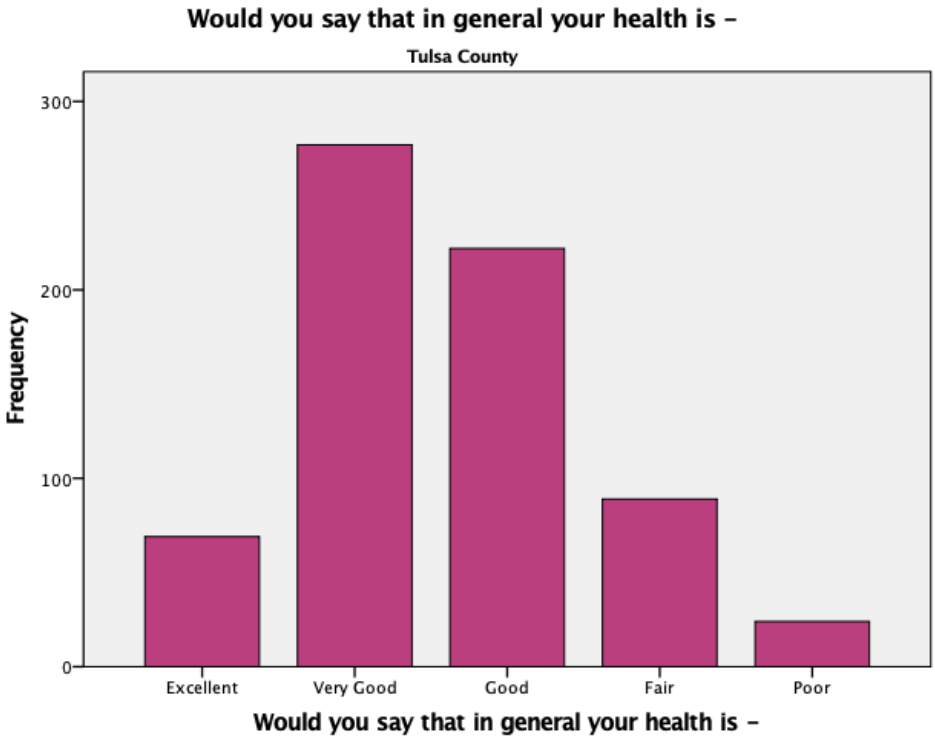
Scored ranges from 1.8 to 3.8. The average social cohesion score was 2.3 with a standard deviation of 0.41. Scores were skewed indicating a somewhat high level of social cohesion. Interestingly, 50 respondents did not complete at least one item related to social cohesion eliminating their responses from consideration.



Personal health

Tulsa County

To rate personal health, respondents were asked, "Would you say that in general your health is: excellent, very good, good, fair or poor?" Sixty-nine (10%) rated their health as excellent, 277 (41%) very good, 222 (33%) good, 89 (13%) fair, 24 (4%) poor and 1 (<1%) respondent did not rate personal health.

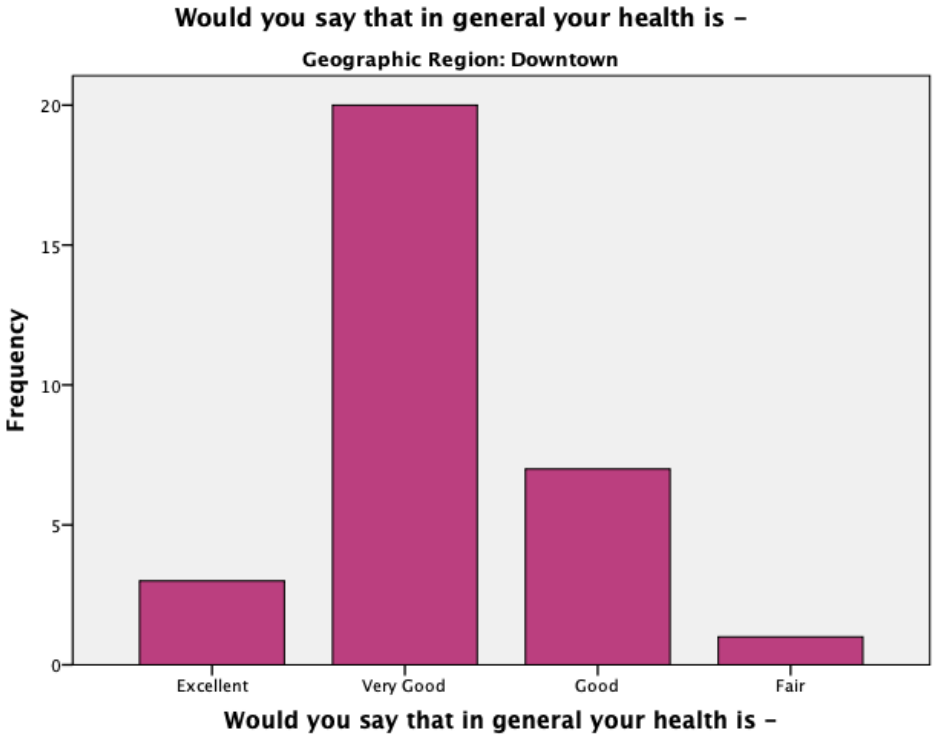


Responses for personal health and community health were collapsed into three categories: excellent and very good, good, and fair and poor. Cross tabulations revealed a statistically significant relationship between one's rating of their personal health and the community's health. More specifically, 72% of those who rated their community health as excellent or very good also rated their personal health as excellent or very good compared to only 45% of those who rated their community's health as fair or poor (t^2 = 29.42, *df* = 4, *p* < .000).

A statistically significant relationship was also noted between marital status and personal health ratings. Fifty-four percent of those married rated their health as excellent or very good compared to 44% of those who were not married (t^2 = 6.73, *df* = 2, *p* = .035).

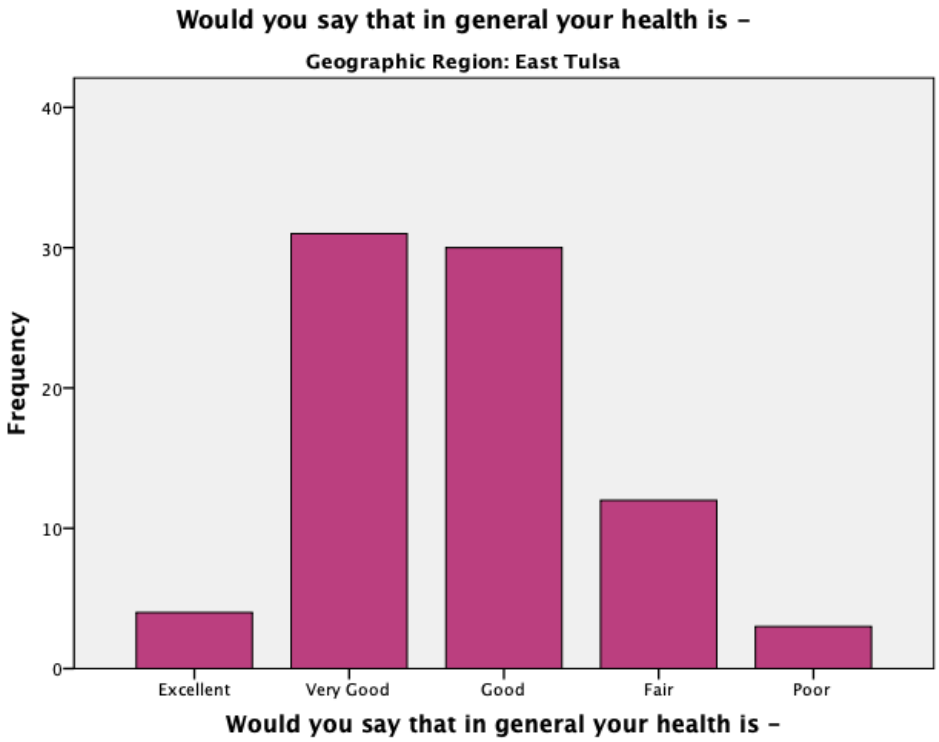
Downtown Tulsa

To rate personal health, respondents were asked, "Would you say that in general your health is: excellent, very good, good, fair or poor?" Three (10%) individuals rated their health as excellent, 20 (65%) very good, 7 (23%) good,1 (3%) fair and none rated their health as poor.



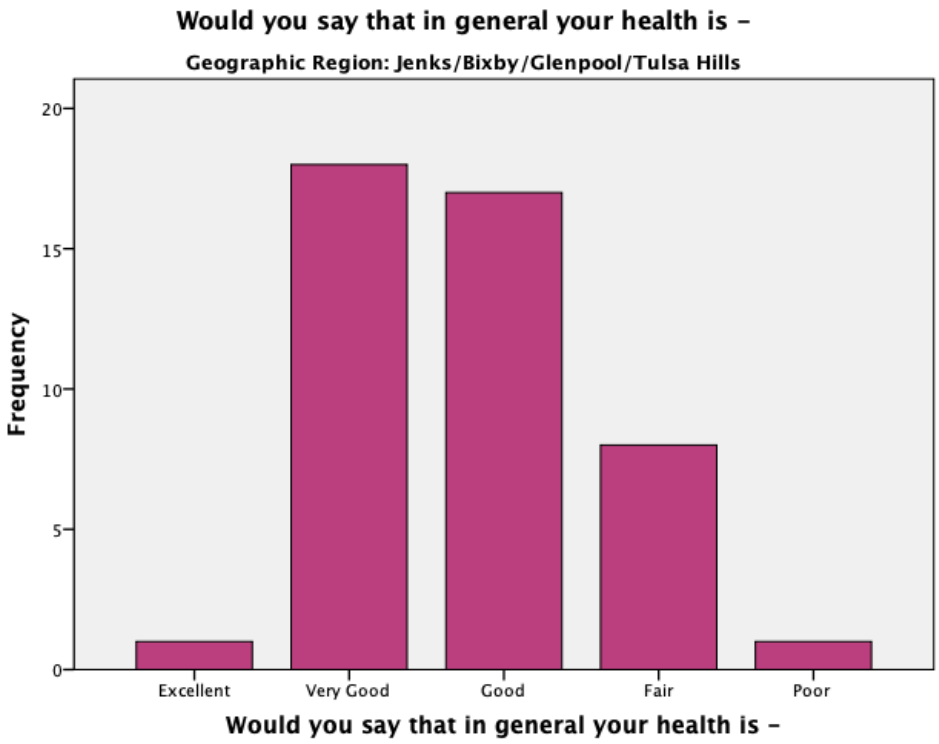
East Tulsa

To rate personal health, respondents were asked, "Would you say that in general your health is: excellent, very good, good, fair or poor?" Four (5%) individuals rated their health as excellent, 31 (39%) very good, 30 (37.5%) good,12 (15%) fair, 3 (3.8%) poor.



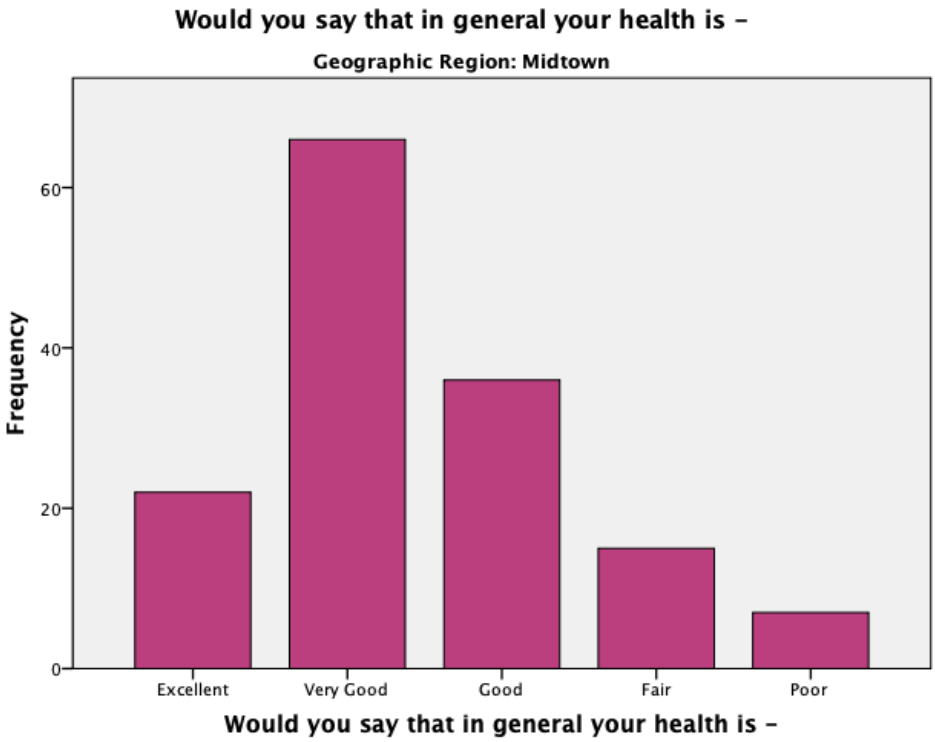
Jenks, Bixby and Glenpool

To rate personal health, respondents were asked, "Would you say that in general your health is: excellent, very good, good, fair or poor?" One (2%) individual rated their health as excellent, 18 (40%) very good, 17 (38%) good, 8 (18%) fair and 1 (2%) poor.



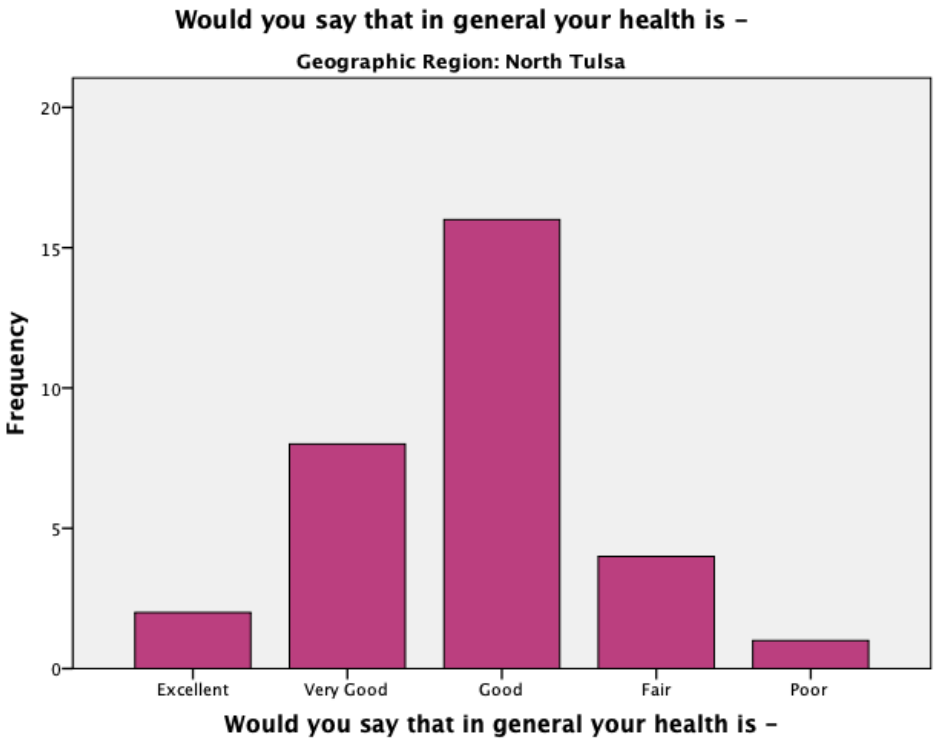
Midtown Tulsa

To rate personal health, respondents were asked, "Would you say that in general your health is: excellent, very good, good, fair or poor?" Twenty-two (15%) individuals rated their health as excellent, 66 (45%) very good, 36 (25%) good, 15 (10%) fair and 7 (5%) poor.



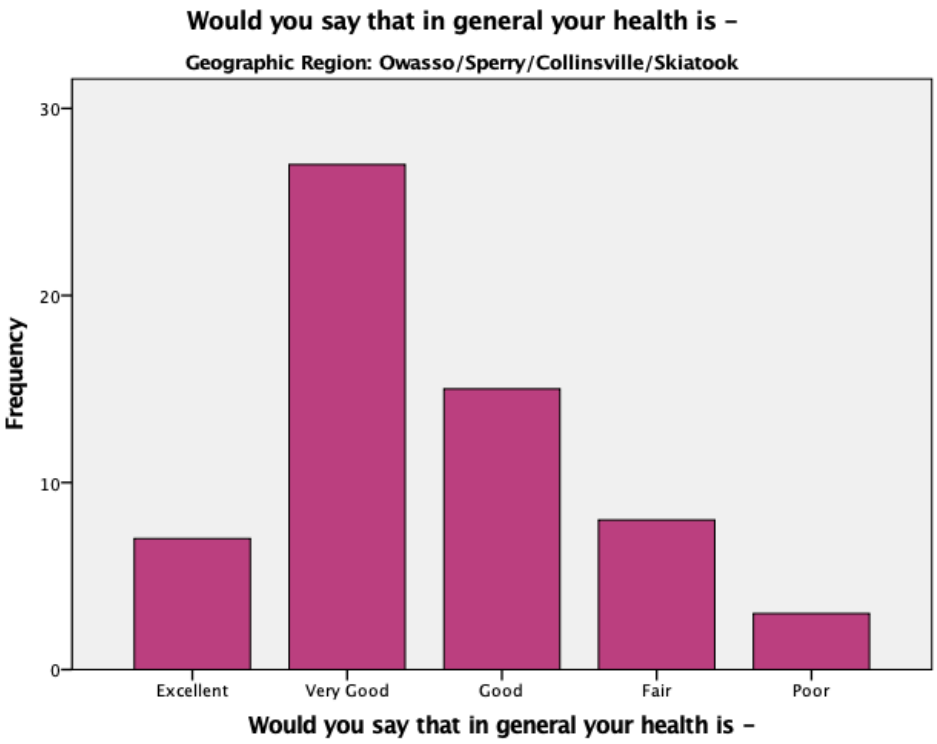
North Tulsa

To rate personal health, respondents were asked, "Would you say that in general your health is: excellent, very good, good, fair or poor?" Two (7%) individuals rated their health as excellent, 8 (26%) very good, 16 (52%) good, 4 (13%) fair and 1 (3%) poor.



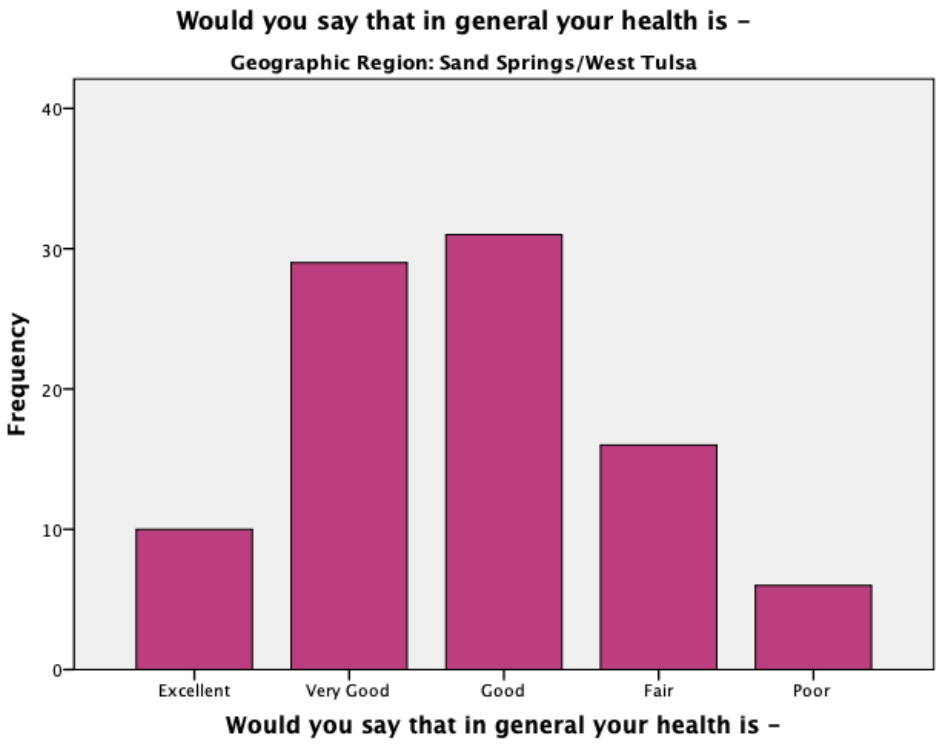
Owasso, Sperry, Collinsville and Skiatook

To rate personal health, respondents were asked, "Would you say that in general your health is: excellent, very good, good, fair or poor?" Seven (12%) individuals rated their health as excellent, 27 (45%) very good, 15 (25%) good, 8 (13%) fair, and 3 (5%) poor.



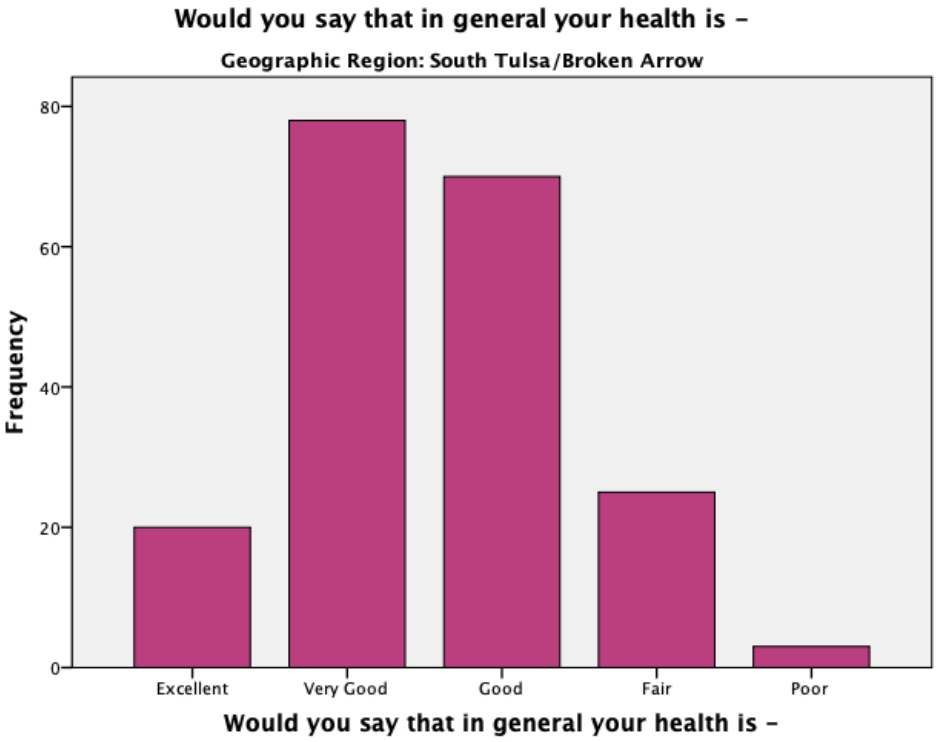
Sand Springs and west Tulsa

To rate personal health, respondents were asked, "Would you say that in general your health is: excellent, very good, good, fair or poor?" Ten (11%) individuals rated their health as excellent, 29 (32%) very good, 31 (34%) good,16 (17%) fair, and 6 (7%) poor.



South Tulsa and Broken Arrow

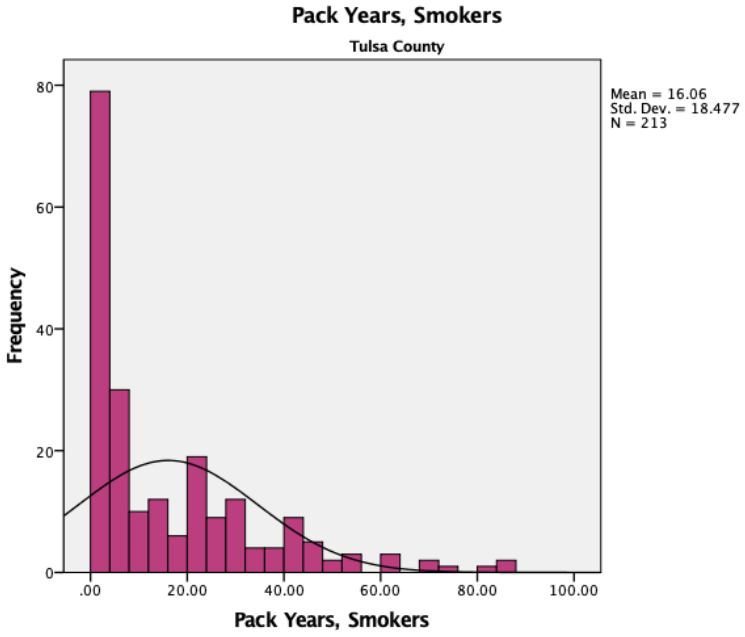
To rate personal health, respondents on the electronic survey were asked, "Would you say that in general your health is: excellent, very good, good, fair or poor?" Twenty (10%) individuals rated their health as excellent, 78 (40%) very good, 70 (36%) good, 25 (13%) fair, 3 (2%) poor and 1 (1%) respondent did not rate personal health.



Smoking

Tulsa County

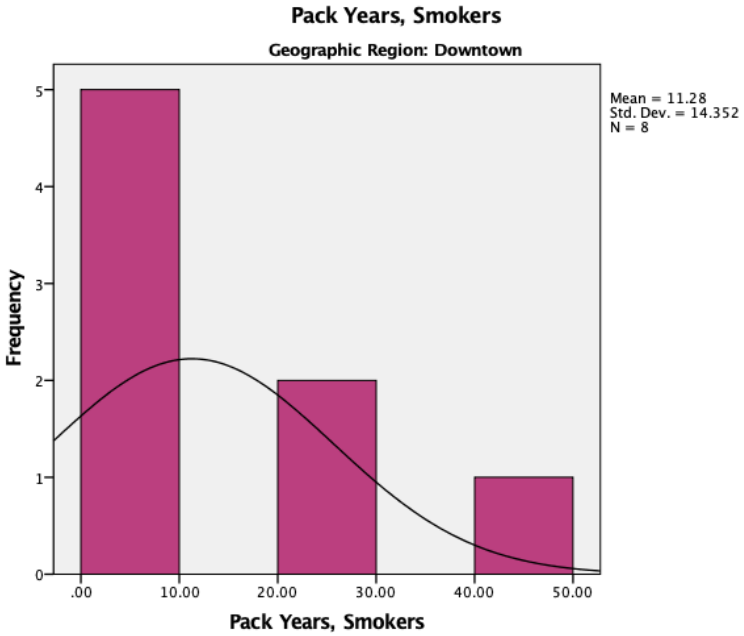
To assess smoking pack years were calculated based on the number of years one had smoked and the number of cigarette packs typically smoked each day. A packs was calculated based on 20 cigarettes in a pack. Considering smokers and nonsmokers the average pack year of the sample was 5.34. Considering only individuals that had smoked during their lifetime, the mean pack year was 16.06. Pack years ranged from .05 – 87.5.



Cross tabulations revealed a statistically significant relationship between pack years and personal health ratings. More specifically, only 28% of those with pack years of 30 or more rated their personal health as excellent or very good compared to 51% of those with lower pack years. Similarly, 34% of those with pack years of 30 or more rated their personal health as fair or poor compared to 17% of those with less pack years (t^2 = 10.05, *df* = 2, *p* = .007).

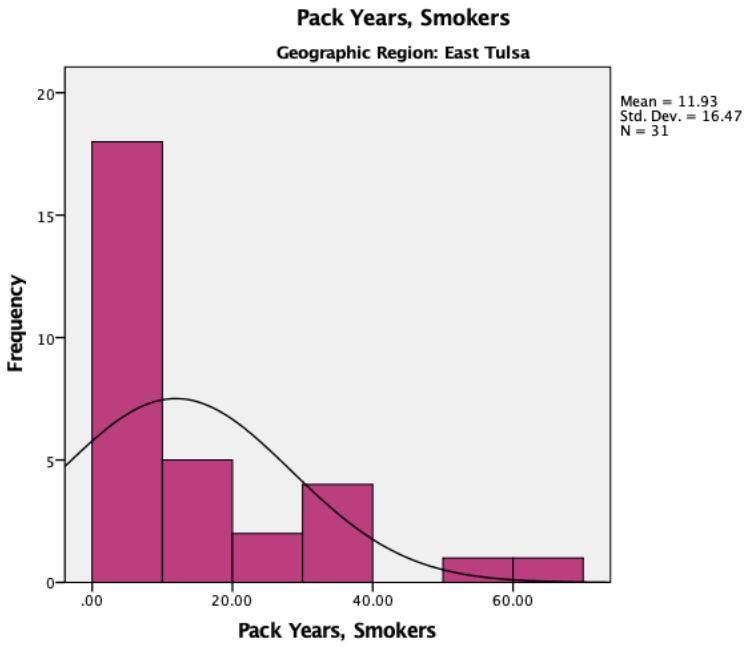
Downtown Tulsa

To assess smoking pack years were calculated based on the number of years one had smoked and the number of cigarette packs typically smoked each day. A packs was calculated based on 20 cigarettes in a pack. Considering smokers and nonsmokers the average pack year of the sample was 2.91. Considering only individuals that had smoked during their lifetime, the mean pack year was 11.28. Pack years ranged from 1.25 - 40.



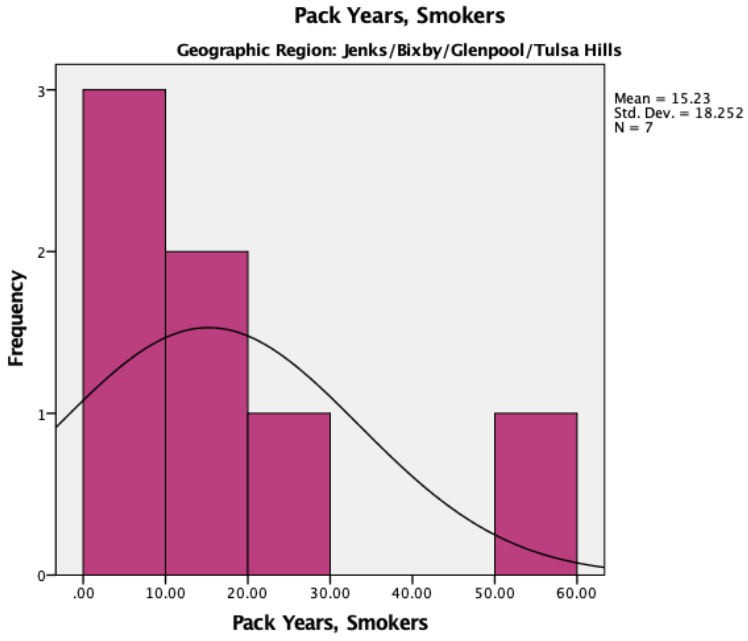
East Tulsa

To assess smoking pack years were calculated based on the number of years one had smoked and the number of cigarette packs typically smoked each day. A packs was calculated based on 20 cigarettes in a pack. Considering smokers and nonsmokers the average pack year of the sample was 4.62. Considering only individuals that had smoked during their lifetime, the mean pack year was 11.93. Pack years ranged from .05 - 60.



Jenks, Bixby and Glenpool

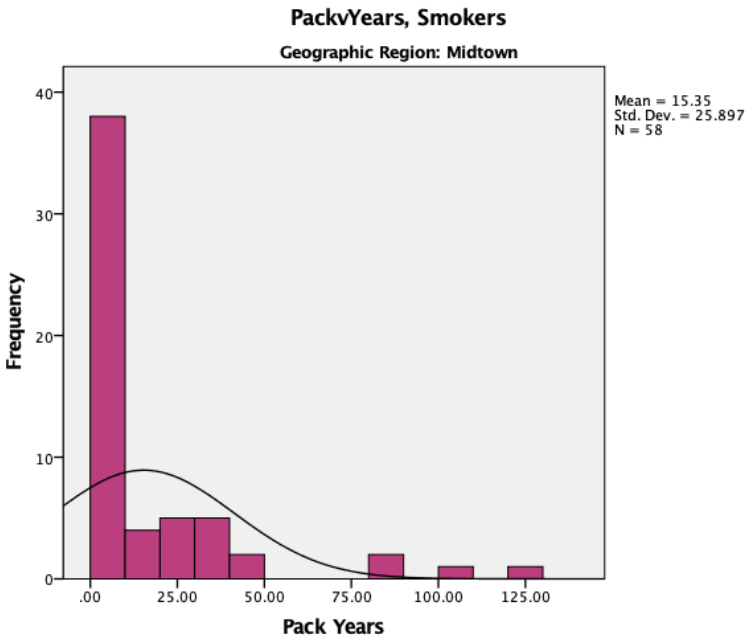
To assess smoking pack years were calculated based on the number of years one had smoked and the number of cigarette packs typically smoked each day. A packs was calculated based on 20 cigarettes in a pack. Considering smokers and nonsmokers the average pack year of the sample was 2.37. Considering only individuals that had smoked during their lifetime, the mean pack year was 15.23. Pack years ranged from .05 - 126.



Midtown Tulsa

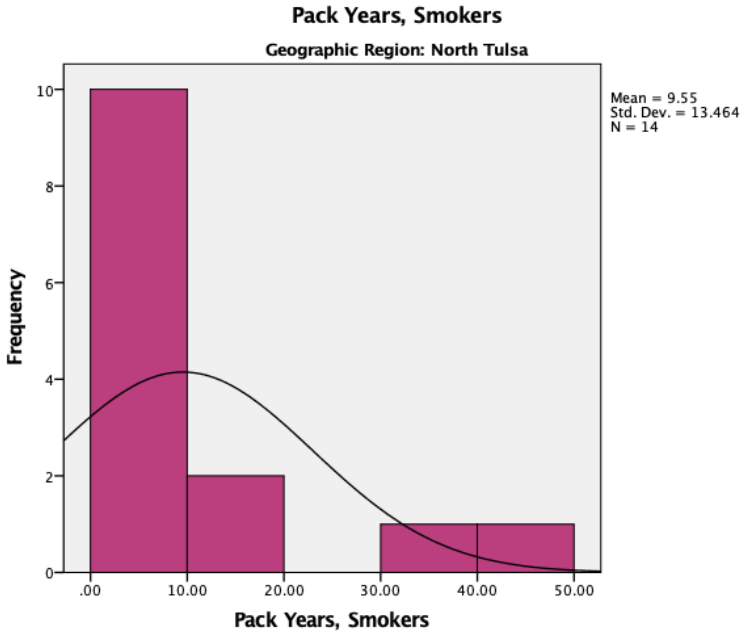
To assess smoking pack years were calculated based on the number of years one had smoked and the number of cigarette packs typically smoked each day. A packs was calculated based on 20 cigarettes in a pack. Considering

smokers and nonsmokers the average pack year of the sample was 6.1. Considering only individuals that had smoked during their lifetime, the mean pack year was 15.35. Pack years ranged from .05 - 126.



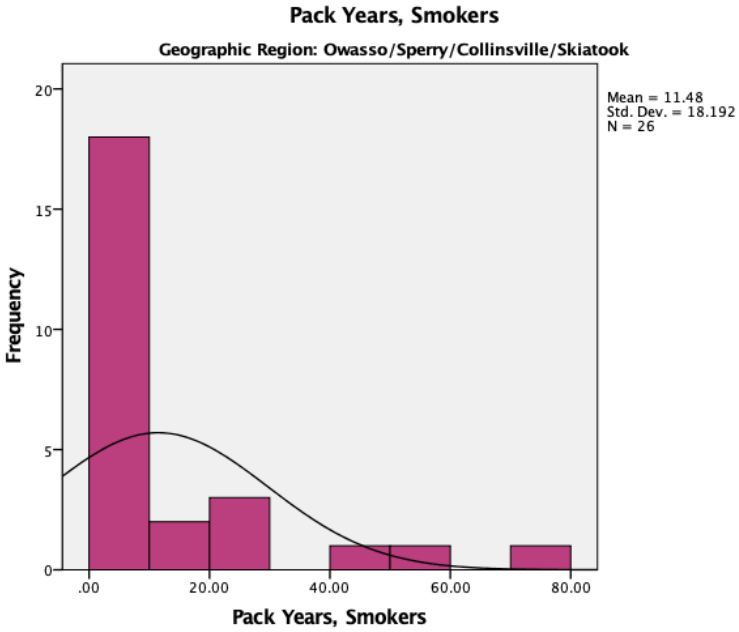
North Tulsa

To assess smoking pack years were calculated based on the number of years one had smoked and the number of cigarette packs typically smoked each day. A packs was calculated based on 20 cigarettes in a pack. Considering smokers and nonsmokers the average pack year of the sample was 4.31. Considering only individuals that had smoked during their lifetime, the mean pack year was 9.55. Pack years ranged from 2.25 - 40.



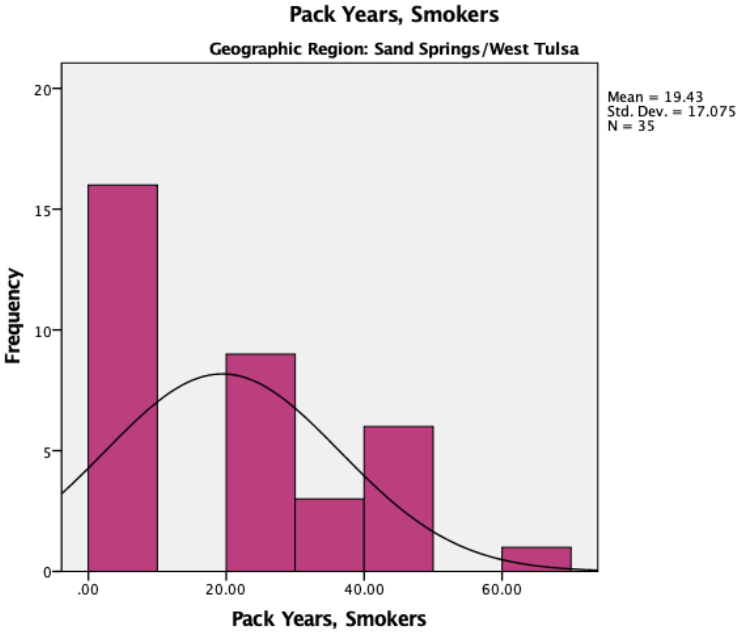
Owasso, Sperry, Collinsville and Skiatook

To assess smoking pack years were calculated based on the number of years one had smoked and the number of cigarette packs typically smoked each day. A packs was calculated based on 20 cigarettes in a pack. Considering smokers and nonsmokers the average pack year of the sample was 4.97. Considering only individuals that had smoked during their lifetime, the mean pack year was 11.48. Pack years ranged from .05 - 70.



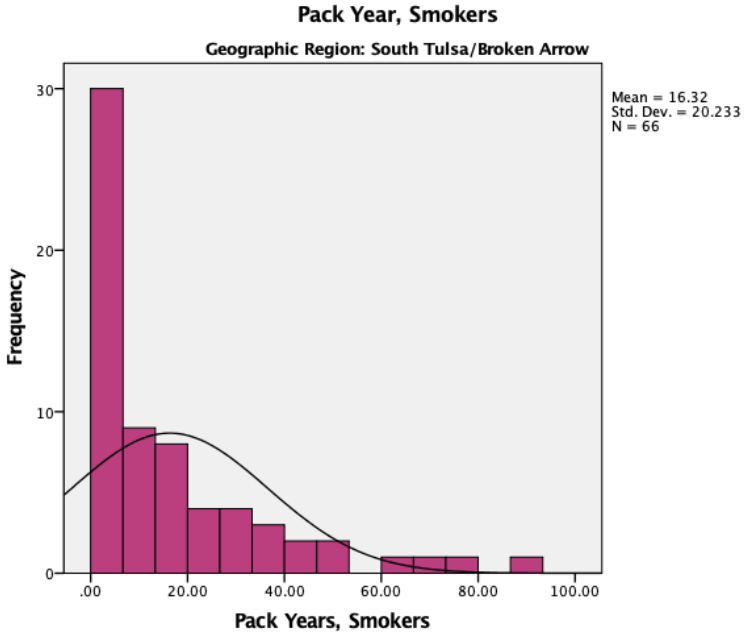
Sand Springs and west Tulsa

To assess smoking pack years were calculated based on the number of years one had smoked and the number of cigarette packs typically smoked each day. A packs was calculated based on 20 cigarettes in a pack. Considering smokers and nonsmokers the average pack year of the sample was 7.39. Considering only individuals that had smoked during their lifetime, the mean pack year was 19.43. Pack years ranged from .5 - 60.



South Tulsa and Broken Arrow

To assess smoking pack years were calculated based on the number of years one had smoked and the number of cigarette packs typically smoked each day. A packs was calculated based on 20 cigarettes in a pack. Considering smokers and nonsmokers the average pack year of the sample was 5.47. Considering only individuals that had smoked during their lifetime, the mean pack year was 16.32. Pack years ranged from .10 – 87.50.



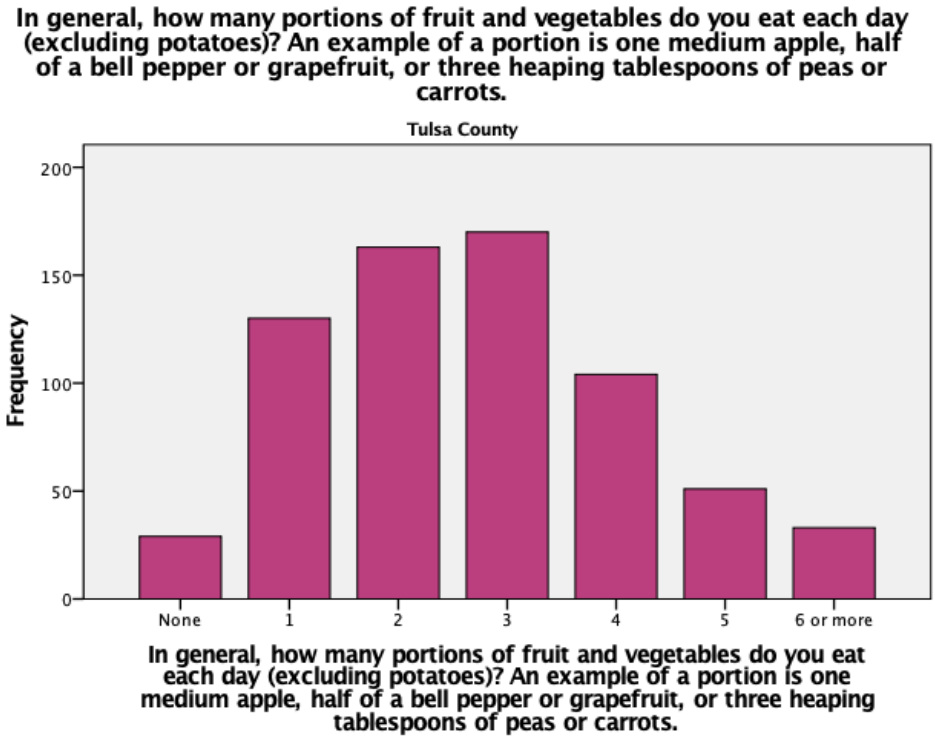
Diet

Tulsa County

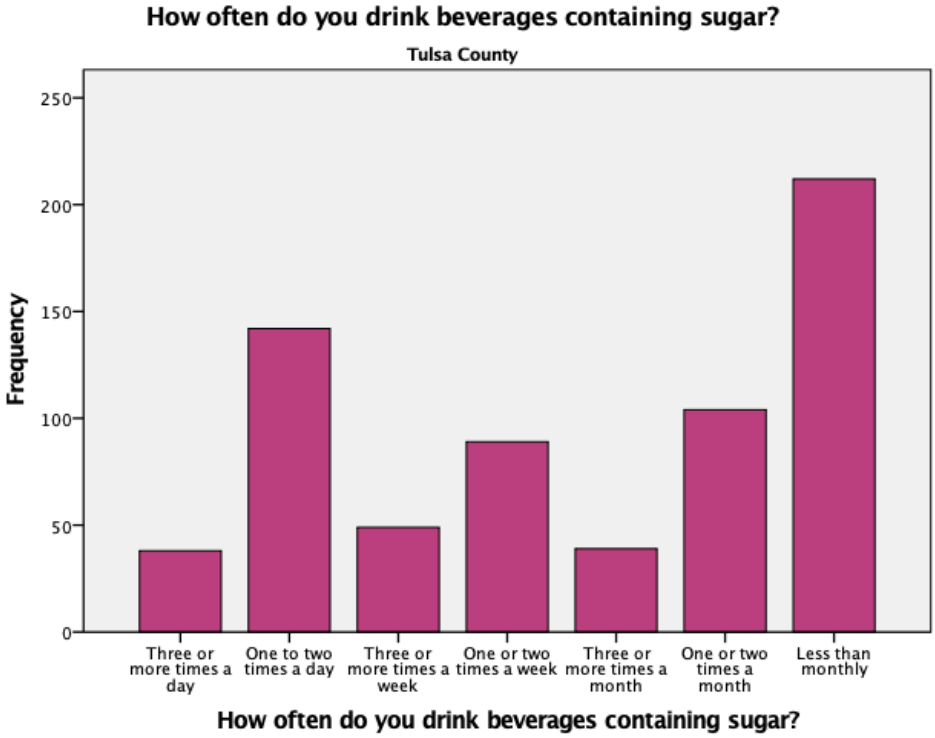
To assess diet, several questions were asked of respondents. To begin, participants were asked "generally speaking, do you think you eat a healthy diet?" Sixty-eight percent (n=463) of respondents indicated they ate a healthy diet, while 27% (n = 184) stated they did not eat a healthy diet and 5%(n = 35) were unsure or did not respond to the question.

Cross tabulations revealed a statistically significant relationship between one's rating of their personal health and their diet. Sixty-four percent of those who said they ate a health diet rated their health as excellent or very good compared to only 22% who said they did not generally eat a healthy diet. Similarly, 36% of those who said they did not generally eat a healthy diet rated their health as fair or poor compared to only 8% of those who said they ate a healthy diet (t^2 = 115.64, *df* = 2, $p < .000$).

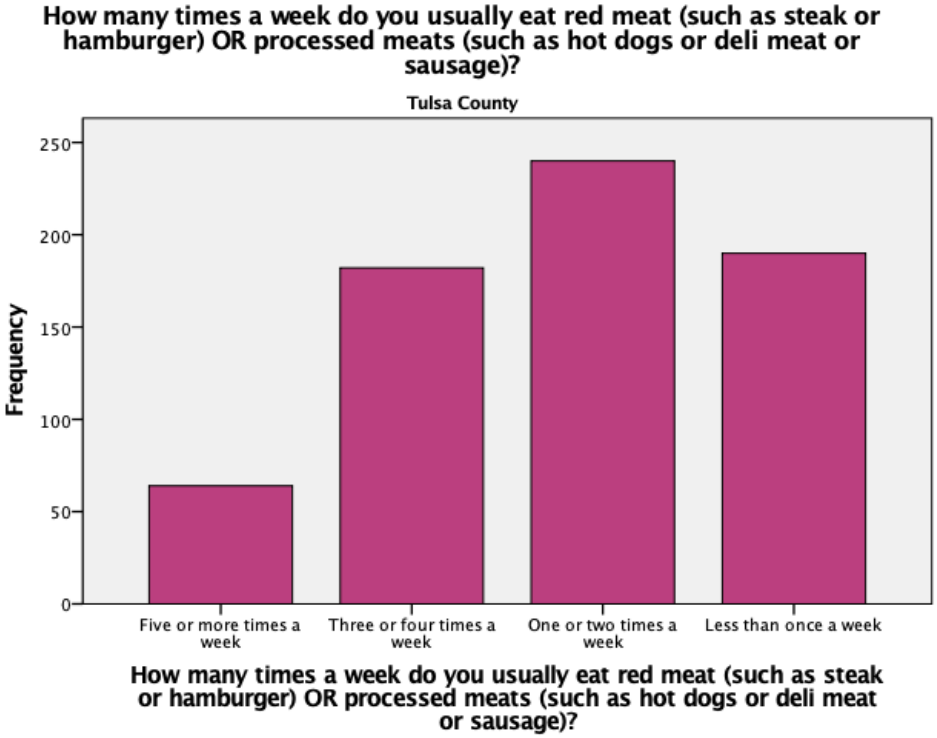
Respondents were then asked how many portions of fruit and vegetables (excluding potatoes) they consumed each day. Only 12% (n = 84) indicated they ate the recommended daily amount of five or more servings of fruits and vegetables each day. Four percent (n = 29) stated they usually ate no fruits and vegetables, 19% (n = 130) ate one serving of fruits and vegetables, 24% (n = 163) ate two servings of fruits and vegetables, 25% (n = 170) ate three servings of fruits and vegetables and 15% (n = 4) at four servings of fruits and vegetables.



Respondents were asked, "How often do you drink beverages containing sugar?" Twenty-six percent (n = 180) answered daily, 20% (n = 138) answered weekly, 21% (n = 143) answered monthly and 31% (n = 212) answered less than monthly.



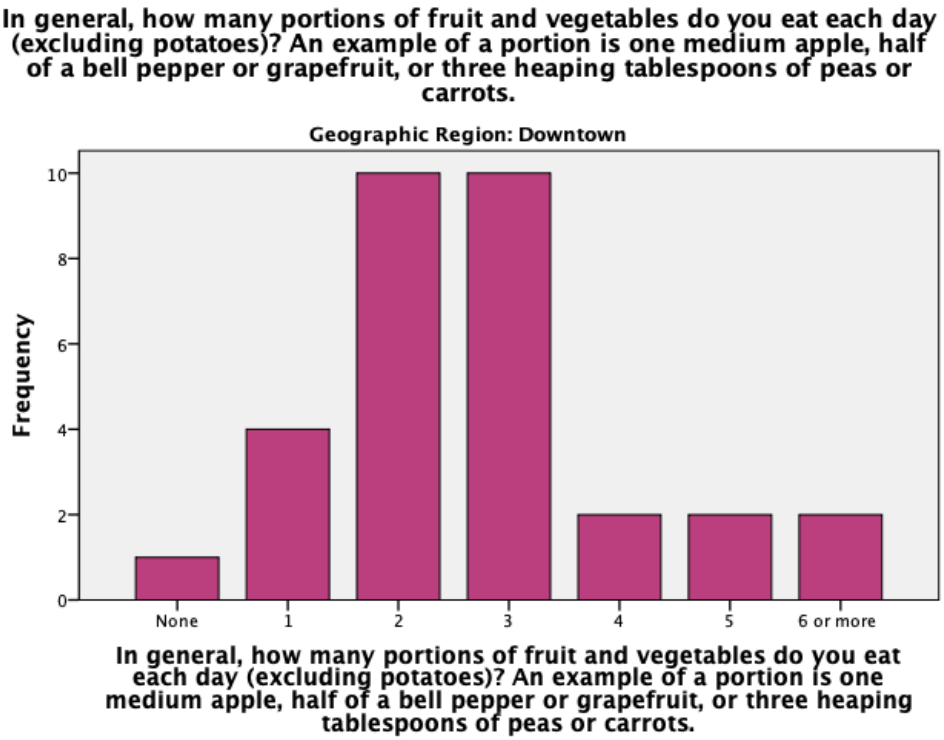
Respondents were asked, “How many times a week do you usually eat red meat or processed meats. Ten percent (n = 64) reported five or more times a week, 27% (n = 182) three or four times a week, 35% (n = 240) one or two times a week, 28% (n = 190) less than once a week and 1% (n = 6) did not report their consumption.



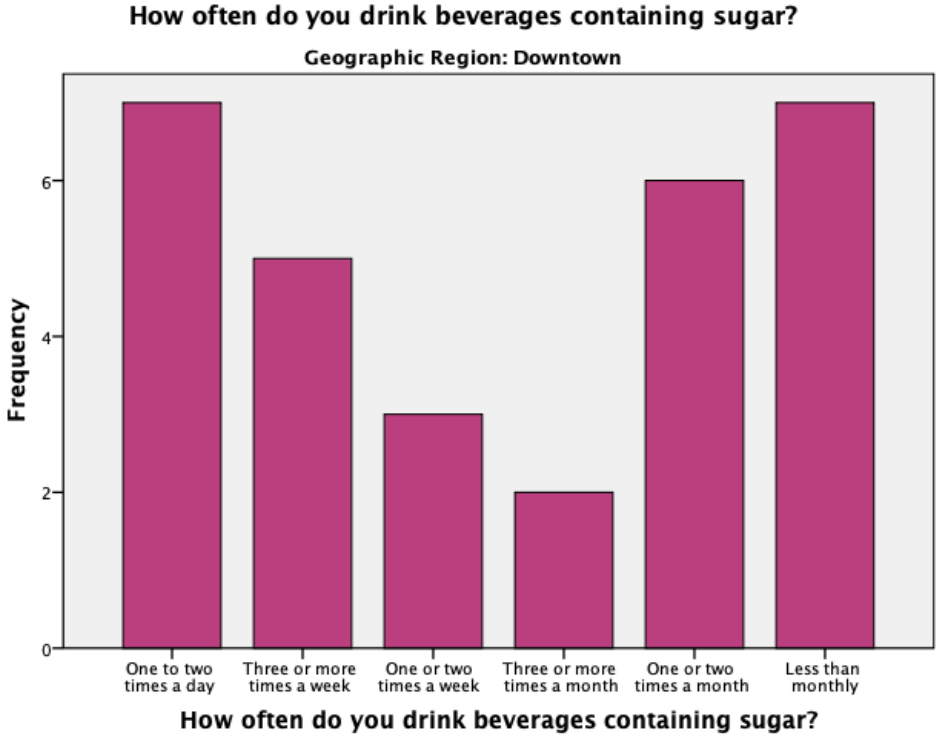
Downtown Tulsa

To assess diet, several questions were asked of respondents. To begin, participants were asked “generally speaking, do you think you eat a healthy diet?” Almost 84% (n = 26) of respondents indicated they ate a healthy diet, while 13% (n = 4) stated they did not eat a healthy diet and 3% (n = 1) were unsure or did not respond to the question.

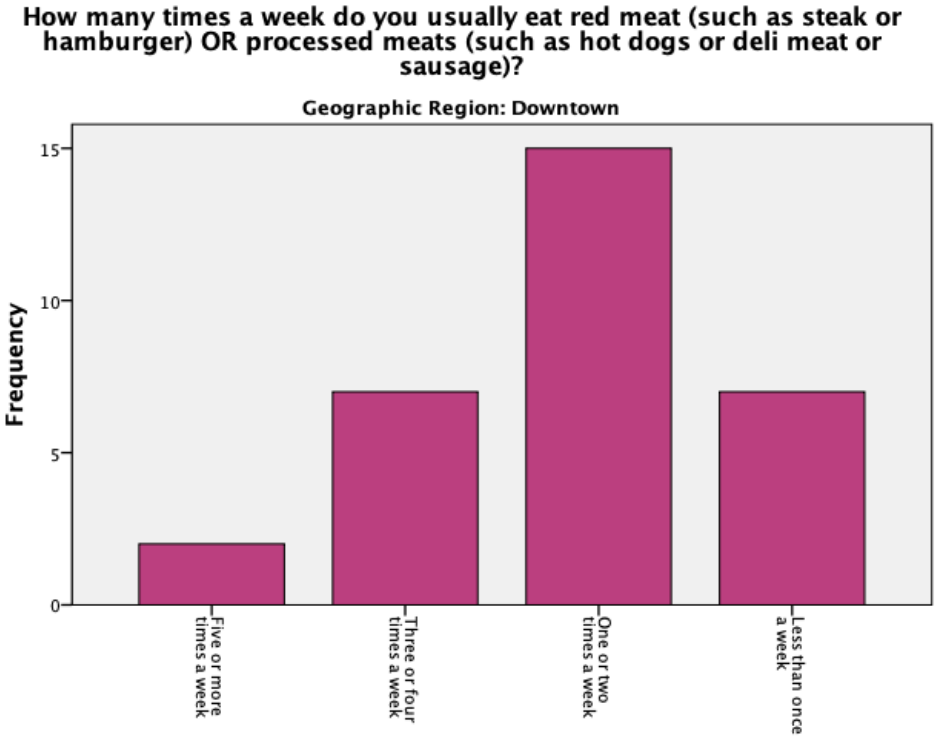
Respondents were then asked how many portions of fruit and vegetables (excluding potatoes) they consumed each day. Only 13% (n = 4) indicated they ate the recommended daily amount of five or more servings of fruits and vegetables each day. Three percent (n = 1) stated they usually ate no fruits and vegetables, 13% (n = 4) ate one serving of fruits and vegetables, 32% (n = 10) ate two servings of fruits and vegetables, 32% (n = 10) ate three servings of fruits and vegetables and 7% (n = 2) at four servings of fruits and vegetables.



Respondents were asked, “How often do you drink beverages containing sugar?” Twenty-three percent (n = 7) answered daily, 26% (n = 8) answered weekly, 26% (n = 8) answered monthly, 23% (n = 7) answered less than monthly and 3% (n = 1=) did not respond to the question.



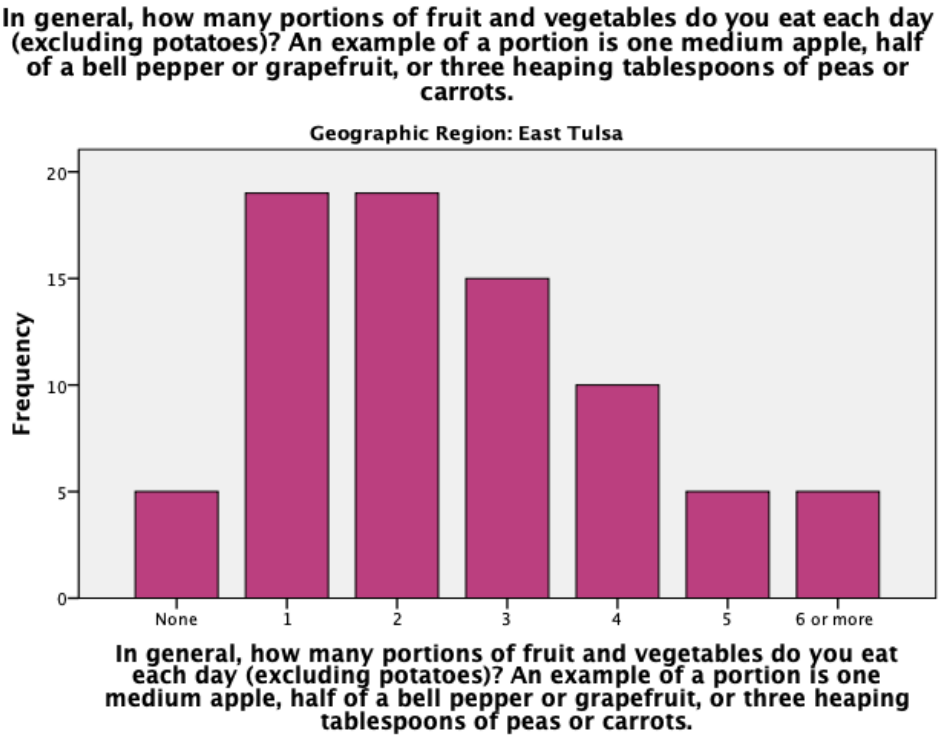
Respondents were asked, “How many times a week do you usually eat red meat or processed meats. Almost 7% (n = 2) reported five or more times a week, 23% (n = 7) three or four times a week, 48% (n = 15) one or two times a week and 23% (n = 15) less than once a week.



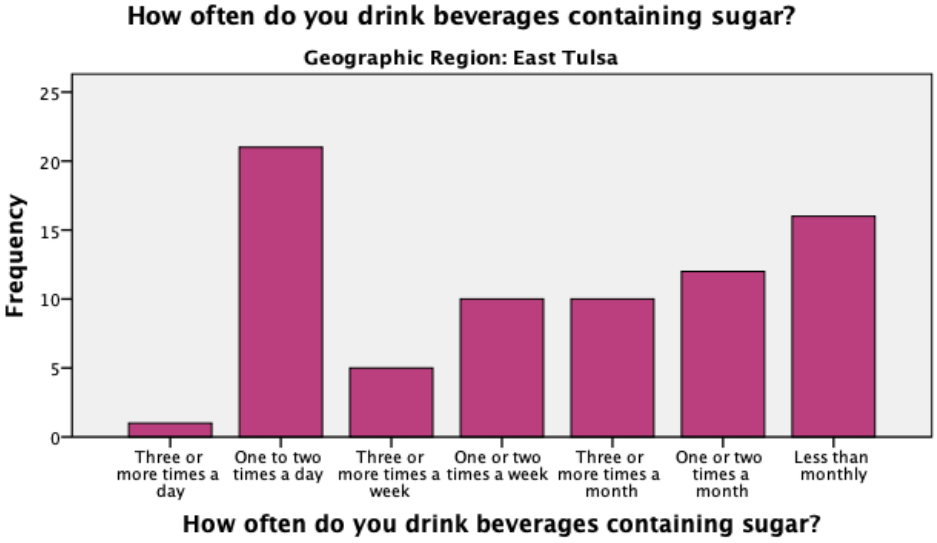
East Tulsa

To assess diet, several questions were asked of respondents. To begin, participants were asked “generally speaking, do you think you eat a healthy diet?” Fifty-four percent (n = 43) of respondents indicated they ate a healthy diet, while 35% (n = 28) stated they did not eat a healthy diet and 11% (n = 9) were unsure or did not respond to the question.

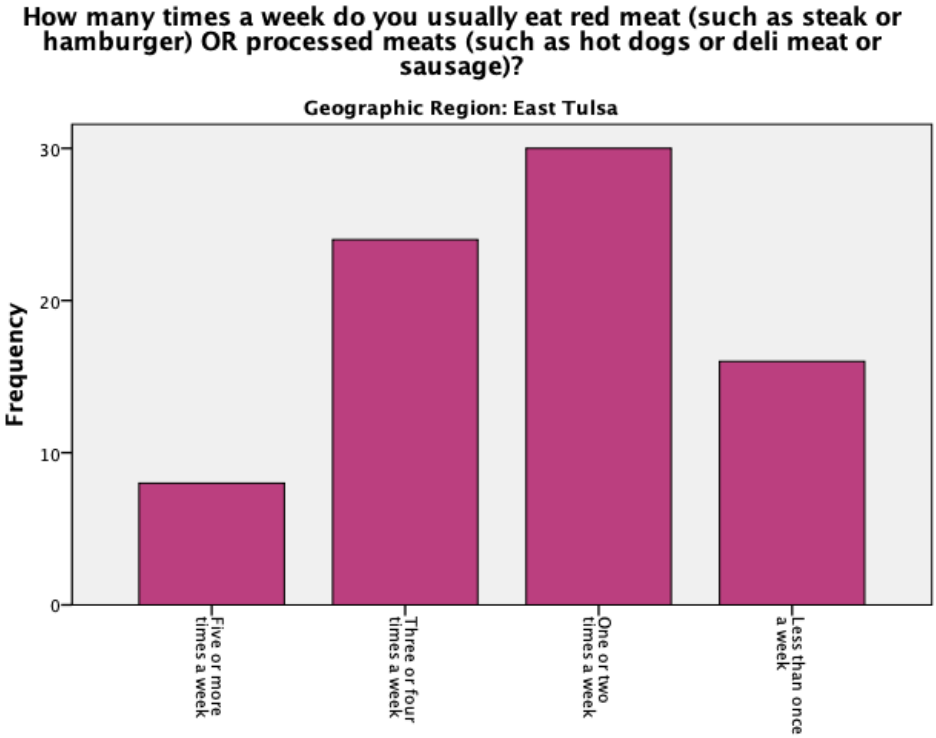
Respondents were then asked how many portions of fruit and vegetables (excluding potatoes) they consumed each day. Only 13% (n = 10) indicated they ate the recommended daily amount of five or more servings of fruits and vegetables each day. Six percent (n = 5) stated they usually ate no fruits and vegetables, 24% (n = 19) ate one serving of fruits and vegetables, 24% (n = 19) ate two servings of fruits and vegetables, 19% (n = 15) ate three servings of fruits and vegetables and 13% (n = 10) at four servings of fruits and vegetables. Two (3%) participants did not provide information about fruit and vegetable consumption.



Respondents were asked, “How often do you drink beverages containing sugar?” Twenty-eight percent (n = 22) answered daily, 19% (n = 15) answered weekly, 28% (n = 22) answered monthly, 20% (n = 16) answered less than monthly and 6% (n = 5) did not respond to the question.



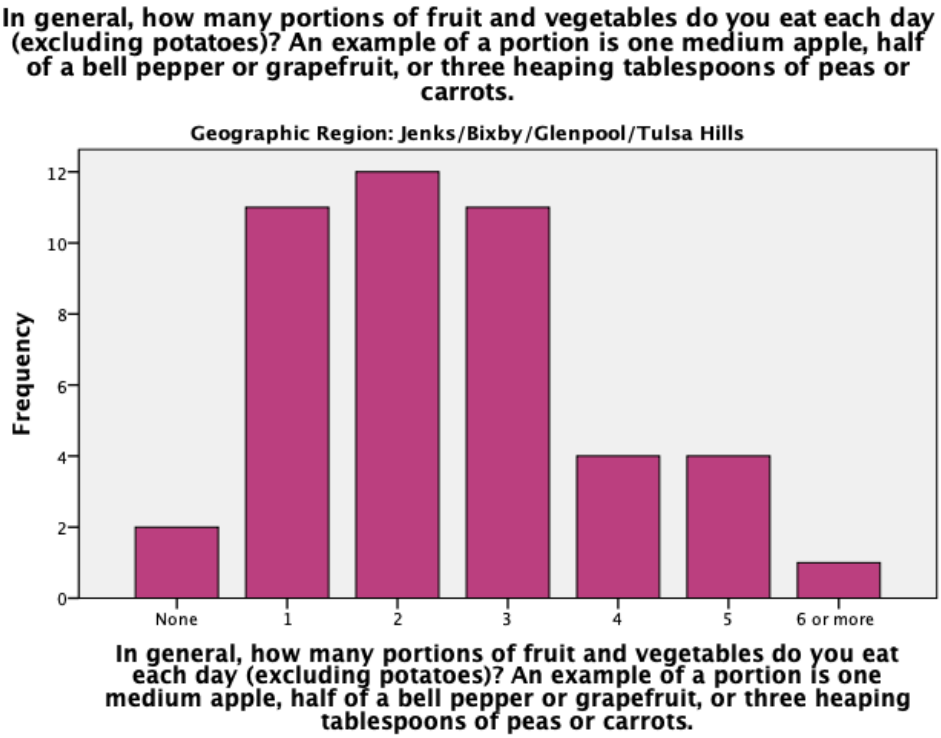
Respondents were asked, “How many times a week do you usually eat red meat or processed meats. Ten percent (n = 8) reported five or more times a week, 30% (n = 24) three or four times a week, 38% (n = 30) one or two times a week, 20% (n = 16) less than once a week and 3% (n = 2) did not report their consumption.



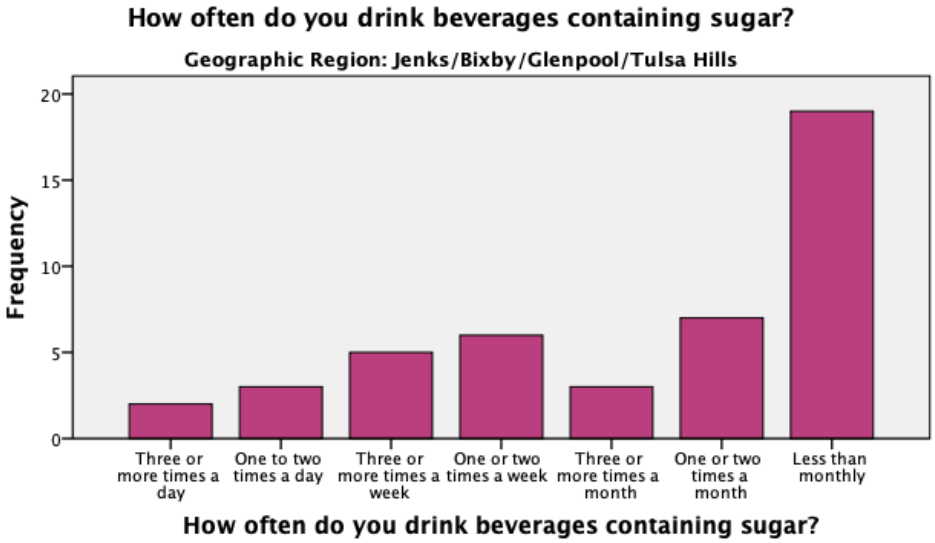
Jenks, Bixby and Glenpool

To assess diet, several questions were asked of respondents. To begin, participants were asked “generally speaking, do you think you eat a healthy diet?” Seventy-three percent (n = 33) of respondents indicated they ate a healthy diet, while 22% (n = 10) stated they did not eat a healthy diet and 4% (n = 2) were unsure or did not respond to the question.

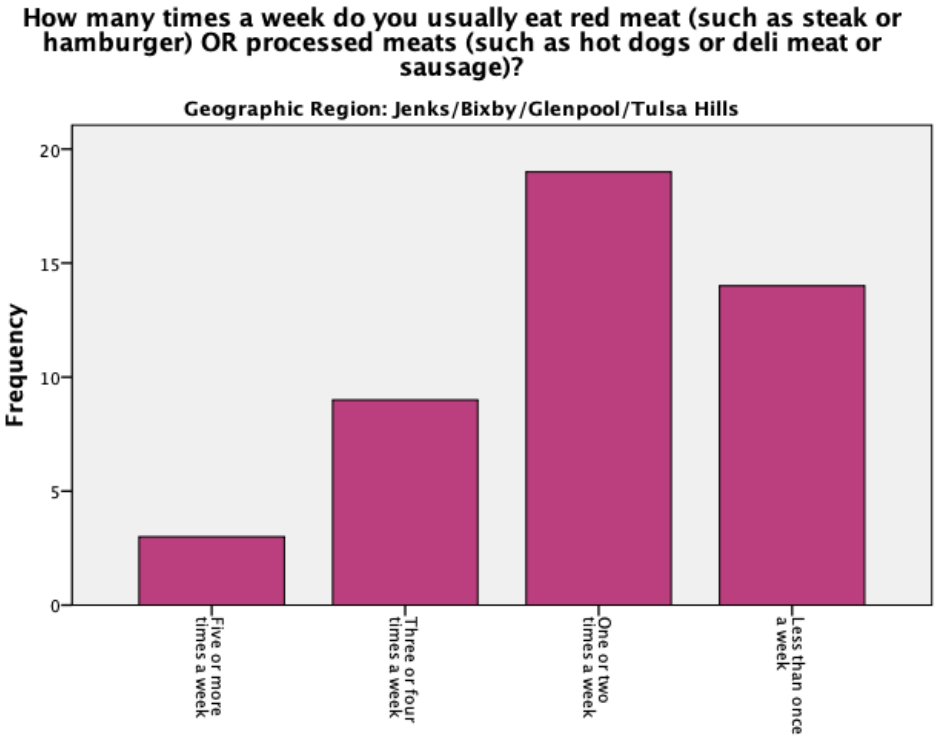
Respondents were then asked how many portions of fruit and vegetables (excluding potatoes) they consumed each day. Only 11% (n = 5) indicated they ate the recommended daily amount of five or more servings of fruits and vegetables each day. Four percent (n = 2) stated they usually ate no fruits and vegetables, 24% (n = 11) ate one serving of fruits and vegetables, 27% (n = 12) ate two servings of fruits and vegetables, 24% (n = 11) ate three servings of fruits and vegetables and 9% (n = 4) at four servings of fruits and vegetables.



Respondents were asked, “How often do you drink beverages containing sugar?” Eleven percent (n = 5) answered daily, 24% (n = 11) answered weekly, 22% (n = 10) answered monthly and 42% (n = 19) answered less than monthly.



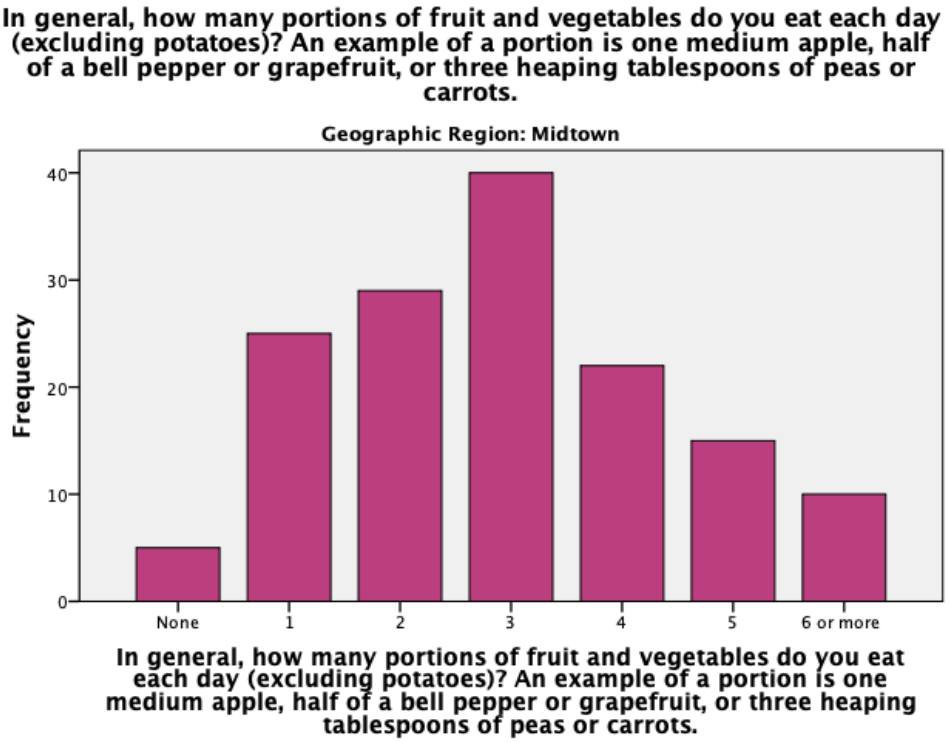
Respondents were asked, “How many times a week do you usually eat red meat or processed meats. Seven percent (n = 3) reported five or more times a week, 20% (n = 9) three or four times a week, 42% (n = 19) one or two times a week and 31% (n = 14) less than once a week.



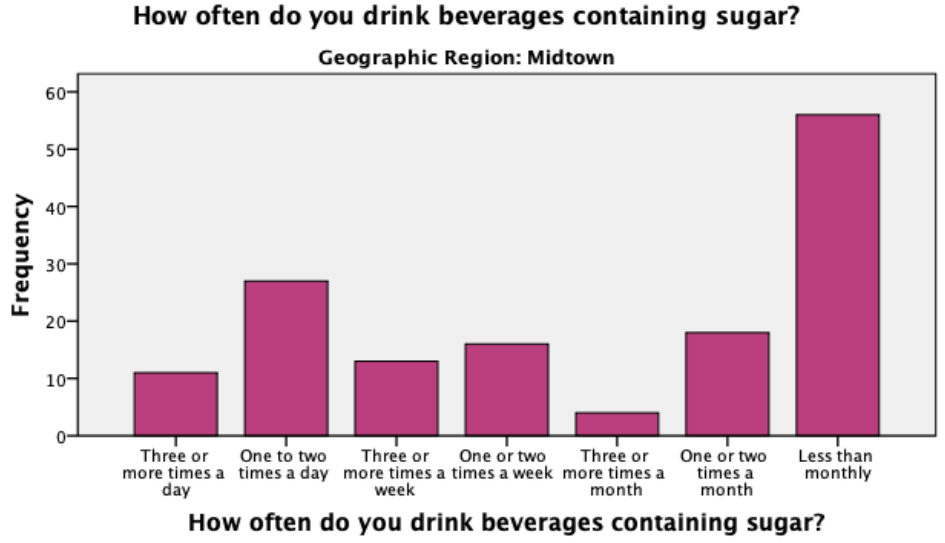
Midtown Tulsa

To assess diet, several questions were asked of respondents. To begin, participants were asked "generally speaking, do you think you eat a healthy diet?" Seventy-three percent (n = 107) of respondents indicated they ate a healthy diet, while 24% (n = 35) stated they did not eat a healthy diet and 3% (n = 4) were unsure or did not respond to the question.

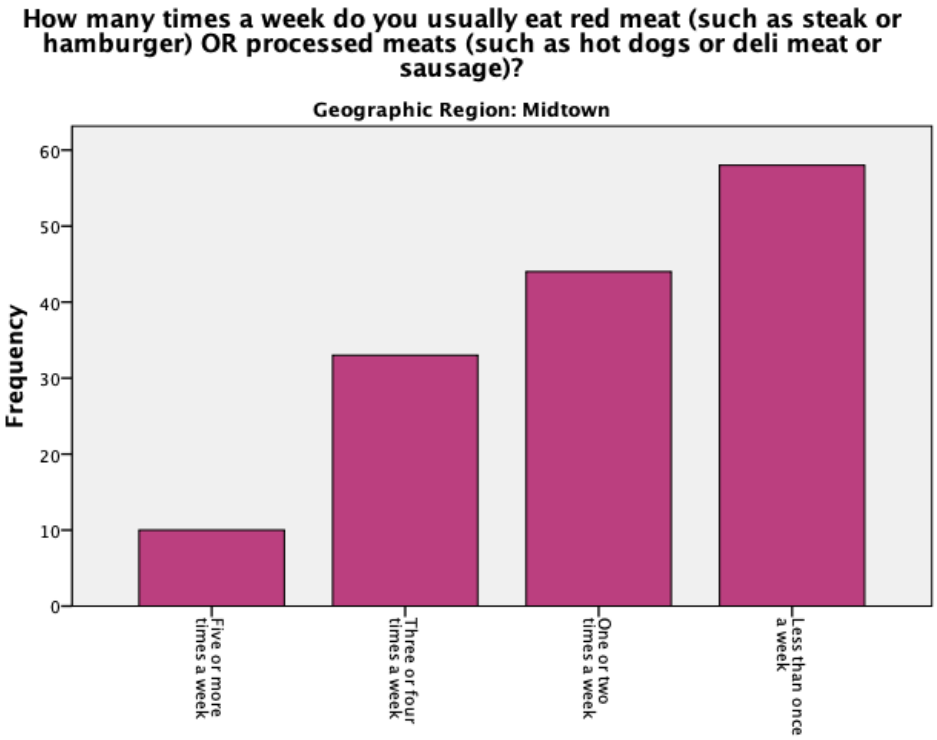
Respondents were then asked how many portions of fruit and vegetables (excluding potatoes) they consumed each day. Only 17% (n = 25) indicated they ate the recommended daily amount of five or more servings of fruits and vegetables each day. Three percent (n = 5) stated they usually ate no fruits and vegetables, 17% (n = 25) ate one serving of fruits and vegetables, 20% (n = 29) ate two servings of fruits and vegetables, 27% (n = 40) ate three servings of fruits and vegetables and 15% (n = 22) at four servings of fruits and vegetables.



Respondents were asked, “How often do you drink beverages containing sugar?” Twenty-six percent (n = 38) answered daily, 20% (n = 29) answered weekly, 25% (n = 22) answered monthly, 38% (n = 56) answered less than monthly and 1% (n = 1=) did not respond to the question.



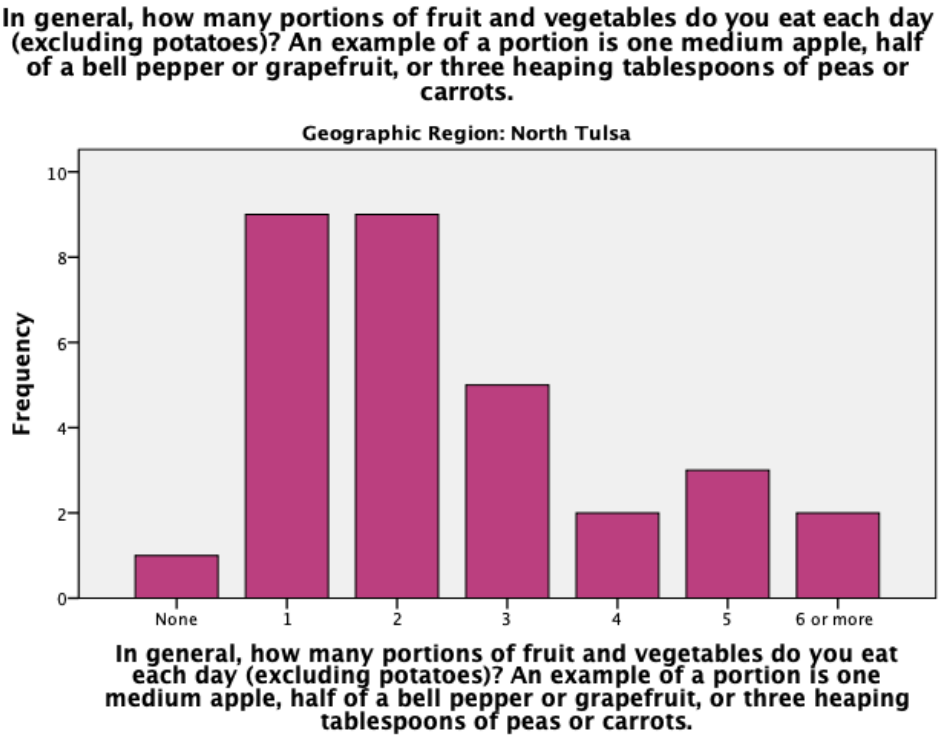
Respondents were asked, “How many times a week do you usually eat red meat or processed meats?” Seven percent (n = 10) reported five or more times a week, 23% (n = 33) three or four times a week, 30% (n = 44) one or two times a week, 40% (n = 58) less than once a week and 1% (n = 1) did not report their consumption.



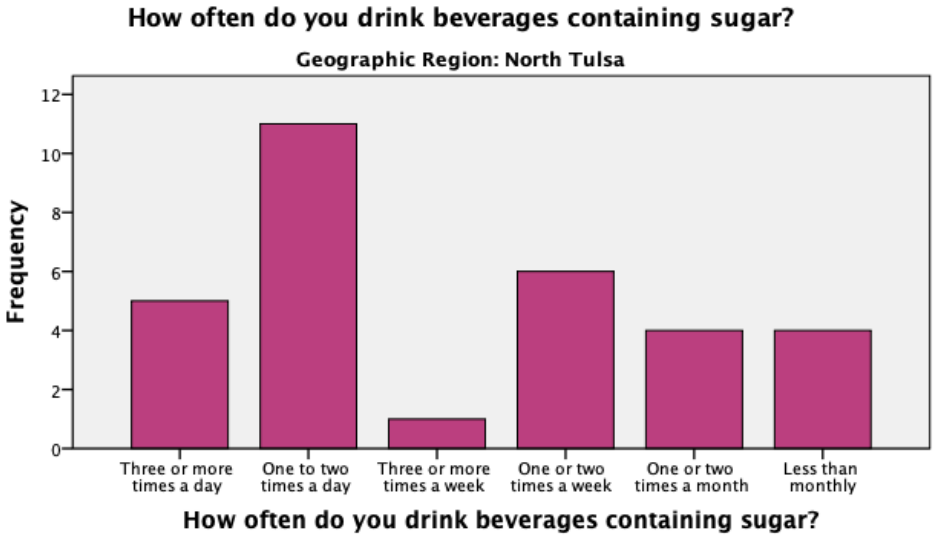
North Tulsa

To assess diet, several questions were asked of respondents. To begin, participants were asked "generally speaking, do you think you eat a healthy diet?" Almost 55% percent (n = 17) of respondents indicated they ate a healthy diet, while 42% (n = 13) stated they did not eat a healthy diet and 3% (n = 1) were unsure or did not respond to the question.

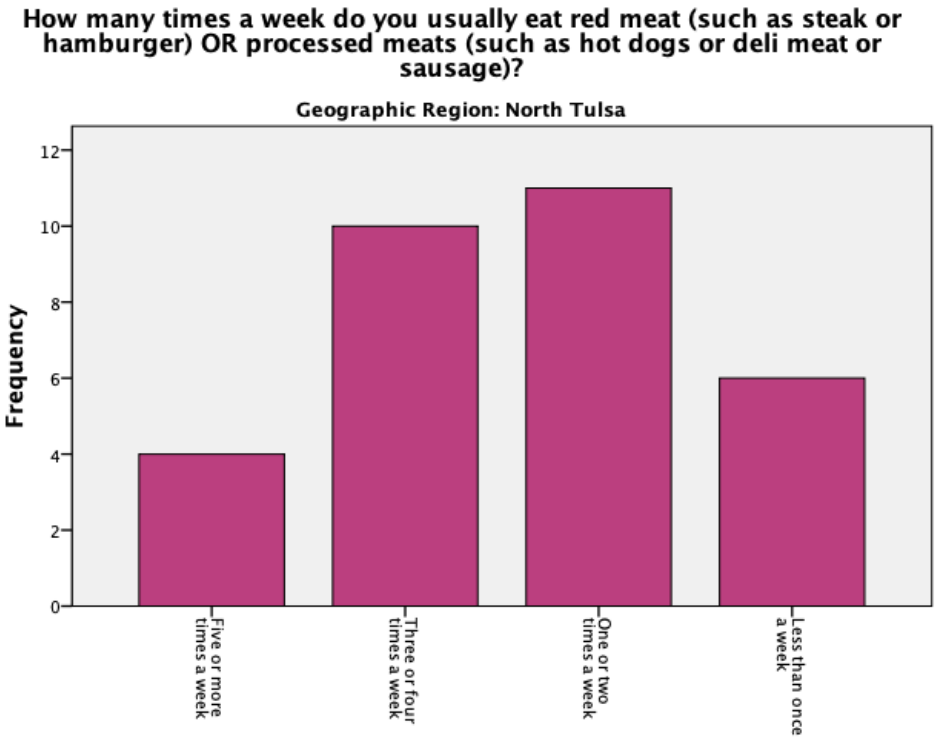
Respondents were then asked how many portions of fruit and vegetables (excluding potatoes) they consumed each day. About 16% (n = 5) indicated they ate the recommended daily amount of five or more servings of fruits and vegetables each day. Three percent (n = 1) stated they usually ate no fruits and vegetables, 29% (n = 9) ate one serving of fruits and vegetables, 29% (n = 9) ate two servings of fruits and vegetables, 16% (n = 5) ate three servings of fruits and vegetables and 7% (n = 2) at four servings of fruits and vegetables.



Respondents were asked, “How often do you drink beverages containing sugar?” Fifty-two percent (n = 16) answered daily, 23% (n = 7) answered weekly, 13% (n = 4) answered monthly and 13% (n = 4) answered less than.



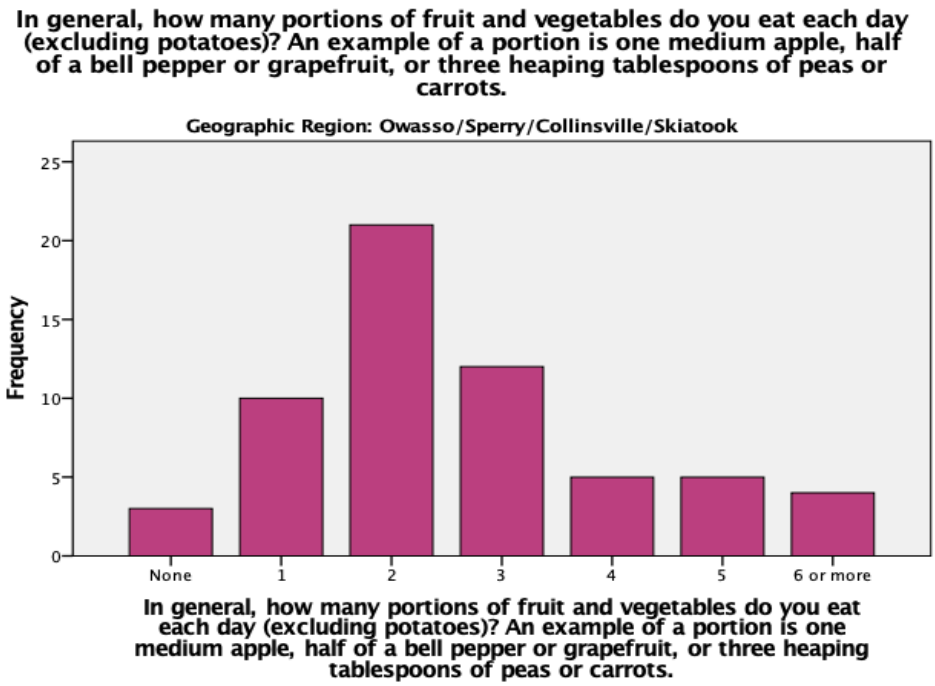
Respondents were asked, “How many times a week do you usually eat red meat or processed meats?” Almost 13% (n = 4) reported five or more times a week, 32% (n = 10) three or four times a week, 36% (n = 11) one or two times a week and 19% (n = 6) less than once a week.



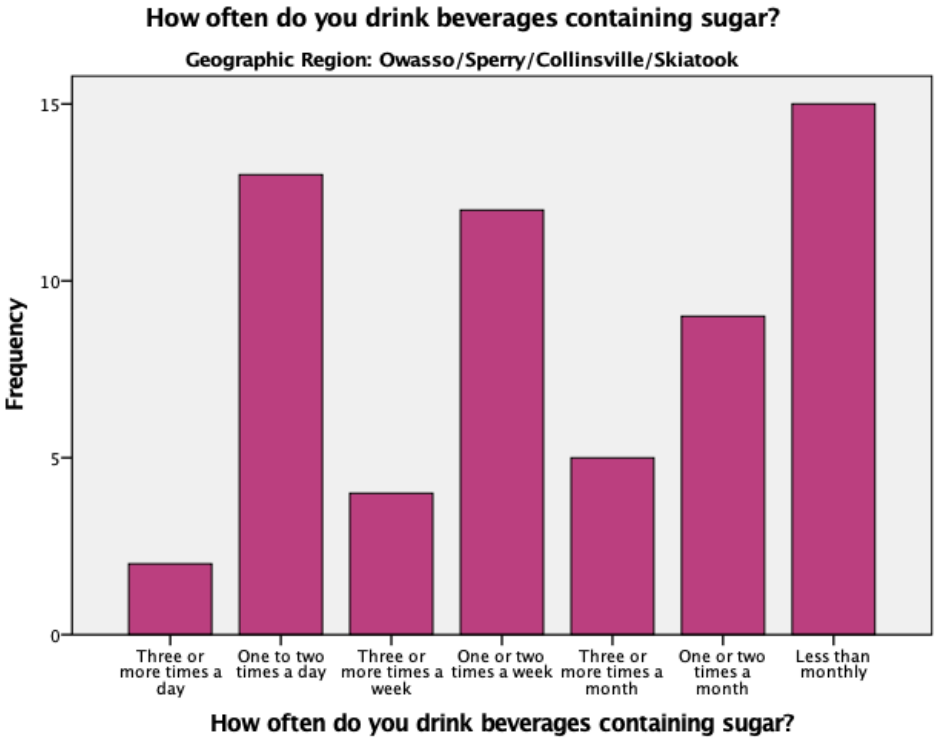
Owasso, Sperry, Collinsville and Skiatook

To assess diet, several questions were asked of respondents. To begin, participants were asked "generally speaking, do you think you eat a healthy diet?" About 63% percent (n = 38) of respondents indicated they ate a healthy diet, while 33% (n = 20) stated they did not eat a healthy diet and 3% (n = 2) were unsure or did not respond to the question.

Respondents were then asked how many portions of fruit and vegetables (excluding potatoes) they consumed each day. Fifteen percent (n = 9) indicated they ate the recommended daily amount of five or more servings of fruits and vegetables each day. Five percent (n = 3) stated they usually ate no fruits and vegetables, 17% (n = 10) ate one serving of fruits and vegetables, 35% (n = 21) ate two servings of fruits and vegetables, 20% (n = 12) ate three servings of fruits and vegetables and 8% (n = 5) at four servings of fruits and vegetables.

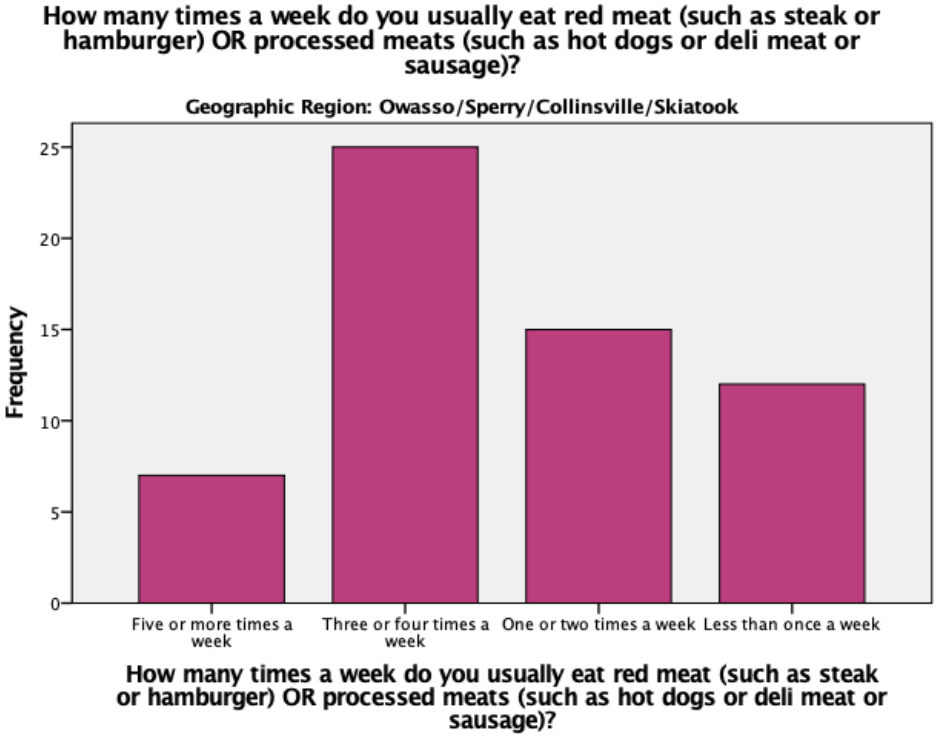


Respondents were asked, “How often do you drink beverages containing sugar?” Twenty-five percent (n = 15) answered daily, 27% (n = 16) answered weekly, 28% (n = 14) answered monthly and 25% (n = 15) answered less than monthly.



Respondents were asked, “How many times a week do you usually eat red meat or processed meats. Twelve percent

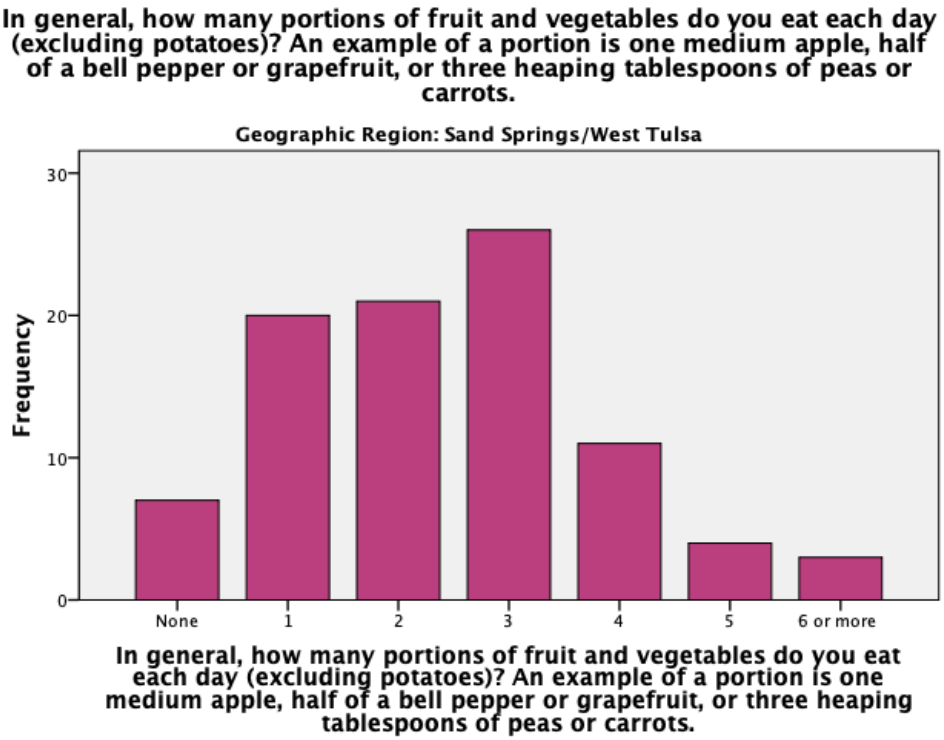
(n = 7) reported five or more times a week, 42% (n = 25) three or four times a week, 25% (n = 15) one or two times a week, 20% (n = 12) less than once a week and 2% (n = 2) did not report their consumption.



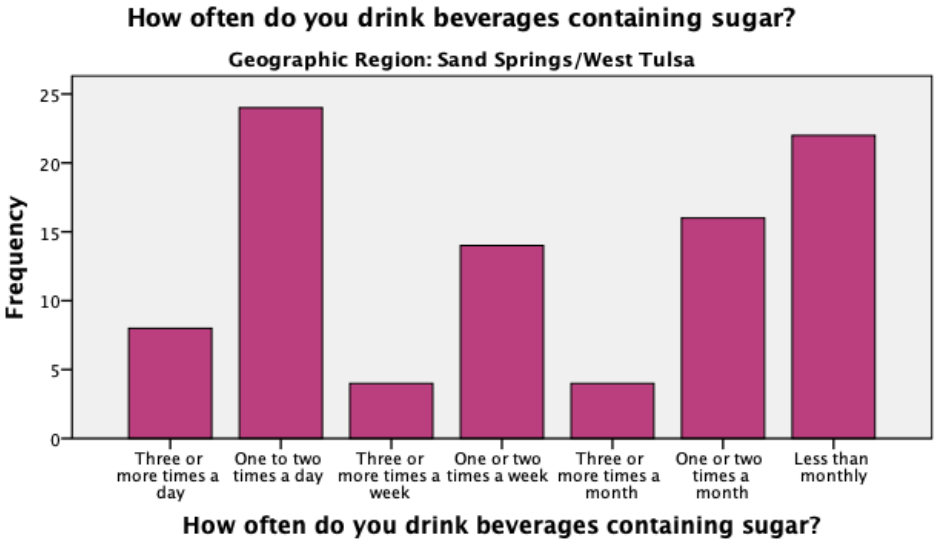
Sand Springs and west Tulsa

To assess diet, several questions were asked of respondents. To begin, participants were asked "generally speaking, do you think you eat a healthy diet?" Almost 59% (n = 54) of respondents indicated they ate a healthy diet, while 34% (n = 31) stated they did not eat a healthy diet and 8% (n = 7) were unsure or did not respond to the question.

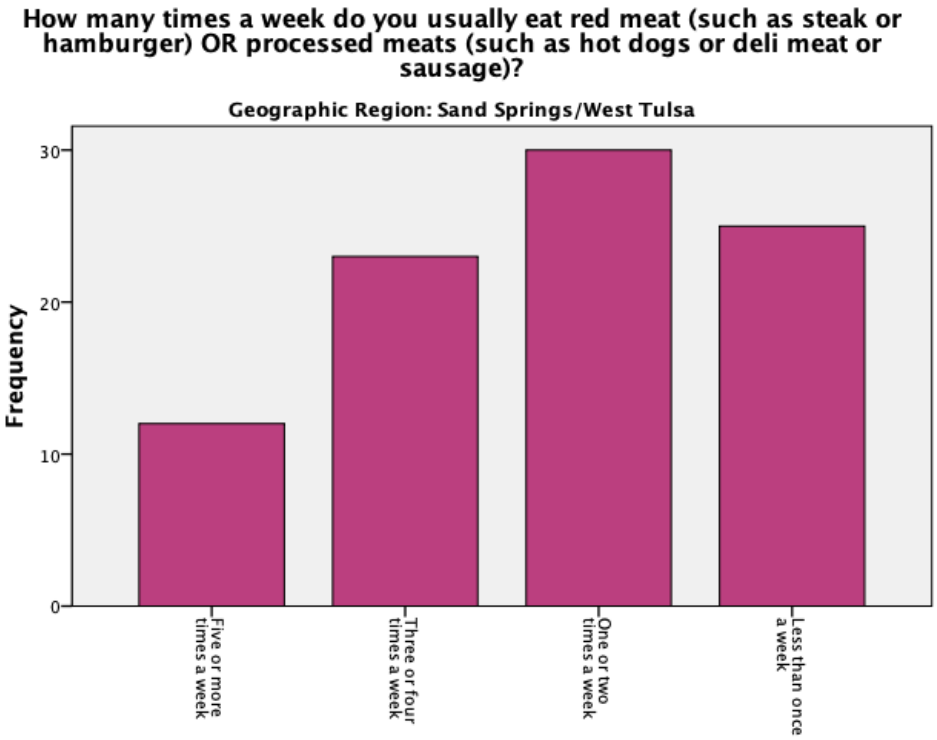
Respondents were then asked how many portions of fruit and vegetables (excluding potatoes) they consumed each day. Only 8% (n = 7) indicated they ate the recommended daily amount of five or more servings of fruits and vegetables each day. Eight percent (n = 7) stated they usually ate no fruits and vegetables, 22% (n = 20) ate one serving of fruits and vegetables, 23% (n = 21) ate two servings of fruits and vegetables, 28% (n = 26) ate three servings of fruits and vegetables and 12% (n = 11) at four servings of fruits and vegetables.



Respondents were asked, “How often do you drink beverages containing sugar?” Almost 35% (n = 32) answered daily, 20% (n = 18) answered weekly, 22% (n = 20) answered monthly and 24% (n = 22).



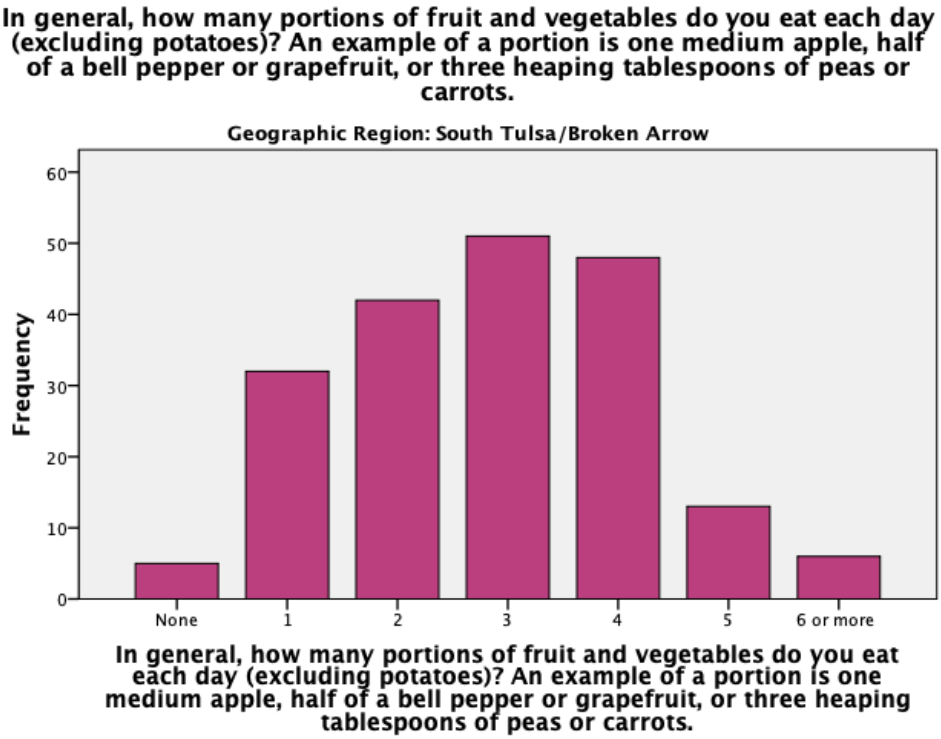
Respondents were asked, “How many times a week do you usually eat red meat or processed meats. Thirteen percent (n = 12) reported five or more times a week, 25% (n = 23) three or four times a week, 33% (n = 30) one or two times a week, 27% (n = 25) less than once a week and 2% (n = 2) did not report their consumption.



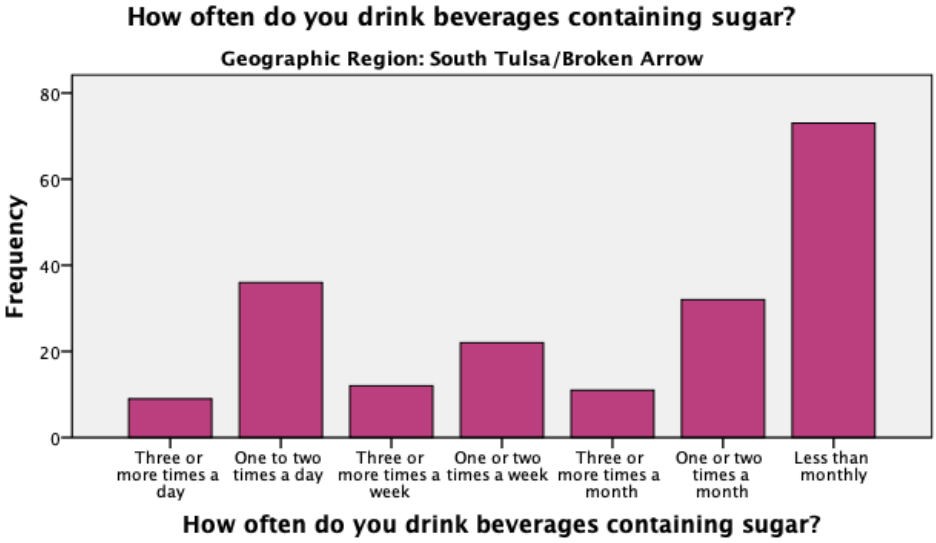
South Tulsa and Broken Arrow

To assess diet, several questions were asked of respondents. To begin, participants were asked, "generally speaking, do you think you eat a healthy diet?" Seventy-four percent (n = 145) of respondents indicated they ate a healthy diet, while 22% (n = 43) stated they did not eat a healthy diet and 5% (n = 9) were unsure or did not respond to the question.

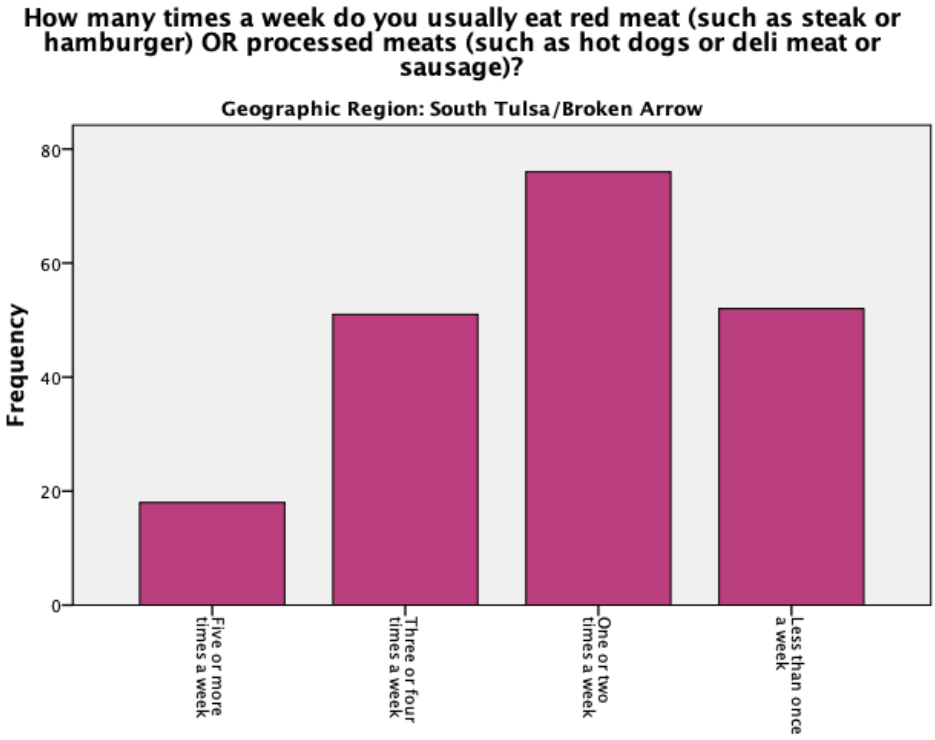
Respondents were then asked how many portions of fruit and vegetables (excluding potatoes) they consumed each day. About 10% (n = 19) indicated they ate the recommended daily amount of five or more servings of fruits and vegetables each day. Three percent (n = 5) stated they usually ate no fruits and vegetables, 16% (n = 32) ate one serving of fruits and vegetables, 21% (n = 42) ate two servings of fruits and vegetables, 26% (n = 51) ate three servings of fruits and vegetables and 24% (n = 48) at four servings of fruits and vegetables.



Respondents were asked, “How often do you drink beverages containing sugar?” Twenty-three percent (n = 45) answered daily, 17% (n = 34) answered weekly, 22% (n = 43) answered monthly, 37% (n = 73) answered less than monthly and 1% (n = 2) did not respond to the question.



Respondents were asked, “How many times a week do you usually eat red meat or processed meats. Ten percent (n = 18) reported five or more times a week, 26% (n = 51) three or four times a week, 39% (n = 76) one or two times a week and 26% (n = 52) less than once a week.

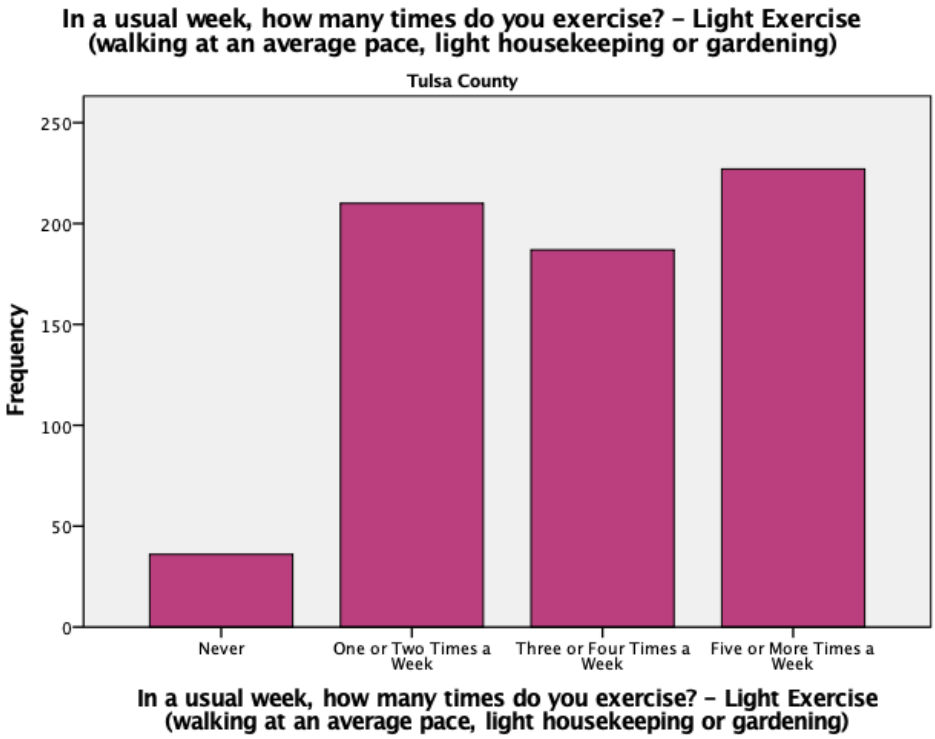


Exercise

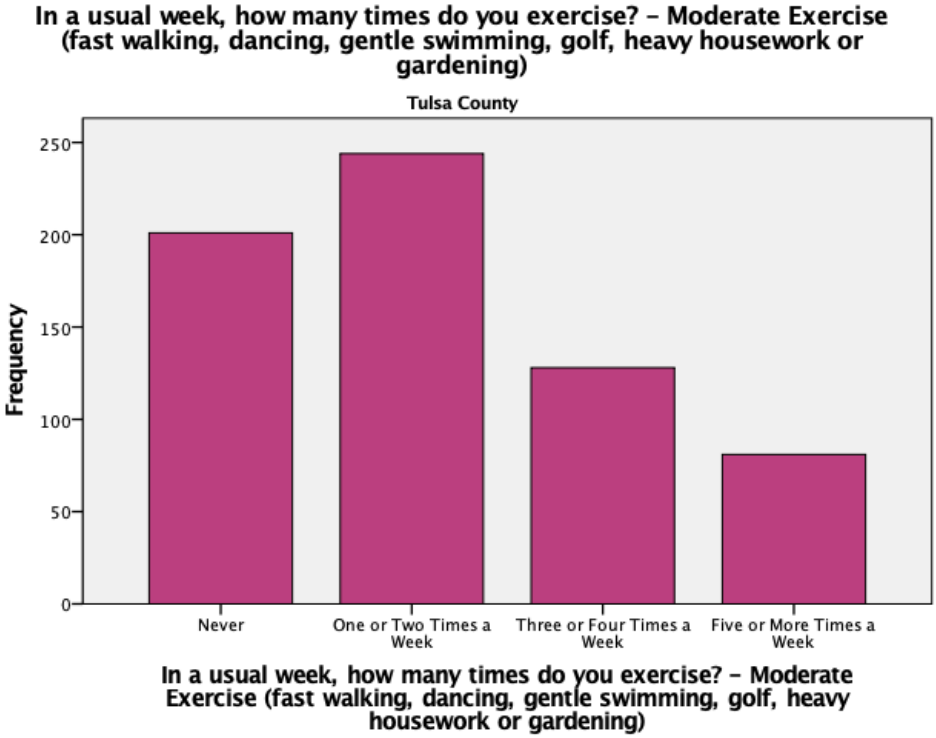
Tulsa County

Respondents were asked to report the frequency in which they engaged in vigorous, moderate and light exercise.

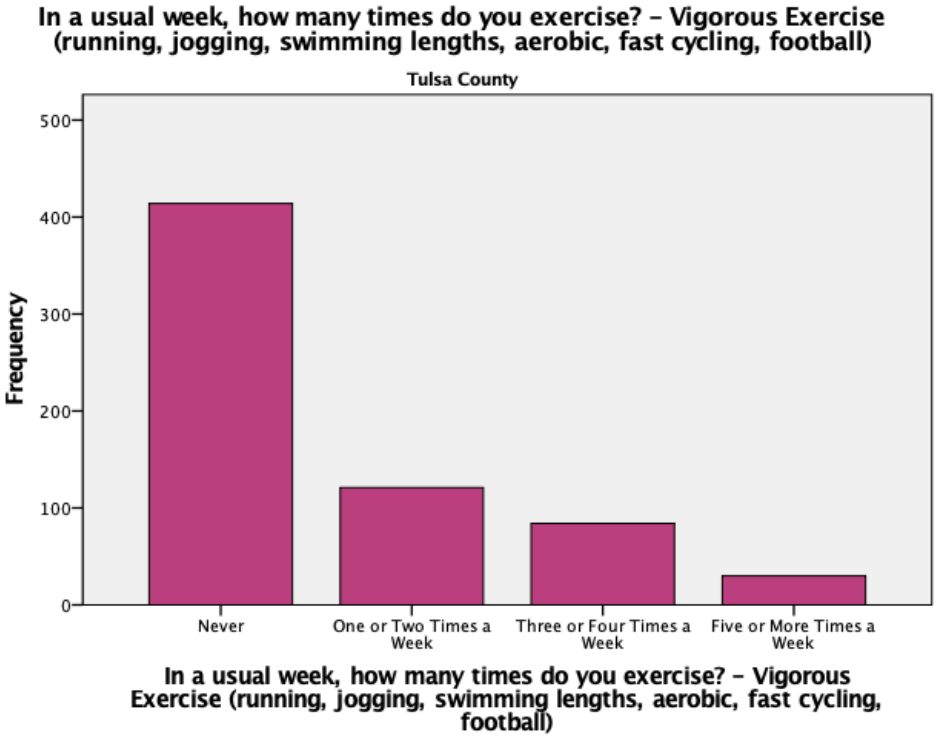
Only 36 (5%) participants said they never engaged in light exercise. About 31% (n = 210) participated in light exercise one to two times a week, 27% (n = 187) three to four times a week, 33% (n = 227) five or more times a week and 3% (n = 22) did not report their participation in light exercise.



Almost 30% (n = 201) of participants said they never engaged in moderate exercise. About 36% (n = 244) participated in moderate exercise one to two times a week, 19% (n = 128) three to four times a week, 12% (n = 81) five or more times a week and 4% (n = 28) did not report their participation in moderate exercise.



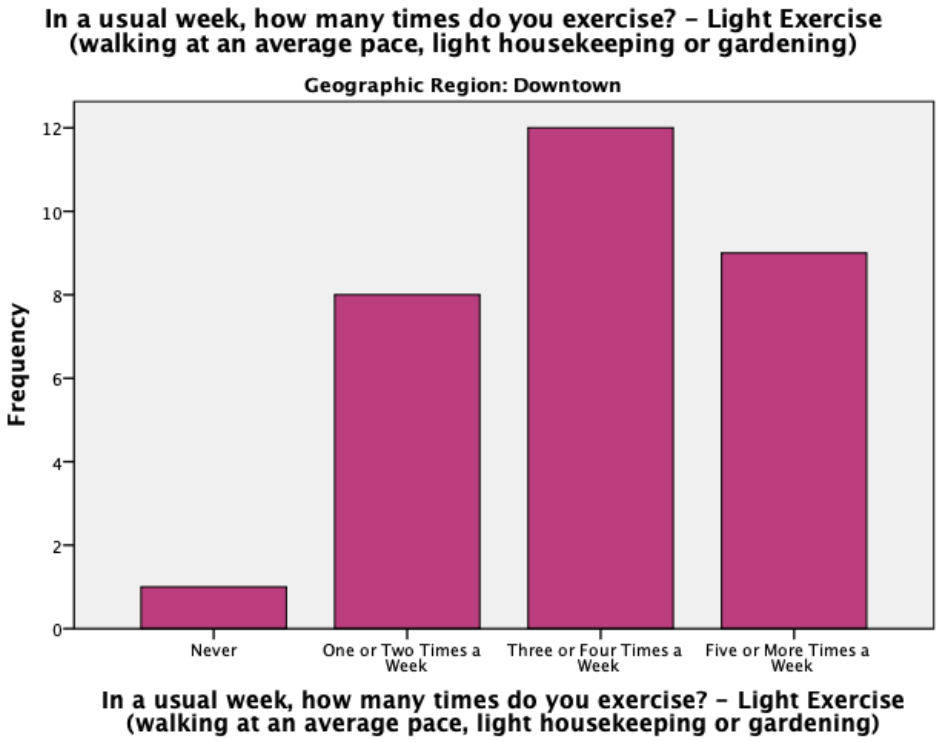
About 61% (n = 414) participants said they never engaged in vigorous exercise. About 18% (n = 121) participated in vigorous exercise one to two times a week, 12% (n = 84) three to four times a week, 4% (n = 30) five or more times a week and 5% (n = 33) did not report their participation in vigorous exercise.



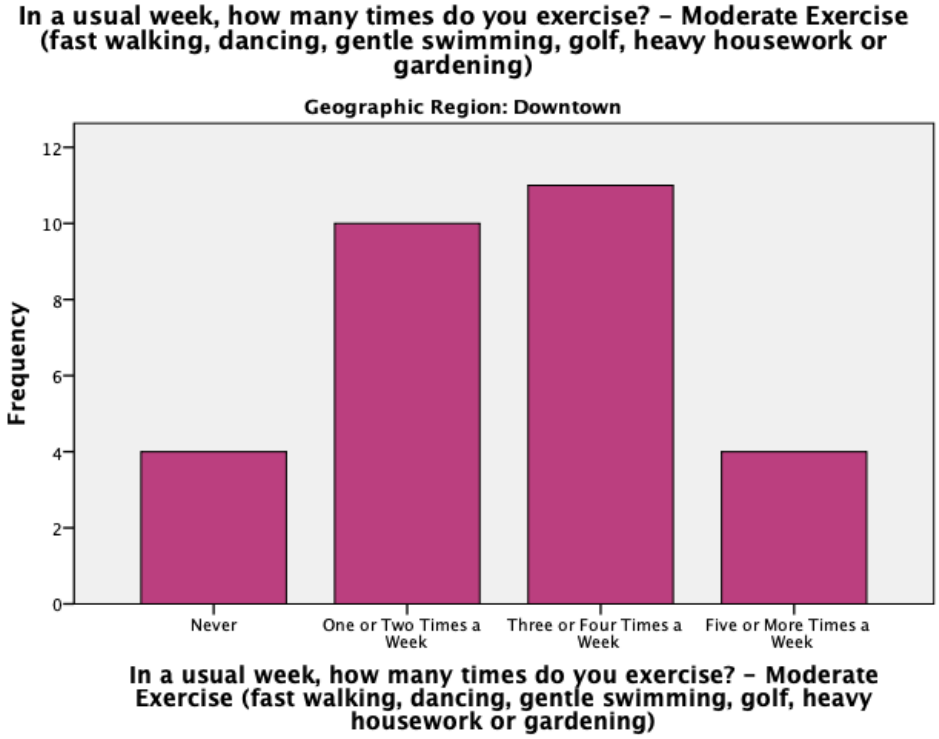
Downtown Tulsa

Respondents were asked to report the frequency in which they engaged in vigorous, moderate and light exercise.

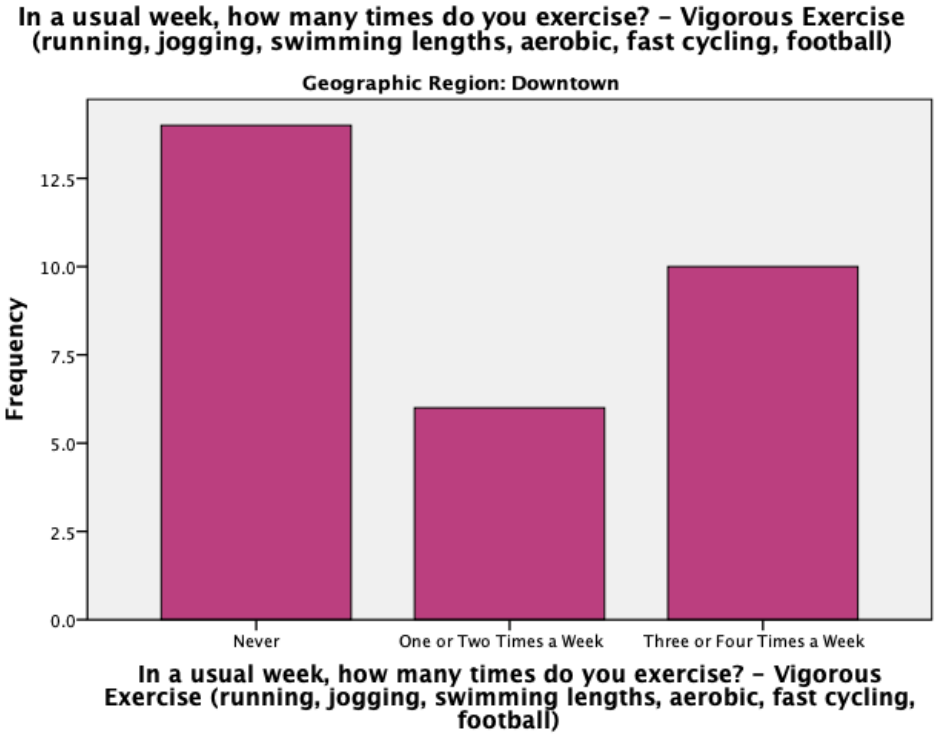
Only 1 (3%) participant said they never engaged in light exercise. About 26% (n = 8) participated in light exercise one to two times a week, 39% (n = 12) three to four times a week, 29% (n = 9) five or more times a week and 3% (n = 1) did not report their participation in light exercise.



Almost 13% (n = 4) of participants said they never engaged in moderate exercise. About 32% (n = 10) participated in moderate exercise one to two times a week, 36% (n = 11) three to four times a week, 13% (n = 4) five or more times a week and 7% (n = 2) did not report their participation in moderate exercise.



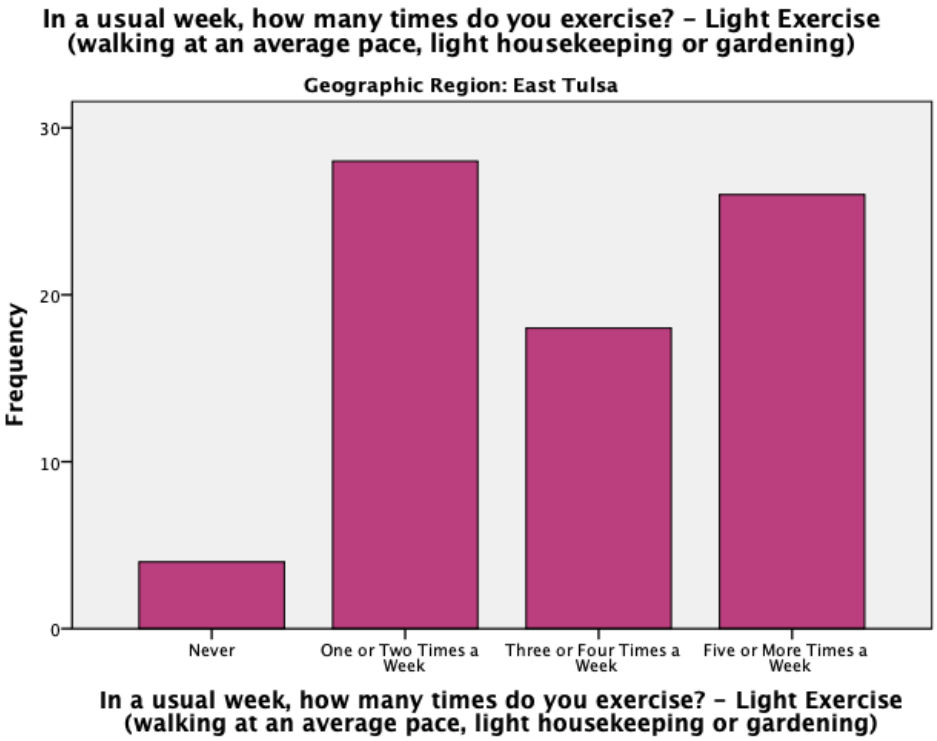
About 45% (n = 14) participants said they never engaged in vigorous exercise. About 19% (n = 6) participated in vigorous exercise one to two times a week, 32% (n = 10) three to four times a week, none reported five or more times a week and 3% (n = 1) did not report their participation in vigorous exercise.



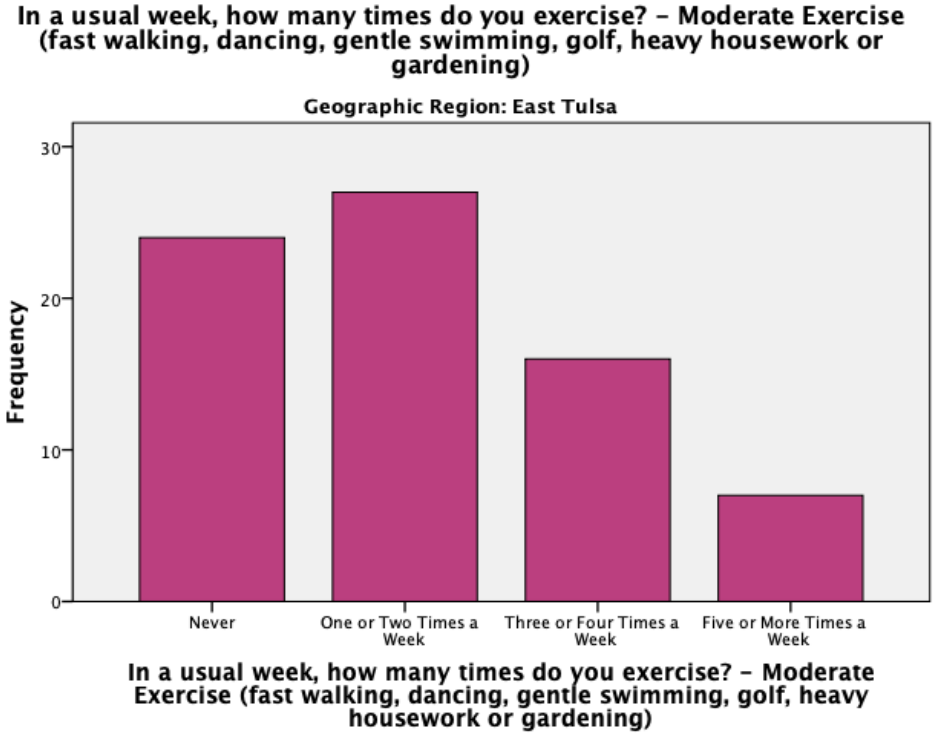
East Tulsa

Respondents were asked to report the frequency in which they engaged in vigorous, moderate and light exercise.

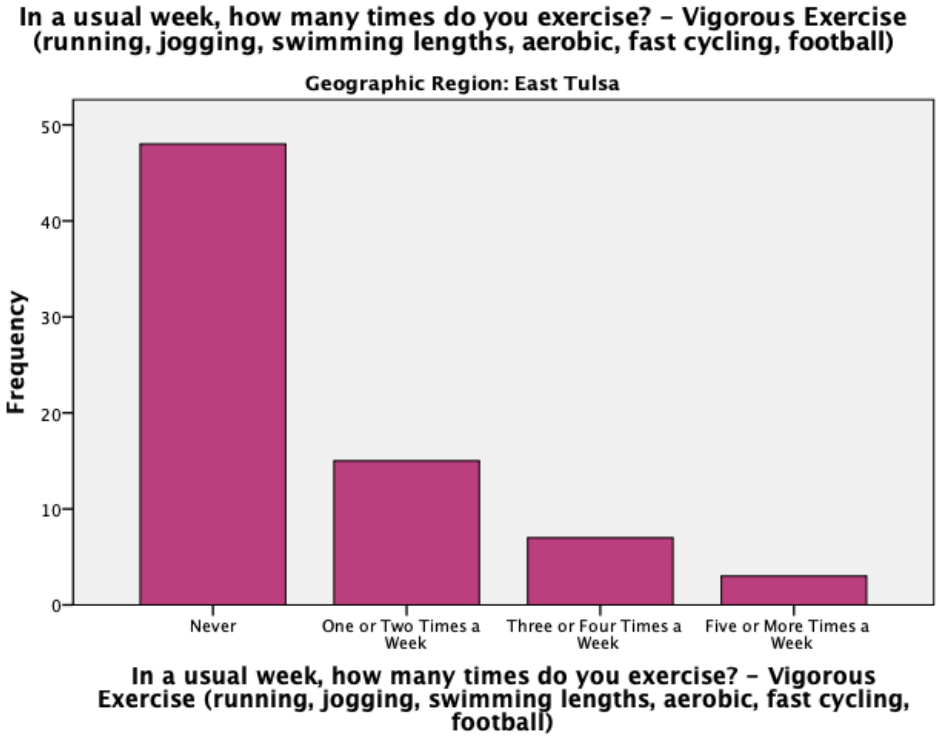
Only 4 (5%) participants said they never engaged in light exercise. About 35% (n = 28) participated in light exercise one to two times a week, 23% (n = 18) three to four times a week, 33% (n = 26) five or more times a week and 5% (n = 4) did not report their participation in light exercise.



Thirty percent (n = 24) of participants said they never engaged in moderate exercise. About 34% (n = 27) participated in moderate exercise one to two times a week, 20% (n = 16) three to four times a week, 9% (n = 7) five or more times a week and 8% (n = 6) did not report their participation in moderate exercise.



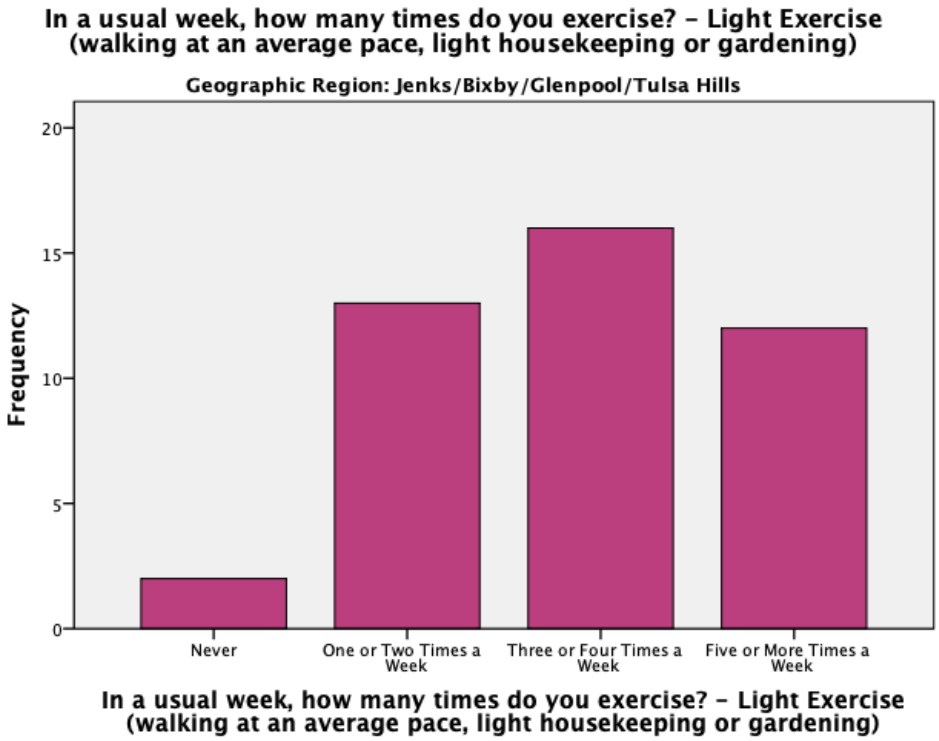
Sixty percent (n = 48) participants said they never engaged in vigorous exercise. About 19% (n = 15) participated in vigorous exercise one to two times a week, 9% (n = 7) three to four times a week, 4% (n = 3) five or more times a week and 9% (n = 7) did not report their participation in vigorous exercise.



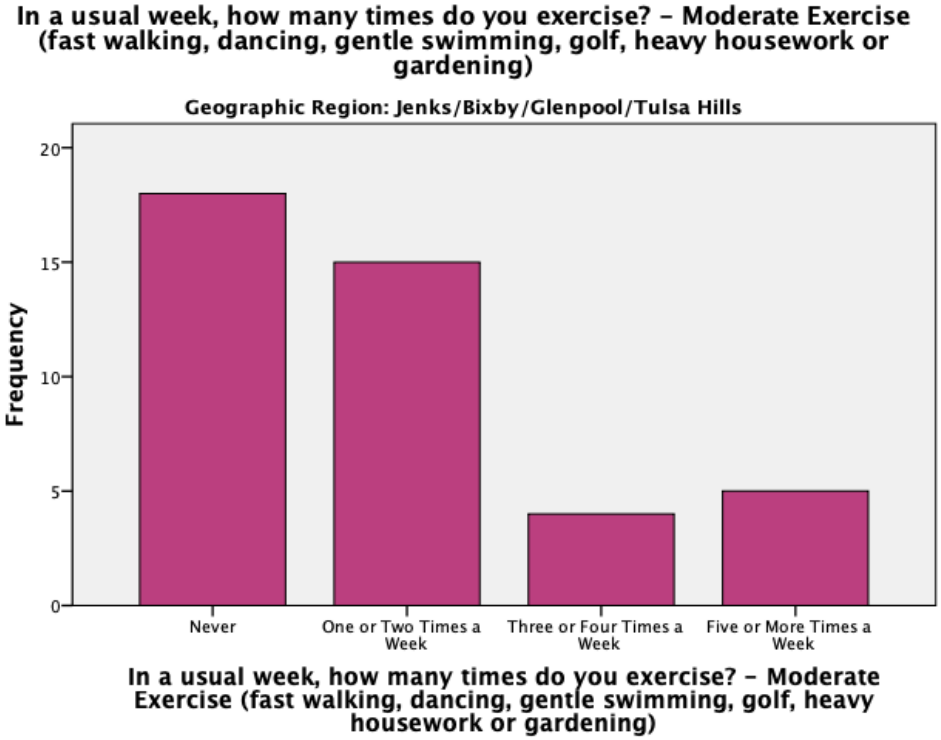
Jenks, Bixby and Glenpool

Respondents were asked to report the frequency in which they engaged in vigorous, moderate and light exercise.

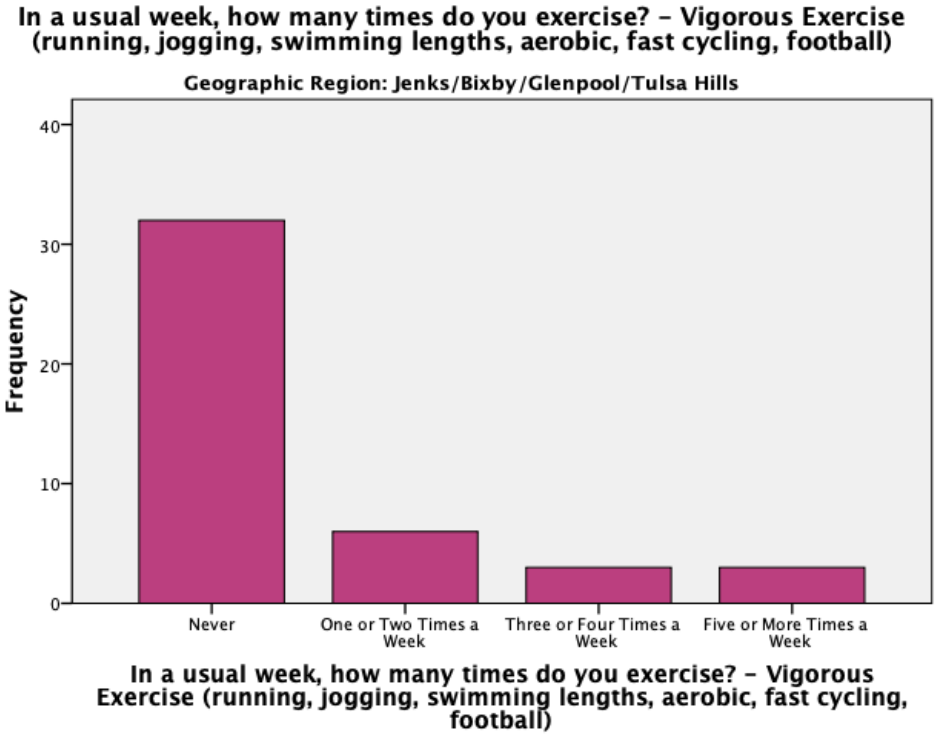
Only 2 (4%) participants said they never engaged in light exercise. About 29% (n = 13) participated in light exercise one to two times a week, 36% (n = 16) three to four times a week, 27% (n = 12) five or more times a week and 4% (n = 2) did not report their participation in light exercise.



Forty percent (n = 18) of participants said they never engaged in moderate exercise. About 33% (n = 15) participated in moderate exercise one to two times a week, 9% (n = 4) three to four times a week, 11% (n = 5) five or more times a week and 7% (n = 3) did not report their participation in moderate exercise.



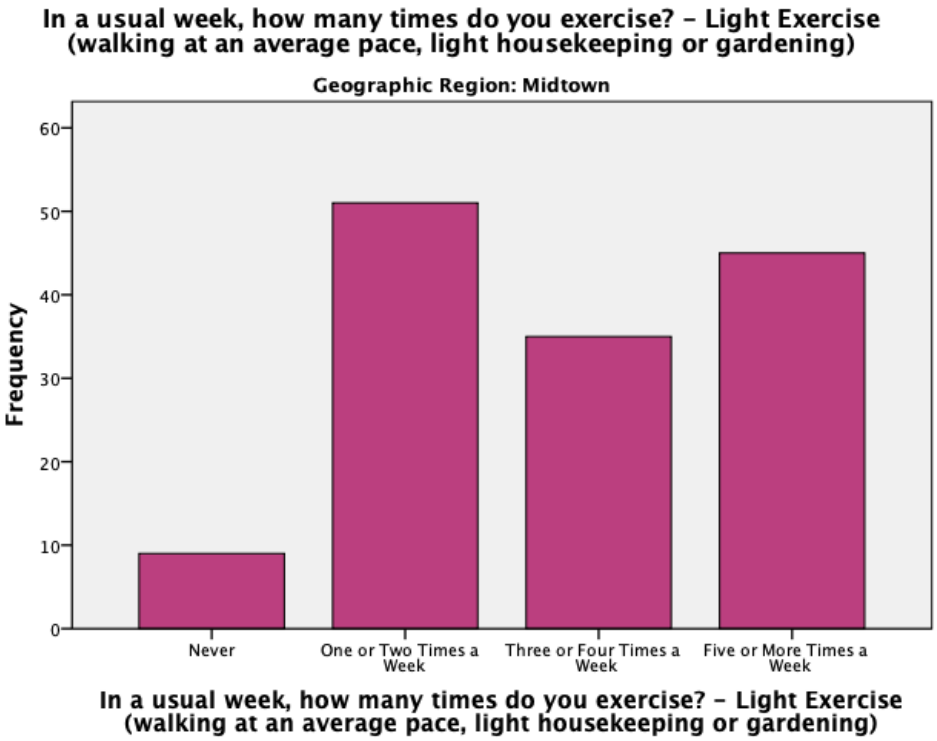
About 71% (n = 32) participants said they never engaged in vigorous exercise. About 13% (n = 6) participated in vigorous exercise one to two times a week, 7% (n = 3) three to four times a week, 7% (n = 3) five or more times a week and 2% (n = 1) did not report their participation in vigorous exercise.



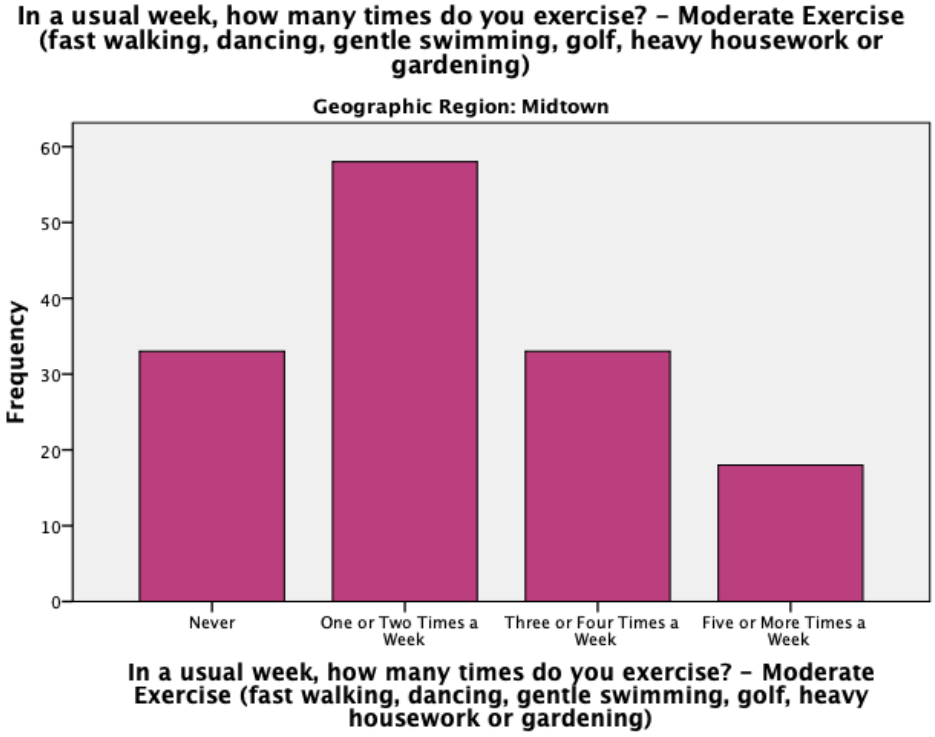
Midtown Tulsa

Respondents were asked to report the frequency in which they engaged in vigorous, moderate and light exercise.

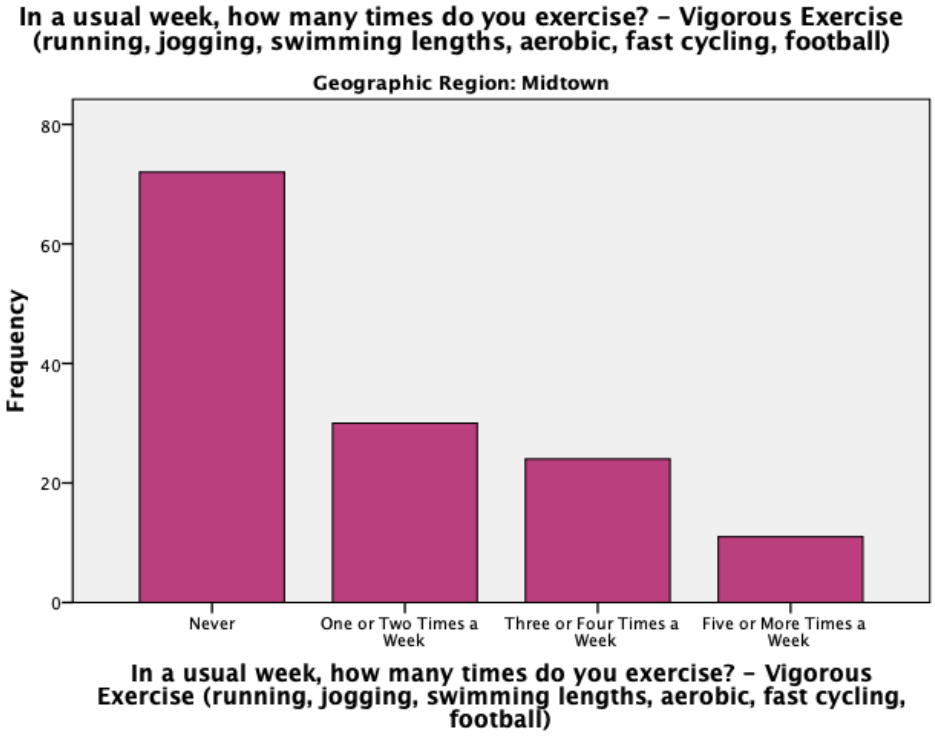
Only 9 (6%) participants said they never engaged in light exercise. About 35% (n = 51) participated in light exercise one to two times a week, 24% (n = 35) three to four times a week, 31% (n = 45) five or more times a week and 4% (n = 6) did not report their participation in light exercise.



Almost 23% (n = 33) of participants said they never engaged in moderate exercise. About 40% (n = 58) participated in moderate exercise one to two times a week, 23% (n = 33) three to four times a week, 12% (n = 18) five or more times a week and 3% (n = 4) did not report their participation in moderate exercise.



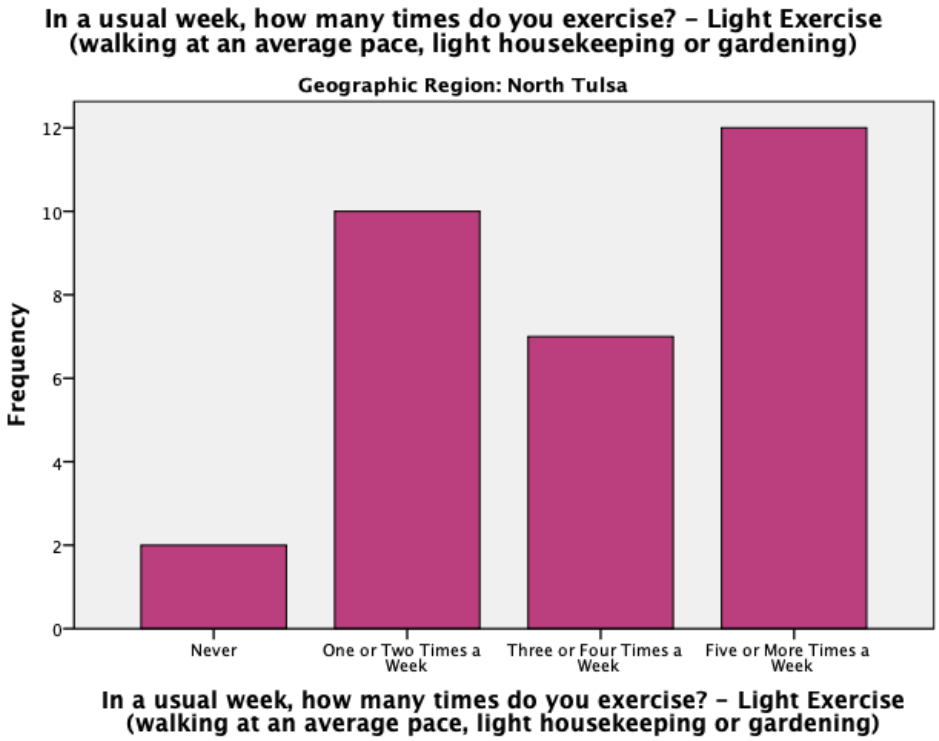
About 50% (n = 72) participants said they never engaged in vigorous exercise. About 21% (n = 30) participated in vigorous exercise one to two times a week, 16% (n = 24) three to four times a week, 8% (n = 11) five or more times a week and 6% (n = 9) did not report their participation in vigorous exercise.



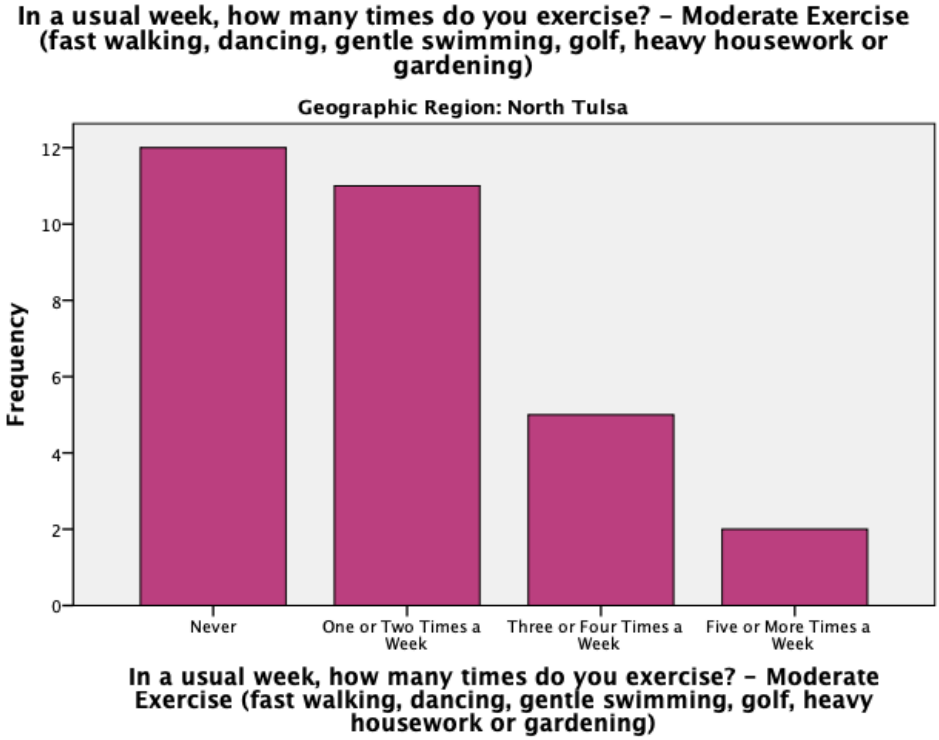
North Tulsa

Respondents were asked to report the frequency in which they engaged in vigorous, moderate and light exercise.

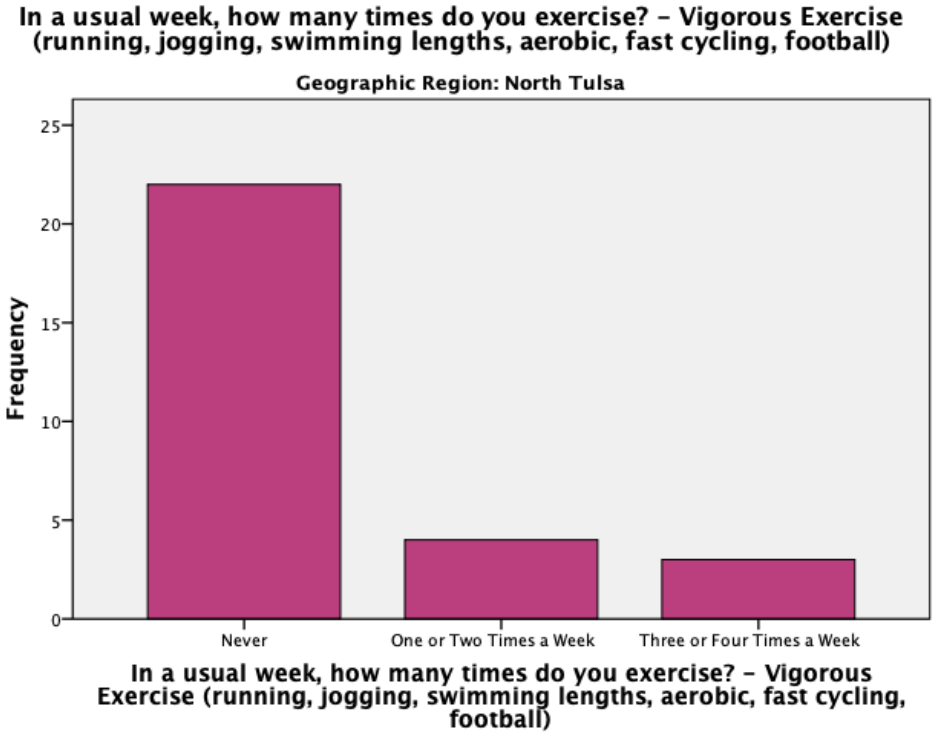
Only 2 (7%) participants said they never engaged in light exercise. About 32% (n = 10) participated in light exercise one to two times a week, 23% (n = 7) three to four times a week and 39% (n = 12) five or more times a week.



Almost 39% (n = 12) of participants said they never engaged in moderate exercise. About 36% (n = 11) participated in moderate exercise one to two times a week, 16% (n = 5) three to four times a week, 7% (n = 2) five or more times a week and 3% (n = 1) did not report their participation in moderate exercise.



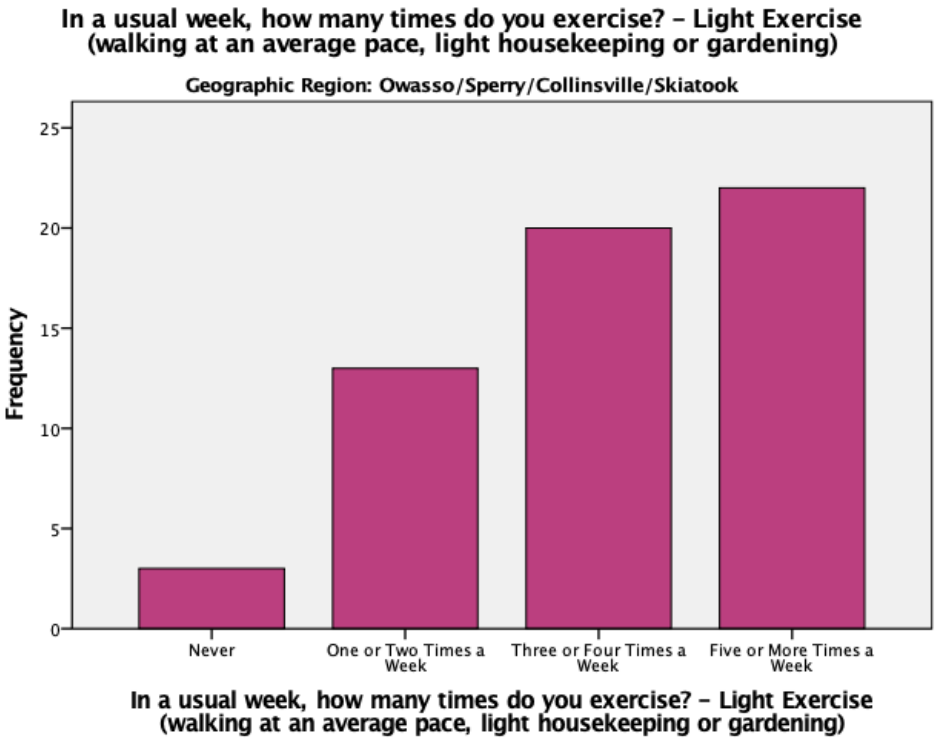
Seventy-one percent (n = 22) participants said they never engaged in vigorous exercise. About 13% (n = 4) participated in vigorous exercise one to two times a week, 10% (n = 3) three to four times a week, none reported five or more times a week and 7% (n = 2) did not report their participation in vigorous exercise.



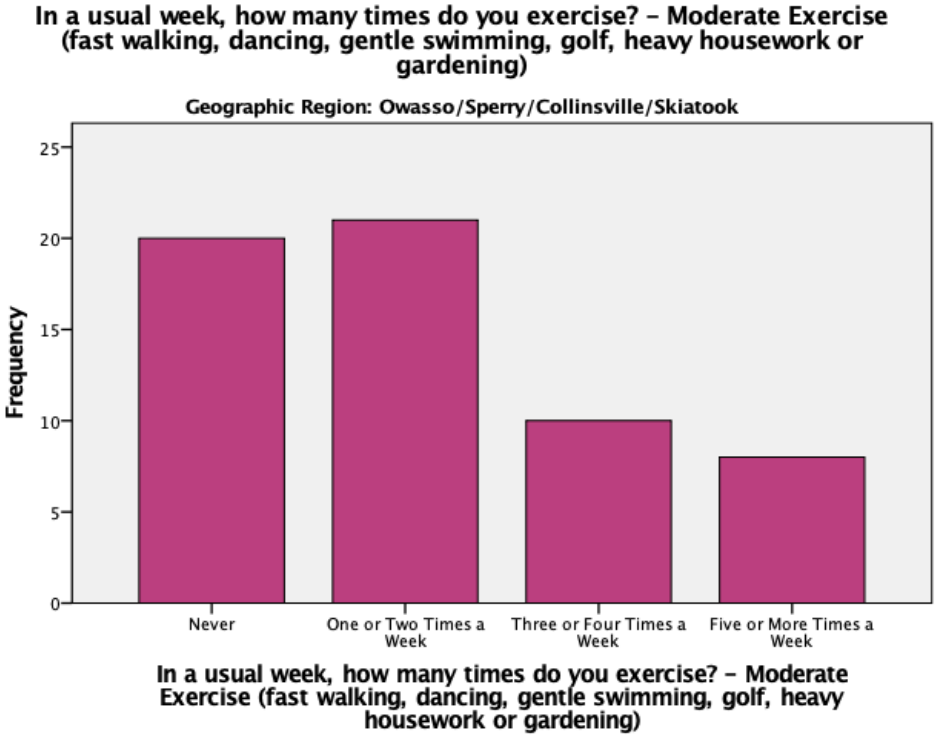
Owasso, Sperry, Collinsville and Skiatook

Respondents were asked to report the frequency in which they engaged in vigorous, moderate and light exercise.

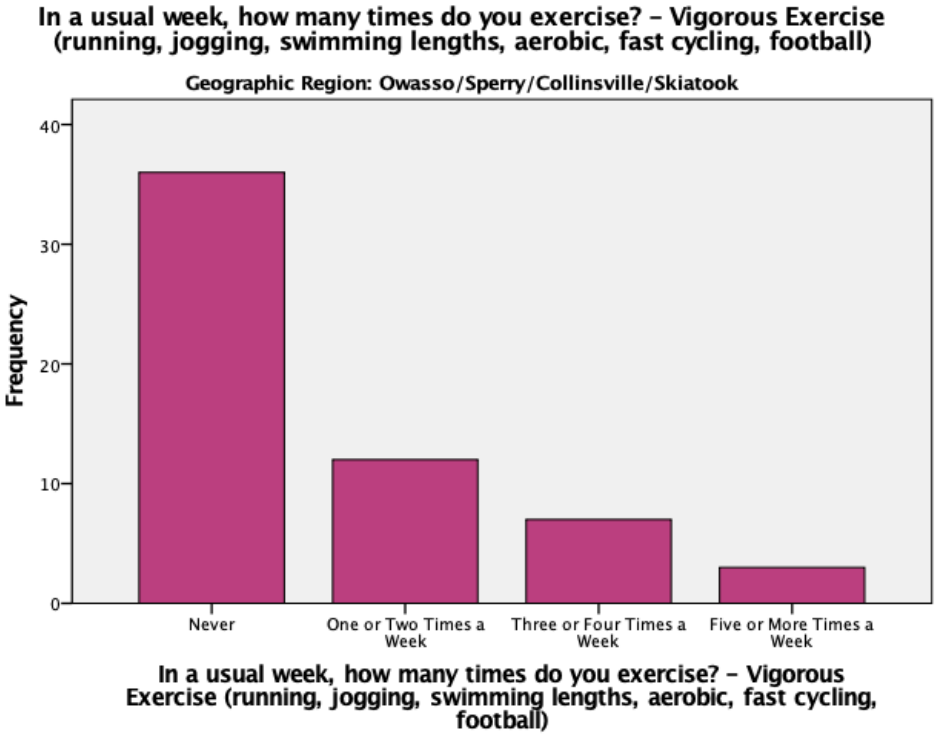
Only 3 (5%) participants said they never engaged in light exercise. About 22% (n = 13) participated in light exercise one to two times a week, 33% (n = 20) three to four times a week, 37% (n = 22) five or more times a week and 3% (n = 2) did not report their participation in light exercise.



About 33% (n = 20) of participants said they never engaged in moderate exercise. About 35% (n = 21) participated in moderate exercise one to two times a week, 17% (n = 10) three to four times a week, 13% (n = 8) five or more times a week and 2% (n = 1) did not report their participation in moderate exercise.



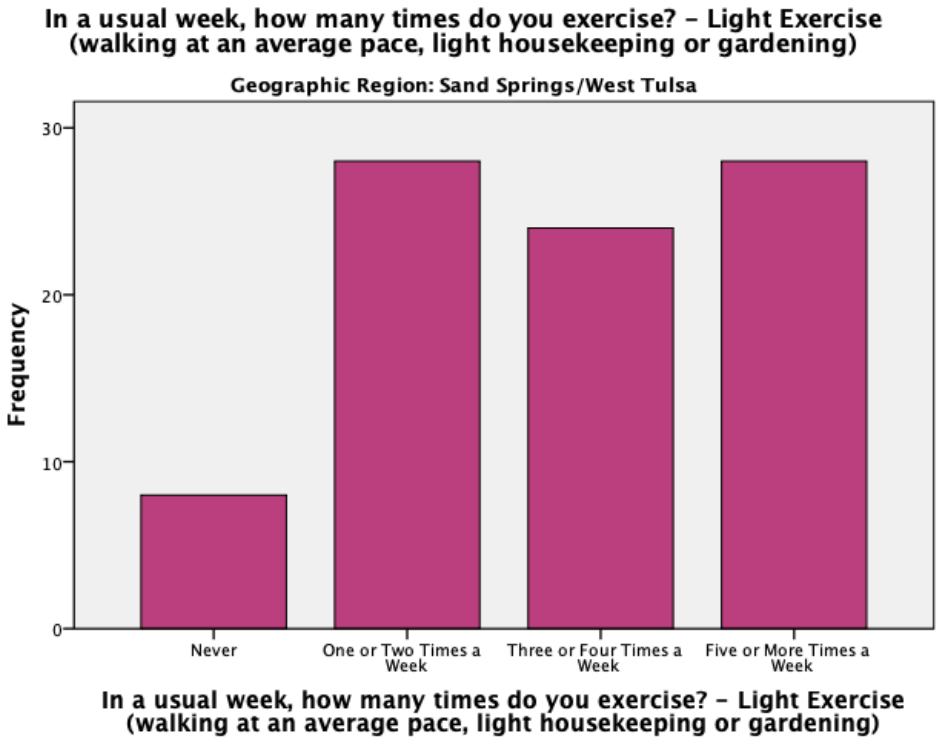
Sixty percent (n = 36) participants said they never engaged in vigorous exercise. Twenty percent (n = 12) participated in vigorous exercise one to two times a week, 12% (n = 7) three to four times a week, 5% (n = 3) five or more times a week and 3% (n = 3) did not report their participation in vigorous exercise.



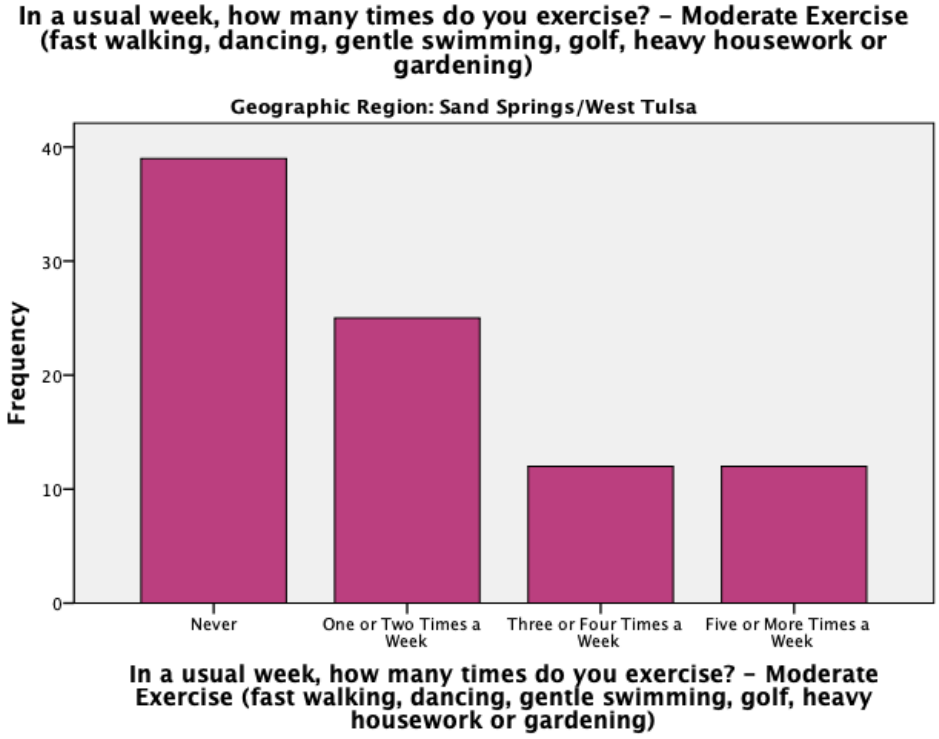
Sand Springs and west Tulsa

Respondents were asked to report the frequency in which they engaged in vigorous, moderate and light exercise.

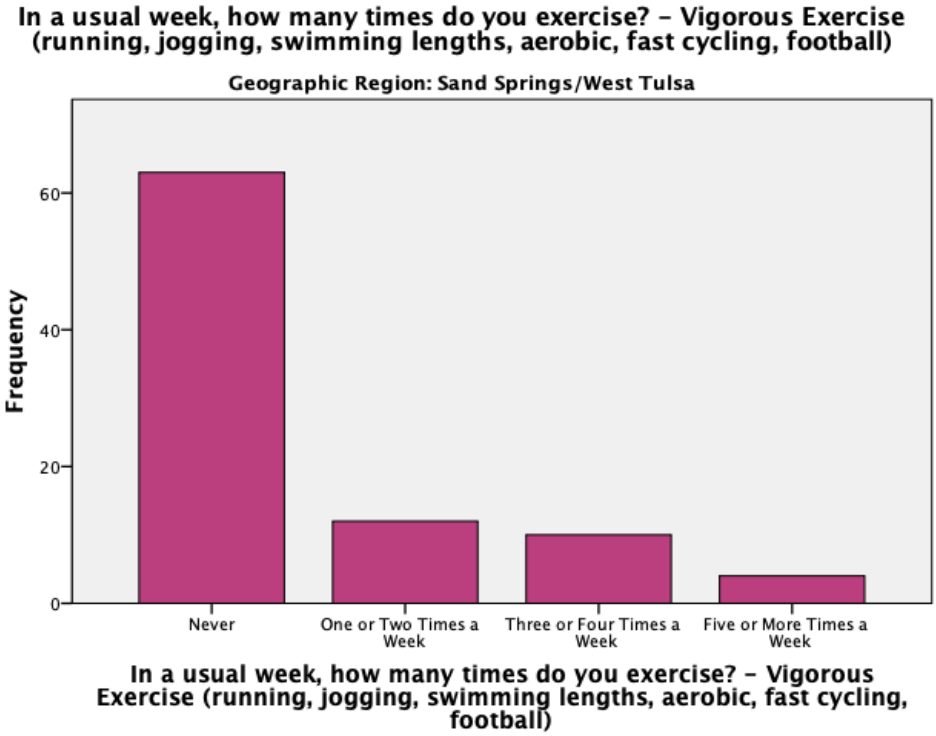
Eight (9%) participants said they never engaged in light exercise. About 30% (n = 28) participated in light exercise one to two times a week, 26% (n = 24) three to four times a week, 30% (n = 28) five or more times a week and 4% (n = 4) did not report their participation in light exercise.



About 42% (n = 39) of participants said they never engaged in moderate exercise. About 27% (n = 25) participated in moderate exercise one to two times a week, 13% (n = 12) three to four times a week, 13% (n = 12) five or more times a week and 4% (n = 4) did not report their participation in moderate exercise.



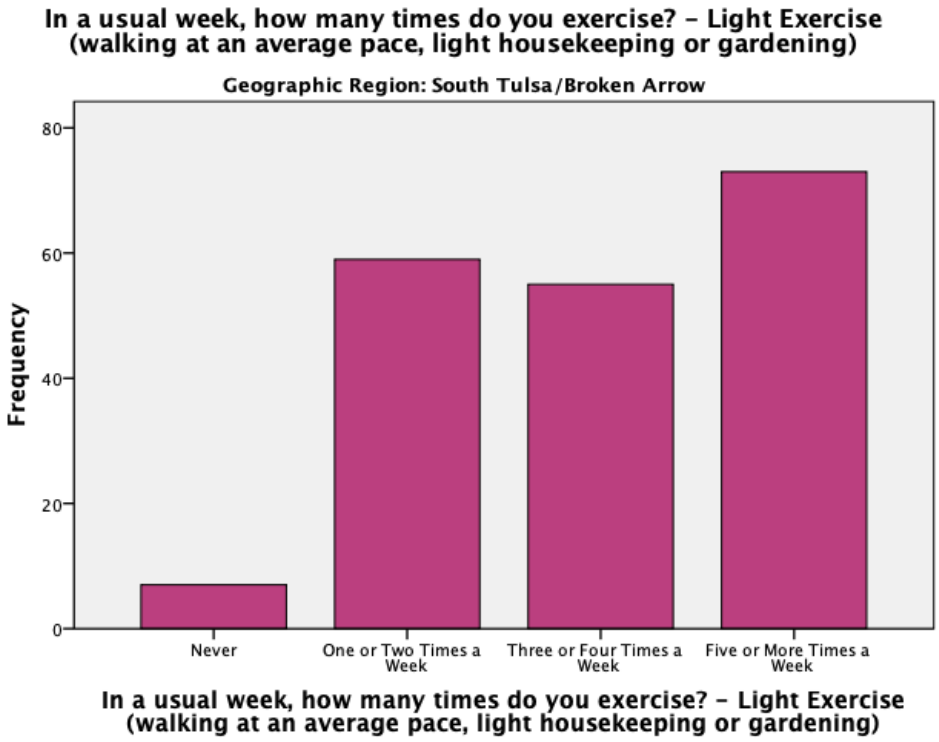
About 69% (n = 63) participants said they never engaged in vigorous exercise. Thirteen percent (n = 12) participated in vigorous exercise one to two times a week, 11% (n = 10) three to four times a week, 4% (n = 4) five or more times a week and 3% (n = 3) did not report their participation in vigorous exercise.



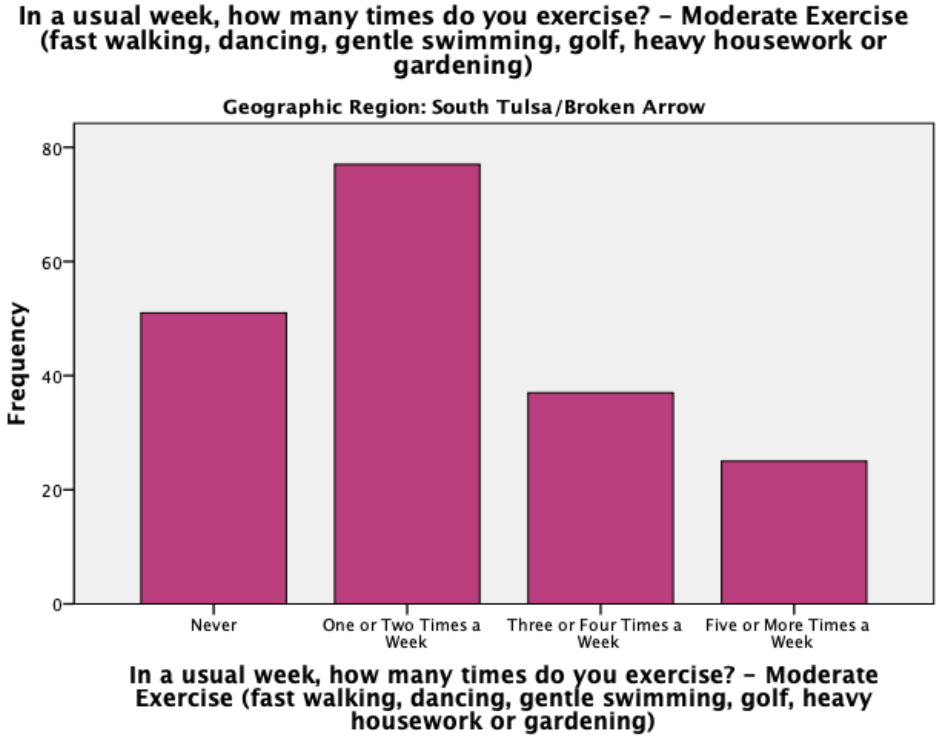
South Tulsa and Broken Arrow

Respondents were asked to report the frequency in which they engaged in vigorous, moderate and light exercise.

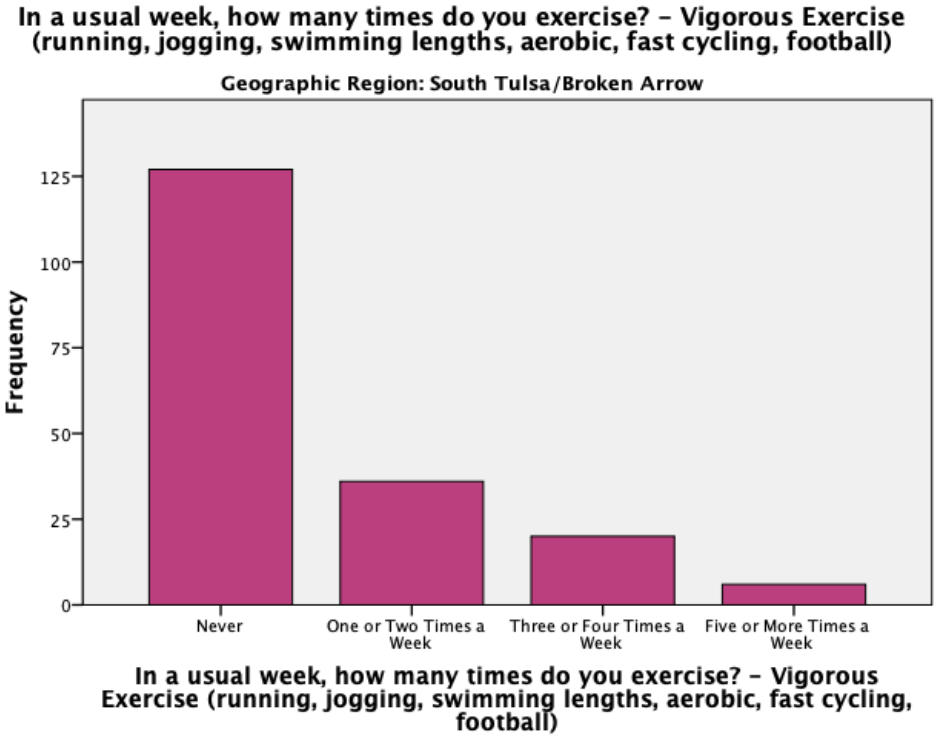
Only 7 (4%) participants said they never engaged in light exercise. About 30% (n = 59) participated in light exercise one to two times a week, 28% (n = 55) three to four times a week, 37% (n = 73) five or more times a week and 2% (n = 4) did not report their participation in light exercise.



Almost 26% (n = 51) of participants said they never engaged in moderate exercise. About 39% (n = 77) participated in moderate exercise one to two times a week, 19% (n = 37) three to four times a week, 13% (n = 25) five or more times a week and 4% (n = 7) did not report their participation in moderate exercise.



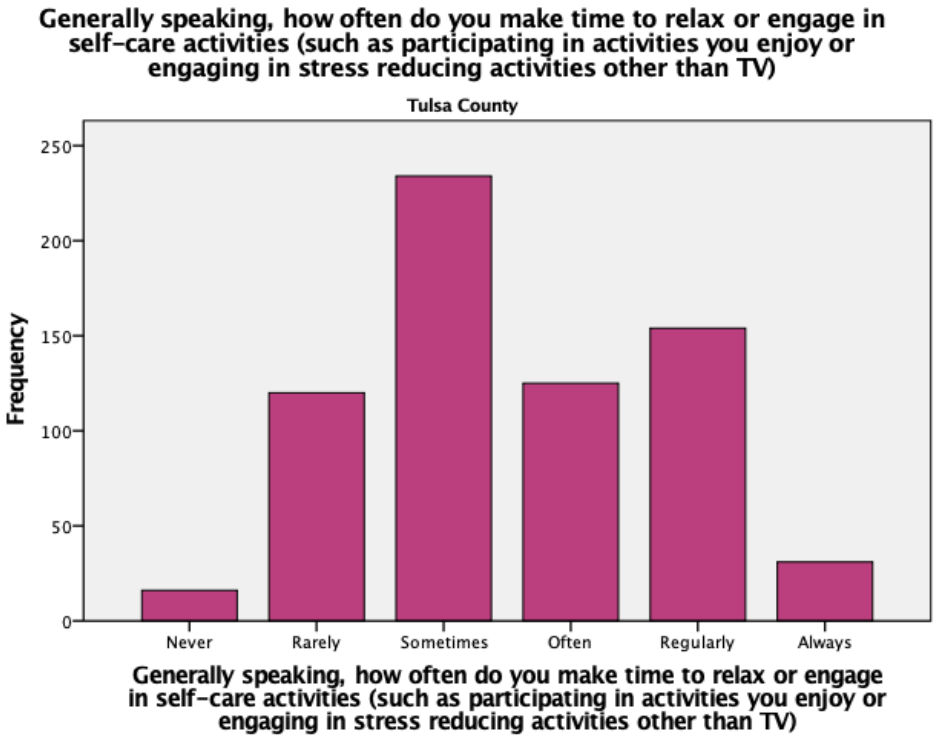
About 65% (n = 127) participants said they never engaged in vigorous exercise. About 18% (n = 36) participated in vigorous exercise one to two times a week, 10% (n = 20) three to four times a week, 3% (n = 6) five or more times a week and 4% (n = 8) did not report their participation in vigorous exercise.



Self-care

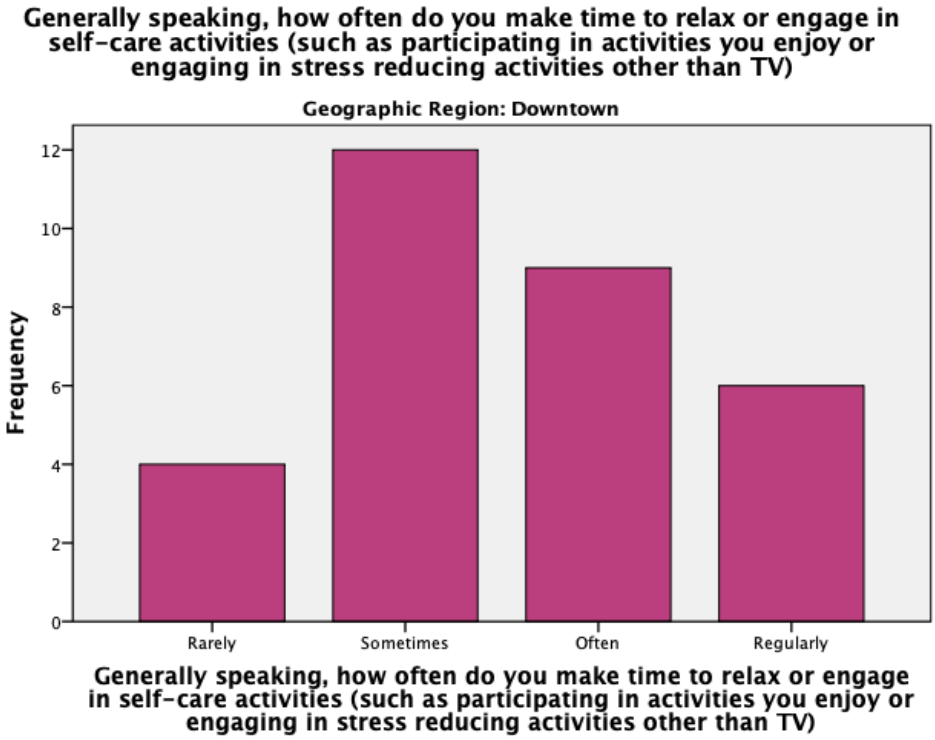
Tulsa County

Participants were asked to report the frequency in which they engaged in self-care activities other than watching television. Almost 5% (n = 31) indicated always, 23% (n = 154) regularly, 18% (n = 125) often, 34% (n = 234) often, 18% (n = 120) rarely, 2% (n = 16) never and less than 1% (n = 2) did not report their engagement in self care activities.



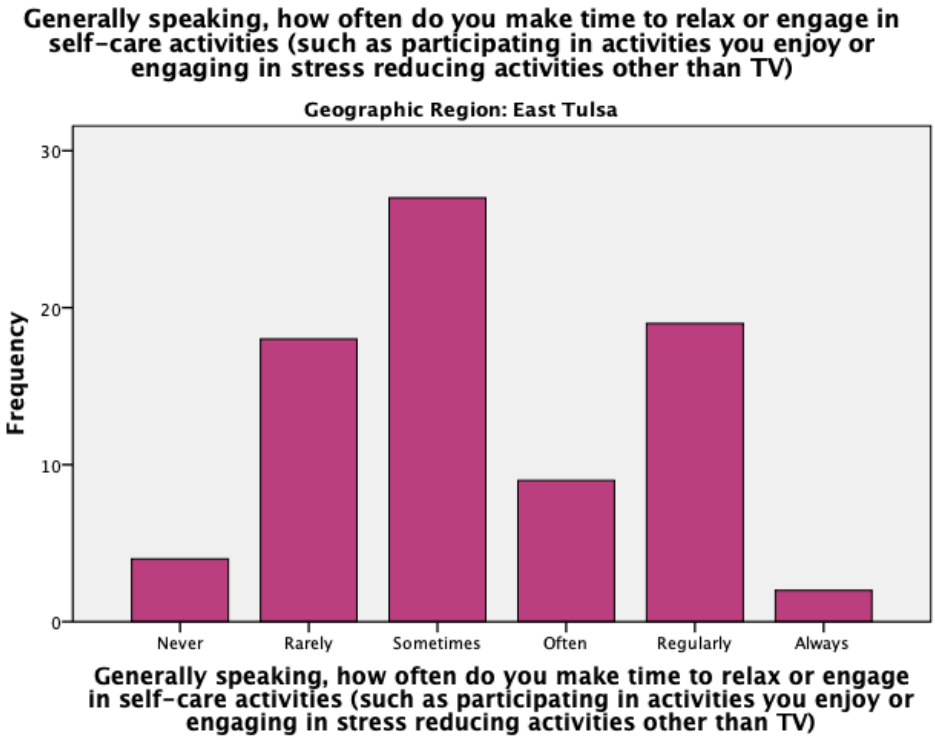
Downtown Tulsa

Participants were asked to report the frequency in which they engaged in self-care activities other than watching television. None indicated always, 19% (n = 6) regularly, 29% (n = 9) often, 39% (n = 12) sometimes, 13% (n = 4) rarely and none indicated never.



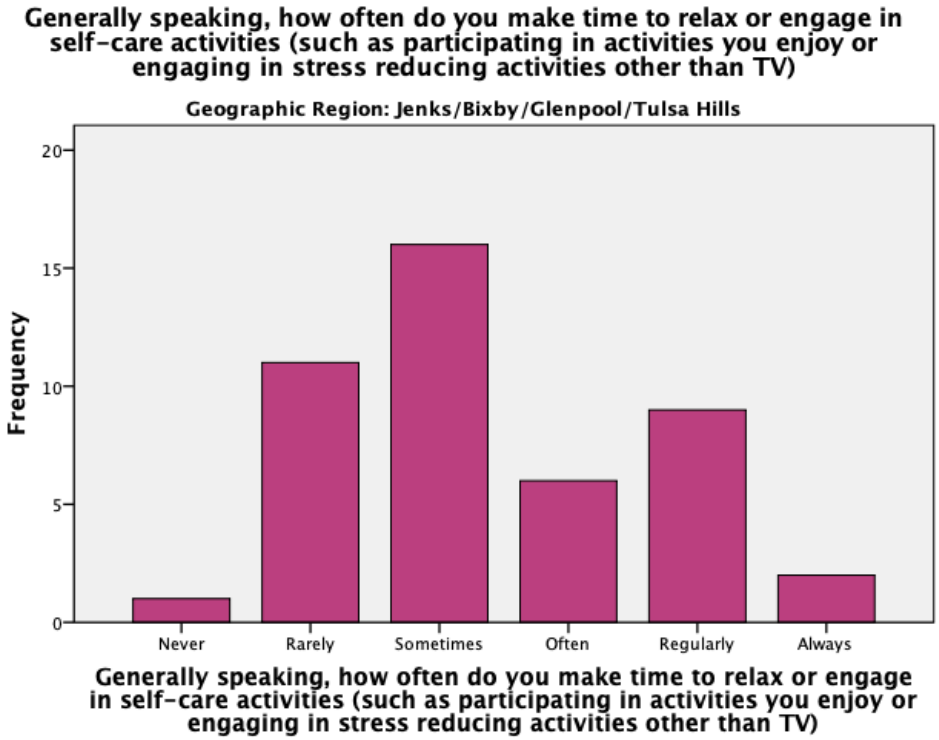
East Tulsa

Participants were asked to report the frequency in which they engaged in self-care activities other than watching television. Almost 3% (n = 2) indicated always, 24% (n = 19) regularly, 11% (n = 9) often, 34% (n = 27) sometimes, 23% (n = 18) rarely and 5% (n = 4) indicated never. One (1%) participant did not provide information regarding self-care.



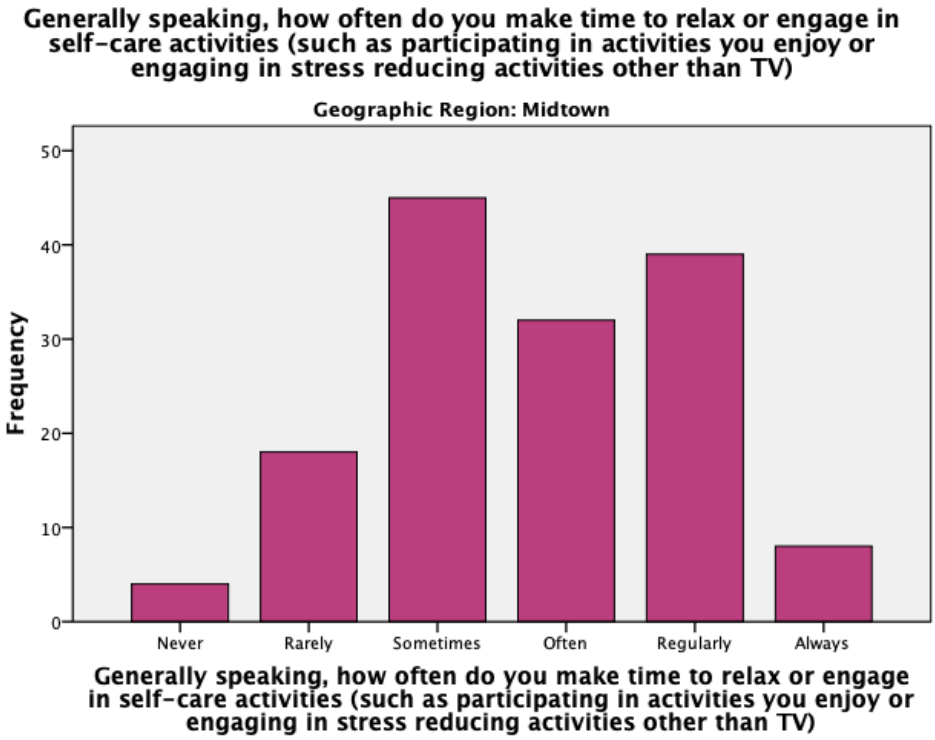
Jenks, Bixby and Glenpool

Participants were asked to report the frequency in which they engaged in self-care activities other than watching television. Almost 4% (n = 2) indicated always, 20% (n = 9) regularly, 13% (n = 6) often, 36% (n = 16) sometimes, 24% (n = 11) rarely and 2% (n = 1) indicated never.



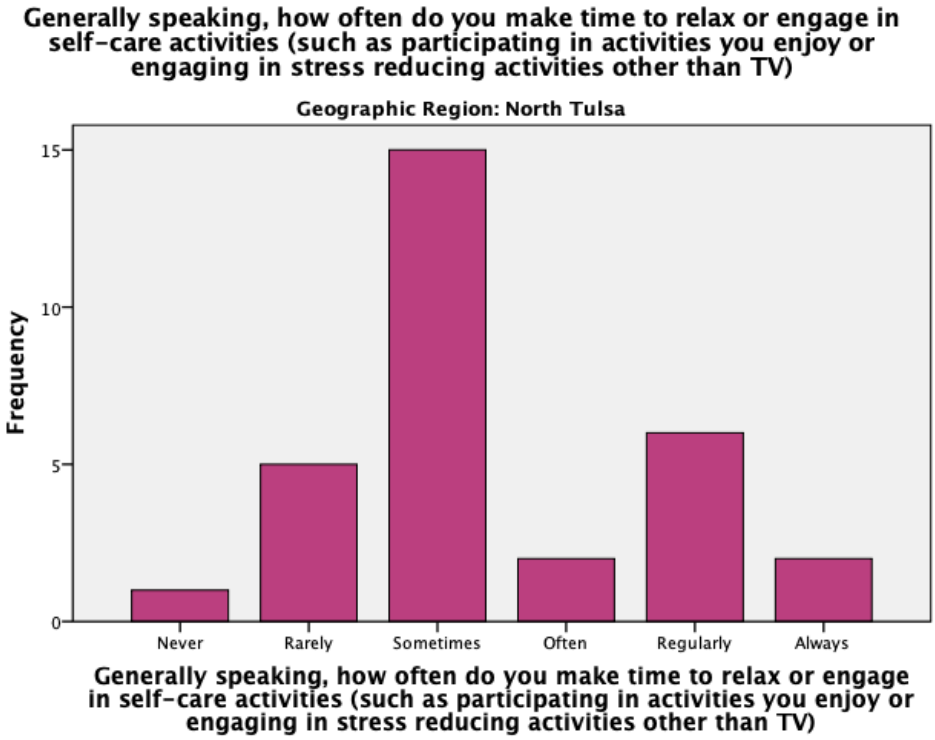
Midtown Tulsa

Participants were asked to report the frequency in which they engaged in self-care activities other than watching television. Almost 6% (n = 8) indicated always, 27% (n = 39) regularly, 22% (n = 32) often, 31% (n = 45) sometimes, 12% (n = 18) rarely and 3% (n = 4) indicated never.



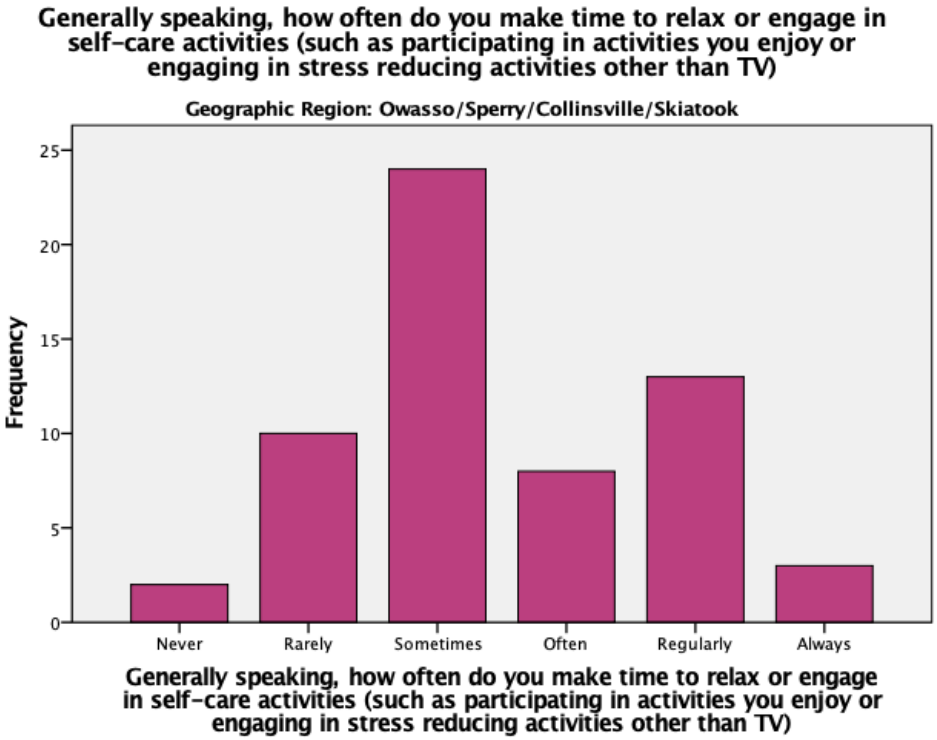
North Tulsa

Participants were asked to report the frequency in which they engaged in self-care activities other than watching television. Almost 7% (n = 2) indicated always, 19% (n = 6) regularly, 7% (n = 2) often, 48% (n = 15) sometimes, 16% (n = 5) rarely and 3% (n = 1) indicated never.



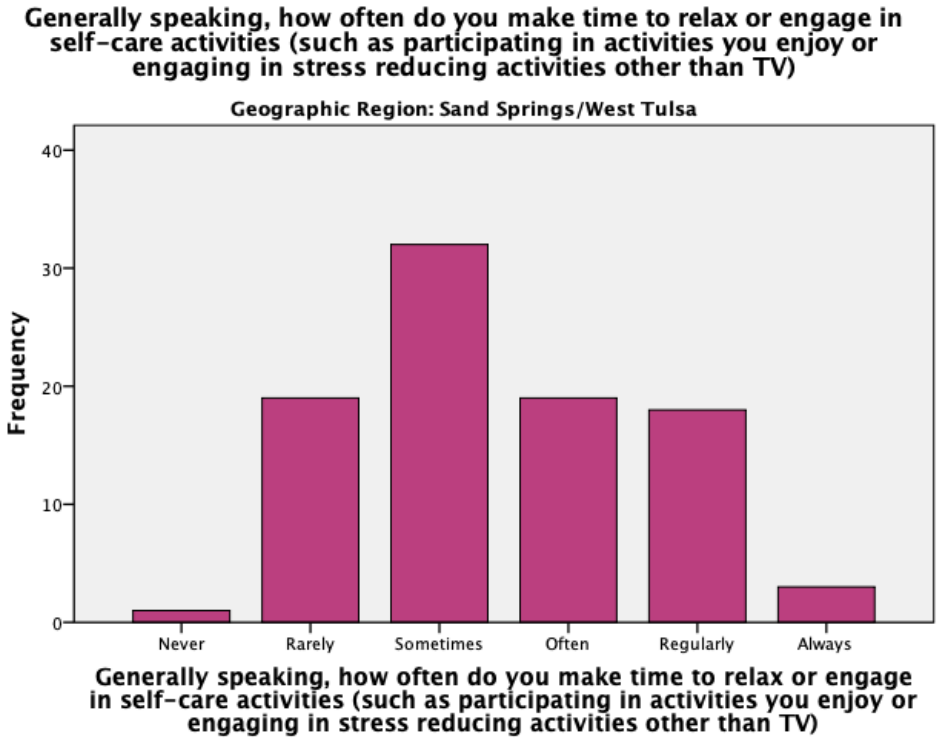
Owasso, Sperry, Collinsville and Skiatook

Participants were asked to report the frequency in which they engaged in self-care activities other than watching television. Almost 5% (n = 3) indicated always, 22% (n = 13) regularly, 13% (n = 8) often, 40% (n = 24) sometimes, 17% (n = 10) rarely and 3% (n = 2) indicated never.



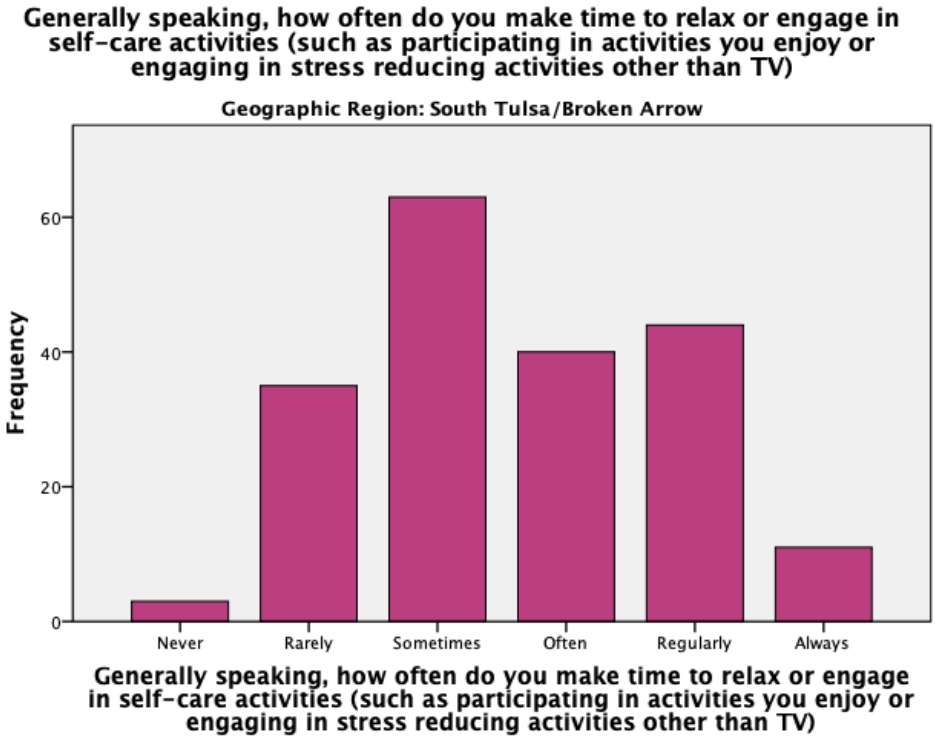
Sand Springs and west Tulsa

Participants were asked to report the frequency in which they engaged in self-care activities other than watching television. Almost 3% (n = 3) indicated always, 20% (n = 18) regularly, 21% (n = 19) often, 35% (n = 32) sometimes, 21% (n = 19) rarely and 1% (n = 1) indicated never.



South Tulsa and Broken Arrow

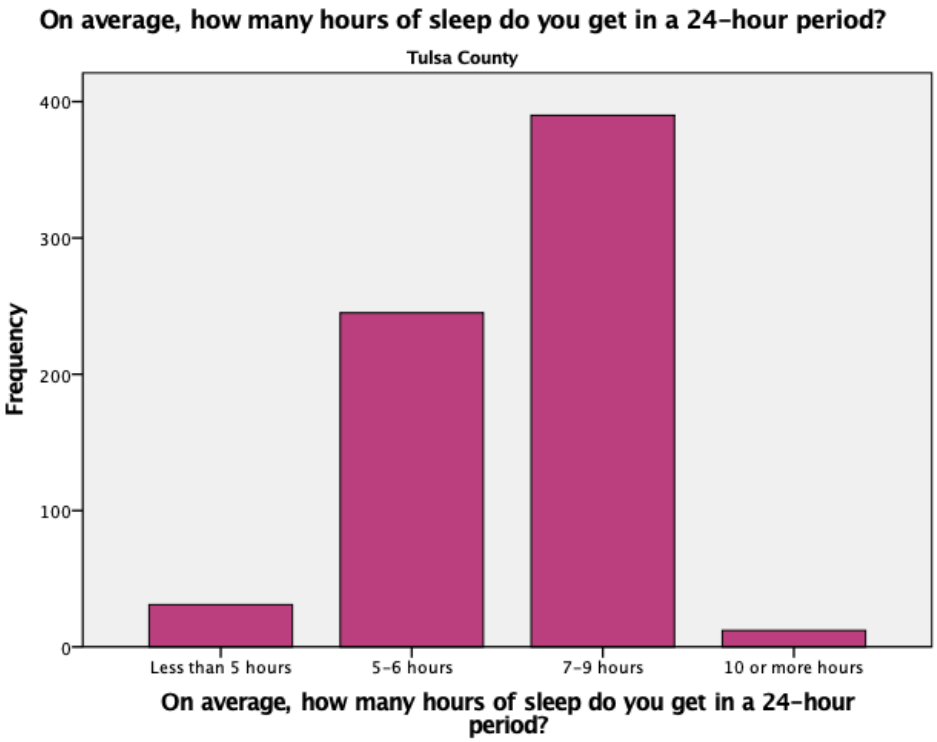
Participants were asked to report the frequency in which they engaged in self-care activities other than watching television. Almost 6% (n = 11) indicated always, 22% (n = 44) regularly, 20% (n = 40) often, 32% (n = 63) sometimes, 18% (n = 35) rarely and 2% (n = 3) indicated never.



Sleep

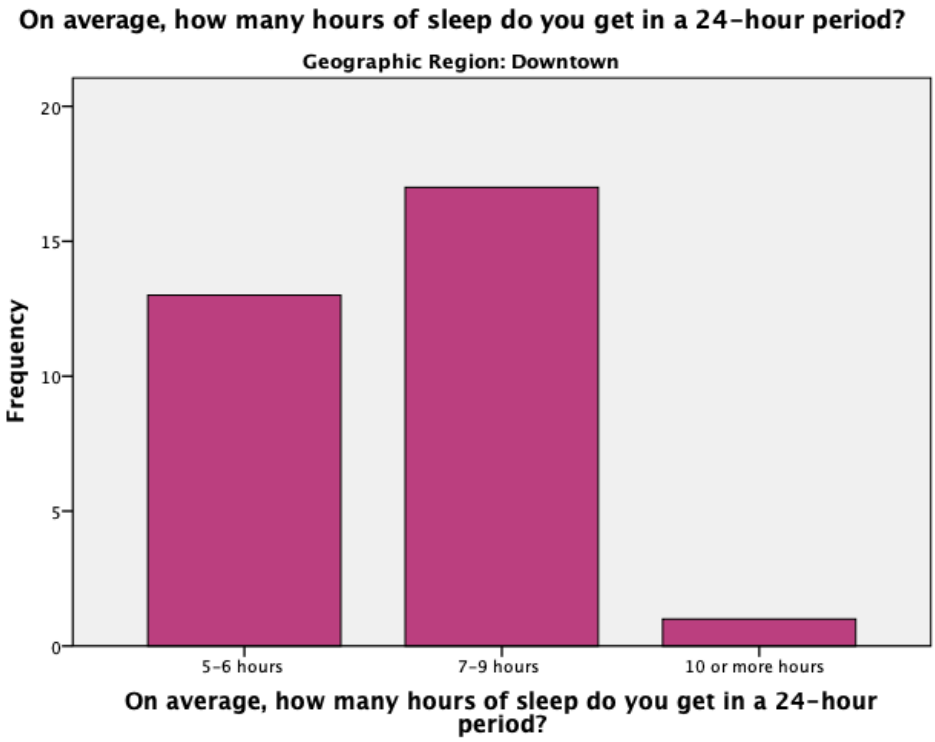
Tulsa County

Participants were asked to report how many hours of sleep they generally get each night. About 5% (n = 31) said less than five hours a night, 36% five to six hours a night, 57% (n = 390) seven to nine hours a night, 2% (n = 12) ten or more hours a night and about 1% (n = 4) did not report their sleeping patterns. For further analysis those reporting six or less hours slept each night were separated into a group identified as sleep less.



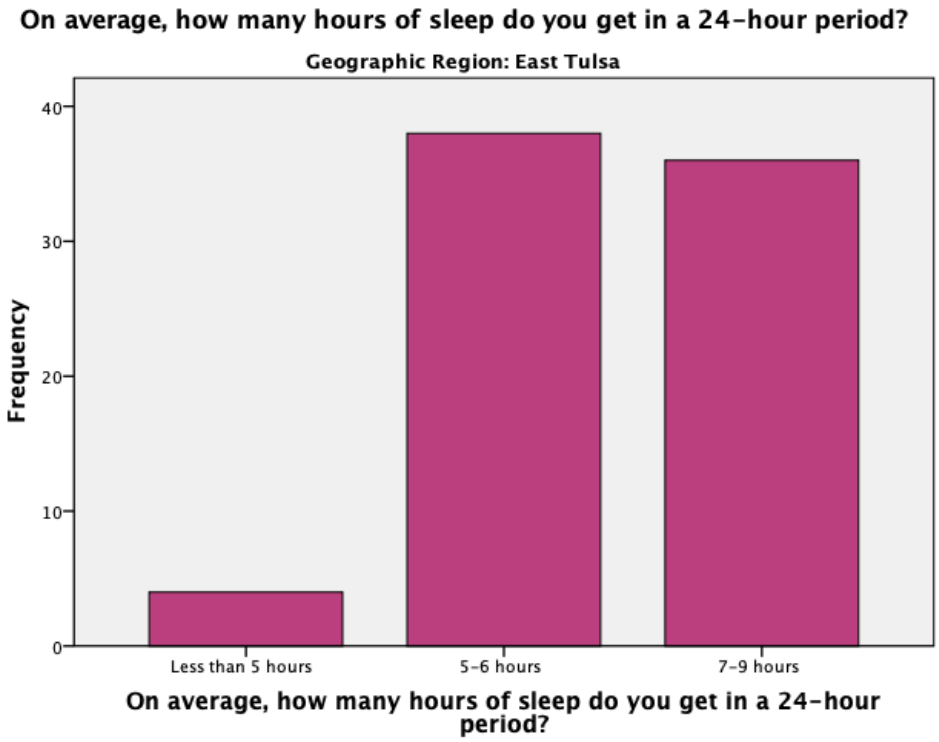
Downtown Tulsa

Participants were asked to report how many hours of sleep they generally get each night. None said less than five hours a night, 42% (n = 13) five to six hours a night, 55% (n = 17) seven to nine hours a night and 3% (n = 1) ten or more hours a night. For further analysis those reporting six or less hours slept each night were separated into a group identified as sleep less.



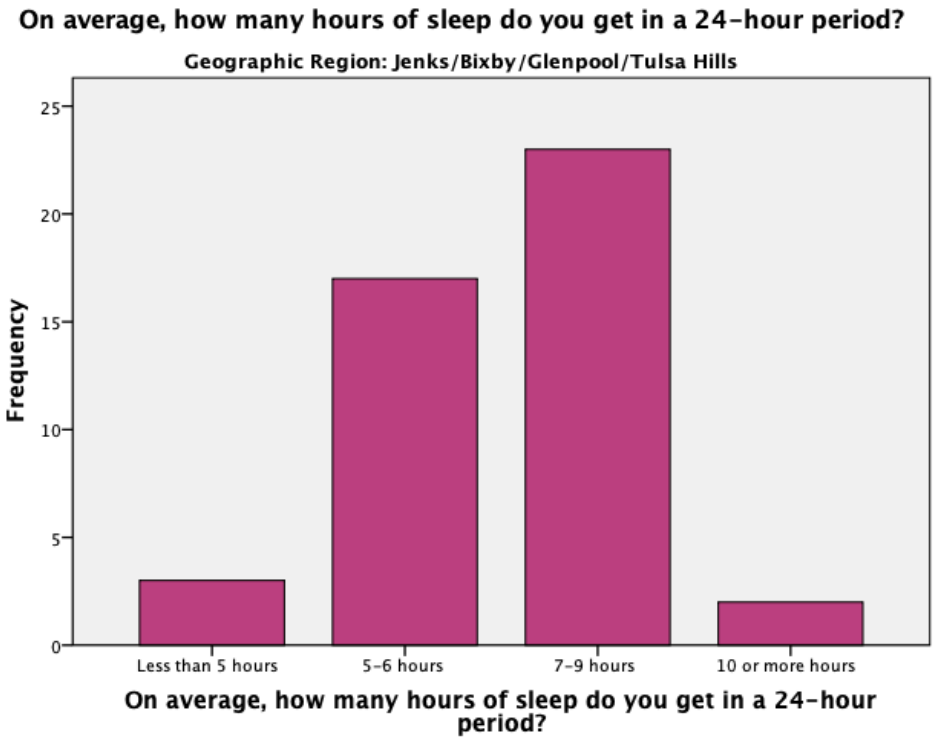
East Tulsa

Participants were asked to report how many hours of sleep they generally get each night. About 5% (n = 4) said less than five hours a night, 48% (n = 38) five to six hours a night, 45% (n = 36) seven to nine hours a night and none reported ten or more hours a night. Two (3%) participants did not provide information regarding sleep. For further analysis those reporting six or less hours slept each night were separated into a group identified as sleep less.



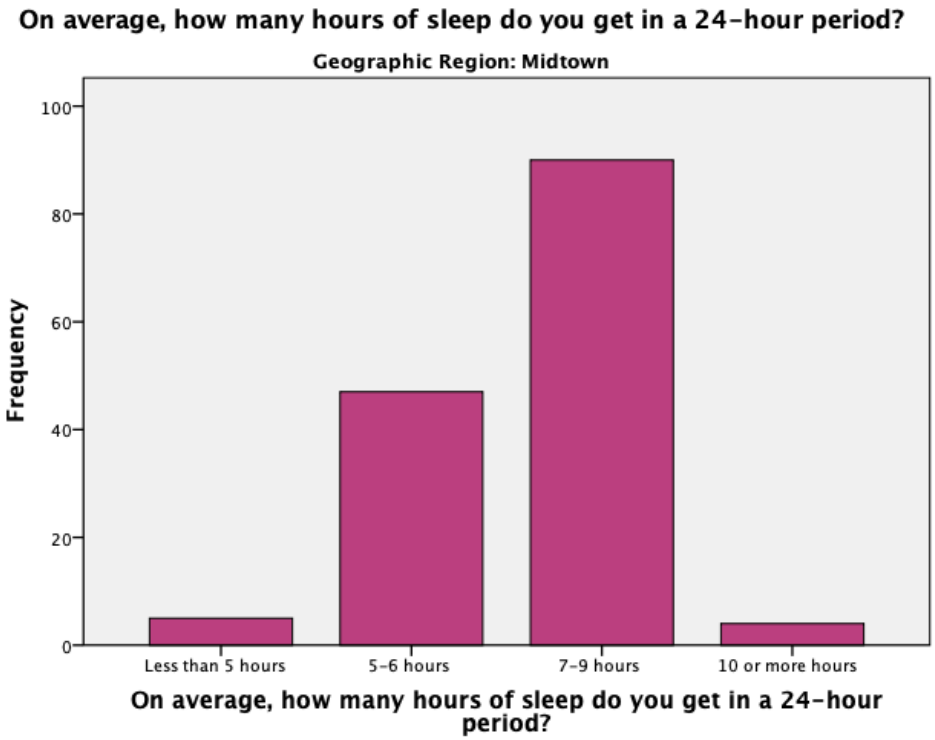
Jenks, Bixby and Glenpool

Participants were asked to report how many hours of sleep they generally get each night. About 7% (n = 3) said less than five hours a night, 38% (n = 17) five to six hours a night, 51% (n = 23) seven to nine hours a night and 4% (n = 2) ten or more hours a night. For further analysis those reporting six or less hours slept each night were separated into a group identified as sleep less.



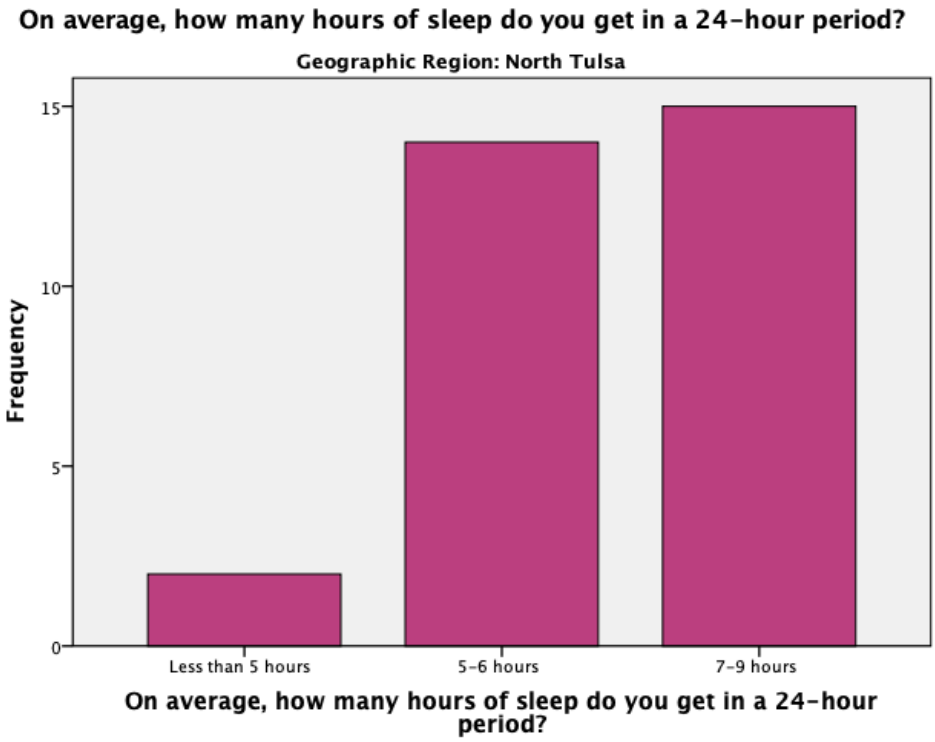
Midtown Tulsa

Participants were asked to report how many hours of sleep they generally get each night. About 3% (n = 5) said less than five hours a night, 32% (n = 47) five to six hours a night, 62% (n = 90) seven to nine hours a night and 3% (n = 4) ten or more hours a night. For further analysis those reporting six or less hours slept each night were separated into a group identified as sleep less.



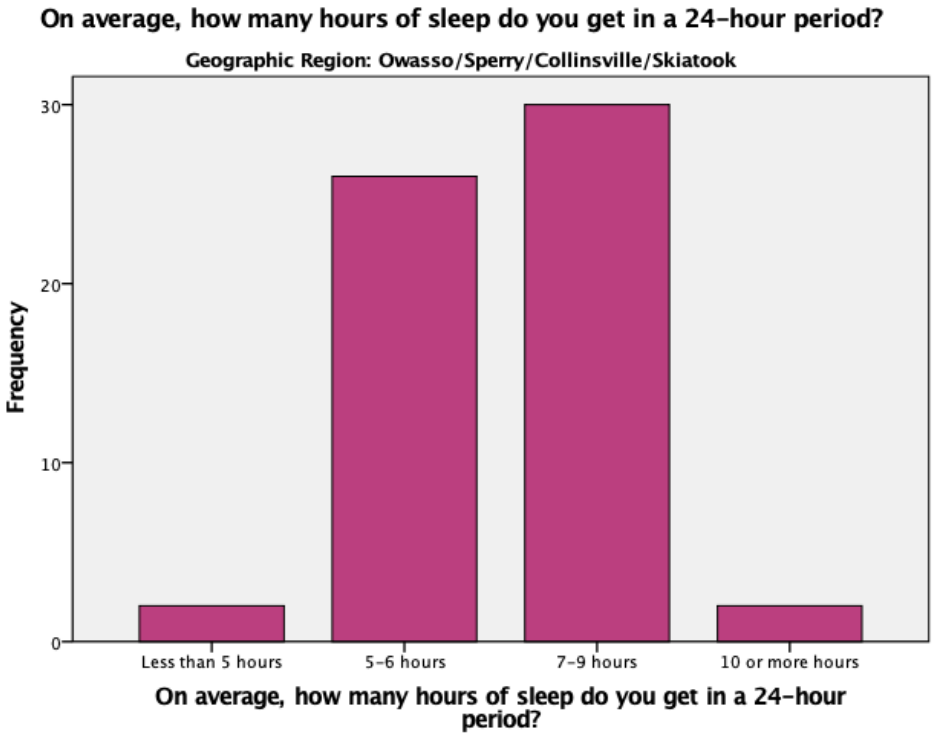
North Tulsa

Participants were asked to report how many hours of sleep they generally get each night. About 7% (n = 2) said less than five hours a night, 45% (n = 14) five to six hours a night, 48% (n = 15) seven to nine hours a night and none reported ten or more hours a night. For further analysis those reporting six or less hours slept each night were separated into a group identified as sleep less.



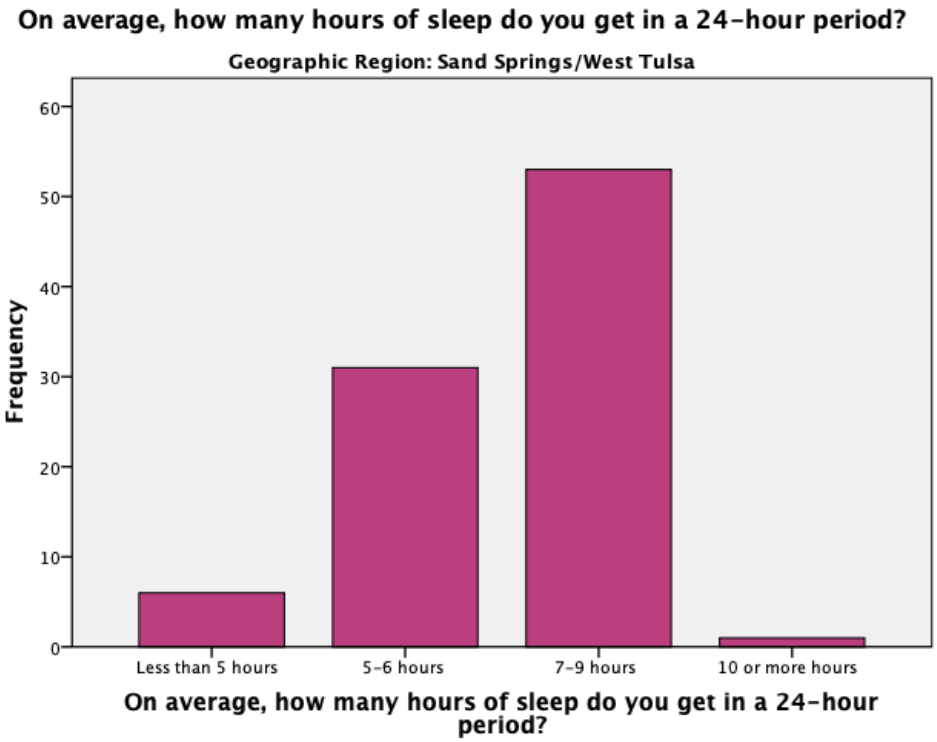
Owasso, Sperry, Collinsville and Skiatook

Participants were asked to report how many hours of sleep they generally get each night. About 3% (n = 2) said less than five hours a night, 43% (n = 26) five to six hours a night, 50% (n = 30) seven to nine hours a night and 3% (n = 2) ten or more hours a night. For further analysis those reporting six or less hours slept each night were separated into a group identified as sleep less.



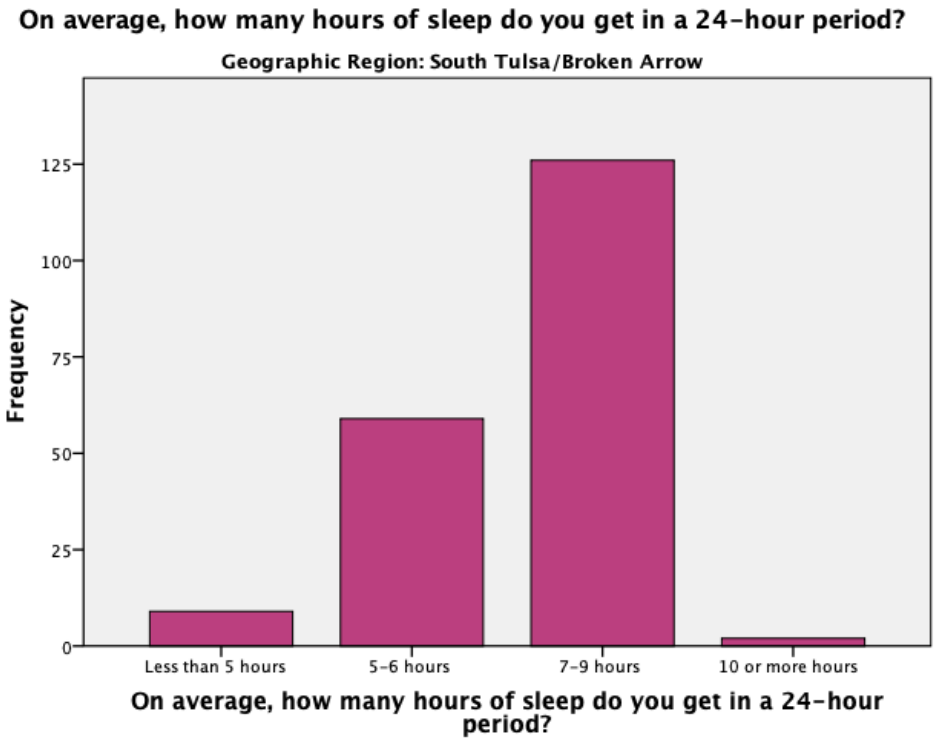
Sand Springs and west Tulsa

Participants were asked to report how many hours of sleep they generally get each night. About 7% (n = 6) said less than five hours a night, 34% (n = 31) five to six hours a night, 58% (n = 53) seven to nine hours a night and 1% (n = 1) ten or more hours a night. For further analysis those reporting six or less hours slept each night were separated into a group identified as sleep less.



South Tulsa and Broken Arrow

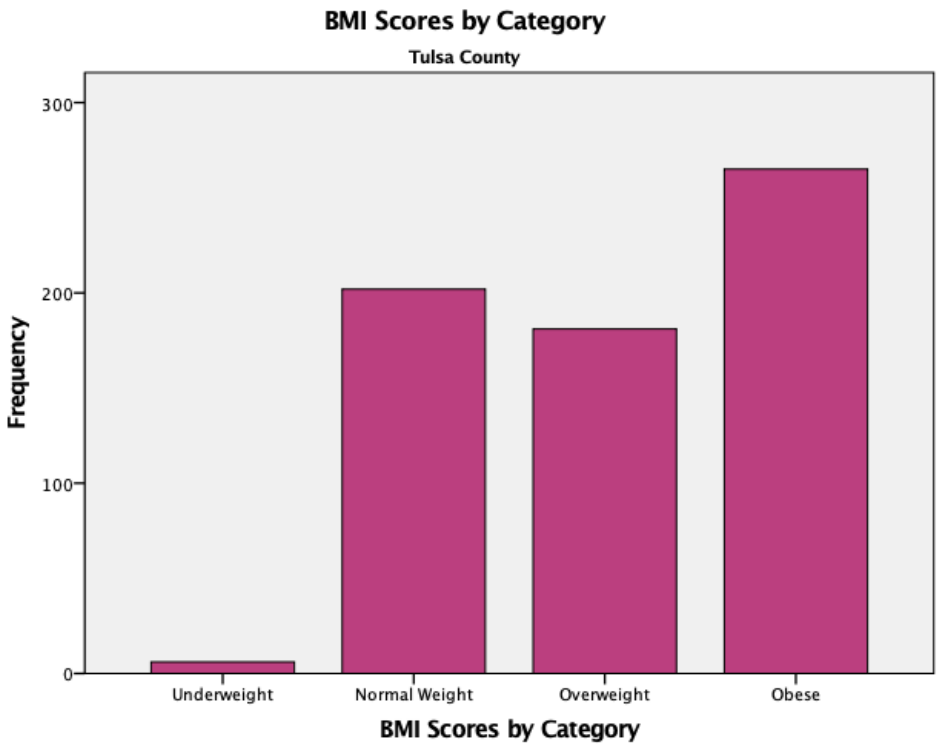
Participants were asked to report how many hours of sleep they generally get each night. About 5% (n = 9) said less than five hours a night, 30% (n = 59) five to six hours a night, 64% (n = 126) seven to nine hours a night and 1% (n = 2) ten or more hours a night. One participant (1%) did not report sleep data. For further analysis those reporting six or less hours slept each night were separated into a group identified as sleep less.



BMI

Tulsa County

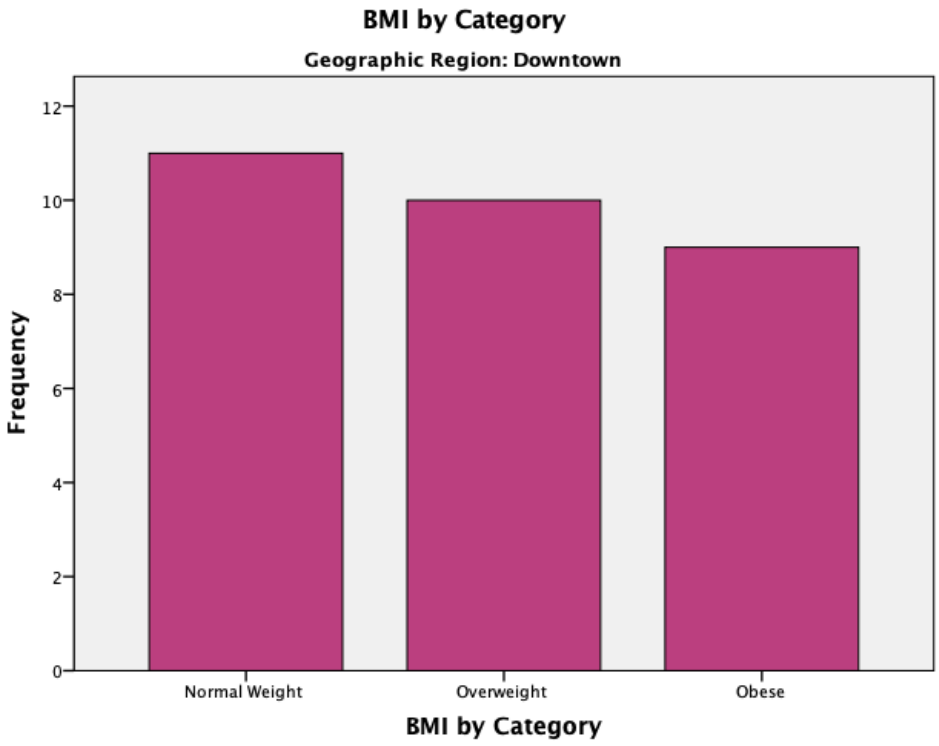
Respondents were asked to report their height in feet and inches and their weight in pounds. Following guidelines issued by the Centers for Disease Control, BMI was calculated by dividing weight in pounds by height in inches squared and multiplying by 703. BMI ranged from 16.72 to 61.99. The mean BMI was 29.65 with a standard deviation of 7.67. Using guidelines from the Centers for Disease Control, participants were sorted into one of four categories based on their BMI. Almost 1% (n = 6) participants were underweight, 30% (n = 202) were a normal weight, 27% (n = 181) were overweight, 39% were obese, and 4% (n = 28) did not provide sufficient information to calculate BMI.



Cross tabulations revealed a statistically significant relationship between one's rating of their personal health and obesity. More specifically, 83% of those who were underweight rated their health as excellent or very good compared to 73% of those at a normal weight, 57% of those that were overweight and 31% of those that were obese. Similarly, only 5% of those at a normal weight reported their health as fair or poor compared to 31% of those that were obese (t^2 = 107/24, *df* = 6, *p* < .000).

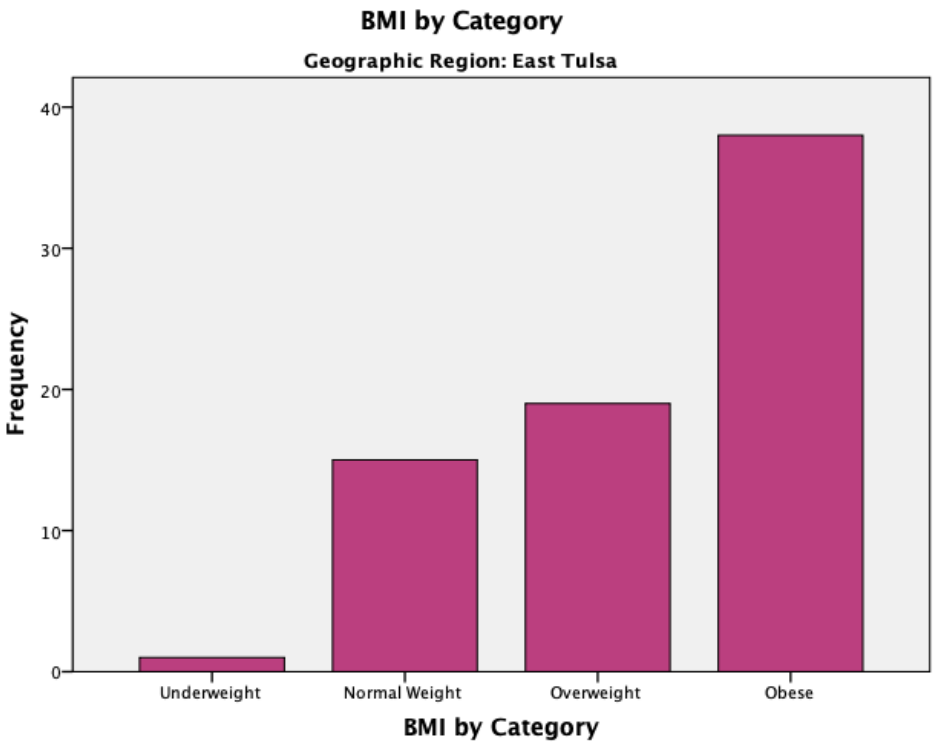
Downtown Tulsa

Respondents were asked to report their height in feet and inches and their weight in pounds. Following guidelines issued by the Centers for Disease Control, BMI was calculated by dividing weight in pounds by height in inches squared and multiplying by 703. BMI ranged from 19.42 to 41.88. The mean BMI was 27.81 with a standard deviation of 5.72. Using guidelines from the Centers for Disease Control, participants were sorted into one of four categories based on their BMI. Almost 36% (n = 11) were a normal weight, 32% (n = 10) were overweight, 29% (n = 9) were obese, and 3% (n = 1) did not provide sufficient information to calculate BMI.



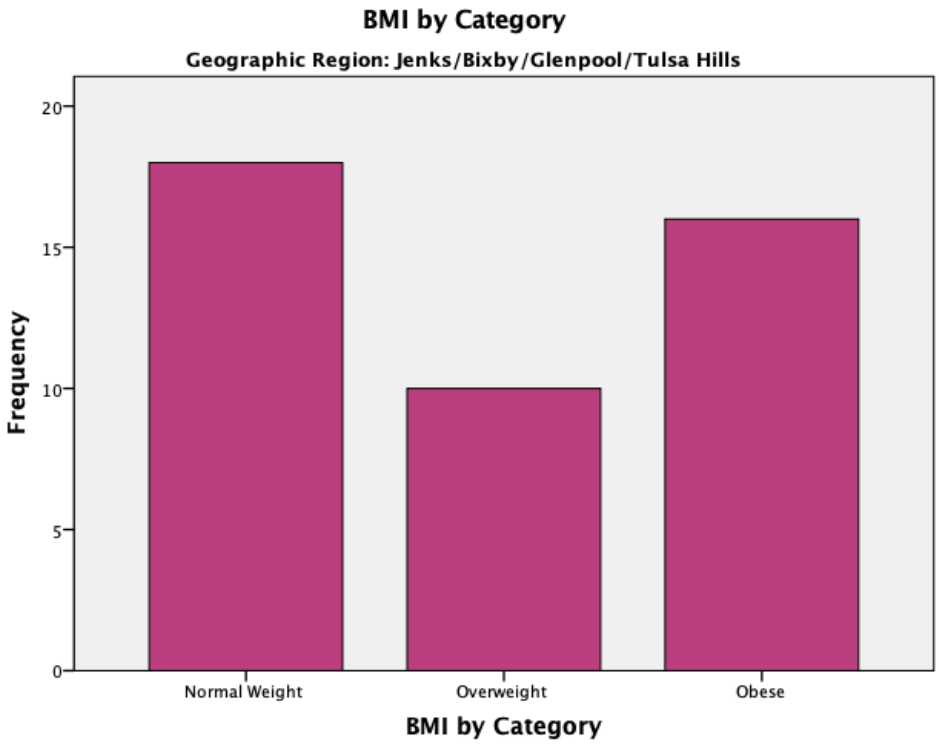
East Tulsa

Respondents were asked to report their height in feet and inches and their weight in pounds. Following guidelines issued by the Centers for Disease Control, BMI was calculated by dividing weight in pounds by height in inches squared and multiplying by 703. BMI ranged from 16.72 to 49.38. The mean BMI was 31.38 with a standard deviation of 7.58. Using guidelines from the Centers for Disease Control, participants were sorted into one of four categories based on their BMI. Almost 1% (n = 1) participants were underweight, 19% (n = 15) were a normal weight, 24% (n = 19) were overweight, 48% (n = 38) were obese, and 9% (n = 7) did not provide sufficient information to calculate BMI.



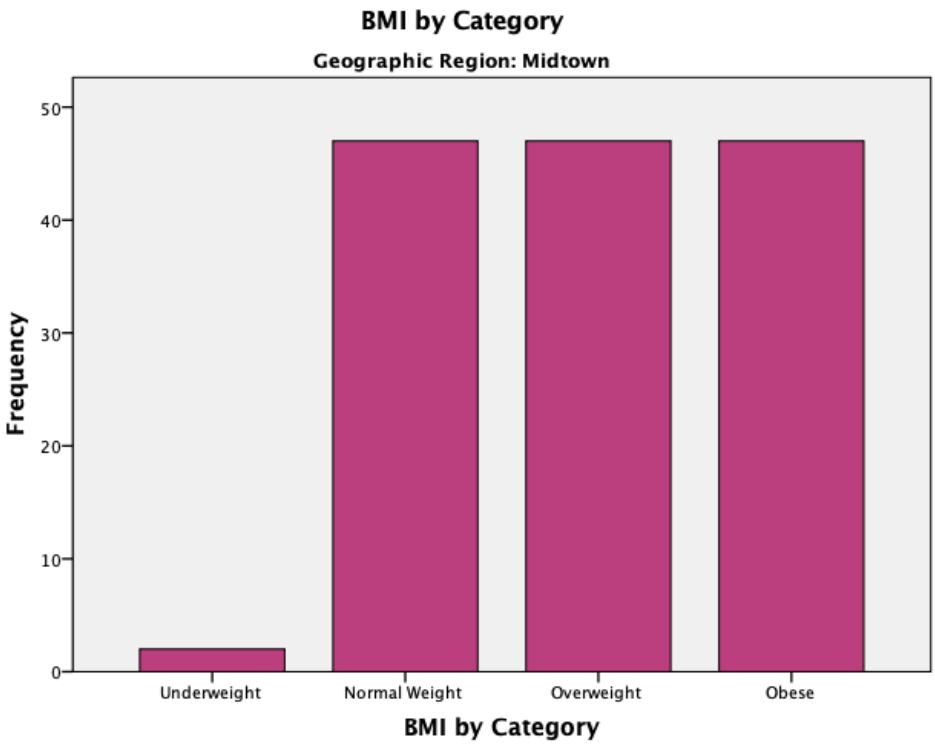
Jenks, Bixby and Glenpool

Respondents were asked to report their height in feet and inches and their weight in pounds. Following guidelines issued by the Centers for Disease Control, BMI was calculated by dividing weight in pounds by height in inches squared and multiplying by 703. BMI ranged from 18.56 to 49.92. The mean BMI was 28.04 with a standard deviation of 6.94. Using guidelines from the Centers for Disease Control, participants were sorted into one of four categories based on their BMI. Forty percent (n = 18) were a normal weight, 22% (n = 10) were overweight, 36% (n = 16) were obese, and 2% (n = 1) did not provide sufficient information to calculate BMI.



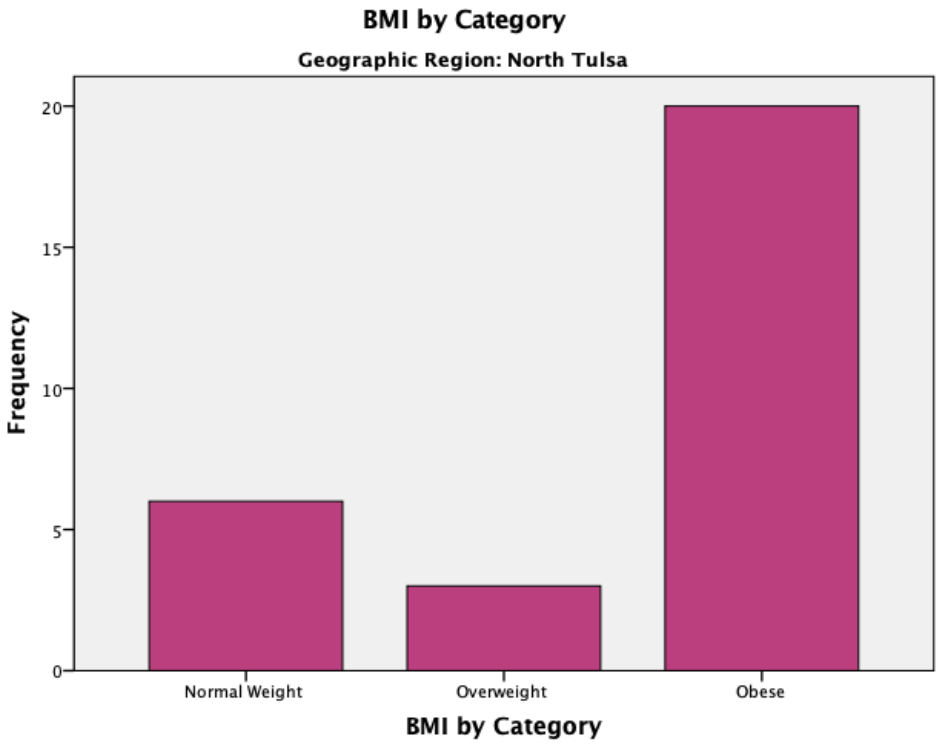
Midtown Tulsa

Respondents were asked to report their height in feet and inches and their weight in pounds. Following guidelines issued by the Centers for Disease Control, BMI was calculated by dividing weight in pounds by height in inches squared and multiplying by 703. BMI ranged from 18.19 to 56.69. The mean BMI was 28.56 with a standard deviation of 7.42. Using guidelines from the Centers for Disease Control, participants were sorted into one of four categories based on their BMI. Almost 1% (n = 2) participants were underweight, 32% (n = 47) were a normal weight, 32% (n = 47) were overweight, 42% (n = 47) were obese, and 2% (n = 3) did not provide sufficient information to calculate BMI.



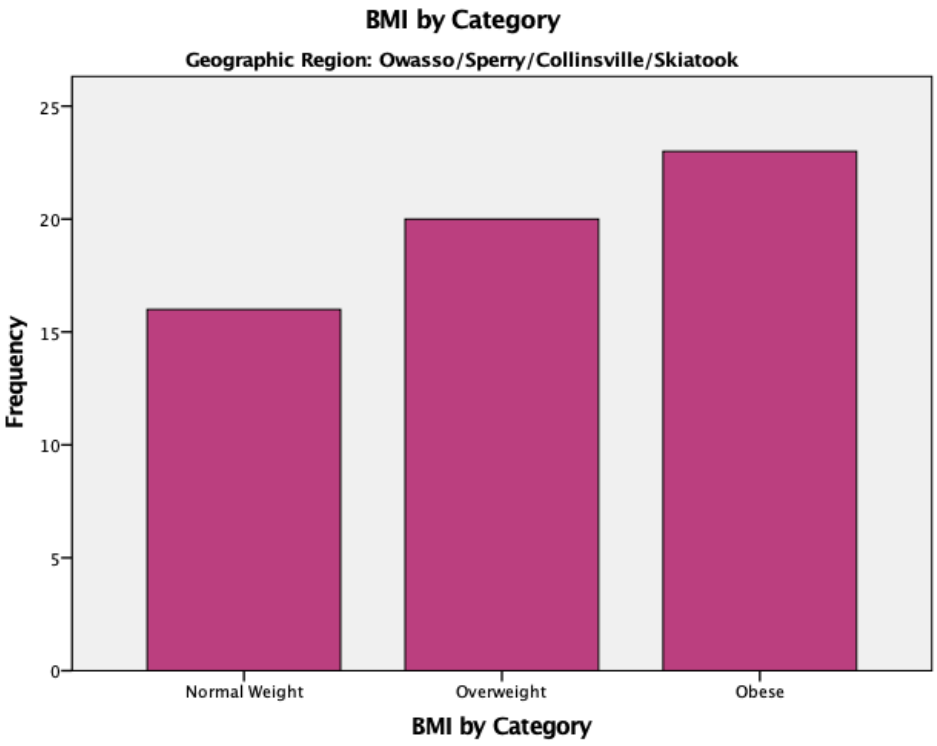
North Tulsa

Respondents were asked to report their height in feet and inches and their weight in pounds. Following guidelines issued by the Centers for Disease Control, BMI was calculated by dividing weight in pounds by height in inches squared and multiplying by 703. BMI ranged from 20.80 to 55.65. The mean BMI was 33.52 with a standard deviation of 9.83. Using guidelines from the Centers for Disease Control, participants were sorted into one of four categories based on their BMI. About 19% (n = 6) were a normal weight, 10% (n = 3) were overweight, 65% (n = 20) were obese, and 7% (n = 2) did not provide sufficient information to calculate BMI.



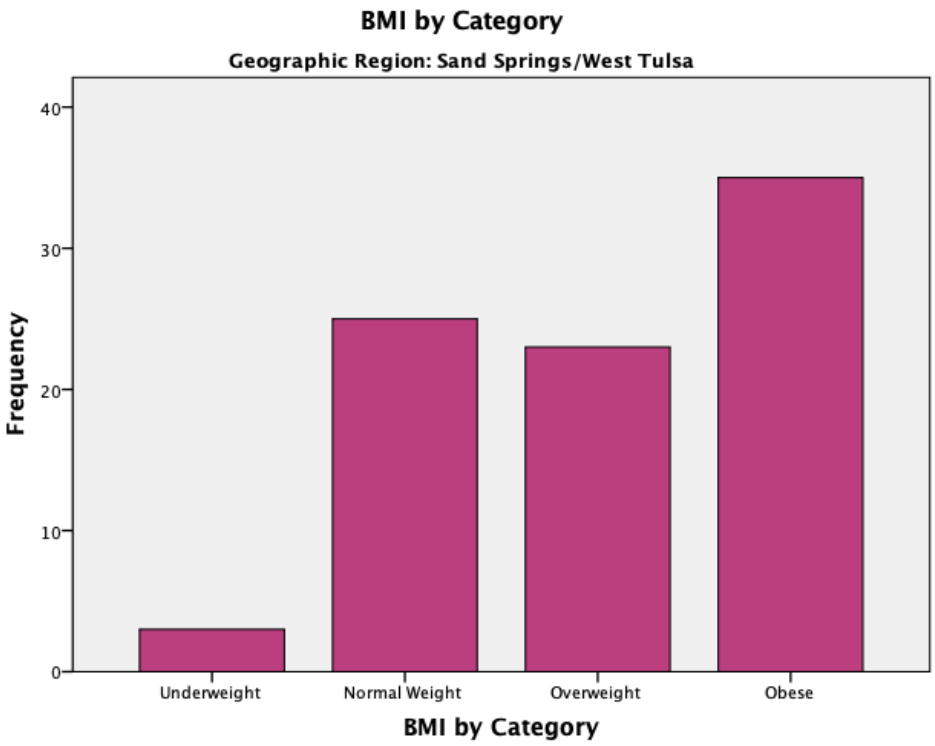
Owasso, Sperry, Collinsville and Skiatook

Respondents were asked to report their height in feet and inches and their weight in pounds. Following guidelines issued by the Centers for Disease Control, BMI was calculated by dividing weight in pounds by height in inches squared and multiplying by 703. BMI ranged from 18.70 to 61.99. The mean BMI was 29.76 with a standard deviation of 8.01. Using guidelines from the Centers for Disease Control, participants were sorted into one of four categories based on their BMI. None were underweight, 27% (n = 16) were a normal weight, 33% (n = 20) were overweight, 38% (n = 23) were obese, and 2% (n = 1) did not provide sufficient information to calculate BMI.



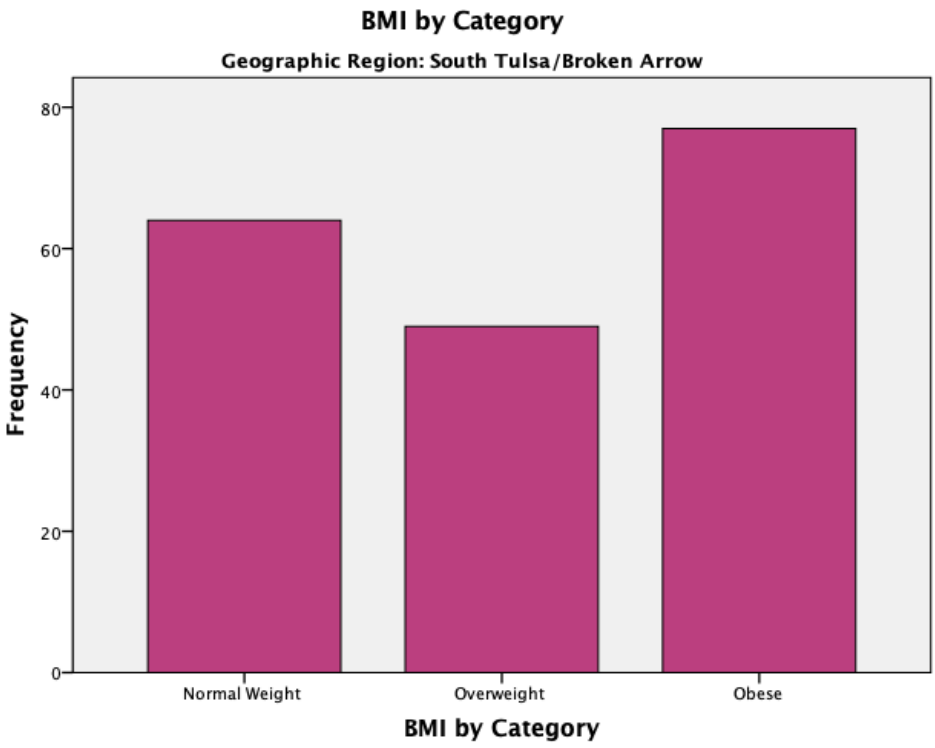
Sand Springs and west Tulsa

Respondents were asked to report their height in feet and inches and their weight in pounds. Following guidelines issued by the Centers for Disease Control, BMI was calculated by dividing weight in pounds by height in inches squared and multiplying by 703. BMI ranged from 17.93 to 56.38. The mean BMI was 30.65 with a standard deviation of 9.05. Using guidelines from the Centers for Disease Control, participants were sorted into one of four categories based on their BMI. Almost 3% (n = 3) participants were underweight, 27% (n = 25) were a normal weight, 25% (n = 23) were overweight, 38% (n = 35) were obese, and 7% (n = 6) did not provide sufficient information to calculate BMI.



South Tulsa and Broken Arrow

Respondents were asked to report their height in feet and inches and their weight in pounds. Following guidelines issued by the Centers for Disease Control, BMI was calculated by dividing weight in pounds by height in inches squared and multiplying by 703. BMI ranged from 18.54 to 50.66. The mean BMI was 29.35 with a standard deviation of 7.06. Using guidelines from the Centers for Disease Control, participants were sorted into one of four categories based on their BMI. Almost 33% (n = 64) were a normal weight, 25% (n = 49) were overweight, 39% (n = 77) were obese, and 4% (n = 7) did not provide sufficient information to calculate BMI.

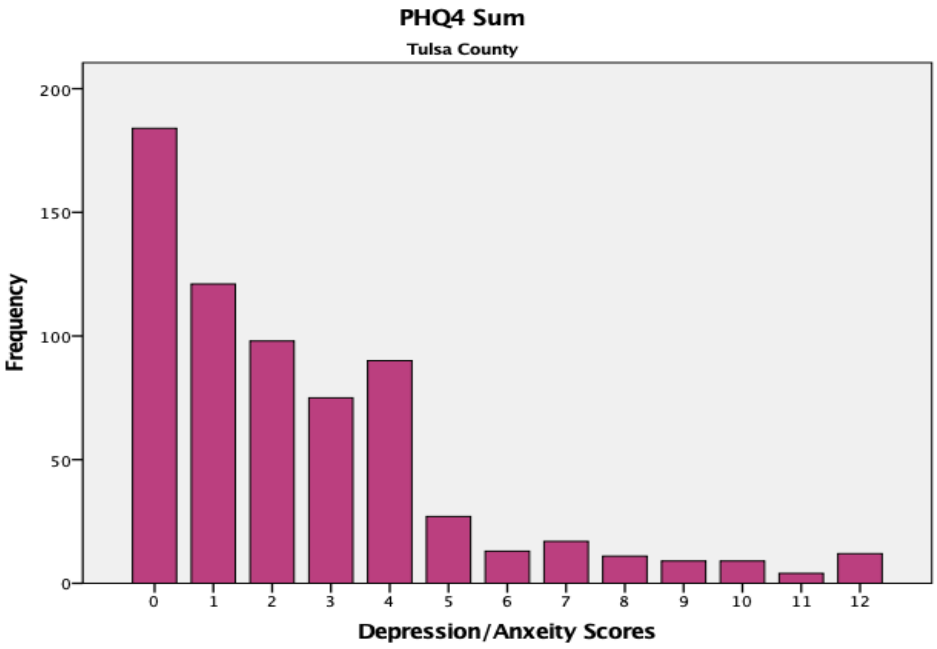


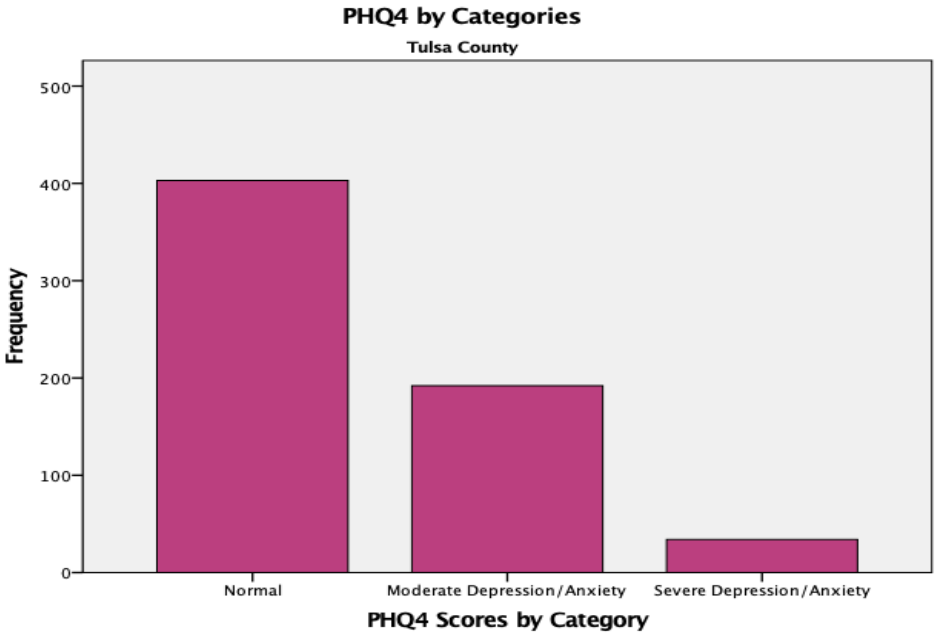
Depression and anxiety

Tulsa County

Anxiety and depression were measured using the PHQ4, a 4-item screening instrument commonly used in healthcare settings. The PHQ4 can be used to determine the presence of anxiety and/or depression. It can also be used to produce a sum indicating the presence of anxiety and depression on a scale from 0-12 with higher scores indicating greater levels of depression and anxiety. Cut scores have also been developed to rank the presence of depression and anxiety as normal, moderate and severe.

In Tulsa County, 674 individuals completed all PHQ4 screening items. The presence of anxiety was noted in 92 cases (14%). Depression was noted in 77 cases (11%). Scores were relatively low with a mean of 2.51. When categorized, the preponderance of respondents rated as normal (n = 403, 59%), while 192 individuals (28%) rated with moderate depression/anxiety and 34 (5%) were noted to have severe depression/anxiety.





Cross tabulations revealed a statistically significant relationship between one's rating of their personal health and anxiety. More specifically, 54% of those without anxiety rated their health as excellent or very good compared to only 23% of those with anxiety. Similarly, only 13% of those without anxiety rated their health as fair or poor compared to 40% of those with anxiety ($t^2 = 53.56$, $df = 2$, $p < .000$).

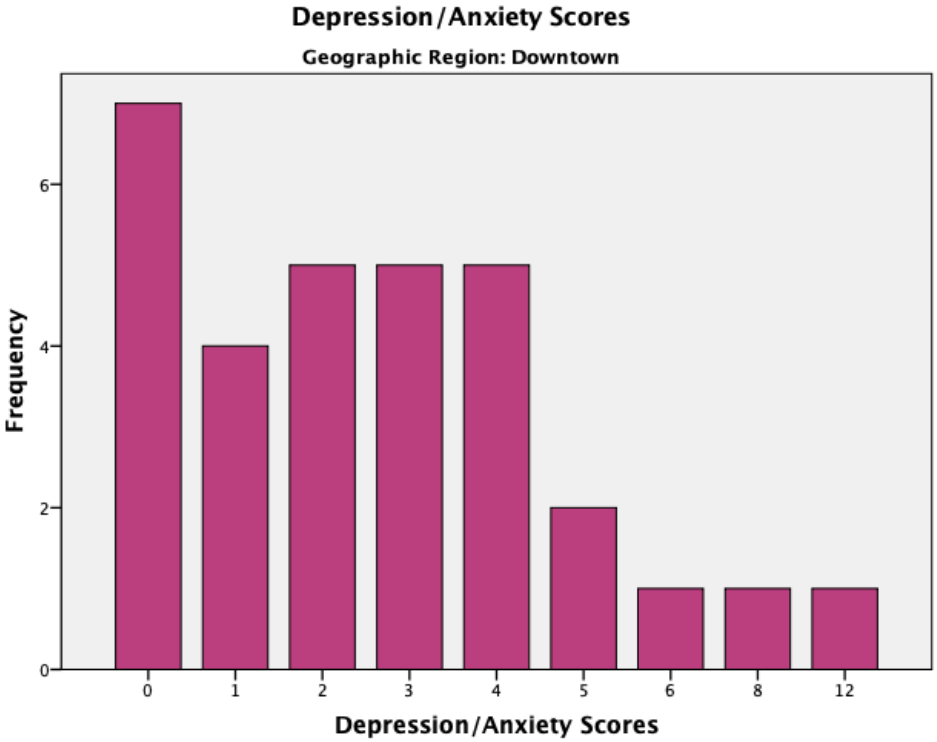
Similar relationships were observed in cross tabulations of personal health and depression. Only 17% of those with depression rated their health as excellent or very good compared to 55% of those without depression, while 53% of those with depression rated their health as fair or poor compared to 12% of those without depression ($t^2 = 91.22$, $df = 2$, $p < .000$).

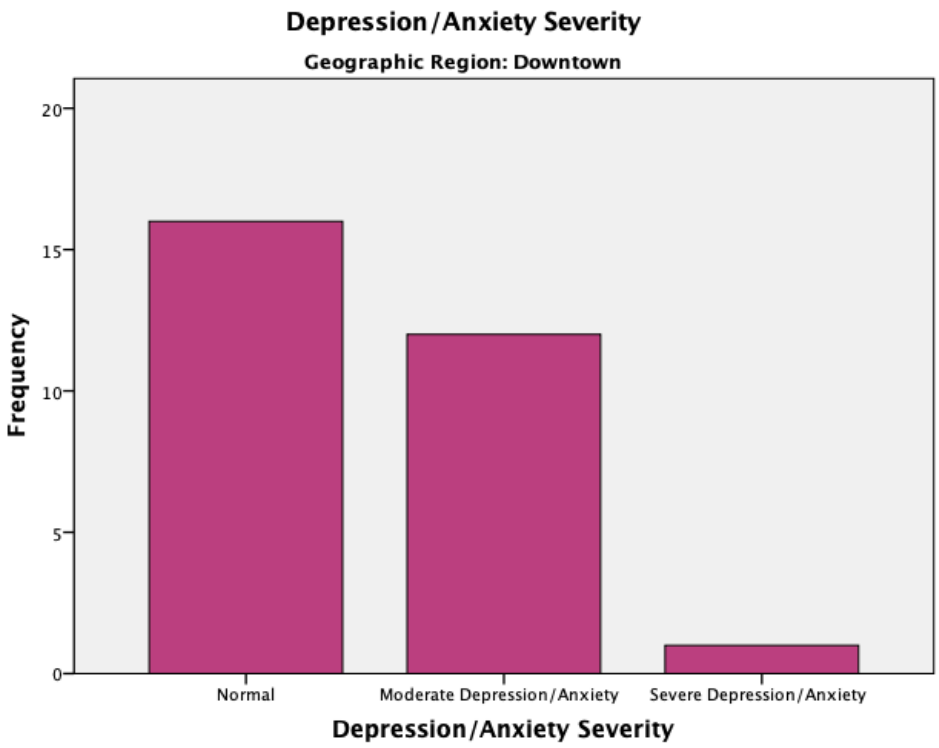
A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. No relationships were noted for sex, age, race, marital status, pack years or BMI. Those who with greater levels of social isolation ($t = 4.34$, $p < .000$), loneliness ($t = 2.81$, $p = .001$), and stress ($t= 11.96$, $p <.000$), as well as those that report fair or poor health ($t = 4.98$, $p < .000$) experienced higher PHQ4 scores indicating greater levels of depression/anxiety.

Downtown Tulsa

Anxiety and depression were measured using the PHQ4, a 4-item screening instrument commonly used in health care settings. The PHQ4 can be used to determine the presence of anxiety and/or depression. It can also be used to produce a sum indicating the presence of anxiety and depression on a scale from 0-12 with higher scores indicating greater levels of depression and anxiety. Cut scores have also been developed to rank the presence of depression and anxiety as normal, moderate and severe.

All PHQ4 screening items were completed by 29 individuals. The presence of anxiety was noted in 5 cases (16%). Depression was noted in 1 case (3%). Scores were relatively low with a mean of 2.74. When categorized, the preponderance of respondents rated as normal (n = 16, 52%), while 12 individuals (39%) rated with moderate depression/anxiety and 1 (3%) were noted to have severe depression/anxiety.

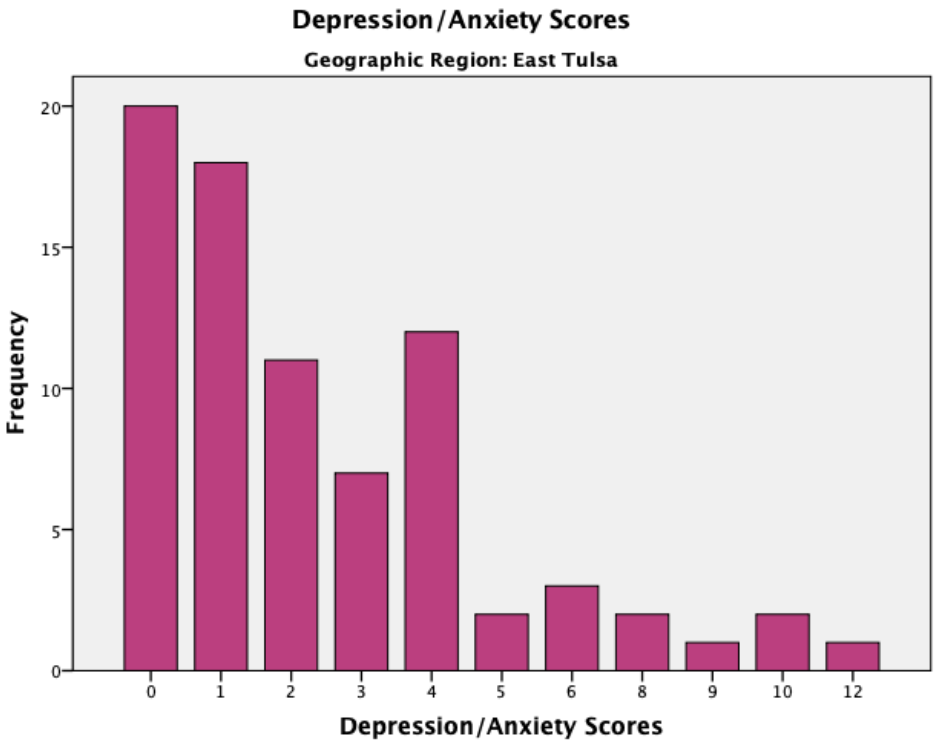


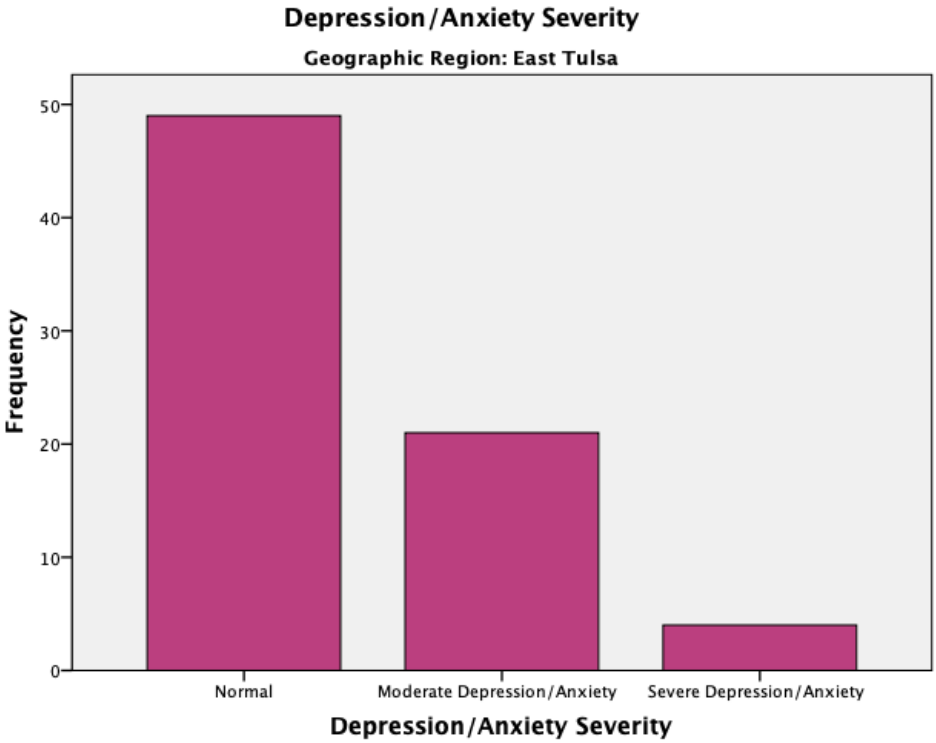


East Tulsa

Anxiety and depression were measured using the PHQ4, a 4-item screening instrument commonly used in health care settings. The PHQ4 can be used to determine the presence of anxiety and/or depression. It can also be used to produce a sum indicating the presence of anxiety and depression on a scale from 0-12 with higher scores indicating greater levels of depression and anxiety. Cut scores have also been developed to rank the presence of depression and anxiety as normal, moderate and severe.

All PHQ4 screening items were completed by 79 individuals. The presence of anxiety was noted in 9 cases (11%). Depression was noted in 9 cases (11%). Scores were relatively low with a mean of 2.46. When categorized, the preponderance of respondents rated as normal (n = 49, 61%), while 21 individuals (26%) rated with moderate depression/anxiety and 4 (5%) were noted to have severe depression/anxiety.



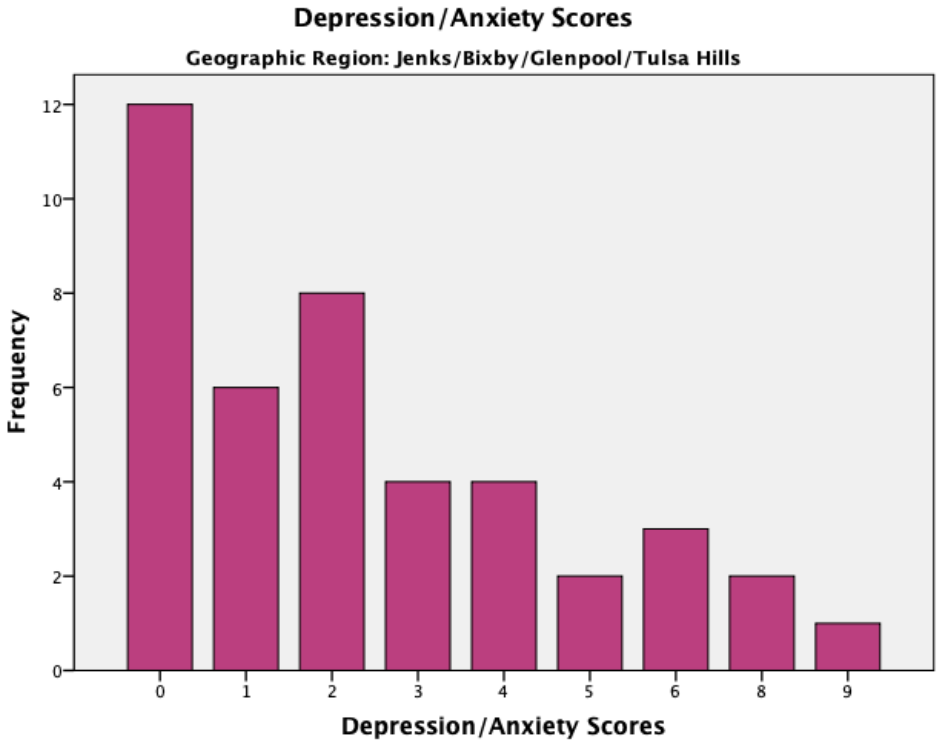


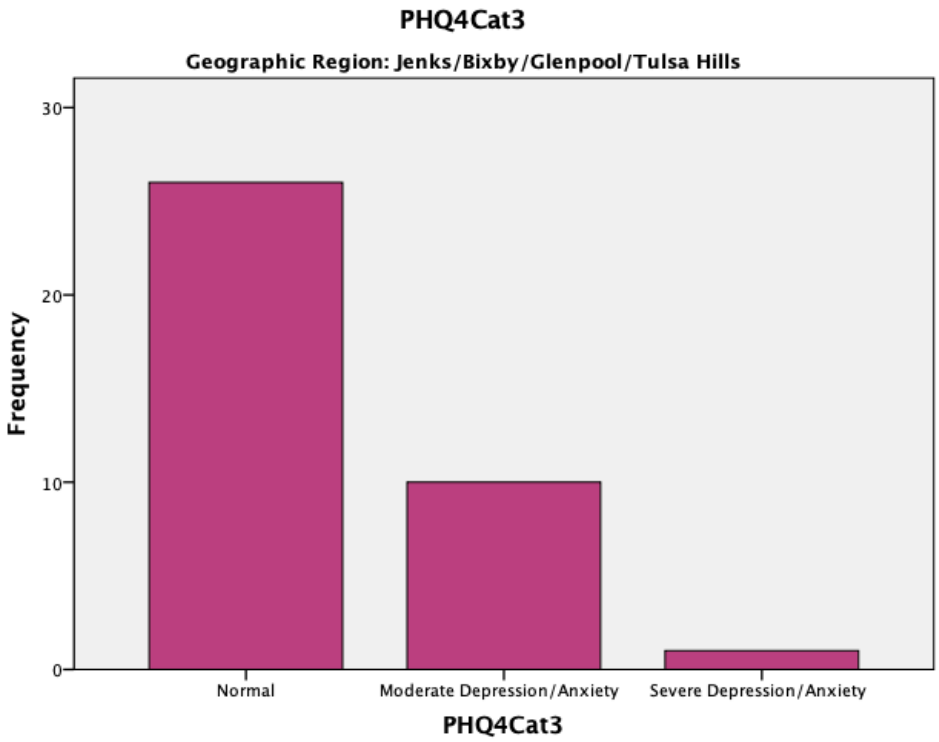
Jenks, Bixby and Glenpool

Anxiety and depression were measured using the PHQ4, a 4-item screening instrument commonly used in health care settings. The PHQ4 can be used to determine the presence of anxiety and/or depression. It can also be used to

produce a sum indicating the presence of anxiety and depression on a scale from 0-12 with higher scores indicating greater levels of depression and anxiety. Cut scores have also been developed to rank the presence of depression and anxiety as normal, moderate and severe.

All PHQ4 screening items were completed by 37 individuals. The presence of anxiety was noted in 8 cases (18%). Depression was noted in 6 cases (13%). Scores were relatively low with a mean of 2.45. When categorized, the preponderance of respondents rated as normal (n = 26, 70%), while 10 individuals (27%) rated with moderate depression/anxiety and 1 (3%) were noted to have severe depression/anxiety.

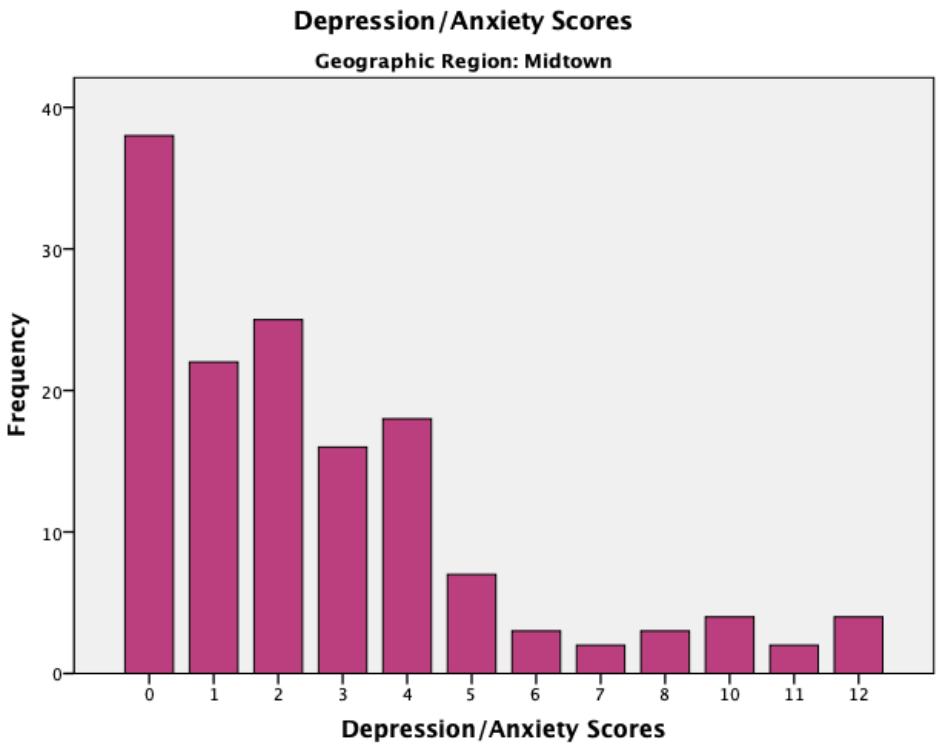


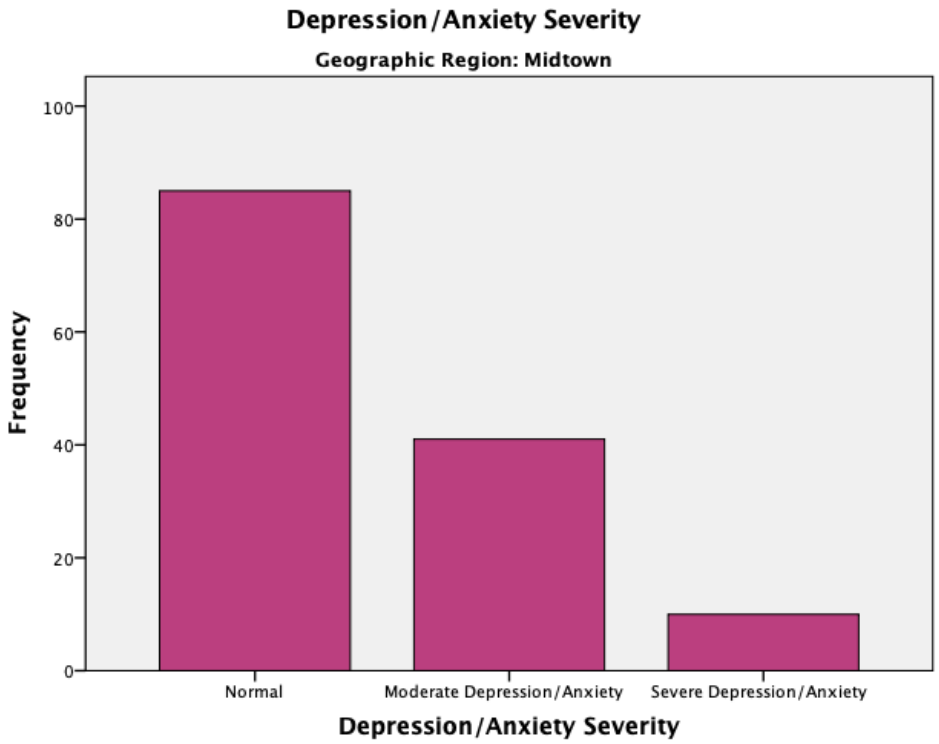


Midtown Tulsa

Anxiety and depression were measured using the PHQ4, a 4-item screening instrument commonly used in health care settings. The PHQ4 can be used to determine the presence of anxiety and/or depression. It can also be used to produce a sum indicating the presence of anxiety and depression on a scale from 0-12 with higher scores indicating greater levels of depression and anxiety. Cut scores have also been developed to rank the presence of depression and anxiety as normal, moderate and severe.

All PHQ4 screening items were completed by 136 individuals. The presence of anxiety was noted in 23 cases (16%). Depression was noted in 19 cases (13%). Scores were relatively low with a mean of 2.73. When categorized, the preponderance of respondents rated as normal (n = 85, 63%), while 41 individuals (30%) rated with moderate depression/anxiety and 10 (7%) were noted to have severe depression/anxiety.



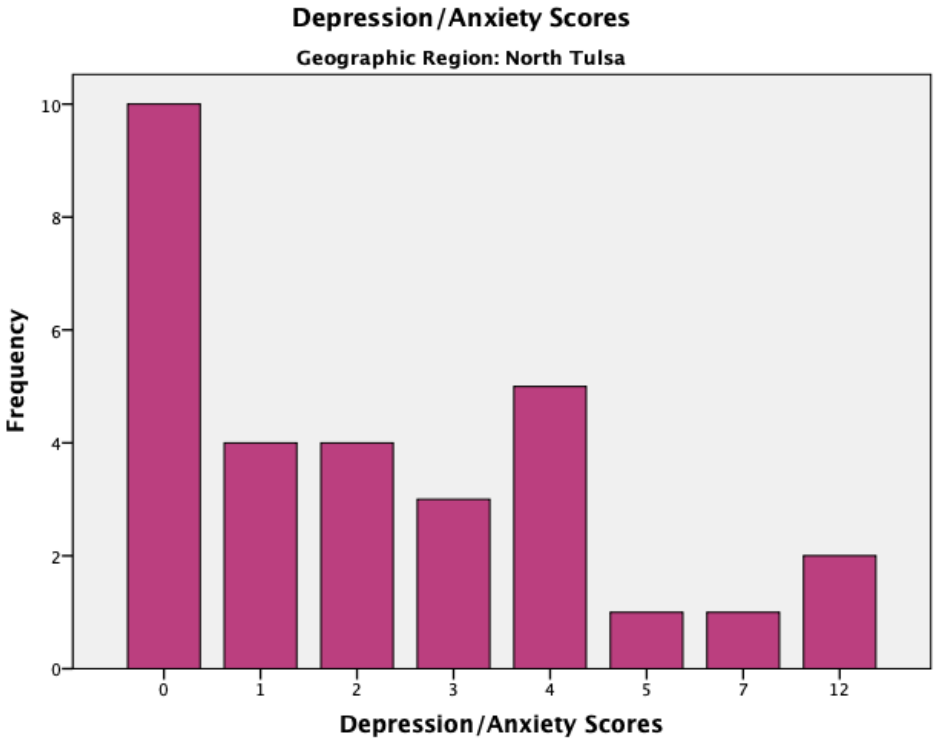


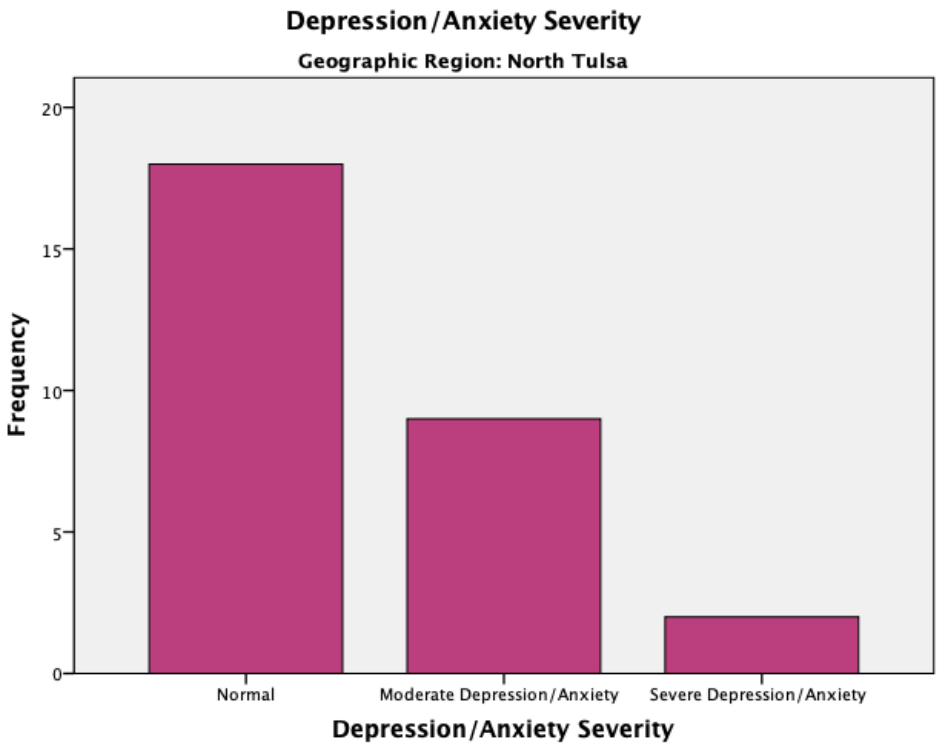
North Tulsa

Anxiety and depression were measured using the PHQ4, a 4-item screening instrument commonly used in health care settings. The PHQ4 can be used to determine the presence of anxiety and/or depression. It can also be used to

produce a sum indicating the presence of anxiety and depression on a scale from 0-12 with higher scores indicating greater levels of depression and anxiety. Cut scores have also been developed to rank the presence of depression and anxiety as normal, moderate and severe.

All PHQ4 screening items were completed by 31 individuals completed all PHQ4 screening items. The presence of anxiety was noted in 4 cases (13%). Depression was noted in 2 cases (11%). Scores were relatively low with a mean of 2.57. When categorized, the preponderance of respondents rated as normal (n = 18, 62%), while 9 individuals (31%) rated with moderate depression/anxiety and 2 (7%) were noted to have severe depression/anxiety.

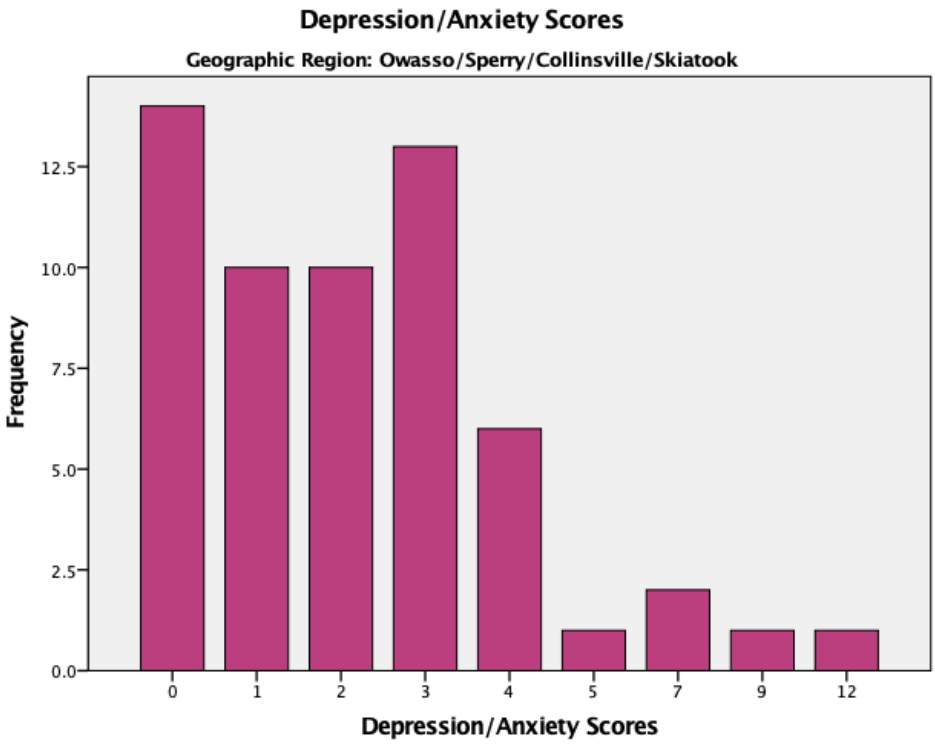


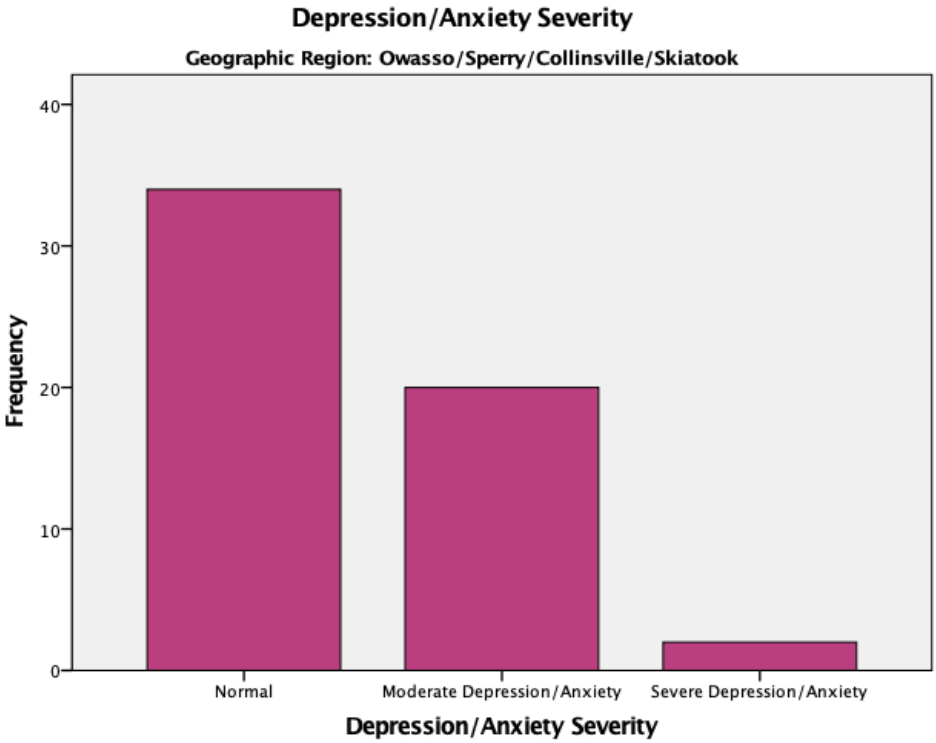


Owasso, Sperry, Collinsville and Skiatook

Anxiety and depression were measured using the PHQ4, a 4-item screening instrument commonly used in health care settings. The PHQ4 can be used to determine the presence of anxiety and/or depression. It can also be used to produce a sum indicating the presence of anxiety and depression on a scale from 0-12 with higher scores indicating greater levels of depression and anxiety. Cut scores have also been developed to rank the presence of depression and anxiety as normal, moderate and severe.

All PHQ4 screening items were completed by 56 individuals. The presence of anxiety was noted in 5 cases (9%). Depression was noted in 5 cases (9%). Scores were relatively low with a mean of 2.29. When categorized, the preponderance of respondents rated as normal (n = 34, 61%), while 20 individuals (36%) rated with moderate depression/anxiety and 2 (3%) were noted to have severe depression/anxiety.



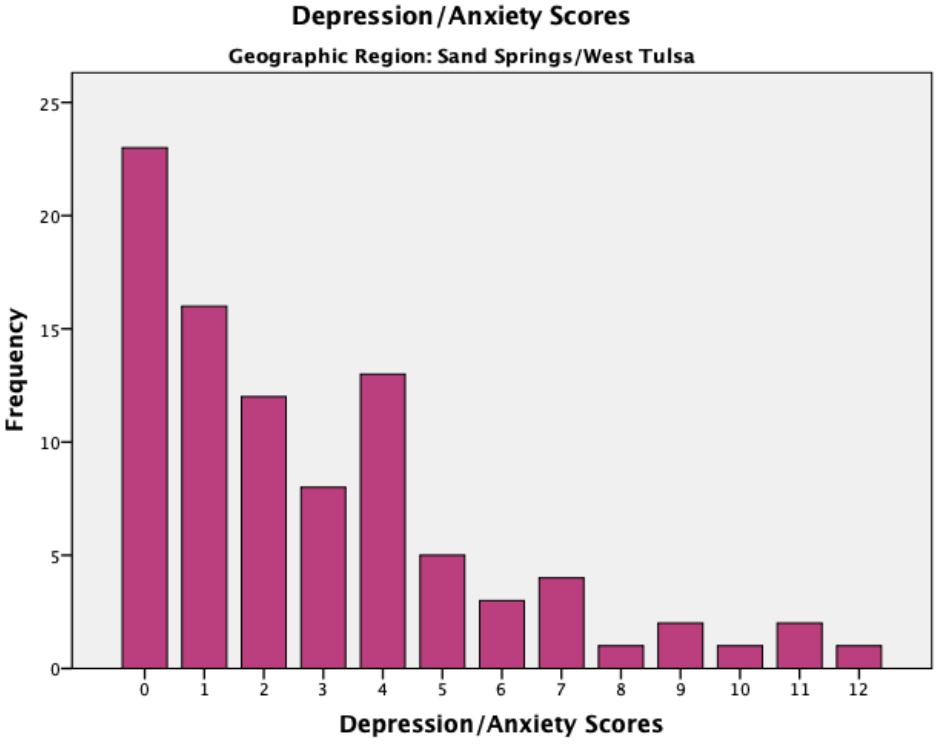


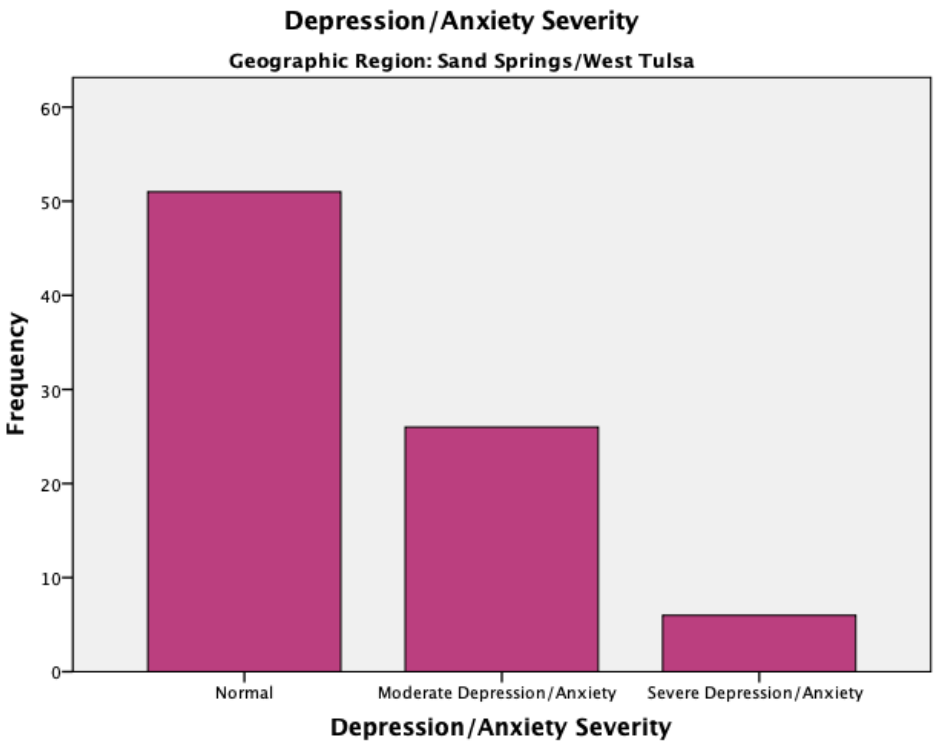
Sand Springs and west Tulsa

Anxiety and depression were measured using the PHQ4, a 4-item screening instrument commonly used in health care settings. The PHQ4 can be used to determine the presence of anxiety and/or depression. It can also be used to

produce a sum indicating the presence of anxiety and depression on a scale from 0-12 with higher scores indicating greater levels of depression and anxiety. Cut scores have also been developed to rank the presence of depression and anxiety as normal, moderate and severe.

All PHQ4 screening items were completed by 83 individuals. The presence of anxiety was noted in 15 cases (16%). Depression was noted in 14 cases (15%). Scores were relatively low with a mean of 2.82. When categorized, the preponderance of respondents rated as normal (n = 51, 55%), while 26 individuals (28%) rated with moderate depression/anxiety and 6 (7%) were noted to have severe depression/anxiety.

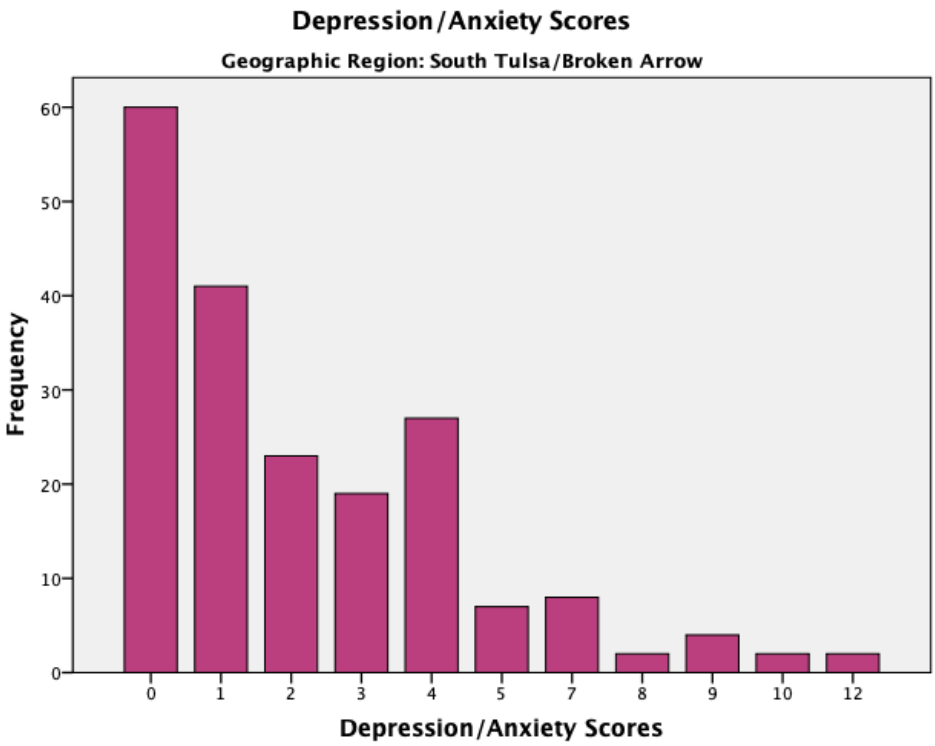


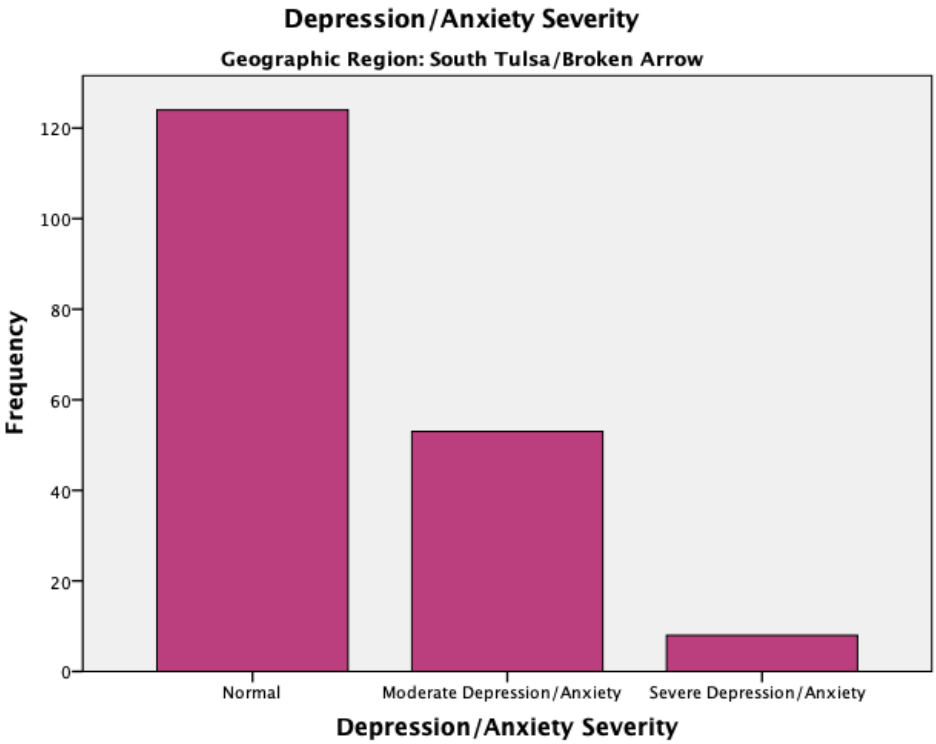


South Tulsa and Broken Arrow

Anxiety and depression were measured using the PHQ4, a 4-item screening instrument commonly used in health care settings. The PHQ4 can be used to determine the presence of anxiety and/or depression. It can also be used to produce a sum indicating the presence of anxiety and depression on a scale from 0-12 with higher scores indicating greater levels of depression and anxiety. Cut scores have also been developed to rank the presence of depression and anxiety as normal, moderate and severe.

All PHQ4 screening items were completed by 195 individuals. The presence of anxiety was noted in 23 cases (12%). Depression was noted in 21 cases (11%). Scores were relatively low with a mean of 2.25. When categorized, the preponderance of respondents rated as normal (n = 124, 63%), while 53 individuals (27%) rated with moderate depression/anxiety and 8 (4%) were noted to have severe depression/anxiety. Twelve (6%) individuals did not provide sufficient information to calculate a PHQ4 rating.

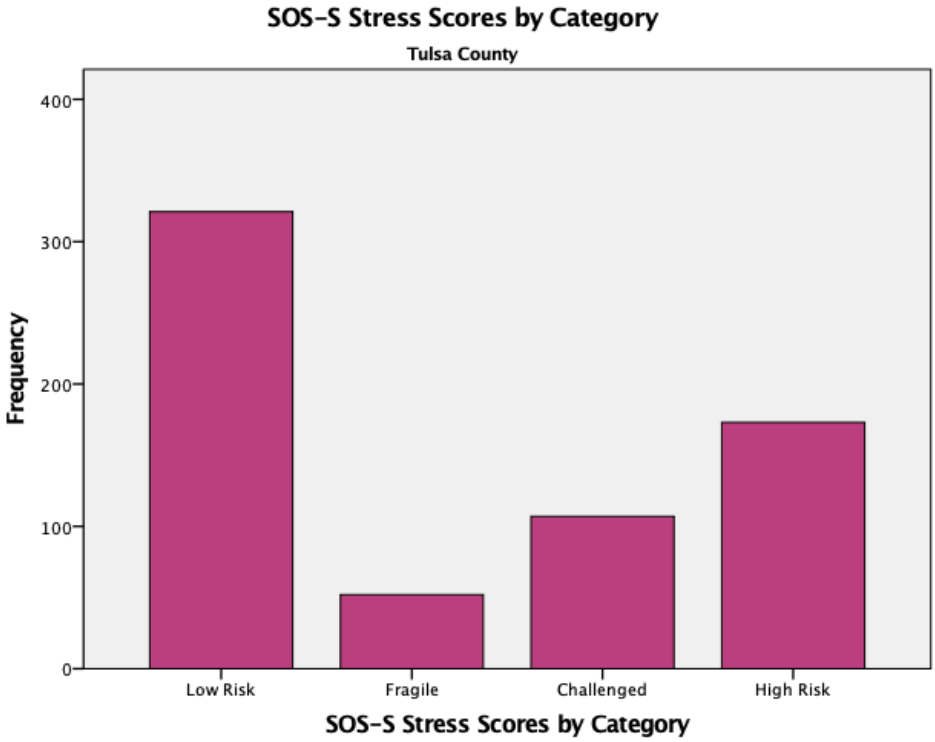




Stress

Tulsa County

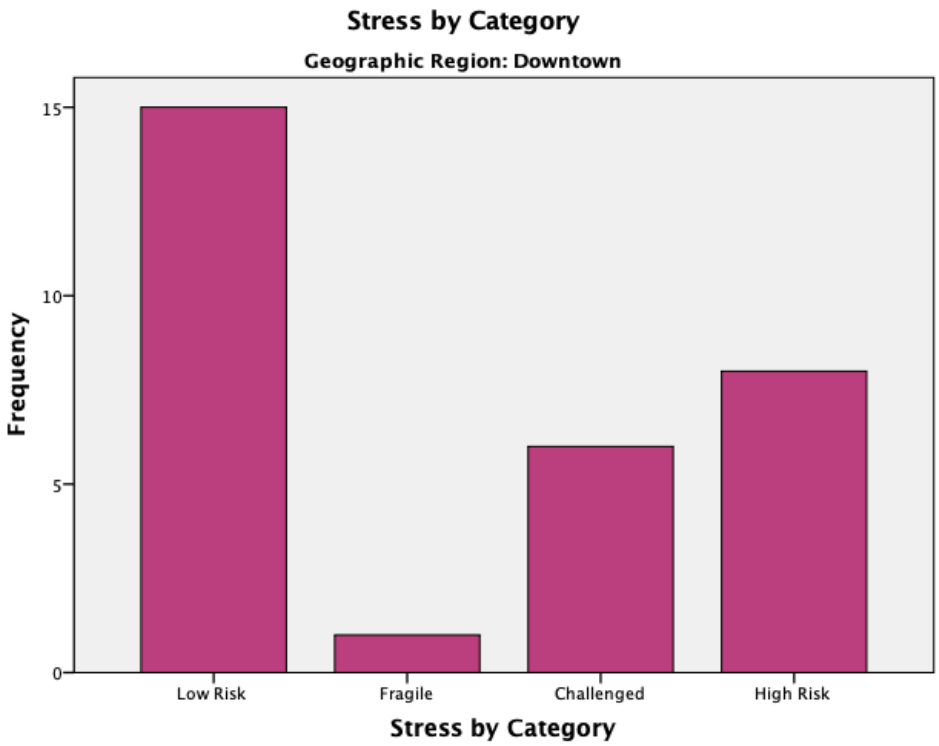
Stress was measured using the SOS-S screening instrument. Scores range from 10-50 with higher scores indicating greater levels of stress. Scores tended to be relatively low overall with a mean score of 20.17 and a standard deviation of 9.27. Scores were further categorized based on the SOS-S guidelines. Categorization is based on individual personal vulnerability and environmental factors. Those with low risk for stress (low personal vulnerability and low environmental factors) represented 47% (n = 321) of the sample. Those at high risk (high personal vulnerability and high environmental factors) made up 25% (n = 173) of the sample. Those with high personal vulnerability, but low environmental factors were labeled fragile (8%, n = 52). Finally, those with low personal vulnerability, but high environmental factors were labeled challenged (16%, n = 107).



Cross tabulations revealed a statistically significant relationship between one's rating of their personal health and stress. Sixty-three percent of those rated with low risk stress reported excellent or very good health compared to 33% of those with high risk stress. Similarly, only 9% of those with low risk stress levels reported fair or poor health compared to 30% of those with high risk stress levels (t^2 = 70.92, *df* = 6, *p* < .000).

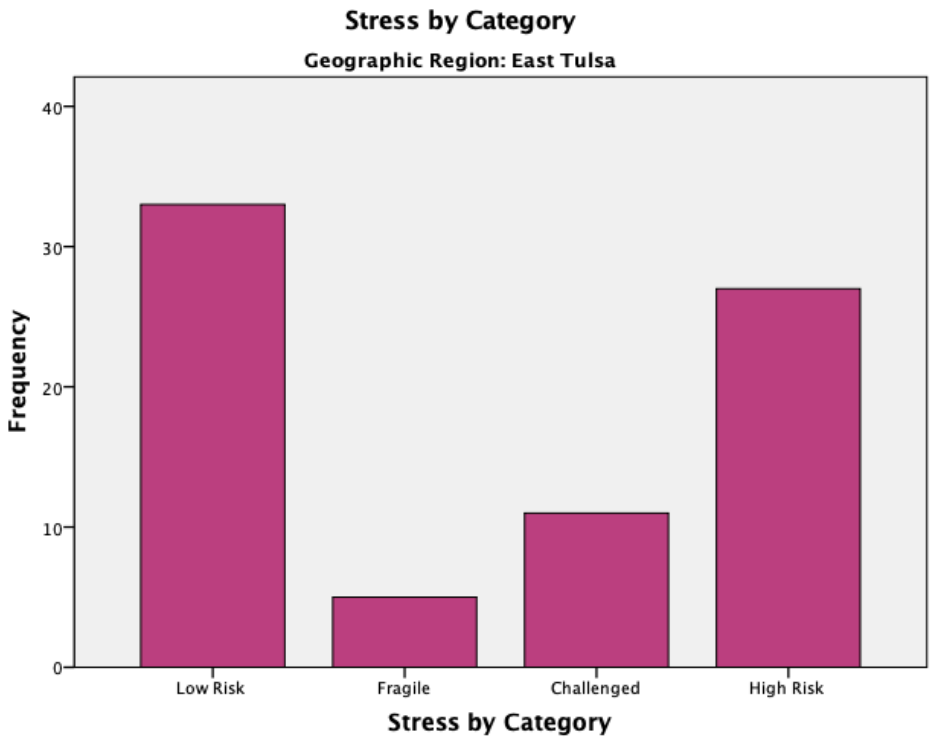
Downtown Tulsa

Stress was measured using the SOS-S screening instrument. Scores range from 10-50 with higher scores indicating greater levels of stress. Scores tended to be relatively low overall with a mean score of 21.03 and a standard deviation of 5.72. Scores were further categorized based on the SOS-S guidelines. Categorization is based on individual personal vulnerability and environmental factors. Those with low risk for stress (low personal vulnerability and low environmental factors) represented 48% (n = 15) of the sample. Those at high risk (high personal vulnerability and high environmental factors) made up 26% (n = 8) of the sample. Those with high personal vulnerability, but low environmental factors were labeled fragile (3%, n = 1). Finally, those with low personal vulnerability, but high environmental factors were labeled challenged (19%, n = 6). One (3%) participant did not provide sufficient information to calculate a stress score.



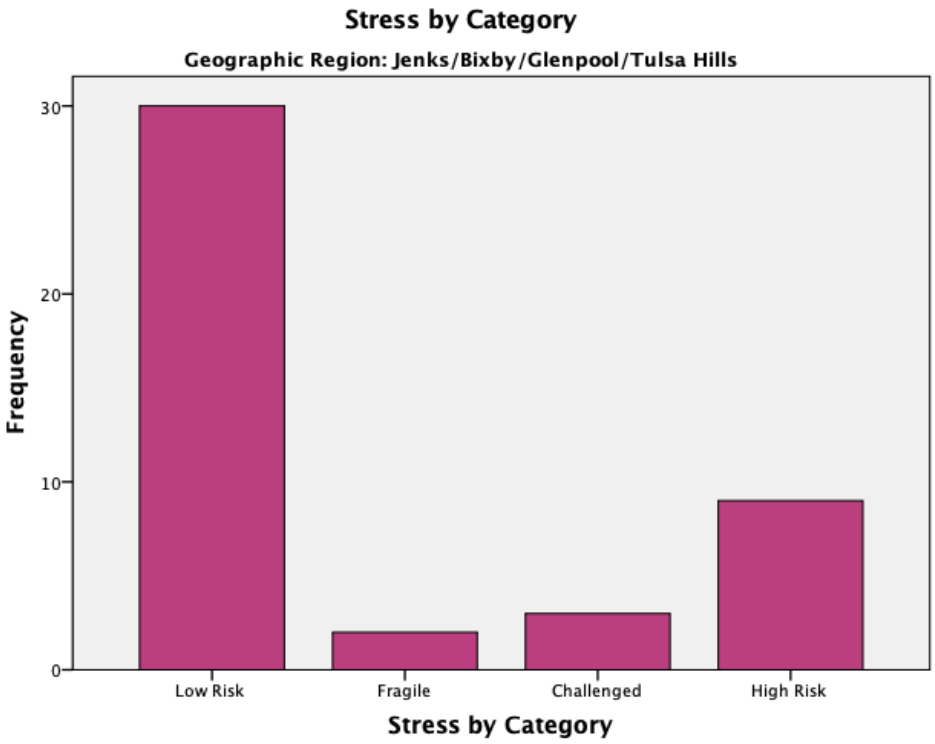
East Tulsa

Stress was measured using the SOS-S screening instrument. Scores range from 10-50 with higher scores indicating greater levels of stress. Scores tended to be relatively low overall with a mean score of 21.25 and a standard deviation of 0.84. Scores were further categorized based on the SOS-S guidelines. Categorization is based on individual personal vulnerability and environmental factors. Those with low risk for stress (low personal vulnerability and low environmental factors) represented 41% (n = 33) of the sample. Those at high risk (high personal vulnerability and high environmental factors) made up 34% (n = 27) of the sample. Those with high personal vulnerability, but low environmental factors were labeled fragile (6%, n = 5). Finally, those with low personal vulnerability, but high environmental factors were labeled challenged (14%, n = 11).



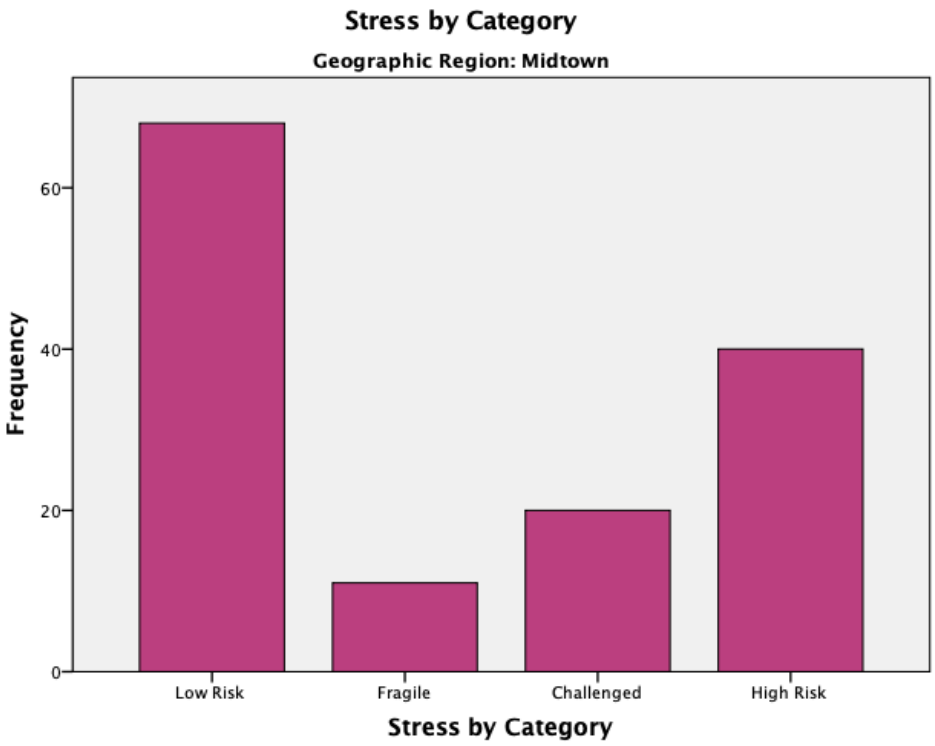
Jenks, Bixby and Glenpool

Stress was measured using the SOS-S screening instrument. Scores range from 10-50 with higher scores indicating greater levels of stress. Scores tended to be relatively low overall with a mean score of 18.73 and a standard deviation of 9.65. Scores were further categorized based on the SOS-S guidelines. Categorization is based on individual personal vulnerability and environmental factors. Those with low risk for stress (low personal vulnerability and low environmental factors) represented 67% (n = 30) of the sample. Those at high risk (high personal vulnerability and high environmental factors) made up 20% (n = 9) of the sample. Those with high personal vulnerability, but low environmental factors were labeled fragile (4%, n = 2). Finally, those with low personal vulnerability, but high environmental factors were labeled challenged (7%, n = 3). One (2%) participant did not provide sufficient information to calculate a stress score.



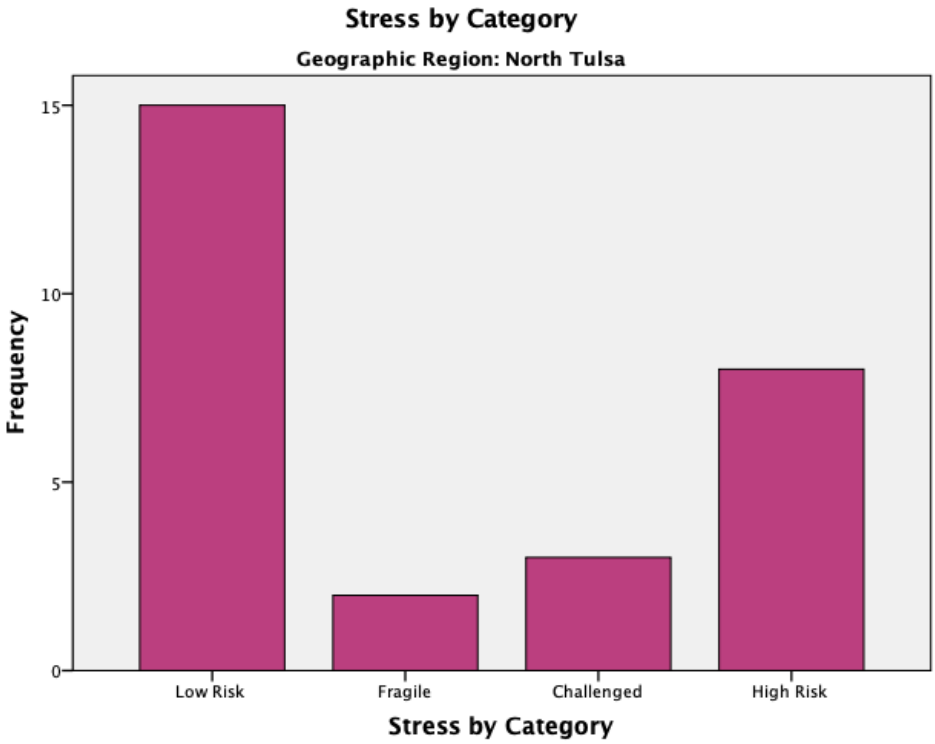
Midtown Tulsa

Stress was measured using the SOS-S screening instrument. Scores range from 10-50 with higher scores indicating greater levels of stress. Scores tended to be relatively low overall with a mean score of 20.33 and a standard deviation of 9.96. Scores were further categorized based on the SOS-S guidelines. Categorization is based on individual personal vulnerability and environmental factors. Those with low risk for stress (low personal vulnerability and low environmental factors) represented 47% (n = 68) of the sample. Those at high risk (high personal vulnerability and high environmental factors) made up 27% (n = 40) of the sample. Those with high personal vulnerability, but low environmental factors were labeled fragile (8%, n = 11). Finally, those with low personal vulnerability, but high environmental factors were labeled challenged (14%, n = 20).



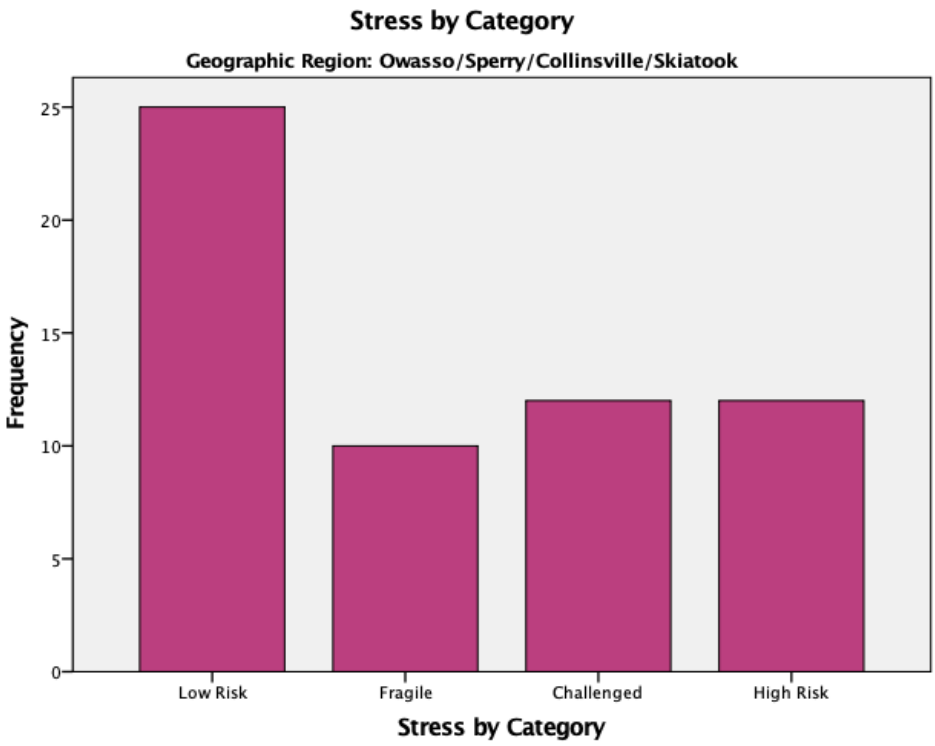
North Tulsa

Stress was measured using the SOS-S screening instrument. Scores range from 10-50 with higher scores indicating greater levels of stress. Scores tended to be relatively low overall with a mean score of 21 and a standard deviation of 9.83. Scores were further categorized based on the SOS-S guidelines. Categorization is based on individual personal vulnerability and environmental factors. Those with low risk for stress (low personal vulnerability and low environmental factors) represented 48% (n = 15) of the sample. Those at high risk (high personal vulnerability and high environmental factors) made up 26% (n = 8) of the sample. Those with high personal vulnerability, but low environmental factors were labeled fragile (7%, n = 2). Finally, those with low personal vulnerability, but high environmental factors were labeled challenged (10%, n = 3).



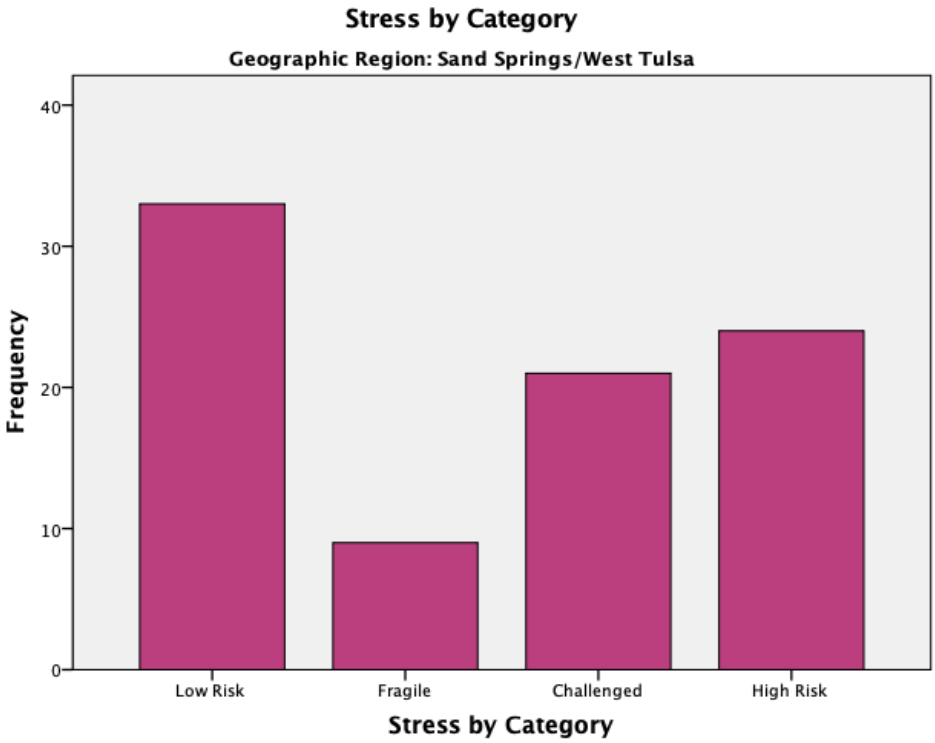
Owasso, Sperry, Collinsville and Skiatook

Stress was measured using the SOS-S screening instrument. Scores range from 10-50 with higher scores indicating greater levels of stress. Scores tended to be relatively low overall with a mean score of 20.12 and a standard deviation of 8.94. Scores were further categorized based on the SOS-S guidelines. Categorization is based on individual personal vulnerability and environmental factors. Those with low risk for stress (low personal vulnerability and low environmental factors) represented 42% (n = 25) of the sample. Those at high risk (high personal vulnerability and high environmental factors) made up 20% (n = 20) of the sample. Those with high personal vulnerability, but low environmental factors were labeled fragile (17%, n = 10). Finally, those with low personal vulnerability, but high environmental factors were labeled challenged (20%, n = 12). One participant (2%) did not provide sufficient information to measure stress.



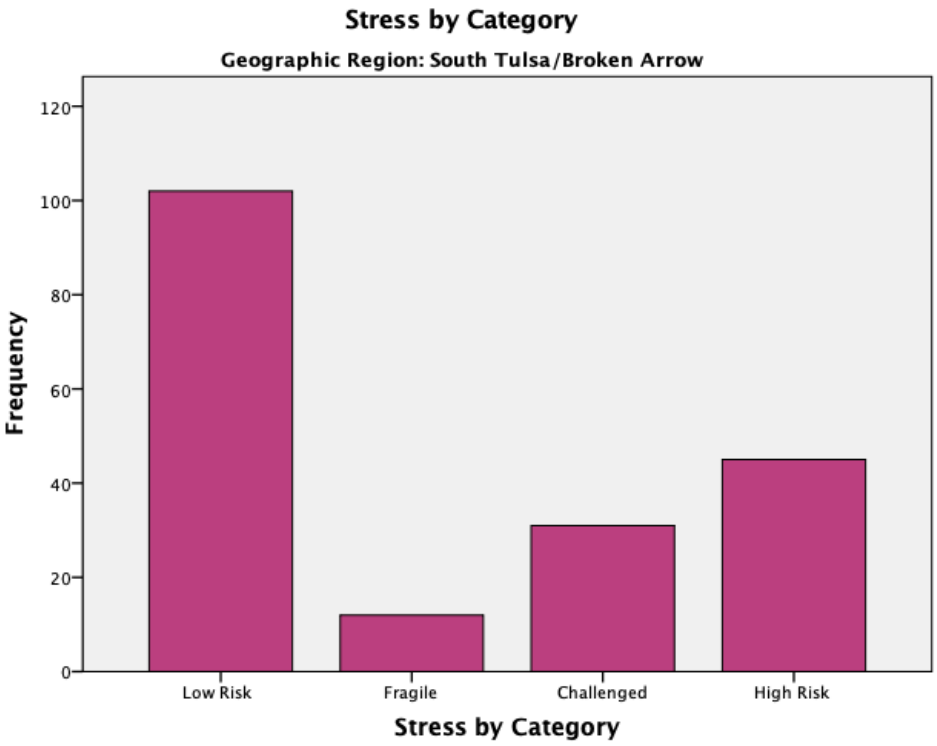
Sand Springs and west Tulsa

Stress was measured using the SOS-S screening instrument. Scores range from 10-50 with higher scores indicating greater levels of stress. Scores tended to be relatively low overall with a mean score of 21.29 and a standard deviation of 8.8. Scores were further categorized based on the SOS-S guidelines. Categorization is based on individual personal vulnerability and environmental factors. Those with low risk for stress (low personal vulnerability and low environmental factors) represented 36% (n = 33) of the sample. Those at high risk (high personal vulnerability and high environmental factors) made up 26% (n = 24) of the sample. Those with high personal vulnerability, but low environmental factors were labeled fragile (10%, n = 9). Finally, those with low personal vulnerability, but high environmental factors were labeled challenged (26%, n = 24).



South Tulsa and Broken Arrow

Stress was measured using the SOS-S screening instrument. Scores range from 10-50 with higher scores indicating greater levels of stress. Scores tended to be relatively low overall with a mean score of 19.21 and a standard deviation of 8.85. Scores were further categorized based on the SOS-S guidelines. Categorization is based on individual personal vulnerability and environmental factors. Those with low risk for stress (low personal vulnerability and low environmental factors) represented 52% (n = 102) of the sample. Those at high risk (high personal vulnerability and high environmental factors) made up 23% (n = 45) of the sample. Those with high personal vulnerability, but low environmental factors were labeled fragile (6%, n = 12). Finally, those with low personal vulnerability, but high environmental factors were labeled challenged (16%, n = 31).



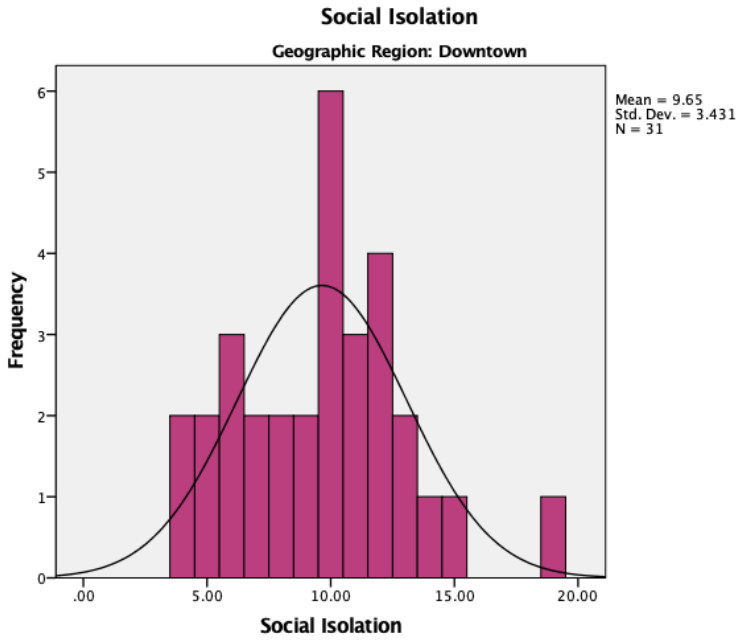
Social isolation

Tulsa County

Social isolation scores tended to be relatively low with a mean score of 8.86 and a standard deviation of 3.67. Higher scores indicate greater social isolation.

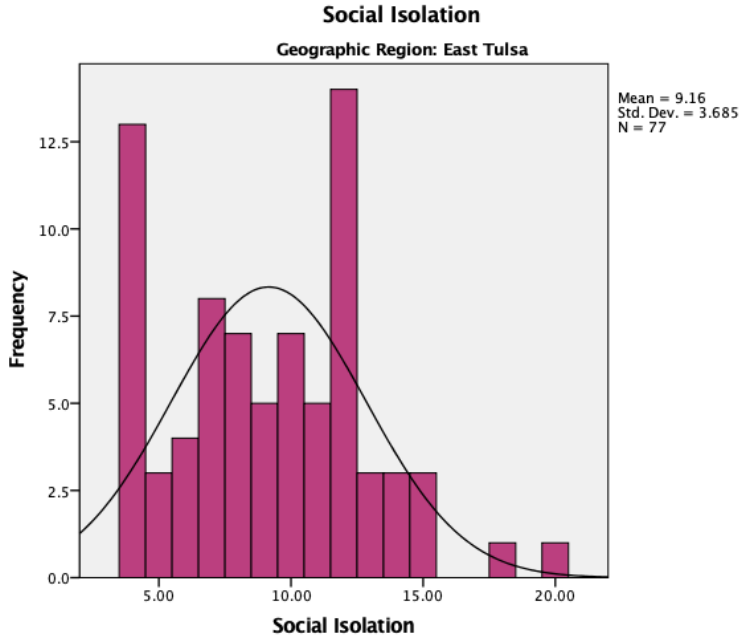
Downtown Tulsa

The mean social isolation score was 9.65 with a standard deviation of 3.43.



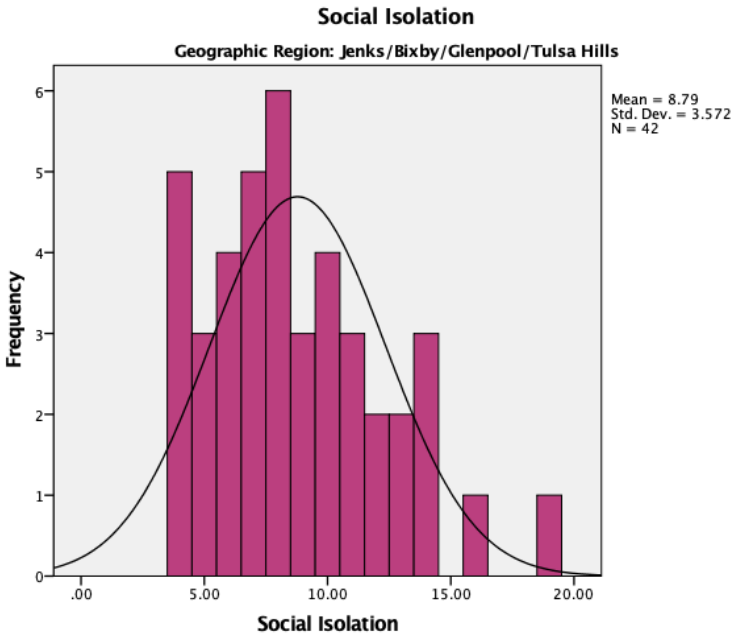
East Tulsa

The mean social isolation score was 9.16 with a standard deviation of 3.69.



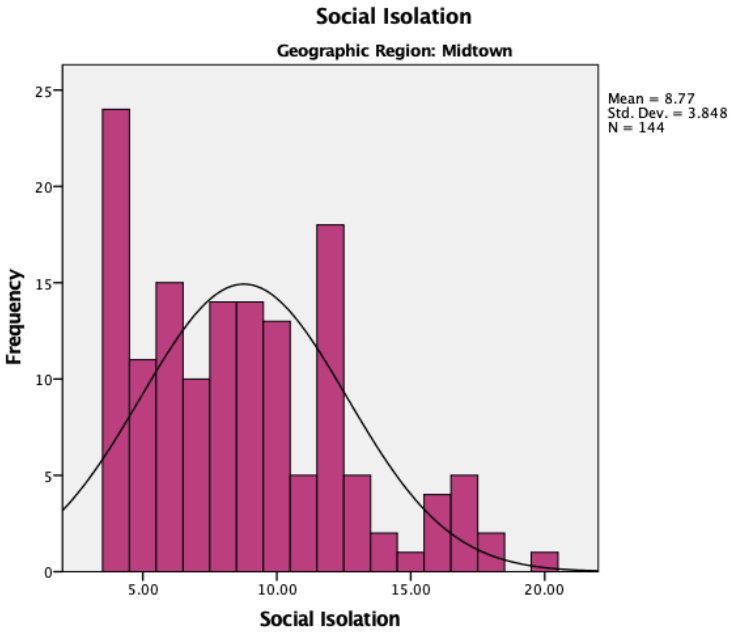
Jenks, Bixby and Glenpool

The mean social isolation score was 8.79 with a standard deviation of 3.57. Social isolation scores tended to be relatively low.



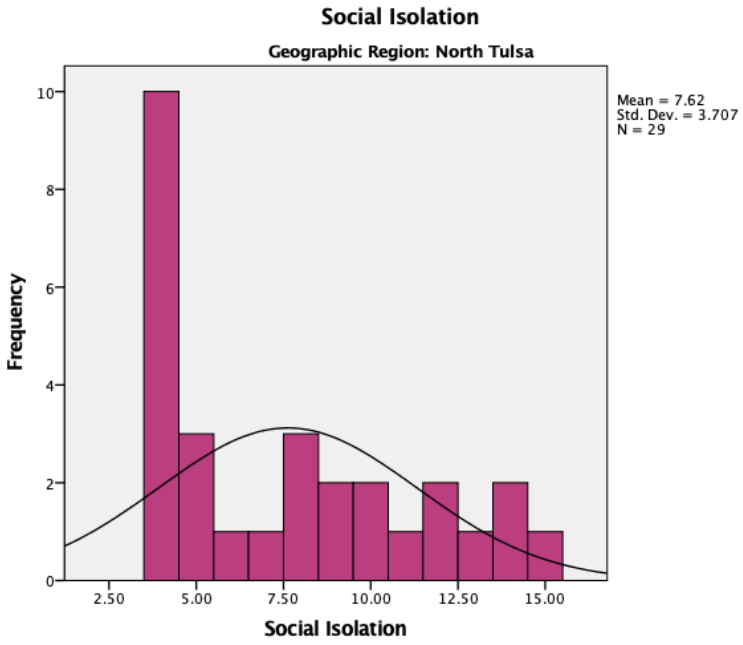
Midtown Tulsa

The mean social isolation score was 8.77 with a standard deviation of 3.85. Social isolation scores tended to be relatively low.



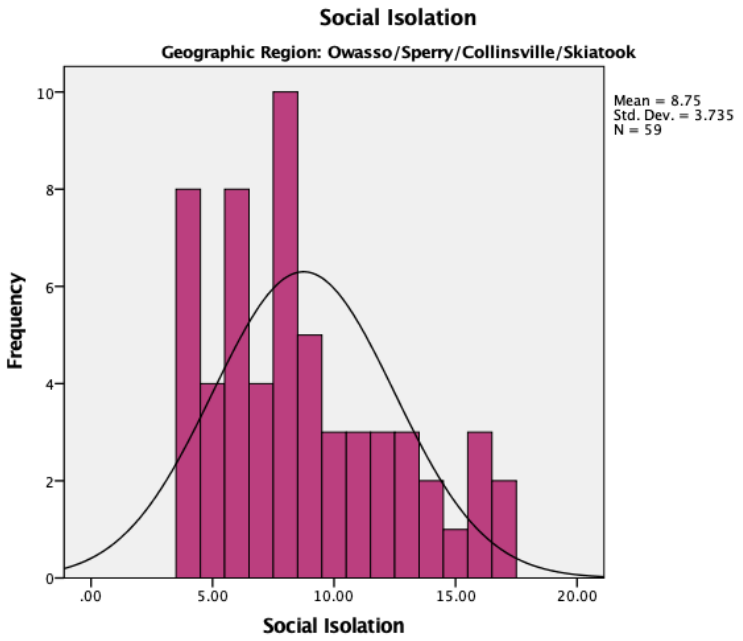
North Tulsa

The mean social isolation score was 7.62 with a standard deviation of 3.71. Social isolation scores tended to be relatively low.



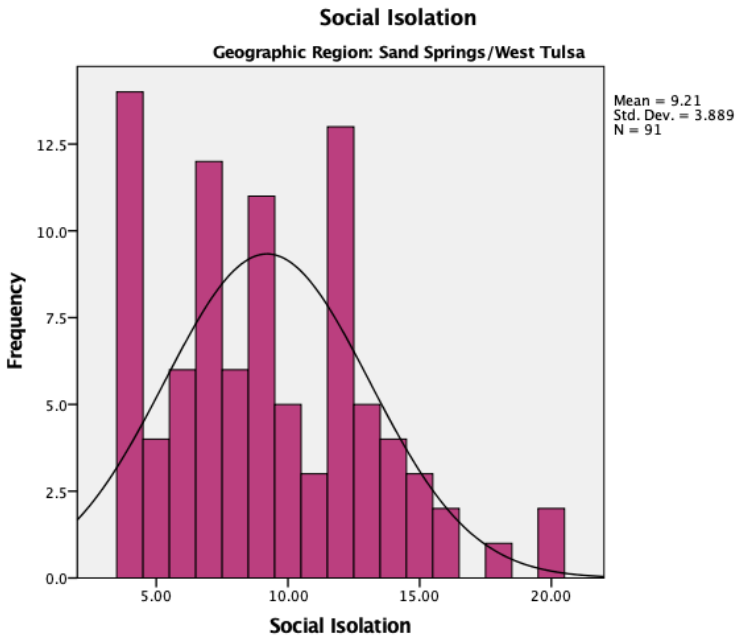
Owasso, Sperry, Collinsville and Skiatook

The mean social isolation score was 8.75 with a standard deviation of 3.74. Social isolation scores tended to be relatively low.



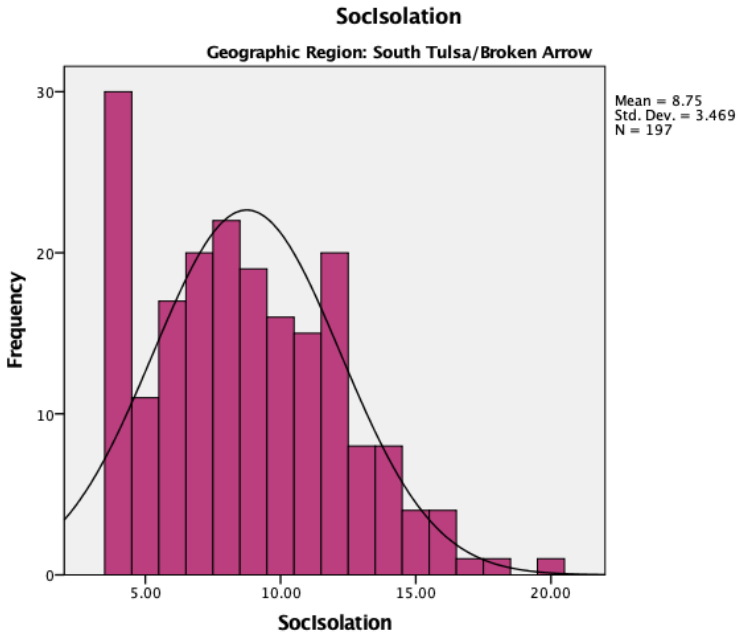
Sand Springs and west Tulsa

The mean social isolation score was 9.21 with a standard deviation of 3.9. Social isolation scores tended to be relatively low.



South Tulsa and Broken Arrow

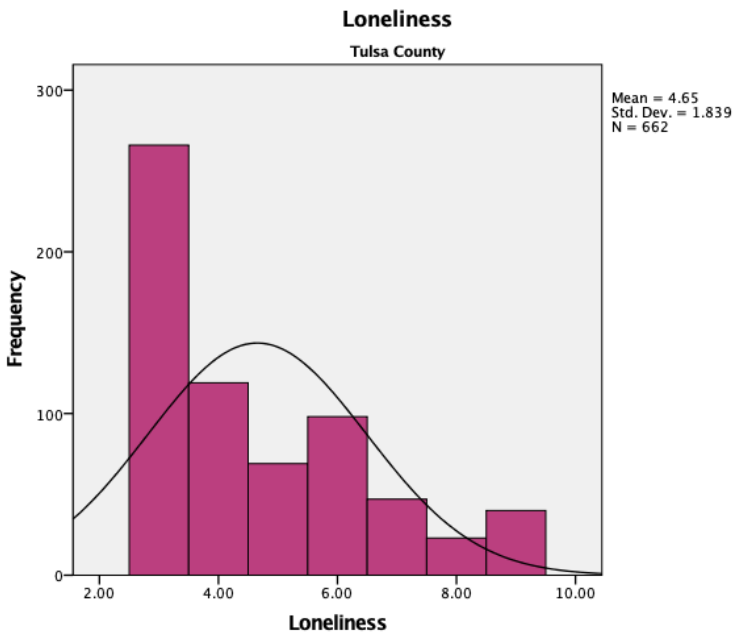
The mean social isolation score was 8.75 with a standard deviation of 3.47. Social isolation scores tended to be relatively low.



Loneliness

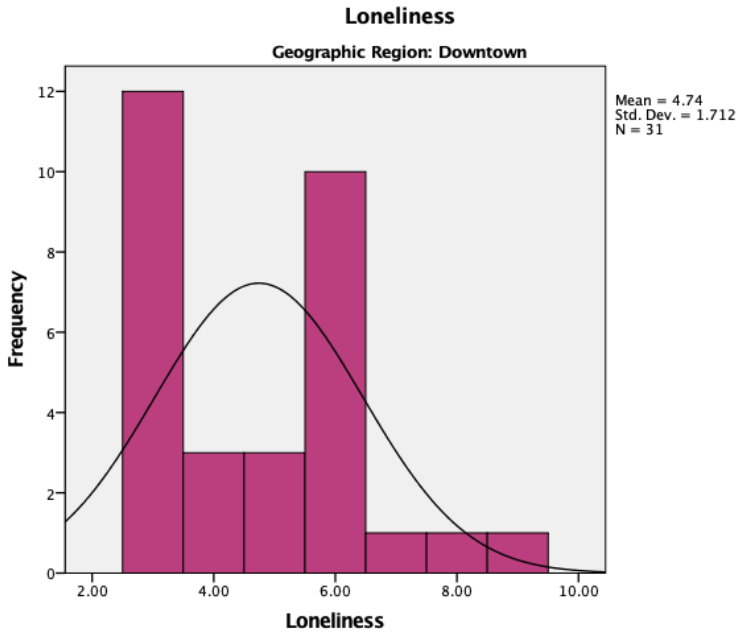
Tulsa County

Loneliness scores tended to be relatively low with a mean score of 4.65 and a standard deviation of 1.84. Higher scores indicate greater loneliness.



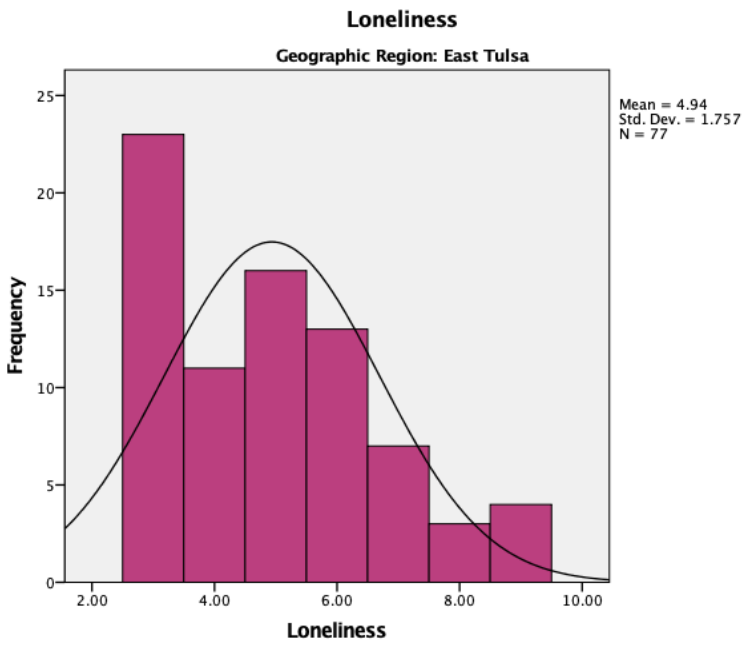
Downtown Tulsa

Loneliness scored tended to be relatively low. The mean score was 4.74 with a standard deviation of 1.71.



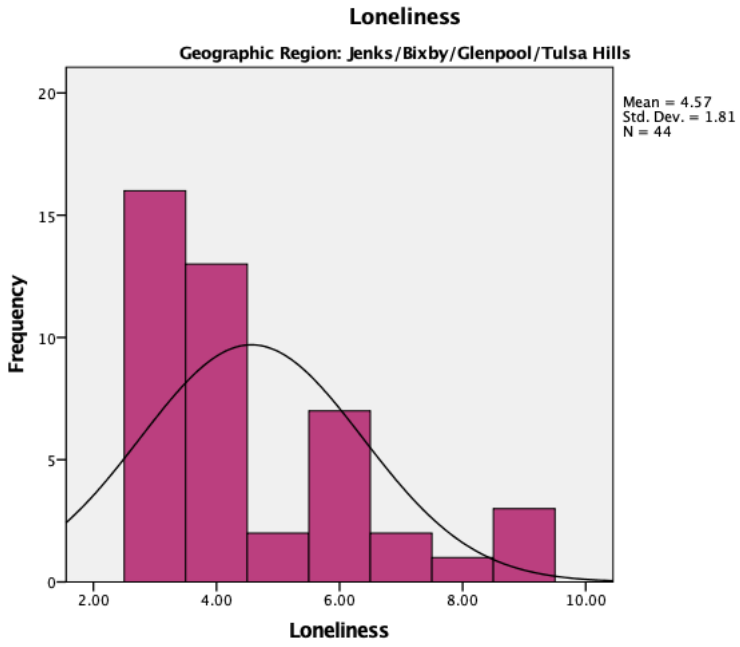
East Tulsa

Loneliness scored tended to be relatively low. The mean score was 4.94 with a standard deviation of 1.76.



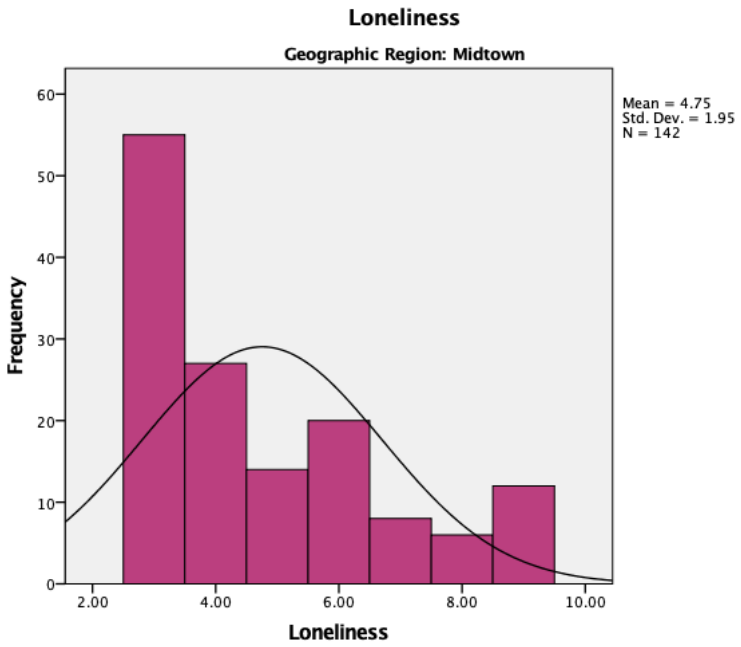
Jenks, Bixby and Glenpool

Loneliness scored tended to be relatively low. The mean score was 4.57 with a standard deviation of 1.81.



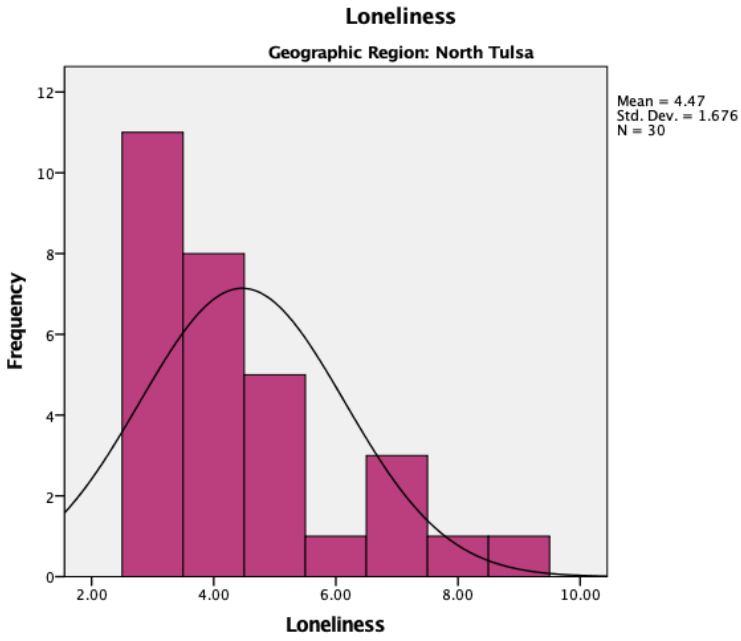
Midtown Tulsa

Loneliness scored tended to be relatively low. The mean score was 4.75 with a standard deviation of 1.95.



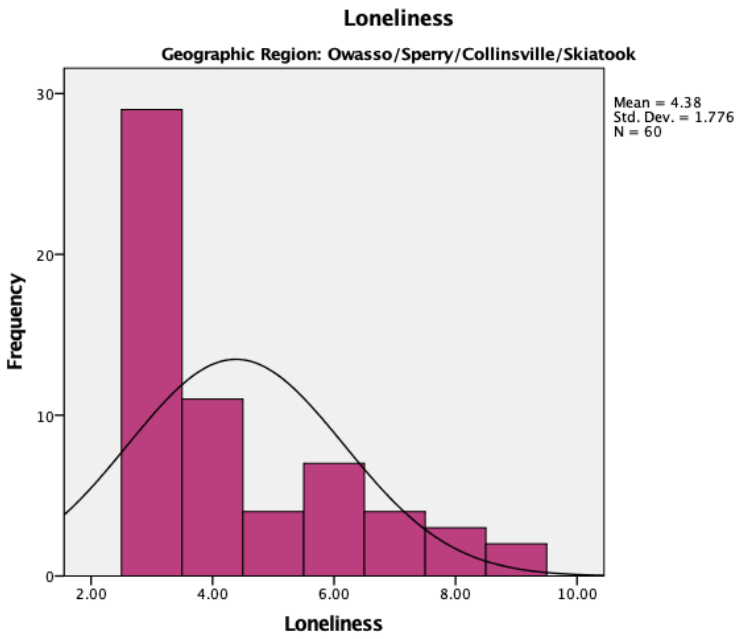
North Tulsa

Loneliness scored tended to be relatively low. The mean score was 4.47 with a standard deviation of 1.68.



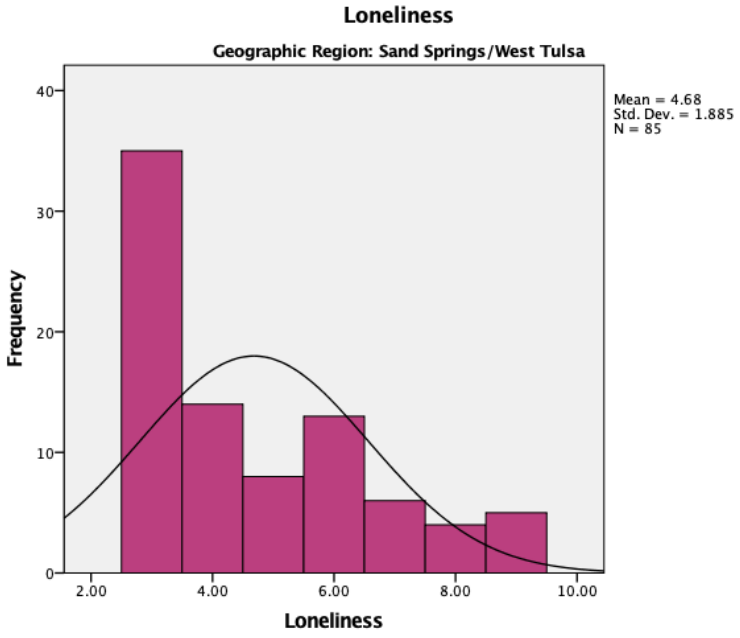
Owasso, Sperry, Collinsville and Skiatook

Loneliness scored tended to be relatively low. The mean score was 4.38 with a standard deviation of 1.78.



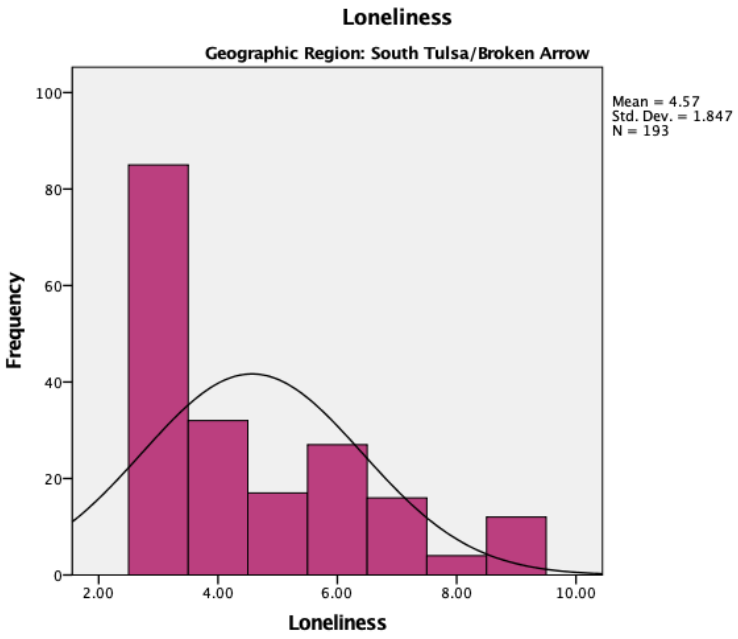
Sand Springs and west Tulsa

Loneliness scored tended to be relatively low. The mean score was 4.68 with a standard deviation of 1.89.



South Tulsa and Broken Arrow

Loneliness scored tended to be relatively low. The mean score was 4.57 with a standard deviation of 1.85.



Inferential statistics

Tulsa County

The relationship between those reporting fair to poor health and the following variables was considered with logit regression: PHQ4 scores reporting depression/anxiety, social isolation, loneliness, pack years, BMI, community health ratings, marital status, race, consumption of a healthy diet, the presences of poverty and moderate exercise frequency. Statistically significant associations were noted (t^2 = 66.56, *df* = 11, *p* < .000). More specifically, for every one point increase in BMI, the odds of reporting fair to poor health increased by 1.14 (B =.132, SE = .04, df = 1, p < .000), nonwhites were .30 times more likely to report fair to poor health (B = -1.22, SE = .59, df = 1, p = .038) and those that did not consume a healthy diet were .32 times more likely to report fair to poor health (B = -1.13, SE = .55, df = 1, p = .039). Those in poverty were 25.63 times more likely to report fair or poor health than those not in poverty (B = 3.24, SE = 1.15, df = 1, p = .005).

The relationship between those who reported eating a healthy diet and the following variables were considered with logit regression: personal health rating, race, marital status, stress, loneliness, social isolation and depression/anxiety as indicated on the PHQ4. Statistically significant associations were noted (t^2 = 82.54, *df* = 8, *p* < .000). More specifically, for those who were not in fair or poor health, the odds of eating a healthy diet increased by .18 (B = -1.72, SE = .28, df = 1, p < .000). For every one point decrease in stress, the likelihood of eating a healthy diet increased by .96 (B = -.04, SE = .02, df = 1, p = .007).

The relationship between those that were obese and the following variables were considered with logit regression: personal health rating, race, marital status, stress, pack year, lonelineness, social isolation, and depression/anxiety as measured by the PHQ4. Statistically signification associations were noted (t^2 = 65.78, *df* = 9, *p* < .000). More specifically, those who reported fair to poor health were 6.54 times more likely to be obese than those who rated their personal health more positively (B = 1.88, SE = .30, df = 1, p < .000). For every one point increase in stress, the odds of being obese increased by 1.04 (B = .04, SE = .02, df = 1, p = .022). Depression and anxiety was negatively associated with obesity. More specifically, for every one point decrease in the PHQ4 score the odds of obesity increased by .89 (B = -.12, SE = .06, df = 1, p = .038).

The relationship between pack years and the following variables were considered using regression analysis: sex, age, BMI, stress, social cohesion, consumption of a healthy diet, moderate exercise frequency, race, personal health

rating, marital status, anxiety/depression, social isolation and poverty. Increased pack years was associated with older ages (t = 4.85, p < .001), those who did not eat healthy diets (t = -2.55, p = .011) and those with greater levels of anxiety/depression (t = 2.8, p = .005).

The relationship between social isolation and the following variables were considered using regression analysis: sex, age, race, health, BMI, stress, marital status, depression/anxiety and social cohesion. Females (t = 2.5, p = .013) and married individuals (t = 2.15, p = .032) experienced greater levels of social isolation along with those reporting higher levels of stress (t = 3.95, p < .001), greater levels of anxiety/depression (t = 3.85, p < .001) and greater levels of loneliness (t = 21.1, p < .000).

The relationship between stress and the following variables were considered using regression analysis: depression/anxiety, number of hours worked each week, sex, age, pack years, race, exercise, sleeping less than seven hours a night, social isolation and the consumption of a healthy diet. Those with more depression/anxiety (t = 9.93, p < .001), younger individuals (t = -3.44, p = .001), less than seven hours of sleep (t = 2.1, p = .036), those with higher levels of social isolation (t = 3.31, p = .001) and unhealthy diets (t = -2.2, p = .029) were linked with higher levels of stress.

Downtown Tulsa

The relationship between pack years and the following variables were considered using regression analysis: sex, age, BMI, stress, social cohesion, consumption of a healthy diet, moderate exercise frequency, race, personal health rating, marital status, anxiety/depression, social isolation and poverty. Increased pack years were associated with higher BMIs (t = 4.43, p = .021), those who were married (t = 3.75, p = .033), lower levels of social isolation (t = -4.05, p = .027), consumption of unhealthy diets (t = -3.87, p = .031) and those who were not in poverty (t = -3.18, p = .05). It is worth noting that the relationship between pack years and anxiety/depression approached significance (t= -3.11, p = .053), indicating that those with less depression and anxiety may have greater pack years.

A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. Only one variable was associated with PHQ4 scores. Those with higher levels of stress were more likely to have higher PHQ4 scores indicating greater levels of depression/anxiety (t = 3.38, p = .004).

The relationship between stress and the following variables were considered using regression analysis: depression/anxiety, number of hours worked each week, sex, age, pack years, race, exercise, sleeping less than seven hours a night, social isolation and the consumption of a healthy diet. Those with more depression/anxiety (t = 2.76, p = .017) and unhealthy diets (t = -2.59, p = .023) were linked with higher levels of stress. Of note, the relationship between sleep and stress approached significance with those reporting less than seven hours of sleep a night experiencing higher levels of stress (t = -2.16, p = .052).

East Tulsa

The relationship between those who reported eating a healthy diet and the following variables were considered with logit regression: personal health rating, race, marital status, stress, loneliness, social isolation and depression/anxiety as indicated on the PHQ4. Statistically significant associations were noted (t^2 = 20.54, *df* = 8, *p* = .008). More specifically, for those who were not in fair or poor health, the odds of eating a healthy diet increased by .06 (B = -2.85, SE = 1.26, df = 1, p < .023).

The relationship between pack years and the following variables were considered using regression analysis: sex, age, BMI, stress, social cohesion, consumption of a healthy diet, moderate exercise frequency, race, personal health rating, marital status, anxiety/depression, social isolation and poverty. Increased pack years were associated with those in fair to poor health (t = 2.06, p = .05) and those reporting lower levels of social cohesion (t = -2.31, p = .03).

A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. No relationships were noted for sex, age, race, marital status, exercise, personal health rating, social isolation, pack years or BMI. Those who with greater levels of stress (t= 3.64, p = .001) and loneliness (t = 2.63, p = .011) experienced higher PHQ4 scores indicating greater levels of depression/anxiety.

The relationship between social isolation and the following variables were considered using regression analysis: sex, age, race, health, BMI, stress, marital status, depression/anxiety and social cohesion. Those reporting higher levels of stress (t = 2.69, p = .011) and greater levels of loneliness (t = 6.27, p < .001) experienced higher levels of social isolation.

The relationship between stress and the following variables were considered using regression analysis: depression/anxiety, number of hours worked each week, sex, age, pack years, race, exercise, sleeping less than seven hours a night, social isolation and the consumption of a healthy diet. Those with more depression/anxiety (t = 2.61, p = .013), those who worked more hours each week (t = 2.04, p = .048) and younger individuals (t = -2.1, p = .043) were linked with higher levels of stress.

Jenks, Bixby and Glenpool

A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. No relationships were noted for sex, age, race, marital status, exercise, personal health rating, or pack years. Those who with greater levels of loneliness (t = 4.13, p < .000) and stress (t = 4.96, p <.000), less social isolation (t = -2.19, p = 0.37) and greater BMIs (t = 2.29, p = .031) experienced higher PHQ4 scores indicating greater levels of depression/anxiety.

The relationship between social isolation and the following variables were considered using regression analysis: sex, age, race, health, BMI, stress, marital status, depression/anxiety and social cohesion. Those reporting higher levels of loneliness experienced higher levels of social isolation (t = 5.29, p < .001).

The relationship between stress and the following variables were considered using regression analysis: depression/anxiety, number of hours worked each week, sex, age, pack years, race, exercise, sleeping less than seven hours a night, social isolation and the consumption of a healthy diet. Those with more depression/anxiety (t = 2.98, p = .015) and those with higher levels of social isolation (t = 2.43, p = .038) were linked with higher levels of stress.

Midtown Tulsa

The relationship between those who reported eating a healthy diet and the following variables were considered with logit regression: personal health rating, race, marital status, stress, loneliness, social isolation and depression/anxiety as indicated on the PHQ4. Statistically significant associations were noted (t^2 = 48.19, *df* = 8, *p* < .000). More specifically, for those who were not in fair or poor health, the odds of eating a healthy diet increased by .01 (B = -4.52, SE = 1.17, df = 1, p < .000). For every one point decrease in stress, the likelihood of eating a healthy diet increased by .88 (B = -.13, SE = .05, df = 1, p = .006).

The relationship between those that were obese and the following variables were considered with logit regression: personal health rating, race, marital status, stress, pack year, loneliness, social isolation, and depression/anxiety as measured by the PHQ4. Statistically signification associations were noted (t^2 = 34.05, *df* = 9, *p* < .000). More specifically, those who reported fair to poor health were 19.04 times more likely to be obese than those who rated their personal health more positively (B = 2.95, SE = .93, df = 1, p = .002).

The relationship between pack years and the following variables were considered using regression analysis: sex, age, BMI, stress, social cohesion, consumption of a healthy diet, moderate exercise frequency, race, personal health rating, marital status, anxiety/depression, social isolation and poverty. Increased pack years were associated with

older age (t = 4.47, p < .001), those in better health (t = -2.75, p = .008), those with higher levels of depression/anxiety (t = 4.29, p <.001), and lower levels of social isolation (t = -2.08, p = .041).

A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. No relationships were noted for sex, age, race, marital status, exercise, loneliness, or BMI. Those who with greater levels of social isolation (t = 2.1, p = .038) and stress (t= 4.4, p <.000), those with 30 or more pack years (t = 3.27, p = .001 and those who rate their health as fair or poor (t = 2.42, p = .017) experienced higher PHQ4 scores indicating greater levels of depression/anxiety.

The relationship between social isolation and the following variables were considered using regression analysis: sex, age, race, health, BMI, stress, marital status, depression/anxiety and social cohesion. Greater levels of loneliness (t = 9.49, p < .001) and those with more depression/anxiety (t = 2.02, p = .047) experienced greater levels of social isolation. It is noteworthy that age approached statistical significance with younger individuals reporting higher levels of social isolation (t = -1.95, p = .055).

The relationship between stress and the following variables were considered using regression analysis: depression/anxiety, number of hours worked each week, sex, age, pack years, race, exercise, sleeping less than seven hours a night, social isolation and the consumption of a healthy diet. Those with more depression/anxiety (t = 5.18, p < .001), younger individuals (t = -2.88, p = .005) and those that slept less than seven hours a night (t = 2.79, p = .007) were linked with higher levels of stress.

A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. No relationships were noted for sex, age, race, marital status, exercise, loneliness, or BMI. Those who with greater levels of social isolation (t = 2.1, p = .038) and stress (t= 4.4, p <.000), those with 30 or more pack years (t = 3.27, p = .001 and those who rate their health as fair or poor (t = 2.42, p = .017) experienced higher PHQ4 scores indicating greater levels of depression/anxiety.

North Tulsa

A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. No statistically significant relationships emerged.

The relationship between social isolation and the following variables were considered using regression analysis: sex, age, race, health, BMI, stress, marital status, depression/anxiety and social cohesion. The only statistically significant relationship that emerged was between loneliness and social isolation. More specifically, those with higher levels of loneliness also reported greater social isolation (t = 4.09, p = .006).

The relationship between stress and the following variables were considered using regression analysis: depression/anxiety, number of hours worked each week, sex, age, pack years, race, exercise, sleeping less than seven hours a night, social isolation and the consumption of a healthy diet. Those with more depression/anxiety (t = 3.75, p = .006) experienced higher levels of stress.

Owasso, Sperry, Collinsville and Skiatook

A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. No relationships were noted for sex, age, race, marital status, exercise, social isolation, loneliness, or pack years. Those who with greater levels of stress (t= 3.26, p = .002), those with lower BMIs (t = -2.15, p = .037) and those with fair or poor health (t = 2.44, p = .019) experienced higher PHQ4 scores indicating greater levels of depression/anxiety.

The relationship between social isolation and the following variables were considered using regression analysis: sex, age, race, health, BMI, stress, marital status, depression/anxiety and social cohesion. Those reporting higher levels of

stress (t = 2.58, p = .015), greater levels of loneliness (t = 5.28, p < .001) and more depression/anxiety (t = 2.1, p = .044) experienced higher levels of social isolation.

The relationship between stress and the following variables were considered using regression analysis: depression/anxiety, number of hours worked each week, sex, age, pack years, race, exercise, sleeping less than seven hours a night, social isolation and the consumption of a healthy diet. Only one variable was statistically significant in the model. Those with higher levels of depression/anxiety reported higher levels of stress (t = 2.45, p = .022).

Sand Springs and west Tulsa

The relationship between pack years and the following variables were considered using regression analysis: sex, age, BMI, stress, social cohesion, consumption of a healthy diet, moderate exercise frequency, race, personal health rating, marital status, anxiety/depression, social isolation and poverty. Increased pack years were associated with poverty (t = 2.85, p = .007). The relationship pack years and diets approached significance at (t = -1.97, p = .056) indicating those who ate an unhealthy diet may have higher pack years.

A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. No relationships were noted for age, race, marital status, exercise, loneliness, social isolation, pack years or BMI. Females (t = 2.7, p = .009), those who with greater levels of stress (t= 2.9, p = .005) and those reporting fair to poor health (t = 2.74, p = .008) experienced higher PHQ4 scores indicating greater levels of depression/anxiety.

The relationship between social isolation and the following variables were considered using regression analysis: sex, age, race, health, BMI, stress, marital status, depression/anxiety and social cohesion. The only statistically significant relationship that emerged was between loneliness and social isolation. More specifically, those with higher levels of loneliness also reported greater social isolation (t = 9.94, p < .001).

The relationship between stress and the following variables were considered using regression analysis: depression/anxiety, number of hours worked each week, sex, age, pack years, race, exercise, sleeping less than seven hours a night, social isolation and the consumption of a healthy diet. Those with more depression/anxiety (t = 3.88, p < .001) were linked with higher levels of stress.

South Tulsa and Broken Arrow

The relationship between those reporting fair to poor health and the following variables was considered with logit regression: PHQ4 scores reporting depression/anxiety, social isolation, loneliness, pack years, BMI, community health ratings, marital status, race, consumption of a healthy diet, the presences of poverty and moderate exercise frequency. Statistically significant associations were noted (t^2 = 22.06, *df* = 10, *p* = .015). More specifically, for every one point increase in lonelineess, the odds of reporting fair to poor health increased by 3.68 (B = 1.3, SE = .66, df = 1, p = .049). For every one point increase in BMI, the odds of reporting fair to poor health increased by 1.23 (B = .21, SE = .1, df = 1, p = .047).

The relationship between those who reported eating a healthy diet and the following variables were considered with logit regression: personal health rating, race, marital status, stress, loneliness, social isolation and depression/anxiety as indicated on the PHQ4. Statistically significant associations were noted (t^2 = 23.32, *df* = 8, *p* = .003). More specifically, for those who were not in fair or poor health, the odds of eating a healthy diet increased by .15 (B = -1.91, SE = .62, df = 1, p = .002).

The relationship between those that were obese and the following variables were considered with logit regression: personal health rating, race, marital status, stress, pack year, lonelineness, social isolation, and depression/anxiety as measured by the PHQ4. Statistically signification associations were noted (t^2 = 31.85, *df* = 9, *p* < .000). More specifically, those who reported fair to poor health were 12.42 times more likely to be obese than those who rated their personal health more positively (B = 2.52, SE = .78, df = 1, p = .001). For every one point increase in stress, the

odds of being obese increased by 1.11 (B = .10, SE = .04, df = 1, p = .006). Depression and anxiety was negatively associated with obesity. More specifically, for every one point decrease in the PHQ4 score the odds of obesity increased by .63 (B = -.46, SE = .15, df = 1, p = .002).

The relationship between pack years and the following variables were considered using regression analysis: sex, age, BMI, stress, social cohesion, consumption of a healthy diet, moderate exercise frequency, race, personal health rating, marital status, anxiety/depression, social isolation and poverty. Increased pack years was associated with lower stress levels (t = -2.13, p = .036).

A regression model considered the relationship between PHQ4 scores and sex, age, race, marital status, personal health, BMI, social isolation, loneliness, stress, pack years and exercise. No relationships were noted for sex, age, race, marital status, exercise, personal health rating, loneliness, pack years or BMI. Those who with greater levels of social isolation (t = 3.34, p = .001) and stress (t= 0.55, p <.000) experienced higher PHQ4 scores indicating greater levels of depression/anxiety.

The relationship between social isolation and the following variables were considered using regression analysis: sex, age, race, health, BMI, stress, marital status, depression/anxiety and social cohesion. Females (t = 2.3, p = .023) and non white individuals (t = -2.42, p = .017), experienced greater levels of social isolation along with those reporting higher levels of stress (t = 2.21, p = .029), greater levels of anxiety/depression (t = 3.2, p = .002), greater social cohesion (t = 3.71, p < .001) and greater levels of loneliness (t = 9.69, p < .000).

The relationship between stress and the following variables were considered using regression analysis: depression/anxiety, number of hours worked each week, sex, age, pack years, race, exercise, sleeping less than seven hours a night, social isolation and the consumption of a healthy diet. Those with more depression/anxiety (t = 3.93, p < .001), those with higher levels of social isolation (t = 3.49, p = .001) and unhealthy diets (t = -2.65, p = .009) were linked with higher levels of stress.

Prioritization of Community Health Needs

Thirteen members of Ascension St. John's Community Engagement Committee (CEC) came together to participate in an individual assessment exercise and group discussion to help prioritize the most significant community health needs identified through community health needs assessment (CHNA) secondary and primary (community input) data analysis and synthesis.

Participants

Members of the CEC were invited to participate in the prioritization exercise because the committee includes top health system and hospital leaders, who have a high-level scope of clinical and community knowledge, manage services for the underserved and vulernable, and are familiar with the significance of the CHNA process. The following CEC members participated:

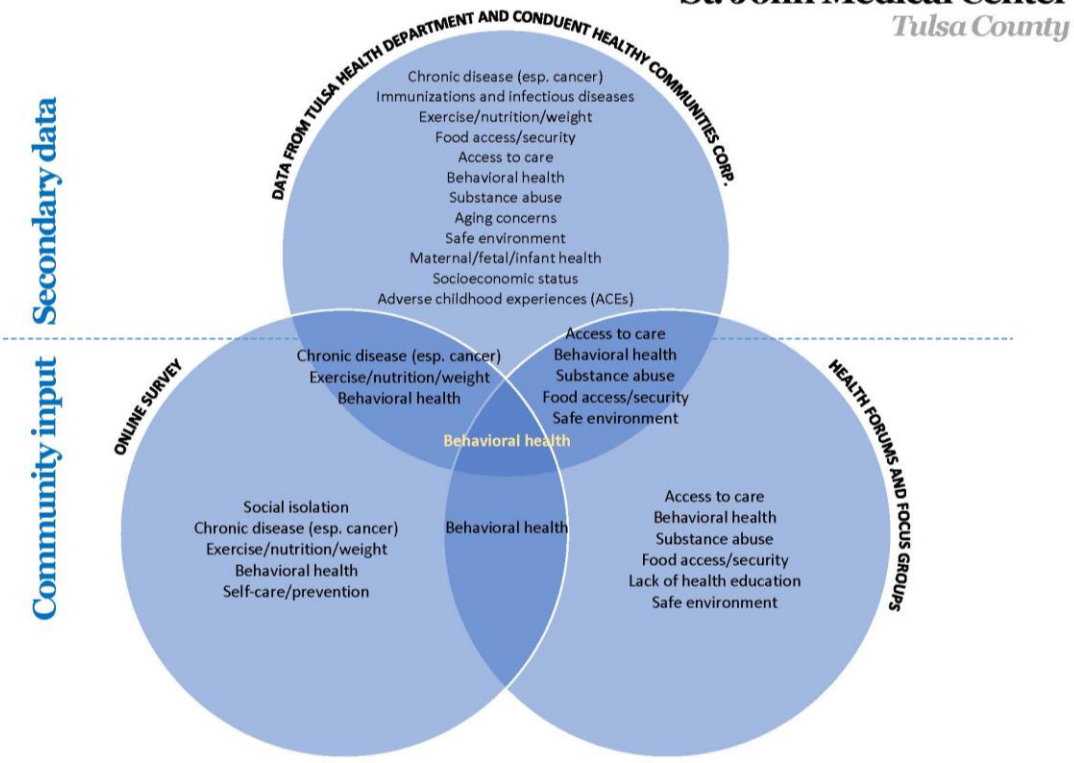
- Ann Paul, DrPH, MPH, chief strategy officer for Ascension St. John
- Lucky Lamons, MCJ, MPA, MHR, foundation president and chief state advocacy officer for Ascension St. John
- Monica Barczak, PhD, director of indigent healthcare funding for Ascension St. John
- Annie Smith, LMSW, MPH, director of community engagement for Ascension St. John
- Stacy Brklacich, JD, senior attorney for Ascension St. John
- Kimberly Will, community engagement coordinator for Ascension St. John
- Jeff Nowlin, FACHE, president and chief operating officer of St. John Medical Center
- Ron Hoffman, vice president of clinical services for St. John Medical Center
- David Phillips, president and chief operating officer of St. John Owasso and St. John Broken Arrow
- Mike Christian, president of St. John Sapulpa
- Mike Moore, president and chief operating officer of Jane Phillips Medical Center and Jane Phillips Nowata Health Center
- Jason McCauley, regional administrator of Jane Phillips Nowata Health Center
- Wilford "Wick" Watson, RN, nursing manager at Jane Phillips Nowata Health Center

Process

On March 25, 2019, the individuals listed above convened on the St. John Medical Center campus to participate in a community health needs prioritization exercise. First, participants reviewed the results of secondary and primary data analysis on the following synthesis charts. Each chart visually displays the most significant health needs that arose from each CHNA activity by hospital and respective county. Also included for consideration were the final social determinants of health scores by county, provided by data consultant Conduent Healthy Communities Corp.

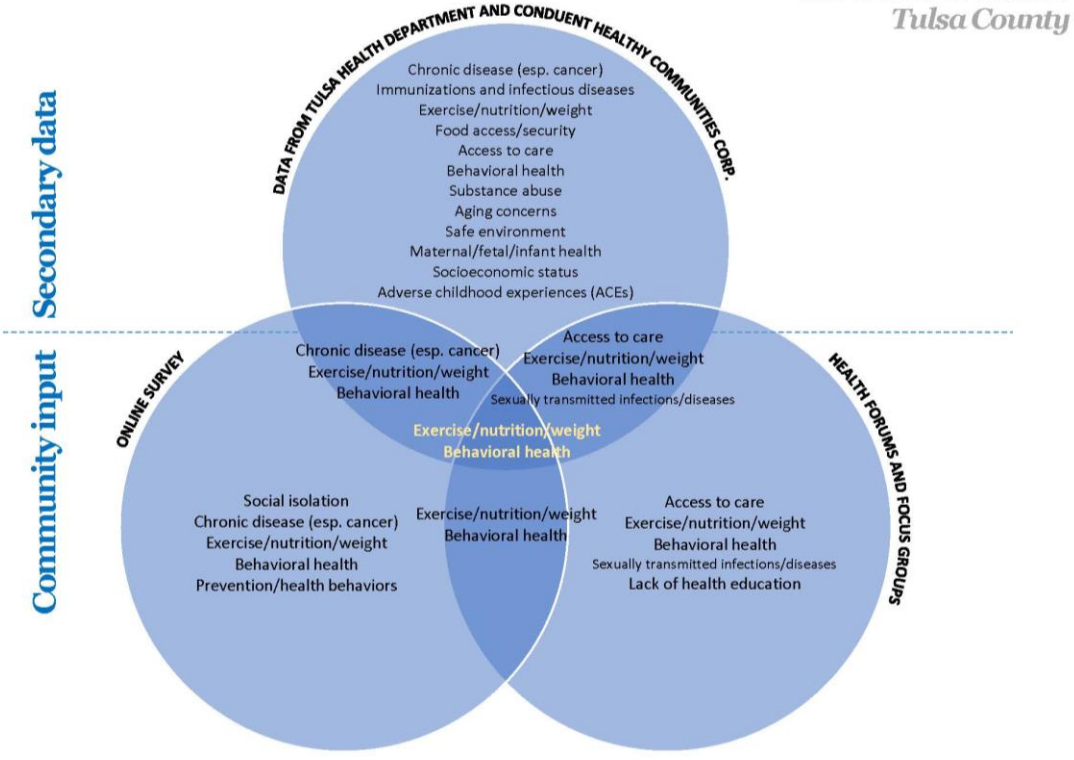
St. John Medical Center

Tulsa County

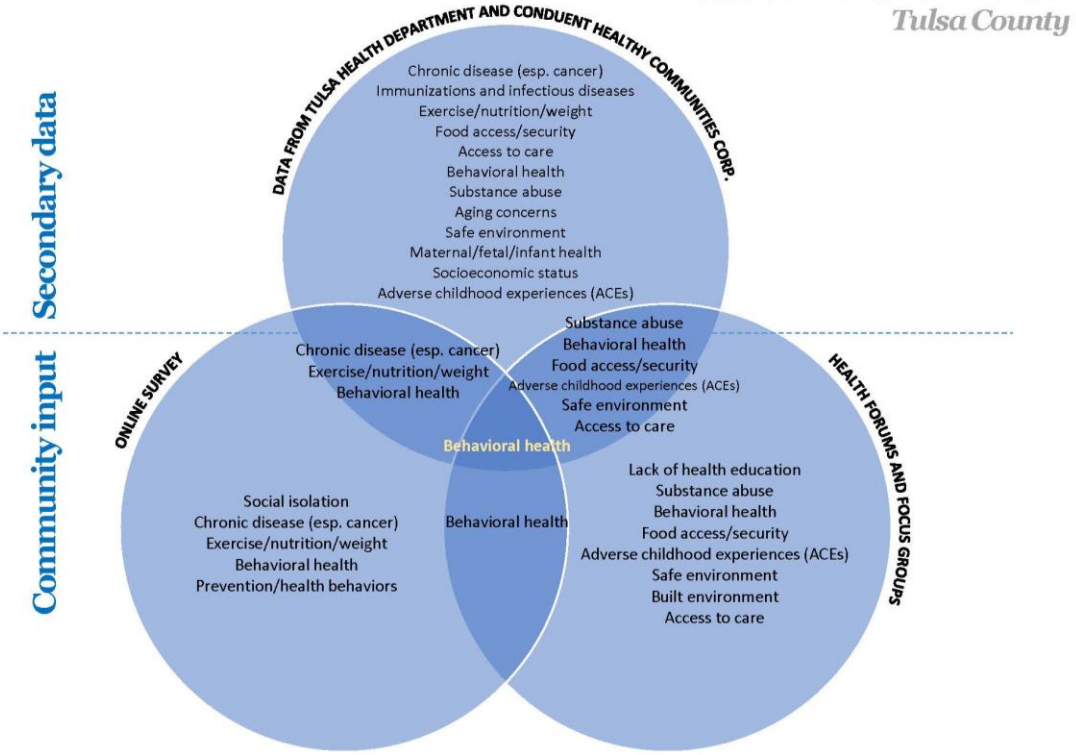


St. John Owasso

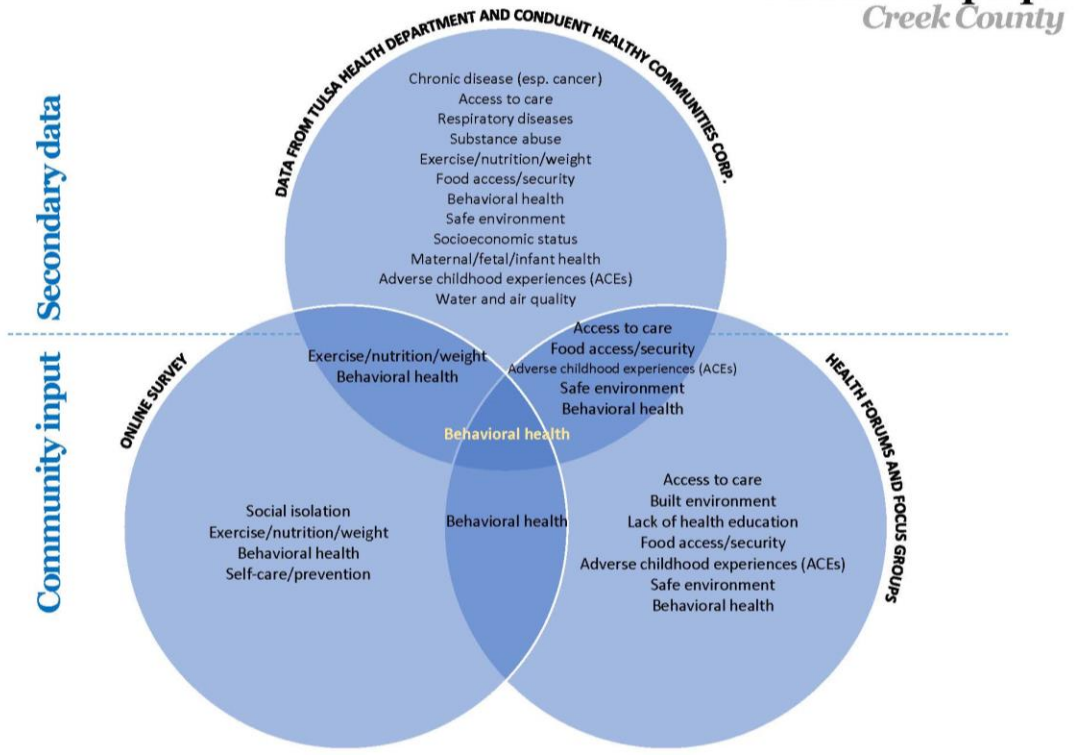
Tulsa County



St. John Broken Arrow
Tulsa County

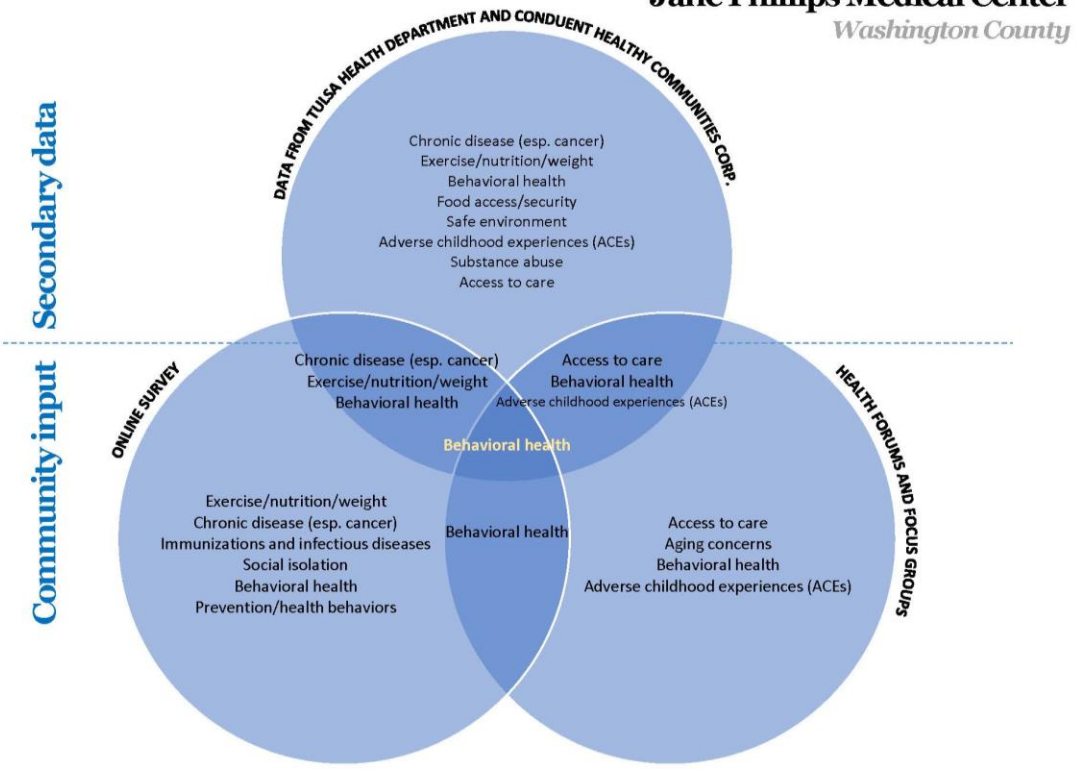


St. John Sapulpa
Creek County



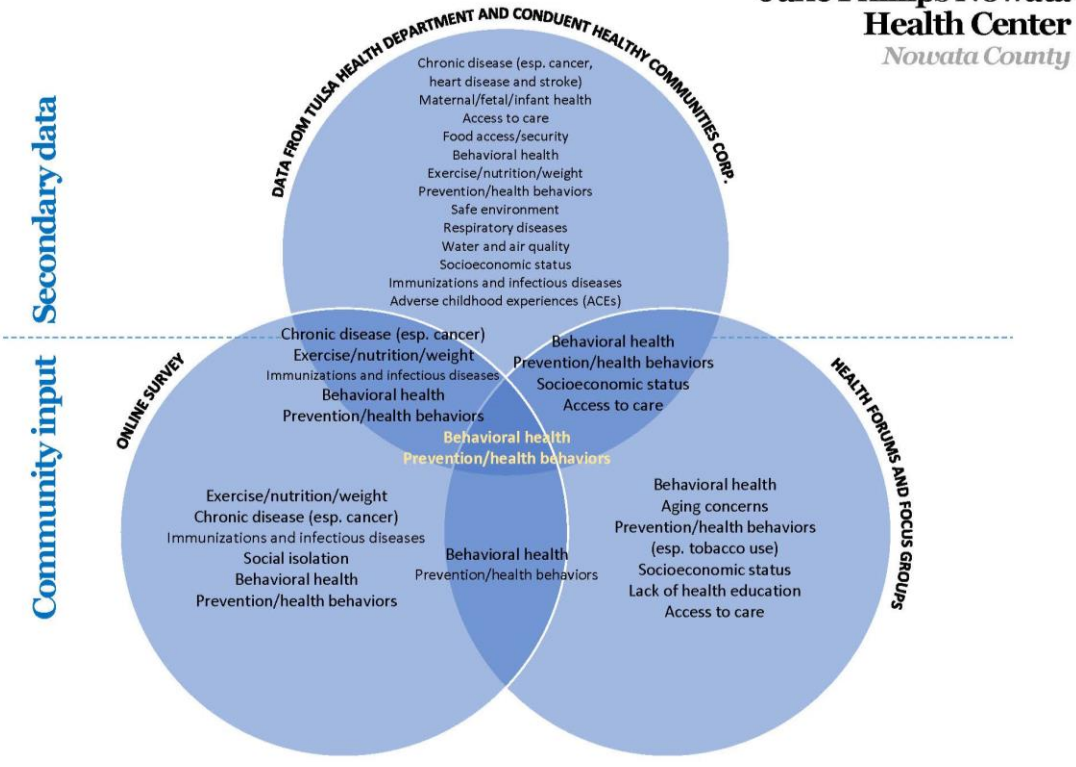
Jane Phillips Medical Center

Washington County



Jane Phillips Nowata Health Center

Nowata County



From there, participants utilized a prioritization toolkit (Appendix 6) to examine how well each of the preliminary health needs aligned with criteria specific to the health system, hospital, community and level of impact. The participants scored each health need based on five criteria on a scale from 1-3, with 1 meaning it does not meet the criterion, 2 meaning it somewhat meets the criterion, and 3 meaning it meets the criterion. The criteria for prioritization were as follows:

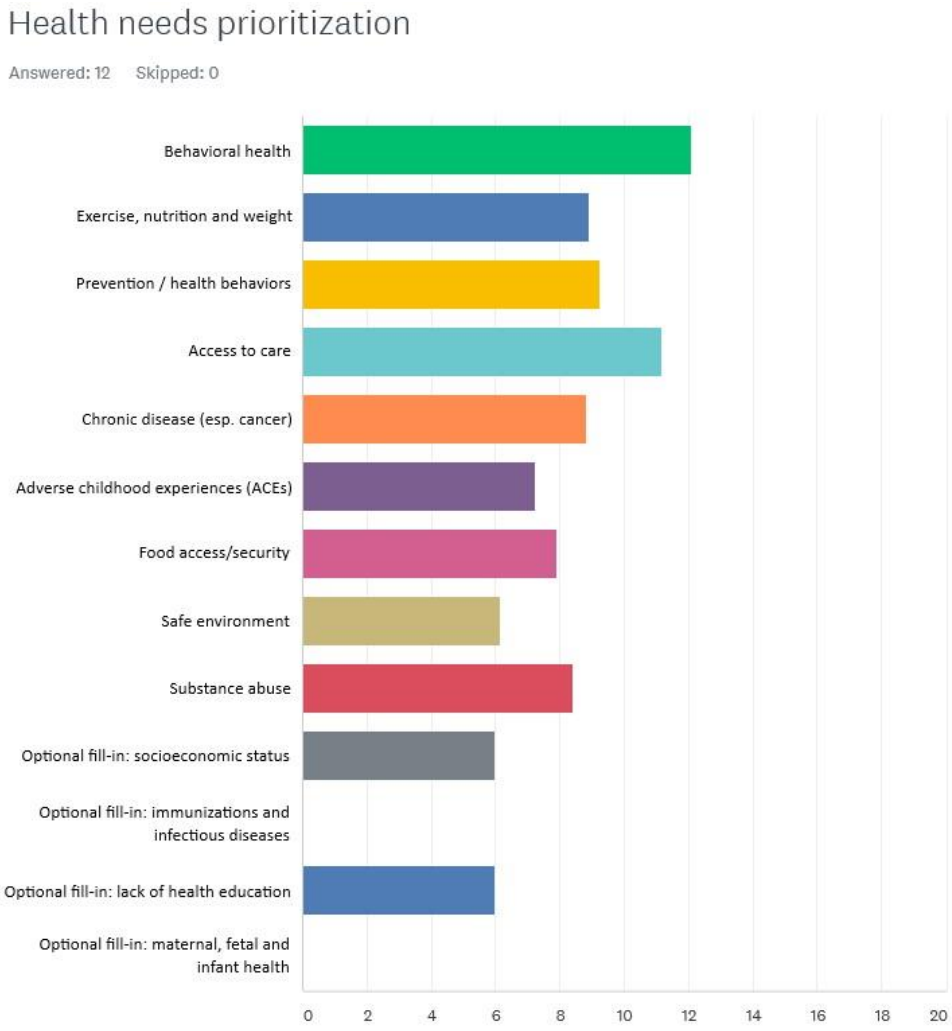
- Alignment with St. John's mission, vision and values (weighted x2)
- Alignment with community priorities (weighted x3)
- Existing programs and resources at the health system as well as any respective hospital
- Opportunities for partnership (weighted x2)
- Solution could impact multiple problems

Completion of this exercise allowed participants to arrive at a total score for each health need that correlated with how well it met the criteria for prioritization. Participants then ranked the health needs according to those scores, with the highest-scoring health need receiving the highest ranking. They were encouraged to use their own judgment in the event of a tied score. Afterward, participants shared answers and engaged in a group discussion on reasoning behind scoring and ranking. This exercise was modeled after a similar exercise previously performed by Conduent.

The rankings were later submitted into an online polling platform, Survey Monkey, that collated the responses, resulting in an aggregate ranking of the health needs (see Figure 15). The top health needs, which would be considered for fiscal year 2020-2022 health system priorities and subsequent implementation strategy planning, were:

- Behavioral health
- Access to care
- Prevention / health behaviors
- Exercise, nutrition and weight
- Chronic disease (esp. cancer)
- Substance abuse

Figure 15: prioritization exercise results



Prioritized needs

A final, deeper analysis of these rankings and the CHNAs as a whole determined that St. John would focus on the following health needs:

- Behavioral health
- Access to care
- Healthy lifestyles
- Adverse childhood experiences (ACEs)

It was decided that substance abuse will be a component of the behavioral health category. The areas of prevention / health behaviors and exercise, nutrition and weight were combined to become “healthy lifestyles,” with chronic disease as a component of this category. Finally, adverse childhood experiences (ACEs) was moved into the fourth priority spot.

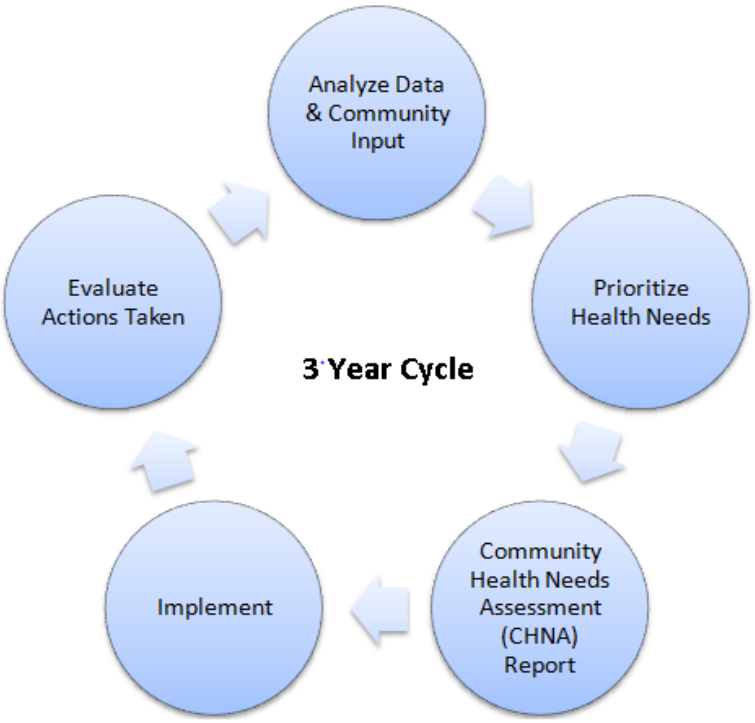
In addition, social determinants of health was deemed an underlying current of all priorities. It was discussed at length that the remaining health topics, not chosen as priorities, can be interrelated to the four chosen priorities. It was also important that the four chosen priorities correlated strongly with the St. John mission to serve all people,

with special attention to those who are poor and vulnerable, as well as the organization's internal Catholic Identity Matrix, which in part evaluates work related to "solidarity with those who live in poverty."

Preceding CHNA Efforts and Evaluation of Impact

The community health needs assessment (CHNA) is a cyclical process based on a three-year cycle (see Figure 16). The periodic process of updating assessments and implementation strategies reflects changes in the health of the communities we serve over time. In addition, this process helps to ensure ongoing improvement efforts are based on the needs of these communities. An important piece of the cycle is revisiting the progress made on priority health needs set forth in the preceding CHNA. By reviewing the actions taken to address a priority health issue and evaluating the impact those actions have made in the community, it is possible to better target our resources and efforts during the next round of the CHNA cycle.

Figure 16: CHNA three-year cycle



Source: Adapted Courtesy of Xerox Community Health Solutions. (2016). Healthy Communities Institute: 3-Year CHNA Cycle. Retrieved from: http://ascension.thehcn.net.

Priority health needs in preceding CHNA

As aforementioned, St. John Owasso (SJO) conducted a CHNA of Tulsa County during the 2016 fiscal year. The hospital also developed an implementation strategy in response to the priority needs identified in that CHNA to be addressed during FY 2017-2019. Over the past three years, Ascension St. John and SJO have worked to address the priority needs based on actions outlined in the FY 2017-2019 implementation strategy. St. John's priority health needs for FY 2017-2019 were as follows:

- Access to care
- Behavioral health
- Wellness and chronic disease prevention
- Health literacy

Click here for a detailed review of SJO's FY 2017-2019 implementation strategy. If this link does not open, visit www.stjohnhealthsystem.com/chna and look for the original link under the "FY 2017-2019 implementation strategies" section.

Evaluation of impact

An evaluation of impact of actions taken to address priority health needs identified in the hospital's preceding CHNA and implementation strategy was conducted as part of the FY 2019 assessment cycle. All actions taken during FY 2017-2019 to address FY 2016 priority health needs were evaluated. A detailed table describing the strategies or action steps and indicators of improvement for each of the priority health needs can be found in Appendix 7.

Community Feedback

St. John Owasso's community health needs assessment (CHNA) and implementation strategy are made available to the public via the health system's website at www.stjohnhealthsystem.com/chna. To collect community feedback on the reports, a contact form is embedded on the CHNA Web page. At the time this report was written, no comments had been received on the preceding CHNA and implementation strategy.

Conclusion

This report describes the findings of a comprehensive health needs assessment for the residents of Tulsa County, Okla. The prioritization of the identified significant health needs will guide the community health improvement efforts of St. John Owasso and Ascension St. John as a whole. From this process, St. John will outline how it plans to address the top four prioritized health needs in the fiscal year 2020-2022 implementation strategy.

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Appendix 1: Executive Summary

St. John Owasso (SJO), part of Ascension St. John, is pleased to present its fiscal year 2019 community health needs assessment (CHNA). As federally required by the Affordable Care Act, this report provides an overview of the methods and process used to identify and prioritize significant health needs in the community served by SJO. For the purposes of this assessment, SJO's primary service area, or community, is defined as Tulsa County, Okla. SJO consulted with Conduent Healthy Communities Corp., the Tulsa Health Department and The University of Oklahoma Anne and Henry Zarrow School of Social Work to conduct the CHNA.

The goal of this report is to offer a meaningful understanding of the most pressing health needs across the Tulsa County community, as well as to guide planning efforts to address those needs. Special attention has been given to the needs of vulnerable populations, unmet health needs or gaps in services, and input from the community.

Findings from this report will be used to identify, develop and target health system, hospital and community initiatives and programming to better serve the health and wellness needs of our community.

Community Served

The community served by SJO is defined as the geographical boundary of Tulsa County, Okla. The county is often referred to as Oklahoma's gateway to "Green Country" due to its lush and rolling hills. The area has a rich and, at times, turbulent history. This history includes early Native American inhabitants, cattlemen, the advent of the railroads, the 1920s Tulsa Race Riot and the oil boom. Tulsa County is located in northeastern Oklahoma on the Arkansas River. For the purposes of this assessment, Tulsa County is divided into eight geographic regions based on ZIP codes and associated communities: downtown Tulsa; east Tulsa; Jenks, Bixby and Glenpool; midtown Tulsa; Tulsa north; Owasso, Sperry, Collinsville and Skiatook; Sand Springs and west Tulsa; and south Tulsa and Broken Arrow.

SJO is based out of the city of Owasso. Accordingly, the Owasso, Sperry, Collinsville and Skiatook region serves as the primary area of focus within the Tulsa County community. SJO's community health improvement efforts that result from this CHNA will primarily center on the Owasso, Sperry, Collinsville and Skiatook region. However, an effort was made to consider the health needs and assets of Tulsa County as a whole. Other Tulsa County regions will be the focus of community health improvement efforts of St. John Medical Center and SJO.

Demographics

Tulsa County has a population of approximately 629,823. Along with the rest of the state and nation, the population is going through a major demographic shift, both in terms of age and race/ethnicity. Older age groups have captured a greater relative share of the population over the past several decades, while the share represented by children has declined. Tulsa County's overall population is becoming increasingly diverse racially, but the trend is most evident among children. The racial makeup of Tulsa County currently consists of 70.6% of the population identifying as White. Black or African American is the second highest of all races in Tulsa County, and is the only other race that makes up just under 10% of the population. Tulsa County has a relatively high percentage of those that identify as Hispanic living in the community (11.8%). Regarding economic stability, families living in Tulsa north, downtown, and west Tulsa have the highest rates of poverty. The Owasso, Sperry, Collinsville and Skiatook region had relatively lower rates of poverty.

Methods for Identifying Community Health Needs

Secondary data

Ascension St. John consulted with the Tulsa Health Department to collect and analyze the secondary data used in the assessment's community overview. A review of publicly available secondary data was conducted. Some data comparisons were made at the ZIP code, region, county, state and national levels. Other data considerations included trends over time, county and state level rankings, benchmark comparisons at the state and national levels, disparities by age, gender, race/ethnicity, income level and educational attainment.

St. John also consulted with Conduent Healthy Communities Corp. for support with secondary data analysis. The analysis included a comprehensive set of more than 100 community health and quality-of-life indicators covering more than 20 topic areas. Indicator values for Tulsa County were compared with other counties in Oklahoma and nationwide to compare social, economic and health topics. Other considerations for areas of health need included trends over time; Healthy People 2020 targets; Oklahoma targets; and disparities by age, gender and race/ethnicity. The value for each of these indicators was compared with other communities, nationally or locally set targets and previous time periods. A data scoring tool was used to systematically summarize multiple comparisons of the data to rank indicators based on highest need.

In addition, St. John consulted with Conduent Healthy Communities Corp. for support with identifying geographic areas of greatest need in Tulsa County. To do so, Conduent developed the SocioNeeds Index® to easily compare multiple socioeconomic factors across geographies. This tool incorporates estimates for six different social and economic determinants of health — income, poverty, unemployment, occupation, educational attainment and linguistic barriers — that are associated with poor health outcomes, including preventable hospitalizations and premature death.

Primary data (community input)

Community input is a principal focus of this assessment and is a form of primary data. St. John employed several methods of community input to yield the desired results, including the following:

- Six **community health forums** with around 120 community leaders and 13 health system leaders (three forums with more than 80 community leaders and six health system leaders in Tulsa County)
- Twenty-two **focus groups** with 233 community members (18 focus groups with 193 community members in Tulsa County)
- **Online survey** of 801 community members (682 in Tulsa County)
- Input from the **public health workforce** and **local coalitions/partnerships**
- Input from the health system's **Community Engagement Committee**

The focus groups and online survey were conducted in collaboration with The University of Oklahoma Anne and Henry Zarrow School of Social Work and Tulsa Health Department.

Community input is best obtained from a diverse set of community stakeholders such as community members, community organizations and the public health workforce. A variety of sources ensures that as many different perspectives as possible are represented while satisfying the broad interests of the community. Sources of community input for this assessment were as follows:

- Community members who participated in the online survey and focus groups
- Community leaders and representatives

- Public health workforce and local coalitions/partnerships
- Members and representatives of medically underserved, low-income, minority, at-risk and otherwise vulnerable populations
- Health system and hospital leadership

Community stakeholders who provided input represented a variety of community sectors, including healthcare, education and academia, nonprofit, private business, community development, faith-based communities and organizations, government, safety-net services, economic and workforce development, behavioral health, law enforcement and first responders, public health and other interest groups working with at-risk and vulnerable populations. This assessment especially focused on community input from those with special knowledge or expertise in public health, as well as members and representatives of medically underserved, low-income, minority, at-risk or otherwise vulnerable populations.

How Are We Doing?

County health rankings

Published online at countyhealthrankings.org, the Rankings help counties understand what influences how healthy residents are and how long they will live. The Rankings are unique in their ability to measure the current overall health of nearly every county in all 50 states. They also look at a variety of measures that affect the future health of communities, such as high school graduation rates, access to healthy foods, rates of smoking, obesity, and teen births. The data indicators included in our assessment follow the county health rankings model. Below is a summary; see the SJO CHNA for a full listing of data indicators.

Health outcomes ranking

This indicator demonstrates overall rankings in health outcomes for counties throughout the state. The healthiest county in the state is ranked #1. The ranks are based on two types of measures: how long people live (length of life) and how healthy people feel while alive (quality of life). The distribution of health outcomes is based on an equal weighting of length and quality of life. This information is based on the County Health Rankings & Roadmaps courtesy of the University of Wisconsin Population Health Institute.

The overall rankings in health outcomes represent how healthy counties are within the state. In 2019, Tulsa County ranked 13th out of 77 counties in Oklahoma in health outcomes. This was an improvement from 15th out of 77 in 2018, 18th out of 77 in 2017, and 20th out of 77 in 2016.

Health factors ranking

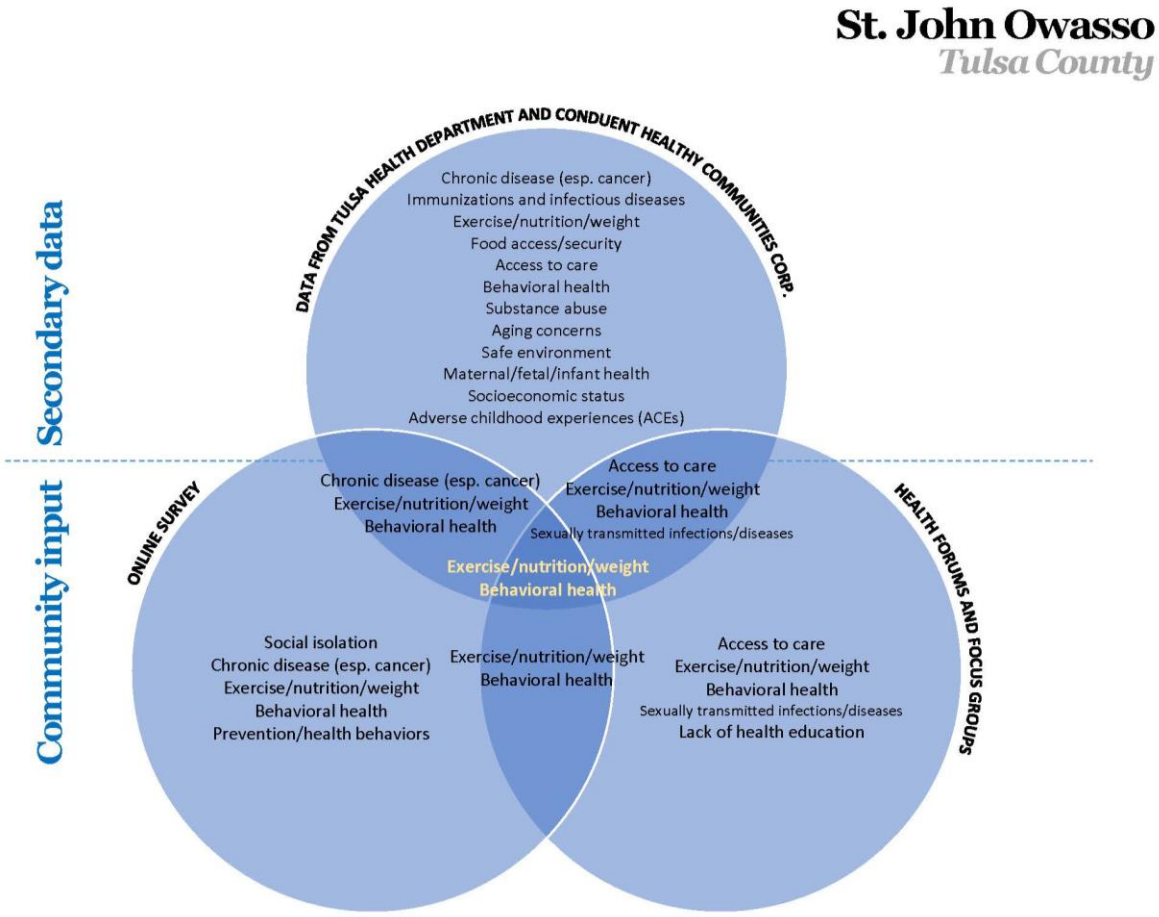
This indicator demonstrates the overall rankings in health factors for counties throughout the state. The ranks are based on weighted scores four types of measures: health behaviors, clinical care, social and economic, and physical environment factors. The healthiest county in the state is ranked #1. This information is based on the County Health Rankings & Roadmaps courtesy of the University of Wisconsin Population Health Institute.

The overall rankings in health factors represent what influences the health of a county. They are an estimate of the future health of counties as compared to other counties within a state. In 2019, Tulsa County ranked 12th out of 77 counties in Oklahoma in health factors. This was an improvement from 14th out of 77 in 2018, 18th out of 77 in 2017, and 17th out of 77 in 2016.

Summary of Findings

The CHNA findings are drawn from an analysis of an extensive set of secondary data and in-depth primary data from community leaders, non-health professionals, and organizations that serve the community at large, vulnerable

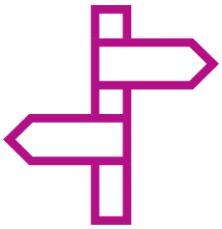
populations, and/or populations with unmet health needs. The results of secondary and primary data analysis were visually displayed in synthesis charts. Below is the SJO chart, with the most significant health needs that arose from each CHNA activity for SJO and Tulsa County.



Through these syntheses, the following top health needs were determined:

- Behavioral health
- Exercise/nutrition/weight
- Prevention/health behaviors (e.g., smoking, missing doctor's visits, etc.)
- Access to care
- Chronic disease (esp. cancer)
- Adverse childhood experiences (ACEs)
- Food access/security
- Safe environment
- Substance abuse
- Socioeconomic status
- Immunizations and infectious diseases
- Lack of health education
- Maternal/fetal/infant health

Disparities and geographic areas of greatest need



The identification of disparities along race/ethnicity, gender, age, and geographic lines is important for informing and focusing strategies that will address the prioritized health needs. Primary and secondary data revealed community health disparities along racial lines, with Black or African American and American Indian/Alaskan Native populations more negatively impacted in Tulsa County. In many ways, women and children face a variety of challenges in Tulsa County. Many families struggle to be self-sufficient, even while holding down jobs. Medically underserved, low-income, minority, at-risk or otherwise vulnerable populations such as LGBTQ+ and individuals experiencing homelessness face discrimination and a myriad of barriers to healthy lifestyles and accessing healthcare and other resources, negatively impacting health outcomes. Further, the data shows that older adults face increased health issues, while populations in certain geographic areas, were identified as having higher socioeconomic need and potentially poorer health outcomes. There is a difference of 16.4 years between two ZIP codes in Tulsa County: the ZIP code with the lowest life expectancy was 74130, which is in north Tulsa (65.4 years) and the ZIP code with the highest life expectancy was 74120, which is close to downtown Tulsa (81.8 years).

Overall, Tulsa County has a significant number ZIP codes identified as having high socioeconomic need, with the highest need in several ZIP codes of north Tulsa, and east Tulsa and west Tulsa ZIP codes next in ranking for highest need. Women and minority populations experience the highest socioeconomic need in the county. The Owasso, Sperry, Collinsville and Skiatook region ZIP codes were identified as having relatively lower socioeconomic need in comparison to other Tulsa County ZIP codes.

Prioritized Areas

On March 25, 2019, 13 members of Ascension St. John's Community Engagement Committee (CEC) came together to participate in an individual assessment exercise and group discussion to help prioritize the most significant community health needs identified through community health needs assessment (CHNA) secondary and primary (community input) data analysis and synthesis.

While considering several criteria for prioritization, the following four health needs were identified as priorities to address:

Behavioral health

Access to care

Healthy lifestyles

Adverse childhood experiences (ACEs)

It was decided that substance abuse will be a component of the behavioral health category. The areas of prevention / health behaviors and exercise, nutrition and weight were combined to become "healthy lifestyles," with chronic disease as a component of this category.

In addition, social determinants of health was deemed an underlying current of all priorities. It was discussed at length that the remaining health topics, not chosen as priorities, can be interrelated to the four chosen priorities. It

was also important that the four chosen priorities correlated strongly with the St. John mission to serve all people, with special attention to those who are poor and vulnerable, as well as the organization's internal Catholic Identity Matrix, which in part evaluates work related to "solidarity with those who live in poverty."

Conclusion

This report describes the findings of a comprehensive health needs assessment for the residents of Tulsa County, Okla. The prioritization of the identified significant health needs will guide the community health improvement efforts of St. John Owasso and Ascension St. John as a whole. From this process, St. John will outline how it plans to address the top four prioritized health needs in the fiscal year 2020-2022 implementation strategy.

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Appendix 2: Secondary Data Analysis and Scoring Sources

Key	Source
1	American Community Survey
2	American Lung Association
3	Annie E. Casey Foundation
4	Centers for Disease Control and Prevention
5	Centers for Medicare & Medicaid Services
6	County Health Rankings
7	Feeding America
8	Institute for Health Metrics and Evaluation
9	National Cancer Institute
10	National Center for Education Statistics
11	Oklahoma State Bureau of Investigation
12	Oklahoma State Department of Health
13	Small Area Health Insurance Estimates
14	The Dartmouth Atlas of Health Care
15	U.S. Bureau of Labor Statistics
16	U.S. Department of Agriculture - Food Environment Atlas
17	U.S. Environmental Protection Agency

Appendix 3: Tulsa County Secondary Data Scores

Source numbers correspond to the list of secondary data scores in Appendix 2.

Indicator scores by topic area (Tulsa County, Okla.)

SCORE	**ACCESS TO HEALTH SERVICES**	UNITS	TULSA COUNTY	HP2020	Oklahoma	*U.S.*	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.81	Adults with Health Insurance: 18-64	percent	80.4	100	*80.5*		2016		13
1.64	Persons with Health Insurance	percent	84.1	100	*84*		2016		13
1.36	Children with Health Insurance	percent	92.6	100	92.3		2016		13
1.25	Clinical Care Ranking	ranking	2				2018		6
0.89	Preventable Hospital Stays: Medicare Population	discharges/ 1,000 Medicare enrollees	52.6		59.9	49.4	2015		14
0.56	Dentist Rate	dentists/ 100,000 population	69.5		58.7	67.4	2016		6
0.39	Mental Health Provider Rate	providers/ 100,000 population	435.5		378.8	214.3	2017		6
0.39	Primary Care Provider Rate	providers/ 100,000 population	111.1		63	75.5	2015		6
0.17	Non-Physician Primary Care Provider Rate	providers/ 100,000 population	97.1		76.6	81.2	2017		6

SCORE	**CANCER**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.25	Cervical Cancer Incidence Rate	cases/ 100,000 females	8.4	*7.3*	8.9	7.5	2011-2015		9
2.17	Age-Adjusted Death Rate due to Breast Cancer	deaths/ 100,000 females	23.5	*20.7*	23	20.9	2011-2015		9
2.00	Breast Cancer Incidence Rate	cases/ 100,000 females	131.9		118.4	124.7	2011-2015		9
1.89	All Cancer Incidence Rate	cases/ 100,000 population	464.3		442.6	441.2	2011-2015		9
1.86	Age-Adjusted Death Rate due to Prostate Cancer	deaths/ 100,000 males	22.2	*21.8*	20.5	19.5	2011-2015		9
1.83	Prostate Cancer Incidence Rate	cases/ 100,000 males	111.3		101.1	109	2011-2015		9

1.72	Age-Adjusted Death Rate due to Colorectal Cancer	deaths/ 100,000 population	16.5	*14.5*	17.2	14.5	2011-2015		9
1.61	Colorectal Cancer Incidence Rate	cases/ 100,000 population	42.5	*39.9*	42	39.2	2011-2015		9
1.50	Age-Adjusted Death Rate due to Cancer	deaths/ 100,000 population	180.8	161.4	186	163.5	2011-2015	Black	9
1.44	Cancer: Medicare Population	percent	7		6.9	7.8	2015		5
1.33	Age-Adjusted Death Rate due to Lung Cancer	deaths/ 100,000 population	50.7	*45.5*	55.7	43.4	2011-2015		9
1.22	Mammography Screening: Medicare Population	percent	57.8		55.8	63.2	2015		14
1.17	Lung and Bronchus Cancer Incidence Rate	cases/ 100,000 population	66.8		70.5	60.2	2011-2015		9
0.89	Oral Cavity and Pharynx Cancer Incidence Rate	cases/ 100,000 population	11.5		12.8	11.6	2011-2015		9

SCORE	**CHILDREN'S HEALTH**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.61	Food Insecure Children Likely Ineligible for Assistance	percent	39		34	20	2016		7
1.67	Children with Low Access to a Grocery Store	percent	6.3				2015		16
1.56	Child Food Insecurity Rate	percent	21.9		22.7	17.9	2016		7
1.36	Children with Health Insurance	percent	92.6	*100*	92.3		2016		13

SCORE	**COUNTY HEALTH RANKINGS**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.58	Physical Environment Ranking	ranking	52				2018		6
1.42	Social and Economic Factors Ranking	ranking	35				2018		6
1.25	Clinical Care Ranking	ranking	2				2018		6
1.25	Health Behaviors Ranking	ranking	10				2018		6
1.25	Morbidity Ranking	ranking	20				2018		6
1.25	Mortality Ranking	ranking	17				2018		6

SCORE	**DIABETES**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.39	Diabetic Monitoring: Medicare Population	percent	84		79.5	85.7	2015		14
0.94	Diabetes: Medicare Population	percent	23.9		26.9	26.5	2015		5
0.67	Age-Adjusted Death Rate due to Diabetes	deaths/ 100,000 population	21.5		30.7	21.1	2014-2016	Black or African American	4

SCORE	**ECONOMY**	UNITS	TULSA COUNTY	HP2020	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.61	Food Insecure Children Likely Ineligible for Assistance	percent	39		34	20	2016		7
2.33	Homeownership	percent	53		56.5	55.9	2012-2016		1
2.17	Income Inequality		0.5		0.5	0.5	2012-2016		1
2.11	Children Living Below Poverty Level	percent	24.1		23.1	21.2	2012-2016	Black or African American, Hispanic or Latino, Other, Two or More Races	1
2.11	Young Children Living Below Poverty Level	percent	27.7		26.4	23.6	2012-2016	Black or African American, Hispanic or Latino, Other, Two or More Races	1
1.94	Families Living Below Poverty Level	percent	12.3		12.2	11	2012-2016	American Indian or Alaska Native, Black or African American, Hispanic or Latino, Other, Two or More Races	1
1.94	SNAP Certified Stores	stores/ 1,000 population	0.7				2016		16
1.89	Food Insecurity Rate	percent	16.1		16.2	12.9	2016		7

1.78	Students Eligible for the Free Lunch Program	percent	51.2	53.2	42.6	2015-2016		10
1.67	Low-Income and Low Access to a Grocery Store	percent	9.3			2015		16
1.56	Child Food Insecurity Rate	percent	21.9	22.7	17.9	2016		7
1.56	Severe Housing Problems	percent	15.7	14.5	18.8	2010-2014		6
1.42	Social and Economic Factors Ranking	ranking	35			2018		6
1.39	Households with Cash Public Assistance Income	percent	2.8	3.1	2.7	2012-2016		1
1.39	People Living Below Poverty Level	percent	15.9	16.5	15.1	2012-2016	American Indian or Alaska Native, Black or African American, Hispanic or Latino, Other, Two or More Races	1
1.17	Renters Spending 30% or More of Household Income on Rent	percent	42.4	45.3	47.3	2012-2016		1
0.89	Unemployed Workers in Civilian Labor Force	percent	3.4	3.5	3.9	August 2018		15
0.83	Median Household Income	dollars	50654	48038	55322	2012-2016	American Indian or Alaska Native, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, Other, Two or More Races	1
0.83	People Living 200% Above Poverty Level	percent	64.6	62.1	66.4	2012-2016		1

0.50	Per Capita Income	dollars	28970		25628	29829	2012-2016	American Indian or Alaska Native, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, Other, Two or More Races	1
0.33	People 65+ Living Below Poverty Level	percent	7.8		8.9	9.3	2012-2016	Asian, Black or African American, Hispanic or Latino, Other	1

SCORE	**EDUCATION**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.89	High School Drop Outs	percent	10.9		7.8		2015		3
1.67	Student-to-Teacher Ratio	students/ teacher	17.4		16.5	17.7	2015-2016		10
0.89	People 25+ with a High School Degree or Higher	percent	88.8		87.3	87	2012-2016	Asian, Native Hawaiian or Other Pacific Islander, Other	1
0.33	People 25+ with a Bachelor's Degree or Higher	percent	30.7		24.5	30.3	2012-2016	American Indian or Alaska Native, Black or African American, Native Hawaiian or Other Pacific Islander, Other, Two or More Races	1

SCORE	**ENVIRONMENT**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source

2.11	Fast Food Restaurant Density	restaurants/ 1,000 population	0.9				2014		16
1.94	SNAP Certified Stores	stores/ 1,000 population	0.7				2016		16
1.83	Grocery Store Density	stores/ 1,000 population	0.1				2014		16
1.67	Children with Low Access to a Grocery Store	percent	6.3				2015		16
1.67	Low-Income and Low Access to a Grocery Store	percent	9.3				2015		16
1.61	PBT Released	pounds	4418.8				2017		17
1.61	Recognized Carcinogens Released into Air	pounds	187008.8				2017		17
1.58	Physical Environment Ranking	ranking	52				2018		6
1.56	Severe Housing Problems	percent	15.7		14.5	18.8	2010-2014		6
1.53	Annual Particle Pollution	grade	B				2014-2016		2
1.50	Farmers Market Density	markets/ 1,000 population	0				2016		16
1.50	People 65+ with Low Access to a Grocery Store	percent	3.1				2015		16
1.47	Annual Ozone Air Quality	grade	D				2014-2016		2
1.33	Households with No Car and Low Access to a Grocery Store	percent	2.1				2015		16
1.22	Food Environment Index		7		5.9	7.7	2018		6
1.00	Recreation and Fitness Facilities	facilities/ 1,000 population	0.1				2014		16
0.67	Houses Built Prior to 1950	percent	12.9		13.8	18.2	2012-2016		1
0.50	Access to Exercise Opportunities	percent	96.2		73.8	83.1	2018		6

SCORE	**ENVIRONMENTAL & OCCUPATIONAL HEALTH**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.67	Adults with Current Asthma	percent	9.1		9.6		2017		12
1.67	Asthma: Medicare Population	percent	8.4		9.4	8.2	2015		5

1.58	Physical Environment Ranking	ranking	52				2018		6

SCORE	**EXERCISE, NUTRITION, & WEIGHT**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.61	Food Insecure Children Likely Ineligible for Assistance	percent	39		34	20	2016		7
2.61	Workers who Walk to Work	percent	1.3	*3.1*	1.8	2.8	2012-2016		1
2.11	Fast Food Restaurant Density	restaurants/ 1,000 population	0.9				2014		16
1.94	SNAP Certified Stores	stores/ 1,000 population	0.7				2016		16
1.89	Food Insecurity Rate	percent	16.1		16.2	12.9	2016		7
1.83	Grocery Store Density	stores/ 1,000 population	0.1				2014		16
1.67	Children with Low Access to a Grocery Store	percent	6.3				2015		16
1.67	Low-Income and Low Access to a Grocery Store	percent	9.3				2015		16
1.56	Child Food Insecurity Rate	percent	21.9		22.7	17.9	2016		7
1.50	Farmers Market Density	markets/ 1,000 population	0				2016		16
1.50	People 65+ with Low Access to a Grocery Store	percent	3.1				2015		16
1.33	Households with No Car and Low Access to a Grocery Store	percent	2.1				2015		16
1.28	Adults who are Overweight or Obese	percent	34		36.5		2017		12
1.25	Health Behaviors Ranking	ranking	10				2018		6
1.22	Food Environment Index		7		5.9	7.7	2018		6
1.00	Recreation and Fitness Facilities	facilities/ 1,000 population	0.1				2014		16
0.50	Access to Exercise Opportunities	percent	96.2		73.8	83.1	2018		6

SCORE	HEART DISEASE & STROKE	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.78	Stroke: Medicare Population	percent	3.9		3.8	4	2015		5
1.67	Age-Adjusted Death Rate due to Coronary Heart Disease	deaths/ 100,000 population	132.6	*103.4*	139.7	96.8	2014-2016	Black or African American	4
1.50	Age-Adjusted Death Rate due to Cerebrovascular Disease (Stroke)	deaths/ 100,000 population	41.6	*34.8*	42.6	37.2	2014-2016	Black or African American	4
1.28	Heart Failure: Medicare Population	percent	14		15.9	13.5	2015		5
1.11	Hyperlipidemia: Medicare Population	percent	37.2		40.3	44.6	2015		5
1.11	Hypertension: Medicare Population	percent	54.6		57.6	55	2015		5
0.94	Atrial Fibrillation: Medicare Population	percent	6.9		7.3	8.1	2015		5
0.72	Ischemic Heart Disease: Medicare Population	percent	24.7		30.6	26.5	2015	N/A	5

SCORE	IMMUNIZATIONS & INFECTIOUS DISEASES	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.36	Chlamydia Incidence Rate	cases/ 100,000 population	674.2		537.5	478.8	2015		12
2.36	Gonorrhea Incidence Rate	cases/ 100,000 population	249.5		167.3	123.9	2015		12
2.28	Age-Adjusted Death Rate due to HIV	deaths/ 100,000 population	3.1	*3.3*	1.6	1.9	2014-2016		4
2.19	Age-Adjusted Death Rate due to Influenza and Pneumonia	deaths/ 100,000 population	17.5		15.2	14.6	2014-2016		4

SCORE	MATERNAL, FETAL & INFANT HEALTH	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.72	Mothers who Received Early Prenatal Care	percent	67.8	*77.9*	69.5		2017		12
1.58	Infant Mortality Rate	deaths/ 1,000 live births	7.7	*6*			2015-2017		12
1.47	Babies with Low Birth Weight	percent	8.2	*7.8*			2017		12

1.00	Babies with Very Low Birth Weight	percent	1.4	*1.4*	1.5		2017	12
1.00	Teen Birth Rate: 15-19	live births/ 1,000 females aged 15-19	26.7		29.6		2017	12
0.83	Mothers who Smoked During Pregnancy	percent	8.5	*1.4*	11.2		2017	12

SCORE	**MEN'S HEALTH**	UNITS	TULSA COUNTY	HP2020	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.86	Age-Adjusted Death Rate due to Prostate Cancer	deaths/ 100,000 males	22.2	*21.8*	20.5	19.5	2011-2015		9
1.83	Prostate Cancer Incidence Rate	cases/ 100,000 males	111.3		101.1	109	2011-2015		9
1.61	Life Expectancy for Males	years	74.2		73.7	76.7	2014		8

SCORE	**MENTAL HEALTH & MENTAL DISORDERS**	UNITS	TULSA COUNTY	HP2020	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.67	Depression: Medicare Population	percent	20.6		19.3	16.7	2015		5
2.11	Alzheimer's Disease or Dementia: Medicare Population	percent	10.2		9.8	9.9	2015		5
2.03	Age-Adjusted Death Rate due to Suicide	deaths/ 100,000 population	19.8	*10.2*	20.1	13.2	2014-2016		4
1.83	Age-Adjusted Death Rate due to Alzheimer's Disease	deaths/ 100,000 population	31.9		33.3	28.4	2014-2016		4
1.00	Poor Mental Health: Average Number of Days	days	3.9		4.5	3.8	2016		6
0.83	Frequent Mental Distress	percent	12.4		14.7	15	2016		6
0.39	Mental Health Provider Rate	providers/ 100,000 population	435.5		378.8	214.3	2017		6

SCORE	**OLDER ADULTS & AGING**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.67	Depression: Medicare Population	percent	20.6		19.3	16.7	2015		5

2.61	Osteoporosis: Medicare Population	percent	6.9		5.2	6	2015	5
2.50	Chronic Kidney Disease: Medicare Population	percent	19.2		17.8	18.1	2015	5
2.22	People 65+ Living Alone	percent	30.1		27.5	26.4	2012-2016	1
2.17	Rheumatoid Arthritis or Osteoarthritis: Medicare Population	percent	33.2		33.6	30	2015	5
2.11	Alzheimer's Disease or Dementia: Medicare Population	percent	10.2		9.8	9.9	2015	5
1.86	Age-Adjusted Death Rate due to Falls	deaths/ 100,000 population	11.4	*7.2*	13.7	8.9	2014-2016	4
1.83	Age-Adjusted Death Rate due to Alzheimer's Disease	deaths/ 100,000 population	31.9		33.3	28.4	2014-2016	4
1.78	Stroke: Medicare Population	percent	3.9		3.8	4	2015	5
1.67	Asthma: Medicare Population	percent	8.4		9.4	8.2	2015	5
1.50	People 65+ with Low Access to a Grocery Store	percent	3.1				2015	16
1.44	Cancer: Medicare Population	percent	7		6.9	7.8	2015	5
1.39	Diabetic Monitoring: Medicare Population	percent	84		79.5	85.7	2015	14
1.28	Heart Failure: Medicare Population	percent	14		15.9	13.5	2015	5
1.22	Mammography Screening: Medicare Population	percent	57.8		55.8	63.2	2015	14
1.11	Hyperlipidemia: Medicare Population	percent	37.2		40.3	44.6	2015	5
1.11	Hypertension: Medicare Population	percent	54.6		57.6	55	2015	5
0.94	Atrial Fibrillation: Medicare Population	percent	6.9		7.3	8.1	2015	5
0.94	COPD: Medicare Population	percent	11		14	11.2	2015	5
0.94	Diabetes: Medicare Population	percent	23.9		26.9	26.5	2015	5

0.72	Ischemic Heart Disease: Medicare Population	percent	24.7		30.6	26.5	2015	N/A	5
0.33	People 65+ Living Below Poverty Level	percent	7.8		8.9	9.3	2012-2016	Asian, Black or African American, Hispanic or Latino, Other	1

SCORE	**OTHER CHRONIC DISEASES**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.61	Osteoporosis: Medicare Population	percent	6.9		5.2	6	2015		5
2.50	Chronic Kidney Disease: Medicare Population	percent	19.2		17.8	18.1	2015		5
2.17	Rheumatoid Arthritis or Osteoarthritis: Medicare Population	percent	33.2		33.6	30	2015		5
0.86	Age-Adjusted Death Rate due to Kidney Disease	deaths/ 100,000 population	11.3		13.7	13.3	2014-2016	Black or African American	4

SCORE	**PREVENTION & SAFETY**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.86	Age-Adjusted Death Rate due to Falls	deaths/ 100,000 population	11.4	7.2	13.7	8.9	2014-2016		4
1.56	Death Rate due to Drug Poisoning	deaths/ 100,000 population	18.9		19.8	16.9	2014-2016		6
1.56	Severe Housing Problems	percent	15.7		14.5	18.8	2010-2014		6
1.22	Age-Adjusted Death Rate due to Unintentional Injuries	deaths/ 100,000 population	49.9	*36.4*	60.6	43.2	2014-2016		4

SCORE	**PUBLIC SAFETY**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.50	Age-Adjusted Death Rate due to Homicide	deaths/ 100,000 population	10.9	*5.5*	7.9	5.6	2014-2016	Black or African American	4
2.14	Violent Crime Rate	crimes/ 100,000 population	628.6		420.9	373.7	2015		11
2.00	Alcohol-Impaired Driving Deaths	percent	35		28.3	29.3	2012-2016		6

1.08	Age-Adjusted Death Rate due to Motor Vehicle Traffic Collisions	deaths/ 100,000 population	11.9	*12.4*	17.2	11	2014-2016		4

SCORE	**RESPIRATORY DISEASES**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.19	Age-Adjusted Death Rate due to Influenza and Pneumonia	deaths/ 100,000 population	17.5		15.2	14.6	2014-2016		4
1.67	Adults with Current Asthma	percent	9.1		9.6		2017		12
1.67	Asthma: Medicare Population	percent	8.4		9.4	8.2	2015		5
1.44	Age-Adjusted Death Rate due to Chronic Lower Respiratory Diseases	deaths/ 100,000 population	52.7		63.5	40.9	2014-2016		4
1.33	Age-Adjusted Death Rate due to Lung Cancer	deaths/ 100,000 population	50.7	*45.5*	55.7	43.4	2011-2015		9
1.17	Lung and Bronchus Cancer Incidence Rate	cases/ 100,000 population	66.8		70.5	60.2	2011-2015		9
0.94	COPD: Medicare Population	percent	11		14	11.2	2015		5

SCORE	**SOCIAL ENVIRONMENT**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.33	Homeownership	percent	53		56.5	55.9	2012-2016		1
2.22	People 65+ Living Alone	percent	30.1		27.5	26.4	2012-2016		1
2.11	Children Living Below Poverty Level	percent	24.1		23.1	21.2	2012-2016	Black or African American, Hispanic or Latino, Other, Two or More Races	1
2.11	Single-Parent Households	percent	37.2		34.2	33.6	2012-2016		1
2.11	Young Children Living Below Poverty Level	percent	27.7		26.4	23.6	2012-2016	Black or African American, Hispanic or Latino, Other, Two or More Races	1
1.64	Persons with Health Insurance	percent	84.1	*100*	84		2016		13

1.42	Social and Economic Factors Ranking	ranking	35			2018		6
1.39	People Living Below Poverty Level	percent	15.9	16.5	15.1	2012-2016	American Indian or Alaska Native, Black or African American, Hispanic or Latino, Other, Two or More Races	1
0.94	Mean Travel Time to Work	minutes	19.5	21.4	26.1	2012-2016		1
0.89	People 25+ with a High School Degree or Higher	percent	88.8	87.3	87	2012-2016	Asian, Native Hawaiian or Other Pacific Islander, Other	1
0.83	Median Household Income	dollars	50654	48038	55322	2012-2016	American Indian or Alaska Native, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, Other, Two or More Races	1
0.50	Per Capita Income	dollars	28970	25628	29829	2012-2016	American Indian or Alaska Native, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, Other, Two or More Races	1

0.33	People 25+ with a Bachelor's Degree or Higher	percent	30.7		24.5	30.3	2012-2016	American Indian or Alaska Native, Black or African American, Native Hawaiian or Other Pacific Islander, Other, Two or More Races	1

SCORE	**SUBSTANCE ABUSE**	UNITS	TULSA COUNTY	HP2020	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.00	Alcohol-Impaired Driving Deaths	percent	35		28.3	29.3	2012-2016		6
1.56	Death Rate due to Drug Poisoning	deaths/ 100,000 population	18.9		19.8	16.9	2014-2016		6
1.33	Adults who Drink Excessively	percent	14.1	*25.4*	12.8	18	2016		6
1.25	Health Behaviors Ranking	ranking	10				2018		6
1.00	Adults who Smoke	percent	15.7	12	19.6	17	2016		6
0.83	Mothers who Smoked During Pregnancy	percent	8.5	*1.4*	11.2		2017		12

SCORE	**TRANSPORTATION**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.61	Workers who Walk to Work	percent	1.3	*3.1*	1.8	2.8	2012-2016		1
1.94	Households without a Vehicle	percent	7		5.7	9	2012-2016		1
1.44	Workers Commuting by Public Transportation	percent	0.7	*5.5*	0.5	5.1	2012-2016	White, non-Hispanic	1
1.39	Workers who Drive Alone to Work	percent	82.3		82.6	76.4	2012-2016	White, non-Hispanic	1
1.33	Households with No Car and Low Access to a Grocery Store	percent	2.1				2015		16
1.08	Age-Adjusted Death Rate due to Motor Vehicle Traffic Collisions	deaths/ 100,000 population	11.9	*12.4*	17.2	11	2014-2016		4
0.94	Mean Travel Time to Work	minutes	19.5		21.4	26.1	2012-2016		1

0.50	Solo Drivers with a Long Commute	percent	17.8		25.7	34.7	2012-2016		6

SCORE	**WELLNESS & LIFESTYLE**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
1.61	Life Expectancy for Males	years	74.2		73.7	76.7	2014		8
1.39	Life Expectancy for Females	years	79.2		78.5	81.5	2014		8
1.25	Morbidity Ranking	ranking	20				2018		6
1.00	Poor Physical Health: Average Number of Days	days	3.9		4.5	3.7	2016		6
0.83	Frequent Physical Distress	percent	12.1		14.4	15	2016		6
0.83	Insufficient Sleep	percent	31.8		34.9	38	2016		6
0.83	Self-Reported General Health Assessment: Poor or Fair	percent	15.3		19.6	16	2016		6

SCORE	**WOMEN'S HEALTH**	UNITS	TULSA COUNTY	*HP2020*	Oklahoma	U.S.	MEASUREMENT PERIOD	HIGH RACE DISPARITY*	Source
2.25	Cervical Cancer Incidence Rate	cases/ 100,000 females	8.4	*7.3*	8.9	7.5	2011-2015		9
2.17	Age-Adjusted Death Rate due to Breast Cancer	deaths/ 100,000 females	23.5	*20.7*	23	20.9	2011-2015		9
2.00	Breast Cancer Incidence Rate	cases/ 100,000 females	131.9		118.4	124.7	2011-2015		9
1.39	Life Expectancy for Females	years	79.2		78.5	81.5	2014		8
1.22	Mammography Screening: Medicare Population	percent	57.8		55.8	63.2	2015		14

Appendix 4: Focus Group Discussion Guide

Introduction

- Welcome everyone and introduce facilitators and recorders.
- Review name tents. Participants may use whatever name, number, symbol, etc. they wish to be recognized as by the facilitator or other participants.
- Review location of restrooms, refreshments and exits.
- Review purpose of group, group similarities (residential area or specific population), expected length of session, confidentiality on researchers' part and audio recording.
- Review and collect signed informed consents.
- Review guidelines.
    - Only one person talking at a time
    - Provide your honest and candid thoughts.
    - There are no wrong answers.
    - Give everyone a chance to speak.
    - Request participant confidentiality.
    - Be respectful of others.
    - Paper has been provided. When a question is asked, take a moment to write down the first thing that comes to your mind. We will collect these sheets at the end of the meeting. If there was a thought you didn't get a chance to share or didn't want to share with the group, circle those thoughts for us.

Discussion questions

- When I say the word "health," what do you think of? How would you define health?
- Describe your community — where you live, work, play and shop.
    - What would you say are the biggest overall problems in your community?
    - How do these problems affect your community's health?
    - What could your community do to make you feel better about these problems?
- Do you feel you have the power to change your personal health and/or your family's health? Show of hands if you think you have the power to change your health. (Record count.)
    - For those of you who feel you have the power to change your health, provide some examples of how you can change your health.
    - Have you done any of these things? What was the outcome?
    - For those of you who do not feel you have the power to change your health, what is holding you back? What needs to change?
- If you were looking for resources to improve health, how/where would you find them?
    - What are some of the resources in your community that can improve health?
    - Show of hands if you have ever used any of these resources? (Record count.)
    - For those of you who have used community resources for health:
        - How many times in the past year have you or your family used these resources?
        - What was your impression of the services provided by these resources? If negative, what could they do to improve?

    - For those of you who have not used community resources for health, why not? What is keeping you from using them?
- What other services do you think are needed in your community?
- What do you think is important for healthcare professionals to know about your community?
- Imagine I gave you a magic wand. You can wave this magic wand and do anything you want to improve the health of your community. What would you do?
- Fill in the blank. The benefits of a healthy community are _____.
- Anything else you would like to add?

Conclusion

- Thank participants.
- Distribute gift cards.
- Point out business cards for questions about study or results.
- Collect demographics form and written comments from participants.

Appendix 5: Online Survey

Click here to view the contents of the 2019 online survey conducted for this community health needs assessment. If the link does not open, visit www.stjohnhealthsystem.com/chna and look for the link under the "Long-form documents referenced in CHNAs" section.

Appendix 6: Prioritization Toolkit

Prioritization Matrix

The purpose of this exercise is to individually assess then collectively discuss each of the pressing health concerns identified by the St. John Community Engagement team's analysis of data collected through the community health needs assessment (CHNA) process. CHNA data collection strategies included:

- Secondary data from Conduent Healthy Communities Corp.
- Secondary data from the Tulsa Health Department
- An online public survey conducted in collaboration with The University of Oklahoma Anne and Henry Zarrow School of Social Work
- Community focus groups conducted in collaboration with OU Anne and Henry Zarrow School of Social Work
- Community health forums hosted by each hospital facility

Please see the included synthesis charts for overviews of results by hospital. In your assessment of these identified health concerns, you will score and rank them based on the criteria set forth by the Community Engagement team for prioritizing health concerns for St. John Health System. After you have completed the charts below, the group's answers will be discussed and collected.

Instructions

1. In the first chart below, score each identified health concern for how well it meets each criterion (1 = does not meet criterion; 2 = somewhat meets criterion; and 3 = meets criterion). Note that some criteria are weighted, so look for directions to multiply certain scores in the column headers.
2. Add together the scores for each health concern and write the total in the last column.
3. Based on your total scores in the first chart, assign a ranking to each health concern in the second chart below, with the highest score receiving a ranking of 1. If you have tied scores, break the tie by personally assigning rank as you see best fit.

Health need	Alignment w/ St. John mission (weighted x2)	Alignment w/ community priorities (weighted x3)	Existing programs, resources at SJHS, hospital	Opportunities for partnership (weighted x2)	Solution could impact multiple problems	TOTAL
Behavioral health						
Exercise/nutrition/weight						
Prevention/health behaviors						
Access to care						
Chronic disease (esp. cancer)						
Adverse childhood experiences (ACEs)						
Food access/security						
Safe environment						
Substance abuse						
Optional fill-in (circle one): - Socioeconomic status - Immunizations and infectious diseases - Lack of health education - Maternal/fetal/infant health						

Health topics (listed in order of data frequency)	Rank (1-9 or 1-10)
Behavioral health	
Exercise/nutrition/weight	
Prevention/health behaviors	
Access to care	
Chronic disease (esp. cancer)	
Adverse childhood experiences (ACEs)	
Food access/security	
Safe environment	
Substance abuse	
Optional fill-in (circle one): - Socioeconomic status - Immunizations and infectious diseases - Lack of health education - Maternal/fetal/infant health	

Please note that "social determinants of health" may be an underlying current for any health concern selected to be a health system priority.

Appendix 7: FY 2017-2019 Impact Report

Evaluation of actions taken to address health needs identified in FY 2016 CHNA

Author note: References to actions taken by "St. John Health System" indicate the actions were taken by all six hospitals during FY 2017-2019: St. John Medical Center, St. John Owasso, St. John Broken Arrow, St. John Sapulpa, Jane Phillips Medical Center and Jane Phillips Nowata Health Center.

SIGNIFICANT HEALTH NEED identified in prior CHNA and addressed in implementation strategy	**ACCESS TO CARE**	
ACTIONS PROPOSED to address significant health need	**STATUS OF ACTIONS**	**RESULTS**
Transitional Care Clinics (TCCs): Improve follow-up care and ensure a safe transition home for patients discharging from St. John Medical Center and Jane Phillips Medical Center who do not have a primary care provider through services provided by the facilities' Transitional Care clinics.	Completed; ongoing	**St. John Medical Center Transitional Care Clinic:** • Opened 4/7/2017; 5 staff employed • 1,081 patients seen FY17-18 • Motivational interviewing utilized with patients needed (300 document instances in FY18) • 100% of patients seen were scheduled an appointment with a primary care physician or were referred to one of the local free clinics for follow-up • 31 patients seen in FY17-18 after discharging from skilled nursing facilities (after hospital discharge) • The readmission rate for patients that were seen in the TCC during FY17 was 3.93% and patients not seen no shows, cancellation, refused appointment, etc.) was 14.18%. In FY 18 the rate was 5.59% for patients seen and 9.49% for patients not seen. In July-January of FY19, the rate was 6.8% for patients seen and 12.1% for patients not seen. These rates demonstrate a reduction in readmissions for those seen in the clinic. **Jane Phillips Medical Center Transitional Care Clinic:** • 828 patients seen FY17-18 • 100% of patients seen were scheduled an appointment with a primary care physician or were referred to one of the local free clinics for follow-up
Access to care for those experiencing homelessness: Increase the number of individuals experiencing homelessness who have access to primary care at the Tulsa Day Center for Homeless Clinic. • Indicator: Number of hours available for primary care access at Tulsa Day Center for the Homeless. • Baseline: 20 hours per week • Target: 10% (+2 hours per week) = 22 hours per week • Maximum Target: 15% (+3 hours per week) = 23 hours per week • Data for this analysis was collected through the quarterly Tulsa Day Center for the Homeless Clinic	Completed	**St. John Health System** • Based on the number of hours scheduled and worked by primary care provider at the Tulsa Day Center for the Homeless Clinic, clients had access to primary care coverage in excess of 24 hours per week. • This was a 4 hour (20%) increase from year to date FY 16 baseline of 20 hours per week to year to date FY 17.

activity reports comparing FY 17 with FY 16 available hours per week.		
Access to care for those living in poverty/vulnerable populations: Increase access to an ongoing source of primary care and preventive services for persons who are uninsured, underinsured, and/or living in poverty through services offered at the St. John Medical Access Clinic (MAC).	**Discontinued as Medical Access Clinic goal due to clinic closure. The goal has been continued with St. John Family Medical Care Clinic.* Completed; ongoing	**St. John Health System:** • In FY18-19, St. John provided primary health care, specialty health care and medications for participants in Women in Recovery (WIR), an intensive outpatient alternative for eligible women facing long prison sentences for non-violent, drug-related offenses and for Domestic Violence Intervention Services (DVIS) shelter guests at no cost to them or the organizations. ○ 100% of WIR participants and DVIS shelter guests are offered care at time of intake for services.
Mentoring healthy parents program-Broken Arrow Public Schools: Nurse and physician volunteers from St. John provide maternal and child health education at Broken Arrow Public Schools to parenting teens on a variety of topics, such as what to expect during pregnancy, childbirth, infant safety, proper use of a car seat, and the developmental stages of toddlers.	Completed; ongoing **New goal added after Implementation Plan developed in FY17*	**St. John Medical Center/St. John Broken Arrow:** • In FY 18-19, St. John Medical Center Nursing staff 1 physician volunteer taught 1 class every 2 weeks teen parents in program at Broken Arrow Public Schools.
Transportation assistance: Reduction in barriers to accessing to healthcare services by providing transportation assistance to community-dwelling persons served by St. John and the hospital who are living in poverty and/or are otherwise deemed vulnerable. Through an agreement with Morton Comprehensive Community Health Center (FQHC) for their bus services and agreement with Lyft, St. John provides transportation to those in need in the community who meet specific criteria.	Completed; ongoing	**St. John Medical Center:** • In FY 18, 2,102 rides were provided and over $165,000 was provided in funding for the Morton Transportation Program. • An agreement with Lyft was also secured to begin providing additional transportation assistance to patients in need. In fy18, 2,006 rides were provided and over $31,000 was provided in funding for Lyft assistance. • In FY17 1,635 rides were provided and over $155,000 was provided in funding for the Morton Transportation Program.
Prescription assistance: Support of efforts to increase the proportion of persons who can obtain or not delay in obtaining necessary prescription medicines through the Dispensary of Hope (DOH) program. The DOH connects surplus medications from manufacturers, distributors, and providers to clinics and pharmacies serving the poor and uninsured. Pharmacy and clinic partners provide DOH medications to patients free of charge, track and segregate DOH inventory, and qualify patients (less	Completed; ongoing	**St. John Health System:** • The program serves safety net clinics in the greater Tulsa area including the Good Samaritan mobile health clinics. • In FY17 the DOH program was expanded to include qualifying patients in three departments within the St. John System: The Transitional Care Clinic, The Heart Failure Clinic, and the Diabetes Education Center. • In FY17, the DOH program was also expanded within the community to an additional Good Samaritan Mobile Clinic site in Creek County and the Tulsa Day Center for Homeless medical clinic. • In FY18, 19,000 thirty-day prescriptions ($223,000 worth) were filled for free clinic partners.

than or equal to 200% of the federal poverty level).		• The DOH has demonstrated to be a positive factor in improving outcomes of uninsured patients with chronic conditions and has been shown to decrease preventable hospital encounters. • In addition, St. John continues to look for new ways to procure medication discounts for all patients whether they are being discharged from one of our hospitals or are getting outpatient treatment in one of our clinics.
Health insurance coverage: Promote access to affordable health insurance coverage through state legislative advocacy.	In progress	**St. John Health System:** • A cigarette tax passed the Oklahoma legislature in 2018. Funds from this tax for the first year went to education. Funds for the second year, 2019 went to healthcare. • Ascension's St. John Health System continues to be a strong proponent for the expansion of Medicaid in Oklahoma.
Care coordination-addressing social determinants of health: Collaborate with community partners to address social determinants of health among community served.	In progress **New goal added after Implementation Plan developed in FY17*	**St. John Medical Center:** • St. John completed a Memorandum of Understanding ("MOU") on FY17 between the City of Tulsa, on behalf of itself and the Tulsa Fire Department (collectively "COT"). o The Tulsa Fire Department sponsors and administers two Mobile Integrated Healthcare (MIH) programs: (i) the Community Access, Education, and Referral Services (CARES) program; and (ii) the Community Response Team (CRT) program (collectively "MIH Programs"). o The MIH Programs are designed to address the complex physical, behavioral, and social needs of individuals who are high need, inefficient utilizers of public safety, criminal justice systems, and healthcare resources o St. John piloted programming with the CARES Program at St. John Medical Center in FY18-FY19 to collaborate on targeted case management activities and coordination of care to address the needs of existing, or potential, CARES program participants. **St. John Health System:** • In April 2017, the federal government selected the Route 66 Coalition to receive a $4.5M grant to create an Accountable Health Community (AHC) where social needs, are addressed to improve health. St. John collaborated with the coalition on grant writing and completed a MOU to participate in the grant opportunity. o In Oklahoma, this program will screen more than 75,000 Oklahomans each year for social needs in five key areas: housing insecurity, food insecurity, utility assistance, interpersonal violence, and transportation. If they qualify, they will be connected to community social service agencies through designed navigation services. o In FY18-FY19, St. John participated in the first year of planning and implementation of the grant opportunity o In FY19- St. John is targeting 1 hospital Emergency Department for pilot of program.
Support of medical education- Invest in medical education to support the expansion of physicians, nurses and allied health professionals.	Completed; ongoing	**St. John Health System:** • FY17-19 St. John continues to invest in medical education to support the expansion of physicians, nurses and allied health professionals that will serve the current and future generations of patients in the service area.

		• St. John engages in a coordinated effort to assess community need collaboratively with other interested parties in the community and to allocate capital and human resources to address the needs of the entire service area.

Human trafficking education and response program- train associates to identify and respond to the needs of human trafficking victims and survivors in a trauma-informed manner, including assistance with referrals to resources as needed.	Completed; ongoing
	
	**New goal added after Implementation Plan developed in FY17*
		St. John Health System:
		
		• In 2016, St. John embarked on efforts to develop program and internal protocol as well as worked to build partnerships in the community with law enforcement, social service agencies, and other organizations in our community.
		• Since program roll-out, 15 suspected victims have been identified and offered support by St. John associates (as of April 2019).
		• In FY17-19, St. John applied for and was generously awarded funding to support implementation of program.
		• 2018 was a monumental year in history for St. John Health System's efforts to combat human trafficking. Our 2018 accomplishments included, but were not limited to, the following:
		  ○ Formalization and successful pilot of the St. John Human Trafficking Education and Response Program
		  ○ Recruitment and hiring of a St. John Human Trafficking Program Manager to support our local efforts
		  ○ Increased support of victims and survivors presenting for care in our clinics and hospitals
		  ○ Continued engagement and collaboration with law enforcement, social service agencies, and other organizations in our community
		  ○ Expansion of our presence in the community through awareness and education efforts

SIGNIFICANT HEALTH NEED identified in prior CHNA and addressed in implementation strategy	**BEHAVIORAL HEALTH**	
ACTIONS PROPOSED to address significant health need	**STATUS OF ACTIONS**	**RESULTS**
Early identification and intervention via an integrated model of behavioral health in primary care.	Completed-ongoing	**St. John Health System:** • In FY17-19, St. John accomplished the following: ○ The implementation of clinic-wide PHQ9 depression screenings and full suicide risk assessments for high/positive scores on PHQ9 depression screenings • Expansion of the number of behavioral health therapists embedded in clinics from 5 to 9 therapists in 2018.
Promotion of access to behavioral health services through state legislative advocacy.	Completed	**St. John Health System:** • Through legislative advocacy, the Mark Costello Act was passed in 2017. This legislation is aimed at helping families get assisted outpatient treatment for adult relatives experiencing mental illness before a situation reaches a crisis. • A cigarette tax passed the Oklahoma legislature in 2018. Funds from this tax for the first year went to education. Funds for the second year, 2019 went to healthcare.

		• St. John is participating as a community partner in the Tulsa Regional Mental Health Plan (rolled out in FY18):
Increase access to behavioral health services for community-dwelling persons in need of outpatient psychiatry services in Washington County.	Completed	**Jane Phillips Medical Center:** In FY17- 1 APRN was recruited and hired to support staffing at outpatient psychiatric clinic at Jane Phillips Memorial Medical Center.

Improve capacity for humanized behavioral health crisis and acute care through increased access to behavioral health professionals and services as well as increased assessment and recognition of suicide risks at the community level.	Completed-ongoing	**St. John Medical Center:**
		
		• St. John completed a Memorandum of Understanding ("MOU") on FY17 between the City of Tulsa, on behalf of itself and the Tulsa Fire Department (collectively "COT").
		  ○ The Tulsa Fire Department sponsors and administers two Mobile Integrated Healthcare (MIH) programs: (i) the Community Access, Education, and Referral Services (CARES) program; and (ii) the Community Response Team (CRT) program (collectively "MIH Programs").
		  ○ St. John collaborates with the City of Tulsa, the Tulsa Fire Department, the Mental Health Association of Oklahoma, Family & Children's Services and other community partners on the MIH program known as Community Response Team (CRT). This is a multidisciplinary emergency response team that provides a more efficient and effective response to individuals in emergent mental health crisis by providing safety and stabilization as well as diversion from costly stays in jail, hospital emergency departments, and inpatient behavioral health hospital stays when appropriate.
		• St. John Sapulpa hosted and participated in a Question Persuade and Respond (QPR) suicide prevention training by community partners in Creek County in FY17. The training focused on teaching associates and community members how to respond to someone who is at risk for suicide.
		• In FY17, # St. John associates completed a suicide precautions training module to increase awareness of suicide prevalence and risk factors as well as how to work with patients and community members to reduce the risk of suicide.
		• All open positions on Behavioral Health Assessment Team (BAT) were filled as of FY19. This has increased the number of patients the team is able to see. The team is averaging 40-45 placements in psych facilities per month. This is a slight increase, but still limited by bed availability in and around the community.
		• By FY19- the proportion of Emergency Department and hospital patients referred to crisis intervention behavioral health services was increased by at least 10 % as measured by Behavioral Health Admin. reports.

SIGNIFICANT HEALTH NEED identified in prior CHNA and addressed in implementation strategy	**WELLNESS AND CHRONIC DISEASE PREVENTION**	
ACTIONS PROPOSED to address significant health need	**STATUS OF ACTIONS**	**RESULTS**
Promote equitable and patient-centered pre-diabetic and diabetic care in solidarity with those living in poverty and/or who may be otherwise deemed vulnerable.	Completed-ongoing	**St. John Medical Center:** • In FY17, St. John Medical Center implemented an initiative to support patients diagnosed with diabetes or pre-diabetes discharging from the hospital who lack primary care follow-up through patient-centered transition of care, education, and disease management support services through collaboration among the diabetes educators, transitional care clinic, and the Medical Access Program. ○ In FY 17, a total of 142 patients diagnosed with diabetes and pre-diabetes who lacked primary care follow-up were served by this initiative.
Diabetes awareness and prevention: In FY18, St. John Medical Center and Jane Phillips Medical Center addressed 2 goals related to diabetes awareness and prevention: 1) to improve awareness of the risks of Type 2 diabetes in the community and 2) to increase participant participation and retention in the Diabetes Prevention Program (DPP) through partnerships in the community.	Completed	**St. John Health System:** • Both goals were met successfully for FY18 with all outputs either achieved as outlined or exceeding expectations. **Tulsa County Hospitals (St. John Medical Center- SJMC, St. John Broken Arrow-SJBA, and St. John Owasso- SJO):** • A total of five awareness events were held in collaboration with the two community partners identified at the beginning of FY18 which exceeded St. John's output goal by two events. Diabetes risk assessments, presentations, and awareness education were offered at these events. The diabetes team also attended seven additional community events. Diabetes risk assessments, condensed presentations, and awareness education were offered at the additional events. **Jane Phillips Medical Center:** • The DPP was highly successful at engaging community partners to participate in the program. Program retention rate= 85% for those attending at least 4 of the 16-week core sessions in the first 6 months. Weight loss=4.16% for those attending at least 4 of the 16-week core sessions in the first 6 months. An output goal was also made for this program to provide at 250 diabetes risk assessments to community members. This goal was exceeded as 1,750 risk assessments were provided to community members. Additional awareness activities were completed in the hospital as well as at various community events.

Heart Failure Initiative aimed to improve health outcomes and reduce preventable Congestive Heart Failure (CHF) readmissions among diverse populations diagnosed with CHF: Congestive Heart Failure (CHF) patients from diverse populations including racial and ethnic minorities and those living in socioeconomically		**St. John Medical Center:**
		• The initiative worked to increase engagement and reduce barriers to care through the provision of:
		  ○ Educational classes (average 25 patients per class per week with an additional 5-10 patient's education done at bedside per week).
		  ○ Support groups 1x/week (average 15-18 patients per session).

disadvantaged conditions often face a myriad of barriers to care. The initiative aims to manage all patients diagnosed with congestive heart failure (CHF) across the continuum of care through structured transition and an expanded follow-up approach as facilitated by the St. John Medical Center Heart Failure Initiative regardless of ability to pay.		○ Referrals to the Heart Failure Clinic (increase of >100% in new patient volume since December 2016) and Cardiac/Heart Failure rehab (total of 129 patients enrolled in FY17 and 122 patients in FY18). ○ Root cause analysis case staffings ○ Loaned blood pressure cuffs (107 BP cuffs) and weight scales (318 scales) at no cost to the patient in FY17. ○ Medication assistance for those without a payer source through the Dispensary of Hope Program and transportation assistance through the Morton Transportation Assistance Program.
Promote healthy diet, physical activity, and prevention-oriented wellness through 1. Health system support of community-based initiatives in partnership with local health departments, coalitions, community-based organizations, and schools 2. Participation in local activities, education classes, events, and health fairs 3. Chronic disease management support	Completed; ongoing	**St. John Health System:** • St. John sponsored and participated over 200 community events and wellness activities throughout the FY17-18. Hospital associates promoted health and wellness through health screenings and public education at these events. The health system and hospital also hosted a multitude of public health education seminars, classes, lunch and learns, and symposiums on a variety of wellness topics including, but not limited to: diabetes, heart health, stroke, safety and prevention, trauma, maternal and child health, joint care, cancer care, healthy diet and nutrition, and the promotion of physical activity. St. John annually hosts on-site blood drives in support of the American Red Cross at each hospital. • In FY17-18, St. John partnered with more than 100 local organizations through sponsorships and donations. The St. John Community Benefit and Engagement team is continually looking for opportunities to connect with local organizations and individuals to better serve the health and wellness needs of the community. **Jane Phillips Medical Center (JPMC):** • **Washington County Wellness Initiative:** JPMC actively participated in the community-wide coalition, the Washington County Wellness Initiative (WCWI) from Fy17-19. The organization is dedicated to supporting the numerous organizations, coalitions, initiatives, and projects providing services to the residents of Washington County with the goal of improving the health of the community. • **Flow-Co:** In FY17-19, JPMC supported the Washington County organization named FLOWCO – Fitness Lovers of Washington County, which encourages residents to get healthier together with a free fitness program. The training program is a free walk/run group fitness program open to anyone 12 years and older. • **Community Care Transitions Team:** In FY17-19, JPMC partnered with the community care transitions team. This is a non-profit team of healthcare providers who work together to improve the patient's transition between the hospital and the next level of care. The hospital and several associates participate in the annual Transitions of Care health fair hosted by the community care transitions team. • **Project Fit America**: In FY17-19, JPMC supported Project Fit America through the sponsorship of the installation of Project Fit America equipment area schools (installation/support at 3 schools in FY17-18). Project fit America is a national nonprofit

		organization that creates and administers fitness education programming in elementary and middle schools. The charity works with sponsors to bring in donations to build fitness equipment at schools and emphasizes techniques to participate in and appreciate fitness-related skills that are necessary to maintain lifelong fitness. **Jane Phillips Nowata Health Center (JPNHC):** • **Participation in community coalition to promote health and wellness:** In FY17-19, JPNHC actively participated in the community-wide coalition, the Nowata Community Advancement Network (Nowata CAN). Nowata CAN is a coalition of individuals and groups dedicated to improving the overall health of the citizens of Nowata County. Nowata CAN and partners work to supporting our community by providing education the prevention of disease and drug abuse and improving the health and well-being of residents through healthy lifestyle choices. JPNHC sponsors Nowata CAN's "double bucks" and "veggie vouchers" programs in conjunction with the Nowata area farmers market each spring. **St. John Sapulpa (SJS):** • **Participation in community efforts to promote health and wellness:** In FY17-19, SJS actively participated in the community-wide coalition, the Creek County Community partnership (CCCP). Currently there are over 30 agencies represented in the partnership. The partnership serves as a community support hub for several creek county grants. The CCCP serves as a valued resource for community partners and families where agencies and organizations share information and programming. Through various work groups and committees, the CCCP has addressed child abuse prevention, healthy lifestyle initiatives, and drug abuse and tobacco use prevention. The hospital regularly provides meeting space for the monthly CCCP meetings. SJS is also an active partner with another community coalition focused on health and wellness promotion, the Creek County Healthy Living Program. • SJS offers classroom space for local community partners to health and wellness focused education classes, events, and trainings such as CPR, diabetic education classes, and healthy eating/shopping. SJS also partners with the Creek County Health Department to offer "tai chi – moving for better balance" on-site to improve community wellness through group exercise and to promote fall risk and injury prevention. **Tulsa County Hospitals (St. John Medical Center- SJMC, St. John Broken Arrow-SJBA, and St. John Owasso- SJO):** • **Pathways to Health:** In FY17-19- SJMC, SJBA, and SJO actively participated in the community-wide coalition, Pathways to Health (P2H), which supports the Tulsa Health Department and a multitude of community partners. P2H was formed by the Tulsa Health Department in 2008 in response to a challenge to decrease the overlap of health services and identify gaps where leaders are missing vulnerable populations. Today, P2H is an incorporated non-profit entity with the goal to connect community health resources to those who need it most. P2H leverages community-wide partnerships with more than 90 local

		agencies, organizations, corporations and health systems to improve the health and wellness of residents of Tulsa County. • **Tour de Tulsa sponsorship and participation:** St. John was the presenting sponsor for the 30th-32nd annual Tour de Tulsa charity bikes rides during FY17-19. The event is coordinated by the Tulsa Bike Club and Tulsa Health Department with proceeds benefiting Pathways to Health (P2H), the non-profit arm of the Tulsa Health Department. Each year the sponsorship funds are used to give back to the community and help fund community partner's projects that have the gravest need, reach the most people, use best practices, and can be sustained overtime. • **St. John Family Den at the Tulsa Zoo:** In FY17, St. John provided funding to co-design quiet space for nursing mothers and families at the St. John Family Den at the Tulsa Zoo. The den provides a dedicated space for nursing mothers, a quiet room for families affected by autism or sensory processing disorders, a family restroom, and a restroom with an adult changing table.

SIGNIFICANT HEALTH NEED identified in prior CHNA and addressed in implementation strategy	**HEALTH LITERACY**	
ACTIONS PROPOSED to address significant health need	**STATUS OF ACTIONS**	**RESULTS**
Help persons of diverse backgrounds navigate health services and gain empowerment in taking charge of their own health improvement: • Assess health literacy needs among patients of diverse backgrounds to work towards assisting patients in understanding how to navigate health services and gain empowerment in taking charge of their own health improvement with the St. John Medical Center Transitional Care Clinic as the pilot site for this effort.	Completed; ongoing	**St. John Medical Center:** • The St. John Medical Center successfully piloted and fully implemented a Pfizer health literacy screening tool to assess health literacy needs among clinic patients in FY17-19. o 2 staff members in clinic trained on use of Pfizer health literacy tool. o 119 patients were screened using this tool in FY17. o 813 patients were screened using this tool during FY18. o When a patient is identified as having low health literacy and are diabetic, the clinic will let the diabetic educator know the health literacy score. o The clinic uses the teach back method to ensure patients understand the information they have been taught when they are identified as low health literacy.
Early literacy promotion: Through a partnership with Reach Out and Read, St. John pediatricians provide new books and literacy resources to families at well-child visits to discuss the importance of early literacy and developmental milestones with families. Providers are able see whether children interact with the book on a developmentally appropriate level and discuss with families the importance of interacting and reading with children to increase language skills, emotional resilience, and early	Completed; ongoing **New goal added after Implementation Plan developed in FY17*	**St. John Health System:** • In FY17-FY18, 4 St. John Clinics participated in the Reach out and Read Program (St. John Clinics: Family Medical Care, Pediatric and Adolescent Medicine, Claremore-*now closed*, and Owasso-*now closed*). • In FY19, 2 additional clinics began participation in the program (Family Medical Care Maternal and Health Clinic on South Peoria and Bartlesville). • Following the receipt of FY18 financial support from St. John, St. John medical providers report having given out 2,801 books to children ages five and under (does not include St. John Clinic-Owasso, so the 2,801 is lower than actual).

literacy. Reach Out and Read is a national network, with 28 regional affiliates supporting over 29,000 medical providers at 5,800 sites in all 50 states of the U.S. The program currently serves over 4.7 million children each year, including a quarter of children from low-income families		• 62 medical providers and staff within the St. John System have received our Continuing Medical Education-accredited comprehensive training since July 2017.

Appendix 8: Board Resolutions

RESOLUTIONS OF THE BOARD OF DIRECTORS
OF OWASSO MEDICAL FACILITY, INC. D/B/A ST. JOHN OWASSO

The Board of Directors of Owasso Medical Facility, Inc. d/b/a St. John Owasso ("Corporation" or "Hospital") adopts the following resolutions at a meeting duly held on April 18, 2019 at which a quorum of Directors was present.

RECITALS

A. Section 501(r) of the Internal Revenue Code and the regulations promulgated hereunder (collectively, "501(r)") imposes certain requirements on 501(c)(3) "hospital organizations" and "hospital facilities" (as those terms are defined in 501(r)). Each hospital facility is required, among other things, to conduct a community health needs assessment ("CHNA") and adopt an implementation strategy ("IS") to meet the identified health needs at least once every three (3) tax years.

B. Pursuant to 501(r), Hospital conducted a CHNA for the community the Hospital serves. The CHNA is attached as **Exhibit A**.

C. The Hospital completed the following steps in conducting its CHNA in compliance with 501(r): (1) defining the "community" served; (2) assessing the health needs of that community; (3) soliciting and taking into account input received from persons who represent the broad interests of the community, including those with special knowledge of or expertise in public health; and (4) documenting the CHNA in a written report.

D. Pursuant to 501(r), a Hospital needs to prepare an IS to meet the community health needs identified through the CHNA (each a "health need") that, with respect to each significant health need, either (1) describes how the Hospital plans to address the health need, or (2) identifies the health need as one the Hospital does not intend to address and explains the reason(s) for that determination.

E. 501(r) requires that the Corporation's Board of Directors adopts the CHNA, attached as **Exhibit A**.

NOW, THEREFORE, in consideration of the foregoing:

BE IT RESOLVED that the Board of Directors hereby approves and adopts the CHNA attached as **Exhibit A**.

BE IT FURTHER RESOLVED that the officers and management of Corporation be, and they hereby are authorized and directed to make the CHNA widely available to the public in compliance with 501(r).

BE IT FINALLY RESOLVED that the officers and management of Corporation be, and they hereby are authorized and directed to take such other actions as are necessary to prepare the IS and, thereafter, seek approval and adoption of the IS by the Corporation's Board of Directors.

The above resolutions are adopted this 18th day of April, 2019 and made effective as of the same day.

Secretary of the Board

David Phillips
President and Chief Operating Officer
St. John Owasso

RESOLUTIONS OF THE BOARD OF DIRECTORS
OF ST. JOHN HEALTH SYSTEM, INC.

The Board of Directors of St. John Health System, Inc. ("Corporation") adopts the following resolutions at a meeting duly held on May 15, 2019 at which a quorum of Directors was present.

RECITALS

A. Section 501(r) of the Internal Revenue Code and the regulations promulgated hereunder (collectively, "501(r)") imposes certain requirements on 501(c)(3) "hospital organizations" and "hospital facilities" (as those terms are defined in 501(r)). Each hospital facility is required, among other things, to conduct a community health needs assessment ("CHNA") and adopt an implementation strategy ("IS") to meet the identified health needs at least once every three (3) tax years.

B. Pursuant to 501(r), each Hospital listed below conducted a CHNA for the community the Hospital serves.

C. The Hospitals completed the following steps in conducting its CHNA in compliance with 501(r): (1) defining the "community" served; (2) assessing the health needs of that community; (3) soliciting and taking into account input received from persons who represent the broad interests of the community, including those with special knowledge of or expertise in public health; and (4) documenting the CHNA in a written report.

D. Pursuant to 501(r), a Hospital needs to prepare an IS to meet the community health needs identified through the CHNA (each a "health need") that, with respect to each significant health need, either (1) describes how the Hospital plans to address the health need, or (2) identifies the health need as one the Hospital does not intend to address and explains the reason(s) for that determination.

E. 501(r) requires that the each Hospital's Board of Directors adopts the applicable CHNA, and each has in turn recommended approval to the Corporation as the member of each Hospital.

NOW, THEREFORE, in consideration of the foregoing:

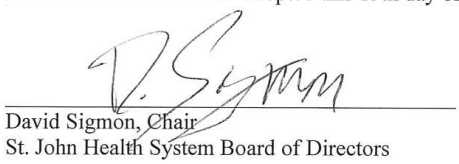
BE IT RESOLVED that the Board of Directors of Corporation, acting as such and as the member of each of the following named legal entities, hereby: (i) approves of each such entity to adopt the applicable CHNA for its Hospital, and (ii) authorizes management to take such other actions as reasonable and necessary to effectuate such adoption of the CHNA.

Entity Name
St. John Health System, Inc.
St. John Medical Center, Inc.
St. John Broken Arrow, Inc.
St. John Sapulpa, Inc.
Owasso Medical Facility, Inc. d/b/a St. John Owasso
Jane Phillips Memorial Medical Center, Inc.
Jane Phillips Nowata Hospital, Inc.

BE IT FURTHER RESOLVED that the officers and management of Corporation be, and they hereby are authorized and directed to make the CHNA widely available to the public in compliance with 501(r).

BE IT FINALLY RESOLVED that the officers and management of Corporation and each Hospital be, and they hereby are authorized and directed to take such other actions as are necessary to prepare the IS and, thereafter, seek approval and adoption of the IS by each Hospital's Board of Directors.

The above resolutions are adopted this 15th day of May, 2019 and made effective as of the same day.



David Sigmon, Chair
St. John Health System Board of Directors