



GREATER BRAZOS VALLEY REGION
HEALTH STATUS ASSESSMENT
EXECUTIVE REPORT
2022

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 HEALTH
Center for Community
Health Development

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2022 GREATER BRAZOS VALLEY REGIONAL HEALTH ASSESSMENT

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St. Joseph Health Madison Hospital

2022 BRAZOS VALLEY REGIONAL HEALTH ASSESSMENT DATA USE AGREEMENT

The Center for Community Health Development (CCHD) at the Texas A&M University School of Public Health has made a significant attempt to ensure that the 2022 Brazos Valley Regional Health Assessment serves as a comprehensive, valid, and reliable source of information for the entire region. CCHD employed an assessment process that utilizes both primary and secondary data. Primary data collection in the form of community discussion groups allowed us to understand the behavior, attitudes, perceptions, and characteristics of residents in the Region. A careful analysis of existing data from 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 quite valuable, it is *imperative* for users to understand that there are 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.

The United States currently has a broken health care system. While substantial efforts were expended toward clearly 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 provider in this broken system contributes nothing to the solutions desired by all.

The underlying goal upon which the community health assessment is based is collaboration to *improve the health 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.

Your use of these data sets 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.

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2022 BRAZOS VALLEY REGIONAL HEALTH ASSESSMENT

2022 Assessment Sponsors

**St. Joseph Health
Brazos County Health District
Brazos Valley Community Action Agency (dba HealthPoint)
MHMR Authority of Brazos Valley
Texas A&M University School of Public Health
Center for Community Health Development**

Acknowledgements

The 2022 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

**American Legion McClusky Post 640
Brazos County Health District
Brazos Valley Council of Governments
Bryan ISD
Buffalo Chamber of Commerce
Buffalo Lion's Club
Calvert Community Center
The Cannery Kitchen
Elizabeth Lutheran Church
Faith Mission, Inc.
First Baptist Church of Hearne
Giddings City Council**

**Giddings Noon Lions Club
Grimes Health Resource Center
Grimes County Sheriff's Office
Hearne ISD
Neil Recreation Center
Madison Health Resource Center
Milam County Health Department
The Pharm Restaurant
Somerville Senior Center
Washington County Community
Resource Coordination Group
Washington County Sheriff's Office**

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

Additional contributions to research efforts include Center for Community Health Development staff member Brenda Gonzales and graduate assistants Michelle Luu, Jennifer Ramirez, Rachel Rodriguez, and Samia Tasnim.

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EXECUTIVE SUMMARY

The purpose of this community health needs assessment (CHNA) is to identify and prioritize significant health needs of the community served by St. Joseph Health, a part of CommonSpirit Health, a nonprofit, Catholic health system dedicated to advancing health for all people. The priorities identified in this report help to guide the St. Joseph Health hospitals' community health improvement programs and community benefit activities as well as its collaborative efforts with other organizations that share a mission to improve health. The CHNA report meets requirements of the Patient Protection and Affordable Care Act that not-for-profit hospitals conduct a community health needs assessment at least once every three years.

The assessment was led by the Center for Community Health Development at the Texas A&M School of Public Health in collaboration with St. Joseph Health, along with the Brazos Valley Health District, Brazos Valley Community Action Agency, and MHMR Authority of Brazos Valley.

CommonSpirit Health Commitment and Mission Statement

The hospitals' dedication to engaging with the community, assessing priority needs, and helping to address them with community health program activities is in keeping with its mission. As CommonSpirit Health, we make the healing presence of God known in our world by improving the health of the people we serve, especially those who are vulnerable, while we advance social justice for all.



Assessment Collaborators

St. Joseph Health

Mission Statement: St. Joseph Health is dedicated to a mission of enhancing community health through high-quality, cost-effective care. In partnership with our physicians and community partners, we are committed to excellence and compassion in caring for the whole person while creating healthier communities.



Texas A&M University Center for Community Health Development

The Center for Community Health Development (CCHD) at the Texas A&M University School of Public Health conducted the CHNA on behalf of CommonSpirit and St. Joseph Health. CCHD conducted the 2022 Greater Brazos Valley Health Assessment between September 2021 – March 2022. Assessment processes and methodology are described within the assessment report.

Mission Statement: The mission of the Center for Community Health Development is to increase the capacity of communities to improve population health utilizing a community health development approach.



Brazos County Health District

Mission statement: The Brazos County Health Department is dedicated to preventing disease, protecting life, and promoting a healthy lifestyle.



Brazos Valley Community Action Agency (dba HealthPoint)

Mission Statement: It is the mission of Brazos Valley Community Action Programs to assist in the empowerment of individuals, families, and communities to reach their full potential economically, educationally, health-wise, culturally, and socially.



MHMR Authority of Brazos Valley

Mission Statement: To provide the highest quality of services, which promote dignity and independence, to individuals and their families who are challenged with issues related to mental health and intellectual disabilities.



COMMUNITY DEFINITION

The 2022 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 Milam and Lee Counties. Both Milam and Lee Counties are part of the service delivery area of St. Joseph Health and organizations represented by the Brazos Valley Health Coalition and are located to the immediate west of Burleson, Robertson, and Washington Counties. As a result, throughout this report, we will refer to this nine-county region as the **Greater Brazos Valley Region**.

County-Specific Zip Codes Assessed

- **Brazos County:** 77801, 77802, 77803, 77805, 77806, 77807, 77808, 77840, 77841, 77842, 77843, 77844, 77845, 77862, 77866, 77868, 77881
- **Burleson County:** 77836, 77838, 77852, 77863, 77867, 77878, 77879
- **Grimes County:** 77356, 77363, 77484, 77830, 77831, 77861, 77868, 77873, 77875, 77876
- **Lee County:** 77853, 77621, 78650, 78659, 78942, 78946, 78947, 78948
- **Leon County:** 75831, 75833, 75846, 75850, 75855, 77855, 77865, 77871
- **Madison County:** 75852, 77864, 77872, 77872
- **Milam County:** 76511, 76518, 76519, 76520, 76523, 76534, 76556, 76567, 76569, 76570, 76577, 77836, 77857
- **Robertson County:** 76629, 76687, 77807, 77808, 77837, 77853, 77856, 77859, 77867
- **Washington County:** 77426, 77833, 77835, 77868, 77880, 77946, 78932

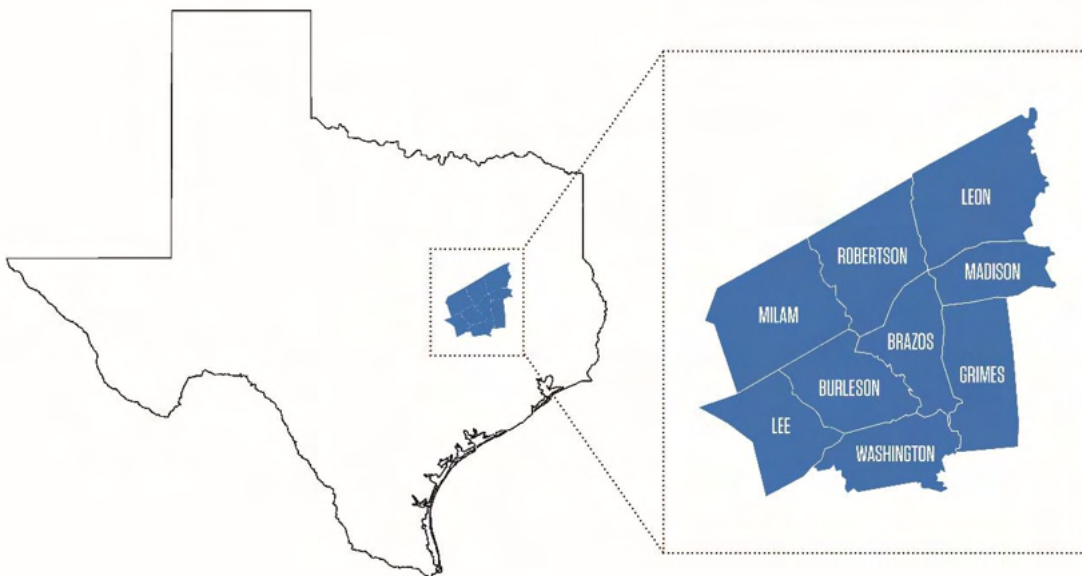
REPORT ADOPTION, AVAILABILITY AND COMMENTS

This CHNA report was adopted by the St. Joseph Health Board of Directors in April 2022. The report is widely available to the public on the hospital's website (stjoseph.stlukeshhealth.org), and a paper copy is available for inspection upon request at St. Joseph Health Regional Hospital. Written comments on this report can be submitted via mail to the Community Benefit Department; 2801 Franciscan Drive, Bryan, TX 77802, or email at cbreporting@commonspirit.org.

INTRODUCTION

The Center for Community Health Development (CCHD) at the Texas A&M School of Public Health assisted in conducting the 2022 Brazos Valley Regional Health Assessment in collaboration with St. Joseph Health, the Brazos County Health District, and the Brazos Valley Health Coalition. This effort marks the seventh 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 2022 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 Milam and Lee Counties (see Figure 1). Both Milam and Lee Counties are part of the service delivery area of organizations represented by the Brazos Valley Health Coalition and are located to the immediate west of Burleson, Robertson, and Washington Counties. As a result, throughout this report, we will refer to this nine-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. Greater Brazos Valley Regional Map



History of Health Assessment in the Brazos Valley

The 2002, 2006, 2010, 2013, 2016, and 2019 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 \$25 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 fields and to enhance their teaching activities.

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.

The sixth assessment was conducted in 2019. As with the 2016 Assessment, the 2019 Assessment covered the seven county Brazos Valley Region plus Austin County. The 2019 Assessment included all three of the typical assessment components: secondary data, community discussion groups, and a household survey.

Overview of 2022 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 the quality of life and have a significant influence on health outcomes. Social determinants include economic stability (e.g., employment, income), physical environment (e.g., housing, transportation, parks),

¹*Social determinants of health*. (n.d.). Retrieved March 1, 2022, from https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

education (e.g., literacy, higher education), Food (e.g., hunger, access to healthy foods), community and social context (e.g., social integration, support systems, community engagement), and health system access (e.g., health coverage, provider availability and quality of care).² 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.

Figure 2. Social Determinants of Health (SDOH) Framework



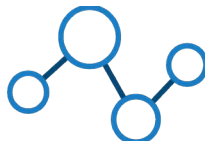
Assessment Process

The 2022 Brazos Valley Regional Health Assessment incorporates data from two sources: (1) secondary data (existing data available from public sources) and (2) qualitative data from community discussion groups held across the Greater Brazos Valley Region. Combined, these data illustrate current and projected population growth, the most prevalent local health conditions and issues, and the availability of healthcare resources.

²Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity, Kaiser Family Foundation. Accessed March 29, 2022. <https://www.kff.org/racial-equity-and-health-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/>

The use of these two data sources provides the opportunity to document and validate community perceptions of various issues, as well as validating 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 to address community issues and/or to take advantage of community opportunities.

Secondary Data Analysis



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 and Roadmaps project at the University of Wisconsin-Madison (sponsored by the Robert Wood Johnson Foundation).

Additional national resources were used to provide perspective regarding 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 2030*, County Health Rankings, and 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-Madison.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, the counties are ranked using a set of measures assessing either health outcomes or health factors. For the state of Texas, out of the state's 254 counties, 244 counties are included in their rankings. More information discussing the ranking methodology is available on their website.⁴ In

³County Health Rankings Model | County Health Rankings & Roadmaps. Accessed March 1, 2022.

<https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model>

⁴Our Methods | County Health Rankings & Roadmaps. Accessed March 1, 2022.

<https://www.countyhealthrankings.org/explore-health-rankings/our-methods>

addition to the individual county rankings, they identify counties that have the best outcomes related to each specific factor or outcome. These **Top Performing Counties** from across the U.S. 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 2030

Healthy People 2030 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 2030* 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

⁵County Health Data - Episcopal Health Foundation. Accessed March 1, 2022. <https://www.episcopalhealth.org/research/county-health-data/>

⁶Healthy People 2030 | health.gov. Accessed March 1, 2022. <https://health.gov/healthypeople>

⁷United States Preventive Services Taskforce. Accessed March 1, 2022. <https://www.uspreventiveservicestaskforce.org/uspstf/>

Community Discussion Groups/Interviews



Community discussion groups (CDGs), a methodology similar to town hall meetings, were organized with assistance from local community contacts across the nine-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 **19** 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.

COVID-19 Disclaimer

The COVID-19 pandemic upended life as we knew it prior to March 2020. The 2022 Greater Brazos Valley Regional Health Assessment is no exception. Several of our traditionally utilized data sources had their data collection interrupted by the pandemic, resulting in either incomplete data reporting or delayed releases of their results. Due to these restrictions, we were sometimes forced to use estimate data rather than updated 2020 Census data or data that has not been updated since

2018. The sources of our data are listed throughout the report, and estimated data is reported by the agency who submitted the estimations (such as the Census Bureau).

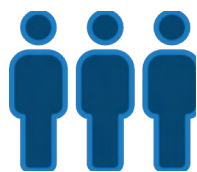
Community Discussion Groups also served to be a challenge during this assessment as many communities did not feel safe meeting in-person to discuss health-related topics. Others were unfamiliar with online video services such as Zoom, so some of the counties in the report were unable to hold all three of the Community Discussion Groups, as is customary to this type of report. The preparers of this report are comfortable with the relevance of the themes that arose from the Community Discussion Groups, and with 19 discussions held and over 300 people surveyed, the preparers of the report are confident in the recommendations of the communities and their generalizability across the Region.

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, community 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 Region. Some data will be presented regionally, encompassing all nine 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

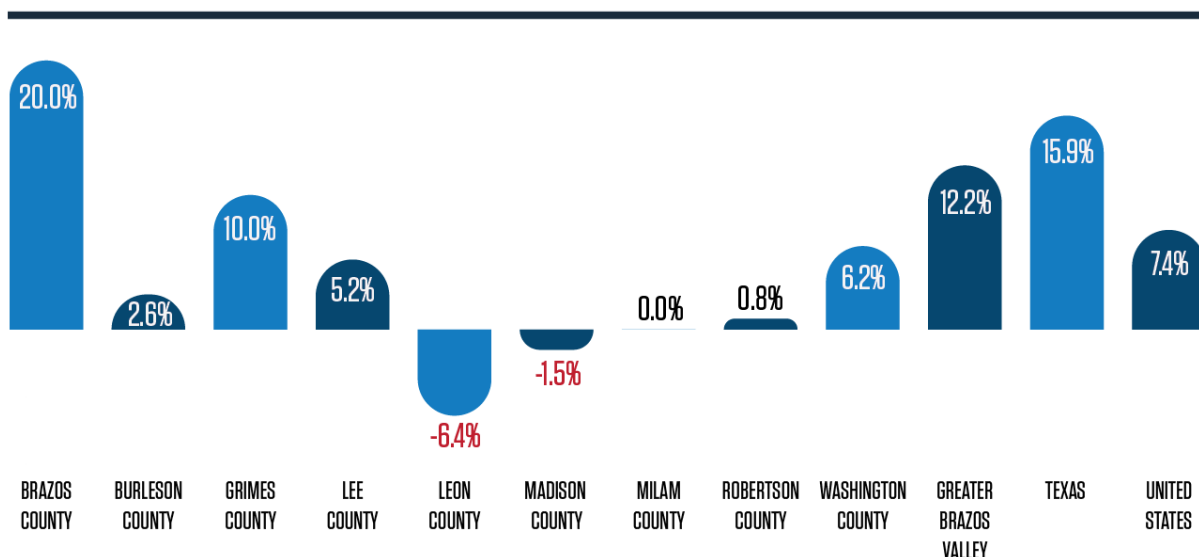


Understanding the dynamics of a population is critical in understanding that population's health status. This is particularly important when the intention is to compare a current assessment with previous assessments. For instance, understanding how the population changes over time with respect to demographics 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 on average 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 2020 data, the population of the Greater Brazos Valley Region is 404,727 people, an increase of 12.2% since the 2010 Census. Individual county growth varied from a decrease by 0.01% in Milam County to an increase by 20.0% in Brazos County. During that same period, the state of Texas’ population grew by 15.9%. Figure 4 presents the percentage change by county.

Figure 4. 2010-2020 Population Growth Percentage Estimates for counties in the Greater Brazos Valley Region⁸



2025 Population Growth Projections



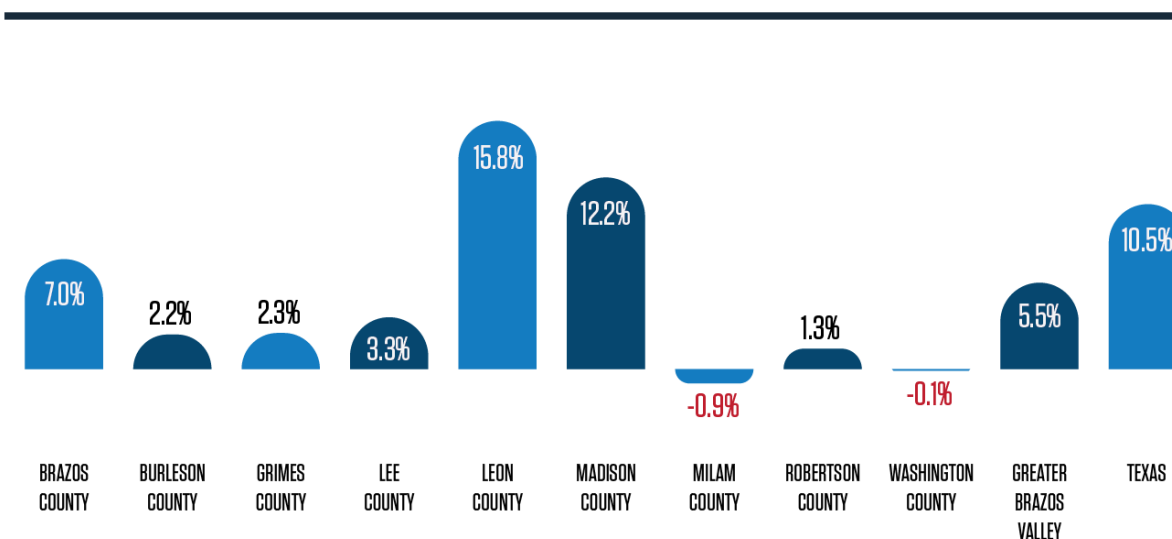
The United States Census Bureau provides **population estimates** for the years falling between census years. The Census Bureau used population estimates from July 1, 2021 to determine the State of Texas and U.S. population estimates. The county estimates were based on April 1, 2020 (as those were the most recent data available). These numbers are estimated based on population trends from the Census Bureau.

The Texas State Demographer’s Office produces population growth estimates for Texas counties under various situations and immigration scenarios. Using the most

⁸ U.S. Census Bureau QuickFacts: United States. Accessed March 1, 2022. <https://www.census.gov/quickfacts/fact/table/US/PST040219>

conservative of those estimates, the population of the eight-county region is estimated to grow to 426,818 by 2025, an increase of 22,091 people (5.5%) from 2020. However, that growth is not equivalent in all counties; as seen in Figure 5, estimated growth rates range from a high of 15.8% for Leon County to -0.9% for Milam County.

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



Age and Gender

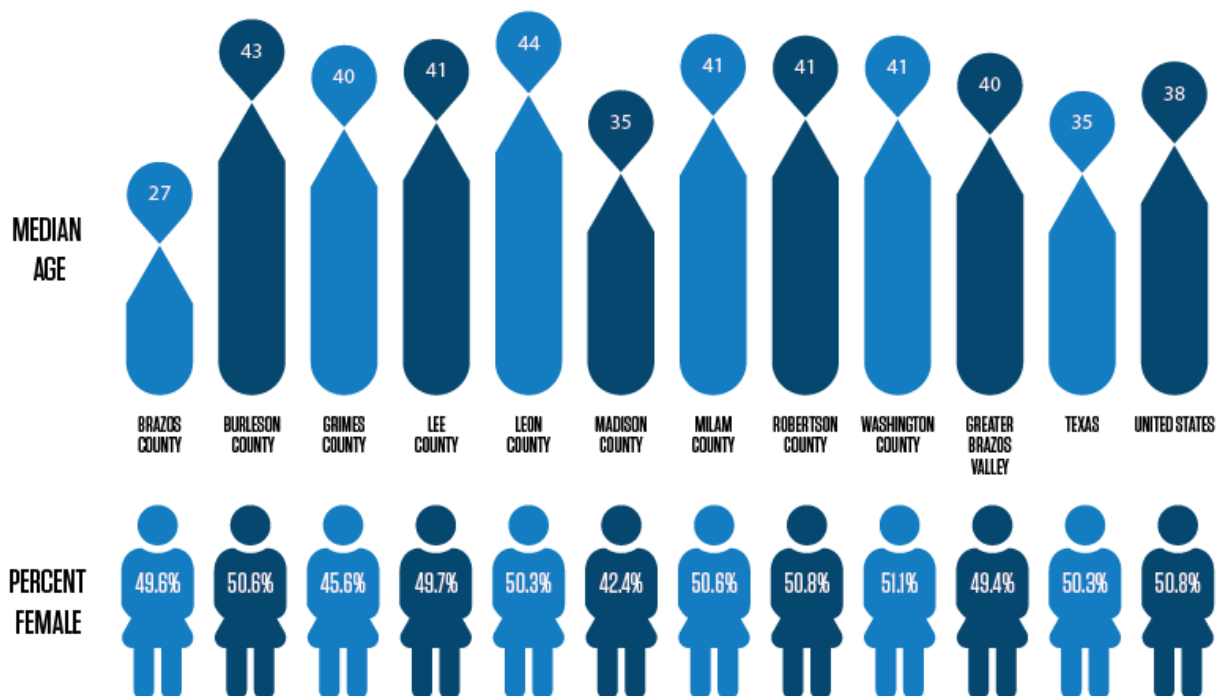


Age and gender stratifications across populations are linked to health status (older communities are typically less healthy, communities with high proportions of youth signal growth in communities). The **median age** for the Region is 39.5 years, with variation by county from 44.3 years for Leon County to 26.9 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 **gender distribution**. When we examine differences in the Region by gender, we find that 49.4% of the population are females, with Madison and Grimes Counties as the only counties with a meaningful difference in gender proportions (42.4% female and 45.6% female, respectively).

⁹Population Projections for Texas. Accessed April 4, 2022.

<https://demographics.texas.gov/Data/TPEPP/Projections/Tool?fid=E43D647000164B50B4EC033CA95C873B>

Figure 6. Median Age and Percent Female Population for Counties in the Greater Brazos Valley Region¹⁰



It is also useful to investigate specific **age groups**. Examining standard age groups across the Region and among counties, there are a few notable differences. Table 1 displays the population proportion breakdown by county. Madison County has the lowest percentage of people ages 0-19 years old at 22.2%, compared to Brazos County with the highest rate at 27.2%. Among the 20-34 years old age groups, Brazos County has the highest percentage at 33.9%. 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. It is important to note that Madison County has the second-highest percentage of people aged 20-34 years old at 27.0%. Leon County had the lowest percentage of people aged 20-34 at 15.2%.

Within the 35-54 age group, Grimes County had the highest percentage at 25.7%, and Leon and Brazos counties had the lowest at 21.0% respectively. Variation between counties also exists in the 55 and older population. Brazos County has the fewest residents in the older population groups at 17.9%, Madison County having

¹⁰Census - Table Results. Accessed April 4, 2022.
<https://data.census.gov/cedsci/table?g=0400000US48&tid=ACSST1Y2019.S0101&hidePreview=true>

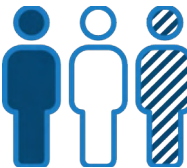
the second fewest at 25.6%. The highest percentage of people aged 55 and older was reported in Leon County at 39.1%. With Burleson, Washington, and Milam counties, they have especially high rates of people aged 55 and older (35.7%, 35.2%, 34.2%), considering how low the percentages are for people aged 20-54.

The age demographics shed light on some interesting findings. Madison County more closely resembles Brazos County than its rural counterparts in terms of age demographics, as each has the highest rate of people aged 20-34, while every other county consists of having fewer than 20% of their population in this category. This suggests that there are fewer young professionals and families living in other counties.

Table 1. Age Group Distribution for Counties in the Greater Brazos Valley Region¹⁰

	Age 0-19	Age 20-34	Age 35-54	Age 55 and Older
Brazos County	27.2%	33.9%	21.0%	17.9%
Burleson County	24.1%	16.7%	23.4%	35.7%
Grimes County	25.2%	18.2%	25.7%	31.2%
Lee County	25.2%	17.0%	24.1%	33.6%
Leon County	24.7%	15.2%	21.1%	39.1%
Madison County	22.2%	27.0%	24.8%	25.6%
Milam County	26.9%	16.5%	22.0%	34.2%
Robertson County	25.1%	17.1%	24.8%	31.9%
Washington County	26.7%	15.9%	21.8%	35.2%
Texas	28.5%	21.4%	26.0%	24.2%
United States	25.0%	20.4%	25.1%	29.3%

Race and Ethnicity



Another demographic characteristic important to discuss is the distribution of **race and ethnicity**. We have used the following set of U.S. Census Bureau race/ethnicity clusters to report population data: *White alone, Not Hispanic; Black/African American alone, Not Hispanic; Hispanic, Any Race; and All Other Races, Not Hispanic*. Other

racess/ethnicities were not included in the assessment due to very low numbers that make it difficult to come to accurate population-level health conclusions.

Looking at the Region (Figures 7 and 8), 58.1% of the population are reported as *White alone, Not Hispanic*, 12.5% reported as *Black/African American alone, Not*

Hispanic, 24.3% as Hispanic, Any Race, and 5% as All Other Races, Not Hispanic. Again, as with age distribution, the Greater Brazos Valley Region more closely reflects the racial/ethnic composition of the United States (60.1% White alone, Not Hispanic; 19% Hispanic/Latino) than it does the rest of the State of Texas (41.2% White alone, Not Hispanic; 24.2% Hispanic/Latino). The Greater Brazos Valley Region (12.6%) closely reflects the State of Texas (12.9%) in terms of racial/ethnic composition for Black/African American alone.

Figure 7. Greater Brazos Valley Region Race/Ethnicity⁸

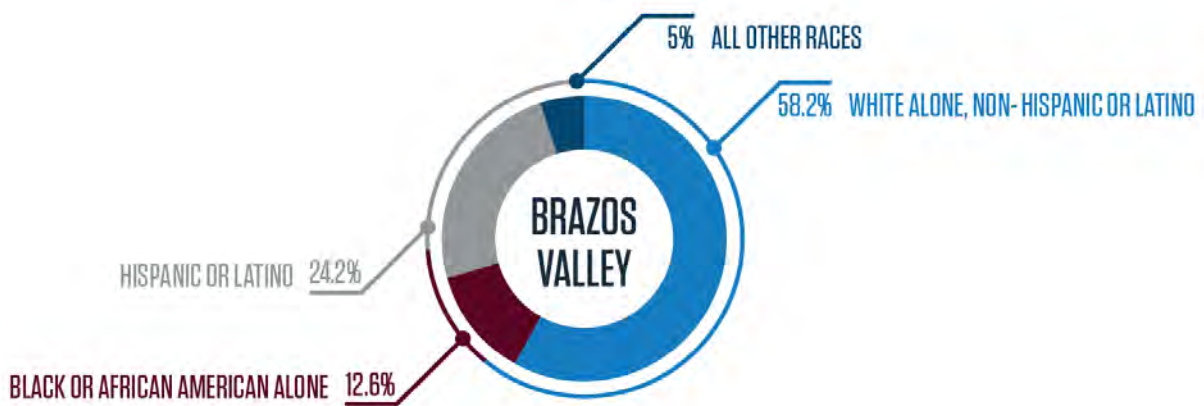
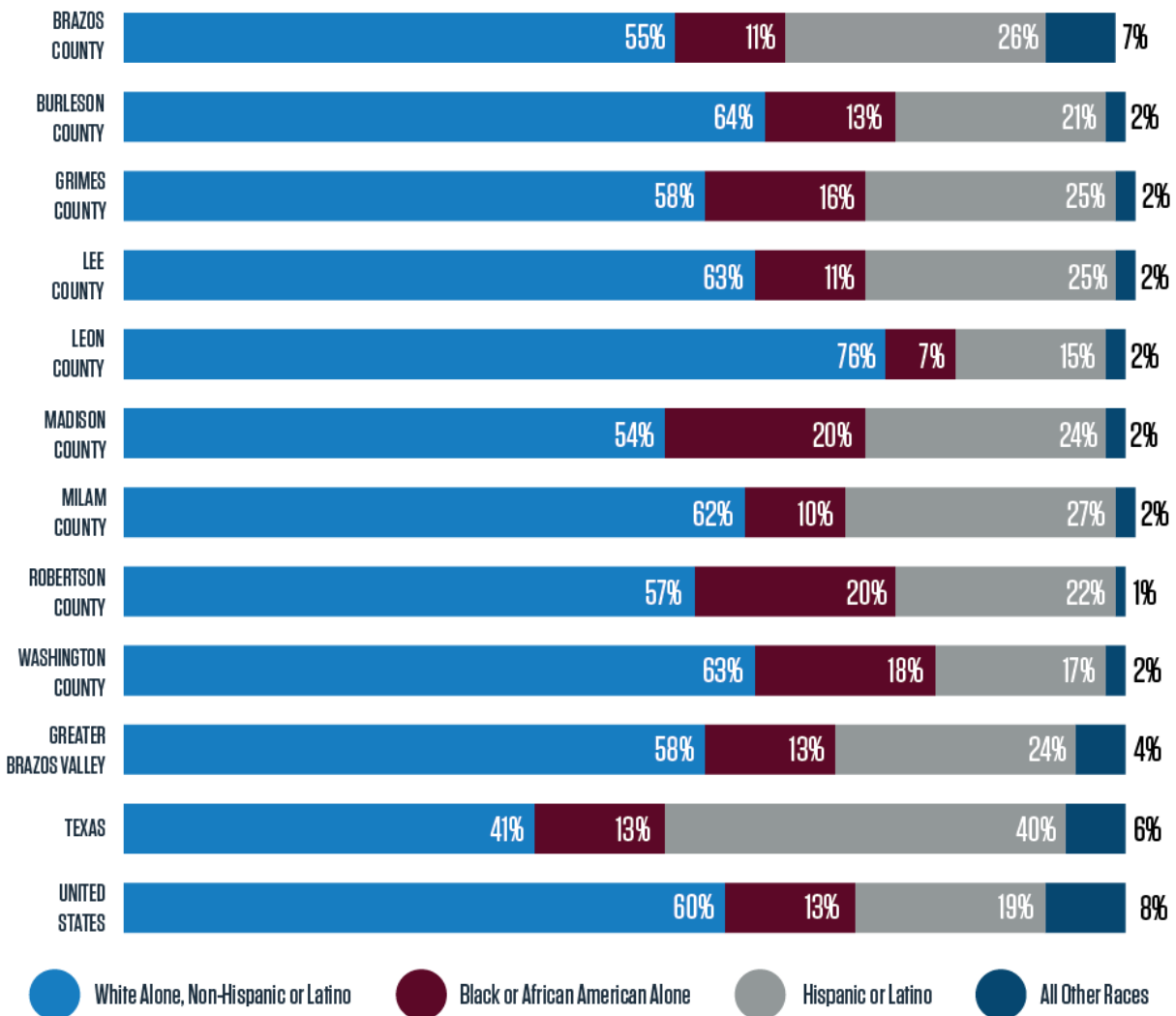


Figure 8. Racial and Ethnic Distributions for the Counties in the Greater Brazos Valley Region⁸



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

Household Composition



In 2019 there were an estimated 140,837 **households** in the Greater Brazos Valley Region. Few households in the Greater Brazos Valley, state of Texas, or the Nation are run by single fathers with children at home (**male householder, no spouse present, with children under 18**).

Most counties in the Region have similar rates of single fathers to Texas and the U.S., however, Lee and Robertson County report the highest rate of single fathers at 3.0% and 3.3%, respectively. Madison County has the lowest rate of single fathers at 1.1%. Household composition data for the Region is in Table 2.

The Greater Brazos Valley Region and Texas have a slightly higher rate of single mothers with children (***female householder, no spouse present, with children under 18***) when compared to the U.S. (7.1%, 7.8%, and 6.8%, respectively). The highest rates for single mothers with children were in Grimes (8.8%) and Brazos Counties (8.7%); the lowest rate was in Burleson County at 3.4%.

Table 2. Household Composition for Counties in the Greater Brazos Valley Region⁸

	Total Households	Percent Male Householder, no Spouse Present with Children <18	Percent Female Householder, no Spouse Present with Children <18
Brazos County	79,971	1.2%	8.7%
Burleson County	6,810	2.3%	3.4%
Grimes County	9,011	2.1%	8.8%
Lee County	6,036	3.0%	7.6%
Leon County	6,443	1.7%	4.5%
Madison County	4,269	1.1%	5.9%
Milam County	9,228	1.5%	6.2%
Robertson County	6,444	3.3%	6.5%
Washington County	12,625	1.3%	4.9%
Greater Brazos Valley	140,837	1.5%	7.5%
Texas	9,985,126	2.5%	7.4%
United States	122,802,852	2.3%	6.2%

Education



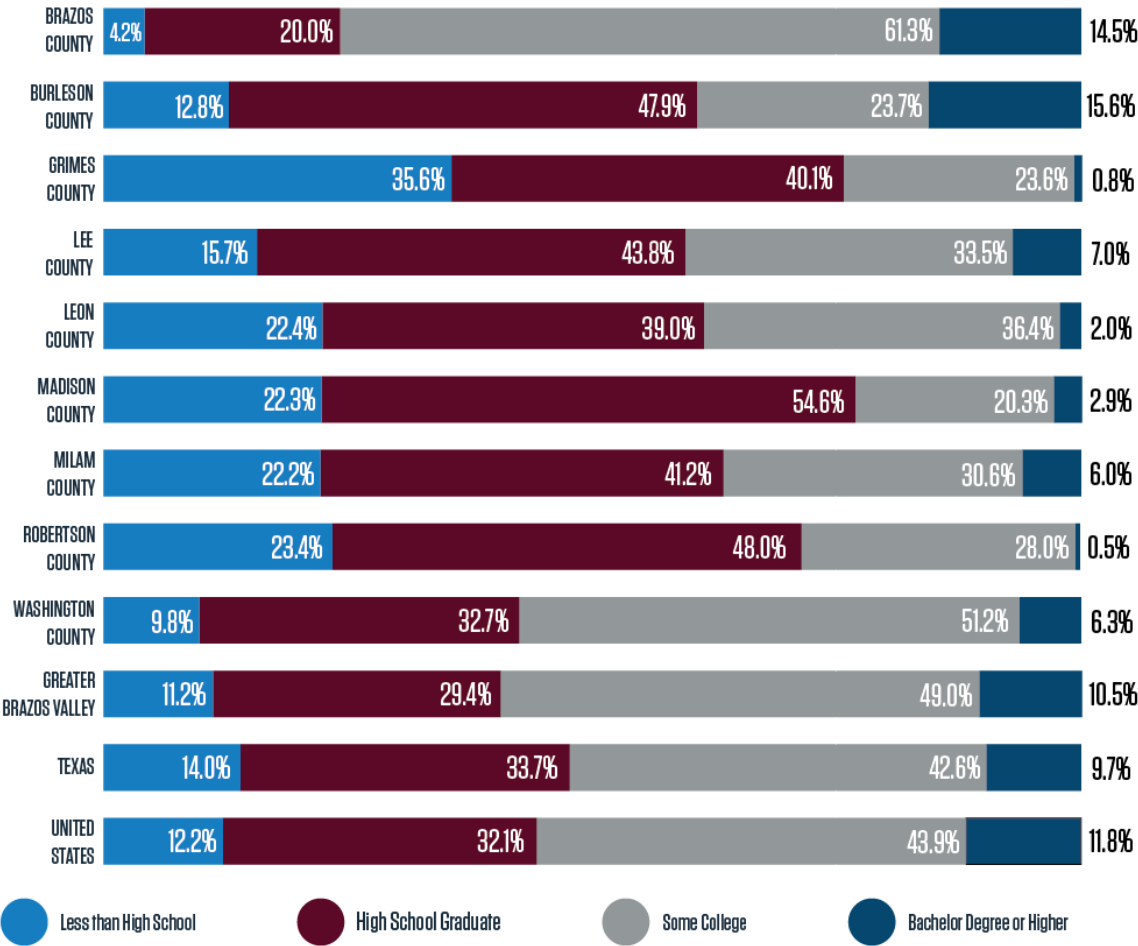
Educational attainment is a key element of the social determinants of health.¹¹ Education increases options for employment opportunities and increases the capacity for better decision making in one’s health. Health and education are intricately connected - education can create opportunities for better 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.¹² Additionally, in today’s fast-paced, global economy, postsecondary education is

¹¹Shankar J, Ip E, Khalema E, et al. Education as a Social Determinant of Health: Issues Facing Indigenous and Visible Minority Students in Postsecondary Education in Western Canada. *Int J Environ Res Public Health*. 2013;10:10. doi:10.3390/ijerph10093908

¹²Cutler DM, Huang W, Lleras-Muney A. When Does Education Matter? The Protective Effect of Education for Cohorts Graduating in Bad Times. *Soc Sci Med*. 2015;127:63. doi:10.1016/J.SOCSCIMED.2014.07.056

becoming a minimum requirement for securing employment, which provides economic, social, and health resources that ultimately may lead to better health. Figure 9 displays the Greater Brazos Valley Region’s **educational attainment** for people between the ages of 18 to 24 years old.

Figure 9. Educational Attainment for Counties in the Greater Brazos Valley Region⁸



The Greater Brazos Valley Region has a higher proportion of residents with a *bachelor’s degree or higher*, at 10.5%, than the State of Texas 9.7% but lower than the United States at 11.8%. Within the Region, that rate varies from a low of 0.5% in Robertson County to a high of 14.5% 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. Brazos County has the lowest percentage of the population with *less than a High School education* at 4.2%, and Grimes County has the highest rate at 35.6%, respectively.

Employment and Home Ownership



Employment and affordable housing have been notable issues of concern to the public in every assessment since 2010. Table 3 shows the 2019 unemployment rates and homeownership characteristics for Texas counties. The 3.2% rate for the Greater Brazos Valley Region is lower than the rate for the entire State (3.5%) and only slightly higher than the nation (2.6%). Among Brazos Valley counties, the lowest **unemployment rate** was reported in Lee County (2.6%), and the highest in Milam County where it was 5.0%.

Affordable housing was examined by using the owner-occupied housing rate (previously known as the home ownership rate) that is reported by the U.S. Census Bureau as a proxy for the affordability of housing. The estimated 2019 **owner-occupied housing unit rate** for the Greater Brazos Valley Region is 59.2%, lower than the State and national rates of 62.0% and 64.0%, respectively. Again, Brazos County is the outlier at 47.1% compared with the other counties which all have a range of 70-80%; however, this may reflect the large student population affiliated with the Blinn College District and Texas A&M University.

Apart from Lee County, which falls in Region 7, all 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.¹³ The entire 20 county Region is tied with one other region as having the lowest percentage of homeownership in the state (59.1%).¹⁴ In the Greater Brazos Valley Region, the **median value of owned homes** is lower than Texas (\$172,500) and substantially lower than U.S. (\$217,500) values with an average home value of \$136,678.

In Texas, the housing cost burden, defined as the percent of families paying more than 30% of their income for housing, is more prevalent in urban areas than in rural areas.

Interestingly, Texas Department of Housing and Community Affairs Regions 7 and 8 have the highest rates of cost burden among urban subregions; 31.4% of urban households in Region 7 and 31.5% of urban households in Region 8 experience **housing cost**

burdens.¹⁵ Housing cost burdens are linked to difficulty affording necessities such

HOUSING COST BURDEN

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

¹³Texas Counties by Region, Texas Department of Housing and Community Affairs.

¹⁴Texas Department of Housing & Community Affairs - TDHCA. Accessed March 1, 2022. <https://www.tdhca.state.tx.us/>

¹⁵TEXAS DEPARTMENT OF HOUSING AND COMMUNITY AFFAIRS TDHCA Governing Board Approved Draft of 2022 State of Texas Low Income Housing Plan and Annual Report. Published online 2021. Accessed March 1, 2022. www.tdhca.state.tx.us

as food, clothing, transportation, and medical care.¹⁶ Housing burden is less common in rural subregions than in urban subregions, however, rural households experience an increased cost of living (transportation, healthcare, food, etc.) compared to urban counterparts. 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.¹⁴

Household Income



Closely related to employment and home ownership is household income. Table 3 shows household income data for the Region, State, and Nation. According to the Census Bureau in 2019 the Greater Brazos Valley Region had an **individual per capita income** of \$27,314. The State of Texas and the counties within the Greater Brazos Valley Region had lower individual per capita income than the national per capita income of \$34,103. Apart from Washington County (\$32,625), no other county in the Greater Brazos Valley Region exceeded the state per capita income of \$31,277.

Median household income is the income representing the middle of the income distribution (not the average). The median household income for the Greater Brazos Valley Region is \$51,786. The Region is approximately \$10,088-11,057 less than the State and national median household incomes. 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 third lowest in the region at \$49,181. More in-depth data about the counties can be found in Table 3.

The **Federal Poverty Level (FPL)** for 2021 was set at \$26,500 for a family of four.¹⁷ The U.S. Census Bureau estimates the percent of the population living at or below the FPL for the United States was 11.4%, the State of Texas was 13.6%, and for the Greater Brazos Valley Region was 18.0%. Brazos County had the highest percent of the population living at or below the FPL at 20.8% which is almost double the national percentage. Five out of the nine counties in the Greater Brazos Valley Region had higher proportions of the population living at or below the FPL than Texas and the United States. More information can be found in Table 3.

¹⁶Rental Burdens: Rethinking Affordability Measures | HUD USER. Accessed March 1, 2022. https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_092214.html

¹⁷2021 Poverty Guidelines | ASPE. Accessed March 1, 2022. <https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines/prior-hhs-poverty-guidelines-federal-register-references/2021-poverty-guidelines>

Many health and human service agencies use **200% of the FPL** as a determinant of eligibility for their services (approximately \$53,000 for a family of four in 2021). Families in this category often earn too much to qualify for assistance programs but still 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 and below (34.1%) compared to the State and Nation (33.0% and 28.0%, respectively). This means that people in the Greater Brazos Valley are generally lower income than their peers across Texas and the U.S., meaning they have less money to buy the things they need to take care of their health.

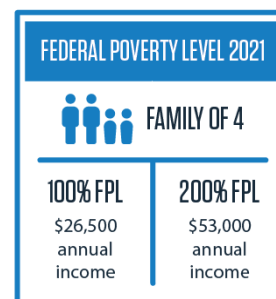


Table 3. Unemployment, Home Ownership, and Income Characteristics for Counties in the Greater Brazos Valley Region^{3,8,18}

	Unemployment Rate	Owner Occupied Housing Rate	Per Capita Personal Income	Median Household Income	Persons Below 100% Federal Poverty Level	Persons Below 200% Federal Poverty Level
Brazos County	2.7%	47.1%	\$27,632	\$49,181	20.8%	34.8%
Burleson County	3.1%	78.2%	\$30,086	\$57,731	11.8%	28.2%
Grimes County	3.9%	76.5%	\$25,638	\$52,913	17.0%	33.1%
Lee County	2.6%	80.6%	\$27,227	\$54,744	12.3%	31.7%
Leon County	4.4%	77.4%	\$30,129	\$43,045	17.6%	39.4%
Madison County	4.3%	74.2%	\$20,748	\$52,664	12.0%	25.8%
Milam County	5.0%	71.4%	\$25,714	\$47,902	15.4%	40.3%
Robertson County	3.6%	76.1%	\$26,033	\$52,928	14.0%	36.1%
Washington County	3.3%	74.1%	\$32,625	\$54,971	12.0%	30.4%
Greater Brazos Valley	3.2%	59.5%	\$27,314	\$51,786	17.9%	34.1%
Texas	3.5%	62.0%	\$31,277	\$61,874	13.6%	33.0%
United States	2.6%	64.0%	\$34,103	\$62,843	11.4%	28.0%

¹⁸Distribution of the Total Population by Federal Poverty Level (above and below 200% FPL) | KFF. Accessed March 1, 2022. <https://www.kff.org/other/state-indicator/population-up-to-200-fpl/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

Population Conclusions

The Greater Brazos Valley Region has been growing steadily for the last decade at a rate slightly slower than Texas, with variation among counties in population growth. The distribution of age groups also varies among the counties. Brazos County has a disproportionate number of 20–24-year old's (18.7%) compared to the rural counties, while Leon and Burleson Counties have a larger proportion of 65 and older adults (24.2% and 20.4%, respectively) than the other counties. Racial/ethnic diversity is increasing across the Region, but the Greater Brazos Valley Region is less diverse than Texas or the Nation. The Region is projected to grow approximately 5.5% 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.

Despite access to higher education and many counties having higher educational attainment, the Region has a substantial number of the working poor. With more than a third of the population qualifying for some sort of financial assistance (based on 200% FPL), 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



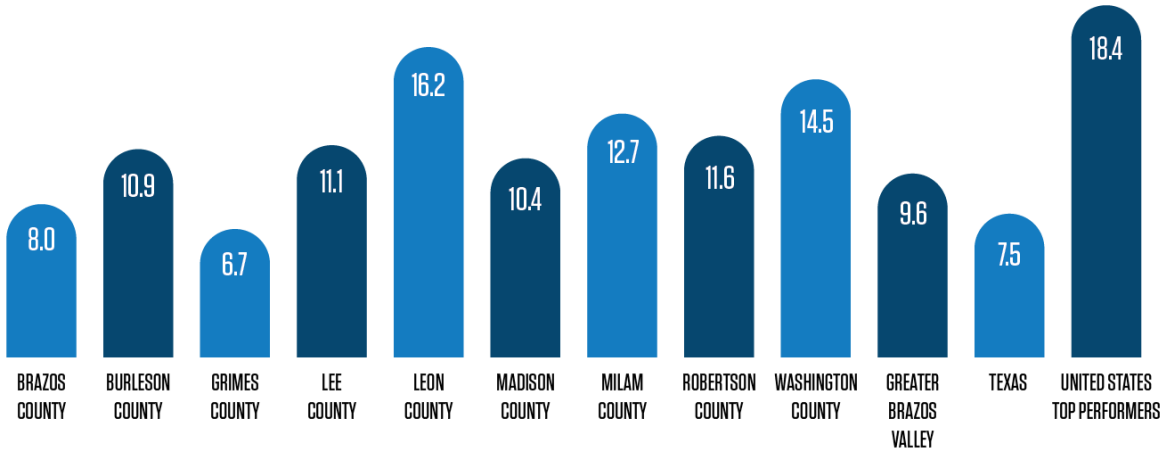
In previous assessment surveys the social capital or social support individuals experience has been examined as a factor impacting health status. One measure of social capital is the number of social resources an individual can depend on in moments of crisis/need. The County Health Rankings system uses 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.¹⁹ This is likely due to having more available resources and networks that reduce the severity of impact a crisis can have on one's life. 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.

¹⁹Social associations | County Health Rankings & Roadmaps. Accessed March 1, 2022. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/social-and-economic-factors/family-social-support/social-associations>

The U.S. Top Performing Counties reported an average rate of 18.4 social associations per 10,000. The rate for Texas was substantially lower at 7.5 social associations per 10,000. Overall, the Greater Brazos Valley Region had a better average rate than the State at 9.6. As for the individual counties, social associations from 16.2 per 10,000 people for Leon County to 6.7 in Grimes County. Further data for social association in the Greater Brazos Valley Region can be viewed in Figure 10.

The 2016 and 2019 reports showed the Greater Brazos Valley Region having a social association of 11.1 and 10.5 per 10,000, respectively. With 9.6 social associations per 10,000 people in 2022, a negative trend appears to be present, suggesting that over the last six years there has been a measurable decrease in the number of social associations for adult residents of the Region. This is potentially concerning due to the impact social associations have on health (as mentioned above), and data from our community discussion groups suggest that social isolation and reductions in social associations further decreased during the COVID-19 pandemic beyond what the data has captured here.

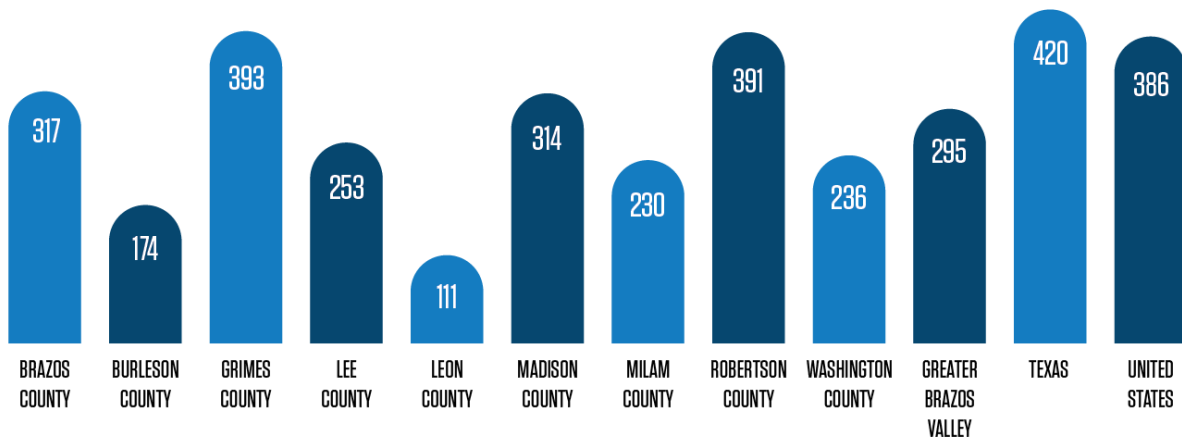
Figure 10. Social Association Rate for Counties in the Greater Brazos Valley Region (per 10,000 population)¹⁹



Violent Crime

The criminal acts that are designated by the Federal Bureau of Investigation as violent crimes include: murder, nonnegligent manslaughter, rape, robbery, and aggravated assault.²⁰ 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 the counties in the Greater Brazos Valley Region are below that of the state of Texas overall.

Figure 11. Violent Crime Rates for Counties in the Greater Brazos Valley Region (per 100,000 population)²¹



Housing Issues



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

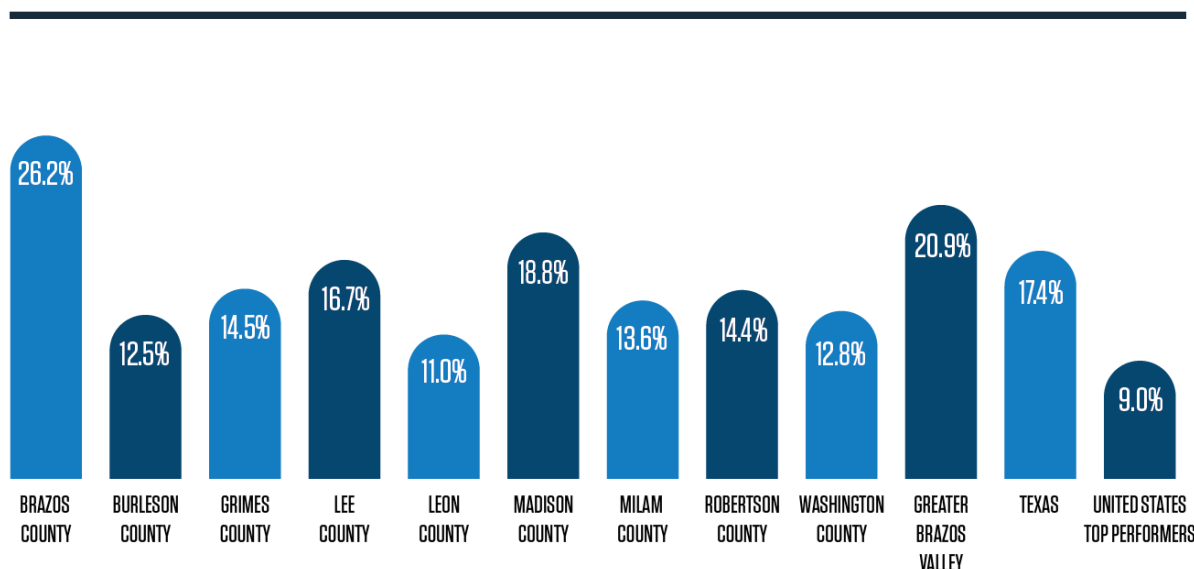
The U.S. Top Performing Counties only report 9.0% of **households with at least one of the listed housing problems**. In Texas, the average rate was twice that amount at

²⁰FBI — Violent Crime. Accessed March 1, 2022. <https://ucr.fbi.gov/crime-in-the-u.s/2010/crime-in-the-u.s.-2010/violent-crime>

²¹Violent crime in Texas | County Health Rankings & Roadmaps. Accessed March 1, 2022. <https://www.countyhealthrankings.org/app/texas/2021/measure/factors/43/map>

17.4% and the Greater Brazos Valley Region was even higher than the state with an average rate of 20.9% households with at least one of the housing problems. In terms of the individual counties, Brazos County had the highest rate of severe housing problems at 26.2%, while the lowest rate of reported housing issues was Leon County (11.0%).²² County specific information is provided in Figure 12.

Figure 12. Severe Housing Problems Reported for Counties in the Greater Brazos Valley Region^{3,22}



HEALTH FINDINGS

Mortality



Data compiled and made available by the National Institute on Minority Health and Health Disparities (NIMHD) were used to explore factors that impact health status during the end of life (major causes of death).²³ The NIMHD compiled data from a variety of secondary data sources and created county-level report cards displaying a variety of health-related issues. Their analysis identified the top seven causes of death for each county. Table 4 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

²²Severe housing problems in Texas | County Health Rankings & Roadmaps. Accessed March 1, 2022.

<https://www.countyhealthrankings.org/app/texas/2021/measure/factors/136/map>

²³Death Rates Table - HDPulse. Accessed March 1, 2022.

<https://hdpulse.nimhd.nih.gov/data/deathrates/index.php?stateFIPS=48&cod=247&race=00&sex=0&age=001&year=0&type=death&sortVariableName=rate&sortOrder=default>

State, or the Nation. Lee County has higher rates of death from cancer than the other counties in the Region, the State, or Nation. Burleson and Madison Counties have 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.

**Table 4. Leading Causes of Death in the Greater Brazos Valley Region
(per 100,000 population)^{23,24}**

	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)
Brazos County	162.8	133.5	35.1	26.9	41.1	35.9	16.9
Burleson County	292.3	159.7	51.5	54.8	30.6	34.2	12.2
Grimes County	225.3	171.1	53.0	48.9	43.3	27.0	24.1
Lee County	178.6	191.5	32.2	55.7	38.5	24.1	18.6
Leon County	174.9	172.5	50.6	79.3	41.2	36.8	21.9
Madison County	219.4	166.0	53.7	55.0	59.5	54.0	21.5
Milam County	176.8	173.3	47.8	60.3	47.3	30.9	15.2
Robertson County	235.7	186.7	52.5	48.7	34.4	24.0	18.8
Washington County	138.7	148.3	28.8	49.4	30.0	21.9	12.5
Greater Brazos Valley	159.7	129.9	35.0	33.1	35.9	29.4	15.5
Texas	170.8	148.8	40.7	37.9	41.9	37.0	21.1
United States	161.5	146.2	38.2	49.3	37.0	29.8	21.6

There is substantial variation of the major causes of death in the Region. This may be due to a number of factors, including occupational hazards, environmental hazards, lack of access to healthcare, age of residents, or increased rates of negative health behaviors such as smoking or alcohol consumption (among other potential factors).

When comparing the death rates of the Greater Brazos Valley Region to the State’s rates, the Region’s death rates were lower in every category. In addition to looking

²⁴FastStats - Leading Causes of Death. Accessed March 1, 2022. <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>

at specific causes of death, life expectancy rates of the Region and each county were examined. Table 5 displays the rates for the population, as well as racial/ethnic groups. Overall life expectancy in the Region is slightly greater than for Texas (79.5 and 79.2 years). However, age-adjusted mortality is slightly better for the State than the Region (338.6 and 328.6 per 100,000, respectively).

DEATH RATE COMPARISON		
REGION RATES		STATE RATES
159.7	Heart Disease	170.8
129.9	Cancer	148.8
35.0	Respiratory Diseases	40.7
33.1	Deaths from Accidents	37.9
35.9	Stroke	41.9
29.4	Alzheimer's	37.0
15.5	Diabetes	21.1

Black or African American residents of the Greater Brazos Valley Region experience lower life expectancy than their Hispanic and White peers. Their life expectancy is significantly lower at 70.9 years compared to Hispanics (83.7) and Whites (79.9). Black or African American residents also have an age-adjusted mortality rate that is almost twice as high as any other racial or ethnic group. the mortality rates of Hispanics (254.0) and Whites (310.8).

Table 5. Life Expectancy and Age-Adjusted Mortality Rates by Racial/Ethnic Groups in the Greater Brazos Valley Region³

Population Group	Life Expectancy (Years)	Age-Adjusted Mortality (deaths per 100,000)
All	79.5	328.6
Black or African American	70.9	563.9
Hispanic (all races)	83.7	254.0
White (non-Hispanic)	79.9	310.8
State Rate for All Populations	79.2	359.7

Health Status and Risk Factors



In almost every instance, there are markedly higher health issue rates in the rural counties of the Greater Brazos Region compared to urban Brazos County.³ The exceptions are binge drinking, smoking, and adult obesity. Burleson County has an adult obesity rate of 46.6%, almost double that of the U.S. Top Performers

(26.0%). Mentioned in an upcoming section, 15.8% of adults were smokers in Brazos County which is almost double the percent of smokers in rural counties (8.7%). Brazos County had 17.9% of the population reporting binge drinking, whereas the rural counties had only 8.1% of the population reporting it.

Binge drinking and smoking rate differences between Brazos and rural counties can likely be explained by the large concentration of college-aged students, who tend to report higher rates of both. The more than ten-year difference in average age between Brazos County and the rural counties (26.9 years versus 41.1 years) also provides rationale for why more chronic disease is seen in the rural counties. Further examination of these data is warranted, however.

Morbidity and mortality provide an important perspective to understanding the 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. Data collected from the HRQoL helps characterize the burden of disabilities and chronic diseases in a population.²⁵ As people are starting to live longer, it is essential to consider quality of life. 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. Because this is self-reported data, it reflects residents' perceptions of their health. While it is perceived data (and not measured clinically), it can be used in combination with other reported data (e.g., morbidity and mortality data) to better understand health in populations.

According to County Health Rankings, 20.5% of the Greater Brazos Valley Region reported their overall health status as *poor or fair*, which is slightly higher than the Texas rate (19%).²⁵ Within the Brazos Valley Region, however, not only are population characteristics different between Brazos County and the surrounding rural counties, but so are the availability of resources. Similarly, differences in health status between Brazos and its rural counterparts are also found. For

²⁵Quality of Life | County Health Rankings & Roadmaps. Accessed March 1, 2022. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-outcomes/quality-of-life>

example, 22.6% of rural county residents report their health status as *fair* or *poor* compared to only 19.0% of Brazos County 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. More information can be found in Table 6.

Table 6. Reported Physical and Mental Unhealthy Days for Counties in the Greater Brazos Valley Region²⁵

	Physically Unhealthy Days	Mentally Unhealthy Days
Brazos County	3.77	4.30
Burleson County	4.36	4.56
Grimes County	4.72	4.67
Lee County	4.29	4.92
Leon County	4.56	4.79
Madison County	4.43	4.50
Milam County	4.67	4.74
Robertson County	4.41	4.69
Washington County	4.32	4.56
Greater Brazos Valley	4.39	4.64
Texas	3.80	3.76
United States Top Performers	3.10	3.40

As described above, HRQoL utilizes poor mental and physical health days in determining self-reported health status in a population. The mean number of both ***poor mental health days*** and ***poor physical health days*** for the State of Texas is 3.8. The Region’s means reflect more reported days of poor physical and mental health with 4.4 days for *poor physical health days* and 4.6 days for *poor mental health days*. Within the Region, Brazos County residents report a mean of 3.8 *poor physical health days* and 4.3 *poor mental health days*, compared with rural county residents who, on average, report 4.5 *poor physical health days* and 4.7 *poor mental health days*. It is important to note that the Greater Brazos Valley Region experiences roughly 10-20% more *poor mental health days* and *poor physical health days* than the Texas average. Further, rural counties (all counties other than Brazos in the assessment) have the greatest number of poor physical (4.5) and mental health

days (4.7) per month, indicating worse perceived mental and physical health in rural counties represented in the assessment.²⁵ This information can be found above in Table 6.

There has been a large increase in poor mental health and poor physical health days between 2013 and 2021. The 2013 survey respondents from the Brazos Valley Region reported 3.2 *poor physical health days*, and 2.8 *poor mental health days* on average.²⁶ When comparing this assessment's data with previous years, we see an increase from 2013 to 2021 in self-reported unhealthy days; 1.2 more days of *poor physical health* (37% increase from 2013 to 2021) and 1.8 additional *poor mental health days* (64% increase from 2013 to 2021). Therefore, independent of specific reported health issues, Brazos Valley residents have seen an increase in the number of *poor health days* per month both in terms of *physical* and *mental health*. Persistent increases in the number of *poor physical* or *mental health days* over time suggest an overall trend toward declining health status in the Region.

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 9.

Tobacco Use



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.²⁷ Current smoking has declined from 20.9% (nearly 21 out of every 100 adults) in 2005 to 14.0% (14 out of every 100 adults) in 2019 (the most up-to-date data available), and the proportion of smokers who have ever quit has increased.²⁸ 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 birth weight, and other adverse health outcomes. Smoking (tobacco use) continues to be the

²⁶Health Outcomes in Texas | County Health Rankings & Roadmaps. Accessed April 4, 2022.

<https://www.countyhealthrankings.org/app/texas/2013/rankings/outcomes/overall>

²⁷Fast Facts and Fact Sheets | Smoking & Tobacco Use | CDC. Accessed March 1, 2022.

https://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm

²⁸Current Cigarette Smoking Among Adults in the United States | CDC. Accessed March 1, 2022.

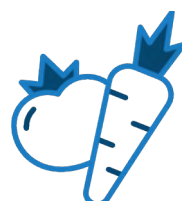
https://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm#nation

single most preventable cause of death in the world today contributing to nearly 1 in 5 deaths annually, and is the primary factor in most of the leading causes of death in the U.S.

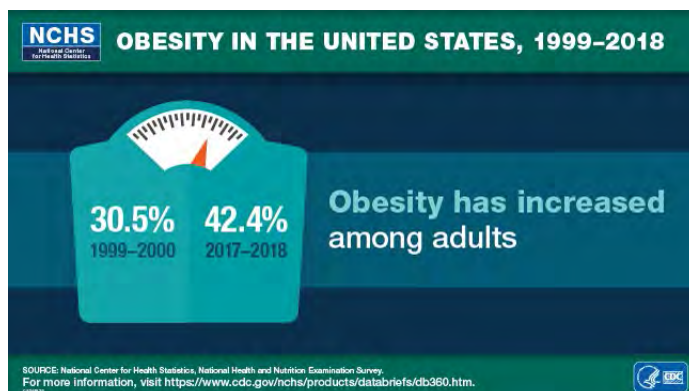
The U.S. Top Performing Counties report **smoking rates** of 14.0%, or about one in seven people, while Texas has a slightly higher rate of 14.2%. For the Greater Brazos Valley Region, the rate is 17.7%, higher than the State and U.S. Top Performing Counties. Individual county rates vary from a low of 15.8% in Brazos County to a high of 21.7% in Leon County. The *Healthy People 2030 target* for smoking is 5% or approximately one in 20 people.⁶

Current trends in e-cigarette use are currently under extensive study, but the 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.²⁹ However, the prevalence rates of e-cigarettes by age group are the reverse of traditional tobacco smokers. There is a higher prevalence in younger e-cigarette smokers compared to less than 1% prevalence in e-cigarette smokers aged 65+. These data are concerning as the prevalence of e-cigarette users continues to increase, especially in younger populations, while traditional tobacco smokers decline.²⁹ Texas rates in 2019, while not comparable to NHIS data, reveal 4.8% of adults reported e-cigarette use.²⁹

Obesity and the Food Environment



Obesity in the U.S. continues to be a public health concern impacting approximately 107 million adults (42.4%).³⁰ From 1999–2000 through 2017–2018, the age-adjusted prevalence of obesity increased significantly from 30.5% to 42.4%, and the prevalence of severe obesity nearly doubled from 4.7% to 9.2% of



²⁹QuickStats: Percentage of Adults Who Ever Used an E-cigarette and Percentage Who Currently Use E-cigarettes, by Age Group — National Health Interview Survey, United States, 2016 | MMWR. Accessed March 1, 2022.

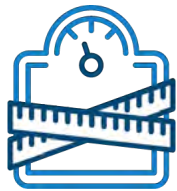
<https://www.cdc.gov/mmwr/volumes/66/wr/mm6633a6.htm>

³⁰Products - Data Briefs - Number 360 - February 2020. Accessed March 1, 2022.

<https://www.cdc.gov/nchs/products/databriefs/db360.htm>

the US population.³¹ Obesity is a contributing factor for many of the leading causes of death such as heart disease, stroke, diabetes, and some cancers. Medical costs relating to adult obesity amount to about \$190 billion annually, making it not just a public health issue but one of economic importance as well.³² Obesity is a complex issue requiring similarly multifaceted interventions that address both physical activity, poverty, nutrition, and other factors. Nationally, the U.S. Top Performing Counties report obesity rates of 26.0%, while Texas' adult obesity rate is 31.4%. *Healthy People 2030* has set a national goal to decrease obesity rates for persons aged 20 and older to 36.0% for the nation.³³ 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 a calculation of height and weight.³⁴ Obesity rates in Table 7 are calculated as the number of adult respondents aged 20 and older with a BMI greater than or equal to $30\text{kg}/\text{m}^2$.³⁵

Adults with obesity have a higher risk for developing:



The U.S. Top Performers have an obesity rate of 26.0%, compared to the Greater Brazos Valley Region where 34.4% of respondents fall into the *obese* category. Overall, the Region had a higher rate of obesity than the Texas rate (31.4%). The largest gap between the counties was Burleson County (46.6%) and Madison County (29.6%). The *obese* category was lower in Brazos County compared to the rural counties (31.2% and 38.7%, respectively). More information regarding obesity rates can be found in Table 7 and Table 8.

³¹Adult Obesity Facts | Overweight & Obesity | CDC. Accessed March 1, 2022. <https://www.cdc.gov/obesity/data/adult.html>

³²Cawley J, Meyerhoefer C. The medical care costs of obesity: An instrumental variables approach. *J Health Econ*. 2012;31(1):219-230. doi:10.1016/J.JHEALECO.2011.10.003

³³Reduce the proportion of adults with obesity — NWS-03 - Healthy People 2030 | health.gov. Accessed March 1, 2022. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/overweight-and-obesity/reduce-proportion-adults-obesity-nws-03>

³⁴Defining Adult Overweight & Obesity | Overweight & Obesity | CDC. Accessed April 4, 2022. <https://www.cdc.gov/obesity/adult/defining.html>

³⁵Adult obesity | County Health Rankings & Roadmaps. Accessed March 1, 2022. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors/diet-exercise/adult-obesity>

Table 7. Changes in Obesity Rates from 2013 to 2021^{26,35}

Location	2013	2016	2021
	Obese	Obese	Obese
Brazos County	33.0%	26.0%	31.2%
Rural Counties	31.5%	30.9%	38.7%
Greater Brazos Valley	30.7%	28.1%	34.4%
Texas	29.2%	28.0%	31.4%
U.S. Top Performers*	25.0%	25.0%	26.0%

Table 8. Adult Obesity Rates for the Greater Brazos Valley Region³⁵

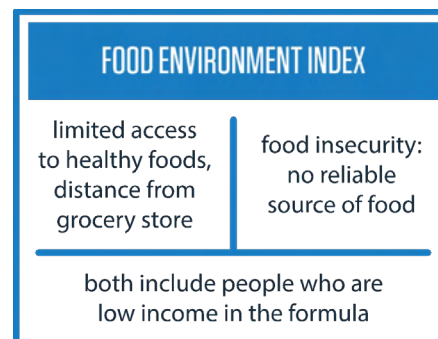
Percent of Adult Obesity	
Brazos County	31.2%
Burleson County	46.6%
Grimes County	41.0%
Lee County	37.9%
Leon County	33.4%
Madison County	29.6%
Milam County	41.0%
Robertson County	41.7%
Washington County	36.2%
Rural Counties	38.7%
Greater Brazos Valley	34.4%
Texas	31.4%
U.S. Top Performers	26.0%

Food Environment Index

The Food Environment Index is a measure that considers two factors: **limited access to healthy foods** and **food insecurity**.³⁶ Limited access to healthy foods estimates 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 nonrural areas; in rural areas, it means living less than ten miles from a grocery store, whereas, in nonrural areas, it means less than one mile. In the Greater Brazos Valley Region, 10.5% of the population have limited access to healthy foods. The average percent for *limited access to healthy foods* reported by rural county survey respondents is 8.0% compared to 12.4% for Brazos County residents. All counties except Lee (2.1%), Washington (2.9%), Burleson (4.1%), and Leon (4.6%) counties had higher reported rates of limited access to healthy foods than the Texas rate (8.7%). 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 (FEI) of 5.9, compared to the U.S. at 8.7. Top Performing U.S. Counties have an FEI of 8.6. The average FEI score for the Greater Brazos Valley Region is 6.8, and it ranges from a low of 6.2 in Grimes County to a high of 7.8 in Lee County. 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. More information can be found in Table 9 and 10.



³⁶Food environment index | County Health Rankings & Roadmaps. Accessed April 4, 2022. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors/diet-exercise/food-environment-index>

Table 9. Food Environment Index (FEI) Rates for the Greater Brazos Valley Region³⁶

Food Environment Index Rates	
Brazos County	6.7
Burleson County	7.7
Grimes County	6.2
Lee County	7.8
Leon County	7.0
Madison County	6.4
Milam County	6.7
Robertson County	7.0
Washington County	7.5
Rural Counties	7.0
Greater Brazos Valley	6.8
Texas	5.9
U.S. Top Performers	8.6

Food Insecurity

Healthy People 2030 has set a goal to reduce the number of households that are food insecure to 6.0%.³⁷ 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.³⁸ County Health Rankings measured the percent food insecure by the population with a lack of access, at times, to enough food for an active, healthy life or with uncertain availability of nutritionally adequate foods.

In the U.S. only 10.9% of the population is considered food insecure, and only 2% have limited access to healthy foods. Texas’s population is 15% insecure and 8.7% have limited access to healthy foods. The Greater Brazos Valley Region reported 15.3% of households as food insecure. Brazos County reported 15.1% compared to

³⁷Reduce household food insecurity and hunger — NWS-01 - Healthy People 2030 | health.gov. Accessed March 1, 2022. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/nutrition-and-healthy-eating/reduce-household-food-insecurity-and-hunger-nws-01>

³⁸Food insecurity* | County Health Rankings & Roadmaps. Accessed March 1, 2022. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors/diet-exercise/food-insecurity>

the slightly higher rural rate of 15.6%. Lee, Burleson, and Robertson Counties (14.1%, 14.2%, 14.7%) were slightly better than the Texas rate of 15.0%.³⁸ In most of the community discussion groups we held; people commented on the work being done in their communities to address the issue of food insecurity. Every community in this assessment has food banks run by churches or non-profits (such as the Brazos Valley Food Bank) that try to address food insecurity in the Region, highlighting the needs of hungry families in the Region.

No significant differences were seen between Brazos County and the rural counties regarding food insecurity. While FEI scores are improving in the Region, obesity continues to rise. 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.

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 obesity and lowering obesity rates.

Few Americans meet the recommended physical activity guidelines of 75 minutes of vigorous exercise or 150 minutes of moderate exercise per week.³⁹ Several community 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 that 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, participation in physical activity increases.⁴⁰

³⁹Benefits of Physical Activity | Physical Activity | CDC. Accessed March 1, 2022.

<https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm>

⁴⁰Physical inactivity | County Health Rankings & Roadmaps. Accessed April 4, 2022.

<https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors/diet-exercise/physical-inactivity>

Two measures from the County Health Rankings data are useful in this context. The first reports the percentage of adults who report no leisure-time physical activities in the past month and is classified as **physical inactivity**.⁴⁰ Physical inactivity is a measure that looks at the percentage of those age 20 and older who report no leisure-time physical activity. The second measure is the percentage of the population with adequate **access to locations for physical activity**. This measure looks at distance to recreational locations (parks, schools, commercial recreational facilities, etc.), depending on urban or rural designation.⁴¹

Nearly one-quarter (24.7%) of adults report *no leisure-time physical activity* in the past month for the Greater Brazos Valley Region. This falls above the *Healthy People 2030* target of less than 21.2% of the population reporting no leisure-time physical activity.⁴² Individual county level data varied from 19.4% in Brazos County to 36.5% in Washington County. With the exception of Brazos County (19.4%), no county in the assessment met the *Healthy People 2030* target and all had worse reports of physical activity than the U.S. Top Performing Counties where only 20% of the population is physically inactive. 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 compared to those living in rural counties.

Creating built environments that enhance access to and the availability of physical activity opportunities is a priority in *Healthy People 2030*. 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.⁴² 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 near their homes. 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

⁴¹Access to exercise opportunities | County Health Rankings & Roadmaps. Accessed April 4, 2022.

<https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors/diet-exercise/access-to-exercise-opportunities>

⁴²Reduce the proportion of adults who do no physical activity in their free time — PA-01 - Healthy People 2030 | health.gov. Accessed March 1, 2022. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/physical-activity/reduce-proportion-adults-who-do-no-physical-activity-their-free-time-pa-01>

reported so in Texas (81.0%). The Brazos Valley Regional average is 69.6% with variation across the counties from a low of 0.0% in Madison County to a high of 88.6% in Brazos County.

Table 10. Selected Risk Factors for Major Chronic Diseases for Counties in the Greater Brazos Valley Region^{3,34,38,40,41}

	Smoking	Adult Obesity	Food Environment Index	Physical Inactivity	Access to Exercise Opportunities
Brazos County	15.8%	31.2%	6.7	19.4%	88.6%
Burleson County	20.1%	46.6%	7.7	27.4%	49.9%
Grimes County	21.4%	41.0%	6.2	29.9%	39.7%
Lee County	19.4%	37.9%	7.8	26.6%	47.2%
Leon County	21.7%	33.4%	7.0	31.3%	19.3%
Madison County	20.4%	29.6%	6.4	27.7%	0.0%
Milam County	20.7%	41.0%	6.7	33.5%	60.6%
Robertson County	19.6%	41.7%	7.0	35.9%	48.3%
Washington County	18.5%	29.0%	7.5	36.5%	61.2%
Greater Brazos Valley	17.7%	33.8%	6.8	24.7%	69.6%
Texas	14.0%	34.0%	5.9	23.0%	81.0%
U.S. Top Performers	14.0%	26.0%	8.6	20.0%	91.0%
<i>Healthy People 2030 Target</i>	5.0% ⁶	36.0% ⁶	-	21.2% ⁶	-

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 six community health assessments. County Health Rankings reported the number of workers who commute alone to work via car, truck, or van, which is classified by the Census Bureau as **driving alone to work**.⁴³ Regionally, the **average percentage of the workforce that usually drives alone to work** is 80.1%; 80.0% for the urban Brazos County and 80.6% in the rural counties. County Health Rankings also reported the number of workers who drive alone (via car, truck, or van) for more than 30 minutes during their commute, which is shown in Table 11 below. Texas reported 38.9% of percent of people who have a

⁴³Driving alone to work | County Health Rankings & Roadmaps. Accessed March 2, 2022. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/physical-environment/housing-transit/driving-alone-to-work>

long commute which is nearly double the U.S. Top Performers rate (16.0%). Overall, the Region (22.7%), and rural counties (38.2%) were lower than the Texas rate.

Table 11 displays the differences between Brazos County and the urban counties, with an expected difference of longer travel times for the rural counties. The issue of local access to affordable grocery stores was a concern brought forth in several community discussion groups in rural counties, as were long distances to hospitals and other social services. Poor road conditions were commonly cited in community discussion groups as were a lack of transportation options for people without vehicles in rural communities, highlighting the need for further investments in transportation resources in rural areas in the Region.

Table 11. Driving Situations for Residents in the Greater Brazos Valley Region^{3,43}

	Drive Alone to Work	Long Commute
Brazos County	79.8%	10.9%
Rural Counties	80.6%	38.2%
Greater Brazos Valley	80.1%	22.7%
Texas	80.5%	38.9%

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.⁴⁴

⁴⁴Binge Drinking | CDC. Accessed March 1, 2022. <https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>

As depicted in Table 12, the Greater Brazos Valley Region has an average rate of 18.3% adults who report **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 20.0% in Madison County to 18.2% in Milam County. The Region's rate is lower than the *Healthy People 2030* target of 25.4%,⁶ however, it is still higher than the U.S. Top Performing Counties which only report excessive drinking at a rate of 13.0%.

Alcohol-impaired driving rates for the Region are lower than Texas' (25.7%), and the U.S. (27%), with a Regional average rate of 25.4%.⁴⁵ County rates range from 9.7% in Robertson County to a high of 40.0% in Burleson County. In comparison, U.S. Top Performing Counties have alcohol impaired driving rates substantially lower than the majority of the counties in the assessment at 11%.

According to County Health Rankings, motor vehicle crashes are one of the leading causes of death in the United States, with almost 100 people dying every day.⁴⁶ 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 Greater Brazos Valley Region's average rate is 18, nearly double the rate for the nation. Brazos County has the lowest crash death rate at 9.6 per 100,000, while the remaining rural counties have at least double the rate ranging from 22.9 in Washington County, to as high as 45.0 in Leon County. Table 12 displays the rates for the counties, Regional, Texas, and the U.S.

⁴⁵Alcohol and Drug Use | County Health Rankings & Roadmaps. Accessed April 4, 2022.

<https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors/alcohol-and-drug-use>

⁴⁶Motor vehicle crash deaths* | County Health Rankings & Roadmaps. Accessed March 7, 2022.

<https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors/alcohol-drug-use/motor-vehicle-crash-deaths>

Table 12. Alcohol Consumption and Motor Vehicle Deaths in the Greater Brazos Valley Region^{45,46}

	Excessive Drinking	Alcohol-impaired Motor Vehicle Deaths	All Motor Vehicle Crash Deaths (per 100,000)
Brazos County	17.9%	27.0%	9.6
Burleson County	19.4%	40.0%	26.5
Grimes County	18.6%	30.3%	25.7
Lee County	18.9%	23.3%	33.6
Leon County	18.9%	15.7%	45.0
Madison County	20.0%	11.4%	30.4
Milam County	18.2%	34.0%	31.8
Robertson County	19.0%	9.7%	22.9
Washington County	18.5%	16.3%	23.3
Greater Brazos Valley	18.3%	25.4%	18.0
Texas	19.0%	25.7%	13.2
United States	19.0%	28.0%	9.0
U.S. Top Performers	13.0%	11.0%	11.0

Health Care Resources

Health Insurance



The *Healthy People 2030* goal for health insurance stated that by 2030, every resident would have some type of health insurance.⁴⁷ The 2010 Patient Protection and Affordable Care Act was intended to advance this goal, but currently, many residents are still **uninsured**.⁴⁸

U.S. Top Performing Counties report a low of 6% uninsured. In contrast, 20.9% of Texans are uninsured, while 19.2% of the Greater Brazos Valley Region is uninsured, over three times higher than Top Performing Counties. Within the Greater Brazos Valley Region, percentages were consistent with the Texas average, with five of the nine counties having a lower percentage without health insurance than Texas. Rates varied between counties from 17.5% in Brazos County

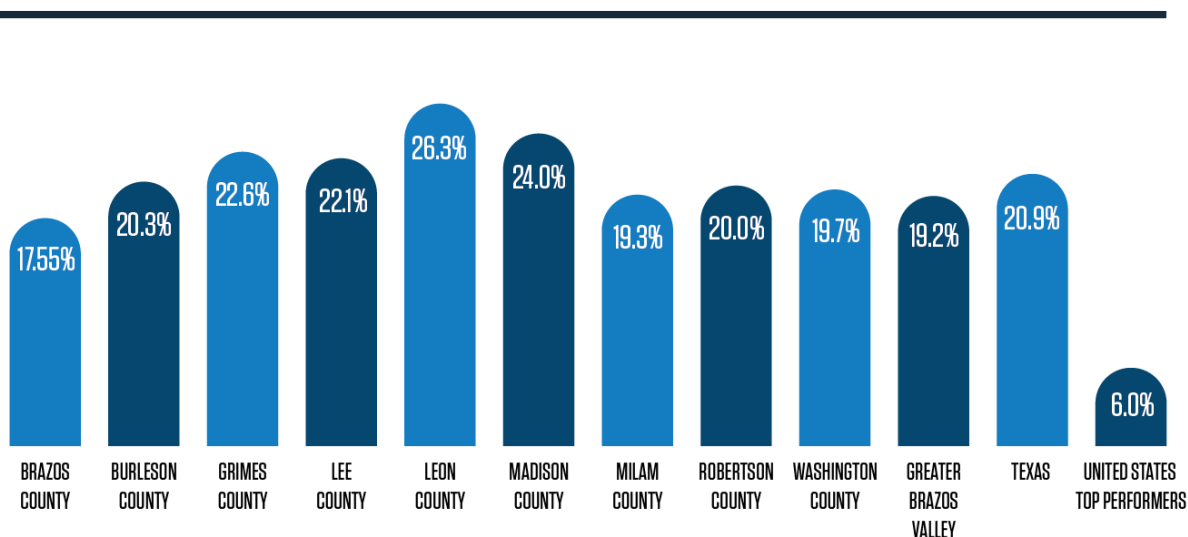
⁴⁷ Increase the proportion of people with health insurance — AHS-01 - Healthy People 2030 | health.gov. Accessed March 2, 2022. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality/increase-proportion-people-health-insurance-ahs-01>

⁴⁸H.R.3590 - 111th Congress (2009-2010): Patient Protection and Affordable Care Act | Congress.gov | Library of Congress. Accessed March 2, 2022. <https://www.congress.gov/bill/111th-congress/house-bill/3590>

to a high of 26.3% in Leon County. County specific uninsured data from the Region are listed in Figure 13 below.

One in ten residents (10.3%) of the Region reported **Medicare coverage**, which is lower than both the US and Texas rates (18.4%, 14.0%).⁴⁹ Brazos (6.6%) and Madison Counties (12.9%) were the only counties that had lower percentages of the population covered by Medicare than the State and National rates. Brazos County's low Medicare coverage can possibly be attributed to the number of university students.

Figure 13. Percent of Population with No Health Insurance for Counties in the Greater Brazos Valley Region^{3,49,50}



The Children's Health Insurance Program (CHIP) provides health coverage to eligible children, through both Medicaid and separate CHIP programs. In the United States, approximately 9.6 million children are enrolled in CHIP, of which 905,469 children are enrolled in CHIP in Texas.⁵¹

Despite the success of CHIP covering almost a million children in Texas, about 12.1% of the children under the age of 19 in the Greater Brazos Valley Region do not have health insurance. The Regional rate is more than double the national rate of 5% but only slightly higher than the state rate of 11.0%. The highest rate of

⁴⁹Health Insurance Coverage of the Total Population | KFF. Accessed March 2, 2022. <https://www.kff.org/other/state-indicator/total-population/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

⁵⁰FastStats - Health Insurance Coverage. Accessed March 2, 2022. <https://www.cdc.gov/nchs/fastats/health-insurance.htm>

⁵¹Children's Health Insurance Program (CHIP) | Medicaid. Accessed March 2, 2022. <https://www.medicaid.gov/chip/index.html>

uninsured children was reported in Leon County (20.0%), and the lowest rates were in Brazos and Milam Counties (11.0%).

The percentage of children enrolled in Medicaid in Texas is 36.4%, which is slightly higher than the Regional rate of 35.8%. Brazos and Washington counties have the lowest rates of children enrolled in Medicaid (31.7%, 35.7%), while Robertson and Milam counties have the highest rates (48.1%, 45.8%).⁵²

Health Resources and Medical Home



Issues with access to healthcare 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 being designated as health professional, mental health professional, and/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 as HPSAs based on a lack of primary care providers, dental health providers, and/or mental health providers in the county. This designation provides potential access to additional funding for healthcare entities due to the strain a lack of providers can have on population health. All the counties in the Greater Brazos Valley Region are completely designated as health professional shortage areas for at least two of the three categories, as can be seen in Table 13. Excluding Brazos County, all other counties in the Region are designated as *Rural Health Areas*.⁵³ Across the country, Rural Health Areas are commonly designated as health professional shortage areas, so the Region having health provider shortages in its rural counties is not unique. It is important to note that in only three years, several counties moved from not designated as shortage areas to a health professional shortage area in at least one category.

⁵²Medicaid enrollment (0-18) | KIDS COUNT Data Center. Accessed April 4, 2022.

<https://datacenter.kidscount.org/data/tables/8528-medicaid-enrollment-0-18#detailed/2/any/false/1729,37,871,870,573,869,36,868/any/17213,17214>

⁵³Quick Maps - Rural Health Areas . Accessed March 2, 2022. <https://data.hrsa.gov/maps/quick-maps?config=mapconfig/RuralHealthAreas.json>

Table 13. Health Professional Shortage Area Designation in the Greater Brazos Valley Region⁵⁴

	Primary Care Physicians Shortage Area	Dental Health Professionals Shortage Area	Mental Health Professional Shortage Area
Brazos County	YES	YES	YES
Burleson County	YES	YES	YES
Grimes County	YES	NO	YES
Lee County	YES	NO	YES
Leon County	YES	YES	YES
Madison County	YES	YES	YES
Milam County	YES	NO	YES
Robertson County	YES	YES	YES
Washington County	YES	NO	YES

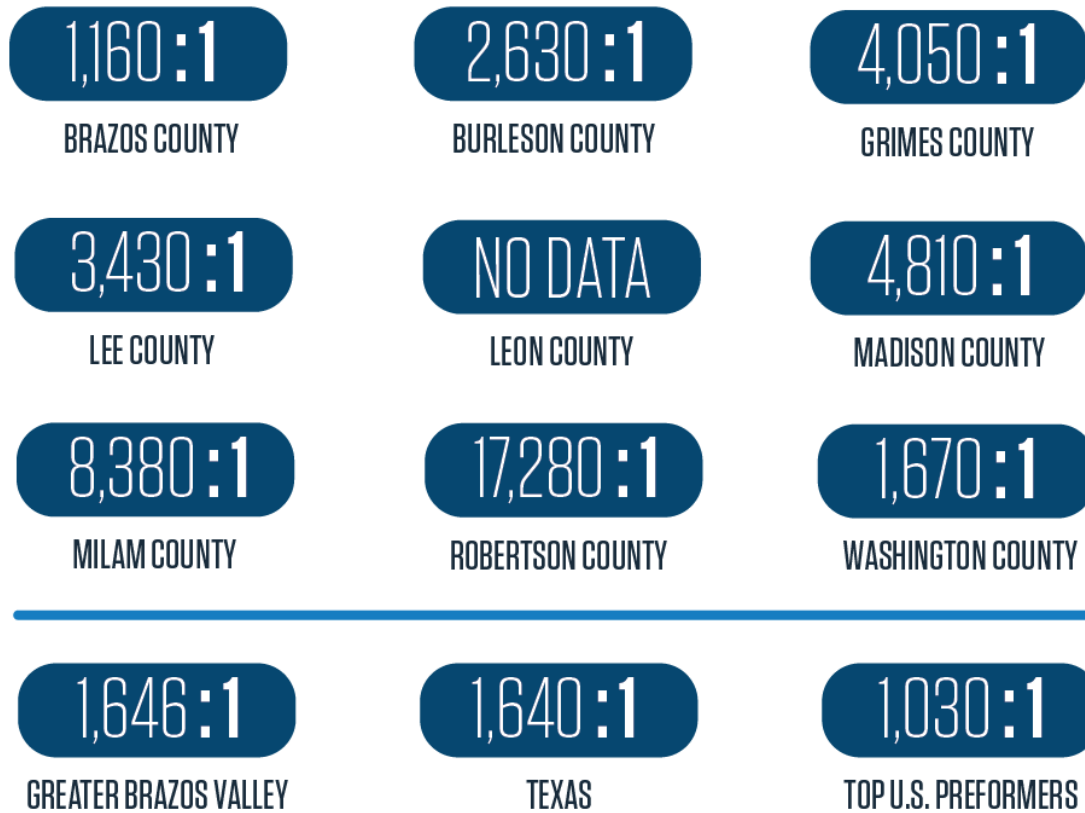
Primary Medical Care



The current number of **available primary care physicians** in Texas is not sufficient to meet health care access needs. The U.S. Top Performing Counties have a rate of patients per primary care physician of 1,030 to one.³ Brazos County had the smallest patient to provider ratio (1,160 to 1) given the presence of the Texas A&M Health Science Center, Baylor Scott & White, College Station Medical Center, the Physicians Centre Hospital, and St. Joseph’s Hospitals in Bryan/College Station. Disproportionately, Robertson County’s ratio is 17,280 persons per primary care physician, and Leon County’s ratio was unreported due to so few primary care physicians working in the county. Specific county information can be viewed in Figure 14.

⁵⁴Find Shortage Areas. Accessed April 4, 2022. <https://data.hrsa.gov/tools/shortage-area>

Figure 14. Population to Primary Care Physician Ratio for Counties in the Greater Brazos Valley Region³



**Leon County data is unavailable due to so few physicians in the county.*

Dental Care

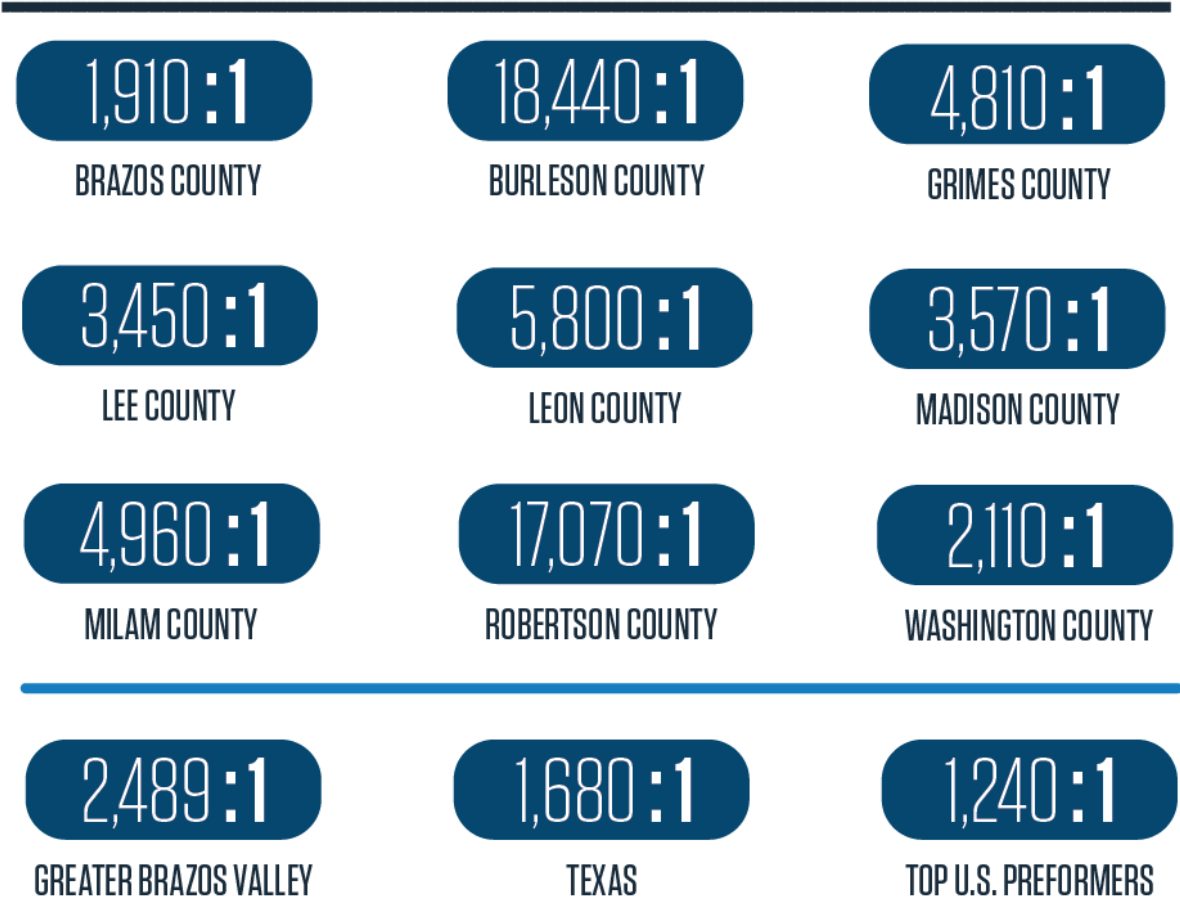


Oral health is a significant contributor to health problems and emergency room visits. Given that dental insurance coverage is not required by the 2010 Patient Protection and Affordable Care Act and is considered a costly expense, many individuals forgo seeing a dentist on a regular basis, which can also lead to even more costly procedures as conditions are not found early.⁴⁸ This is further compounded by the lack of **dental providers** in rural areas, thus making accessibility even more of an issue. A ratio of 1,240 persons per dentist is the ratio found in the U.S. Top Performing Counties. The Texas ratio of 1,680 persons per dentist is worse than the top counties in the U.S., as can be seen in Figure 15.³

Access to dental care for residents of the Greater Brazos Valley Region is dramatically worse than the State and U.S. Of the nine counties making up the

Region, Brazos County again had the best ratio of 1,910 persons per dentist, while Burleson County's ratio was abysmal at 18,440 persons per dentist. Robertson County's ratio was also very low at 17,070 people per dentist.

Figure 15. Population to Dentist Provider Ratio for Counties in the Greater Brazos Valley Region³



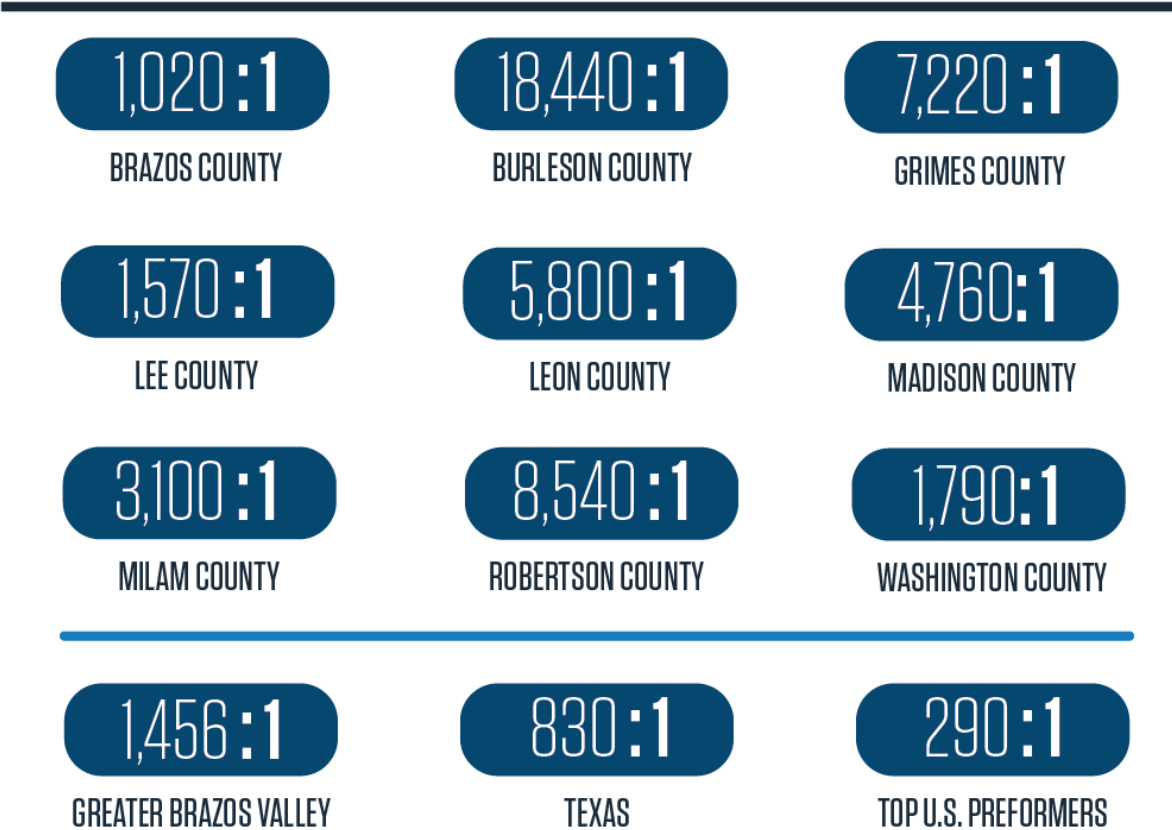
Mental Health



The demand for qualified **mental health specialists** has increased significantly in recent years, thus exacerbating the need for qualified mental health specialists, particularly in rural populations, such as the Greater Brazos Valley Region. The U.S. Top Performing Counties have a ratio of 290 persons per one mental health provider; Texas has a ratio of 830 persons to one mental health provider.

The best ratio among the counties in the Greater Brazos Valley Region was Brazos County with one mental health specialist for every 1,020 persons (nearly 3.5 times fewer than that of the Top Performers). Burleson County had the lowest performing ratio of 18,440 persons per mental health specialist (63 times worse than that of the Top Performers).³ The reader is reminded that for some of these ratios, given the size of the population, signifies there effectively are **no** mental health providers in an entire county. These ratios and additional county performance ratios can be viewed in Figure 16.

Figure 16. Mental Health Providers-to-Population Ratio for Counties in the Greater Brazos Valley Region³



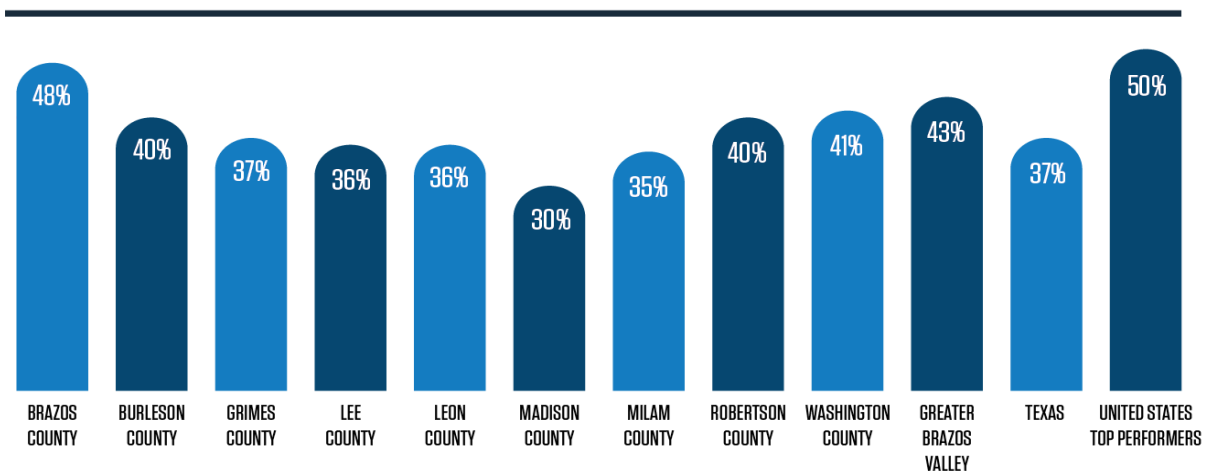
Breast and Cervical Cancer Screenings

Breast Cancer Screening



According to the CDC, the breast cancer incidence rate among females in 2018 was 126.8 per 100,000.⁵⁵ **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 aged 50 to 74.⁷ Nationally, counties with screening rates above 50.0% are considered Top Performing Counties in the U.S. The Texas rate for mammography screening varied greatly from the U.S. Top Performers standard with only 37.0% of eligible women participating in mammography screening. The Region's rate was 43.0%, better than the statewide rate. Upon further examination of the Greater Brazos Valley Region, there was substantial variation with Brazos County having the highest rate of mammography screening at 48.0% and Madison County having the lowest rate at 30.0%.³ Details presented in this portion are also available in Figure 17. Twenty years of local assessment data has shown a lack of access to specialty care, which is also a likely contributor to low mammography screening in the Region.

Figure 17. Mammography Screening Rates Among Women in the Greater Brazos Valley Region³



⁵⁵USCS Data Visualizations - CDC. Accessed March 2, 2022. <https://gis.cdc.gov/Cancer/USCS/#/Trends/>

Influenza Vaccinations



Influenza is a potentially serious disease that can lead to hospitalization and even death. An annual flu vaccine is the best way to help protect against influenza and may reduce the risk of flu related hospitalizations, deaths, and illnesses.⁵⁶ According to County Health Rankings, **flu**

vaccination rates are determined by the percentage of Medicare enrollees that had a reimbursed flu vaccination during the year.⁵⁷ In the Greater Brazos Valley Region, 50.3% of people were vaccinated, which is higher than the Texas rate of 46.0%. The lowest vaccinated counties were Burleson and Milam (40.0%), which is 15.0% lower than Brazos County (55.0%).

Preventable Hospital Stays



Preventable hospital stays have become a focal point of health care in recent years. Preventable hospital stays occur when care does not anticipate the possibility of admission or readmission for selected conditions. Preventable hospital stays divert hospital resources away

from other cases, resulting in more expensive and potentially less effective care for other patients, hospital providers, and insurers. The measure itself is the number of hospital stays for 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.⁵⁸ The U.S. Top Performing Counties have **preventable hospital stays** at a rate of 2,761 per 100,000 Medicare enrollees. In comparison, Texas had 4,793 preventable hospital stays per 100,000 as shown in Figure 18.

⁵⁶AdultVaxView | General Population Reports | Vaccination Coverage | CDC. Accessed March 2, 2022.

<https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/data-reports/general-population/index.html>

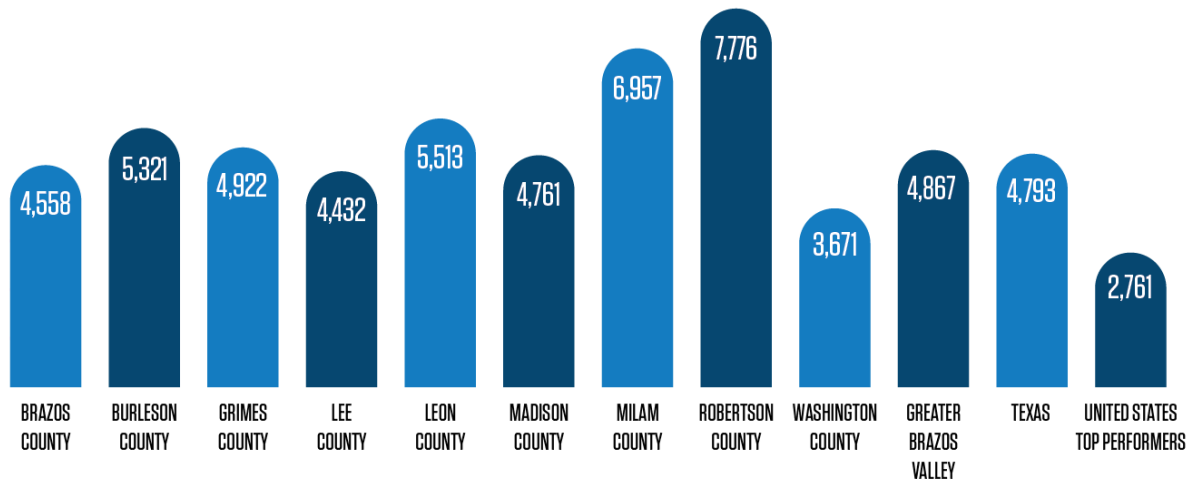
⁵⁷Flu vaccinations | County Health Rankings & Roadmaps. Accessed March 2, 2022.

<https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/clinical-care/quality-of-care/flu-vaccinations>

⁵⁸Preventable hospital stays | County Health Rankings & Roadmaps. Accessed March 2, 2022.

<https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/clinical-care/quality-of-care/preventable-hospital-stays>

Figure 18. Preventable Hospital Stays for Counties in the Greater Brazos Valley Region (per 100,000 population)⁵⁸



The Greater Brazos Valley Region had an average number of 4,867 preventable hospital stays which was on par with the reported number for Texas at 4,793. The rate for individual counties varied from a low of 3,671 preventable hospital stays in Washington County to a high of 7,776 preventable hospital stays in Robertson County. Some factors may explain the high number of hospital visits in the Region, such as counties lacking adequate healthcare access, low incomes, and high rates of the uninsured. Therefore, some conditions and diseases that could have been prevented through primary interventions would have deteriorated to the point of necessitating a hospital stay.

Diabetes Prevalence

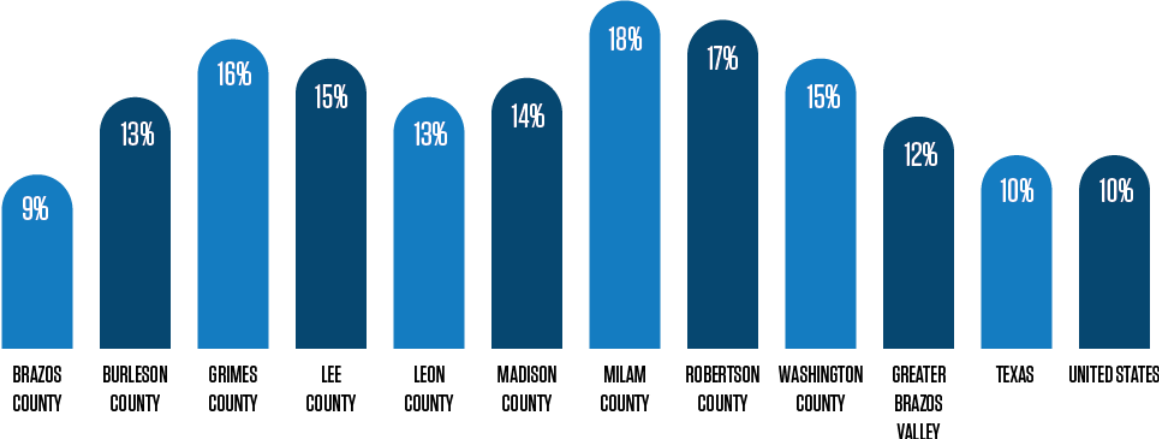


Diabetes is a chronic disease that is typically associated with other diseases such as obesity and heart disease. Type 2 diabetes is the most common type, but with proper diet, exercise, and monitoring, it can usually be managed without the use of insulin. County Health Rankings report the **prevalence of diabetes** by the percentage of adults aged 20 and above with diagnosed diabetes in each county.⁵⁹ Nationwide, 10% of the adult population are diagnosed with diabetes mellitus. Texas has a statewide rate of 10.2%, which does not vary much from the U.S. Top Performers. The Greater Brazos Valley Region has an 11.8% prevalence of diabetes. Considerable variation

⁵⁹Diabetes* | County Health Rankings & Roadmaps. Accessed March 2, 2022. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-outcomes/quality-of-life/diabetes>

was found among the individual counties within the Region where rates ranged from 9.1% in Brazos County to 18.3% in Milam County. County differences can be seen in greater detail in Figure 19.

Figure 19. Diabetes Prevalence Rates for Counties in the Greater Brazos Valley Region⁵⁹

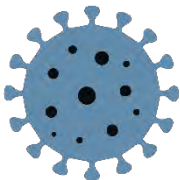


Comparing data from the 2013 and 2021 County Health Rankings, some observations can be made about changes in disease rates, specifically for diabetes. For example, rates of diabetes are higher in 2021 with 11.8% percent of the Greater Brazos Valley Region population having diabetes (9.1% for Brazos County and 15.3% for the rural counties). Diabetes prevalence has increased tremendously since 2013 in the Region. These comparison rates can be seen in Table 14.

Table 14. Change in Diabetes Prevalence 2013-2021^{59,60}

	Diabetes Prevalence	
	2013	2021
Brazos County	7.0%	9.1%
Burleson County	12.0%	13.3%
Grimes County	11.0%	15.8%
Lee County	11.0%	14.8%
Leon County	12.0%	12.9%
Madison County	10.0%	14.1%
Milam County	12.0%	18.3%
Robertson County	12.0%	16.9%
Washington County	11.0%	14.8%
Rural Counties	11.4%	15.3%
Greater Brazos Valley	8.9%	11.8%
Texas	9.0%	10.2%
U.S. Top Performers	8.0%	10.0%

Coronavirus (COVID-19)



In 2019 a respiratory disease caused by SARS-CoV-2; a coronavirus was discovered. On March 11, 2020, The World Health Organization (WHO) declared COVID-19 a pandemic. Over the last two years, COVID-19 has had a tremendous impact globally, nationally, and within the Greater Brazos Valley Region. Rules have been put in place throughout the pandemic, such as stay home mandates, social distancing, masks, and vaccine mandates. The COVID-19 pandemic has brought social and racial injustice and inequity to the forefront of public health. The virus has unequally affected many low-income communities and racial and ethnic minority groups, putting them at greater risk of getting sick and dying from COVID-19.⁶¹ The historical and current experiences of discrimination and overwhelming amounts of

⁶⁰Health Outcomes in Texas | County Health Rankings & Roadmaps. Accessed March 9, 2022.

<https://www.countyhealthrankings.org/app/texas/2013/rankings/outcomes/overall>

⁶¹CDC Museum COVID-19 Timeline | David J. Sencer CDC Museum | CDC. Accessed March 9, 2022.

<https://www.cdc.gov/museum/timeline/covid19.html>

misinformation from friends, family, media, and political leaders have caused distrust to many. The pandemic significantly impacts rural areas like many of the counties in the Greater Brazos Valley Region. This could be due to a lack of resources, a smaller workforce, and different values about prevention measures (social distancing, masking, and vaccines), and lifestyles.

Cases

The SARS-CoV-2 virus's high infection rate caused the virus to travel around the world at an alarmingly fast pace. Testing resources were not readily available to the public at the beginning of the outbreak causing uncertainty about the spread of the virus. Eventually, testing centers were created to rapidly confirm cases nationwide. In conjunction with the CDC, the Texas Department of Health and Human Services developed a COVID-19 active dashboard to track cases in real-time. From March 1, 2020, through February 28, 2022, there were 5,432,512 total recorded cases across the state of Texas, which is approximately 18.7% of the population.⁶²

Case counts were also tracked at a county level. The highest number of recorded cases of COVID-19 was 54,296 in Brazos County, which is 23.7% of the total population. Brazos County is home to Texas A&M University, which is home to over 70,000 students per year. The lowest number of documented cases was 2,122 in Lee County, or 12.3% of the total population. The **case counts** reflect cases tracked in Brazos County, including non-resident or seasonal residents of Brazos County for attendance at the university. Cases for the Region are shown in Table 15.

⁶²Texas COVID-19 Data. Accessed March 28, 2022. <https://dshs.texas.gov/coronavirus/AdditionalData.aspx>

Table 15. COVID-19 Case Count for Counties in the Greater Brazos Valley Region^{62, 63}

	Cumulative Case Count	Percent of Population
Brazos County	54,296	23.7%
Burleson County	4,043	21.9%
Grimes County	7,378	25.5%
Lee County	2,122	12.3%
Leon County	2,727	15.7%
Madison County	2,838	19.9%
Milam County	2,757	11.1%
Robertson County	3,619	21.2%
Washington County	7,564	21.1%
Greater Brazos Valley	87,344	21.7%
Rural Only	33,048	19.0%
Texas	5,432,512	18.7%

Deaths and Hospitalizations

COVID-19 has led to a dramatic loss of human life around the world. In the United States, there have been around 957,000 related COVID-19 deaths. In Texas alone, there have been 84,389 deaths. In the Brazos Valley, there were 1,108 **deaths related to COVID-19**, which is about 0.29% of the population. Brazos County had the highest number of fatalities at 404, equaling about 0.18% of the county population. Lee County had the lowest number of deaths at 60, equaling about 0.35% of the county population. Death rates for the Region are shown in Table 16.

⁶³CDC COVID Data Tracker. Accessed March 28, 2022. https://covid.cdc.gov/covid-data-tracker/#county-view?list_select_state=Texas&data-type=Risk&list_select_county=48041

Table 16. COVID-19 Death Count for Counties in the Greater Brazos Valley Region⁶³

	Cumulative Death Count	Percent of Population
Brazos County	404	0.18%
Burleson County	65	0.35%
Grimes County	119	0.41%
Lee County	60	0.35%
Leon County	89	0.51%
Madison County	53	0.37%
Milam County	99	0.40%
Robertson County	75	0.44%
Washington County	144	0.40%
Greater Brazos Valley	1,108	0.27%
Rural Only	704	0.40%
Texas	84,389	0.29%

Vaccinations

Three approved COVID-19 vaccines are authorized in the United States to prevent COVID-19, with some of the vaccines recommending additional booster shots for additional protection against the virus.⁶⁴ The CDC COVID-19 tracker reported the differences between these rates. According to the COVID-19 tracker, in Texas, 71.3% of the population has **partial vaccination** (only one dose). The **fully vaccinated rate** (two-shot series completion) is 60.2%, and the **fully vaccinated with booster rate** (full two series completion in addition to a booster) is 35.9%.⁶³

These rates were also tracked on a county level. The county with the highest partial vaccination rate is Grimes County at 59.8%, compared to the lowest in Leon County at 41.1%. The county with the highest total vaccination rate is Grimes County at 52.6%, compared to the lowest rate at 35.5% for Leon County. The county with the highest fully vaccinated, including the booster rate in Washington County, is 42.0%,

⁶⁴Different COVID-19 Vaccines | CDC. Accessed March 9, 2022. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines.html>

compared to the lowest rate at 35.5% for Leon County. Vaccination rates for the Region are shown in Table 17.

Table 17. COVID-19 Vaccination Rates for Counties in the Greater Brazos Valley Region⁶³

	Partial Vaccination Rate	Full Vaccination Rate	Full Vaccination with Booster
Brazos County	59.1%	51.1%	35.6%
Burleson County	54.6%	48.7%	39.5%
Grimes County	59.8%	52.6%	38.0%
Lee County	54.1%	46.7%	36.7%
Leon County	41.1%	35.5%	35.5%
Madison County	47.5%	40.8%	38.9%
Milam County	50.7%	45.0%	39.4%
Robertson County	50.9%	44.1%	36.6%
Washington County	55.9%	50.2%	42.0%
Texas	71.3%	60.2%	35.9%

Economic Impact

According to Episcopal Health Foundation, if Black and Hispanic populations in Texas were hospitalized for COVID-19 at the same rate as non-Hispanic, Whites, there would have been 24,000 fewer COVID-19 hospitalizations in Texas through September 2020. If there had been 24,000 fewer hospitalizations, it would have saved roughly \$558 million in health care costs. If Black and Hispanic populations in Texas had the same mortality rate as non-Hispanic, Whites at the end of September 2020, it would have reduced the Texas COVID-19 death toll by 30%. These premature deaths represent 60,000 life years lost, conservatively valued at \$3 billion.⁶⁵

According to the Texas Comptroller, employment among Texans making less than \$27,000 per year fell by 17% from January through October 22, 2020.⁶⁶ As discussed in a previous section, Grimes, Lee, Madison, Milam, and Robertson Counties all had

⁶⁵Turner A, Laveist TA, Richard P, Gaskin DJ. ECONOMIC IMPACTS OF HEALTH DISPARITIES IN TEXAS 2020 An Update in the Time of COVID-19.

⁶⁶Weathering the Pandemic: Texas Industries and COVID-19. Accessed March 9, 2022. <https://comptroller.texas.gov/economy/fiscal-notes/2021/jan/pandemic.php>

per capita personal income under \$27,000, leading the last statistic to impact these counties much harder than others. From mid-March 2020 through January 2, 2021, Texans filed more than 4.1 million initial claims for unemployment insurance, 300,000 in the week of April 4, 2020 alone.

Social Vulnerability Index

The Social Vulnerability Index (SVI) was created by the Center for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) to assess Census tracking on social factors such as poverty, transportation access, and crowded housing to gauge how well communities are prepared for natural and man-made disasters.⁶⁷ The index measures 15 social factors to generate a score from 0.0-1.0 (low to high vulnerability). This can help public officials and city planners identify areas of high vulnerability to properly allocate resources and assistance when planning for disasters.

To better understand impacts of COVID-19 on the Greater Brazos Valley Region, the SVI scores for the counties in the Region are reported above. The scores were compiled to analyze how vulnerable counties are to financial loss and human suffering in the wake of disasters. Regionally, the counties scored around middle to high vulnerability. The county with the lowest score (least vulnerable to disaster) was Leon County with a score of 0.616. The highest score (most vulnerable to disaster) was in Grimes County with a score of 0.860. Moderate-to-high scores of social vulnerability across all nine counties in the Region highlight the critical need to invest in emergency and disaster preparedness in the Region. City planners, public health officials, and city, county, and state elected officials may use these data to garner support and resources for policies and projects that will improve the infrastructure of the Region. Table 18 shows the social vulnerability index scores for the counties in the Greater Brazos Valley Region.

⁶⁷CDC/ATSDR SVI Fact Sheet | Place and Health | ATSDR. Accessed March 28, 2022.
https://www.atsdr.cdc.gov/placeandhealth/svi/fact_sheet/fact_sheet.html

Table 18. Social Vulnerability Index for Counties in the Greater Brazos Valley Region⁶⁷

Social Vulnerability Index Score	
Brazos County	0.653
Burleson County	0.608
Grimes County	0.860
Lee County	0.685
Leon County	0.616
Madison County	0.838
Milam County	0.763
Robertson County	0.753
Washington County	0.731

Human Reproduction and Sexual Behaviors



Three factors related to human reproduction and sexual behaviors were included in this assessment and appear in Table 19. The **percentage of low birthweight babies** is related to overall infant mortality and is largely preventable through adequate and timely prenatal care.³ Texas reports a low birthweight rate of 8.4% of total live births. Within the Greater Brazos Valley Region, the rate is slightly lower at 8.0%. Among the counties in the Region, the rate varies from a low of 7.2% in Leon County to a high of 9.9% in Robertson County. County Health Rankings describes **teen birth rate** as the number of births to females ages 15-19 per 1,000 females in a county.⁶⁸ The state birth rate of 31.4 births per 1,000 females ages 15-19 is higher than the Region's rate of 24.4. Variation exists regionally among the counties with rates ranging from a low of 17.1 births per 1,000 females 15-19 years of age in Brazos County to a high of 44.0 in Madison County. Many counties in the region have a lower teen pregnancy rate than the *Healthy People 2030* goal of 31.4 teen births per 1,000, but all counties are substantially above the U.S. Top Performing Counties rate of 13 per 1,000.⁶⁹ The

⁶⁸Teen births | County Health Rankings & Roadmaps. Accessed March 9, 2022. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors/sexual-activity/teen-births>

⁶⁹Reduce pregnancies in adolescents — FP-03 - Healthy People 2030 | health.gov. Accessed March 9, 2022. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/family-planning/reduce-pregnancies-adolescents-fp-03>

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 slight changes in the absolute number of cases can appear as large percent changes or differences.

One measure of human sexual behavior 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.³ Texas has a Chlamydia incidence rate of 517.6 (per 100,000); the Greater Brazos Valley Region’s average rate is higher at 538.9. As with teen births, rates are both above and below the State rate across the Region’s counties, but most are well above the U.S. Top Performing Counties whose rate is 161.4 per 100,000. Among the counties in the Region, the rate varies from a low of 133.9 in Lee County to high 703.4 in Robertson County. Brazos County’s rate is 656.1 per 100,000. The average rate for the rural counties is 384.6 per 100,000. More information can be found below in Table 19.

Table 19. Healthy Reproduction and Sexual Behavior Indicators in the Greater Brazos Valley Region^{3,68}

	Percent Low Birthweight	Teen Birth Rate (per 1,000)	Sexually Transmitted Infections (per 100,000)
Brazos County	7.8	17.1	656.1
Burleson County	8.7	35.2	310.9
Grimes County	9.7	34.7	384.6
Lee County	7.8	36.1	133.9
Leon County	7.2	38.1	278.4
Madison County	7.4	44.0	274.2
Milam County	7.4	36.6	510.9
Robertson County	9.9	41.6	703.4
Washington County	7.9	20.3	399.5
Greater Brazos Valley	8.0	24.4	538.9
Texas	8.4	31.4	517.6

Opioids



Opioid misuse has, in recent years, been a high-profile issue/concern across the nation – appropriately called the Opioid Epidemic. Opioids can be prescription drugs used for pain relief or used illicitly, such as heroin and fentanyl. The term misuse describes older substance misuse terms, more commonly known as addiction to the drug, wanting more drugs than initially prescribed, and sharing drugs with others, prescribed or not. According to the CDC, over 70,000 people died from an overdose in the United States in 2019, with two-thirds of the deaths being opioid-related overdoses.⁷⁰ In Texas, there were 3,136 deaths recorded.

Surveillance efforts for **opioid related overdoses/deaths** in the Brazos Valley are underdeveloped. The way that deaths are reported in medical facilities is different from deaths taking place outside medical facilities. Medical exams rarely take place posthumously for deaths outside of medical facilities due to shortages in medical examiners across the state, so the number of overdose deaths which have been recorded leave out deaths that are labeled undetermined or are not declared at all. Along with underreporting, some families decide to keep the cause of death private to honor the victim's privacy. This presents a gap in surveillance practices that impacts the ability to effectively collect data regarding opioid deaths.

Improving surveillance strategies will assist in quantifying this issue for the Greater Brazos Valley Region to understand costs associated with the misuse of opioids. The harsh impact of opioid misuse on communities in the Region, along with the unintended economic consequences that come with it, are stark. The estimated total cost of misuse and overdose deaths related to opioids in the U.S. was \$1 trillion dollars in 2017, and in Texas the estimated total cost was over \$49 million.⁷¹ The costs associated in the calculation include treatment, criminal justice, lost productivity, reduced quality of life, healthcare, and value of statistical life. The costs incurred by misuse and deaths related to opioids are rising each year, leading to strain on substance use treatment facilities, criminal justice systems, and healthcare facilities.

Steps that have been taken by the state to address this epidemic and its gaps include the DSHS Addressing Substance Use in Texas: A Public Health Agency Action

⁷⁰CDC. Texas Overdose Prevention Investment Snapshot. Accessed March 9, 2022. www.cdc.gov/opioids/index.html

⁷¹Economic Toll Of Opioid Epidemic: \$1.3 Trillion A Year. Accessed March 9, 2022. <https://www.forbes.com/sites/katiejennings/2022/02/04/economic-toll-of-opioid-epidemic-13-trillion-a-year/?sh=5495a3e02792>

Plan produced in 2020. This action plan is intended to address substance abuse in Texas through better data collection, education, and resource development.⁷² Implementation of these new strategies may improve the way Texas works with people recovering from using opiates and may assist in creating strategies for better prevention and treatment systems.

COMMUNITY FINDINGS

Community Discussion Groups



Community Discussion Groups (CDGs) were held in all nine counties with three different audiences as described in the Methodology section of this report. The summaries below present regional findings for the nine 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 wonderful places to live that are filled with friendly, supportive, and collaborative community members. Participants often described their communities as close-knit, particularly in the more rural counties such as Burleson, Grimes, Leon, Madison, and Robertson. When participants were asked to describe their community, apart from Brazos County, the area was described as rural with a small town charm. Brazos County was described as a regional hub, providing the area with access to medical care via several hospitals, clinics, and other social service providers, as well as opportunities for other shopping, such as grocery and retail. Most of the discussion group participants noted growth within their community, with Burleson and Lee noting a significant population growth that will be expected in their communities due to incoming industry developments nearby. Additionally, several counties described a growing elderly population, as the area is 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

⁷²Texas Targeted Opioid Response. Accessed March 9, 2022. <https://txopioidresponse.org/>

affordable public transportation within the counties, as well as regionally. Road infrastructure was also cited as a transportation issue, impeding services such as first responders. Access to care, including medical, mental health, and specialty care was described as a barrier in most of the counties, which reinforced the health professional shortage area data for the Region. Associated with the issue of accessing vital 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 many of the counties. Compounding these economic issues is the lack of safe and affordable housing options across the Region, especially for younger families looking for starter homes. Another group disadvantaged by the lack of housing options are elderly populations, as some elderly residents of the Region need supervised care in home or within a skilled nursing facility.

Community Resources

Across the Region, Community Discussion Group participants were readily able to identify resources and assets to the Region. Many 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 leaders. 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 District, for their educational services as well as serving as a community resource for collaboration with other organizations.

Recommendations from the Community

When asked what advice would be pivotal for successful interventions and assistance in the counties, residents across all counties recommended connecting with local leaders and community members in the planning phase. Smaller communities across the Greater Brazos Valley Region desire to be a part of the changes that take place in their neighborhoods and county. Including them in the process from start to finish will garner greater support in any initiative. Along with this piece of advice, community members desire thought-out, completed projects, with many residents expressing frustration with recent projects that have been abandoned in their communities. To remedy this frustration, project managers

should ensure that the scope of the project guarantees the completion of an intervention and any remaining loose ends be communicated to community leaders to finish the work properly.

Many of these findings from Community Discussion Groups have been consistently reported since the first assessment in 2002. This suggests that efforts to address these concerns have been unsuccessful or the results of those efforts have not been effectively communicated to members of the public. In either case, reviewing these findings should be a priority for those concerned with improving the health of residents of the Region.

SUMMARY OF KEY FINDINGS AND SIGNIFICANT HEALTH NEEDS

The 2022 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 accessing care for residents.

- Transportation has been identified as a top issue of concern in the Greater Brazos Valley Region 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.
- In some counties, transportation resources are provided by faith-based or other community-based organizations. The addition of more of these programs, such as transportation for elderly members of communities to health appointments, would improve quality of life for the Region.
- 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 Region 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.
- Even though the entire Region is designated a health professional shortage area, there are tremendous degrees of “lack of medical providers” 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 the entire 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, which echoes similar concerns expressed in the past two assessments. With a shortage of these jobs locally, many residents of the Region commute outside their home communities and counties to access gainful employment. Such commutes often compound factors such as the high cost of gas, utilities, and grocery stores in rural counties.



Lack of Recreational Activities

- With the continued rising rates of obesity, the lack of safe and affordable places to participate in recreational activities exacerbates the problem.
- All rural counties have a higher percentage of people who are physically inactive compared to *Healthy People 2030* goals.
- Six of the nine 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 recreational programs and services for various populations.



Risk Factors

- Increasing rates of risk factors such as obesity and chronic diseases highlight the profound need to provide prevention, diagnosis, and treatment of chronic disease in the Region.
- Over one-third (34.4%) of the Greater Brazos Valley Region's adults are obese.
- The Greater Brazos Valley Region is faring worse than the general U.S. population when it comes to availability and accessibility to healthy foods. One in 10 people in the Region have food insecurity or access 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 lack health insurance, with around 21.2% of the Region's adults are uninsured.



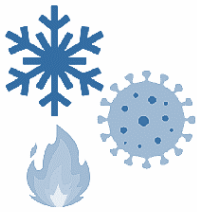
Access to Health-related Care

- 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.
- 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.



Communication and Coordination

- Residents in every community expressed concern about lack of communication and marketing of services and its impact on access to programs and healthcare.
- Specific issues raised include how to inform residents of the resources available to them, keeping information such as websites and flyers up to date, the need for outreach to a growing Spanish-speaking community, and how to improve communication and coordination among service providers.



Disaster Preparedness

- Many of the discussion group participants expressed disappointments and frustrations with how underprepared counties and the state were for weather events such as the winter storm in 2021.
- Disaster preparation planning for future weather-related events is needed throughout the Region to ensure the health and safety of community members.
- The COVID-19 pandemic took a toll on the Region structurally and medically, exposing many faults in existing protocols to handle large-scale medical disasters. (See COVID-19 discussion section for further detail about the pandemic's impacts on the Region.)
- Further collaboration between healthcare leaders and community leaders is needed to improve or create medical emergency protocols to better manage large-scale medical events.

APPENDIX A: COUNTY-SPECIFIC COMMUNITY DISCUSSION GROUP SUMMARIES

Brazos County

Community Characteristics

When asked to describe their community, residents of Brazos County felt that their communities are welcoming to many types of residents, from transient students to new business owners. The residents of Bryan/College Station shared that they take pride in being collaborative with other communities outside of their own, sharing a common interest in volunteerism and service. While they view themselves as family-oriented, the residents shared that they feel the community caters more to the transient university and college students and less to middle-aged residents with families.

Community Issues

The residents of Brazos County identified that mental health service availability was a paramount issue in their community. With a lack of available mental health professionals compounded by existing services closing or limiting client loads, residents have a hard time accessing quality mental health services. They also highlighted that affordable and accessible housing are issues in the county. Housing authorities and local realtors mentioned that the lack of affordable housing in the county is increasing. In Bryan, one mother described how hard it was for her daughter to find housing as a disabled person; accessibility and price were the primary factors inhibiting her from finding housing. While the community has many healthcare resources, health and human service personnel described how difficult it was for residents to access disability benefits, as there are hefty amounts of forms/paperwork that can be hard to navigate alone. They do what they can to lead people through the process, but they would like the process to be simplified for those applying for benefits.

Community Resources

Educational institutions are ingrained deeply into the culture of Brazos County, and the residents view these institutions as invaluable resources to their communities. Texas A&M University was described as “a resource for the entire [Brazos] Valley” by one resident. Along with TAMU, Blinn College was also cited as a valuable resource for the community by providing technical education programs. The

residents of Brazos County highly value their healthcare providers as well, being one of the area hubs for hospitals, clinics, and specialty care.

Community Collaboration

Throughout the pandemic, Brazos County residents rallied together to ensure that their neighbors stayed safe and had access to resources for testing. One healthcare professional mentioned how they collaborated to respond to COVID-19, “The testing processes that were set up were very innovative—drive-thru tents and kiosks were innovative, useful, and they continually published information on how to get it done.” Along with a successful response to the pandemic, many faith-based organizations worked together to provide charity to the county with food banks and toy drives. One church even had a clothing drive that gathered socks and pants for children.

How to Work in the Community

Community members highly recommend that if individuals want to work with the community that they should be willing to get their hands dirty. They desire volunteers to assist no matter what the job is, creating sound relationships with communities in the process through continued collaboration. Following any assistance with inquiries about any other projects of need is also vital, as some organizations or governmental bodies have smaller projects that have been neglected due to time constraints or scope. Being proactive about continuing assistance will always leave a good impression.

Burleson County

Community Characteristics

When asked to describe their community, Burleson County residents described it as welcoming, friendly, and close-knit. Elderly residents of Burleson County highly favor communities in this area as a place to retire, especially in Somerville, TX. With scenic lakes, community festivals, and collaborative faith-based organizations, Somerville, and Burleson County in general, are hospitable places to reside.

Community Issues

Burleson County and other surrounding areas are expected to grow with the expansion of Texas A&M’s RELLIS campus, which resides just outside of Bryan/College Station on the way to Caldwell, TX. With this potential population growth, the communities of Burleson County highlighted their lack of affordable

housing options and features of the community that are lacking, such as new businesses and entertainment. One resident expressed disappointment that they had to look for a venue outside of town for her son's wedding, an example of the venues/locations that are lacking in Caldwell. Recruiting new businesses to come into the community and creating more spaces to host events and entertainment would allow residents to patronize these places locally instead of leaving the county for these services.

Along with these areas for improvement, healthcare access for residents is a common issue. While telehealth services have been introduced, many residents would rather have in-person appointments, especially for mental health/counseling services. Local mental health professionals are scarce in Burleson County, and those that are available usually have to wait-list new clients because of the provider shortage. A positive of telehealth being available is a partnership that was formed by the county and Texas Counseling Center to provide counseling for youth in the community. However, when in-person appointments are necessary, finding transportation and staffing to drive children to the appointments is challenging. Conversations with residents in the community reaffirm the longstanding issue of transportation as a barrier to care in the community.

Community Resources

There are a variety of resources available in the county for citizens to access. Strong faith-based organizations provide a variety of services that cater to low-income and food insecure members of the community. Some of these services include counseling, food banks, clothing/shoe donations, resale shops, utility bill assistance, and prescription assistance. Other organizations and nonprofits in the area also host different charities and events to help raise money for causes, such as a local motorcycle club in Somerville that organizes a toy drive for local children.

Community Collaboration

The organizations and leadership of Burleson County are highly collaborative. The leaders and involved citizens of this county work well together, communicating what resources and services are locally available for the community to access at local county resource meetings. Working together to ensure programs or resources are not repeated assists in diversifying what services can be provided.

The communities of Burleson County also collaboratively plan and host events for their communities. A variety of celebrations and festivals are hosted, including an

early morning Easter service by the lake in Somerville, which is jointly planned by all the churches in town, to share an important religious holiday with the community regardless of what church residents attend.

How to Work in the Community

Community leaders expressed many pieces of advice for future assistance in the communities. Finding a solid group of volunteers that are consistent and dedicated is a great first step but building a continuous stream of helpers is necessary to prevent those who step up first from burning out. Along with this, one member of a discussion group mentioned that any meetings meant for volunteers or leaders should be concise and to-the-point. Overloading volunteers with information does more harm than good, so providing attainable action steps and updating volunteers once the original tasks are complete help keep everyone on track.

Grimes County

Community Characteristics

Viewing this county as welcoming, collaborative, and sought after by many, Grimes County residents hold their communities in high regard. Along with these accolades, residents recognize that the county is growing; new housing developments are being created often, more senior citizens are claiming the area as their retirement community, and many newcomers from across the Region value how secluded the area is from overpopulated urban centers.

Community Issues

Grimes County frequently suffers from the disparities that many rural counties face; lack of specialty medical care, slow response times from first responders due to distance from hospitals and shortage of EMS staff, overburdened mental health services, and little access to affordable, well-maintained housing. Health and social service providers try to keep up with these issues, but leaders of the community cited that even they must go to larger medical providers outside the community for their healthcare services to be of quality. A commonly shared issue across Grimes County is the lack of affordable healthcare coverage. One senior resident in Navasota shared that even with her health insurance she paid \$4000 of her own money after health insurance to pay for prescriptions over three months. The cost of insurances not fully covering needed medicines provide unnecessary roadblocks to residents of Grimes County.

The most cited issue in the county was the distance between the communities and access to needed goods and services. A lack of public transportation and much of the county residing in rural/remote areas leaves many residents without the ability to access needed services. Along with goods and services, many residents leave their communities and county to access better job opportunities, another transportation-related hurdle that residents face in accessing gainful employment.

Community Resources

There are a variety of local resources throughout Grimes County and the Brazos Valley that residents of Grimes can access. Organizations like Scotty's House, Twin City Missions, and HomeQuest provide needed services for the residents of Grimes. Senior citizens are well-cared-for in this county through many programs that local and county leaders provide, such as the Grimes Health Resource Center, The Son-Shine Center, and a resource fair put on at the local county fairgrounds annually. The senior residents reflected on all the services provided and commented "without the resource center we would be done," showing how much this service adds value to their lives and the community.

Community Collaboration

Local collaboration is strong within Grimes County. Great community programs like meal services, toy donations, and food banks thrive in these communities. However, social service providers discussed how some interventions tend to be segregated to certain areas in the county, specifically between North Grimes and South Grimes. These providers discussed how "people from North Grimes go to Madisonville and Huntsville...people in Navasota go to Bryan/College Station..." Service providers should ensure that the collaboration efforts are felt across the county as much as they are felt in the individual communities.

How to Work in the Community

When asked to share advice with current and future collaborators, Grimes County residents want more consistent and more intentional assistance. When people and projects show up consistently, it builds trust and creates more confidence in the communities affected by said interventions. A frequently discussed point by health and social services providers was they desire better communication of healthcare coverage and plans by insurance reps to vulnerable communities. One attendant of the meeting suggested that they "host a panel at senior centers where they can ask questions without company ties [to insurance providers]." Properly informing

vulnerable populations how to access healthcare coverage is vital to get them access to health services.

Lee County

Community Characteristics

When asked to describe their community, Lee County residents enjoy the rural lifestyle the county offers, even with new developments of industry and urban areas nearby. Noted as a helpful, strong-in-faith, and collaborative county, community members welcome newcomers with warm support. In the past, community members talked of times when acclimating was difficult when moving into the area. With a higher influx of people moving in and establishing themselves recently, these ideals have waned, allowing for a balanced mix of multi-generational community members and newly established citizens.

Community Issues

With new business and industry moving into Lee County, community members have noticed and felt the impact of these large companies. With the Samsung factory being built in Taylor, TX, and the incoming Tesla factory in the southeastern edge of Travis County, Lee County expects to see an influx of new residents, resulting in higher traffic rates, which is already an expressed concern in the communities. Members of Lee County discussed how they worry about their safety on the roads and as pedestrians because of the high amount of traffic and reckless drivers that travel through their towns. They also shared that the traffic is increased locally because community members must leave town to access goods, services, and entertainment; this creates extra burdens on families, children, and other residents that cannot access these things in their neighborhood. Lee County communities believe they could benefit from a population boost around the area, but community infrastructure should be adapted to accommodate the growth that will take place in the coming 5-10 years.

Community Resources

Lee County has many service organizations that work together to host events and programs that benefit the county. For example, there are four Lions Club chapters in the county that all work together to serve their respective communities and the county at-large. This volunteer-oriented mindset extends to first responder services, youth volunteer programs, and other community organizations. Lee County also partners with Blinn College's Brenham Campus to provide trades

education to help prepare county youth for jobs directly after graduating high school. This provides a continuous, local workforce and it helps the county retain skilled laborers. However, some expressed concern because many young adults leave the community better-paying urban areas leaving the community lacking skilled laborers.

Community Collaboration

There is a rich history of collaboration and teamwork in Lee County, especially in fundraising for worthy causes. One community member highlighted a moment in 1969 when the local government sent letters out to the community to fundraise a new school district, raising over \$100,000 in only a few days. Another notable fundraising source is the Giddings Fire Department. They have a history of hosting events to fundraise for people in the community suffering from disease or injury, finding immense success.

How to Work in the Community

Residents of Lee County had great advice for those who would want to work in the community. They recommend connecting newcomers with active civic organizations, especially churches. The faith centers in their communities hold power and trust with the citizens and working with them builds trust from the community towards any assistance that can be done. They specifically pointed to their need for infrastructure improvements associated with the new large factories being built and subsequent housing and population boom.

Leon County

Community Characteristics

When asked to describe their community, Leon County residents likened their communities to the fictitious town of Mayberry from the 1960 classic television show starring Andy Griffith. Rural, close-knit, and community oriented, Leon County residents highly value the communities they inhabit. Along with positive sentiments, the residents discussed how the county is growing, especially Buffalo.

Community Issues

Leon County communities face a variety of issues. One of the starkest shortcomings of the county is having low access to healthcare resources. With no hospitals located within the county, local clinicians have taken on the responsibility of community-wide care. However, without specialty care resources locally available,

many people take their business outside the county, especially for services such as pediatrics, mental health services, and substance abuse services. First responders also expressed challenges in providing services. Issues with locating houses with outdated GIS mapping, lack of housing numbers, remote residents living on unpaved roads which leads to transportation issues, and longer response times due to proximity away from trauma centers. These issues directly affect the residents in need of efficient care and the healthcare/EMS personnel who are limited in their service capabilities.

There are few housing options available to new residents of Leon County. Many previously affordable houses have increased in price out of range of many residents. This lack of starter housing and apartments limits access to housing for young adults, young families, and older residents of the community. Older residents are especially affected by this because there are few nursing facilities and assisted living options to house them with supervised care.

Community Resources

Residents of the county value their social support structures, educational institutions, and their local clinicians. While there is no hospital in the county, there are dedicated local clinicians, including a Federally Qualified Health Center, that provide quality general care for their communities. Without them, any medical services would be widely inaccessible. Along with these strong community support systems, Leon County provides great social support for youth and older members of the communities. There are three active senior centers in Leon County that provide programming and resources for older residents. The school districts are highly praised, which incentivizes young families to move to the area. Key leaders mentioned that the county is bringing in a med-flight service, which will assist first responders by reaching more remote areas of Leon and improving transport to hospitals in nearby counties.

Community Collaboration

Strong collaboration stories were shared across the discussion groups. Charity and donation events such as blood drives, food banks, and remote clinics brought in from Houston all display wonderful collaboration between communities. These events are also promoted by the radio stations in the county. This creates higher rates of volunteer assistance and donations.

How to Work in the Community

Community members encouraged volunteers and newcomers to the area to market their services widely so people in the county know what is being offered. If those that would like to come to the community work with key leaders and health/social service professionals to promote their services, this will lead to higher usership. Other residents also recommended general involvement in local government structures to be involved and in-the-know of community related decisions. One of the struggles for businesses and other service providers to deal with is low usership, which leads to fewer available hours or closure.

Madison County

Community Characteristics

When asked to describe their community, Madison County residents describe it as friendly and welcoming. Some community members mentioned, however, that many people claim community identity over county identity (e.g., Madisonville versus Madison County), which loses the potential to have a cohesive county identity.

Community Issues

COVID-19 exacerbated already existing issues in Madison County such as face-to-face treatment at healthcare providers, access to transportation assistance, and access to specialty medical care. An especially vulnerable population pointed out by one member was pregnant women who need prenatal care. Prenatal care is expensive and there are many appointments to make, which makes it hard for newly pregnant women to not only pay for them, but to find ways to get there. Community meetings have dwindled during the COVID-19 pandemic, making social isolation worse and making it difficult to meet with other community members.

Community Resources and Collaboration

There are a variety of local resources that Madison County residents can access. Some examples include Senior Renewal in Madisonville, which provides mental health services for individuals with Medicare, Son-Shine Outreach Center, which provides faith-based interventions in the county, and the Health Resource Center in Madison County. These organizations work together with communities and county officials to provide a variety of services that would be otherwise inaccessible for county residents.

How to Work in the Community

When presenting new ideas for projects or assistance in the community, leaders of the community recommend that having data showing the disparities and areas of improvement will provide a better path to success for intervention planners. Being able to show what communities or people are most affected by shortcomings in the community structure will help create interventions that are targeted and precise.

Milam County

Community Characteristics

When asked to describe their community, Milam County residents value how traditional and compassionate their communities are. Small farming communities find beauty in their surroundings, with one resident commenting, “When I think of Rockdale, I think of a Norman Rockwell painting.”

Community Issues

The health of Milam County residents is very important to community leaders, especially with those working in health and human services. Community leaders expressed how the county lacks sufficiently staffed first responder services, local healthcare centers such as hospitals (the two in the county closed in the last 5-10 years), and specialty care. Due to the population size and geographical size of the county Milam residents are limited in what services, medically or otherwise, that they can access. A resident commented that it can take from 45 minutes to an hour to drive to certain places in the county.

Community Resources

A unique resource that Milam County is home to is solar power. With nearly 12,000 acres of solar panels installed in the county, it will soon make Milam one of the largest solar producing counties in the United States. Industry is also booming in and around Milam, with multiple factories that are coming to the area soon. The economic impact of these large businesses will positively benefit the surrounding communities.

While the hospitals in Milam have closed, nurse practitioners have been starting up practices locally in communities to provide services that would otherwise be unavailable locally. Along with this, mental health services are expanding in the county, with some organizations such as Central County Services offering telehealth services 2-3 days a week.

Community Collaboration

Collaboration in Milam County tends to stay at the local level, with communities assisting neighboring communities more than cumulative assistance across the county. A health and social service provider, however, mentioned that collaboration between the county health department and the communities of Milam has grown stronger. She mentioned, “When I first got here over five years ago, the health department typically only went to back-to-school events in Cameron and Rockdale. Now we go to every school district [to be present].” Meeting the community members where they are can build stronger connections that can lead to further collaboration.

How to Work in the Community

Gaining trust in the community before assisting is paramount for Milam County residents. Inclusion of the community in decision-making and development of interventions will allow them to feel a part of the process, leading to success and patronage of programs such as after-school programs or the developing telehealth services. Along with inclusion, volunteers/professionals should ensure that all communities in county-wide interventions are included and not just the heavily-populated areas. Interventions should be equitable and include all communities.

Robertson County

Community Characteristics

When asked to describe their community, Robertson County residents describe it as “the crossroads of Texas.” Residents also describe the county as diverse and welcoming, saying that there is great potential for growth and opportunity. An area for improvement noted by the residents was crime rates throughout the county and would like to see this issue resolved. Specifically, in Calvert, community members expressed dissatisfaction with the lack of unity among their community between residents and local leadership.

Community Issues

Residents of Robertson County held a consensus view regarding the lack of quality and affordable housing in the county. Housing in general is sparse in the county and what is available is usually unobtainable for residents of lower socioeconomic status. Housing market strains prompt residents to look for housing outside of the county or their community. Another issue the residents highlighted in conjunction with the housing disparities is a lack of job opportunities. Industry tends to move

factories or other businesses closer to larger metropolitan areas, leaving smaller communities in Robertson County without local employment resources. Many residents cited that they commute to Bryan/College Station for employment because there are more opportunities. Teachers also find it hard to remain in the county, as larger school districts possess more resources and professional development. School faculty shared that the students expect teachers to not stick around long and choose to not form quality relationships with the faculty.

Residents of Calvert shared they feel a stark racial divide in their community, making innovation challenging with roadblocks such as these. The Black community in Calvert feels ignored and unassisted, sharing infrastructure issues in their neighborhoods, such as road quality, along with other issues. Unresolved racial tensions in this community inhibit the growth Calvert needs. Calvert residents also desired a revitalized food bank, as their local food bank shut down due to organizational difficulties.

Community Resources

Community events that bring people together, such as the talent show/pageant in Hearne, holiday celebrations for 4th of July and Christmas, and a celebration called Hood Day are at the core of the community of Robertson County. While some events exist for youth, many county residents desire more opportunities for entertainment or extracurricular activities for the youth of the county. They express that this will help get kids out of trouble and engage them in positive ways.

Community Collaboration

While community members shared that many residents are self-reliant and do not ask for much, when disaster strikes, the community rallies together to assist their neighbors. An example of this was the community effort to help repair homes after the winter storm that hit in 2021. Along with individual community member efforts, faith-based organizations are highly valued for their collaboration and work in the county. Many churches across the county provide much-needed programs to their parishioners and non-churchgoers alike, such as food pantries, local events, and other services.

How to Work in the Community

A paramount piece of advice a resident of Hearne provided for those who want to come into the community to help would be “if you check in with community members where they are at, they will buy into the cause.” Meeting people where

they are levels the field and allows for more honest discussions with communities in Robertson County. The residents desire intentional help after many projects were started and not finished. They desire completion from innovators wishing to help and considering the opinions of the community when starting new projects.

Washington County

Community Characteristics

When asked to describe their community, residents of Washington County used terms like “collaborative” and “compassionate.” “When duty calls, residents work hard to ensure the safety and health of their neighbors,” was a sentiment shared through a story of how the local brewery boiled water for residents in Brenham during the winter storm that swept through Texas in early 2021. Residents also admired how well-structured and quaint their downtown area is in Brenham, showcasing the growth-orientation of the community.

Community Issues

A commonly shared concern within the community was the inconsistent availability of specialty medical care providers. While there is an acute care hospital in Brenham, specialty care clinicians are not staffed full-time. This prevents not only consistent coverage for the needs of the communities, but it prevents patients from developing strong trust and connections with clinicians. Along with having consistent, local, and available clinicians, mental health workers and the criminal justice system suffer from staffing shortages, which leads to more citizens not having readily available networks for care.

A highly susceptible group disadvantaged by the lack of mental health workers are youth in the community. A Child Protective Services (CPS) worker in Washington County mentioned when children desperately need counseling after experiencing trauma at home, they do not have enough mental health workers to provide it.

Community Resources and Collaboration

Many valuable resources were cited by community members such as faith-based centers, community resource groups, and housing authority programs. Mental health resources are becoming more prioritized, especially in the school district in Brenham. They have hired more counselors and social workers to create better access points for students who need interventions at school or at home, such as targeted counseling for those who attempt to drop out. These resources are

available on the school campus to provide access for parents, as well for better communication about the needs of their children. Examples of collaborative efforts throughout the county being continuously improved are restorative justice programs in the jail. Washington County Jail works with other county jails nearby when staffing or space has become inadequate at the local jail. When Washington County has the resources and staffing, they provide a variety of resources for incarcerated individuals such as telehealth counseling and reintegration programs post-release from jail.

How to Work in the Community

Key leaders in the community recommend that new volunteers or social assistance personnel achieve buy-in from county and city commissioners. Having support from local leaders will assist in organizing town halls, community discussion groups, or other forms of conversation to gain interest from the community.

APPENDIX B: EVALUATION OF PAST ACTIVITIES – ST. JOSEPH HEALTH

Addressing Significant Health Needs

St. Joseph Health conducted its last CHNA in 2019 and reviewed the health priorities identified through that assessment. Taking into account the top-identified needs — as well as hospital resources and overall alignment with the hospital’s mission, goals and strategic priorities — it was determined at that time that St. Joseph Health would focus on developing and/or supporting strategies and initiatives to improve:

- Mental Health Services
- Access to Health-related Care
- Risk Factors
- Communication & Coordination

Strategies for addressing these needs were outlined in St. Joseph Health Hospital’s Implementation Strategy. Pursuant to IRS requirements, the following sections provide an evaluation of the impact of the actions taken by St. Joseph Health to address these significant health needs in our community.

Evaluation of Impact

Priority Area: Mental Health Services	
Community Health Need	Access in Rural Counties to Mental Health Services
Goal(s)	Expand access to mental health services for our vulnerable populations in rural counties (i.e., senior, rural, and low-income residents).

Strategy 1: Senior Renewal Program	
Strategy Was Implemented?	Yes
Target Population(s)	Vulnerable Populations (senior/55+, rural, low income)
Partnering Organizations	Senior Renewal Program Signet Health (formerly Diamond Healthcare)

Results/Impact	<p>Through this program, individuals learn effective ways to cope with concerns through a combination of therapies, nursing care, and an individualized treatment plan that may include: referrals to community resources, group therapy with other senior adults with similar concerns, individual therapy, family therapy, and continuous communication with their physician. Due to challenges regarding COVID-19, the Senior Renewal program in the Critical Access Hospitals (Burleson, Grimes, Madison) was moved to a telephone-only program in Mid-March 2020 and then was permanently suspended due to COVID constraints in April 2020. All patients receiving treatment were transferred to Texas A&M for therapy services so there would be no interruption of care. The program was reinstated using a new service provider (Signet Health) in early 2021.</p>
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Strategy 2: Telehealth Counseling Services	
Strategy Was Implemented?	Yes
Target Population(s)	Vulnerable Populations (senior/55+, rural, low income)
Partnering Organizations	Texas A&M Tele-behavioral Care (TAMU-TBC) program Texas A&M College of Medicine TAMP MHMR
Results/Impact	St. Joseph Health partnered with the TAMU-TBC program to improve access to counseling for patients in the Brazos Valley. TAMU-TBC provides individual, couples, and group counseling via video and telephone. The partnership increases access to behavioral health care for patients and community members and improves the mental

	<p>health and quality of life of the individuals served.</p> <p>Telehealth counseling services were established in Hearne and Franklin, TX. With these additional locations, telehealth services were made available in the patient's community thus increasing referrals to the counseling services, number of patients served by telehealth, and access to mental health services. These services were temporarily suspended during COVID-19 but are back in practice at this time. Hearne and Franklin are typically underserved regions within our service area.</p>
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Priority Area: Access to Health-Related Care	
Community Health Need	Access to Health-Related Care
Goal(s)	Reduce avoidable ED utilization, improve patient access to health-related care, and management of chronic conditions.

Strategy 1: ED Diversion and Patient Navigation Program (DSRIP)	
Strategy Was Implemented?	Yes
Target Populations(s)	Patients identified as high utilizers of the emergency department (ED) for conditions that are more appropriately treated and managed in a primary care medical home for chronic conditions.
Partnering Organization(s)	Brazos County Health Resource Center FQHC – HealthPoint Clinics DSRIP (1115 Waiver)
Results/Impact	Program resulted in 55% reduction in chronic ED visits for identified patients.

Strategy 2: Home Visit Program	
Strategy Was Implemented?	Yes
Target Populations(s)	Those experiencing transportation barriers, social barriers and/or those needing additional management of chronic disease states with a Home Visit Nurse Practitioner.
Partnering Organization(s)	Texas A&M Health Science Center.
Results/Impact	Program resulted in 55% reduction in chronic ED visits for identified patients.

Priority Area: Risk Factors	
Community Health Need	Increased risk factors
Goal(s)	Increase opportunities for education for Brazos Valley residents with identified risk factors, improve health behaviors and outcomes, and reduce healthcare utilization.

Strategy 1: Diabetes Education Program	
Strategy Was Implemented?	Yes
Target Populations(s)	Broader community
Partnering Organization(s)	Texas A&M Center for Population Health & Aging
Results/Impact	Through a strengthened partnership with Texas A&M Center for Population Health and Aging, we were able to provide quality diabetes education, improve A1C testing rates, and provide additional resources to our diabetic population.

Strategy 2: Chronic Disease Self-Management	
Strategy Was Implemented?	Yes
Target Populations(s)	Broader community
Partnering Organization(s)	Texas A&M Center for Population Health & Aging

	Stanford University Chronic Disease Self-Management Program (CDSMP)
Results/Impact	56 people participated in a 6-week chronic disease self-management program before it was shut down due to Covid. An accountability support group was formed to follow-up with participants of CDSMP programs to ensure they are meeting their goals and objectives. This support group provides networking support from multiple hospital departments to provide ongoing support and resource connection. Approximately 15 people attend this support group each month.

Priority Area: Communication & Coordination	
Community Health Need	When surveyed, residents in every community expressed concern with communication and its impact on access to services.
Goal(s)	Improve access to care and health status through collaboration and coordination of services.

Strategy 1: Health Navigators (Senior Advocate, Health Coach, Breast Health, Cardiac, Lung)	
Strategy Was Implemented?	Yes
Target Populations(s)	Brazos Valley residents 55+, St. Joseph Medical Group (SJMG) patients with a diagnosis of obesity and/or diabetes, and patients that receive a diagnosis of breast cancer, lung cancer or need cardiac services
Partnering Organization(s)	Multitude of community organizations and hospital departments
Results/Impact	These navigators serve as a central point of contact, successfully connecting individuals and families with services, resources, providers, and care coordinators, effectively eliminating barriers to healthcare and promoting health management

	outside of the acute care setting for those aged 55 and older, those suffering from an obesity and/or diabetes diagnosis, breast cancer treatment, cardiac services, and/or lung cancer.
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Strategy 2: Resource Coordination Through Health Resource Centers

Strategy Was Implemented?	Yes
Target Populations(s)	Living in poverty
Partnering Organization(s)	Episcopal Health Foundation Twin City Mission Bridge Ministries Brazos Valley Food Bank St. Vincent dePaul Catholic Charities of Central Texas Multitude of other community organizations
Results/Impact	Over 1,000 people received resource coordination services through the Brazos Health Resource Center. Some of these individuals received direct assistance including but not limited to low-cost assistive equipment or durable medical equipment, transportation, medication assistance, and referral to a Health Resource Center closer to area of residence after discharge.