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The Center for Children's Health

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Executive Summary

ral health affects a person's physical, psychological, and social well-being, and is considered a window into the condition of the rest of the body.

Oral health problems also account for over \$1 billion dollars in state spending in Texas every year, not including costs related to absenteeism and diminished productivity at school and work.

Often described as a "silent epidemic," oral health often struggles to command attention and urgency from public health leaders in proportion to its prevalence and cost burden.

Improving the oral health of Texans is within reach thanks to an abundance of safe, effective, and cost-containing measures within and beyond the dentist's chair. Oral Health in Texas: Bridging Gaps and Filling Needs provides a portrait of the oral disease burden in Texas and makes the case for a comprehensive public health approach to addressing oral health. The report unites a wealth of state, regional, and county-level data with supporting literature to empower public health leaders to better understand oral health strengths and challenges in their communities and across the state.

How this Report is Organized

A state-level overview of oral health is organized around four guiding questions with implications for public health leaders and policymakers across the state:

- Oral health and overall health: Where does Texas stand?
- What factors contribute to Texas' oral health burden?
- Are Texans accessing the oral health care they need?
- Can Texas' oral health workforce meet demand?

Each section describes the available scientific evidence and provides a thorough, impartial review of associated policy issues. Where possible, Texas' performance on measures of oral health, risk factors for disease, access to care, and workforce capacity are compared to national average and Healthy People 2020 targets.

Following the state-level data and supporting literature, regional and county data profiles for 20 regions and all 254 Texas counties are presented. These profiles display the most recent publicly available data on population and socioeconomic factors, oral health outcomes, risk factors for disease, clinical care, and Medicaid and CHIP enrollment and expenditures. Results are presented at the most granular level the data will allow to promote exploration of oral health on a local scale.

Data Sources & Technical Notes

Findings in this report are based on evidence from several national and state data sources, including but not limited to Behavioral Risk Factor Surveillance System, Youth Risk Behavior Surveillance System, National Survey of Children's Health, National Health and Nutrition Examination Survey, the Texas Department of State Health Services, and Texas Health and Human Services Commission. Refer to the Methodology and Data Sources section for a complete listing of data sources, indicator definitions, and years.

In this report, Texas' Regional Health Partnership (RHP) boundaries have been used to analyze and report oral health outcomes by region. RHP regional boundaries were selected after evaluating several existing statewide regional frameworks. RHPs permitted the most granular regional analysis possible while generally maintaining sufficient sample size to produce valid estimates on measures obtained from survey data.

Key Findings & Discussion

This report's key findings reflect high-level themes observed consistently within regions and throughout the state. While these key findings begin to tell a high-level story on oral health in Texas, they are not intended to be exhaustive or conclusive. Rather, they serve as examples of the type of inquiry the data support, and provide a launch point for conversations around tailored, evidence-informed solutions. The three key findings include:

While Texas is lagging in several oral health priorities, it has also shown capacity to lead.

Children in Texas experience tooth decay and dental problems at elevated rates compared to the rest of the nation. Rates of adult oral health problems in Texas more closely resemble national averages, but still reflect a great burden of chronic or severe oral health deterioration with age. More than half of Texans age 45-64 have had tooth loss due to oral disease, and about one in eight Texans age 65 and older have none of their natural teeth remaining.

There is also substantial reason for concern about Texans' ability to obtain and afford oral health care. Texas has the highest health uninsured rate in the nation (17%) and the dental uninsured rate, while not publicly tracked, is almost surely higher. Forty percent of the nation's dental care is financed out-of-pocket, yet one-third of Texas households earn incomes at or near the federal poverty level. Families who lack the resources to meet their basic needs are unlikely to be able to bear the full cost of dental services.

Despite challenges, Texas has achieved examples of success worth sustaining. The state performs well on measures of dental care access and utilization for children: 81% percent of Texas children ages 1-17 have made a dental visit in the past year. Approximately 69% of children in Texas' Medicaid and CHIP programs make annual dental visits, the highest rate of any state in the country. In seven of twenty Texas regions, fewer than 10% of adults have poor dental health. Common threads between leading regions include low rates of smoking and oral cancer, higher rates of health insurance coverage, and an adequate supply of oral health professionals.

Texas' oral health burden is most concentrated in its rural and border regions.

Texas' oral health burden splits unevenly across urban/rural and border/non-border regional divides. Rural and border regions are home to high proportions of low-income and food insecure populations, with adult health uninsured rates as high as 42% in the border regions.

The rural region containing Abilene has an estimated 28% of adults in poor dental health, a rate nearly four times higher than the top performing urban regions (between 7-8%). The rural regions containing Abilene and Wichita Falls also have some of the state's highest oral cancer rates. All seven rural regions have lower than average rates of past-year dental visits, and many rural and border regions lack an adequate supply of oral health providers.

Oral health problems co-occur with chronic diseases and are made worse by health risk behaviors like smoking. Chronic disease and smoking rates are excessive in rural regions. The rural region containing Abilene has nearly three times the estimated rate of diabetes as the Dallas region, and twice the rate of smoking as the San Antonio region. Diabetes rates are higher in most of Texas' border regions. Obesity appears to be a major problem statewide.

While rural regions and border regions both bear an outsized burden of oral disease, they differ in their use of the public health care safety net. In border regions, approximately 20-28% of the population is enrolled in Medicaid, compared to 13-17% in rural regions. Annual Medicaid costs per enrollee (both dental and non-dental) are among the state's highest in border regions despite a younger overall population, and among the lowest in rural regions despite an older population. Further analysis may be needed to explore underlying drivers of Medicaid enrollment and expenditure differences in rural and border areas.

Focusing narrowly on health care neglects other opportunities to improve oral health.

Evidence from this report suggests access to health care is necessary, but not sufficient, to achieve good oral health outcomes. Despite performing well on measures of access to dental care for children, the state's child oral health outcomes are poor. Ninety percent of Texas children have health insurance, with pediatric dental services nearly universally covered. Eighty percent of Texas children visit the dentist annually. However, Texas ranks third-worst in the nation (39th out of 41 ranked states) for the percentage of third graders who have experienced dental caries.

This phenomenon is also observed regionally. The Southeast Texas region containing Beaumont/Galveston performs equal to or better than the rest of the state on several measures of oral health care access, but ranks among the worst in the state for estimated rates of oral cancer mortality, poor adult dental health, and complete tooth loss among older adults. Put another way, oral health outcomes in the Beaumont/Galveston region are no better than regions with measurably greater access limitations.

These findings suggest other factors are undermining the protective effects of access to care, and this report identifies several potential contributors. The percent of Texans served by fluoridated drinking water has decreased from 79% in 2014 to 69% in 2017. Food insecurity, which affects 10% of Texans, is a source of risk for untreated dental caries and dental pain among children. And in regions with poor dental health outcomes – even those with better access to care – smoking, cardiovascular disease, and obesity rates are high.

Summary

This report confirms oral health problems are widespread among Texans of all ages and backgrounds. Oral disease is largely preventable, costs taxpayers millions of dollars in avoidable health care spending, and causes untold pain and suffering. Already a pervasive and expensive issue, demographic and chronic disease-related trends suggest oral health is poised to grow into an increasingly complex and urgent challenge for the state in the coming years.

Abundant opportunities exist within and beyond the context of clinical care to improve oral health. Indeed, there are exemplary areas of the state that achieve aspirational results, uniting clinical care with efforts to minimize adverse health risk behaviors, support chronic disease management, and community-based efforts to protect good oral health. By taking deliberate steps to promote and protect oral health, public health leaders in Texas are well-positioned to reduce the largely preventable consequences of oral disease and improve overall health and quality of life in their communities.



Introduction

he health of the mouth is inseparable from general health and essential for overall well-being at all life stages. Indeed, health care professionals consider oral health a window into the condition of the entire body. Ailing oral tissues often signal the first evidence of infectious disease, cancer, injuries, immune system disorders, or nutritional concerns affecting the rest of the body. Oral diseases also impact a person's functional, psychological, and social well-being. Simple actions people might take for granted like talking, smiling, and eating can be uncomfortable or impossible for those with oral health problems. People who experience embarrassment, bullying, or discrimination based on the appearance of an unhealthy or disfigured mouth may lose selfesteem and withdraw from social relationships.

Despite accounting for \$124 billion of nationwide health care costs in 2016, - including \$1.4 billion from Texas' Medicaid and Children's Health Insurance Programs (CHIP) – oral health struggles to command urgency from public health leaders in proportion to its prevalence and cost burden. 1 2 Oral diseases also threaten to undermine the economic vitality of the state by contributing to school and workplace absenteeism, interfering with academic progress and diminishing worker productivity. For these reasons, oral health has been called a "silent epidemic," requiring a decisive, coordinated response from policymakers and professionals within and outside the health sector.³ Leaders in every community across the state must aspire to create conditions that help all Texans live free of oral disease and attain the highest possible standard of well-being.

How is oral health defined?

Oral health refers to the health of all parts of the mouth and throat, including the teeth, gums, tongue, lips, hard and soft palates, salivary glands, tissues, jaws, and surrounding bones, muscles, and nerves.

Improving the oral health of Texans is within reach thanks to an abundance of safe, effective, and cost-containing prevention measures and policy options. This report aims to convey the most current evidence on the state of oral health in Texas, including disease burden, risk factors, access to care, and information on policy options. Accompanying statewide and local data profiles are intended to stimulate dialogue, inform planning, and motivate leaders to action with the goal of improving oral health in their communities. By taking deliberate steps to promote and protect oral health, Texas is well-positioned to reduce the largely preventable consequences of oral disease in the state.

Oral Health and Overall Health: Where does Texas Stand?

Oral Disease in Texas

Tooth decay, gum disease, and other diseases of the mouth affect millions of Texans at every life stage: 7.5% of Texas children have fair or poor dental health, and 11.6% of Texas adults currently have poor dental health.^{4 5} Most problems with the teeth and gums fall into three major categories - dental caries, periodontitis, and oral cancer.

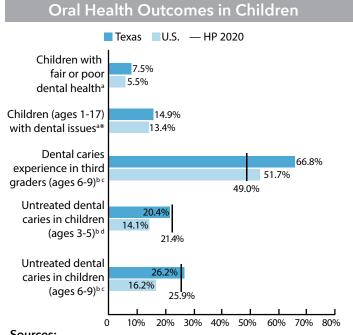
Tooth Decay & Periodontal Disease. Dental caries is a decay process caused by infectious, transmissible bacteria living in the mouth.⁶ These bacteria convert sugars and carbohydrates from the diet into acids, dissolving the mineral surfaces of teeth and eventually producing holes, or cavities, in the tooth enamel. When caries progresses beyond the enamel, infection progresses into the pulp of the tooth. Painful abscesses may result, in severe cases destroying bone and spreading infection to other body systems through the bloodstream.

According to Centers for Disease Control and Prevention (CDC) estimates, more than one-third (37%) of children ages 2-8 have experienced dental caries in their primary teeth, and 58% of adolescents ages 12-19 have experienced dental caries in their permanent teeth. 7 Approximately 14% of children ages 2-8 and 15% of adolescents ages 12-19 have untreated tooth decay.8

Out of 41 states reporting data to CDC between 2008 and 2013, Texas ranked third worst (39th) for the percent of third graders who have experienced dental caries and seventh worst (35th) for the percent with untreated dental caries.9 In both cases, Texas' rates of dental caries experience and untreated decay among third graders exceed national averages, indicating worse oral health status (Figure 1).

Periodontal disease, referring to disease of the gums (gingivitis) and tissue and bones surrounding the teeth (periodontitis), occurs when mouth bacteria colonize spaces between gums and teeth.¹⁰ Regular brushing, flossing, and dental care controls bacterial growth, but long periods of exposure to these bacteria can degrade gum tissue and bones stabilizing the teeth. As periodontal disease advances, teeth eventually become loose and infection

Figure 1



Sources:

- ^a National Survey of Children's Health, 2016
- ^b National Health and Nutrition Examination Survey, 2013-2014
- ^c Texas Basic Screening Survey, 2012-2013
- d Texas Basic Screening Survey, 2013-2014
- *such as tooth ache, bleeding gums, and dental caries in the past 12 months

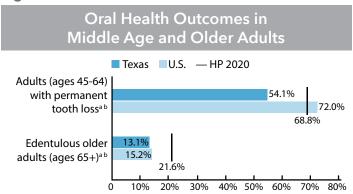
By the time American adults reach age 60, 91% will have had a history of tooth decay.

risk increases. Gingivitis can begin as early as adolescence, while periodontitis tends to begin in adulthood and is a leading cause of tooth loss among older adults. 11 Periodontitis affects about 65 million adults over age 30, or 46% of the U.S. adult population. 12 Periodontal disease prevalence is not publicly tracked at the state level.

A decline in national rates of tooth decay and periodontal disease over the last three decades amounts to a major public health success; however, not all groups have enjoyed equal oral health status improvements.¹³ Seven in ten Hispanic adults in the U.S. today

have periodontitis, compared to six in ten Blacks and four in ten Whites. ¹⁴ And as dental problems accumulate with age, poor oral health remains a pervasive concern for older adults, especially older adults of color and those who are economically disadvantaged. ¹⁵ By the time American adults reach age 60, 91% will have had a history of tooth decay. ¹⁶ Nearly 70% of adults over age 65 have periodontitis, and those with severe periodontitis have an average of just 21 teeth remaining (out of 32). ¹⁷ More than one out of every seven American adults age 65-74 are completely edentulous, meaning they no longer have any of their natural teeth (Figure 2).

Figure 2



Sources:

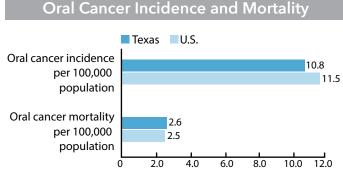
Texas Behavioral Risk Factor Surveillance System, 2012, 2014, 2016 (edentulism data for age 65+ years)
 National Health and Nutrition Examination Survey, 2013-2014 (edentulism data for age 65-74 years)

Currently, 54.1% of Texans age 45-64 have had at least one tooth extracted due to tooth decay or gum disease, better than the national rate of 72.0%. The rate of completely edentulous adults in Texas (13.1%) also falls slightly below the national rate of 15.2% (Figure 2). However, older adults in Texas are poised to bear a greater share of Texas' oral disease burden in coming decades. Adults over age 65 are the fastest growing age group in the state, with their numbers expected to more than triple in size from 2010 to 2050.18 In addition, life expectancies in Texas have consistently trended upward from 1989 to 2014.¹⁹ It appears more Texans will advance further into old age than ever before, and live more years of life during a period when the health of the mouth is naturally deteriorating.

Oral Cancer. Oral cancer is the eighth most common cancer worldwide, and includes cancers of the lip, mouth, and pharynx.²⁰ The American Cancer Society has estimated nearly 50,000 Americans will be diagnosed with oral cancer in 2018, and of those, 10,000 will ultimately die of the disease.²¹ Similar estimates from the year 2000 predicted 30,000 new oral cancer cases and 8,000 deaths.²² Accounting for population growth, these data suggest new cases of oral cancer are decreasing and survivorship has increased over the past two decades.

Oral cancer incidence in Texas decreased 9% over a nine-year period from 2000-2008, mirroring the direction of national trends during that time.²³ Adjusted for age, Texas currently has an annual oral cancer incidence rate of 10.8 new cases per 100,000 population, lower than the national rate of 11.5 cases per 100,000 population. Texas' oral cancer mortality rate is also similar to the national rate (Figure 3).

Figure 3



Source:

Surveillance, Epidemiology, and End Results, 2010-2014

Craniofacial Conditions. Oral or facial injuries, genetic disorders such as cleft lip and palate, or severe malocclusion (misalignment of teeth) can impact both function and appearance of the mouth. In Texas, 15.1 oral clefts occurred per every 10,000 live births from 2010-2014.²⁴

Children bear a substantial burden of craniofacial injuries and disorders. While some children are born with abnormalities, children are also most vulnerable to acquiring craniofacial conditions through accidental injuries, sports injuries, motor vehicle accidents, and child abuse.²⁵

While uncommon, craniofacial conditions can have lifelong negative social and quality-of-life impacts. ²⁶ Cleft lips and palates usually require multiple surgeries and can be extraordinarily expensive to treat. A child born with a craniofacial defect will likely incur a minimum of \$100,000 in treatment costs over a lifetime. ²⁷

Health Conditions Beyond the Mouth

The U.S. Surgeon General's landmark report *Oral Health in America*, released in the year 2000, described the mouth as both "a portal of entry for infection" and "a mirror of health and disease." The report made explicit the mouth's major role in gatekeeping and signaling pathology, and ushered in further examination of the relationship between oral and systemic health in the years since its publication. ²⁸ While current evidence does not confirm oral health problems directly cause chronic disease, or vice versa, it does support a bidirectional relationship where risks and symptoms of oral diseases and other diseases are made worse by co-occurring with one another. ²⁹ ³⁰

Connections between oral health and cardiovascular disease, diabetes, hypertension, respiratory disease, obesity, AIDS, mental health and substance use disorders, and infectious disease are plentiful and thoroughly supported by research. As examples, inflammation associated with periodontal disease increases risk for stroke, cardiovascular disease, obesity, respiratory infection, and premature birth.^{31 32} ³³ Periodontitis is also a routine complication of diabetes, and makes blood sugar more difficult to control.³⁴ Pneumonia and other respiratory infections can result when bacteria from mouth are aspirated into the lower respiratory tract.35 36 While chronic obstructive pulmonary disease is largely attributable to smoking, bacteria from the mouth play a role in advancing the progression of the disease.37

Medications and medical treatments are often an underlying reason for the association between oral health problems and chronic disease. For example, dry mouth – a common side effect of medication – decreases saliva flow, which has a protective effect on the mouth and teeth.³⁸

For these reasons, medically complex and immune-compromised individuals are especially susceptible to oral disease.

Between 7% and 15% of adults say oral problems have limited them from laughing, smiling, or conversing with others in the past year.

Beyond specific diseases and diagnoses, oral health has the potential to severely diminish overall quality of life, with negative psychological and social impacts.³⁹ ⁴⁰ About one in five adults experience embarrassment in social interactions due to the appearance of their mouth, which can diminish self-esteem and lead to social withdrawal. Between 7% and 15% of adults say oral problems have limited them from laughing, smiling, or conversing with others in the past year, and one quarter of edentulous adults have avoided close relationships because of fear of rejection. 41 42 Children with dental caries and gum disease have more frequent pain due to toothaches, increased school absenteeism due to dental problems, and report often feeling worried or upset about their mouths. 43 44

In older adults, oral disease accelerates physical decline and disability. In a large international survey of older adults, respondents said having eight or fewer teeth impacted quality of life more than having cancer. Tooth loss can lead to nutrition deficiencies and weight loss as it becomes more difficult to chew and swallow food, sometimes termed the "anorexia of aging." Softer and easily chewable foods tend to be high in fat, sugar, and starch content, putting those with heart disease or diabetes at increased risk of further complications.

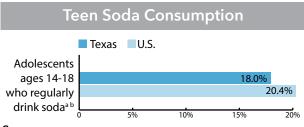
What Factors Contribute to Texas' Oral Disease Burden?

Sugary Beverage Consumption

Decreasing consumption of sugary beverages – especially among young people – is a key public health aspiration. Soda, sports drinks, energy drinks, and 100% fruit juice are the largest source of added sugar in the typical American diet, with approximately 50 gallons of sugary beverages consumed per person per year.⁴⁸ Currently, 18% of adolescents in Texas consume soda at least once per week, compared to 20.4% of teens nationally (Figure 4). Comparable soda consumption data for young children and adults in Texas are not available.

Sugar degrades the surface of tooth enamel by stimulating bacterial acid production. Risk for dental caries increases as sugary beverage intake increases. Children who begin drinking large quantities of sugary beverages when they are as young as 2 years old experience more dental caries by ages 4-7 than children with lower sugary beverage consumption.⁴⁹ Risk for dental caries among those with high sugary beverage intake remains consistent regardless of age, education, and use of fluoride toothpaste.⁵⁰

Figure 4



Sources:

- ^a Youth Risk Behavior Surveillance System, 2015
- ^b Texas Youth Risk Behavior Surveillance System, 2017

Public health and oral health leaders nationwide have explored policy interventions to limit sugary beverage consumption, a leading cause of dental caries. Restrictions on offering sugary beverages in schools, so-called "soda taxes," or restrictions on supplemental nutrition assistance benefits for low-income populations have been considered or implemented in Texas and elsewhere.

Current sales tax levels – typically about 5-10% of purchase price – do not increase the price of sugary beverages enough to produce substantial behavior change.^{51 52} Eight urban U.S. cities and

counties have passed an excise tax on sugarsweetened beverages, none located in Texas.⁵³ The most common tax, a penny per ounce, further increases the price of single units of soda 10-20%.⁵⁴ Evidence suggests these excise taxes have decreased consumption of soda and other sugary beverages.⁵⁵ However, municipal and local taxes may do more to displace sugary beverage purchases than decrease them, since consumers can buy sugary beverages in neighboring areas without such taxes.⁵⁶ Some evidence suggests taxes enacted across a larger geographic area are less susceptible to this problem and achieve closer to the desired effect. In 2013, Mexico passed the first nationwide excise tax on sugary drinks, and within the first year of implementation soda sales decreased by 12%, with the sharpest decline among lowincome residents.⁵⁷ Aside from the potential public health benefits of discouraging soda consumption, sugary beverage taxes generate revenues that many municipalities have earmarked specifically to fund public health, health care, or education initiatives.⁵⁸

Public health advocacy groups have questioned allowing sugary beverages to be purchased through the federal Supplemental Nutrition Assistance Program (SNAP). Federal SNAP benefits can be used like cash at most grocery stores to purchase eligible foods. A 2016 United States Department of Agriculture (USDA) report finds nearly 10% of grocery dollars spent by SNAP beneficiaries are on sugary beverages.⁵⁹ The USDA has historically denied state requests to remove sugary beverages from the list of SNAP-eligible foods, preferring instead to encourage reduced sugary beverage consumption and increased intake of water through nutrition education and health promotion.

SNAP restrictions and sugary beverage taxes have been criticized for targeting the poor, with effects concentrated predominantly or exclusively in the low-income population. Proponents contend this reflects a proportional response to the unequal burden of disease affecting low-income populations, and taxes or SNAP benefit restrictions could have the biggest positive impact on low-income families whose risk for many types of oral disease is elevated. 60

Sugary beverage taxes and restrictions have not gained much traction in Texas' cities, counties, or the state legislature to date. Since 2011, the Texas legislature has considered six different bills taxing or restricting sugary beverages, but none have become law. ⁶¹ The Texas Department of Agriculture, which administers nutritional funding and guidelines to Texas' public schools, enforced a strict ban on most soda sales in schools beginning in 2005, regulations that were later lifted in 2015. ⁶² ⁶³

Tobacco, Alcohol, and Drug Use

Currently, 14.3% of Texans age 18 or older smoke cigarettes, a behavior shown to increase susceptibility to oral disease. Additionally, 4.3% of adults in the state regularly use smokeless tobacco products like chewing, dipping, and snuffing tobacco, which are leading risk factors for oral cancers (Figure 5). The toxic ingredients of cigarette smoke and smokeless tobacco products damage mouth tissues, triggering healthy cells to become cancerous.

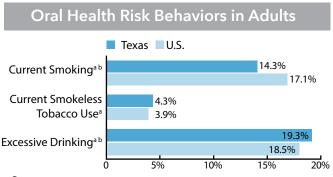
Cigarette smokers fare worse than non-smokers on multiple oral health outcomes. Smokers have over twice the rate of edentulism (15%) as those who have never smoked (7%), and are less likely than non-smokers to have sought dental care in the past year.⁶⁸ Despite no differences in tooth brushing frequency, current smokers are significantly more likely than non-smokers to say they have sensitivity in their teeth, toothaches, oral pain, bad breath, or a social limitation because of their teeth.⁶⁹ Forty-four percent of smokers perceive their oral health as excellent or very good, compared to 60% of non-smokers.70 Gingivitis and dental caries are significantly more common in smokers, and approximately half of the periodontitis risk observed in American adults is attributable to smoking.⁷¹

In Texas, 19.3% of adults consume excessive amounts of alcohol, which includes either episodic binge drinking or chronic heavy drinking (Figure 5). Excessive alcohol use is associated with a high risk of developing dental caries, periodontal disease, and edentulism.⁷² The acid and carbohydrate content of alcoholic beverages erodes tooth enamel similar to the effect of sugar-sweetened beverages.⁷³ Episodes of vomiting after binge drinking bring stomach

acids into contact with the mouth and teeth, which can also accelerate decay.⁷⁴ Chronic alcohol users are also less likely to brush and floss frequently or with proper technique, possibly as a direct result of being impaired.⁷⁵ In one study, people with alcohol use disorders showed significantly more damage to their teeth compared to people of the same age and sex who consumed little to no alcohol.⁷⁶

Several studies have found people who consume large amounts of alcohol also have a small but significantly higher risk of developing oral cancers. The connection between alcohol consumption and oral cancer risk is not well understood. It is possible the correlation can be explained by tobacco use, since alcohol and tobacco products are often used at the same time.^{77 78}

Figure 5



Sources:

- ^a Behavioral Risk Factor Surveillance System, 2016
- ^b Texas Behavioral Risk Factor Surveillance System, 2016

Oral health problems are some of the most common conditions to co-occur with substance use disorders, including addictions to Texas' most common illicit drugs, including methamphetamine, opioids, and cocaine.⁷⁹ Not only do people with substance use disorders have higher rates of tooth decay, gum disease, tooth loss, facial traumas, and oral cancers, they experience worse access to care and less commonly receive the restorative oral care they need.^{80 81 82}

Many people are prescribed legal opioids for pain after dental procedures. For some patients, an initial exposure to opioids prescribed for

dental pain becomes an addiction. ⁸³ Texas has one of the lowest rates of opioids prescribed per capita of any state, a finding correlated strongly with low drug overdose mortality rates relative to other states in 2015. ⁸⁴ ⁸⁵ However, multiple studies find dentists are either the third or fourth most frequent prescribers of opioids among all types of physicians, and are the leading source of opioid prescriptions for children ages 10-19. ⁸⁶ ⁸⁷ ⁸⁸

19.4 million Texas residents receive fluoridated water from their public water system, equal to 68.8% of the state's population.

Absence of Water Fluoridation

Fluoridated drinking water is considered one of the ten greatest public health achievements of the 20th century – on par with vaccinations and public sanitation – and has done more to avert tooth decay and disease than any other public health intervention. People living in areas with fluoridated drinking water experience 25% fewer cavities than those who do not.⁸⁹

Fluoridated drinking water deposits small amounts of fluoride onto the teeth when consumed, counteracting the effects of acid in the mouth by re-mineralizing tooth surfaces. The CDC recommends all public drinking water supplies contain low levels of fluoride to provide a barrier against tooth decay. As of 2017, 19.4 million Texas residents receive fluoridated water from their public water system, equal to 68.8% of the state's population. Fewer than half (44%) of the state's public water systems contain natural or added fluoride.⁹⁰

While fluoride is an ingredient in most toothpastes and can be supplemented clinically with fluoride varnishes, fluoridated drinking water remains the best method to maximize the number of people receiving a regular, sufficient dose of fluoride to prevent disease. Fluoridation does not require individuals to change their behavior and benefits all recipients similarly

regardless of income, education, race and ethnicity, or age. For people with limited or no access to dental care, fluoridated drinking water is an essential measure for averting tooth decay. In communities that have removed fluoride from their water, differences in rates of tooth decay between socioeconomically advantaged and disadvantaged populations widened after fluoride was removed.⁹¹

Water fluoridation is highly cost-efficient. The estimated annual installation cost of fluoridation ranges from \$0.71 to \$1.90 per person, with under \$0.35 per person in maintenance costs, but costs can go much lower in some communities. 92 In Lufkin, Texas, for example, water fluoridation cost just \$0.095 per person per year, totaling less than \$8.00 per resident for a lifetime of community water fluoridation.93 And in Austin, the cost of fluoridation is \$0.17 per person per year, totaling a lifetime cost of less than \$14.00 per resident.94 The Texas Department of State Health Services supplies detailed cost analyses of water fluoridation to communities across Texas to inform local leaders of the exact costs associated with fluoridating their municipal water supply.

In return for every \$1 invested in water fluoridation, communities save about \$38 in averted dental treatment costs. ⁹⁵ A Texas Department of State Health Services analysis predicted savings from water fluoridation of \$19 per child per year in dental expenditures from Texas' Medicaid program, a total savings of \$70 million annually. ⁹⁶ To help communities maximize the full value of their investment in water fluoridation, the Texas Fluoridation Program financed through the Public Health and Health Services block grant provides technical assistance, training, engineering, inspections, monitoring, and promotion of fluoridated water across the state.

The number of Texans served by fluoridated drinking water has declined 13% since 2014, a major concern resulting in part from public skepticism toward water fluoridation.^{97 98} Organized campaigns disputing the safety of fluoride can be quite vocal and influential, but criticism is almost wholly grounded in unscientific claims. No credible research supports an

association between fluoride and other health problems, including cancer, heart disease, allergic reactions, or diminished intellectual functioning. Other critics simply doubt the need to invest in fluoride, incorrectly perceiving water fluoridation to be unnecessary if people brush and floss regularly. The CDC affirms water fluoridation is unequivocally safe, and does not accumulate in the body at toxic levels if concentrations are kept within an optimal range. Fluoride's protective effects cannot be effectively replicated by brushing and flossing alone.

Food Insecurity

Food insecurity occurs when people have limited or unreliable availability of nutritious food to eat, either due to lack of ability to afford food or limited access to retail outlets selling nutritious food. 102 Nearly one in ten Texans experiences food insecurity, and household food insecurity prevalence exceeds 60% in some lower-income neighborhoods and rural areas of the state. 103 ¹⁰⁴ Food insecurity is associated with poor oral health in children and adults.¹⁰⁵ Children from food-insecure households have significantly higher rates of untreated dental caries and dental pain resulting from caries, and receive more restorative dental services, such as tooth extractions. 106 107 Most significantly, food insecure families lacking money to pay for basic needs like food are unlikely to have enough money to afford dental or health care.

Nearly one in ten Texans experiences food insecurity, and household food insecurity prevalence exceeds 60% in some lower-income neighborhoods and rural areas of the state.

The link between oral health and food insecurity has several possible explanations. ¹⁰⁸ Food insecurity may force caregivers and children to buy foods that maximize quantity over quality, incentivizing inexpensive and widely available items high in sugar or starch. Second, food

insecure households may live in food deserts, or neighborhoods where retail outlets are limited to convenience stores or fast-food restaurants with minimal selections of fresh vegetables and fruits, non-processed proteins, and dairy products. Third, people living in food insecure households may alter their eating habits in response to uncertainty of the source of their next meal; for example, eating smaller amounts more often to stave off hunger or consuming food in excess when it is available in anticipation of going hungry later. Frequent, constant, or excess exposure to sugary or starchy foods can increase risk for tooth decay.



Are Texans Accessing the Oral Health Care They Need?

Barriers to Accessing Care

Having access to oral health services when needed is a hallmark of an efficient, effective, and equitable health system. However, many barriers stand between Texans and the care they need. Some barriers are financial, while others are tied to location, attitudes, information, culture, and institutional practices. People with low incomes, disabilities, limited English proficiency, and complex health care needs are particularly susceptible to access barriers within the health care system.

Lack of Resources. Cost is a primary reason people delay or forego health care they need, regardless of whether they have health insurance coverage. ¹¹⁰ In 2016, 18% of Texans did not see a doctor when they needed to because of cost, a rate nearly 50% higher than the national average. ¹¹¹ Not having insurance often puts the cost of health care out of reach. Expenses other than the direct cost of services also factor into the decision to seek care, including lost wages, transit, or childcare.

Many Texans do not have the flexibility to take time away from work or caregiving to attend appointments, and securing transportation to and from medical offices can be a challenge. In rural areas, these barriers are further amplified by the lack of oral health care facilities and transportation infrastructure. In a 2017 analysis, Texas ranked 44th for rural access to dental care and 46th for rural access to primary care out of 47 states with rural counties. 112

Low Health Literacy. The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions is defined as health literacy. 113 Skills in reading, writing, numeracy, listening and speaking are components of health literacy, with lower health literacy associated with the reduced ability to manage medication correctly and interpret health information and labels.¹¹⁴ ¹¹⁵ Overcoming obstacles of insufficient health literacy requires broad health promotion and education efforts to ensure people (1) have accurate information on health, and (2) know how to act on that information. 116 Poor oral health literacy can make the process of accessing care

less efficient, and potentially worsen disease. For example, many older adults who no longer have teeth mistakenly believe they do not need to visit a dentist, while in fact dental visits for edentulous adults are essential to monitor the health of the tongue, gums, and other tissues. Lack of public awareness of the relationship between oral and overall health is another effect of low oral health literacy, and leads people to skip dental visits or prioritize other health care needs over the health of their mouth.¹¹⁷

What is Access to Care?

Seamless access to care can be achieved when health care is:

- Approachable. People can identify they have a health care need and know what to do next.
- 2 Acceptable. People are confident seeking health care is good for them to do, and believe they will be treated with dignity and respect.
- **3** Available. People can physically reach services in a timely manner.
- Affordable. People have a means to pay for care they need.
- Appropriate. People receive a quality service suitable for their medical circumstances.

Source: Levesque, J., Harris, M. F., and Russell, G. (2013). Patient-centred access to health care: Conceptualising access at the interface of systems and populations. *International Journal for Equity in Health*, 12(18), 1-9.

Perceptions, Beliefs, and Experiences.

Attitudes, past experiences, and cultural beliefs can all affect willingness to seek care. 118 Many people are afraid of dental procedures, while others are worried oral health providers will make them feel ashamed for the condition of their teeth and mouth. Comfort with mainstream American medical care can vary based on one's cultural background, and research documents experiences of people who have been treated poorly in health care and oral health settings due to their race or ethnicity, immigration status, ability to pay, and other characteristics. 119 120 121 People may also avoid seeking care if their past care experiences were ineffective or caused unintended harm.¹²² Delivering care in an inclusive, patient-centered, culturally and linguistically competent manner forms the foundation of a healing relationship between clinician and patient, and ultimately results in better patient outcomes.¹²³

How Texans are Paying for Oral Health Care

Having health and dental insurance increases access to oral health care. On the private market, dental insurance is sold separately from health insurance and many public health insurance programs offer few or no dental benefits. Though separate health and dental care systems are an established feature of health care delivery, it unfortunately reinforces a perception that the mouth is detached from or less important than other body systems.

Out of Pocket Spending. Data on the nation's health care expenditures show consumers are bearing a much greater share of dental costs out of pocket than other health care costs. In 2016, 40% of the nation's dental costs were paid out of pocket, 46% by private insurance, and 12% by federal programs (Medicare, Medicaid, and CHIP). In contrast, just 11% of overall health care expenditures were paid out of pocket, 34% by private insurance and 38% by federal programs. 124 Corresponding dental expenditures data for Texas are not publicly available.

Paying for the full cost of health and dental care out of pocket can become prohibitively expensive after just a few procedures, and even those enrolled in health and dental insurance

must still be able to afford their plan's out-ofpocket cost sharing requirements. Between 37-47% of U.S. households do not have enough liquid assets at any given time to be able to pay a \$2,000 health insurance deductible.¹²⁵

Approximately 62% of Texas' 4.5 million remaining uninsured are Hispanic, and 56% live in households with incomes less than \$50,000 per year.

Health Insurance. Health insurance that excludes dental care is still crucial for good oral health, as it permits access to care with direct positive impacts on oral health, such as primary care, support for tobacco cessation, pain and infection care, and cancer treatment. As of 2016, 16.6% of Texans had no health insurance of any kind, the highest rate of any state in the nation.¹²⁶ Of those with health insurance, about three-quarters have private insurance (usually provided through an employer or purchased on the individual market).127 The remaining one-quarter are covered under public health insurance programs including Medicare, Medicaid, CHIP, and U.S. Department of Veterans Affairs (VA) health benefits.128

The Affordable Care Act (ACA), passed in 2010, has coincided with historic reductions in uninsured rates in Texas and the nation. In 2017, between 8 and 9 million Americans – including 1.1 million Texans – obtained private coverage through public health insurance marketplaces. ¹²⁹ An additional 11 million people nationwide are now covered by Medicaid due in part to 33 states expanding their eligibility limit to 138% of the federal poverty level for low-income adults (about \$16,750 per year for an individual and \$34,630 for a family of four in 2018). ¹³⁰ Texas is among 19 states that have not expanded Medicaid eligibility and has some of the most restrictive Medicaid eligibility criteria in the nation. ¹³¹

Disparities in health insurance coverage by race, ethnicity, and income have narrowed since 2013, but still persist. 132 133 In Texas, over 90% of

Whites and Asians and 84% of Blacks have health insurance, compared to just 59% of Hispanics. Approximately 62% of Texas' 4.5 million remaining uninsured are Hispanic, and 56% live in households with incomes less than \$50,000 per year. 134 Texans living on lower incomes also tend to cycle frequently or "churn" between different types of public and private coverage as they experience fluctuations in income or employment, or housing instability, leading to potential disruptions in care. 135

Dental Insurance. Dental insurance coverage rates have grown steadily over time, but still trail rates of health insurance coverage nationally. Between 2010 and 2016 when the ACA's major health insurance expansions took effect, the proportion of Americans with dental coverage rose from 57% to 77%. ¹³⁶ Estimates of the number of Texans with dental coverage are not publicly available.

Gains in the national dental insured rate may be attributable to the sale of stand-alone dental plans on the ACA marketplaces, inclusion of pediatric dental care among the ten essential health benefits all insurers must cover, and expansion of dependent coverage allowing children to remain on a parent's dental plan until age 26. About 16% of people without insurance made a dental visit within the past year, compared to 53-64% of Texans with dental insurance, indicating (1) having dental coverage is strongly predictive of receiving routine dental treatment, and (2) barely half of Texans with dental insurance are using it, highlighting a broad opportunity to move the remainder from coverage into care. 137 138

Despite recent progress, the estimated dental uninsured rate is still about three times higher than the health uninsured rate nationwide. 139 140 The gap between the nation's health and dental uninsured rates can in part be explained by the absence of dental benefits in several public health insurance programs. Medicare does not provide dental benefits, Medicaid covers only emergency dental care for adults (except pregnant women) in many states including Texas, and few veterans receiving health benefits from the VA are eligible for dental care. 141 142 143 144

Medicaid & CHIP in Texas. Medicaid dental benefits are administered to children, teens, and young adults under age 21 through the Texas Health Steps (THSteps) program, ensuring enrollees Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) services required under federal law.¹⁴⁵ Several of Texas' Medicaid managed care plans also cover dental services for pregnant women. 146 Covered services include initial and routine dental examinations, cleanings, oral health education, topical fluoride, and sealants for most enrollees, as well as restorative interventions and oral surgery for children who need it.147 Texas' CHIP program has included dental benefits since 2006, and covers lower-income children from households with incomes above the threshold to qualify for Medicaid. Together, CHIP and THSteps cover about 3.6 million children - about 46% of all children in Texas - and 2016 data reveal 69.2% of children enrolled make an annual dental visit, the highest rate of any state.148 149

Medicaid's low reimbursement rates relative to private coverage discourage many providers from accepting patients enrolled in Medicaid, a potential threat to timely availability of care for beneficiaries. In a 2009 survey of pediatricians, three-fourths thought the lack of dentists who accept Medicaid presented a "moderate to severe" barrier for young children enrolled. 150 Based on current provider acceptance rates and utilization data, it is not clear this perception entirely reflects reality for dental care in Texas. In 2014, 48% of Texas dentists participated in Medicaid, exceeding the national average of 42%. 151 Texas is also one of two states with a "reverse gap" in use of dental services, wherein children enrolled in Medicaid and CHIP make dental visits at higher rates than children enrolled in private insurance. 152

As of 2016, Texas' Medicaid program reimburses for child dental services at about 72.1% the rate of private insurance, compared to the national average of 61.8%. Dptimizing reimbursement rates for dentists has been a balancing act for Texas lawmakers. Texas enacted major Medicaid reforms increasing fee-for-service reimbursement rates for pediatric dental procedures by 33.8% between 2003 and 2013, placing Texas among states with the highest such rates in the nation. 154

These reforms led to increases in preventive dental care utilization and reductions in unmet dental need among Medicaid eligible children, a promising finding given downstream cost savings of several million dollars per year to the state when children receive preventive dental care. The However, immediate budgetary pressures and concerns about costly waste, fraud, and abuse by some Medicaid dental providers may move lawmakers to consider reducing reimbursement rates to more closely align with other states' and national averages.

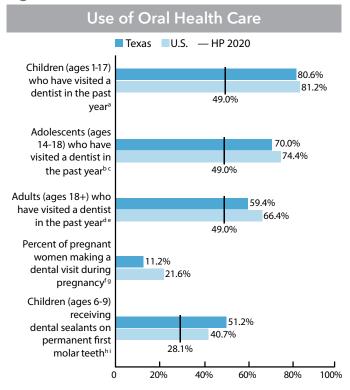
Oral Health Care Utilization

Preventive and Routine Care. People who visit the dentist throughout life report better overall oral health status, lower rates of tooth decay and tooth loss, and fewer cavities in adulthood. Texas' children are accessing and using dental care on par with national averages and well in excess of Healthy People 2020 targets. Among all Texas children ages 1-17, 80.6% have made a dental visit in the past year, as well as 70.0% of adolescents ages 14-18. Adults in the state have a lower rate of past year dental visits than children and teens, with 59.4% making a past year dental visit. While this rate exceeds the Healthy People 2020 target of 49.0%, it falls short of the national average of 66.4% (Figure 6).

Women are at high risk for developing periodontal disease while pregnant due to hormonal changes, making dental visits during pregnancy an essential component of prenatal care. However, on this measure Texas lags; just 11.2% of pregnant women made a dental visit, about half the national average rate (Figure 6).

Since the 1980s, the number of people making an annual dental visit has steadily increased for nearly all populations. However, rates of receiving regular dental care vary by race and ethnicity, geography, education, and household income. 158 159 160 Past-year dental visit rates have historically been higher among Texans than the national rate for all race and ethnic groups, though visit rates for Whites are approximately 20% higher than Blacks and 25% higher than Hispanics. College-educated Texans historically visit the dentist at about 25% higher rates than high school graduates and about 50% higher rates than those with less than a high school education. 161

Figure 6



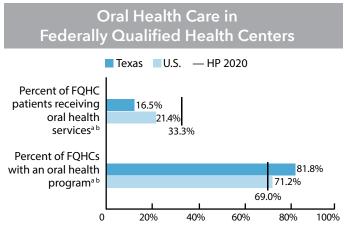
Sources:

- ^a National Survey of Children's Health, 2016
- ^b Youth Risk Behavior Surveillance System, 2015
- ^c Texas Youth Risk Behavior Surveillance System, 2017
- ^d Texas Behavioral Risk Factor Surveillance System, 2016
- e Behavioral Risk Factor Surveillance System, 2016
- ^f Texas Pregnancy Risk Assessment Monitoring System, 2015
- ⁹ Pregnancy Risk Assessment Monitoring System, 2011
- ^h National Health and Nutrition Examination Survey, 2013-2014
- ¹Texas Basic Screening Survey, 2012-2013

Texas' oral health safety net is comprised of 73 federally qualified health centers (FQHCs), three FQHC look-alikes, 60 non-FQHC community health centers, three schools of dentistry, 64 state and local health departments, 70 public and non-profit hospitals, and 90 school-based health centers. ¹⁶² Despite an apparent breadth of options, the oral health safety net is diffuse, under-resourced, and strains to meet demand. Even when care is deeply discounted, some patients still remain burdened by out-of-pocket costs and other accessibility issues impeding their ability to connect with care they need.

About four in five FQHCs in Texas have an oral health program, a higher rate than the national average, though oral health services are delivered to just 16.5% of FQHC patients in those settings, a lower than average rate compared to the nation (Figure 7).

Figure 7



Sources:

- ^a Uniform Data System, 2015
- ^b Uniform Data System, 2016 (Texas)

A core function of Texas' dental care system especially in the safety net – is administering long-acting preventive care like sealants. Sealants are plastic coatings applied to molars, creating a barrier on the tooth's pits and fissures to prevent caries from forming. Sealants are extremely effective at preventing tooth decay, reducing pain and suffering, decreasing expensive hospital dental treatments, and saving taxpayer dollars by averting the cost of restorative care. 163 164 A 2012 analysis estimated the state of Texas would save \$29 million by providing sealants to every child in the state. 165 Currently, 51.0% of Texas children age 6-9 have sealants on their permanent first molars, better than the national rate of 40.7% (Figure 6).

The American Academy of Pediatric Dentistry has published new guidelines recommending silver diamine fluoride for arresting and managing existing caries in children. ¹⁶⁶ Silver diamine fluoride treatment has shown encouraging results in trials of populations who often receive care in safety net settings, including children, older adults, people with intellectual and

developmental disabilities, and others who may have functional limitations preventing them from tolerating dental intervention or maintaining oral hygiene without assistance.¹⁶⁷ ¹⁶⁸ As of September 2017, silver diamine fluoride was not a covered benefit under Texas Medicaid.¹⁶⁹ The use of silver diamine fluoride is relatively new, but may proliferate in safety-net settings and state Medicaid programs as new evidence emerges.

Emergency Care. Oral health problems contribute heavily to avoidable use of expensive emergency care. Approximately one person every 15 seconds visits a hospital emergency department for a dental condition, a rate cumulating in 2.18 million total dental emergency visits nationwide in 2012.¹⁷⁰ Some oral health-related emergency department use results when people who cannot or do not use oral health care regularly have minor, treatable issues that worsen into serious, acute, or even life-threatening conditions. 171 172 Not all oral health-related emergency care is for severe issues; many people choose emergency departments as their usual source of care because it is more convenient, or because it is the only care setting where they cannot be turned away.173

Approximately one person every 15 seconds visits a hospital emergency department for a dental condition.

In Texas, 7.2% of teens age 14-18 say they have visited the emergency room for dental problems. ¹⁷⁴ Comparable data are not available for adults or young children. For people of all ages, most dental visits to emergency departments are for preventable, non-traumatic problems requiring pain management or infection treatment. An estimated 80% of these visits could be handled effectively in a community setting. ¹⁷⁵ Odds of dental emergency visits being non-traumatic have increased 16% from 2009-2015, with uninsured patients as much as two times more likely to make a non-traumatic dental visit to the emergency room. ¹⁷⁶

Can Texas' Oral Health Workforce Meet Demand?

Oral Health Workforce Capacity

Current Size & Distribution. Workforce size and geographic distribution influence whether the state's oral health system has sufficient capacity to meet existing demand. The oral health workforce in Texas currently consists of over 300,000 licensed health care professionals, providing services ranging from routine prevention to intervention for oral health emergencies. Dentists, oral surgeons, and orthodontists perform preventive, diagnostic, and treatment services specifically on the mouth and face, with dental hygienists and dental assistants in support.¹⁷⁷ Often, frontline providers such as primary care physicians, nurse practitioners, physician assistants, and emergency physicians serve as essential members of the oral health workforce, detecting and treating oral health problems in patients who do not receive regular dental care.

No state has added more dentists since 2013 than Texas, over 100 more than California, the state with the second-largest number of new dentists.¹⁷⁸ However, the dental workforce is disproportionately concentrated in urban areas: while 15% of Texas' population resides in rural areas, just 7% of dentists practice outside of the state's urban centers. 179 180 Many of Texas' rural counties lack a population center large enough to support a dental health care facility, leaving these areas short of providers. More than 4 million Texans live in dental health professional shortage areas (DHPSAs); that is, areas where there is less than one practicing dentist for every 5,000 residents (or 4,000 residents in higher need areas).181

Lower-income working adults and families who reside in rural areas comprise most of the dentally underserved population. Dental problems are more common among people living at or near the poverty level, who have lower rates of dental insurance coverage and rely more on public programs to pay for care. These trends suggest Texans bearing the highest burden of oral disease are living in areas least equipped to serve them.

Workforce Trends. The disproportionate concentration of health care providers in cities is largely attributable to recent demographic

and economic transitions. More than one-third of dentists in the state are now over age 55, and 41% of the dentist workforce will be at or past retirement age within a decade. 184 As dentists retire and leave the workforce, it will be important to monitor whether the number and distribution of new dentists in the state is adequate to sustain capacity vacated by those who leave. Currently, Texas' urban areas have a net migration rate 25 times larger and growth rate three times larger than the state's rural areas, potentially impacting which areas of the state deliver the most promising opportunities for dental practice. 185

Federal and state programs have been established to incentivize early-career dental professionals to practice in underserved areas of Texas while relieving student debt pressure. The National Health Service Corps (NHSC) offers a \$50,000 initial award in exchange for two years of practice in a federally designated health professional shortage area (HPSA) for physicians, or DHPSA for dentists, while the Texas Higher Education Coordinating Board offered \$10,000 in loan repayment for a 12-month commitment to practice pediatric or general dentistry in a DHPSA, and up to \$160,000 in loan repayment over four years for physicians practicing in a HPSA.¹⁸⁶ Participating dentists and physicians were required to accept Medicaid and could not turn away patients based on ability to pay. Due to budgetary constraints, state funding for the Texas Dental Loan Repayment Program was not appropriated in the 85th legislative session. 187 188

While loan repayment assistance programs do ease debt, it is unclear how strongly they influence new dentists' decision to practice in underserved areas. Studies show dentists say loan repayment is minimally important compared to other factors in their choice of practice location, suggesting practitioners in underserved areas might have chosen those areas with or without the program. Furthermore, critics of loan repayment programs have pointed out the potential for misuse and abuse by dentists seeking opportunities to advance their portfolio for specialty practice rather than providing underserved patients with the full spectrum of care.



In Central Texas, a private foundation has partnered with the state to fund loan repayments, an example of a local initiative to address oral health workforce gaps. Through December 31, 2017, The St. David's Foundation awarded nearly \$1.5 million in loan repayments through the Texas Higher Education Coordinating Board for physicians, physician assistants, dentists, and nurse practitioners who practice in safety net settings in the foundation's five-county greater Austin service area. 190 191 Foundation funding for the program has been renewed for 2018, but no state funds have been appropriated for the current biennium. While the St. David's Foundation program has shown promise with the foundation's limited resources, philanthropic engagement at the regional level does not release the state from its responsibility and stake in growing the workforce in all under-resourced communities. Private-public collaborations modeled after the St. David's Foundation program may be better sustained and replicated with state investment.

Workforce Diversity

Cultivating cultural and linguistic diversity in the health workforce has emerged as a strategy to reduce health disparities observed among people of color and limited English proficient populations. Racial and ethnic diversity in the health professions is associated with higher patient satisfaction among patients of color, improved patient-provider communication, and indirectly, promotes responsiveness to social circumstances and cultural beliefs that influence patients' health.¹⁹² ¹⁹³ ¹⁹⁴ Despite shifting racial

and ethnic demographics, the oral health workforce - especially doctors and dentists remains overwhelmingly White. The number of Black dentists in the U.S. would have to increase four times, Hispanic dentists five times, and American Indian/Alaska Native dentists nearly eight times to reach parity with their respective shares of the U.S. population. 195 196 Currently, there are not enough Hispanics in the nation's pipeline of new dentists to bring their proportion level with the Hispanic population, especially in regions of the country experiencing rapid Hispanic population growth. 197 Because Texas is among the states with the largest and fastest growing Hispanic populations, preventing excessive discordance between the state's share of Hispanic dentists and population overall could be a challenge in years to come. 198

Research shows clinicians of color disproportionately bear the responsibility of care for underserved populations. Black, Hispanic, and American Indian/Alaska Native dentists and physicians are more likely than White dentists and physicians to practice in underserved communities, treat more patients of color, and more patients with lower incomes or who are covered by public insurance. 199 200 They also bear significantly higher than average levels of student debt.²⁰¹ Some loan repayment programs, like NHSC, intentionally recruit physicians and dentists from diverse socioeconomic, racial, and ethnic backgrounds in an effort to increase workforce diversity and representativeness in underserved communities. The proportion of African Americans and Hispanics in its clinician cohort is four to five times higher than the national rate.²⁰² ²⁰³ NHSC has also steadily augmented the health workforce in underserved areas, with nearly 90% remaining in underserved communities at least one year beyond their commitment period and 55% remaining after ten years.²⁰⁴ While loan repayment incentives and other social and cultural factors may increase the likelihood clinicians will elect to anchor their practice in underserved communities long-term, oral health professionals of color ought not bear an outsized responsibility for lower-compensated safety-net care.²⁰⁵ Rather, different incentives are needed to fairly and equitably align oral health needs with Texas' highly skilled and growing workforce.

Resolving Workforce Shortages

Telehealth. Telemedicine and teledentistry have the potential to bridge gaps in rural oral health care access by allowing dental consultation to occur remotely via videoconference between providers and patients. In Texas, Medicaid has reimbursed telemedicine services for the past two decades, and use of telemedicine among Medicaid providers and patients continues to increase.²⁰⁶ Teledentistry services are not included in Texas law authorizing telemedicine, and no laws have been passed encouraging or requiring teledentistry benefits in Medicaid and/ or commercial plans (as states like Arkansas, Tennessee, California, and Washington have done).²⁰⁷ Evaluations of teledentistry programs consistently show encouraging results; patients tend to rate their experience positively, outcomes improve, and most efforts have resulted in at least some cost savings to health systems.²⁰⁸ Telehealth services can be part of a broad strategy to address shortages of oral health care in the most depopulated and under-resourced areas of the state, especially as a screening and diagnostic tool.²⁰⁹ However, access barriers to conventional oral health interventions may remain.210

Assuming steady dental care utilization patterns, Texas will experience a shortage of nearly 500 fewer dentists than needed to meet statewide demand by 2025, but will have a surplus of over 3,300 dental hygienists by the same year.

Scope of Practice. Assuming steady dental care utilization patterns, Texas will experience a shortage of nearly 500 fewer dentists than needed to meet statewide demand by 2025, but will have a surplus of over 3,300 dental hygienists by the same year.²¹¹ Though the overall supply of dentists in Texas is projected to continue rising, consideration should be given to the value

of conducting a comprehensive assessment of the state's dental workforce capacity to meet needs especially in different geographic settings.²¹³ In the recent past there has been a growing demand both at the community level and the Texas legislature to consider the state's mid-level providers workforce a potential sourse of capacity to address localized provider shortages.²¹⁴ Laws expanding scope of practice for existing mid-level providers or establishing new mid-level provider categories with expanded functions have been passed in Minnesota and Maine, and discussed in approximately a dozen other states.²¹⁵

Opponents of expanding scope of practice have raised safety concerns about delegating dental procedures to providers with less extensive training, while proponents cite estimates that dental hygienists can safely perform approximately 50-80% of routine dental services delivered in community clinics and safety-net dental clinics.²¹⁶ ²¹⁷ Advocates have also raised concerns that positioning mid-level providers to fill workforce shortages in higherneed communities could result in an inequitable standard of care, with poor consumers more likely to be treated by those with less education or experience.²¹⁸

Overall, there is a need for more research to examine whether scope of practice expansions produce comparable outcomes to conventional dental care. The current literature contains results from promising pilot initiatives, but there are currently limited studies directly comparing these delivery models to conventional oral health care provided by a dentist, and no rigorous longitudinal studies showing long-term effectiveness at this time.

Moving forward, it will be important for all stakeholders to collaborate on identifying and addressing systemic gaps, and to strengthen the dental infrastructure to ensure efficient, quality-focused dental care for every Texan.

Key Findings & Discussion

This report's key findings reflect high-level themes observed consistently within regions and throughout the state. While these key findings begin to tell a high-level story on oral health in Texas, they are not intended to be exhaustive or conclusive. Rather, they serve as examples of the type of inquiry the data support, and provide a starting point for conversations around tailored, evidence-informed solutions.

While Texas is lagging in several oral health priorities, it has also shown capacity to lead.

Data and literature presented in this report confirm Texas has many opportunities to improve oral health across the state. Children in Texas experience tooth decay and dental problems at elevated rates: two-thirds (66.8%) of third graders in the state have had dental caries, compared to just over half (51.7%) of third graders nationally.²¹⁹ ²²⁰ Among third graders who have had caries, one quarter of those in Texas (26.2%) have not received treatment, compared to 16.2% nationally.²²¹ Rates of adult oral health problems in Texas more closely resemble national averages, but still reflect a great burden of chronic or severe oral health deterioration with age. More than half (54.1%) of Texas adults age 45-64 have had tooth loss due to dental caries or periodontal disease, and 13.1% of Texas adults age 65 and older are edentulous, with none of their natural teeth remaining.²²³ Only 11.2% of Texas women - half the national average - make recommended dental visits during pregnancy, a time of increased susceptibility to oral disease.²²⁴

Gaps in health insurance coverage and the high relative share of dental costs borne out of pocket provide ample reason for concern about Texans' ability to obtain and afford oral health care they need. Nearly 17% of Texans have no health insurance, the highest rate of any state in the nation.²²⁵ While the exact dental uninsured rate in Texas is not publicly tracked, the U.S. dental uninsured rate is estimated to be about three times higher than the overall uninsured rate.²²⁶ In addition, 40% of the nation's dental costs are borne out of pocket by consumers, compared to 11% of overall health care costs paid out of pocket.²²⁷ Yet, over one-third of Texas' population lived in a low-income household²²⁸ in 2016, and food insecurity affected 9.6% of Texans.²²⁹ Families who have difficulty affording basic needs are unlikely to have disposable resources to

spend on oral health care, especially services not covered by insurance.

Despite the state's oral health challenges, this report also provides evidence that Texas has achieved examples of success worth sustaining. For example, most of Texas' children and adolescents are obtaining oral health care regularly and children in Texas' Medicaid and CHIP programs are receiving dental care at some of the highest rates in the country. Eightyone percent of children ages 1-17 have made a dental visit in the past year, as well as 70.0% of adolescents age 14-18.230 231 Approximately 69.2% of children enrolled in Texas' Medicaid and CHIP programs visit the dentist annually, well in excess of the U.S. average of 50.4% for this population. 149 Several urban and suburban regions serve as proof points of what can be achieved when threats to good oral health are minimized. Regions containing Austin, Round Rock/Hill Country, Dallas, Plano/Sherman, Houston, San Antonio, and the Brazos Valley have fewer than 10% of adults in poor dental health (defined as having had six or more teeth extracted due to dental caries or periodontal disease). Common threads between these regions include low smoking rates and oral cancer incidence, a greater supply of oral health professionals per capita, and higher rates of health insurance coverage. Notably, some of these regions achieve the state's best dental outcomes despite high proportions of lowincome and food insecure residents, suggesting there may be protective factors or effective safety net initiatives in those regions to explore or potentially replicate elsewhere.

2 Texas' oral health burden is most concentrated in its rural and border regions.

Texas' oral health burden is stratified across distinct urban/rural and border/non-border divides, a pattern observed consistently across demographic, risk behaviors, chronic disease, clinical care, and oral health outcome measures. Rural regions are home to an older population with high rates of partial or complete tooth loss, prevalent chronic disease and health risk behaviors, and greater incidence of oral cancer. The border regions, while home to a younger population, have high rates of uninsured people living at or near the poverty level, with tremendous need for oral health services in under-resourced safety net care settings. Rural and border regions experience common oral health care access barriers, including profound provider shortages and low rates of adults who currently use regular dental care. In the border regions, adult health uninsured rates range from 29.5 to 41.6%.232

The rural region containing Abilene has an estimated 27.6% of adults in poor dental health. This rate is nearly four times higher than the top performing urban regions (each with rates of 7.2-7.9%), and still approximately double the rate in other rural regions with similar age structures.²³³ The rural regions containing Abilene and Wichita Falls also have some of the state's highest oral cancer incidence rates.

Chronic disease prevalence and rates of health risk behaviors are excessive in rural regions. The rural region containing Abilene has nearly three times the estimated rate of diabetes as the Dallas region (22.1% vs. 8.2%), and twice the rate of smoking as the San Antonio region (20.9% vs. 11.5%).²³⁴ Border regions are not consistently represented among those with the highest rates of smoking, cardiovascular disease, or excessive drinking. Because estimates are not ageadjusted, differences in underlying age structure of the state's rural/urban and border/nonborder populations may at least partially explain differences. In general, rural counties in Texas tend to have older median ages, and border counties tend to have younger median ages.

All seven rural regions fall below the state average (59.4%) for the estimated percent of adults making a dental visit in the past year.²³⁵ There appears to be strong overlap between regions with the lowest rates of adults with past-year dental visits and the supply of oral health providers in the region. While the urban, non-border regions containing Houston, Dallas, Austin, Fort Worth, and San Antonio all have at least one dentist for every 3,000 residents, four rural and all three border regions have no more than one dentist for every 4,000 residents. The Plano/Sherman region, which has the highest dental supply in the state, has quadruple the rate of dentists per capita as the Laredo region (2,084 to 1 in the Plano/Sherman region versus 9,012 to 1 in the Laredo region).²³⁶ Similar trends are observed for dental hygienists, dental assistants, and primary care physicians.

A key distinction between rural and border regions appears to be use of the public health care safety net. In all seven rural regions, a relatively low proportion of the population (20% or below) is enrolled in Medicaid coverage. In contrast, the top three regions with the highest proportion of residents enrolled in Medicaid are all border regions, with between 20-29% of the population enrolled.²³⁷ Annual Medicaid costs per enrollee (both dental and non-dental) are among the state's highest in border regions, and among the lowest in rural regions.²³⁸ While it is unclear what underlying health needs may explain these differences, it does suggest a trend worthy of further analysis: border regions with younger populations have higher costs per enrollee in Medicaid, whereas in rural regions with older populations, costs per enrollee are low. This finding somewhat corroborates previous research that has uncovered pockets of abnormally high Medicare spending in parts of the Rio Grande Valley, patterns which were potentially explained by high post-acute care costs and poor care coordination.²³⁹

Focusing narrowly on health care neglects other opportunities to improve oral health.

Data and literature presented in this report suggest access to health care is necessary, but not sufficient, to achieve good oral health outcomes. Perhaps nowhere is this finding more clearly illustrated than by comparing Texas' strong position on child access to oral health care alongside its poor performance in oral health outcomes for Texas children.

This report finds evidence of several conditions promoting good access to care for Texas children. Approximately 90.0% of Texas children have health insurance, and for those with private plans, pediatric dental care is a required essential health benefit under the ACA.²⁴⁰ Texas' Medicaid and CHIP programs, which today cover nearly half of Texas' children, have included dental benefits since 2006. Reimbursements for child dental services in Medicaid increased 33.8% from 2003-2013, boosting the number of participating providers.²⁴¹ Higher reimbursements in Texas were found to increase the number of children receiving preventive care and decreased unmet dental need.²⁴² Today, eight out of ten Texas children age 0-17 have made a dental visit in the past year, and about 25% more Texas children receive sealants than the national average, decreasing the likelihood of dental caries.

Many of the conditions that currently promote widespread children's access to care in Texas have been in place for a decade or more. However, child oral health outcomes in Texas continue to lag: 7.5% of Texas parents say their child's oral health is fair or poor (compared to 5.5% nationally), and 14.9% say their child has had dental problems like toothaches and bleeding gums. ²⁴³ And while Texas ranks 1st in the nation for the percent of Medicaid-enrolled children making dental visits, Texas ranks 39th out of 41 ranked states for the percentage of third graders who have experienced dental caries. ²⁴⁴ ²⁴⁵

This phenomenon was also observed regionally. Despite performing at or above the state average on several measures of oral health care access, such as oral health care provider supply and past-year dental visit rates, the Beaumont/Galveston region in Southeast Texas ranks among the worst in the state for oral cancer mortality, rates of poor adult dental health, and edentulism among older adults. Put another way, oral health outcomes in the Beaumont/Galveston region are no better than regions with measurably greater access limitations.

Other factors appear to be undermining the protective effects of access to oral health care for Texans, and this report identifies several potential contributors. The percent of Texans served by fluoridated drinking water has decreased from 79.0% in 2014 to 68.8% in 2018. 246 247 Food insecurity, which affects a greater proportion of Texas' rural population than urban, is a source of risk for untreated dental caries and dental pain among children. And, in the Beaumont/ Galveston example above, the region's smoking, cardiovascular disease, and obesity rates rank among some of the highest in the state.



Summary

The wealth of data and supporting literature presented in this report aims to empower public health leaders to better understand oral health strengths and challenges across Texas. The report's three key findings reflect themes that emerged from state, regional, and local analyses, while also providing examples of how data can stimulate inquiry, inform decision-makers, and help establish oral health priorities.

The report confirms oral health problems are widespread among Texans of all ages and backgrounds. These problems contribute to a largely preventable burden of disease, cost taxpayers millions of dollars in avoidable health care spending, and cause untold pain and suffering. Already a pervasive and expensive issue, oral health is poised to grow into an increasingly complex and urgent challenge for the state. Texas has one of the nation's youngest populations, but life expectancies remain high, the state's chronic disease burden is on the rise, and the population is forecast to continue to grow and age.²⁴⁸ These trends suggest more Texans will begin to live more years of their life affected by oral health issues, which already burden Texas children from an early age and usually do not resolve themselves over time without access to appropriate and timely care.

Texas public health leaders should consider opportunities within and beyond the context of clinical care to improve oral health. As evidence from this report shows, focusing narrowly on one or two elements is insufficient; a thorough approach must address risk factors, co-occurring diseases, insurance coverage, care, and health-related social determinant needs.



Regional and County Profiles

Selection of Regional Boundaries

his report aims to facilitate regional and local analysis of oral health indicators. Historically, geographic vastness coupled with lack of data availability and reliability at smaller geographic levels has constrained efforts to pursue local oral health improvement efforts in Texas. To address these barriers and provide reliable baseline measures for future trend analysis, this report provides stratified data for several oral health indicators at regional and county levels.

Texas' existing Regional Health Partnership (RHP) boundaries have been used to analyze and report oral health outcomes by region. In 2012, the Texas Health and Human Services Commission (HHSC) divided the state's 254 counties into 20 RHP regions under the state's Medicaid 1115 waiver. The RHPs operating in each region are local collaborations of hospitals, government partners, academic health science centers, county medical associations, regional public health directors, and safety-net care facilities, whose purpose is to plan, implement, and fund local Medicaid waiver activities.

The selection of RHP regional boundaries was made after evaluating several existing statewide regional frameworks, including the eleven Texas Department of State Health Services Public Health Regions and 28 Texas Workforce Development Board Areas. RHPs were ultimately selected because they permitted the most granular regional analysis possible while generally maintaining sufficient sample size to produce valid estimates on measures obtained from survey data. The report itself is not directly tied to state Medicaid waiver activities or any individual RHPs. However, the selection of RHPs was also informed by a perceived alignment between the purpose of RHPs and the intent of this report: to facilitate the planning of local, tailored activities addressing health care needs.

Region Names and Classification

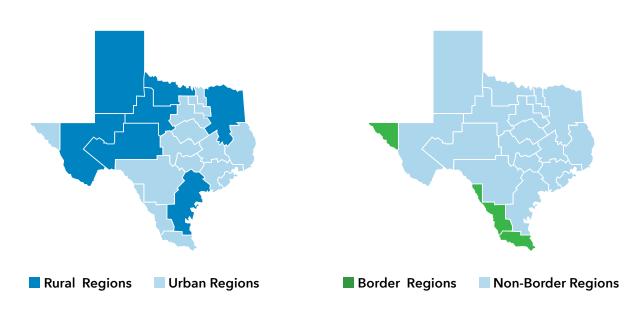
HHSC differentiates RHP regions with an assigned number (1-20). To aid in communicating regional findings, the report team developed and assigned geographic labels to each region to replace the RHP number. The 20 RHPs were clustered into six geographic areas of Texas: North Central, North, Southeast, South, West, and Central. The two to four regions comprising each cluster were named by either the most populous metropolitan area(s) in that region or a commonly accepted regional descriptor (Table 1).

Rural/Urban and Border/Non-Border Designations

This report also communicates findings based on two regional patterns of interest: rural/urban and border/non-border. In this report, a region was defined as rural if more than 25% of its residents live in rural counties. ²⁴⁹ Out of twenty total regions, seven were classified as rural and thirteen were urban. Border regions were defined as those with over 50% of the population living in counties along the Texas-Mexico border. ²⁵⁰ Three regions were classified as border regions, and seventeen were classified as non-border. A total of three regions containing at least one border county did not meet criteria for border region classification because border counties comprised no more than 12.5% of their total population.

Table 1. Assigned Regional Names and Classifications

Existing RHP Number	Assigned Geographic Area	Assigned Region Name	Rural/Urban	Border/ Non-Border
11	North Central	North Central - Abilene	Rural	Non-Border
19	North Central	North Central - Wichita Falls	Rural	Non-Border
9	North	North - Dallas	Urban	Non-Border
10	North	North - Fort Worth	Urban	Non-Border
18	North	North - Plano/Sherman	Urban	Non-Border
1	North	North - Texarkana/Tyler	Rural	Non-Border
2	Southeast	Southeast - Beaumont/Galveston	Urban	Non-Border
3	Southeast	Southeast - Houston	Urban	Non-Border
17	Southeast	Southeast - Brazos Valley	Urban	Non-Border
4	South	South - Corpus Christi/Gulf Coast	Rural	Non-Border
20	South	South - Laredo	Urban	Border
5	South	South - Rio Grande Valley	Urban	Border
6	South	South - San Antonio	Urban	Non-Border
15	West	West - El Paso	Urban	Border
13	West	West - San Angelo	Rural	Non-Border
14	West	West - Midland/Big Bend	Rural	Non-Border
12	West	West - Panhandle	Rural	Non-Border
7	Central	Central - Austin	Urban	Non-Border
8	Central	Central - Round Rock/Hill Country	Urban	Non-Border
16	Central	Central - Waco	Urban	Non-Border



Region and County Indicators

Data profiles for all 20 regions and 254 counties are presented in the following section. Oral health indicators for which data was available at the sub-state level have been grouped across five domains: Population and Socioeconomic Factors, Oral Health Outcomes, Clinical Care, Risk Factors,

and Medicaid and CHIP. Indicators reported at each level vary based on data availability, with more indicators able to be reported at the regional level than county level (Table 2).

Please refer to the Methodology and Data Sources section and Appendix A for indicator definitions, data sources, and years.

Table 2. Oral Health Indicator Availability by Region and County (X indicates available data)

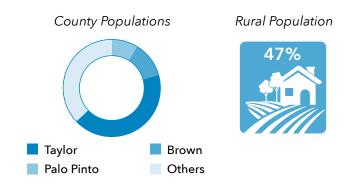
Domain	Indicator	Region	County
Population and	Population	Х	Х
Socioeconomic Factors	Low-Income Population	Х	Х
raciors	Food Insecurity	X	Х
	Uninsured Children (0-19 years)	X	X
	Uninsured Adults (18-64 years)	X	X
Oral Health	Poor Dental Health (18+ years)	X	
Outcomes	Edentulous Older Adults (65+ years)	X	
	Oral Clefts Rate per 10,000 Live Births	X	X
	Oral Cancer Incidence Rate per 100,000 Population	X	X
	Oral Cancer Mortality Rate per 100,000 Population	X	X
Clinical Care	Past-year Dental Visits (18+ years)	X	
	Population to General Dentist Ratio	X	X
	Population to Specialized Dentist Ratio	X	X
	Child Population to Pediatric Dentist Ratio	X	Х
	Population to Dental Hygienist Ratio	X	X
	Population to Dental Assistant Ratio	X	X
	Population to Primary Care Physician Ratio	X	X
	Population to Nurse Practitioner Ratio	X	X
	FQHCs per 100,000 Population	X	X
Risk Factors	Obesity	X	
(18+ years)	Diabetes	X	
	Excessive Drinking	X	
	Smoking	X	
	Cardiovascular Disease	X	
Medicaid and	Total Population Enrolled in Medicaid	X	X
CHIP	Total Population Enrolled in Medicaid Dental	X	X
	Total Children Enrolled in CHIP	X	X
	Medicaid Non-dental Annual Expenses per Enrollee	X	Х
	Medicaid Dental Annual Expenses per Enrollee	X	Х
	CHIP Non-dental Annual Expenses per Enrollee	X	Х
	CHIP Dental Annual Expenses per Enrollee	X	X

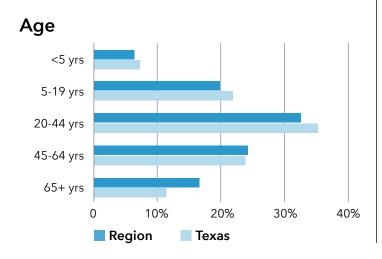


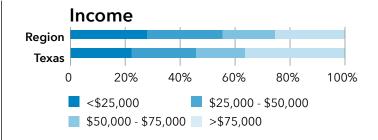
North Central - Abilene

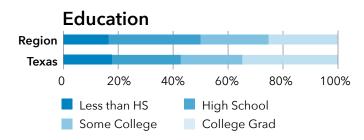
15 counties: Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Knox, Mitchell, Nolan, Palo Pinto, Shackelford, Stephens, Stonewall, Taylor

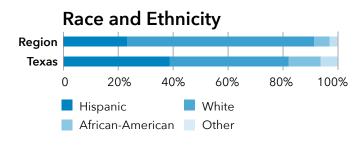
Population 318,210









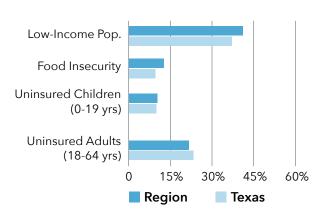


Key Points

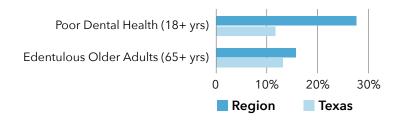
- In this region, an estimated 27.6% of adults are in poor dental health and 15.7% of older adults are edentulous, some of the highest rates in the state.
- This region has the lowest estimated rate of adult past-year dental visits in the state (45.4%)
- 47.0% of the region's population lives in a rural county.
- Taylor County is the most populous in the region and performs similar to or better than the state average on measures of access to clinical care.

North Central - Abilene

Socioeconomic Factors

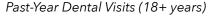


Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	21	15.8
Oral Cancer Incidence rate per 100,000 Pop.	12.3	10.8
Oral Cancer Mortality rate per 100,00 Pop.	3.8	2.6

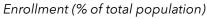
Clinical Care

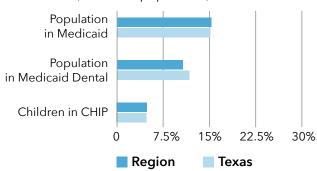




Population to Provider Ratio	Region	Texas
General Dentist	4204: 1	2970: 1
Pediatric Dentist	23875: 1	9411: 1
Specialized Dentist	27674: 1	14291: 1
Dental Hygienist	2355: 1	2220: 1
Dental Assistant	858: 1	805: 1
Primary Care Physician	1597: 1	1362: 1
Nurse Practitioner	1815: 1	1961: 1
FQHCs per 100,000 pop.	2.2	1.5

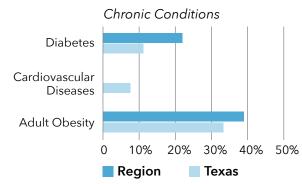
Medicaid and CHIP

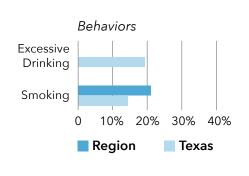




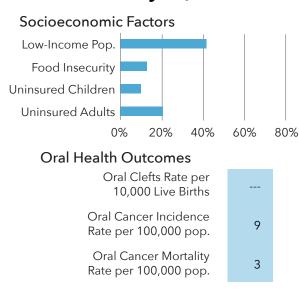
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,517	\$5,224
Medicaid Dental	\$418	\$419
CHIP Non-Dental	\$1,307	\$1,527
CHIP Dental	\$285	\$285

Risk Factors

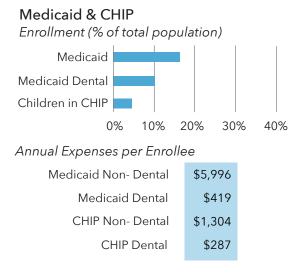




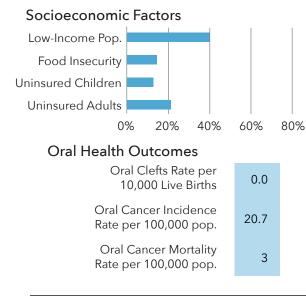
Brown County Population 37,935



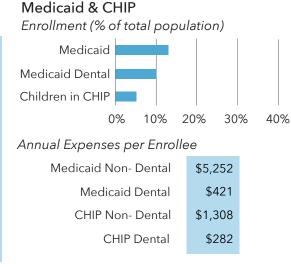
Clinical Care Pop. to Provider Ratio General Dentist 4999:1 Pediatric Dentist Specialized 39995:1 Dentist 2666:1 Dental Hygienist Dental Assistant 976:1 Primary Care 1481:1 Physician Nurse Practitioner 3077:1 FQHCs per 100,000 pop. 5.3



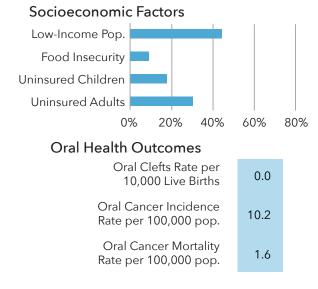
Callahan County Population 13,596



Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist 3588:1 1435:1 Dental Assistant Primary Care 7176:1 Physician Nurse Practitioner 4784:1 FQHCs per 100,000 pop. 0

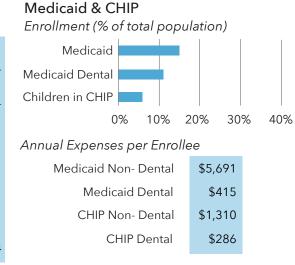


Comanche County Population 13,506

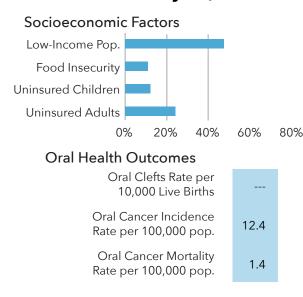


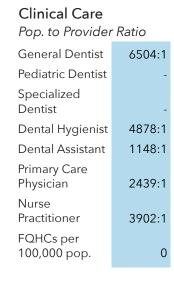
Pop. to Provider Ratio General Dentist 4859:1 Pediatric Dentist - Specialized Dentist 2430:1 Dental Hygienist 2430:1 Primary Care Physician 1822:1 Nurse Practitioner 2430:1 FQHCs per 100,000 pop. 7.4	· · · · · · · · · · · · · · · · · · ·	
Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant Primary Care Physician Nurse Practitioner FQHCs per	Pop. to Provider Ratio	
Specialized Dentist Dental Hygienist Dental Assistant Primary Care Physician Nurse Practitioner FQHCs per	General Dentist	4859:1
Dentist - Dental Hygienist 2430:1 Dental Assistant 1215:1 Primary Care Physician 1822:1 Nurse Practitioner 2430:1 FQHCs per	Pediatric Dentist	-
Dental Assistant 1215:1 Primary Care Physician 1822:1 Nurse Practitioner 2430:1 FQHCs per	'	-
Primary Care Physician 1822:1 Nurse Practitioner 2430:1 FQHCs per	Dental Hygienist	2430:1
Physician 1822:1 Nurse Practitioner 2430:1 FQHCs per	Dental Assistant	1215:1
Practitioner 2430:1 FQHCs per	,	1822:1
•		2430:1
		7.4

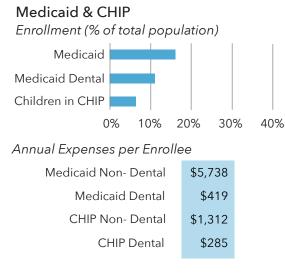
Clinical Care



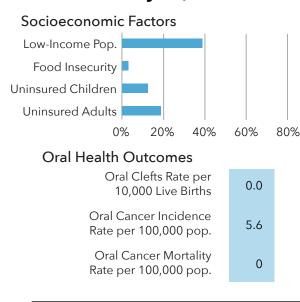
Eastland County Population 18,252



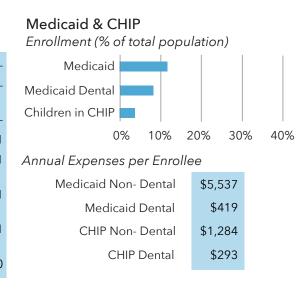




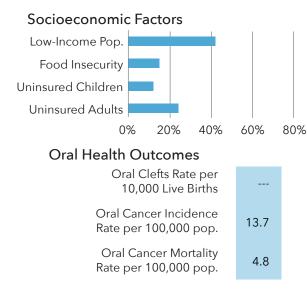
Fisher County Population 3,847



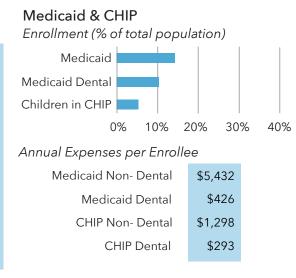
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist** 3931:1 **Dental Assistant** 1310:1 Primary Care 3931:1 Physician Nurse Practitioner 983:1 FQHCs per 100,000 pop. 0



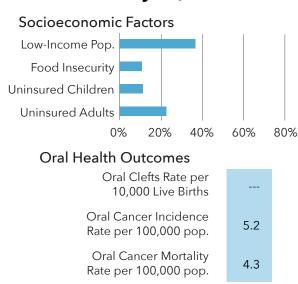
Haskell County Population 5,812



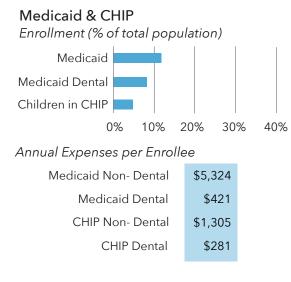
Clinical Care Pop. to Provider Ratio		
General Dentist	-	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	5996:1	
Dental Assistant	1199:1	
Primary Care Physician	2998:1	
Nurse Practitioner	5996:1	
FQHCs per 100,000 pop.	0	



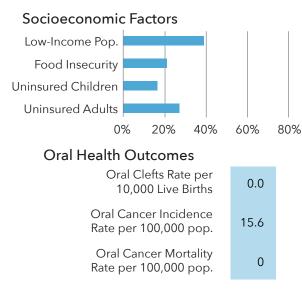
Jones County Population 19,944



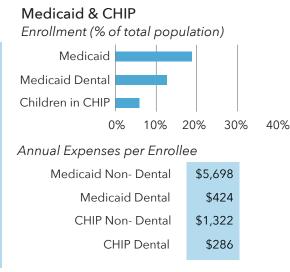
Clinical Care Pop. to Provider Ratio General Dentist 21647:1 Pediatric Dentist Specialized Dentist 5412:1 Dental Hygienist **Dental Assistant** 2405:1 Primary Care Physician 2405:1 Nurse Practitioner 1804:1 FQHCs per 100,000 pop. 0



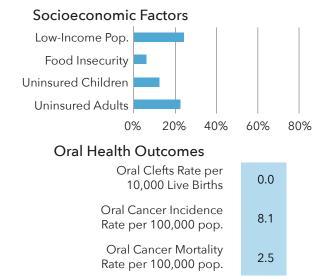
Knox County Population 3,807



Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist 3757:1 Dental Assistant Primary Care 1879:1 Physician Nurse Practitioner 751:1 FQHCs per 100,000 pop. 0

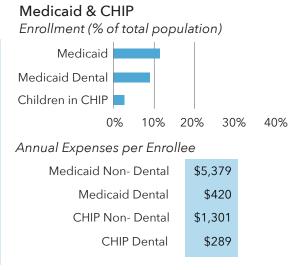


Mitchell County Population 8,995

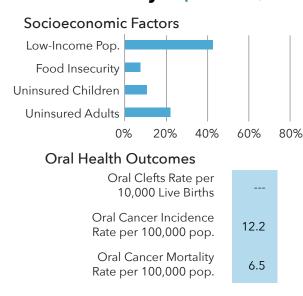


Clinical Care			
Ratio			
9853:1			
-			
-			
2463:1			
1408:1			
3284:1			
3284:1			
0			

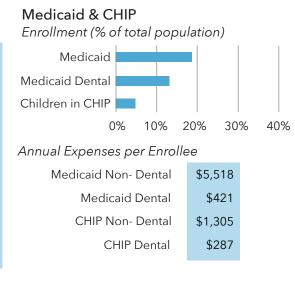
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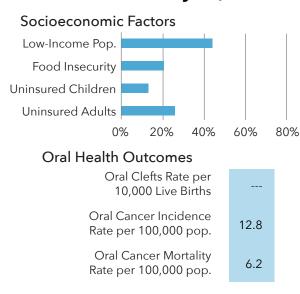
Nolan County Population 15,017



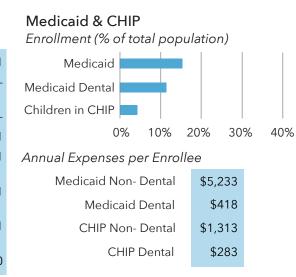
Clinical Care Pop. to Provider Ratio General Dentist 3971:1 Pediatric Dentist Specialized Dentist 2269:1 Dental Hygienist **Dental Assistant** 1588:1 Primary Care Physician 2269:1 Nurse Practitioner 3177:1 FQHCs per 100,000 pop. 0



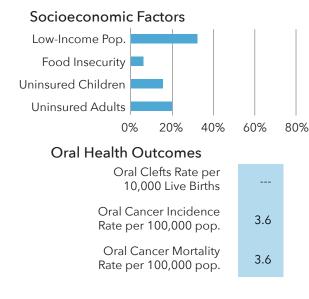
Palo Pinto County Population 27,922



Clinical Care Pop. to Provider Ratio General Dentist 5106:1 Pediatric Dentist Specialized Dentist 3404:1 **Dental Hygienist Dental Assistant** 806:1 Primary Care Physician 1802:1 Nurse Practitioner 3064:1 FQHCs per 100,000 pop. 0



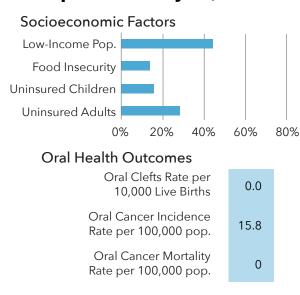
Shackelford County Population 3,323



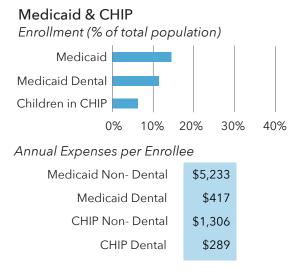
Clinical Care Pop. to Provider Ratio			
General Dentist	-		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	1811:1		
Dental Assistant	905:1		
Primary Care Physician	3621:1		
Nurse Practitioner	1207:1		
FQHCs per 100,000 pop.	30.1		

	Medicaid & CHIP Enrollment (% of total popu	lation)	
-	Medicaid		
-	Medicaid Dental		
_	Children in CHIP		
1	0% 10% 2	20% 309	% 40%
1	Annual Expenses per Enrolle	ee	
1	Medicaid Non- Dental	\$4,965	
•	Medicaid Dental	\$417	
1	CHIP Non- Dental	\$1,309	
1	CHIP Dental	\$287	
•			

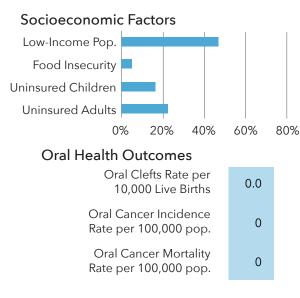
Stephens County Population 9,787



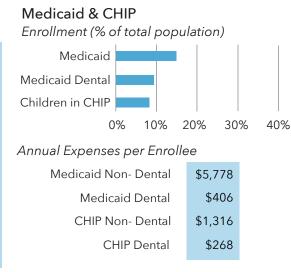
Clinical Care Pop. to Provider Ratio General Dentist 5047:1 Pediatric Dentist Specialized Dentist 5047:1 Dental Hygienist **Dental Assistant** 1442:1 Primary Care Physician 1682:1 Nurse Practitioner 3365:1 FQHCs per 100,000 pop. 10.2



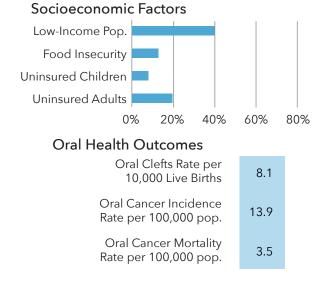
Stonewall County Population 1,233



Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist** 1506:1 **Dental Assistant** Primary Care Physician 1506:1 Nurse Practitioner 753:1 FQHCs per 100,000 pop. 0



Taylor County Population 135,234



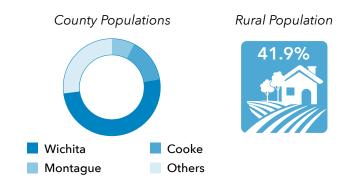
Clinical Care Pop. to Provider Ratio			
General Dentist	2681:1		
Pediatric Dentist	10797:1		
Specialized Dentist	12430:1		
Dental Hygienist	1688:1		
Dental Assistant	613:1		
Primary Care Physician	1199:1		
Nurse Practitioner	1266:1		
FQHCs per 100,000 pop.	1.5		

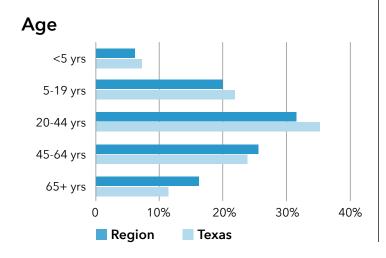
Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 309	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$5,462	
Medicaid Dental	\$417	
CHIP Non- Dental	\$1,305	
CHIP Dental	\$284	

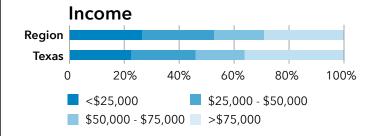
North Central - Wichita Falls

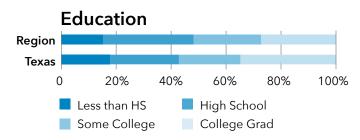
12 counties: Archer, Baylor, Clay, Cooke, Foard, Hardeman, Jack, Montague, Throckmorton, Wichita, Wilbarger, Young

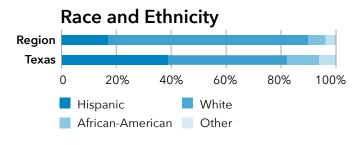
Population 260,160









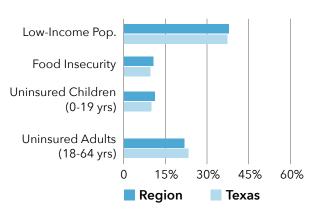


Key Points

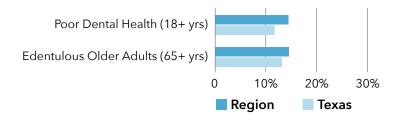
- The region's estimated rate of adults in poor dental health (14.3%) is worse than the state average, but about half the estimated rate in the neighboring North Central - Abilene region.
- Annual oral cancer incidence (13.3 cases per 100,000 population) is higher in this region than any other.
- This region has the 2nd highest supply of dental hygienists per capita in the state.
 Provider supply is better than the state average in Wichita, Young, and Cooke County which together constitute about 72% of the region's population.
- 41.9% of the region's population lives in rural counties. Six of the 12 counties in this region have a population of less than 10,000.

North Central - Wichita Falls

Socioeconomic Factors

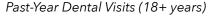


Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	16	15.8
Oral Cancer Incidence rate per 100,000 Pop.	13.3	10.8
Oral Cancer Mortality rate per 100,00 Pop.	1.1	2.6

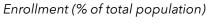
Clinical Care

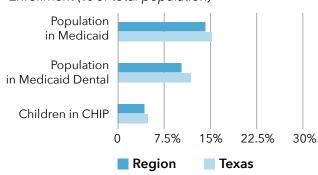




Population to Provider Ratio	Region	Texas
General Dentist	3252: 1	2970: 1
Pediatric Dentist	19518: 1	9411: 1
Specialized Dentist	15880: 1	14291: 1
Dental Hygienist	1646: 1	2220: 1
Dental Assistant	1000: 1	805: 1
Primary Care Physician	1491: 1	1362: 1
Nurse Practitioner	1915: 1	1961: 1
FQHCs per 100,000 pop.	1.2	1.5

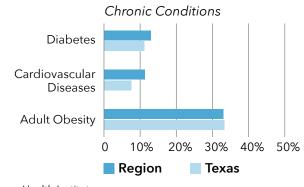
Medicaid and CHIP

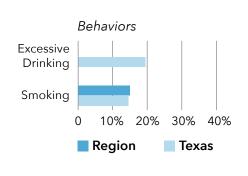




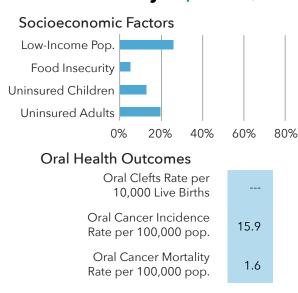
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,520	\$5,224
Medicaid Dental	\$418	\$419
CHIP Non-Dental	\$1,308	\$1,527
CHIP Dental	\$283	\$285

Risk Factors

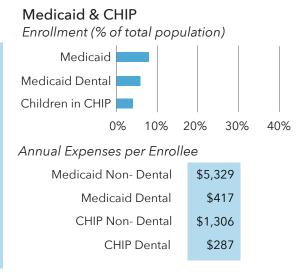




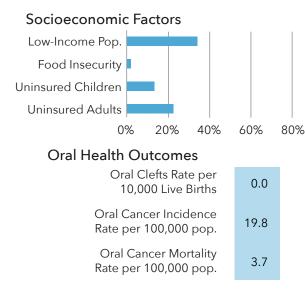
Archer County Population 8,750



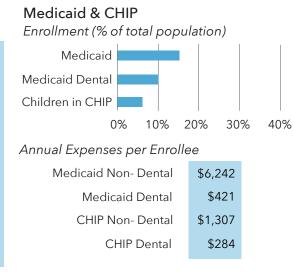
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist 4821:1 Dental Hygienist 964:1 Dental Assistant Primary Care Physician Nurse Practitioner FQHCs per 100,000 pop.



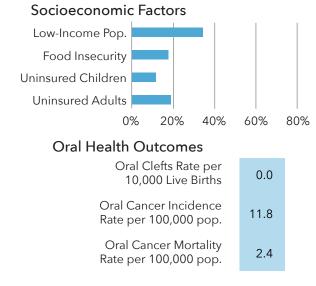
Baylor County Population 3,639



Clinical Care Pop. to Provider Ratio 3709:1 General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist Dental Assistant** 1855:1 Primary Care Physician 742:1 Nurse Practitioner FQHCs per 100,000 pop. 0



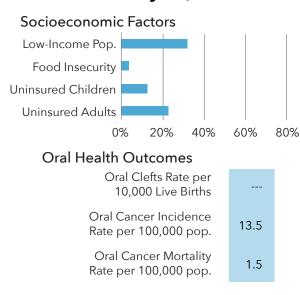
Clay County Population 10,367



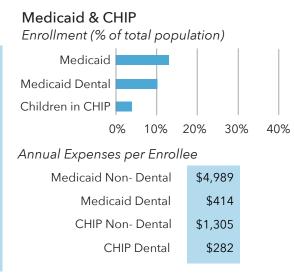
Clinical Care Pop. to Provider Ratio		
General Dentist	-	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	3796:1	
Dental Assistant	876:1	
Primary Care Physician	2278:1	
Nurse Practitioner	-	
FQHCs per 100,000 pop.	0	

Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 30	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$5,568	
Medicaid Dental	\$420	
CHIP Non- Dental	\$1,295	
CHIP Dental	\$288	

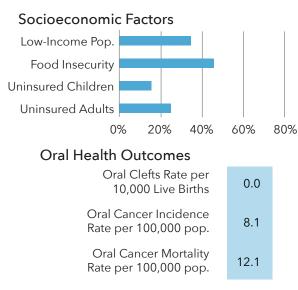
Cooke County Population 38,878



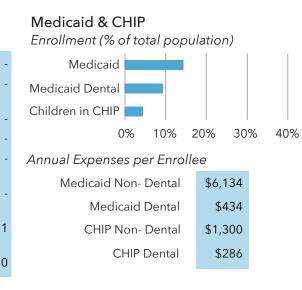
Clinical Care Pop. to Provider Ratio General Dentist 2909:1 Pediatric Dentist 9069:1 Specialized Dentist 20363:1 1358:1 Dental Hygienist **Dental Assistant** 885:1 Primary Care Physician 2036:1 Nurse Practitioner 1939:1 FQHCs per 100,000 pop. 0



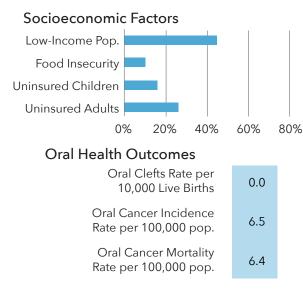
Foard County Population 1,320



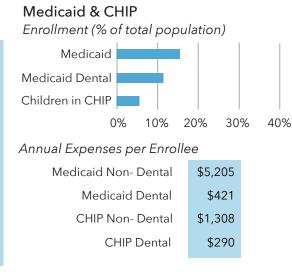
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant Primary Care Physician Nurse Practitioner 1364:1 FQHCs per 100,000 pop.



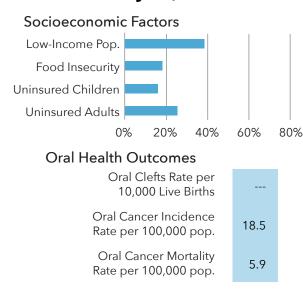
Hardeman County Population 3,952



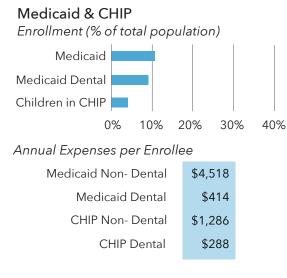
Clinical Care Pop. to Provider	Ratio
General Dentist	1455:1
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	1455:1
Dental Assistant	2183:1
Primary Care Physician	1455:1
Nurse Practitioner	1455:1
FQHCs per 100,000 pop.	0



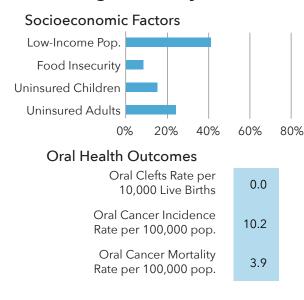
Jack County Population 8,866



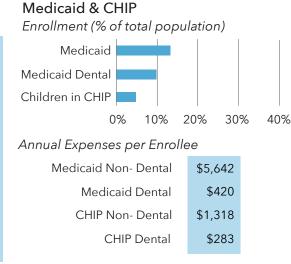
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant 3167:1 Primary Care 1900:1 Physician Nurse Practitioner 3167:1 FQHCs per 100,000 pop. 0



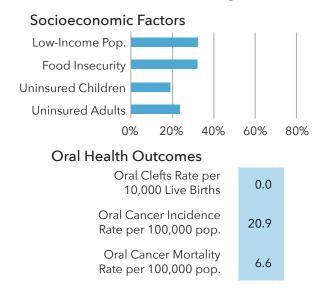
Montague County Population 19,384



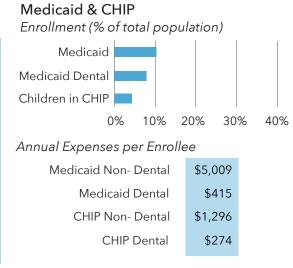
Clinical Care Pop. to Provider Ratio 3492:1 General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist 3492:1 1905:1 Dental Assistant Primary Care 2619:1 Physician Nurse Practitioner 6983:1 FQHCs per 100,000 pop. 0



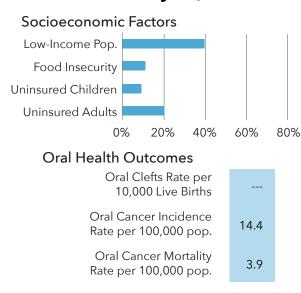
Throckmorton County Population 1,520



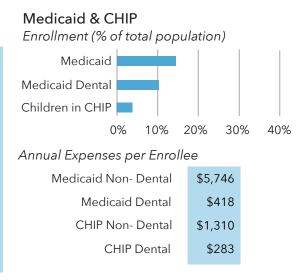
Clinical Care Pop. to Provider	Ratio
General Dentist	-
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	-
Dental Assistant	-
Primary Care Physician	1655:1
Nurse Practitioner	1655:1
FQHCs per 100,000 pop.	0



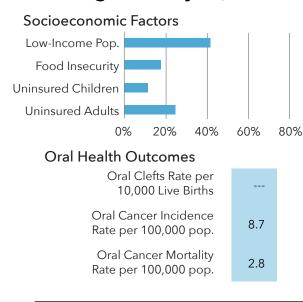
Wichita County Population 132,148



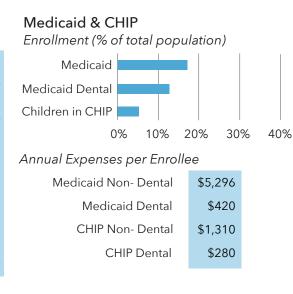
Clinical Care Pop. to Provider Ratio General Dentist 2884:1 Pediatric Dentist 14714:1 Specialized 10206:1 Dentist 1314:1 Dental Hygienist **Dental Assistant** 840:1 Primary Care Physician 1195:1 Nurse Practitioner 1491:1 FQHCs per 100,000 pop. 2.3



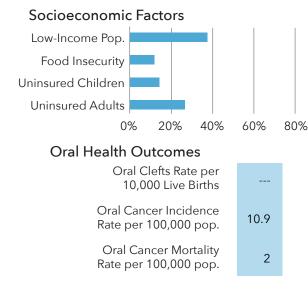
Wilbarger County Population 13,061



Clinical Care Pop. to Provider Ratio General Dentist 4832:1 Pediatric Dentist Specialized Dentist 2899:1 Dental Hygienist **Dental Assistant** 2416:1 Primary Care Physician 1812:1 Nurse Practitioner 1611:1 FQHCs per 100,000 pop.

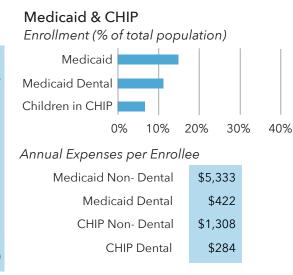


Young County Population 18,275



Clinical Care		
Pop. to Provider Ratio		
General Dentist	1948:1	
Pediatric Dentist	-	
Specialized Dentist	9742:1	
Dental Hygienist	1392:1	
Dental Assistant	1025:1	
Primary Care Physician	1299:1	
Nurse Practitioner	1771:1	
FQHCs per 100,000 pop.	0	

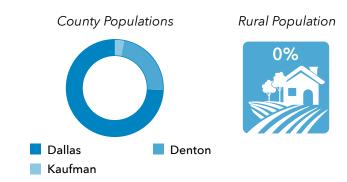
Clinical Cara

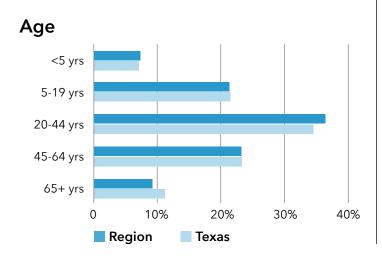


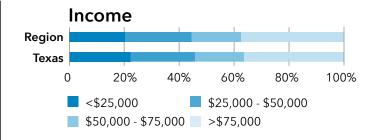
North - Dallas

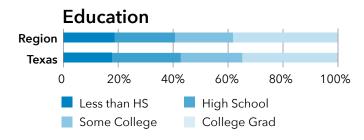
3 counties: Dallas, Denton, Kaufman

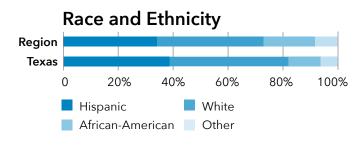
Population 3,379,534









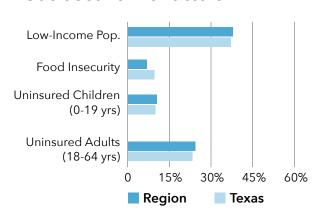


Key Points

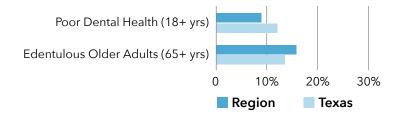
- In this region, two in three adults (66.6%) are estimated to have visited the dentist in the past year, the second highest rate of any region.
- The region's supply of dentists and primary care physicians is high compared to the state overall, with the exception of Kaufmann County.
- The estimated percentage of edentulous older adults (15.3%) is higher than the state average and similar to many of the state's rural regions.
- Dallas County has a high proportion of lowincome residents (42.6%) and more than onequarter of adults are uninsured (27.4%).

North - Dallas

Socioeconomic Factors



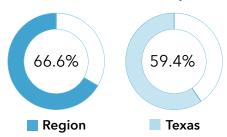
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	16.2	15.8
Oral Cancer Incidence rate per 100,000 Pop.	11	10.8
Oral Cancer Mortality rate per 100,00 Pop.	0	2.6

Clinical Care

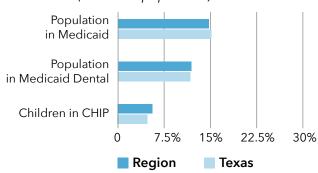
Past-Year Dental Visits (18+ years)



Population to Provider Ratio	Region	Texas
General Dentist	2480: 1	2970: 1
Pediatric Dentist	8954: 1	9411: 1
Specialized Dentist	11700: 1	14291: 1
Dental Hygienist	2197: 1	2220: 1
Dental Assistant	777: 1	805: 1
Primary Care Physician	1230: 1	1362: 1
Nurse Practitioner	1697: 1	1961: 1
FQHCs per 100,000 pop.	0.4	1.5

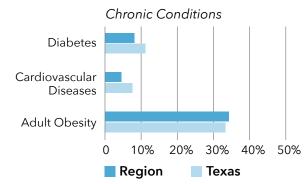
Medicaid and CHIP

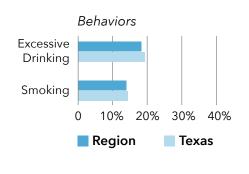
Enrollment (% of total population)



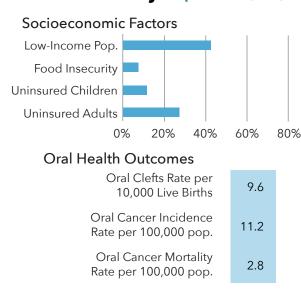
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$4,795	\$5,224
Medicaid Dental	\$419	\$419
CHIP Non-Dental	\$1,586	\$1,527
CHIP Dental	\$286	\$285

Risk Factors

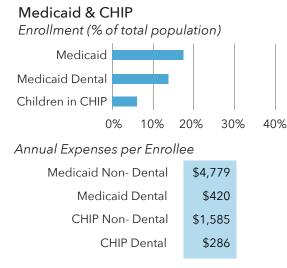




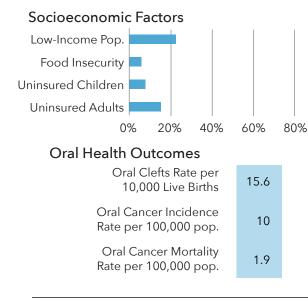
Dallas County Population 2,513,054



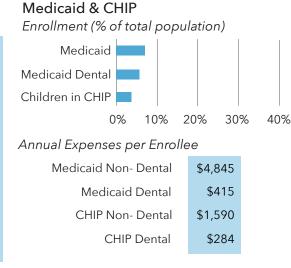
Clinical Care Pop. to Provider Ratio General Dentist 2302:1 Pediatric Dentist 9182:1 Specialized 10772:1 Dentist 2298:1 Dental Hygienist Dental Assistant 768:1 Primary Care 1082:1 Physician Nurse Practitioner 1471:1 FQHCs per 100,000 pop. 0.4



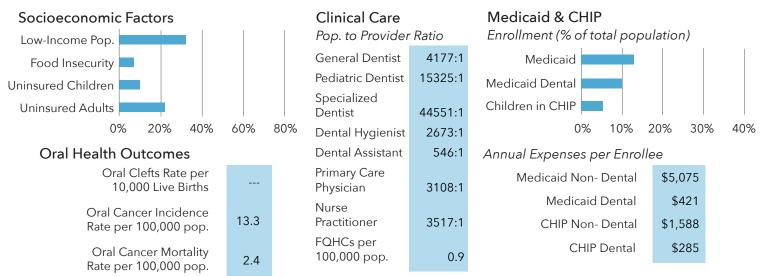
Denton County Population 754,650



Clinical Care Pop. to Provider Ratio 2981:1 General Dentist Pediatric Dentist 7778:1 Specialized Dentist 13657:1 **Dental Hygienist** 5623:1 **Dental Assistant** 864:1 Primary Care Physician 1805:1 Nurse Practitioner 2749:1 FQHCs per 100,000 pop. 0.5



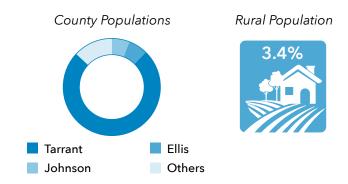
Kaufman County Population 111,830

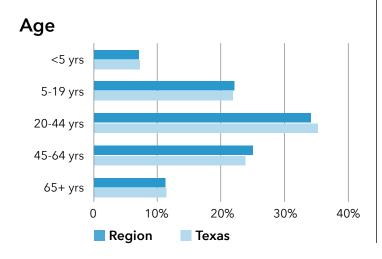


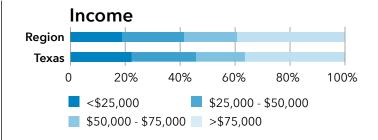
North - Fort Worth

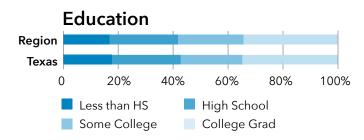
9 counties: Ellis, Erath, Hood, Johnson, Navarro, Parker, Somervell, Tarrant, Wise

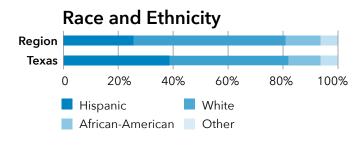
Population 2,602,696









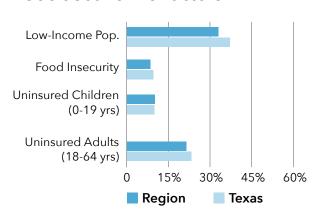


Key Points

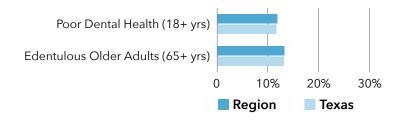
- The supply of dentists within the region varies, with Tarrant and Hood Counties performing better on access measures, and Wise, Navarro, and Parker counties performing worse.
- This region has the lowest rate of FQHCs per 100,000 population in the state, despite one in three residents being classified as low-income (33.0%).
- Oral health outcomes, rates of past-year dental visits, and rates of risk factors for oral disease are on par with state averages.

North - Fort Worth

Socioeconomic Factors



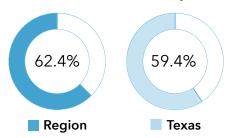
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	14.6	15.8
Oral Cancer Incidence rate per 100,000 Pop.	12.3	10.8
Oral Cancer Mortality rate per 100,00 Pop.	2	2.6

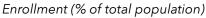
Clinical Care

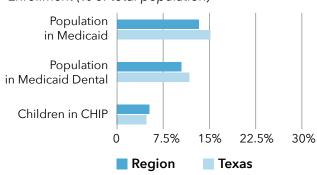
Past-Year Dental Visits (18+ years)



Population to Provider Ratio	Region	Texas
General Dentist	2720: 1	2970: 1
Pediatric Dentist	9399: 1	9411: 1
Specialized Dentist	15241: 1	14291: 1
Dental Hygienist	1951: 1	2220: 1
Dental Assistant	703: 1	805: 1
Primary Care Physician	1328: 1	1362: 1
Nurse Practitioner	2212: 1	1961: 1
FQHCs per 100,000 pop.	0.2	1.5

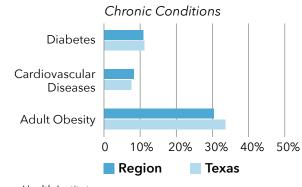
Medicaid and CHIP

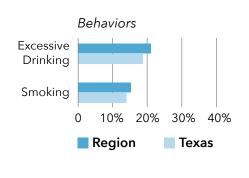




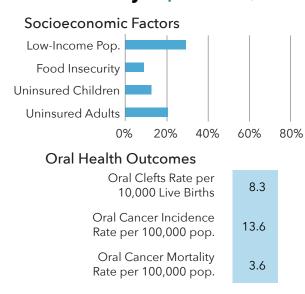
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,072	\$5,224
Medicaid Dental	\$418	\$419
CHIP Non-Dental	\$1,584	\$1,527
CHIP Dental	\$285	\$285

Risk Factors

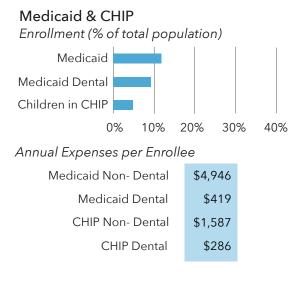




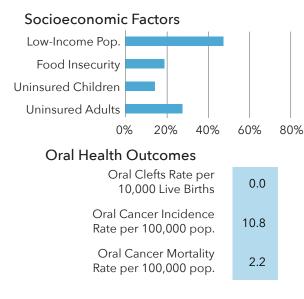
Ellis County Population 160,225



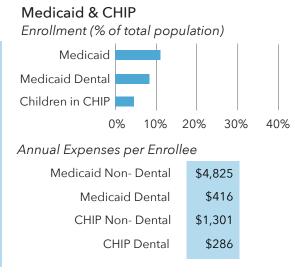
Clinical Care Pop. to Provider Ratio General Dentist 3531:1 Pediatric Dentist 10771:1 Specialized 61206:1 Dentist 2416:1 Dental Hygienist Dental Assistant 633:1 Primary Care Physician 1855:1 Nurse Practitioner 2915:1 FQHCs per 100,000 pop. 1.2



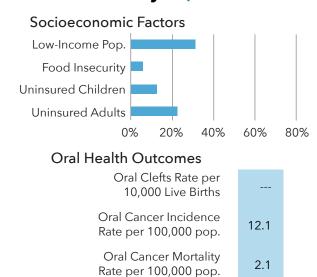
Erath County Population 40,641



Clinical Care Pop. to Provider Ratio General Dentist 3668:1 Pediatric Dentist Specialized Dentist 13451:1 **Dental Hygienist** 2242:1 807:1 **Dental Assistant** Primary Care 1552:1 Physician Nurse Practitioner 3669:1 FQHCs per 100,000 pop. 2.5

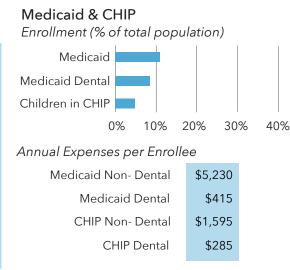


Hood County Population 54,217

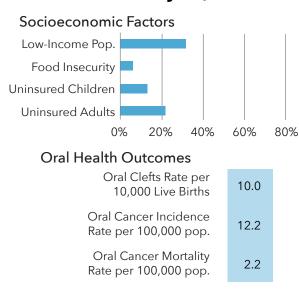


Cilifical Care		
Pop. to Provider Ratio		
General Dentist	2529:1	
Pediatric Dentist	11280:1	
Specialized Dentist	-	
Dental Hygienist	1711:1	
Dental Assistant	701:1	
Primary Care Physician	1616:1	
Nurse Practitioner	2908:1	
FQHCs per 100,000 pop.	0	

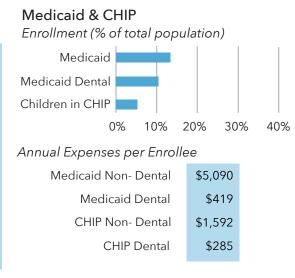
Clinical Care



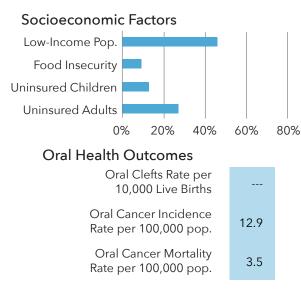
Johnson County Population 157,544



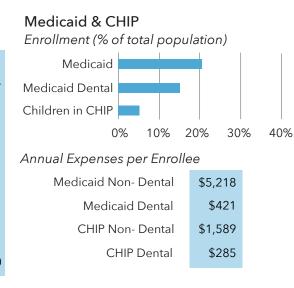
Clinical Care Pop. to Provider Ratio General Dentist 3501:1 Pediatric Dentist 10317:1 Specialized 35006:1 Dentist 2735:1 Dental Hygienist Dental Assistant 632:1 Primary Care 2693:1 Physician Nurse Practitioner 4488:1 FQHCs per 100,000 pop. 0



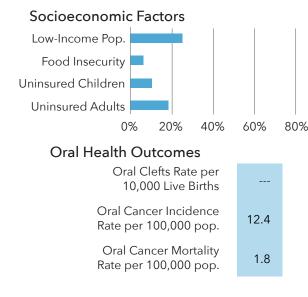
Navarro County Population 48,177



Clinical Care Pop. to Provider Ratio 4418:1 General Dentist Pediatric Dentist Specialized Dentist 26510:1 **Dental Hygienist** 2651:1 **Dental Assistant** 768:1 Primary Care 1894:1 Physician Nurse Practitioner 4418:1 FQHCs per 100,000 pop. 0

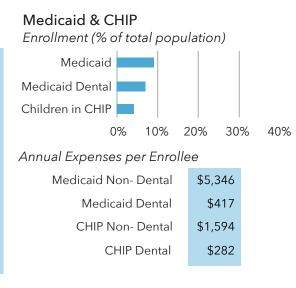


Parker County Population 123,601

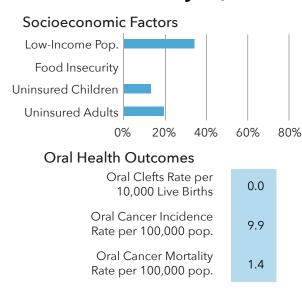


Cillical Cale		
Pop. to Provider Ratio		
General Dentist	4268:1	
Pediatric Dentist	14995:1	
Specialized Dentist	24184:1	
Dental Hygienist	2015:1	
Dental Assistant	648:1	
Primary Care Physician	2303:1	
Nurse Practitioner	4837:1	
FQHCs per 100,000 pop.	0	

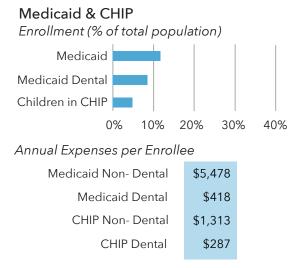
Clinical Care



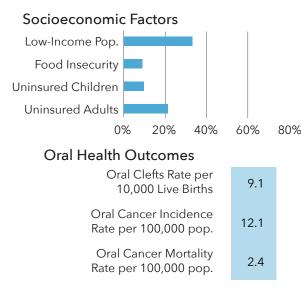
Somervell County Population 8,673



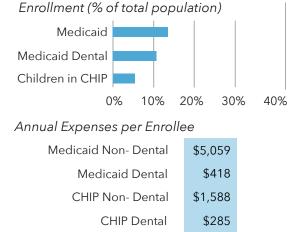
Clinical Care Pop. to Provider Ratio General Dentist 3281:1 Pediatric Dentist Specialized Dentist 2461:1 Dental Hygienist **Dental Assistant** 1231:1 Primary Care Physician 1231:1 Nurse Practitioner 2461:1 FQHCs per 100,000 pop. 0



Tarrant County Population 1,947,529

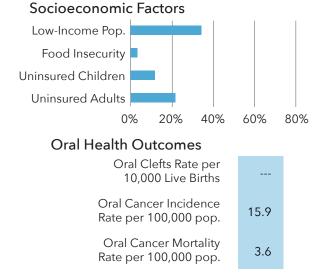


Clinical Care			
Pop. to Provider Ratio			
General Dentist	2486:1		
Pediatric Dentist	8423:1		
Specialized Dentist	12571:1		
Dental Hygienist	1842:1		
Dental Assistant	711:1		
Primary Care Physician	1182:1		
Nurse Practitioner	1935:1		
FQHCs per 100,000 pop.	0.2		



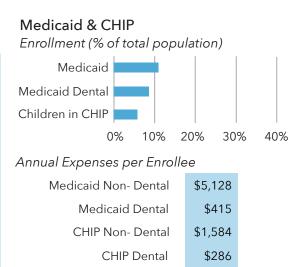
Medicaid & CHIP

Wise County Population 62,089



Pop. to Provider Ratio		
General Dentist	4630:1	
Pediatric Dentist	-	
Specialized Dentist	69449:1	
Dental Hygienist	2572:1	
Dental Assistant	951:1	
Primary Care Physician	1781:1	
Nurse Practitioner	3157:1	
FQHCs per 100,000 pop.	0	

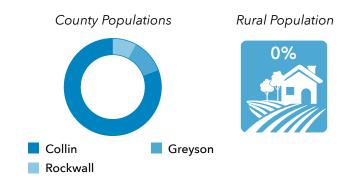
Clinical Care



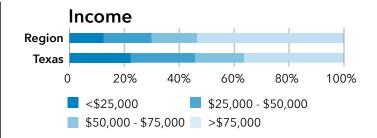
North - Plano/Sherman

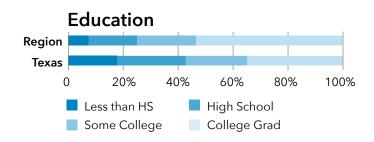
3 counties: Collin, Grayson, Rockwall

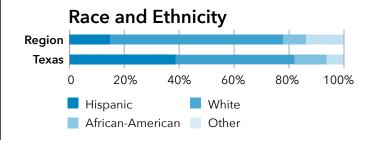
Population 1,098,874



Age 5 yrs 5-19 yrs 20-44 yrs 45-64 yrs 0 10% 20% 30% 40% Region Texas





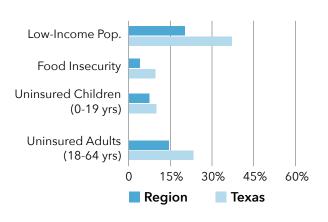


Key Points

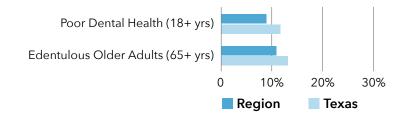
- This region has an above-average supply of general dentists, pediatric dentists, specialized dentists, dental hygienists, and primary care physicians compared to other regions.
- Estimated rates of excessive drinking (12.4%) and obesity (23.8%) fall well below the state average in this region.
- The region has better estimated rates of oral health outcomes and use of dental care in the past year compared to the state average. However, oral cancer incidence rates in Rockwall and Grayson counties exceed the state overall.
- Overall, the region has the lowest proportion of low-income residents (20.2%) and uninsured adults (14.4%) of any region in the state.

North - Plano/Sherman

Socioeconomic Factors

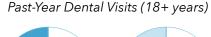


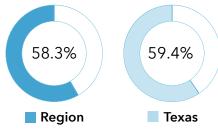
Oral Health Outcomes



	Region	lexas
Oral Clefts rate per 10,000 live births	16	15.8
Oral Cancer Incidence rate per 100,000 Pop.	10.9	10.8
Oral Cancer Mortality rate per 100,00 Pop.	4	2.6

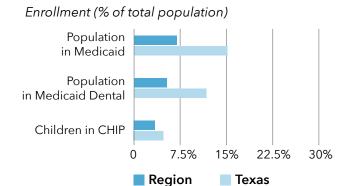
Clinical Care





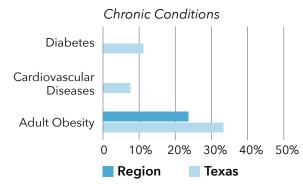
Population to Provider Ratio	Region	Texas
General Dentist	2084: 1	2970: 1
Pediatric Dentist	5335: 1	9411: 1
Specialized Dentist	7319: 1	14291: 1
Dental Hygienist	1393: 1	2220: 1
Dental Assistant	803: 1	805: 1
Primary Care Physician	1129: 1	1362: 1
Nurse Practitioner	2011: 1	1961: 1
FQHCs per 100,000 pop.	0.4	1.5

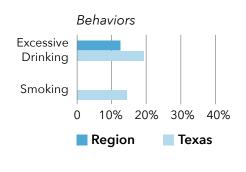
Medicaid and CHIP



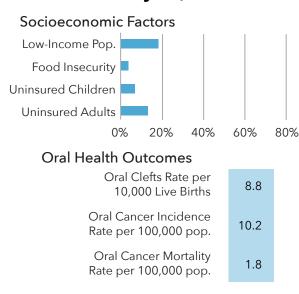
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,051	\$5,224
Medicaid Dental	\$418	\$419
CHIP Non-Dental	\$1,545	\$1,527
CHIP Dental	\$286	\$285

Risk Factors

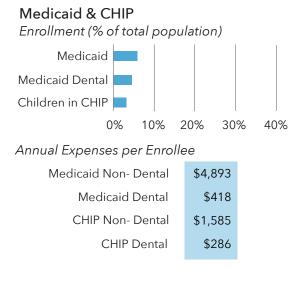




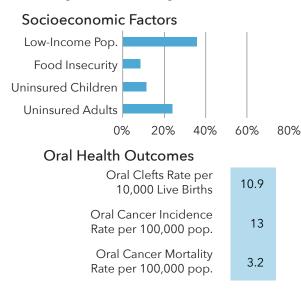
Collin County Population 886,633



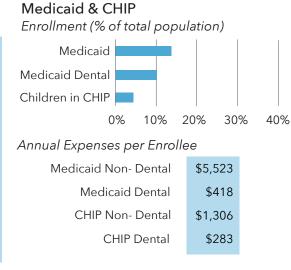
Clinical Care Pop. to Provider Ratio General Dentist 2043:1 Pediatric Dentist 5581:1 Specialized Dentist 7223:1 1360:1 Dental Hygienist Dental Assistant 847:1 Primary Care Physician 1105:1 Nurse Practitioner 2043:1 FQHCs per 100,000 pop. 0.5



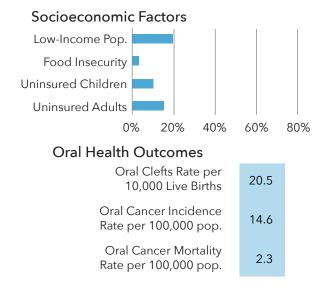
Grayson County Population 124,231



Clinical Care Pop. to Provider Ratio General Dentist 2647:1 Pediatric Dentist 7242:1 Specialized Dentist 12968:1 2092:1 Dental Hygienist **Dental Assistant** 648:1 Primary Care Physician 1259:1 Nurse 1995:1 Practitioner FQHCs per 100,000 pop. 0



Rockwall County Population 88,010



Clinical Care Pop. to Provider Ratio			
General Dentist	1954:1		
Pediatric Dentist	3056:1		
Specialized Dentist	5177:1		
Dental Hygienist	1177:1		
Dental Assistant	664:1		
Primary Care Physician	1233:1		
Nurse Practitioner	1755:1		
FQHCs per 100,000 pop.	0		

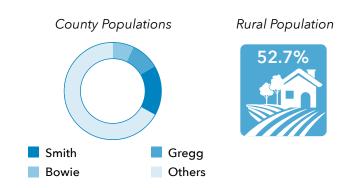
	Medicaid & CHIP Enrollment (% of total population)					
1	Medicaid					
1	Medicaid Dental					
1	Children in CHIP					
1	0% 10% 2	20% 309	% 40%			
1	Annual Expenses per Enrolle	ee				
1	Medicaid Non- Dental	\$5,097				
1	Medicaid Non- Dental Medicaid Dental	\$5,097 \$421				
1						
1	Medicaid Dental	\$421				



North - Texarkana/Tyler

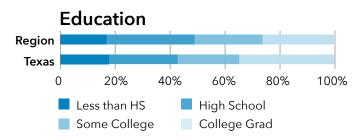
28 counties: Anderson, Bowie, Camp, Cass, Cherokee, Delta, Fannin, Franklin, Freestone, Gregg, Harrison, Henderson, Hopkins, Houston, Hunt, Lamar, Marion, Morris, Panola, Rains, Red River, Rusk, Smith, Titus, Trinity, Upshur, Van Zandt, Wood

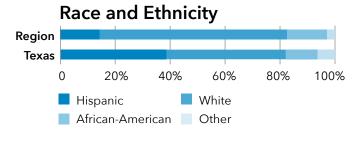
Population 1,307,509









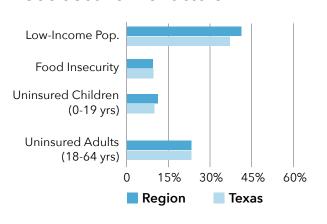


Key Points

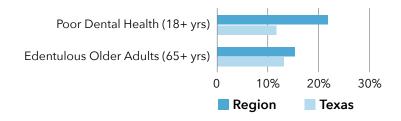
- This region performs worse on measures of oral health provider supply and oral health outcomes compared to the state overall.
- Adults in this region have some of the state's highest estimated rates of obesity (45.6%) and diabetes (17.2%).
- In seven of the 28 counties in this region, more than 45.0% of residents are classified as low-income with the highest proportion (49.1%) in Red River County.

North - Texarkana/Tyler

Socioeconomic Factors

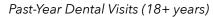


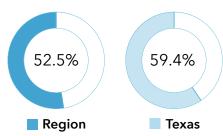
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	17.2	15.8
Oral Cancer Incidence rate per 100,000 Pop.	12.7	10.8
Oral Cancer Mortality rate per 100,00 Pop.	3.5	2.6

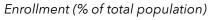
Clinical Care

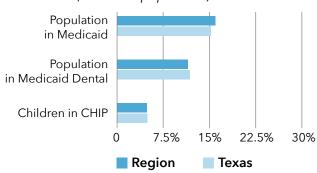




Population to Provider Ratio	Region	Texas
General Dentist	3830: 1	2970: 1
Pediatric Dentist	13279: 1	9411: 1
Specialized Dentist	22486: 1	14291: 1
Dental Hygienist	2135: 1	2220: 1
Dental Assistant	828: 1	805: 1
Primary Care Physician	1514: 1	1362: 1
Nurse Practitioner	2044: 1	1961: 1
FQHCs per 100,000 pop.	2.2	1.5

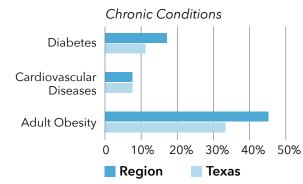
Medicaid and CHIP

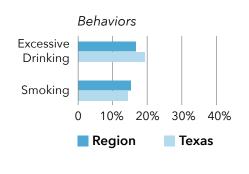




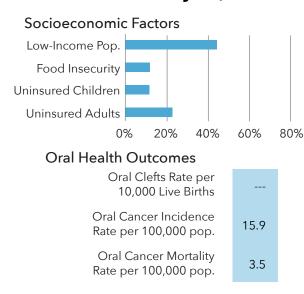
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,823	\$5,224
Medicaid Dental	\$419	\$419
CHIP Non-Dental	\$1,326	\$1,527
CHIP Dental	\$285	\$285

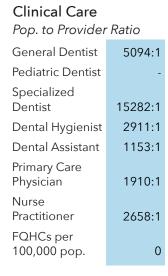
Risk Factors

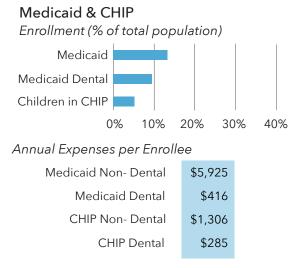




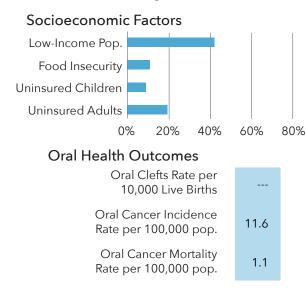
Anderson County Population 57,772



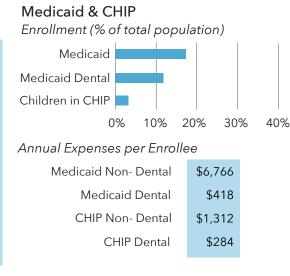




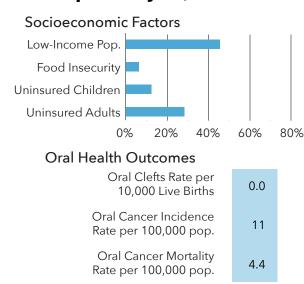
Bowie County Population 93,483



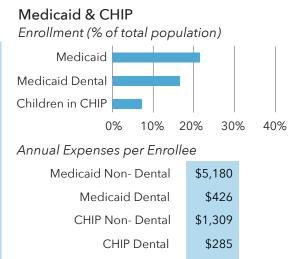
Clinical Care Pop. to Provider	· Ratio
General Dentist	2948:1
Pediatric Dentist	10968:1
Specialized Dentist	7860:1
Dental Hygienist	1814:1
Dental Assistant	953:1
Primary Care Physician	1014:1
Nurse Practitioner	1014:1
FQHCs per 100,000 pop.	3.2



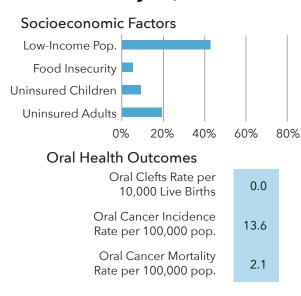
Camp County Population 12,631



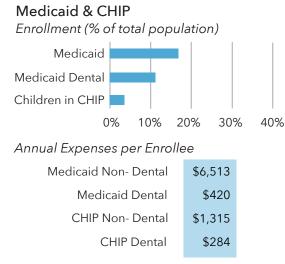
Clinical Care Pop. to Provider Ratio			
General Dentist	3452:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	6905:1		
Dental Assistant	986:1		
Primary Care Physician	1381:1		
Nurse Practitioner	3452:1		
FQHCs per 100,000 pop.	0		



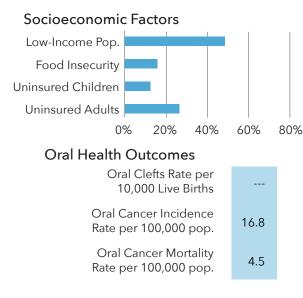
Cass County Population 30,346



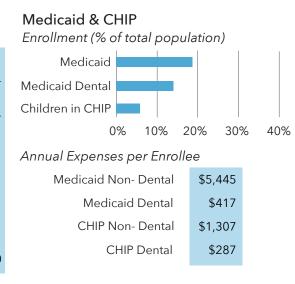




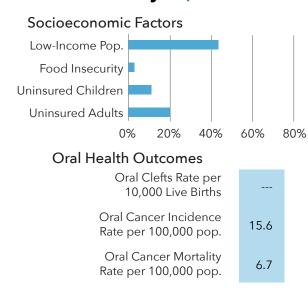
Cherokee County Population 51,257



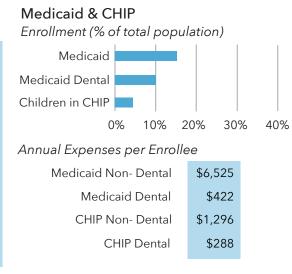
Clinical Care Pop. to Provider Ratio General Dentist 6936:1 Pediatric Dentist Specialized Dentist 2522:1 Dental Hygienist Dental Assistant 1181:1 Primary Care 1790:1 Physician Nurse Practitioner 3264:1 FQHCs per 100,000 pop. 0



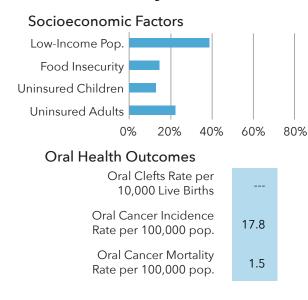
Delta County Population 5,226



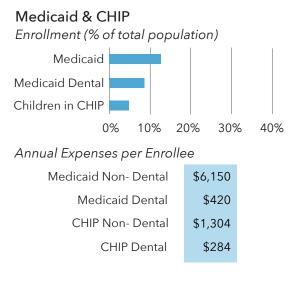
Clinical Care Pop. to Provider Ratio		
General Dentist	5623:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	3089:1	
Dental Assistant	803:1	
Primary Care Physician	5623:1	
Nurse Practitioner	5623:1	
FQHCs per 100,000 pop.	19.1	



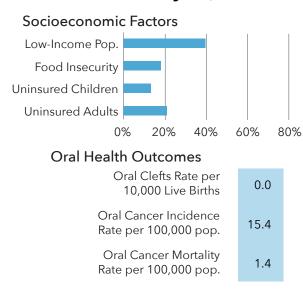
Fannin County Population 33,757



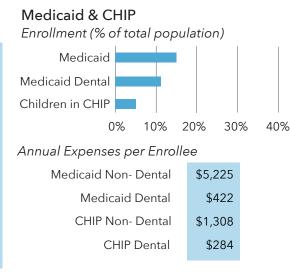
Clinical Care Pop. to Provider Ratio General Dentist 6095:1 Pediatric Dentist Specialized 36571:1 Dentist 4571:1 Dental Hygienist Dental Assistant 581:1 Primary Care Physician 3325:1 Nurse Practitioner 4063:1 FQHCs per 100,000 pop. 3



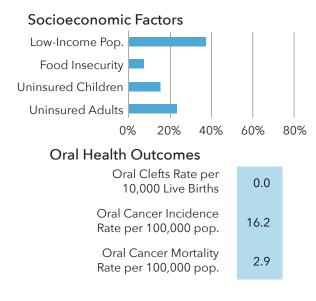
Franklin County Population 10,571



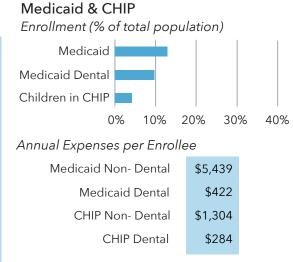
Clinical Care Pop. to Provider Ratio General Dentist 5735:1 Pediatric Dentist Specialized Dentist 5735:1 **Dental Hygienist** Dental Assistant 1639:1 Primary Care Physician 3823:1 Nurse Practitioner 11470:1 FQHCs per 100,000 pop. 0



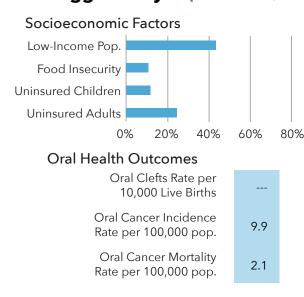
Freestone County Population 19,585



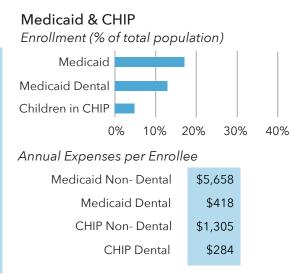
Clinical Care Pop. to Provider Ratio General Dentist 7119:1 Pediatric Dentist Specialized Dentist Dental Hygienist 4271:1 Dental Assistant 1424:1 Primary Care Physician 3051:1 Nurse Practitioner 4271:1 FQHCs per 100,000 pop. 0



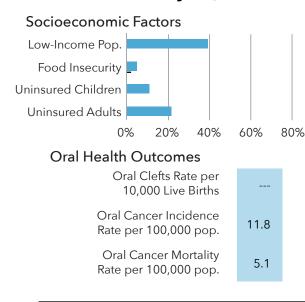
Gregg County Population 123,283



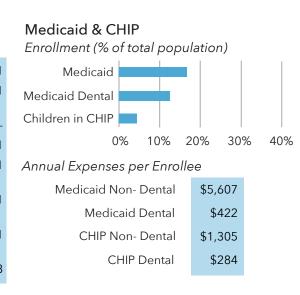
Clinical Care Pop. to Provider Ratio General Dentist 2234:1 Pediatric Dentist 5241:1 Specialized Dentist 8788:1 1156:1 Dental Hygienist Dental Assistant 656:1 Primary Care 862:1 Physician Nurse Practitioner 1244:1 FQHCs per 100,000 pop. 7.3



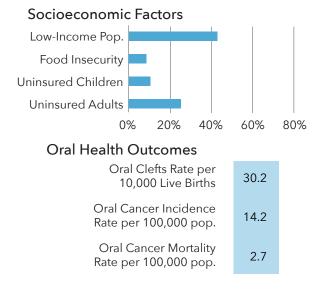
Harrison County Population 66,431



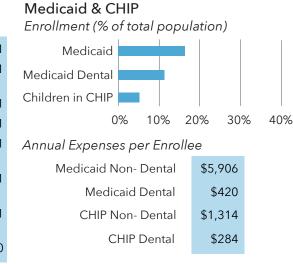
Clinical Care Pop. to Provider Ratio General Dentist 5848:1 Pediatric Dentist 16481:1 Specialized Dentist 4128:1 Dental Hygienist **Dental Assistant** 763:1 Primary Care Physician 2924:1 Nurse Practitioner 4128:1 FQHCs per 100,000 pop. 3



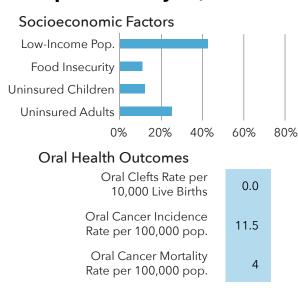
Henderson County Population 79,213



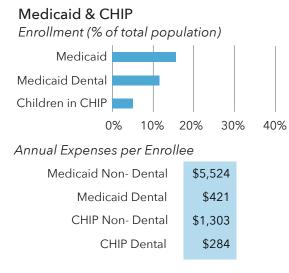




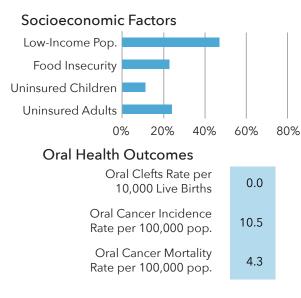
Hopkins County Population 35,844



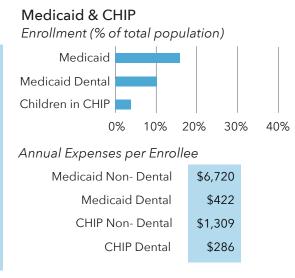
Clinical Care Pop. to Provider Ratio General Dentist 4163:1 Pediatric Dentist Specialized Dentist 2081:1 Dental Hygienist **Dental Assistant** 815:1 Primary Care Physician 2342:1 Nurse Practitioner 2676:1 FQHCs per 100,000 pop. 0



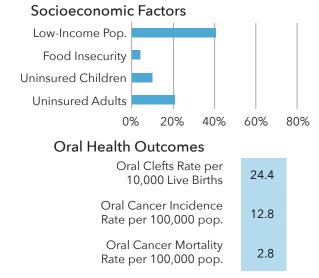
Houston County Population 22,802



Clinical Care Pop. to Provider Ratio General Dentist 4954:1 Pediatric Dentist Specialized Dentist 4128:1 Dental Hygienist **Dental Assistant** 1239:1 Primary Care Physician 3539:1 Nurse Practitioner 4954:1 FQHCs per 100,000 pop. 0



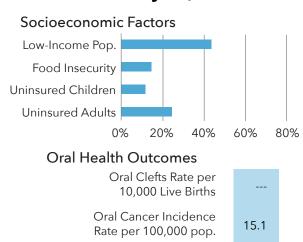
Hunt County Population 89,068



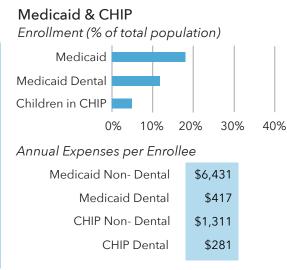
Clinical Care			
Pop. to Provider Ratio			
General Dentist	3331:1		
Pediatric Dentist	20978:1		
Specialized Dentist	96586:1		
Dental Hygienist	2356:1		
Dental Assistant	485:1		
Primary Care Physician	1932:1		
Nurse Practitioner	2683:1		
FQHCs per 100,000 pop.	3.4		

t Medicaid & CHIP Enrollment (% of total population) Medicaid Medicaid Dental Children in CHIP 0% 10% 20% 30% 40% Annual Expenses per Enrollee Medicaid Non- Dental \$5,565 Medicaid Dental \$421 CHIP Non- Dental \$1,585 **CHIP Dental** \$287

Lamar County Population 49,626



Clinical Care Pop. to Provider Ratio General Dentist 3477:1 Pediatric Dentist Specialized Dentist 17387:1 2484:1 Dental Hygienist **Dental Assistant** 1338:1 Primary Care Physician 1186:1 Nurse Practitioner 1581:1 FQHCs per 100,000 pop. 0

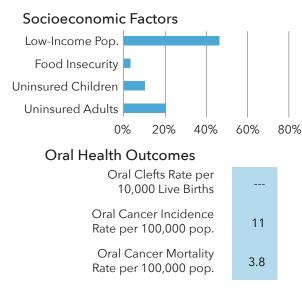


Marion County Population 10,191

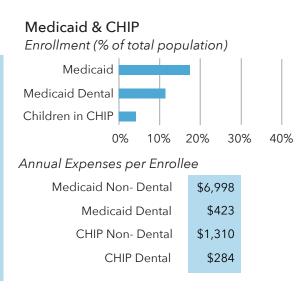
Oral Cancer Mortality

Rate per 100,000 pop.

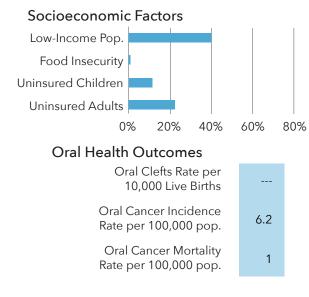
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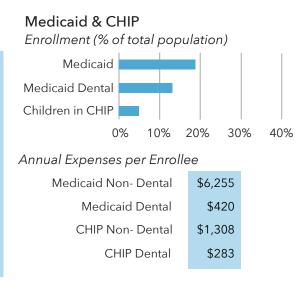
Clinical Care Pop. to Provider Ratio General Dentist 11220:1 Pediatric Dentist Specialized Dentist **Dental Hygienist** 2805:1 **Dental Assistant** 1020:1 Primary Care Physician 11220:1 Nurse Practitioner 2244:1 FQHCs per 100,000 pop. 9.8



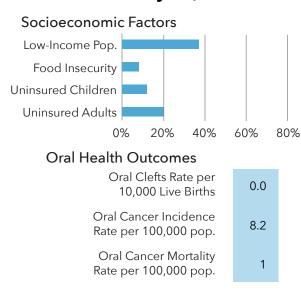
Morris County Population 12,653



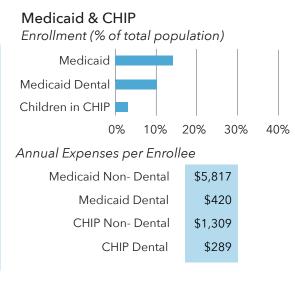
Clinical Care Pop. to Provider Ratio			
General Dentist	2725:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	2271:1		
Dental Assistant	1946:1		
Primary Care Physician	4542:1		
Nurse Practitioner	13625:1		
FQHCs per 100,000 pop.	0		



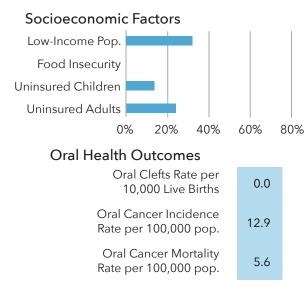
Panola County Population 23,771



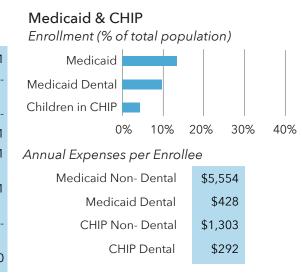
Clinical Care Pop. to Provider Ratio General Dentist 6331:1 Pediatric Dentist Specialized Dentist 2302:1 Dental Hygienist **Dental Assistant** 1333:1 Primary Care Physician 3618:1 Nurse Practitioner 8442:1 FQHCs per 100,000 pop. 0



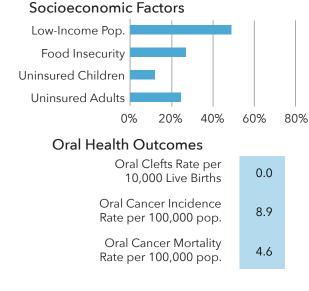
Rains County Population 11,087



Clinical Care Pop. to Provider Ratio General Dentist 6231:1 Pediatric Dentist Specialized Dentist Dental Hygienist 6231:1 **Dental Assistant** 890:1 Primary Care 12461:1 Physician Nurse Practitioner FQHCs per 100,000 pop. 0

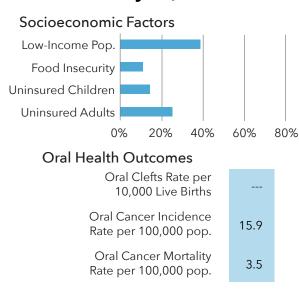


Red River County Population 12,455

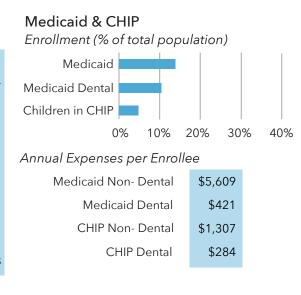


Clinical Care Pop. to Provider	· Ratio	Medicaid & CHIP Enrollment (% of total popu	ılation)	
General Dentist	6673:1	Medicaid		
Pediatric Dentist	-	Medicaid Dental		
Specialized Dentist	-	Children in CHIP		
Dental Hygienist	13345:1	0% 10% 2	20% 309	% 40%
Dental Assistant	1906:1	Annual Expenses per Enrolle	ee	
Primary Care Physician	6673:1	Medicaid Non- Dental	\$7,060	
Nurse		Medicaid Dental	\$423	
Practitioner	2669:1	CHIP Non- Dental	\$1,301	
FQHCs per 100,000 pop.	0	CHIP Dental	\$288	

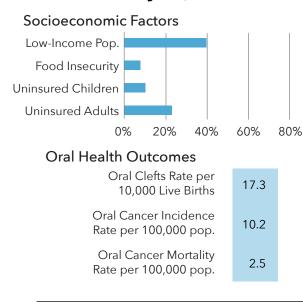
Rusk County Population 53,197



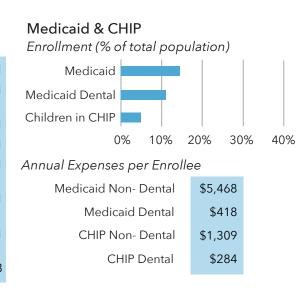
Clinical Care Pop. to Provider Ratio General Dentist 7521:1 Pediatric Dentist Specialized Dentist 60164:1 4297:1 Dental Hygienist **Dental Assistant** 970:1 Primary Care Physician 3167:1 Nurse Practitioner 3760:1 FQHCs per 100,000 pop. 3.8



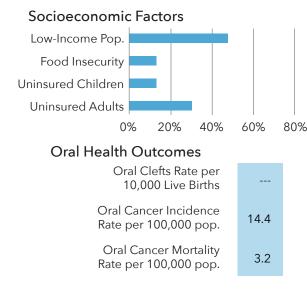
Smith County Population 219,745



Clinical Care Pop. to Provider Ratio General Dentist 2642:1 Pediatric Dentist 5407:1 Specialized Dentist 10567:1 Dental Hygienist 1368:1 **Dental Assistant** 694:1 Primary Care Physician 842:1 Nurse Practitioner 1151:1 FQHCs per 100,000 pop. 2.3

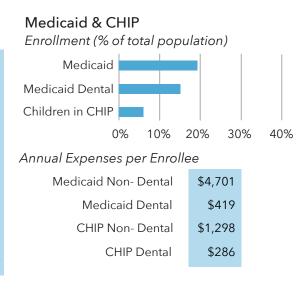


Titus County Population 32,592

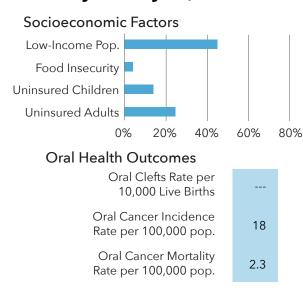


Cililical Care		
Pop. to Provider Ratio		
General Dentist	5147:1	
Pediatric Dentist	4641:1	
Specialized Dentist	36032:1	
Dental Hygienist	1386:1	
Dental Assistant	1060:1	
Primary Care Physician	1243:1	
Nurse Practitioner	2402:1	
FQHCs per 100,000 pop.	0	

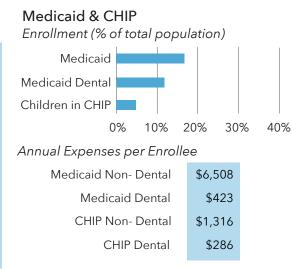
Clinical Care



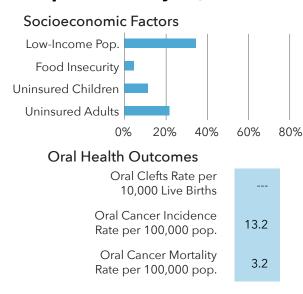
Trinity County Population 14,360



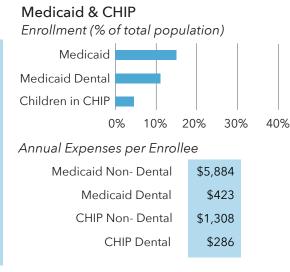
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist 16035:1 Dental Hygienist **Dental Assistant** 3207:1 Primary Care Physician 8018:1 Nurse Practitioner 16035:1 FQHCs per 100,000 pop. 0



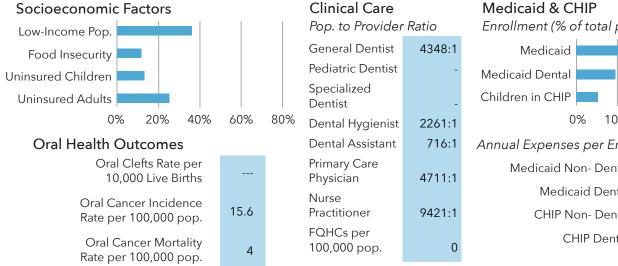
Upshur County Population 40,295

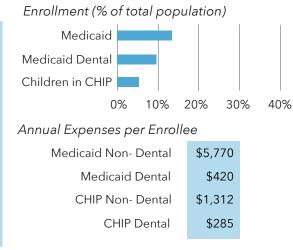


Clinical Care Pop. to Provider Ratio General Dentist 8674:1 Pediatric Dentist Specialized Dentist 4337:1 Dental Hygienist **Dental Assistant** 923:1 Primary Care Physician 5421:1 Nurse Practitioner 14456:1 FQHCs per 100,000 pop. 2.5

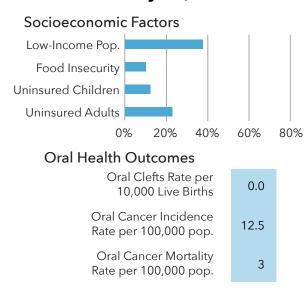


Van Zandt County Population 53,070

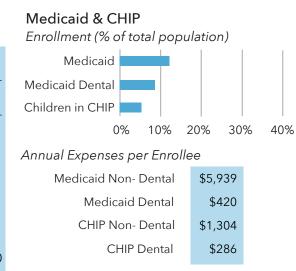




Wood County Population 43,198



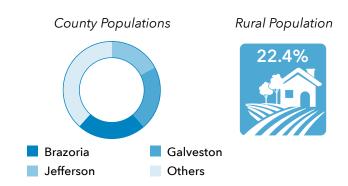
Clinical Care Pop. to Provider Ratio General Dentist 5831:1 Pediatric Dentist Specialized Dentist Dental Hygienist 3110:1 **Dental Assistant** 1085:1 Primary Care Physician 1944:1 Nurse Practitioner 2916:1 FQHCs per 100,000 pop. 0

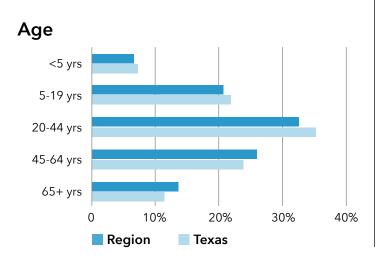


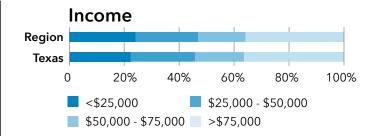
Southeast - Beaumont/Galveston

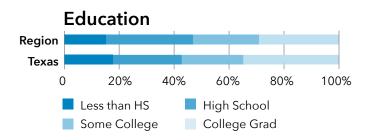
16 counties: Angelina, Brazoria, Galveston, Hardin, Jasper, Jefferson, Liberty, Nacogdoches, Newton, Orange, Polk, Sabine, San Augustine, San Jacinto, Shelby, Tyler

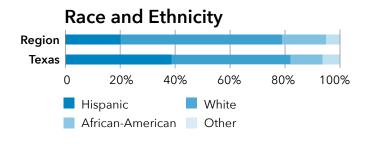
Population 1,466,615









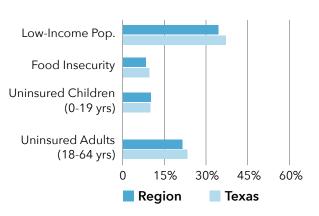


Key Points

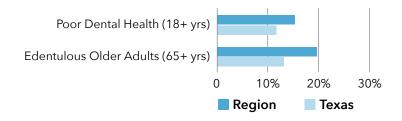
- This region's dental outcomes are poor compared to the rest of the state, with the highest estimated rate of edentulous older adults in the state (19.6%) and highest mortality rate from oral cancer (9.2 deaths per 100,000 population).
- Measures of provider supply and clinical care use are on par with the rest of the state. Access to pediatric and specialized dentists appears limited in the less populous counties (Newton, San Jacinto, and Tyler).
- The region performs in line with state averages for the proportion of low-income residents and uninsured rates, though some of the small counties have much larger shares of low-income and uninsured residents.
- Estimated rates of adult obesity (36.7%), smoking (17.8%), and cardiovascular disease (11.2%) are among the highest in the state.

Southeast - Beaumont/Galveston

Socioeconomic Factors



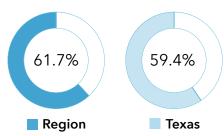
Oral Health Outcomes



	Region	Texas
Oral Clefts rate per 10,000 live births	13.4	15.8
Oral Cancer Incidence rate per 100,000 Pop.	12.1	10.8
Oral Cancer Mortality rate per 100,00 Pop.	9.2	2.6

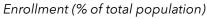
Clinical Care

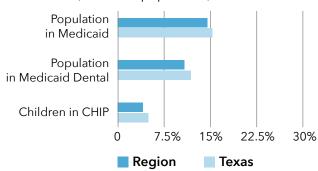
Past-Year Dental Visits (18+ years)



Population to Provider Ratio	Region	Texas
General Dentist	3356: 1	2970: 1
Pediatric Dentist	14341: 1	9411: 1
Specialized Dentist	22951: 1	14291: 1
Dental Hygienist	2165: 1	2220: 1
Dental Assistant	922: 1	805: 1
Primary Care Physician	1802: 1	1362: 1
Nurse Practitioner	2011: 1	1961: 1
FQHCs per 100,000 pop.	1.6	1.5

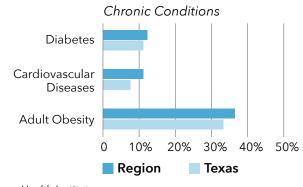
Medicaid and CHIP

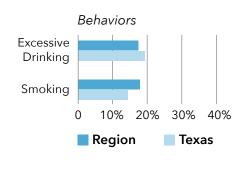




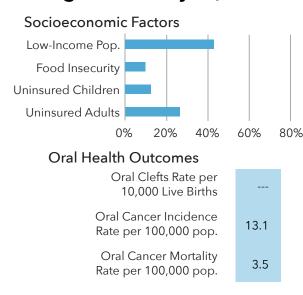
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,694	\$5,224
Medicaid Dental	\$418	\$419
CHIP Non-Dental	\$1,553	\$1,527
CHIP Dental	\$285	\$285

Risk Factors

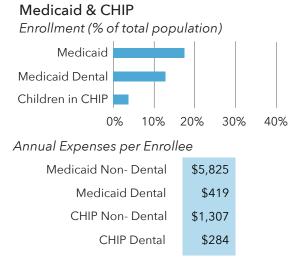




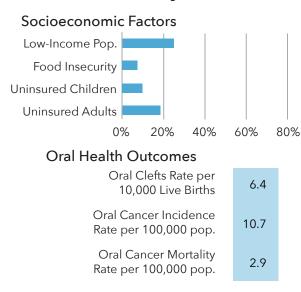
Angelina County Population 87,657







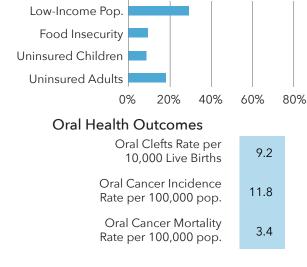
Brazoria County Population 338,419



Clinical Care Pop. to Provider Ratio General Dentist 2848:1 Pediatric Dentist 6422:1 Specialized Dentist 15151:1 Dental Hygienist 2070:1 749:1 **Dental Assistant** Primary Care 1830:1 Physician Nurse Practitioner 3323:1 FQHCs per 100,000 pop. 0.9

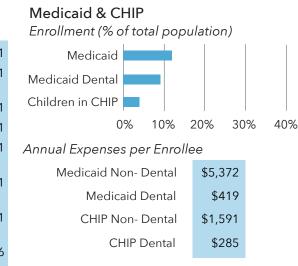
Medicaid & CHIP Enrollment (% of total population) Medicaid Medicaid Dental Children in CHIP 0% 10% 20% 30% 40% Annual Expenses per Enrollee Medicaid Non- Dental \$5,024 Medicaid Dental \$418 CHIP Non- Dental \$1,585 **CHIP Dental** \$286

Galveston County Population 314,485

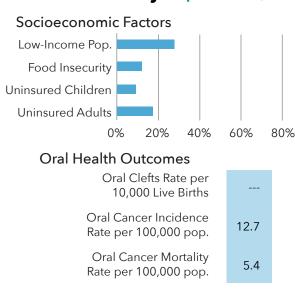


Socioeconomic Factors

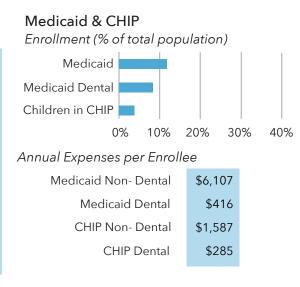
Clinical Care		
Pop. to Provider Ratio		
General Dentist	3063:1	
Pediatric Dentist	15274:1	
Specialized Dentist	24741:1	
Dental Hygienist	2023:1	
Dental Assistant	821:1	
Primary Care Physician	1569:1	
Nurse Practitioner	1496:1	
FQHCs per 100,000 pop.	0.6	



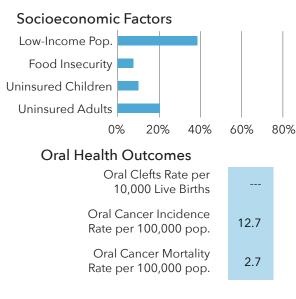
Hardin County Population 55,624



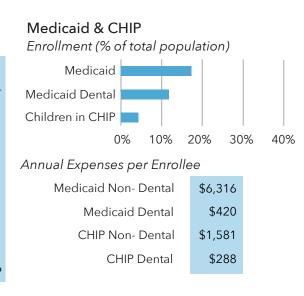
Clinical Care Pop. to Provider Ratio General Dentist 5451:1 Pediatric Dentist 13709:1 Specialized Dentist 2726:1 Dental Hygienist Dental Assistant 1249:1 Primary Care Physician 4283:1 Nurse Practitioner 2306:1 FQHCs per 100,000 pop. 1.8



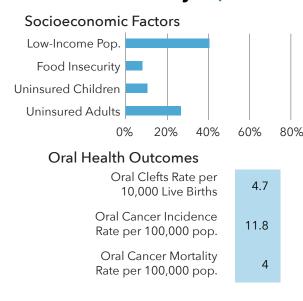
Jasper County Population 35,640



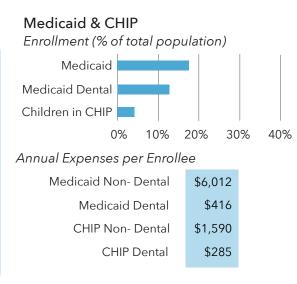
Clinical Care Pop. to Provider Ratio General Dentist 3680:1 Pediatric Dentist Specialized Dentist 36798:1 Dental Hygienist 2300:1 **Dental Assistant** 995:1 Primary Care 2165:1 Physician Nurse Practitioner 2300:1 FQHCs per 100,000 pop. 5.6



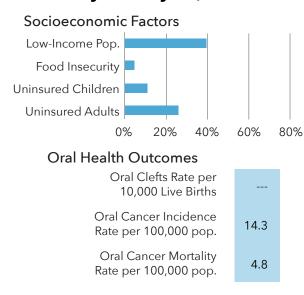
Jefferson County Population 252,993

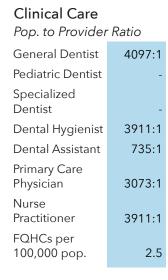


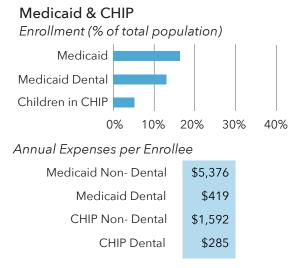
Clinical Care	
Pop. to Provider	Ratio
General Dentist	2887:1
Pediatric Dentist	29579:1
Specialized Dentist	13134:1
Dental Hygienist	1510:1
Dental Assistant	1340:1
Primary Care Physician	1435:1
Nurse Practitioner	1113:1
FQHCs per 100,000 pop.	2



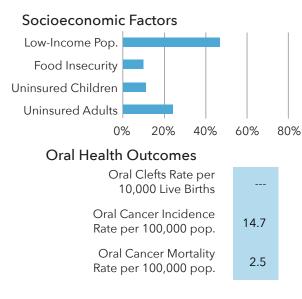
Liberty County Population 78,598



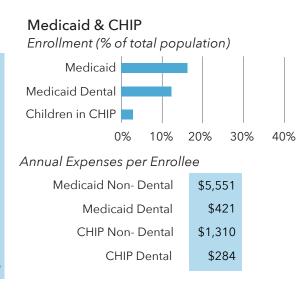




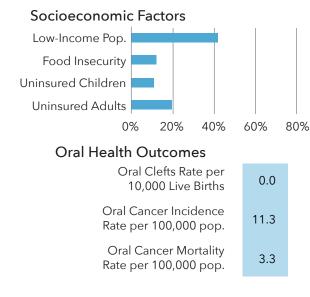
Nacogdoches County Population 65,556



Clinical Care Pop. to Provider Ratio General Dentist 4147:1 Pediatric Dentist 15355:1 Specialized Dentist 17623:1 Dental Hygienist 2937:1 **Dental Assistant** 1356:1 Primary Care Physician 1175:1 Nurse Practitioner 2073:1 FQHCs per 100,000 pop. 4.6

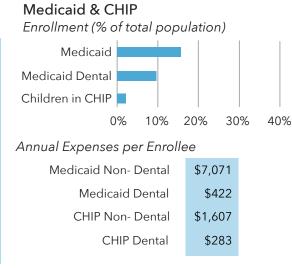


Newton County Population 14,138

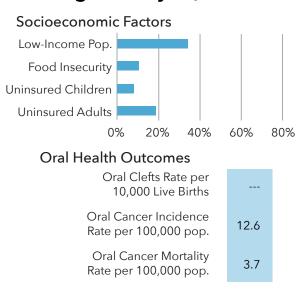


Clinical Care			
Pop. to Provider Ratio			
-			
-			
-			
7194:1			
1799:1			
3597:1			
7194:1			
0			

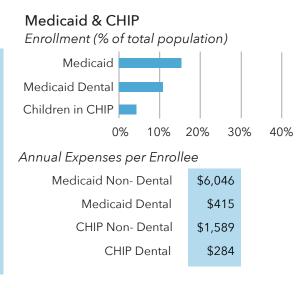
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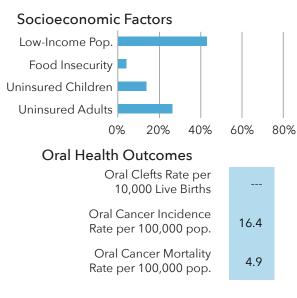
Orange County Population 83,751



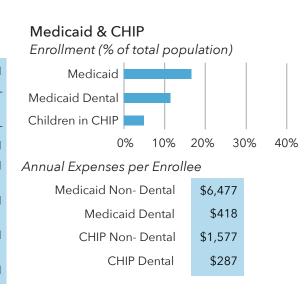
Clinical Care Pop. to Provider Ratio General Dentist 3750:1 Pediatric Dentist Specialized 86261:1 Dentist 1540:1 Dental Hygienist Dental Assistant 814:1 Primary Care 3594:1 Physician Nurse Practitioner 3921:1 FQHCs per 100,000 pop. 1.2



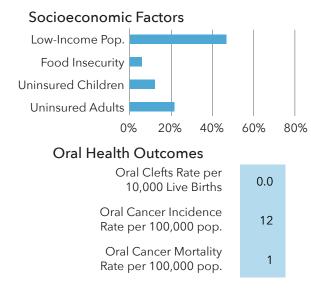
Polk County Population 46,583



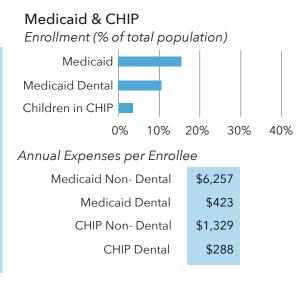
Clinical Care Pop. to Provider Ratio General Dentist 3330:1 Pediatric Dentist Specialized Dentist **Dental Hygienist** 4541:1 **Dental Assistant** 1020:1 Primary Care 1921:1 Physician Nurse Practitioner 3568:1 FQHCs per 100,000 pop. 2.1



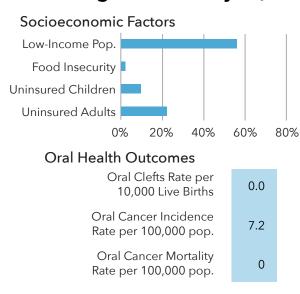
Sabine County Population 10,367

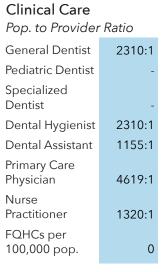


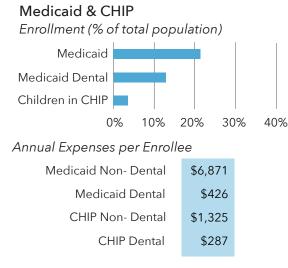
Clinical Care Pop. to Provider Ratio		
General Dentist	5882:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	3921:1	
Dental Assistant	2941:1	
Primary Care Physician	2941:1	
Nurse Practitioner	11763:1	
FQHCs per 100,000 pop.	0	



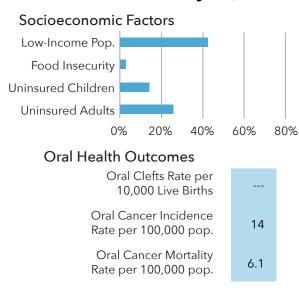
San Augustine County Population 8,556



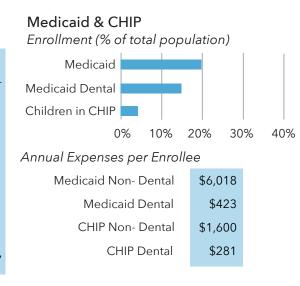




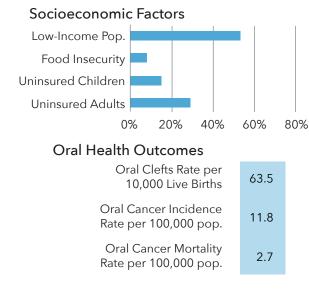
San Jacinto County Population 27,172



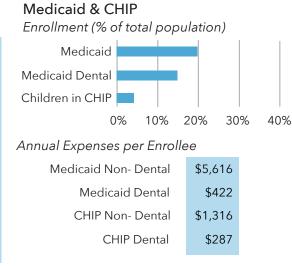
Clinical Care Pop. to Provider Ratio General Dentist 30578:1 Pediatric Dentist Specialized Dentist 30578:1 10193:1 Dental Hygienist **Dental Assistant** 746:1 Primary Care Physician 7645:1 Nurse Practitioner 10193:1 FQHCs per 100,000 pop. 3.7



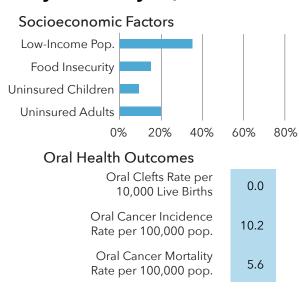
Shelby County Population 25,705



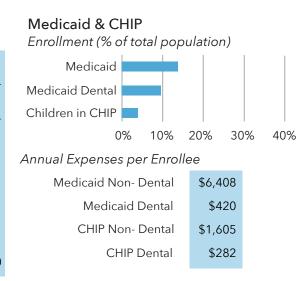
Clinical Care Pop. to Provider Ratio		
General Dentist	4616:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	3956:1	
Dental Assistant	1108:1	
Primary Care Physician	9231:1	
Nurse Practitioner	3462:1	
FQHCs per 100,000 pop.	7.8	



Tyler County Population 21,371



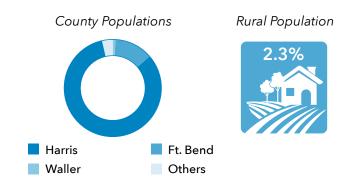
Clinical Care Pop. to Provider Ratio General Dentist 11201:1 Pediatric Dentist Specialized Dentist Dental Hygienist 11201:1 **Dental Assistant** 1867:1 Primary Care Physician 5600:1 Nurse Practitioner 4480:1 FQHCs per 100,000 pop. 0

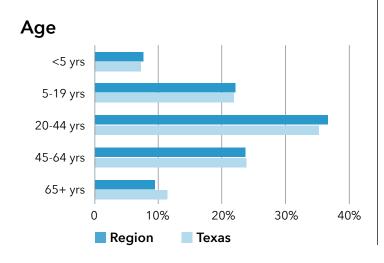


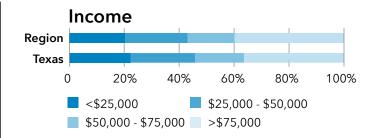
Southeast - Houston

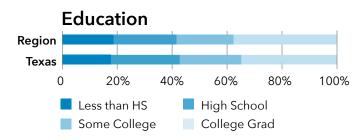
9 counties: Austin, Calhoun, Chambers, Colorado, Fort Bend, Harris, Matagorda, Waller, Wharton

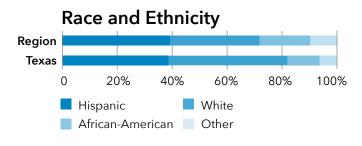
Population 5,352,934









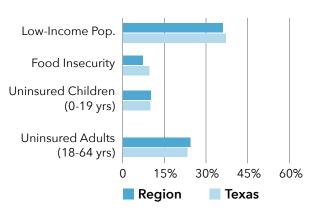


Key Points

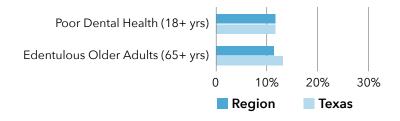
- This region's oral health outcomes are similar to the rest of the state, but not as good as other regions containing the state's major cities (Dallas, San Antonio, Austin).
- Past-year dental visit rates among adults are on par with the state average. Provider supply is more abundant in this region, but appears driven by higher numbers of providers per
- capita in Fort Bend and Harris, the region's two most populous counties. On the other hand, Chambers and Waller counties have more limited provider supply.
- There is substantial county-level variation on social and economic measures, with approximately a two-fold difference between the counties with highest and lowest rates of low-income and uninsured residents.

Southeast - Houston

Socioeconomic Factors

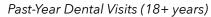


Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	12.7	15.8
Oral Cancer Incidence rate per 100,000 Pop.	10.9	10.8
Oral Cancer Mortality rate per 100,00 Pop.	3.5	2.6

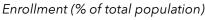
Clinical Care

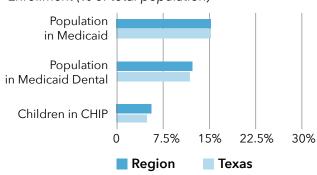




Population to Provider Ratio	Region	Texas
General Dentist	2468: 1	2970: 1
Pediatric Dentist	10172: 1	9411: 1
Specialized Dentist	12318: 1	14291: 1
Dental Hygienist	2513: 1	2220: 1
Dental Assistant	785: 1	805: 1
Primary Care Physician	1206: 1	1362: 1
Nurse Practitioner	1722: 1	1961: 1
FQHCs per 100,000 pop.	1.4	1.5

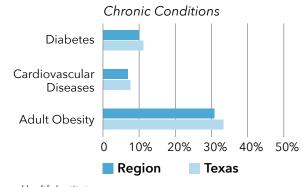
Medicaid and CHIP

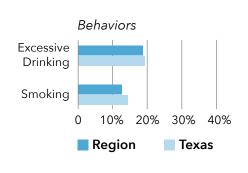




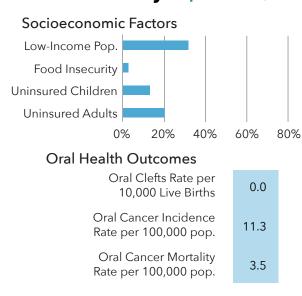
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$4,832	\$5,224
Medicaid Dental	\$418	\$419
CHIP Non-Dental	\$1,587	\$1,527
CHIP Dental	\$286	\$285

Risk Factors

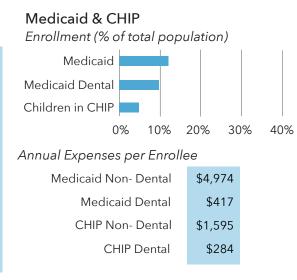




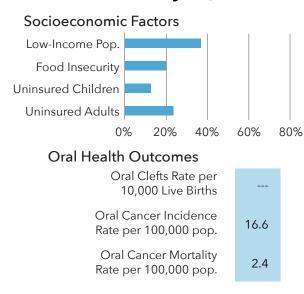
Austin County Population 29,107



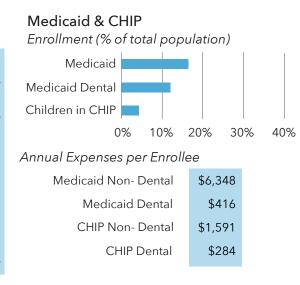
Clinical Care Pop. to Provider Ratio General Dentist 3080:1 Pediatric Dentist 7026:1 Specialized 33876:1 Dentist 2606:1 Dental Hygienist **Dental Assistant** 584:1 Primary Care Physician 3764:1 Nurse Practitioner 8469:1 FQHCs per 100,000 pop. 0



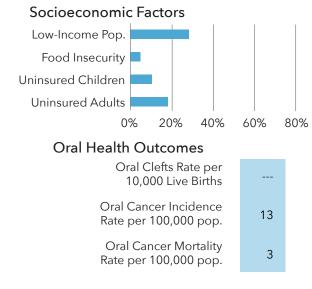
Calhoun County Population 21,805



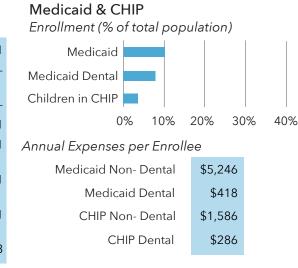
Clinical Care Pop. to Provider Ratio General Dentist 4814:1 Pediatric Dentist Specialized Dentist 4012:1 **Dental Hygienist** Dental Assistant 1504:1 Primary Care Physician 1852:1 Nurse Practitioner 3439:1 FQHCs per 100,000 pop. 18.3



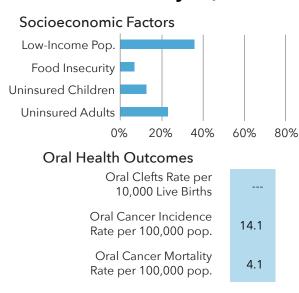
Chambers County Population 38,072



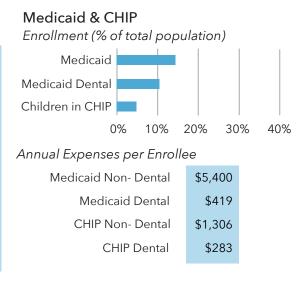
Clinical Care Pop. to Provider	· Ratio
General Dentist	10878:1
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	7252:1
Dental Assistant	1088:1
Primary Care Physician	3956:1
Nurse Practitioner	3626:1
FQHCs per 100,000 pop.	5.3



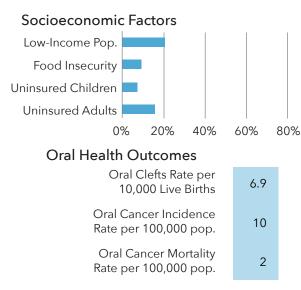
Colorado County Population 20,792



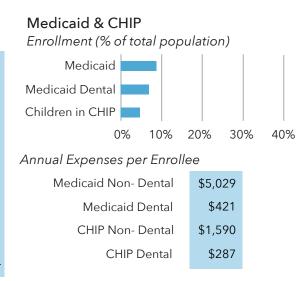
Clinical Care Pop. to Provider Ratio General Dentist 5538:1 Pediatric Dentist Specialized Dentist 3692:1 Dental Hygienist Dental Assistant 1007:1 Primary Care Physician 1166:1 Nurse Practitioner 4430:1 FQHCs per 100,000 pop. 0



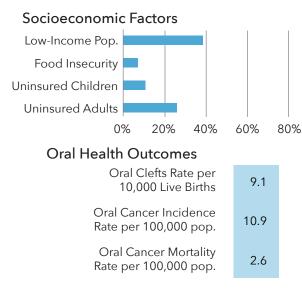
Fort Bend County Population 683,756



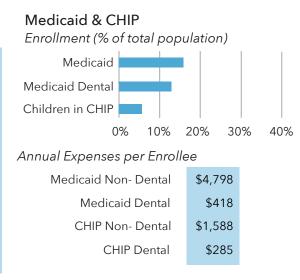
Clinical Care Pop. to Provider Ratio 2742:1 General Dentist Pediatric Dentist 5621:1 Specialized Dentist 9481:1 Dental Hygienist 2023:1 **Dental Assistant** 802:1 Primary Care 1613:1 Physician Nurse Practitioner 2281:1 FQHCs per 100,000 pop. 0.4



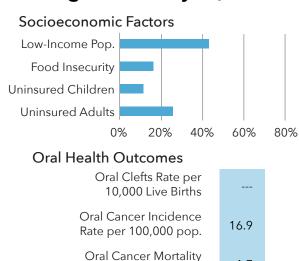
Harris County Population 4,434,257

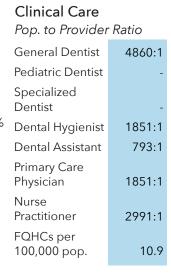


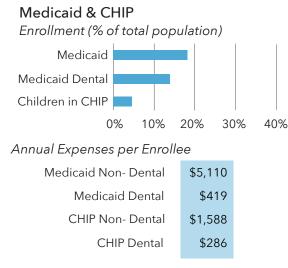
Clinical Care Pop. to Provider Ratio				
General Dentist	2363:1			
Pediatric Dentist	11160:1			
Specialized Dentist	12356:1			
Dental Hygienist	2606:1			
Dental Assistant	783:1			
Primary Care Physician	1124:1			
Nurse Practitioner	1599:1			
FQHCs per 100,000 pop.	1.3			



Matagorda County Population 36,719



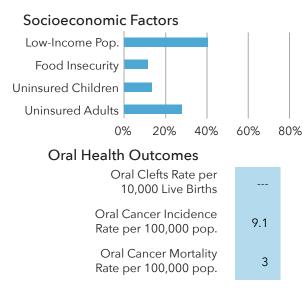




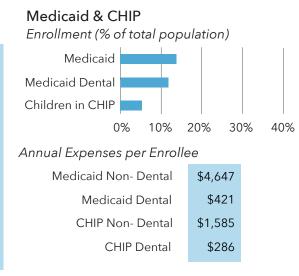
Waller County Population 47,049

Rate per 100,000 pop.

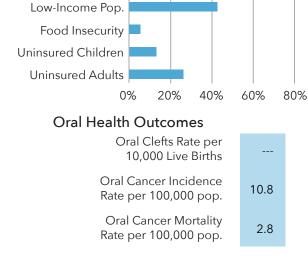
1.7



Clinical Care Pop. to Provider Ratio 10619:1 General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist** 6637:1 **Dental Assistant** 1002:1 Primary Care 17698:1 Physician Nurse Practitioner 10619:1 FQHCs per 100,000 pop. 4.3



Wharton County Population 41,377



Socioeconomic Factors

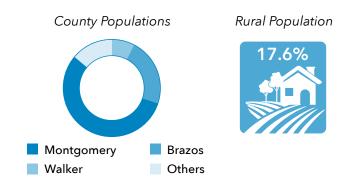
Clinical Care Pop. to Provider	- Ratio	Medicaid & CHIP Enrollment (% of total popul	ulation)	
General Dentist	2669:1	Medicaid		
Pediatric Dentist	-	Medicaid Dental		
Specialized Dentist	21351:1	Children in CHIP		
Dental Hygienist	1294:1	0% 10%	20% 30	% 40%
Dental Assistant	445:1	Annual Expenses per Enrolle	ee	
Primary Care Physician	1941:1	Medicaid Non- Dental	\$5,044	
Nurse		Medicaid Dental	\$420	
Practitioner	5338:1	CHIP Non- Dental	\$1,581	
FQHCs per 100,000 pop.	0	CHIP Dental	\$288	

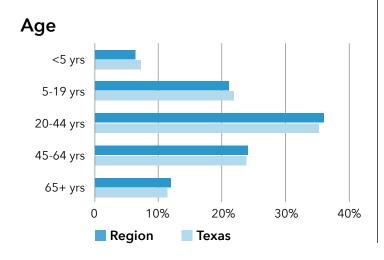


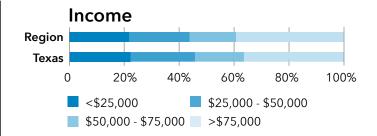
Southeast - Brazos Valley

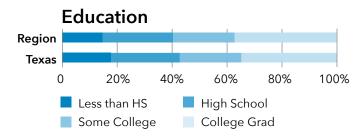
9 counties: Brazos, Burleson, Grimes, Leon, Madison, Montgomery, Robertson, Walker, Washington

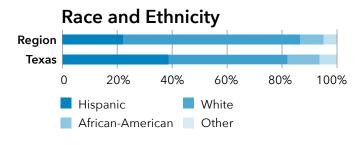
Population 925,075









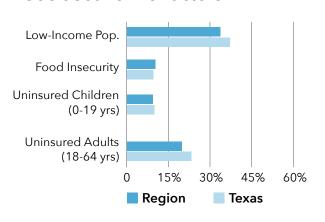


Key Points

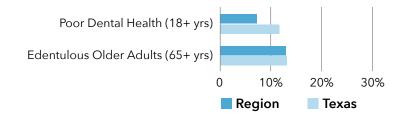
- This region has the lowest percentage of adults with poor dental health in the state (7.2%).
- The rate of adult past-year dental visits (58.4%) is similar to the state average. Outside of Brazos and Montgomery, counties in this region face limited provider supply. There are few pediatric and specialized dentists in this region.
- Estimated rates of adult with diabetes (8.9%) and obesity (24.8%) are second lowest in the state, but the region's excessive drinking rate is highest in the state (27.6%).

Southeast - Brazos Valley

Socioeconomic Factors



Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	14.8	15.8
Oral Cancer Incidence rate per 100,000 Pop.	11.7	10.8
Oral Cancer Mortality rate per 100,00 Pop.	0	2.6

Clinical Care

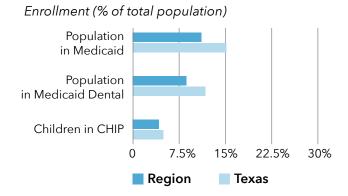


Past-Year Dental Visits (18+ years)

Region Texas

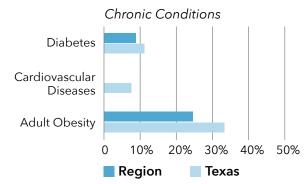
Population to Provider Ratio	Region	Texas
General Dentist	3494: 1	2970: 1
Pediatric Dentist	9912: 1	9411: 1
Specialized Dentist	13834: 1	14291: 1
Dental Hygienist	1910: 1	2220: 1
Dental Assistant	892: 1	805: 1
Primary Care Physician	1311: 1	1362: 1
Nurse Practitioner	2752: 1	1961: 1
FQHCs per 100,000 pop.	1.8	1.5

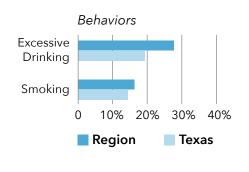
Medicaid and CHIP



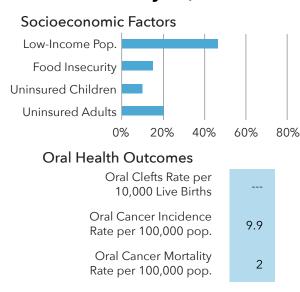
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,057	\$5,224
Medicaid Dental	\$417	\$419
CHIP Non-Dental	\$1,492	\$1,527
CHIP Dental	\$284	\$285

Risk Factors

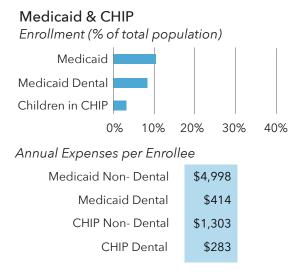




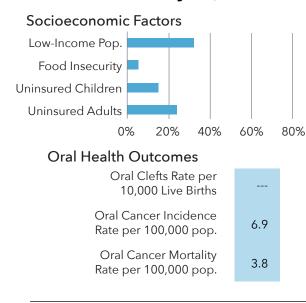
Brazos County Population 209,896



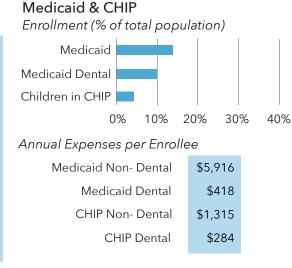
Clinical Care Pop. to Provider Ratio General Dentist 3560:1 Pediatric Dentist 8550:1 Specialized 16018:1 Dentist 1637:1 Dental Hygienist **Dental Assistant** 954:1 Primary Care 1001:1 Physician Nurse Practitioner 2990:1 FQHCs per 100,000 pop. 2.4



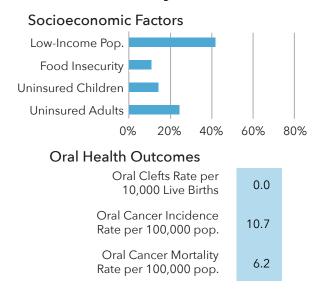
Burleson County Population 17,417



Clinical Care Pop. to Provider Ratio General Dentist 18980:1 Pediatric Dentist Specialized Dentist 4745:1 Dental Hygienist **Dental Assistant** 1117:1 Primary Care Physician 3796:1 Nurse Practitioner FQHCs per 100,000 pop. 17.2

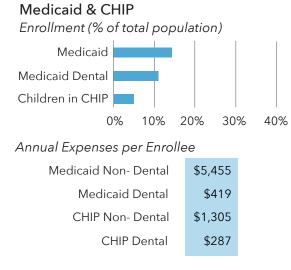


Grimes County Population 27,140

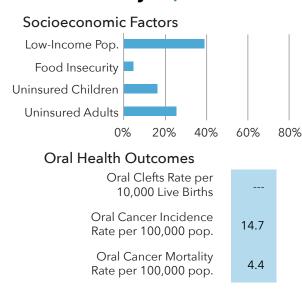


Pop. to Provider Ratio			
General Dentist	14763:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	5905:1		
Dental Assistant	777:1		
Primary Care Physician	2684:1		
Nurse Practitioner	9842:1		
FQHCs per 100,000 pop.	3.7		

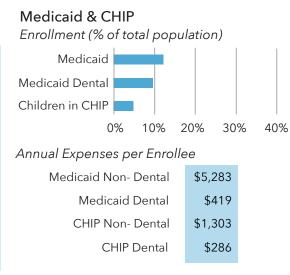
Clinical Care



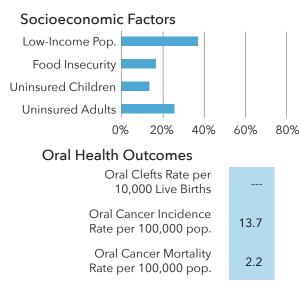
Leon County Population 16,923



Clinical Care Pop. to Provider Ratio General Dentist 6223:1 Pediatric Dentist Specialized Dentist 4668:1 Dental Hygienist 1697:1 **Dental Assistant** Primary Care Physician 6223:1 Nurse Practitioner 18670:1 FQHCs per 100,000 pop. 5.9

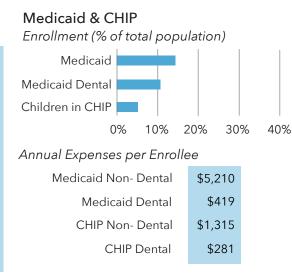


Madison County Population 13,843

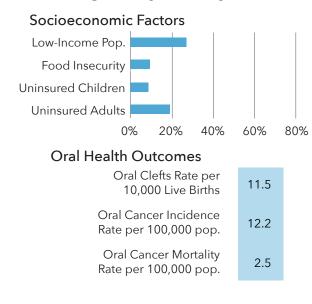


Clinical Care	
Pop. to Provider	Ratio
General Dentist	3760:1
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	5013:1
Dental Assistant	1671:1
Primary Care Physician	2149:1
Nurse Practitioner	-
FQHCs per 100,000 pop.	7.2

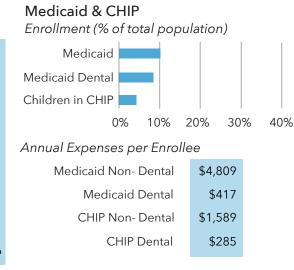
Clinical Cara



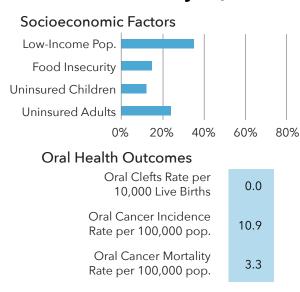
Montgomery County Population 518,849



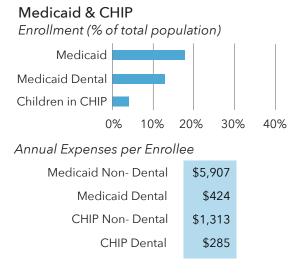




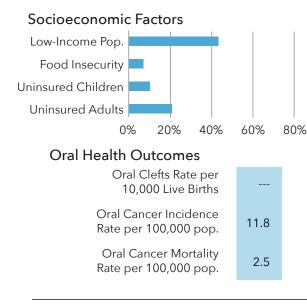
Robertson County Population 16,537



Clinical Care Pop. to Provider Ratio General Dentist 9333:1 Pediatric Dentist Specialized Dentist 6222:1 Dental Hygienist **Dental Assistant** 1556:1 Primary Care Physician 18666:1 Nurse Practitioner 3733:1 FQHCs per 100,000 pop. 18.1



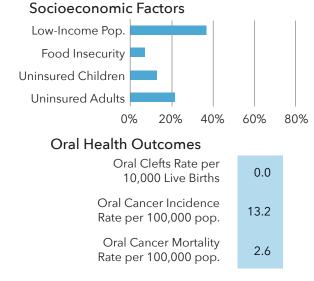
Walker County Population 69,926



Clinical Care Pop. to Provider Ratio 3956:1 General Dentist Pediatric Dentist 10477:1 Specialized Dentist 23735:1 **Dental Hygienist** 3096:1 **Dental Assistant** 1149:1 Primary Care Physician 1780:1 Nurse Practitioner 3391:1 FQHCs per 100,000 pop. 0

Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 309	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$5,777	
Medicaid Dental	\$415	
CHIP Non- Dental	\$1,582	
CHIP Dental	\$284	

Washington County Population 34,544



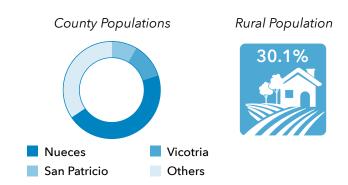
Clinical Care Pop. to Provider Ratio			
General Dentist	3652:1		
Pediatric Dentist	7318:1		
Specialized Dentist	18260:1		
Dental Hygienist	2029:1		
Dental Assistant	1107:1		
Primary Care Physician	1141:1		
Nurse Practitioner	2809:1		
FQHCs per 100,000 pop.	0		

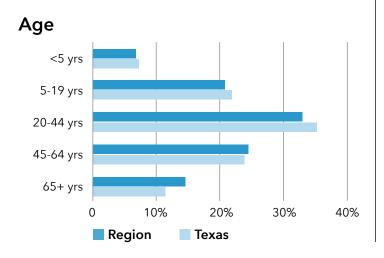
	Medicaid & CHIP Enrollment (% of total popu	lation)	
ı	Medicaid		
l	Medicaid Dental		
ı	Children in CHIP		
ı	0% 10% 2	20% 309	% 40%
ı	Annual Expenses per Enrolle	ee	
	Medicaid Non- Dental	\$5,750	
•	Medicaid Dental	\$419	
ı	CHIP Non- Dental	\$1,311	
)	CHIP Dental	\$282	

South - Corpus Christi Gulf Coast

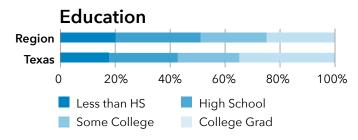
18 counties: Aransas, Bee, Brooks, DeWitt, Duval, Goliad, Gonzales, Jackson, Jim Wells, Karnes, Kennedy, Kleberg, Lavaca, Live Oak, Nueces, Refugio, San Patricio, Victoria

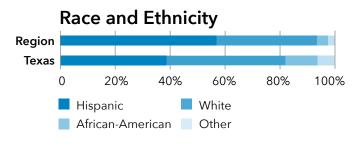
Population 780,545









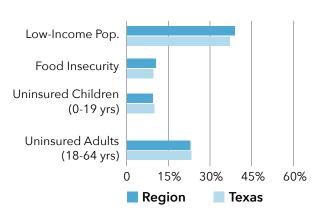


Key Points

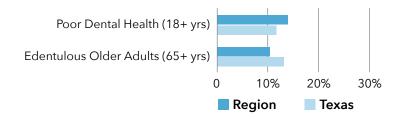
- Over 27% of this region's population lives in rural counties. Four of the 18 counties have populations below 10,000.
- The estimated rate of adults in poor dental health (13.3%) is higher than the state average, while the proportion of edentulous older adults (10.3%) is second lowest in the state.
- This region has the fourth highest rates of both dental hygienists and FQHC sites per capita.
 Access to specialty providers is limited; 13 counties in this region have no pediatric or specialized dentists.
- Estimated adult smoking rates in this region (19.2%) are second highest in the state, though oral cancer incidence and mortality rates are relatively low.

South - Corpus Christi/Gulf

Socioeconomic Factors

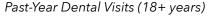


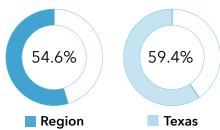
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	16.1	15.8
Oral Cancer Incidence rate per 100,000 Pop.	10.4	10.8
Oral Cancer Mortality rate per 100,00 Pop.	2.5	2.6

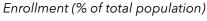
Clinical Care

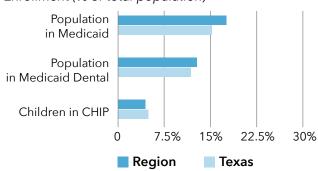




Population to Provider Ratio	Region	Texas
General Dentist	3790: 1	2970: 1
Pediatric Dentist	9598: 1	9411: 1
Specialized Dentist	19506: 1	14291: 1
Dental Hygienist	1869: 1	2220: 1
Dental Assistant	954: 1	805: 1
Primary Care Physician	1374: 1	1362: 1
Nurse Practitioner	1895: 1	1961: 1
FQHCs per 100,000 pop.	2.6	1.5

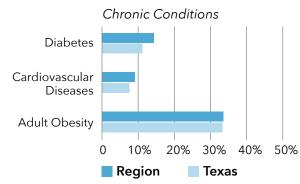
Medicaid and CHIP

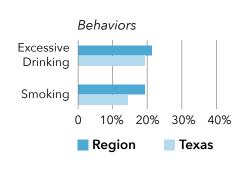




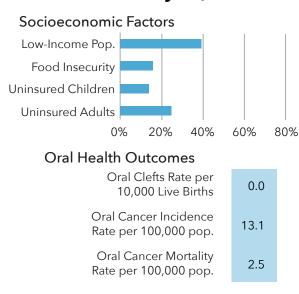
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$6,543	\$5,224
Medicaid Dental	\$420	\$419
CHIP Non-Dental	\$1,560	\$1,527
CHIP Dental	\$285	\$285

Risk Factors

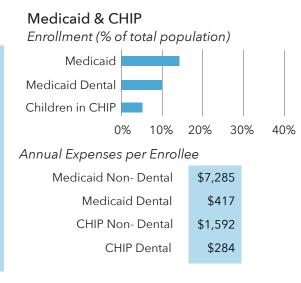




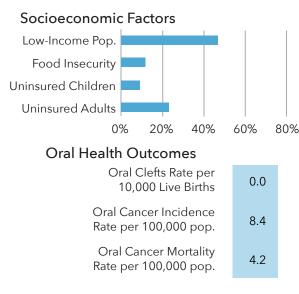
Aransas County Population 24,729



Clinical Care Pop. to Provider Ratio General Dentist 6328:1 Pediatric Dentist Specialized Dentist 3164:1 Dental Hygienist **Dental Assistant** 1101:1 Primary Care Physician 2531:1 Nurse Practitioner 12656:1 FQHCs per 100,000 pop. 0

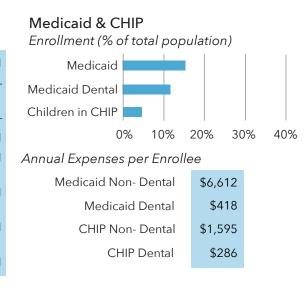


Bee County Population 32,706

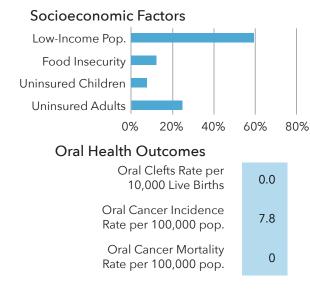


Clinical Care		
Pop. to Provider	Ratio	
General Dentist	8252:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	1435:1	
Dental Assistant	1223:1	
Primary Care Physician	2201:1	
Nurse Practitioner	2201:1	
FQHCs per 100,000 pop.	6.1	

Clinical Cara

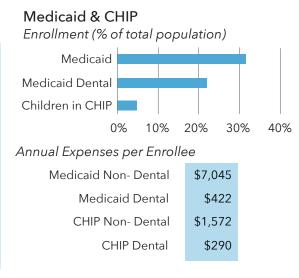


Brooks County Population 7,217

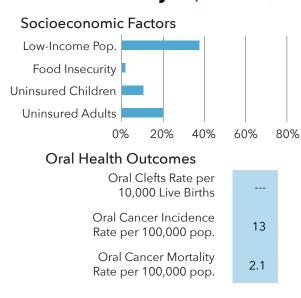


Clinical Care		
Pop. to Provider Ratio		
General Dentist	7567:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	7567:1	
Dental Assistant	946:1	
Primary Care Physician	7567:1	
Nurse Practitioner	3784:1	
FQHCs per 100,000 pop.	27.7	

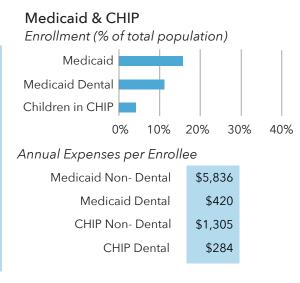
Cliniaal Cara



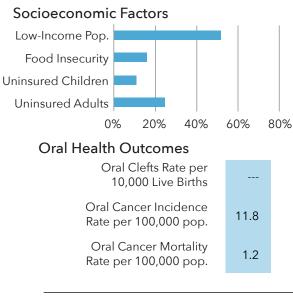
DeWitt County Population 20,660



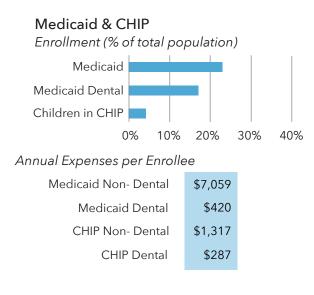
Clinical Care Pop. to Provider Ratio General Dentist 2584:1 Pediatric Dentist Specialized Dentist 1894:1 Dental Hygienist Dental Assistant 1216:1 Primary Care Physician 1378:1 Nurse Practitioner 2584:1 FQHCs per 100,000 pop. 0



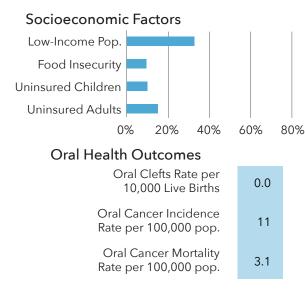
Duval County Population 11,510



Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist** 3100:1 **Dental Assistant** 1033:1 Primary Care Physician Nurse Practitioner 3100:1 FQHCs per 100,000 pop. 8.7

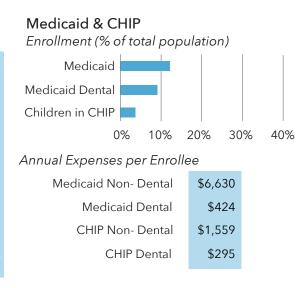


Goliad County Population 7,463

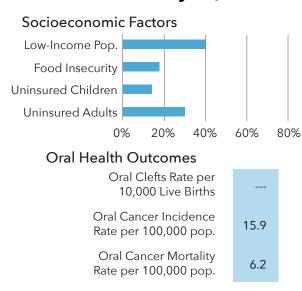


Pop. to Provider	Ratio
General Dentist	8122:1
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	1160:1
Dental Assistant	1015:1
Primary Care Physician	8122:1
Nurse Practitioner	8122:1
FQHCs per 100,000 pop.	0

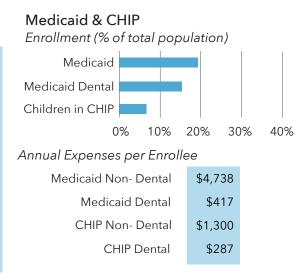
Clinical Cara



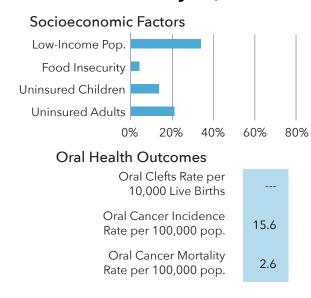
Gonzales County Population 20,370



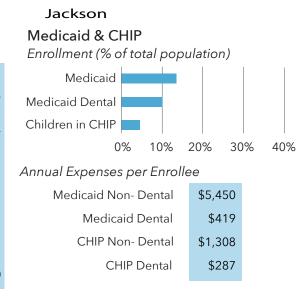
Clinical Care Pop. to Provider Ratio General Dentist 10808:1 Pediatric Dentist Specialized Dentist 4323:1 Dental Hygienist **Dental Assistant** 1272:1 Primary Care Physician 2402:1 Nurse Practitioner 3088:1 FQHCs per 100,000 pop. 9.8



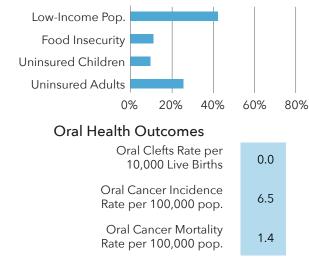
Jackson County Population 14,678



Clinical Care Pop. to Provider Ratio General Dentist 3569:1 Pediatric Dentist Specialized Dentist **Dental Hygienist** 3569:1 Dental Assistant 680:1 **Primary Care** Physician 2040:1 Nurse Practitioner 2855:1 FQHCs per 100,000 pop. 0

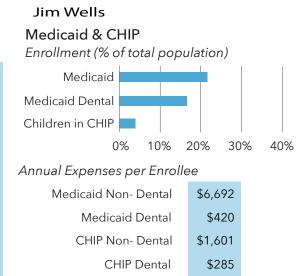


Jim Wells County Population 41,486

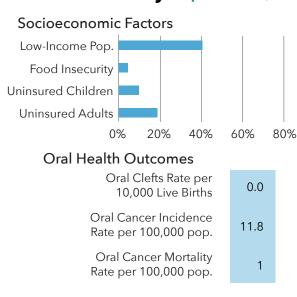


Socioeconomic Factors

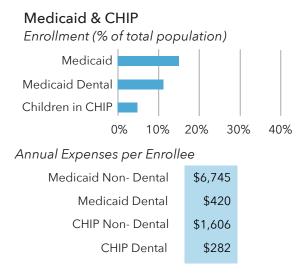
Clinical Care Pop. to Provider Ratio		
General Dentist	5436:1	
Pediatric Dentist	11655:1	
Specialized Dentist	-	
Dental Hygienist	1812:1	
Dental Assistant	1175:1	
Primary Care Physician	1977:1	
Nurse Practitioner	3345:1	
FQHCs per 100,000 pop.	4.8	



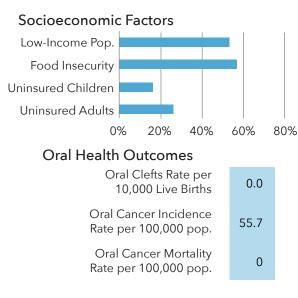
Karnes County Population 14,984



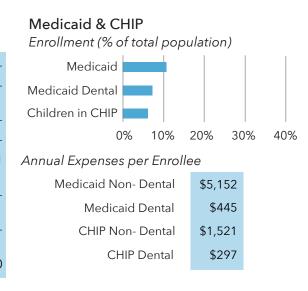
Clinical Care Pop. to Provider Ratio General Dentist 3171:1 Pediatric Dentist Specialized Dentist 2642:1 Dental Hygienist **Dental Assistant** 933:1 Primary Care 3963:1 Physician Nurse Practitioner 3171:1 FQHCs per 100,000 pop. 13.3



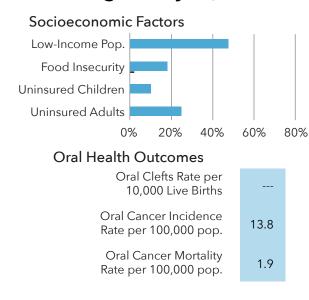
Kenedy County Population 558



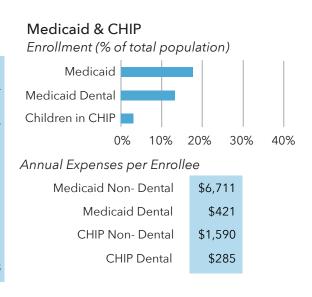
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist Dental Assistant** 450:1 Primary Care Physician Nurse Practitioner FQHCs per 100,000 pop. 0



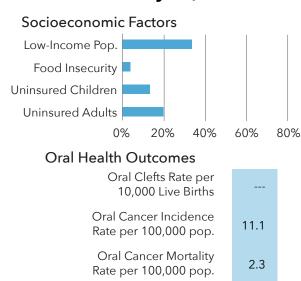
Kleberg County Population 31,877



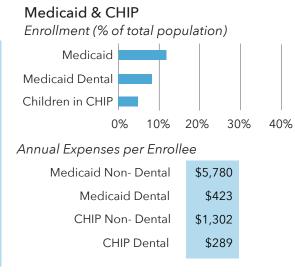
Clinical Care Pop. to Provider	⁻ Ratio
General Dentist	4299:1
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	4913:1
Dental Assistant	1274:1
Primary Care Physician	2149:1
Nurse Practitioner	3439:1
FQHCs per 100,000 pop.	6.3



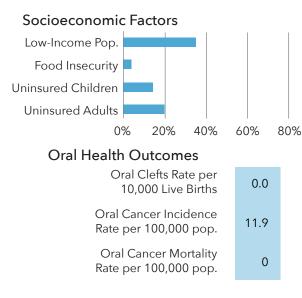
Lavaca County Population 19,654



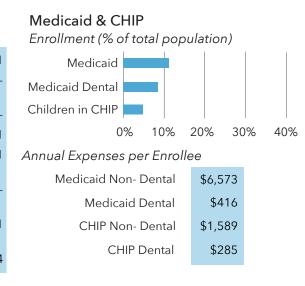
Clinical Care Pop. to Provider Ratio General Dentist 3930:1 Pediatric Dentist 4597:1 Specialized Dentist 1786:1 Dental Hygienist **Dental Assistant** 854:1 Primary Care Physician 1637:1 Nurse Practitioner 2807:1 FQHCs per 100,000 pop. 0



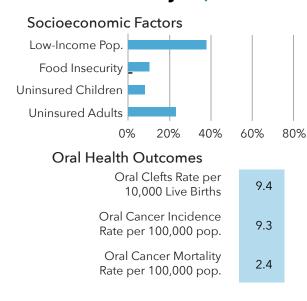
Live Oak County Population 11,976



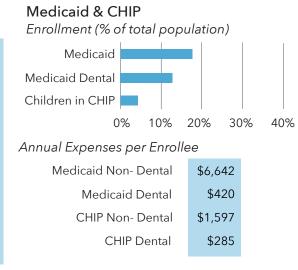
Clinical Care Pop. to Provider Ratio General Dentist 5885:1 Pediatric Dentist Specialized Dentist **Dental Hygienist** 1471:1 **Dental Assistant** 1681:1 Primary Care Physician Nurse Practitioner 5885:1 FQHCs per 100,000 pop. 8.4



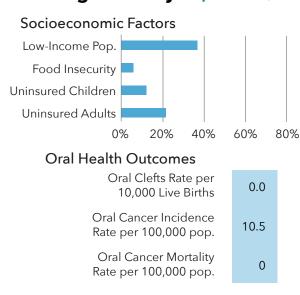
Nueces County Population 355,667



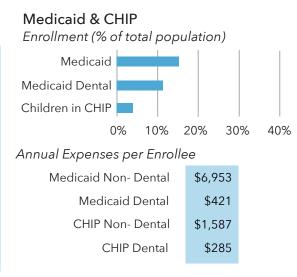
Clinical Care Pop. to Provider Ratio		
General Dentist	3321:1	
Pediatric Dentist	5909:1	
Specialized Dentist	12176:1	
Dental Hygienist	1731:1	
Dental Assistant	864:1	
Primary Care Physician	1029:1	
Nurse Practitioner	1503:1	
FQHCs per 100,000 pop.	0.6	



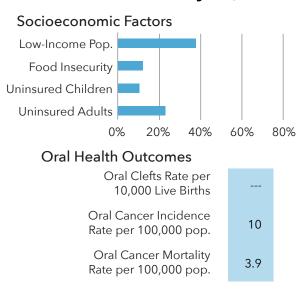
Refugio County Population 7,315



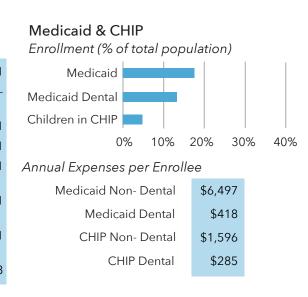
Clinical Care Pop. to Provider Ratio General Dentist 3744:1 Pediatric Dentist Specialized Dentist 3744:1 Dental Hygienist **Dental Assistant** 3744:1 Primary Care 2496:1 Physician Nurse Practitioner 3744:1 FQHCs per 100,000 pop. 0



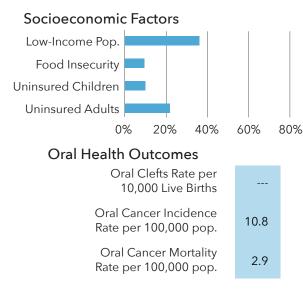
San Patricio County Population 66,706



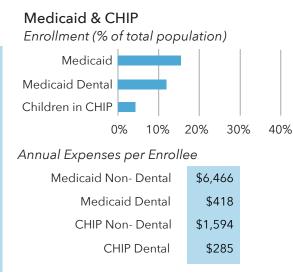
Clinical Care Pop. to Provider Ratio General Dentist 4813:1 Pediatric Dentist Specialized Dentist 67385:1 2246:1 Dental Hygienist **Dental Assistant** 802:1 Primary Care Physician 3209:1 Nurse Practitioner 2930:1 FQHCs per 100,000 pop. 3



Victoria County Population 90,989



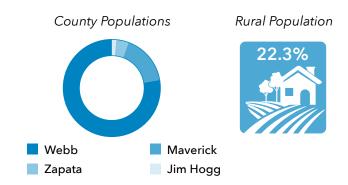
Clinical Care		
Pop. to Provider Ratio		
General Dentist	2759:1	
Pediatric Dentist	7665:1	
Specialized Dentist	9103:1	
Dental Hygienist	1379:1	
Dental Assistant	1084:1	
Primary Care Physician	1000:1	
Nurse Practitioner	1247:1	
FQHCs per 100,000 pop.	2.2	



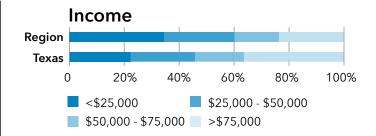
South - Laredo

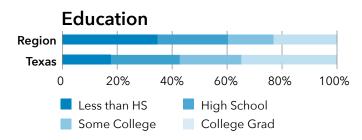
4 counties: Jim Hogg, Maverick, Webb, Zapata

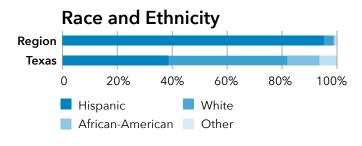
Population 342,389









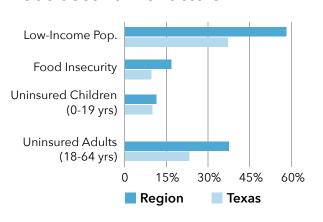


Key Points

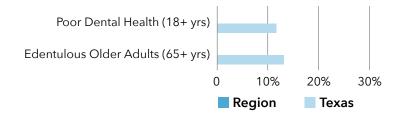
- Provider supply is substantially more limited in this region than any other region in the state.
 It has the lowest per capita rates of general dentists, specialized dentists, dental hygienists, and primary care physicians.
- Oral cancer incidence rate in this region is lowest of any region in the state (5.5 cases per 100,000 population).
- This region is home to the second-highest proportion of uninsured adults (37.5%), low-income population (58.1%), and food insecurity (16.9%).

South - Laredo

Socioeconomic Factors

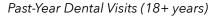


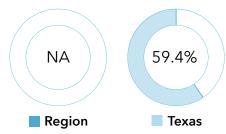
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	15.7	15.8
Oral Cancer Incidence rate per 100,000 Pop.	5.5	10.8
Oral Cancer Mortality rate per 100,00 Pop.	2.9	2.6

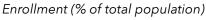
Clinical Care

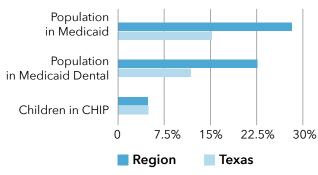




Population to Provider Ratio	Region	Texas
General Dentist	9012: 1	2970: 1
Pediatric Dentist	14294: 1	9411: 1
Specialized Dentist	47311: 1	14291: 1
Dental Hygienist	8228: 1	2220: 1
Dental Assistant	1154: 1	805: 1
Primary Care Physician	2684: 1	1362: 1
Nurse Practitioner	2980: 1	1961: 1
FQHCs per 100,000 pop.	2.3	1.5

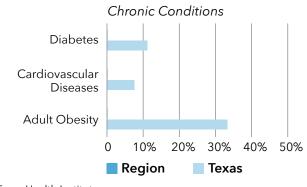
Medicaid and CHIP

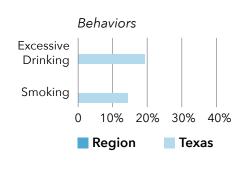




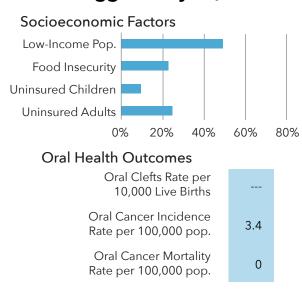
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,697	\$5,224
Medicaid Dental	\$421	\$419
CHIP Non-Dental	\$1,313	\$1,527
CHIP Dental	\$286	\$285

Risk Factors

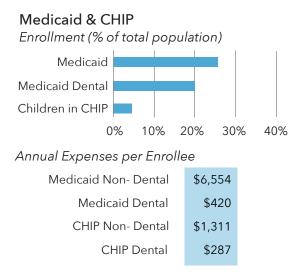




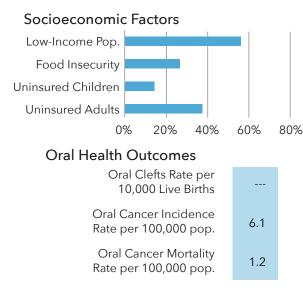
Jim Hogg County Population 5,218



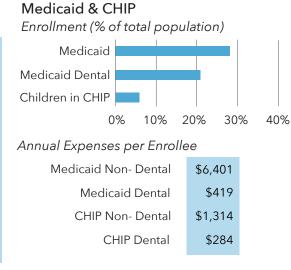
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist **Dental Assistant** 5626:1 Primary Care Physician Nurse Practitioner FQHCs per 100,000 pop. 19.2



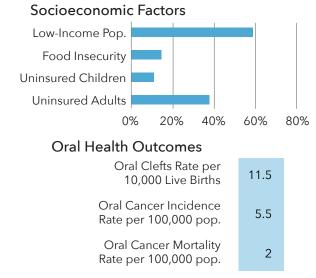
Maverick County Population 56,830



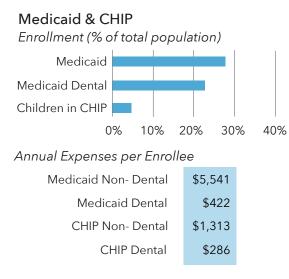
Clinical Care Pop. to Provider Ratio General Dentist 10132:1 Pediatric Dentist 18259:1 Specialized Dentist Dental Hygienist 7599:1 Dental Assistant 1447:1 Primary Care 2432:1 Physician Nurse Practitioner 6754:1 FQHCs per 100,000 pop. 7



Webb County Population 266,006

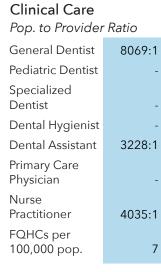


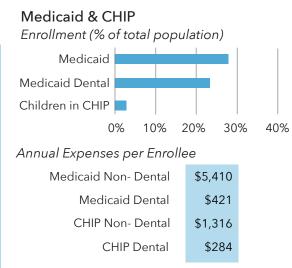
Clinical Care		
Pop. to Provider Ratio		
General Dentist	8704:1	
Pediatric Dentist	12832:1	
Specialized Dentist	36992:1	
Dental Hygienist	7788:1	
Dental Assistant	1057:1	
Primary Care Physician	2551:1	
Nurse Practitioner	2596:1	
FQHCs per 100,000 pop.	0.8	



Zapata County Population 14,335

Socioeconomic Factors Low-Income Pop. Food Insecurity Uninsured Children Uninsured Adults 0% 20% 40% 80% 60% Oral Health Outcomes Oral Clefts Rate per 10,000 Live Births Oral Cancer Incidence 5 Rate per 100,000 pop. Oral Cancer Mortality 1.8 Rate per 100,000 pop.



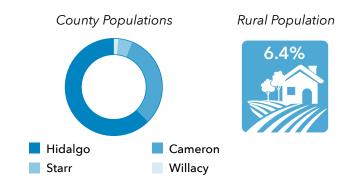


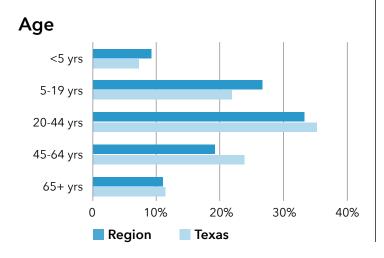


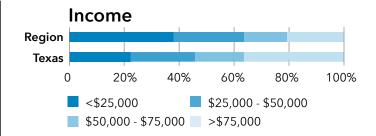
South - Rio Grande Valley

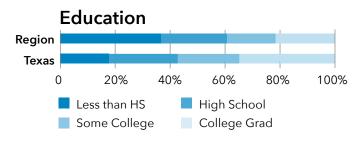
4 counties: Cameron, Hidalgo, Starr, Willacy

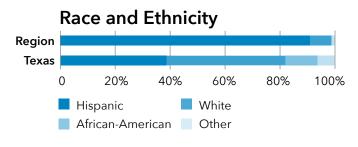
Population 1,332,071









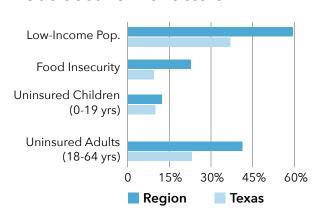


Key Points

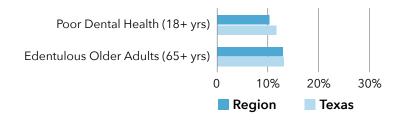
- This region performs among the state's worst on measures of clinical care access. Fewer than half (46.8%) of adults made a past year dental visit. Compared to other regions, it has the second-lowest ratio of general dentists, specialized dentists and dental hygienists per capita and the lowest rate of nurse practitioners.
- Oral health outcomes are similar to state averages in this region.
- This region has the lowest estimated percentage of adults with cardiovascular diseases (3.7%) and the second-lowest adult smoking rate (12.4%).
- Nearly 60% of residents in this region are classified as low-income. The adult uninsured rate in this region (41.6%) is highest in the state, approaching double the state average. The child uninsured rate (12.4%) is also high.

South - Rio Grande Valley

Socioeconomic Factors



Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	18.6	15.8
Oral Cancer Incidence rate per 100,000 Pop.	7.3	10.8
Oral Cancer Mortality rate per 100,00 Pop.	1.6	2.6

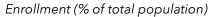
Clinical Care

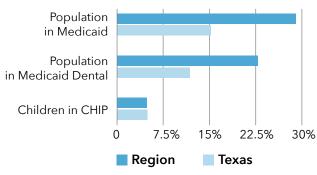
Past-Year Dental Visits (18+ years)



Population to Provider Ratio	Region	Texas
General Dentist	5912: 1	2970: 1
Pediatric Dentist	12420: 1	9411: 1
Specialized Dentist	42567: 1	14291: 1
Dental Hygienist	5686: 1	2220: 1
Dental Assistant	931: 1	805: 1
Primary Care Physician	1958: 1	1362: 1
Nurse Practitioner	3130: 1	1961: 1
FQHCs per 100,000 pop.	1.6	1.5

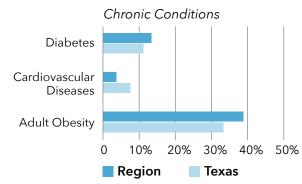
Medicaid and CHIP

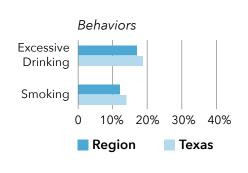




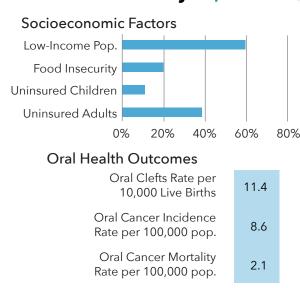
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,849	\$5,224
Medicaid Dental	\$424	\$419
CHIP Non-Dental	\$1,314	\$1,527
CHIP Dental	\$286	\$285

Risk Factors

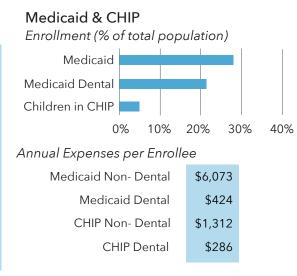




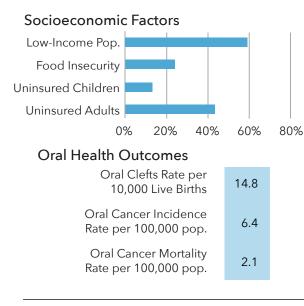
Cameron County Population 418,785



Clinical Care Pop. to Provider Ratio General Dentist 6224:1 Pediatric Dentist 13080:1 Specialized Dentist 42435:1 3858:1 Dental Hygienist Dental Assistant 791:1 Primary Care Physician 1929:1 Nurse Practitioner 3091:1 FQHCs per 100,000 pop. 2.4

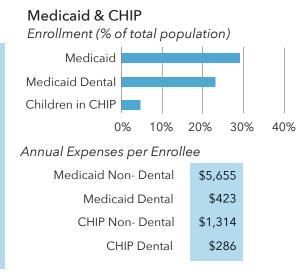


Hidalgo County Population 828,334



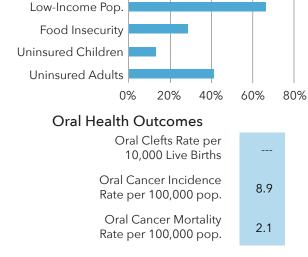
Cillical Cale		
Pop. to Provider Ratio		
General Dentist	5509:1	
Pediatric Dentist	11567:1	
Specialized Dentist	38792:1	
Dental Hygienist	6896:1	
Dental Assistant	1005:1	
Primary Care Physician	1881:1	
Nurse Practitioner	2956:1	
FQHCs per 100,000 pop.	1	

Clinical Care



Starr County Population 63,008

Socioeconomic Factors



Clinical Care Pop. to Provider Ratio		
General Dentist	11110:1	
Pediatric Dentist	20831:1	
Specialized Dentist	-	
Dental Hygienist	16665:1	
Dental Assistant	952:1	
Primary Care Physician	3921:1	
Nurse Practitioner	9523:1	
FQHCs per 100,000 pop.	3.2	

Medicaid & Cl Enrollment (% o		ulation)	
Medicaid			
Medicaid Dental			
Children in CHIP			
0	% 10%	20% 30	% 40%
Annual Expenses	s per Enrolle	ee	
Medicaid No	on- Dental	\$6,559	
Medica	aid Dental	\$422	
CHIP No	on- Dental	\$1,319	
CH	HIP Dental	\$285	

Willacy County Population 21,944

Socioeconomic Factors Low-Income Pop. Food Insecurity Uninsured Children Uninsured Adults 0% 20% 40% 60% 80% Oral Health Outcomes Oral Clefts Rate per 10,000 Live Births Oral Cancer Incidence

Rate per 100,000 pop.

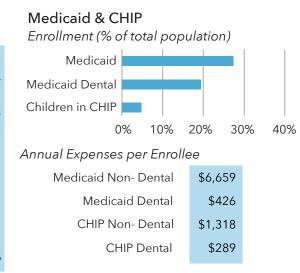
Oral Cancer Mortality

Rate per 100,000 pop.

6.8

2.6

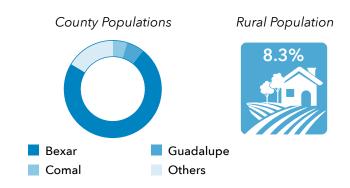
Clinical Care Pop. to Provider Ratio General Dentist 12693:1 Pediatric Dentist Specialized Dentist Dental Hygienist 12693:1 **Dental Assistant** 1692:1 Primary Care Physician 3627:1 Nurse Practitioner 8462:1 FQHCs per 100,000 pop. 4.6

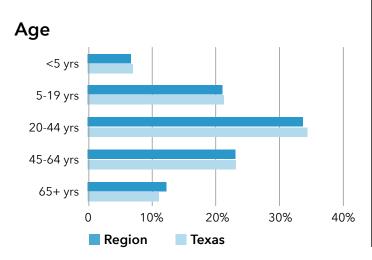


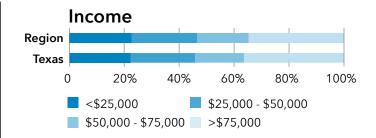
South - San Antonio

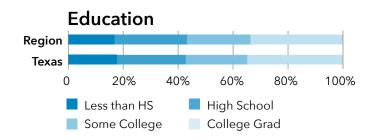
20 counties: Atascosa, Bandera, Bexar, Comal, Dimmit, Edwards, Frio, Gillespie, Guadalupe, Kendall, Kerr, Kinney, La Salle, McMullen, Medina, Real, Uvalde, Val Verde, Wilson, Zavala

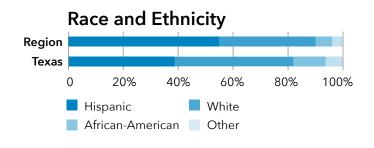
Population 2,542,934









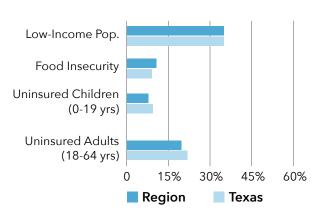


Key Points

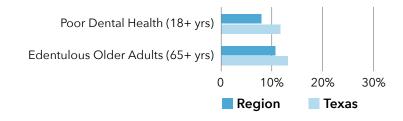
- Oral health outcomes in this region are among the state's best. The estimated rate of adults in poor dental health is 7.9%, while 10.6% of the region's older adults are edentulous.
- Rates of past-year dental visits in this region are in line with state averages, and higher than other south Texas regions. Provider supply is higher in this region than the state overall; however, Edwards, Kinney, McMullen, La Salle,
- and Zavala counties have no general dentists, pediatric dentists, or specialized dentists.
- This region has the lowest estimated rate of adult smoking in the state (11.5%).
- Compared to other regions in South Texas, the region's child (8.3%) and adult (20.9%) uninsured rates are lower.

South - San Antonio

Socioeconomic Factors



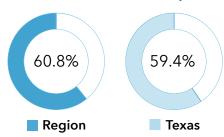
Oral Health Outcomes



	Region	IEXAS
Oral Clefts rate per 10,000 live births	19.8	15.8
Oral Cancer Incidence rate per 100,000 Pop.	9.6	10.8
Oral Cancer Mortality rate per 100,00 Pop.	8.5	2.6

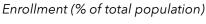
Clinical Care

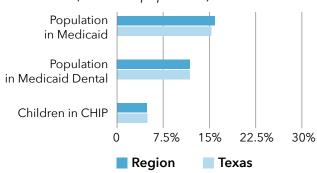
Past-Year Dental Visits (18+ years)



General Dentist 2926: 1 2970:	1
Pediatric Dentist 7794: 1 9411:	1
Specialized Dentist 12812: 1 14291:	1
Dental Hygienist 2157: 1 2220:	1
Dental Assistant 712: 1 805:	1
Primary Care Physician 1328: 1 1362:	1
Nurse Practitioner 2107: 1 1961:	1
FQHCs per 100,000 pop. 2.1 1.	5

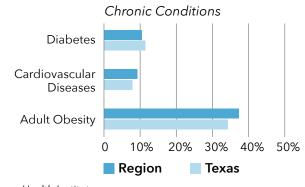
Medicaid and CHIP

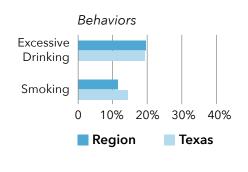




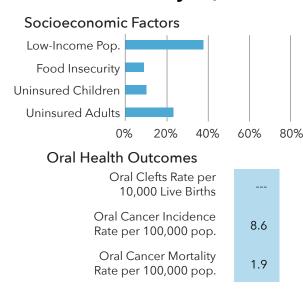
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,342	\$5,224
Medicaid Dental	\$420	\$419
CHIP Non-Dental	\$1,567	\$1,527
CHIP Dental	\$285	\$285

Risk Factors

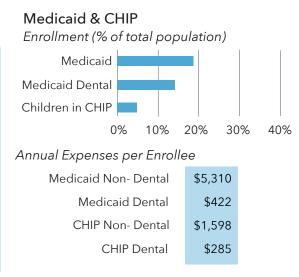




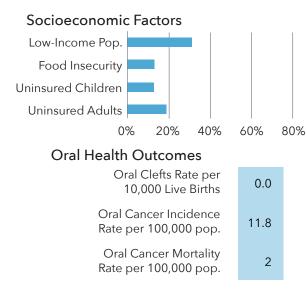
Atascosa County Population 47,710



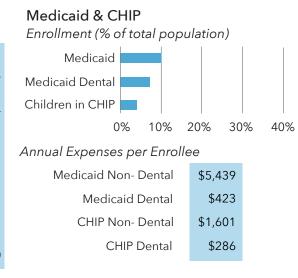
Clinical Care Pop. to Provider Ratio General Dentist 6565:1 Pediatric Dentist 6620:1 Specialized 26260:1 Dentist 4040:1 Dental Hygienist **Dental Assistant** 834:1 Primary Care Physician 2764:1 Nurse Practitioner 3283:1 FQHCs per 100,000 pop. 6.3



Bandera County Population 21,015



Clinical Care Pop. to Provider Ratio General Dentist 5931:1 Pediatric Dentist Specialized Dentist Dental Hygienist 3954:1 **Dental Assistant** 913:1 Primary Care 4745:1 Physician Nurse Practitioner 5931:1 FQHCs per 100,000 pop. 0



\$5,371

\$1,591

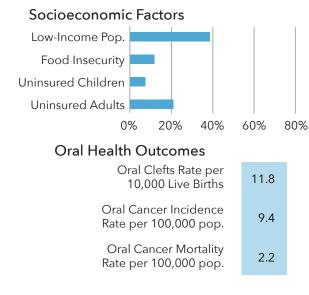
\$420

\$285

30%

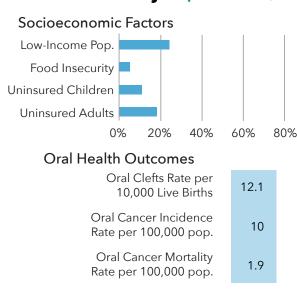
40%

Bexar County Population 1,858,699



Clinical Care		Medicaid & CHIP		
Pop. to Provider Ratio		Enrollment (% of total population)		
General Dentist	2732:1	Medicaid		
Pediatric Dentist	6968:1	Medicaid Dental		
Specialized Dentist	10850:1	Children in CHIP		
Dental Hygienist	2121:1	0% 10%	20% 3	
Dental Assistant 686:1		Annual Expenses per Enroll	ee	
Primary Care Physician	1206:1	Medicaid Non- Dental	\$5,371	
Nurse		Medicaid Dental	\$420	
Practitioner	1874:1	CHIP Non- Dental	\$1,591	
FQHCs per 100,000 pop.	1.2	CHIP Dental	\$285	

Comal County Population 124,234



Clinical Care Pop. to Provider Ratio General Dentist 2402:1 Pediatric Dentist 9386:1 Specialized Dentist 13693:1 Dental Hygienist 1292:1 Dental Assistant 710:1 Primary Care

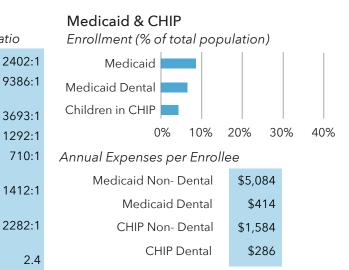
Physician

Practitioner

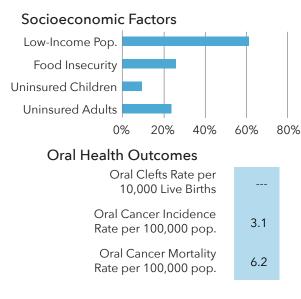
FQHCs per

100,000 pop.

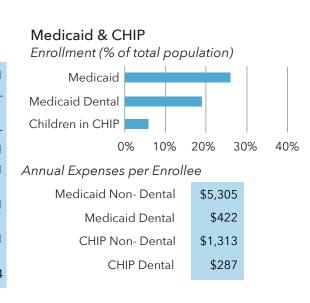
Nurse



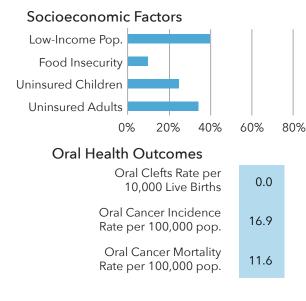
Dimmit County Population 10,842



Clinical Care Pop. to Provider Ratio General Dentist 2661:1 Pediatric Dentist Specialized Dentist Dental Hygienist 10645:1 **Dental Assistant** 2129:1 Primary Care 1331:1 Physician Nurse Practitioner 5323:1 FQHCs per 100,000 pop. 18.4



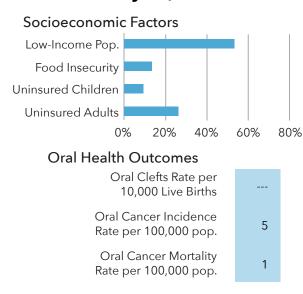
Edwards County Population 2,028



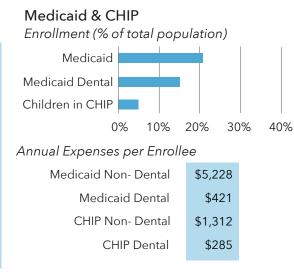
Clinical Care Pop. to Provider Ratio		
General Dentist	-	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	-	
Dental Assistant	-	
Primary Care Physician	2144:1	
Nurse Practitioner	-	
FQHCs per 100,000 pop.	0	

Medicaid & CHIP Enrollment (% of total popu	ulation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10%	20% 30)% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$5,535	
Medicaid Dental	\$416	
CHIP Non- Dental	\$1,311	
CHIP Dental	\$285	

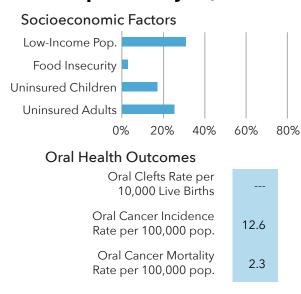
Frio County Population 18,542



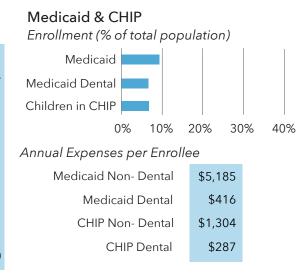
Clinical Care Pop. to Provider Ratio General Dentist 4808:1 Pediatric Dentist Specialized Dentist 9615:1 Dental Hygienist **Dental Assistant** 1131:1 Primary Care Physician 1748:1 Nurse Practitioner 1603:1 FQHCs per 100,000 pop. 10.8



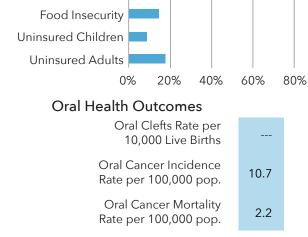
Gillespie County Population 25,732



Clinical Care Pop. to Provider Ratio		
General Dentist	1886:1	
Pediatric Dentist	-	
Specialized Dentist	14144:1	
Dental Hygienist	1768:1	
Dental Assistant	643:1	
Primary Care Physician	832:1	
Nurse Practitioner	3143:1	
FQHCs per 100,000 pop.	0	



Guadalupe County Population 147,313



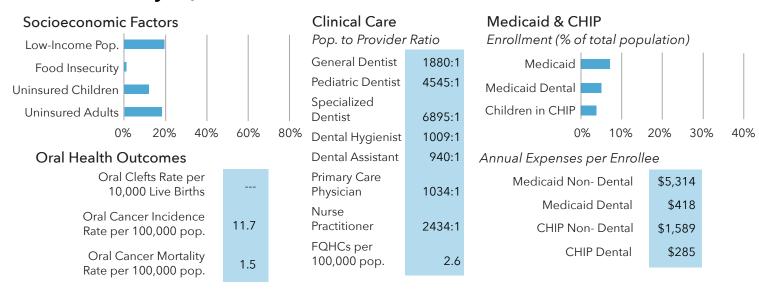
Socioeconomic Factors

Low-Income Pop.

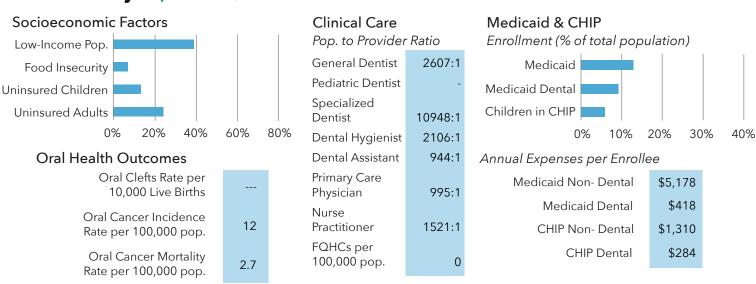
Clinical Care Pop. to Provider Ratio		
General Dentist	3861:1	
Pediatric Dentist	9572:1	
Specialized Dentist	41507:1	
Dental Hygienist	2185:1	
Dental Assistant	595:1	
Primary Care Physician	2722:1	
Nurse Practitioner	6641:1	
FQHCs per 100,000 pop.	0.7	

Guadalupe Medicaid & CHIP Enrollment (% of total population) Medicaid Medicaid Dental Children in CHIP 0% 10% 20% 30% 40% Annual Expenses per Enrollee Medicaid Non- Dental \$5,076 Medicaid Dental \$418 CHIP Non- Dental \$1,591 **CHIP Dental** \$285

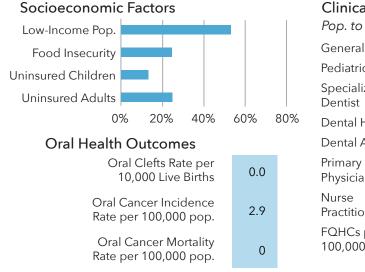
Kendall County Population 39,010



Kerr County Population 50,505

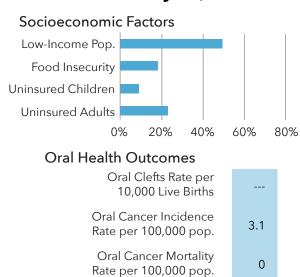


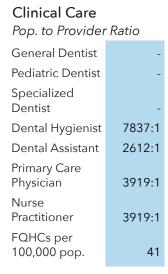
Kinney County Population 3,578

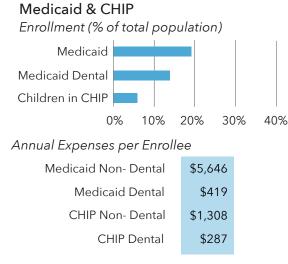


Medicaid & CHIP Enrollment (% of total population)		
40%		

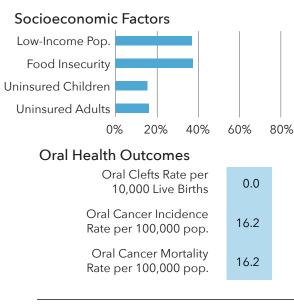
La Salle County Population 7,319







McMullen County Population 671

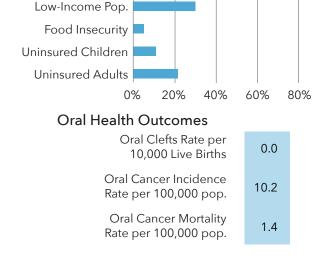


Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant Primary Care Physician Nurse Practitioner FQHCs per 100,000 pop. 149

Cliniaal Cara

Medicaid & CHIP Enrollment (% of total po	pulation))	
Medicaid			
Medicaid Dental			
Children in CHIP			
0% 10%	20%	30%	40%
Annual Expenses per Enrolle	ee		
Medicaid Non- Dental	\$7,116		
Medicaid Dental	\$411		
CHIP Non- Dental	\$1,313		
CHIP Dental	\$254		

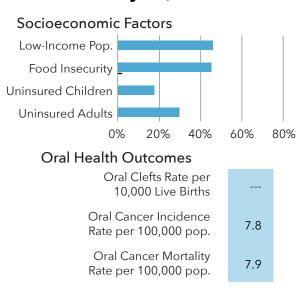
Medina County Population 47,920 Socioeconomic Factors



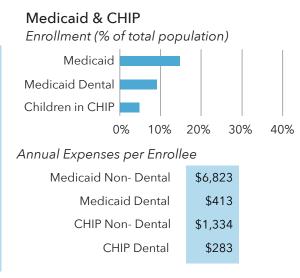
Clinical Care		
Pop. to Provider Ratio		
General Dentist	5946:1	
Pediatric Dentist	-	
Specialized Dentist	53517:1	
Dental Hygienist	5946:1	
Dental Assistant	695:1	
Primary Care Physician	3148:1	
Nurse Practitioner	6690:1	
FQHCs per 100,000 pop.	4.2	

Medina Medicaid & CHIP Enrollment (% of total population) Medicaid Medicaid Dental Children in CHIP 0% 10% 20% 30% 40% Annual Expenses per Enrollee Medicaid Non- Dental \$5,541 Medicaid Dental \$422 CHIP Non- Dental \$1,582 **CHIP Dental** \$287

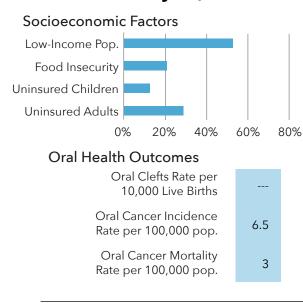
Real County Population 3,348



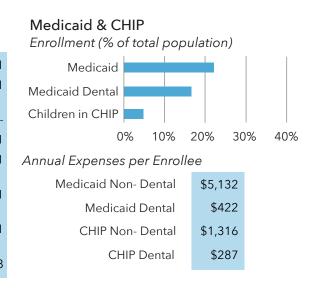
Clinical Care Pop. to Provider Ratio General Dentist 3418:1 Pediatric Dentist Specialized Dentist Dental Hygienist **Dental Assistant** 3418:1 Primary Care Physician Nurse Practitioner 3418:1 FQHCs per 100,000 pop. 59.7



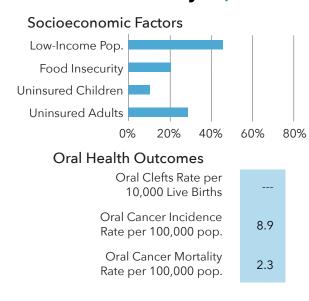
Uvalde County Population 27,055



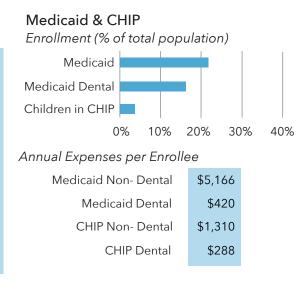
Clinical Care Pop. to Provider Ratio 9314:1 General Dentist Pediatric Dentist 7446:1 Specialized Dentist **Dental Hygienist** 3493:1 **Dental Assistant** 717:1 Primary Care 1471:1 Physician Nurse Practitioner 2329:1 FQHCs per 100,000 pop. 14.8



Val Verde County Population 48,862

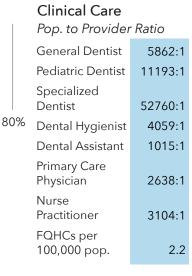


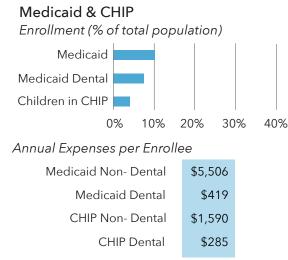
Clinical Care			
Pop. to Provider Ratio			
General De	ntist	5782:1	
Pediatric De	entist	14146:1	
Specialized Dentist		-	
Dental Hygi	enist	4003:1	
Dental Assis	stant	1301:1	
Primary Car Physician	е	2082:1	
Nurse Practitioner		2739:1	
FQHCs per 100,000 po	p.	6.1	



Wilson County Population 46,444

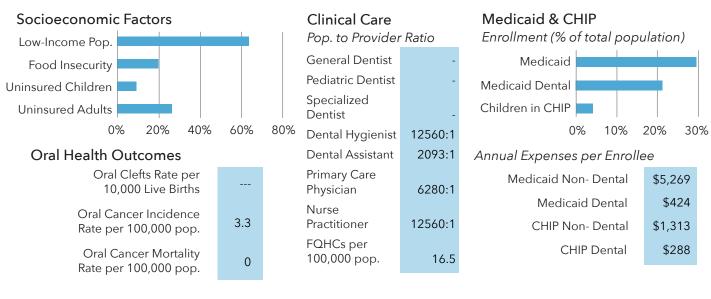
Socioeconomic Factors Low-Income Pop. Food Insecurity Uninsured Children Uninsured Adults 0% 20% 40% 60% Oral Health Outcomes Oral Clefts Rate per 10,000 Live Births Oral Cancer Incidence 9.8 Rate per 100,000 pop. **Oral Cancer Mortality** 2.4 Rate per 100,000 pop.





40%

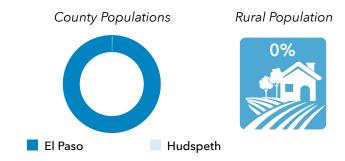
Zavala County Population 12,107

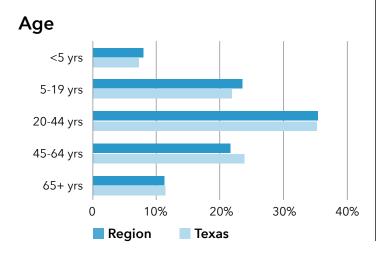


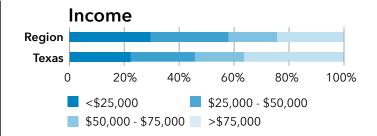
West - El Paso

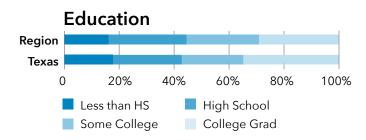
2 counties: El Paso, Hudspeth

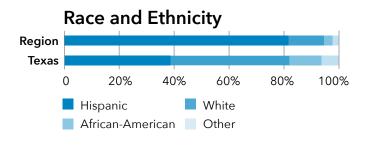
Population 837,073









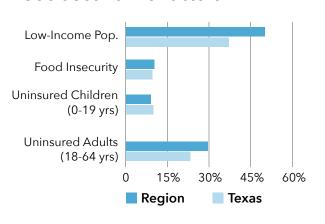


Key Points

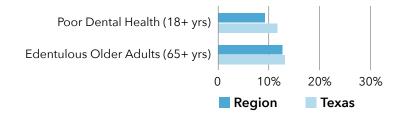
- Oral health outcomes in this region are similar to or better than the state average. The oral cancer incidence rate in this region is lower than every region except South - Laredo.
- Provider supply in this region is lower than nearly all other regions of the state. This region has the second lowest supply of primary care physicians and third lowest supplies of general dentists and dental hygienists. There are relatively more FQHCs per capita in the region.
- About one in five adults in this region drink excessively (21.5%) and one in six smoke (17.0%).
- Over half the population in this region is considered low-income. Child and adult uninsured rates in this region are well above the state average, but are the lowest of the three border regions.

West - El Paso

Socioeconomic Factors



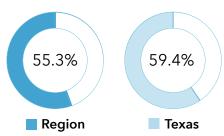
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	14.1	15.8
Oral Cancer Incidence rate per 100,000 Pop.	7.2	10.8
Oral Cancer Mortality rate per 100,00 Pop.	2.2	2.6

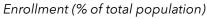
Clinical Care

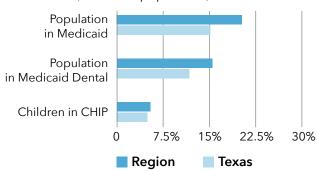
Past-Year Dental Visits (18+ years)



Population to Provider Ratio	Region	Texas
General Dentist	5506: 1	2970: 1
Pediatric Dentist	9841: 1	9411: 1
Specialized Dentist	18168: 1	14291: 1
Dental Hygienist	3390: 1	2220: 1
Dental Assistant	972: 1	805: 1
Primary Care Physician	2019: 1	1362: 1
Nurse Practitioner	2132: 1	1961: 1
FQHCs per 100,000 pop.	2.9	1.5

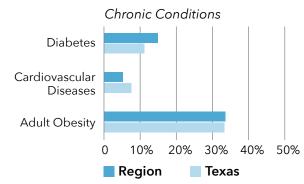
Medicaid and CHIP

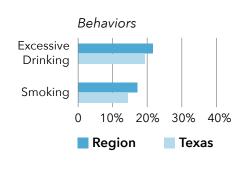




Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$4,530	\$5,224
Medicaid Dental	\$422	\$419
CHIP Non-Dental	\$1,593	\$1,527
CHIP Dental	\$287	\$285

Risk Factors

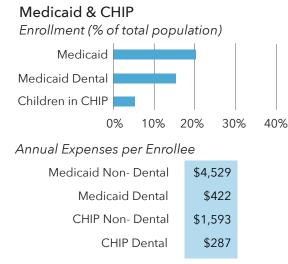




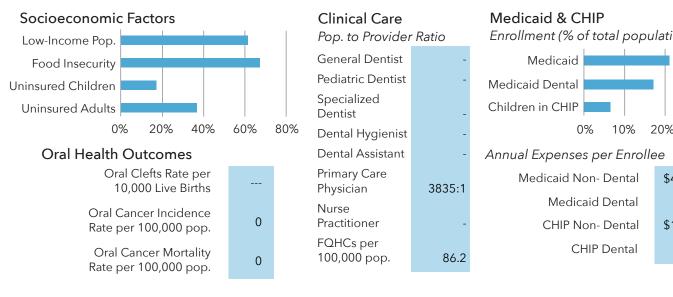
El Paso County Population 833,592

Socioeconomic Factors Low-Income Pop. Food Insecurity Uninsured Children Uninsured Adults 0% 20% 40% 60% 80% **Oral Health Outcomes** Oral Clefts Rate per 10.5 10,000 Live Births Oral Cancer Incidence 7.3 Rate per 100,000 pop. Oral Cancer Mortality 1.6 Rate per 100,000 pop.

Clinical Care Pop. to Provider Ratio General Dentist 5482:1 Pediatric Dentist 9804:1 Specialized Dentist 18092:1 Dental Hygienist 3375:1 Dental Assistant 968:1 Primary Care Physician 2015:1 Nurse Practitioner 2123:1 FQHCs per 100,000 pop. 2.5



Hudspeth County Population 3,481



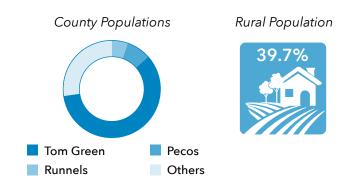
Enrollment (% o	of total po	pulati	ion)	
Medicaid				
Medicaid Dental				
Children in CHIP				
0	% 10%	20%	309	% 40%
Annual Expense	s per Enr	ollee		
Medicaid N	on- Denta	I \$	4,744	
Medic	aid Denta	ı	\$422	
CHIP N	on- Denta	I \$	1,571	
Cł	HIP Denta		\$290	



West - San Angelo

17 counties: Coke, Coleman, Concho, Crockett, Irion, Kimble, Mason, McCulloch, Menard, Pecos, Reagan, Runnels, Schleicher, Sterling, Sutton, Terrell, Tom Green

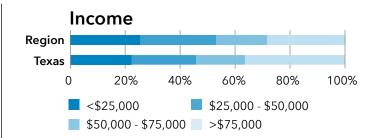
Population 195,479

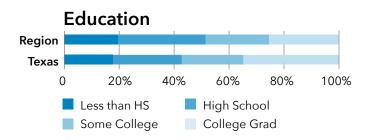


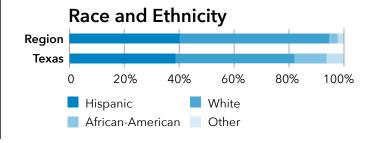
Age <5 yrs</p> 5-19 yrs 20-44 yrs 45-64 yrs 65+ yrs

10%

Region







Key Points

• Fourteen of this region's 17 counties have populations less than 10,000, and 39.7% of the total population is rural.

20%

Texas

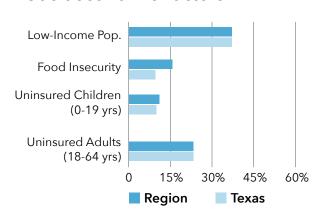
30%

40%

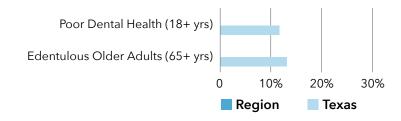
- This region has the second lowest number of pediatric dentists in the state. Only Tom Green County has a pediatric dentist and only Tom Green and Pecos County have specialized dentists.
- The region has an above-average estimated percentage of adults who smoke. Annual mortality from oral cancer in this region (4.2 deaths per 100,000 population) is third highest of any region in the state.

West - San Angelo

Socioeconomic Factors



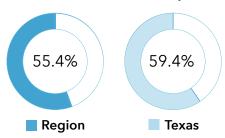
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	18.8	15.8
Oral Cancer Incidence rate per 100,000 Pop.	11.5	10.8
Oral Cancer Mortality rate per 100,00 Pop.	4.2	2.6

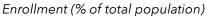
Clinical Care

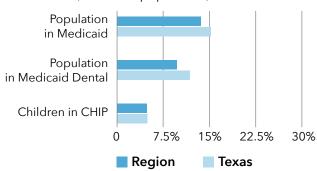
Past-Year Dental Visits (18+ years)



Population to Provider Ratio	Region	Texas
General Dentist	4710: 1	2970: 1
Pediatric Dentist	22534: 1	9411: 1
Specialized Dentist	16484: 1	14291: 1
Dental Hygienist	2603: 1	2220: 1
Dental Assistant	1252: 1	805: 1
Primary Care Physician	1214: 1	1362: 1
Nurse Practitioner	2150: 1	1961: 1
FQHCs per 100,000 pop.	5.1	1.5

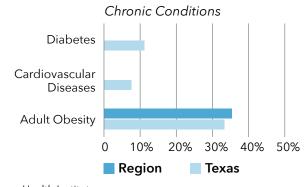
Medicaid and CHIP

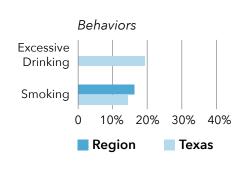




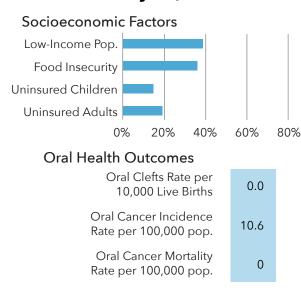
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,333	\$5,224
Medicaid Dental	\$418	\$419
CHIP Non-Dental	\$1,308	\$1,527
CHIP Dental	\$284	\$285

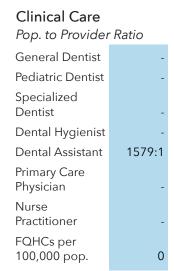
Risk Factors

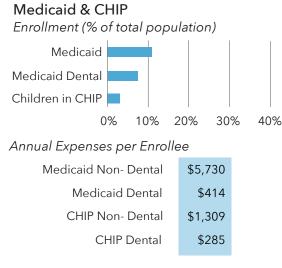




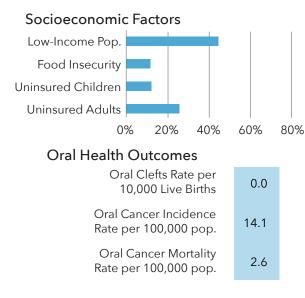
Coke County Population 3,228



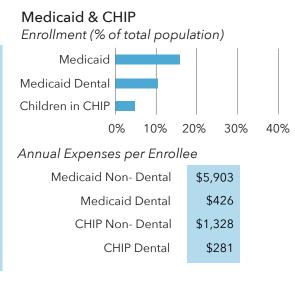




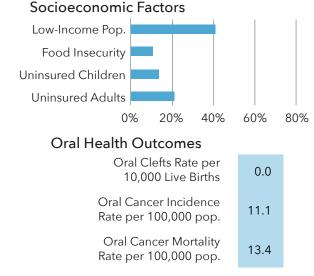
Coleman County Population 8,476



Clinical Care Pop. to Provider Ratio 3049:1 General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist** Dental Assistant 1307:1 Primary Care 2287:1 Physician Nurse Practitioner 2287:1 FQHCs per 100,000 pop. 0

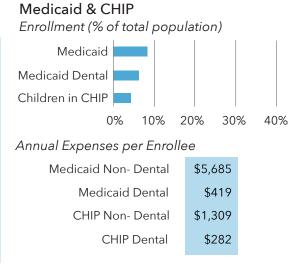


Concho County Population 4,142

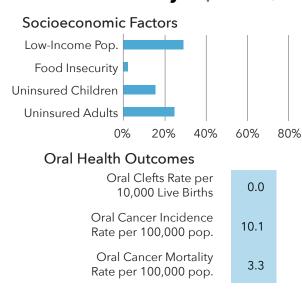


Cillical Cale		
Pop. to Provider Ratio		
General Dentist	4256:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	4256:1	
Dental Assistant	2128:1	
Primary Care Physician	1419:1	
Nurse Practitioner	4256:1	
FQHCs per 100,000 pop.	24.1	

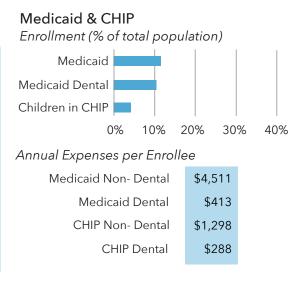
Clinical Care



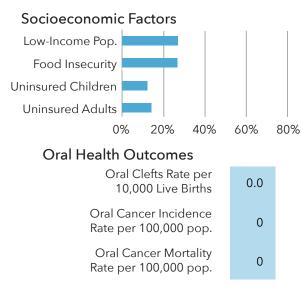
Crockett County Population 3,836



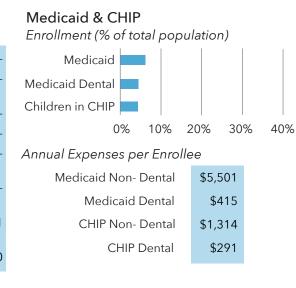
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist 3986:1 Dental Hygienist **Dental Assistant** 3986:1 Primary Care 3986:1 Physician Nurse Practitioner FQHCs per 100,000 pop.



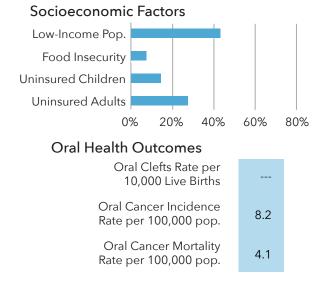
Irion County Population 1,631



Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant Primary Care Physician Nurse Practitioner FQHCs per 100,000 pop.

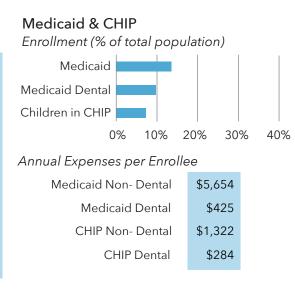


Kimble County Population 4,453

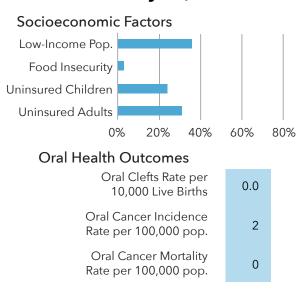


Cillical Cale		
Pop. to Provider Ratio		
General Dentist	4917:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	-	
Dental Assistant	4917:1	
Primary Care Physician	2459:1	
Nurse Practitioner	4917:1	
FQHCs per 100,000 pop.	22.5	

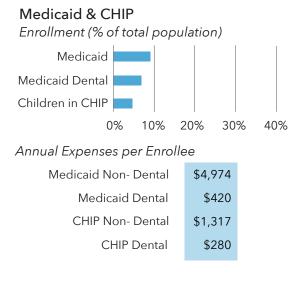
Clinical Care



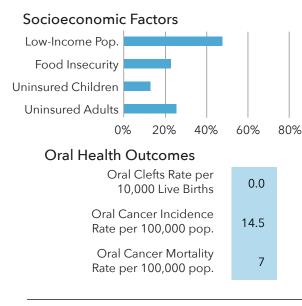
Mason County Population 4,064



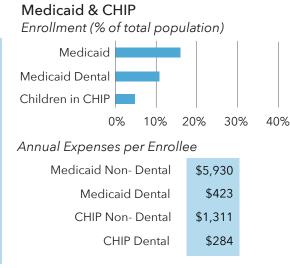
Clinical Care Pop. to Provider Ratio General Dentist 4155:1 Pediatric Dentist Specialized Dentist 2078:1 Dental Hygienist Dental Assistant 2078:1 Primary Care Physician 4155:1 Nurse Practitioner FQHCs per 100,000 pop. 24.6



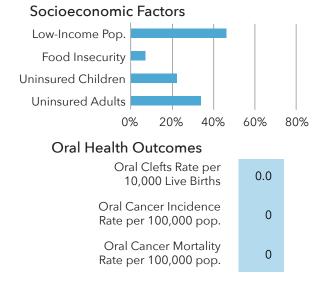
McCulloch County Population 8,242



Clinical Care Pop. to Provider Ratio 8798:1 General Dentist Pediatric Dentist Specialized Dentist 2933:1 **Dental Hygienist Dental Assistant** 2200:1 Primary Care Physician 1466:1 Nurse Practitioner FQHCs per 100,000 pop. 12.1



Menard County Population 2,163

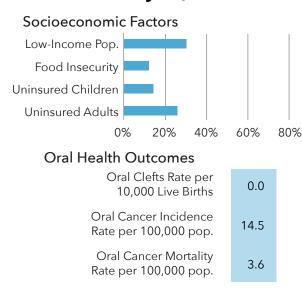


Pop. to Provider Ratio		
General Dentist	-	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	-	
Dental Assistant	1190:1	
Primary Care Physician	2380:1	
Nurse Practitioner	2380:1	
FQHCs per 100,000 pop.	92.5	

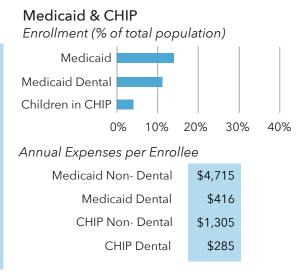
Clinical Care

Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 30%	40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$5,749	
Medicaid Dental	¢420	
Medicaid Dentai	\$429	
CHIP Non- Dental	\$1,330	

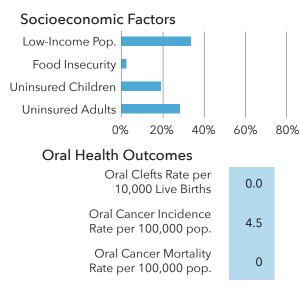
Pecos County Population 15,826



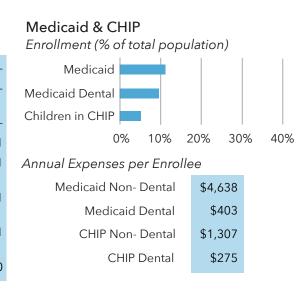
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist 16661:1 5554:1 Dental Hygienist **Dental Assistant** 1851:1 Primary Care 2083:1 Physician Nurse Practitioner 2380:1 FQHCs per 100,000 pop. 6.3



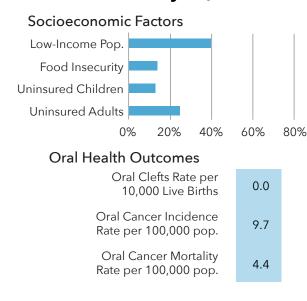
Reagan County Population 3,625



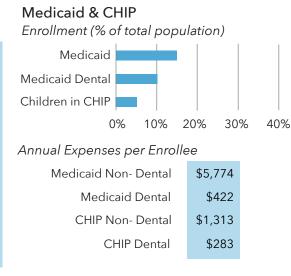
Clinical Care Pop. to Provider Ratio		
General Dentist	-	
Pediatric Dentist	-	
Specialized Dentist		
Dental Hygienist	3747:1	
Dental Assistant	3747:1	
Primary Care Physician	1874:1	
Nurse Practitioner	1874:1	
FQHCs per 100,000 pop.	0	



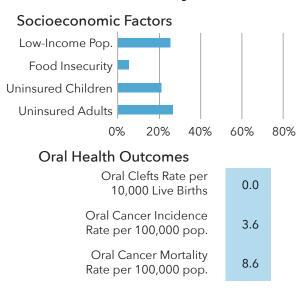
Runnels County Population 10,411

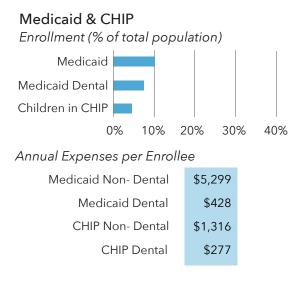


Ratio	
-	
-	
-	
10846:1	
1549:1	
1356:1	
5423:1	
0	
	- 10846:1 1549:1 1356:1

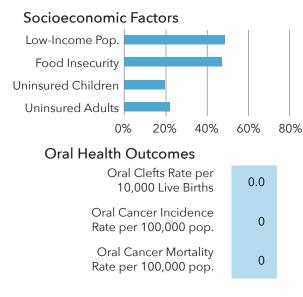


Schleicher County Population 3,171





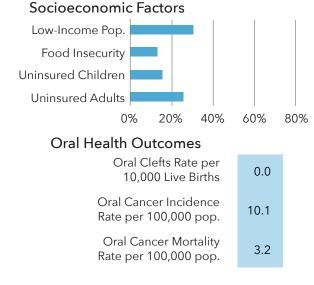
Sterling County Population 1,233



Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist** 1201:1 **Dental Assistant** Primary Care Physician Nurse 1201:1 Practitioner FQHCs per 100,000 pop. 0

Medicaid & CHIP Enrollment (% of total popul	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 309	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$6,195	
Medicaid Dental	\$425	
CHIP Non- Dental	\$1,286	
	\$295	
CHIP Dental	\$293	

Sutton County Population 3,936

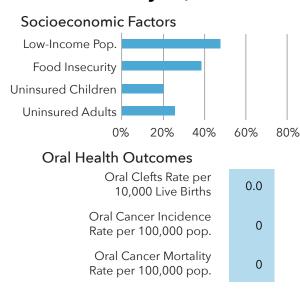


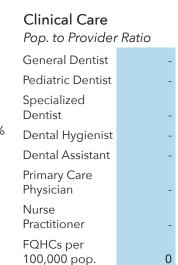
Cirrical Care		
Pop. to Provider Ratio		
4505:1		
-		
2253:1		
1502:1		
4505:1		
4505:1		
0		

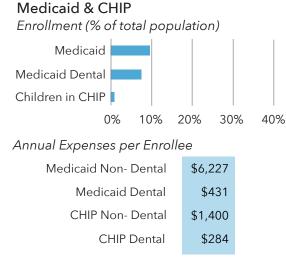
Clinical Care

	Medicaid & CHIP Enrollment (% of total population)			
	Medicaid			
	Medicaid Dental			
	Children in CHIP			
	0% 10% 2	20% 309	% 40%	
	Annual Expenses per Enrolle	ee		
	Medicaid Non- Dental	\$4,424		
	Medicaid Dental	\$422		
	CHIP Non- Dental	\$1,308		
)	CHIP Dental	\$287		

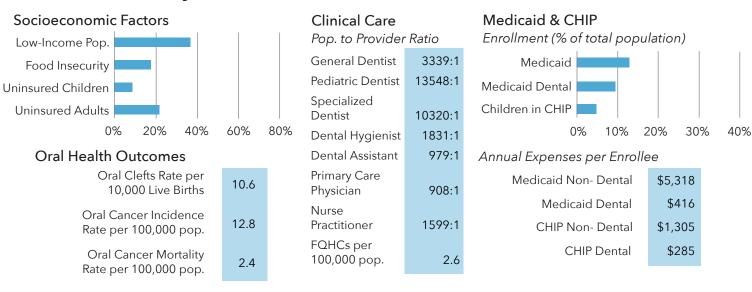
Terrell County Population 778







Tom Green County Population 116,264

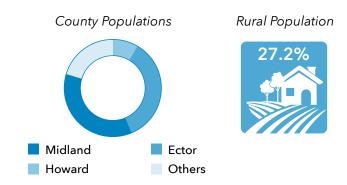


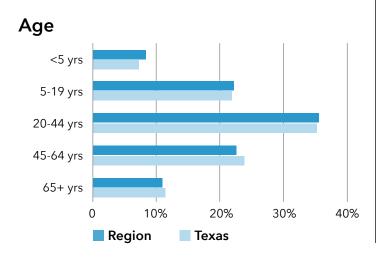


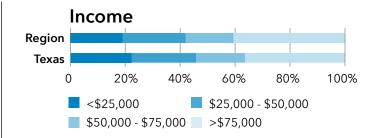
West - Midland/Big Bend

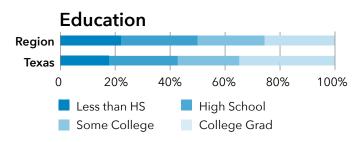
16 counties: Andrews, Brewster, Crane, Culberson, Ector, Glasscock, Howard, Jeff Davis, Loving, Martin, Midland, Presidio, Reeves, Upton, Ward, Winkler

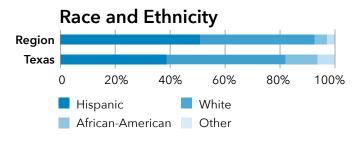
Population 432,079









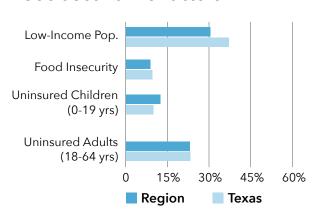


Key Points

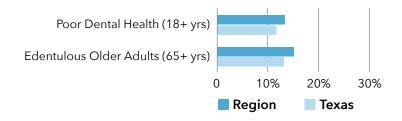
- Midland's estimated rates of adults in poor dental health (13.3%), edentulous older adults (15.1%), and adults making a past-year dental visit (58.2%) are below the state average, but better than rates observed in several other rural regions.
- The number of health professionals is low in the region. Only Midland and Ector Counties (the two largest counties in the region) have pediatric and specialized dentists.
- Midland has the third lowest estimated rate of diabetes (9.9%) and second lowest estimated rate of excessive drinking (16.2%) in the state.
- Less than one-third of the population is low-income, yet this region has the highest percentage of uninsured children in the state (12.5%).

West - Midland/Big Bend

Socioeconomic Factors

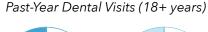


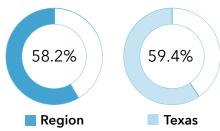
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	20.6	15.8
Oral Cancer Incidence rate per 100,000 Pop.	11.9	10.8
Oral Cancer Mortality rate per 100,00 Pop.	3.2	2.6

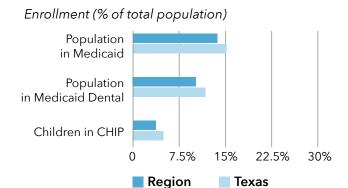
Clinical Care





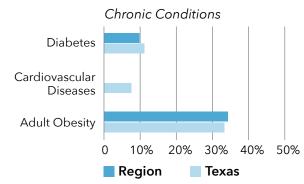
Population to Provider Ratio	Region	Texas
General Dentist	4228: 1	2970: 1
Pediatric Dentist	14847: 1	9411: 1
Specialized Dentist	16589: 1	14291: 1
Dental Hygienist	2370: 1	2220: 1
Dental Assistant	866: 1	805: 1
Primary Care Physician	1705: 1	1362: 1
Nurse Practitioner	2074: 1	1961: 1
FQHCs per 100,000 pop.	2.5	1.5

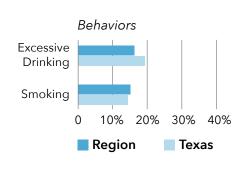
Medicaid and CHIP



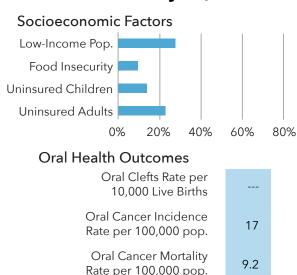
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$4,996	\$5,224
Medicaid Dental	\$409	\$419
CHIP Non-Dental	\$1,306	\$1,527
CHIP Dental	\$284	\$285

Risk Factors

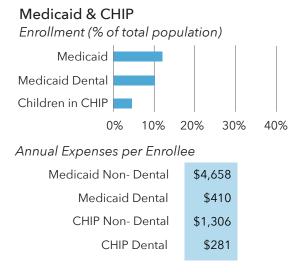




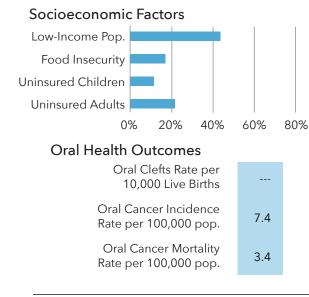
Andrews County Population 17,215



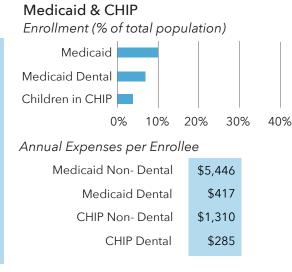
Clinical Care Pop. to Provider Ratio General Dentist 3333:1 Pediatric Dentist Specialized Dentist Dental Hygienist **Dental Assistant** 980:1 Primary Care Physician 1852:1 Nurse Practitioner 2083:1 FQHCs per 100,000 pop. 0



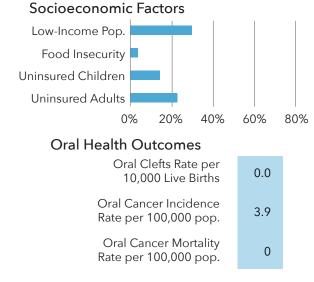
Brewster County Population 9,188



Clinical Care Pop. to Provider Ratio 4986:1 General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist 2493:1 1994:1 Dental Assistant Primary Care 1246:1 Physician Nurse Practitioner 1662:1 FQHCs per 100,000 pop. 10.9



Crane County Population 4,823

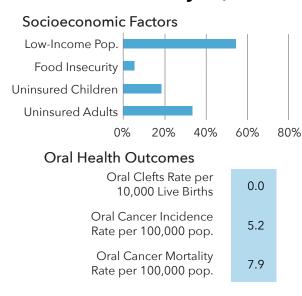


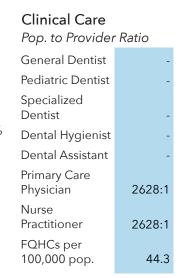
Cirrical Care		
Pop. to Provider Ratio		
General Dentist	5054:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	5054:1	
Dental Assistant	2527:1	
Primary Care Physician	2527:1	
Nurse Practitioner	-	
FQHCs per 100,000 pop.	0	

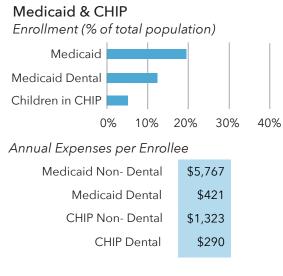
Clinical Care

Medicaid & CHIP Enrollment (% of total population) Medicaid Medicaid Dental Children in CHIP 0% 10% 20% 30% 40% Annual Expenses per Enrollee Medicaid Non-Dental \$5,613 Medicaid Dental \$403 CHIP Non- Dental \$1,312 **CHIP Dental** \$288

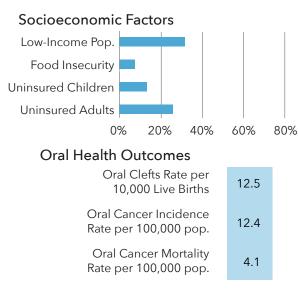
Culberson County Population 2,259



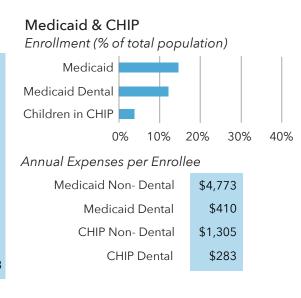




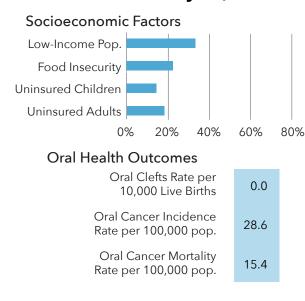
Ector County Population 153,177



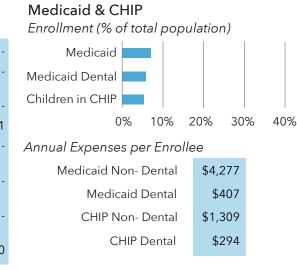
Clinical Care Pop. to Provider Ratio General Dentist 4772:1 Pediatric Dentist 14994:1 Specialized Dentist 13883:1 Dental Hygienist 2937:1 **Dental Assistant** 717:1 Primary Care 1512:1 Physician Nurse Practitioner 2151:1 FQHCs per 100,000 pop. 1.3



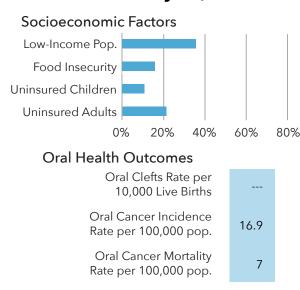
Glasscock County Population 1,253



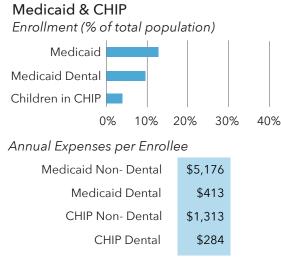
Clinical Care Pop. to Provider Ratio		
General		
		-
Pediatrio	Dentist	-
Specializ Dentist	zed	-
Dental H	lygienist	658:1
Dental A	Assistant	-
Primary Physicia		-
Nurse Practitio	ner	-
FQHCs 100,000		0



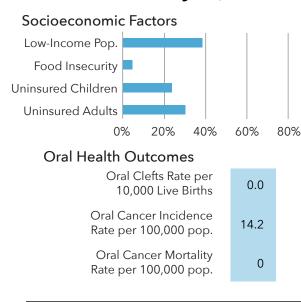
Howard County Population 36,423



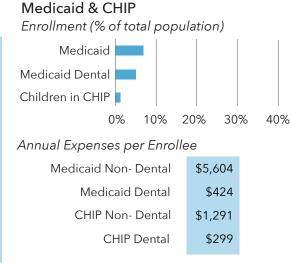




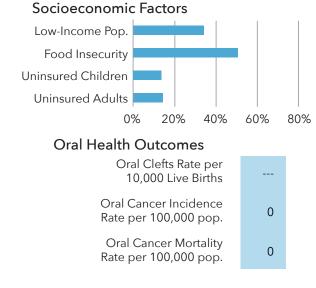
Jeff Davis County Population 2,221



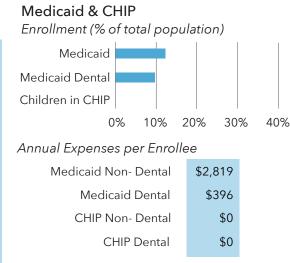
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant Primary Care 2460:1 Physician Nurse Practitioner 2460:1 FQHCs per 100,000 pop. 0



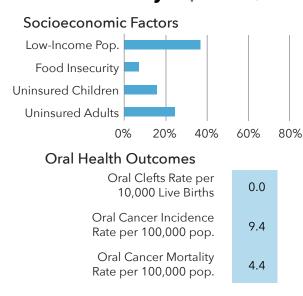
Loving County Population 76



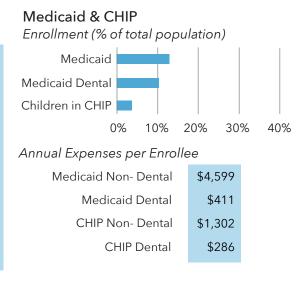
Clinical Care Pop. to Provider	⁻ Ratio
General Dentist	-
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	-
Dental Assistant	-
Primary Care Physician	-
Nurse Practitioner	-
FQHCs per 100,000 pop.	0



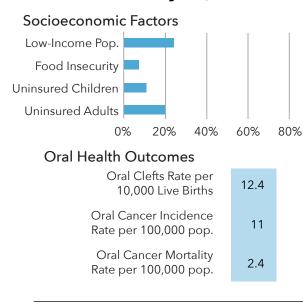
Martin County Population 5,451



Clinical Care Pop. to Provider Ratio General Dentist 5347:1 Pediatric Dentist Specialized Dentist 2674:1 Dental Hygienist **Dental Assistant** 891:1 Primary Care Physician 1337:1 Nurse Practitioner FQHCs per 100,000 pop.



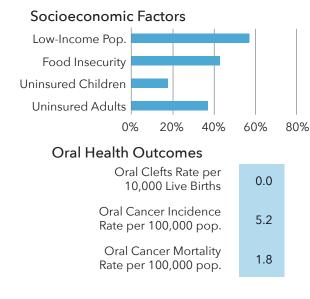
Midland County Population 155,817



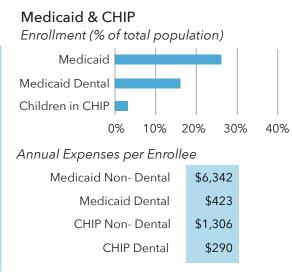
Clinical Care Pop. to Provider Ratio General Dentist 3106:1 Pediatric Dentist 8556:1 Specialized Dentist 10146:1 1585:1 Dental Hygienist **Dental Assistant** 773:1 Primary Care Physician 1619:1 Nurse Practitioner 1812:1 FQHCs per 100,000 pop. 2.6

Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 309	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$5,022	
Medicaid Dental	\$404	
CHIP Non- Dental	\$1,304	
CHIP Dental	\$283	

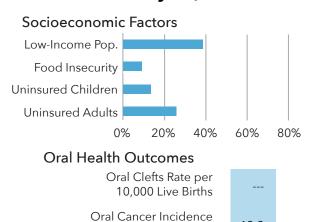
Presidio County Population 7,144



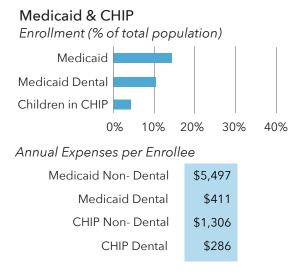
Clinical Care Pop. to Provider Ratio		
General Dentist	-	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	-	
Dental Assistant	8485:1	
Primary Care Physician	2828:1	
Nurse Practitioner	2828:1	
FQHCs per 100,000 pop.	28	



Reeves County Population 14,438



Clinical Care Pop. to Provider Ratio General Dentist 7303:1 Pediatric Dentist Specialized Dentist 14605:1 Dental Hygienist **Dental Assistant** 1623:1 Primary Care Physician 2434:1 Nurse Practitioner 3651:1 FQHCs per 100,000 pop. 0



Upton County Population 3,475

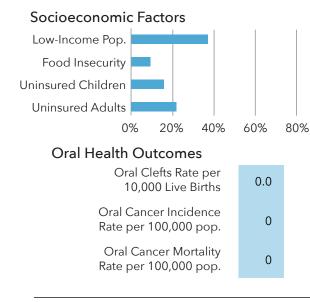
Rate per 100,000 pop.

Oral Cancer Mortality

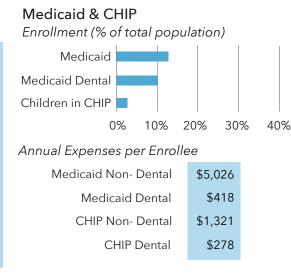
Rate per 100,000 pop.

13.2

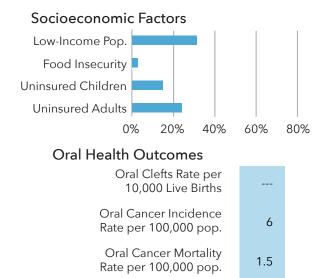
4.4



Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant Primary Care 3730:1 Physician Nurse Practitioner 746:1 FQHCs per 100,000 pop. 0

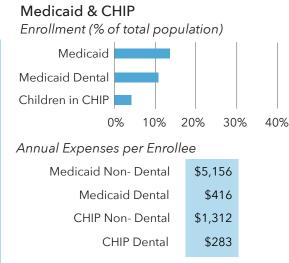


Ward County Population 11,396

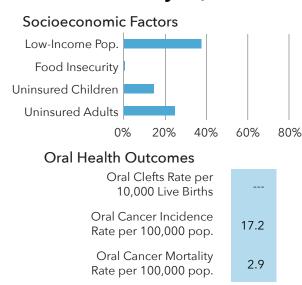


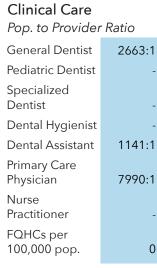
Cilifical Care		
Pop. to Provider Ratio		
General Dentist	-	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	-	
Dental Assistant	1844:1	
Primary Care Physician	3688:1	
Nurse Practitioner	5532:1	
FQHCs per 100,000 pop.	0	

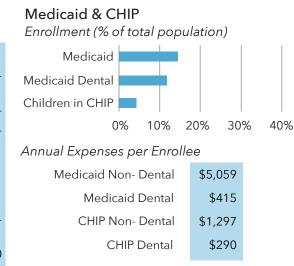
Clinical Care



Winkler County Population 7,723



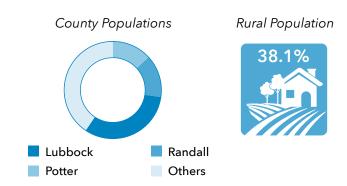




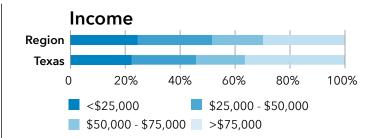
West - Panhandle

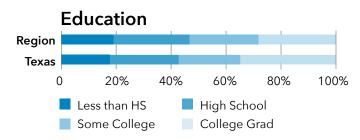
47 counties: Armstrong, Bailey, Borden, Briscoe, Carson, Castro, Childress, Cochran, Collingsworth, Cottle, Crosby, Dallam, Dawson, Deaf Smith, Dickens, Donley, Floyd, Gaines, Garza, Gray, Hale, Hall, Hansford, Hartley, Hemphill, Hockley, Hutchinson, Kent, King, Lamb, Lipscomb, Lubbock, Lynn, Moore, Motley, Ochiltree, Oldham, Parmer, Potter, Randall, Roberts, Scurry, Sherman, Swisher, Terry, Wheeler, Yoakum

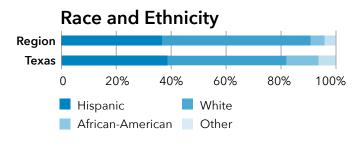
Population 915,590









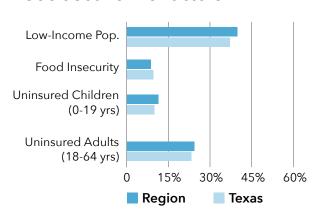


Key Points

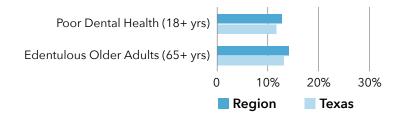
- The largest region by geography, 37 of 42 panhandle counties have populations less than 10,000. 38.1% of the population resides in rural counties.
- Apart from the three most populous counties (Lubbock, Randall, and Potter), the region performs below average on measures of utilization and provider supply compared to
- the state. There are more nurse practitioners per capita in the panhandle than any other region.
- The panhandle performs near or slightly below the state average on most estimates of oral health outcomes; consistently among the best of the rural regions.

West - Panhandle

Socioeconomic Factors



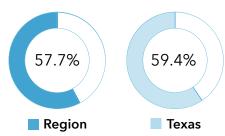
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	19.4	15.8
Oral Cancer Incidence rate per 100,000 Pop.	10.7	10.8
Oral Cancer Mortality rate per 100,00 Pop.	3.7	2.6

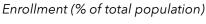
Clinical Care

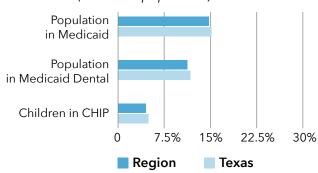
Past-Year Dental Visits (18+ years)



Population to Provider Ratio Region	Texas
General Dentist 4043: 1	2970: 1
Pediatric Dentist 14725: 1	9411: 1
Specialized Dentist 21471: 1	14291: 1
Dental Hygienist 2087: 1	2220: 1
Dental Assistant 919: 1	805: 1
Primary Care Physician 1663: 1	1362: 1
Nurse Practitioner 1449: 1	1961: 1
FQHCs per 100,000 pop. 2.9	1.5

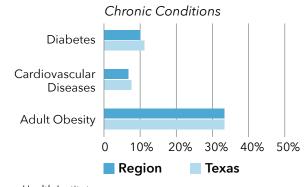
Medicaid and CHIP

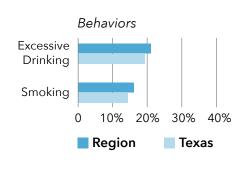




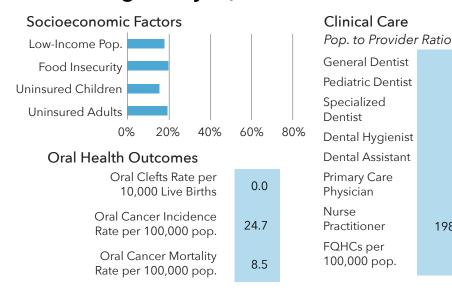
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$4,852	\$5,224
Medicaid Dental	\$417	\$419
CHIP Non-Dental	\$1,513	\$1,527
CHIP Dental	\$284	\$285

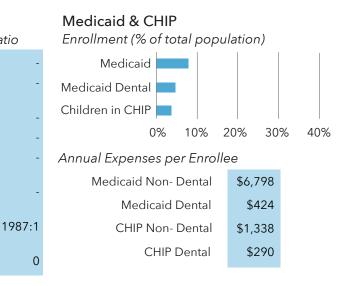
Risk Factors



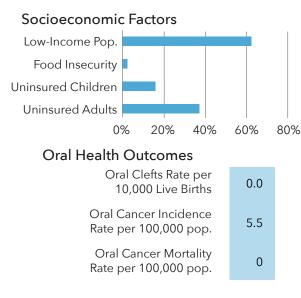


Armstrong County Population 1,913

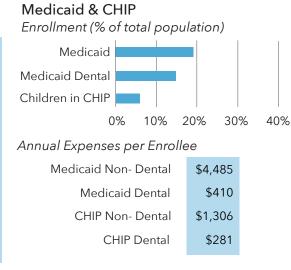




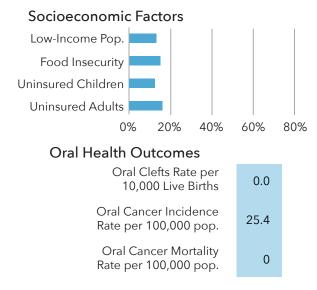
Bailey County Population 7,131



Clinical Care Pop. to Provider Ratio 4015:1 General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist 2676:1 **Dental Assistant** 803:1 Primary Care Physician 2676:1 Nurse Practitioner 4015:1 FQHCs per 100,000 pop. 0



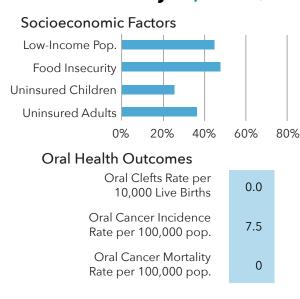
Borden County Population 698



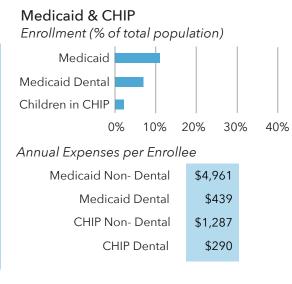
Clinical Care Pop. to Provider	⁻ Ratio
General Dentist	-
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	-
Dental Assistant	-
Primary Care Physician	-
Nurse Practitioner	-
FQHCs per 100,000 pop.	0

Medicaid & CHIP Enrollment (% of total population)			
-	Medicaid		
-	Medicaid Dental		
_	Children in CHIP		
-	0% 10% 2	20% 30	% 40%
-	Annual Expenses per Enrolle	ee	
	Medicaid Non- Dental	\$4,184	
-	Medicaid Dental	\$419	
-	CHIP Non- Dental	\$1,268	
)	CHIP Dental	\$308	

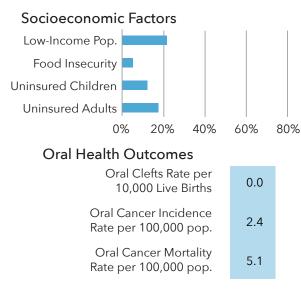
Briscoe County Population 1,672



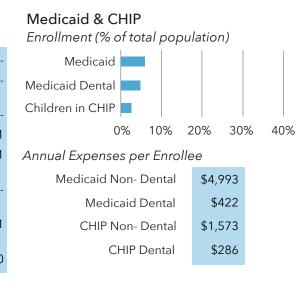
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant Primary Care Physician Nurse Practitioner FQHCs per 100,000 pop. O General Ratio Autority FAMORIA Ratio FRATION FRATI



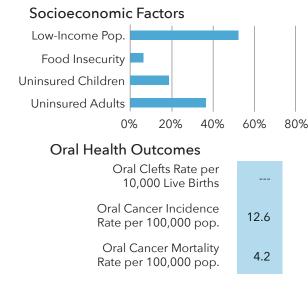
Carson County Population 6,027



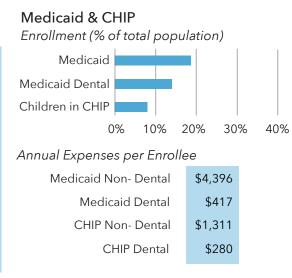
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist** 6418:1 **Dental Assistant** 1284:1 Primary Care Physician Nurse Practitioner 1605:1 FQHCs per 100,000 pop.



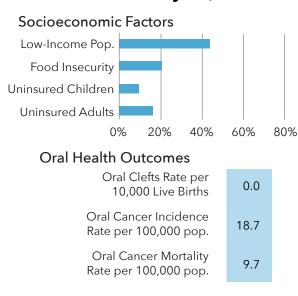
Castro County Population 7,875



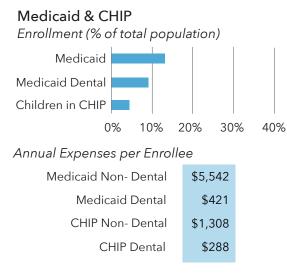
Clinical Care Pop. to Provider Ratio		
-		
-		
-		
4331:1		
1732:1		
4331:1		
2887:1		
0		



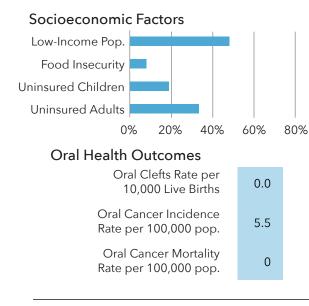
Childress County Population 7,059



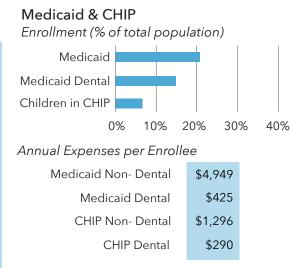
Clinical Care Pop. to Provider Ratio General Dentist 2447:1 Pediatric Dentist Specialized Dentist 2447:1 Dental Hygienist Dental Assistant 1224:1 Primary Care 918:1 Physician Nurse Practitioner 1049:1 FQHCs per 100,000 pop. 0



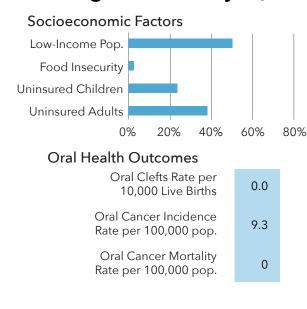
Cochran County Population 2,955

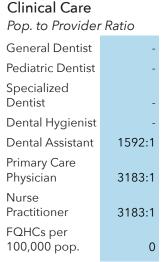


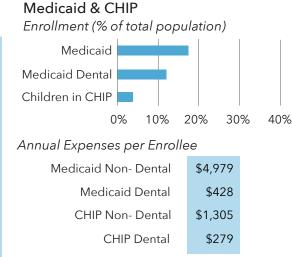
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant 1125:1 Primary Care Physician 3374:1 Nurse Practitioner 1687:1 FQHCs per 100,000 pop. 0



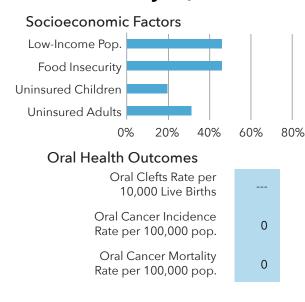
Collingsworth County Population 3,032

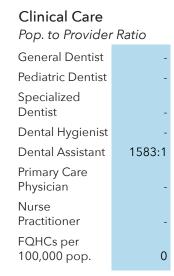


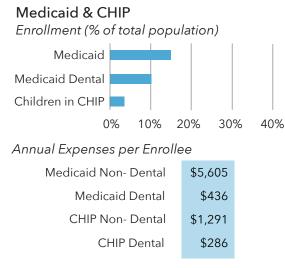




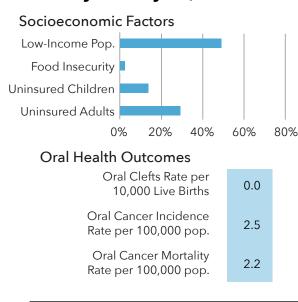
Cottle County Population 1,560



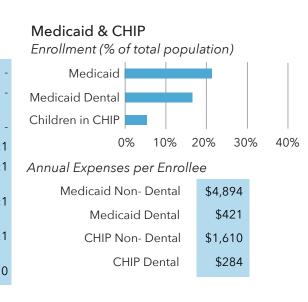




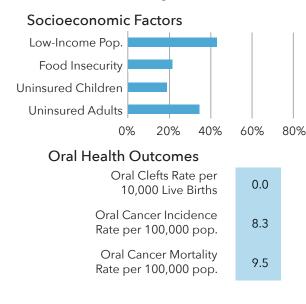
Crosby County Population 5,987



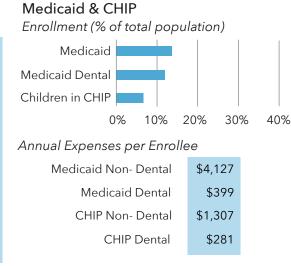
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist** 6860:1 **Dental Assistant** 1372:1 Primary Care 6860:1 Physician Nurse Practitioner 1715:1 FQHCs per 100,000 pop.



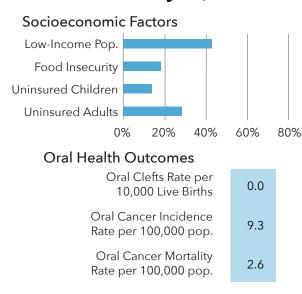
Dallam County Population 7,052



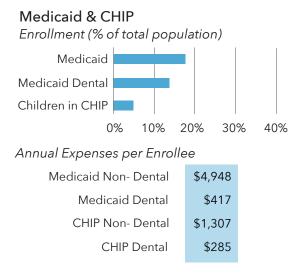
Clinical Care Pop. to Provider Ratio			
General Dentist	3830:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	1915:1		
Dental Assistant	1532:1		
Primary Care Physician	-		
Nurse Practitioner	-		
FQHCs per 100,000 pop.	0		



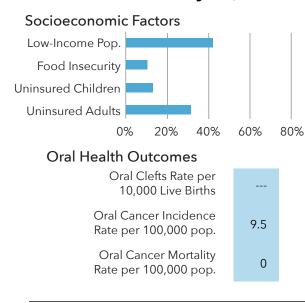
Dawson County Population 13,317



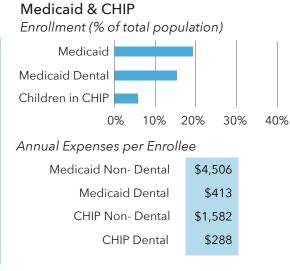
Clinical Care Pop. to Provider Ratio General Dentist 7268:1 Pediatric Dentist Specialized Dentist 7268:1 Dental Hygienist **Dental Assistant** 1454:1 Primary Care Physician 1817:1 Nurse Practitioner 4845:1 FQHCs per 100,000 pop. 15



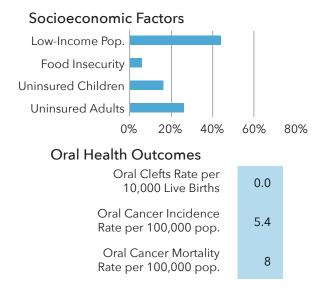
Deaf Smith County Population 19,039



Clinical Care Pop. to Provider Ratio General Dentist 3604:1 Pediatric Dentist Specialized Dentist 1879:1 Dental Hygienist **Dental Assistant** 1966:1 Primary Care Physician 2703:1 Nurse Practitioner 1802:1 FQHCs per 100,000 pop. 5.3



Dickens County Population 2,237

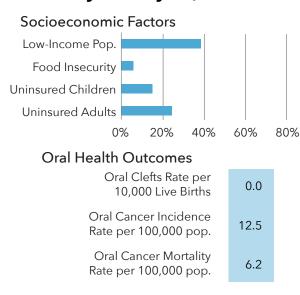


Clinical Care	
Pop. to Provider	Ratio
General Dentist	-
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	-
Dental Assistant	-
Primary Care Physician	-
Nurse Practitioner	-
FQHCs per 100,000 pop.	0

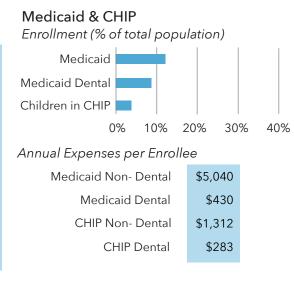
Clinical Cara

	Medicaid & CHIP Enrollment (% of total popu	lation)	
-	Medicaid		
-	Medicaid Dental		
	Children in CHIP		
	0% 10% 2	20% 309	% 40%
-	Annual Expenses per Enrolle	ee	
	Medicaid Non- Dental	\$5,452	
	Medicaid Dental	\$422	
-	CHIP Non- Dental	\$1,309	
,	CHIP Dental	\$288	

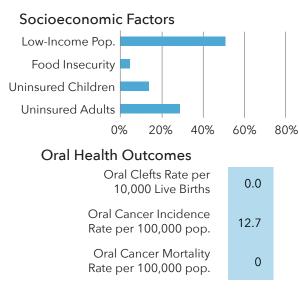
Donley County Population 3,506



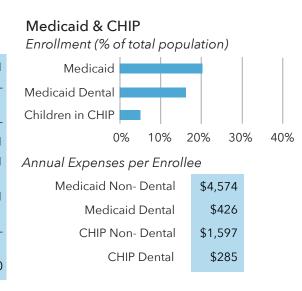
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist 1914:1 Dental Hygienist Dental Assistant 1276:1 Primary Care Physician 3827:1 Nurse Practitioner FQHCs per 100,000 pop.



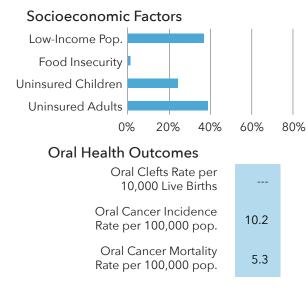
Floyd County Population 6,088



Clinical Care Pop. to Provider Ratio General Dentist 3298:1 Pediatric Dentist Specialized Dentist Dental Hygienist 3298:1 **Dental Assistant** 1319:1 Primary Care 1319:1 Physician Nurse Practitioner FQHCs per 100,000 pop.

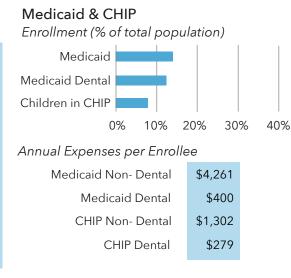


Gaines County Population 19,485

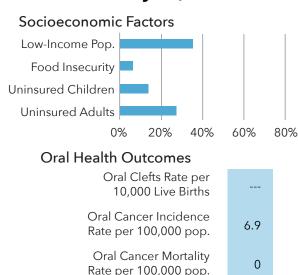


Cillical Care		
Pop. to Provider Ratio		
General Dentist	10188:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	10188:1	
Dental Assistant	2264:1	
Primary Care Physician	2547:1	
Nurse Practitioner	5094:1	
FQHCs per 100,000 pop.	0	

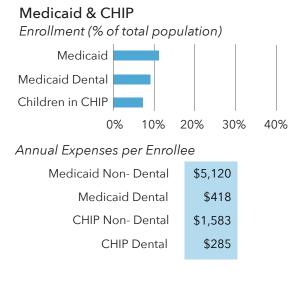
Clinical Care



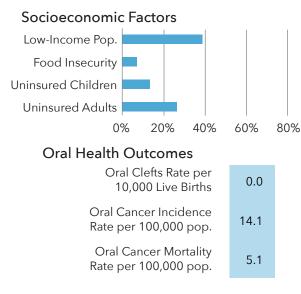
Garza County Population 6,614



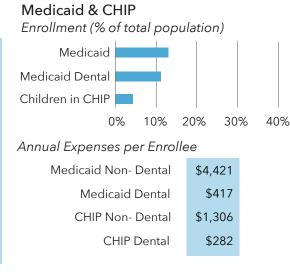
Clinical Care Pop. to Provider Ratio General Dentist 6836:1 Pediatric Dentist Specialized Dentist Dental Hygienist **Dental Assistant** 1139:1 Primary Care Physician Nurse Practitioner 6836:1 FQHCs per 100,000 pop. 0



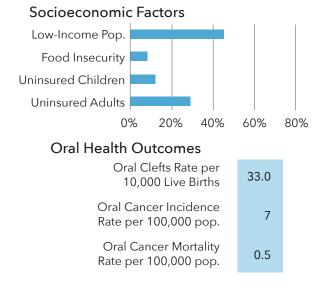
Gray County Population 23,028



Clinical Care Pop. to Provider Ratio 6032:1 General Dentist Pediatric Dentist Specialized Dentist **Dental Hygienist** 1340:1 **Dental Assistant** 1149:1 Primary Care Physician 1856:1 Nurse Practitioner 2681:1 FQHCs per 100,000 pop. 0



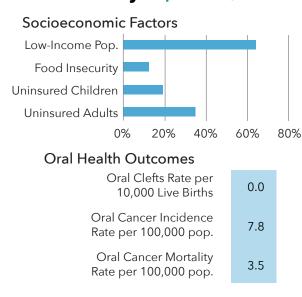
Hale County Population 35,007

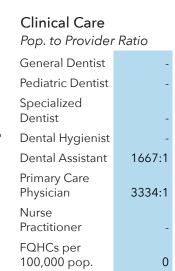


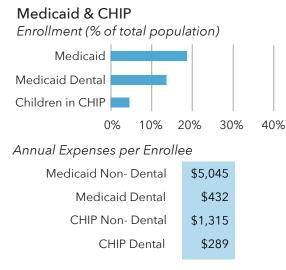
Clinical Care Pop. to Provider Ratio		
General Dentist	7563:1	
Pediatric Dentist	-	
Specialized Dentist	37816:1	
Dental Hygienist	3782:1	
Dental Assistant	1050:1	
Primary Care Physician	1891:1	
Nurse Practitioner	2364:1	
FQHCs per 100,000 pop.	11.4	

Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 30	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$4,697	
Medicaid Dental	\$423	
CHIP Non- Dental	\$1,580	
CHIP Dental	\$287	

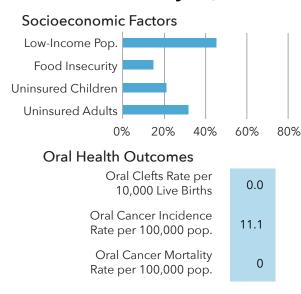
Hall County Population 3,162







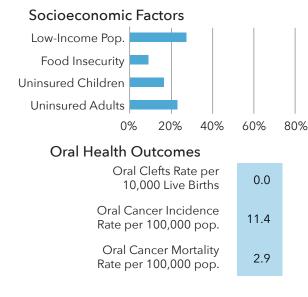
Hansford County Population 5,552



Clinical Care Pop. to Provider Ratio			
General Dentist	6224:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	2075:1		
Dental Assistant	-		
Primary Care Physician	2075:1		
Nurse Practitioner	3112:1		
FQHCs per 100,000 pop.	0		

Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 30	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$3,782	
Medicaid Dental	\$419	
CHIP Non- Dental	\$1,301	
CHIP Dental	\$286	

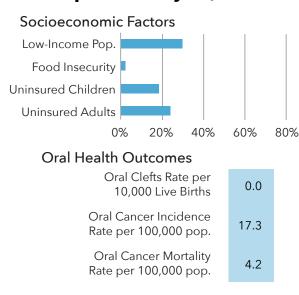
Hartley County Population 5,966

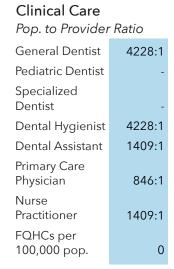


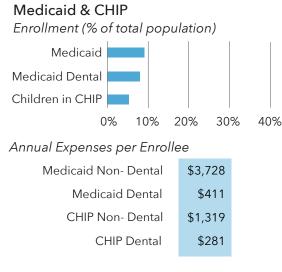
Clinical Care Pop. to Provider Ratio			
General Dentist	3113:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	6225:1		
Dental Assistant	3113:1		
Primary Care Physician	889:1		
Nurse Practitioner	6225:1		
FQHCs per 100,000 pop.	0		

Medicaid & CHIP Enrollment (% of total population)			
1	Medicaid		
-	Medicaid Dental		
_	Children in CHIP		
1	0% 10% 2	20% 309	% 40%
1	Annual Expenses per Enrolle	ee	
1	Medicaid Non- Dental	\$5,465	
•	Medicaid Dental	\$400	
1	CHIP Non- Dental	\$1,306	
)	CHIP Dental	\$281	

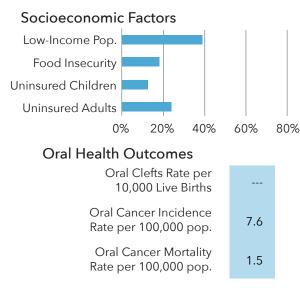
Hemphill County Population 4,151



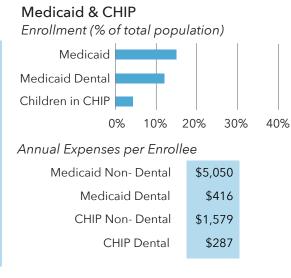




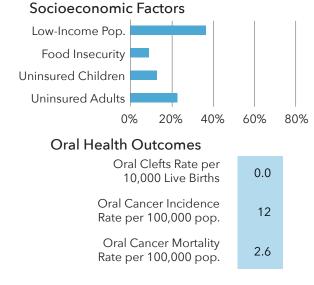
Hockley County Population 23,377



Clinical Care Pop. to Provider Ratio General Dentist 6117:1 Pediatric Dentist Specialized Dentist 4078:1 Dental Hygienist 1439:1 **Dental Assistant** Primary Care Physician 2447:1 Nurse Practitioner 6117:1 FQHCs per 100,000 pop. 4.3

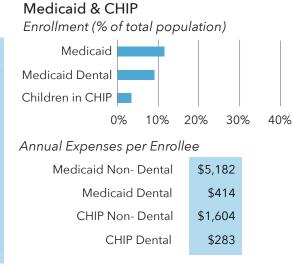


Hutchinson County Population 21,782

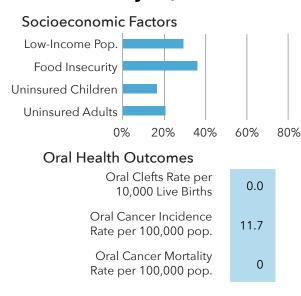


Clinical Care		
Pop. to Provider Ratio		
General Dentist	4490:1	
Pediatric Dentist	-	
Specialized Dentist	-	
Dental Hygienist	2806:1	
Dental Assistant	1182:1	
Primary Care Physician	1727:1	
Nurse Practitioner	3741:1	
FQHCs per 100,000 pop.	0	

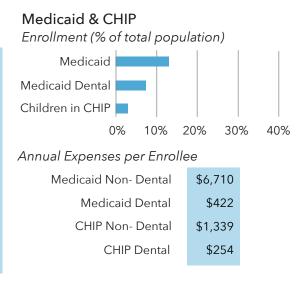
Clinical Cara



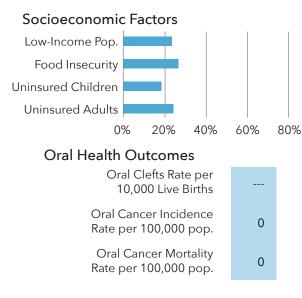
Kent County Population 667

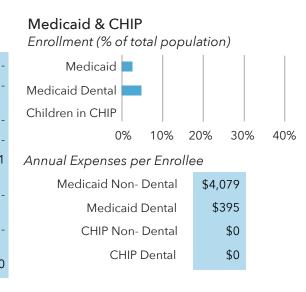


Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist **Dental Assistant** Primary Care 808:1 Physician Nurse Practitioner 808:1 FQHCs per 100,000 pop.

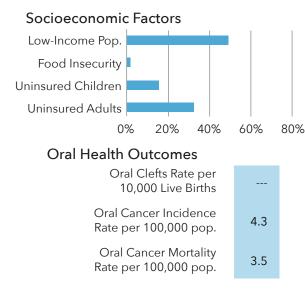


King County Population 274

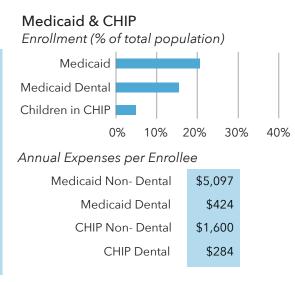




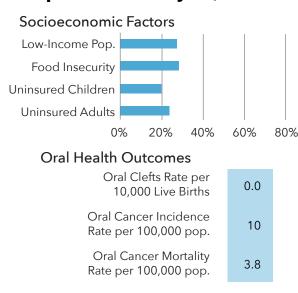
Lamb County Population 13,561



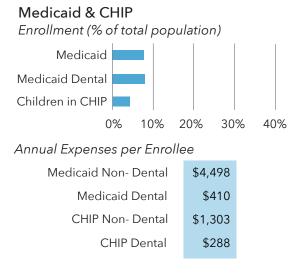
Clinical Care Pop. to Provider Ratio			
General Dentist	7216:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	14431:1		
Dental Assistant	2062:1		
Primary Care Physician	4810:1		
Nurse Practitioner	7216:1		
FQHCs per 100,000 pop.	0		



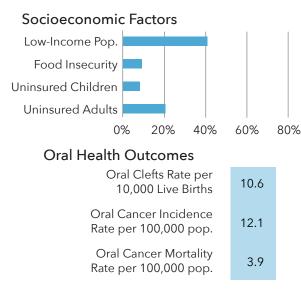
Lipscomb County Population 3,507



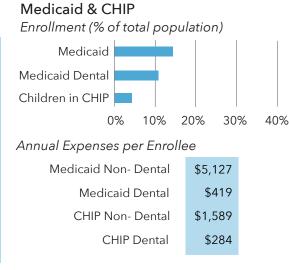
Clinical Care Pop. to Provider Ratio General Dentist 3639:1 Pediatric Dentist Specialized Dentist 3639:1 Dental Hygienist Dental Assistant Primary Care Physician Nurse Practitioner 3639:1 FQHCs per 100,000 pop. 0



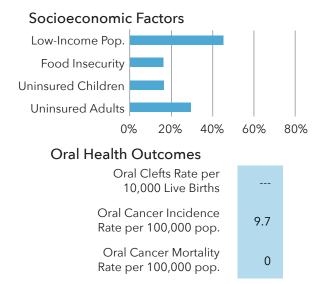
Lubbock County Population 294,682



Clinical Care Pop. to Provider Ratio 3253:1 General Dentist Pediatric Dentist 10033:1 Specialized Dentist 13753:1 2031:1 **Dental Hygienist Dental Assistant** 788:1 Primary Care Physician 1201:1 Nurse Practitioner 952:1 FQHCs per 100,000 pop. 5.4



Lynn County Population 5,723

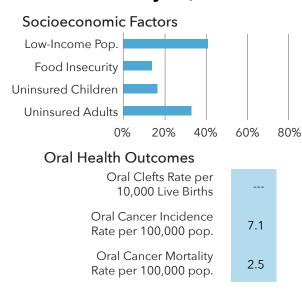


Cirrical Care			
Pop. to Provider Ratio			
General Dentist	6140:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	6140:1		
Dental Assistant	3070:1		
Primary Care Physician	2047:1		
Nurse Practitioner	1228:1		
FQHCs per 100,000 pop.	0		

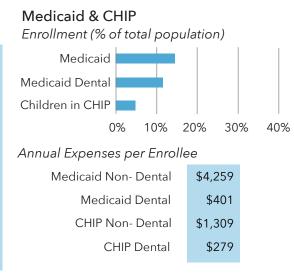
Clinical Care

Medicaid & CHIP Enrollment (% of total popu	lation)
Medicaid	
Medicaid Dental	
Children in CHIP	
0% 10% 2	20% 30% 40%
Annual Expenses per Enrolle	ee
Medicaid Non- Dental	\$4,852
Medicaid Dental	\$422
CHIP Non- Dental	\$1,586
CHIP Dental	\$290

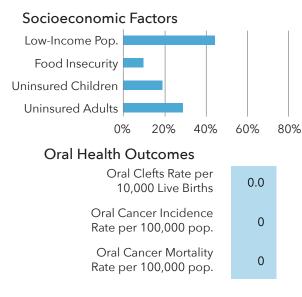
Moore County Population 22,186



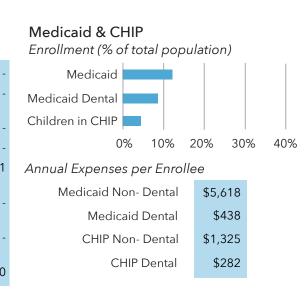
Clinical Care Pop. to Provider Ratio General Dentist 4927:1 Pediatric Dentist Specialized Dentist 3080:1 Dental Hygienist **Dental Assistant** 821:1 Primary Care 1895:1 Physician Nurse Practitioner 6159:1 FQHCs per 100,000 pop.



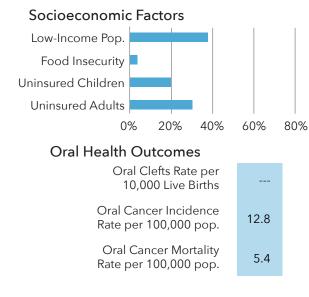
Motley County Population 1,022



Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist Dental Assistant Primary Care Physician Nurse Practitioner FQHCs per 100,000 pop. Oeneral Ratio 1212:1



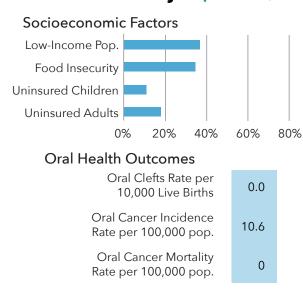
Ochiltree County Population 10,577



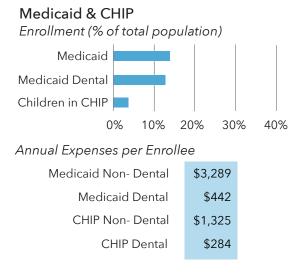
Clinical Care Pop. to Provider Ratio			
General Dentist	3977:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	2386:1		
Dental Assistant	1704:1		
Primary Care Physician	2386:1		
Nurse Practitioner	5965:1		
FQHCs per 100,000 pop.	0		

Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 309	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$3,930	
Medicaid Dental	\$411	
CHIP Non- Dental	\$1,297	
CHIP Dental	\$283	

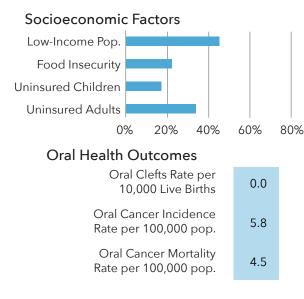
Oldham County Population 2,069



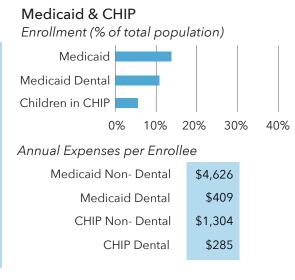
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist **Dental Assistant** 2165:1 Primary Care Physician Nurse Practitioner 1083:1 FQHCs per 100,000 pop. 0



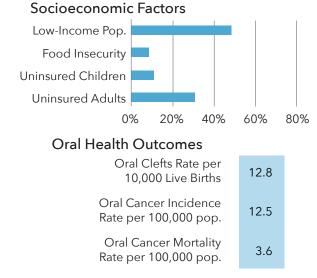
Parmer County Population 9,921



Clinical Care Pop. to Provider Ratio 11687:1 General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist 2922:1 **Dental Assistant** 2922:1 Primary Care Physician 5844:1 Nurse Practitioner 2337:1 FQHCs per 100,000 pop. 0



Potter County Population 121,883



Clinical Care			
Pop. to Provider Ratio			
General Dentist	3179:1		
Pediatric Dentist	8332:1		
Specialized Dentist	14482:1		
Dental Hygienist	1303:1		
Dental Assistant	745:1		
Primary Care Physician	1043:1		
Nurse Practitioner	712:1		
FQHCs per 100,000 pop.	2.5		

Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 309	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$4,709	
Medicaid Dental	\$417	
CHIP Non- Dental	\$1,591	
CHIP Dental	\$285	

Randall County Population 128,603

Socioeconomic Factors Low-Income Pop. Food Insecurity Uninsured Children Uninsured Adults 0% 20% 40% 60% 80% Oral Health Outcomes Oral Clefts Rate per 15.8 10,000 Live Births Oral Cancer Incidence 11.9 Rate per 100,000 pop. **Oral Cancer Mortality** 2.6 Rate per 100,000 pop.

Clinical Care

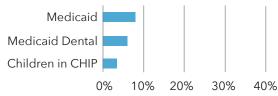
Pop. to Provider Ratio General Dentist 3465:1 Pediatric Dentist 6135:1 Specialized Dentist 10394:1 1240:1 Dental Hygienist **Dental Assistant** 637:1 Primary Care Physician 3974:1 Nurse Practitioner 3142:1 FQHCs per

0

Randall

Medicaid & CHIP

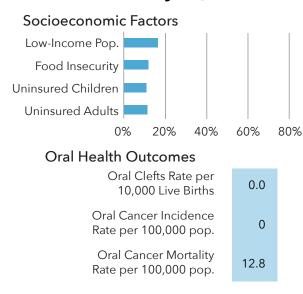
Enrollment (% of total population)



Annual Expenses per Enrollee

\$4,922	Medicaid Non- Dental
\$412	Medicaid Dental
\$1,595	CHIP Non- Dental
\$282	CHIP Dental

Roberts County Population 939



Clinical Care

100,000 pop.

Pop. to Provider Ratio

General Dentist

Pediatric Dentist

Specialized
Dentist

Dental Hygienist

Dental Assistant

Primary Care
Physician

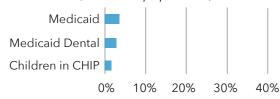
Nurse

Practitioner

FQHCs per
100,000 pop.

Medicaid & CHIP

Enrollment (% of total population)



Annual Expenses per Enrollee

Medicaid Non- Dental	\$4,936
Medicaid Dental	\$398
CHIP Non- Dental	\$1,335
CHIP Dental	\$296

Scurry County Population 17,314

Socioeconomic Factors

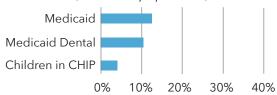
Low-Income Pop. Food Insecurity Uninsured Children **Uninsured Adults** 40% 60% 80% 20% Oral Health Outcomes Oral Clefts Rate per 10,000 Live Births Oral Cancer Incidence 11.3 Rate per 100,000 pop. **Oral Cancer Mortality** 4.1 Rate per 100,000 pop.

Clinical Care

Pop. to Provider Ratio 3655:1 General Dentist Pediatric Dentist Specialized **Dentist** Dental Hygienist 18274:1 **Dental Assistant** 1218:1 Primary Care Physician 1827:1 Nurse Practitioner 9137:1 FQHCs per 100,000 pop.

Medicaid & CHIP

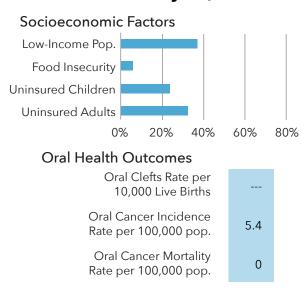
Enrollment (% of total population)



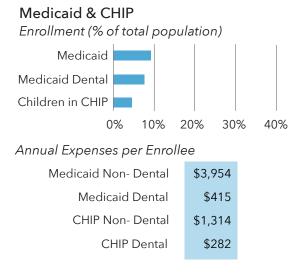
Annual Expenses per Enrollee

Medicaid Non- Dental	\$4,913
Medicaid Dental	\$416
CHIP Non- Dental	\$1,310
CHIP Dental	\$284

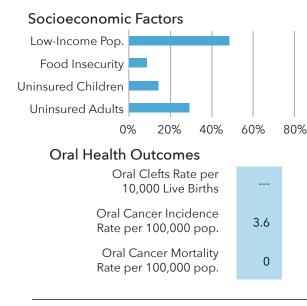
Sherman County Population 3,069



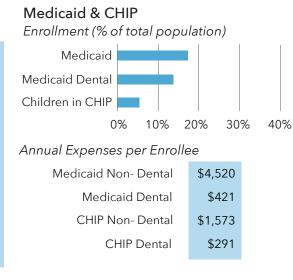
Clinical Care Pop. to Provider Ratio General Dentist Pediatric Dentist Specialized Dentist Dental Hygienist **Dental Assistant** 3311:1 Primary Care Physician Nurse Practitioner 1656:1 FQHCs per 100,000 pop. 0



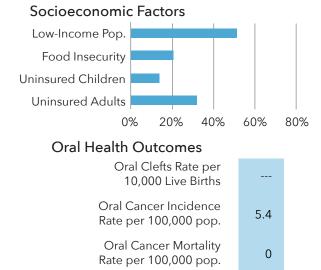
Swisher County Population 7,639



Clinical Care Pop. to Provider Ratio General Dentist 8107:1 Pediatric Dentist Specialized Dentist 2027:1 Dental Hygienist 2027:1 **Dental Assistant** Primary Care Physician 2702:1 Nurse Practitioner 4054:1 FQHCs per 100,000 pop. 0

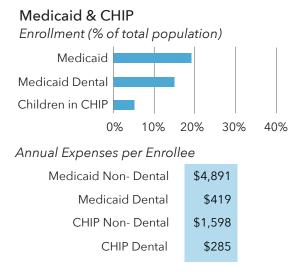


Terry County Population 12,724

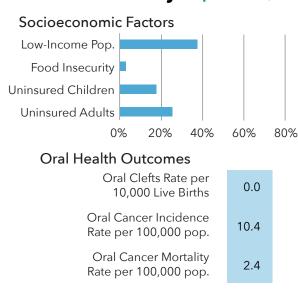


Pop. to Provider Ratio			
General Dentist	6575:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	13150:1		
Dental Assistant	1012:1		
Primary Care Physician	3288:1		
Nurse Practitioner	3288:1		
FQHCs per 100,000 pop.	0		

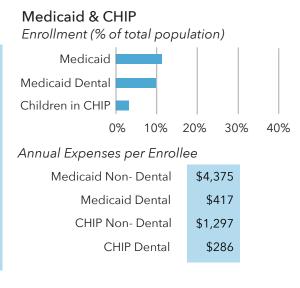
Clinical Care



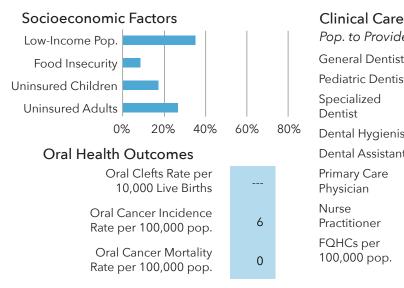
Wheeler County Population 5,642



Clinical Care Pop. to Provider Ratio General Dentist 2870:1 Pediatric Dentist Specialized Dentist Dental Hygienist 2870:1 Dental Assistant 1435:1 Primary Care Physician 1435:1 Nurse Practitioner 5740:1 FQHCs per 100,000 pop. 0



Yoakum County Population 8,316



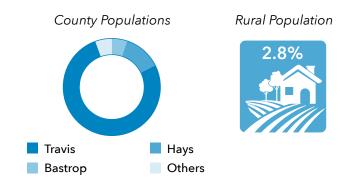
Cillical Care			
Pop. to Provider Ratio			
General Dentist	9026:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	9026:1		
Dental Assistant	2257:1		
Primary Care Physician	2257:1		
Nurse Practitioner	2257:1		
FQHCs per 100,000 pop.	0		

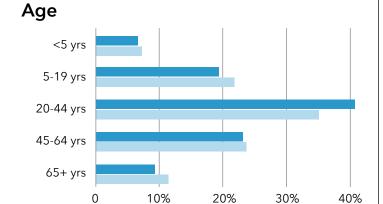
Medicaid & CHIP Enrollment (% of total popu	lation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10% 2	20% 30	% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$4,515	
Medicaid Dental	\$409	
CHIP Non- Dental	\$1,305	
CHIP Dental	\$283	

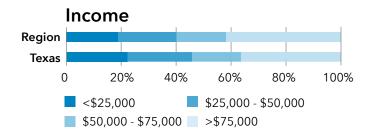
Central - Austin

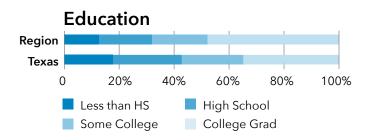
6 counties: Bastrop, Caldwell, Fayette, Hays, Lee, Travis

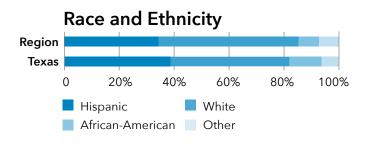
Population 1,493,659











Key Points

Region

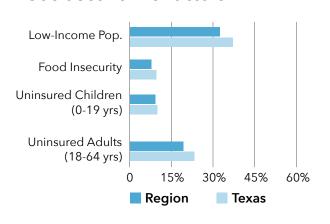
 This region has the second highest supplies of primary care physicians, pediatric dentists, and specialized dentists in the state.

Texas

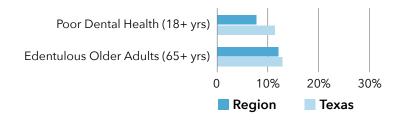
- This region performs better than the state average on most estimates of oral health outcome measures. Fewer than 8% of adults are estimated to be in poor oral health.
- The proportion of low-income residents (45.2%) and uninsured adults (26.6%) in Caldwell County is highest of any county in the region.
- One quarter (24.6%) of adults in this region drink excessively, the second highest estimated rate in the state.

Central - Austin

Socioeconomic Factors



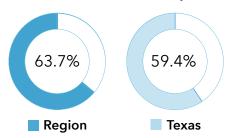
Oral Health Outcomes



	Region	IEXAS
Oral Clefts rate per 10,000 live births	16.3	15.8
Oral Cancer Incidence rate per 100,000 Pop.	11.9	10.8
Oral Cancer Mortality rate per 100,00 Pop.	1.9	2.6
	Oral Cancer Incidence rate per 100,000 Pop.	Oral Clefts rate per 10,000 live births Oral Cancer Incidence rate per 100,000 Pop. 11.9

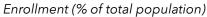
Clinical Care

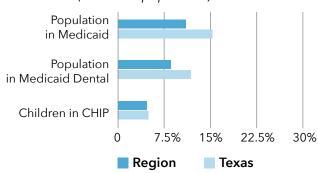
Past-Year Dental Visits (18+ years)



General Dentist 2528: 1 2970:	1
Pediatric Dentist 5707: 1 9411:	1
Specialized Dentist 11235: 1 14291:	1
Dental Hygienist 1864: 1 2220:	1
Dental Assistant 841: 1 805:	1
Primary Care Physician 1171: 1 1362:	1
Nurse Practitioner 1879: 1 1961:	1
FQHCs per 100,000 pop. 2.8 1	.5

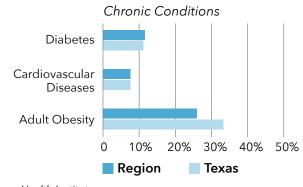
Medicaid and CHIP

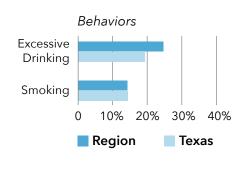




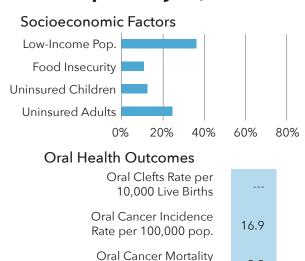
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,291	\$5,224
Medicaid Dental	\$417	\$419
CHIP Non-Dental	\$1,589	\$1,527
CHIP Dental	\$284	\$285

Risk Factors



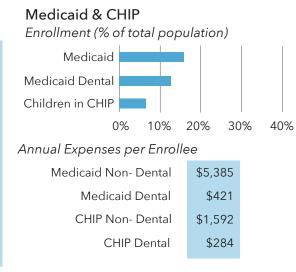


Bastrop County Population 78,286



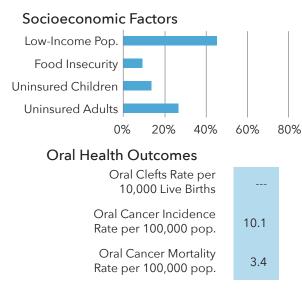
Rate per 100,000 pop.

Clinical Care Pop. to Provider Ratio General Dentist 4823:1 Pediatric Dentist 6603:1 Specialized Dentist 45819:1 3666:1 Dental Hygienist **Dental Assistant** 700:1 Primary Care 3666:1 Physician Nurse Practitioner 3394:1 FQHCs per 100,000 pop. 3.8

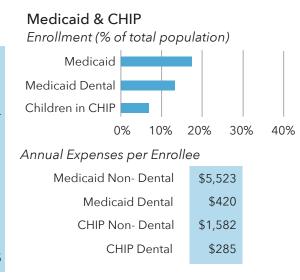


Caldwell County Population 39,848

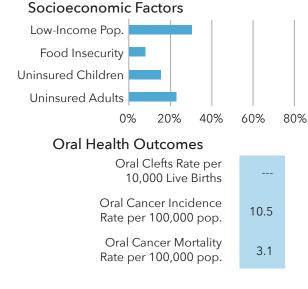
3.8



Clinical Care Pop. to Provider Ratio 4143:1 General Dentist Pediatric Dentist 9392:1 Specialized Dentist Dental Hygienist 4143:1 **Dental Assistant** 690:1 Primary Care 3505:1 Physician Nurse Practitioner 9114:1 FQHCs per 100,000 pop. 7.5



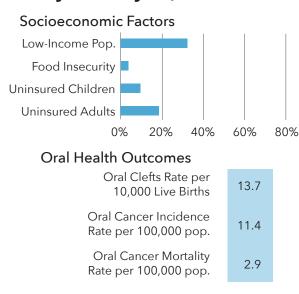
Fayette County Population 24,909



Clinical Care Pop. to Provider Ratio		
General Dentist	5429:1	
Pediatric Dentist	5215:1	
Specialized Dentist	27147:1	
Dental Hygienist	1939:1	
Dental Assistant	631:1	
Primary Care Physician	2088:1	
Nurse Practitioner	5429:1	
FQHCs per 100,000 pop.	8	

	Medicaid & CHIP Enrollment (% of total population)			
ı	Medicaid			
1	Medicaid Dental			
ı	Children in CHIP			
l	0% 10% 20%	30	%	40%
l	Annual Expenses per Enrollee			
	Medicaid Non- Dental \$6,0	53		
	Medicaid Dental \$4	20		
l	CHIP Non- Dental \$1,5	79		
3	CHIP Dental \$2	287		

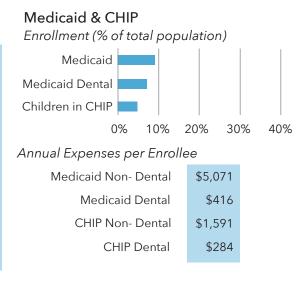
Hays County Population 185,686



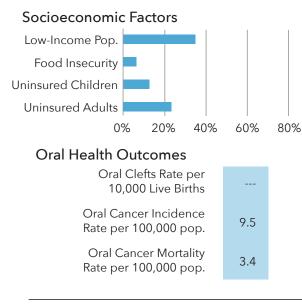
Clinical Care Pop. to Provider Ratio General Dentist 4227:1 Pediatric Dentist 7178:1 Specialized Dentist 19598:1 2450:1 Dental Hygienist Dental Assistant 716:1 Primary Care Physician 1753:1 Nurse Practitioner 2913:1 FQHCs per

1.6

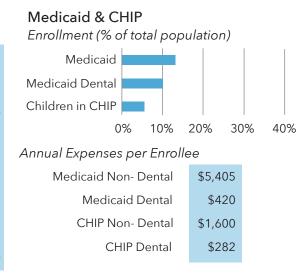
100,000 pop.



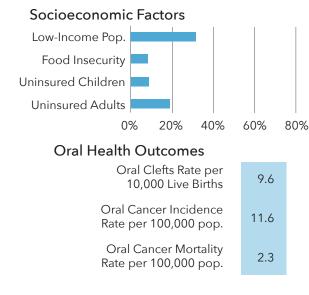
Lee County Population 16,754



Clinical Care Pop. to Provider Ratio General Dentist 4593:1 Pediatric Dentist 3656:1 Specialized Dentist Dental Hygienist 6124:1 **Dental Assistant** 612:1 Primary Care Physician 3675:1 Nurse Practitioner 3675:1 FQHCs per 100,000 pop. 6



Travis County Population 1,148,176



Clinical Care Pop. to Provider Ratio		
General Dentist	2213:1	
Pediatric Dentist	5444:1	
Specialized Dentist	9352:1	
Dental Hygienist	1674:1	
Dental Assistant	903:1	
Primary Care Physician	1012:1	
Nurse Practitioner	1633:1	
FQHCs per 100,000 pop.	2.6	

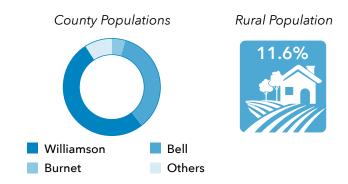
Medicaid & CHIP Enrollment (% of total popu	ulation)	
Medicaid		
Medicaid Dental		
Children in CHIP		
0% 10%	20% 30)% 40%
Annual Expenses per Enrolle	ee	
Medicaid Non- Dental	\$5,280	
Medicaid Dental	\$417	
CHIP Non- Dental	\$1,589	
CHIP Dental	\$284	

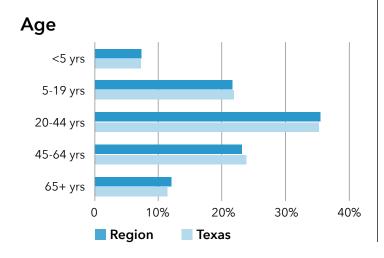


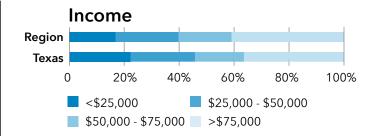


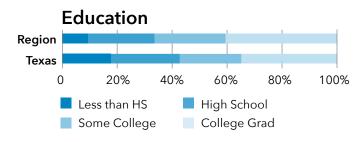
9 counties: Bell, Blanco, Burnet, Lampasas, Llano, Milam, Mills, San Saba, Williamson

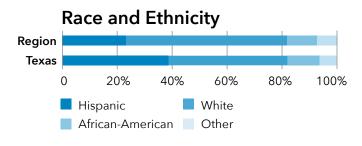
Population 952,085









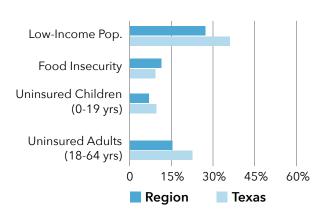


Key Points

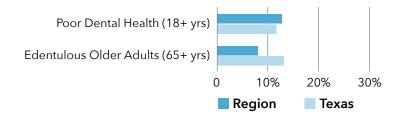
- The estimated rate of edentulism among older adults is lower in this region (8.0%) than any other region in the state, despite a higher rate of adults in poor dental health (12.7%) than the state overall.
- This region ranks second highest in the state for the rate of adults making a past-year dental visit (67.8%).
- This region performs similarly to the state on measures of provider supply.

Central - Round Rock/Hill Country

Socioeconomic Factors



Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	12.3	15.8
Oral Cancer Incidence rate per 100,000 Pop.	11.7	10.8
Oral Cancer Mortality rate per 100,00 Pop.	3.5	2.6

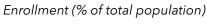
Clinical Care

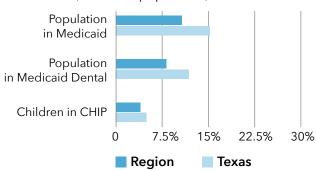




Population to Provider Ratio	Region	Texas
General Dentist	3033: 1	2970: 1
Pediatric Dentist	6109: 1	9411: 1
Specialized Dentist	13767: 1	14291: 1
Dental Hygienist	1931: 1	2220: 1
Dental Assistant	637: 1	805: 1
Primary Care Physician	1318: 1	1362: 1
Nurse Practitioner	2057: 1	1961: 1
FQHCs per 100,000 pop.	1.5	1.5

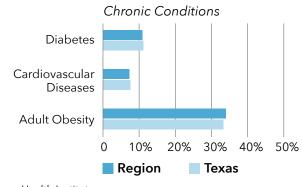
Medicaid and CHIP

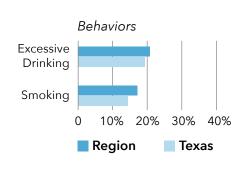




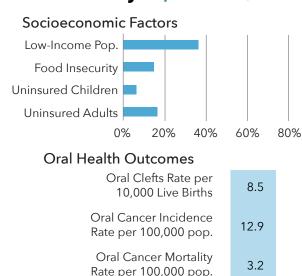
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,212	\$5,224
Medicaid Dental	\$418	\$419
CHIP Non-Dental	\$1,477	\$1,527
CHIP Dental	\$284	\$285

Risk Factors

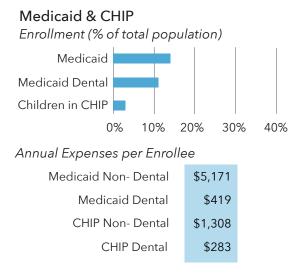




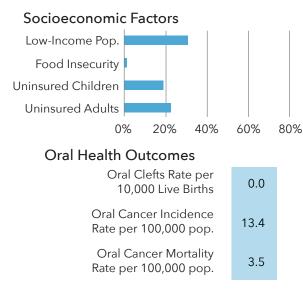
Bell County Population 330,859



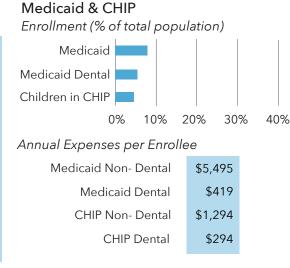
Clinical Care Pop. to Provider Ratio General Dentist 4057:1 Pediatric Dentist 7026:1 Specialized 21715:1 Dentist 2429:1 Dental Hygienist **Dental Assistant** 642:1 Primary Care Physician 1168:1 Nurse Practitioner 1507:1 FQHCs per 100,000 pop. 1.2



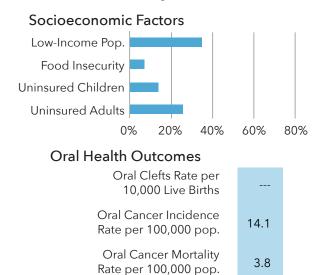
Blanco County Population 10,918



Clinical Care Pop. to Provider Ratio General Dentist 3061:1 Pediatric Dentist Specialized Dentist Dental Hygienist 3061:1 Dental Assistant 1113:1 Primary Care 2449:1 Physician Nurse Practitioner 3061:1 FQHCs per 100,000 pop. 0

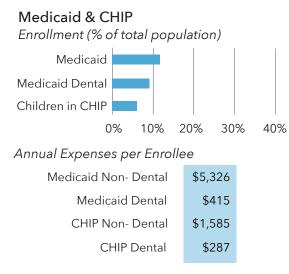


Burnet County Population 44,584

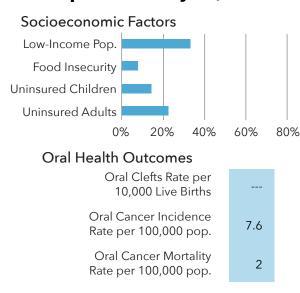


Clinical Care			
Pop. to Provider Ratio			
General Dentist	2470:1		
Pediatric Dentist	3226:1		
Specialized Dentist	-		
Dental Hygienist	1900:1		
Dental Assistant	489:1		
Primary Care Physician	1497:1		
Nurse Practitioner	2905:1		
FQHCs per 100,000 pop.	2.2		

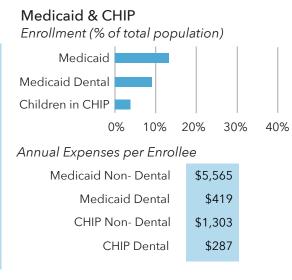
Cliniaal Cara



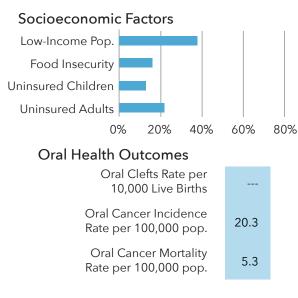
Lampasas County Population 20,357



Clinical Care Pop. to Provider Ratio General Dentist 5558:1 Pediatric Dentist Specialized Dentist 2223:1 Dental Hygienist **Dental Assistant** 585:1 Primary Care Physician 3176:1 Nurse Practitioner 5558:1 FQHCs per 100,000 pop. 0

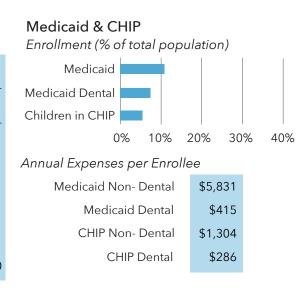


Llano County Population 19,624

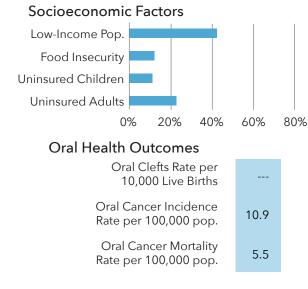


Pop. to Provider	Ratio
General Dentist	2314:1
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	2604:1
Dental Assistant	833:1
Primary Care Physician	1894:1
Nurse Practitioner	10415:1
FQHCs per 100,000 pop.	0

Clinical Cara

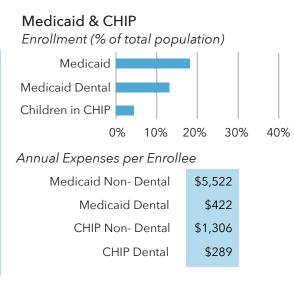


Milam County Population 24,372

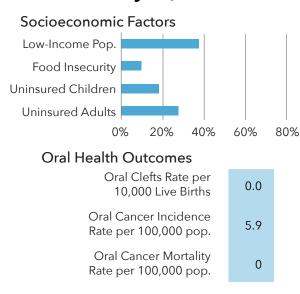


Cillical Cale				
Pop. to Provider Ratio				
General Dentist	5236:1			
Pediatric Dentist	-			
Specialized Dentist	-			
Dental Hygienist	5236:1			
Dental Assistant	639:1			
Primary Care Physician	2182:1			
Nurse Practitioner	2014:1			
FQHCs per 100,000 pop.	0			

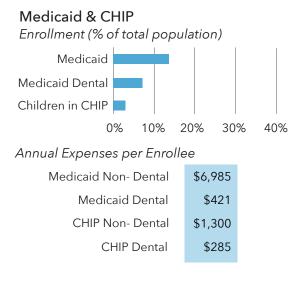
Clinical Care



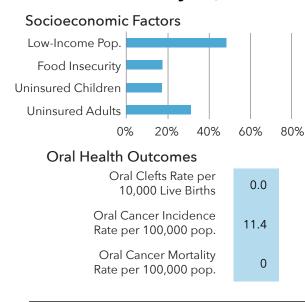
Mills County Population 4,871



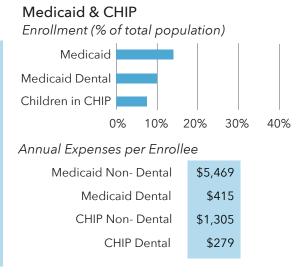
Clinical Care Pop. to Provider Ratio General Dentist 2561:1 Pediatric Dentist Specialized Dentist 5121:1 Dental Hygienist Dental Assistant 1024:1 Primary Care 2561:1 Physician Nurse Practitioner 1707:1 FQHCs per 100,000 pop. 0



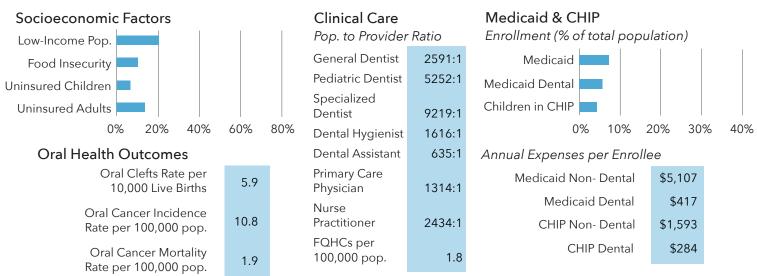
San Saba County Population 5,881

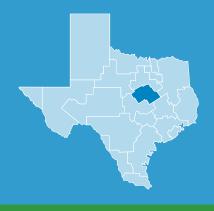


Clinical Care Pop. to Provider Ratio General Dentist 3176:1 Pediatric Dentist Specialized Dentist 3176:1 Dental Hygienist 1059:1 **Dental Assistant** Primary Care Physician 6351:1 Nurse Practitioner 2117:1 FQHCs per 100,000 pop. 0



Williamson County Population 490,619

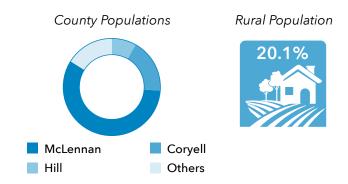


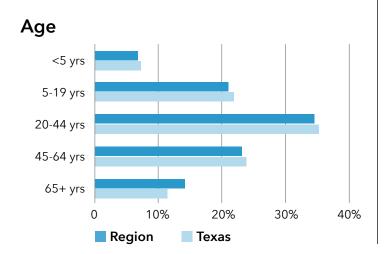


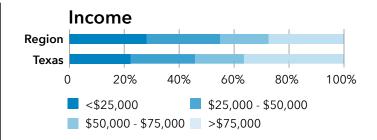
Central - Waco

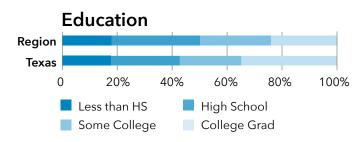
7 counties: Bosque, Coryell, Falls, Hamilton, Hill, Limestone, McLennan

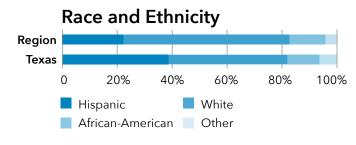
Population 420,924









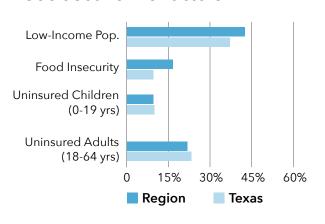


Key Points

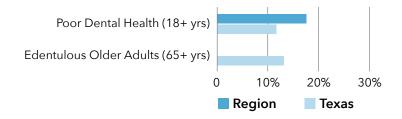
- A high percentage of this region's population is estimated to have poor dental health (17.5%).
- In this region, 23.9 oral clefts occur per 10,000 live births, the highest rate in the state. This rate is approximately twice as high as the neighboring Central Round Rock/Hill Country region (12.3 per 10,000), the lowest rate in the state.
- The region performs comparatively poorly on measures of provider supply. McLennan is the only county in the region with a pediatric dentist. However, the estimated rate of adults making a past-year dental visit (71.8%) is higher than any region in the state.
- Obesity is estimated to affect one in two adults in this region (49.0%), a rate in excess of the state average.

Central - Waco

Socioeconomic Factors

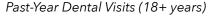


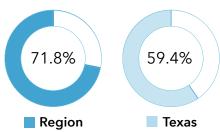
Oral Health Outcomes



	Region	iexas
Oral Clefts rate per 10,000 live births	23.9	15.8
Oral Cancer Incidence rate per 100,000 Pop.	11.7	10.8
Oral Cancer Mortality rate per 100,00 Pop.	3.5	2.6

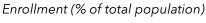
Clinical Care

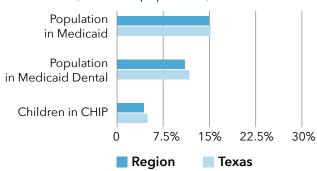




Population to Provider Ratio	Region	Texas
General Dentist	4140: 1	2970: 1
Pediatric Dentist	16791: 1	9411: 1
Specialized Dentist	24612: 1	14291: 1
Dental Hygienist	2461: 1	2220: 1
Dental Assistant	816: 1	805: 1
Primary Care Physician	1647: 1	1362: 1
Nurse Practitioner	2151: 1	1961: 1
FQHCs per 100,000 pop.	2.6	1.5

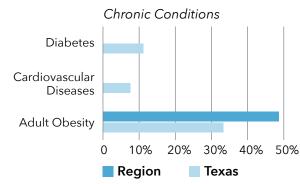
Medicaid and CHIP

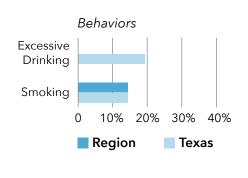




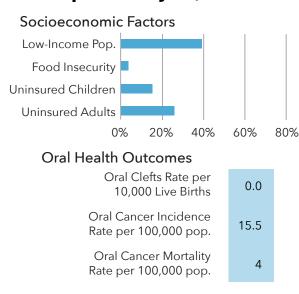
Annual Expenses Per Enrollee	Region	Texas
Medicaid Non-Dental	\$5,589	\$5,224
Medicaid Dental	\$419	\$419
CHIP Non-Dental	\$1,309	\$1,527
CHIP Dental	\$285	\$285

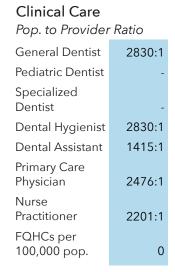
Risk Factors

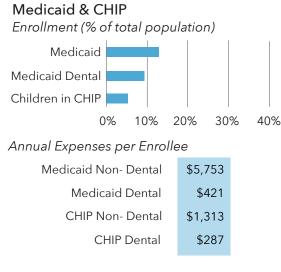




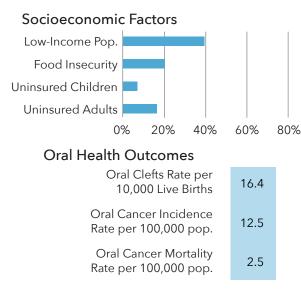
Bosque County Population 17,953



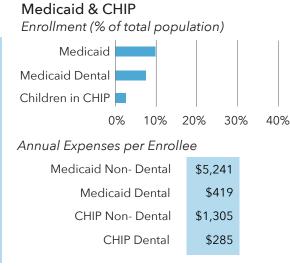




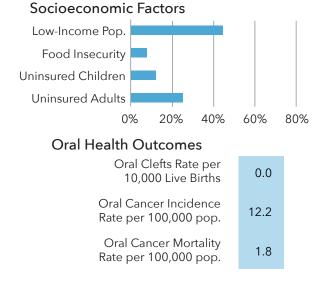
Coryell County Population 75,710



Clinical Care Pop. to Provider Ratio 6954:1 General Dentist Pediatric Dentist Specialized Dentist 83448:1 2878:1 **Dental Hygienist Dental Assistant** 860:1 Primary Care Physician 3628:1 Nurse Practitioner 2086:1 FQHCs per 100,000 pop. 0



Falls County Population 17,265

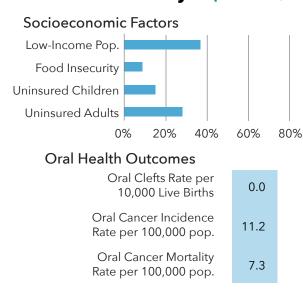


Pop. to Provider Ratio			
General Dentist	18879:1		
Pediatric Dentist	-		
Specialized Dentist	-		
Dental Hygienist	18879:1		
Dental Assistant	755:1		
Primary Care Physician	3776:1		
Nurse Practitioner	3147:1		
FQHCs per 100,000 pop.	0		

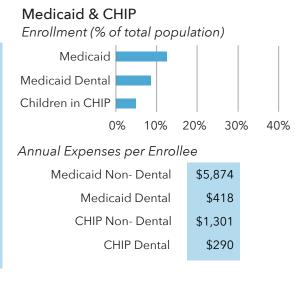
Clinical Care

Medicaid & CHIP Enrollment (% of total population)				
Medicaid				
Medicaid Dental				
Children in CHIP				
0% 10% 2	20% 30% 40%			
Annual Expenses per Enrolle	ee			
Medicaid Non- Dental	\$6,374			
Medicaid Dental	\$418			
CHIP Non- Dental	\$1,305			
CHIP Dental	\$285			

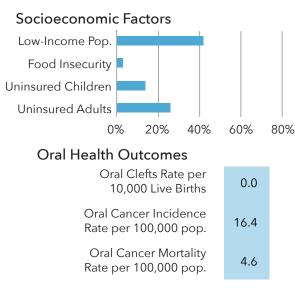
Hamilton County Population 8,232



Clinical Care Pop. to Provider Ratio General Dentist 2903:1 Pediatric Dentist Specialized Dentist 1742:1 Dental Hygienist **Dental Assistant** 871:1 Primary Care Physician 968:1 Nurse Practitioner 2903:1 FQHCs per 100,000 pop. 0

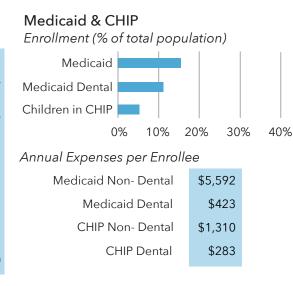


Hill County Population 34,901

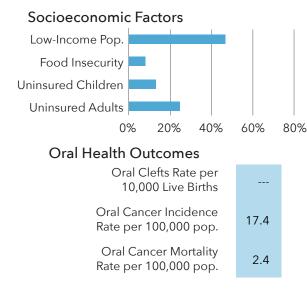


Pop. to Provider	Ratio
General Dentist	7622:1
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	2932:1
Dental Assistant	1030:1
Primary Care Physician	3811:1
Nurse Practitioner	4764:1
FQHCs per 100,000 pop.	0

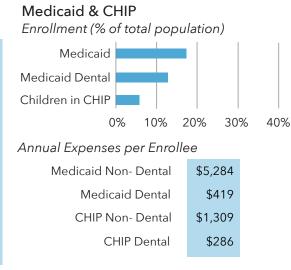
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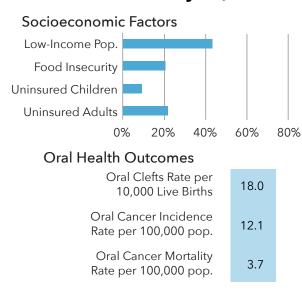
Limestone County Population 23,469

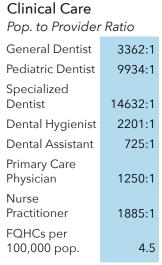


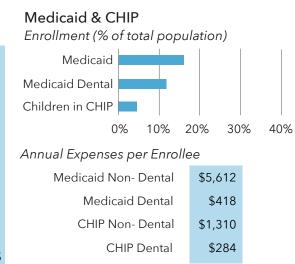
Clinical Care Pop. to Provider	· Ratio
General Dentist	5061:1
Pediatric Dentist	-
Specialized Dentist	-
Dental Hygienist	2109:1
Dental Assistant	1489:1
Primary Care Physician	1687:1
Nurse Practitioner	3163:1
FQHCs per 100,000 pop.	0



McLennan County Population 243,394







Methodology and Data Sources

Overview

To develop a better understanding of geographic variations and their impact on oral health needs, the report team identified and obtained data for over 30 indicators at the state, regional, and county levels. As described in the previous section, these indicators were categorized in five categories. This classification will help communities answer the following questions:

- Population and Socioeconomic Factors -What factors influence the oral health needs or status in our community?
- **Oral Health Outcomes** What are the major oral health needs facing our community?
- **3 Clinical Care** What is our current capacity and where are the greatest needs?
- **Medicaid and CHIP** How are we utilizing our resources?
- **Risk Factors** What is causing or impacting oral health needs in our community?

Additionally, to develop a better understanding of community residents and how demographic factors might be affecting oral health outcomes, demographic data were obtained from the U.S. Census Bureau American Community Survey (ACS), 2016.

Data Description and Methodology

Data for the regional and county profiles were obtained from a combination of publicly available national and state data sources. Indicator names, definitions, sources, and geography levels for each indicator are included in Table 3. Regional and local data for several indicators were requested from relevant state agencies. Technical notes and methodology (where calculated differently from primary source) for these indicators have been described below.

Oral Health Outcomes

State and regional data for selected oral health outcomes indicators (tooth loss due to tooth decay or gum disease and edentulous older adults) were provided by the Behavioral Risk Factor Surveillance System (BRFSS) program at the Center for Health Statistics at Texas Department of State Health Services (DSHS). Given the age category constraints for the edentulous older adults indicator, three years of pooled data were used to ensure sufficient responses to report results by region. BRFSS suppresses data for fields where less than 50 responses had been received or the relative standard error was greater than 30%.

Data on oral and pharyngeal cancer incidence and mortality rate were provided by the Texas Cancer Registry at DSHS. Rates are per 100,000 and ageadjusted to the 2000 U.S. standard population (19 age groups - Census P25-1130). These data also use 95% confidence intervals (CIs).

Data for oral cleft rates (cleft lip and/or palate) were provided by the Birth Defects Epidemiology and Surveillance Branch at DSHS. These data include cases per 10,000 Texas resident live births.

Clinical Care

Provider data for 2017 were requested from the Health Professions Resource Center at DSHS.

In this report, we have defined general dentists as those providers who do not list a specialty with Texas State Board of Dental Examiners (TSBDE). It should be noted that this definition of general dentists if different than the one used by HPRC within DSHS. HPRC aggregates general, public health, and pediatric specialties from TSBDE into their general dentist tables.

In addition to general dentists, data are included on providers that have listed or registered as a specialized dentist. Specialized dentist data include all recognized dental specialties except for pediatric dentists. Population projections from the Texas Demographic Center have been used to calculate the provider to population ratios. However, population estimates from the 2016 U.S. Census Bureau's American Community Survey were utilized to calculate pediatric dentist to child population ratios.

Data from the Health Resources and Services Administration Data Warehouse were accessed through the Texas Primary Care Office at DSHS

website to determine the ratio of federally qualified health centers to population. Population data from the 2016 U.S. Census Bureau's American Community Survey were used to calculate this rate. We excluded school-based health centers, mobile dental vans, and administrative centers from the final count.

Medicaid and CHIP

Data were received from the Texas Health and Human Services Commission's Texas Health Steps Program (THSteps). These data, from FY2016, included Medicaid enrollment indicators such as number of non-dental Medicaid enrollees, the number of enrollees in Medicaid dental benefits. and the number of children enrolled in CHIP (<19 years). These along with population estimates from the 2016 U.S. Census Bureau's American Community Survey were utilized to calculate annual Medicaid (non-dental and dental), and 2016 population projections (<19 years) from the Texas Demographic Center were utililized to calculate annual CHIP enrollment. Data provided also included utilization indicators such as total annual expenses for Medicaid non-dental, Medicaid dental, CHIP non-dental, and CHIP dental expenses. Cost indicators represented cost of both fee-for-service expenditures and managed care capitation payments for children dental benefits provided through the THSteps. Annual expenses and number of enrollees were utilized to calculate the annual costs per enrollee for each program.

Risk Factors

2016 data were provided by the BRFSS program at the Center for Health Statistics at DSHS. Data was not available for fields where less than 50 responses had been received or the relative standard error was greater than 30%.

Strength and Limitations **BRFSS**

BRFSS is the world's largest annual population-based telephone survey and research has shown to be both valid and reliable. However, as with any survey data there are multiple sources of potential error. For example, BRFSS relies on self-reported information that has not been verified by medical or dental records. The wording of questions may affect the responses given and can result in measurement error. Similarly, the

survey relies on the ability of respondents to recall details accurately, an ability that varies by person and how much time has passed since the event they are trying to recall, which can result in response error.

Health Professions Data

The health professions data received from DSHS are based on the licensure files DSHS receives from respective licensing boards. DSHS processes these data to estimate the number of physicians and dentists providing direct patient care and nurses employed full- or part-time in nursing. The number of dental hygienists and dental assistants reflect those currently licensed to practice in the state. Only those providers with a valid Texas address are included in these analyses.

Texas Cancer Registry Data

Data were drawn from 2011-2015 to reduce the likelihood of data suppression and the potential effect of few events affecting rates in sparsely populated areas.

Texas Birth Defects Registry

Data were drawn from 2012-2014 to reduce the likelihood of data suppression and the potential effect of few events affecting rates in sparsely populated areas.

Medicaid and CHIP Enrollment and Utilization Data

It is important to note that the Medicaid dental program does not include dental services for most adults since comprehensive dental services are generally not covered benefits for adults in the Texas Medicaid program.

Also, the annual costs reflect the costs per enrollee and do not consider whether an enrollee received treatment or not. Thus, the cost per patient would almost certainly be higher.

Glossary

NA means not available

- means no provider
- --- means suppressed data

Socioeconomic Factors

Indicator Name	Definition & Methodology	Source	Age Group	Geographic Level
Low-income Population	Percent of individuals living in a household with income below 200% Federal Poverty Level (FPL)	U.S. Census Bureau, American Community Survey, 2016	All ages	State, Region, and County
Food Insecurity	Percent of population with low access to healthy foods and living in low income census tracts	U.S. Department of Agriculture, Economic Research Service, 2015 and U.S. Census Bureau, American Community Survey, 2010	All ages	State, Region, and County
Uninsured Children (0-18 years)	Percent of children under age 19 without health insurance coverage	U.S. Census Bureau, Small Area Health Insurance Estimates, 2015	0-18 years	State, Region, and County
Uninsured Adults (18- 64 years)	Percent of non-elderly adults without health insurance coverage	U.S. Census Bureau, Small Area Health Insurance Estimates, 2015	18-64 years	State, Region, and County

Oral Health Outcomes

Indicator Name	Definition & Methodology	Source	Age Group	Geographic Level
Poor Dental Health (18+ years)	Percent of adults who self-report having had six or more teeth removed because of tooth decay or gum disease	Texas Department of State Health Services, Center for Health Statistics, Behavioral Risk Factor Surveillance System, 2016	18+ years	State and Region
Edentulous Older Adults (65+ years)	Percent of adults 65 years and older who self-report having all teeth removed	Texas Department of State Health Services, Center for Health Statistics, Behavioral Risk Factor Surveillance System, 2012, 2014, 2016	65+ years	State and Region
Oral Clefts rate per 10,000 Live Births	Birth prevalence of cleft palate alone and/or cleft lip with or without cleft palate per 10,000 live births	Texas Department of State Health Services, Birth Defects Epidemiology and Surveillance Branch, 2012-2014	Infants	State, Region, and County
Oral Cancer Incidence rate per 100,000 Population	Age-adjusted incidence rate of invasive oral cavity and pharyngeal cancer per 100,000 population	Texas Department of State Health Services, Texas Cancer Registry, 2011-2015	All ages	Region and County
Oral Cancer Mortality rate per 100,000 Population	Age-adjusted mortality rate of invasive oral cavity and pharyngeal cancer per 100,000 population	Texas Department of State Health Services, Texas Cancer Registry, 2011-2015	All ages	Region and County

Clinical Care

Indicator Name	Definition & Methodology	Source	Age Group	Geographic Level
Past-Year Dental Visits (18+ years)	Percent of adults over 18 years who self-report visiting the dentist or dental clinic within the past year for any reason	Texas Department of State Health Services, Center for Health Statistics, Behavioral Risk Factor Surveillance System, 2016	18+ years	State and Region
Population to General Dentist Ratio	The ratio of total population to total general dentists	Texas Department of State Health Services, Center for Health Statistics, 2017	Not applicable	State, Region, and County
Child Population (0- 17 years) to Pediatric Dentist Ratio	The ratio of total child population under 18 years to total pediatric dentists	Texas Department of State Health Services, Center for Health Statistics, 2017 and U.S. Census Bureau, American Community Survey, 2016	Not applicable	State, Region, and County
Population to Specialized Dentist Ratio	The ratio of total population to total specialized dentists.	Texas Department of State Health Services, Center for Health Statistics, 2017	Not applicable	State, Region, and County
Population to Primary Care Physician Ratio	The ratio of total population to total primary care physicians.	Texas Department of State Health Services, Center for Health Statistics, 2017	Not applicable	State, Region, and County
Population to Dental Hygienist Ratio	The ratio of total population to total dental hygienists.	Texas Department of State Health Services, Center for Health Statistics, 2017	Not applicable	State, Region, and County
Population to Dental Assistant Ratio	The ratio of total population to total dental assistants.	Texas Department of State Health Services, Center for Health Statistics, 2017	Not applicable	State, Region, and County
Population to Nurse Practitioner Ratio	The ratio of total population to total primary care nurse practitioners.	Texas Department of State Health Services, Center for Health Statistics, 2017	Not applicable	State, Region, and County
FQHCs per 100,000 Population	Number of FQHC sites per 100,000 population	Health Resources and Services Administration Data Warehouse, Health Centers and Look-alike Sites Site Directory, accessed through Texas Primary Care Office, 2016 and U.S. Census Bureau, American Community Survey, 2016	Not applicable	State, Region, and County

Risk Factors

Indicator Name	Definition & Methodology	Source	Age Group	Geographic Level
Excessive Drinking	Percent of adults who self-report either binge drinking (having five or more [men] or four or more [women] drinks on one occasion) or heavy drinking (having more than two drinks [men] or more than one drink [women] per day)	Texas Department of State Health Services, Center for Health Statistics, Behavioral Risk Factor Surveillance System, 2016	18+ years	State and Region
Smoking	Percent of adults who self-report smoking every day or some days	Texas Department of State Health Services, Center for Health Statistics, Behavioral Risk Factor Surveillance System, 2016	18+ years	State and Region
Obesity	Percent of adults who are obese by self-report, with a body mass index (BMI) of 30.0 or higher	Texas Department of State Health Services, Center for Health Statistics, Behavioral Risk Factor Surveillance System, 2016	18+ years	State and Region
Diabetes	Percent of adults who self- report being told by a health professional they had diabetes (excludes pre-diabetes and gestational diabetes)	Texas Department of State Health Services, Center for Health Statistics, Behavioral Risk Factor Surveillance System, 2016	18+ years	State and Region
Cardiovascular Disease	Percent of adults who self- report being told by a health professional they had had coronary heart disease, angina, heart attack, or stroke	Texas Department of State Health Services, Center for Health Statistics, Behavioral Risk Factor Surveillance System, 2016	18+ years	State and Region

Medicaid and CHIP

Indicator Name	Definition & Methodology	Source	Age Group	Geographic Level
Population Enrolled in Medicaid	Percent of total population enrolled in Medicaid	Texas Health and Human Services Commission, Texas Health Steps, FY 2016	All ages	State, Region, and County
Population Enrolled in Medicaid Dental	Percent of total population enrolled in Medicaid dental benefits	Texas Health and Human Services Commission, Texas Health Steps, FY 2016	0-20 years	State, Region, and County
Children Enrolled in CHIP	Percent of total child population under age 19 enrolled in CHIP	Texas Health and Human Services Commission, Texas Health Steps, FY 2016	0-18 years	State, Region, and County
Medicaid Non-dental Annual Expenses per Enrollee	Average Medicaid non-dental expenditures per year per enrollee	Texas Health and Human Services Commission, Texas Health Steps, FY 2016	All ages	State, Region, and County
Medicaid Dental Annual Expenses per Enrollee	Average Medicaid dental expenditures per year per enrollee	Texas Health and Human Services Commission, Texas Health Steps, FY 2016	0-20 years	State, Region, and County
CHIP Non-dental Annual Expenses per Enrollee	Average CHIP non-dental expenditures per year per enrollee	Texas Health and Human Services Commission, Texas Health Steps, FY 2016	0-18 years	State, Region, and County
CHIP Dental Annual Expenses per Enrollee	Average CHIP dental expenditures per year per enrollee	Texas Health and Human Services Commission, Texas Health Steps, FY 2016	0-18 years	State, Region, and County



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Appendix A: Healthy People 2020: Oral Health Indicators - Target Levels and Current Status for the United States and Texas

	Healthy People 2020 Objective	Target	National Status	National Source	Texas Status	Texas Source
OH 1	Reduce the proportion of children with dental caries experience in their primary teeth	iaigo				
	Children with dental caries experience in their primary teeth (3-5 years)	30.0%	29.7%	NHANES 2013-2014	42.9%	Texas BSS Head Start 2013-2014
	Children with dental caries experience in their primary or permanent teeth (6-9 years)	49.0%	51.7%	NHANES 2013-2014	66.8%	Texas BSS Third Grade 2012- 2013
	Adolescents with dental caries experience in their permanent teeth (13-15 years)	48.3%	49.9%	NHANES 2013-2014	NA	-
OH 2	Reduce the proportion of children with untreated dental decay in their primary teeth					
	Children with untreated dental decay in their primary teeth (3-5 years)	21.4%	14.1%	NHANES 2013-2014	20.4%	Texas BSS Head Start 2013-2014
	Children with untreated dental decay in their primary or permanent teeth (6-9 years)	25.9%	16.2%	NHANES 2013-2014	26.2%	Texas BSS Third grade 2012- 2013
	Adolescents with untreated dental decay in their permanent teeth (13-15 years)	15.3%	17.9%	NHANES 2013-2014	NA	-
OH 3	Reduce the proportion of adults with untreated dental decay					
	Adults with untreated dental decay (35-44 years)	25.0%	31.3%	NHANES 2013-2014	NA	-
	Adults with untreated coronal caries (65-74 years)	15.4%	19.1%	NHANES 2013-2014	NA	-
	Adults with untreated root surface caries (75+ years)	34.1%	37.9%	NHANES 1999-2004	NA	-
OH 4	Reduce the proportion of adults who have ever had a permanent tooth extracted because of dental caries or periodontal disease					
	Adults with permanent tooth loss due to tooth decay or gum disease (45-64 years)	68.8%	72.0%	NHANES 2013-2014	54.1%	Texas BRFSS 2012-2016
	Older adults with complete tooth loss ¹	21.6%	15.2%	NHANES 2013-2014	13.1%	Texas BRFSS 2012-2016
OH 5	Reduce the proportion of adults with moderate or severe periodontitis (45 to 74 years)	40.8%	37.4%	NHANES 2013-2014	NA	-
OH 6	Increase the proportion of oral and pharyngeal cancers detected at the earliest stage	35.9% 30.9% NPCR and SEER 2013		NA	-	
OH 7	Increase the proportion of children, adolescents, and adults who used the oral health care system in the past year (2+ years)	49.0%	43.2%	MEPS 2014	NA	-
	Children (1-17 years) making a dental visit in the past year		81.2%	NSCH 2016	80.6%	NSCH 2016
	Adolescents (14-18 years) making a dental visit in the past year		74.4%	YRBSS 2015	70.0%	YRBSS 2017
	Adults (18+ years) making a dental visit in the past year		66.4%	BRFSS 2016	59.4%	Texas BRFSS 2016
OH 8	Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year	33.2%	36.8%	MEPS 2014	68.7%	Form CMS-416 2016 ²
OH 9	Increase the proportion of school-based health centers with an oral health component					
	School-based health centers with an oral health component that includes dental sealants	18.8%	24.4%	SBHA 2010- 2011	NA	-

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	School-based health centers with an oral health component that includes dental care	7.0%	9.1%	SBHA 2010- 2011	NA	-
	School-based health centers with an oral health component that includes topical fluoride	22.7%	33.1%	SBHA 2010- 2011	NA	-
OH 10	Increase the proportion of Federally Qualified Health Centers (FQHCs) that have an oral health care program	69.0%	71.2%	UDS 2015	81.8%	UDS 2016 ³
OH 11	Increase the proportion of patients who receive oral health services at FQHCs each year	33.3%	21.9%	UDS 2016	16.5%	UDS 2016
OH 12	Increase the proportion of children and adolescents who have received dental sealants on their molar teeth					
	Children (3-5 years) receiving dental sealants on one or more of their primary molar teeth	1.5%	4.3%	NHANES 2013-2014	NA	-
	Children (6-9 years) receiving dental sealants on one or more of their permanent first molar teeth	28.1%	40.7%	NHANES 2013-2014	51.2%	Texas BSS Third Grade 2012- 2013
	Adolescents (13-15 years) receiving dental sealants on one or more of their permanent molar teeth	21.9%	42.6%	NHANES 2013-2014	NA	NA
OH 13	Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water	79.6%	74.7%	WFRS 2014	68.8%	WFRS 2017
OH14	Increase the proportion of adults who receive preventive interventions in dental offices					
	Adults (18+ years) who received information from a dentist or dental hygienist focused on reducing tobacco use or on smoking cessation in the past year	13.2%	9.7%	NHANES 2013-2014	NA	-
	Adults (18+ years) who received an oral and pharyngeal cancer screening from a dentist or dental hygienist in the past year	28.6%	22.6%	NHANES 2013-2014	NA	-
	Adults (18+ years) who were tested or referred for glycemic control from a dentist or dental hygienist in the past year	7.3%	6.4%	NHANES 2013-2014	NA	-
OH 15	Increase the number of states (including the District of Columbia) that have a system for recording and referring infants and children with cleft lips and cleft palates to craniofacial anomaly rehabilitative teams					
	Number of states (including the District of Columbia) with a recording system for cleft lips and cleft palates	39	39	ASTDD 2014	Yes	TBDR
	Number of states (including the District of Columbia) with a referral system for cleft lips and cleft palates	34	36	ASTDD 2014	Yes	TBDR
OH 16	Increase the number of States (including the District of Columbia) that have an oral and craniofacial health surveillance system	51	32	ASTDD 2009	Yes	TBDR
OH 17	Increase the proportion of States (including the District of Columbia) and local health agencies that serve jurisdictions of 250,000 or more persons with a dental public health program directed by a dental professional with public health training	25.7%	23.4%	ASTDD 2008	18.2%	ASTDD 2017

Data Sources:

ASTDD: Association of State and Territorial Dental Directors

Survey

CMS: Centers for Medicare and Medicaid Services

MEPS: Medical Expenditure Panel Survey

NA: Not Available

NHANES: National Health and Nutrition Examination Survey

NSCH: National Health Interview Survey SBHA: School Based Health Alliance

SEER: Surveillance, Epidemiology, and End Results

TBDR: Texas Birth Defects Registry

Texas BRFSS: Behavioral Risk Factor Surveillance System Texas DSHS: Texas Department of State Health Services Texas BSS: Basic Screening Survey, Texas Oral Health Program

UDS: Uniform Data System

WFRS: Water Fluoridation Reporting System

Footnotes -

1 Older adults are defined as adults age 65-74 years in NHANES, and adults age 65+ in Texas BRFSS.

2 Form CMS-416 captures data only from low-income children enrolled in Medicaid and CHIP.

3 Texas UDS 2016 includes data from FQHCs treating 500 or more dental patients.

Appendix B: Regions Ranked by Population Size

Name	Population	Population Rank	Counties
North Central - Abilene	318,210	18	Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Knox, Mitchell, Nolan, Palo Pinto, Shackelford, Stephens, Stonewall, Taylor
North Central - Wichita Falls	260,160	19	Archer, Baylor, Clay, Cooke, Foard, Hardeman, Jack, Montague, Throckmorton, Wichita, Wilbarger, Young
North - Dallas	3,379,534	2	Dallas, Denton, Kaufman
North - Fort Worth	2,602,696	3	Ellis, Erath, Hood, Johnson, Navarro, Parker, Somervell, Tarrant, Wise
North - Plano/Sherman	1,098,874	9	Collin, Grayson, Rockwall
North - Texarkana/Tyler	1,307,509	8	Anderson, Bowie, Camp, Cass, Cherokee, Delta, Fannin, Franklin, Freestone, Gregg, Harrison, Henderson, Hopkins, Houston, Hunt, Lamar, Marion, Morris, Panola, Rains, Red River, Rusk, Smith, Titus, Trinity, Upshur, Van Zandt, Wood
Southeast - Beaumont/Galveston	1,466,615	6	Angelina, Brazoria, Galveston, Hardin, Jasper, Jefferson, Liberty, Nacogdoches, Newton, Orange, Polk, Sabine, San Augustine, San Jacinto, Shelby, Tyler
Southeast - Brazos Valley	925,075	11	Brazos, Burleson, Grimes, Leon, Madison, Montgomery, Robertson, Walker, Washington
Southeast - Houston	5,352,934	1	Austin, Calhoun, Chambers, Colorado, Fort Bend, Harris, Matagorda, Waller, Wharton
South - Corpus Christi/Gulf Coast	780,545	14	Aransas, Bee, Brooks, DeWitt, Duval, Goliad, Gonzales, Jackson, Jim Wells, Karnes, Kennedy, Kleberg, Lavaca, Live Oak, Nueces, Refugio, San Patricio, Victoria
South - Laredo	342,389	17	Jim Hogg, Maverick, Webb, Zapata
South - Rio Grande Valley	1,332,071	7	Cameron, Hidalgo, Starr, Willacy
South - San Antonio	2,542,934	4	Atascosa, Bandera, Bexar, Comal, Dimmit, Edwards, Frio, Gillespie, Guadalupe, Kendall, Kerr, Kinney, La Salle, McMullen, Medina, Real, Uvalde, Val Verde, Wilson, Zavala
West - El Paso	837,073	13	El Paso, Hudspeth
West - Midland/Big Bend	432,079	15	Andrews, Brewster, Crane, Culberson, Ector, Glasscock, Howard, Jeff Davis, Loving, Martin, Midland, Presidio, Reeves, Upton, Ward, Winkler
West - Panhandle	915,590	12	Armstrong, Bailey, Borden, Briscoe, Carson, Castro, Childress, Cochran, Collingsworth, Cottle, Crosby, Dallam, Dawson, Deaf Smith, Dickens, Donley, Floyd, Gaines, Garza, Gray, Hale, Hall, Hansford, Hartley, Hemphill, Hockley, Hutchinson, Kent, King, Lamb, Lipscomb, Lubbock, Lynn, Moore, Motley, Ochiltree, Oldham, Parmer, Potter, Randall, Roberts, Scurry, Sherman, Swisher, Terry, Wheeler, Yoakum
West - San Angelo	195,479	20	Coke, Coleman, Concho, Crockett, Irion, Kimble, Mason, McCulloch, Menard, Pecos, Reagan, Runnels, Schleicher, Sterling, Sutton, Terrell, Tom Green
Central - Austin 1,493,659		5	Bastrop, Caldwell, Fayette, Hays, Lee, Travis
Central - Round Rock/Hill Country	952,085	10	Bell, Blanco, Burnet, Lampasas, Llano, Milam, Mills, San Saba, Williamson
Central - Waco	420,924	16	Bosque, Coryell, Falls, Hamilton, Hill, Limestone, McLennan





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