



BRAZOS VALLEY HEALTH STATUS ASSESSMENT

ASSESSMENT REPORT

2019

This report was prepared for:
CHI St. Joseph Health Regional Hospital
CHI St. Joseph Health College Station Hospital
CHI St. Joseph Health JV Rehab Hospital
CHI St. Joseph Health Burleson Hospital
CHI St. Joseph Health Grimes Hospital
CHI St. Joseph Health Madison Hospital



TEXAS A&M UNIVERSITY
Center for Community
Health Development

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2019 BRAZOS VALLEY REGIONAL HEALTH ASSESSMENT

Conducted and Prepared by

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2019 BRAZOS VALLEY REGIONAL HEALTH ASSESSMENT DATA USER AGREEMENT

The Texas A&M School of Public Health Center for Community Health Development has made a significant attempt to ensure that the 2019 Brazos Valley Regional Health Assessment serves as a comprehensive, valid, and reliable source of information for the entire region. The survey methodology, state-of-the-art instrument, and community discussion groups allowed us to measure the behavior, attitudes, perceptions, and characteristics of local residents at levels previously unavailable to communities in the region. A careful analysis of existing data collected by other groups and organizations (such as the U.S. Census Bureau, Texas Department of State Health Services, and the Centers for Disease Control and Prevention) was also a vital component of the community health assessment.

While it is important for users to recognize that the comprehensiveness and depth of these data make them valuable, it is *imperative* for users to understand the information, including appropriate and inappropriate ways these data can be used. The user must understand that associations between factors do not necessarily indicate a causal relationship between those factors. For example, the tendency to smoke is not caused by low income, even though those two are frequently correlated. We are describing a broken health care system, and in order to remedy the situation, substantial effort was expended toward identifying problems. It would be easy to place the blame for this situation on certain groups and organizations based on data and comments taken out of context. Blaming either the recipients or the providers in this broken system contributes nothing toward the solutions desired by all.

The underlying goal upon which the community health assessment is based is collaboration to ***improve the health status of the population*** of the region. When using this information, we ask that you reflect upon that goal, and determine if the intended use of this information will help reach that goal or delay its achievement. References to the data contained in this report should include an appropriate citation.

Your acceptance of the data set carries with it tacit acceptance of the principles and concerns expressed above and a commitment to abide by these principles. This project was reviewed by the Texas A&M University Institutional Review Board.

SUGGESTED CITATION:

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2019 BRAZOS VALLEY REGIONAL HEALTH ASSESSMENT

2019 ASSESSMENT SPONSORS

CHI St. Joseph Health
Texas A&M Center for Community Health Development
Texas A&M Center for Population Health & Aging
Texas A&M Southwest Rural Health Research Center
Texas A&M Office of Cultural Competency, Diversity, and Inclusion
Brazos County Health District
Brazos Valley Council of Governments
Brazos Valley Community Action Agency

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The 2019 Brazos Valley Regional Health Assessment owes its success to the many individuals and organizations who contributed to the process.

Organizations which Helped Organize Community Discussion Groups

Brazos County Health District
Brazos Valley Council of Governments
Burleson Health Resource Center
Catholic Charities of Texas
CHI St. Joseph Health, Austin County
Elizabeth Lutheran Church
Faith Mission, Inc.

First Baptist Church of Hearne
Grimes County
Grimes Health Resource Center
Leon County
Madison County
Madison Health Resource Center
Robertson County
Somerville Senior Center
SonShine Center

SPECIAL THANKS TO THE RESIDENTS WHO PROVIDED THEIR CANDID OPINIONS DURING COMMUNITY DISCUSSION GROUPS.

Survey Development Advisory Committee Organizations

**Brazos County Health District
Brazos County Health Resource Center
Brazos Valley Care Coordination
Brazos Valley Council of Governments
Brazos Valley Council on Alcohol & Substance Abuse
Brazos Valley Food Bank
Burleson Health Resource Center
Brazos Valley Center for Independent Living
CHI St. Joseph Healthy Communities
CHI St. Joseph Senior Renewal Program
City of College Station – Community Development
College Station Medical Center
Health For All
HealthPoint
MHMR Authority of Brazos Valley
Scotty’s House
Telehealth Counseling Clinic
Texas A&M AgriLife Extension – Strengthening Families
Texas A&M School of Public Health
Texas Department of State Health Services Specialized Health & Social
Services
United Healthcare
United Way of the Brazos Valley**

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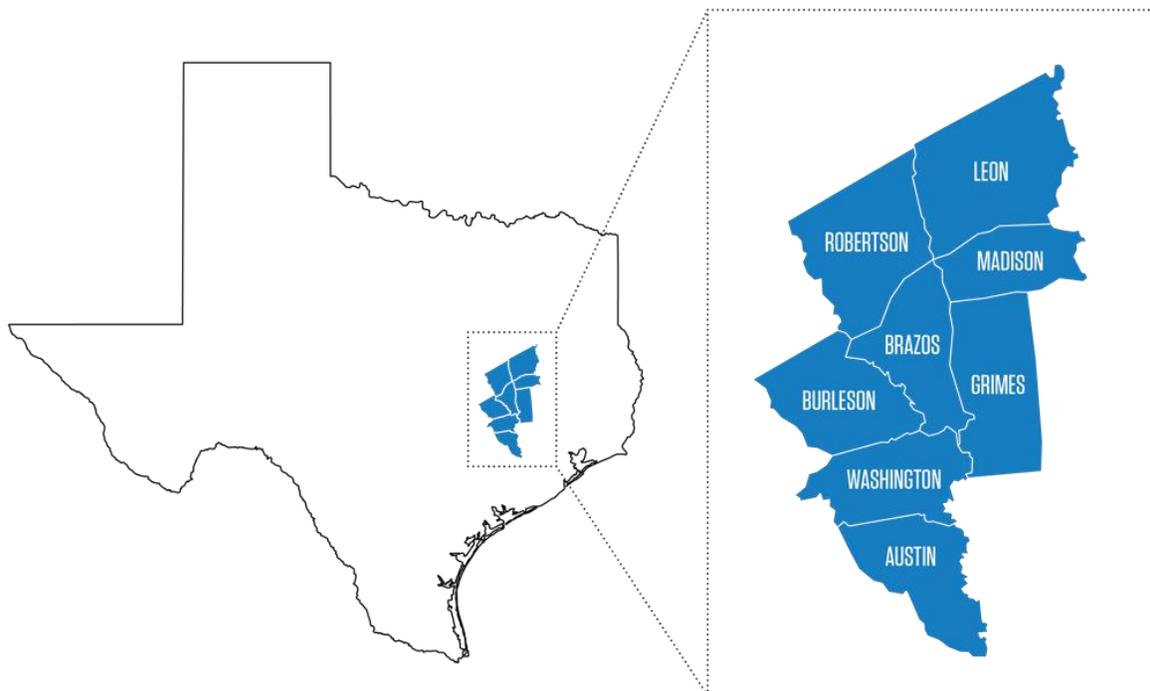
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INTRODUCTION

The Center for Community Health Development (CCHD) at the Texas A&M School of Public Health assisted in conducting the 2019 Brazos Valley Regional Health Assessment in collaboration with CHI St. Joseph Health, the Brazos County Health District, and the Brazos Valley Health Coalition. This effort marks the sixth multi-county regional assessment that CCHD has conducted since 2002 with support from local and regional health care systems, publicly funded agencies, and non-profit organizations. The 2019 assessment covers the Brazos Valley, which is traditionally defined as the seven counties of Brazos, Burleson, Grimes, Leon, Madison, Robertson, and Washington, but also includes Austin County (see Figure 1). Located to the immediate south of Washington County, Austin County, is part of the service delivery area of organizations represented by the Brazos Valley Health Coalition. As a result, throughout this report, we will refer to this eight-county region as the **greater Brazos Valley region**. Because previous assessments used varying definitions of the “Brazos Valley” (7, 8, and 9 counties), the reader is cautioned to pay attention to those specifics when making comparisons and drawing conclusions from previous assessments.

Figure 1. Brazos Valley Regional Map



History of Health Assessment in the Brazos Valley

The 2002, 2006, 2010, 2013, and 2016 Brazos Valley/Regional Health Assessments provided locally collected health status and community data that have served as the basis for the planning and implementation of initiatives aimed at increasing access to care and improving population health. Local health care providers, health-related service providers, and community leaders have worked together since the first assessment to continuously design new initiatives and enhance existing services, programs, facilities, and partnerships to improve the health of the region based on assessment findings.

Assessment findings also provide local organizations with data for program planning and grant proposals for local health improvement efforts, as well as furnishing a benchmark for evaluating the impact of funded initiatives. To date, these assessments assisted in securing an estimated \$20 million to support Brazos Valley efforts. Community information gathered through the assessment offers insight as to how to work with and within local communities, shaping marketing and communication strategies, and underscoring the importance of collaborating with local leaders. Finally, academic partners rely on assessment data to serve as the foundation for piloting new interventions and/or other scholarly endeavors intended to expand the knowledge base in their academic field.

The objectives of the first assessment completed in 2002, were to identify factors influencing population health status, to recognize issues and unmet needs of the local community, to inventory health-related resources within the region, and to produce a source of reliable information that may be utilized in setting priorities and developing effective solutions.

The second assessment, conducted in 2006, aimed to track progress in some specific areas of health and to reassess local health priorities. Assessment results were the foundation of local strategic planning and contributed to the acquisition of substantial grant funding for the region targeting health improvement activities.

The 2010 assessment had objectives similar to the previous two, and allowed for the comparison of health status and various indicators across time. This process was intended to highlight progress, as well as continuing and emerging needs, concerns, and opportunities for community health improvement. In this third assessment, one additional county, Waller County, was included in the assessment process.

The 2013 Regional Health Assessment expanded the assessment from the seven-county Brazos Valley region to also include Montgomery and Walker Counties, which comprised the nine-county area of the Regional Healthcare Partnership 17, a part of the Texas' 1115 Medicaid Waiver Program, also known as the Texas Healthcare Transformation and Quality Improvement Program. This assessment also initiated a new triennial assessment schedule due to the Patient Protection and Affordable Care Act which requires nonprofit hospitals to conduct community health needs assessments every three years. Objectives matched earlier assessments, with additional goals of acquiring data from Walker and Montgomery Counties to serve as a baseline for future assessments.

The fifth assessment was conducted in 2016. With similar objectives to previous assessments, once again to collect assessment data for comparison of health status and various indicators across time. In this fifth assessment, one additional county, Austin County, was included in the assessment process. Due to the new three year cycle, the 2013 survey data were deemed as still relevant, and with budgetary constraints, that assessment did not include a household survey.

Overview of 2019 Brazos Valley Regional Health Assessment

Social Determinants of Health

According to the World Health Organization (WHO), ***Social Determinants of Health*** are conditions in the environment in which people are born, live, learn, work, play, worship, and age that affect a range of health, functioning, quality of life outcomes, and risk.¹ These social determinants impact quality of life and have a significant influence on health outcomes. Social determinants include safe and affordable housing, access to education, public safety, availability of healthy foods, local emergency/health services, and environments free of toxins.² *Healthy People 2020* has identified five areas of the social determinants of health. These areas include: economic stability, education, social and community context, health and health care, and neighborhood and built environment. Examples of each area are found in Figure 2. Social determinants were included in the data collected and examined as part of this health status assessment.

¹ Social determinants of health. (2018). Retrieved from https://www.who.int/social_determinants/en/.

² Social Determinants of Health. (n.d.). Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>.

Figure 2. Social Determinants of Health (SDOH) Framework



Assessment Process

The 2019 Brazos Valley Regional Health Assessment incorporates data from three sources: (1) secondary data (existing data available from public sources), (2) qualitative data from community discussion groups held across the Brazos Valley region, and (3) a randomly sampled household and purposive sampled clinic based survey. Collectively, these data illustrate current and projected population growth, the most prevalent local health conditions and issues, and the availability of health care resources.

1. Random Household Survey



2. Community Discussion Groups

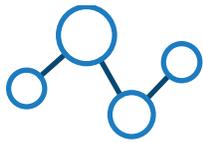


3. Analysis of Existing Data



The use of all three data sources provides the opportunity to document and validate community perceptions of various issues, as well as triangulate findings from different perspectives. For instance, information gathered in community discussion groups identified: 1) local issues seen as a priority; 2) local resources available to help address identified issues; and 3) how and with whom to work with to address community issues and/or to take advantage of community opportunities.

Secondary Data Analysis



A variety of credible local, state, and federal sources were used to provide a context for analyzing and interpreting the 2019 survey data. Secondary data were compiled from a variety of sources including the Texas Department of State Health Services (DSHS), the U.S. Census Bureau, the Behavioral Risk Factor Surveillance System survey from the Centers for Disease Control and Prevention (CDC), the Texas Workforce Commission, Kaiser Family Foundation, the Texas Department of Public Safety, the Episcopal Health Foundation, and the County Health Rankings project at the University of Wisconsin (sponsored by the Robert Wood Johnson Foundation).

Additional national resources were also used to provide perspective as to the community's performance compared to notable national health organization's goals, guidelines, and/or priorities, such as, objectives and priorities set by *Healthy People 2020*, County Health Rankings, U.S. Preventive Services Task Force Guidelines, among others. Background information on some of those sources appears in the following section.

County Health Rankings

A widely used resource for understanding the factors impacting the health status of a population is the County Health Rankings project, sponsored by the Robert Wood Johnson Foundation and hosted by the University of Wisconsin.³ The County Health Rankings project compiles data and produces reports on a variety of health-related factors in a standardized format for essentially all United States counties. Within each state, all of the counties are ranked using a set of measures looking at either health outcomes or health factors. For the state of Texas, out of the state's 254 counties, only 242 counties are included in their rankings. More information on the

³ County Health Rankings. (n.d.). Retrieved from <http://www.countyhealthrankings.org/>

ranking methodology is available on their website.⁴ In addition to the individual county rankings, they identify counties which have the best outcomes related to each specific factor or outcome. These **top performing counties** provide a good frame of reference (or goal) for current best practices in population health.

Episcopal Health Foundation

Similar to the County Health Rankings but with a slightly different focus and a more regional orientation, the Episcopal Health Foundation also has compiled available secondary, county-level data for the 57 counties of the Episcopal Diocese of Texas.⁵ This resource was also used as part of the secondary data examined for this report.

Healthy People 2020

Healthy People 2020 provides comprehensive national goals and objectives used to guide improving the nation's health. The *Healthy People* initiative has been published every decade since the 1980s to serve as a foundation to concentrate efforts of population health improvement on specific areas, now called **Leading Health Indicators**.⁶ If a *Healthy People 2020* goal is associated with the data presented in this report, we have provided it as a reference.

U.S. Preventive Services Task Force Recommendations

The U.S. Preventive Services Task Force (USPSTF or Task Force) is an independent group of national experts in prevention and evidence-based medicine that work to improve the health of all Americans by making evidence-based recommendations about clinical preventive services such as screenings, counseling services or preventive medications. The USPSTF is composed of sixteen volunteers who come from the fields of preventive medicine and primary care, including internal medicine, family medicine, pediatrics, behavioral health, obstetrics/gynecology and nursing.⁷

Household Survey

As has been the case with previous assessment surveys, a Survey Development Committee was organized to help tailor the survey for local interests, terminology/

⁴ County Health Rankings. (n.d.). Retrieved from (<http://www.countyhealthrankings.org/our-approach>)

⁵ Episcopal Health Foundation County Health Data. (n.d.). Retrieved from <http://www.episcopalhealth.org/en/research/county-health-data/>

⁶ Healthy People. (n.d.). Retrieved from <https://www.healthypeople.gov/>

⁷ U.S. Preventive Services Task Force. (n.d.). *An Introduction*. Retrieved from <http://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/uspstf/index.html>.

jargon, and to encourage community ownership of the assessment results. The members of the Brazos Valley Health Coalition served as the 2019 assessment committee.

Development

Twenty-three organizations participated in survey development and provided direct input to refine the previous instrument, either removing or adding questions or content areas. Participants in the process represented local primary care clinics, local hospitals, a broad range of community-based organizations, local governments, the local health department, educational institutions, and volunteer organizations. Committee members spent several meetings adapting the technical language of the survey to reflect common usage and understanding of local community members. Most significant among their tasks was shortening the survey instrument from past versions. Budgetary constraints and market conditions required a much more focused and shorter instrument to accommodate telephone and/or online administration.

The survey instrument was translated into Spanish and made available to all potential respondents. Some community discussion groups were also conducted in Spanish or had Spanish-language translators available to assist participants.

Sampling

Normally, it is impractical to study an entire population, especially when conducting a population health survey. Sampling is a method that allows researchers to infer information about a population based on results from a subset of the population, called a sample. Reducing the number of the individuals in a whole population to a smaller sample, reduces the cost and workload. Ideally, the selected sample is a miniature version of the population from which it was drawn. This means that the sample should be representative of all of the variables measured in the survey.⁸ The household survey employed both random and convenience samples protocols (see Table 1 for sampling information, response rate, and final surveys).

Random Sampling

The majority of the household surveys were conducted through a random sample of adult residents with mobile or landline telephones billed to a residence in the greater Brazos Valley region (577 of 700 total respondents, or 82.4%). The random

⁸ Applied Survey Methods. (n.d.). Retrieved from <http://www.applied-survey-methods.com/weight.html>

sample household survey protocol was conducted by the Public Policy Research Institute (PPRI) at Texas A&M University. The recruiting process included mailing a letter to residents explaining the project and asking them to either complete the survey online using a unique token ID, or to call a toll-free number to complete the survey over the phone. Those who did not call in or complete the survey online were then recruited via phone calls from PPRI.

Telephone recruiting consisted of 13,863 telephone numbers purchased from a market research firm and used to recruit potential respondents. A large portion (11,395) of these numbers were ineligible to participate in the survey once telephone recruitment began due to phone number issues such as repeatedly going to an answering machine/voicemail (45%), phone numbers were associated with businesses, governmental agencies, or other non-respondent entities (31%), or were ineligible due to issues with language (other than Spanish), living outside target region, or were under the age of 18 (5%). The final recruiting sample, less the ineligible numbers, was 2,467 phone numbers. Out of the final sample, 13.2% refused to participate in the survey. The total number of surveys conducted in the random sample was 640 - a 26% response rate.

Convenience Sample

In order to ensure that the household survey included segments of the population who are typically less likely to participate in such a survey, the random household survey was supplemented with a convenience sample of respondents recruited in the waiting rooms of local health-related organizations who serve a low socioeconomic status and/or minority population. While this sample was recruited in a different manner, it utilized the same survey which was programmed onto iPads® and administered by a group of trained graduate student facilitators from the Texas A&M School of Public Health. There were 123 survey respondents from the waiting room recruitment effort.

Combining telephone recruitment and waiting room surveys, a total of 763 surveys were collected. Following a review of survey data, 63 surveys were eliminated for incomplete data resulting in a final 700 valid surveys that are included in the analysis presented in this report.

Because of the presence of large numbers of college students in Brazos and Washington Counties, particular attention was paid to being able to understand any potential impact of that population. While additional analyses will be performed, only 10% of survey respondents reported currently being enrolled in college

Table 1: Survey Recruitment, Sample, and Final Survey Totals

Description	Number
Initial Recruiting Sample	13,862
Ineligible Phone Numbers	11,395
Final Sample	2,467
Completed Telephone or Web Surveys	640
Waiting Room Surveys	123
Total Surveys Collected	763
Invalid Surveys	63
Total Valid Surveys	700

Sample Weighting for Analysis Purposes

Because not everyone recruited to take a survey will complete it, as well as a host of other factors, research has shown that some groups tend to be over or under represented in survey research which impacts the ability to draw reliable conclusions from the data – an artifact we deal with in the Brazos Valley survey as well. To correct an actual sample to be representative of the entire population, researchers perform a **weighted adjustment** on the data, creating a representative sample. It is from this weighted data that we report the following findings.

Community Discussion Groups/Interviews



Community discussion groups (CDGs), similar to town hall meetings, were organized with assistance from local community contacts across the eight-county region. Discussion groups were convened with three community subgroups which were organized by type in order to maximize participation by minimizing effects of differential status or power within groups. Subgroups were clinical and other medical/health/human service **providers**, community **leaders**, and general **consumers** of health and health-related care in each of the counties. During the course of the assessment, over **300** individuals participated in **21** discussion group meetings across the greater Brazos Valley region. Figure 3 details discussion group questions.

Figure 3. Community Discussion Group Guiding Questions

EACH DISCUSSION GROUP WAS GUIDED BY THE FOLLOWING QUESTIONS:

- Describe your community.
- What are the most important issues or challenges your community is facing?
- What are the key resources in your community?
- How has your community come together in the past to address important issues?
- If a group were to try to address the issues you have identified, what advice would you have to help them be successful?

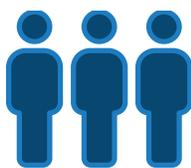
Community Discussion Groups provide both insights into community perceptions of issues and concerns, but also into different approaches to solving local health problems.

CONTEXTUAL FINDINGS

This report is organized into three sections. The first deals with the context – the people and community characteristics that influence health status. The second section presents findings related to health, including risk factors, diseases, and access-to-care related issues. The third section reports on community perceptions and problems and the need for and use of various health and human services.

The report presents the health assessment findings for the greater Brazos Valley as a region. Some data will be presented regionally, encompassing all eight counties, while some data will be county-specific and noted as such. In some charts or figures, percentages may not add exactly to 100 as a result of rounding.

Population Characteristics

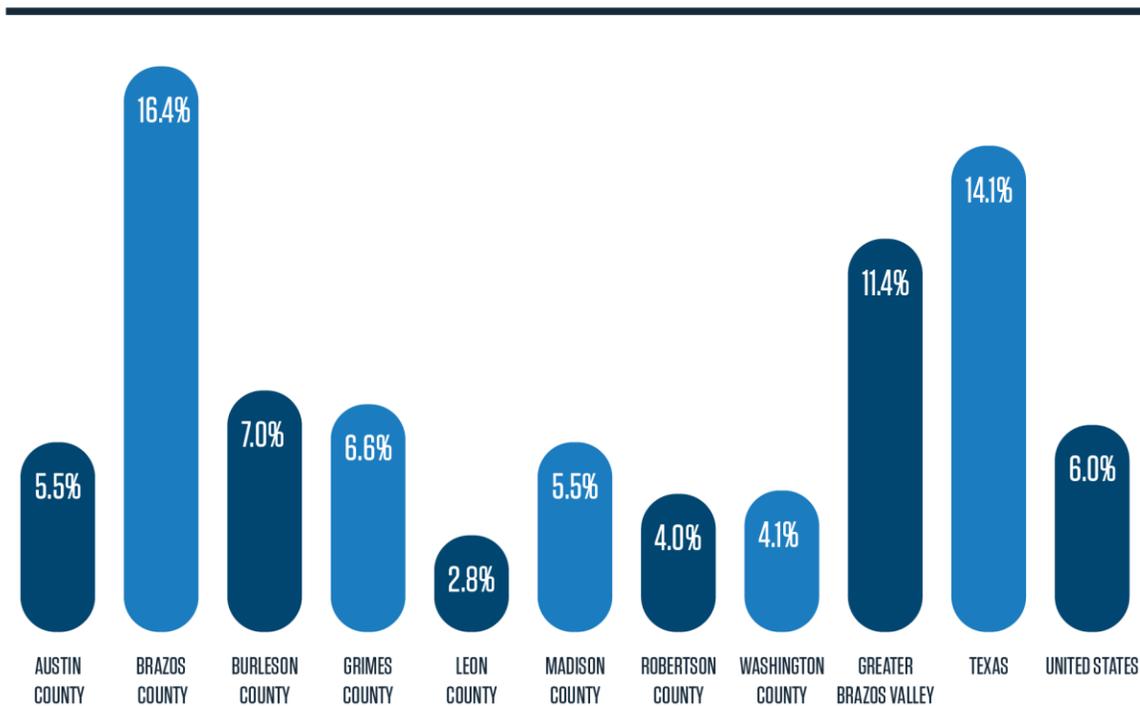


Understanding the dynamics of a population is critical in understanding that population's health status. This is particularly important when the intention is to compare a current assessment with previous assessments. For instance, understanding how the population changes over time with respect to demographics and other characteristics provides insight into possible social determinants of health

that may influence the population’s health status. For example, has the population had an age shift to an older population either through the aging process or an influx of people to the community after retirement? And if that happens, what health problems might be expected if the population is now older than the previous decade? Population characteristics are critical to understanding assessment findings, a profile of the region’s population characteristics is presented first.

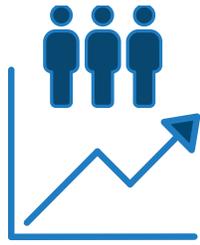
Based on the U.S. Census Bureau’s 2018 estimate, the population of the greater Brazos Valley region is 387,580 people, an increase of 11.4% since the 2010 Census. Individual county growth varied from 2.8% for Leon County to 16.4% in Brazos County. During that same period, the state of Texas’ population grew by 14.1%. Figure 4 presents population estimates and the percent change by county.

Figure 4. 2010-2018 Population Growth Percentage Estimates in the Greater Brazos Valley Region⁹



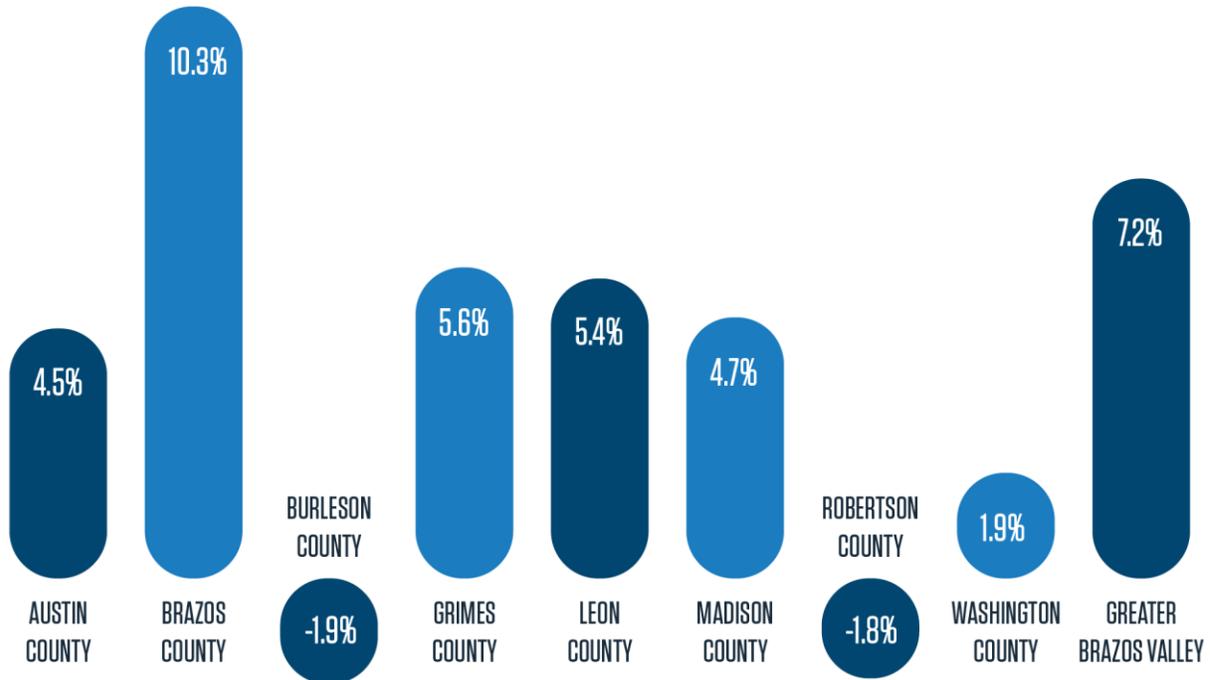
⁹ United States Census Bureau (2019). *Quick Facts*. Retrieved from <https://www.census.gov/quickfacts/fact/table/US/PST045218?>

2025 Population Growth Projections



The United States Census Bureau provides population estimates for years falling between census years. These numbers are estimated based on population trends. The greater Brazos Valley region has a current population estimate of 387,580 for 2018. The Texas State Demographer's Office also produces population growth estimates for Texas counties under various situations and immigration scenarios. Using the most conservative of those estimates, the population of the eight-county region is estimated to grow to 415,524 by 2025, an increase of 27,944 people (7.2%). However, that growth is not equivalent in all counties; as seen in Figure 5, estimated growth rates range from a high of 10.3% for Brazos County to -1.9% for Burleson County.

Figure 5. Estimated Population Growth Percentage in 2025 for Counties in the Greater Brazos Valley Region⁹



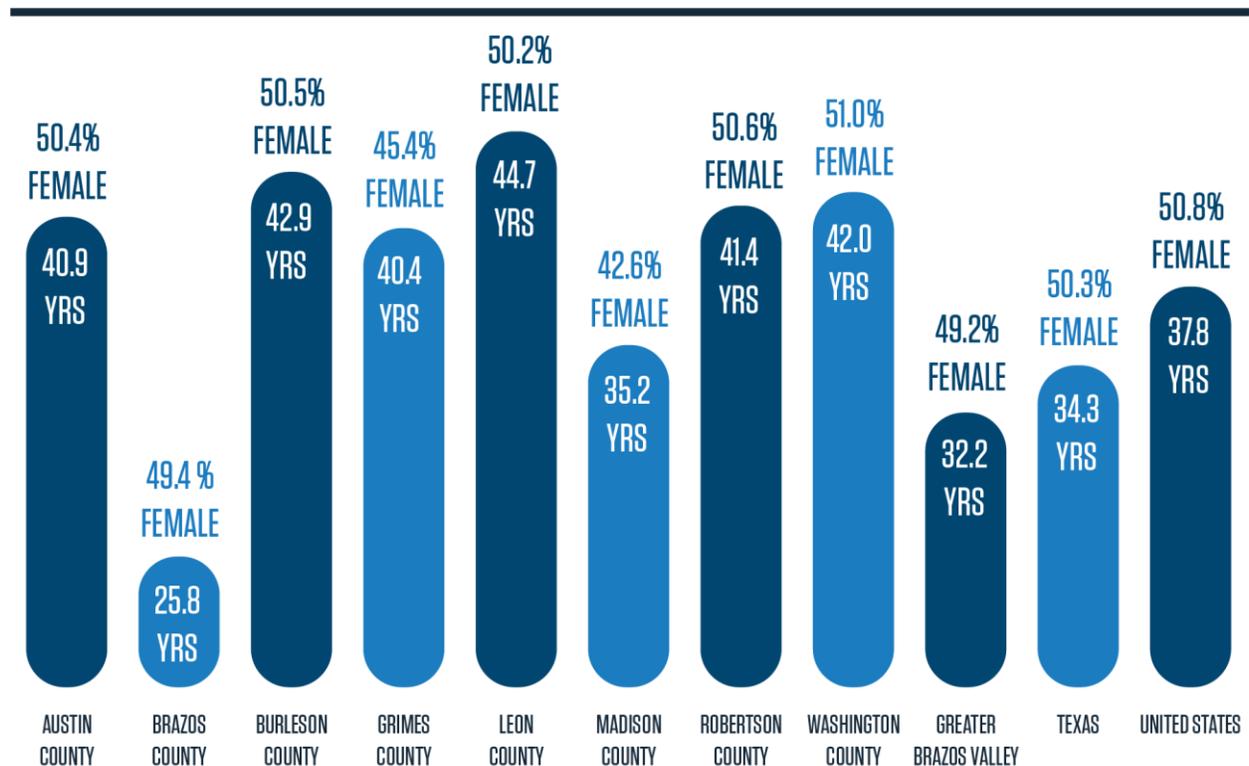
Age and Gender



Age and gender are among the factors that are most closely linked to health status. The **median age** for the region is 32.2 years, with variation by county from 44.7 years for Leon County to 25.8 years for Brazos County (the presence of Texas A&M University students can be assumed to contribute most substantially to this difference).

Figure 6 presents median age across the greater Brazos Valley region, as well as the gender distribution. When we examine differences in the region by gender, we find that 49.2% of the population are females, with Madison and Grimes Counties as the only counties with a meaningful difference in male/female proportions (42.6% female and 45.4% female, respectively).

Figure 6. Median Age and Percent Female Population of Counties in the Greater Brazos Valley Region⁹



It is also useful to investigate specific age groups. Examining standard age groups across the region and among counties, there are few notable differences. Table 2 displays the population proportion breakdown by county. Madison County, for example, has a lower proportion of *children (less than 5 years)* at 4.4%, compared

with 6.0% for the region (Robertson County has the highest rate at 6.5%). Notable differences among other age groups include Burleson County which has a larger proportion of *5-9 year-old* children (6.7%) compared to the region (5.8%). Austin County has the largest proportion of *10-14 year olds* at 7.5%, compared to the region at 6.2% (Brazos County is the lowest at 5.8%). Madison County has the lowest proportion of *15-19 year olds* (3.5% compared with the region at 8.6%), and Brazos County has 9.9% of their population in this age group.

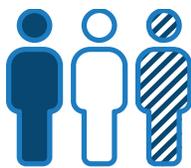
Among the *20-24 years old* and *25-34 years* age groups, Brazos County has the highest proportion with 20.8% and 15.8% respectively, compared to the regional averages of 14.8% and 13.5%. However, the presence of both the Blinn College District and Texas A&M University likely contribute to this segment of the population's proportions in Brazos County.

Variation between counties also exists in the older populations. Brazos County has a lower rate for the *55-64 years old* age group compared to the region (8.0% compared to 10.5%); Leon County has the highest rate for this age group at 14.9%. Brazos County also has the fewest residents in the older population groups with 4.9% *aged 65-74*, 2.4% *75-84 years old*, and 1.1% in the *85 and older* age range. The highest rates exist in Leon County for the *65-74 years* age group (14.0%), and 5.9% for the *75-84 years old* range. For those *aged 85 years and older*, Washington County has the highest rate falling in this age group (4.0%). Interestingly, the greater Brazos Valley region more closely resembles the United States overall than it does Texas in terms of age distribution. The population proportions show fewer children and elderly members than the rest of the state.

Table 2. Age Group Distribution for Counties in the Greater Brazos Valley Region⁹

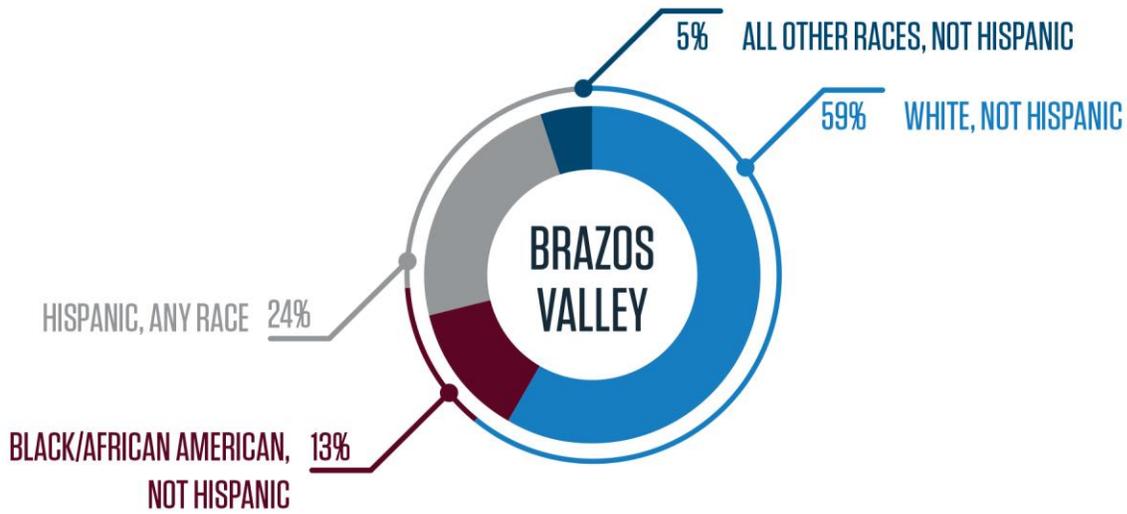
	AUSTIN COUNTY	BRAZOS COUNTY	BURLESON COUNTY	GRIMES COUNTY	LEON COUNTY	MADISON COUNTY	ROBERTSON COUNTY	WASHINGTON COUNTY	GREATER BRAZOS VALLEY	TEXAS	UNITED STATES
Persons Under 5 (Age 4 or Less)	6.1%	6.2%	5.9%	5.4%	6.2%	4.4%	6.5%	5.7%	6.0%	7.1%	6.2%
Age 5-9	6.3%	5.5%	6.7%	6.2%	6.2%	6.4%	6.4%	5.4%	5.8%	7.1%	6.4%
Age 10-14	7.5%	5.8%	6.1%	6.9%	6.3%	6.1%	7.2%	6.6%	6.2%	7.4%	6.5%
Age 15-19	6.3%	9.9%	6.1%	6.5%	6.4%	3.5%	6.0%	9.1%	8.6%	7.2%	6.6%
Age 20-24	5.7%	20.8%	5.4%	6.3%	6.1%	10.4%	6.5%	6.3%	14.8%	7.0%	7.0%
Age 25-34	10.5%	15.8%	11.2%	11.5%	8.1%	18.8%	10.4%	5.6%	13.5%	14.6%	13.7%
Age 35-44	11.4%	10.5%	11.3%	12.9%	11.0%	13.5%	10.5%	10.5%	10.9%	13.6%	12.7%
Age 45-54	13.5%	9.1%	12.6%	13.8%	11.3%	11.3%	14.2%	12.6%	10.7%	12.5%	13.4%
Age 55-64	14.5%	8.0%	14.7%	14.5%	14.9%	10.4%	14.2%	13.8%	10.5%	11.3%	13.7%
Age 65-74	10.9%	4.9%	12.1%	9.7%	14.0%	8.3%	10.5%	10.9%	7.4%	7.4%	8.6%
Age 75-84	5.0%	2.4%	5.7%	4.8%	5.9%	5.1%	4.8%	5.4%	3.6%	3.5%	4.4%
Age 85 And Older	2.1%	1.1%	2.3%	1.5%	3.6%	2.4%	2.8%	4.0%	1.8%	1.3%	1.9%

Race and Ethnicity



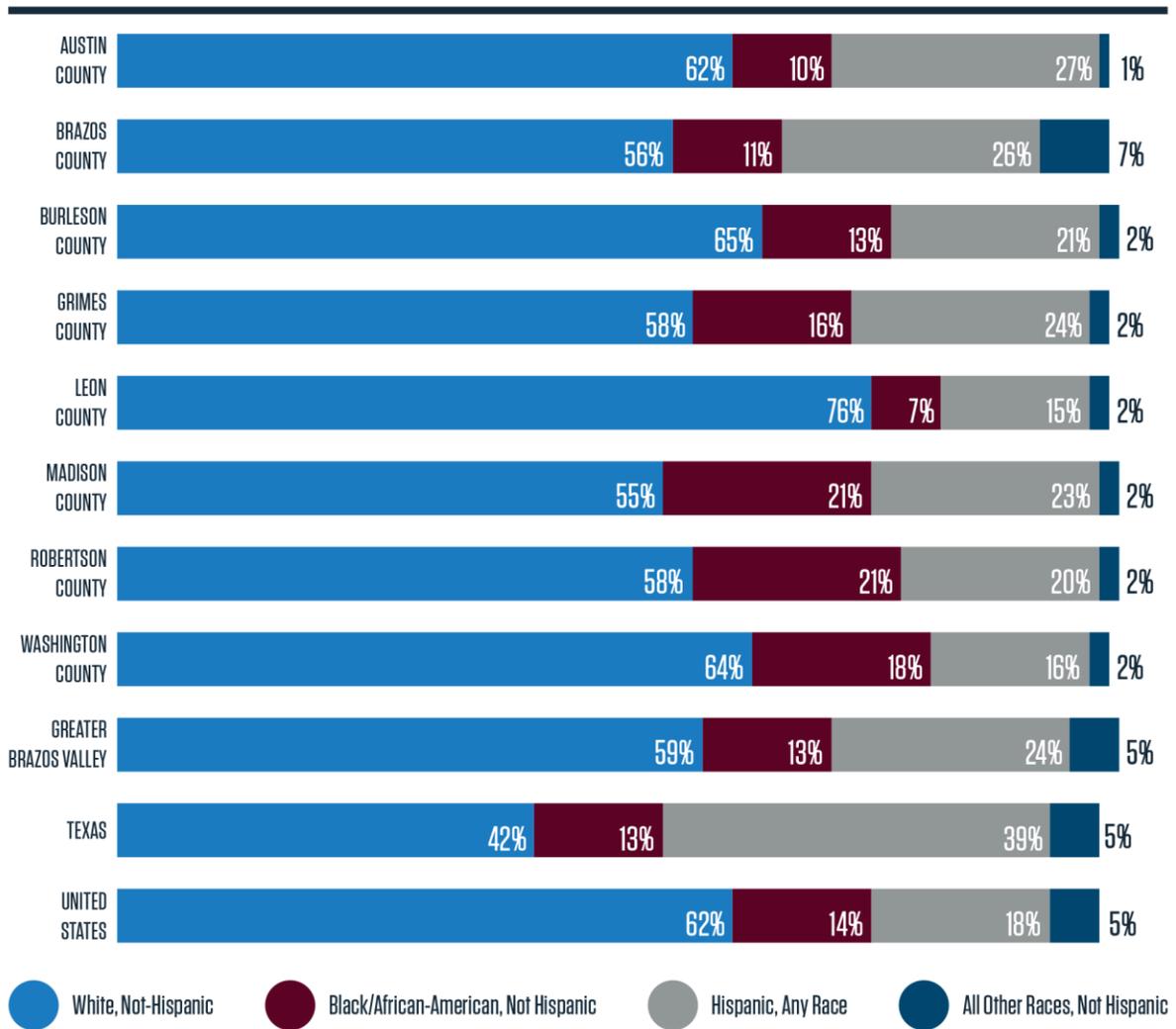
Another demographic characteristic reported in the previous Brazos Valley assessments is the distribution of race and ethnicity. Because of the very small proportions of some racial/ethnic groups, and although not without its critics, we have used the set of U.S. Census Bureau race/ethnicity clusters to report population data: *White, Not-Hispanic; Black/African-American, Not Hispanic; Hispanic, Any Race; and All Other Races, Not Hispanic*. When we look at the region as a whole (Figure 7), 59% of the population are reported as *White, Not-Hispanic*, 13% reported as *Black/African-American, Not Hispanic*, 24% as *Hispanic, Any Race*, and 5% as *All Other Races, Not Hispanic*. Again, as in age distribution, the greater Brazos Valley region more closely reflects the racial/ethnic composition of the United States (60.7% *White, Not Hispanic*) than it does the rest of the State of Texas (42.0% *White, Not Hispanic*).

Figure 7: Greater Brazos Valley Region Race/Ethnicity⁹



Among the region's counties, some variation in racial/ethnic categories can be found, as seen in Figure 8. The proportion of *White, Not Hispanic* population, for example, varies from 76.1% in Leon County to 54.9% in Madison County. The *Black/African-American, Not Hispanic* population is found in higher proportions in Madison, Robertson, and Washington Counties (20.6%, 20.5%, and 17.5%, respectively). Leon and Washington Counties have the lowest *Hispanic, Any Race* population rates at 14.6% and 16.3%, respectively. The higher proportion of *All Other Races, Not Hispanic* racial groups in Brazos County might be attributable to the presence of a university with a large number of international students.

Figure 8. Racial and Ethnic Distributions within the Counties of the Greater Brazos Valley Region^{9*}



*Due to rounding, all rows do not add to 100%.

Household Composition



In 2017 there were an estimated 132,968 households in the greater Brazos Valley region. Few households in the greater Brazos Valley, Texas, or the Nation are *male single head of household with children under 18*. Most counties are similar to Texas and the U.S., however Leon and Robertson County have the highest rate of *male single head of household* at 3.0% and 4.0%, respectively, yet Washington County has 1.0% of households with a *male single head of household*. Household composition data for the region is located in Table 3.

The greater Brazos Valley region and Texas have a slightly higher rate of *female single head of household with children under 18* when compared to the U.S. (7.1%, 7.8%, and 6.8%, respectively). The highest rates for *female single head of household with children under 18* were in Burleson (11.0%) and Grimes Counties (10.0%); the lowest rate was in Austin, Leon, Madison, Robertson and Washington Counties at 6.0%.

Table 3. Household Composition for Counties in the Greater Brazos Valley Region⁹

	Total Households	Percent Male Single Head of Household with Children <18	Percent Female Single Head of Household with Children <18
Austin County	11,021	2.0%	6.0%
Brazos County	77,480	2.0%	7.0%
Burleson County	6,565	2.0%	11.0%
Grimes County	8,980	2.0%	10.0%
Leon County	6,245	3.0%	6.0%
Madison County	4,174	3.0%	6.0%
Robertson County	6,298	4.0%	6.0%
Washington County	12,205	1.0%	6.0%
Greater Brazos Valley	132,968	2.1%	7.1%
Texas	9,430,419	2.4%	7.8%
United States	118,825,921	2.3%	6.8%

Education



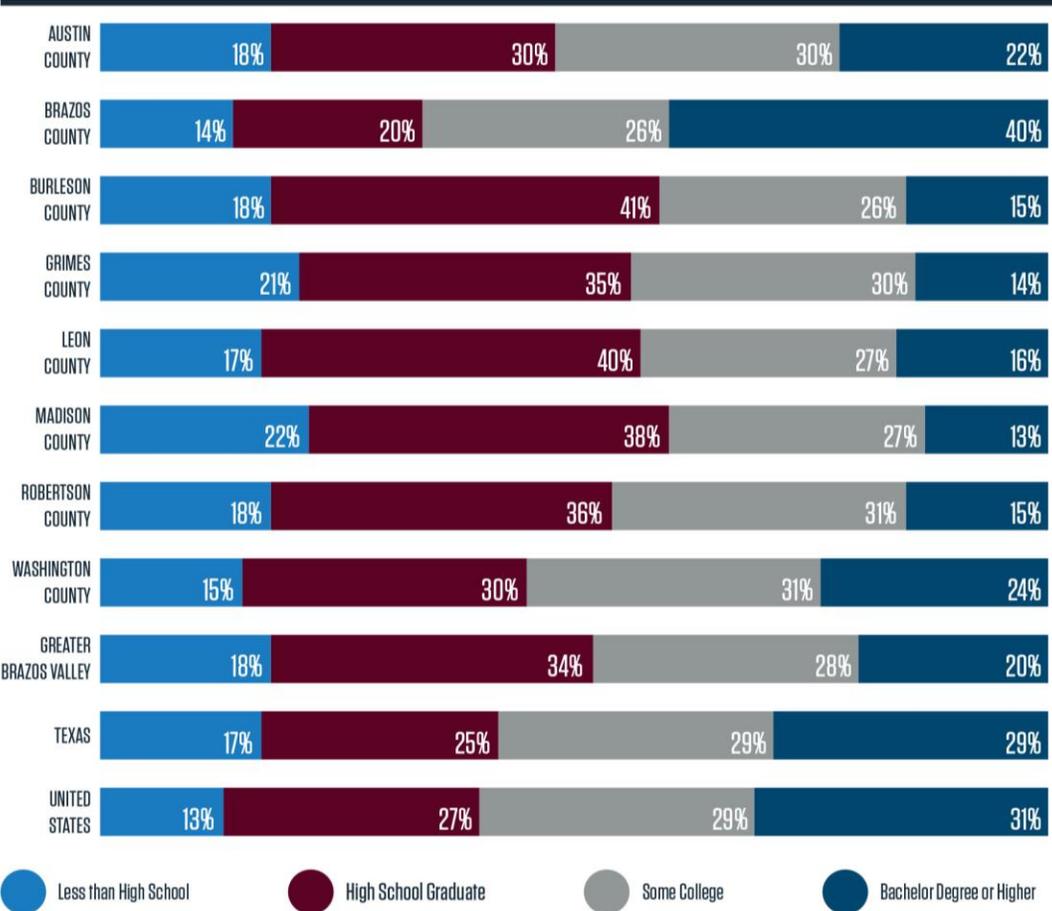
Educational attainment is a key element in the social determinants of health.¹⁰ Education increases options for employment opportunities, but also increases the capacity for better decision making in one’s health. Health and education are intricately connected - education can create opportunities for better health; poor health can put educational attainment at risk (reverse causality); and conditions throughout people’s lives beginning in early childhood can affect both health and education.¹¹ Additionally, in today’s fast paced, global economy, postsecondary education is

¹⁰ Shankar, J., Ip, E., Khaelma, E., Couture, J., Tan, S., Zulla, R., & Lam, G. (2013). Education as a Social Determinant of Health: Issues Facing Indigenous and Visible Minority Students in Postsecondary Education in Western Canada. *International Journal of Environmental Research and Public Health*, 10(9), 3908-3929. Doi: 10.3390/ijerph10093908.

¹¹ Cutler D., & Lleras-Muney, A. (2014). Education and Health. In A. J. Culyer (Ed.), *Encyclopedia of Health Economics* (pp.232-45). San Diego, CA: Elsevier.

becoming a minimum requirement for securing employment, which provides economic, social, and personal resources that ultimately lead to better health. Figure 9 displays the greater Brazos Valley region’s educational attainment.

Figure 9. Educational Attainment for Counties in the Greater Brazos Valley Region⁹



The greater Brazos Valley region has a higher proportion of residents with *bachelor’s degree or higher*, at 30.9%, than either the State of Texas at 18.8% or the United States at 19.1%. Within the region that rate varies from a low of 13.0% in Madison County to a high of 40.0% in Brazos County. As with the younger population in Brazos County, the higher proportion of college degrees is likely driven by the presence of the Blinn College District and Texas A&M University in Brazos County. Washington County has the lowest percentage of population with *less than a High School education* at 15.0% and Austin and Madison County have the highest rates at 18.0% and 22%, respectively.

Employment and Home Ownership



Since the 2010 regional health assessment, employment and affordable housing have been notable issues of concern to the public. Table 4 shows the 2018 unemployment rates and homeownership characteristics for Texas counties. The 3.6% rate for the greater Brazos Valley region is equivalent to the rate for the entire State (3.7%) and only slightly lower than the nation (3.9%). Among Brazos Valley counties, the lowest **unemployment rate** was reported in Brazos County (2.8%), and the highest in Leon County where it was 5.0%.

Affordable housing was examined by using the home ownership rate that is reported by the U.S. Census Bureau as a proxy for affordability of housing. The estimated 2017 **home ownership rate** for the greater Brazos Valley region is 58.3%, lower than the State rate of 62.0% and the national rate of 63.8%. Again, Brazos County is the outlier at 45.5% compared with the other counties which all have a range of 70-80%; however, this may be a reflection of the large student population affiliated with the Blinn College District and Texas A&M University.

All of the greater Brazos Valley region falls within the Texas Department of Housing and Community Affairs Region 8, in addition to 12 other Central Texas counties. The entire 20 county region is tied with one other region as having the lowest percentage of home ownership in the state (59.1%).¹² In the greater Brazos Valley region, the **median value of owned homes** is slightly higher than Texas (\$151,500) and substantially lower than U.S. (\$193,500) values with an average home value of \$153,417.

Interestingly, Region 8 has the highest rates of cost burden among urban sub regions with 32.1% of urban households experiencing **housing cost burdens**. Housing cost burdens are linked to difficulty affording necessities such as food, clothing, transportation, and medical care.¹³ An estimated 12 million renter and homeowner households pay more than 50% of their annual incomes for housing. For families with one full-time worker earning the minimum wage, affordability of a fair-market priced two-bedroom rental apartment in the U.S. is unlikely.¹³

HOUSING COST BURDEN

Families who pay more than 30% of their income on housing.

¹² Texas Department of Housing and Community Affairs (2019). *The State of Texas low income housing plan and annual report*. Austin, TX: Texas Department of Housing and Community Affairs.

¹³ Affordable Housing. (n.d.). https://www.hud.gov/program_offices/comm_planning/affordablehousing/.

Household Income



Closely related to employment and home ownership is household income. Table 4 shows household income data for the region, state, and nation. The **per capita income** reported by the Census Bureau's 2017 estimate is \$24,996 for the greater Brazos Valley region, varying among the counties from \$17,436 in Madison County to \$30,101 in Austin County. Austin County is the only county in the greater Brazos Valley region to exceed the state per capita income rate of \$28,985. None of the counties exceeded the national per capita income rate of \$31,777.

Median household income, which is the income representing the middle of the income distribution (not the average), is reported to be \$46,694 for the region. That amount is approximately \$10,357 less than the State rate and almost \$11,000 less than the national median household income rate. Variation among the counties of the greater Brazos Valley region may again be attributed to the large student population of Brazos County, shifting its median household income to the lowest in the region at \$43,907. The highest rate was reported in Austin County at \$62,614.

The **Federal Poverty Level (FPL)** for 2019 is set at \$25,750 for a family of four.¹⁴ The U.S. Census Bureau estimates the percent of the population living at or below the FPL; most recent available statistics are for 2017 where the FPL for a family of four was \$24,600. That rate in 2017 for the region was 20.3% of the population. The percentage of the population living at/below 100% of the FPL varied by county from 10.7% in Austin County to 23.9% in Brazos County. With the exception of Austin and Washington Counties, all other Brazos Valley counties had higher proportions of the population living 100% below the FPL.

FEDERAL POVERTY LEVEL 2019	
 FAMILY OF 4	
100% FPL \$27,750 annual income	200% FPL \$51,500 annual income

Many health and human service agencies use **200% of the FPL** as a determinant of eligibility for their services (approximately \$51,500 for a family of four in 2019; \$49,200 in 2017). Families in this category often earn too much to qualify for assistance programs, but often earn too little to be able to afford to pay for health and health-related services out-of-pocket. The greater Brazos Valley region has a higher rate of residents with incomes at 200% of the FPL or lower when compared to the State and nation (36.9%, 68.0%, and 72.0%, respectively). Among the

¹⁴ Poverty Guidelines. (2019). Retrieved from <https://aspe.hhs.gov/2019-poverty-guidelines>

counties, Brazos County holds the highest rate of 200% of the FPL at 40.0%, while the lowest rate is in Madison County at 26.0%.

Table 4. Unemployment, Home Ownership and Income Characteristics of Counties in the Greater Brazos Valley Region^{3,9,14}

	Unemployment Rate	Home Ownership Rate	Per Capita Income	Median Household Income	Persons Below 100% Federal Poverty Level	Persons Below 200% Federal Poverty Level
Austin County	3.6%	74.2%	\$30,101	\$62,614	10.7%	28.0%
Brazos County	2.8%	45.5%	\$25,337	\$43,907	23.9%	40.0%
Burleson County	3.6%	78.1%	\$27,112	\$52,510	16.6%	33.0%
Grimes County	4.1%	77.8%	\$23,585	\$49,745	18.0%	35.0%
Leon County	5.0%	78.4%	\$27,096	\$44,875	16.1%	38.0%
Madison County	4.4%	73.5%	\$17,436	\$44,004	18.3%	26.0%
Robertson County	4.1%	74.5%	\$23,337	\$52,189	17.4%	34.0%
Washington County	3.7%	77.0%	\$28,517	\$55,793	12.9%	33.0%
Greater Brazos Valley	3.6%	58.3%	\$24,996	\$46,694	20.3%	36.9%
Texas	3.7%	62.0%	\$28,985	\$57,051	13.0%	68.0%
United States	3.9%	63.8%	\$31,177	\$57,652	11.0%	72.0%

Population Conclusions

In summary, the greater Brazos Valley region has been growing steadily for the last decade at a rate slightly slower than Texas, with some variation among counties in population growth. The distribution of age groups also varies among the counties with Brazos County have a disproportionate number of 20-24 year olds (20.8%) compared to the rural counties, while Burleson and Leon Counties have a larger proportion of 65 and older adults (20.1% and 20.3%, respectively) than the other counties. Racial/ethnic diversity is increasing across the region, but as a whole the greater Brazos Valley region is less diverse than Texas or the nation. The region is projected to grow approximately 7.2% over the next five years. Given the larger trends in Texas, one can anticipate that the growth will not only be in numbers of individuals, but in diversity as well.

Some counties of the greater Brazos Valley region tend to be better educated than the State or the nation, but not all are. Per capita and median household incomes are lower than the averages for the State and the nation, with nearly double the population falling below the 100% FPL, yet the region has approximately half the rate of those at the 200% FPL than the state and nation. Conclusions can be drawn that despite a community with access to higher education and many counties having higher educational attainment, the region has a substantial number of the working poor. With a large proportion of the population qualifying for some sort of financial assistance, many of those who earn too much to qualify for aid programs have needs not met and are likely to be using safety net programs.

Social Associations

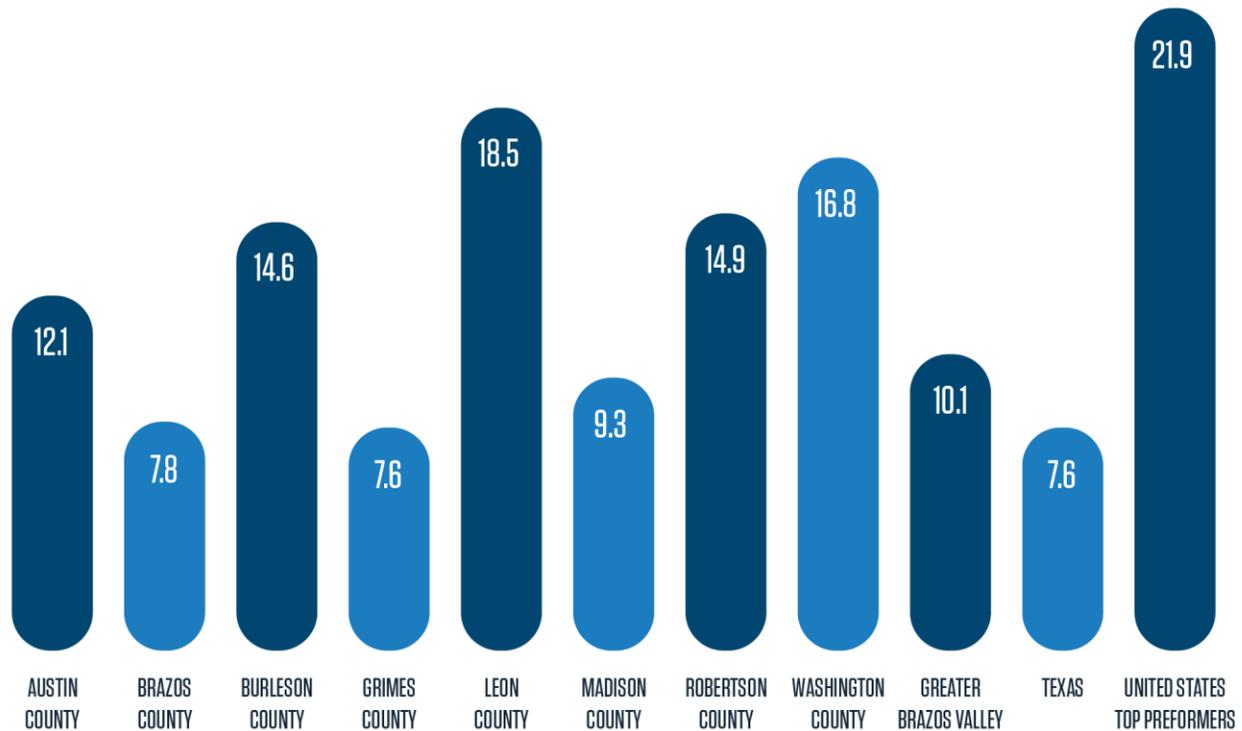


In previous assessment surveys the social capital or social support individuals experience has been examined as a factor impacting health status. Social capital is the amount of social resources an individual can depend on in moments of crisis/need. The County Health Rankings system uses the number of **social associations** in an environment as a proxy for social capital or social support. Those living in communities with larger rates of social associations (per 10,000 population) have better risk outcomes. This is likely due to having more available resources and networks that reduce the severity of impact that a crisis can have on one's life. In essence, it acts as a social safety net. Social associations are defined as civic organizations, fitness centers, sports organizations, religious organizations, political organizations, labor organizations, business organizations, and professional organizations to which an individual may belong or can turn to for assistance.

The U.S. Top Performing Counties reported an average rate of 21.9 per 10,000 social associations. The rate for Texas was substantially lower at 7.6 social associations per 10,000. Overall, the greater Brazos Valley region had a better average rate than the state average at 10.1. As for the individual counties, they varied from 18.5 social association per 10,000 population for Leon County to 7.6 for Grimes County. Further figures for social association in the greater Brazos Valley region can be viewed in Figure 10.

These numbers represent a decrease from the 2016 assessment suggesting that in three years there has been a measurable decrease in the number of social associations for adult residents of the region.

Figure 10. Social Association Rate for Counties in the Greater Brazos Valley Region (per 10,000 population) ³



Neighborhood Characteristics

Historically, the Brazos Valley Health Assessments have looked at community and neighborhood characteristics to provide insight into characteristics that might influence health status, as well as potential solutions. **Social capital** is a broad term often used to describe these kinds of characteristics in general.

Questions looking more directly at social capital asked survey respondents to agree or disagree with four statements. The first of which was ***people in this community are willing to help their neighbors***. *Strongly agree* or *agree* was reported by 85.6% of survey respondents.

More than seventy percent (71.5%) of respondents indicate they *strongly agree* or *agree* that with the statement ***this is a close-knit community***. An even larger number (79.6%) report that ***people in this community can be trusted***.

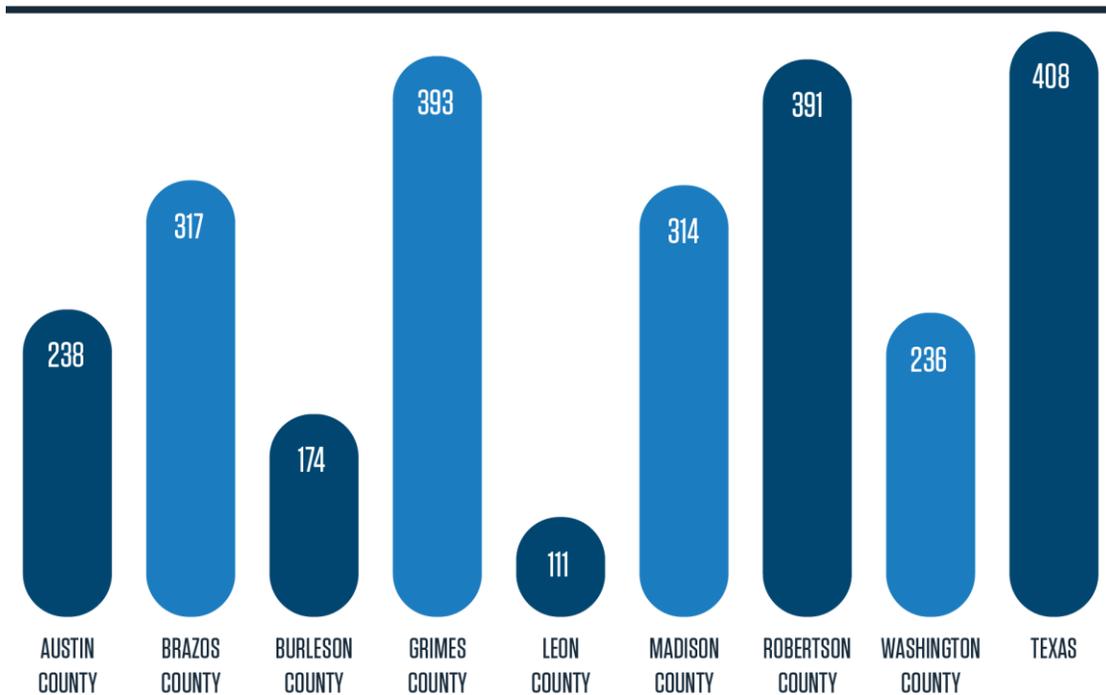
The final question in this section asked survey respondents to indicate to what extent they agreed or disagreed with the statement **people in this community do NOT share the same values**. More than one-third (36.4%) *strongly agree* or *agree* with this statement.

Violent Crime

The criminal acts that are designated by the Federal Bureau of Investigation as violent crimes include: rape/sexual assault, murder, aggravated assault, and robbery.¹⁵

As shown in Figure 11, the rates of **violent crimes** per 100,000 varies from, a low of 111 per 100,000 in Leon County to a high of 393 per 100,000 in Grimes County. All of the counties in the greater Brazos Valley region are below that of the state of Texas overall.

Figure 11. Violent Crime Rates of the Greater Brazos Valley Region (per 100,000 population)¹⁵



¹⁵ U.S. Department of Justice. (2014). *2014 Crime in the United States* [data file]. Retrieved from <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/offenses-known-to-law-enforcement/violent-crime>

Housing Issues

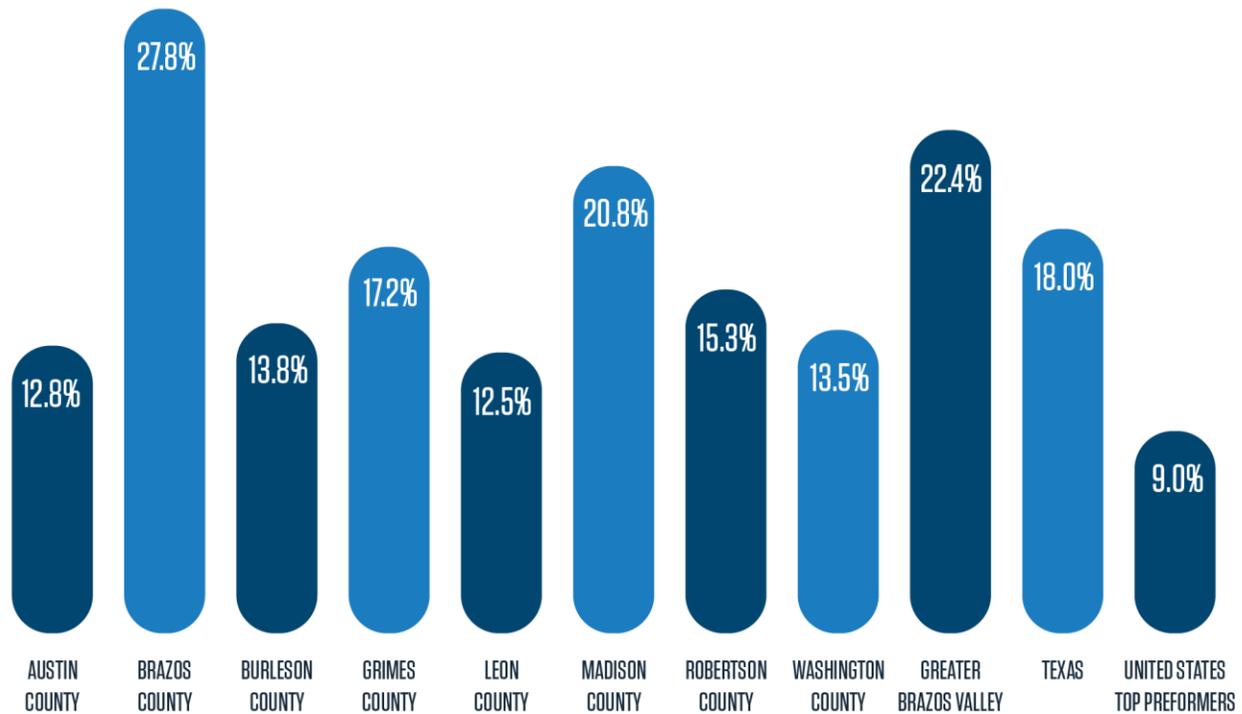


Housing issues include high cost of living, unaffordability, dilapidation, and poor maintenance. A healthy, stable, living environment is a determinant of health which affects overall health and wellness.

Severe housing issues are defined as a household with at least one of the following: overcrowding, high housing costs or lack of kitchen or plumbing facilities.

The U.S. Top Performing Counties only report 9.0% of **households with at least one of the listed housing problems**. In Texas, the average rate was twice that amount at 18.0% and the greater Brazos Valley region was even higher than the state with an average rate of 22.4% households. In terms of the individual counties, Brazos County had three times the top performing counties' rate at 27.8%, while the county with the lowest rate of reported housing issues was Leon County at 12.5%.³ County specific information is provided in Figure 12.

Figure 12. Severe Housing Problems Reported in Counties with in the Greater Brazos Valley Region³



HEALTH FINDINGS

Mortality



Data compiled and made available by the Episcopal Health Foundation (EHF) were used to explore factors that impact health status during the end of life (major causes of death). EHF compiled data from a variety of secondary data sources and created county-level report cards displaying for a variety of health-related issues. Their analysis identified the top seven causes of death for each county. Table 5 displays the **leading causes of death** by county. Burleson County data indicates a much higher rate of heart disease mortality than the other counties in the region, the State, or the Nation. Leon and Robertson Counties have higher rates of death from cancer than the other counties in the region, or the State and Nation. Burleson County also has a higher mortality rate from respiratory diseases than other counties in the region. Leon County stands out from its Brazos Valley peers when accident mortality is examined. Madison County has higher mortality rates from strokes and Alzheimer’s disease than the other regional counties. EHF did not report data for some causes of death by county because of the relatively small numbers reported.

**Table 5. Leading Causes of Death in the Brazos Valley Region
(per 100,000 population)⁵**

	Heart Disease (per 100,000)	Cancer (per 100,000)	Respiratory Diseases (per 100,000)	Accidents (per 100,000)	Stroke (per 100,000)	Alzheimer’s Disease (per 100,000)	Diabetes (per 100,000)
Austin	197.9	149.1	39.0	38.9	33.5	25.0	21.3
Brazos	158.3	145.2	39.2	28.5	39.8	33.1	17.0
Burleson	282.5	166.8	61.3	66.4	32.3	25.6	No Data
Grimes	225.4	158.9	55.0	49.4	49.6	23.8	27.5
Leon	179.0	186.3	53.3	98.4	44.9	32.3	No Data
Madison	222.7	170.8	46.7	56.0	54.3	55.5	No Data
Robertson	225.4	184.2	57.9	46.1	37.2	No Data	No Data
Washington	143.7	149.1	30.9	47.7	25.5	21.8	13.3
Regional	177.01	152.44	42.38	39.36	39.02	31.1	17.93
Texas	169.7	150.1	40.4	37.8	42.1	35.4	20.9
U.S.	165	152.5	40.9	No Data	37.6	31.0	21.5

As can be seen in the table, there is substantial variation by causes of death (rates varying from 177.01/100,000 population for heart disease across the region to a low of 17.93/100,000 for diabetes). Also, with each disease category there are substantial differences among the counties. For example, the rate for deaths from respiratory diseases in Burleson County is more than twice the rate for Washington County (61.30/100,000 and 30.90/100,000, respectively).

When comparing county rates to those in Texas, rates in the region were **HIGHER** for heart disease (177.01 compared to 169.7, respectively), cancer (152.44 versus 150.1), respiratory diseases (42.38 versus 40.4), and deaths from accidents (39.36 versus 37.8). On the other hand, stroke, Alzheimer’s, and diabetes rates were **LOWER** in the region when compared with the State’s rates (39.0 versus 42.1), (31.1 versus 35.4), and (17.9 versus 20.9), respectively.

DEATH RATE COMPARISON		
REGION RATES		STATE RATES
177.0	Heart Disease	169.7
152.4	Cancer	150.1
42.4	Respiratory Diseases	40.4
39.4	Deaths from Accidents	37.8
39.0	Stroke	42.1
31.1	Alzheimer's	35.4
17.9	Diabetes	20.9

Beyond looking at specific causes of death, life expectancy rates of the region and each county were examined. Table 6 displays the rates for the population, as well as racial/ethnic groups. Overall life expectancy in the region is slightly greater than for Texas (79.9 and 79.0 years). Age-adjusted mortality is also slightly better for the region than the State (330.3 and 341.0 per 100,000, respectively).

Table 6. Life Expectancy and Age-Adjusted Mortality Rates by Racial/Ethnic Groups in the Greater Brazos Valley Region⁹

Greater Brazos Valley Population Groups and State Rates	Life Expectancy (Years)	Age-Adjusted Mortality (deaths per 100,000)
All	79.7	330.3
Black or African American	71.5	565.3
Hispanic (all races)	79.6	244.0
White (non-Hispanic)	79.9	315.7
State Rate for All Populations	79.0	341.0

Morbidity



The household survey asked respondents to tell us about their medical history by answering the question, ***Has a medical care provider ever told you that you have any of the following health problems?*** The question was followed by options allowing respondents to select as many as needed. The twelve **most common health concerns** reported by respondents are listed in Table 7 from most to least commonly reported. It also displays the regionally reported health concerns, as well as a rural counties versus Brazos County comparison.

When examined for differences within the region, in almost every instance there are markedly higher health issue rates in the rural counties compared to the urban Brazos County. The exceptions are mental health diagnoses, and addiction to alcohol or other drugs. In the instance of asthma, rates are almost the same – 13.1% for the rural counties versus 12.2% for Brazos County. Mental health diagnoses were found in Brazos County at a rate of 24.1% compared to the rural counties (22.3%). Brazos County had 3.8% of the population reporting addiction to alcohol or other drugs, whereas the rural counties had 2.3% of the population reporting it.

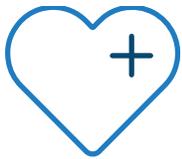
Much of these higher rates in the rural counties can be attributed to the difference in age of the rural counties versus Brazos County (53.6 years and 42.6 years, respectively). The more than ten-year difference provides plenty of rationale for why more chronic disease is seen in the rural counties. Further examination of these data is warranted, however.

Comparing 2019 survey data with the 2013 Brazos Valley Health Survey data, some observations can be made about changes in disease rates. For example, the rate for *hypertension (high blood pressure)* was 32.8% for the greater Brazos Valley region in 2013 (29.5% for Brazos County and 36.6% for the rural counties) which increased to 40.7% for the region in 2019 (32.7% for Brazos County and 51.1% for the rural counties). *Diabetes* is also reported more frequently in 2019 with 13.3% percent of the regional population having diabetes (11.6% for Brazos County and 15.4% for the rural counties). In the 2013 survey, the rate for the region was 9.1% (5.4% for Brazos County and 12.0% for the rural counties).

Table 7. Rural, Urban, and Regional Percentages of Residents Reporting Health Problems Diagnosed By a Medical Care Provider¹⁶

	Rural Counties	Brazos County	Region
High Blood Pressure	51.1%	32.7%	40.7%
Obesity or Overweight	39.2%	32.2%	35.2%
High Cholesterol	38.6%	25.6%	31.3%
Mental Health Diagnosis	22.3%	24.1%	23.3%
Arthritis or Rheumatism	31.7%	15.5%	22.6%
Diabetes	15.4%	11.6%	13.3%
Asthma	13.1%	12.2%	12.6%
Heart Disease	13.1%	5.6%	8.9%
Cancer (other than skin)	9.5%	4.8%	6.9%
Skin Cancer	7.8%	5.6%	6.6%
Emphysema, Chronic Bronchitis or COPD	6.2%	5.8%	6.0%
Addiction to Alcohol or Other Drugs	2.3%	3.8%	3.1%

Health Status



Morbidity and mortality provide an important perspective to understanding health status of a population. Understanding health status independent of disease is another perspective that can be used to assist in planning and intervening in communities.

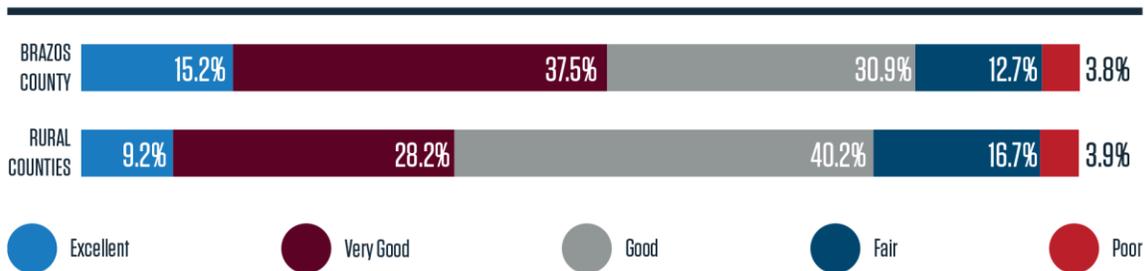
Health Related Quality of Life (HRQoL) was developed and is used by the Centers for Disease Control and Prevention to describe the relative health of individuals and population groups. The HRQoL scale asks respondents to rate their personal health, estimate the number of days out of the last 30 that were poor physical health days and poor mental health days, how often their physical or mental health impacted their daily activities, and how often pain affects normal activities.

¹⁶ Center for Community Health Development. (2019) *2019 Brazos Valley Health Status Assessment Survey*. College Station, TX: Center for Community Health Development.

The first question in the HRQoL module asks respondents to rate their health status via the question **would you say that in general your health is...** with response options of *excellent*, *very good*, *good*, *fair*, or *poor*. Survey results are displayed in Figure 13. A majority of the region report *good* and *very good* health status (35.7% and 33.4%, respectively). Only 18.2% of respondents report their overall health status as *poor* or *fair* (3.9% and 14.3% respectively), and 12.5% report an *excellent* health status. In the initial health status assessment in 2002, fewer respondents reported *poor* or *fair* health status compared to 2019 (14.6% and 18.2%, respectively), indicating a slight decrease in overall health status. Additionally, more respondents in 2013 reported *excellent* health status (15.8%) than those in the 2019 survey (12.5%). These are small differences possibly influenced by factors such as aging of the population and variations in survey methodology could account for these differences, as easily as a real change in health status.

Within the Brazos Valley, not only are population characteristics different between Brazos County and the surrounding rural counties, but available resources are also different. Similarly, differences in health status between Brazos and its rural counterparts are also found. For example, 20.6% of rural county residents report their health status as *fair* or *poor* compared to only 16.5% of Brazos County residents. Additionally, only 9.2% of rural county residents report *excellent* health status compared to Brazos County's 15.2% of residents. This measure suggests a meaningful difference in health status between the population of Brazos County and that of the surrounding rural counties, which may be affected by various population characteristics as well as access to health and health-related resources.

Figure 13. Health Related Quality of Life: Overall Self-Reported Health Status for Brazos County versus Rural Counties in the Greater Brazos Valley Region¹⁶



Another approach to understanding health status is healthy days and activities of daily living. The HRQoL module asks survey respondents the following questions.

- ***Thinking about your physical health, for how many days during the past 30 days was your physical health not good?***
- ***Thinking about your mental health, for how many days during the past 30 days was your mental health not good?***
- ***During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?***
- ***During the past 30 days, for about how many days did PAIN make it hard for you to do your usual activities, such as self-care, work, or recreation?***

The mean number of poor health days for 2019 survey respondents is 4.95 days for *physical health*, 6.29 days for *mental health*, 3.97 days for *mental or physical health limiting activities*, and 4.45 days for *pain impacting regular activities*. The average rate in the greater Brazos Valley region for *physical health poor days* is 3.6 per month, which is slightly higher than the rate for Texas at 3.5 days. Within the region, Brazos County respondents report 3.4 *poor physical health days* and 3.6 *poor mental health days*, compared with rural county residents who report 3.6 *poor physical health days* and 3.6 *poor mental health days*. All these results are slightly higher than the 3.0 *days poor physical health days* and 3.1 *poor mental health days* reported for Texas.

Another perspective to consider with these data is to look at the proportion of residents with zero days with *poor physical or mental health*, or no days with limitations due to physical or mental health or pain, or those who report all 30 of the past 30 days. For the greater Brazos Valley region, nearly half (45.4%) of residents report *zero days of poor physical health*, and only 7.6% of residents report *all 30 days of the last 30 where physical health was not good*. Similar rates were reported about mental health days with 45.4% of residents reporting *zero poor mental health days*, and 10% reporting *all 30 days*. When asked about the number of days for which *physical or mental health had an impact on regular activities*, 61.0% of survey respondents report *zero days*, and 7.0% report *all thirty days*. Finally, 56.2% report *zero days in which pain limited daily activities*, and only 7.8% report *all thirty days as limited by pain*.

Comparing 2019 to 2013 surveys, the 2013 survey respondents reported 3.6 *poor physical health days*, and 3.4 *poor mental health days*. These additional data points reveal an increase from 2013 to 2019 in unhealthy days - 1.3 more days of *poor*

physical health and 2.9 additional *poor mental health days* in 2019. Therefore, independent of specific reported health issues, Brazos Valley residents have seen a substantial increase in the number poor health days per month both in terms of physical and mental health - a 38% and 85% increase, respectively. Also, comparing previous years' County Health Rankings reports we see a continued decline in physical and mental health of the region with persistent increases in the number of poor physical or mental health days over time. This suggests an overall trend toward declining health status.

Risk Factors

Overall health status is driven by both individual and social factors. Risk factors are health-related behaviors among the individual factors which contribute to the development of chronic diseases. Examples include smoking, obesity (as related to healthy eating and physical activity), and preventive screening participation, among others. Findings for selected risk factors are shown in Table 10.

Smoking



While national smoking rates have declined dramatically over the past 40 years, there is still a significant proportion of adults who continue to smoke tobacco products.¹⁷ In 2017, approximately one in seven adults had ever smoked, compared to one in five in 2005.¹⁸ Despite the large decline, smoking (tobacco use) still costs the U.S. billions of dollars each year in health care costs, and is linked to cancers, cardiovascular disease, respiratory conditions, low birthweight, and other adverse health outcomes. Smoking (tobacco use) continues to be the single most preventable cause of death in the world today contributing to nearly 500,000 premature deaths annually, and is the primary factor in most of the leading causes of death in the U.S. The *Healthy People 2020* target for smoking is 12%, or approximately one in eight people.⁶

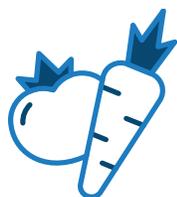
The U.S. Top Performing Counties report **smoking rates** of 14.0%, or about one in seven people, while Texas has a slightly higher rate of 14.3%. For the greater Brazos Valley region, the rate is 15.2%, higher than the State and U.S. Top Performing Counties. Individual county rates vary from a low of 14.3% in Burleson County (about one in seven) to a high of 17.1% in Grimes County (about one in six).

¹⁷ Smoking & Tobacco Use Fast Facts and Fact Sheets. (n.d.). Retrieved from https://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm?s_cid=osh-stu-home-spotlight-001

¹⁸ Current Cigarette Smoking Among Adults in the United States (n.d.). https://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm

New trends in e-cigarette use are currently under extensive study, but use of e-cigarettes was not included in the above data sources when tobacco use was measured. The most recent data from the National Health Interview Study (NHIS) reveals fewer than 5% of the adult population were currently using e-cigarettes. However, the prevalence rates by age group are opposite what we would expect based on smoking prevalence (not e-cigarettes) with a higher prevalence in younger smokers compared to less than 1% prevalence in smokers aged 65+. These data are concerning nearly four years later, as the prevalence of e-cigarette users continue to increase, especially in younger populations.¹⁹ Texas rates in 2014-15, while not comparable to NHIS data, reveal 8.3% of adults reported e-cigarette use.²⁰

Obesity and the Food Environment



Obesity in the U.S. continues to impact approximately 85 million adults (26%). A contributing factor for many of the leading causes of death such as heart disease, stroke, diabetes, and some cancers, U.S. obesity medical costs topped \$147 billion in 2008.²¹ Obesity is a complex issue requiring similarly multifaceted interventions that address both physical activity and nutrition. Nationally, the U.S. Top Performing Counties report obesity rates of 26.0%, while Texas' adult obesity rate is 29.0%. *Healthy People 2020* has set a goal for persons aged 20 and older who are classified as obese at 30.5% for the nation.⁶ Brazos Valley community health assessments over the years have documented the epidemic of obesity locally, which mimics the national trend of steadily rising rates.

Body Mass Index



The most commonly used measurement to screen for overweight and obesity is **body mass index (BMI)** which is based on height and weight.²² The 2019 survey collected the data necessary to calculate respondents' BMI. Respondents were classified into the CDC's four obesity categories. Recent changes to the obese category now classify obese into three classes however, in order to allow for comparison to previous assessment results, the results reported here use the previous categories of under, normal, overweight, and obese as seen in Figure 14.

¹⁹ National Health and Nutrition Examination Survey. (2015-2016). Retrieved from <https://wwwn.cdc.gov/nchs/nhanes/ContinuousNhanes/Default.aspx?BeginYear=2015> State-Specific

²⁰ Prevalence of Tobacco Product Use Among Adults-United States. (2014-2015). Retrieved from https://www.cdc.gov/mmwr/volumes/67/wr/mm6703a3.htm?s_cid=mm6703a3_w

²¹ Adult Obesity Facts (n.d.). Retrieved from <https://www.cdc.gov/obesity/data/adult.html>

²² Defining Adult Overweight and Obesity. (n.d.). Retrieved from <https://www.cdc.gov/obesity/adult/defining.html>

Figure 14. BMI Categories/Classes used in the Brazos Valley Regional Assessment Analysis



Almost one-quarter (25.5%) of the greater Brazos Valley region falls in the *normal* BMI range, 30.7% are *overweight*, and over one-third (38.3%) are *obese*. Less than 1% are *underweight*. Changes since 2013 include a decrease in those *overweight* (34.1% to 30.7%) and an increase in the *obese* category (30.4% to 38.3%). Survey respondents from Brazos County were more likely to be categorized in the *normal* weight group compared to rural counties (29.6% and 20.3%, respectively) in 2019. The largest gap when comparing Brazos County and the rural counties was found in the *overweight* category - 26.8% in Brazos County compared to 35.7% in the rural counties. The *obese* category was similar in Brazos County and the rural counties (37.7% and 39.0%, respectively). Table 8 displays BMI trends from 2010 to 2019.

Table 8. Changes in BMI Categories from 2010 to 2019^{3, 23}

Location	2010			2013			2019		
	Overweight	Obese	Morbidly Obese	Overweight	Obese	Morbidly Obese	Overweight	Obese	Morbidly Obese
U.S.*	36.2%	27.5%		35.8%	28.1%		35.3%	30.1%	N/A
Texas*	34.8%	31.7%		35.9%	29.2%		36.4%	33.0%	N/A
Brazos Valley	32.0%	22.0%	14.4%	34.1%	15.7%	14.7%	29.6%	21.5%	20.5%
Brazos County	31.9%	23.8%	14.7%	33.8%	13.6%	13.6%	30.8%	21.2%	18.0%
Rural Counties	-	24.7%	33.0%	-	-	-	28.0%	21.8%	23.9%

*the most current U.S. and Texas percentages (reported in the 2019 column) are from 2017.³

Further analysis of the obesity distribution shows the differences in rates for the five most frequently reported major chronic diseases by respondents compared on

²³ Frank, L., Engelke, P., & Schmid, T. (2003). *Health and community design: The impact of the built environment on physical activity*. Island Press.

the basis of *healthy weight* versus *obese* or *morbidly obese*. As can be seen in Table 9, chronic disease rates double, triple, or more when BMI status is obese.

Table 9. Chronic Disease in Brazos Valley Survey Respondents by BMI Status

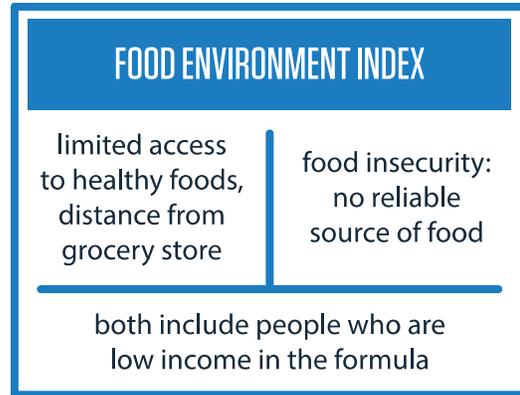
Disease/Condition	Healthy Weight	Obese/Morbidly Obese
Diabetes	10.8%	54.1%
Arthritis or rheumatism	19.4%	43.7%
Emphysema, chronic bronchitis, or COPD	17.8%	42.2%
Heart disease	18.6%	41.9%
High blood pressure	18.5%	41.9%

Food Environment Index

The Food Environment Index is a measure that takes into consideration two factors: **limited access to healthy foods** and **food insecurity**. Limited access to healthy foods is an estimate of the percentage of the population who are low income and do not live close to a grocery store. Living close to a grocery store is defined differently in rural and non-rural areas; in rural areas, it means living less than ten miles from a grocery store whereas in non-rural areas, it means less than one mile. In the greater Brazos Valley region, the *average time travelled to purchase groceries* is 17.5 minutes. The time varies by almost 10 minutes when examining travel time for residents of rural counties versus Brazos County. The average time travel reported by rural county survey respondents for groceries is 22.4 minutes compared to 13.7 minutes for Brazos County residents. Just over 5% of respondents reported 40-90 minutes in travel time to purchase groceries. Extensive travel time for groceries is further impacted by socioeconomic status which is calculated in the FEI measure.

Low income is defined as having an annual family income of less than or equal to 200% of the federal poverty threshold for the family size (see earlier discussion of Federal Poverty Level for specifics). Food insecurity estimates the percentage of the population without access to a reliable source of food during the past year.

The **Food Environment Index (FEI)** rates the food environment on a scale of one to ten, with ten as the best possible score. Overall, Texas has a Food Environment Index of 6.0, compared to the U.S. at 8.6. Top Performing U.S. Counties have an FEI of 8.7. Within the counties for the Brazos Valley Assessment, the FEI score for the greater Brazos Valley region is 6.2 and ranges from a low of 5.7 in Brazos County to a high of 7.6 in Austin



County. The proportion of low-income families in Brazos County and the number and distribution of quality food sources are likely contributors to that low score. Seven counties' FEI score increased since the 2016 assessment findings, possibly indicating slight improvements in the regional food environment; however, they still fall well below top performing counties elsewhere in the U.S.

Food Insecurity

Healthy People 2020 has set a goal to reduce the number of households that are food insecure to 6.0%.⁶ County Health Rankings describes **food insecurity** as a household which lacks consistent access to food. Food insecurity is related to adverse health outcomes including weight gain and premature mortality.³ The household survey also examined the issue of food insecurity through questions about affordability of healthy foods and use of food assistance such as a food bank or pantry. Survey responses to the question of ***how often in the past 12 months has the food that you bought not last and you did not have enough money to get more*** reveal 9.0% of respondents report this occurs *almost every month*, 9.8% report *some months but not every month*, and 7.6% report *only one or two months*. In other words, about one in four residents of the Brazos Valley report at least one month in the past year when they did not have enough food or money to buy food for themselves and/or their family.

Similar proportions were found in response to the question ***how often in the past 12 months could you not afford to eat balanced, healthy meals***. One in ten (10.3%) report this occurring *almost every month*, 11.5% *some months but not every month*, and 4.9% *only one or two months* – again, just over one-quarter of the population (26.7%) reported an inability to afford balanced, healthy meals. When asked ***how often in the past 6 months did you receive food from a food bank or food pantry***, 10.7% of survey respondents report *receiving food from a food bank or food pantry in the past 6 months*.

No significant differences were seen between Brazos County and the rural counties. But, while FEI scores are improving in the region, obesity continues to rise. And the need for food assistance is continuing to rise as well. One in four residents report food insecurity issues such as food not lasting the month and the inability to afford healthy, balanced meals, while only one in 10 use a food assistance program. In the U.S. only 10% of the population is considered food insecure, and only 2% have limited access to healthy foods. Texas' population is 16% insecure and 9% have limited access to healthy foods. The Brazos Valley is faring worse than the general population of not only our Nation, but also the State.

Physical Inactivity and Access to Exercise Opportunities



Physical activity has repeatedly been shown to have positive health benefits. Yet lack of physical activity can be a risk factor to overall health, and is an important piece of the equation to preventing or lowering obesity rates. The survey examined the extent to which people participate in physical activities, as well as community characteristics that may influence the rate of participation in such activities, such as the percent of the population with adequate access to opportunities or locations for physical activity.

Few Americans actually meet the recommended physical activity guidelines.²⁴ Several characteristics encourage people to participate in physical activity. First, proximity and easy access to exercise opportunities, including recreational facilities with age-appropriate activities, are often hard to find in rural communities. Safety from traffic and crime is also important for youth and adults. Communities that improve the perception of traffic safety, including adequate crossing times and short distances between crossings, promote physical activity. Further, research indicates if the environment is aesthetically pleasing (i.e., the grass is cut, the park is well maintained) and sidewalks have continuity and strategically placed curb cuts influence participation in physical activity.²³

Two measures from the County Health Rankings data are useful in this context. The first reports on the percentage of adults who report **no leisure-time physical activities** in the past month and is measured as *physical inactivity*. Physical inactivity is a measure that looks at the percentage of those age 20 and over who report no leisure-time physical activity. The second measure is the percent of the population with adequate **access to locations for physical activity**. This measure

²⁴ Physical Activity Why It Matters. (n.d.). Retrieved from <https://www.cdc.gov/physicalactivity/about-physical-activity/why-it-matters.html>

looks at distance to recreational activities (parks, schools, commercial recreational facilities, etc.), depending on urban or rural designation.

Nearly one-quarter (22.8%) of adults report *no leisure-time physical activity* in the past month for the greater Brazos Valley region, lower than the *Healthy People 2020* target of less than 32.6% of the population reporting no leisure-time physical activity. Individual county level data varied from 19.5% in Brazos County to 30.2% in Robertson County. However, all rates were higher than the U.S. Top Performing Counties who report only 19% of the population as physically inactive. One in five people in the U.S. are considered physically inactive compared to 1 in 4 in Texas. The rural counties experience higher rates of physical inactivity compared to Brazos County. Echoing earlier discussions regarding Brazos County's uniqueness compared to the rural counties, it is not only urban (which is usually associated with creating better access to resources), but the community is also younger, more educated, and has a higher socioeconomic status than the rural communities. These are likely factors influencing the lower rate of inactive residents in the rural counties.

Creating built environments that enhance access to and the availability of physical activity opportunities is a priority in *Healthy People 2020*. The objectives encourage targeting of transportation and travel policies such as sidewalks, bus routes, etc., that enhance access and opportunities, as well as street-scale and community-scale policies.⁶ Rural communities often face challenges with locations to participate in physical activity when compared to their urban counterparts. These types of policies are particularly poignant for rural communities where smaller county roads may not be well maintained or are dirt or gravel, which may present safety challenges to being physically active in their neighborhood. As Table 10 shows, over 90% of the U.S. population reports having adequate access to locations for physical activity and the U.S. Top Performing Counties have scores of 91.0% or higher. Fewer report so in Texas (81%). The Brazos Valley regional average is 70.7% with variation across the counties from a low of 0.0% in Madison County to a high of 89.4% in Brazos County.

The validity of this measure in rural areas is not without controversy. It is reported here because of its increasing use in planning and policy processes and warrants further discussion by the community.

Table 10. Selected Risk Factors for Major Chronic Diseases for Counties in the Greater Brazos Valley Region³

	Smoking	Adult Obesity	Food Environment Index	Physical Inactivity	Access to Exercise Opportunities
Austin County	14.5%	29.9%	7.6	26.0%	61.6%
Brazos County	15.2%	29.0%	5.7	19.5%	89.4%
Burleson County	14.3%	30.6%	7.4	27.6%	41.3%
Grimes County	17.1%	30.8%	5.8	29.5%	39.7%
Leon County	15.6%	30.1%	7.0	28.4%	19.3%
Madison County	16.5%	29.2%	6.0	23.8%	0.0%
Robertson County	15.7%	31.9%	6.4	30.2%	48.3%
Washington County	14.4%	29.0%	7.1	26.2%	63.3%
Greater Brazos Valley	15.2%	29.5%	6.2	22.8%	70.7%
Texas	14.3%	29.0%	6.0	22.8%	80.3%
U.S. Top Performers	14.0%	26.0%	8.7	19.0%	91.0%
Healthy People 2020 Target	12.0% ⁶	30.5% ⁶	-	20.1% ⁶	-

The survey asked neighborhood characteristic questions that may be helpful in understanding the Brazos Valley's participation in physical activity rates. The responses can be useful when considering interventions aimed at improving physical activity levels in the Brazos Valley. Two-thirds (66.2%) of all survey respondents *agree* (17.8%) or *strongly agree* (48.4%) with the statement ***[I] see many people being physically active in [my] neighborhood***. An even larger majority (72.0%) indicate they *strongly agree* or *agree* that ***if [I] were to fall down or get hurt on [my] walk there would be someone in the neighborhood who would help [me]***.

Respondents provided insight into the challenges associated with their personal physical environment regarding safety and crime which are known influencers of physical activity engagement in neighborhoods. However, only a small percentage report problems such as safety and crime as a concern. Only 31.5% of respondents *agree* or *strongly agree* their neighborhood has problems that ***make it hard to walk or go outside, such as poorly maintained sidewalks, traffic, or loose dogs***. Likewise, responses to the statement ***[I am] concerned that if [I] walked or biked in***

[my] neighborhood, [I] might be the victim of a crime had only 15.3% of respondents reporting agreement.



Alcohol Consumption, Alcohol-related Motor Vehicle Deaths, and All Motor Vehicle Crash Deaths



Alcohol consumption is an additional risk factor that is necessary to review when defining a community's health status. Alcohol consumption is an important risk factor that examines the proportion of the population who consume excessive amounts of alcohol (i.e., binge drinking or heavy drinking), and due to its contribution to adverse health outcomes including hypertension, heart attacks, sexually transmitted infections, unintended pregnancy, fetal alcohol syndrome, sudden infant death syndrome, suicide, interpersonal violence, and motor vehicle crashes. Consuming more than four (women) or five (men) alcoholic beverages on a single occasion in the past 30 days is defined as binge drinking. Heavy drinking is defined as drinking more than one (women) or two (men) drinks per day on average.²⁵

As depicted in Table 11, the greater Brazos Valley region has an average rate of 19.2% adults reporting **excessive drinking** in the past 30 days. That is about the same rate as Texas (19%) overall. Within the region the rate varies only slightly from 20.1% in Brazos County to 16.4% in Leon County. The region had a rate lower than the *Healthy People 2020* target of 25.4%. However, it is still higher than the U.S. Top Performing Counties which only report excessive drinking at a rate of 14.0%.

Alcohol-impaired driving rates for the region are lower than Texas' (27.7%), yet are higher than the U.S. (13%), with a regional average rate of 23.6%, nearly double that of the nation. County rates range from 14.3% in Madison County to 33.3% in

²⁵ Alcohol and Public Health. (n.d.). Retrieved from <https://www.cdc.gov/alcohol/index.htm>

Burleson County. In comparison, U.S. Top Performing Counties have alcohol impaired driving rates substantially lower at 14%.

The overall **motor vehicle crash death rate** (fatalities per 100,000 population) for Texas is 13 per 100,000 and 9 per 100,000 for the U.S. The rate for U.S. Top Performing Counties is 11. The greater Brazos Valley region’s average rate is 16.7, nearly double the rate for the U.S. Brazos County has the lowest crash death rate at 10, while the remaining rural counties have at least double the rate ranging from 22 in Austin and Washington Counties, to as high as 38 in Leon County. As with other areas of the assessment, community characteristics do play a large role as influencers. Leon County’s rates may be largely influenced by the presence of Interstate 45 (I-45) through the county; however, I-45 also runs through Madison County who has one of the lowest rates of 23. Table 11 displays the rates for the counties, region, Texas, and the U.S.

Table 11. Alcohol Consumption and Motor Vehicle Deaths in the Greater Brazos Valley Region³

	Excessive Drinking	Alcohol-Related Motor Vehicle Deaths	All Motor Vehicle Crash Deaths (per 100,000)
Austin County	18.3%	15.6%	22
Brazos County	20.1%	24.2%	10
Burleson County	18.0%	33.3%	28
Grimes County	17.7%	32.0%	25
Leon County	16.4%	18.4%	38
Madison County	20.1%	14.3%	23
Robertson County	18.0%	26.1%	29
Washington County	17.6%	20.0%	22
Greater Brazos Valley	19.2%	23.6%	16
Texas	19.4%	28%	13
United States	13.0%	13%	9
U.S. Top Performers	13.0%	14%	11

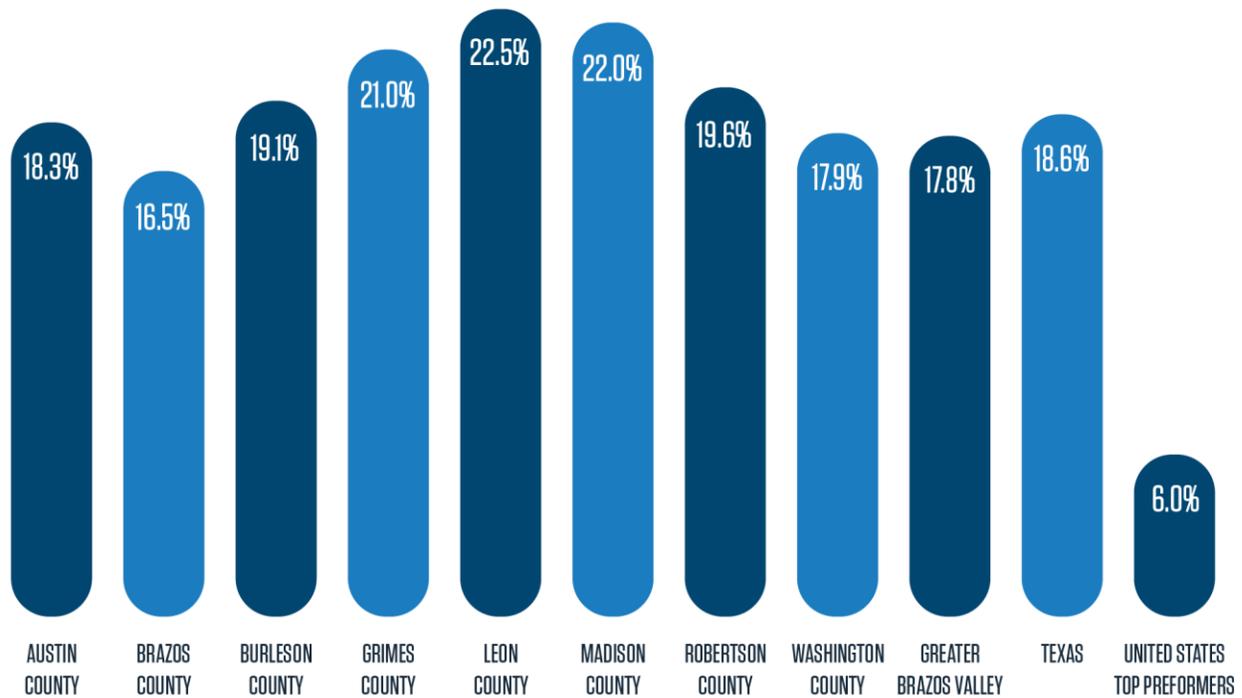
Health Care Resources

Health Insurance



The *Healthy People 2020* goal for health insurance stated that by 2020, every resident would have some type of health insurance. The 2010 Patient Protection and Affordable Care Act²⁶ was intended to advance this goal, but currently, many residents are still uninsured. U.S. Top Performing Counties report a low of 6% uninsured³; 18.6% of Texans are uninsured, while the greater Brazos Valley region average is 17.8% - nearly three times higher than top performing communities. Within the greater Brazos Valley region, percentages were consistent with the Texas average, varying from 16.5% in Brazos County to 22.5% in Leon County. County specific uninsured data from the region are listed in Figure 15 below.

Figure 15. Percent of Population with No Health Insurance for Counties in the Greater Brazos Valley Region³



²⁶ H.R.3590-Patient Protection and Affordable Care Act. (n.d.). Retrieved from <https://www.congress.gov/bill/111th-congress/house-bill/3590>

The survey asked questions about respondents' **health insurance coverage**, a critical component to accessing health care. Across the region, approximately one in five respondents (21.9%) report *no type of health insurance*. Among those who do have health insurance, about half (49.1%) are covered by *employer insurance*; an additional 10.9% are *self-insured* (purchase the policy themselves). Three percent of survey respondents report *Medicaid* coverage, with an additional 8.6% covered by *Medicare (only)*. *Medicare plus supplemental insurance* was reported by 16% of survey respondents. Few report coverage by student health insurance (1.2%) and 4.7% report coverage by Tricare, VA, or Tricare as their insurer.

Whether or not a survey household with dependent children maintained coverage for the dependents was also explored in the survey. About half of survey households reported no children in the household. Of those with children, 40% report that *all the children in your household [are] covered by some form of health insurance*. Less than 10 percent (7.5%) report *not all the children [are] covered*. Since insurance coverage can be delayed (e.g., waiting periods between coverage even if continuously employed but by different employers), we asked respondents **over the past three years (36 months) about how many total months did you have no health insurance?** Nearly three-quarters (72.5%) indicate they had continuous coverage. The largest group of those remaining was 17.3% who spent a total of *13 months or more without health insurance*, followed by 4.2% who report *7-12 months with no insurance*, 3.5% with only *2-6 months with no insurance*, and 2.4% with only *one month without coverage*.

Health Resources and Medical Home



Issues with access to health care go beyond whether one is covered by health insurance or not. Provider availability, services, and the ability to obtain those services influence access and as a result, health status.

Given the predominantly rural area of the greater Brazos Valley region, and Texas in general, the number of available health professionals is rather low resulting in many rural communities to be designated as health professional, mental health professional, or dental **health professional shortage areas**. The following section addresses these healthcare provider shortages.

In the greater Brazos Valley region, all counties except Brazos County have been designated by the Health Resources and Services Administration (HRSA) as Health Professional Shortage Areas (HPSA). Using population to provider ratios and other considerations, counties or parts of counties can be designated on the basis of primary care providers, dental health providers, and mental health providers as

HPSAs. This designation provides for potential access to additional funding and/or access to health care providers.

All of the counties in the greater Brazos Valley region are completely or partially designated as health professional shortage areas for at least two of the three categories, as can be seen in Table 12. Additionally, Austin, Grimes, Madison, Leon, Washington, and a portion of Burleson and Robertson Counties are designated as *Rural Health Areas*.

Table 12. Health Professional Shortage Area Designation in the Greater Brazos Valley Region³

	Primary Care Physicians Shortage Area	Dental Health Professionals Shortage Area	Mental Health Specialists Shortage Area
Austin County	YES	NO	YES
Brazos County	PARTIAL	PARTIAL	PARTIAL
Burleson County	YES	YES	YES
Grimes County	YES	NO	NO
Leon County	YES	NO	YES
Madison County	YES	NO	YES
Robertson County	YES	YES	YES
Washington County	YES	NO	YES

Primary Medical Care



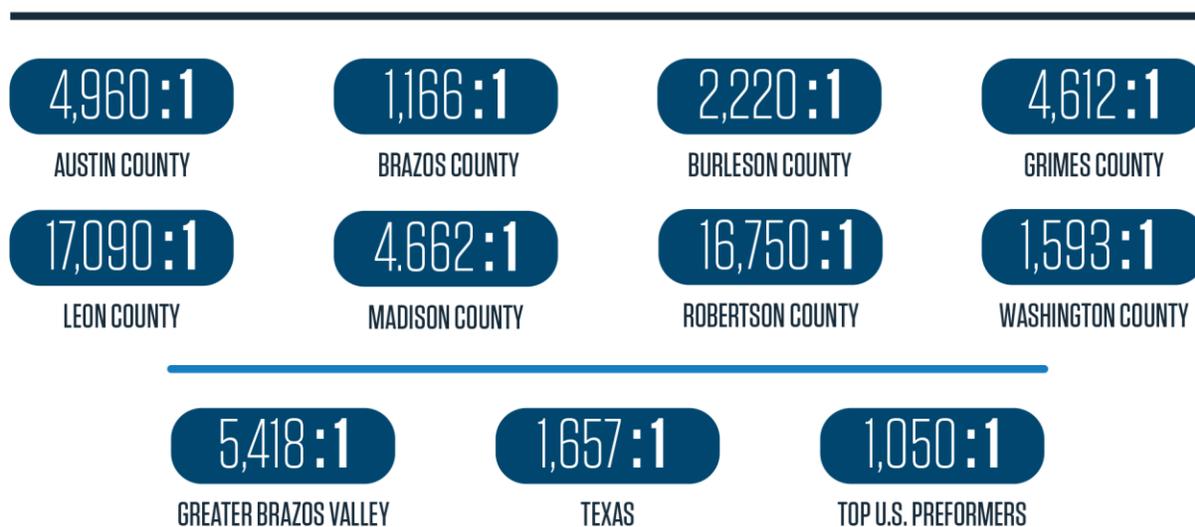
The U.S. Top Performing Counties have a rate of patients per primary care physician of 1,050 to one.³ Nearly 70% of Texas counties are designated as rural.²⁷ The current number of available primary care physicians in Texas is not sufficient to meet health care access needs.

Currently, Texas has one physician for 1,657 persons in the population, while the greater Brazos Valley region has a ratio of 5,418 persons per one primary care physician. Brazos County had the smallest patient to provider ratio (1,166 to 1) given the presence of the Texas A&M Health Science Center, Baylor Scott & White, College Station Medical Center, the Physician’s Centre Hospital, and CHI St. Joseph’s

²⁷ State of Healthcare in Rural Texas. (n.d). Retrieved from <https://texasagriculture.gov/ReportsPublications.aspx>

Hospital in Bryan/College Station. Disproportionately, Leon County's ratio is 17,090 persons per one primary care physicians. Specific county information can be viewed in Figure 16.

Figure 16. Population to Primary Care Physician Ratio for Counties of the Greater Brazos Valley Region³



*Leon County data unavailable for 2019. Data presented here is from 2018

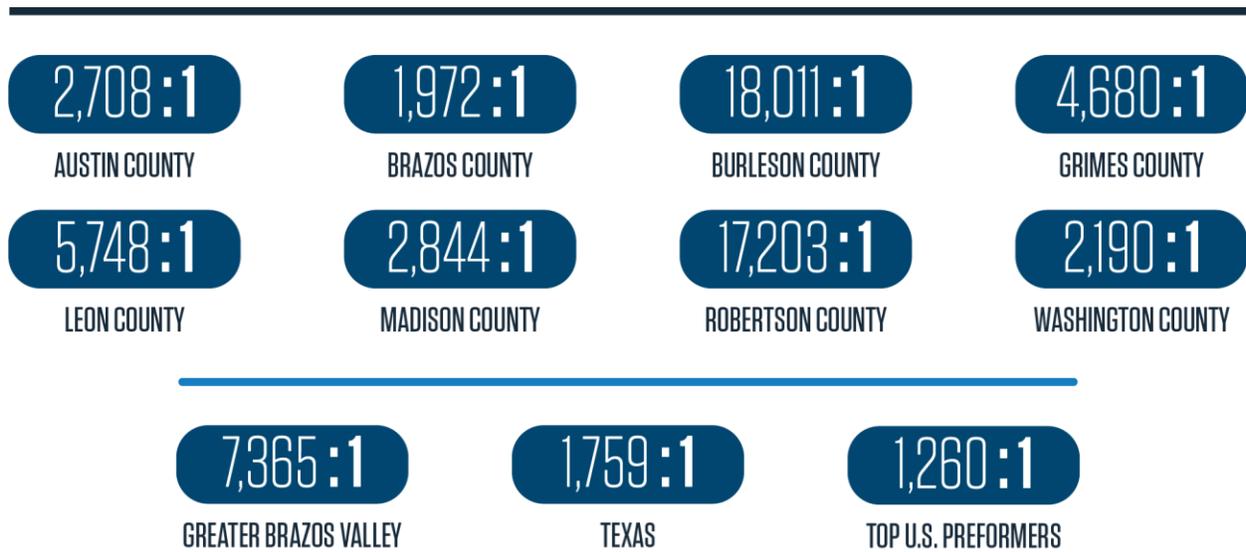
Dental Care



Given that dental insurance coverage is not required by the 2010 Patient Protection and Affordable Care Act,²⁶ and is considered a costly expense, many individuals forgo seeing a dentist on a regular basis. This is further compounded by the lack of dental specialists in rural areas, thus making accessibility even more of an issue. Additionally, oral health is a significant contributor to health problems. A ratio of 1,260 persons per dentist is the ratio found in the nation's top performing counties; however, the Texas ratio of 1,759 persons per dentist is slightly worse than the top counties in the U.S., as can be seen in Figure 17.³

Access to dental care for residents of the greater Brazos Valley region is dramatically worse than the State. Of the eight counties making up the region, Brazos County again had a best ratio of 1,972 persons per dentist, while Burleson County's ratio was considerably disproportionate when compared to other counties at 18,011 persons per dentist.

Figure 17. Population to Dentist Provider Ratio for Counties in the Greater Brazos Valley Region³



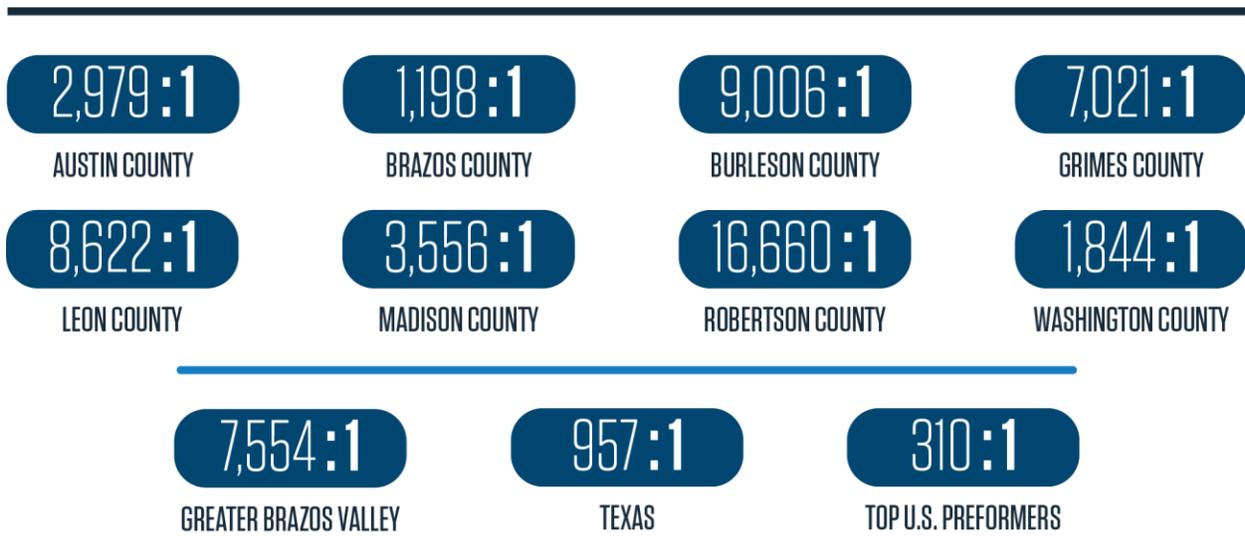
Mental Health



The demand for qualified mental health specialists has increased significantly in recent years, thus increasing the lack of qualified mental health specialists, particularly in rural populations, such as the greater Brazos Valley region. The U.S. Top Performers have a ratio of 310:1; Texas has a ratio of 957 to one mental health provider.

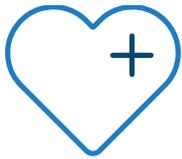
Looking at the region's overall population to mental health specialist ratio we find an average of 7,554 persons per provider. The best ratio among the counties in the greater Brazos Valley region was Brazos County with one mental health specialist for every 1,198 persons (nearly 4 times that of the Top Performers). Burleson County had the lowest performing ratio of 9,006 persons per mental health specialist (29 times that of the Top Performers).³ The reader is reminded that some of these ratios, given the size of the population, means there effectively are ***no*** mental health providers in an entire county. These ratios and additional county performance ratios can be viewed in Figure 18.

Figure 18. Mental Health Providers-to-Population Ratio for Counties in the Greater Brazos Valley Region³



*Robertson County data unavailable for 2018-19; this number is from 2017

Your Healthcare



Survey respondents were asked a number of questions to describe access to and use of medical care services. Nearly three-quarters (71.9%) of the region report yes to the survey question, ***is there a specific individual that you consider to be your regular health care provider?*** No statistical difference was found examining Brazos County versus the rural counties (72.6% and 71.1%, respectively).

Delaying Care



Despite the proportion of residents with a regular health care provider, nearly two-thirds (65.8%) of survey respondents report ***putting off going to your healthcare provider when [they] felt [they] needed to.***

Examining reasons why respondents **delayed care**, 40.9% of respondents report they *could not afford the cost of care*. Other reasons for delaying care include:

- *could not miss work* (36.6%),
- *did not have transportation* (9.9%),
- *could not get an appointment* (6.7%), and
- *did not know where to go to obtain the care they needed* (5.9%).

Other types of health and health-related care that are often delayed or not sought out include dental and mental health care, as well as delaying or skipping medication or treatments. Nearly two-thirds (63.9%) of survey respondents report *putting off dental care* and 78.3% report *putting off mental health care*. The most reported reason for delaying dental care was *cost* (70.9%). *Not being able to miss work* was a distant second place at 13.6%. For mental health care, respondents report delaying care less frequently than for dental care, but still more than half of those indicating they had skipped care did so because of *costs* (51.9%). The next most common reason for skipping mental health care is *not knowing where to get care* (22.1%). Over three-quarters of respondents (82.6%) report *putting off medications or treatments*, most frequently *due to cost* (62.2%).

Once again, few differences were found when viewing these data from a rural-urban perspective. Of those differences that do exist, a higher proportion of respondents from Brazos County report they *put off medical care because of costs* compared to the rural counties (19.0% and 15.4%, respectively). A similar finding includes persons skipping medications or treatment because they *could not miss work* in 3.8% of Brazos County respondents, yet only 0.3% of rural county residents. The same was found with skipping medications/treatments because of *costs* (12.4% Brazos County and 7.5% of rural county respondents). Data showed similar results in both rural and urban counties related to mental health care postponement for reasons such as *cannot miss work* and *costs are too expensive*.

Emergency Care



Additional questions inquired about respondents' **emergency room utilization** during the past 12 months. Nearly one-third of respondents (29.7%) report *going to an emergency room in the past 12 months for their own medical care* (not as a driver or companion to someone seeking care). Almost one-fifth (18.9%) indicate they *sought care in the emergency room because they had an injury or were very sick*.

Yet, other reasons for emergency room use can be tied to barriers to accessing care. For example, among survey respondents reporting having used an emergency room in the last 12 months, 7.2% did so because they *do not have a regular place to go for health care*. More than twice as many respondents (16.0%) report using an emergency room because they *do not have health insurance*. A smaller group report using an emergency room because *it took too long to get an appointment at the doctor's office* (9.1%), or they *did not have enough money for a doctor's visit* (12.3%).

The largest group report using an emergency room because *their doctor's office was closed* (23.5%).

When asked about **usual source of medical care**, vast majority (62.8%) of survey respondents report using a *private doctor's office or clinic*, despite 8.7% reporting they *do not have a regular place for medical care*. Usual sources of care include a *community health center* (6.4%), an *urgent care clinic* (not an emergency room) at 6.0%, and a *hospital emergency room* (5.0%). Respondents were allowed to write in other usual sources of care. Other usual sources of care (6.3%) most commonly include *home/parents* and the *Student Health Center at Texas A&M University*, (0.6% and 0.4%, respectively).

Examining these data from the Brazos County versus rural counties lens reveals some small but interesting differences. Rural county survey respondents report more frequent use of emergency rooms in the past 12 months than Brazos County residents (33.3% versus 26.8%). No rural county respondents indicate emergency room utilization because they *lacked a regular place for care* (0.0%) compared to 3.8% of Brazos County respondents who used the emergency room for the same reasons. Similarly, explanations for emergency room use such as *did not have health insurance* are higher in Brazos County compared to the rural county respondents (5.6% versus 3.6%, respectively). Again, small differences, but almost twice as many Brazos County respondents report using an emergency room because they *could not get an appointment* with their doctor (3.5%) compared to 1.6% for rural respondents. Rural respondents (11.1%), however, are more likely to report using an emergency room because their *doctor's office was closed* compared to Brazos County at 3.6%.

EMERGENCY CARE COMPARISON		
BRAZOS COUNTY		RURAL COUNTIES
28.6%	Use of Emergency Room in the Past 12 Months	33.3%
3.8%	Use of Emergency Room Instead of Regular Place for Care	0%
5.6%	Use of Emergency Room Due to Lack of Health Insurance	3.6%
3.5%	Use of Emergency Room Due to Lack of Appointment Availability	1.6%
3.6%	Use of Emergency Room Due to Doctor Office Closure	11.1%

Transportation



Given the rural nature of much of the Brazos Valley region, transportation is a topic examined and identified as a priority in each of the previous five community health assessments. This administration of the survey sought to collect information on the transportation related issue of **average minutes to obtain services/resources** such as medical care, dental care, prescriptions, groceries, and driving to work. Regionally, survey respondents report an *average travel time to work* of 15 minutes; 13 minutes for the urban Brazos County and 18 minutes in the rural counties. *Mean travel time to receive medical care* is 22 minutes; *dental care* takes approximately a mean of 26 minutes, and *obtaining prescriptions* is a bit more convenient at 17 minutes –the same as *obtaining groceries* (also 17 minutes).

Table 13 displays the differences between Brazos County and the urban counties, with an expected difference of longer travel times for the rural counties. Dental care had the highest travel time for rural communities at an average of 33 minutes. Additionally, rural residents, on average, take 22 minutes to obtain groceries. The issue of local access to affordable grocery stores was a concern brought forth in several community discussion groups in rural counties.

Table 13. Minutes of Reported Travel Time to Obtain Various Health and Health-Related Services in the Greater Brazos Valley Region

	Medical Care	Dental Care	Prescription Filled	Groceries	Travel to Work
Rural Counties	28	33	19	22	18
Brazos County	18	22	15	14	13
Entire Region	22	26	17	17	15

Preventive Health Screenings

This assessment gathered additional information regarding preventive screening in addition to information reported about risk factors and disease. Preventive screenings include medical tests or other services that are used to detect and possibly prevent the onset of certain diseases. Screening has the capability to detect conditions early and limit long-term impacts of certain conditions. The U.S. County Health Rankings was used for the assessment of preventative health

screenings with emphasis placed on the following: preventable hospital stays, diabetic monitoring, and mammography screening.

Survey responses provide insight into how well the greater Brazos Valley region is adhering to the recommended guidelines for minimizing risk of major diseases through participation in preventive screenings. Responses are compared to the recommended guidelines from the United States Preventive Services Task Force which reflect the most current recommendations by age and gender for a variety of screening and preventive services. Because guidelines change as a result of new research studies and changing technology, it is hard to make direct comparisons from year to year. However, we can look at the regional survey responses in light of the most current guidelines and report to what extent the greater Brazos Valley region population is following those guidelines.

Dental Screening

When asked about having a **dental exam and or teeth cleaning**, 58.5% of respondents report doing so *in the past year*. An additional 10.2% report their last dental exam/cleaning *between 1 and 2 years ago*; and, 7.7% report their last exam *between 2 and 3 years ago*. In other words, 76.4% of survey respondents had a dental exam and/or cleaning in the last three years. While there is no U.S. Preventive Service Task Force recommendation for dental and periodontal disease, the American Dental Association and other groups recommend “regular” exams, with the frequency determined in consultation with one’s dentist.

Cholesterol Screening

Since 2017 the U.S. Preventive Services Task Force no longer recommends screening for high cholesterol among the general public. Rather, their recommendation is related to the use of Statin drugs for primary prevention of cardiovascular disease in those meeting certain criteria/risk factors for cardiovascular disease. Even though there is not a specific recommendation to screen cholesterol levels, the survey asked respondents when they had their last **cholesterol screening**. Almost three-quarters (73.7%) of respondents had blood tests for cholesterol levels over the past three years. Over half (59.4%) report having a cholesterol screening *in the past year*, 11.4% doing so *in the past 1 to 2 years*, and 2.9% *in the past 2 to 3 years*.

Diabetes Screening

The U.S. Preventive Services Task Force recommends screening for diabetes of adults aged 40 to 70 who are overweight or obese every three years. Participation rates for **diabetes screening** in the region are much higher at 50.7% *in the past year*, 7.0% *between 1 and 2 years*, and 10.5% *between 2 and 3 years*, for a total of 61.2% of residents who report a screening within the last three years. For survey respondents aged 40 to 70 that fall in the overweight or obese categories based on BMI rates, three-quarters (74.2%) report being screened within recommended guidelines. Less than two-thirds (59.6%) report having been screened for diabetes *in the past year*. Approximately 1 in 10 (9.3%) were screened *between 1 and 2 years* ago, and 5.3% report being screened *between 2 and 3 years* ago.

Colorectal Cancer Screening

Far fewer survey respondents reported participating in screening for colorectal cancer. Out of all survey respondents, only 12.8% report having a **colorectal cancer screening** *in the past year*; 7.1% report *between 1 and 2 years ago*, and 5.0% report *between 2 and 3 years*, for a total of 24.9% *within the last three years*. Until recently (2017) there was a U.S. Preventive Services Task Force recommendation for colon cancer screenings. It is no longer an “active” recommendation.

Breast and Cervical Cancer Screenings

Breast Cancer Screening

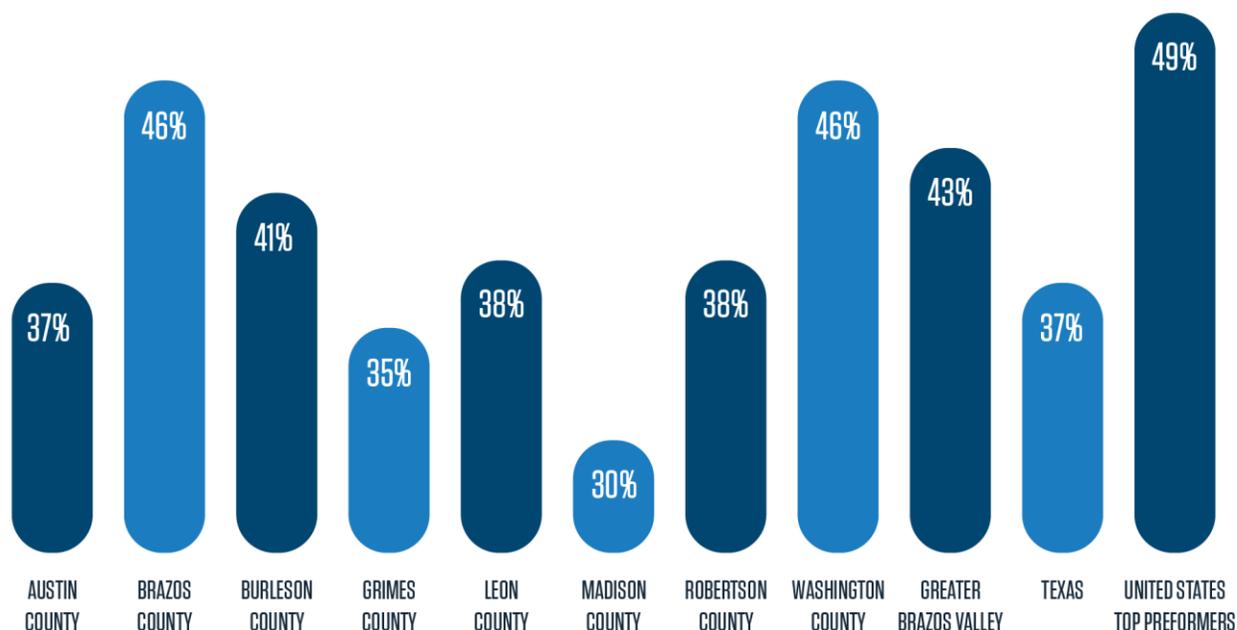


According to the CDC, the breast cancer incidence rate among females in 2016 was 122.2 per 100,000.³ **Mammography screening** is an important preventative measure to prevent the advanced stages of breast cancer. The U.S. Preventive Services Task Force recommends mammograms be performed every two years for women age 50 to 74.

Nationally, counties with screening rates above 49.0% are considered Top Performing Counties in the U.S. The Texas rate for mammography screening varied greatly from the Top Performing Counties standard with only 37.0% of eligible women participating in mammography screening. The region’s rate based on survey respondents was 42.0%, better than the statewide rate. Upon further examination of the greater Brazos Valley region, there was substantial variation with Brazos and Washington Counties having the highest rate of mammography screening at 46.0% and Madison County having the lowest rate at 30.0%.³

These findings within the greater Brazos Valley region could be due to the lack of oncologists within the area, as well the lack of adequate medical facilities equipped to conduct mammograms. Details presented in this portion are also available in Figure 19.

Figure 19. Mammography Screening Rates Among Women in the Greater Brazos Valley Region³



For the survey question ***when was the last time you had the following: a mammogram***, survey responses from all female respondents indicate that 28.7% of had a mammogram *in the past year*. *Between 1 and 2 years* was reported for 9.9% of respondents and 3.5% reported *between 2 and 3 years*. That yields a total of 38.6% of all female survey respondents receiving a mammogram within two years and 42.1% within the past three years. Among female survey respondents age 50 to 74 (within the recommended guideline age group), 59.4% report receiving a mammogram *in the past year*. An additional 18.3% completed a mammogram screening *between 1 and 2 years* ago, for a total of 77.7% of women aged 50-74 meeting recommended guidelines.

Despite no longer being a recommendation from the U.S. Preventive Services Task Force for women over the age of 40, the survey inquired about the last time a female had received a **clinical breast exam by a healthcare professional**. In

response to the question, 39.0% of female survey respondents report *in the past year*. An additional 12.4% indicate *between 1 and 2 years*, and 7.0% report *between 2 and 3 years*. That yields a total of 58.5% screened within the past three years.

Cervical Cancer Screening

Another preventive screening for women is the Papanicolaou Test, also called a Pap smear, and is used to detect cervical cancer. The U.S. Preventive Services Task Force recommends that women aged 21 to 65 receive a **cervical cancer screening** every three years. Those with other risk factors for cervical cancer such as family history, previous abnormal Pap smears, etc., may be encouraged to complete screenings more often; these additional risk factors are not captured in this survey. Of all female survey respondents, 24.1% report receiving a Pap smear *in the past year*. Another 16.1% report *between 1 and 2 years*, and 8.3% report *between 2 and 3 years*. Nearly half (48.6%) of all female survey respondents meet recommended guidelines. Of those between the recommended screening age of 21-65 of the recommended guidelines, 30.1% report receiving a Pap smear *in the past year*, 20.1% report *between 1 and 2 years*, and 9.8% *between 2 and 3 years* ago for a total of 60.0% of female survey respondents aged 21-65 who meet recommendations for cervical cancer screening.

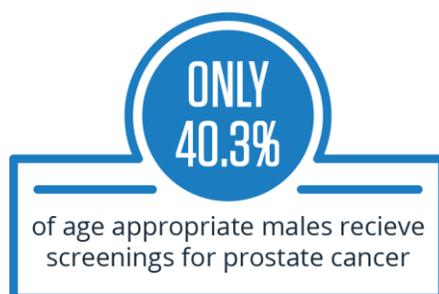
Prostate Cancer Screening



For men, the survey asked ***when was the last time you had an exam or test performed by a health care professional to test for prostate cancer***. Nearly 17 percent (16.9%) of male survey respondents indicate that they had received some kind of **prostate cancer screening** *in the past year*. An additional 3.0% reported *between 1 and 2 years* and 2.0% told us *between 2 and 3 years*. That is a total of 21.9% of all male survey respondents receiving a prostate cancer screening in the last three years. The U.S. Preventive Services Task Force recommends that men aged 55 to 69 undergo periodic prostate-specific antigen (PSA) screening. Among all male survey respondents aged 55 to 69, 31.7% report a test for prostate cancer *in the past year*. Only 3.7% report *between 1 and 2 years* and 4.9% report *between 2 and 3 years*. Less than half (40.3%) of age appropriate males received screening for prostate cancer.

Within the past few years the U.S. Preventive Task Force recommendation of screening for Prostate Cancer by digital rectal exam (DRE) or DRE plus PSA has been changed to just the PSA. Because of confusion in the public over terminology and these changing recommendations, our survey question did not ask about PSA specifically, but rather the more general description of "A test or exam . . . for

Prostate Cancer . . .". Unfortunately, this limits our ability to make direct comparisons with previous assessment data and some national data sources.



Influenza Vaccinations



An additional preventive health behavior examined in the 2019 assessment was whether survey respondents has **received a flu shot (or nasal spray) to vaccinate against influenza**. Over half of survey respondents (52.2%) indicate they received a flu shot or nasal spray *in the last 12 months*. Because of the seasonal nature of the flu, we also asked during which month they received their last flu vaccine. The most frequently reported month was *October* (33.6% of those receiving the flu vaccine). *September* was the second most common month (17.5%), followed by *November* and *December* (15.6% and 13.2%, respectively). All other months were less than 7% each.

We also asked survey respondents **in what type of location did you receive the flu vaccine**. The most commonly reported location was *healthcare provider (doctor's office, 40.8%)*, 27.5% report *pharmacy*, and 17.7% indicate *their workplace*. All other options (health department, hospital, don't know, and other) accounted for 14.0% of those receiving the flu vaccine.

Preventable Hospital Stays

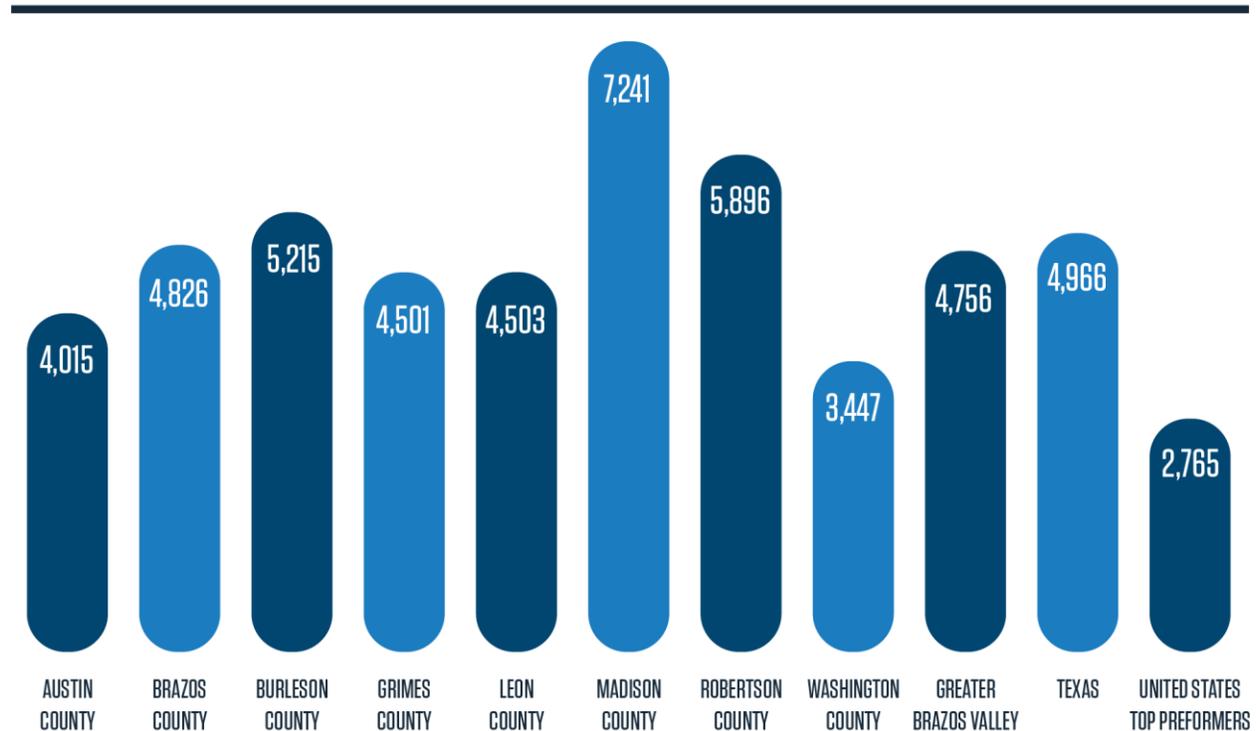


Preventable hospital stays has become a focal point of health care in recent years and preventable hospital stays occur when care does not adequately anticipate the possibility of admission or re-admission for selected conditions. Preventable hospital stays divert hospital resources away from other cases, resulting in a more expensive and potentially less effective care for other patients, hospital providers, and insurers. The measure itself is the number of hospital stays for so-called ambulatory care sensitive conditions per 100,000 Medicare enrollees. Ambulatory care sensitive conditions include convulsions, chronic obstructive pulmonary disease, bacterial pneumonia,

asthma, congestive heart failure, hypertension, angina, cellulitis, diabetes, gastroenteritis, kidney/urinary infection, and dehydration. This measure is age-adjusted.

The U.S. Top Performing Counties have **preventable hospital stays** at a rate of 2,765 per 100,000 Medicare enrollees. In comparison, Texas had 4,966 preventable hospital stays per 100,000 as shown in Figure 20.

Figure 20. Preventable Hospital Stays for Counties in the Greater Brazos Valley Region (per 100,000 population)³



The greater Brazos Valley region had an average number of 4,756 preventable hospital stays which was slightly lower than the reported number for Texas at 4,966. The rate for individual counties varied from a low of 3,447 preventable hospital stays in Washington County to a high of 5,896 preventable hospital stays in Robertson County. Some factors may explain the high number of hospital visits in the region, such as some counties lack adequate health care access. Therefore, some conditions and diseases that could have been prevented through primary interventions would have deteriorated to the point of necessitating a hospital stay.

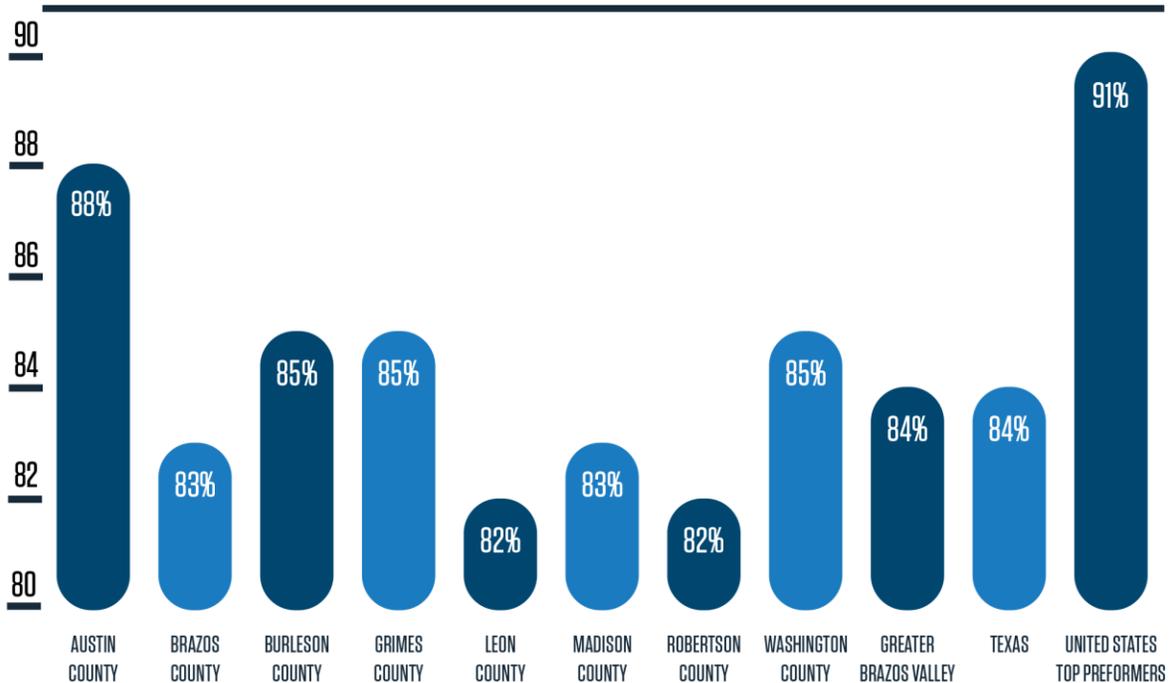
Diabetic Monitoring



Diabetes is a chronic disease that is typically associated with other diseases such as obesity and heart disease. Type 2 diabetes is the most common type, but with proper diet, exercise, and monitoring, Type 2 diabetes can be managed without the use of insulin. Therefore, a great emphasis is placed on diabetic monitoring.

Nationwide, the U.S. Top Performing Counties have 91.0% of reported Type 2 diabetes cases that followed through with **regular diabetic monitoring**. Texas has a statewide average of 84.0%, which does not vary much from the Top Performing Counties in the U.S. The greater Brazos Valley region is consistent with the statewide average of 84.0% for regular diabetic monitoring. Little variation was found among the individual counties within the region where rates ranged from 88.0% in Austin County to 82.0% in Robertson County.³ County differences can be seen in greater detail in the Figure 21.

Figure 21. Diabetic Monitoring Rates for Counties in the Greater Brazos Valley Region³



Human Sexuality



Three factors related to human sexuality were included in this assessment and appear in Table 14. The **percent of low birthweight babies** is related to overall infant mortality and is largely preventable through adequate and timely prenatal care. Texas reports a low birthweight rate of 8.3% of total live births. Within the greater Brazos Valley region, the rate is slightly lower at 7.8%. Among the counties in the region, the rate varies from a low of 6.8% in Madison County to a high of 9.6% in Grimes County, just slightly higher than the State rate.

The **teen birth rate** was also examined. The state birth rate of 37.4 births per 1,000 females ages 15-19 is higher than the region's rate of 26.8. Variation exists regionally among the counties with rates ranging from a low of 19.1 births per 1,000 females 15-19 years of age in Brazos County to a high of 49.9 in Leon County. The rates are both above and below the *Healthy People 2020* goal of 36.2 teen births per 1,000, but substantially above the U.S. Top Performing Counties of 14 per 1,000.

The reader is cautioned to consider that low frequency events, such as low birthweight or teen births in smaller counties, can vary widely from year to year because even small changes in the absolute number of cases can appear as large percent changes or differences.

An additional measure of human sexuality is the **rate of sexually transmitted infections (STI)**, which serves as a risk factor impacting the region's health. County Health Rankings uses the *number of newly diagnosed Chlamydia cases* per 100,000 population as representative of STI rates, as Chlamydia is a reportable STI as opposed to other STIs.

Texas has a Chlamydia incidence rate of 520.4 (per 100,000); the greater Brazos Valley region's average rate is higher at 576.8. As with teen births, rates are both above and below the State rate, but all are well above the U.S. Top Performing Counties whose rate is 145.1 per 100,000. Among the counties in the region, the rate varies from a low of 321.3 in Austin County to high 696.3 in Robertson County. Brazos County's rate is 666.4 and the average rate for the rural counties is 450.4 per 100,000.

Table 14. Healthy Sexuality Indicators among Counties in the Greater Brazos Valley Region³

	Percent Low Birthweight	Teen Birth Rate (per 1,000)	Sexually Transmitted Infections (per 100,000)
Austin County	7.9	32.5	321.3
Brazos County	7.4	19.1	666.4
Burleson County	9.0	40.5	446.7
Grimes County	9.6	37.7	439.8
Leon County	8.0	49.9	333.6
Madison County	6.8	47.3	383.9
Robertson County	9.4	47.8	696.3
Washington County	7.9	25.7	535.0
Greater Brazos Valley	7.8	26.8	576.8
Texas	8.3	37.4	520.4

Opioids



Opioid misuse has, in recent years, been a high profile issue/concern across the nation – appropriately called the Opioid Epidemic. As such, this year’s assessment included questions aimed at learning more about issues related to the opioid epidemic in the greater Brazos Valley.

Opioids can be prescription drugs used for pain relief, or illicit forms such as heroin and fentanyl taken to get high. The term misuse describes older substance misuse terms more commonly known as addiction to the drug, wanting more drugs than initially prescribed, sharing drugs with others, or using illicit drugs.

The survey asked respondents to **indicate their level of concern about the use or misuse of opioids in their community**. About half (51.4%) are *very concerned or concerned* about the use/abuse of opioids in your community. Almost 47% (46.8%) were *not concerned or not at all concerned* with opioid use/abuse. However, three-quarters of respondents (78.2%) indicate they *do not know any individuals using opioids*, 18.2% report they *know 10 or fewer people using opioids*, and fewer than 5% *know more than 10 people using opioids*.

Approximately 1 in 4 people (27%) report they think it is *likely or very likely* that someone who needs treatment for opioid misuse disorder were getting the treatment they need, while 67% indicated they thought it was *not likely or not at all likely* treatment services would be obtained. However, support for those with opioid disorder and treatment was clearly present in respondents. Most (75%) *agree or strongly agree* that **opioid use disorder is a disease that can be treated**. Similarly, nearly half (48%) *agree or strongly agree* that **a person with opioid disorder is responsible for their own addiction**, and 28% report no opinion. Further, 60% of respondents *agree or strongly agree* the **stigma attached to opioid use prevents people from asking for help/treatment**.

Given the heightened concerns, yet a low level of personally knowing someone using opioids, slightly more than 58% of respondents indicated they *agree or strongly agree* that safe storage and disposal of drugs can impact rates of opioid use disorder. More importantly, 81% expressed *strongly support or support* for **creating safe disposal locations for old/unused drugs**. Fewer (28%) were supportive of **making needle exchange programs in the community legal**.

COMMUNITY FINDINGS

Perceived Community Problems

Each of the previous assessment surveys (2002, 2006, 2010, and 2013) included questions designed to help gain a better understanding of the respondent's perceptions about **community problems**. Examining the survey responses in addition to community discussion group dialogue presents a broad picture of community concerns in the greater Brazos Valley region. Respondents were asked to rate a variety of community issues *not a problem* to *very serious problem*. Those most frequently considered as *serious* or *very serious* problems in 2013 and 2019 are contrasted in Table 15.

Table 15. Top Five Perceived Community Issues from Greater Brazos Valley Region Survey Respondents (2013-2019)^{16,28}

2013 BRAZOS VALLEY HEALTH SURVEY		2019 BRAZOS VALLEY HEALTH SURVEY	
Poor or Inconvenient Public Transportation	41.8%	Poor or Inconvenient Public Transportation	46.0%
Illegal Drug Use	29.6%	Illegal Drug Use	39.4%
Risky Youth Behaviors	27.6%	↑ Lack of Jobs for Unskilled Workers	37.7%
Alcohol Abuse	25.4%	NEW Poverty	36.4%
Lack of Jobs for Unskilled Workers	25.2%	NEW Lack of Affordable Housing	35.5%

These findings suggest that the issues of poor public transportation and illegal drug use remain serious problems in the public's perception of issues affecting the region. The top two issues reported in 2013 remain in the top five in 2019. Both increased in the proportion of respondents perceiving lack of jobs for unskilled workers and illegal drug use as serious problems. The lack of jobs for unskilled workers moved up the list to the third top priority. Risky youth behaviors and

²⁸ Center for Community Health Development. (2013) *2013 Brazos Valley Health Status Assessment Survey*. College Station, TX: Center for Community Health Development.

alcohol abuse dropped out of the 2019 top concerns, and were replaced by *poverty* and *lack of affordable housing*. The percentage of respondents listing all of the top five were at higher rates (more serious) than in 2013.

Perhaps the prominence of poverty and lack of affordable housing on the 2019 top five list is more interesting given the much more positive state and national economic status. At least two different arguments could be made based on this finding: either the state and national economies are having little impact locally (and therefore survey respondents are concerned about their own economic situation (poverty and affordability of housing), or the more egalitarian perspective is that as the economic situation has improved but there is more concern for others in their communities who may have lower incomes or have more trouble affording housing - an increased awareness of the plight of the poor, one might say. Information obtained from the Community Discussion Groups shed additional light on this point.

Service Utilization and Needs

The Brazos Valley has a wide array of health and human service related resources – many of which assist in addressing social determinants of health impacting the population. A list of 18 broadly defined categories of health and human service provider types were listed in the survey. Respondents were asked to indicate if they, or any member of their household, had ever needed, needed and used, or needed but did not use, as well as if they knew about the services listed.

As illustrated in Table 16, data from 2013 and 2019 are compared for the percentage of respondents who responded they *needed and used* any of the listed service categories. Care of a medical specialist was the most frequently needed and used category in 2019 with 23.5% of respondents needing and using care of a medical specialist, although this is lower than 2013.

When we examined needed but did **not** use responses, we found that mental health services had the largest percentage of respondents who needed but did not use services at 11.5%. Other unmet needs were found for financial assistance for auto, appliance or home repair (8.8%), helping with finding work or job training (8.5%), financial assistance, welfare or disability payments (7.9%), and help paying for utilities (7.8%).

Table 16. Comparison of 2013 and 2019 Most Common Services Needed and Used in the Brazos Valley as Reported by Survey Respondents^{16,28}

2013 BRAZOS VALLEY HEALTH SURVEY		2019 BRAZOS VALLEY HEALTH SURVEY	
Medical Specialist	39.9%	Medical Specialist	23.5%
Financial Assistance/Welfare	10.2%	Financial Assistance/Welfare	8.8%
Home Health/Hospice	6.8%	↑ Work-related/ Employment	8.7%
Mental Health Services	6.6%	Mental Health Services	8.1%
Work-related/ Employment	6.4%	↓ Home Health/Hospice	6.4%

When examining unmet need differences between Brazos County and the rural counties, a consistent pattern is present with higher reported need for services among Brazos County residents, the exception being services for the disabled or their families which was more frequently reported as needed but not used in the rural counties. Further, rural counties were more likely than Brazos County to report they did not know about the service categories. Rural residents most often reported they did not know about financial assistance services, GED and literacy training, job skills training, and information and referral resources such as 211. A comparison of resources and services and their utilization can be found in Table 17.

Table 17. Utilization of Needed Resources by Survey Respondents for 2013 and 2019^{16, Error!}
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	2013		2019			
	Needed but did not use		Needed but did not use		Did not know about	
	Rural Counties	Brazos County	Rural Counties	Brazos County	Rural Counties	Brazos County
Literacy training, GED, or English as a second language courses	2.4	2.8	2.6	4.3	6.9	4.1
Help with finding work or job training	5.5	4.7	3.3	7.8	6.6	2.5
Financial assistance, welfare, or disability payments	3.5	3.9	3.9	6.6	6.6	4.1
Help paying for utilities	3.8	4.9	3.6	6.8	3.6	5.3
Financial assistance for auto, appliance, or home repair	5.2	6.1	5.6	6.3	7.5	6.8
Food, meal, and nutrition services (such as Meals-On-Wheels)	2.4	3.4	2.6	6.9	3.6	5.1
Services for the disabled or their families	3.0	3.4	3.3	2.3	3.9	5.3
Early childhood programs (pre-school)	0.9	0.9	1.6	2.3	5.2	3.3
Services for children with emotional problems or delinquent behavior	0.7	1.2	1.6	3.0	5.9	3.5
Child care services (such as information and referral or assistance with night or weekend subsidized child care)	1.0	1.3	0.7	1.8	3.6	3.8
Affordable after school or summer day programs for children	1.8	2.2	2.3	3.8	4.2	3.8
Information and referral services (such as United Way 211)	1.6	2.1	0.7	2.3	6.6	5.1
Mental health services	3.6	2.5	5.2	10.1	5.9	4.1
Education, counseling, or treatment for drug or alcohol abuse	1.5	1.4	0.3	3.0	4.9	3.0
Home health care or hospice services	1.7	1.6	1.6	3.6	5.2	2.3
Respite care (a break from caring for a dependent with a disability)	2.5	2.5	1.3	3.3	3.9	3.8
The care of a medical specialist	2.6	2.9	1.1	7.8	5.6	2.3
Physical or mental health care as a result of sexual assault or physical abuse			2.3	6.6	4.6	4.3

Community Discussion Groups



Community Discussion Groups (CDGs) were held in all eight counties with three different audiences as described in the Methodology section of this report. The summaries below present regional findings for the eight counties of the greater Brazos Valley region.

County specific summaries can be found in Appendix A.

Community Characteristics

Throughout the region, discussion group participants described their communities as great places to live that are filled with friendly, supportive and collaborative community members. A close-knit community was often a description provided during CDGs, particularly in the more rural counties such as Burleson, Grimes, Leon, Madison, and Robertson. When participants were asked to describe their community, with the exception of Brazos County, the area was described as rural with small town charm. Brazos County was described as a regional hub that provided the area with access to medical care with several hospitals, clinics, and other social service providers, as well as opportunities for other shopping such as grocery and retail. A majority of the discussion group participants noted growth within their community, with Austin County noting a significant growth in the Hispanic population. Additionally, several counties described a growing elderly population, as the area is very attractive to retirees.

Community Issues

Though there were numerous positive characteristics associated with the region, residents highlighted several community issues as well. Transportation was mentioned in every county throughout the region, including the need for affordable public transportation within the counties, as well as regionally. Road infrastructure was also cited as an issue related to transportation needs. Access to care, including medical, mental health, and specialty care was described as a barrier in the majority of the counties, which reinforced the health professional shortage area data for the region specifically for mental health services. Associated with the issue of accessing services or goods was the lack of public transportation throughout the region.

Economic disparities also emerged as a theme within the region, with job shortages and poverty mentioned in Brazos, Burleson, Leon, Madison, Robertson, and Washington Counties. Compounding these economic issues is the lack of safe and affordable housing options across the region.

Community Resources

Across the region, Community Discussion Group participants were readily able to identify resources and assets to region. The majority of the counties indicated that churches and ministries were a prominent resource to their community, providing food banks and pantries to residents and serving as community leader. Non-profits, social service organizations and health resource centers in the rural communities, were cited as good community resources for those in need. Some counties mentioned educational entities as resources, including local school districts, Texas A&M University, and Blinn College, for their educational services as well as a community resource for collaboration with other organizations.

SUMMARY OF KEY FINDINGS

The 2019 Brazos Valley Health Status Assessment collected community data regarding a variety of health issues, as well as associated social determinants of health. As in previous health assessments in the greater Brazos Valley region, results continue to document some similar issues in the community.



Transportation is a significant barrier to access to care for residents.

- Transportation has been a top five issues in every assessment since 2002.
- Transportation issues continue to be a high priority issue for community residents with respect to accessing health and health-related care, especially for those in rural counties.
- Rural residents travel an average of 33 minutes for dental care and 22 minutes for groceries.
- Although successful attempts at easing this issue for rural community residents has occurred through the transportation programs located in the regional Health Resource Centers through cooperation with the Brazos Valley Area Agency on Aging, this is not a resource that can accommodate all who need transportation assistance, nor does it address transportation needs within Brazos County.



Rural communities of the Brazos Valley face substantial disparities in access to resources and services, as well as in health outcomes.

- Health disparities continue to exist between rural counties and Brazos County, especially related to access to care. This is not unexpected as it is common throughout the U.S.
- Even though the entire region is designated a health professional shortage area, the ratios of patients to providers is shocking in some rural counties.
- The Community Health Resource Centers are attempting to address the issue through the provision of a location for organizations to offer services in the rural communities.



Financial Stability

- Poverty is among the most well documented social determinants of health; in fact, it is directly related to health outcomes. Nearly all of the greater Brazos Valley region has per capita income rates below the national rate.
- Unemployment and underemployment places families in situations where they cannot afford to meet their basic needs, much less health-related needs.
- A common concern expressed during discussion groups was a lack of jobs with livable wages, only compounding the high cost of gas, utilities, and groceries in rural counties.



Lack of Recreational Activities

- With the continued rising rates of obesity, and urging to be more active, the lack of safe and affordable places to do so results in a call for more recreational activities/opportunities.
- All rural counties have a higher percentage of people who are physically inactive compared to *Healthy People 2020* goals.
- Five of the eight counties have less than 50% of their residents who report living *reasonably close* to a location for physical activity.
- Closely related to lack of recreational facilities is the concern of residents about a variety of issues classified as *infrastructure*, including poor road conditions, community aesthetics such as abandoned buildings and dilapidated housing, quality or availability of public facilities, explosive growth in some areas, and lack of needed programs and services for various populations.



Risk Factors

- Increasing rates of risk factors such as obesity, and chronic diseases may largely be a function of the aging of the population, but regardless of the reason, services related to the prevention, diagnosis and treatment of chronic disease remains a regional priority.
- Seventy percent of the Brazos Valley is overweight or obese – a significant increase since the 2013 assessment. Substantially

more residents of rural counties are overweight compared to those in Brazos County.

- The greater Brazos Valley region is faring worse than the general U.S. population when it comes to availability and accessibility to healthy foods. In fact, one in four residents report food insecurity issues.
- One-quarter of residents report they do not engage in *any* leisure time physical activity, an important link to many chronic conditions or diseases.
- Many residents also lack health insurance and do not have a usual source of care; and, two-thirds report they delayed seeking medical care, primarily due to costs.



Access to Health-related Care

- Since 2003, County Health Resource Centers have been successful in increasing access to health-related services in the rural counties. Unfortunately, many residents still have access issues related to affordability (both cost and inability to take off work), long wait times, transportation, and not knowing where to go.
- The greater Brazos Valley region, despite its growth and increase in health care facilities in Brazos County, are still considered health professional shortage areas for primary medical care, dental care, and mental health care.



Communication and Coordination

- Residents in every community expressed concern with communication and its impact on access to services.
- Specific issues raised includes how to inform residents of the resources available to them (but also then, how to keep that information current), the need for outreach to a growing Hispanic community, and how to improve communication and coordination among/between service providers.

APPENDIX A: COUNTY-SPECIFIC COMMUNITY DISCUSSION GROUP SUMMARIES

Austin County

Community Characteristics

Austin County residents described their community as a small but growing rural area. They consider themselves to be a retirement community with a predominant older population. Residents of Austin County are very proud of their school district with a large percentage of students attending college after high school. County residents described a division among the cities, specifically between Bellville and Sealy as the two high schools are rivals. With this division, the residents of these towns do not feel connected.

Community Issues

The top issues identified by Austin County residents included being a medically underserved area, lack of transportation, limited mental health services, and lack of resources for youth and seniors. The hospital and clinic provide medical care to the community, but physicians are getting older and services are limited.* Public transportation was described as a reoccurring issue as it is not available in the county. Residents of Austin County feel that there is an increase in mental illness and in suicide in their community, especially among the youth. Mental health services are extremely limited with no psychologists available and only a limited number of counselors. Residents expressed concern that the local Mental Health and Mental Retardation (MHMR) Authority has specific guidelines regarding the types of clients that can be seen and they often provide medication for treatment. The lack of afterschool or summer programs for youth was a concern to discussion group participants. Residents stated that existing parks and other recreational areas are limited, contributing to the lack of outdoor activities available to the community. Seniors have limited resources and activities for exercise, as well as limited transportation, compounding the issue of physical activity for the elderly population. The residents feel that keeping both youth and seniors active is vital to ensuring both physical and mental health.

*Subsequent to Austin County Community Discussion Groups, the CHI St. Joseph Health System announced it was discontinuing its relationship with Bellville Hospital (the only hospital in Austin County), and that the local hospital district was seeking a new management partner. In April, ERH II, LLC was identified as that management partner.

Community Resources

Austin County resources include medical care, community volunteerism, and community programs. In addition to medical care, the Bellville Medical Center has an auxiliary and a hospital foundation that provides volunteers and funding to the hospital. Indigent care services are available, but they are very limited because of the income guidelines. Texana (MHMR) provides mental health services and telehealth counseling services are planned to be implemented soon to provide residents with mental health counseling via teleconferencing technology. Residents described multiple food resources to those in need including food pantries and the Meals on Wheels program.

Community Collaboration

One of the strong partnerships described in the community discussion groups were the partnerships between agencies during a disaster. The Regional Advisory Council (RAC) takes the lead during disasters in Austin County. They coordinate with other agencies to provide resources and trailers to those in need during a crisis. Another strong partnership is between the community and Texas A&M AgriLife Extension. AgriLife Extension provides programs and other community events that focus on health, youth, agriculture and economic development. The Public Health Region 6/5 of the Texas Department of State Health Services partners with the community to provide mammograms, and a safety day at the elementary school which educates students on electrical safety, horse safety, and safety around all-terrain vehicles.

Advice on How to Work in the Community

Austin County residents feel that good communication is vital when working in their community. Businesses and agencies should communicate with community members to determine services needed. Good communication is also needed between the businesses and agencies to provide effective services. In addition to communication, residents feel that working with local government and economic development is needed when working in Austin County.

Brazos County

Community Characteristics

Brazos County residents described their community as a growing community that serves as a retail and medical hub for surrounding areas. The community is also described as friendly, family oriented, and very giving, especially through support of charitable organizations and volunteerism. The community is also seen as being diverse but segregated between Bryan and College Station, although this segregation seems to be lessening.

“ THIS IS A SUPPORTIVE COMMUNITY.
If you need it, you will get some help. This community
comes together to help each other. **”**

Community Issues

The top issues identified by Brazos County residents included lack of affordable housing and homelessness, poverty and income inequality, lack of youth activities, and lack of mental health services. Residents of Brazos County feel that there are not enough affordable housing units available, especially for low-income seniors. While student housing is readily available, this can limit affordable housing for families and seniors. Emergency shelters are lacking and have specific requirements that inhibit some residents from staying there. According to CDG participants, the county has lower wages for 25-40-year-olds compared to the rest of the State. There are limited jobs that pay livable wages for those with a low education level. In addition to the need for higher paying jobs, there are also limited second-chance employers, making it difficult for members of the community that have previously been incarcerated to find employment. There are limited afterschool or summer programs for youth that are affordable for families, with little to none offered for free or a reduced cost. Furthermore, teen programs are even more limited.

Brazos County residents feel that there has been an increase in mental illness in their community. Although Brazos County serves as a medical hub for surrounding counties, discussion group participants described a lack of mental health facilities and counselors to keep up with the demand. Participants in the community discussion groups feel that there is a lack of knowledge about the services available. Those needing the services are either unaware of the service or they are unsure on how to access the service.

Community Resources

As the metropolitan hub where Texas A&M University is housed, numerous resources are available to Brazos County residents. Residents feel that Brazos County has high quality school systems that provide collegiate programs and career and technical education programs. The school districts have some of the best and brightest students. Other resources in the community include medical services, mental health and substance abuse service providers, and emergency housing and shelters for the homeless population.

Community Collaboration

One of the strong partnerships described in the community discussion groups were the partnerships between agencies during a disaster. The Voluntary Organizations Active in Disasters (VOAD) assists in coordinating resources during disasters in Brazos County. They coordinate with other agencies to provide food, clothing, other resources and trailers to those in need during a crisis.

Another strong partnership is between the community and Texas A&M University. Texas A&M students provide volunteer services to numerous agencies in the community, such as service projects during the Big Event which provides various types of assistance to residents in need. There is also a strong collaboration among social service providers. The Community Partnership Board meets quarterly to provide training and networking opportunities to social service providers. There are also partnerships among other agencies, such as the United Way Community Impact Teams and Project Unity and the Brazos County Health District to provide HIV services.

Advice on How to Work in the Community

Brazos County residents feel that it is important to partner with local social service agencies when working in the community because these groups work with families and know the needs in the community. In addition, residents feel that working with local government and Texas A&M University is needed when working in Brazos County. Some CDG participants expressed the belief that it is important for more businesses to be second chance employers, allowing those with criminal records employment. This is crucial in helping with income equality and poverty.

Burleson County

Community Characteristics

Burleson County residents described their community as an older, retirement community. The area is trying to attract more families with children, since it is less expensive to live in Burleson County compared to the Bryan/College Station area. The community was described as a very giving and generous community with people wanting to help others, especially in times of disasters.

Community Issues

The top issues identified by Burleson County residents included, lack of transportation, lack of affordable housing and drug use. Residents of Burleson County feel that there is a huge need for transportation to medical appointments and for seniors needing rides to the senior centers and to acquire other basic needs, such as groceries. Residents are also concerned with the condition of the roads, with potholes making it difficult for emergency services to access residents. Lack of affordable housing was also described as an issue, especially housing that is handicap accessible. Affordable mortgages and home insurance also limit the amount of available housing. According to residents of Burleson County, drug use is a major issue in Burleson County. Meth use is especially a concern in Burleson County. Drug use is very prevalent amongst teens and in the schools. There is a concern of the impact of drugs on domestic violence, family issues, and criminal records. Drugs cause issues in the home, as well as with employment. Compounding this issue, discussion group participant described mental health services as lacking in the community. Some residents mentioned that there is a lack of communication regarding existing resources and that it is difficult getting residents connected to resources available in the area.

Community Resources

Several resources exist in Burleson County, including faith based organizations and service organizations. Churches and the Somerville Area Assistance Ministry provide basic need services to residents, such as utility assistance. The Burleson County Health Resource Center also connects the community to services and provides transportation.

Several mental health services are available in Burleson County, such as the National Alliance on Mental Illness, the Mental Health, Mental Retardation Authority, as well as counseling services available to seniors on Medicare. The

Burleson Health Resource Center is also beginning to provide telehealth counseling to residents.

“ WE ARE TRYING TO GET RESOURCES.
We are trying to get people to the right places and to the right contacts. **”**

Community Collaboration

One example of community collaboration is during a disaster. When there is a disaster, the community comes together to respond. The American Red Cross and other emergency response teams assist in times of need. Churches collaborate with the community to provide various services. Some churches have member associations that help people by building ramps or with other home repair projects. Some church youth groups also paint and repair fences, which really help those that cannot afford these repairs. There is also a strong collaboration between the police department, fire department and the community. Both the police and fire departments assist with fundraisers for the community, coordinate events, and set-up assistance for families whose home has burned down. The use of social media is very common in Burleson County, and residents feel it is a good way to connect residents to resources and to promote community events.

Advice on How to Work in the Community

Burleson County residents feel that community involvement is vital when working in their community. Community input is important when providing goods or services. The Burleson County Health Resource Center is also a leader in the community for providing services and knowing the needs of the community. Coordinating with the resource center is encouraged, as well as involving city leaders when working in the community.

Grimes County

Community Characteristics

Community discussion group participants in Grimes County describe their community as quiet, close knit and a place to experience country living. The city is currently experiencing growth because it is attracting younger people due to the low cost of living. The small, rural atmosphere is appealing and neighbors are always there to help one another.

Community Issues

Grimes County community discussion participants discussed a variety of issues. Lack of medical resources was brought up often. When asked to describe the health care resources they lacked; community residents pointed to a lack of a hospital, emergency medical services, mental health care providers, prescription drug assistance, lack of medical specialist, no dialysis clinic, no cancer clinic and no medical center. Community members also said there is a lack of access to healthy and affordable food choices. Public transportation is also a problem and the public roads are in need of repair. Unfortunately, for seniors in the community there are not adequate assistance programs to help with assisted living and transportation for doctor's appointments. Drugs and alcohol are also a concern for community members. Youth in the community do not have a safe place for recreation. Because Grimes County is a rural area, internet access can be a problem which makes it difficult for school children to find places with a decent internet connection in order to complete school assignments.

Community Resources

In each community discussion group, Grimes County participants talked about the resources available through the faith community. In terms of health care resources, one positive resource residents spoke of was the Telehealth Counseling Clinic. Social service providers (Brazos Valley Food Bank, Twin City Mission, and the Red Cross) assist residents with bus passes, clothing, and food.

Community Collaboration

Residents talked about how community members in crisis or times of need really come together and support one another. The local medical clinic provided defibrillator machines for the county. Local churches and social service providers also collaborate with community members to provide assistance when needed. Social media is popular in Grimes County and helps to get the word out about

available resources. Social media also serves as a platform for people to turn to when they are in need of assistance.

Advice on How to Work in the Community

Community residents spoke to the importance of working with local government officials for change. Lastly, 211 was reported as a place to turn when looking for community events and resources.

Leon County

Community Characteristics

Leon County consists of several small communities and they are spread out over a large area. However, community members know each other and are very involved in the community. Residents describe their county as welcoming with very good school districts.

Community Issues

The top issues identified by Leon County residents included limited health care providers, transportation and roads, and segregation and racism. Healthcare providers are limited in Leon County, with residents feeling that there are some good doctors in the community, but, they tend to move in and out of the area. Transportation was described as a major concern and residents stressed the need for funding for transportation. Because the county is widespread, some residents must travel long distances to receive services or meet basic needs, such as buying groceries. Transportation is not available to meet this need, creating an issue in food security. Although roads have improved over the years, residents are concerned with the current condition of the roads, as they can make it difficult for emergency services to access residents.

Community Resources

Numerous resources are available to Leon County residents. Social service providers such as the Texas Health & Human Services Commission who provide Medicaid, SNAP benefits, and HeadStart to residents were described as an invaluable resource. Additionally, faith-based organizations assist residents in meeting basic needs. Food pantries and WIC provide food assistance for those in need. The Leon County Health Resource Center also connects the community to services and provides transportation.

There are also several healthcare providers in the community. There is a health clinic in Centerville, the Mental Health and Mental Retardation Authority, the Texas Department of State Health Services, and other good quality hospitals and clinics can be accessed quickly because of the location of the county.

Community Collaboration

Residents of Leon County work together and volunteer in the community. There are several community events that occur, such as the Texas Youth Ranch Rodeo and

expo. This event brings youth together from throughout the county. Volunteers also organize a Veteran's Appreciation Day that demonstrates strong volunteerism in the community.

Advice on How to Work in the Community

Leon County residents feel that community involvement is important when working in their community. Coordination with other established agencies who are working toward making the county a better place to live is extremely important.

Additionally, the Chamber of Commerce is a wonderful resource for addressing issues and challenges in Leon County.

Madison County

Community Characteristics

Madison county residents describe their community as a quaint, small town, close-knit, and supportive family. Residents also talked about the 3% growth that the county saw this year. Residents feel that the community is growing at a steady pace.

Community Issues

When asked to describe some of the issues in Madison County, residents cited a lack of healthcare resources including access for dental, mental health, and specialist services. Community members feel that alcohol and drugs are becoming a problem. Specifically, residents have seen an increase in methamphetamines and opioid use and a rise in DWIs. The community has a lack of financial resources including being able to find affordable housing. Residents described most available homes “at the ends of the spectrum”, as they were either high-end expensive homes or low-end homes that needed a considerable amount of work. A majority of county residents are low and moderate-income level and 76% of children in the county are on some type of “free and reduced lunch system.” There is a lack of employment opportunities and students who graduate from higher education are unable to secure jobs that provide a livable wage. Residents want to use incentives to attract new businesses to try and increase better paying jobs, which they hope, will lead to more people moving into the county. Domestic violence is an issue and community members said there are needs for more education and awareness around this topic. Additionally, there is limited public transportation for residents to attend medical appointments or go to the grocery store and there are no Uber or taxi services in the county. Medicaid does provide transportation services but only the patient and/or guardian are allowed to use the van.

Community Resources

When asked about community resources, Madison County residents said there were many social services providers. These include the Twin City Mission, Sunshine Center, BVCASA, Alcoholics Anonymous, and Housing of Hope. Residents also felt there were resources for seniors such as the senior center, which provides meals and activities. Local churches and the faith-based community are also a community resource. Residents praised the local police and fire departments for their contribution and commitment to the betterment of the community. In terms of healthcare resources, residents said that the telehealth counseling services and dialysis unit have helped with access to care. The community prides itself on having

a good public school system. Additionally, there is a food pantry where residents can go in times of need.

Community Collaborations

In Madison County there seems to be an active collaboration within the faith-based community as there is a coalition of churches, which has a ministerial alliance that meets once a week. In October, the community comes together for prayer. County residents come together during local fairs and festivals such as the Mushroom Festival, Fair on the Square, Midway State Dinner and a July 4th celebration. The police department works with community members and there is an agreement in place where officers patrol during their time off. Both Texas A&M University and Blinn College work alongside community members.

Advice on How to Work in the Community

When asked about what advice they would give others who want to help, residents spoke about the importance of engaging in community activities and getting to know fellow community residents. Residents did point out the importance of inclusion of all communities in the county, small and large. Community members also talked about joining local organizations and partnering with social services providers. Lastly, residents felt that using social media would be a good way to spread the word about community services, resources, and events.

Robertson County

Community Characteristics

When asked to describe their community Robertson County residents said they felt that Hearne was becoming a retirement community. People tend to move back to their hometown when they get older. They also described the community as collaborative and close knit.

Community Issues

Community residents spoke about the lack of resources in the area. Residents said the community lacks resources and that the school system is currently having a hard time. There is also a need for jobs and affordable housing. Poverty is becoming an issue in the area. Hearne is getting a negative stigma attached to it and local residents are encouraging their children to leave as soon as they can. However, some residents point to the fact that while some are choosing to leave others are staying and trying to make the community better.

There is a lack of job opportunities, which is contributing to poverty and causing residents to further utilize local food banks. While community members are grateful for the food banks they also said that the food that is provided is not healthy and there is a lack of organization that leads to arguments and chaos at times. Residents would like to see fresh food provided more often. There is no public transportation and community residents who travel to Bryan for medical appointments have to pay out of pocket and sometimes have long wait times. Unfortunately, there is a lack of activities for both the youth and the elderly. Residents would like to see a local recreation center so that youth have a safe space when needed. In terms of resources for seniors, there is no senior/adult daycare. The community lacks access to health care resources including dental services. Due to the lack of economic resources, the school district is suffering. While there may be resources in the community, there is a lack of awareness about how to access these resources. Lately community members have seen an increase in drug abuse, sexual abuse, and elderly abuse.

Community Resources

Robertson County has a variety of social services including “Call for Help” where they assist with food, clothes, and toys. There are also local food banks and pantries. The faith community is a prominent resource that residents turn to.

Community Collaboration

During times of need residents come together to help one another. One example provided was that of a family who could not afford funeral expenses for a child. Several people went door-to-door to raise money and the community rallied together and were able to assist the family with burial expenses. Residents describe the community as close-knit.

Advice on How to Work in the Community

Community resident's advice to anyone coming in to help the community is to be patient. While there is excitement at the beginning for a new idea, often times the support dwindles. In order to make things happen and ensure sustainability for an idea, residents feel that it is important to engage the community and establish trust.

Washington County

Community Characteristics

Washington County residents describe their community as a small, friendly, family-oriented community that is very welcoming. Residents have a strong sense of community and come together for the common good. Residents state that the county is both youth and senior friendly as there are activities for everyone, regardless of age. Downtown is vibrant and a nice place to socialize with other community members. The parks have seen a renovation and that has encouraged the youth to utilize the parks more. There is also fishing for those who enjoy outside activities. Washington County is known for the 4B's (baseball, Blue Bell, Blinn and Blue Bonnets). The community celebrates and embraces its diversity and is accepting and inclusive. The county has a good school district that has over 150 years of history.

Community Issues

When asked about what issues the community faces community members pointed to a lack of health care services including limited mental health care providers and services, as well as a lack of access to specialists, hospitals, emergency room, and outpatient care. Residents often have to travel to College Station or Houston for specialty care. While there is a local hospital, its reputation is that it is old and outdated. There are a lack of employment opportunities, with many jobs not providing a livable wage and residents citing a lack of affordable housing. The housing that is available is too expensive and there is a stigma around low-income families. Residents feel that for such a large county they should have access to affordable public transportation. There is no bus station and without Medicaid or Medicare, it is difficult to travel to medical appointments. Residents who work an 8-5 schedule with a one-hour lunch find it hard to conduct personal business and run errands because most places break for lunch and close at five.

Community Resources

Residents said that in terms of resources there are a lot of social services providers including the Faith Mission, Pregnancy Center, Hospice and Senior Center. The local churches serve as a resource and provides food, clothing, and financial assistance for county residents. The church district has a youth fellowship program and has partnered with the school district to provide after school programs. Residents also pointed to services provided by the city such as the library, workforce program, social security office, emergency medical services and public schools. In terms of health care resources, residents said Baylor Scott and White as well as the

telehealth counseling clinic assist with care. The Rotary Club, Lion's Club, and Chamber of Commerce are credited for bringing businesses to the community.

Community Collaboration

Community members feel that when there is a natural disaster the community pulls together to overcome challenges. The community really came together after Hurricane Harvey. The Cannery Kitchen fed first responders and the National Guard. The local beer company stopped production and provided water to those affected by the Hurricane. During the Blue Bell incident, which lead to lay-offs, community leaders came together and worked towards a solution. Elected officials, pastors, and the Chamber of Commerce actively listen to community members and work together to implement change.

Advice on How to Work in the Community

Residents spoke to the importance of reaching out to “community gate keepers” to help with issues and challenges that arise in the community. Residents also praised Blinn College and Texas A&M University for partnering with the community to bring about positive change.

APPENDIX B: RESOURCES POTENTIALLY AVAILABLE TO HELP ADDRESS PRIORITIZED HEALTH NEEDS

While resources are available to address the needs of the community, the needs are too significant for any one organization. Making a substantial and upstream impact will require the collaborative efforts of community organizations, local government, local business leaders, and institutions. The Brazos Valley is home to a wealth of organizations, businesses, and non-profits, including the following listed by prioritized health need. Potential community resources were also a part of the community discussion group findings which can be found in Appendix A.

Access to Resources and Services in Rural Communities - Mental Health Services

Brazos Health Resource Center
Burlison Health Resource Center
Somerville Health Resource Center
Grimes Health Resource Center
Leon Health Resource Center
Grimes Health Resource Center
Madison Health Resource Center
Senior Renewal Program
Texas A&M College of Medicine – Telehealth Counseling
Catholic Charities of Central Texas - Counseling Services
Brazos Valley Health Coalition
Rock Prairie Behavioral Health
Brazos Valley Mental Health and Wellness
NAMI Brazos Valley
MHMR Authority of Brazos Valley

Risk Factors

Brazos Health Resource Center
Burlison Health Resource Center
Somerville Health Resource Center
Grimes Health Resource Center
Leon Health Resource Center
Grimes Health Resource Center
Madison Health Resource Center
CHI St. Joseph Healthy Communities Department
Texas A&M Center for Population Health & Aging

Texas A&M Health Science Center
Texas A&M AgriLife Extension Services
Stanford University Evidence-Based Chronic Disease Self-Management Program
CHI St. Joseph Health MatureWell Lifestyle Center

Access to Health-related Care

Brazos Health Resource Center
Burluson Health Resource Center
Somerville Health Resource Center
Grimes Health Resource Center
Leon Health Resource Center
Grimes Health Resource Center
Madison Health Resource Center
HealthPoint Clinks (FQHC)
DSRIP (1115 Waiver) – ED Diversion and Patient Navigation Program
Home Visit Program
Texas A&M Health Science Center
Brazos Valley Health Coalition
CHI St. Joseph Health
Baylor Scott & White

Communication and Coordination

Brazos Health Resource Center
Burluson Health Resource Center
Somerville Health Resource Center
Grimes Health Resource Center
Leon Health Resource Center
Grimes Health Resource Center
Madison Health Resource Center
CHI St. Joseph Health Breast Health Navigator
CHI St. Joseph Health Cardiac Services Navigator
CHI St. Joseph Health Senior Advocate
CHI St. Joseph Health Population Healthcare Coach
United Way – 2-1-1
Brazos Valley Health Coalition (BVHC)
Brazos Valley Regional Advisory Council (BVRAC)
Burluson County Family Resource Commission
Community Resource Coordination Groups (CRCGs)

APPENDIX C: IMPACT OF THE 2016-2019 CHNA

Prioritized Significant Health Needs 2016-2019 for CHI St. Joseph Health

Given the information collected during the CHNA process, the four priority areas were identified by CHI St. Joseph Health as presented to the Board of Director's were:

- Diabetes
- Access to availability of healthy food
- Injury prevention
- Violence prevention*

**While not identified as a priority health need during the CHI St. Joseph Health CHNA process, Catholic Health Initiatives has placed a system-wide priority on this need.*

Description of the Impact since 2016-2019 CHNA

Diabetes

- Offered a comprehensive diabetes program geared toward Type 2 Diabetes
- Increased diabetes class access and participation by adding this service to our EMR for system-wide physician referral
- Offered diabetes classes at various times to accommodate participant schedules and eliminate barriers (i.e. transportation, work schedules, childcare, etc.)
- Offered free grocery-store tours to increase access and knowledge of healthy food options
- Provided community-wide screenings and health education at health fairs, seminars, and employer-based wellness fairs
- Introduced an eight-week long, chronic disease and diabetes self-management program

Access to Availability of Healthy Foods

- Supported local food banks in our 9-county service area by holding annual system-wide team member food drive(s) with an emphasis on healthy foods. CHI St. Joseph Health also donated \$1 for each team-member donated item.
- Offered free nutrition seminars and education opportunities

Injury Prevention

- Introduced CarFit; an injury prevention program directed at local senior citizens
- Offered A Matter of Balance; 6 week fall prevention program
- Offered Dizzy Balance; fall prevention program
- Provided car seat safety inspections to the community
- Safe Sitter program
- Newborn Care and Sibling Courses
- CPR and First Aid courses
- Participated in the Shattered Dreams Program for area-wide High School students
- Served as hospital host for the Reality Education for Drivers (RED) Program, a collaboration with Texas A&M University and the Brazos Valley Injury Prevention Coalition
- Stop the Bleed campaign
- Provided injury prevention education and information at area-wide health fairs and group presentations

Violence Prevention

- Several team members served on the Brazos County Domestic Violence Coalition and helped organize the annual Candlelight Vigil
- Helped sponsor the Every Victim, Every Time Conference
- Granted \$15,000 to local law enforcement agencies to purchase bullet proof vests

Evaluation of Written Comments

An opportunity to provide written feedback about the CHNA was made available on the CHI St. Joseph Health website. Feedback was not received.