2016 Community Health Assessment

Williamson County, Texas

Williamson County and Cities Health District

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Acknowledgements

The dedication, expertise, and leadership of a large number of agencies and people made the 2016 Williamson County Community Health Assessment (CHA) possible. This collaboratively-developed plan engaged the community to produce a comprehensive assessment that will be used to develop the 2016-2018 Community Health Improvement Plan (CHIP).

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Executive Summary

Overview

In order to strategically address health issues within the community, it is vital to first sustain broad community partnerships and develop a shared vision and goals for the future. This joint ownership and responsibility for the community's health catalyzes the efficient utilization of resources across agencies and groups to evaluate and achieve improvements in health status. The Williamson County CHA Strategic Planning Team (hereafter referred to as the CHA Team) was led by the Williamson County and Cities Health District (WCCHD) in collaboration with strong community partners, including the WilCo Wellness Alliance (WWA), Baylor Scott & White Health, Opportunities for Williamson and Burnet Counties, Seton Healthcare Family, and the St. David's Foundation. The goals of the CHA Team were to:

1. Identify existing and emerging community health needs;
2. Identify the strengths and assets available to improve health;
3. Determine key issues that affect quality of life;
4. Understand key forces of change influencing health in the community;
5. Evaluate the local public health system and determine priorities for improvement; and
6. Identify top health priorities for future health improvement efforts.

Methodology

The CHA Team used the National Association of County and City Health Officials (NACCHO) Mobilizing for Action through Planning and Partnerships (MAPP) process as a proven systematic framework for identifying community health needs and the resources for meeting those needs.

The MAPP process consists of four assessments – the community health status assessment, the community themes and strengths assessment, the forces of change assessment, and the local public health systems assessment. Following this framework, the CHA Team utilized a mixed-method, participatory, and collaborative approach to conduct these assessments to evaluate the health of the community defined by the geographic area of Williamson County, Texas.

The assessment process included both primary data generated by the partners and secondary data from external organizations; these data on health, socio-behavioral, and economic indicators for the county were aggregated from a large number of local, state, and federal data sources.[1] Whenever possible, the CHA Team analyzed data at the census tract level to understand the diversity within and across areas of Williamson County at the most detailed level available.

However, the CHA Team recognized that numbers alone don't always tell the whole story. As such, the team complemented the large volume of quantitative data with qualitative data gathered through facilitated discussions, key informant interviews, and focus groups with residents and stakeholders.

[1] *Note: Data sources and references are provided in the main document but have been removed from the Executive Summary for brevity.*

Through engagement in facilitated discussions, leadership from WCCHD and the WWA provided feedback on the current status of and potential improvements to the local public health system. Additionally, trained facilitators conducted 12 focus groups with community members from a variety of groups including youth, non-English speakers, older adults, healthcare systems staff, non-profit organizations, educational entities, and local governments. In all, more than 100 individual community members were engaged through the CHA process.

Together, these quantitative and qualitative analyses constitute a comprehensive view of the factors influencing the health of the community and provide the basis for the community's determination of their priority areas.

Of course, the CHA is just the first part of this effort. The companion document, the Community Health Improvement Plan (CHIP), will be community's action plan for proactively addressing the priority areas and coordinating community-wide improvement efforts for the next three years. The CHIP will also be developed by a community-based team in collaboration with the Wilco Wellness Alliance and other stakeholders.

Key Findings

Although there are many findings and issues identified by this document, some of the key findings have been distilled by the authors for consideration here in the Executive Summary; these are listed by assessment below.

Key Findings - Community Health Status Assessment

The Community Health Status Assessment (CHSA) comprises the bulk of the CHA, with detailed analyses of the disease burdens and health statuses of Williamson County residents as compared to the overall population of Texas and national Healthy People 2020 (HP2020) targets. The CHA Team analyzed data on the burden of disease, causes of death, and behavioral risk factors (e.g., lifestyle issues such as tobacco use). The assessment categories were selected by the team from the MAPP framework's Core Indicator List. The following summary statistics and trends describe the changing population, highlight health successes, and identify gaps where progress can be made to improve the health and well-being of Williamson County residents.

Top 10 Causes of Death

Over the past century, the leading causes of death in the U.S. have shifted from infectious diseases and acute illnesses to chronic and degenerative illnesses. In 2013, the top 10 causes of death in Williamson County were: 1. Cancer, 2. Heart Disease, 3. Stroke, 4. Lung Disease, 5. Accidents, 6. Alzheimer's Disease, 7. Kidney Disease, 8. Suicide, 9. Parkinson's Disease, and 10. Diabetes Mellitus. From 2004 to 2013, cancer and heart disease were responsible for over 40% of all attributed causes of death. However, influenza and pneumonia have continued to be common causes of death in both the county and the state.

Population Growth and Demographic Shifts

Between 2010 and 2014, Williamson County's population continued to increase rapidly. Current projections by the Texas Office of the State Demographer (OSD) show that the county is expected to increase from almost 500,000 to over 600,000 in the next ten years, and reach nearly one million residents by 2050. Rapid population growth will place greater demands on the current healthcare and public health infrastructure and may lead to shifts in patterns of disease transmission as the population density increases.

A large part of this growth has been driven by a marked increase in the county's Hispanic population; the OSD estimates that this ethnic group will double by 2050. After English, Spanish is the second most common language spoken at home in the county. Language barriers can prevent access to health care and limit the availability of culturally appropriate information about available resources. As such, planning for future resource allocation and initiatives should consider the needs of the growing Hispanic population.

Williamson County is also graying. By 2050, the OSD predicts residents 65 years and older will be the largest single age group in Williamson County. The healthcare system should consider that additional resources will be needed for advanced care planning and chronic disease management for this growing segment of the population.

Unfortunately, the lack of available health information for other racial and ethnic groups in the county prevented the CHA team from gaining a better understanding of minority health issues. The authors recommend that data sources (particularly those at the local level) include race, ethnicity, and language variables to allow for determination of health disparities in minority populations.

Summary of Health Indicators

Williamson County has been consistently recognized as one of the healthiest counties in Texas, ranking in the top three in the Robert Wood Johnson Foundation's County Health Rankings since 2010. There are many definitions of health, but the most holistic is that of the World Health Organization (WHO): "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

The CHSA provides summarized data to put the successes and challenges in context. In many cases, Williamson County meets or exceeds the HP2020 targets, but in other areas more can be done to improve the overall health of citizens. The following graphic provides a brief summary of the following topic areas and health indicators, and Williamson County's status for each:

Indicator and Analysis	Status
Access to Care • *Health Insurance:* Although the percentage of uninsured persons in the county is lower than Texas across all groups in both adults and children, 24.2% of Hispanics do not have health insurance as compared to about 10.4% for non-Hispanic whites, 13.6% for African Americans, and 12.9% for Asian Americans. The highest percentages of uninsured individuals were located in Florence, Jarrell, Weir, Bartlett, Granger, as well as small areas in Georgetown, Taylor, and Round Rock. The HP2020 goal is 0% uninsured, which the county fails to meet for all groups.	
Chronic Disease • *Heart disease*: Heart disease mortality rates have been declining and are consistently lower for the county (114.6/100,000) than the state rate (175.5/100,000). However, for men and African Americans, the rates are considerably higher (144.1 and 145.1, respectively). All of these rates fail to meet the HP2020 target of 103.4 deaths per 100,000 population. • *Stroke*: Stroke mortality rates in the county (32.1/100,000) are below both Texas rate (42.6/100,000) and the HP2020 target of 34.8/100,000. However, the mortality rate in Hispanics (35.8/100,000) failed to meet the HP2020 goal.	 

• *Diabetes:* Diabetes death rates in the county, at 11.2/100,000 are half the state rate of 22.0/100,000 and far below the HP2020 target of 66.6/100,000. • *Blood Pressure and Cholesterol*: In the county, 27.2% of adults have high blood pressure, whereas 35.4% have high cholesterol. Although both percentages are lower than the state (30.0% and 41.8% respectively), they still fail to meet the HP2020 goals of 26.9% and 13.5%.	 
Mental Health & Substance Abuse • *Quality of Life*: Adults in the county reported an average of 2.8 poor physical health and 2.1 poor mental health days in the past 30 days, while adults in Texas reported an average of 3.7 days and 3.3 days respectively. There is no HP2020 goal for this metric. • *Intentional Self Harm (Suicide)*: Suicide rates have increased 34.8% since 2005 in the county, with 12.0/100,000 in the most recent five-year period. The rate is also greater than the state rate of 11.6/100,000. For men, the rate is 18.9/100,000, and for non-Hispanic whites, 17.5/100,000. This is an important issue in the county and fails to meet the HP2020 target of 10.2/100,000. • *Substance Abuse/Tobacco*: A smaller percentage of adults in Williamson County (10.7%) smoke cigarettes than in Texas (16.5%). The county meets the HP2020 target of 12.0% • *Substance Abuse/Alcohol:* The percentages of adults that drink excessively in the county (14.9%) and in Texas (15.8%) are similar. The county meets the HP2020 target of less than 25.4% of adults drinking excessively in the previous 30 days.	   
Maternal and Child Health • *Low Birth Weight*: The percentage of Williamson County babies born with low birth weight has been increasing for the last decade, with 7.2% of live births. The state percentage is 8.4%. As a whole, the county met the HP2020 target of 7.8%, but at 13.0% African American infants were disproportionately affected by low birth weight and did not meet the HP2020 goal. • *Prenatal Care*: The county's overall percentage of mothers who received early prenatal care in the first trimester was 79.6%, which exceeded the HP2020 goal of 77.9%. However, when stratified by race and ethnicity, non-Hispanic whites exceeded the goal at 83.9% but African American (71.6%) and Hispanic populations (70.6%) were somewhat lower. • *Infant Mortality:* The county's infant mortality rate was 4.8/1,000 live births, which was lower than the state's rate of 5.9/1,000. Both were lower than the HP2020 target of 6.0 deaths per 1,000 live births even when stratified by race/ethnicity. However, insufficient data were available for African American and Other racial and ethnic groups to determine if a disparity might exist. At the state level, African Americans have nearly double the infant mortality (11.5/1,000 versus 5.9/1,000).	  
Obesity, Overweight, & Healthy Eating • *Obesity:* The percentage of obese residents in Williamson County has increased over time from 21.2% in 2004 to 28.5% in 2012, which now exceeds the state percentage of 28.2%. However, this still meets the HP2020 target of 30.5% or fewer obese adults. Disturbingly, the incidence of childhood obesity is also increasing. • *Overweight:* An astounding 40.3% of 10 adults in the county are overweight, which significantly exceeds the average percentage in Texas (35.5%). Combined, overweight and obese account for 68.8% of Williamson County residents, leaving 31.2% at a healthy weight. This is below the HP2020 goal of 33.9% at a healthy weight.	 

• *Healthy Eating:* In the county, 74.4% of adults do not consume enough fruits and vegetables, which is below the state average of 76.2%. Hispanic adults had an even higher percentage of adults with inadequate consumption of fruits and vegetables (85.7%). In addition, food deserts are located in census tracts near Jarrell, Bartlett, Granger, Taylor, Round Rock, and Georgetown. There is no HP2020 goal for this metric.	
Active Living • *Physical Activity:* The number of adults participating in leisure time physical activity has improved over time from a high of 20.7% in 2005 to 18.4% in 2012 which is nearly half the HP2020 goal of 32.6%. Williamson County has consistently had a lower percentage of physically inactive adults than the state, which averaged 24.0% in 2012. • *Environment:* In 2013, 9.5 recreation and fitness facilities existed for every 100,000 population as compared to 7.7 facilities for every 100,000 population in Texas. Williamson County has consistently had more facilities per capita than the state since at least 2008. There is no HP2020 goal for this metric.	 
Infectious Diseases • *Chlamydia and Gonorrhea*: Despite reported incidence rates for chlamydia (335.2/100,000) and gonorrhea (67.2%) being lower than in Texas (475.0 and 127.7/100,000), these rates have risen steadily since 2007. These sexually transmitted infections appear to disproportionately affect women and African Americans (490.7 and 615.2 per 100,000 population, respectively). There is no HP2020 goal for this metric.	

Health Disparities

HP2020 defines a health disparity as "a type of health difference that is closely linked with social, economic, and/or environmental disadvantage." Health disparities can be understood and identified by examining factors such as race and ethnicity, gender, age, socioeconomic status (SES), disability status, mental health, or geographic location and characterizing how their complex interactions affect individual and population health. The following key factors from the CHSA that have the potential to lead to health disparities:

- Socioeconomic Status
  - There is a small but significant proportion of households with low incomes; 14.1% of households in the county earns less than $34,999 per year.
  - African Americans have slightly lower median household incomes compared to non-Hispanic whites ($69,180 versus $74,260). Asian Americans do better than non-Hispanic whites ($102,713 versus $74,260), and Hispanics have the lowest median household incomees at $59,192. Both Hispanics and African American households earn less than the average median household income in the county.
  - The neighborhoods with the lowest median household incomes are located in Taylor. Three census tracts in Taylor, one in Cedar Park, one in Round Rock, and one in Georgetown have the highest concentrations of families living below poverty.

- Geographic Distribution
  - The interstate highway 35 (IH-35) separates the county into distinct east and west health profiles. Individuals living east of IH-35 tend to have lower SES, are more likely to be African American or Hispanic, and have worse health outcomes. Individuals living west of IH-35 tend to have higher SES, be non-Hispanic whites, and have improved health outcomes. Asian Americans tend to live west of IH-35 and are concentrated near the southern areas of the county.
  - Williamson County residents living in cities located in rural areas such as Liberty Hill, Florence, Jarrell, Bartlett, Granger, Taylor, Thrall, Thorndale, and Coupland tend to have worse health outcomes, issues with transportation and health care access, and lack of resources. Additionally, these residents have a higher percentage of babies born with low birth weight, reduced access to health insurance, and environments that are less conducive to better health (such as food deserts).
- Demographics (Race/Ethnicity, Age, and Gender)
  - African Americans have the highest mortality rates for diabetes, cancer, heart disease, and stroke. By contrast, non-Hispanic whites have higher mortality rates for lung disease, suicide, and unintentional injuries.
  - Males tend to have worse health outcomes than females; they also have higher mortality rates for most health issues and conditions.

Key Findings - Community Themes and Strengths Assessment

While the Community Themes and Strengths Assessment (CTSA) revealed many positive aspects and an overall positive perception of quality of life in Williamson County, it also identified areas for improvement.

Throughout this assessment process, the CHA Team engaged with key leaders, a wide variety of community stakeholders, a youth population, a Spanish speaking population, an elder population, and both urban and rural residents. These diverse populations shared perceptions of their communities and the county as a whole. According to the data collected the most important values Williamson County residents hold are family, health, transportation, safety, leadership and community connection, employment, and recreation opportunities. The assessment also looked at the issues that most affected quality of life in Williamson County. Residents were most concerned with:

- Access to Healthcare
- Affordable Childcare
- Awareness of Resources
- Barriers to Healthy Lifestyles
- Affordable Housing
- Transportation Issues
- Access to Bilingual Resources

Our residents and stakeholders listed a variety of resources as important assets for improving health and quality of life of residents, including the robust network of nonprofit organizations, faith-based organizations, the growing healthcare system, the network of school districts and higher education campuses, parks and recreation, and the business community. The CTSA process revealed multiple ways to leverage existing resources and gave a comprehensive understanding of the perceptions of values, concerns and assets in the county. While most acknowledged the many challenges that lay ahead, the community members, stakeholders, and leaders in this assessment anticipate improvements in the health and wellness where they live, work, worship, play, or learn in Williamson County.

Key Findings - Forces of Change Assessment

The Forces of Change Assessment (FoCA) identified the external factors that affect the environment in which the Williamson County public health system operates and the challenges and opportunities created by these factors. Focus group participants identified six forces of change. Within each of these focus areas, participants identified specific challenges and opportunities that each of these forces creates for the local public health system. The main force of change identified through this assessment was the growth of Williamson County and its impacts on the population and all levels of infrastructure. Other forces of change that are significant in the county are:

- Demographic changes;
- Role of technology;
- Changes in access to healthcare;
- Increasing need for community preparedness; and
- Economic changes.

Key Findings - Local Public Health System Assessment

The Local Public Health Systems Assessment (LPHSA) was a useful process for the participants, which included key leaders from WCCHD and WWA. Through facilitated discussions, participants prioritized and rated services provided by the local public health system in Williamson County. These findings will be used to improve the local public health system's provision of the Ten Essential Public Health Services through the implementation of the short- and long-term improvement recommendations from participants.

<u>Recommendations based on the assessment:</u>

- Increase community dissemination and promotion of the CHA
- Incorporate outreach and external communications as a core component of Disease Control and Prevention to increase awareness among medical providers
- Increase inclusion and coordination in preparedness planning across all WCCHD divisions
- Develop health district-wide community partner contact list
- Establish process for identifying key constituent partners in the community
- Re-engage the WWA through identifying and recruiting key stakeholders, and robust facilitation of the community and working groups
- Re-assess the structure of the WWA and set WWA goals at the policy, systems, and environmental level

Key Findings - Health Priority Survey

The CHA process provided comprehensive understanding of the perceptions of values, concerns and assets in the county, as well as the external factors affecting the ability of these issues to be addressed through the local public health system. The CHA Team solicited input from the community and determined a list of possible health priorities based on the results of all of the assessments.

THE TOP FIVE HEALTH PRIORITIES FOR WILLIAMSON COUNTY IN 2016 WERE:

1. **Mental Health:** prevention, support and treatment for mental illness;
2. **Access to Healthcare:** making basic, affordable healthcare available to all residents;
3. **Awareness of Healthcare Resources:** increasing the available information and communication channels for resources in the county;
4. **Active Living:** resources, access, and awareness for physical activity opportunities; and
5. **Chronic Disease:** prevention, treatment, and management of chronic diseases.

Conclusions

Through the review of primary and secondary data, this CHA provides a snapshot into the health and quality of life of Williamson County residents. Though the county consistently ranks among the healthiest in Texas, data consistently follow demographic, social, and economic patterns that reveal health disparities across the county. These results will be used to develop a Community Health Improvement Plan to address the top issues in Williamson County.

This collaborative effort will be the common agenda the county will use to improve the health of all residents. Additionally, this assessment and recommendations can be used in the development of the following:

- Community health changes and trends
- Hospital based community benefit plans
- Organizational strategic planning
- Evidence base for grant applications

Williamson County and Cities Health District, the WilCo Wellness Alliance, and our community partners hope this assessment will increase engagement in supporting the health of the people of Williamson County.

Introduction

Many factors shape the health of a community. The concept of social determinants of health captures the complex, integrated, and overlapping social structures and economic systems that are responsible for many health inequities. These social structures and economic systems include the social environment, physical environment, health services, and structural and societal factors. Social determinants of health are shaped by the distribution of money, power, and resources throughout the community (1). The five major categories of health determinants are genetics, behavior, social circumstances, environmental and physical influences, and medical care (2). To improve the health and quality of life of a community, it is necessary to address not only the multiple social determinants of health, but also to move from a focus on sickness and disease to one based on prevention and wellness.

Sustained and broad community involvement is necessary to address the strategic health issues within the community and the solutions, like the issues, require the resources of multiple agencies and individuals. This shared ownership of community health among diverse stakeholders offers better mobilization and utilization of resources to achieve improvement. The first step in this community health improvement process is the Community Health Assessment (CHA).

The CHA is designed to:

1. Collect, analyze, and use data to educate and mobilize communities, develop priorities, gather resources, and plan actions to improve population health, and
2. Provide a foundation of data to be used for evidence-based goal setting and decision making (3).

Williamson County CHA

The Williamson County and Cities Health District (WCCHD) led this CHA effort in collaboration with strong community partners including the WilCo Wellness Alliance (WWA), Baylor Scott & White Health, Opportunities for Williamson and Burnet Counties, Seton Healthcare Family, and the St. David's Foundation.

The goals of the Williamson County CHA are to:

1. Identify existing and emerging community health needs;
2. Identify strengths and assets that are available to improve health;
3. Determine key issues that affect quality of life;
4. Understand key forces of change that are or will be influencing health in the community;
5. Evaluate the local public health system and determine priorities for improving provision of the Ten Essential Public Health Services; and
6. Identify top health priorities for future health improvement efforts.

The Mobilizing for Action through Planning and Partnerships Framework

The Mobilizing for Action through Planning and Partnerships (MAPP) framework from the National Association of County and City Health Officials (NACCHO) is a proven, systematic, and outcome-oriented process for the ongoing engagement of community stakeholders. MAPP provides a method to help communities prioritize public health issues, identify resources available, and take action. The 2016 Williamson County CHA Team used this process to provide an update to the 2013 report.

MAPP includes four assessments, each of which offers important information for improving community health (4). Taken as a whole, the four assessments provide a comprehensive understanding of the health of the community. The four assessments are:

- The Community Health Status Assessment (CSHA) identifies priority health issues in the community and looks at health outcomes and health behaviors. Questions answered by this assessment include "How healthy are Williamson County residents?" and "What does the health status of our community look like?"

- The Community Themes and Strengths Assessment (CTSA) identifies important issues in the community and answers the questions "What is important to our community?" and "What assets do we have that can be used to improve community health?"

- The Forces of Change Assessment (FoCA) identifies factors that affect the context of the community such as legislation, technology, and other changes. The assessment answers the question "What is occurring or might occur that affects the health of our community or the local public health system?"

- The Local Public Health System Assessment (LPHSA) looks at the organizations and agencies that constitute the local public health system and answers the questions "What are the components, activities, competencies, and capacities of the local public health system?" and "How are the Ten Essential Services being provided to the community?"

Methods

The Williamson County CHA Team used both quantitative and qualitative data from primary and secondary data sources to compile the four MAPP assessments and determine health priorities. Significant secondary data sources included:

- American Community Survey (ACS)
- Area Health Resource File (AHRF)
- Behavioral Risk Factor Surveillance System (BRFSS)
- Centers for Disease Control and Prevention Wide-ranging Online Data for Epidemiologic Research (CDC WONDER)
- Center for Medicare & Medicaid Services (CMS)
- County Business Patterns (CBP)
- Dartmouth College Institute for Health Policy & Clinical Practice
- Feeding America
- National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)
- National Vital Statistics System (NVSS)
- Nielsen Claritas and SiteReports
- Safe Drinking Water Information System (SDWIS)
- Surveillance, Epidemiology, and End Results Program State Cancer Profiles (SEER SCP)
- Texas Department of Family and Protective Services CPS
- Texas Department of State Health Services (DSHS)
- Texas Education Agency (TEA)
- Texas Office of the State Demographer (OSD)
- Uniform Crime Reporting – FBI
- U.S. Census Bureau (Census)
- U.S. Department of Agriculture (USDA)

Stakeholder Focus Groups and Key Informant Interviews

In September 2015, WCCHD and the WWA hosted the Health Education Summit at Texas A&M Health Science Center in Round Rock. The purposes of the event were to:

- Increase capacity of local professionals to engage in effective health education and promotion activities;
- Strengthen multi-sector collaboration for evidence-based improvements in health policies, programs and environments;
- Explore innovative practices aimed at improving health behaviors, health equity, and health policies in Williamson County; and
- Serve as the Annual Fall Meeting for the WWA.

Truven Health Analytics was contracted by Baylor Scott & White to lead eight focus groups with questions modeled after standards from NACCHO. Participants in the focus groups represented multiple sectors in the community: healthcare, local government, school districts, non-profit, higher education and business. Appendix E contains the full results from these focus groups. Truven Health Analytics also conducted key informant interviews with community leaders.

Community Member Focus Groups

In October 2015, WCCHD conducted four focus groups in locations across Williamson County to obtain public feedback regarding health perceptions of the community. Specifically, the focus groups included participants from pre-identified priority populations across the four geographic areas of the county (North, South, East, and West). WCCHD collaborated with the Literacy Council of Williamson County, Taylor Independent School District (ISD), Good Life Taylor, Opportunities Bagdad Head Start and Opportunities Round Rock Head Start to identify and recruit participants at risk for social, economic, and/or environmental disadvantage and of varying age, sex, and race/ethnicity. The specific aim for choosing these subgroups was to identify key health issues and perceptions from populations where resources may be most needed and strategically utilized in the future. The purpose of the focus groups was to gather information from community members about the community they live in and the factors that impact quality of life, community assets and strengths, forces of change, and health priorities.

One community focus group was held in each of the four geographic areas of Williamson County:

- North Williamson County (Georgetown, Florence, Jarrell, Weir)
- South Williamson County (Round Rock, Hutto)
- East Williamson County (Taylor, Bartlett, Granger, Coupland, Thrall)
- West Williamson County (Cedar Park, Leander, Liberty Hill)

Each focus group was approximately two hours in length and conducted in English (three groups) or Spanish (one group). Each focus group included one facilitator and one scribe from WCCHD or the community. All discussions were audio recorded to ensure that information was captured correctly and completely. The facilitators guided each discussion with the same script modeled after standards from the NACCHO (provided in Appendix F). Participants attended the focus groups on a voluntary basis and consented to participate. Each facilitator discussed with participants how feedback would be used confidentially to identify health priorities across the county. Parental consent forms were obtained for participants under the age of 18. WCCHD staff analyzed responses using WCCHD scribe notes and transcribed audio recordings.

Local Public Health Systems Assessment

The LPHSA was completed in two rounds, first with the WCCHD District Leadership Team (DLT) and then with the WWA Leadership Team.

In October 2015, the WCCHD DLT completed the Priority of Model Standards questionnaire online (Appendix G) and components of the Local Public Health System Performance Assessment Instrument (Appendix H) during a two-hour discussion facilitated by the Director of Public Health Initiatives and Planning (PHIP) at WCCHD. Eleven participants were present for the assessment and represented the following Divisions:

- Administration
- Clinical Services
- Disease Control and Prevention
- Environmental Health Services
- Information Technology
- Public Health Initiatives and Planning
- Social Services
- Women, Infant and Children (WIC) Program

Participants in the WCCHD DLT meeting used the Socrative mobile device polling application to respond to each of the questions in the assessment. The application calculated averages for the performance scores. The Model Standard scores were an average of the question scores within that Model Standard, Essential Service scores were an average of the Model Standard scores within that Essential Service, and the overall assessment score was the average of the Essential Service scores.

The following week, the WWA Leadership Team completed the same two tools online and during a two-hour discussion facilitated by the Director of PHIP at WCCHD. Eight members completed the survey and four were present for the assessment. Participants represented the following sectors:

- Hospitals
- Local government
- Non-profit organization
- School district

Participants from the WWA Leadership meeting used the facilitated discussion to arrive at a consensus regarding the status of the local public health system and their recommendations for priority areas and improvement.

As a result of these two rounds, the CHA Team had collected a detailed assessment of the local public health system based on the input of a diverse group of internal and external stakeholders with knowledge of the system.

Prioritization Process

To identify options for priorities, The CHA Team combined its data review with the information from stakeholder focus groups at Health Education Summit and community member focus groups, where the participants in each group were asked to come to a consensus on what they felt were the top health priorities for the county.

The CHA Team used the issues and ideas generated through the focus groups to develop a quantitative survey for community members and stakeholders to vote on the most critical priorities for Williamson County. The survey was sent to the entire 400+ membership of the WWA as well as additional community partners via email. The survey was open for responses from November through December 2015. The issues with the highest number of recorded votes will be addressed in the CHIP.

Limitations

The nature of available data sources was the largest limitation to the CHSA. The process of data collection, aggregation, and publication by myriad sources prevents access to comprehensive, up-to-the-minute data for the CHSA. For some health indicators, the available data can be several years old and may no longer be representative of the community. For some data, local details concerning socioeconomic, demographic, or geographic distribution were not available, which limited the ability of the analysts to measure the impact of those factors on health statuses. Additionally, significant health events can occur in small numbers and hamper the ability of the analysts to conduct meaningful subgroup analyses by race, ethnicity, or language.

The process of securing focus group participants for the CTSA and FoCA also proved to be challenging. Participants were recruited by members of the WWA, as opposed to random selection. This sampling method can introduce selection bias into the results.

The CHA Team encouraged participation from multiple stakeholders in the focus groups, but some representatives were missing from the process including those from the business community, media, health insurance, and judicial institutions. The assessment format for the stakeholder focus groups (as one session in the Health Education Summit) may have precluded some participants, especially those in high profile or demanding roles, from engaging in the meetings. The time commitment may also have hindered the ability of some to participate due to lack of employer support or conflicting priorities. It is also possible that the group process deterred introverted individuals who prefer less interactive approaches.

The methodology for gathering inputs and the development of a response for each question in the LPHSA also incorporated an unavoidable element of subjectivity. In addition, there were differences in knowledge among the participants about the public health system. This may have led to some interpretation differences and issues for some of the questions, potentially introducing a degree of response variability.

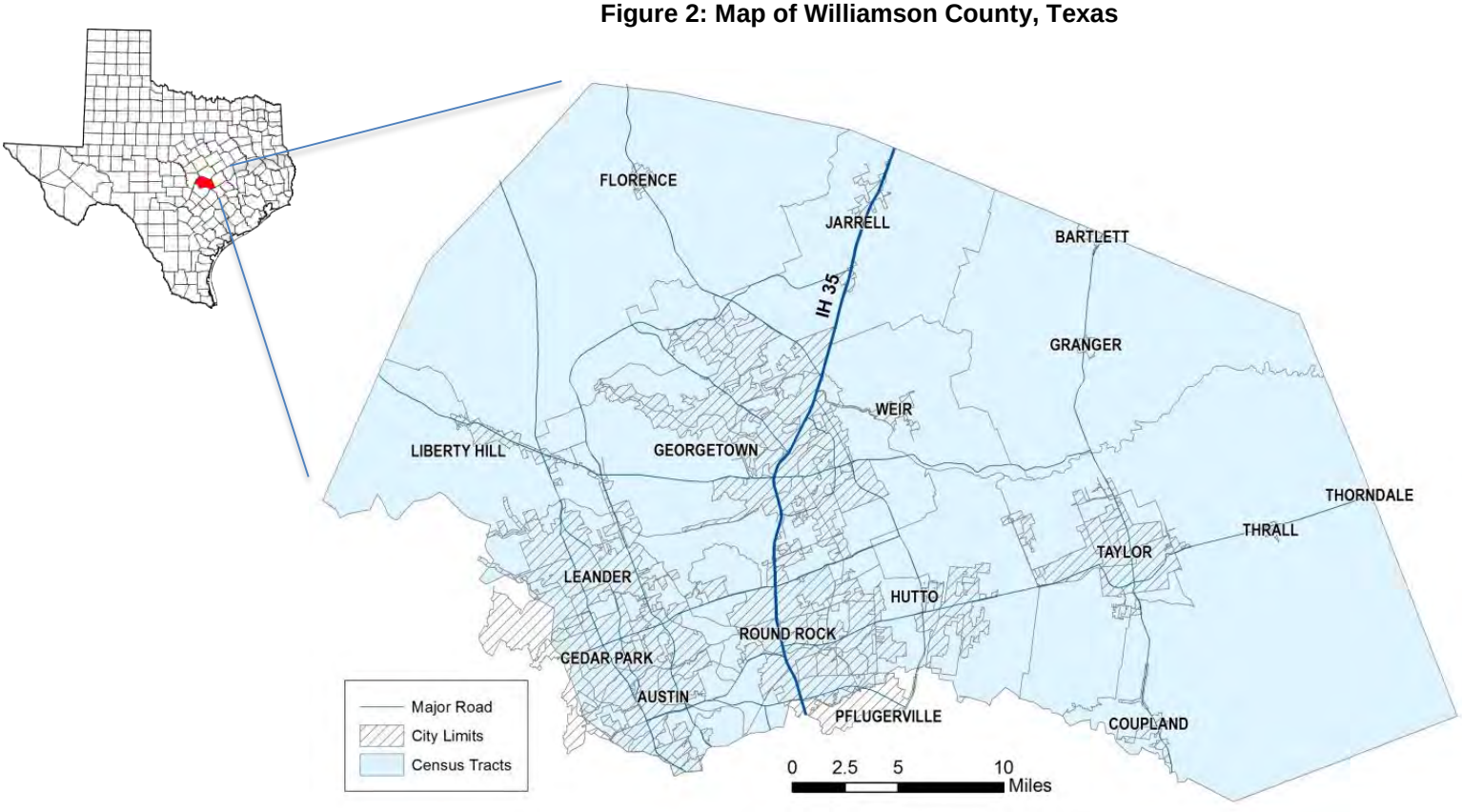
Community Description

Williamson County is a rapidly growing mid-sized county located in Central Texas just north of the state's capitol of Austin, which is located in Travis County **(Figure 1 and Figure 2).** Williamson is bounded by Burnet County to the West, Bell County to the North, Milam and Lee Counties to the East, and Travis and Bastrop Counties to the South. The state's capitol, Austin, is located just south of Williamson in Travis County. Austin's continued increase in population has impacted Williamson County, with greater and greater numbers of Williamson County residents commuting into Austin for work each day. However, Williamson County is an economic magnet in its own right, with major employers such as Dell, Sears Teleserv, Emerson, Round Rock Premium Outlets, Baylor Scott & White Healthcare, St. David's Round Rock Medical Center and Georgetown Hospital, Seton Medical Center Williamson, Cedar Park Regional Medical Center, Southwestern University, Texas A&M Health Science Center Round Rock, and TECO Westinghouse (5).

With a total estimated population in 2014 of 489,250 residents, the county has experienced dramatic population growth in the last decade. Demographic changes have accompanied the overall population growth, with large increases in Hispanic, Asian American, and aging populations **(Table 4 and Figure 5).**

Figure 1: Map of Texas Counties

Figure 2: Map of Williamson County, Texas



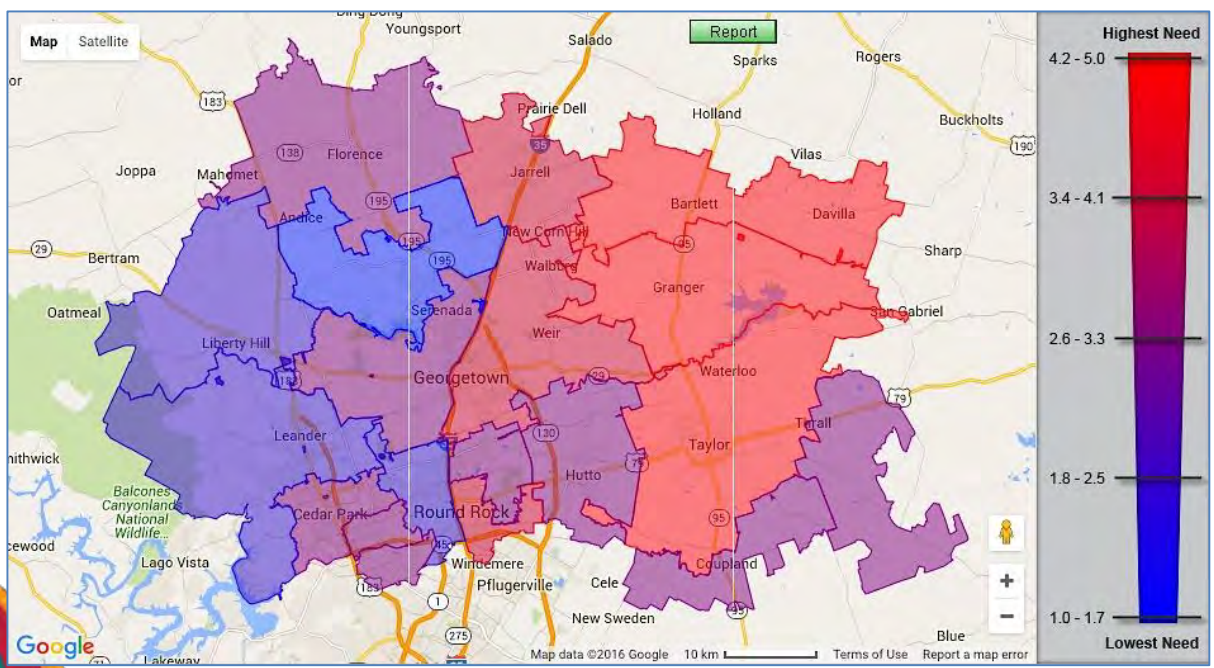
Note: Figure 2 produced by Disease Control and Prevention Division at WCCHD

Williamson County is wealthier and more educated than Texas as a whole **(Figure 14).** While the county continues to benefit from an abundance of high technology firms, including the corporate headquarters of Dell Incorporated, economic development efforts to diversify are evidenced by solid job growth in higher education, healthcare, manufacturing, and retail. The county's unemployment rate was 6.9% in 2014, which was lower than the Texas state average **(Table 6).**

As of 2016, Williamson County again ranked in the top three healthiest counties in Texas for the sixth consecutive year (6). Out of 241 ranked counties, Williamson County was third overall in health outcomes and third overall in health factors. While the county was in the top ten for health behaviors (#8), clinical care (#4), and social and economic factors (#3), the county was ranked 135th for physical environment.

Although the county income and educational attainment averages are higher than Texas as a whole, disparities in community healthcare needs exist within the county – mainly between the urban/suburban and rural areas. These disparities can be visualized using the Community Need Index (CNI) tool from Truven Health Analytics (7). The CNI score is an average of five different barrier scores that measure various socioeconomic indicators of each community, and is a strong indicator of a community's demand for various healthcare services. The elements that compose this indicator are income, cultural barriers, education, insurance, and housing. The map of the CNI for Williamson County, shown in **Figure 3**, identifies the high need areas of the county, which tend to be in the eastern, more rural area of the county. Williamson County has an average CNI score of 2.9 on a scale of one to five, with five representing areas of highest need. The CNI map provides zip-code level analysis of need. The healthcare and public health communities can use this information to determine geographic areas for targeted intervention.

Figure 3: Community Need Index in Williamson County by Zip Code



Data Sources: Truven Health Analytics, 2015; Insurance Coverage Estimates, 2015; The Nielson Company, 2015; Community Needs Index, 2015.

Community Health Status Assessment

This assessment aims to answer the following questions:

"How healthy are our residents?"

"What does the health status of our community look like?"

Overview

According to the WHO, health is a "state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." The Community Health Status Assessment (CHSA) is a comprehensive summary representing the aggregate disease burden and health status of Williamson County residents compared to the overall population of Texas and applicable Healthy People 2020 (HP2020) targets. HP2020 is the nationwide set of 10-year health promotion and disease prevention goals established by the United States Department of Health and Human Services (8). The CHA Team obtained data for the CHSA from the most recent available secondary data sources at the local, state, and national levels. Data sources are referenced in each section. The CHSA presents statistics and trends for various health indicators (guidelines used to determine the health status of a county or state) to identify both achievements and gaps in health status and health care availability among race, ethnicity, age, gender, or socioeconomic groups within the county. These data can be applied to determine strengths and key health issues to establish evidence-based planning and interventions across Williamson County.

The CHA Team derived the CHSA section content from the NACCHO MAPP framework "Core Indicator List," which divides indicators (data elements) into the eleven broad-based categories (C1-11). These categories served as a standardized guide to ensure the CHA Team analyzed the health status of Williamson County systematically through a strategic process.

The CHA Team identified health successes and challenges through the comparison and analysis of available data related to each category. Once the analysis was completed, the CHA Team summarized the potential impact of the indicators on the overall health status of the community.

The assessments that follow take an in-depth look at health, social, economic, and environmental indicators. These indicators, taken in conjunction with community needs projected for the future, will provide the evidence foundation to improve the health of Williamson County.

The CHSA addresses health indicators within the following categories adapted from the NACCHO MAPP framework "Core Indicator List" and will follow this organizational structure:

C1. Demographic Characteristics

C2. Socioeconomic Characteristics

C3. Health Resource Availability

C4. Quality of Life

C5. Behavioral Risk Factors

C6. Environmental Health Indicators

C7. Social and Mental Health

C8. Maternal and Child Health

C9. Death, Illness, and Injury

C10. Communicable Disease

C11. Sentinel Events

Strengths and Limitations

The purpose of this assessment is to provide a general snapshot of the current health of the community. A wide variety of health data is available at the county level, providing extensive evidence to support health improvement decision-making for those in the healthcare and public health communities who will use this document.

Although rich in variety and reliable by source, there are limitations to the data. Not all data sources could provide comprehensive, up-to-the-minute data for at the Williamson County-level. For all health indicators, the CHA Team sought the most recent data available for this assessment, even if from two or more years in the past. For some indicators, local data with details concerning socioeconomic, demographic, or geographic distribution did not exist, thus limiting the CHA Team's ability to measure the impact on health status from these influencing factors. Additionally, significant health events that occurred in small numbers restricted the ability to conduct meaningful analysis and/or identify disparities, especially for subgroups such as a specific race or ethnicity, or small geographic areas such as zip codes or census tracts.

Please note that for the purposes of this assessment, the non-Hispanic white population is referred to as "White", the non-Hispanic African American population is referred to as "Black", and Asian Americans as "Asian" in shorthand for graphs and figures. Hispanics, regardless of race, are noted as Hispanic although in Williamson County they are primarily Hispanic whites as defined by the U.S. Census.

C1. Demographic Characteristics

Population Growth

> *"I've been here almost 40 years. I was 16 when I got here. [Williamson County] was – very small. There weren't a lot of people. There are a lot of changes; a lot of people everywhere"* – Focus group participant

> *"Yes, a lot of people are coming from the outside. That's what I've noticed."* – Focus group participant

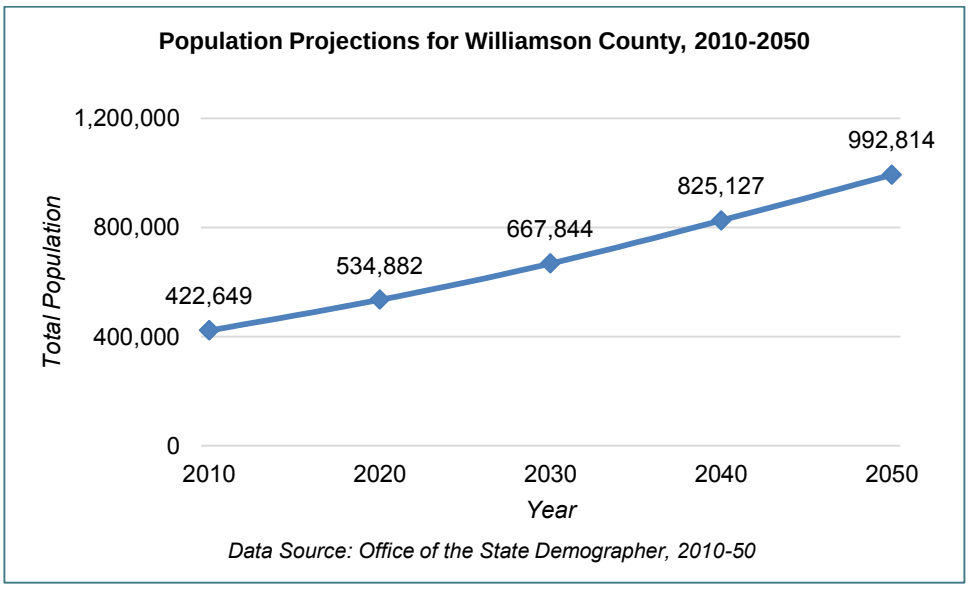
As noted in the Community Description, Williamson County is undergoing tremendous growth. Between 2010 and 2014, the county's population grew 15.8%, nearly double the population growth within Texas (7.2%). Cedar Park, Georgetown, Hutto, and Leander lead the county in growth, with increases between 3 and 4 times the state rate as shown in Table 1 below. The Office of the State Demographer predicts the county's population to double in size, reaching nearly 1 million residents by 2050 (Figure 4).

Table 1: Population Change in Williamson County and Texas, 2010-2050

Geographic Area	2010 Pop.[1]	2014 Pop.[1]	% Growth 2010-14*	2050 Pop.[2]
Texas	25,146,104	26,956,958	7.2%	40,502,749
Williamson County	422,649	489,250	15.8%	992,814
Cedar Park	51,743	63,574	22.9%	
Georgetown	47,455	59,102	24.5%	
Hutto	16,459	21,170	28.6%	
Leander	26,262	34,172	30.1%	
Round Rock	99,990	112,744	12.8%	
Taylor	15,281	16,483	7.9%	

*Notes: *Growth from April 1, 2010 to July 1, 2014*
Data Sources: [1] Census, 2014; [2] Office of the State Demographer, 2050

Figure 4: Population Projections for Williamson County, 2010-2050



The rapid growth in the county can place greater demands on the current healthcare and public health infrastructure as well as on community resources. For example, if population growth outpaces growth in health care providers, a shortage will occur and access to health care will be affected. In addition, rapid growth can lead to shifts in distribution of health conditions and diseases. Health resources and interventions should be systematically structured specifically in regards to culture, language, age, race, ethnicity, and language to accommodate the growing population. Health concerns and needs should be assessed by stakeholders on a recurring and consistent basis, which will be an ongoing challenge given the increasing demands of a growing and changing population.

Gender and Age Distribution

> *"[A] positive part of my life is coming to the senior center now. When we get a bigger one, it will be even more enjoyable, because a lot of people are getting turned away."*
> – Focus group participant

As of 2014, the gender distribution in Williamson County was similar to the overall gender distribution in Texas; slightly more females (50.8%) than males (49.2%) lived in the county (Table 2).

Table 2: Gender Distribution in Williamson County and Texas, 2014

Gender	Williamson County	Texas
Female	50.8%	50.3%
Male	49.2%	49.7%
Data Source: Census, 2014		

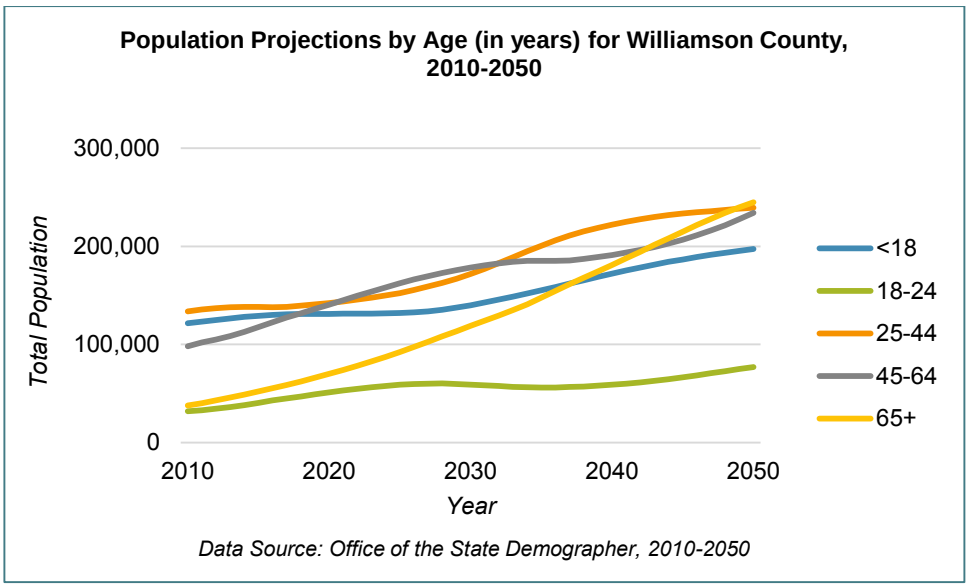
The relative proportion of the county's senior population is also rapidly growing. Figure 5 and Table 3 provide a breakdown of the age groups by percentage of the total. By 2050, residents aged 65 years and older are expected to be the largest age group in Williamson County (24.7%), with a larger proportion than the state as a whole (19.5%). By that time, projections show that one in four county residents will be at least 65 years of age. Projections also show the decreasing proportion of residents under the age of 24, with the percentage of those in the "less than 18 years" and "between 18 to 24 years" age groups shifting from 27.1% and 8.7% in 2014 to 19.9% and 7.7% in 2050, respectively.

Table 3: Age Distribution in Williamson County and Texas, 2014 and 2050

Age	2014[1]		2050*[2]	
	Williamson County	Texas	Williamson County	Texas
Median	34.6	33.8	--	--
Under 18	27.1%	26.4%	19.9%	22.7%
18 to 24	8.7%	10.2%	7.7%	9.0%
25 to 44	29.0%	27.5%	24.1%	25.7%
45 to 64	24.5%	24.2%	23.6%	23.1%
65 and over	10.7%	11.7%	24.7%	19.5%
*Notes: * Population Projections: 0.5 Migration Rate* *Data Sources: [1]Census, 2014; [2]Office of the State Demographer, 2050*				

According to the Centers for Disease Control and Prevention (CDC) report on The State of Aging and Health in America, two out of every three older Americans have multiple chronic conditions (9). The projected sharp increase in the older population and potential for increased prevalence of chronic diseases in Williamson County will increase the need in the future for resources in advance care planning and chronic disease management. In addition, healthcare and quality of life-associated resources will be needed to meet the challenges presented by an aging population (9).

Figure 5: Population Projections by Age (in years) for Williamson County, 2010-2050



Race/Ethnicity Distribution

> *"Personally, I've seen a lot of changes in Georgetown because when I got here, there weren't a lot of Hispanics living here in Georgetown. There wasn't a lot of information for Hispanics, or perhaps it was that I like didn't know much or didn't know, or wasn't more informed. So, I think that we do need more information; [to be] more informed of what there is."* – Focus group participant

Rapid population growth has brought with it an influx of diverse individuals into Williamson County, and this increased diversity will lead to shifting demographic trends in health status. As shown in Table 4 on the next page, the largest racial and ethnic group in Williamson County in 2014 was non-Hispanic whites (62.3%) followed by Hispanics (23.8%), Others (7.3%), African Americans (6.7%), Asian Americans (5.6%), American Indians/Alaskan Natives (0.9%), and then Native Hawaiians/Pacific Islanders (0.1%). Figure 6 provides a chart of these strata. When compared to Texas, the county has a higher percentage of non-Hispanic white and Asian American populations and a smaller percentage of Hispanic and Black/African American populations.

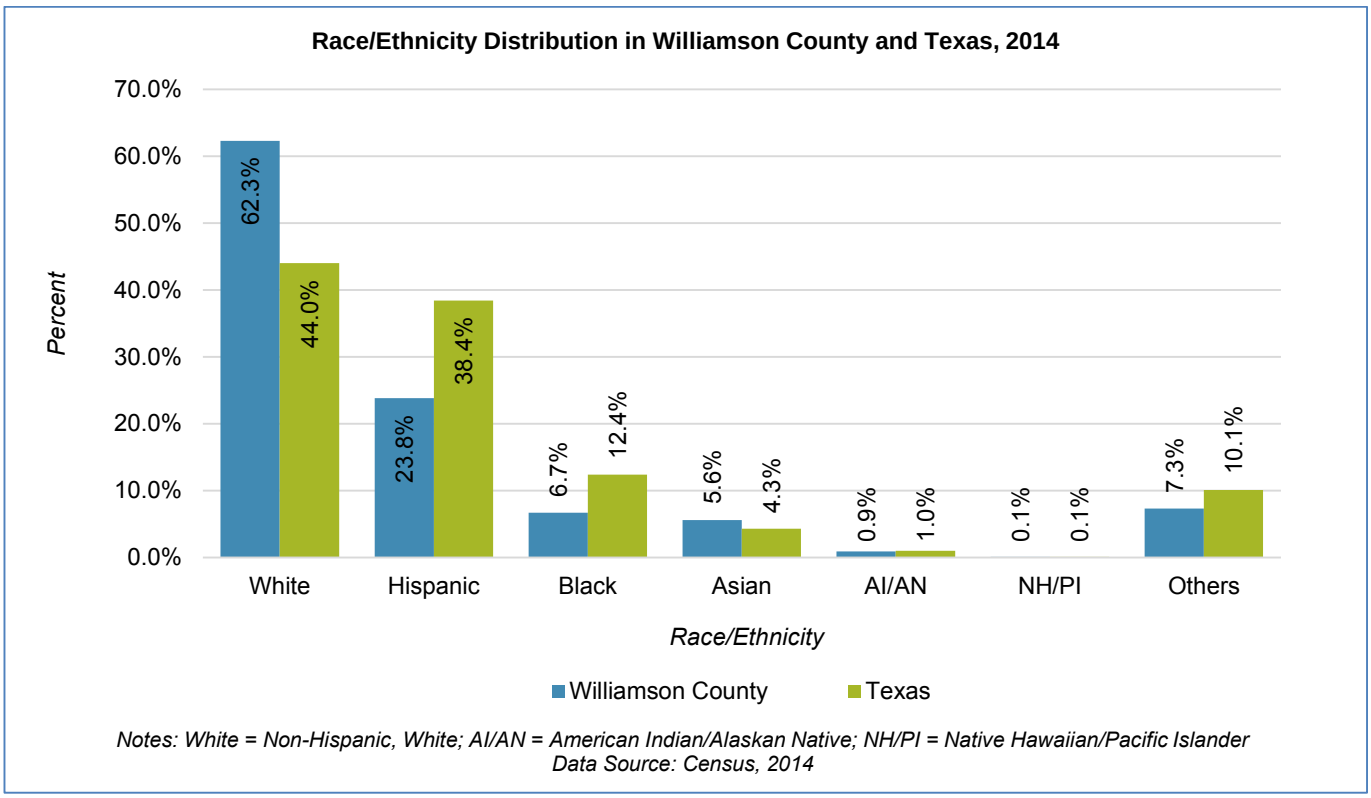
In addition, there are conditions and risk factors such as obesity and diabetes that may disproportionately affect some Hispanic populations (10), and the impact of these conditions and risk factors should be considered by those undertaking any future health improvement strategies.

Table 4: Race/Ethnicity Distribution in Williamson County and Texas, 2014 and 2050

Race/Ethnicity	2014[1]		2050*[2]	
	Williamson County	Texas	Williamson County	Texas
Non-Hispanic white	62.3%	44.0%	42.1%	27.8%
Hispanic	23.8%	38.4%	40.7%	53.1%
Black/African American	6.7%	12.4%	6.3%	10.0%
Asian American	5.6%	4.3%	N/A	N/A
American Indian/Alaskan Native	0.9%	1.0%	N/A	N/A
Native Hawaiian/Pacific Islander	0.1%	0.1%	N/A	N/A
Others	7.3%	10.1%	N/A	N/A

*Notes: * Population Projections: 0.5 Migration Rate; N/A: Population projects not available for following races.*
Data Sources: [1] Census, 2014; [2] Office of the State Demographer, 2014 and 2050

Figure 6: Race/Ethnicity Distribution in Williamson County and Texas, 2014



Notes: White = Non-Hispanic, White; AI/AN = American Indian/Alaskan Native; NH/PI = Native Hawaiian/Pacific Islander
Data Source: Census, 2014

In the county, 53.2% of persons younger than 18 years are non-Hispanic white, while Hispanic children account for 30.8% of the total number of children (Figure 7 and Figure 8). The Hispanic population in the county is expected to increase to nearly match the non-Hispanic white population (40.7% versus 42.1%) by 2050. Future resources and initiatives will be needed to accommodate the growing Hispanic population in the county.

Figure 7: Ethnicity Distribution of Children Under 18 in Williamson County and Texas, 2014

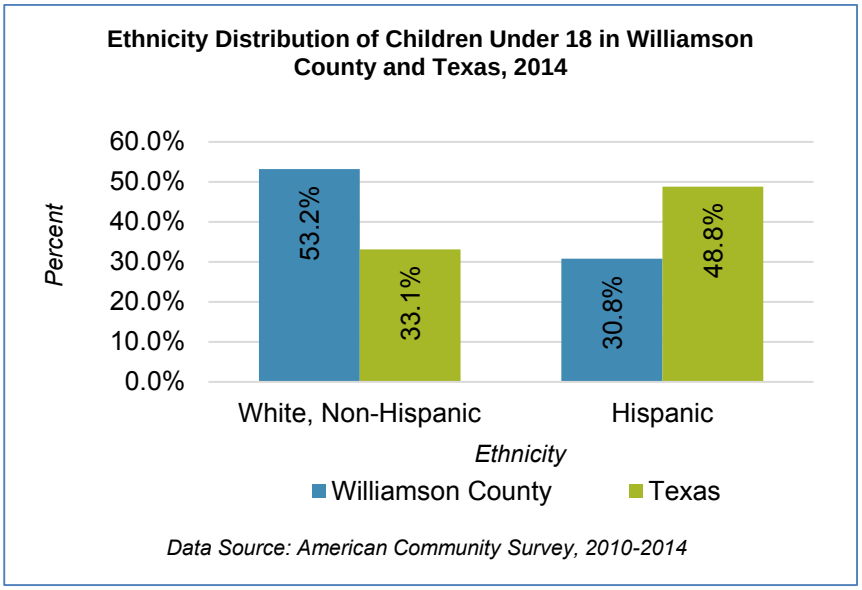
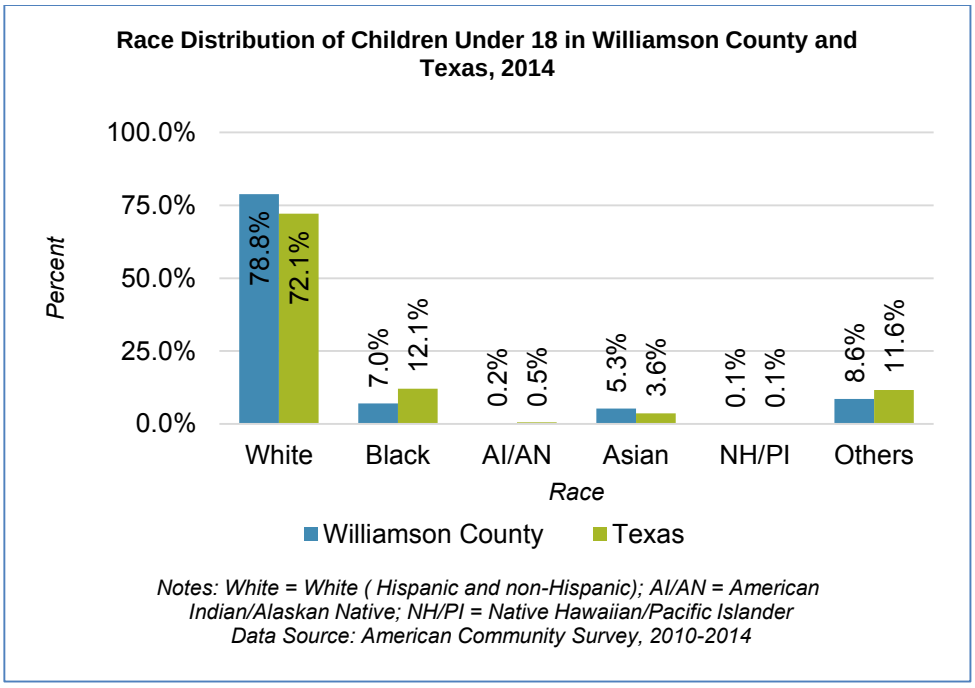
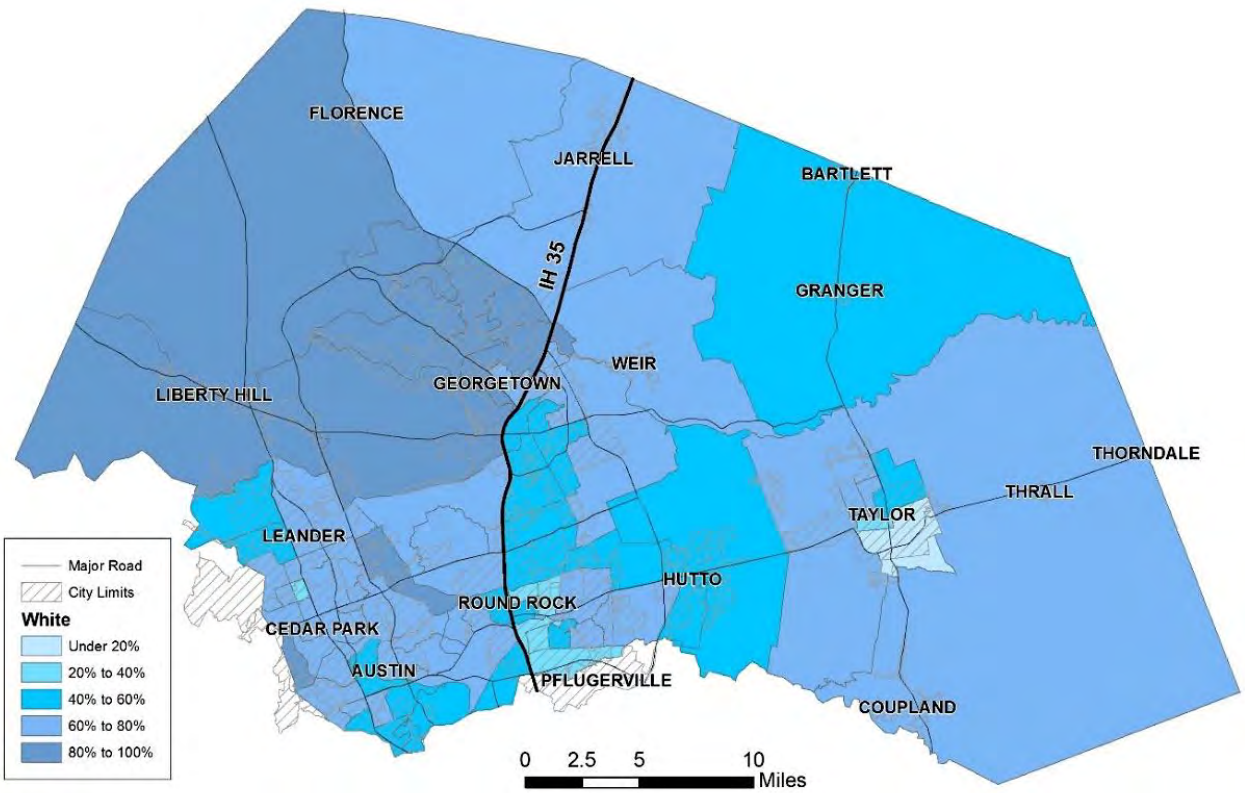


Figure 8: Racial Distribution of Children Under 18 in Williamson County and Texas, 2014



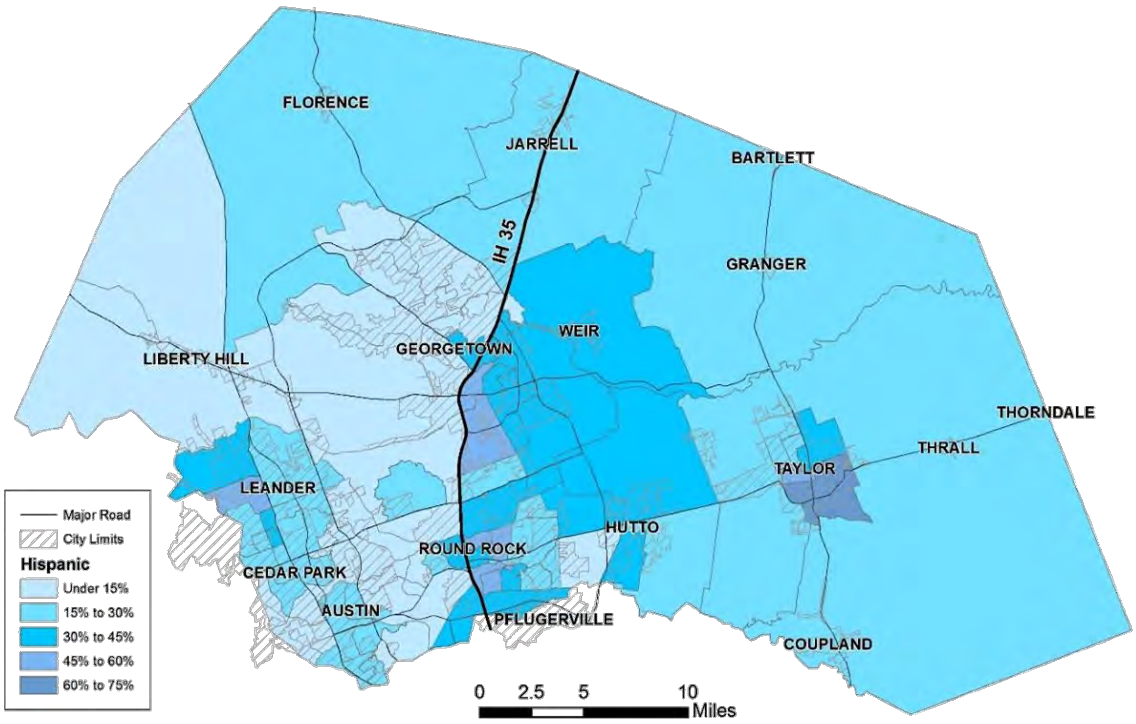
The geographic distributions of racial and ethnic groups throughout Williamson County are shown in the following figures. The percentages of non-Hispanic whites (Figure 9), Hispanics (Figure 10), African Americans (Figure 11), and Asian Americans (Figure 12) are mapped across the county by census tracts. Census tracts are small and relatively permanent statistical subdivisions of the county with between 1,200 and 8,000 residents. Interstate Highway 35 (IH-35), a major north-south interstate highway, divides the county's geography approximately in half. The interstate is the thick black line on figures 9-12. The largest concentrations of non-Hispanic whites live west of IH-35, with Asian Americans living southwest of the interstate near Austin, Cedar Park, and Round Rock. African Americans and Hispanics mostly live east of the interstate.

Figure 9: Distribution of Non-Hispanic whites by Census Tract in Williamson County, 2010-14



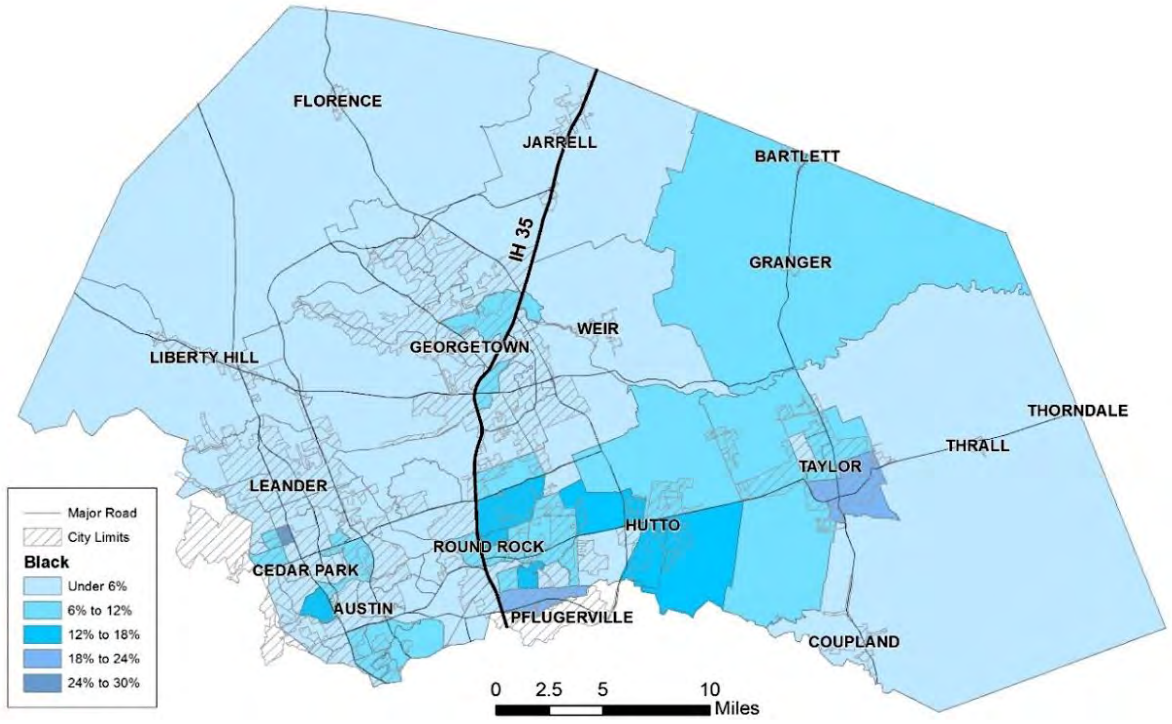
Note: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District.
Data Source: U.S. Census Bureau 5-Year American Community Survey, 2010-2014

Figure 10: Distribution of Hispanics by Census Tract in Williamson County, 2010-2014



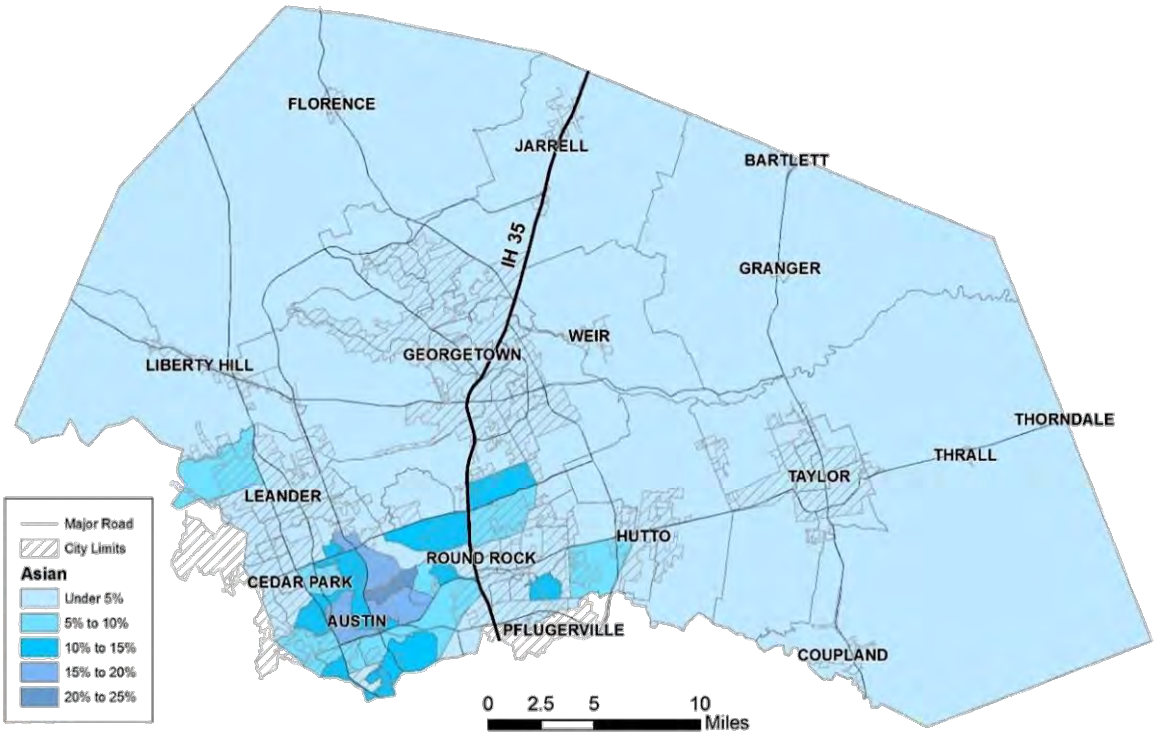
Note: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District.
Data Source: American Community Survey, 2010-2014

Figure 11: Distribution of African Americans by Census Tract in Williamson County, 2010-2014



Note: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District.
Data Source: American Community Survey, 2010-2014

Figure 12: Distribution of Asian Americans by Census Tract in Williamson County, 2010-2014



Note: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District.
Data Source: American Community Survey, 2010-2014

Language Spoken at Home

Compared to Texas, Williamson County has more residents older than five years of age who only speak the English language at home (Table 5). 79.3% of residents in the county speak only English at home, as compared to about 65.1% in Texas. A majority of residents in the county who speak a language other than English at home speak Spanish (14.6%). Language barriers can prevent access to health care such as knowledge of information about resources. Similarly, a lack of information about the provision of culturally-appropriate care for other racial and ethnic groups can prevent the accurate assessment of the health status of individuals.

Table 5: Language Spoken at Home (Ages 5 and Over) in Williamson County and Texas, 2010-2014

Indicator	Williamson County	Texas
English Only	79.3%	65.1%
Language other than English	20.7%	34.9%
Spanish	14.6%	29.5%
Data Source: American Community Survey, 2010-2014		

C2. Socioeconomic Characteristics

Socioeconomic characteristics are indicators that describe individual or population economic status, work status, and social status. Economic status is measured by how much money a person earns each year. Work status is measured by whether a person has a job. Social status is measured by how many years a person spent in school (11). When measured together, these three indicators estimate socioeconomic status (SES). Research shows that individuals or populations with higher SES have better levels of health and health outcomes (12).

Economic Status - Median Household Income

> *"[The] cost of living that the elderly and people with families that are just starting out; or even for the kids that are just getting out of college, can't afford to live in this community. [How] are you going to have a community if you're just basically narrowing it down to almost, it seems like, to where only the upper class can almost live?"* – Focus group participant

As was stated in the Community Description, Williamson County is relatively affluent when compared to Texas; the median household income of the county is $73,286, more than $20,000 higher than the state's median household income. At the subgroup level, the median income for each racial and ethnic group is also higher than each subgroup's median income in Texas. The non-Hispanic white ($74,260) and Asian American ($102,713) populations earn above the Williamson County total median household income. The Hispanic ($59,192) and African American ($69,180) populations earn below the total median household income of the county, but still earn above the median for the state as a whole (Figure 13 and Figure 14).

Figure 13: Median Household Income by Ethnicity in Williamson County and Texas, 2015

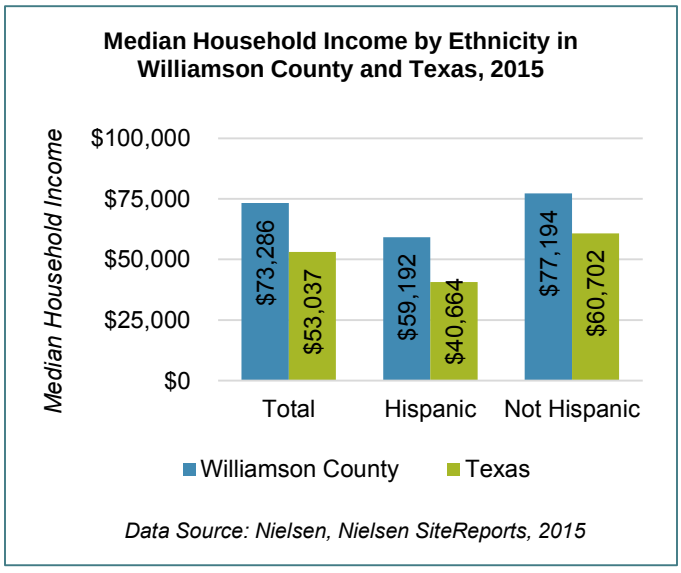
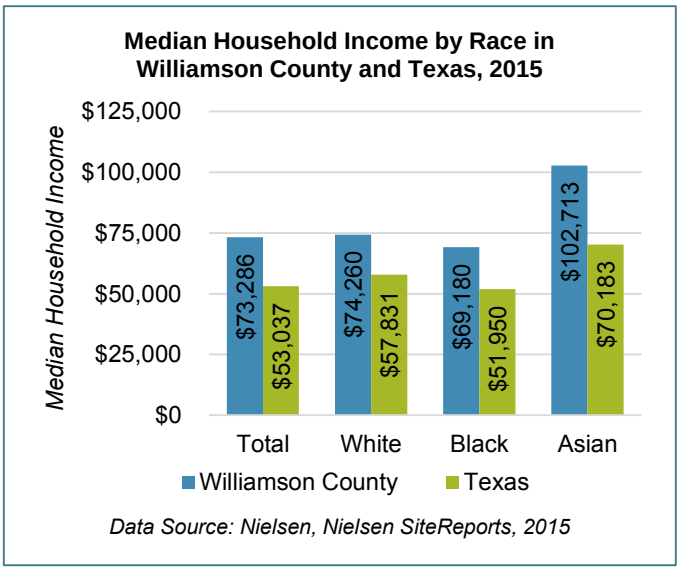
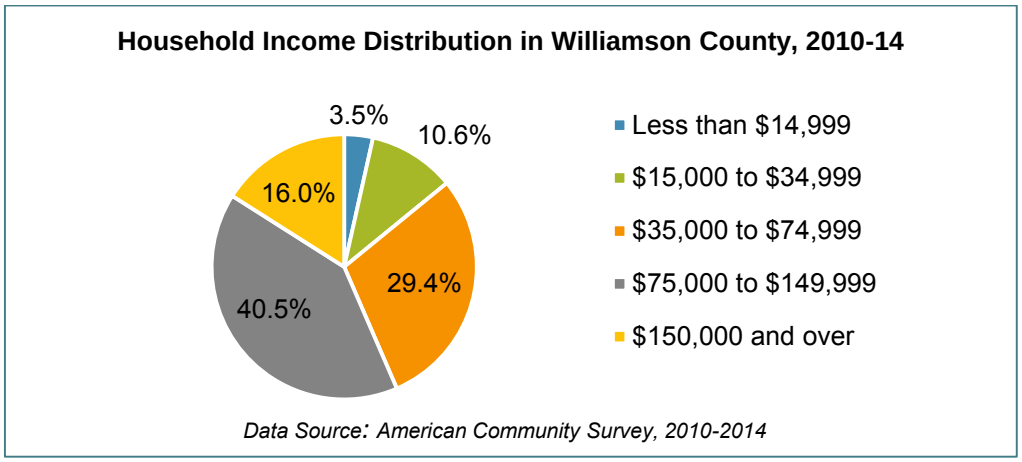


Figure 14: Median Household Income by Race in Williamson County and Texas, 2015



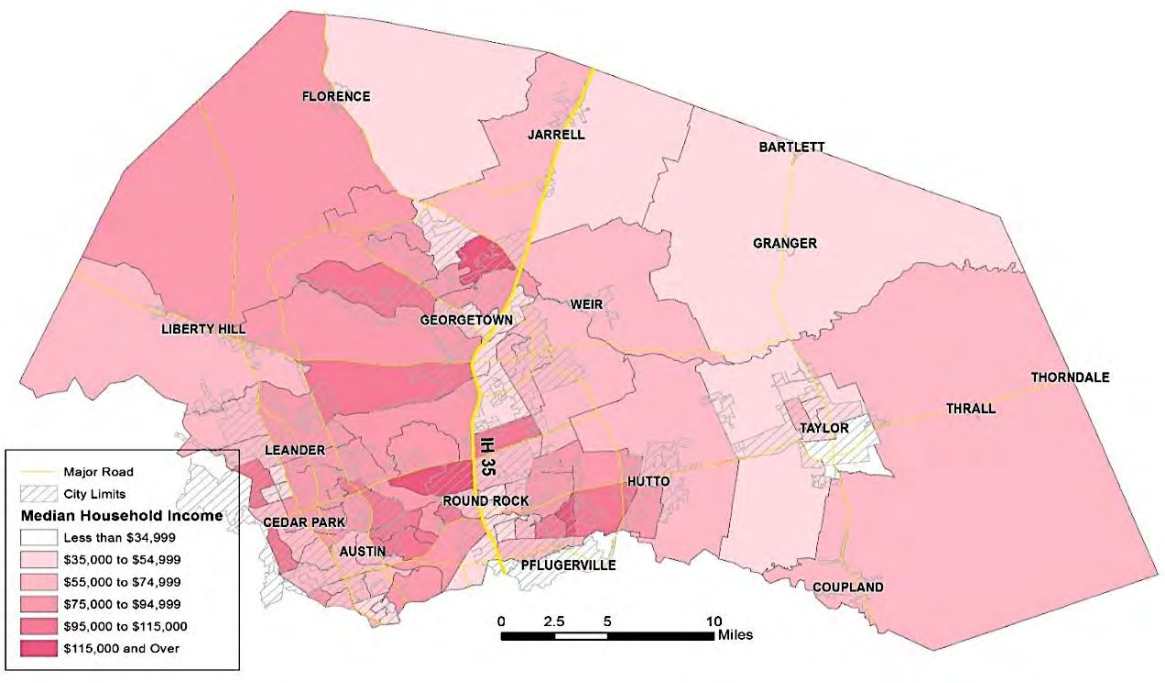
The county's income distribution for 2010-2014 is depicted in Figure 15.

Figure 15: Household Income Distribution in Williamson County, 2010-2014



When mapped across the county (Figure 16), the census tracts located west of IH-35 had higher median household incomes when compared to the east side. The areas with the highest median household income ($115,000 and over) were located in Georgetown and Round Rock, wheras the lowest median household incomes (less than $34,999) were located in Taylor.

Figure 16: Median Household Income by Census Tract in Williamson County, 2015



Note: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District. Data Source: Nielson Claritas, 2015

Work Status - Poverty and Unemployment

"When you come here [you] had no idea that the job market is outrageous."

"I can't even afford the low-income apartments. They need to lower."– Focus group participants

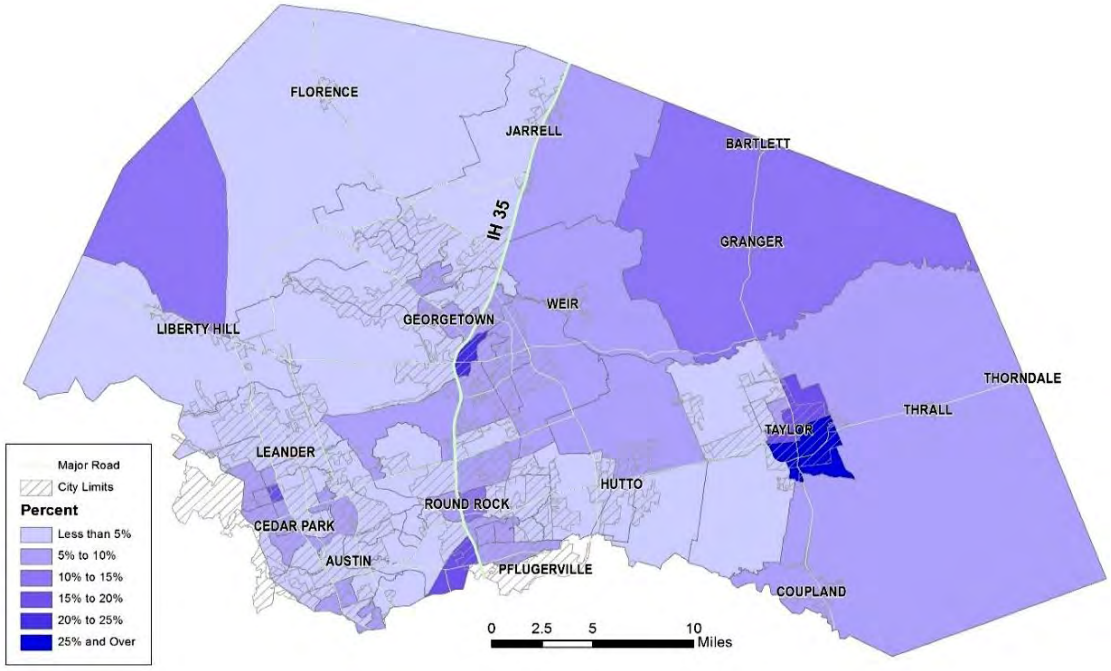
Compared to to the level of poverty in Texas (17.7%), Williamson County residents have a significantly smaller percentage (7.6%) who were living below the federal poverty level in 2010-2014. As is obvious from **Table 6,** a disproportionate percentage of the poor were African Americans (14.6%) and Hispanics (12.2%).

Table 6: Poverty and Unemployment Levels in Williamson County and Texas, 2010-2014

Indicator	Williamson County	Texas
Population Living Below Poverty Level	7.6%	17.7%
Non-Hispanic white	5.3%	9.3%
African American	14.6%	24.1%
Asian American	5.4%	11.8%
Hispanic	12.2%	26.1%
Children Living Below Poverty Level	9.6%	25.3%
Families Living Below Poverty Level	5.3%	13.7%
Unemployment (Civilian Labor Force, 16 and older)	6.9%	7.7%
Data Source: American Community Survey, 2010-2014		

Furthermore, about 1 in 10 children (9.6%) and 1 in 20 families (5.3%) lived below poverty in the county. Areas east of IH-35 had higher concentrations of families living below poverty than those who lived west of IH-35 **(Figure 17).** Three census tracts in Taylor, one in Cedar Park, one in Round Rock, and one in Georgetown had the highest concentrations of families living below poverty. The percentage of the civilian labor force that was unemployed was lower in the county (6.9%) than in Texas (7.7%).

Figure 17: Families Living Below Poverty by Census Tract in Williamson County, 2015



Note: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District.
Data Source: Nielson Claritas, 2015

Social Status - Educational Attainment

Williamson County is highly educated **(Table 7)**. A majority of residents aged 25 and older have attended either some form of college or higher (71.7%). This percentage is higher than residents in Texas (56.3%), a pattern that holds for Bachelor's and graduate/professional degrees as well. In the county, about 1 in 4 residents has attended some college (24.8%), 1 in 10 has an Associate's degree (8.3%), 1 in 4 has a Bachelor's degree (26.4%), and 1 in 10 has a graduate/professional degree (12.2%).

Table 7: Percentage of Educational Attainment of Population Ages 25 and Older in Williamson County and Texas, 2010-14

Indicator	Williamson County	Texas
High school graduate (includes equivalency)	20.6%	25.2%
Some college, no degree	24.8%	22.7%
Associate's degree	8.3%	6.6%
Bachelor's degree	26.4%	17.9%
Graduate or professional degree	12.2%	9.1%
Data Source: American Community Survey, 2010-2014		

C3. Health Resource Availability

Indicators related to health resource availability are used to measure "access, utilization, cost and quality of health care and prevention services" in a population (4). Many barriers prevent access to health care such as a lack of health insurance coverage, a limited availability of health care providers (e.g., primary care physicians, dentists), lack of transportation, and inability to pay for health services. These barriers can lead to unmet health needs, delays in care, failure to receive preventive services, and preventable hospitalizations (13). Improving indicators related to health resource availability is one of the keys to advancing the health of the county.

Access to Health Care

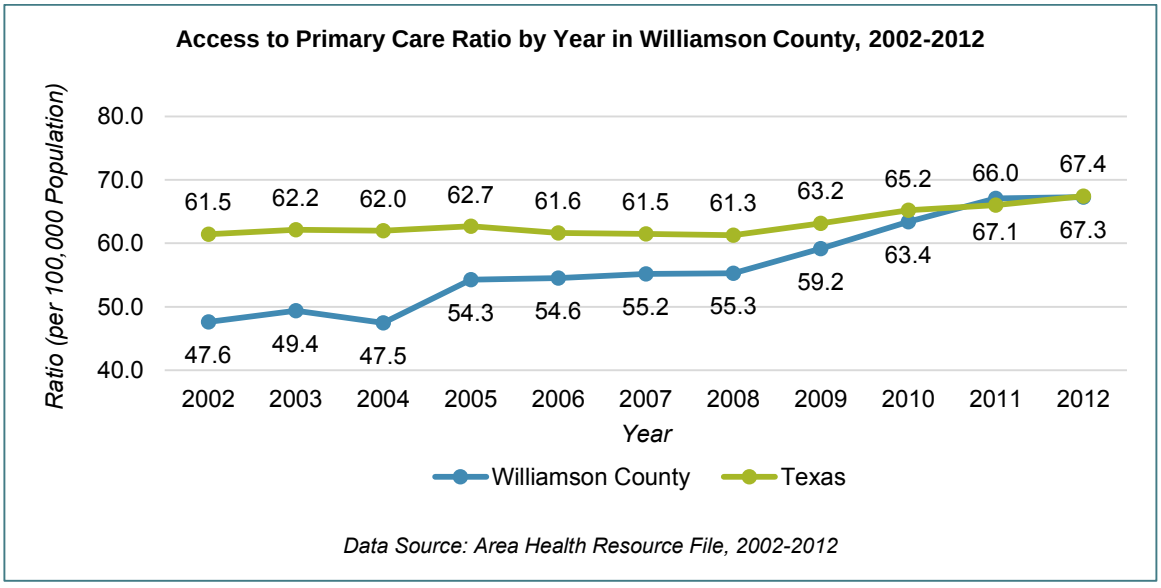
> *"A lot of people don't go see their doctor or anything, because they can't afford it. Consequently they get sicker and wind up passing away because they can't afford it."* – Focus group participant

> *"[Access to healthcare is] terrible. You get sick and [are told], "Well, come next week." Well, if you're calling, it's because you're sick at that moment."* – Focus group participant

Primary care is a person's initial point of contact for medical care to prevent and treat disease and illness (4). According to the *Journal of Health Affairs*, patients with a primary care provider have better management of chronic diseases, lower overall healthcare costs, and a higher level of satisfaction with their care (2).

Access to primary care in Williamson County has increased in the last decade to match ratios in Texas **(Figure 18)**. In 2002, the county had a lower ratio of Primary Care Physicians (PCPs) (47.6 PCPs per 100,000 population) as compared to Texas (61.5 PCPs per 100,000 population). By 2012, the county increased to 67.3 PCPs per 100,000 population, nearly matching the ratio in Texas (67.3 versus 67.4 per 100,000 population).

Figure 18: Access to Primary Care Ratio by Year in Williamson County, 2002-2012



According to the data source, the data shown in Figure 18 above included all primary care physicians practicing patient care, including hospital residents.

Additional indicators that provided information on the status of access to health care in Williamson County included dentist ratios, percentage of adults without any regular doctor, and the ratio of Federally Qualified Health Centers (FQHCs) or centers dedicated to serving individuals with lack of access to medical care in the county (Table 8).

For every 100,000 population, there were 52.4 dentists as compared to 51.5 in Texas and 2.6 FQHCs in the county as compared to 1.4 in Texas. Furthermore, Williamson County (16.5%) had nearly half the percentage of adults without any regular doctor than the rest of the state (32.4%).

Table 8: Additional Access to Health Care Indicators in Williamson County and Texas

Indicator	Williamson County	Texas
Dentist Ratio*[1]	52.4	51.5
Federally Qualified Health Centers Ratio*[2]	2.6	1.4
Adults Without Any Regular Doctor (%)[3]	16.5%	32.4%

*Notes: * per 100,000 Population*
Data Sources: [1] AHRF, 2013; [2] Center for Medicare & Medicaid Services, Provider of Services File, 2014; [3] Behavioral Risk Factor Surveillance System, 2011-2012

Health Insurance

> *"The sad part is also that you're paying and you get to a place [and they say], "No, we don't accept that insurance."* – Focus group participant

> *"I'm finding what's difficult is those that used to take Medicare don't anymore. The problem is [physician's offices] are dropping a lot of Medicare. Unless you're an existing customer, they won't accept you. It's becoming more of a challenge to find the proper doctors."* – Focus group participant

Health insurance improves health by increasing access to medical treatment, drugs, routine checkups, and screenings. Compared to Texas, fewer Williamson County children (9.1% vs. 14.0%) and total persons (12.6% vs. 21.9%) were uninsured as show in Figure 20. However, when stratified by race/ethnicity, about 1 in 4 Hispanics (24.2%) did not have health insurance – higher than for non-Hispanic white, African American, and Asian American individuals (Figure 19).

Figure 19: Percentage of Population without Insurance by Race/Ethnicity in Williamson County and Texas, 2010-2014

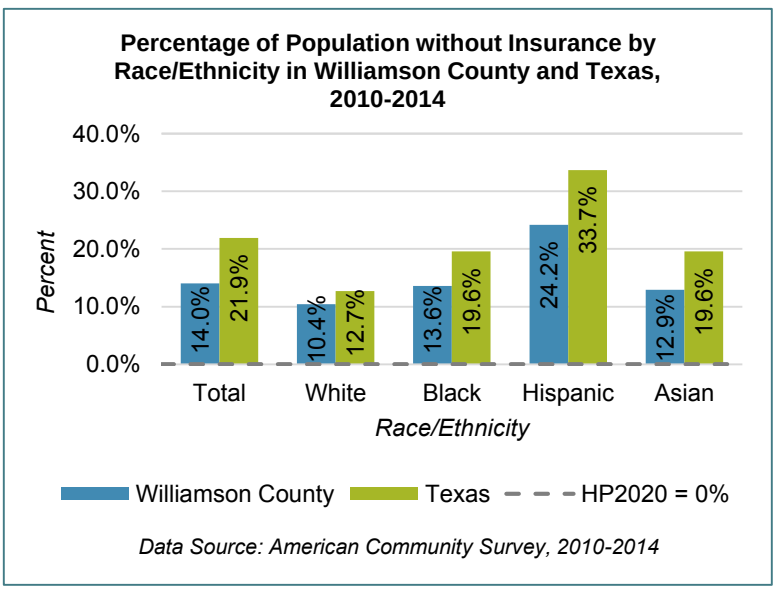
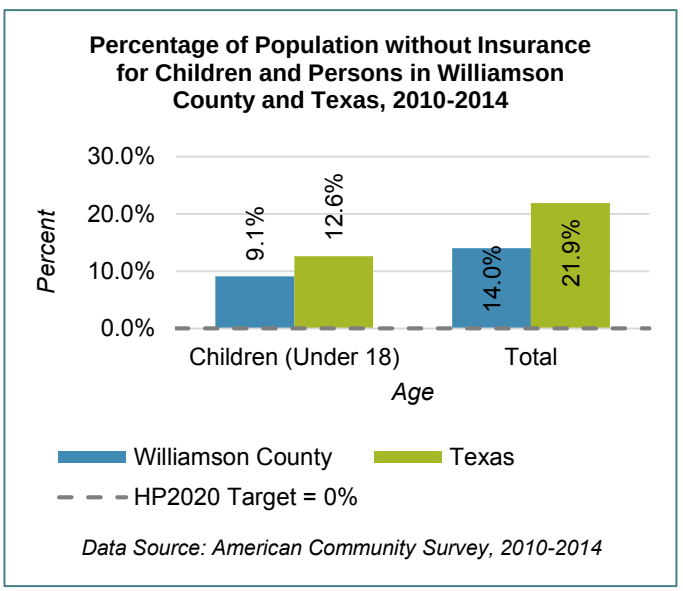
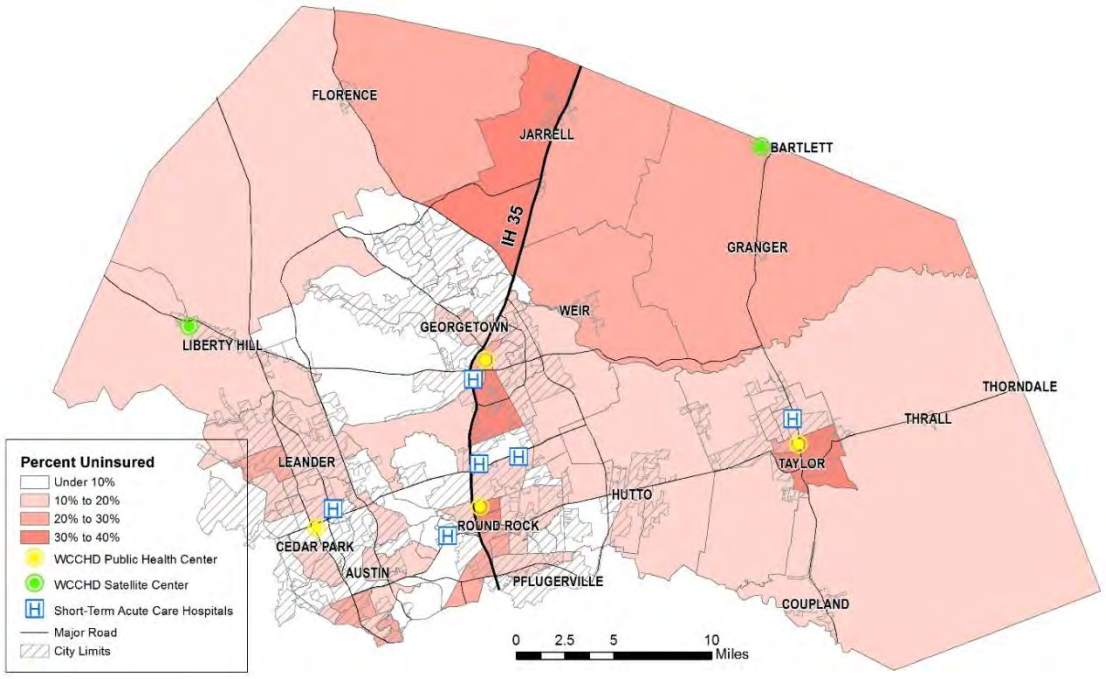


Figure 20: Percentage of Population without Insurance for Children and Persons in Williamson County and Texas, 2010-2014



Williamson County did not meet the ambitious HP2020 target of 100% insurance coverage for children and adults. Geographically, the highest percentages of uninsured individuals were located near the rural and eastern side of the county (Figure 21). These cities include Florence, Jarrell, Weir, Bartlett, Granger, and small areas in Georgetown, Taylor, and Round Rock. Greater progress can be made to increase health insurance for all individuals in Williamson County, especially persons of Hispanic ethnicity.

Figure 21: Percentage of Total Population without Insurance by Census Tract in Williamson County, 2010-2014



Note: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District.
Data Source: American Community Survey, 2010-2014

Potentially Preventable Hospitalizations (PPH)

> *"Affordable is out of the question. You either have no coverage at all, or go to the emergency room. Then they charge you an arm and a leg and you spend the rest of your life paying that off."* – Focus group participant

Potentially preventable hospitalizations (PPH) are admissions to a hospital for certain acute illnesses (e.g., dehydration) or worsening chronic conditions (e.g., diabetes) that may not have required hospitalization had these conditions been managed successfully by primary care providers in outpatient settings (14). To understand the cost burden and impact of PPHs, DSHS collects data for average hospital charges (costs) for selected diseases and conditions (15). In 2013, the average hospital charges and per capita hospital charges were lower in Williamson County than in Texas **(Table 9)**. However, these costs are still a significant burden - $31,379 average cost and $1,442 per adult, reflecting continued issues with management of the illnesses and conditions that could be helped with better access to health care. While not all hospitalizations are avoidable, admissions for PPHs vary and commonly include access to primary care, care-seeking behaviors, and the quality of care available (14).

Table 9 on the following page provides a breakdown by illness or condition, as well as a comparison between the county and state for each.

Table 9: Potentially Preventable Hospitalizations for Adult Residents in Williamson County and Texas, 2013

Illness or Condition	Average Hospital Charge		Hospital Charges Divided by 2013 Adult Population	
	Williamson County	Texas	Williamson County	Texas
Total	*$31,379*	*$34,178*	*$1,442*	*$2,512*
Bacterial Pneumonia	$33,399	$36,925	$360	$530
Dehydration	$23,452	$21,706	$61	$101
Urinary Tract Infection	$23,518	$25,282	$168	$265
Angina (without procedures)	$28,256	$24,987	$14	$17
Congestive Heart Failure	$37,834	$41,191	$354	$689
Hypertension (High Blood Pressure)	$24,282	$25,365	$51	$85
COPD or Asthma in Older Adults	$29,650	$31,674	$245	$411
Diabetes Short-term Complications	$25,662	$26,913	$48	$88
Diabetes Long-term Complications	$42,309	$46,872	$140	$323
Data Source: Texas Department of State Health Services Center for Health Statistics, 2013				

C4. Quality of Life

Quality of life (QOL) indicators describe not only how long a person lives, but also how well that person is living. QOL measures an individual's ability to function well physically, mentally, emotionally, and socially in life (16). QOL indicators are designed to examine factors that enhance or diminish quality of life. According to the CDC, QOL indicators such as self-reported health status and disability may be more useful to predict health than objective morbidity and mortality measures like cause of death or mortality rates (17).

Self-Reported Health Status

"Some people don't even know what is healthy." – Focus group participant

Self-reported health status is a measure of how individuals view their own health (16). Williamson County residents reported a better health status than Texas residents overall (Table 10). Approximately 1 in 10 adults in the county (12%) reported their health that was poor or fair as compared to 1 in 5 in the state (18%). Additionally, adults in the county reported an average of 2.8 poor physical and 2.1 poor mental health days in the past 30 days, while adults in Texas reported an average of 3.7 days and 3.3 days, respectively.

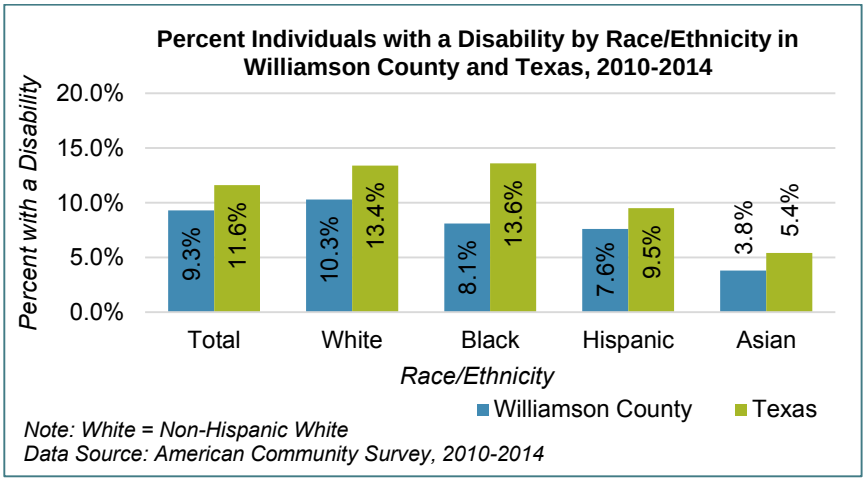
Table 10: Self-Reported Health Status of Adults in Williamson County and Texas, 2006-2012

Indicator	Williamson County	Texas
Poor or Fair Health	12.0%	18.0%
Poor physical health days out of 30 days	2.8	3.7
Poor mental health days out of 30 days	2.1	3.3
Data Source: Behavioral Risk Factor Surveillance System, 2006-2012		

Disability

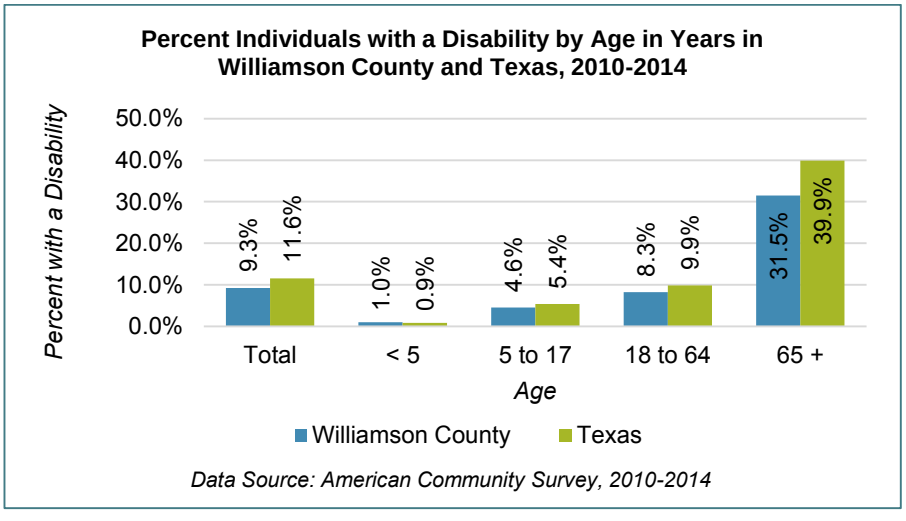
According to the CDC, a disability "is any condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions)" (18). Disability may significantly affect the quality of life of an individual. For example, an individual with physical, mental, or emotional conditions can have difficulties going to work or living independently, thus affecting quality of life (18). The percentage of the county's population with a disability was 9.3%, slightly below 11.6% in Texas (Figure 22).

Figure 22: Percent Individuals with a Disability by Race/Ethnicity in Williamson County and Texas, 2010-2014



The highest percentages of disabilities were in the non-Hispanic white population (10.3%) and adults 65 years of age and older (31.5%), as shown in Figure 22 andFigure 23 . The percentage of individuals affected by disability will most likely continue to increase as the population continues to age and the proportion of the population over the age of 65 increases (Figure 5).

Figure 23: Percent Individuals with a Disability by Age in Years in Williamson County and Texas, 2010-2014



C5. Behavioral Risk Factors

Behavioral risk factors are behaviors that can increase the chances of injury, disease, or death (4). Behavioral risk factors associated with chronic and infectious diseases include obesity and overweight, physical inactivity and unhealthy eating, substance abuse, and lack of cancer screening.

Adult and Childhood Obesity

> *"I'd love to see more focus on child obesity. There's so much land we could actually use, even as a community to do those Victory Gardens."* – Focus group participant

Obesity in an adult is defined as having a Body Mass Index (BMI) greater than or equal to 30.0, whereas overweight is generally indicated by a BMI between 25.0 and 29.9 (19). Obesity and overweight increases the chances of developing heart disease, stroke, and diabetes and other risk factors including high blood pressure and high cholesterol (20).

From 2004 to 2012, obesity increased in Williamson County, as it did for Texas as a whole **(Figure 24)**. In 2004, 21.2% of the adult population in the county was obese. By 2012, the percentage of adult residents classified as obese rose to 28.5%, surpassing the state percentage of 28.2%. Still, the county met the HP2020 target of 30.5% or less obese adults in the county but is approaching the limit quickly. Furthermore, four out of ten adults in the county are overweight/obese (40.3%), again exceeding the statewide percentage (35.5%) **(Table 11).** Community health improvement initiatives will need to take collective action to reverse these trends.

In contrast, the percentage of individuals with obesity-related risk factors such as high blood pressure and high cholesterol in the county was lower than percentage in the state. About 1 in 4 adults had high blood pressure (27.2%), and about 1 in 3 adults had high cholesterol (35.4%) in the county. This is compared to about 1 in 3 adults (30.0%) and 1 in 4 adults (41.8%) respectively in the state **(Table 11).**

However, the available secondary data for overweight and obese adults does not include additional data related to high blood pressure and cholesterol. Consequently, the CHA Team was not able to identify a relationship between these conditions and risk factors at the county level. Additional data would be required to examine these conditions and risk factors independently. More specifically, it would be desirable to analyze data stratified by race/ethnicity and SES to determine those that are at a true risk for being overweight and obese, having high blood pressure and cholesterol, and the relationship between these factors.

Figure 24: Percentage of Adults Obese by Year in Williamson County and Texas, 2004-2012

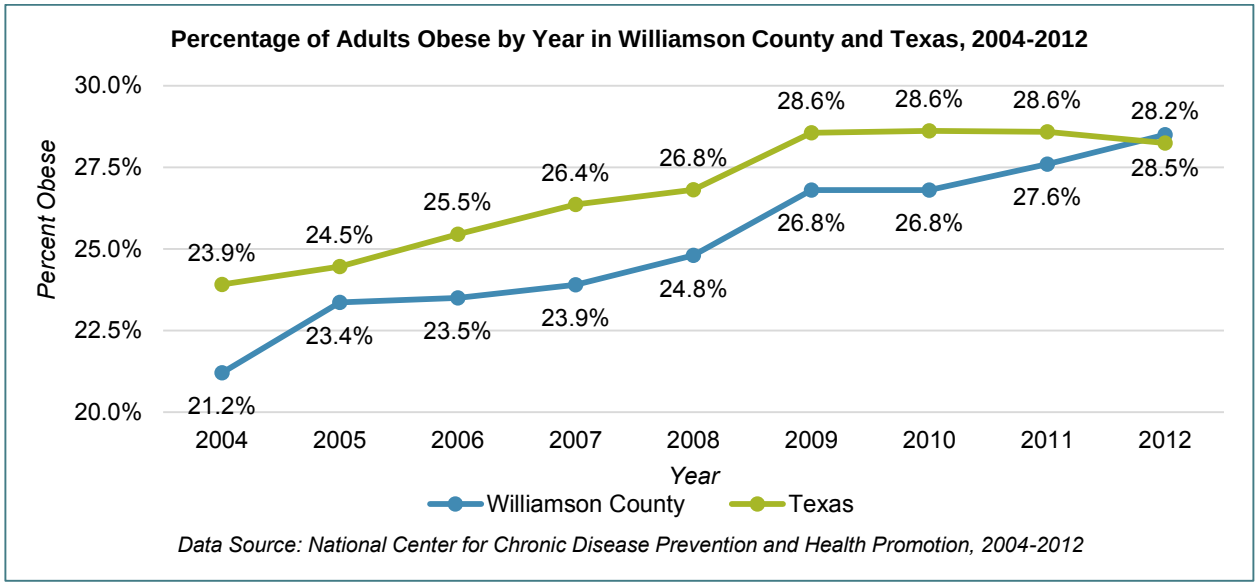
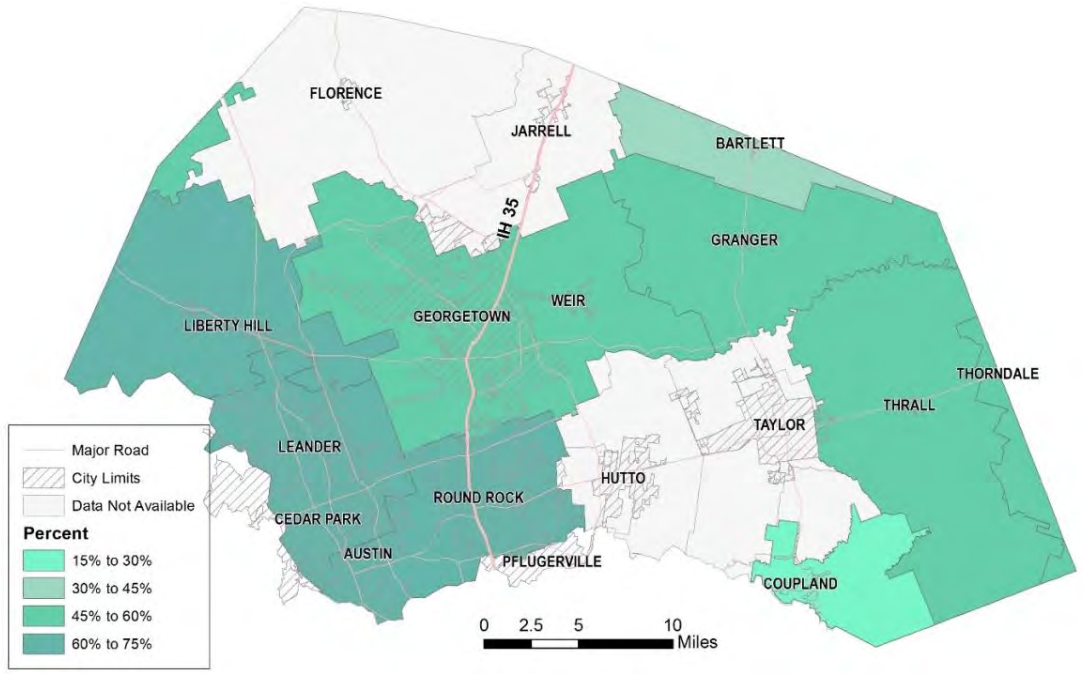


Table 11: Percentage of Adults with Obesity and Overweight Related Risk Factors in Williamson County and Texas

Indicator	Williamson County	Texas
Obesity[1]	28.5%	28.2%
Overweight[2]	40.3%	35.5%
High Blood Pressure[3]	27.2%	30.0%
High Cholesterol[1]	35.4%	41.8%
Data Sources: [1] Behavioral Risk Factor Surveillance System (BRFSS), 2011-2012; [2] National Center for Chronic Disease Prevention and Health Promotion, 2012; [3] BRFSS, 2006-2012		

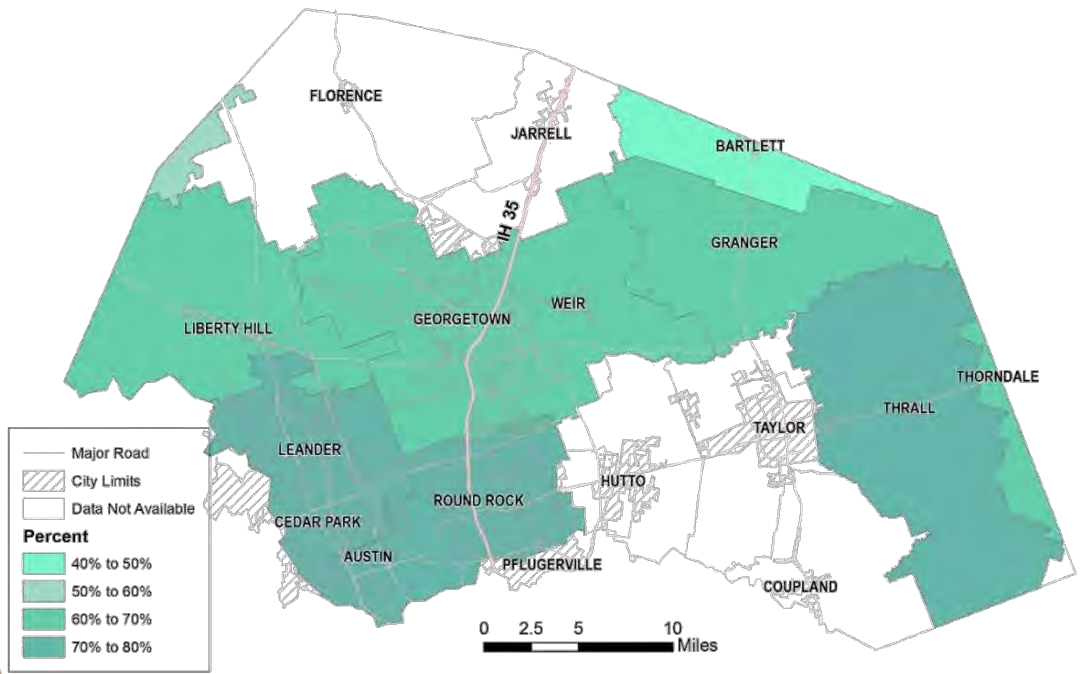
Similarly, childhood obesity is also on the rise in Williamson County. Childhood obesity can lead to short and long-term health consequences, extending even into adulthood (21). According to the Texas Education Agency (TEA), each independent school district (ISD) in Williamson County is required to evaluate the fitness level of all students between 3rd and 12th grade with the FITNESSGRAM® assessment tool (22). FITNESSGRAM® uses Healthy Fitness Zones (HFZs) criteria to evaluate student fitness levels (aerobic capacity, body composition, BMI). The zones are established by The Cooper Institute of Dallas, Texas, and represent minimum levels of fitness that offer protection against diseases that result from sedentary living (23). If the performance goal is not met, the results are classified as Needs Improvement (NI) or, for Aerobic Capacity and Body Composition, Very Lean (Body Composition only) or Needs Improvement-Health Risk (NI-HR). When mapped across Williamson County ISDs, Liberty Hill, Leander, Cedar Park, Austin, and Round Rock tended to have higher concentrations of 3rd to 12th graders who achieved the HFZ standards (Figure 25 and Figure 26).

Figure 25: Percent of 3rd to 8th Grade Students with BMI Achieving the Healthy Fitness Zone by Independent School District, 2012-2013



Notes: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District. Percent calculated by dividing the sum of student with "Body Mass Index (BMI) Achieving Healthy Fitness Zone" by all students tested
Data Source: Texas Education Agency Fitnessgram®, 2012-2013

Figure 26: Percent of 9th to 12th Grade Students with BMI Achieving the Healthy Fitness Zone by Independent School District, 2012-2013



Notes: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District. Percent calculated by dividing the sum of student with "Body Mass Index (BMI) Achieving Healthy Fitness Zone" by all students tested
Data Source: Texas Education Agency Fitnessgram®, 2012-2013

Physical Inactivity and Unhealthy Eating

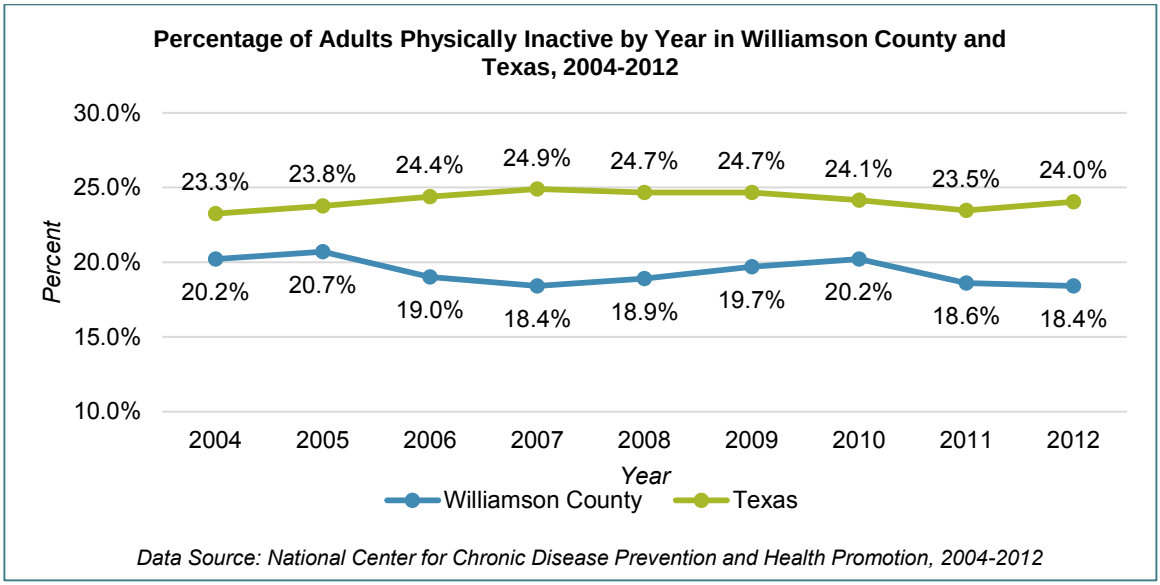
> *"Even if [a person] were to think about eating healthier and going to the grocery store and looking at the healthier things, they probably would realize that what they're eating is a lot cheaper, and they're used to eating it compared to the healthier foods. Then it just kind of falls on both cultural and financial."* – Focus group participant

> *"[I would like] more physical activity opportunities for all types of people. People that have healthcare conditions."* – Focus group participant

Physical activity and healthy eating improves health and reduces the risk for disease. Recommended levels of physical activity for adults include either 150 minutes of moderate physical activity or 75 minutes of moderate to vigorous physical activity (MVPA) per week and recommended levels for children include 60 minutes of MVPA per day (24). The newly released 2015-2020 Dietary Guidelines recommends five guidelines for healthy eating: 1) "follow a healthy eating pattern across the lifespan", 2) "focus on variety, nutrient density, and amount", 3) "limit calories from added sugars and saturated fats and reduce sodium intake", 4) "shift to healthier food and beverage choices", and 5) "support healthy eating patterns for all" (25).

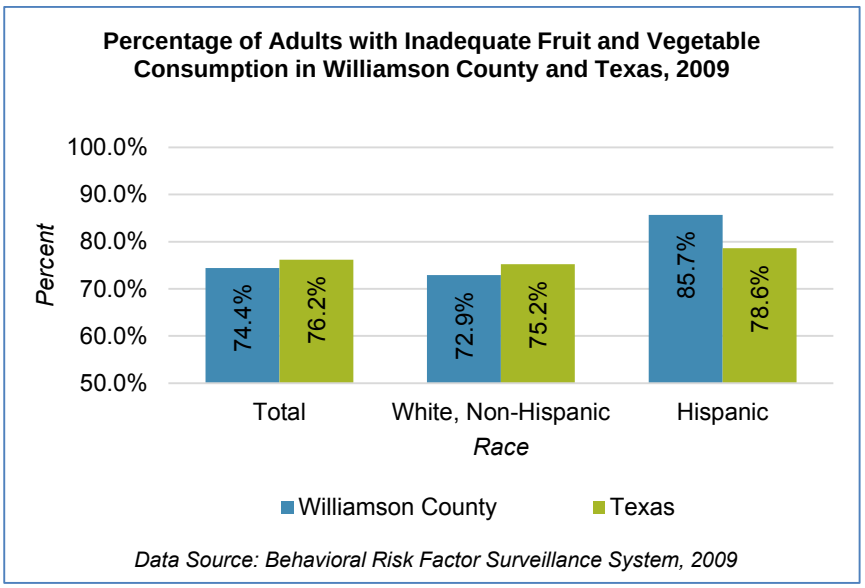
The percentage of physically active adults in the county has improved since 2004 **(Figure 27)**. In 2012, the percentage of adults in Williamson County who reported no leisure time physical activity (18.4%) was below percentage of adults in Texas (24.0%). The county meets the HP2020 target of 32.6% of adults engaged in no leisure-time physical activity

Figure 27: Percentage of Adults Physically Inactive by Year in Williamson County and Texas, 2004-2012



About 3 in 4 adults in the county (74.4%) and in Texas (76.2%) did not consume enough fruits and vegetables (Figure 28). In addition, Hispanic adults had an even higher percentage of adults with inadequate consumption of fruits and vegetables (85.7%). Efforts to increase healthy eating and physical activity must be made to combat the rising rates of obesity and overweight in the county.

Figure 28: Percentage of Adults with Inadequate Fruit and Vegetable Consumption in Williamson County and Texas, 2009



Substance Use and Abuse

> *"I don't know, for here it just seems to be normal. That someone's going to get found with drugs in a week."* – Focus group participant

Substance abuse involves the misuse of alcohol, tobacco, and legal and illegal drugs. Tobacco use and smoking can damage every organ in the body and cause diseases ranging from cancer to heart disease to chronic obstructive pulmonary disease (26). Adults smoke fewer cigarettes in Williamson County (10.7%) than in Texas (16.5%). The county meets the HP2020 target of 12.0% (Figure 29).

Excessive drinking of alcohol involves binge drinking, heavy drinking, and drinking by pregnant women or persons younger than 21 years. Binge drinking is defined as four or more drinks for women and five or more drinks for men in a single occurrence. Heavy drinking is defined as having eight or more drinks per week for women and fifteen or more drinks per week for men. Excessive drinking can lead to death and disease (27). The percentage of adults that drink excessively is lower in the county (14.9%) than in Texas (15.8%) (Figure 30). The county meets the HP2020 target of 25.4% of adults drinking excessively in the previous thirty days.

Figure 29: Percentage of Adults Smoking in Williamson County and Texas, 2006-2012

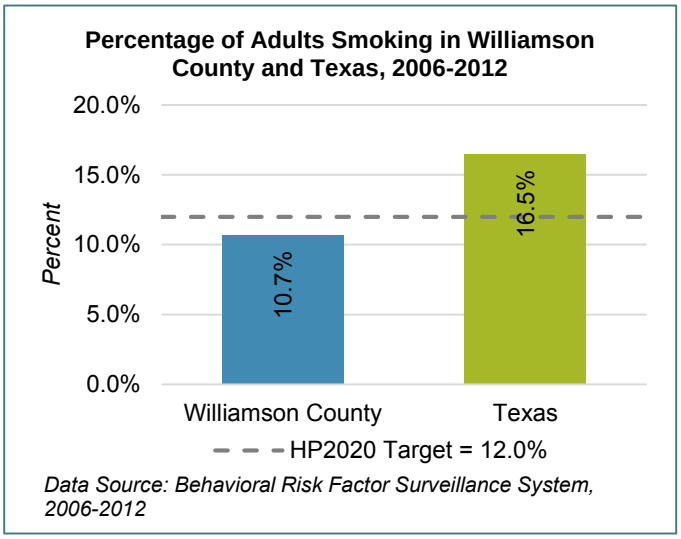
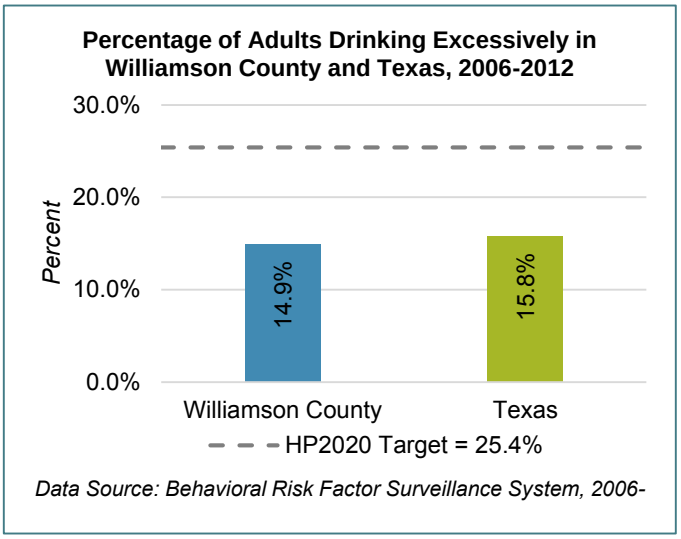


Figure 30: Percentage of Adults Drinking Excessively in Williamson County and Texas, 2006-2012

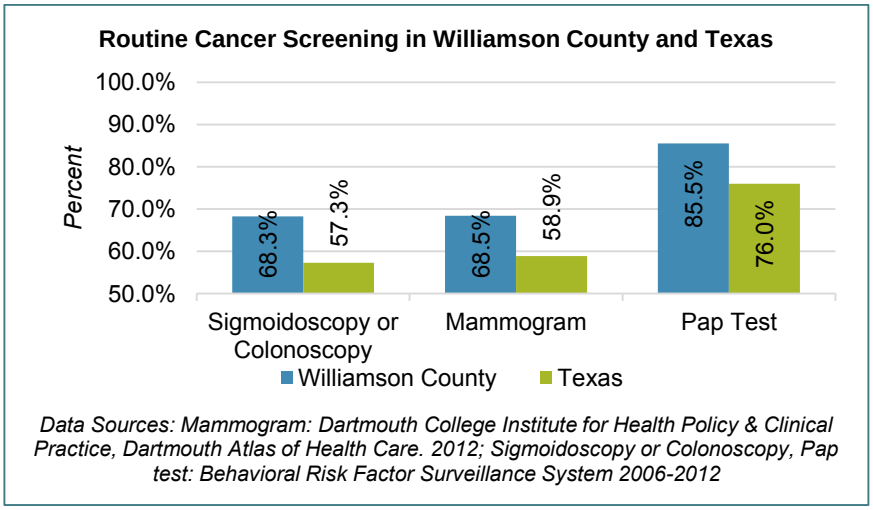


Routine Cancer Screening

Routine cancer screening involves checking for signs and conditions of cancer prior to symptoms. Early detection of cancer leads to more prompt treatment to increase survival. Cancer is the number one cause of death in the county **(Figure 44).** Important routine screening tests for cancer include colonoscopy and sigmoidoscopy for colorectal cancer, mammography for breast cancer, and Pap test for cervical cancer (28).

When compared to Texas, Williamson County has improved percentages of routine cancer screening **(Figure 31)**. The percentage of adults aged 50 years and over who have ever had colon cancer screening in the county is 68.3%, higher than in Texas (57.3%). The percentage of Williamson County female Medicare enrollees aged 67-69 years who received mammograms in the past two years is 68.5%, as compared to 58.9% in Texas. The percentage of adult females aged 18 years and over who had a Pap test in the last three years in the county is 85.5%, compared to 76.0% in Texas. However, the county has yet to meet the HP2020 target of 93% screening rate for Pap tests.

Figure 31: Routine Cancer Screening in Williamson County and Texas



C6. Environmental Health Indicators

The physical and built environments can directly affect health and quality of life by increasing or decreasing exposure to certain environmental risks or health behaviors (29). For example, the physical and built environment can either promote or discourage an active living and healthy eating lifestyle. Additionally, clean air and water are essential to physical health.

Physical Environment

The physical environment can involve air and water quality. Air pollution is measured by particulate matter (PM). Also known as fine particulate matter, PM 2.5 are particles smaller than 2.5 microns in size that can travel deep into the lungs, affecting both short and long-term lung function. Drinking water violations can also be indicative of the water quality of the community. Compared to the state, air pollution and drinking water violations were lower in the county (Table 12). Specifically, the fine particulate matter in the county (8.9) was lower than in Texas (9.6) and drinking violations were lower in the county (3.0%) than in Texas (7.0%).

Table 12: Physical Environment in Williamson County and Texas 2013-2014

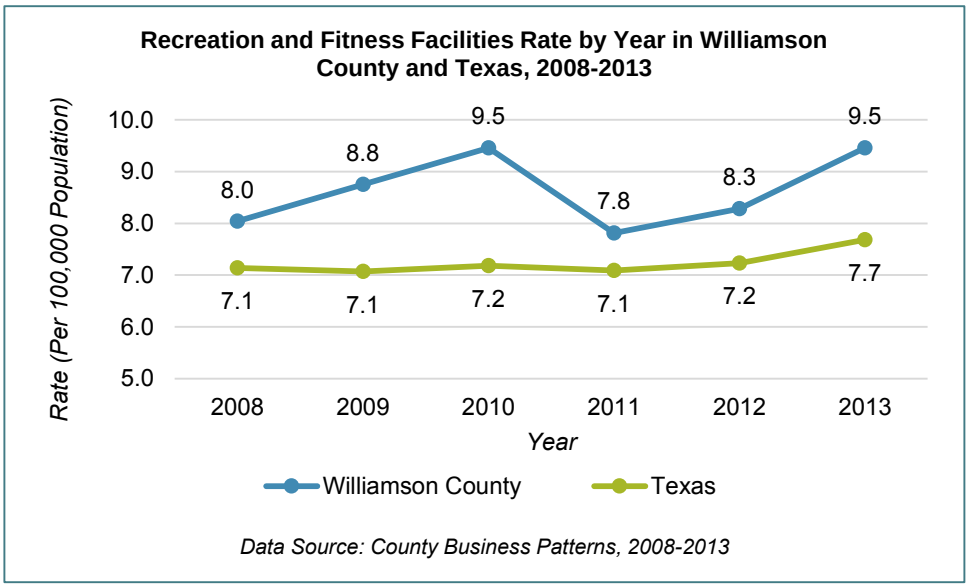
Indicator	Williamson County	Texas
Air pollution – PM 2.5 µg/m³ [1]	8.9	9.6
Drinking water violations[2]	3.0%	7.0%
Data Sources: [1] CDC WONDER, 2011; [2] Safe Drinking Water Information System, 2013-2014		

Active Living Support

> *"They really need to fix some of the roads and actually put sidewalks in, because it's extremely dangerous to walk this area."* – Focus group participant

Active living support involves creating and improving sidewalks, neighborhood parks/trails, and smoke-free places to improve health and physical activity in the county (29). A higher number of recreation and fitness facilities can increase community access to active living. In 2013, 9.5 recreation and fitness facilities existed for every 100,000 population in Williamson County as compared to 7.7 facilities for every 100,000 population in Texas (Figure 32).

Figure 32: Recreation and Fitness Facilities Rate by Year in Williamson County and Texas, 2008-2013



Healthy Eating Support

Feeding America, the nation's largest domestic hunger-relief organization, defines food insecurity as the "lack of access, at times, to enough food for an active, healthy life for all household members." Risk for food insecurity tends to increase as poverty and unemployment increase and home ownership decreases (30). As compared to Texas, Williamson County has lower percentages of overall food insecurity. However, about 1 in 5 children and 1 in 7 persons in the county lack access to enough food for an active and healthy lifestyle (Table 13).

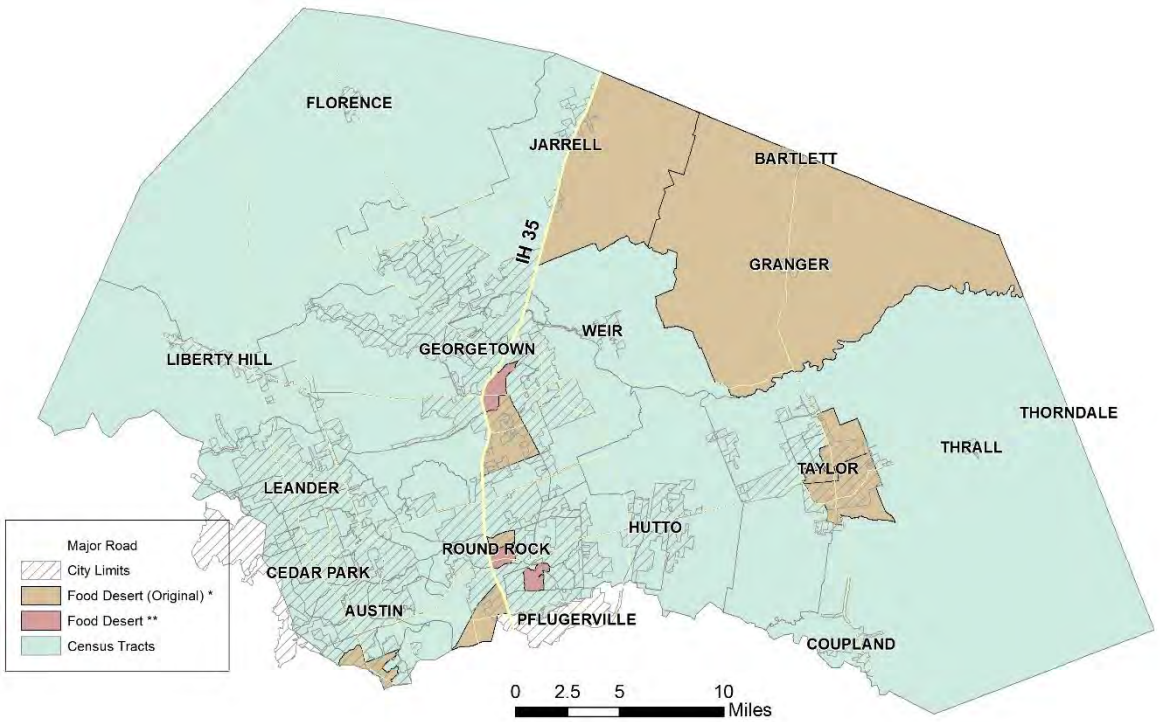
In addition, the built environment surrounding the healthy food environment is associated with the nutrition and diet of its residents and the availability and affordability of healthy foods in the county (29). Compared to Texas, there were less grocery stores/supermarkets and Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps) authorized retailers, but more fast food restaurants per every 100,000 population in the county than in Texas (Table 13). Only 9.2 grocery stores and supermarkets and 51.6 SNAP authorized retailers existed for every 100,000 population in the county. In contrast, Texas had 13.8 grocery stores and 71.9 SNAP authorized retailers. On the other hand, 75.5 fast food restaurants existed for every 100,000 population in the county as compared to 74.1 fast food restaurants in Texas. Such an environment can prevent access to affordable healthy foods and promote access to unhealthy foods.

Table 13: Healthy Eating Environment in Williamson County and Texas 2013-2014

Indicator	Williamson County	Texas
Overall Food Insecurity[1]	15.2%	17.6%
Child Food Insecurity[1]	21.9%	27.4%
Grocery Stores and Supermarkets Rate*[2]	9.2	13.8
Fast Food Restaurants Rate*[2]	75.5	74.1
SNAP Authorized Retailers Rate*[3]	51.6	71.9
*Notes: * per 100,000 population* *Data Sources: [1] Feeding America, 2013; [2] County Business Patterns, 2013; [3] U.S. Department of Agriculture, 2014*		

The U.S. Department of Agriculture (USDA) defines food deserts as "urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food." A food desert must meet both low-income and low-access criteria (31). When mapped across Williamson County by census tracts, food deserts are located in census tracts near Jarrell, Bartlett, Granger, Taylor, Round Rock, and Georgetown (Figure 33).

Figure 33: Food Deserts by Census Tract in Williamson County, 2010



*Notes: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District. * Low- income census tracts where a significant number or share of residents is more than 1 mile (urban) or 10 miles (rural) from the nearest super market; ** Expanded criteria to determine food deserts include 1. 0.5 mile (urban) or 10 miles (rural), 2. 1 mile (urban) or 20 mile (rural), or 3. No vehicle access*
Data Source: USDA Economic Research Service - Food Access Research Atlas, 2010

C7. Social and Mental Health

> *"I know my mom had mental health issues and there's not … she actually had to go to a hospital, like a mental facility here. There wasn't that many. If you're on the waiting list. If somebody's trying to harm themselves and they're on a waiting list, what are you going to do? Help them when they're dead, almost?"* – Focus group participant

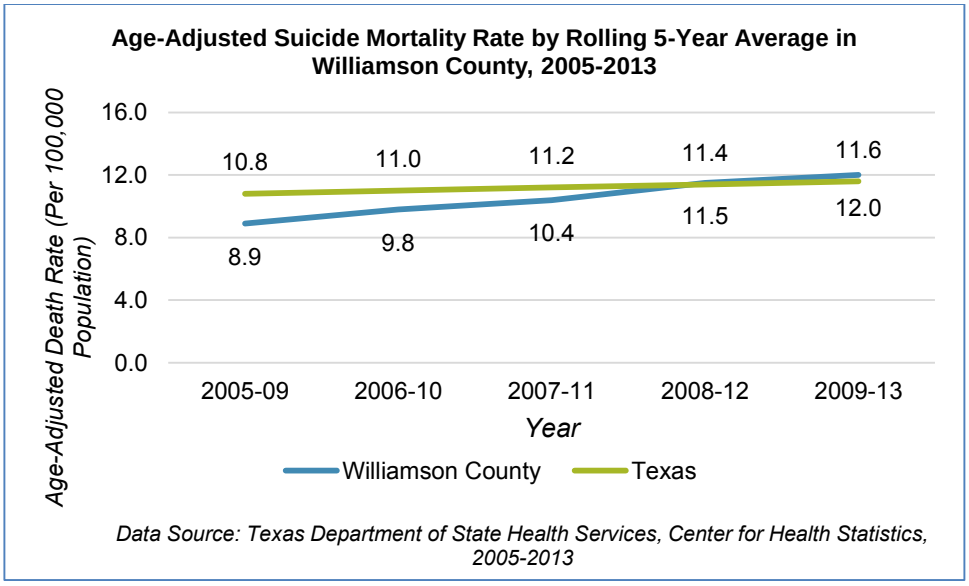
The CDC defines mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community." Mental health also involves emotional, psychological, and social well-being. Lack of adequate housing, safe neighborhoods, education, access to health care, and equitable jobs and wages can increase the risk for mental health issues (32). Between 2006 and 2012, the number of poor mental health days that adults in Williamson County reported in the past 30 days was 2.1 days, compared to 3.3 days in Texas (Table 10).

Intentional Self-Harm (Suicide)

Individuals that are at risk for intentional self-harm (suicide) may contend with a variety of conditions that affect their mental health, including depression, mental illness, substance abuse, loneliness, family history of suicide and violence, or physical illness. Suicide and suicide attempts can leave harmful effects on individuals, families, and communities (33). Decreasing risk for suicide involves targeting these whole hosts of risk factors and increasing protective factors such as mental health support, clinical interventions, and family and community support.

Over the last ten years, suicide was one of the top ten causes of death in the county in six of those years **(Figure 44)**. In addition, suicide rates in Williamson County have steadily increased since 2005 surpassing rates in Texas. Between 2005 and 2009, the age-adjusted 5-year death rate for suicide was 8.9 deaths per 100,000 population. Between 2009 and 2013, the age-adjusted 5-year death rate for suicide was 12.0 deaths per 100,000 population **(Figure 34)**.

Figure 34: Age-Adjusted Suicide Mortality Rate by Rolling 5-Year Average in Williamson County, 2005-2013



Age-adjusted suicide mortality rates for all individuals and when stratified for males and non-Hispanic Whites do not meet the HP2020 target (10.2 deaths/100,000 population) **(Figure 35 and Figure 36)**. Males (19.6 deaths/100,000 population) and non-Hispanic Whites (14.5 deaths/100,000 individuals) have higher rates of suicides than the general Texas population. Age-adjusted mortality rates were not calculable for Blacks/African Americans and Other race/ethnicity groups due to small numbers of attributed deaths in these categories.

Figure 35: Age-Adjusted Suicide Mortality Rate by Gender in Williamson County and Texas, 2009-2013

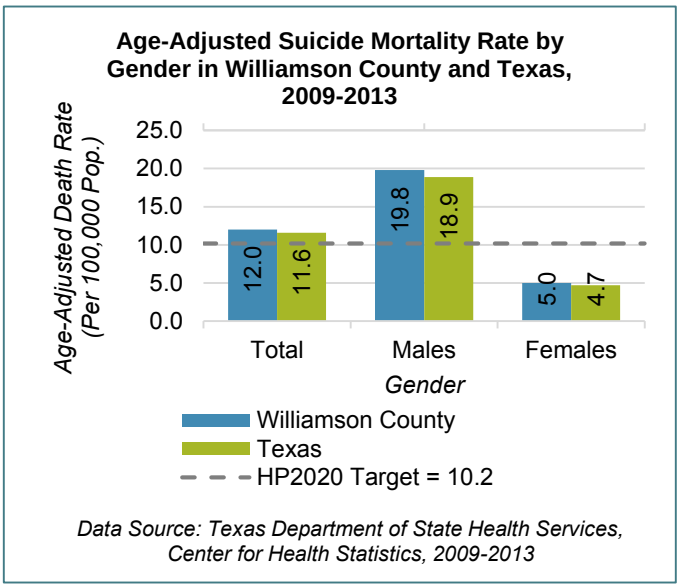
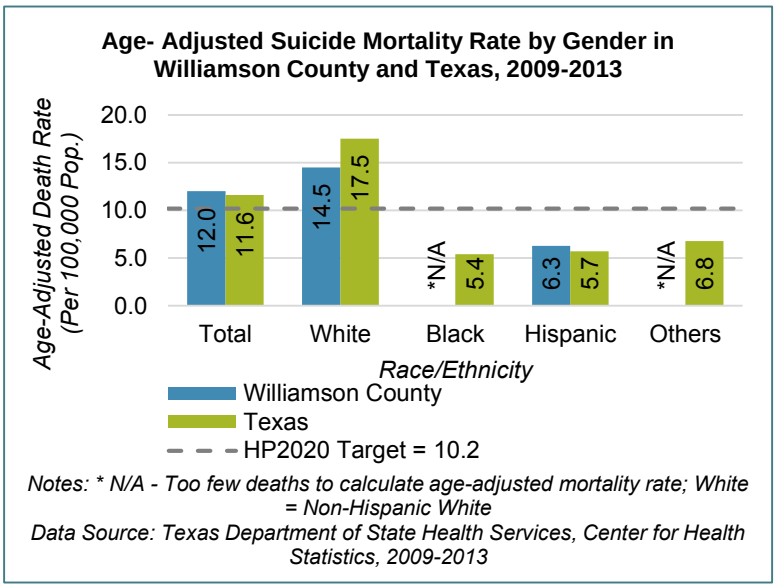


Figure 36: Age- Adjusted Suicide Mortality Rate by Gender in Williamson County and Texas, 2009-2013



Additional Mental Health Indicators

"Is safety a priority? Yeah, definitely." – Focus group participant

Motor vehicle crash deaths, child abuse rate, and total violent crime rate can be indicative of mental health. The county has improved rates when compared in all categories to Texas. The rate for motor vehicle crash death in the county (6.0 deaths per 100,000 population) is less than half that in Texas (13.4 deaths per 100,000 population). The rate for child abuse in the county (5.3 per 1,000 children) is almost half that in Texas (9.2/1,000 children). The total violent crime rate in the county (142.3 reported violent crime offenses per 100,000 population) is a third of that in Texas (422.0 violent crimes per 100,000 population) (Table 14).

Table 14: Additional Mental Health Indicators in Williamson County and Texas

Indicator	Williamson County	Texas
Motor Vehicle Crash Death Rate (per 100,000 Population)[1]	6.0	13.4
Child Abuse Rate (per 1,000 Children)[2]	5.3	9.2
Total Violent Crime Rate (per 100,000 Population)*[3]	142.3	422.0

*Notes: * Includes homicide, forcible rape, robbery, and aggravated assault*
Data Sources: [1] Texas Department of State Health Services Center for Health Statistics, 2013, [2] Texas Department of Family and Protective Services CPS, 2014; [3] Uniform Crime Reporting – FBI, 2010-2012

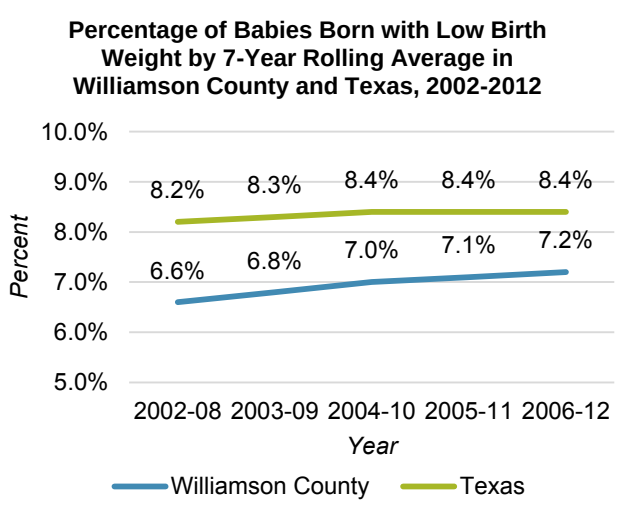
C8. Maternal and Child Health

The well-being of mothers, infants, and children determine the health of the next generation and can help predict future public health challenges for families, communities, and the health care system (34). Additionally, maternal health is highly correlated with infant and child health (35). Because infants and children are considered vulnerable populations, the health and well-being of this population can also indicate the health status of a community (4).

Infants Born with Low Birth Weight

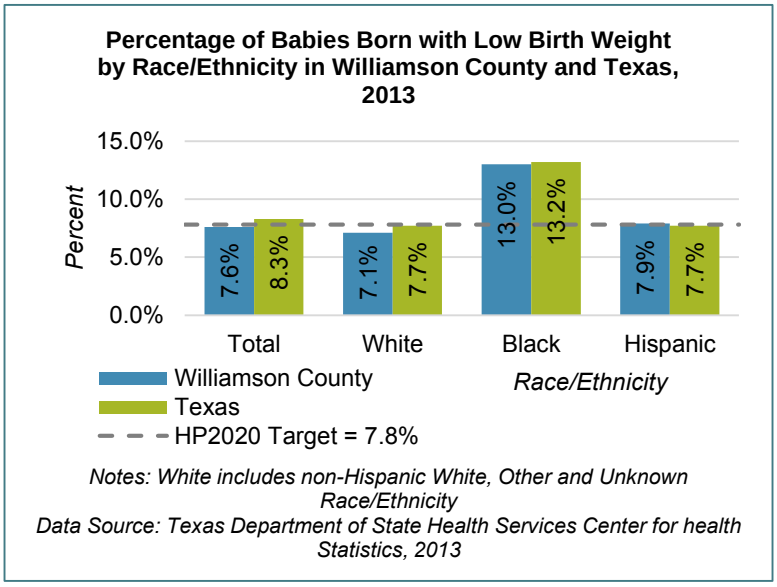
Infants born with low birth weight weigh less than 2500 grams and tend to suffer from many health issues. Low birth weight is affected by the mother's genetics as well as the mother's health status. In addition, low birth weight is indicative of health disparities in the population (35). The percentage of infants born with low birth weight in the county has slightly increased over time from 6.6% between 2002 and 2008 to 7.2% between 2006 and 2012, whereas in Texas as a whole the percentage has remained essentially constant **(Figure 37).** Compared to Texas, Williamson County has lower percentages of infants born with low birth weight, except for Hispanic infants **(Figure 38)**.

Figure 37: Percentage of Babies Born with Low Birth Weight by 7-Year Rolling Average in Williamson County and Texas, 2002-2012



Data Source: National Vital Statistics System, 2002-2012

Figure 38: Percentage of Babies Born with Low Birth Weight by Race/Ethnicity in Williamson County and Texas, 2013

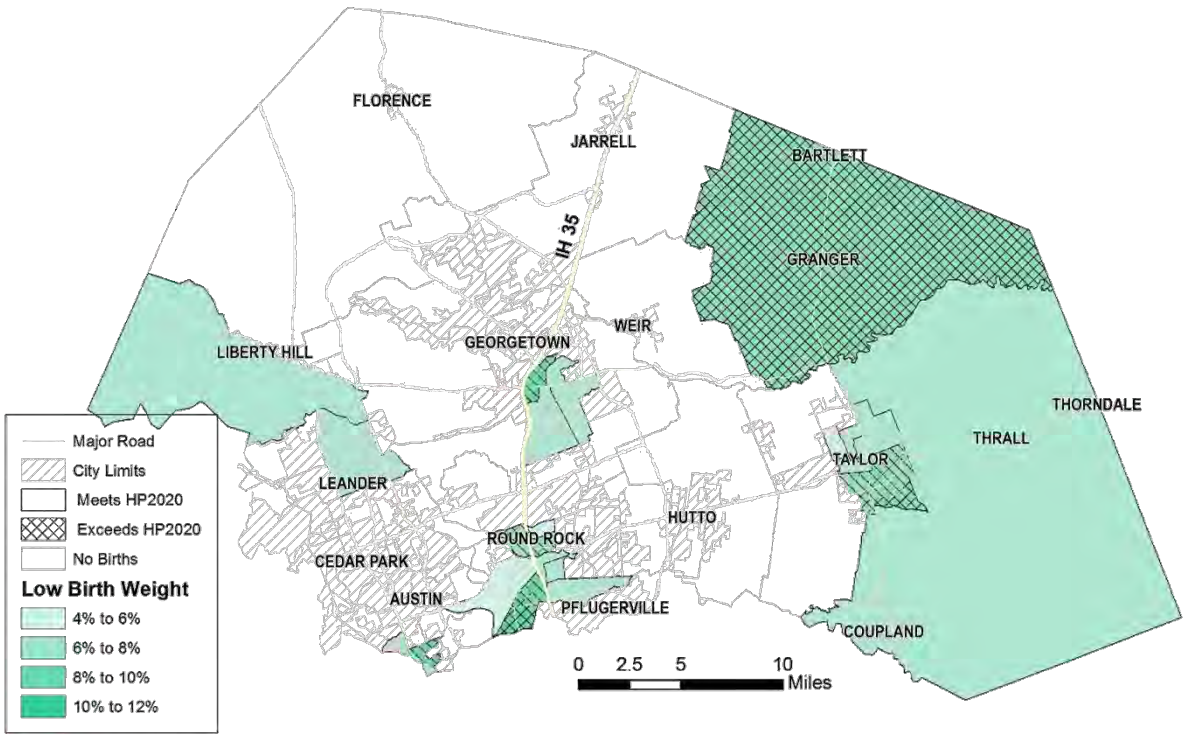


Notes: White includes non-Hispanic White, Other and Unknown Race/Ethnicity

Data Source: Texas Department of State Health Services Center for health Statistics, 2013

Additionally, the percentages for Black/African American (13.0%) and Hispanic (7.9%) infants exceed the HP2020 target of 7.8%. When mapped across the county by census tract **(Figure 39)**, census tracts that exceed the HP2020 target are located near Georgetown, Round Rock, Austin, Taylor, Bartlett, and Granger.

Figure 39: Percentage of Babies Born with Low Birth Weight by Census Tract in Williamson County, 2009-2013



Notes: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District. Due to limited data by census tract, low birth weight (LBW) was calculated by LBW divided by "Total Live Births." Data Source: Texas Department of State Health Services Center for Health Statistics, 2009-2013

Child and Infant Mortality Rates

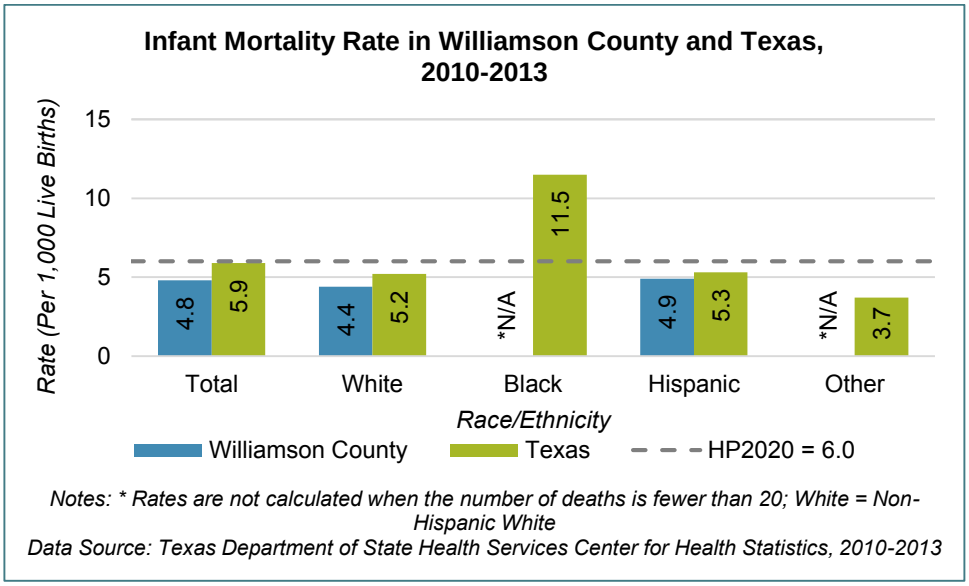
Infant mortality rate is frequently used as a proxy to describe the overall health status of a community, as health factors that impact the community tend to affect the health of an infant (36). Compared to Texas (5.8 deaths/1,000 live births), the infant mortality rate for Williamson County (3.5 deaths/1,000 live births) is lower (Table 15).

Table 15: Child and Infant Mortality Rate in Williamson County and Texas, 2013

Indicator	Williamson County	Texas	HP2020
Infant Mortality Rate*[1]	3.5	5.8	6.0
Child Mortality Rate^[2]	36.7	53.1	--
*Notes: * Per 1,000 live births, ^ Per 100,000 Children under 18 Data Sources: [1] Texas Department of State Health Services Center for Health Statistics, 2013; [2] CDC WONDER, 2009-2012*			

Furthermore, the county and the state's mortality rates fall below the HP2020 target (6.0 deaths/1,000 live births) (Figure 40). The child mortality rate can help understand the years of potential life lost in a county (37). Like infant mortality rate, the child mortality rate in the county (36.7 deaths/100,000 children) falls below the rate in Texas (53.1 deaths/100,000 children).

Figure 40: Infant Mortality Rate in Williamson County and Texas, 2010-2013

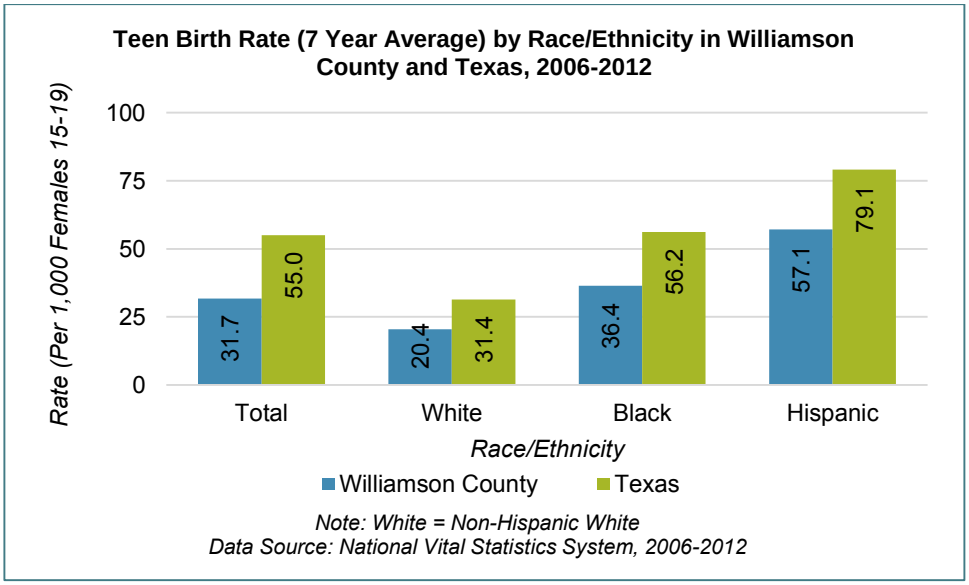


Teen Births

> *"I know over five people who are pregnant or have already had their kids."* – Youth focus group participant

Teen pregnancy and teen childbirth can increase health care costs, high school dropout rates, lower school achievement, incarceration, and unemployment. In addition, a high teen birth rate might indicate the prevalence of unsafe sex practices (35). The annual rate of teen births in the county is 31.7 teen births for every 1,000 females aged 15-19 years old **(Figure 41)**. The number of teen births is higher for Hispanic (57.1 births/1,000 females aged 15-19) and Black/African American (36.4 births/1,000 females aged 15-19) teenagers. In addition, 1.9% of live births are born to adolescents under the age of 18 years in the county as compared to 3.5% in Texas.

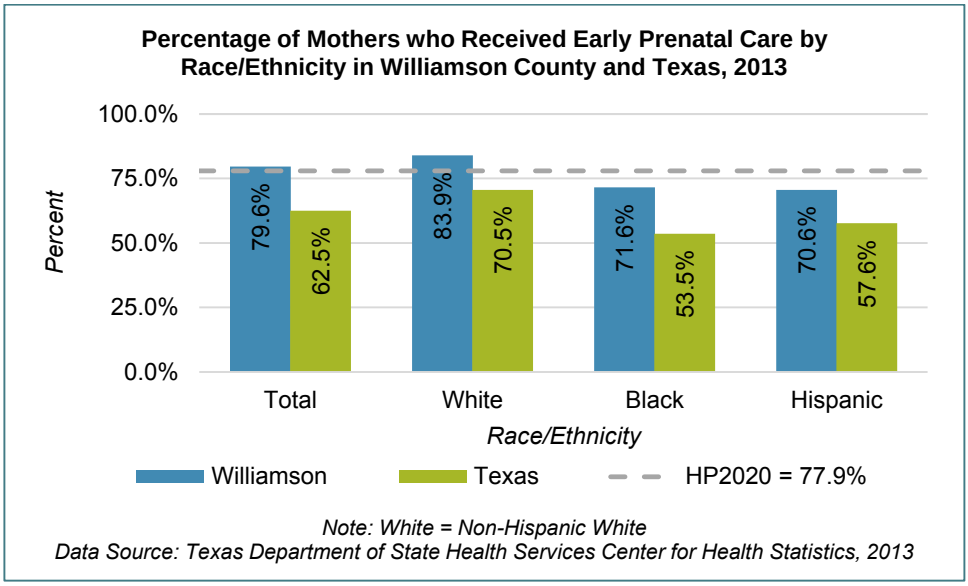
Figure 41: Teen Birth Rate (7 Year Average) by Race/Ethnicity in Williamson County and Texas, 2006-2012



Prenatal Care

Prenatal care is an important part of improving birth outcomes and reducing pregnancy and childbirth problems. Infants born to mothers who had not received prenatal care are five times more likely to die and three times more likely to be born with low birth weight (38). The total percentage of mothers in 2013 who received early prenatal care in the first trimester (79.6%) met and exceeded the HP2020 goal (77.9%); however, percentages for both Black/African American (71.6%) and Hispanic (70.6%) mothers fell below the HP2020 target. Percentages after stratifying by race/ethnicity were higher in the county than in the state for all groups **(Figure 42)**.

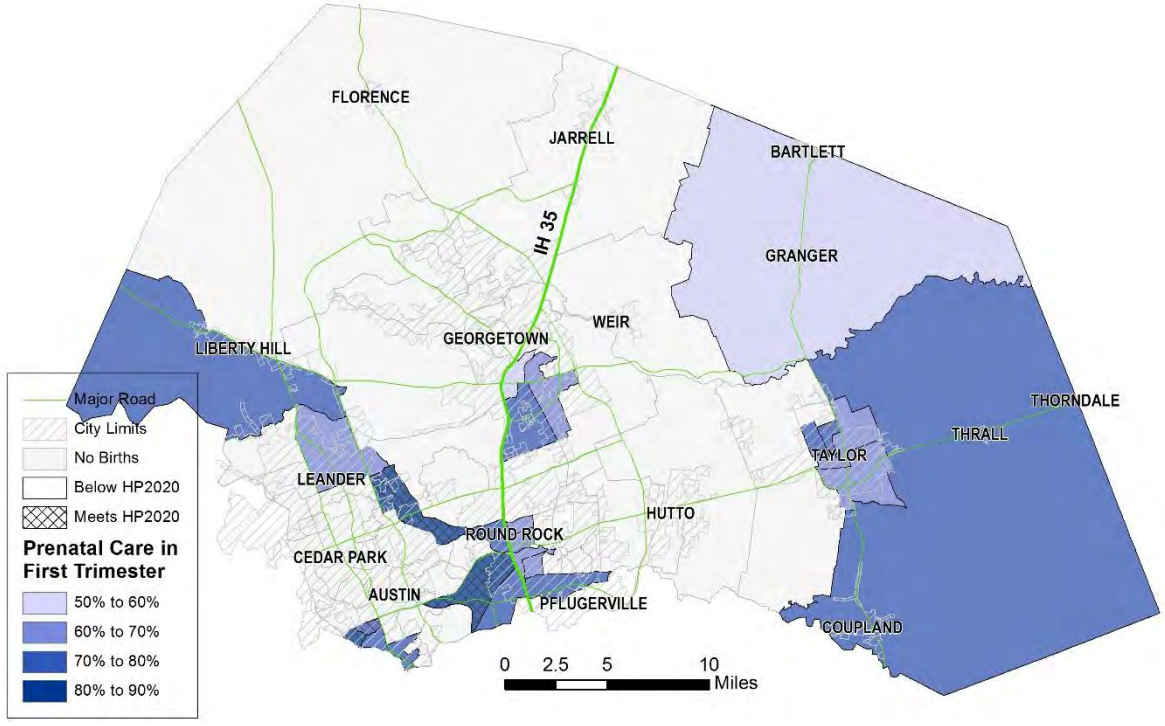
Figure 42: Percentage of Mothers who Received Early Prenatal Care by Race/Ethnicity in Williamson County and Texas, 2013



Note: White = Non-Hispanic White
Data Source: Texas Department of State Health Services Center for Health Statistics, 2013

When mapped across Williamson County by census tract **(Figure 43)**, the highest concentrations of mothers who received prenatal care in the first trimester in 2013 and met the HP2020 prenatal care target were located in Austin and Round Rock. Census tracts that had the lowest concentrations of prenatal care in 2013 were located near Bartlett, Granger, and Georgetown.

Figure 43: Percentage of Mothers who Received Early Prenatal Care in First Trimester by Census Tract in Williamson County, 2009-2013



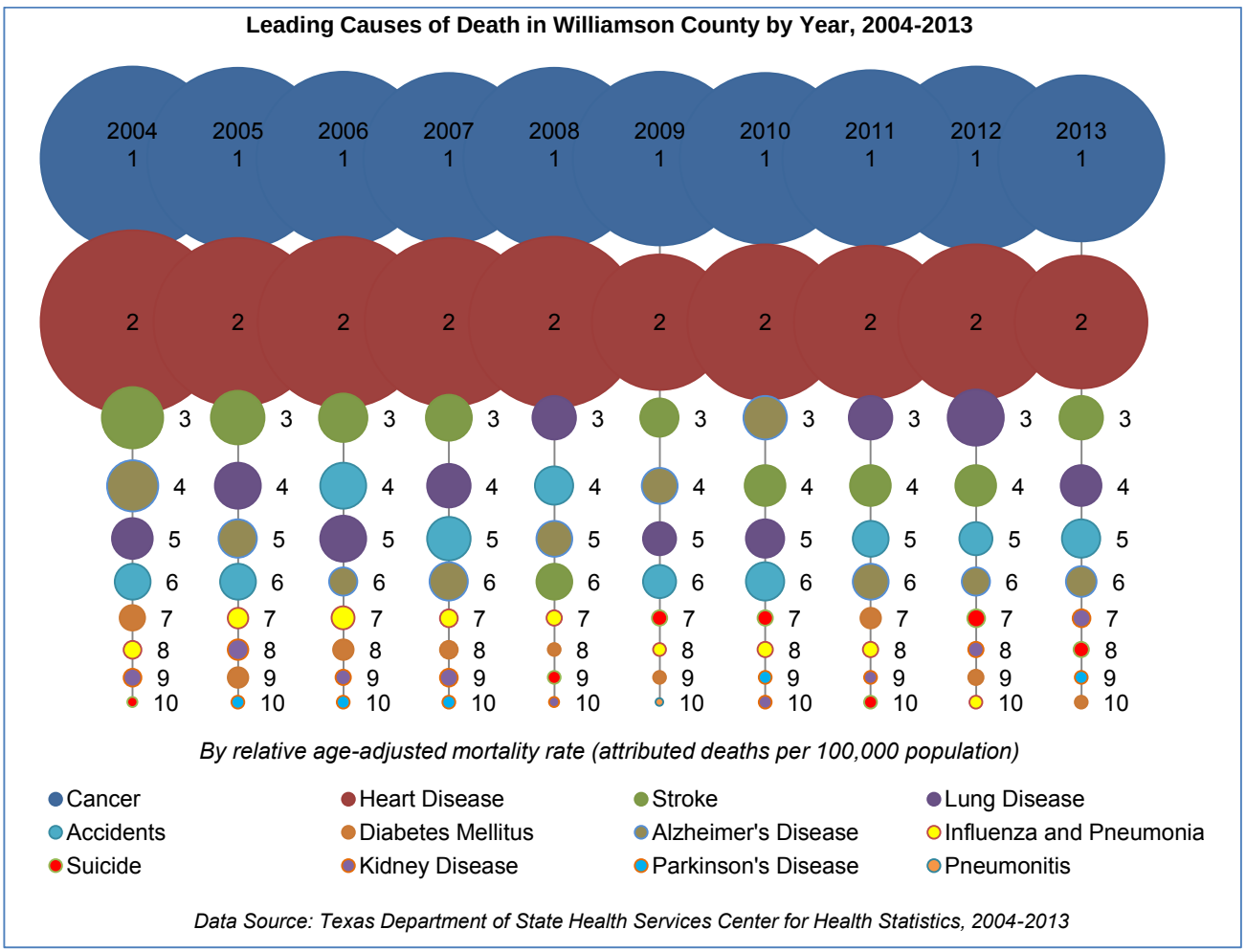
Notes: Map produced by Disease Control and Prevention Division at Williamson County and Cities Health District. Due to limited data by census tract, Prenatal Care in First Trimester was calculated by dividing "Prenatal Care in First Trimester" by "Total Live Births" per census tract.
Data Source: Texas Health Data, 2009-2013

C9. Death, Illness, and Injury

Top 10 Causes of Death

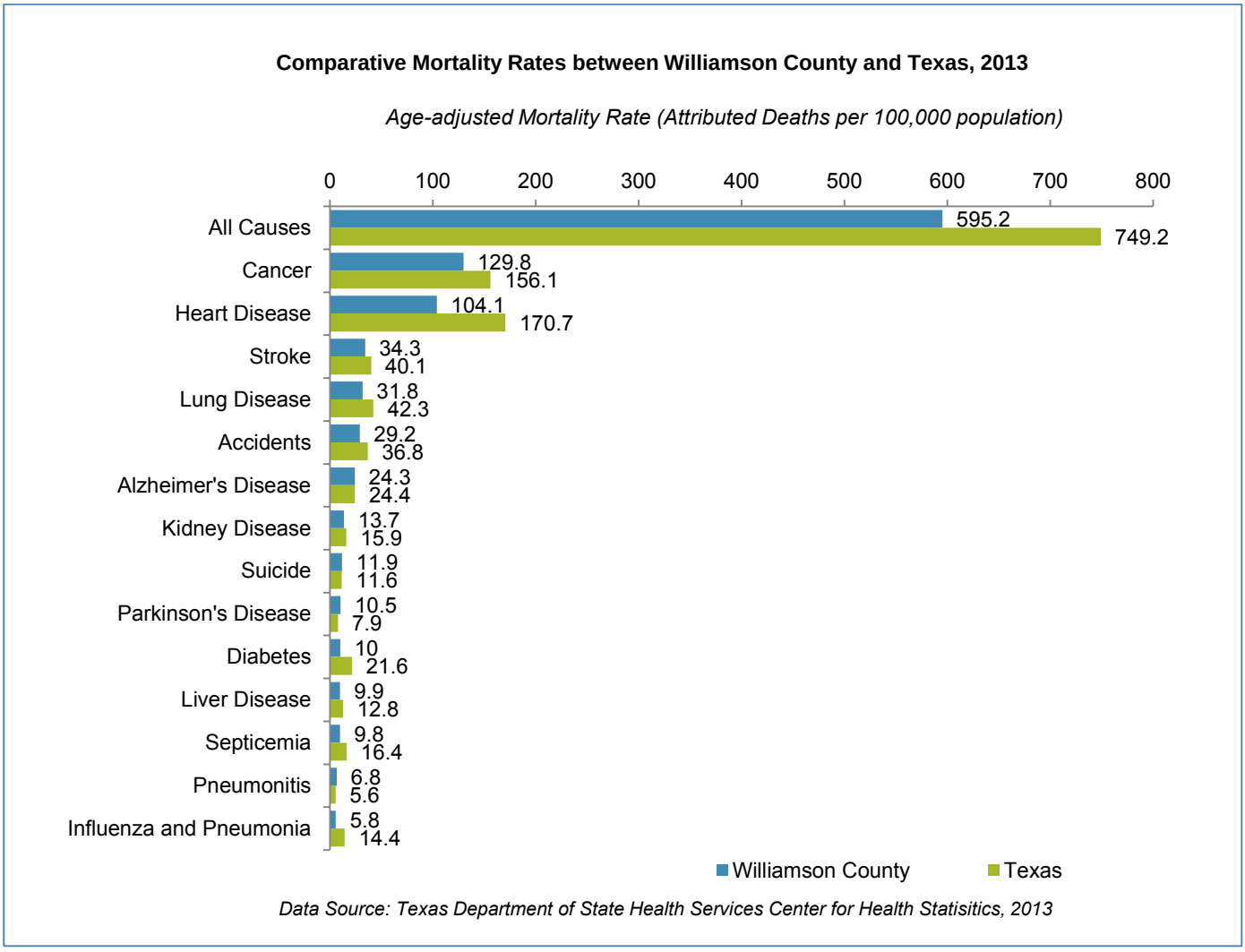
Over the past century, the leading causes of death in the U.S. have shifted from infectious diseases and acute illnesses to chronic and degenerative illnesses (9). From 2004 to 2013, cancer and heart disease were responsible for over 40% of all attributed causes of death in Williamson County. However, influenza and pneumonia have continued to be a common cause of death in both the county and the state. In 2013, the top 10 causes of death in Williamson County were: 1. Cancer, 2. Heart Disease, 3. Stroke, 4. Lung Disease, 5. Accidents, 6. Alzheimer's Disease, 7. Kidney Disease, 8. Suicide, 9. Parkinson's Disease, and 10. Diabetes Mellitus (Figure 44).

Figure 44: Leading Causes of Death in Williamson County by Year, 2004-2013



In general, Williamson County (595.2 deaths per 100,000 population) has lower age-adjusted death rate than in Texas (749.2 deaths per 100,000 population). Among the more common causes of death, Williamson County only had higher mortality rates in 2013 for Parkinson's disease and pneumonitis as compared to Texas as a whole. In contrast to Williamson County, the leading cause of death in Texas in 2013 was heart disease (Figure 45).

Figure 45: Comparative Mortality Rates between Williamson County and Texas, 2013



Chronic Disease

Chronic diseases are one of the most "common, costly, and preventable of all health problems" (39). More than a quarter of all Americans and two out of every three older Americans have multiple chronic conditions, and treatment for this population accounts for 66% of the country's healthcare budget (9). Chronic diseases are complex and can involve many individual and environmental factors; however, persons can reduce their risk by reducing behavioral risk factors and by adopting a healthy lifestyle. Chronic diseases such as cancer, heart disease, stroke, chronic lower respiratory disease, and diabetes are the leading causes of death, disease, injury, and disability in Williamson County.

Cancer

Cancer is the leading cause of death in Williamson County (Table 16), and it has been for ten years (Figure 44). Cancer occurs when abnormal cells divide uncontrollably and invade other parts of the body. Many different types of cancer exist including breast, cervical, colorectal, liver, lung, oral, ovarian, prostate, skin, uterine, vaginal, and vulvar. Risk for cancer can be reduced by practicing certain preventative practices such as routine cancer screening, vaccinating for human papillomavirus (HPV) in males and females aged 9 to 26, avoiding tobacco use and excess alcohol consumption, increasing physical activity and healthy eating, and reducing sun exposure (40).

Death rates for all cancer, as well as breast, colorectal, lung, and prostate cancer for the county were below the rates for Texas and HP2020 targets in 2012 (Table 16). From 2009-2013, death rates from all cancer in Williamson (136.3 deaths per 100,000 population) were below Texas (161.5 deaths per 100,000 population) and HP2020 (160.6 deaths per 100,000 population).

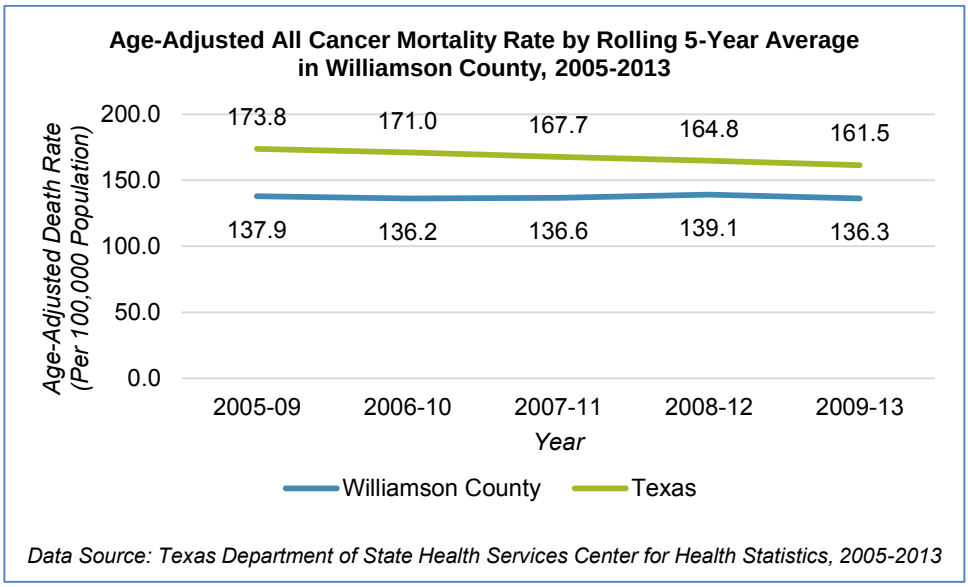
Table 16: Age-adjusted Cancer Death Rates by Cancer Type in Williamson County and Texas, 2012

Indicator	Williamson County	Texas	HP2020
All Cancer	142.3	164.6	160.6
Breast Cancer (Per 100,000 females)	19.3	21.0	20.7
Colorectal Cancer	12.9	15.4	14.5
Lung Cancer	37.6	43.5	45.5
Prostate Cancer (Per 100,000 males)	14.2	19.6	21.2

Data Source: Surveillance, Epidemiology, and End Results Program State Cancer Profiles, 2012

Since 2005, death rates as indicated by 5-year rolling averages from all cancer in the county and in the state have slowly decreased with county rates consistently lower than the state (Figure 46).

Figure 46: Age-Adjusted All Cancer Mortality Rate by Rolling 5-Year Average in Williamson County, 2005-2013



Data Source: Texas Department of State Health Services Center for Health Statistics, 2005-2013

Furthermore, all cancer death rates in Williamson County for both genders and all races/ethnicities fell below the HP2020 target **(Figure 47 and Figure 48)**. Still, males (160.5 deaths per 100,000 population), non-Hispanic Whites (143.0 deaths per 100,000 population), and Blacks/African Americans (169.4 deaths per 100,000 population) had higher all-cancer death rates as compared to the rate for the general county population (136.3 deaths per 100,000 population).

Figure 47: Age-Adjusted All Cancer Mortality Rate by Gender in Williamson County and Texas, 2009-2013

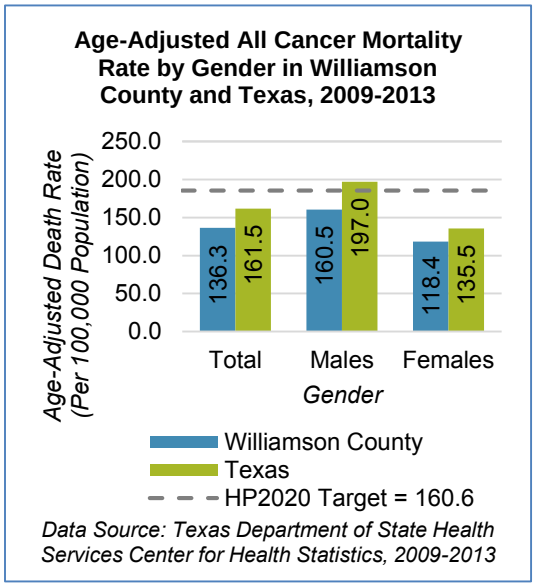
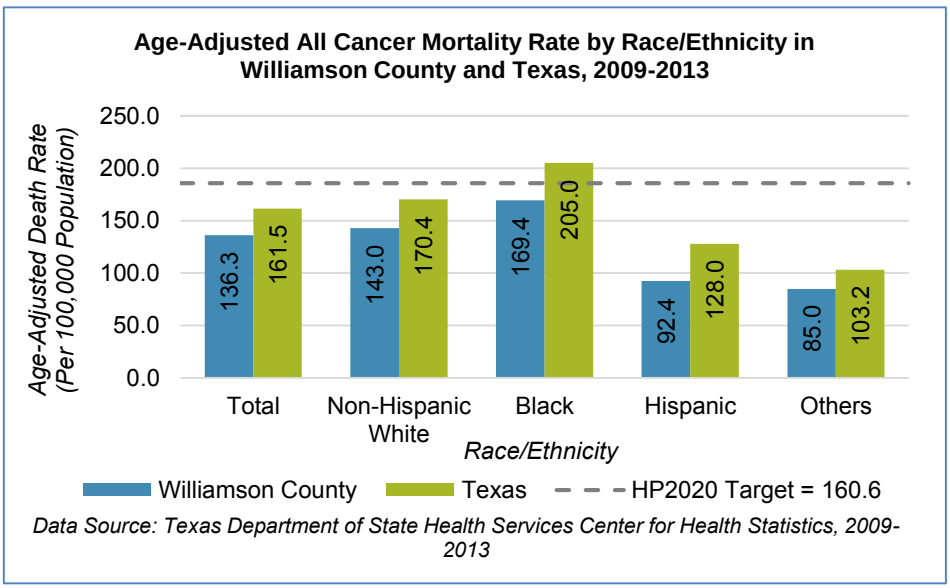


Figure 48: Age-Adjusted All Cancer Mortality Rate by Race/Ethnicity in Williamson County and Texas, 2009-2013

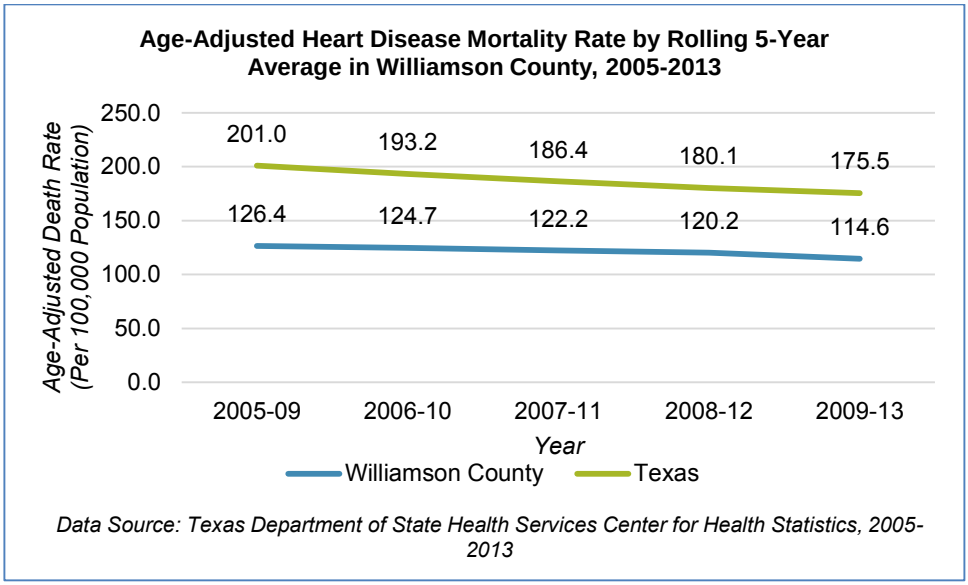


Heart Disease

Heart disease is the second leading cause of death in Williamson County **(Figure 45).** According to the CDC, heart disease includes many types of heart conditions. The most common in the United States is coronary artery disease (CAD) (41). CAD decreases blood flow to the heart and over time can weaken the heart muscle. This may lead to heart failure, an irregular heartbeat, arrhythmia, or heart attack. Many heart diseases, including CAD, can be controlled by making lifestyle changes (reducing risk factors), such as eating a healthier (lower sodium, lower fat) diet, increasing physical activity, and quitting smoking. However, certain risk factors cannot be controlled such as age and family history (41).

Heart disease mortality rates, as indicated by five-year rolling averages from 2009 to 2013, have been declining in both Williamson County and Texas **(Figure 49).**

Figure 49: Age-Adjusted Heart Disease Mortality Rate by Rolling 5-Year Average in Williamson County, 2005-2013



In Williamson County these rates have been consistently lower than in Texas as a whole (114.6 deaths per 100,000 population on average for the five-year period 2009-2013 in the county as compared to 175.5 deaths/100,000 in Texas). Males (144.1 deaths/100,000 population) and Black/African Americans (145.1 deaths/100,000 population) bear a disproportionate burden of mortality in the county as well as in the state (Figure 50 and Figure 51).

Figure 50: Age-Adjusted Heart Disease Mortality Rate by Gender in Williamson County and Texas, 2009-2013

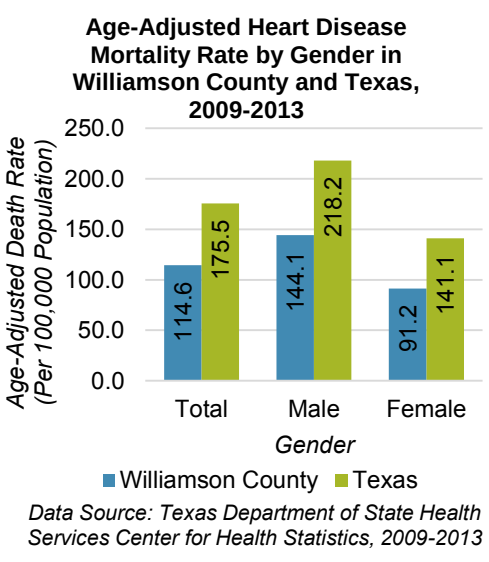
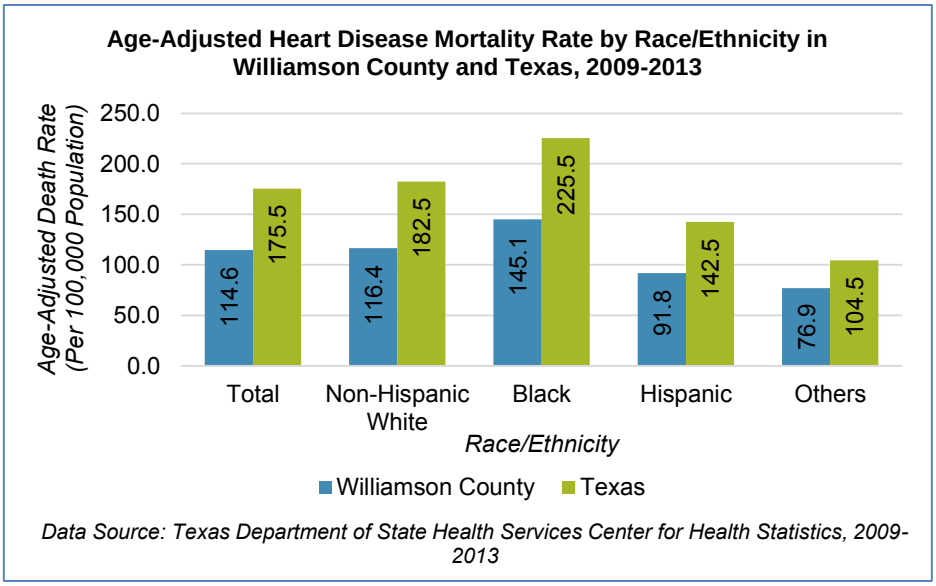


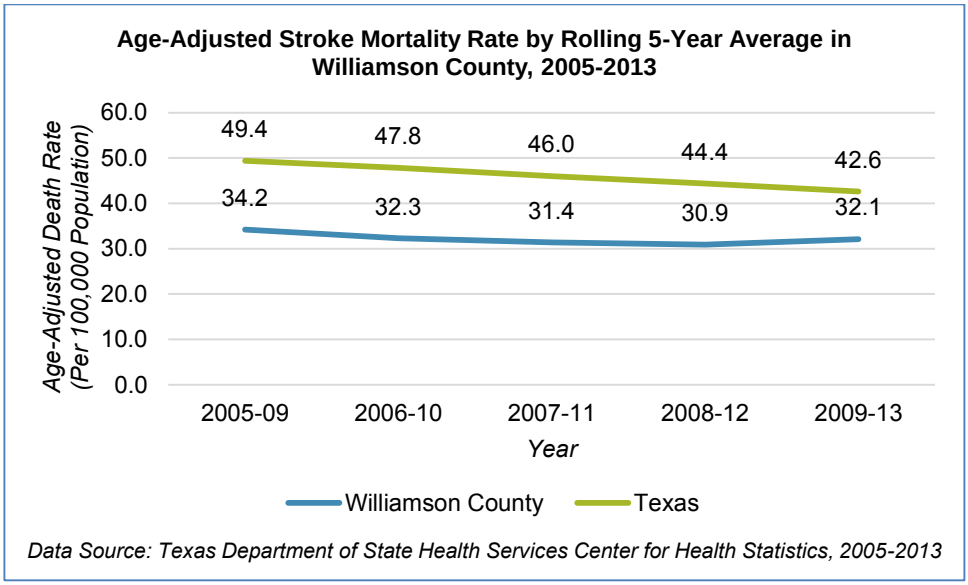
Figure 51: Age-Adjusted Heart Disease Mortality Rate by Race/Ethnicity in Williamson County and Texas, 2009-2013



Stroke

Stroke was the third leading cause of death in Williamson County in 2013 and is a major cause of adult disability (42) (Figure 45). According to the CDC, stroke occurs when the flow of blood to the brain is interrupted and brain cells begin to die due to lack of oxygen. Like heart disease, certain risk factors, such as age and family history, cannot be controlled; however, certain risk factors such as tobacco and alcohol use, physical inactivity, and unhealthy eating can be controlled (42). Stroke mortality rates as indicated by 5-year rolling averages have decreased since 2005 for the both the county and the state; however, rates in the county have slightly increased during the 5-year average from 2009-2013 (Figure 52).

Figure 52: Age-Adjusted Stroke Mortality Rate by Rolling 5-Year Average in Williamson County, 2005-2013



Still, stroke mortality rate in the county (32.1 deaths per 100,000 population) fell below both Texas (42.6 deaths per 100,000 population) and the HP2020 target (34.8 deaths per 100,000 population) (Figure 53). Hispanics (35.8 deaths per 100,000 population) and Black/African Americans (54.5 deaths/100,000 population) exceeded the HP2020 goal (Figure 54).

Figure 53: Age-Adjusted Stroke Mortality Rate by Gender in Williamson County and Texas, 2009-2013

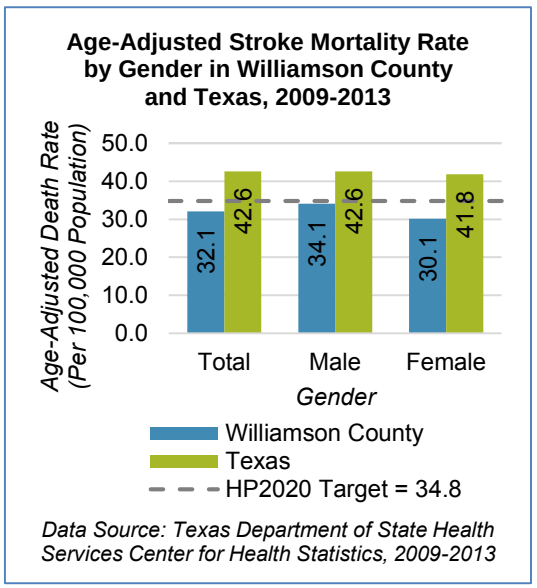
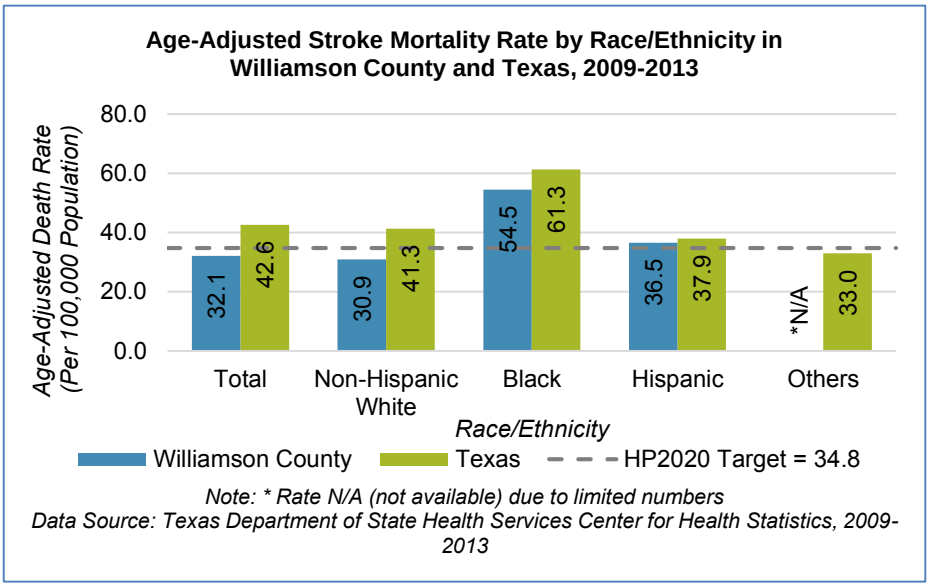


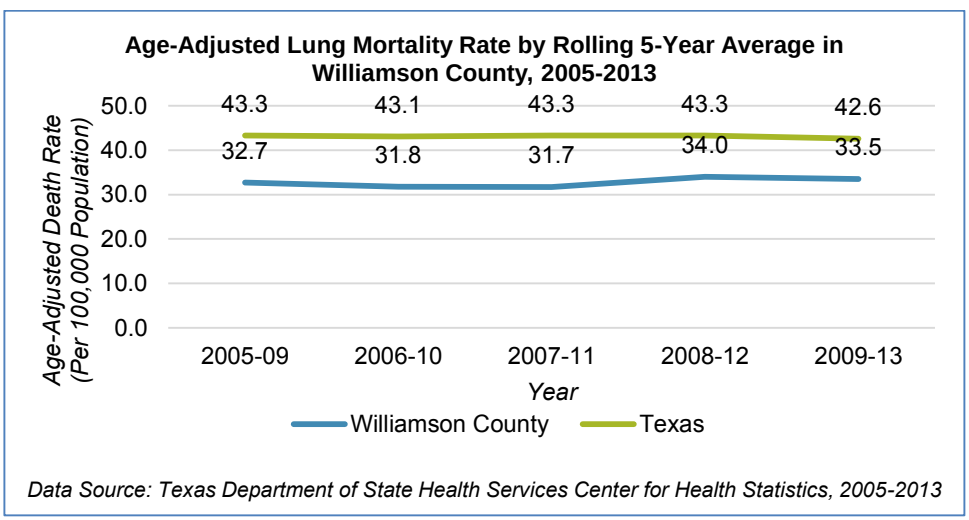
Figure 54: Age-Adjusted Stroke Mortality Rate by Race/Ethnicity in Williamson County and Texas, 2009-2013



Lung Disease

According to the CDC, chronic lower respiratory disease (CLRD) or lung disease are conditions that block airflow and cause issues with breathing. One specific disease is Chronic Obstructive Pulmonary Disease (COPD). Lung disease can also involve emphysema, chronic bronchitis, and in some cases asthma. The main risk factor for lung disease is exposure to tobacco smoke; however, air pollution, family history, and respiratory infections can also increase risk (26). Since 2005, death rates in the county have increased from 31.7 deaths per 100,000 population in the 5-year average in 2007-2011 to 33.5 deaths per 100,000 population in 2009-2013. Still rates are lower in the county than in the state (Figure 55).

Figure 55: Age-Adjusted Lung Mortality Rate by Rolling 5-Year Average in Williamson County, 2005-2013



In Williamson County, lung disease disproportionately affects both males (38.3 deaths per 100,000 population) and non-Hispanic Whites (36.7 deaths per 100,000 population) (Figure 56 and Figure 57).

Figure 56: Age-Adjusted Lung Disease Mortality Rate by Gender in Williamson County and Texas, 2009-2013

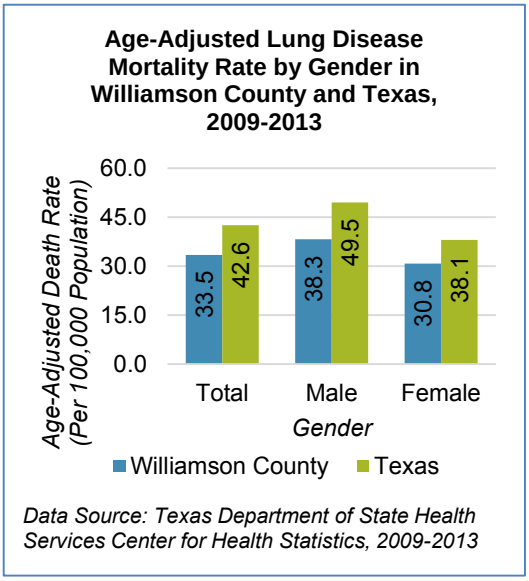
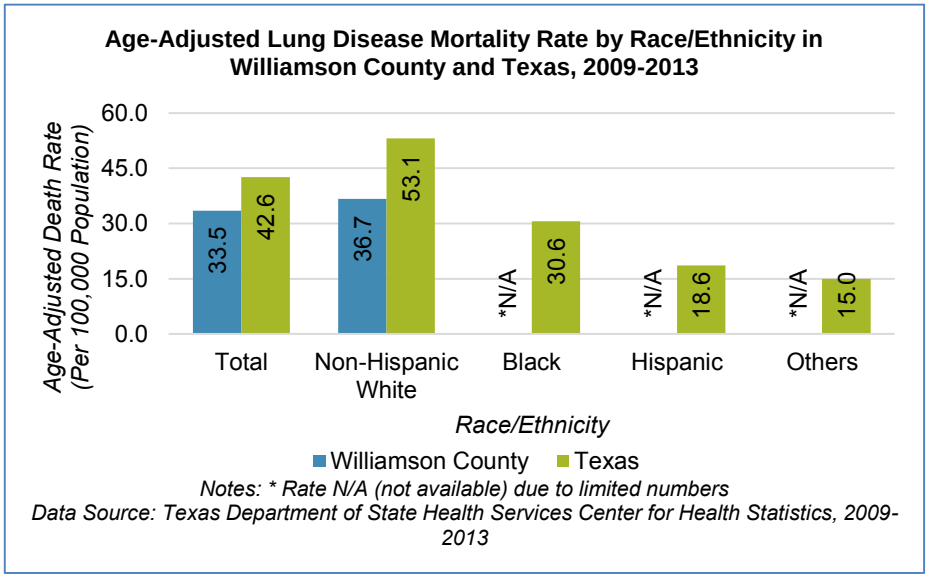


Figure 57: Age-Adjusted Lung Disease Mortality Rate by Race/Ethnicity in Williamson County and Texas, 2009-2013



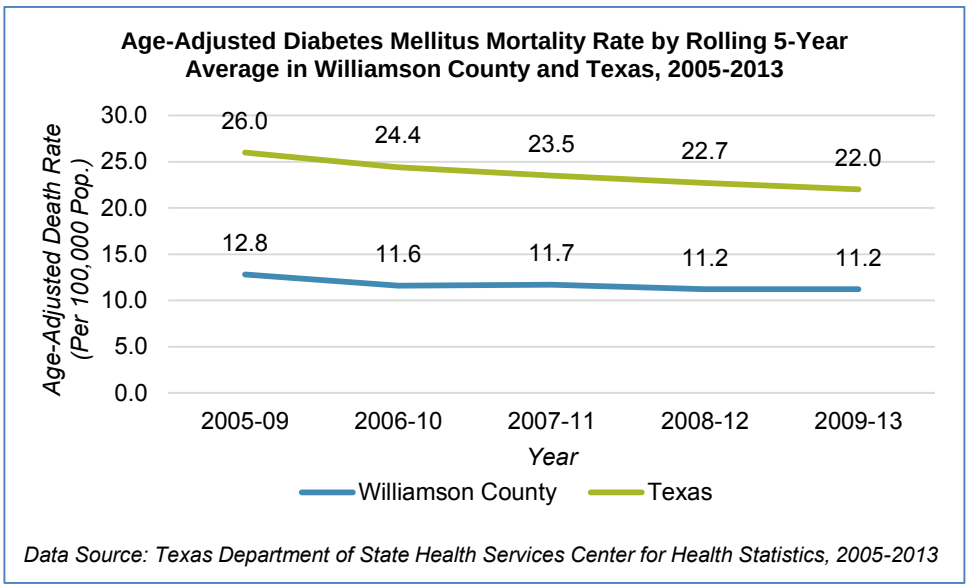
Diabetes Mellitus

> *"Well, more than anything, it's diabetes." (A disease that affects the community)* – Focus group participant

Diabetes mellitus (DM) is a disease where blood sugar levels are elevated above normal and can cause serious health complications including heart disease, blindness, kidney failure, and lower-extremity amputations. There are three types of DM: Type 1, Type 2, and gestational. Type 2 DM, accounts for about 90% to 95% of all diagnosed cases of diabetes (43). Obesity, family history, physical inactivity, older age, and reduced glucose intolerance can increase risk for Type 2 DM. Prevention and treatment involve a healthy diet, physical exercise, maintaining a normal body weight, and avoiding use of tobacco (43).

About 8.4% of adults in Williamson County were diagnosed with diabetes in 2012 (43). Total diabetes-related death rates in the county and the state fall far below the HP2020 target of 66.6 deaths/100,000 population **(Figure 58).**

Figure 58: Age-Adjusted Diabetes Mellitus Mortality Rate by Rolling 5-Year Average in Williamson County and Texas, 2005-2013



The average annual death rate in the county from diabetes from 2009 to 2013 was 11.2 deaths per 100,000 population, affecting more males (13.9 deaths per 100,000 population), Blacks/African Americans (41.4 deaths per 100,000 population), and Hispanics (21.5 deaths per 100,000 population). No mortality rates were calculable for other races/ethnicities (Figure 59 and Figure 60).

Figure 59: Age-Adjusted Diabetes Mellitus Mortality Rate by Gender in Williamson County and Texas, 2009-2013

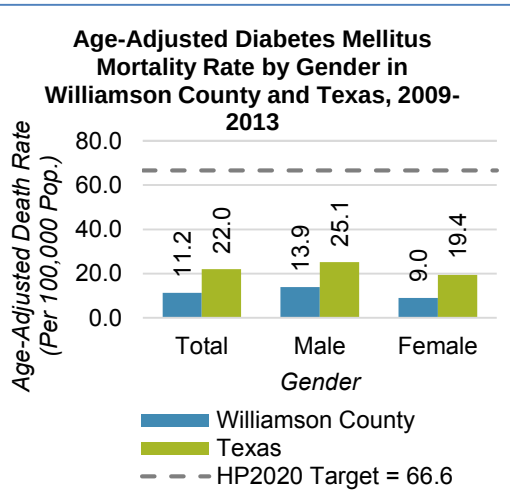
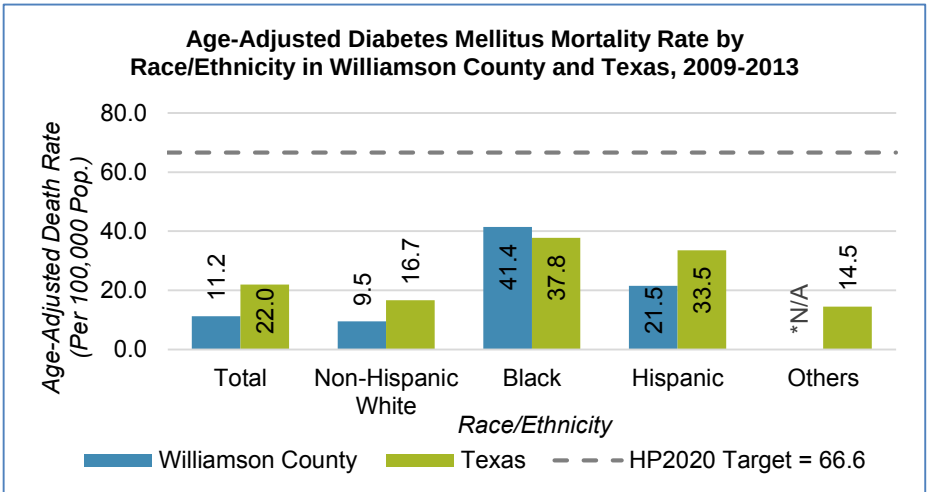


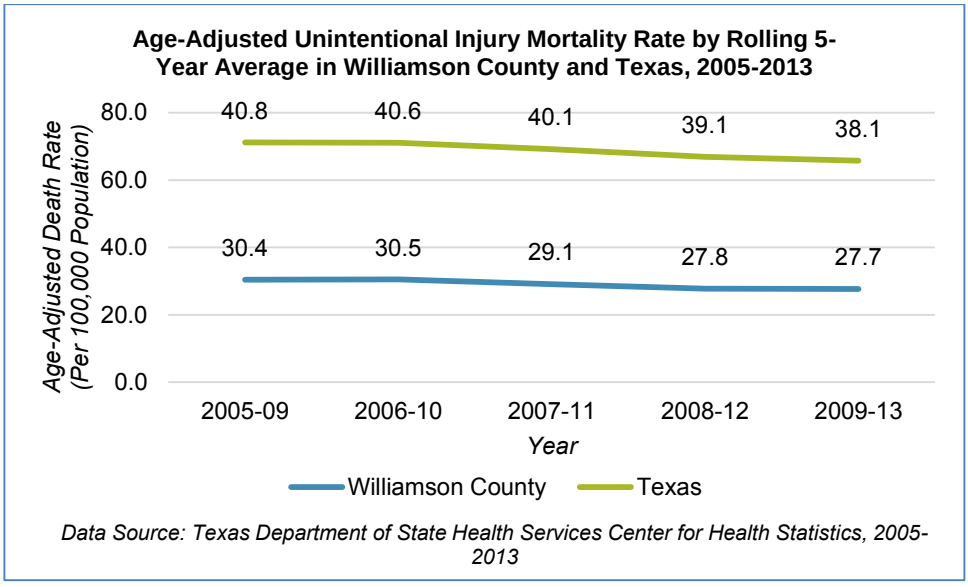
Figure 60: Age-Adjusted Diabetes Mellitus Mortality Rate by Race/Ethnicity in Williamson County and Texas, 2009-2013



Unintentional Injuries (Accidents)

Deaths due to unintentional injuries (accidents) can result from car accidents, poisonings, and falls (44). Since 2005, death rates in the county and the state from unintentional injury have decreased **(Figure 61).** In total, the Williamson County age-adjusted death rates for unintentional injuries or accidents (27.7 deaths per 100,000 population) were lower in 2009 to 2013 than in Texas (38.1 deaths per 100,000 population annual average rate), and lower than the HP2020 goal (36.0 deaths per 100,000 population).

Figure 61: Age-Adjusted Unintentional Injury Mortality Rate by Rolling 5-Year Average in Williamson County and Texas, 2005-2013



However, death due to unintentional injuries or accidents in the county disproportionately affected males (36.0 deaths per 100,000 population) and non-Hispanic Whites (29.7 deaths per 100,000 population) **(Figure 62 and Figure 63)**.

Figure 62: Age-Adjusted Unintentional Injury Mortality Rate by Gender in Williamson County and Texas, 2009-2013

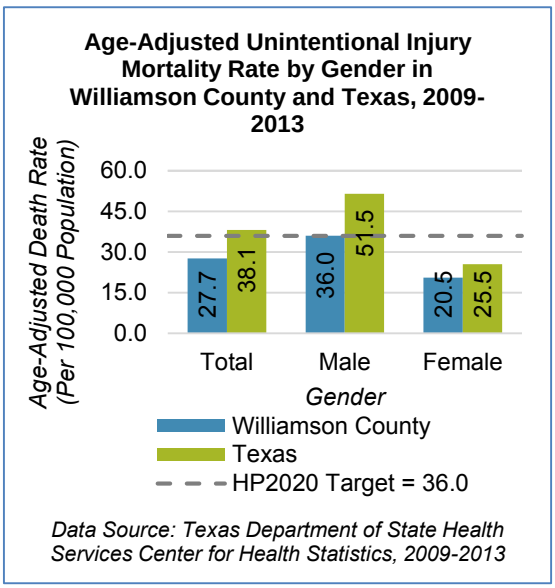
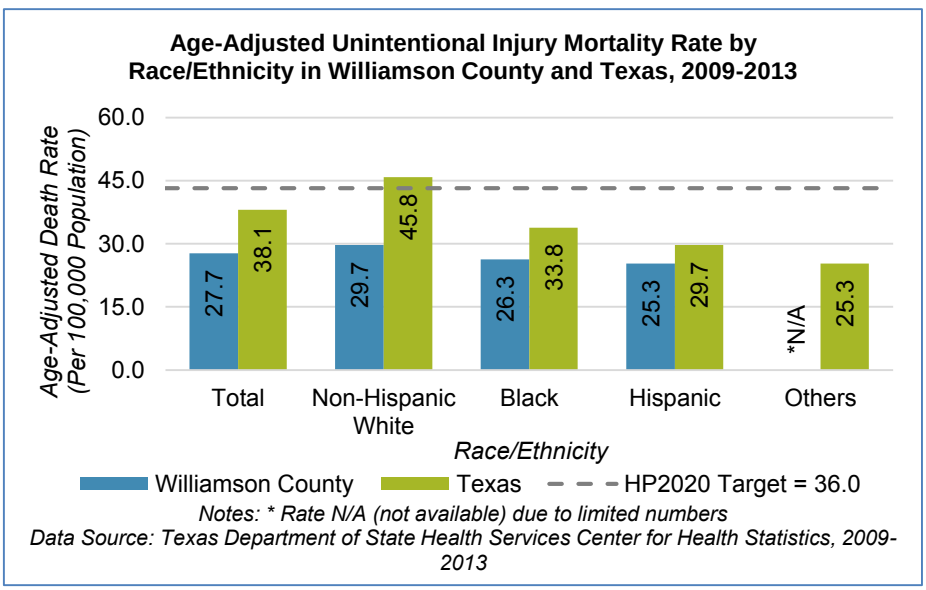


Figure 63: Age-Adjusted Unintentional Injury Mortality Rate by Race/Ethnicity in Williamson County and Texas, 2009-2013



C10. Communicable Disease

Bacteria, viruses, or other microorganisms cause infectious diseases. In the 19th and early 20th century, the leading causes of death in the U.S. and Texas were attributed to infectious diseases, including influenza, smallpox, and certain enteric diseases. Public health and medical advances such as vaccine development, treatment for infectious diseases, improved disease screening and surveillance, and improvements in sanitation have facilitated the reduction in infectious disease incidence and mortality (45).

Despite the shift in causes of death, infectious diseases still pose a significant public health and medical concern in the United States, Texas, and indeed worldwide. Certain behaviors can greatly reduce the risk of spreading infections. Proper hand washing, for example, can prevent the transmission of many diseases. Vaccinations reduce illnesses and deaths from diseases such as influenza, pertussis (whooping cough), measles, mumps, and others. Avoidance of risky sexual behaviors reduces the spread of HIV, chlamydia, gonorrhea, syphilis, and other disorders (45).

The following sections address optional communicable disease topics as suggested by the NACCHO MAPP Core Indicator List. WCCHD and/or DSHS collects data through a passive surveillance system established to collect reports of conditions (diseases) contained on the "Texas Notifiable Conditions List," a set of diseases which are required by Texas law to be reported by health care providers, hospitals, laboratories, schools, and others to health departments in Texas. Several Texas laws (Health & Safety Code, Chapters 81, 84, and 87) require specific information regarding notifiable conditions be provided to DSHS. Health care providers, hospitals, laboratories, schools, and others are required to report patients who are suspected of having a notifiable condition (Chapter 97, Title 25, Texas Administrative Code) (46). Reports are gathered at local health departments, then are submitted to

DSHS, and, ultimately for most conditions, to the CDC. A limitation is that this system only captures illnesses that are reported to health departments, potentially missing possible cases of undetected or unreported illnesses. Therefore, these data are helpful to observe trends and counts to apply interventions, but do not completely represent the actual burden of these illnesses. The following sections briefly summarize reports made by providers to WCCHD and/or DSHS of selected notifiable conditions that met DSHS case criteria.

Sexually Transmitted Infections

Syphilis

Syphilis is a sexually transmitted infection (STI) with the bacterium *Treponema pallidum* that can cause severe, long-term complications if not treated with antibiotics correctly (47). Syphilis is reported as primary, secondary or late (latent) stage, depending on the stage of illness at diagnosis. Primary and secondary (P&S) syphilis are the earliest stages, reflect symptomatic disease, and are indicators of more recent infection (47).

Between 2007 and 2014, the annual rates of reported P&S and total syphilis (primary, secondary, late stage) in Williamson County remained mostly static and lower than Texas rates **(Figure 64 and Figure 65).**

Figure 64: Total Syphilis Rates by Year of Diagnosis in Williamson County and Texas, 2007-2014

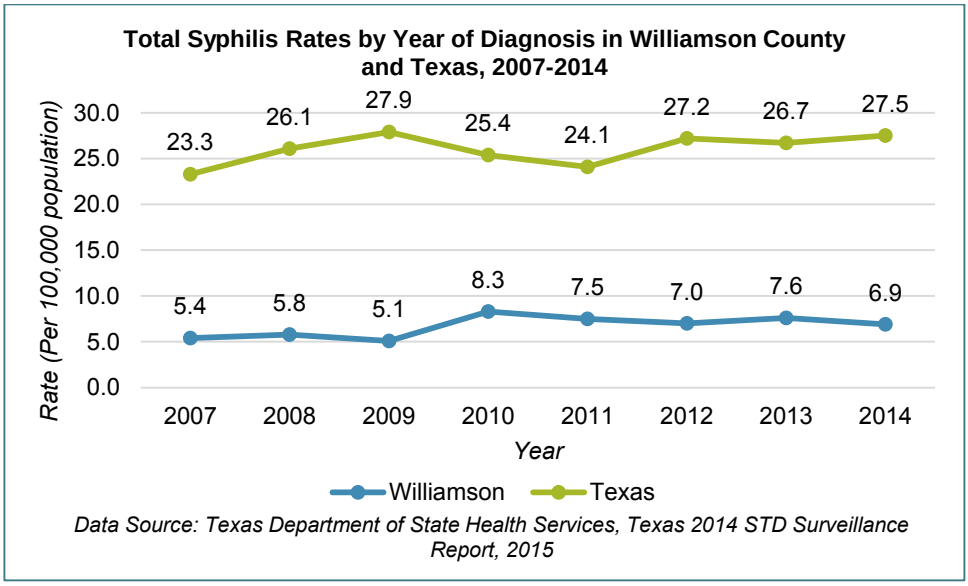
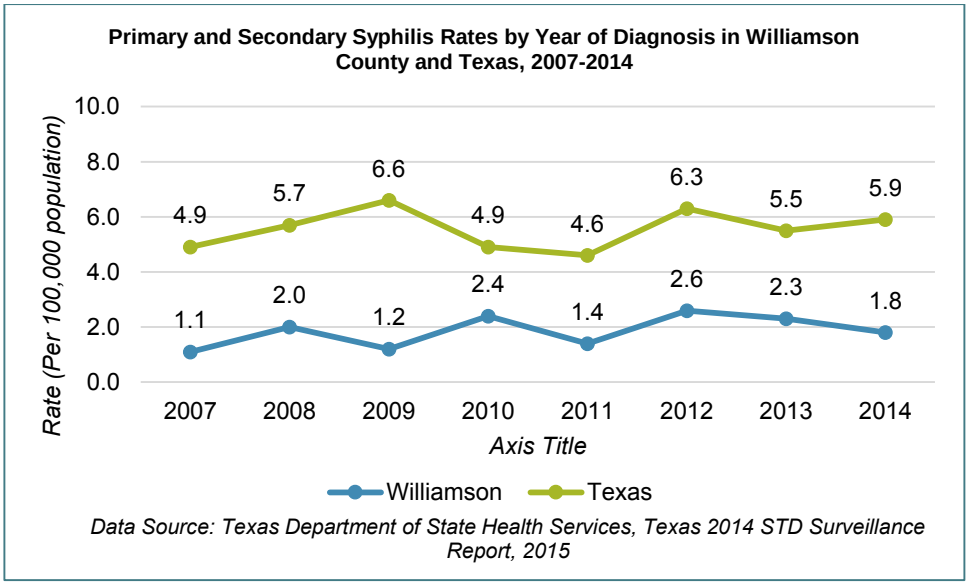


Figure 65: Primary and Secondary Syphilis Rates by Year of Diagnosis in Williamson County and Texas, 2007-2014



Among Williamson County males, the 2014 rate of reported P&S syphilis was 3.3 per 100,000 population, a rate lower than the HP2020 target of 6.7 P&S infections per 100,000 males. Females also met the HP2020 target of 1.3 P&S infections per 100,000 females for P&S syphilis with a rate of 0.4 per 100,000 population (Figure 66). Blacks/African Americans had the highest rate for reported P&S syphilis at 3.12 per 100,000 population, over 2.5 or more times higher than other racial groups in Williamson County (Figure 67).

Figure 66: Primary and Secondary Syphilis Rates by Gender in Williamson County and Texas, 2014

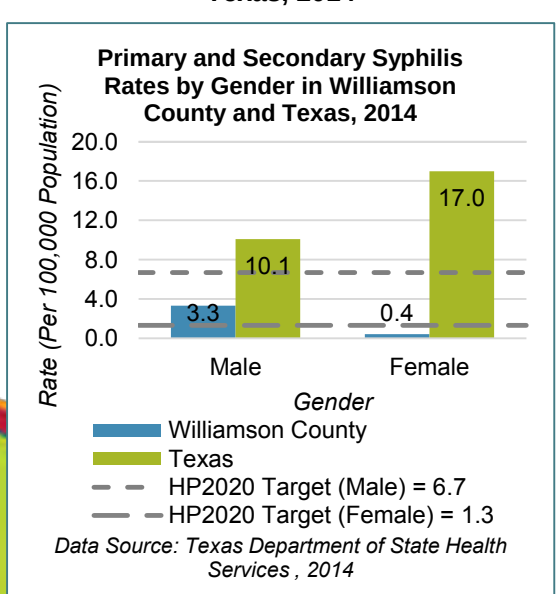
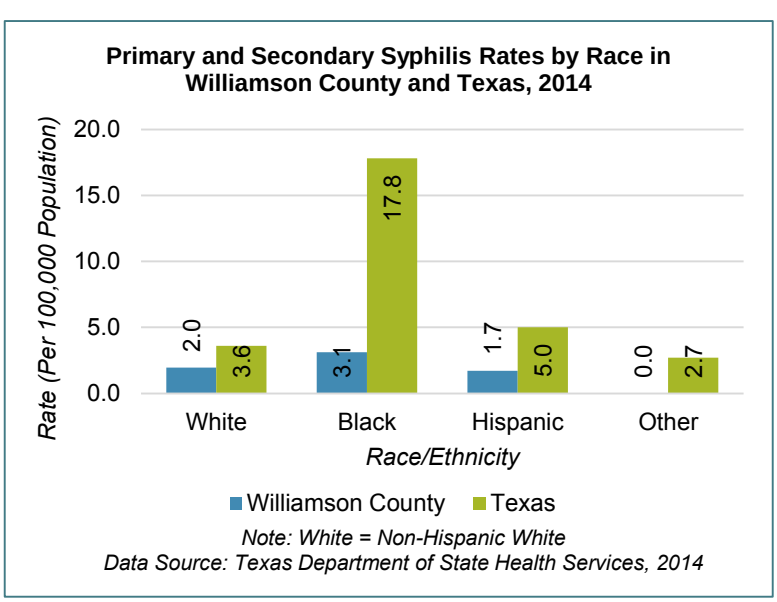
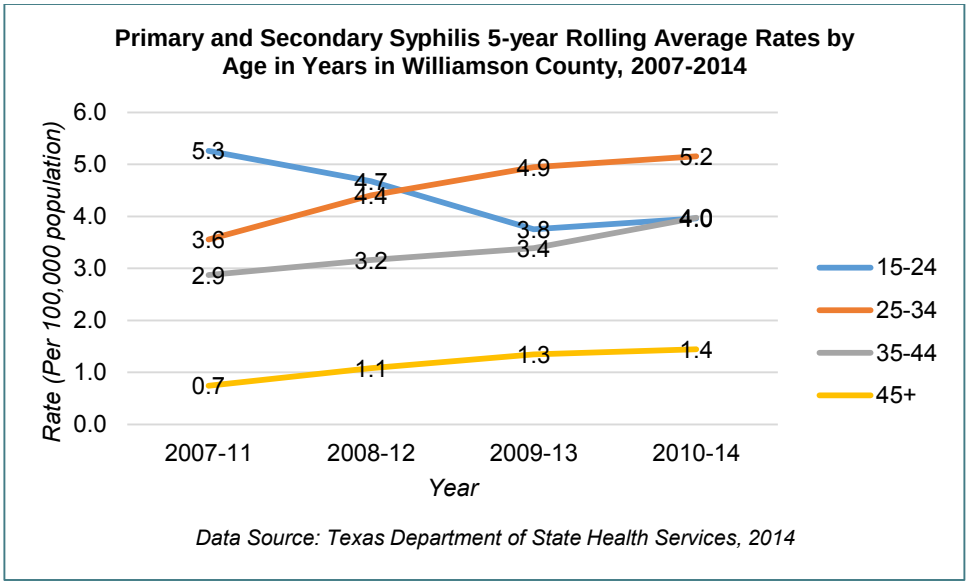


Figure 67: Primary and Secondary Syphilis Rates by Race in Williamson County and Texas, 2014



Furthermore, rates of reported syphilis were highest among 15-24 and 25-34 age groups during 2007-2014 (Figure 68).

Figure 68: Primary and Secondary Syphilis Rates by Age in Years in Williamson County, 2007-2014

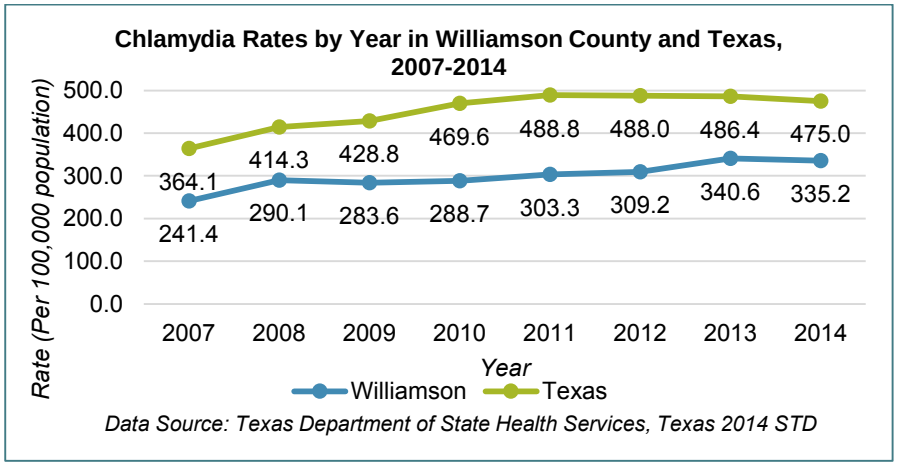


Chlamydia

Chlamydia is a sexually transmitted infection (STI) caused by the bacterium *Chlamydia trachomatis*. Chlamydia is the most commonly reportable cause of STIs in the United States and in Texas (48). It can cause inflammation of the cervix and urethra in women and inflammation of the urethra and rectal lining in men. Easily treatable with antibiotics, untreated infection can result in pelvic inflammatory disease (PID), which is a major cause of infertility, ectopic pregnancy, and chronic pelvic pain (48). Chlamydia is commonly asymptomatic and screening is necessary to identify most infections (49).

Despite rates being lower than in Texas, the reported chlamydia rates in Williamson County have steadily risen since 2007 (Figure 69)

Figure 69: Chlamydia Rates by Year in Williamson County and Texas, 2007-2014



Additionally, the reported rate in Williamson County females (490.69 per 100,000 population) was higher than in males (173.03 per 100,000 population), which may be attributed to increased screening rates due to risk of severe outcomes for females (DSHS, 2012) (Figure 70). Chlamydia rates were disproportionately reported in Black/African Americans (616.16 per 100,000 population), more than double the rate in Hispanics (275.79 per 100,000 population), and followed by non-Hispanic Whites (141.27 per 100,000 population) (Figure 71).

Figure 70: Chlamydia Rates by Gender in Williamson County and Texas, 2014

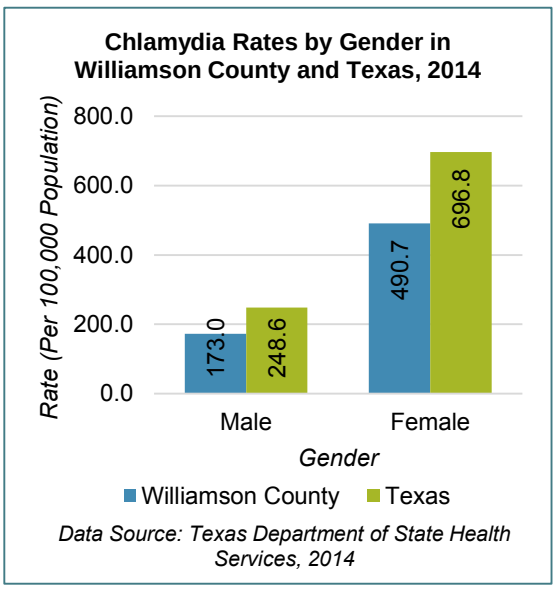
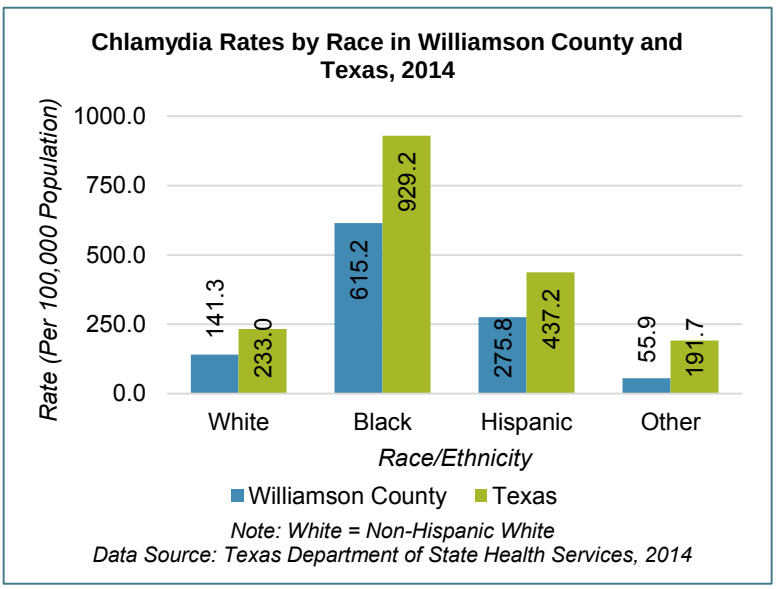
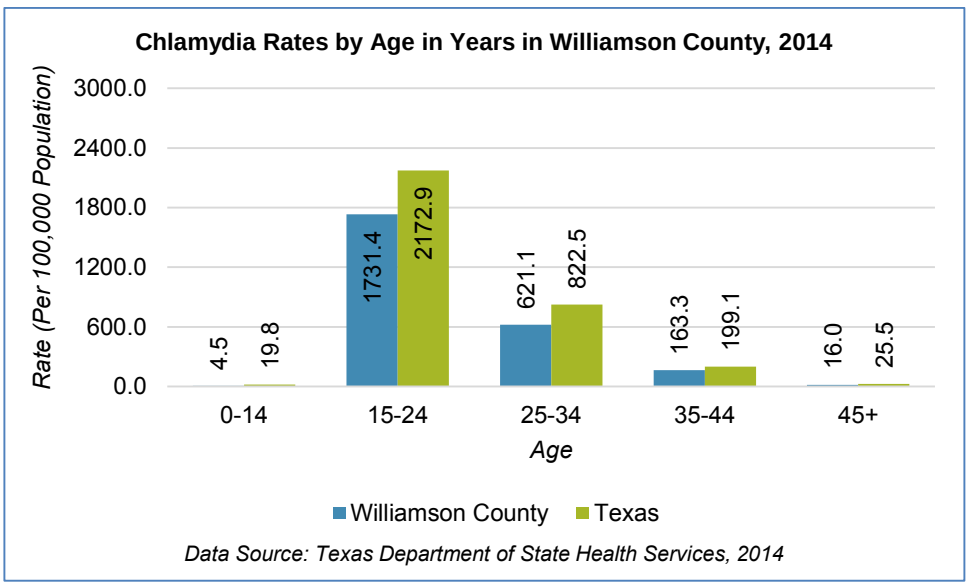


Figure 71: Chlamydia Rates by Race in Williamson County and Texas, 2014



The 15-24 age group had double the rate compared to all other age groups (Figure 72).

Figure 72: Chlamydia Rates by Age in Years in Williamson County and Texas, 2014

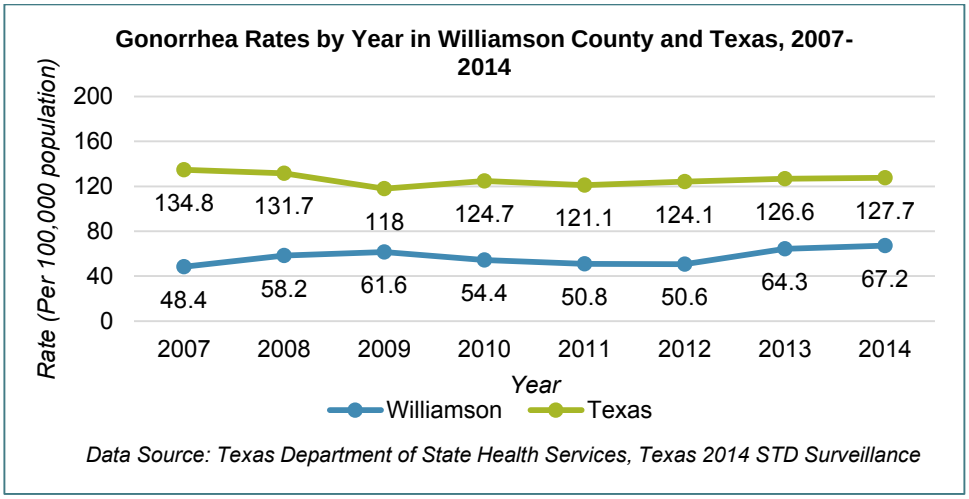


Gonorrhea

Gonorrhea is an STI caused by the bacterium *Neisseria gonorrhoeae* that infects the mucous membranes of the reproductive tract, the cervix, uterus, and fallopian tubes in women, and the urethra in women and men. Gonorrhea infection can also occur in the mouth, throat, eyes and anus (49). Much like chlamydia, gonorrhea can cause very serious complications when not treated, but can be cured with the right antibiotics.

While lower than those in Texas as a whole, the rates of reported gonorrhea in Williamson County have steadily risen during 2007-2014 (Figure 73).

Figure 73: Gonorrhea Rates by Year in Williamson County and Texas, 2007-2014



HP2020 targets for reported gonorrhea rates in males (194.8 per 100,000 population) and females (251.9 per 100,000 population), respectively, were achieved by Williamson County (68.21 and 66.31 per 100,000 population) (Figure 74). However, Blacks/African Americans (259.18 per 100,000 pop) had nearly triple the rates compared to non-Hispanic white, Hispanic, and Other combined race/ethnicity groups (Figure 75).

Figure 74: Gonorrhea Rates by Gender in Williamson County and Texas, 2014

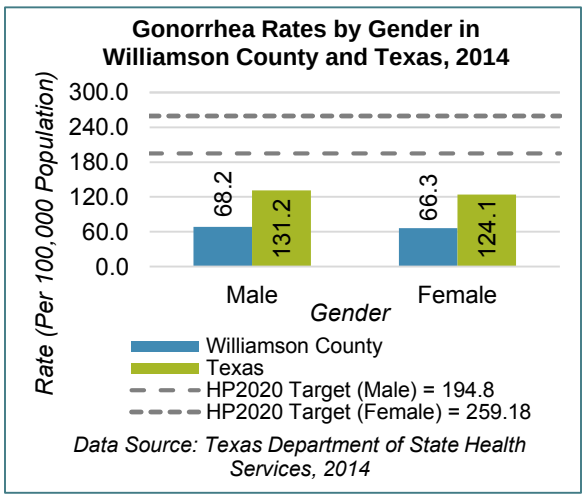
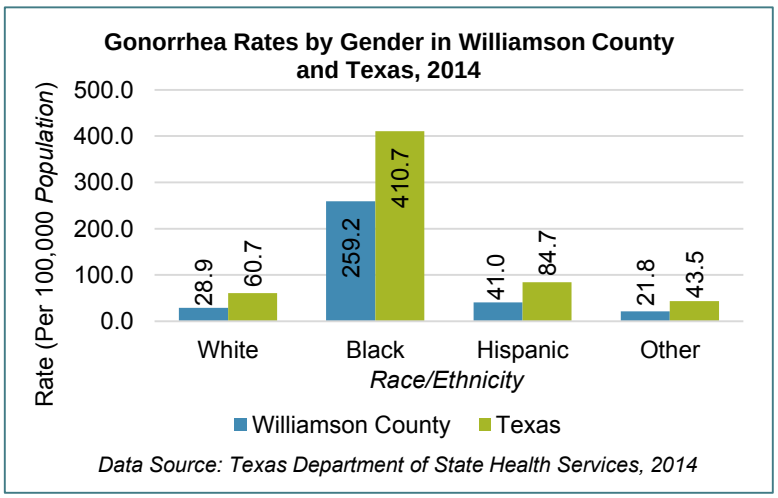
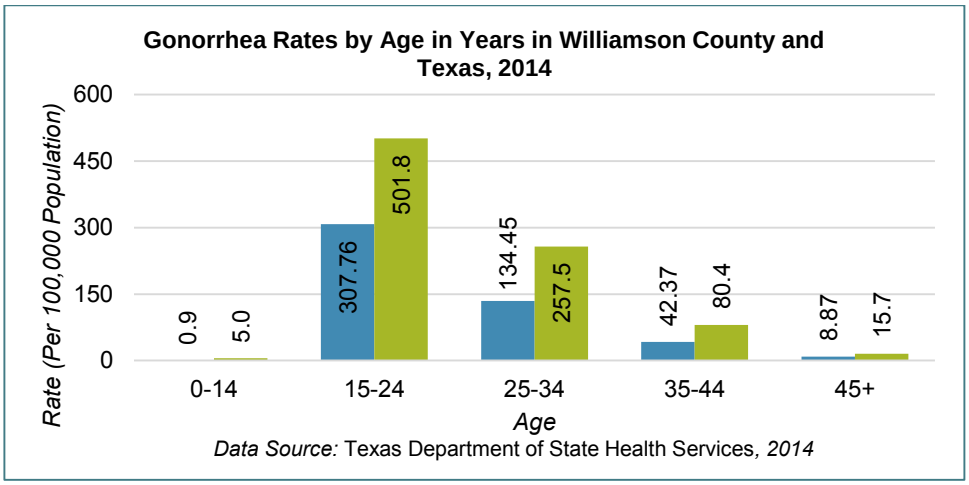


Figure 75: Gonorrhea Rates by Race in Williamson County and Texas, 2014



The highest rates were reported in the 15-24 year (307.76 per 100,000 population) and 25-34 year age groups (134.45 per 100,000 population) (Figure 76).

Figure 76: Gonorrhea Rates by Age in Years in Williamson County and Texas, 2014



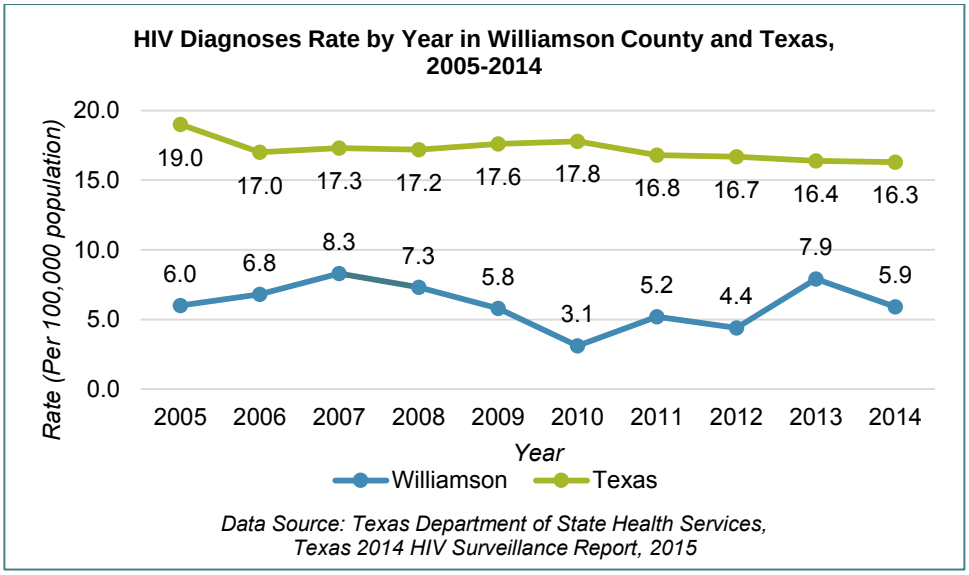
HIV and AIDS

The human immunodeficiency virus (HIV) causes HIV infection and over time acquired immunodeficiency syndrome (AIDS). HIV is transmitted from one person to another through blood, semen, vaginal secretions, and breast milk. HIV cannot be cured, but effective antiviral treatment is available to reduce the consequences of the infection. If untreated, HIV reduces CD4 cells in the body and causes damage to the immune system, which may lead to acquired immune deficiency syndrome (AIDS). AIDS causes progressive failure of the immune system and allows life-threatening opportunistic infections and cancers to thrive (50).

Between 2005 and 2014, the reported rate of newly diagnosed HIV infection in Williamson County remained mostly constant and below the Texas rate (

Figure 77).

Figure 77: HIV Diagnoses Rate by Year in Williamson County and Texas, 2005-2014



The rate for newly diagnosed AIDS in the county and in Texas has decreased over the same time period **(Figure 81).** This may be attributed to advances in treatment, which prevent HIV infections to progressing to AIDS. In 2014, the rate of HIV diagnoses by gender was higher in males (10.81 per 100,000 population) **(**Error! Reference source not found.**)**, in Blacks and Hispanics (12.49 and 8.54 per 100,000 population) **(**Error! Reference source not found.**)**, and in 15-24 year and 25-34 year age groups (16.46 and 13.15 per 100,000 population) **(**Error! Reference source not found.**).**

Figure 78: HIV Diagnoses Rate by Gender in Williamson County and Texas, 2014

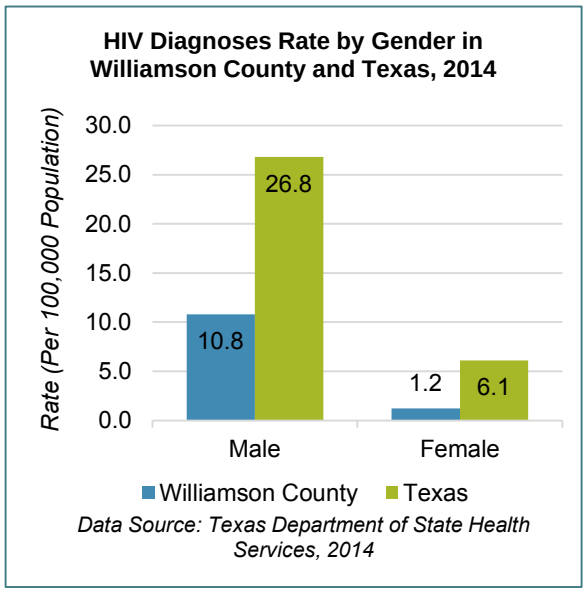


Figure 79: HIV Diagnoses Rate by Race/Ethnicity in Williamson County and Texas, 2014

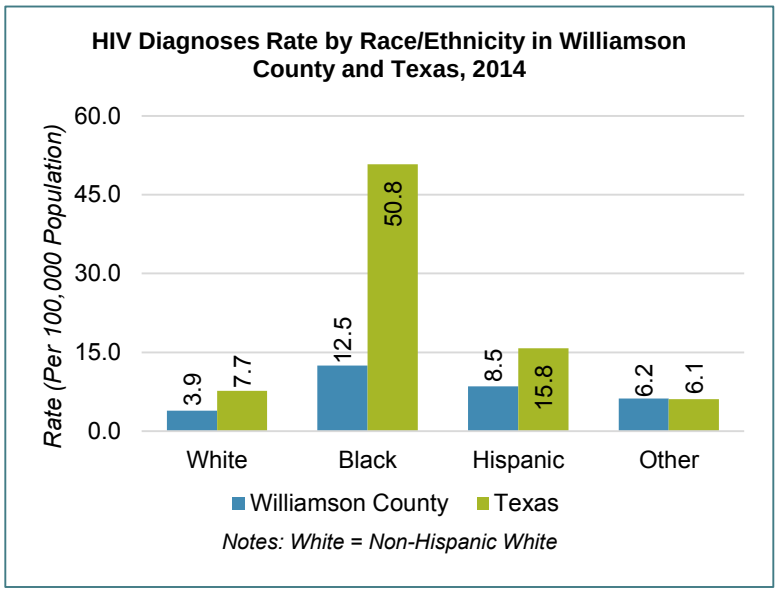


Figure 80: HIV Diagnoses Rate by Age in Years in Williamson County and Texas, 2014

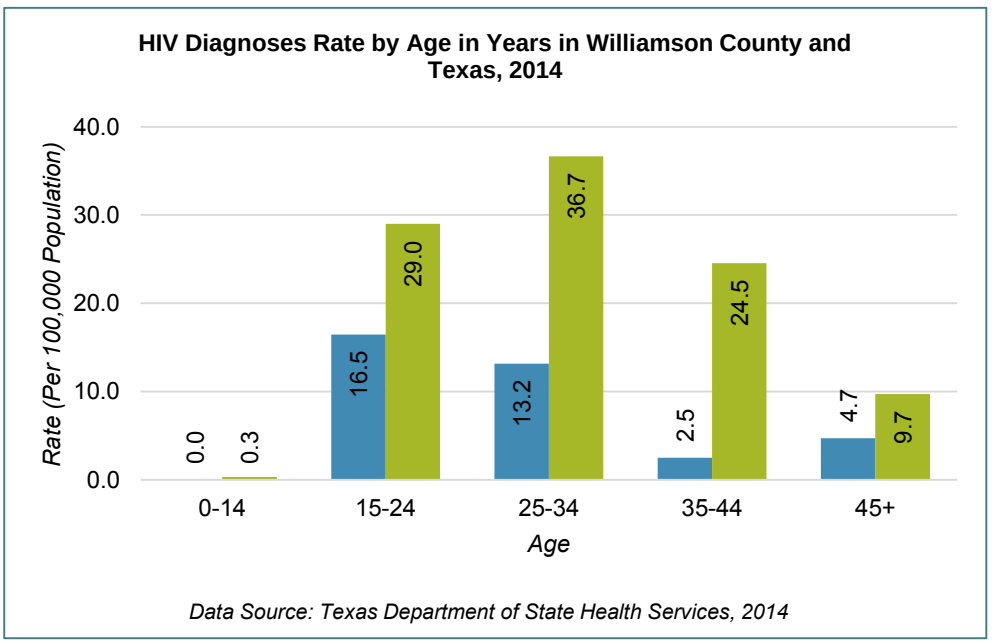
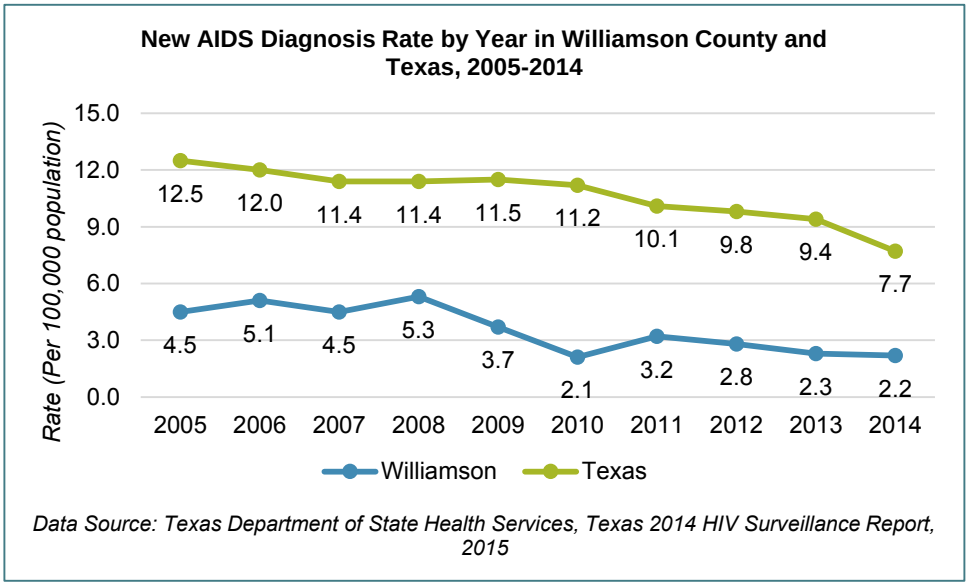


Figure 81: New AIDS Diagnosis Rate by Year in Williamson County and Texas, 2005-2014



In 2014, the rate of AIDS diagnoses by gender was higher in males (12.0 per 100,000 population) (Figure 82), in Blacks and Hispanics (24.5 and 7.2 per 100,000 population) (Figure 83), and in 15-24 year and 25-34 year age groups (4.94 and 5.85 per 100,000 population) (Figure 84).

Figure 82: New AIDS Diagnosis Rate by Gender in Williamson County and Texas, 2014

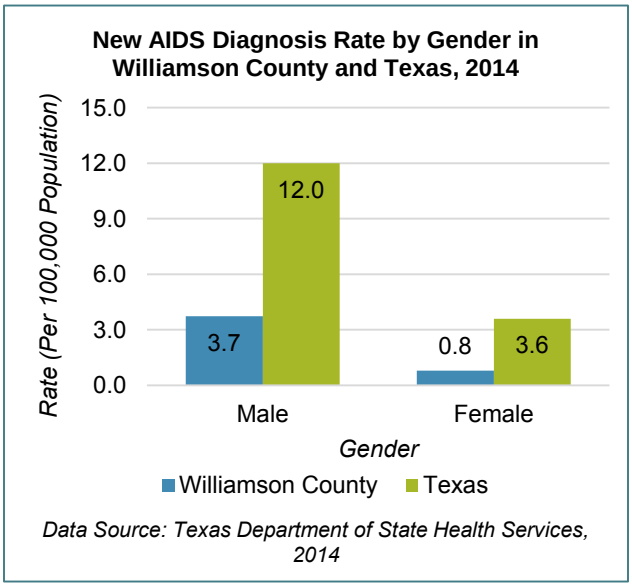


Figure 83: New AIDS Diagnosis Rate by Race/Ethnicity in Williamson County and Texas, 2014

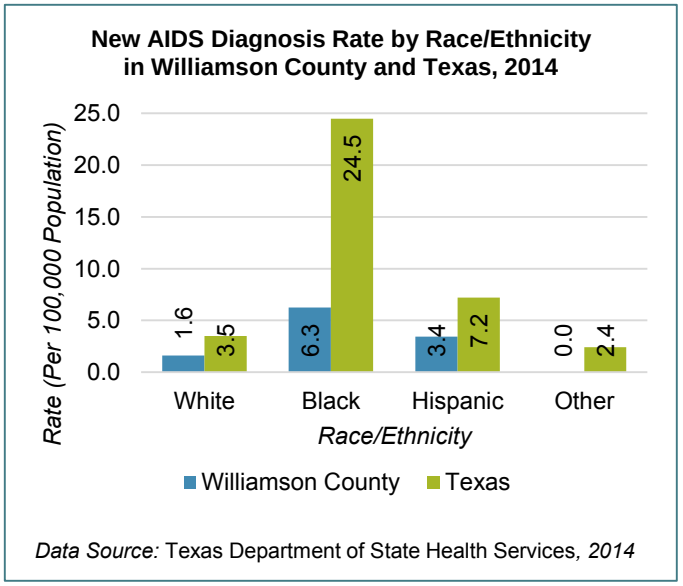
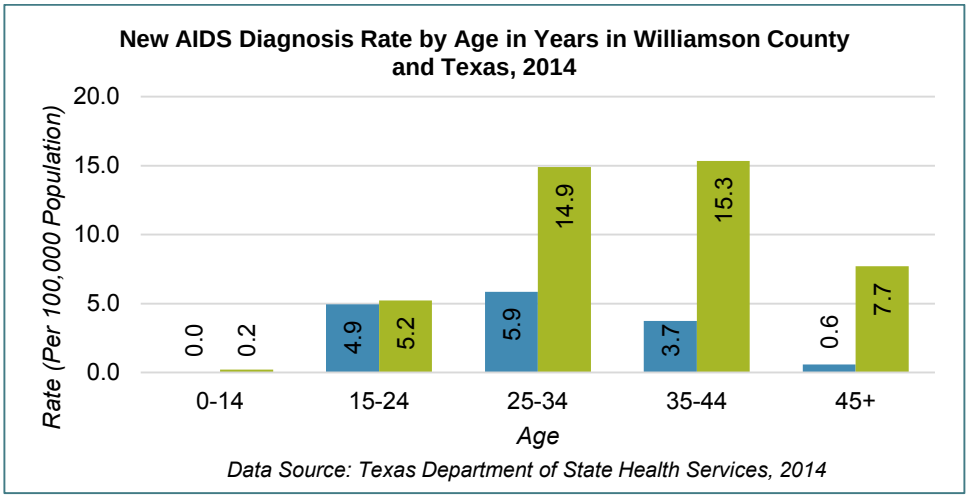


Figure 84: New AIDS Diagnosis Rate by Age in Years in Williamson County and Texas, 2014

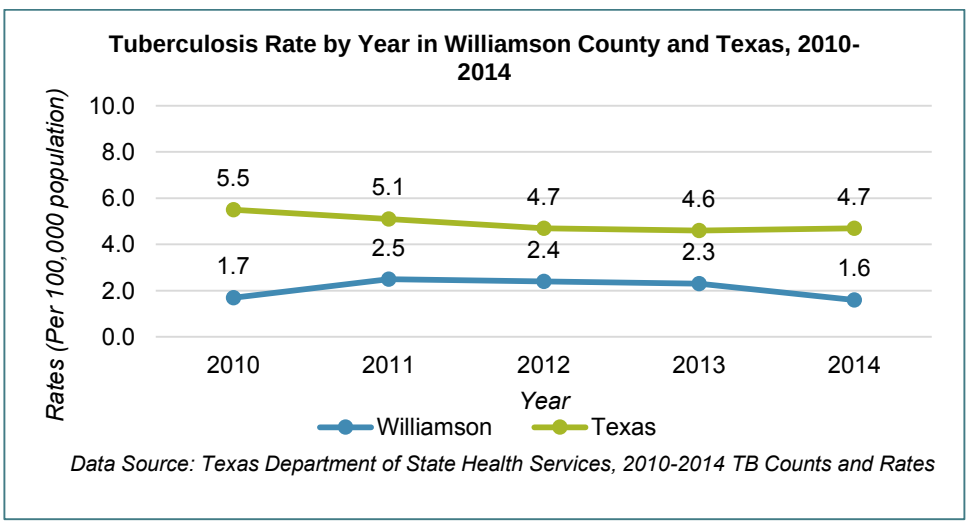


Tuberculosis (TB)

Tuberculosis (TB) is a bacterial disease caused by *Mycobacterium tuberculosis*. The bacteria usually attack the lungs and can be transmitted when a person with TB in the lungs or throat talks, coughs, or sneezes (49). Fever, night sweats, weight loss, difficulty breathing, and a cough characterize pulmonary TB, the most common form of the disease. TB bacteria can infect any part of the body, including the kidneys, joints, spine, and brain. If not treated properly, TB can be fatal (49).

TB can affect anyone but is more likely to be diagnosed in persons born in a foreign country where TB is prevalent, persons living with diabetes or HIV/AIDS, persons who abuse alcohol and other drugs, persons who live in congregate settings (including prisons and other detention centers), the homeless, and health care workers (49). In 2014, 1,269 cases of tuberculosis (TB) were reported in Texas, a rate of 4.7 per 100,000 population. From 2010 – 2014, TB rates in Williamson County have remained mostly static. In 2014, Williamson County had a reported TB rate of 1.6 per 100,000 population, which was lower than the rate in Texas (Figure 85).

Figure 85: Tuberculosis Rate by Year in Williamson County and Texas, 2010-2014



In 2014, rates by gender for reported TB were similar (Figure 86). TB disproportionately affects Asian Americans compared to African Americans, Hispanics, and non-Hispanic whites. In 2014, the rate of TB for Asian Americans (9.9 per 100,000 population) was three times that of African Americans and Hispanics (3.1 and 2.6 per 100,000 population, respectively) (Figure 87). In addition, rates were fairly similar in 2014 across age groups (Figure 88).

Figure 86: Tuberculosis Rate by Gender in Williamson County and Texas, 2014

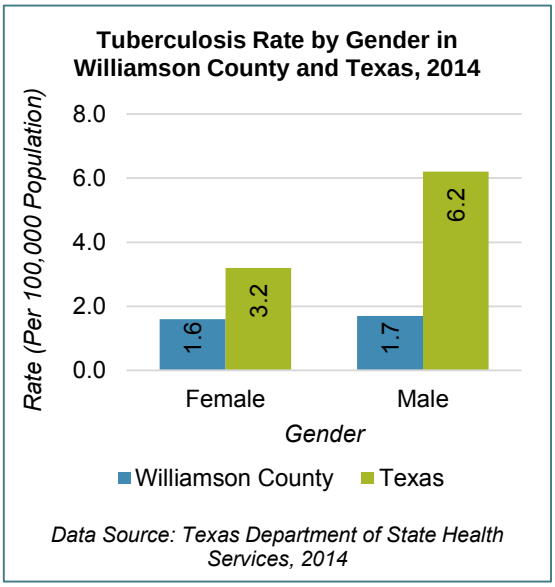


Figure 87: Tuberculosis Rate by Race/Ethnicity in Williamson County and Texas, 2014

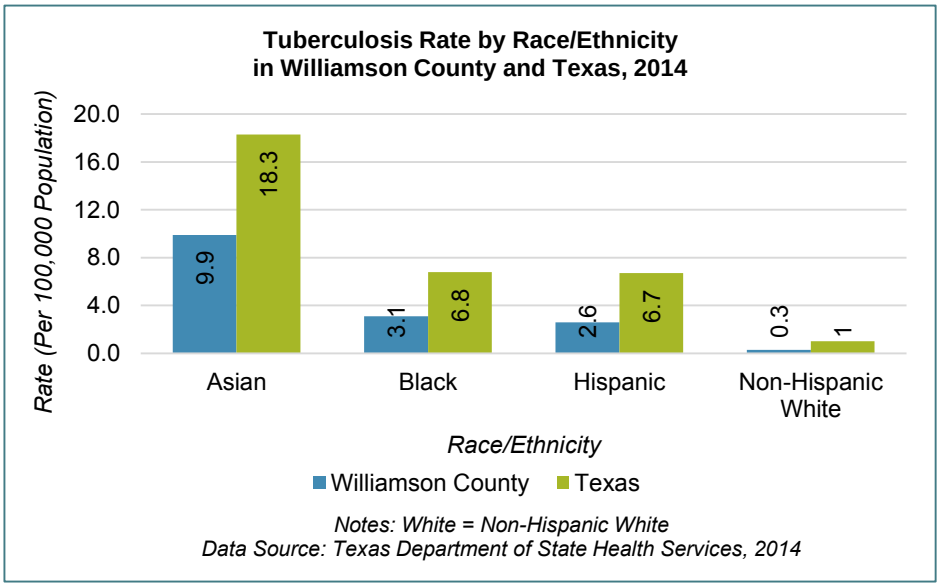
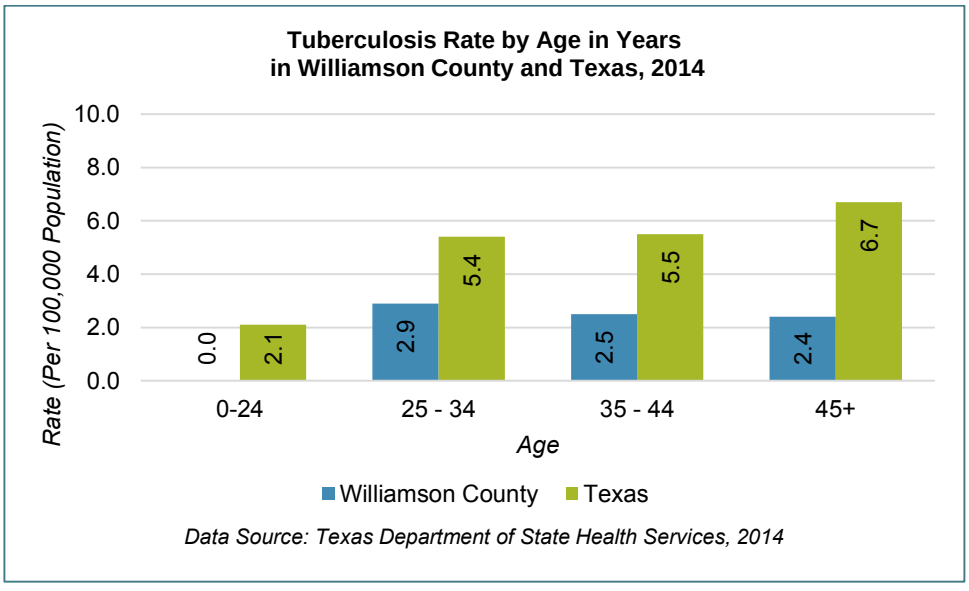


Figure 88: Tuberculosis Rate by Age in Years in Williamson County and Texas, 2014



C11. Sentinel Events

According to the NACCHO MAPP Core Indicator List, "sentinel events are those cases of unnecessary disease, disability, or untimely death that could be avoided if appropriate and timely medical care or preventive services were provided. These include select vaccine preventable illness and unexpected syndromes or infections. Sentinel events may alert the community to health system problems such as inadequate vaccine coverage, lack of primary care and/or screening, a bioterrorist event, or the introduction of globally transmitted infections." The following section briefly summarizes available data for diseases on the NACCHO MAPP Core Indicator List.

Measles

Measles is a vaccine preventable and highly contagious respiratory disease that causes fever, cough, runny nose and a rash over the entire body. Although county-level data is unavailable, appropriate vaccination coverage with the Measles, Mumps and Rubella (MMR) vaccine is a likely reason for the current lack of Measles cases (51). The most recent data from the National Immunization Survey (NIS) indicates coverage in Texas (exclusive of Bexar and El Paso Counties and the City of Houston) to be 89.7±4.1% for 1 dose MMR vaccine for children aged 19-35 months and 84.5±4.4% for 2 doses MMR vaccine for adolescents 13-17 years of age (51). The HP2020 goal for 19-35 month old children is 90.0%, and for children by entry into kindergarten, 95.0%. There have been no confirmed cases of measles reported in Williamson County since 1999, which saw two cases reported **(Table 17).**

Mumps

Mumps is a vaccine preventable and highly contagious disease that causes swelling of the salivary glands and is accompanied by fever, muscle aches, headache, tiredness and loss of appetite (52). The most recent laboratory-confirmed mumps case in Williamson County was in 2011 **(Table 17).** Since then, Williamson County has had no reported cases of mumps. MMR coverage rates for infants and teens, as well as the HP2020 goals are as shown above under Measles.

Rubella

Rubella, sometimes called German measles or three-day measles, is a contagious viral disease that is also MMR vaccine preventable. The infection is usually mild with fever and rash. Rubella infection in a pregnant woman, however, can cause birth defects such as deafness, cataracts, heart defects, mental retardation and liver and spleen damage (53). Rubella incidence last peaked in Texas in the 1970s, and the last reported case was in 2004. Reliable county-level data for Williamson County does not exist from DSHS prior to 2004, so it is unknown when the last case occurred in Williamson County **(Table 17).** MMR coverage rates for infants and teens, as well as the HP2020 goals are as shown above under Measles.

Table 17: Counts Select Vaccine Preventable Diseases by MMWR Year in Williamson County, 2010-14

Disease	Case Counts by Morbidity and Mortality Weekly Report (MMWR) Year				
	2010	2011	2012	2013	2014
Measles	0	0	0	0	0
Mumps	0	1	0	0	0
Rubella	0	0	0	0	0
Data Source: National Electronic Disease Surveillance System, Texas Department of State Health Services, 2015					

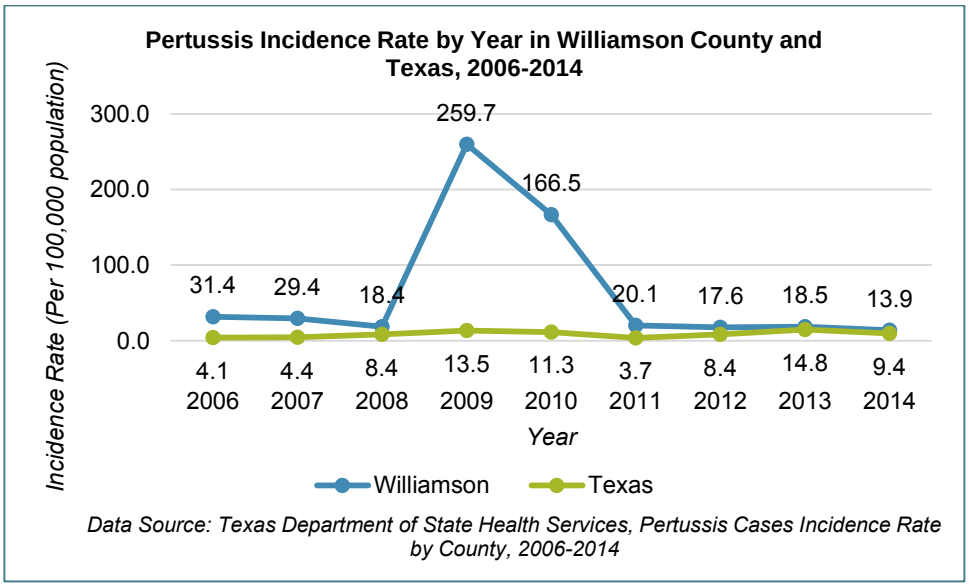
Pertussis

Pertussis, or whooping cough, is a vaccine preventable and highly contagious disease causing uncontrollable and violent coughing. Pertussis can affect people of all ages, but can be very serious, even deadly for babies less than a year old (54).

Pertussis infection rates in Williamson County remained mostly static from 2006 – 2008, until WCCHD detected a large outbreak in 2009. During the 2009 outbreak, the rate for pertussis rose from 18.4 cases per 100,000 population in 2008 to 259.7 cases per 100,000 population, one of the highest reported for a county in the United States (Figure 89). Both the number of cases reported and the outbreak duration made it a sentinel event. The outbreak lasted nearly two years and had a dramatic impact on the lives of many residents. It was not uncommon for multiple household members to have suffered from pertussis by the end of the outbreak, amplifying the economic impact on families. The direct medical costs incurred included visits to the emergency department, admission to hospitals, visits to clinics, and cost of prescription and over-the-counter medications. Indirect costs included the cost of unpaid absences from work due to illness in the family and loss of revenue due to student absenteeism.

Pertussis rates began to decline, but remained high until the outbreak subsided in 2010. From 2011 – 2014, pertussis rates remained stable, with the lowest rate since 2006 being reported in 2014 (13.9 cases per 100,000 population). However, pertussis generally follows a three to five year cycle, so a rise in incidence may occur in the near future.

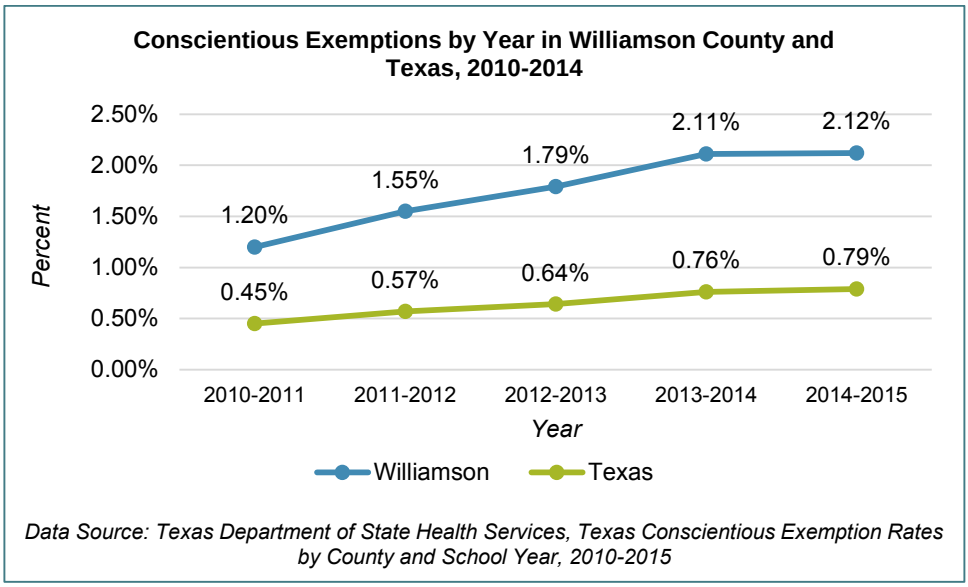
Figure 89: Pertussis Incidence Rate by Year in Williamson County and Texas, 2006-2014



Conscientious Exemptions

According to Texas law, individuals can be exempt from immunizations because of reasons based off conscience including religious beliefs (55). The percentage of students with conscientious exemptions in the county has increased over time from 1.20% in 2010-11 to 2.12% in 2014-15 (Figure 90). These percentages have been consistently higher in the county than in the state. An increase in the percentage of conscientious exemptions means an increase in the number of individuals at risk for vaccine-preventable illness or infections, although the exact vaccine or vaccines chosen for exemption are not documented. In addition, a higher proportion of residents that have elected exemption from vaccine reduces the overall "herd" immunity of the community and places those who cannot receive vaccine due to medical contraindications also at higher risk for infection.

Figure 90: Conscientious Exemptions by Year in Williamson County and Texas, 2010-2014



Data Source: Texas Department of State Health Services, Texas Conscientious Exemption Rates by County and School Year, 2010-2015

Unexpected Syndromes

Ebola

Ebola is a rare and deadly disease caused by infection with Ebola Virus. Ebola is spread through direct contact with a person or animal infected with Ebola. Introduced into the U.S. in September 2014 via a single case in a person who travelled to Texas from a West African country experiencing an unprecedented outbreak, Ebola challenged the very core of healthcare and public health emergency response (56). The threat of this high consequence infectious disease came to Williamson County through county residents exposed to a case in a healthcare worker who provided care to the introduced case, as well as additional travelers from the affected countries in Africa. Both the primary healthcare as well as the public health community had to enhance their isolation and quarantine capacities. Both are now in the process of taking the lessons learned from their experiences with this high consequence disease and applying them to plans to strengthen the response infrastructure in order to reduce the potential for devastating consequences in the future.

Novel and Emerging Pathogens

Recent introductions of infectious agents from other parts of the world into Central Texas and Williamson County such as viruses like West Nile (first cases in Williamson County in 2003, re-emergence in 2012), Chikungunya (2015), and Zika (Travis County, 2016) have demonstrated repeatedly the vulnerability of the county to global infectious disease threats. In the recent CDC report Global Health Strategy 2012-2015 (57), "The health of Americans is integrally connected to the health of the world." With the expected increase in growth of the population and influx of travelers and new residents from virtually anywhere on the globe, the appearance of these novel and emerging pathogens will only increase in frequency. Each pathogen will bring its own challenges and impact on the community's health, potentially taking resources away from established health challenges and decreasing local health security.

Pandemic Influenza

Seasonal influenza is a significant contributor to illness and death every year. When a non-human strain of influenza, such as those found in pigs or birds, gains the ability to infect humans efficiently, the "novel" strain has the capacity for causing a global epidemic, also known as a "pandemic." The potential for devastating levels of illness and death increases when the human population has little to no immunity to these pandemic strains. The most recent influenza pandemic occurred in 2009 (58). Public health's pandemic preparedness keeps watch on influenza viruses with the potential for causing these global events. The CDC is watching a number of strains of bird origin (avian influenza). One of these strains is causing significant levels of illness in commercial poultry flocks in the U.S., and persons exposed to the sick birds are being watched closely by public health for the possibility of illness, even though the risk for transmission to humans is thought to be low.

Community Themes and Strengths Assessment

The Community Themes and Strengths Assessment (CTSA) focuses on identification of current community issues, perceptions about quality of life, and community assets through feedback from community stakeholders and the general public.

This assessment aims to answer the following questions:

What community barriers affect quality of life?

How is quality of life perceived in the community?

What assets are available to improve community health?

These questions are valuable for two reasons. First, community members become vested in the community health improvement process when they have a sense of ownership and responsibility for the outcomes. This occurs when their concerns are genuinely considered and visibly affect the process. Second, the themes and issues identified here offer insight into the information and statistics identified in the other assessments.

Methods

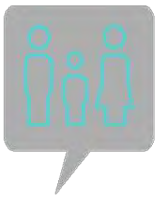
The CHA Team identified the themes in this section through feedback from focus groups with Williamson County residents as well as stakeholders.

In September 2015, WCCHD and the WWA hosted the Health Education Summit at Texas A&M Health Science Center. The purpose of the event was to increase capacity of local professionals to engage in effective health promotion activities and increase collaboration for evidence-based improvements. The CHA team contracted with Truven Health Analytics to lead eight focus groups modeled after standards from NACCHO. Participants in the focus groups represented multiple sectors: healthcare, local government, school districts, non-profit, higher education and business.

In October 2015, Truven Health Analytics held four focus groups with community members. Recruitment was based on priority populations through community partners. Each focus group contained one facilitator, one scribe from WCCHD or the community, and used a guide modeled after standards from the NACCHO MAPP framework (Appendix F). One focus group was held in each of the four geographic areas of Williamson County, with three focus groups conducted in English and one in Spanish. The following sections summarize overall responses from all these groups.

Community Values

Williamson County residents and stakeholders were asked to list topics and themes that were important and valued in the community. This information was useful because listening to and communicating with the community are essential processes to any community-wide initiative. The impressions and thoughts of community residents helped to pinpoint important issues and highlight possible solutions.



Family

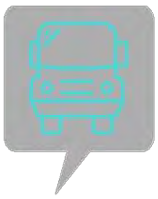
Family, children, and a family-oriented environment were commonly mentioned important values in the community. This is especially important in the context of health improvement because the family unit is one of the key social contexts where residents develop and live.

Health

Participants identified access to affordable healthcare, mental healthcare, healthy food options, affordable insurance, and health education as important components of the community.

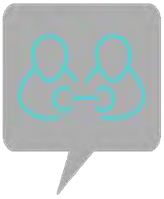
Recreation and Leisure Opportunities

Participants highlighted the importance of fitness facilities, parks, trails, amateur sports, sidewalks, music, and entertainment in the community. With many residents not meeting the recommended daily amount of physical activity, there is a need for more opportunities.



Transportation

Access to public transportation was identified as an important component of the community to ensure residents can access available services, healthcare, and places of employment. Better transportation options lead to residents leading healthier lives.



Leadership and Community Connection

Participants expressed desire for a connection between the community and its leaders though effective communication, and the ability to give input on community, political, educational, and neighborhood matters.

Safety

Participants discussed the importance of safety in a community, including in neighborhoods, schools, and public areas. Residents said they would be more likely to engage in physical activity and become connected when they feel safe in their community.

Employment

Jobs and employment that provide a livable wage for employees was expressed as an important component of the community to provide income for housing, transportation, healthcare, childcare, and food, among other needs.

Issues in the Community

Williamson County residents and stakeholders were asked to identify the key issues that affect their quality of life. Questions about quality of life in the community can pinpoint specific concerns. This helps to highlight aspects of neighborhoods and/or communities that either enhance or diminish residents' quality of life.

Issue	Representative Quote
Access to healthcare Most participants agreed that access to affordable healthcare was a major concern in their community. Many participants also expressed frustration with insurance eligibility requirements and the lack of awareness regarding coverage. There was also concern over the cost of and access to dental and vision services in the county.	*"Affordable is out of the question. You either have no coverage at all, or go to the emergency room. Then they charge you an arm and a leg and you spend the rest of your life paying that off." – Focus group participant*
Affordable childcare Issues around affordability and accessibility of child care programs were frequently expressed concerns. Many participants discussed that lack of transportation and lack of awareness of existing programs were barriers to getting children into daycare and other after-school or summer programs.	*"This one I had, my one was $940 and when you're bringing home a paycheck of 1,200 and $940 goes to daycare just for one kid. When I had my second kid, I literally was like, I don't know." – Focus group participant*
Awareness of resources The majority of participants expressed that a key need in the community is an increase in the awareness of what resources and services are available. These resources include health care, dental care, vision care, child care, and other services.	*"And here, one thinks that it's going to be really expensive. I mean, you don't know about the assistance. You don't know about the support. More than anything, it's lack of information." - Focus group participant*
Barriers to healthy lifestyles Participants noted that many barriers exist within their communities that prevent them from living healthy lifestyles. These barriers include lack of opportunities for physical activity for all ages and abilities, lack of sidewalks, lack of access to healthy eating options, cultural traditions, and lack of health education.	*"It's also hard to get out and be active when you're in a different financial setting. My mom has to work a lot. She can't think about when we're going to go out and take a walk or take a run." – Focus group participant*
Affordable housing Housing was a commonly mentioned concern, especially in regards to affordability. Many participants expressed frustration over the increases in housing prices because of the growth of the county.	*"Ten years ago it was okay. We've got affordable housing 10 years ago. Now they don't." – Focus group participant*
Transportation The need for public transportation options was a commonly discussed issue. Transportation is necessary for meeting basic needs such as doctor's appointments, childcare, school, groceries and other errands. Participants noted the lack of connectivity between the cities in Williamson County and especially in the more rural areas.	*"I wish there was buses too" – Focus group participant*
Bilingual resources Participants noted the lack of social services, such as health, housing, and education, as well as other resources in Spanish. With an increasing Spanish-speaking population in the county, there is a great need for increased resources, including English as a second language classes and materials.	*"If you don't speak English, you lost the work. So, it's important to really know that language to communicate and to know about the other places where we might have assistance." – Focus group participant*

Assets and Strengths

Asset mapping is an important tool for mobilizing community resources. It is the process by which the capacities of individuals, civic associations, and local institutions are inventoried. Residents and stakeholders in Williamson County listed all the assets they were aware of in the county. A summary of those assets by sector are listed below.

Non-profit Organizations

Williamson County has an extensive network of non-profit organizations that address not only health care issues, but also seek to improve the status of the social determinants of health. Many participants described positive experiences with non-profits in the county and expressed that the organizations are cornerstones for many communities in the county.

Faith-based Organizations

Williamson County has multiple ministerial alliances and a strong faith-based community that residents depend on for services. There is a need to better understand how various organizations can coordinate with the faith community.

Healthcare System

The increase in population in Williamson County has led to an increase in healthcare providers and a robust healthcare system with hospitals, clinics, behavioral health hospitals, and urgent care centers. Despite the extensive system, which includes three major hospital systems, challenges exist creating awareness of resources and increasing care coordination across all venues, including inpatient, ambulatory and home care.

Community Partnerships

With the strong network of organizations within Williamson County, the collaborations and partnerships among those organizations are seen as assets to the community. The WWA, Public Health and Medical Preparedness Committee, Substance Abuse Collaborative, Systems of Care, Interagency Council of East Williamson County, WilCo Non-Profits, and the Mental Health Task Force are just a few examples of strong partnerships and coalitions.

Education System

With 15 independent school districts fully or partially located within Williamson County, and the growth of higher education campuses like Austin Community College, Southwestern University, Texas State University, and Texas A&M Health Science Center, the education system is seen as an asset in the community.

Parks and Recreation

With over 280 miles of existing trails and plans for new parks and trails, the parks, trails, and recreation system is identified as a major community asset. Building connectivity between trails and communities is a priority.

Business Community

Williamson County has approximately seven Chambers of Commerce: Cedar Park, Georgetown, Hutto, Leander, Liberty Hill, Round Rock and Taylor. The county is also home to several large employers, like Dell and The Electric Reliability Council of Texas (ERCOT). The business community is seen as a major strength of the community because it creates connectedness among businesses, encourages economic development, and provides community information.

Conclusions and Implications

While the Community Themes and Strengths Assessment revealed many positive aspects and an overall good perception of quality of life in Williamson County, there were many areas identified for improvement.

Throughout this assessment process, the CHA Team was able to engage with key leaders, a wide variety of community stakeholders, a youth population, a Spanish speaking population, an elder population, and both urban and rural residents. These diverse populations shared perceptions of their communities and the county as a whole. According to the data collected, the most important values Williamson County residents held were:

- Family
- Health
- Recreation and Leisure Opportunities
- Transportation
- Leadership and Community Connection
- Safety
- Employment

Williamson County residents are most concerned with:

- Access to Healthcare
- Affordable Childcare
- Awareness of Resources
- Barriers to Healthy Lifestyles
- Affordable Housing
- Transportation
- Access to Bilingual Resources

Our residents and stakeholders listed the following categories of resources as the most important assets in improving health and quality of life of residents:

- Non-profit Organizations
- Faith-based Organizations
- Healthcare System
- Community Partnerships and Collaborations
- Education System
- Parks and Recreation
- Business Community

The CTSA process revealed multiple ways to leverage existing resources and gave a comprehensive understanding of the perceptions of values, concerns, and assets in the county. While most acknowledged the many challenges that lay ahead, the community members, stakeholders, and leaders in this assessment anticipated improvements in the health and wellness where they live, work, worship, play, or learn in Williamson County.

Forces of Change Assessment

The purpose of the Forces of Change Assessment (FoCA) is to identify trends, factors, or events that influence the health and quality of life of the community and the local public health system. The health of a community is affected by many factors. Social determinants of health are the complex, integrated, and overlapping social structures and economic systems that are responsible for most health inequities. These external social structures and economic systems include the social environment, physical environment, health services, and structural and societal factors.

This assessment answers the following questions:

What is occurring or might occur that affects the health of the community or the local public health system?

What specific threats or opportunities are generated by these occurrences?

Methods

The CHA Team identified the challenges and opportunities in this section through feedback from focus groups with Williamson County residents as well as stakeholders. This feedback was obtained at the same time as the CTSA described previously and recapped here.

In September 2015, WCCHD and the WWA hosted the Health Education Summit at Texas A&M Health Science Center. The purpose of the event was to increase capacity of local professionals to engage in effective health promotion activities and increase multi-sector collaboration for evidence-based improvements. Truven Health Analytics was contracted to lead eight focus groups with questions modeled after standards from NACCHO. Participants in the focus groups represented multiple sectors in the community: healthcare, local government, school districts, non-profit, higher education and business.

In October 2015, Truven Health Analytics held four focus groups with community members. Recruitment was based on priority populations through community partners. Each focus group contained one facilitator, one scribe from WCCHD or the community, and used a guide modeled after standards from the NACCHO MAPP framework (Appendix F). One focus group was held in each of the four geographic areas of Williamson County, with three focus groups conducted in English and one in Spanish. The forces of change highlighted in the pages that follow are the most common themes that emerged.

Findings

Force of Change: Growth of Williamson County	
Challenges	**Opportunities**

• Rapid population growth has strained all levels of the infrastructure, including:
  ○ Public schools
  ○ Healthcare infrastructure
  ○ Data systems
  ○ Law enforcement
  ○ Fire safety
  ○ Air quality
  ○ Parks development
  ○ Road infrastructure, traffic management
  ○ Public transportation
  ○ Access to basic needs—food, affordable housing, transportation and childcare
  ○ Pressure to plan for projected population increases
• Challenge to local governments in formerly rural or suburban areas to serve populations with new and different needs (e.g., poverty, language, race and ethnicity, aging, etc.)
• Property values are higher in urban/suburban areas of the county so new resources are available in those areas versus rural areas
• Provision of necessary preventive services
• Lack of adequate public transportation options, which leads to lack of connectivity
	• Economic growth, increase in incomes created opportunities:
	  ○ Infrastructure growth—road and bridge or data systems—creates employment opportunities
	  ○ Increasing incomes help provide residents with the economic means to be healthy
	• More businesses and resources coming into the area
	• Form partnerships to offer more opportunities to underserved and under resourced communities in the county
	• More healthcare providers coming into the county
	• Growth of higher education campuses
	• Growth of farmers markets and farm-to-table initiatives

Force of Change: Role of Technology	
Challenges	**Opportunities**
• Using technology in place of physical activity and leading to sedentary behavior	• Social media promotes communication and provides channel to reach more people • Provides opportunity for telemedicine • Patient portals allow patients better access to their medical records

Force of Change: Demographic Changes, Urban Population, Hispanic Population, Aging Population	
Challenges	**Opportunities**
• Unequal distribution of resources in county leading to increasing disparity between rural and urban populations • Lack of bilingual resources and services • Lack of understanding of variations in values and traditions by public health community • Decreased ability to disseminate health messages • Aging workforce • Increase in need for social service coordination • Increase in need for caretakers	• Increased investment in parks and recreation with parks department becoming more involved in program planning • Increased cultural sensitivity within the community • Diversity among those involved in planning • Improved coordination of services • Improved transportation opportunities for non-mobile seniors • Increasing numbers of well-educated retirees have a high level of engagement and volunteerism

Force of Change: Changes in Access to Healthcare	
Challenges	**Opportunities**
• Texas did not expand Medicaid waiver which leaves gaps of uninsured residents • Medicaid 1115 Waiver (DSRIP) funding is ending in 2016 and future of funding is uncertain • Unequal distribution of providers of county with highest concentration in urban areas • Rising cost of healthcare services • Providers not taking on new patients • Long wait times for appointments	• More hospitals in the county, including two new behavioral health providers • Affordable Care Act provide insurance options for those who were previously uninsured • Increase in urgent care providers • Improved access to specialists • DSRIP funding providing access to health care and prevention from many organizations

Force of Change: Community Preparedness	
Challenges	**Opportunities**
• Draft of State Annex H Public Health and Medical Plan puts increased responsibility on Public Health and Medical at the City/County level • Current grant funding expires in 2017 for Public Health Emergency Planning • Increase in infectious disease outbreaks in the county requires greater commitment of state and local resources • Increase in flooding due to high rainfall levels	• Increased visibility of public health community in disaster responses • Anticipation that the grant funding will be continued • Public Health and Medical Preparedness Committee has increased coordination, capacity, and plans for Williamson County

Force of Change: Economic Changes	
Challenges	**Opportunities**
• Increased cost of living, including housing prices • Economic fluctuation among large employers	• Economic benefits from more property tax dollars, school funding, and revenue for local businesses

Conclusions and Implications

The purpose of this assessment was to identify the external factors that affect the environment in which the Williamson County public health system operates and the challenges and opportunities created by these factors. The focus group participants identified six forces of change. Within each of these focus areas, participants identified specific challenges and opportunities that each of these forces creates for the local public health system. The main forces of change identified through this assessment were:

- Growth of Williamson County;
- Demographic Changes;
- Role of Technology;
- Changes in Access to Healthcare;
- Increasing Need for Community Preparedness; and
- Economic Changes.

The information gathered through the FoCA is an important component of the MAPP community assessment process because it provides context for many of the key issues in the community. As community partners come together to identify key strategic issues and priorities for action in Williamson County, these findings will be used in conjunction with the other three MAPP assessments for a comprehensive picture of the community's health status.

Local Public Health Systems Assessment

Acknowledgements

The National Public Health Performance Standards (NPHPS) were developed collaboratively by the program's national partner organizations. Williamson County is thankful to the staff of these organizations for their time and expertise in the support of the NPHPS (59).

This assessment answers the following questions:

What are the components, activities, competencies, and capacities of our public health system?

How well are the Ten Essential Public Health Services being provided in our system?

Background

The NPHPS are a partnership effort to improve the practice of public health and the performance of public health systems. The NPHPS assessment instruments guide state and local jurisdictions in evaluating their current performance against a set of optimal standards. Through these assessments, responding sites can consider the activities of all public health system partners, thus addressing the activities of all public, private and voluntary entities that contribute to public health within the community. The dialogue that occurs in the process of the assessment can help to identify strengths and weaknesses, determine opportunities for immediate improvements, and establish priorities for long-term investments to improve the public health system.

Three assessment instruments have been designed to assist state and local partners in assessing and improving their public health systems or boards of health. This assessment utilized one of these assessments: the Local Public Health System Performance Assessment Instrument. The information obtained from this assessment may then be used to improve and better coordinate public health activities at local levels. In addition, the results gathered provide an understanding of how local public health systems are performing. This information helps local partners make better and more effective policy and resource decisions to improve the community's public health as a whole.

Methods

WCCHD District Leadership Team (DLT): In October 2015, DLT completed the Priority of Model Standards questionnaire (Appendix G) online via Survey Monkey. This prioritization exercise allowed Health District leadership to provide expert input into the desired priority level for each of the ten essential public health services and their component model standards for the overall Williamson County Public Health System and components of the Local Public Health System Performance Assessment Instrument (Appendix H) during a two hour facilitated discussion. Eleven participants were present for the assessment and represented the following Divisions:

- Administration
- Clinical Services
- Disease Control and Prevention

- Environmental Health Services
- Information Technology
- Public Health Initiatives and Planning
- Social Services
- WIC

Participants in the WCCHD DLT meeting used the Socrative mobile application to respond to each of the questions in the assessment. All performance scores were an average. Model Standard scores were an average of the question scores within that Model Standard. Each performance measure was compared to the identified Model Standard or "gold standard" and scores were classified as No Activity (0% of activity described within the question was met), Minimal Activity (1-25%), Moderate Activity (26-50%), Significant Activity (51-74%), and Optimal Activity (76-100%). Essential Service scores were an average of the Model Standard scores within that Essential Service, and the overall assessment score was the average of the Essential Service scores. According to NPHPS, the overall assessment score can be interpreted as the "as the overall degree to which your public health system meets the performance standards (quality indicators) for each Essential Service." The higher the assessment score, the better.

WWA Leadership Team: In October 2015, the WWA Leadership Team completed the Priority of Model Standards questionnaire online and components of the Local Public Health System Performance Assessment Instrument during a two hour facilitated discussion. Eight members completed the survey and four were present for the assessment. Participants represented the following sectors:

- Healthcare
- Local government
- Non-profit organization
- Education system

Participants from the WWA Leadership meeting used discussion to come to a consensus for the performance of each standard. The responses to the questions within the assessment were based upon input from diverse participants with different experiences and perspectives in regard to the local public health system.

Priorities

The CHA Team sent the Priority of Model Standards questionnaire to participants via Survey Monkey. The survey was designed to evaluate the priority of each of the Ten Essential Public Health Services to the Williamson County Public Health System as a whole, including all community partners (hospitals, non-profit organizations, health service providers, community organizations, mental health organizations, law enforcement, social services, faith based organizations, and many more). Essential Public Health Services were scored a 10 for highest priority and a 1 for lowest priority. Participants were asked to consider past and current activity in each of these sectors when thinking about the priorities. Results from the priority survey are listed in Table 18.

The eleven division directors from WCCHD who completed the survey designated Essential Public Health Service #2: Diagnose and Investigate and Essential Public Health Service #4: Mobilize Community Partnerships as the two priority areas to be completed for the assessment. The WWA Leadership Team members who completed the survey designated Essential Public Health Service #4: Mobilize Community Partnerships and Essential Public Health Service #1: Monitor Health Status as the two priority areas for the assessment.

Table 18: Ten Essential Public Health Services Priorities

#	Essential Public Health Service	Overall Average
4	Mobilize community partnerships to identify and solve health problems	7.74
2	Diagnose and investigate health problems and health hazards	7.48
1	Monitor health status to identify health problems	7.32
8	Assure a competent public health and personal health care workforce	7.28
3	Inform, educate and empower people about health issues	7.28
5	Develop policies and plans that support individual and community health efforts.	7.24
6	Enforce laws and regulations that protect health and ensure safety	7.01
9	Evaluate effectiveness, accessibility, and quality of personal and population-based health services	6.98
7	Link people to needed personal health services and assure the provision of health care when otherwise unavailable	6.98
10	Research for new insights and innovative solutions to health problems	6.75

Key Findings

The following sections provide the results from the two facilitated discussions held with WCCHD DLT and WWA Leadership Team that assess the top three priorities for Williamson County.

Essential Public Health Service #1: Monitor Health Status

Participants discussed the current and historical processes for the community health assessment (CHA) and the community health improvement plan. Results are identified in Table 19 and Table 20. While the local public health system has a well-established community health improvement committee and regularly conducts CHAs, there is room for improvement. Specifically, participants agreed that the results of the CHA need to be more widely disseminated in the community and can be used to engage more partners.

Table 19: Essential Public Health Service #1 (Monitor Health Status) Assessment Results

Model Standard	Performance Measure	Activity Level	Rating
At what level does the Local Public Health System:			
1.3.2	Use information from population health registries in CHAs or other analyses?	Optimal	100
1.1.1	Conduct regular CHAs?	Significant	87.5
1.2.2	Analyze health data, including geographic information, to see where health problems exist?	Significant	87.5
1.1.2	Update the CHA with current information continuously?	Significant	75
1.2.1	Use the best available technology and methods to display data on the public's health?	Moderate	75
1.2.3	Use computer software to create charts, graphs, and maps to display complex public health data?	Significant	75
1.3.1	Collect timely data consistent with current health standards on specific health concerns in order to provide the data to population health registries?	Significant	75
1.1.3	Promote the use of the CHA among community members and partners?	Moderate	50

Table 20: Notes Summary for Essential Public Health Service #1: Monitor Health Status

Strengths	Weaknesses	Short Term Improvements	Long Term Improvements
1.1 Population-Based Community Health Assessment			
Community health assessment completed on regular basis Hospital partners engaged in CHA Healthy Williamson County website updated with CHIP progress and most recently available data	• Promotion of CHA among partners and community as a whole	• Set up opportunities for sharing CHA results in community meeting and events	• Write promotion and dissemination of CHA into project plan and Strategic Plan
1.2 Current Technology to Manage and Communicate Population Health Data			
Healthy Williamson County website newly redesigned and includes health indicators	• Lack of zip code level data for more detailed maps • Promotion of website	• Seek out forums to share data through community meetings	• Share relevant health data through press releases and guest editorials that to increase communication
1.3 Maintaining Population Health Registries			
Immunization registries utilized by WCCHD WCCHD reports required conditions to CDC.	• No chronic disease registries		

Essential Public Health Service #2: Diagnose and Investigate

For EPHS #2, DLT discussed that although WCCHD excels at effectively responding to positive laboratory results of notifiable disease conditions, there is a significant need for increased outreach and communication activities to medical providers. Because Williamson County's growth rate is high, there are many new medical facilities that might not be aware of reporting requirements. The Public Health and Medical Preparedness Committee is another strength of WCCHD in providing EPHS#2. While preparedness is more integrated into WCCHD's procedures than in previous years, there is still a need for more detail in preparedness planning and increased coordination across divisions. Another need identified is an improved quality improvement process for after action reports. Results are identified in Table 21 and

Table 22.

Table 21: Essential Public Health Service #2 (Diagnose and Investigate) Assessment Results

Model Standard	Performance Measure	Activity Level	Rating
At what level does the Local Public Health System:			
2.1.1	Use only licensed or credentialed laboratories?	Significant	81.8
2.1.2	Maintain a written list of rules related to laboratories, for handling specimens, determining who is in charge of the samples at what point, and reporting the results?	Significant	79.5
2.1.3	Designate a jurisdictional Emergency Response Coordinator?	Significant	77.1
2.2.1	Have ready access to laboratories that can meet routine public health needs for finding out what health problems are occurring?	Moderate	68.2
2.2.2	Participate in a comprehensive surveillance system with national, state, and local partners to identify, monitor, and share information and understand emerging health problems and threats?	Moderate	63.5
2.2.3	Maintain written instructions on how to handle communicable disease outbreaks and toxic exposure incidents, including details about case finding, contact tracing, and source identification and containment?	Moderate	62.5
2.2.4	Prepare to rapidly respond to public health emergencies according to emergency operations coordination guidelines?	Moderate	62.5
2.2.5	Develop written rules to follow in the immediate investigation of public health threats and emergencies, including natural and intentional disasters?	Moderate	58.3
2.2.6	Maintain constant (24/7) access to laboratories that can meet public health needs during emergencies, threats, and other hazards?	Moderate	54.5
2.3.1	Provide and collect timely and complete information on reportable diseases and potential disasters, emergencies, and emerging threats (natural and manmade)?	Moderate	54.2
2.3.2	Evaluate incidents for effectiveness and opportunities for improvement (such as After Action Reports, Improvement Plans, etc.)?	Minimal	47.9
2.3.3	Ensure that the best available resources are used to support surveillance systems and activities, including information technology, communication systems, and professional expertise?	Minimal	39.6
2.3.4	Identify personnel with the technical expertise to rapidly respond to biological, chemical, or/and nuclear public health emergencies?	Minimal	39.6

Table 22: Notes Summary for Essential Public Health Service #2: Diagnose and Investigate

Strengths	Weaknesses	Short Term Improvements	Long Term Improvements
2.1 Identification and Surveillance of Health Threats			
With notifiable conditions, WCCHD does very well, with an average 4.7 day turnaround Williamson County Public Health and Preparedness Committee High level of professional expertise with staff	• Timing of reporting out is a challenge because of the timeline which WCCHD receives reports • Passive collecting of samples • Need up-to-date contact information because there are many new facilities which are not aware of reporting requirements	• Implement Core Point as an integrated real time data system • Optimize new eClinicalWorks electronic health record system to help with secure communication	• Outreach and clarification to providers and community partners of notifiable conditions • Include more onsite sample collection
2.2 Investigation and Response to Public Health Threats and Emergencies			
Preparedness SOP and SOG documents are very comprehensive and have become integrated within WCCHD recently High access to resources in the region Coordinated education for Haz-Mat team	• Though there is a robust umbrella structure, the preparedness plan needs more detail • Disconnect between preparedness and other divisions • Social services needs to be involved outbreaks and threats • After Action Report process is inconsistent and QI is not fully incorporated • Lack manpower for after action report	• More diverse representation from other divisions of the health district in preparedness coalition • More agency internal preparedness drills	• More holistic response plan and coordination between divisions of WCCHD • Increase in personnel to fully incorporate QI through after action review
2.3 Laboratory Support for Investigation of Health Threats			
WCCHD uses Clinical Pathology, Oxford Labs, and DSHS for high priority samples	• Timeline with DSHS labs is a challenge, especially over the weekends • No process for tracking unsatisfactory samples that are sent to labs		• Development of a monitoring system for rates of unsatisfactory samples

Essential Public Health Service #4: Mobilize Community Partnerships

During the discussion for EPHS #4, DLT articulated the need for a comprehensive list of community partners that is coordinated across all divisions within WCCHD. Participants expressed that while WCCHD excels at initially engaging community partners through the WWA, there is a substantial need to evaluate the structure of the coalition to fully maximize its potential. The WWA has been successfully used in the past to facilitate the Community Health Improvement Plan process, although outcome measurement has been a challenge. Participants also discussed the need for improved communication with community partners, especially medical providers. Results are identified in Table 23 and Table 24.

Table 23: Essential Public Health Service #4 Assessment Results

Model Standard	Performance Measure	Activity Level	Rating
At what level does the Local Public Health System:			
4.2.2	Establish a broad-based community health improvement committee?	Significant	70.9
4.2.1	Establish community partnerships and strategic alliances to provide a comprehensive approach to improving health in the community?	Moderate	57.0
4.1.3	Encourage constituents to participate in activities to improve community health?	Moderate	52.8
4.1.1	Maintain a complete and current directory of community organizations?	Minimal	43.8
4.1.2	Follow an established process for identifying key constituents related to overall public health interests and particular health concerns?	Minimal	40.0
4.2.3	Assess how well community partnerships and strategic alliances are working to improve community health?	Minimal	38.9
4.1.4	Create forums for communication of public health issues?	Minimal	34.7

Table 24: Notes Summary for Essential Public Health Service #4: Mobilize Community Partnerships

Strengths	Weaknesses	Short Term Improvements	Long Term Improvements
4.1 Constituency Development			
Utilization of pre-existing forums (Williamson County Medical Society) as a way to reach practitioners Inclusion of constituents in community health assessment process Have a database of WWA contacts and members	• List of community organizations and contacts is disjointed and spread out across divisions • Sustainability • Lack of defined process for identifying key constituents in the county • Low social media engagement • Directory of partners and key constituents has turnover and is outdated • Turnover in support staff from WWA	• Increase focus groups and formal opportunities for feedback • Involve *promotoras* and other community health workers • Send annual survey to assess level of engagement and update distribution list • Engage with Chambers of Commerce • Engage with Community Relations departments at school districts	• Coordinate the list of community partners across WCCHD and develop an auto-update process • Engage the CSRs and WIC in the public health centers to capture constituent feedback • Recruit recognizable figure to increase social media engagement • Incorporate identifying key constituents as a priority in strategic planning efforts.

4.2 Community Partnerships			
Engaging and recruiting partners through the WilCo Wellness Alliance (WWA) Community Health Improvement Plan and progress reports facilitated by WWA Leadership team **Community Health Improvement Committee became the WWA Leadership Team**	• Outcome measurement is a challenge because • WWA groups and meetings need a clear, shared agenda • Burden of action items from WWA meetings on WCCHD support staff rather than broad community collaboration • Lack of metrics and tools to assess WWA • Structure of WWA can be improved to increase engagement and accountability	• WWA meeting facilitation with the goal of more community partner action items • Set terms for WWA chair positions • Revise SOP and SOG for WWA • Coalition monthly update emails to increase engagement	• Identify key stakeholders and champions for the WWA • Reassess the structure and facilitations of the WWA to fully utilize the robust network of partners • Set WWA goals at a systems level • Merge efforts of the groups • Engage with decision makers in community

Conclusions and Implications

The Local Public Health Systems Assessment was a useful process for both the WCCHD DLT and the WWA Leadership Team. These findings will be used to improve the local public health system's provision of the Ten Essential Public Health Services through the implementation of the short term and long term improvement recommendations from participants.

Recommendations based on the assessment:

- Increase community dissemination and promotion of the Community Health Assessment
- Incorporate outreach and external communications as a core component of Disease Control and Prevention to increase awareness among medical providers
- Increase inclusion and coordination in preparedness planning across all WCCHD divisions
- Develop health district-wide community partner contact list
- Establish process for identifying key constituent partners in the community
- Re-engage the WilCo Wellness Alliance through identifying and recruiting key stakeholders, and robust facilitation of the community and working groups
- Re-assess the structure of the WilCo Wellness Alliance
- Set WilCo Wellness Alliance goals at the policy, systems, and environmental level

The results of this report are useful for the local public health system as it plans for and implements community health improvement activities. WCCHD and the Wilco Wellness Alliance have the role of interpreting and assigning meaning to the results as part of the overall community health assessment project. They will use the results in conjunction with the other MAPP assessments as the community health improvement plan is developed.

Health Priorities

With so many competing needs in the community, determining health priorities helps direct resources and collaborative efforts to the issues that matter most to the community and that will have the greatest impact on health status.

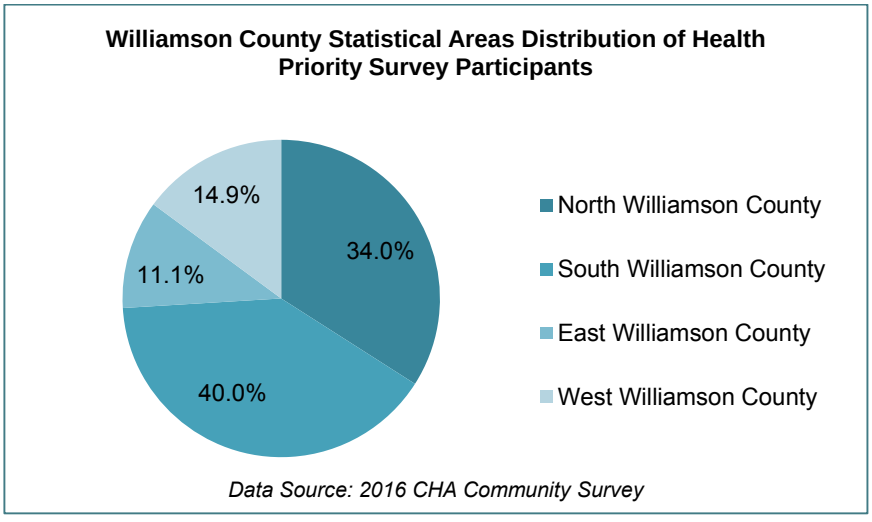
The CHA Team used the qualitative and quantitative data collected and analyzed by the assessments to identify the issues to bring to the community to determine health priorities. To solicit community input, eight focus groups with community stakeholders and four focus groups with community residents were held in September and October 2015. The focus groups were designed to gain qualitative insight on the most important health issues in the community.

The CHA Team used the issues and ideas generated through the focus groups to develop a quantitative survey for community members and stakeholders to vote on the most critical priorities for Williamson County. This Community Survey for the 2016 CHA was sent to community partners via email. The CHA Team collected a total of 291 surveys between November 13 and December 9, 2015. Participants were asked to choose the five issues they felt are the most pressing and where they would most like to see county-wide efforts to change and improve health. The five focus areas with the highest number of recorded votes will be addressed in the Community Health Improvement Plan (CHIP).

Participant Demographics

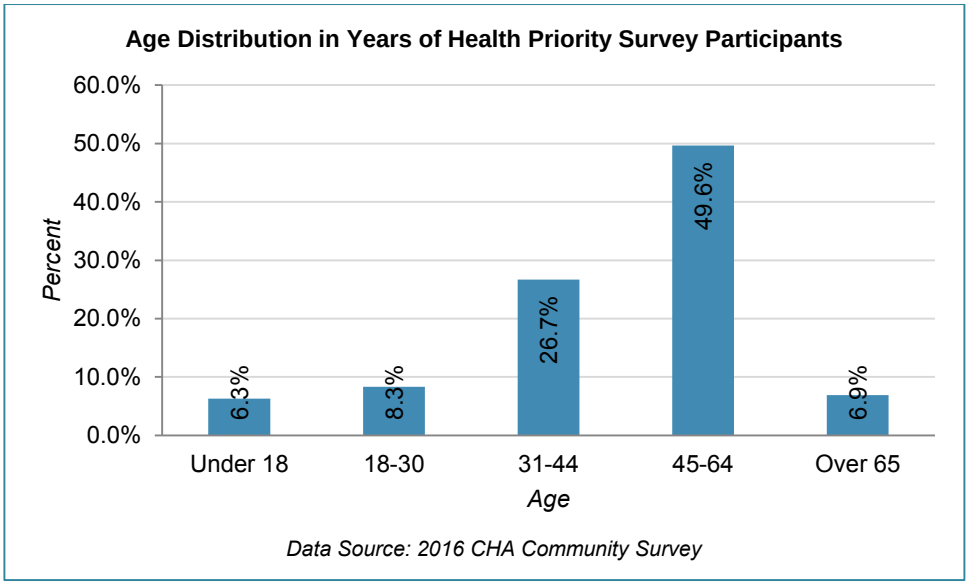
The majority of participants reported living or working in Georgetown or Round Rock. Almost a quarter of participants live in Georgetown, with another 17% of participants residing in Round Rock. Overall, thirteen cities in Williamson County were represented in addition to multiple unincorporated areas (Figure 91).

Figure 91: Williamson County Statistical Areas Distribution of Health Priority Survey Participants



The majority of participants (78%) were women, 20% were men and 2% declined to answer. Half of participants in the survey were between the ages of 45 and 64 years and 26% of participants were between 31 and 44 years (Figure 92).

Figure 92: Age Distribution in Years of Health Priority Survey Participants



Findings

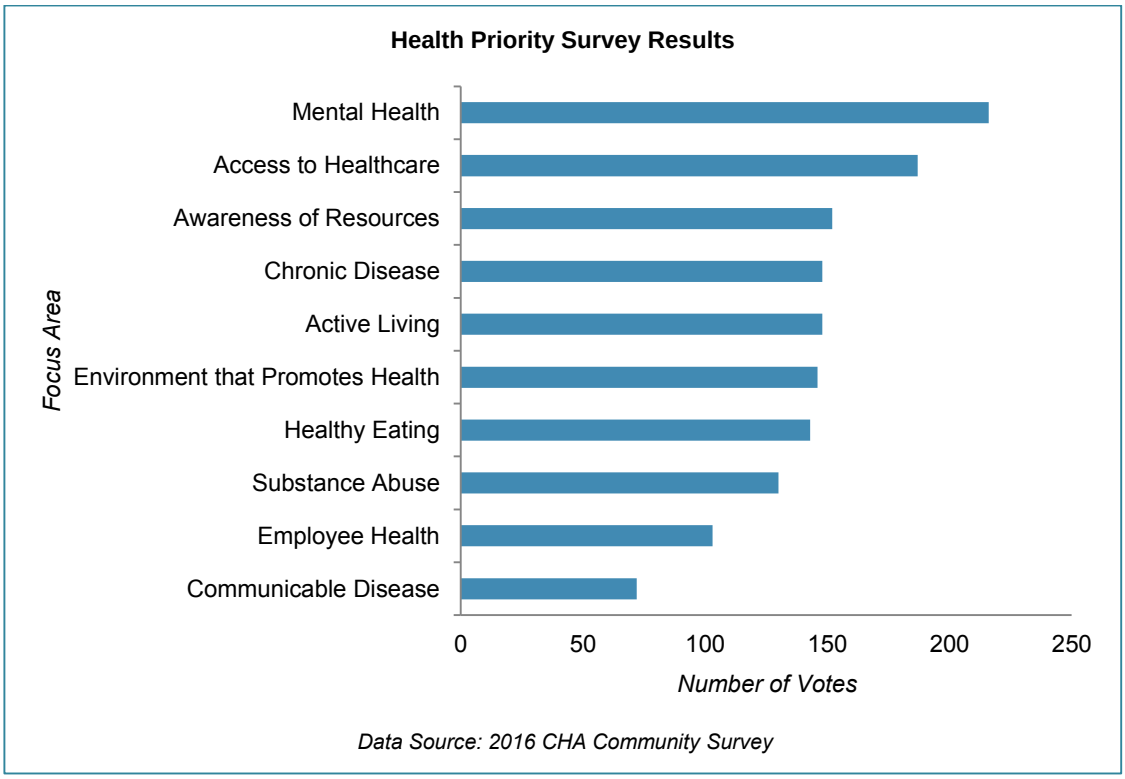
After one month of polling, Williamson County residents and stakeholders determined the following five focus areas as the top priorities for county-wide efforts to improve health status in the county.

1. Mental Health: Prevention, support and treatment for mental illness
2. Access to Healthcare: Making basic, affordable healthcare available to all residents
3. Awareness of Healthcare Resources: Increasing the available information and communication channels for resources
4. Active Living: Resources, access and awareness for physical activity opportunities
5. Chronic Disease: Prevention, treatment and management of chronic diseases

Action plans to address these five priorities will be developed in a CHIP.

Full results of the ten identified focus areas are shown in Figure 93.

Figure 93: Health Priority Survey Results



The survey also provided an opportunity for participants to identify a priority for the community that wasn't listed in the ten focus areas. The most common responses were:

- Increasing transportation options for residents who don't drive
- Addressing the needs of older adults and their caregivers
- Maternal health, including prenatal information, postpartum emotional support, and breastfeeding support
- Hunger and food insecurity
- Access to dental services

Participants were also asked to include suggestions for health improvement efforts that address the health priorities. Many participants expressed the need for collaboration within the county through concerted efforts to improve health and educate the community about resources that already exist. The need for better and ongoing promotion of the efforts undertaken in Williamson County was also mentioned. Another common suggestion for health improvement efforts was prioritizing low income, rural and minority communities to increase health equity within the county.

Conclusions and Implications

The 2016 Williamson County Community Health Assessment (CHA) provides an updated analysis of available data to describe the health and quality of life of Williamson County residents since the last assessment in 2013. Throughout the 2016 assessment process, the CHA Team engaged with key leaders, community stakeholders, the youth population, the Spanish speaking population, the elder population, and urban and rural residents in Wiliamson County to gather well-rounded feedback. The feedback, paired with quantitative data, describes the current health status and shared perceptions about the health and well-being of the community.

The 2016 CHA will be utilized as the foundational document by WCCHD, stakeholders, and community partners for evidence-based goal setting and decision making regarding the health of the county. The document will be used to educate and mobilize community partners and residents, develop priorities, gather resources, and plan actions to improve health (3). In addition, the results from the four MAPP assessmentments will be used to drive the development of the Community Health Improvement Plan (CHIP) to address the top issues in the county.

Though Williamson County consistently ranks among the healthiest in Texas, the assessment revealed health conditions, behaviors, and disparities that require additional resources and attention. These existing and emerging community health needs include: heart disease, cancer, intentional self harm (suicide), chlamydia and gonnorhea, lack of access to health insurance, obesity, and unhealthy eating. Additionally, health disparities exist across the east/west sides of IH-35 and affect individuals with low SES and in certain demographic groups.

To improve the health of Williamson County citizens, community agencies and parties must also address various social determinations of health and work cohesively to focus county resources and attention to priorities identified. Health is influenced by environmental conditions and forces of change in the county and across the state. The community must address the challenges created by the current and future forces of change including: the growth of the county, demographic changes, role of technology, changes in access to healthcare, increasing need for community preparedness, and economic changes. Other key issues expressed by residents that should be taken into consideration include: access to healthcare, affordable childcare, awareness of resources, barriers to a healthy lifestyle, affordable housing, transportation, and access to bilingual resources.

Furthermore, a better understanding of the local public health system will help to improve and better coordinate public health activities at local levels. Local partners will be able to make better and more effective policy and resource decisions to improve the community's public health as a whole. Three essential services of public health were identified for improvement in the local public health system: 1) mobilize community partnerships to identify and solve health problems, 2) diagnose and investigate health problems and health hazards, and monitor health status to identify health problems.

The CHA and CHIP processes are community-driven and need to be led by a strong collaboration with community partners and organizations. The residents have identified many resources and assets that are available to contribute to the CHIP: non-profit organizations, faith-based organizations, the healthcare system, community partnerships and collaborations, education system, parks and recreation, and the business community.

Based on feedback from stakeholders across the county, the top five health priorities for future health improvement efforts are:

1. Mental Health: prevention, support and treatment for mental illness;
2. Access to Healthcare: making basic, affordable healthcare available to all residents;
3. Awareness of Healthcare Resources: increasing the available information and communication channels for resources in the county;
4. Active Living: resources, access, and awareness for physical activity opportunities; and
5. Chronic Disease: prevention, treatment, and management of chronic diseases.

Identification of priorities is the first step in improving the health of the community. Future steps involve developing action plans with the community during the CHIP process to address each of these priorities. This collaborative effort will be the common agenda the county will use to improve the health of all residents. Additionally, the 2016 assessment and recommendations can be used in the development of the following:

- Community health changes and trends
- Hospital based community benefit plans
- Organizational strategic planning
- Evidence base for grant applications

Williamson County and Cities Health District, the WilCo Wellness Alliance, and our community partners hope this CHA will increase engagement in supporting the health of the people of Williamson County and maintain efforts to continue to be one of the healthiest counties in Texas. Sustained and broad community involvement is necessary to address the strategic health issues within the community and the solutions, like the issues, require the resources of multiple agencies and individuals. This shared ownership of community health among diverse stakeholders offers better mobilization and utilization of resources to achieve improvement. Even though challenges lay ahead, we strive to make Williamson County a healthy place where residents live, work, worship, play, and learn.

Appendices
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Appendix B: List of Tables and Figures

Figures

Tables

Appendix C: List of Acronyms

AIDS - Acquired Immune Deficiency Syndrome

ACS - U.S. Census Bureau 5-Year American Community Survey

AHRF - Area Health Resource File

BMI - Body Mass Index

BRFSS - Behavioral Risk Factor Surveillance System

CHA - Community Health Assessment

CHIP - Community Health Improvement Plan

CHSA - Community Health Status Assessment

CDC - Centers for Disease Control and Prevention

CLRD - Chronic Lower Respiratory Disease

CNI - Community Need Index

COPD - Chronic Obstructive Pulmonary Disease

CTSA - Community Themes and Strengths Assessment

DLT - District Leadership Team

DM - Diabetes mellitus

DSHS – (Texas) Department of State Health Services

DSHS CHS – (Texas) Department of State Health Services Center for Health Statistics

ERCOT - Electric Reliability Council of Texas

EPHS - Essential Public Health Services

FoCA - Forces of Change Assessment

FQHC - Federally Qualified Health Center

HIV - Human Immunodeficiency Virus

HFZ - Healthy Fitness Zone (in relation to FITNESSGRAM®)

HP2020 - Healthy People 2020

LPHSA - Local Public Health System Assessment

MAPP - Mobilizing for Action through Planning and Partnerships

MERS - Middle East Respiratory Syndrome

MMWR - Morbidity and Mortality Weekly Report

MVPA - Moderate to Vigorous Physical Activity

NACCHO - National Association of County and City Health Officials

NCCDPHP - National Center for Chronic Disease Prevention and Health Promotion

NI - Needs Improvement (in relation to FITNESSGRAM®)

NIH - National Institutes of Health

NI- HR - Needs Improvement- Health Risk (in relation to FITNESSGRAM®)

NIS - National Immunization Survey

NPHPS - National Public Health Performance Standards

NVSS - National Vital Statistics System

OSD - Office of the State Demographer

PID - Pelvic Inflammatory Disease

PM - Particulate Matter

PPH - Potentially Preventable Hospitalization

QOL - Quality of Life

SARS - Severe Acute Respiratory Syndrome

SEER SCP - Surveillance, Epidemiology, and End Results Program State Cancer Profiles

SES - Socioeconomic Status

SNAP - Supplemental Nutrition Assistance Program

STD - Sexually Transmitted Disease

STI - Sexually Transmitted Infection

TB - Tuberculosis

TEA - Texas Education Agency

USDA - U.S. Department of Agriculture

WCCHD - Williamson County and Cities Health District

WIC - Women, Infant, and Children Program

WHO - World Health Organization

WWA - WilCo Wellness Alliance

Appendix D: Glossary of Terms

Age-adjusted rate - A rate of morbidity or mortality in a population that is statistically modified to eliminate the effect of age differences in a population.

American Community Survey (ACS) - A nationwide survey that collects and produces information on demographic, social, economic, and housing characteristics about our nation's population every year

Asset mapping - A tool for mobilizing community resources. It is the process by which the capacities of individuals, civic associations, and local institutions are inventoried

Behavioral Risk Factor Surveillance System (BRFSS) - A telephone (landline and cellphone) survey that collects data on health-related risk behaviors, chronic health conditions, and use of preventive services from U.S. residents 18 years of age and older.

Behavioral Risk Factors - Behaviors which are believed to cause, or to be contributing factors to, accidents, injuries, disease, and death during youth and adolescence and significant morbidity and mortality in later life

Body Mass Index (BMI) - A common measure of body fat calculated from a person's weight and height. In adults, a BMI between 18.5 and 24.9 is considered healthy. A BMI of 25 to 29.9 is overweight and a BMI of 30 or more is obese. A child's (ages 2 to 19 years) BMI is calculated using a height and weight calculation, and the category is determined by plotting the BMI value on a gender and age specific growth chart.

Built Environment - Human-made surroundings in which people live, work, and play.

Cause of death - Any condition which leads to or contributes to death and is classifiable according to the tenth revision of The International Classification of Diseases (ICD-10).

Census Tract - Small subdivisions of a county used by the U.S. Census to provide a geographic boundary in which to collect statistical data. The average population size of a census tract is 4,000 people, but it can range between 1,200 and 8,000 people.

Communicable Diseases - Diseases that spread from one person to another or from an animal to a person. The spread often happens by air-, water, or foodborne viruses or bacteria, but also through blood or other bodily fluid.

Community Need Index - Score is an average of five different barrier scores that measure various socio-economic indicators of each community

Demographic characteristics - Include measures of total population as well as percent of total population by age group, gender, race and ethnicity, where these populations and sub-populations are located, and the rate of change in population density over time, due to births, deaths and migration patterns.

Department of Health and Human Services (HHS) - The federal agency that oversees CMS, which administers programs for protecting the health of all Americans, including Medicare, the Marketplace, Medicaid, and the Children's Health Insurance Program.

Disproportionate(ly) - Characteristic in which an individual or a population has a greater or smaller risk for certain disease, health behavior, or health outcome.

Essential Public Health Services - Describe the public health activities that all communities should undertake and serve as the framework for the NPHPS instruments

Ethnicity - The classification of a population that shares common characteristics, such as, religion, traditions, culture, language, and tribal or national origin.

Focus Group - A small-group discussion guided by a trained leader. It is used to learn more about opinions, perceptions, beliefs, and attitudes on a designated topic, and then to guide future action.

Food Desert - Urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food. Instead of supermarkets and grocery stores, these communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable food options.

Health - State of complete physical, mental and social well-being and not merely the absence of disease or infirmity

Health behaviors - Activity undertaken by an individual, regardless of actual or perceived health status, for the purpose of promoting, protecting or maintaining health, whether or not such behavior is objectively effective towards that end

Health disparities - Preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations

Health equity - Attainment of the highest level of health for all people

Health indicator - Characteristic of an individual, population, or environment which is subject to measurement (directly or indirectly) and can be used to describe one or more aspects of the health of an individual or population (quality, quantity and time)

Health outcomes - Change in the health status of an individual, group or population which is attributable to a planned intervention or series of interventions, regardless of whether such an intervention was intended to change health status

Healthy People 2020 (HP2020) - Provides science-based, 10-year national objectives for improving the health of all Americans

Hispanic/Latino Ethnicity - Hispanic or Latino origin includes persons of Mexican, Puerto Rican, Cuban, Central and South American, and other or unknown Latin American or Spanish origins, almost always self-reported.

Incidence - The number of newly diagnosed cases of a disease.

Incidence Rate - An estimate of the number of new cases of disease in a population.

Infant Mortality Rate - The number of infant deaths (less than 1 year of age) for every 1,000 live births.

Infectious diseases - Diseases caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi; the diseases can be spread, directly or indirectly, from one person to another

Medicaid - A joint federal and state program that helps with medical costs for some people with limited income and resources. Medicaid programs vary from state to state, but most health care costs are covered if you qualify for both Medicare and Medicaid.

Medicare - Medicare is the federal health insurance program for people who are 65 or older, certain younger people with disabilities, and people with End-Stage Renal Disease (permanent kidney failure requiring dialysis or a transplant, sometimes called ESRD).

Morbidity - A term used to refer to an illness or illnesses in a population.

Mortality - A term used to refer to death or deaths in a population.

Mortality Rate (Death Rate) - A measure of the frequency of death in a defined population during a specified interval of time.

National Association of County and City Health Officials (NACCHO)- An association with members from 2,800 local health departments across the United States that seeks health, equity, and security for all people in their communities through public health policies and services. NACCHO's mission is to be a leader, partner, catalyst, and voice for local health departments in order to ensure the conditions that promote health and equity, combat disease, and improve the quality and length of all lives.

Percent - A ratio "out of 100." Example: 75% means 75 out of 100.

Population - The total of all individuals in a given area.

Population projections – Population projections are estimates of the population for future dates. They are typically based on an estimated population consistent with the most recent decennial census and are produced using the cohort-component method. Projections illustrate possible courses of population change based on assumptions about future births, deaths, net international migration, and domestic migration. In some cases, several series of projections are produced based on alternative assumptions for future fertility, life expectancy, net international migration, and (for state-level projections) state-to-state or domestic migration.

Poverty status - Family income expressed as a percent of the poverty threshold. Each member of a family is classified according to the total income of the family. Unrelated individuals are classified according to their own income. Reported and imputed income levels are grouped into categories relative to the poverty threshold. The poverty threshold for each year is based on definitions originally developed by the Social Security Administration. These include a set of money income thresholds that vary by family size and composition. Families or individuals with income below their appropriate thresholds are classified as below the poverty threshold. These thresholds are updated annually by the U.S. Census Bureau to reflect changes in the Consumer Price Index for all urban consumers (CPI-U).

Prevalence - The total proportion of disease within a population.

Primary data – Original data collected for a specific research goal and collected by the researchers themselves.

Qualitative Data - Data is non-numerical, and is often presented in narrative form.

Quantitative data - Data is based on numbers and often are called "statistics."

Race - A group of people united or classified together on the basis of common history, nationality, or geographic distribution.

Rate - Occurrence of a disease within a population in a given time period expressed as a ratio. Example: 5.0 per 100,000 means 5 cases for every 100,000 people.

Risk Factor - Any characteristic or exposure of an individual that increases the likelihood of developing a disease or injury.

Secondary data - Information that has already been collected by someone else. Often secondary data already have been analyzed and disseminated and can be used without any additional calculations.

Social Determinants of Health - Conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks

Socioeconomic Status (SES) - Social standing or class of an individual or group often measured as a combination of education, income, and occupation.

Stakeholders - All persons, agencies and organizations with an investment or stake in the health of the community and the local public health system.

Supplemental Nutrition Assistance Program (SNAP) - A program that offers nutrition assistance to eligible, low-income individuals and families and provides economic benefits to communities.

Women, Infants, and Children (WIC) Program - A federal program that provides nutritious foods, breastfeeding support and nutrition education to low-income pregnant, postpartum and breastfeeding women, and infants and children until 5 years of age who are found to be at nutritional risk.

Appendix E: Stakeholder Focus Group Results from Truven Health Analytics

Baylor Scott & White

Williamson County & Cities Health District

Williamson County, Texas Focus Group September 24, 2015

Executive Summary

Baylor Scott & White (BSW) engaged Truven Health Analytics, Inc. (Truven) to conduct a series of focus groups as a means to assess the perception of health needs in Williamson County, Texas. Individuals from varied backgrounds represented Williamson County, from five perspectives; consumers, community leaders / community groups, public organizations, providers and experts in public health. The participants were randomly divided into three large groups, each moderated by two Truven representatives. Each group was then divided into 2-3 breakout groups. The breakout groups were posed with three questions to discuss. This document represents the summarization of the discussions and themes by group.

An overarching goal of community health and wellness was evident throughout each group's discussions. The focus was on the two major populations that need to be cared for: those with a higher socioeconomic status (SES) and those with a lower SES. There is agreement between all groups that the population of Williamson County is growing by leaps and bounds - which is increasing the challenges of a socioeconomic divide between urban/suburban and rural areas.

The disparity between these groups has highlighted health and wellness challenges for all areas despite a positive overall health status for the county. Barriers to healthcare identified include lack of public transportation, cultural and language differences, lack of resources (physicians and other healthcare providers and multi-lingual support resources) and health literacy. Health status concerns identified included obesity (adults and children), diabetes, cardiac, mental health, senior health, and chronic disease management and prevention. Discussions around the Williamson County healthcare system identified the need for care coordination across the all venues (inpatient, ambulatory, home) and health education. Within the underserved population suggestions for education include programs such as: current trends in healthcare, child safety practices, mental health awareness, STDs and "living healthy". Many assets were identified as available to collaborate with on improving the health status of Williamson County.

Breakout Group Red

Williamson County is experiencing rapid population growth in both rural and urban areas. Significant growth has been noted in the Spanish speaking and aging populations. The group believes that much of the growth is attributed to good schools and educational opportunities, available green space, employment opportunities and

social media advertising the city of Austin as one of the “Top 10” cities to live in the United States.

Urban areas are focused more on health and wellness. The growth of a higher SES within these areas have contributed to a robust healthcare infrastructure, good education and higher education options, access to green space, fitness facilities and healthy eating. Increase in population density has contributed to traffic congestion due to the lack of public transportation and limited sidewalks. There is a need for better public education to promote awareness of chronic disease such as obesity, cardiac health and diabetes.

The rural locations struggle with meeting their basic needs such as access to food, clothing, shelter, safety and affordable housing. Access to healthcare and educational opportunities are not perceived as an immediate need. If basic needs were met, there are still the challenges of no public or personal transportation to get to their healthcare appointments. Cultural attitudes and beliefs play a role in not seeking immediate help for an illness. The lack of bi-lingual/multilingual resources impacts potential education opportunities to support the community. Access to specialty physicians is a problem. With Medicaid or without insurance the wait time can be up to a year.

Across Williamson County there are challenges that impact both urban and rural areas. Due to the rapid population growth resource availability for seniors is not adequate. The communication and education processes are fragmented and it is not clear what information gets out to the community, for example, available classes, locations, timing and the latest vaccination information needed to support parental decision making. The available channels of communication to impact the perception of mental health (cultural beliefs and attitudes) are missing. Access to patient portals such as “MyChart” is limited by availability and the knowledge to use technology. There is a lack of available resources to care for and support mental health issues.

The top three health needs identified for Williamson County were different between the two smaller breakout groups. Breakout 1 identified obesity and associated conditions, mental health and senior health (not all physicians accept Medicare). Breakout 2 identified bridging the gap between cultural beliefs/habits and healthcare needs, healthcare costs, access to an environment that promotes a healthy lifestyle.

Breakout Group Green

Williamson County is experiencing rapid population growth, especially in the Hispanic and Asian American communities. The retirement community in Georgetown is expanding rapidly as well.

Healthcare and higher education have become major factors in the growth of the county. With growth in population comes a greater diversity of need from the community. The increasing need of services and bi/multilingual resources were discussed.

Urbanization in the central area of the county has led to an increase in hospitals, urgent care facilities, physicians and green space which has improved health and wellness leading to a ranking of the 3rd healthiest county in Texas. Increased density has contributed to traffic congestion which highlights the need for improved public transportation and sidewalk areas. One of the concerns identified is increasing congestion and urbanization is leading to less healthy diet due to the easier access to fast food options.

There is an increase in the disparity of access and quality of care between suburban/urban and rural parts of county. The communities located east of I-35 are primarily low socioeconomic, underinsured and underserved. Public transportation is unavailable, there are unsafe roads, no sidewalks and no ability to get to the services they need such as preventative (includes education), acute and post-acute care and support. The group expressed a concern that there was not enough representation from the rural areas within the focus groups.

The top three health needs identified for Williamson County revolve around access to healthcare, transportation and life style modifications in support of chronic disease management and prevention.

Breakout Group Blue

Williamson County is experiencing rapid population growth which is having both positive and negative effects on the quality of life within the county. Migrations from Travis to Williamson County have contributed to a fast growing under-privileged population increasing the socioeconomic divide between the urban and rural populations. Property values are much higher in the urban/suburban areas, and this is where new resources are made available. The rural areas are not attracting needed resources.

For those with higher SES, the major problems are related to health education. For example, many people choose to decline vaccinations for their children based on inaccurate information causing a decrease in vaccination rates. This population is very involved in current health and wellness trends and has the infrastructure available to support their needs such as access to good schools, higher education, parks, trails, healthy food options and a robust healthcare system. Public transportation is lacking which is causing major traffic congestion and impacting the ease of access. The group also expressed concerns regarding the medical school being in the community, stating that it decreases the number of attending physicians available to care for patients (residents are available, not many primary care physicians).

Populations in rural areas are more focused on meeting basic needs such as food, safety, jobs and affordable housing. Healthcare and education are not a priority. Language barriers impact an understanding of available programs and services. These areas have access issues primarily due to a lack of public and private transportation. Services are not in the immediate area and are often under-utilized due to access challenges. The county is currently developing a program focusing on women's health, but they expect transportation challenges to limit participation. There is also a need for education on being healthy within the underprivileged population; education on child safety practices, STDs (high chlamydia rates), create tobacco restrictions in public places and provide additional services for mental health. Food deserts are a challenge, as well as, lack of healthy food options or access to green space.

The top three health needs identified for Williamson County revolve around access to healthcare and transportation, health literacy and child development around the indigent populations.

Appendix F: Community Member Focus Group Guide

Date: _____ Location: _____ Facilitator: _____

Welcome

Hi, my name is _____ and I am with (organization). Thank you for taking the time to speak with me today.

In collaboration with community members and partners, Williamson County and Cities Health District is in the process of developing a community health assessment to understand the health of Williamson County.

As part of this process, we are having discussions like these around the county with community members, government officials, health care providers, and staff from a range of community organizations. We are interested in hearing about health priorities, strengths and needs of the community, and suggestions for improvement

I want everyone to know there isn't right or wrong answers and it is ok that your opinions might differ from one another. Please feel free to share your opinions, both positive and negative.

Ground Rules and Consent Review

As you can see, I have a colleague with me, _____who will take notes during our discussion. I want to give full attention, so she is helping me out by taking notes during the group and she doesn't want to distract from our discussion.

Just in case we miss something in our note-taking, we are also audio-taping the discussion. We are conducting several of these types of groups, and want to make sure we capture everyone's opinions. After all of the groups are complete, we will be writing a summary report of the themes that have come up. In that report, we might provide some general information on what we discussed tonight, but I will not include any names or identifying information. Nothing you say here will be connected to your name.

Lastly, please turn off your cell phones or at least put them on vibrate mode. The group will last only about 90 minutes. If you need to go to the restroom during the discussion, please feel free to leave, but we'd appreciate it if you would go one at a time.

Any questions before we begin our introductions and discussion?

Introductions

Before we begin our discussion about the community, let's spend some time getting to know each other. Let's go around and introduce ourselves by sharing:

Your name

What city or town you live in

When you hear the word “health” what is the first thing that comes to mind?

Community Issues

We are going to be talking a lot about community during this discussion. How would you describe your community?

What is important about community?

What are some of the biggest strengths or most positive things about your community? (**Probe**: community and organizational assets)

What are some of the biggest problems or concerns in your community (**Probe if needed:** health, economic, social, safety etc.)

(If not discussed) What challenges around transportation have you faced, or believe others in the community face day to day?

Challenges around housing? Employment? Education? Environment? Discrimination?

Over the last two to three years, what changes have you seen in your community? (For example: demographic shifts, aging population, migration, recession etc.)

Health Priorities

You mentioned some health concerns in the community are _____. What programs, or services do you know of that are available?

What are some barriers to receiving these services in your area?

What’s missing? What programs, services, or policies are needed to better serve your community?

What do you think the community should do to address these issues?

Have you or someone close to you ever experienced any challenges in trying to get health care? What specifically? (**Probe for barriers**: insurance issues, language barriers, lack of transportation)

Probe if needed: What part of getting health care was the most challenging? Was it finding a doctor? Making an appointment? Getting to the office/clinic? Being at the office/clinic and understanding the doctor?

What else makes it hard for you to be healthy or make healthy choices?

We’ve talked a lot about important health issues in the community, including _____. The last time we conducted a health assessment like this one, the community ranked the issues by priority, which we used to take action to help improve health. These were the top 10 issues in 2013 in no particular order: (show health priorities from 2013 CHA on poster board). Let’s brainstorm all the health priorities you can think of and then we will pick the top five.

I’d like you to think ahead about the future of your community. When you think about the community three to five

years from now, what is your vision for a healthy community?

Closing

Thank you so much for your time. That's all the questions we have. Is there anything else you would like to mention that we didn't already cover? Please stay to collect your gift card for spending time with us and sharing your opinions. Thank you again.

Appendix G: Priority of Model Standards

Local Public Health System Assessment- Priority Rating

This survey is designed to evaluate the priority of each of the 10 Essential Public Health Services to the Williamson County Public Health System as a whole, which includes all community partners (hospitals, non-profit organizations, health service providers, community organizations, mental health organizations, law enforcement, social services, faith based organizations, and many more).

Please consider past and current activity in each of these sectors when thinking about these priorities for the county as a whole.

INSTRUCTIONS: In the response column, select your priority rating for the next 3 years from the drop down menu options for the Model Standards under each Essential Service. Response options range on a scale of 1 to 10, with 1 being the lowest and 10 being the highest.

---

* 1. Essential Service #1 - Monitor health status to identify health problems

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?

- Population-based Community Health Assessment
- Population-based Community Health Assessment Response menu
- Current Technology to Manage and Communicate Population Health Data
- Current Technology to Manage and Communicate Population Health Data Response menu
- Maintenance of Population Health Registries
- Maintenance of Population Health Registries Response menu

* 2. "Essential Service #2 - Diagnose and investigate health problems and health hazards

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?"

- Identification and Surveillance of Health Threats
- Identification and Surveillance of Health Threats Response menu
- Investigation and Response to Public Health Threats and Emergencies
- Investigation and Response to Public Health Threats and Emergencies Response menu
- Laboratory Support for Investigation of Health Threats
- Laboratory Support for Investigation of Health Threats Response menu

* 3. "Essential Service #3 - Inform, educate and empower people about health issues

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?"

- Health Education and Promotion
- Health Education and Promotion Response menu
- Health Communication
- Health Communication Response menu
- Risk Communication
- Risk Communication Response menu

* 4. "Essential Service #4 - Mobilize community partnerships to identify and solve health problems

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?"

- Constituency Development
- Constituency Development Response menu
- Community Partnerships
- Community Partnerships Response menu

* 5. "Essential Service #5 - Develop policies and plans that support individual and community health efforts

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?"

- Governmental Presence at the Local Level
- Governmental Presence at the Local Level Response menu
- Public Health Policy Development
- Public Health Policy Development Response menu
- Community Health Improvement Process and Strategic Planning
- Community Health Improvement Process and Strategic Planning Response menu
- Plan for Public Health Emergencies
- Plan for Public Health Emergencies Response menu

* 6. "Essential Service #6 - Enforce laws and regulations that protect health and ensure safety

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?"

- Review and Evaluation of Laws, Regulations and Ordinances
- Review and Evaluation of Laws, Regulations and Ordinances Response menu
- Involvement in the Improvement of Laws, Regulations, and Ordinances
- Involvement in the Improvement of Laws, Regulations, and Ordinances Response menu
- Enforcement of Laws, Regulations, and Ordinances
- Enforcement of Laws, Regulations, and Ordinances Response menu

* 7. "Essential Service #7 - Link people to needed personal health services and assure the provision of health care when otherwise unavailable

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?"

- Identification of Personal Health Service Needs of Populations
- Identification of Personal Health Service Needs of Populations Response menu
- Linkage of People to Personal Health Services
- Linkage of People to Personal Health Services Response menu

* 8. "Essential Service #8 - Assure a competent public health and personal health care workforce

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?"

- Workforce Assessment, Planning and Development
- Workforce Assessment, Planning and Development Response menu
- Public Health Workforce Standards
- Public Health Workforce Standards Response menu
- Life-Long Learning through Continuing Education, Training and Mentoring
- Life-Long Learning through Continuing Education, Training and Mentoring Response menu
- Public Health Leadership Development
- Public Health Leadership Development Response menu

* 9. "Essential Service #9 - Evaluate effectiveness, accessibility, and quality of personal and population-based health services

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?"

- Evaluation of Population-based Health Services
- Evaluation of Population-based Health Services Response menu
- Direct contribution of the local health department to evaluation.
- Direct contribution of the local health department to evaluation. Response menu
- Evaluation of the Local Public Health System
- Evaluation of the Local Public Health System Response menu

* 10. "Essential Service #10 - Research for new insights and innovative solutions to health problems

On a scale of 1 to 10, what is the priority of each of the following to our local public health system?"

- Fostering Innovation
- Fostering Innovation Response menu
- Linkage with Institutions of Higher Learning and/or Research
- Linkage with Institutions of Higher Learning and/or Research Response menu
- Capacity to Initiate or Participate in Research
- Capacity to Initiate or Participate in Research Response menu

Appendix H: Local Public Health System Performance Assessment Instrument

Adapted from the NACCHO instrument.

Essential Service 2: Diagnose and Investigate

Health Problems and Health Hazards

Are we ready to respond to health problems or health hazards in our county?
How quickly do we find out about problems?
How effective is our response?

Diagnosing and investigating health problems and health hazards in the community encompass the following:

• Accessing a public health laboratory capable of conducting rapid screening and high-volume testing.

• Establishing active infectious disease epidemiology programs.

• Creating technical capacity for epidemiologic investigation of disease outbreaks and patterns of the following: (a) infectious and chronic diseases, (b) injuries, and (c) other adverse health behaviors and conditions.

Partners gathered to discuss the performance of the local public health system (LPHS) in diagnosing and investigating health problems and health hazards include, but are not limited to:

- The local health department or other governmental public health agency.
- The local board of health or other local governing entity.
- Hospitals.
- Long-term care facilities.
- Preschool and day care programs.
- Public and private schools.
- Colleges and universities.
- Employers.
- Managed care organizations.
- Primary care clinics, including Federally Qualified Health Centers (FQHCs).
- Physicians.
- Public safety and emergency response organizations.
- Public health laboratories.

Model Standard 2.1: Identifying and Monitoring Health Threats

The LPHS conducts surveillance to watch for outbreaks of disease, disasters, and emergencies (both natural and manmade), and other emerging threats to public health. Surveillance data include information on reportable diseases, potential disasters and emergencies, or emerging threats. The LPHS uses surveillance data to notice changes or patterns right away, determine the factors that influence these patterns, investigate the potential dangers, and find ways to lessen the effect on public health. The best available science and technologies are used to understand the problems, determine the most appropriate solutions, and prepare for and respond to identified public health threats. To ensure the most effective and efficient surveillance, the LPHS connects its surveillance systems with state and national systems. To provide a complete monitoring of health events, all parts of the system work together to collect data and report findings.

To accomplish this, members of the LPHS work together to:

- Participate in a comprehensive surveillance system with national, state, and local partners to identify, monitor, and share information and understand emerging health problems and threats.
- Provide and collect timely and complete information on reportable diseases, potential disasters and emergencies, and emerging threats (natural and manmade).
- Ensure that the best available resources are used to support surveillance systems and activities, including information technology, communication systems, and professional expertise.

Discussion Questions for Model Standard 2.1

Awareness

a. How many of you are aware of the LPHS contributions to surveillance system(s) designed to monitor health problems and identify health threats?

Frequency

a. What is the time frame for submitting reportable disease information to the state or the LPHS?

Quality and Comprehensiveness

a. Which data sets are included in the surveillance system?
b. How well is the surveillance system integrated with national and/or state surveillance systems?
c. Is the surveillance system compliant with national and/or state health information exchange guidelines?
d. What types of resources are available to support health problem and health hazard surveillance and investigation activities within the LPHS?

Usability

a. How does the LPHS use the surveillance system(s) to monitor changes in the occurrence of health problems and hazards?

At what level does the LPHS… (Ranked “No activity”, “Minimal”, “Moderate”, “Significant”, or “Optimal”)

2.1.1 Participate in a comprehensive surveillance system with national, state, and local partners to identify, monitor, and share information and understand emerging health problems and threats?

2.1.2 Provide and collect timely and complete information on reportable diseases and potential disasters, emergencies, and emerging threats (natural and manmade)?

2.1.3 Ensure that the best available resources are used to support surveillance systems and activities, including information technology, communication systems, and professional expertise?

Discussion Notes for Model Standard 2.1

Strengths Weaknesses:

Short-Term Improvement:

Opportunities:

Long-Term Improvement:

Opportunities:

Model Standard 2.2: Investigating and Responding to Public Health Threats and Emergencies

The LPHS stays ready to handle possible threats to public health. As a threat develops—such as an outbreak of a communicable disease, a natural disaster, or a biological, chemical, nuclear, or other environmental event—a team of LPHS professionals works closely together to collect and understand related data. Many partners support the response, with communication networks already in place among health-related organizations, public safety, rapid response teams, the media, and the public. In a public health emergency, a jurisdictional Emergency Response Coordinator leads LPHS partners in the local investigation and response. The response to an emergent event is in accordance with current emergency operations coordination guidelines.

To accomplish this, members of the LPHS work together to:

- Maintain written instructions on how to handle communicable disease outbreaks and toxic exposure incidents, including details about case finding, contact tracing, and source identification and containment.
- Develop written rules to follow in the immediate investigation of public health threats and emergencies, including natural and manmade disasters.
- Designate a jurisdictional Emergency Response Coordinator.
- Rapidly and effectively respond to public health emergencies according to emergency operations coordination guidelines.
- Identify personnel with the technical expertise to rapidly respond to possible biological, chemical, or nuclear

public health emergencies.

- Evaluate emergency response exercises and incidents for effectiveness and opportunities for improvement (e.g., using hot washes, After Action Reports, and Improvement Plans).

Discussion Questions for Model Standard 2.2

Involvement

a. Who is the LPHS designee serving as the Emergency Response Coordinator within the jurisdiction?
b. How does the Emergency Response Coordinator coordinate emergency activities within the LPHS?
c. Does the LPHS maintain a current list of personnel with the technical expertise to respond to natural and intentional emergencies and disasters?
d. How does the LPHS ensure a timely response from emergency personnel, including sufficient numbers of trained professionals?
e. How does the LPHS mobilize volunteers during a disaster?

Quality and Comprehensiveness

a. How does the LPHS use written processes and standards for implementing a program of case finding, contact tracing, source identification, and containment for communicable diseases or toxic exposures?
b. How prepared are LPHS personnel to rapidly respond to natural and intentional disasters?

Usability

a. How does the LPHS evaluate public health emergency response incidents for effectiveness and opportunities for improvement (e.g., After Action Reports, Improvement Plans)?
b. How are the findings used to improve emergency plans and response?

At what level does the LPHS… (Ranked “No activity”, “Minimal”, “Moderate”, “Significant”, or “Optimal”)

2.2.1 Maintain written instructions on how to handle communicable disease outbreaks and toxic exposure incidents, including details about case finding, contact tracing, and source identification and containment?

2.2.2 Develop written rules to follow in the immediate investigation of public health threats and emergencies, including natural and intentional disasters?

2.2.3 Designate a jurisdictional Emergency Response Coordinator?

2.2.4 Prepare to rapidly respond to public health emergencies according to emergency operations coordination guidelines?

2.2.5 Identify personnel with the technical expertise to rapidly respond to possible biological, chemical, or and nuclear public health emergencies?

2.2.6 Evaluate incidents for effectiveness and opportunities for improvement (such as After Action Reports,

Improvement Plans, etc.)?

Discussion Notes for Model Standard 2.2

Strengths Weaknesses:

Short-Term Improvement:

Opportunities:

Long-Term Improvement:

Opportunities:

Model Standard 2.3: Laboratory Support for Investigating Health Threats

The LPHS has the ability to produce timely and accurate laboratory results for public health concerns. Whether a laboratory is public or private, the LPHS sees that the correct testing is done and that the results are made available on time. Any laboratory used by public health meets all licensing and credentialing standards.

To accomplish this, members of the LPHS work together to:

- Have ready access to laboratories that can meet routine public health needs for finding out what health problems are occurring.
- Maintain constant (24/7) access to laboratories that can meet public health needs during emergencies, threats, and other hazards.
- Use only licensed or credentialed laboratories.
- Maintain a written list of rules related to laboratories, for handling samples (including receiving, collecting, labeling, storing, transporting, and delivering), determining who is in charge of the samples at what point, and reporting the results.

Discussion Questions for Model Standard 2.3

Quality and Comprehensiveness

a. Where does the LPHS maintain ready access to laboratories able to meet routine diagnostic and surveillance needs including analysis of clinical and environmental specimens?
b. How does the LPHS use laboratory services to support time-sensitive investigations of public health threats, hazards, and emergencies?
c. What mechanisms are in place to ensure the laboratories used are all licensed and/or credentialed?
d. What current guidelines or protocols are in place for the handling of laboratory samples?
e. Are the current procedures able to stand up in a court of law, (e.g., chain of custody, coordination with law enforcement officials, Health Insurance Portability and Accountability Act (HIPAA)?) if the health event is part of a criminal act?

At what level does the LPHS… (Ranked “No activity”, “Minimal”, “Moderate”, “Significant”, or “Optimal”)

2.3.1 Have ready access to laboratories that can meet routine public health needs for finding out what health problems are occurring?

2.3.2 Maintain constant (24/7) access to laboratories that can meet public health needs during emergencies, threats, and other hazards?

2.3.3 Use only licensed or credentialed laboratories?

2.3.4 Maintain a written list of rules related to laboratories, for handling samples (including collecting, labeling, storing, transporting, and delivering), determining who is in charge of the samples at what point, and reporting the results?

Discussion Notes for Model Standard 2.3

Strengths Weaknesses:

Short-Term Improvement:

Opportunities:

Long-Term Improvement:

Opportunities:

Essential Service 4: Mobilize Community Partnerships to Identify and Solve Health Problems

How well do we truly engage people in local health issues?

Mobilizing community partnerships to identify and solve health problems encompasses the following:

- Convening and facilitating partnerships among groups and associations (including those not typically considered to be health related).
- Undertaking defined health improvement planning process and health projects, including preventive, screening, rehabilitation, and support programs.
- Building a coalition to draw on the full range of potential human and material resources to improve community health.

Partners gathered to discuss the performance of the local public health system (LPHS) in mobilizing community partnerships to identify and solve health problems include, but is not limited to:

- The local health department or other governmental public health agency
- The local board of health or other local governing entity
- Hospitals and clinics
- Public and private schools
- Colleges and universities
- Health educators
- Local businesses and employers
- Managed care organizations
- Faith-based organizations
- Non-profit organizations/advocacy groups
- Civic organizations
- Neighborhood organizations
- Other community/grassroots organizations
- Public Information Officers
- Media
- Community members
- Substance abuse or mental health organizations
- City and county governmental agencies
- Ministerial alliances
- United Way
- Worksite wellness councils
- Local chambers of commerce
- State and federal programs
- Health-related coalition leaders

Model Standard 4.1: Constituency Development

The LPHS actively identifies and involves community partners—the individuals and organizations (constituents) with opportunities to contribute to the health of communities. These stakeholders may include health, transportation, housing, environmental, and non-health related groups, and community members. The LPHS manages the process of establishing collaborative relationships among these and other potential partners.

Groups within the LPHS communicate well with one another, resulting in a coordinated, effective approach to public health, so that the benefits of public health are understood and shared throughout the community.

To accomplish this, members of the LPHS work together to:

- Follow an established process for identifying key constituents related to overall public health interests and particular health concerns.
- Encourage constituents to participate in CHA, planning, and improvement efforts.
- Maintain a complete and current directory of community organizations.
- Create forums for communication of public health issues.

Discussion Questions for Model Standard 4.1

Awareness

a. How is awareness regarding the importance of public health issues developed with the community-at-large and organizations within the LPHS?

Involvement

a. What organizations are active parts of the LPHS?
b. How are new individuals/groups identified for constituency building?
c. How are constituents encouraged to participate in improving community health?
d. How are community members engaged to improve health?

Quality and Comprehensiveness

a. Does the LPHS maintain a current and accessible directory of organizations that comprise it?
b. What is the LPHS' process for identifying key constituents or stakeholders?
c. How does the LPHS maintain names and contact information for individuals and key constituent groups?

Usability

a. How accessible is the directory of LPHS organizations?
b. How does the LPHS create forums for communication of public health issues?

At what level does the LPHS… (Ranked "No activity", "Minimal", "Moderate", "Significant", or "Optimal")

4.1.1 Maintain a complete and current directory of community organizations?

4.1.2 Follow an established process for identifying key constituents related to overall public health interests and particular health concerns?

4.1.3 Encourage constituents to participate in activities to improve community health?

4.1.4 Create forums for communication of public health issues?

Discussion Notes for Model Standard 4.1

Strengths Weaknesses:

Short-Term Improvement:

Opportunities:

Long-Term Improvement:

Opportunities:

Model Standard 4.2: Community Partnerships

The LPHS encourages individuals and groups to work together so that community health may be improved. Public, private, and voluntary groups—through many different levels of information sharing, activity coordination, resource sharing, and in-depth collaborations—strategically align their interests to achieve a common purpose. By sharing responsibilities, resources, and rewards, community partnerships allow each member to share its expertise with others and strengthen the LPHS as a whole. A community group follows a collaborative, dynamic, and inclusive approach to community health improvement; it may exist as a formal partnership, such as a community health planning council, or as a less formal community group.

To accomplish this, members of the LPHS work together to:

- Establish community partnerships and strategic alliances to provide a comprehensive approach to improving health in the community.
- Establish a broad-based community health improvement committee.
- Assess how well community partnerships and strategic alliances are working to improve community health.

Discussion Questions for Model Standard 4.2

Involvement

a. What types of partnerships exist in the community to maximize public health improvement activities?
b. How do organizations within these partnerships interact?
c. If there is a broad-based community health improvement committee, what does the committee do?

Quality and Comprehensiveness

a. In what types of activities does the LPHS engage?
b. How does the LPHS review the effectiveness of community partnerships and strategic alliances?

At what level does the LPHS… (Ranked “No activity”, “Minimal”, “Moderate”, “Significant”, or “Optimal”)

4.2.1 Establish community partnerships and strategic alliances to provide a comprehensive approach to improving health in the community?

4.2.2 Establish a broad-based community health improvement committee?

4.2.3 Assess how well community partnerships and strategic alliances are working to improve community health?

Discussion Notes for Model Standard 4.1

Strengths Weaknesses:

Short-Term Improvement:

Opportunities:

Long-Term Improvement:

Opportunities: