HOUSTON Methodist®
THE WOODLANDS HOSPITAL

Community Health Needs Assessment
2019

Houston Methodist The Woodlands Hospital | The Woodlands, Texas

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This Community Health Needs Assessment (CHNA) was created by the Houston Methodist Office of Community Benefits. For questions or comments about this CHNA please email chna@houstonmethodist.org.

Office of Community Benefits Staff
- Cathy Easter, Senior Vice President, Community Development
- Ryane K. Jackson, Director, Community Development
- Sarah Betancourt, Community Outreach Program Manager
- Katherine E. Casarez, Community Outreach Program Manager
- Alicia Toval, Project Specialist
- Sabrina Tso, Project Specialist

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About Houston Methodist

Houston Methodist is one of the nation's leading health systems and academic medical centers. The health system consists of eight hospitals: Houston Methodist Hospital, its flagship academic hospital in the Texas Medical Center, six community hospitals and one long-term acute care hospital throughout the Greater Houston metropolitan area. Houston Methodist also includes a research institute; a comprehensive residency program; international patient services; freestanding comprehensive care; emergency care; imaging centers; and outpatient facilities. Houston Methodist employs more than 23,000 people across all of its facilities, including 677 specialty care physicians and 125 primary care physicians in over 35 locations.

System Hospital Facilities
- Houston Methodist Baytown Hospital
- Houston Methodist Clear Lake Hospital
- Houston Methodist Continuing Care Hospital
- Houston Methodist Hospital
- Houston Methodist Sugar Land Hospital
- Houston Methodist The Woodlands Hospital
- Houston Methodist West Hospital
- Houston Methodist Willowbrook Hospital

Houston Methodist	
Year Founded	1919
Hospital Facilities	8
Operating Beds	2,312
Operating Rooms	233
Affiliated Physicians	6,973
Employees	23,669

Mission Statement
To provide high quality, cost-effective health care that delivers the best value to the people we serve in a spiritual environment of caring in association with internationally recognized teaching and research.

Our Beliefs
Houston Methodist, a Christian organization established by the Texas Annual Conference of the United Methodist Church, exists to provide quality health care services. As it fulfills this purpose, Houston Methodist participates in the redeeming activity of God that makes the world a better place for all humankind. This health system is based on the belief that God can heal through the lives, actions and words of persons, regardless of various religious perspectives. Therefore, in all endeavors, Houston Methodist strives to treat everyone as a person of sacred worth and value, created by God.

Our I CARE Values
- **I**ntegrity: We are honest and ethical in all we say and do.
- **C**ompassion: We embrace the whole person and respond to emotional, ethical and spiritual concerns as well as physical needs.
- **A**ccountability: We hold ourselves accountable for our actions.
- **R**espect: We treat every individual as a person of worth, dignity and value.
- **E**xcellence: We strive to be the best at what we do and a model for others to emulate.

About Houston Methodist The Woodlands

Houston Methodist The Woodlands Hospital is a non-profit hospital located in Montgomery County within the Greater Houston area. It is owned and operated by Houston Methodist, a not-for-profit health care system. Houston Methodist The Woodlands Hospital continues to bring the expertise and skill of the world-renowned Houston Methodist Hospital to The Woodlands and surrounding communities. The hospital provides the best care available, alleviating the need to travel to the Texas Medical Center for high quality and compassionate care.

The combination of medical center expertise and hometown convenience, Houston Methodist The Woodlands Hospital has developed into a premier care facility and is a well-established leader in in multiple services, including cancer care, heart and vascular, neurosciences, orthopedics and sports medicine, surgery services and women's health. Houston Methodist The Woodlands Hospital offers innovative treatment for a variety of diseases and conditions while delivering patient-focused and family centered care that takes into account the whole person.

Mission Statement

To provide high quality, cost-effective health care that delivers the best value to the people we serve in a spiritual environment of caring in association with internationally recognized teaching and research.

Houston Methodist The Woodlands Hospital	
Operating Beds	146
Operating Rooms	10
Affiliated Physicians	792
Employees	1,043
Admissions	7,871
Outpatient Visits	90,396
Emergency Room Visits	23,544
Births	1,598
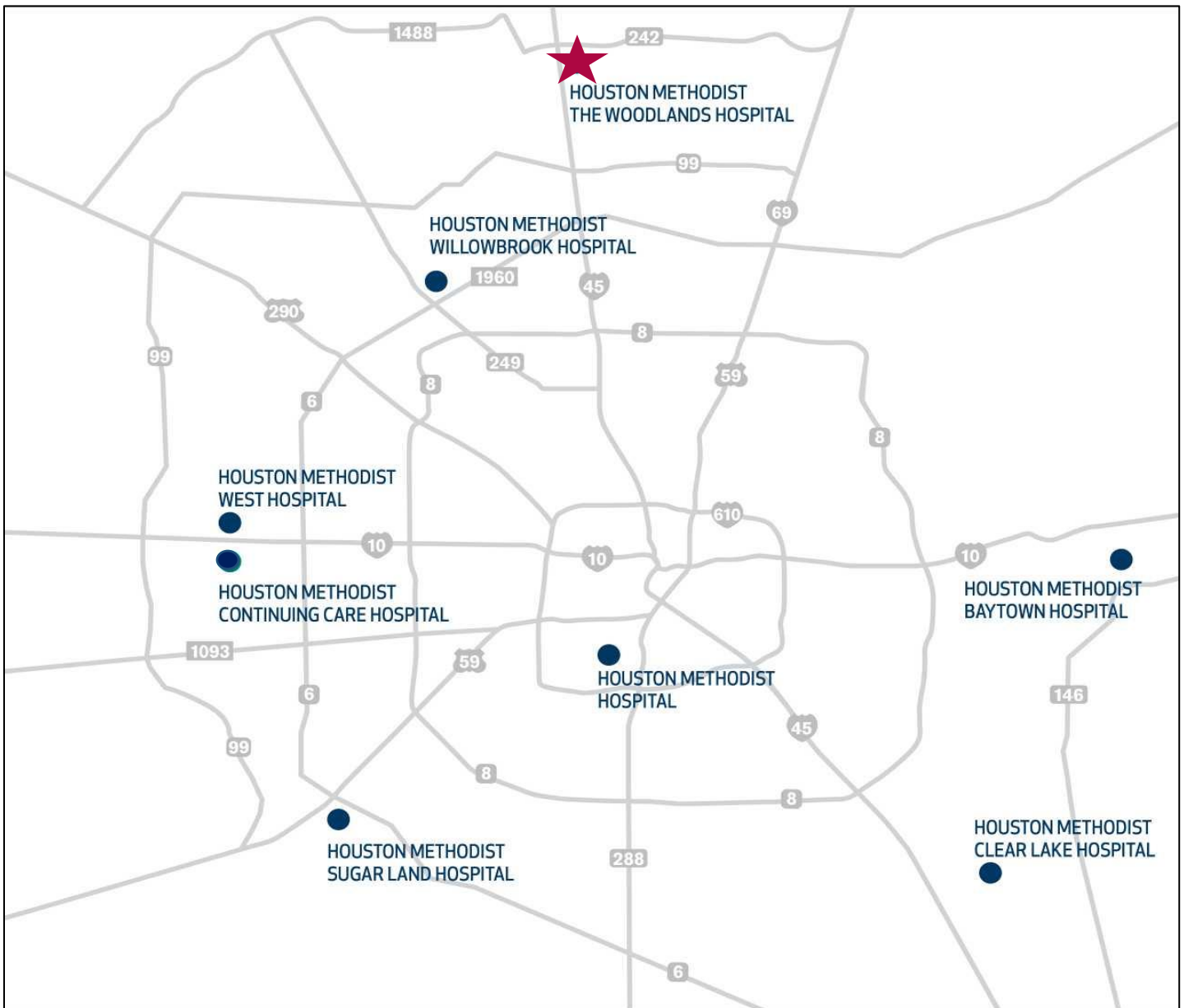
Houston Methodist Hospital
6565 Fannin St.
Houston, TX 77030

Houston Methodist Baytown Hospital
4401 Garth Rd.
Baytown, TX 77521

Houston Methodist Clear Lake Hospital
18300 Houston Methodist Dr.
Houston, TX 77058

Houston Methodist Sugar Land Hospital
16655 Southwest Fwy.
Sugar Land, TX 77479

Houston Methodist West Hospital
18500 Katy Fwy.
Houston, TX 77094

Houston Methodist Willowbrook Hospital
18220 State Hwy. 249
Houston, TX 77070

**Houston Methodist – Continuing
Care Hospital**
701 S. Fry Rd.
Katy, TX 77450

**Houston Methodist The Woodlands
Hospital**
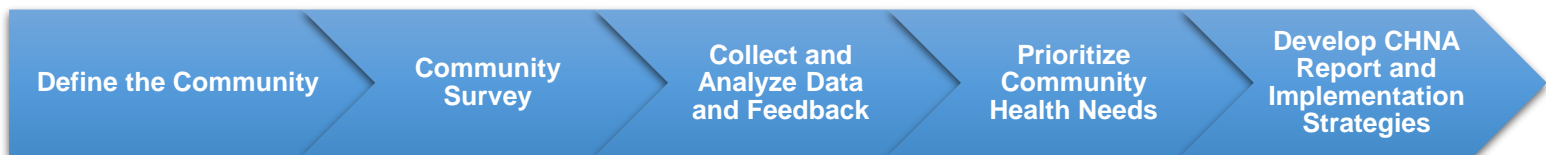17201 Interstate 45 S.
The Woodlands, TX 77385

In 2010, Congress enacted the Patient Protection and Affordable Care Act that requires nonprofit hospitals to conduct a Community Health Needs Assessment (CHNA) and adopt an implementation strategy every three years. In alignment with that commitment, Houston Methodist conducted and completed a CHNA for each of its eight hospitals in relationship to each facilities' surrounding communities.

The CHNA included input from community leaders and stakeholders, and public health experts regarding perceived social and health care needs in our community. The input was obtained through a series of interviews executed by the Houston Methodist Community Benefits Office as well as surrounding Texas Medical Center organizations. The CHNA also included information and data from a health survey of almost 1,000 individuals from around the Greater Houston community and a quantitative and qualitative analysis of publicly available data on social determinants of health and health outcomes. Through the assessment process, Houston Methodist has defined the following priorities, in no ranking order, as:

- Increasing access to primary care services
- Reducing barriers to accessing specialty care services
- Promoting healthy living behaviors
- Increasing access to mental health care services

This report will focus on the geographic areas that Houston Methodist The Woodlands Hospital primarily serves touching on social determinants of health and health topics that can significantly impact the status of a healthy community. The assessment will provide a foundation for the hospital's efforts to guide community benefit program planning to improve the health status of the supported community. The CHNA will also serve as the basis for implementation plan development for 2020-22 and will serve as a complement to the state of Texas requirements on community benefit reporting for nonprofit hospitals.

Overview of Process:

Define the Community	Community Survey	Collect and Analyze Data and Feedback	Prioritize Community Health Needs	Develop CHNA Report and Implementation Strategies

Community Action

To comply with proposed IRS regulations as set forth in IRS Notice 501(r) based on final regulations released on December 29, 2014, a hospital must meet the following requirements with respect to a CHNA written report and implementation strategy. In conducting the CHNA, Houston Methodist The Woodlands Hospital agrees that the following requirements were met and therefore the hospital is in compliance with Affordable Care Act regulations:

- Describe the community served and how it was determined (e.g., geographic area served).

- Describe processes and methods used to conduct the CHNA.

- Describe the sources and dates of the data and other information used in the CHNA.

- Describe analytical methods applied to identify community health needs.

- Identify any information gaps that impact ability to assess the community's health needs.

- List all organizations with which hospital collaborated in conducting CHNA.

- Describe how hospital took into account input from parties who represent broad interests of community served, input from person(s) with special knowledge of public health, input from federal, tribal, regional, state or local health departments and agencies, and input from leaders, representatives, or members of medically underserved, low-income, and minority populations in the community served by the hospital.

- Prioritized description of all the community health needs identified through the CHNA and the process/criteria used in prioritizing such needs.

- Describe existing health care facilities and other resources within the community available to meet the community health needs identified through the CHNA.

- Identify names, titles, and/or affiliations of individuals consulted. Those consulted must include individuals with special knowledge of or expertise in public health, representatives, or members of medically underserved, low-income, and minority populations, and populations with chronic disease.

- An evaluation of the impact of any actions that were taken, since the hospital facility finished conducting its immediately preceding CHNA, to address the significant health needs identified in the hospital facility's prior CHNA(s).

Process of Uncovering the Community's Needs and Prioritization

Houston Methodist conducted its CHNA and was able to prioritize the needs that each of its hospitals would address through a series of steps that included surveying patients and community members living within the MSA that Houston Methodist facilities are located within, along with other techniques designed to address any information gaps and uncover the most pressing concerns of the surrounding community.

Phase 1: Community Survey: Public Health Experts & Community Stakeholder Feedback

- **Developing Survey Questions**: The first step in developing the CHNA for Houston Methodist required the hospital system to first understand what mattered most to the population surrounding its eight hospitals in Greater Houston. To do this, the Office of Community Benefits worked with leaders in public health and did secondary research to develop new and refine past survey questions that would help Houston Methodist gain the insight into the top social and health priorities of our city. The survey consisted of 29 questions and were divided under the categories of:

    - Tell Us About Yourself
    - Tell Us About Your Health
    - Tell Us About Your Community
    - Tell Us How You Feel

- **Distributing the Survey**: After the questions were developed for the survey, the surveys were then distributed electronically and in hard copy form across the Greater Houston community. Hard copy surveys were distributed to 10 different facilities providing health care services to the uninsured and underserved population:

    - Christ Clinic
    - El Centro de Corazón
    - Healthcare for the Homeless
    - Hope Clinic
    - Interfaith Clinic
    - Legacy Community Health
    - Northwest Assistance Ministries
    - San José Clinic
    - Stephen F. Austin Clinic
    - Vecino Health Centers

    Hard copy surveys were distributed at Houston Methodist's flagship location in the Texas Medical Center due to the variety of patients and guests who come to the location from more than eight counties and also at Houston Methodist West. Electronic surveys were posted on various social networking sites to capture an uncontrolled group of respondents. Overall, more than 980 people were surveyed.

- **Survey Results Analyzed**: Surveyed facilities were given one month to collect responses from the client/patient base being serviced. Response collection began July 9, 2019 and ended Aug. 9, 2019. Once all responses were collected, Houston Methodist contracted an external market analysis agency to conduct simple analysis of the data to lay the foundation for the assessment.

Phase 2: Community Leaders and Stakeholder Feedback

- **Selection of public health and community leaders with special knowledge, including leaders and representatives of medically underserved, low-income, and minority populations, and local and state health agencies:** Houston Methodist collaborated with Episcopal Health Foundation, Texas Children's Hospital, Memorial Hermann Hospital and CHI St. Luke's Hospital to compile a list of top health and community experts from around the Greater Houston community and state to support the stakeholder interview process conducted by a third party, Health Resources in Action. The third party developed a set of key questions covering relevant health and social topics based on the collaborative feedback. Experts and leaders were pulled from a variety of specialty areas, including but not limited to disease specialists, insurance company representatives, nonprofit leaders and more. Those engaged were experts in their field and represented Federally Qualified Health Centers, Free/Charity Clinics, local governmental agencies, hospitals, multiservice agencies, higher education and more.

- **Selection of members of medically underserved, low income and minority populations:** The Office of Community Benefits received the primary input on the needs of the underserved community through the distribution of a survey in which members were asked to answer a series of questions listed in the phase 1 section of this report. The feedback from the underserved community and general Greater Houston population served as the basis for interviews with community health leaders.

Phase 3: Methodology to Prioritize

To prioritize, Houston Methodist evaluated the feedback from the interviewed public health leaders and the feedback from the community stakeholders who responded to the 2019 Community Health Needs Survey and determined which health topics were unanimously most pressing to both groups and, with the ability of the system to allocate reasonable resources to each based on scope of services, streamlined the priorities into 4 categories: primary care access, mental health care access, specialty care access and promoting healthy living behaviors. Below outlines what each group of respondents felt most important:

Public Health Experts: Through the work of Health Resources Action, the collaborative identified the top health priorities most important to the public health leaders who were interviewed. Priorities that emerged were:

- **Mental Health.** Mental health was identified as a top concern for the community and one that has been a long-standing health issue. Respondents reported rising rates of anxiety and depression as well as serious mental illness. Mental health concerns were seen as affecting all demographic groups. Of particular concern were mental health issues among children and youth, immigrants, seniors and those who are homeless. Untreated mental illness was linked to lack of access to care, limited services, cost barriers and stigma.

- **Obesity and Related Chronic Disease.** Obesity and related chronic diseases, including diabetes, hypertension and cardiovascular disease, were identified as a top health concern in Houston. Respondents named several factors that contribute to obesity and chronic disease in the community including lack of access to healthy food and opportunities for physical activity, poor lifestyle choices and lack of understanding about the causes and consequences of these health issues. Lower income individuals and children were seen as particularly vulnerable.

- **Access to Health Care.** Many respondents identified lack of access to health care as one of the top three health concerns for the communities they serve. They noted that although Houston has a substantial and well-respected health care infrastructure, there are residents who face challenges getting medical care. Barriers include lack of insurance, cost, lack of providers and inability to navigate health insurance and/or the health care system.

- **Maternal and Child Health.** A few respondents mentioned maternal and child health as a concern for the community. High-risk pregnancies and poor birth outcomes were mentioned and are linked to poor access to prenatal and postnatal care. Respondents reported that screening services exist, however, some women are not accessing them because they are unaware of them or prevented from doing so. Sexually-transmitted diseases (STDs) and sexually-transmitted infections (STIs) and sexual violence are also a concern in some communities.

- **Substance Use.** Substance use disorders were also identified as a concern in the community, and like mental illness, one that is not limited to any particular demographic group. Respondents shared that substance use often accompanies mental health issues, as a response to stress and anxiety. Opioids — both street drugs and prescriptions — were identified as concerns in the community as are synthetic marijuana and alcohol. As with mental health, respondents identified a lack of treatment services as a barrier to addressing this issue.

- **Other Health Concerns.** Other concerns identified by respondents, although not as prominent, were oral health, infectious and communicable diseases, asthma and cancer.

Community Stakeholders: After evaluating the identified priorities of the stakeholders, the Office of Community Benefits compared it to the feedback received from the community stakeholders via the 2019 Houston Methodist Community Health Needs Survey. The survey indicated the most pressing health and social concerns for the community which can be illustrated by the below examples:

Top 5 Answers to the Survey Questions Touching on Healthy Community:

What are the most important things that are needed for your city/community to be considered healthy?
1. Low crime/safe neighborhoods
2. Good schools/strong education system
3. Access to health care/affordable health care
4. Good jobs/healthy economy
5. Clean air/water quality

What are the top things that you feel are negatively affecting your city/community?
1. Violent crime
2. Traffic problems
3. Drug abuse
4. Inability to access health care
5. Lack of affordable housing

What are the top health problems their friends/ family face?
1. Diabetes
2. High blood pressure
3. Obesity
4. Cancer
5. High cholesterol

Barriers preventing friends/family from receiving medical care?
1. Lack of insurance
2. Unable to pay co-pay/too expensive
3. Fear
4. Can't take time off from work
5. Long waits

Select the statements that apply to your current health:
1. I have been told I am overweight.
2. I have been diagnosed with high blood pressure.
3. I have been diagnosed with high cholesterol.
4. I have been diagnosed with diabetes.
5. I have been diagnosed with a mental illness.

To see full results of survey, contact the Office of Community Benefits.

Phase 4: Secondary Data Collection

After priorities were selected, the Office of Community Benefits researched valid data sources to be used to support the identified priorities to supplement information collected from public health experts and community stakeholders. Any potential information gaps were addressed, incorporating national and state data when local county data was unavailable. A variety of sources were utilized including, but not limited to, the U.S. Census, Texas Department of State Health Services (DSHS), the Centers for Disease Control and Prevention, the World Health Organization, Substance Abuse and Mental Health Services and others. For a full list of data sources used in this report, please see the appendix.

Approximately 29.9 million people live in Texas. Within Texas, the city of Houston is designated as the largest and most populous city in the southern United States and the state, as well as the fourth most populous city in the nation — trailing only New York, Los Angeles, and Chicago. Currently, 24% of Texans reside in the Houston-The Woodlands-Sugar Land metropolitan statistical area (MSA).[1] This MSA is comprised of the following nine counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller.[2] Houston Methodist The Woodlands Hospital primarily serves Montgomery and Harris counties.

Additionally, of the 11 health service regions dividing the state, Houston Methodist The Woodlands Hospital serves some of the communities residing in Region 6/5 South. Figure 1 displays the geographic location of the region.

Figure 1. Texas Region 6/5 South Health Service Region
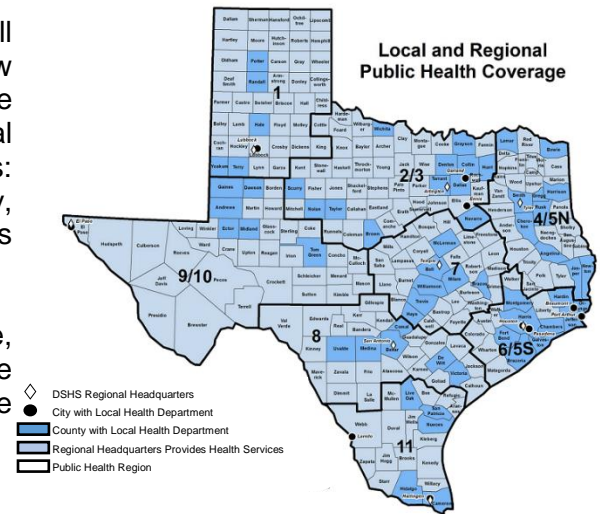
Source: Texas Department of State Health Services

Figure 2. Increase in MSA Total Population
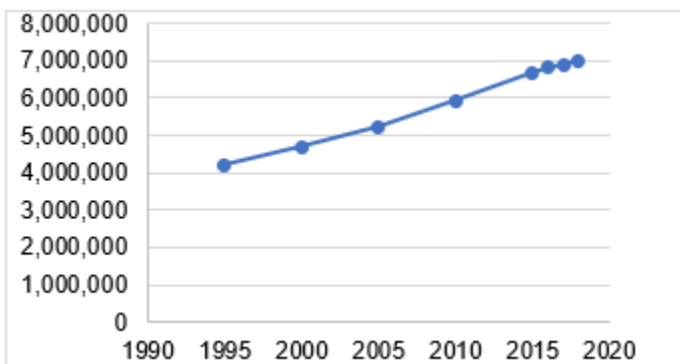
Source: U.S Census Bureau

The Houston-The Woodlands-Sugar Land MSA increased by 17.7% between 2010 and 2018, equating to an addition of 1,049,975 residents since 2010. Annual net migration was 35,397 residents in 2018.[3] This increase in population has led to the MSA being ranked as 5th in population change from 2010 to 2018 and supports the MSA being ranked 2nd largest in comparison to all metro areas in the nation.[4] See figure 2 for MSA population growth estimates.

Figure 3. MSA Geographic Footprint

This report will refer to the entire Houston-The Woodlands-Sugar Land MSA as the MSA moving forward. Houston Methodist The Woodlands Hospital primarily serves two of the nine counties in the MSA, therefore the focus will be placed on the identified counties (Montgomery and Harris) primarily served by Houston Methodist The Woodlands Hospital and will refer to the two counties being primarily served as the Houston Methodist The Woodlands Hospital community. Figure 3 displays the current geographic footprint of the MSA.


Source: Greater Houston Partnership

Population Size

The Houston Methodist The Woodlands Hospital community spans 2,854.4[5] square miles and contains an estimated population of 5,060,706 residents.[6] As the largest county in Texas and the county most served by Houston Methodist The Woodlands Hospital, Harris County accounts for an estimated 4.5 million of the hospital's community residents, equating to approximately 89% of the Houston Methodist The Woodlands Hospital community population. In comparison, Montgomery County has a population of 535,187, accounting for approximately 11% of the Houston Methodist The Woodlands Hospital community population.[7]

Fort Bend County and Montgomery County experienced the greatest population growth in the MSA between 2010 and 2017, at rates of 30% and 25%, respectively. Between 2010 and 2018, the Houston Methodist The Woodlands Hospital community experienced a 16% population increase overall. See figure 4 for a breakdown of the Houston Methodist The Woodlands Hospital community population by county.[8]

Figure 4. Houston Methodist The Woodlands Hospital Community Population by County
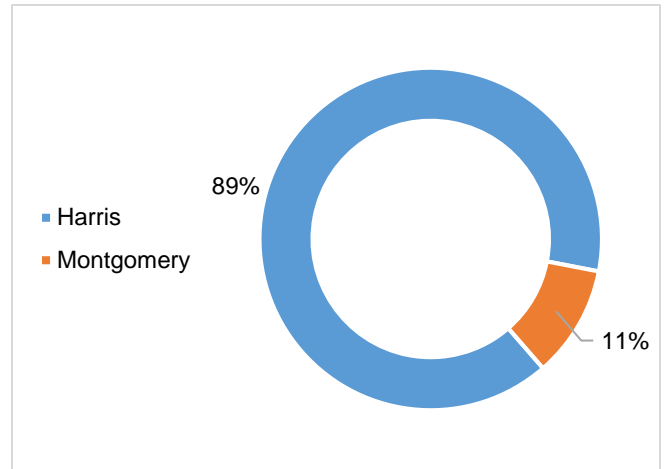
Source: American Community Survey (2013-17)

Figure 5. Houston Methodist The Woodlands Hospital Community by Sex
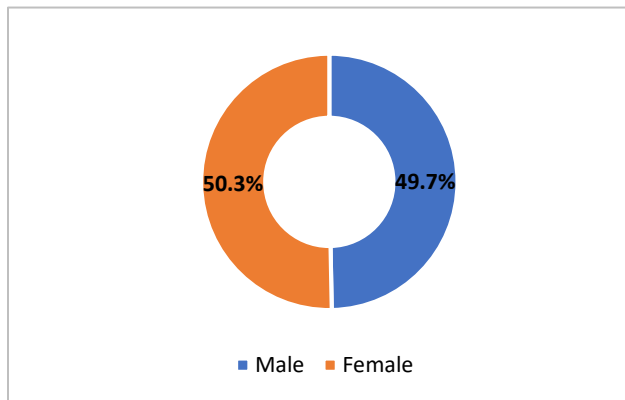
Source: American Community Survey (2013-17)

Sex

The term sex refers to the biological and physiological characteristics that define male and female. The population is almost equally divided by sex with Males comprising 50.3% of the population and Females 49.7%. See figure 5 for a breakdown of the Houston Methodist The Woodlands Hospital community by sex.[9]

Gender Identity and Sexual Orientation

The term gender identity is defined as one's innermost concept of self as male, female, a blend of both or neither. Gender identity is how individuals perceive themselves and what they choose to call themselves. An individual's gender identity can be the same or different from their sex assigned at birth.

While sexual orientation is an enduring pattern of emotional, romantic and/or sexual attraction to other people, sexual orientation also refers to a person's sense of identity based on those attractions.[10] Research has shown that sexual orientation ranges along a continuum, with the three most commonly defined categories being: heterosexual, gay or lesbian, and bisexual. Some people may use different labels, or none at all.[11]

Texas is comprised of over 770,000 identified LGBT adults and 158,500 LGBT youth; 3.8% of adults self-identify as LGBT, including an estimated 135,350 (0.66%) transgender adults. Of LGBT adults, 56% self-identify as female and 44% male, as shown in Figure 6.

Figure 6. Texan LGBT Population by Sex
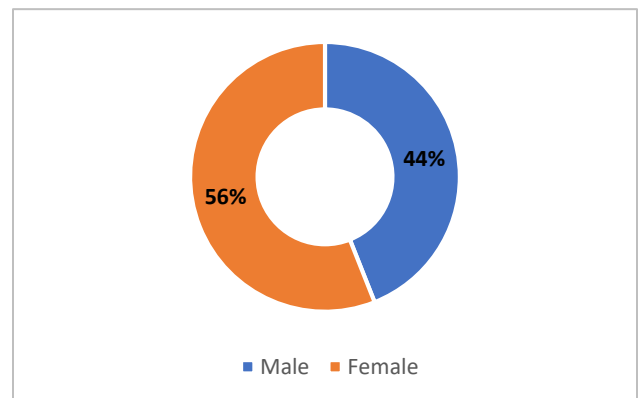
Source: Williams Institute (2018)

Figure 7. Texan LGBT Population by Race/Ethnicity
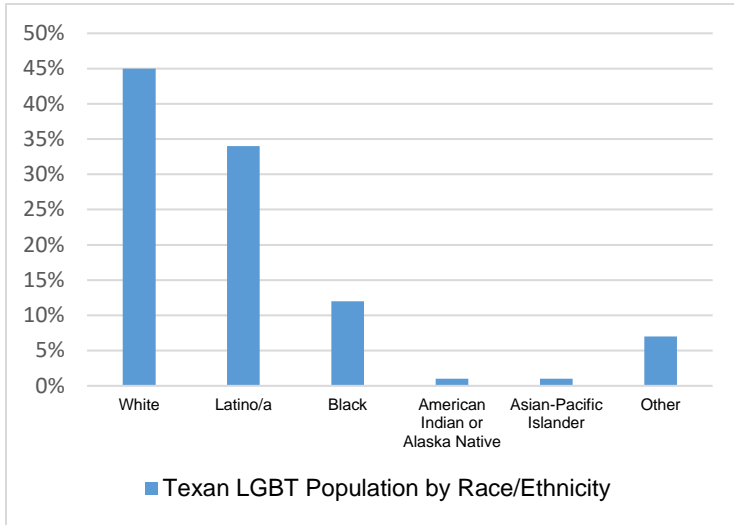
Source: Williams Institute (2018)

More than half of identified LGBT adults in Texas are people of color, including 12% African American/Black, 34% Hispanic/Latino, 1% Asian-Pacific Islander, 1% American Indian or Alaska Native, and 7% identifying as another or other race, as shown in figure 7. In 2015, 3.3% (11,481) of adult Houstonians identified as LGBT.[12] Research suggests that lesbian, gay, bisexual and transgender (LGBT) individuals face health disparities linked to societal stigma, discrimination, and denial of their civil and human rights, which can negatively affect the health and well-being of this community. Stigma and discrimination contribute to adverse health outcomes for LGBT people, such as major depressive disorder, binge drinking, substance use, and suicidality.[13]

Age

Three major age groups comprise the Houston Methodist The Woodlands Hospital community: youth and adolescent population (Under 18 years), adult population (18-64 years), and senior population (65 years and over). Figure 8 shows the population distribution by age group across Harris County, Houston Methodist The Woodlands Hospital Community and Texas.

Figure 8. Age Group Distribution Comparison

Source: American Community Survey (2013-17)

Youth and Adolescent Population: Under 18

The youth and adolescent population accounts for the second highest percentage of the Houston Methodist The Woodlands Hospital community (27%). Comparatively, this age group accounts for 27% of Harris and Montgomery counties at 27%. This age group accounts for 26% of the Texas population and 23% for the U.S overall. Generally, there is a low percentage variability between the age groups included in this population.

Adult Population: 18-64

The adult population accounts for the highest percentage of the Houston Methodist The Woodlands Hospital community (63%). Harris County has an adult population of 63%. Montgomery County has the smaller percentage of adults within the Houston Methodist The Woodlands Hospital community at 61%. Comparatively, the state of Texas and the United States' percentage of this age demographic is 62%. Overall, there is a low percentage variability between the age groups included in this population from county to county.[14]

Senior Population: 65 and Over

The senior population accounts for 10% of the Houston Methodist The Woodlands Hospital community. While it accounts for the lowest percentage of the community, the senior population projects the highest percent growth of any cohort by 2030. In Harris County, the senior population accounts for 10% of the population. This age group accounts for 12% of the state population. Montgomery County has the larger Senior population within the

Houston Methodist The Woodlands Hospital community at 12%. There is a low percentage variability between the age groups included in this population. [15]

Language

Houston ranks among the top cities in the United States in terms of language diversity; there are at least 145 languages spoken at home.[16] Within the Houston Methodist The Woodlands Hospital community, 41.6% of community members utilize a dominant language other than English, which ranks higher than the national average of 21.8%. Figure 9 shows the percentages of non-English speakers within the Houston Methodist The Woodlands Hospital community, noting that Spanish is the second most common language, with 31.4% of the population reporting Spanish as their primary language. 10.2% of the Houston Methodist The Woodlands Hospital population utilizes a dominant language other than English or Spanish.[17]

Figure 9. Houston Methodist The Woodlands Hospital Community
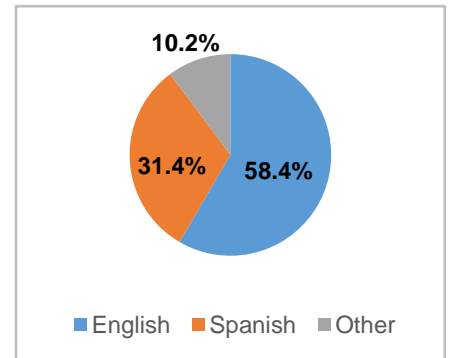
Source: Vizbuilder citing U.S. Census (2017 estimates)

Figure 10. Racial Distribution by County
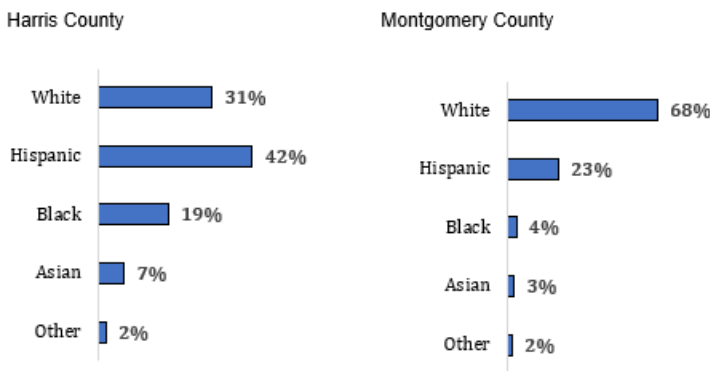
Source: American Community Survey (2013-17)

Race/Ethnicity

The Houston Methodist The Woodlands Hospital community is considered one of the most ethnically diverse metropolitan regions in the nation, with Harris County maintaining a minority-majority city status due to a 42% Hispanic/Latino population in comparison to 31% white/Non-Hispanic population.

For the purposes of this report, black includes the population of African-descent/non-Latino; white includes European-descent/non-Latino; Asian includes Asian-descent/non-Latino; the category of other encompasses the ethnic populations, including but not limited to, American Indian/Alaska Native, Native Hawaiian/other Pacific, and mixed race. Please see figure 10 below for a breakdown of the racial populations by county.[18]

Educational Attainment

Educational attainment varies across counties within the Houston Methodist The Woodlands Hospital community. Among Houston Methodist The Woodlands Hospital community members 25 years of age and older, 58% have pursued education beyond a high school diploma. Figure 11 shows the breakdown by attainment. Figure 12 provides a county perspective. Harris and Montgomery have similar percentage of community members who possess a graduate or professional degree (11.0 and 11.4% respectively). Harris County, however, has a higher percentage of members who did not receive a high school diploma (19.5%), compared to 12.4% in Montgomery County.

Figure 11. Educational Attainment (Houston Methodist The Woodlands Hospital Community)

- Less than a High School Diploma
- High School Graduate
- Some College, No Degree
- Associate's Degree
- Bachelor's Degree
- Graduate or Professional Degree

18.7%
23.4%
20.7%
6.3%
19.8%
11.0%
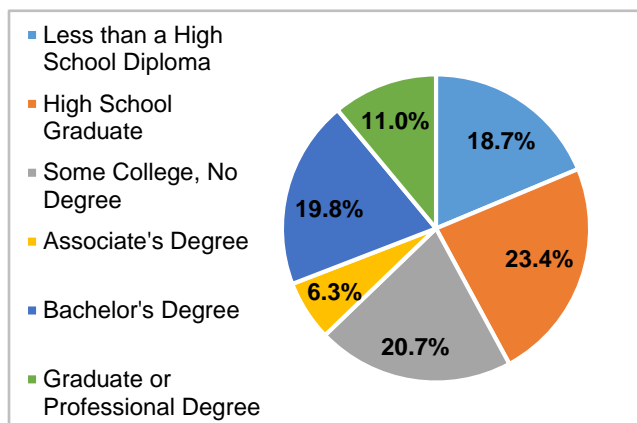
Source: American Community Survey (2013-17)

Figure 12. Educational Attainment by County

- Graduate or Professional Degree
- Bachelor's Degree
- Associate's Degree
- Some College, No Degree
- High School Graduate
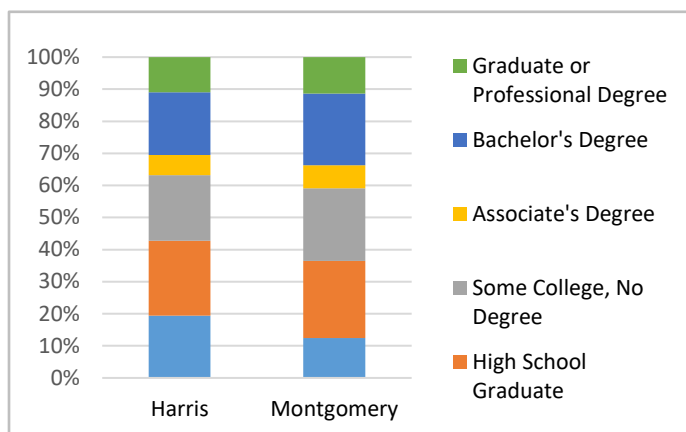
Source: American Community Survey (2013-17)

Household Income

Household income is a measure of the combined incomes of all individuals sharing a place of residence and is a useful indicator of an area's standard of living. Household income is also used to evaluate a person's status in relationship to designated poverty thresholds.[19] Currently, the median household income in Texas is $57,051. In comparison, within the Houston Methodist The Woodlands Hospital community, Montgomery County ranks higher with a median household income of $74,323. Harris County is in line with the state at $57,791.[20] See figure 13.

Figure 13. Median Household Income by County
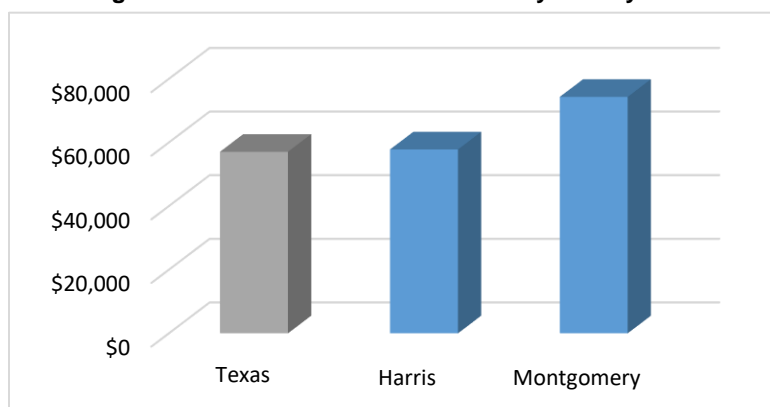
Source: American Community Survey (2013-17)

Poverty

In health care, poverty guidelines are commonly used indicators since they determine financial eligibility for certain programs and benefits. The identified levels vary based on the number of persons per household and the household's income in terms of the percent of the poverty level. Income between 100% and 400% of the poverty level, for example, qualifies individuals for premium tax credits in all states. Income below 138% qualifies individuals for Medicaid based only on income (in states with expanded Medicaid coverage).[21] Table 1 shows the 2019 guidelines.[22]

Table 1. Poverty Guidelines

Persons in Household	Poverty Guidelines (48 Contiguous States and D.C.)							
	100%	133%	138%	150%	200%	250%	300%	400%
1	$12,490	$16,612	$17,236	$18,735	$24,980	$31,225	$37,470	$49,960
2	$16,910	$22,490	$23,336	$25,365	$33,820	$42,275	$50,730	$67,640
3	$21,330	$28,369	$29,435	$31,995	$42,660	$53,325	$63,990	$85,320
4	$25,750	$34,248	$35,535	$38,625	$51,500	$64,375	$77,250	$103,000
5	$30,170	$40,126	$41,635	$45,255	$60,340	$75,425	$90,510	$120,680
6	$34,590	$46,005	$47,734	$51,885	$69,180	$86,475	$103,770	$138,360
7	$39,010	$51,883	$53,834	$58,515	$78,020	$97,525	$117,030	$156,040
8	$43,430	$57,762	$59,933	$65,145	$86,860	$108,575	$130,290	$173,520

Source: U.S. Centers for Medicare & Medicaid Services

In Texas, 16% of the population lives in poverty. Within the Houston Methodist The Woodlands Hospital community, there are more than 800,000 residents living in poverty combined. In Harris County, 16.8% of community members live in poverty, compared to Montgomery County which has a lower percentage, 10.3%. Figure 14 shows the percentage of residents living in poverty by county; based on U.S. Census data and determined by poverty thresholds which are closely aligned with the aforementioned guidelines.[23]

Figure 14. Residents Living in Poverty
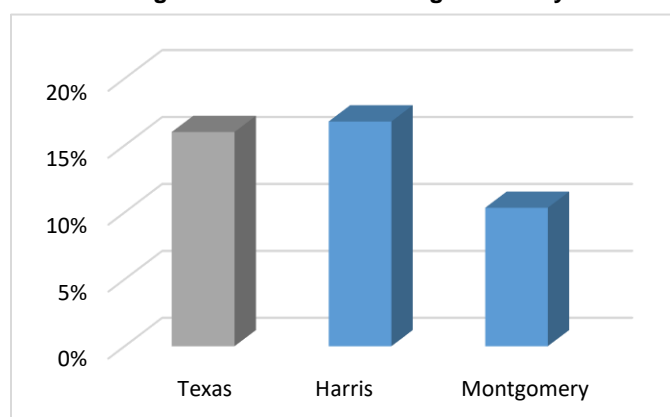
Source: American Community Survey (2013-17)

Disparities of poverty exist across geography, age and race. In the Houston Methodist The Woodlands Hospital community, residents under the age of 18 experience higher rates of poverty than the total population. In the Houston Methodist The Woodlands Hospital community, 23.8% (322,036) of children and young adults live in poverty. Compared to other counties in the Houston Methodist The Woodlands Hospital community, Harris County has the highest rate of poverty for persons under the age of 18 at 25%. Hispanic/Latino and black populations experience higher rates of poverty (22% and 23%, respectively) compared to the white/Non-Hispanic population (7%).[24] From a geographic standpoint, certain areas experience higher rates of poverty. In Harris County, nearly 40% of the census tracks are classified as high poverty, which means at least 20% of households have incomes below the poverty line.[25]

Additional indicators also help describe poverty in our community. In the Kinder Institute's *Houston Area Survey*, 39% of Harris County residents surveyed reported that they did not have enough savings to meet a $400 emergency expense. Thirty three percent reported having trouble paying for food in the past year. Economic hardship is also observed in the housing status in our community. Thirty five percent of respondents acknowledged having problems paying for housing in the past year.[26] In 2019, nearly 3,938 individuals (1 out of every 1,541 residents) experienced homelessness in the Houston/Pasadena/Harris County/Fort Bend County/Montgomery County region, as measured in the Department of Housing and Urban Development (HUD) annual *Point-In-Time Homeless Count.*[27]

Insurance Status

In Texas, nearly one-fifth of the population under 65 is uninsured in Texas, which is the highest rate of non-elderly residents without health insurance in the country according to recent estimates by The Urban Institute.[28] U.S. Census data, presented in table 2, shows the uninsured rate by county within the Houston Methodist The Woodlands Hospital community. On average, 20.4% of the Houston Methodist The Woodlands Hospital community lacks insurance. The uninsured rate is higher in Harris County (21.2%), compared to Montgomery County (14.5%).

Table 2. Percent Uninsured by County

County	% Uninsured
Harris	21.2%
Montgomery	14.5%

Source: American Community Survey (2013-17)

Figure 15. Harris County Uninsured Family Modified Adjusted Gross Income (% of federal poverty level)
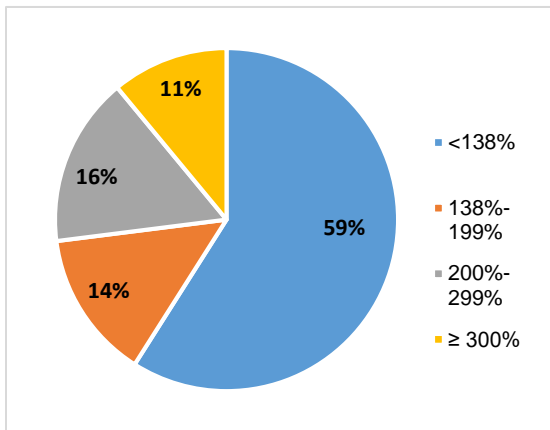
Source: The Urban Institute (2018)

The Urban Institute describes characteristics of the Harris County uninsured population, noting that rates may vary depending on a multitude of factors, such as income distribution, ethnicity, citizenship status and educational level. Among the uninsured in Harris County, 71% of adults had a high school education or less. Seventy one percent were in working families, indicating that having employed member(s) of the household does not necessarily mean that the family can access insurance coverage.[29] Hispanic/Latino populations are more likely to be uninsured compared to other populations. Among the uninsured, 65% were Hispanic/Latino compared to Black populations (14%), Non-Hispanic White (13%), and Asian (8%). 59% had incomes below 138% of the federal poverty level (See Figure 15). [30]

Medicare

Medicare is a national health insurance program that benefits not only seniors age 65 and older, but also those with disabilities and end-stage disease states. In Harris County, 525,611 people were enrolled in Medicare in 2018, which accounts for approximately 11.2% of the estimated county population.[31] [32] In Montgomery County, a slightly higher percentage of the population is enrolled, 14.3% (84,379 individuals). Over the next five years, the Medicare population, compared to other populations, is expected to expand the most (2018-23).[33] This directly correlates to the growth expected within the senior population as community members reach Medicare eligibility age.

Medicaid

Medicaid is another important form of health coverage that millions of Americans depend on, including eligible low-income adults, children, pregnant women, elderly adults and people with disabilities. In Harris County, 712,504 individuals (15.8%) were covered by Medicaid in 2018, three-fourths of which were children covered by children's Medicaid.[34] Montgomery County's percentage of Medicaid enrollees is smaller; 10% of the estimated county residents were enrolled. The number of uninsured community members and members insured through Medicaid, private insurance as well as the uninsured, are expected to experience slight single digit increases over the next five years.[35] Figure 16 shows the Medicaid Caseload by Risk Group for Harris County.

Figure 16. Harris County Medicaid Caseload by Risk Group
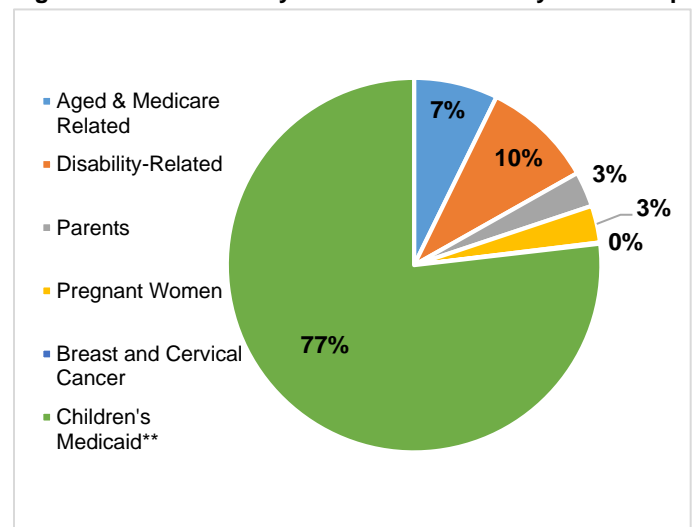
Source: Texas Health and Human Services

The Affordable Care Act (ACA) plays an important role in the health care landscape. Implemented in 2010, it aims to make affordable health insurance available to more people via a marketplace exchange and through expanded provisions that support access. The ACA is comprised of 10 titles that are each dedicated to a different aspect of the United States health care system. Title I of the ACA, "Quality Affordable Health Care for All Americans," outlines health insurance coverage.

The basic components of the ACA are as follows: [36]
- Individuals cannot be turned down for insurance because of preexisting conditions.
- Everyone must have coverage.
- Individuals who cannot afford coverage will receive assistance in paying for it.
- Individuals living under 138% federal poverty level will be insured through Medicaid, except for states that do not expand Medicaid.

Individuals who failed to obtain coverage were previously subjected to a penalty unless they met certain exemptions. Effective in 2019, through the Tax Cuts and Jobs Act of 2017, the tax penalty was eliminated for most people who were not covered by health insurance.[37] Other titles of the ACA include "Improving Quality and Efficiency of Health Care," aimed at creating a health care system where payments are based on quality of health care services delivered, "Prevention of Chronic Disease and Improving Health," aimed at early prevention and treatment of chronic illnesses to avoid expensive complications, and "Role of Public Programs," aimed at changing how health care is delivered through public programs like Medicaid and the Indian Health Services.[38]

Despite high uninsured rates in Texas, coverage has increased since its implementation.[39] In 2018, the ACA provided health coverage, which is measured by activated ACA health insurance, for more than 1 million Texans, which equates to a 5% increase from 2017.[40] Table 3 shows the number of individuals enrolled in the ACA insurance marketplace (2018).[41]

Table 3. Number of Individuals Enrolled in the Marketplace

County	Number of Individuals (% Total Population)
Harris	229,493 (4.9%)
Montgomery	21,298 (3.6%)

Source: CMS (2018)

Most Common Disease States – Houston Methodist The Woodlands Hospital Community

Montgomery and Harris counties are the primary counties served by Houston Methodist The Woodlands Hospital. The following causes of death will pertain primarily to this region to provide a snapshot of chronic disease prevalence. Table 4 shows a breakdown of the leading causes of death by county.

Table 4. Leading Causes of Death by County in Ranking Order

Leading Causes of Death: Montgomery County	Leading Causes of Death: Harris County
1. Heart Disease	1. Heart Disease
2. Cancer	2. Cancer
3. COPD	3. Stroke
4. Stroke	4. Accidents
5. Accidents	5. COPD
6. Diabetes	6. Diabetes

Source: Texas Department of State Health Services

Heart Disease

Heart disease is the leading cause of death in the United States, killing an estimated 610,000 people per year.[42] It is also the leading cause of death in Texas, Montgomery County, and Harris County. In 2015, the age-adjusted mortality rates for heart disease in Texas, Montgomery County, and Harris County were 174.8 deaths per 100,000 people (total 43,133), 165.0 deaths per 100,000 people (total 835), and 172.0 deaths per 100,000 people (total 5,669), respectively.[43]

Heart disease is usually caused by a condition called atherosclerosis, caused by plaque build-up in the arteries. This condition narrows the arteries, decreasing blood flow. This can increase the possibility of a blood clot, which stops the blood flow completely and causes a heart attack.[44] In 2017, 5% of surveyed adults living in the Public Health Region 6/5 South, part of which is served by the Houston Methodist The Woodlands Hospital community, reported having been diagnosed with heart disease.[45] It is also not uncommon for individuals living with heart disease to have other chronic comorbid conditions such as diabetes, chronic obstructive pulmonary disease (COPD), high blood pressure, high cholesterol and obesity.[46] Living with comorbidities can worsen health outcomes and are associated with an increased risk for death.

Heart disease mortality rates vary by race and ethnicity, but certain racial/ethnic groups are at a greater risk of death than others.[47] High blood pressure, obesity, high cholesterol, and diabetes are comorbid conditions that increase the risk of heart disease and are exacerbated by poverty and food insecurity, which also disproportionately affect black, Hispanic/Latino, Asian and American Indian/Alaska Native populations. About 40% of black adults are living with high blood pressure. "Less than half" of the 40% have the condition under control.[48] While Hispanic/Latino individuals have lower rates of heart disease, nearly 50% of Hispanic/Latino adults experience obesity and over 20% are living with high blood pressure.[49]

Cancer

Cancer is the second cause of death in Montgomery and Harris counties. In 2015, it was estimated that 781 Montgomery County residents and 5,414 Harris County residents died from cancer.[50] Though there are many types of cancers, all cancers are due to abnormal cell growth. Normal cells grow, divide and then die so that new cells may form. Cancer cells do not die, but rather continue to grow in abnormal ways, often invading other tissues. The spreading

Table 5. Lung & Bronchus Cancer Incidence Rates by County (2012-2016)

County	No. People	Recent Trend
Montgomery	286	Stable →
Harris	1,748	Stable →

Source: National Cancer Institute, Centers for Disease Control and Prevention

of cancer is called metastasis, and the different types of cancers are named based on where the cancer cells first originated, such as in the lungs or brain.[51] Harris County Public Health (2016) reported that more people die from lung cancer than any other cancer. Breast cancer is the second leading cause of cancer death for women, while prostate cancer is the second leading cause of cancer death for men.[52] Table 5 shows the incidence rates for lung and bronchus cancer, reported by county.

The goal of primary cancer prevention is to keep cancer from developing through living a healthy lifestyle and avoiding cancer-causing substances, such as tobacco. Certain risk factors increase the likelihood of cancer development, some of which individuals cannot control like their age or family history. The National Cancer Institute (2019) identified factors that may affect the risk of cancer, including diet, alcohol consumption, physical activity, obesity, diabetes and environmental risk factors, such as exposure to chemicals, air pollution and contaminated drinking water.[53] Also, cancer can impact racial groups differently. Per the American Cancer Society *2019 Facts & Figures* annual report, black males in the United States have an overall higher incidence rate of cancer (549 out of 100,000) than any other ethnic group. Prostate cancer, the second leading cause of cancer deaths, is more than double of any other racial group. As an aggregate group, United States Hispanics have lower rates for the most common cancers (female breast, colorectum, lung and prostate), but among the highest rates for cancers associated with infectious agents. With that, Hispanics have cervical cancer incidence rates that are nearly 40% higher than those identified as white/Non-Hispanic. Racial and ethnic disparities in the cancer burden largely reflect disproportionate poverty and ones' socioeconomic status.[54]

Chronic Lower Respiratory Disease

Chronic lower respiratory disease refers primarily to chronic obstructive pulmonary disease (COPD). It is the third leading cause of death in Montgomery County and the fifth leading cause of death in Harris County. COPD is a group of diseases that cause airflow blockage, including emphysema, chronic bronchitis, and asthma, in some cases. COPD makes it difficult to breathe, greatly impacting overall quality of life. Symptoms include a chronic cough, constant shortness of breath, wheezing, and chronic phlegm production.[55] In 2017, 3.7% of surveyed adults living in the Public Health Region 6/5 South, part of which is served by the Houston Methodist The Woodlands Hospital community, reported having been diagnosed with COPD.[56] In 2015, the age-adjusted mortality rates for COPD in Montgomery and Harris counties were 46.1 deaths per 100,000 people (total 234) and 29.8 deaths per 100,000 people (total 947), respectively.[57]

Tobacco is the most common cause of COPD. Exposure to environmental and occupational pollutants, such as secondhand smoke, fumes, gases and dusts as well as genetic predisposition, also increase an individual's risk of developing COPD. Eliminating tobacco use and exposure to environmental pollutants is necessary for anyone with COPD. A cure is not available, but the symptoms can be managed through medication, pulmonary rehabilitation, physical activity training and oxygen treatments. This management can greatly improve overall quality of life for someone with COPD.[58]

Stroke

Stroke is the fifth leading cause of death in the United States,[59] the fourth leading cause of death in Montgomery County, and the third leading cause of death in Harris County.[60] Stroke, also known as cerebrovascular disease, occurs when there is a lack of blood flow to the brain, usually caused "because one or more blood vessels leading to the brain is blocked or bursts".[61] Brain tissue can die when its blood flow is reduced or cut off. Strokes can cause patients to permanently lose speech, movement and memory. Table 6 shows the number of deaths from cerebrovascular disease in 2015, reported by county.[62]

Table 6. Deaths from Cerebrovascular Disease by County (2015)

County	No. People
Montgomery	189
Harris	1,332

Source: Texas Department of State Health Services

According to the National Stroke Association (2019), about 185,000 people die from a stroke in the United States each year.[63] Immediate medical attention is crucial to both survival and minimizing long-term effects. Recent public health efforts have aimed to increase recognition of warning signs of a stroke. The most well-known initiative is F.A.S.T., an acronym that encourages people to take note of face, arms, speech and time.[64] This acronym is illustrated in figure 17.

Figure 17. Think F.A.S.T. Diagram

THINK F.A.S.T.

FACE
Does the face look uneven? Ask the person to smile.

ARMS
Does one arm drift down? Ask the person to raise both arms.

SPEECH
Does their speech sound strange? Ask the person to repeat a simple phrase.

TIME
If you observe any of these signs, it's time to call 911 and to be taken to the nearest emergency room.
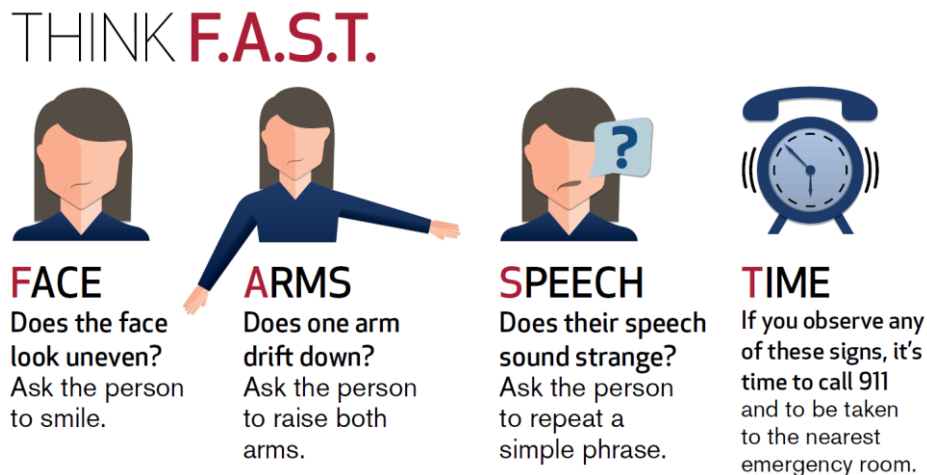
Source: Houston Methodist Neurology & Neurosurgery

People with atrial fibrillation are at an increased risk for having a stroke, as well as people with high blood pressure and/or cholesterol. There are many measures that can be taken to prevent a stroke. In fact, it is estimated that up to 80% of strokes can be prevented, due in part to lifestyle changes. Experts recommend more vegetable, whole grain, fish and nut intake as well as eating a limited amount of sodium, added sugars and refined grains. Other lifestyle factors that reduce risk of stroke include physical activity, avoidance of smoking and tobacco use, and limited consumption of alcohol.[65]

Accidents

Accidents (or unintentional injuries) are the third leading cause of death in the United States, killing 169,936 people per year.[66] It is also the fifth leading cause of death in Texas and Montgomery County, and the fourth leading cause of death in Harris County. In 2015, the age-adjusted mortality rates for accidents in Texas, Fort Bend County, and Harris County were 37.6 deaths per 100,000 people (total 9,941), 33.7 deaths per 100,000 people (total 177), and 36.6 deaths per 100,000 people (total 1,491), respectively.[67] In the United States, the leading types of unintentional injury deaths include unintentional poisoning, including medication, household toxic products and illegal drug use, and motor vehicle traffic accidents. In 2016, over 29 million people visited the emergency department and over 39 million people visited the physician's office to be treated for unintentional injuries.[68]

Unintentional poisoning is the leading cause of unintentional injury deaths in the United States, killing almost 65,000 people in 2017. With regards to the youth and adolescent population, over 300 children per day are treated for poisoning in the emergency department, with over 700 child deaths reported annually.[69] The most common ways children are poisoned are through the unsupervised ingestion or dosing mistakes of medication. Poison Control notes that medications, including pain killers, should be locked away where children cannot access them.[70] Furthermore, the Centers for Disease Control and Prevention (CDC) notes the rise in overdose drug deaths, particularly those involving opioids. In 2017, over 70,000 people died from drug overdoses, 68% involving a prescription or illicit opioid. To address this crisis, the CDC outlined the following strategies: building prevention efforts at the state level, improving data quality, supporting health care providers and health systems, and encouraging consumers to make safe choices, among other initiatives.[71]

Motor vehicle accidents are the second leading cause of unintentional injury deaths in the United States, killing over 40,000 people in 2017. In 2018, Texas saw a 2.36% decrease (3,639 deaths) in motor vehicle fatalities from 3,727 in 2017. Twenty six percent of people (940) killed in a motor vehicle accident in Texas occurred when the driver was under the influence of alcohol. More alcohol-related accidents also occurred between 2 a.m. and 2:59 a.m. than any other time during the day.[72] The CDC highlights the pervasiveness provides strategies for reducing or preventing drunk driving, noting a combination of various approaches, including drunk driving laws, sobriety checkpoints, ignition interlocks, mass media campaigns, alcohol screening and school-based instructional programs.[73]

Diabetes

Diabetes is the seventh leading cause of death in Texas[74] and the sixth leading cause of death in Montgomery and Harris counties.[75] In 2015, the age-adjusted mortality rates for diabetes in Texas, Montgomery County, and Harris County were 21.3 deaths per 100,000 people (total 5,503), 13.5 deaths per 100,000 people (total 75), and 20.8 deaths per 100,000 people (total 743), respectively.[76] In 2017, 10.6% of surveyed adults living in the Public Health Region 6/5 South, part of which is served by the Houston Methodist The Woodlands Hospital community, reported having been diagnosed with diabetes. This is slightly lower than the Texas rate of 11.9%.[77]

According to the CDC, diabetes is a "chronic (long-lasting) health condition that affects how your body turns food into energy." A diagnosis of diabetes can lead to many other medical complications, including heart disease, stroke, high blood pressure, blindness, kidney failure, nervous system damage, amputations and dental disease. There are three kinds of diabetes: type 1, type 2 and gestational diabetes, which are differentiated by both onset and insulin deficiency.[78]

The onset of type 1 usually occurs during adolescence. Type 1 diabetes is characterized by an autoimmune response in the body that renders the pancreas unable to produce insulin. Risk factors for type 1 diabetes include family history and age. Type 2 diabetes can occur at virtually any time in a person's life and is characterized by insulin resistance and insulin deficiency. Risk factors for type 2 diabetes include being overweight, being age 45 years or older, and lack of physical activity, among other factors. Type 2 diabetes is more common than type 1.[79] During pregnancy, some individuals who have never had diabetes before might develop gestational diabetes in the late stages of pregnancy, which is characterized by high blood glucose (sugar) levels.[80]

It is also important to note that more than 1 in 3 adults in the United States have prediabetes, described as having higher than normal blood sugar levels that have not yet reached the range for type 2 diabetes. Furthermore, the CDC (2019) reports that 90% of individuals living with prediabetes "don't even know they have it." Prediabetes can raise the risk for type 2 diabetes, heart disease, and stroke. These risks can be lowered through lifestyle changes, like having a healthy diet, engaging in physical activity and learning healthy ways to manage stress, among other factors.[81]

Figure 18 provides a snapshot of other leading causes of death in Montgomery County, focusing on the top 12.

Figure 18. Top 12 Leading Causes of Death in Montgomery County

Source: Texas Department of State Health Services

In the following sections, the below community needs will be described. Though the following community health priorities are ordered, this is not in direct correlation with the level of importance by which Houston Methodist Baytown Hospital will define each. The below outlined needs will serve as the basis for how each Houston Methodist facility will evaluate its current and future resources for the purpose of developing action plans. Some Houston Methodist facilities will be able to allocate resources to tackle each of the below while others, based on community priorities, may not address all of the below in a targeted manner.

Prioritized Needs of the Houston Methodist The Woodlands Hospital Community

- **Primary Care Services**
- **Specialty Care Services**
- **Healthy Living Behaviors**
- **Mental Health Care Services**

Primary Care Services: Increase access to primary care services for the surrounding community.

Specialty Care Services: Reduce barriers to accessing specialty care services for the surrounding underserved communities.
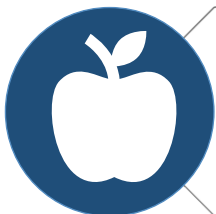
Healthy Living Behaviors: Promote healthy living behaviors that reduce the likelihood of chronic disease development.

Mental Health Care Services: Increase access to mental health care services within the surrounding underserved community.

INCREASE ACCESS TO PRIMARY CARE SERVICES FOR THE SURROUNDING COMMUNITY

Overview of Primary Care

Primary care consists of services by physicians trained in comprehensive first contact and continuing care of a patient. These services include health promotion, disease prevention, health maintenance, health education and diagnosis and treatment of acute and chronic illnesses that do not require specialized care. Providers of health care, other than physicians, may render some primary care services and include nurse practitioners, physician assistants and some other health care providers.[82]

Primary care providers serve a patients' basic medical needs and potentially prevent the development of chronic conditions through assessing well-being on a continual basis. This preventive care is a critical component of primary care and is key in preventing chronic disease, illnesses and other health problems, or to detect illness at an early stage when treatment is likely to be most effective. It includes services, such as screening, vaccinations, check-ups, patient counseling, and routine tests and exams. The CDC estimates that over 100,000 lives would be saved annually if everyone in the United States received clinical preventative care.[83] Despite the importance of preventive care, many people are not receiving the recommended services. Researchers from the Agency for Healthcare Research and Quality found that only 8% of adults age 35 and older had received all of their recommended high-priority preventative services, 22.4% received at least 76% of recommended preventive services, 16.3% received 25% or fewer, while 4.7% received none at all.[84]

Another important aspect of primary care is its role in helping to reduce expensive and unnecessary utilization of emergency departments (ED). [85] Each year, there are 145.6 million ED visits in the United States. Of these visits, only 8.7% result in a hospital admission.[86][87] Despite being regular sources of care for nonurgent health issues for some patients, EDs are extraordinarily expensive options and the issue has repercussions across the health care system and the nation as a whole. Annually, 18 million avoidable hospital ED visits result in an estimated $8.3 billion addition in costs to the health care system, according to a recent study by UnitedHealth Group. ED costs are 12 times higher than at a physician office and the earlier and more often a patient is seen by a primary care physician, the less likely they are to require hospitalization.[88][89] Primary care continuity is critical. When patients move around for care, they lack a consistent relationship with a health care provider who knows the patient's history, health needs, and ability to work on issues, such as exercise, medication adherence and necessary health education. Primary care continuity has been shown to reduce ED utilization and result in fewer hospitalizations.[90]

The patient-centered medical home (PCMH) model is a critical element of the primary care discussion, especially continuity in care. PCMHs, as stated by the Patient-Centered Primary Care Collaborative, are "patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety… [and] a widely accepted model for how primary care should be organized and delivered throughout the health care system." PCMHs reach patients in their community and follow five main tenets found in figure 19, as defined by the Agency for Healthcare Research and Quality. There is a growing body of evidence showing that PCMHs

Figure 19: Attributes and Functions of a Patient-Centered Medical Home (PCMH)

- Patient-centered
- Comprehensive Care
- Coordinated Care
- Accessible Services
- Committed to Quality and Safety

Source: Agency for Healthcare Research and Quality

are improving quality of care and patient relationships as well as saving money by reducing hospital and emergency department visits, helping to address health disparities, and improving patient outcomes.

Many safety net clinics, which serve an important role in providing medical care to the medically underserved populations in Houston, utilize a PCMH model. The number of these community clinics have grown substantially over the past 10 years. Research by Episcopal Health Foundation shows that in Harris County, the number of community clinics, which include Harris Health clinics, Federally Qualified Health Centers (FQHCs) and nonprofit charity clinics, has more than doubled since 2008, from 35 to 88 in 2017. Estimates also show that patient visits increased 300% since 2008. Houston Methodist's continued plan of action with community networks will be described in full within the implementation plan.

Access to Primary Care

A population's access to primary care greatly impacts the overall health of a community. Nationally, improving access to comprehensive, quality health care services is a Healthy People 2020 goal. Healthy People 2020, the federal government's 10-year prevention agenda, outlines national objectives for the nation. The importance of having an established primary care provider is clearly described as a key element within the access to health services goal, outlined in table 7.[91] Locally, Houston Methodist The Woodlands Hospital community stakeholders also recognize the importance of the issue. Among the Houston Methodist survey respondents, 59% said that access to affordable health care was a necessary component of a healthy community (See figure 20). As stated by a representative from the Houston Health Department:

Table 7. Access to Health Services Objectives

Objectives for Healthy People 2020 Access to Health Services Goal
• Increase the proportion of persons with health insurance
• Increase the proportion of persons with a usual primary care provider
• Increase the number of practicing primary care providers*
• Increase the proportion of persons who have a specific source of ongoing care
• Reduce the proportion of persons who are unable to obtain or delay in obtaining necessary medical care, dental care, or prescription medicines
• Increase the proportion of persons who receive appropriate evidence-based clinical preventive services*
• Increase the proportion of persons who have access to rapidly responding prehospital emergency medical services*
• Reduce the proportion of hospital emergency department visits in which the wait time to see an emergency department clinician exceeds the recommended timeframe
Developmental Objective

Source: United States Department of Health and Human Services

"Now that people have coverage, do they understand how to use it, that they can use it, and how to turn that coverage into a prevention type of exam? You know, primary exams, and primary care where they can go, and be seen, and cared for so that they can – if they do have a specific condition or sickness, they can get early prevention and care, and diagnoses of that… while we may have what some would believe is greater access, access doesn't always mean… access, because just because you have coverage doesn't mean you have access." (Houston Health Department)

Figure 20. Most Important Needs for Community Health
Q. What are the five most important things that are needed for your city/community to be healthy? (N=916)
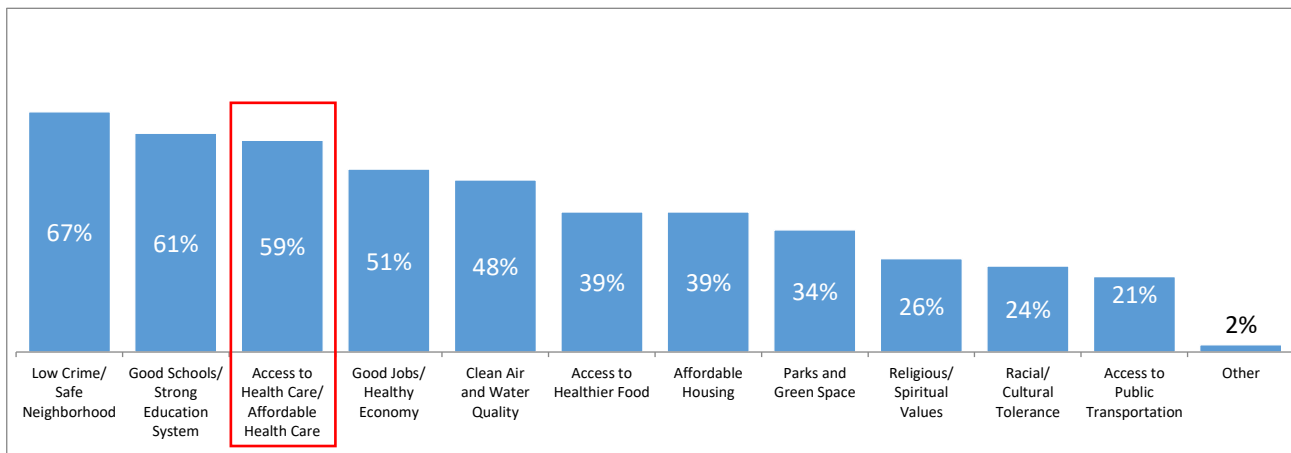
Source: Houston Methodist Health Needs Survey (2019)

Barriers to Accessing Primary Care

Despite the importance of accessing quality primary care services, many people face a variety of barriers that hinder their ability to access these services. In the United States, the most common barriers include lack of health insurance, inability to take time off work to attend appointments, geographic and transportation-related barriers, a shortage of primary care providers, language-related barriers and disabilities. [92] Many of these barriers were also mentioned in the 2019 Houston Methodist survey; the top five barriers included lack of health

insurance, cost, fear (not ready to face health problem), inability to take time off work, and long waits. See figure 18 for rankings based on survey participants' feedback. A more in-depth discussion of the top barriers follows below.

Insurance & Cost

Seventy-nine percent of our community survey respondents cited lack of insurance as one of the top barriers to seeking medical treatment, followed by cost, which was cited by 67% of respondents (See figure 21). These two interdependent barriers are impacted by the changing health care and political landscape.

Figure 21. Biggest Barriers to Seeking Medical Treatment

Barrier	Percentage
Lack of insurance	79%
Unable to pay co-pay/Too Expensive	67%
Fear (not ready to face health problem)	44%
Can't take time away from work to see doctor	41%
Long waits to see the doctor	37%
Health services too far	20%
Language Barriers/Do not speak the language	18%
Don't know how to find a doctor	18%
Unreliable/Insufficient Transportation	18%
Cultural or religious beliefs	5%
Other	4%
There are no barriers	8%
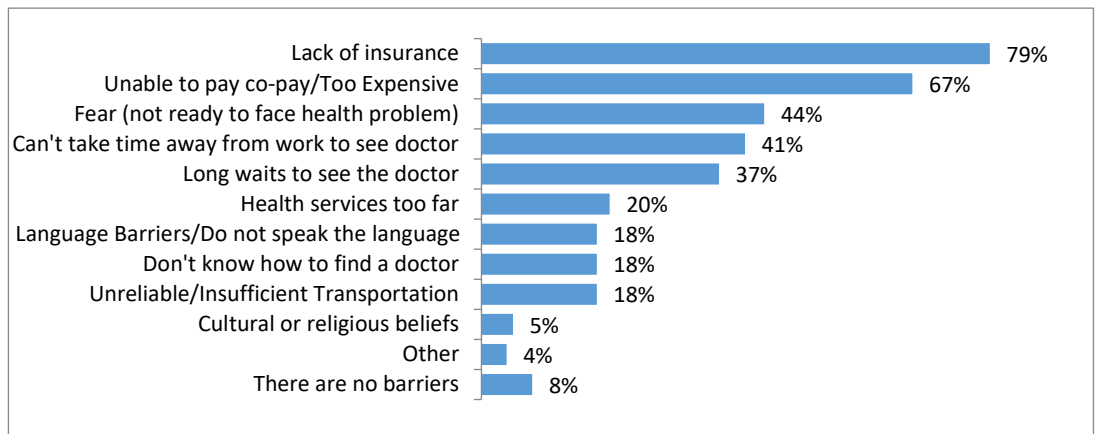
Source: Houston Methodist Health Needs Survey (2019)

Within the Houston Methodist The Woodlands Hospital Community, 18.9% of the population lacks health insurance, ranking close to the state average (20%), which is one of the highest in the nation. Harris County exceeds the state average, with 21.2% of the population uninsured.[93] On the health of those who are insured versus those who are not, Katy Caldwell, CEO of Legacy Community Health states:

> "[The overall health status of residents on a scale of one to five] depends on your socioeconomic status. If you are a person who's got health insurance – which we see a lot of people who've got health insurance, whether it's Medicaid or private insurance – if you're in a high socioeconomic status, then your health I would say is a four. If you are in one of our areas that has a lower socioeconomic status, I would say it's about a two." (K. Caldwell, Legacy Community Health)

Although the Affordable Care Act aims to increase the availability of affordable health insurance in the United States, there are still many individuals who remain uninsured. Its implementation led to an increase in insurance coverage in Texas, with coverage for more than 1 million Texans. However, Texas' rejection of the state Medicaid expansion resulted in an estimated $100 billion in federal funding left on the table over the next decade. If Texas had expanded Medicaid, an estimated 1.2 million uninsured Texans would have qualified for Medicaid coverage which would have improved access to primary care.[94]

Nationally, more than 2 million poor uninsured adults, and in Texas, 759,000 Texans fall into the Medicaid coverage gap. This means that they earn too much to qualify for the state's Medicaid threshold but not enough to meet the criteria for financial assistance through the Affordable Care Act's marketplace. These individuals are left stuck between two income eligibility lines and with little support for purchasing insurance.

The uninsured are less likely than those with insurance to obtain preventive care and treatment for chronic illness and major health conditions. In the Kaiser Family Foundation's analysis of the National Health Interview Survey, 62% of uninsured adults who did not have a usual source of care reported that they did not have any preventive health services.[95] When seeking care with a primary care physician, they often find the cost of the appointment to be unaffordable. Also, many uninsured individuals cannot afford to obtain the treatments or follow-up care recommended by their providers. For example, 2017 research, also by the Kaiser Family Foundation, found that uninsured nonelderly adults were more than three times as likely as those with private coverage to report that they postponed or did not get a needed prescription drug due to cost. [96] [97] This issue is also found within the

Houston Methodist community survey; 67% of Houston Methodist community survey respondents cited affordability as a top barrier to accessing care.

The uninsured are not the only ones impacted by the high cost of health care. Those who are insured, especially those with high deductibles, as well as people with poor health, are particularly burdened by cost. According to research by Kaiser Family Foundation, 1 in 5 adults in worse health (19%) said they delayed or did not receive medical care due to cost, while 7% of respondents in better health reported the same. Cost barriers generally rise during economic downturns. [98] Low-wage workers often find employer-based coverage to be unaffordable. Workers in low-wage firms pay, on average, $7,000 annually toward the premium for a family plan.
They may also face much higher deductibles compared to higher-wage counterparts: their average annual single deductible is $2,679, compared to $1,610 at other higher-wage firms. [99]

Physician Shortages

Access to primary care is also impacted by physician availability. The growing, aging population is leading to an increased demand for physicians in the United States and a primary driver for future primary care provider shortages. By 2030, the general population is expected to grow by 11%; the 65+ population will increase by 50%. The national projected shortage is estimated to be between 46,900 and 121,900 physicians by 2032.[100] From a state perspective, Texas ranks 47th in the nation in having enough physicians to meet the population's needs. The state currently has a shortage of 2,000 primary care physicians, which the Texas Department of State Health Services expects to grow by 67% (3,375 primary physicians) by 2030.[101]

The Houston Methodist The Woodlands Hospital community also experiences primary care physician shortages, although the severity varies within counties. The Texas Department of State Health Services ranks counties by their ratio of the population to primary care physicians. Harris and Montgomery counties have 1 primary care physician to 1,120 and 1,195 individuals, respectively. See table 8 for details.[102] Rates vary within counties as well. For example, in Harris County, ZIP codes showing the greatest need for more primary care providers were primarily located in the north, northwest and southeast parts of the county according to one study.[103]

Table 8. Houston Methodist The Woodlands Hospital Community Primary Care Physicians by County, 2018

County	Primary Care Physician Total	2018 Population	Ratio of Population to Primary Care Physician	Rank – Ratio Of County Population to PCP *
Harris	4,209	4,716,479	1,120	23
Montgomery	513	613,169	1,195	37
Out of 220 counties with data				

Source: United States Department of Health and Human Services

The shortages warrant attention as an increase in supply of primary care physicians is directly associated with improved health outcomes on many fronts including cancer, heart disease, stroke, infant mortality, low birth weight and life expectancy. In addition, research shows that a 1% increase in primary care physician supply is associated with a decrease of 503 hospital admissions, 2,968 emergency room visits, and 512 surgeries.[104] Despite efforts by health systems and the government, the planned opening of several new medical schools by 2020, and implementation of new efficiencies of care, the doctor shortage will remain a significant issue. [105]

The Houston Methodist The Woodlands Hospital community is home to a network of clinics, governmental agencies, hospital systems and academic institutions working towards enhanced health care safety nets and access to quality, affordable health care. Harris County Hospital District is the largest safety net provider in the region. It continues to expand, as do the number of community clinics, which have grown substantially over the past 10 years. Research by Episcopal Health Foundation/Working Partner shows that in Harris County, the number of community clinics (safety net clinics), which include Harris Health clinics, Federally Qualified Health Centers (FQHCs) and nonprofit charity clinics, has more than doubled since 2008, from 35 to 88 in 2017.

Estimates also show that patient visits increased 300% since 2008.[106] Dr. Julia Andrieni, vice president of population health and primary care at Houston Methodist, describes the complexities of this issue.[107]

> "A shortage of primary care providers combined with a growing uninsured population creates disparities in health for vulnerable communities. The … shortage will require new models for delivering care leveraging technology, community engagement with NPs and PAs, and delivery of preventive care outside of the bricks and mortar of traditional offices. Preventive care starts with pediatrics through the life cycle to geriatrics and will require bringing care to the community and to the home to reach populations with limited resources." (J. Andrieni, Houston Methodist)

Other Nonfinancial Barriers

In addition to insurance and affordability barriers, and provider shortages, individuals face a multitude of other issues that affect their ability to access primary care. Health care systems are complex and can be difficult to navigate. In addition, work schedules, coupled with limited provider office hours, pose an issue to individuals who may not have sick leave benefits. Fear of losing wages may also factor into an individual's decision to seek primary care. One study showed that even when provided with sick leave, some workers may not take the leave due to lost wages. Physical access issues also impact health seeking behavior. Transportation and travel distance, especially in rural areas, limit people's ability to access medical care. Research also shows that individuals who speak a language other than English at home may be less likely to access primary care and screening programs.[108] Fear of facing a medical issue may also play a factor, according to the 2019 Houston Methodist survey respondents; 44% mentioned it as a barrier to seeking medical care. People may be experiencing other fears related to access, including those that are immigration related. As Joe Jimenez, President and CEO of the Association for the Advancement of Mexican Americans, describes:

> "We serve a tremendous amount of undocumented immigrant population… they're scared to basically go out and obtain services that are available to them. So, it's a constant struggle for us to educate them, basically pull them from the dark, tell them it's OK, provide a home for them so they feel comfortable to go get care that is available." (J. Jimenez, Association for the Advancement of Mexican Americans)

A myriad of other sociocultural barriers exists and must be explored at the local community level in order to build targeted strategies to improve access among underserved populations.

Prevalence and Effects of Chronic Disease

Chronic diseases are ongoing, generally incurable illnesses or conditions. According to the CDC, 6 in 10 adults in the United States have a chronic disease and 4 in 10 adults have two or more.[109] Chronic diseases — including cancer, diabetes, hypertension, stroke, heart disease, respiratory diseases, arthritis, obesity, and oral diseases — can lead to hospitalization, long-term disability, reduced quality of life, and even death, killing more than 1.7 million Americans each year. In fact, persistent conditions are the nation's leading cause of death and disability.[110] Often linked to poor diet and lifestyle choices, including tobacco use, excessive alcohol consumption, and inadequate physical activity[111], chronic diseases are classified by the medical community as preventable and frequently manageable through early detection, improved diet and exercise, and treatment therapy.[112]

When patients are living with a chronic disease or require more thorough evaluation into a health problem, their primary care physician will refer them for specialty care. Specialty care can involve both preventative care or ongoing treatment for chronic conditions, and physicians providing this health service train for years to assist patients with disease management, developing advanced knowledge-bases around specific diseases and/or systems of the body.

Most Common Specialty Care Needs

As noted earlier in this report, some of the leading causes of death in Texas and Harris County include heart disease, cancer, stroke, chronic obstructive pulmonary disease (COPD), and diabetes. These chronic conditions are exasperated by other medical complications, including high blood pressure, high cholesterol and obesity. There are many specialty care services that address these and other health priorities and concerns. The following section will briefly review a few of the common specialty care services, focusing on some of the specialist care that addresses health conditions, which are also the leading causes of death (diabetes, heart disease and cancer) as well as critical community health issues (mental health, and sexual and reproductive health):

Endocrinology

Endocrinologists specialize in the care of individuals living with diabetes and other metabolic disorders, helping patients develop treatment plans tailored to their individual health needs. Because a diagnosis of diabetes can lead to other health complications, like heart disease, stroke and high blood pressure, it is a widespread health concern that in some cases requires oversight and treatment by a specialist.[113] In addition to treating patients living with type 1 or type 2 diabetes, endocrinologists can also screen for and monitor prediabetes. Complications associated with diabetes can begin early in the development of the illness. Patients who are prediabetic can engage in treatments with their specialists that prevent disease progression and reduce the potential for future complications. Monitoring for type 2 diabetes development is suggested for people who are living with the following: obesity, hypertension, low HDL cholesterol, high triglycerides and tobacco use.[114]

Cardiology

Cardiologists specialize in the prevention and treatment of diseases that can affect the cardiovascular (heart and blood vessels) system. Some common conditions that are treated by cardiologists include heart disease – the leading cause of death in the United States – and also heart arrhythmias and hypertension. Heart arrhythmias are changes in the electrical impulses that direct one's heartbeat, causing it to beat too fast, too slow or irregularly.[115] Hypertension, or high blood pressure, is a prevalent health condition involving elevated rates of pressure of the blood in blood vessels. The CDC notes that while it is normal for blood pressure to rise and fall throughout the day, continuous elevated levels can injure the heart and lead to other chronic illnesses, like heart disease or stroke.[116] Cardiologists can assist patients through the screening and monitoring of key risk factors that can affect the cardiovascular system, including a patient's body mass index, blood pressure, cholesterol and blood sugar.

Oncology

Early detection is key to cancer prevention and treatment, allowing physicians to address abnormal tissue or cancer growth before symptoms appear. Once patients begin to experience symptoms, cancer may have spread to other parts of the body, making it more difficult to treat. There are several effective screening tests that focus on the detection of certain types of cancer, shown in table 9. If a patient is diagnosed with cancer, he or she might receive treatment through surgery, or special therapies like chemotherapy, radiation therapy, and targeted therapy.[117]

Table 9. Screening Tests for Certain Types of Cancer

| Screening Test	Type of Cancer
Colonoscopy, Sigmoidoscopy	Colorectal Cancer
Low-dose Helical Computed Tomography	Lung Cancer
Mammography	Breast Cancer
Pap Test, HPV Test	Cervical Cancer

Source: National Cancer Institute

Psychiatry

Psychiatrists specialize in the diagnosis, treatment, and prevention of mental, emotional, and behavioral illnesses.[118] Mental health impacts the ways individuals form relationships, process stress, and make every day decisions.[119] Given the prioritizing of this health issue, the section *Increase Access to Mental Health Care Services Within The Surrounding Underserved Community* will more fully explore the prevalence and impacts of this health condition and the services that support it.

Obstetrics & Gynecology

Obstetricians specialize in prenatal care, childbirth, and the postpartum period for individuals who are expecting children; while gynaecologists specialize in the health of the female reproductive system (uterus, fallopian tubes, cervix, ovaries and vagina). The two practices are closely related (often combined as OB-GYN), and most specialists in these fields practice both. Sexual and reproductive health is important for an individual's general health and well-being. Within these specialties, physicians can provide preventative care in the form of contraceptive assistance, cervical screenings, and screenings for STDs/STIs and gynaecologic cancers, as well as assist patients with managing certain chronic conditions, including Polycystic Ovarian Syndrome, Endometriosis and Uterine Fibroids. With specific regards to obstetric services, patient care during the prenatal, childbirth, and postpartum periods is helpful in promoting the health and wellbeing of both the expectant parent and the child. Prenatal care, including physician visits for physical exams and screenings, and the provision of information on healthy diet, exercise and environmental cautions, can help prevent complications that can affect the health of the expectant parent and child.[120] Maternal mortality is a growing health concern in the United States. The CDC defines a pregnancy-related death as the "death of a woman during pregnancy or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy."[121] In the United States, about 700 people die each year from pregnancy or delivery complications, with significantly higher pregnancy-related deaths among black and American Indian/Alaskan Native women (see figure 22). Maternal mortality is also a critical issue in Texas and Harris County. In a joint report submitted by the Texas Maternal Mortality and Morbidity Task Force and Texas Department of State Health Services, it was found that 38% (34 people) of maternal death cases in Texas were identified as pregnancy-related and 56% (50 people) as pregnancy-associated in 2012. Furthermore, the report noted that black women were more likely to experience pregnancy-related death than any other race or ethnicity. Focusing on Harris County, the task force also noted in a separate study that severe maternal mortality increased by 53% from 2008 to 2015, with 238 women out of every 10,000 deliveries in Harris County dying from pregnancy-related complications in 2015.[122]

**Figure 22. Racial/Ethnic Disparities in Pregnancy-Related Deaths
(United States 2007-2016)**
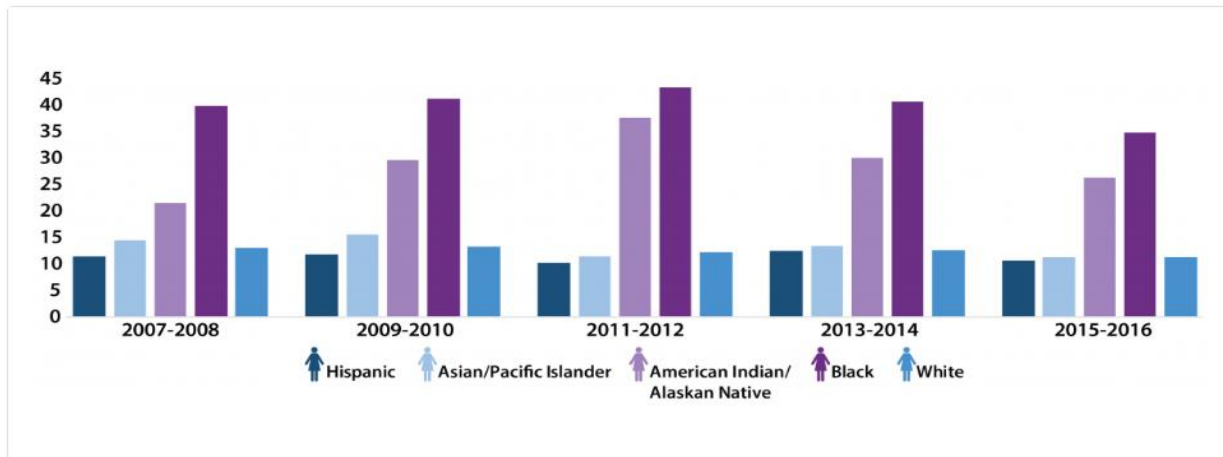
Source: Center for Disease Control

Barriers to Accessing Specialty Care

Previously noted, specialty care services are significant and oftentimes necessary components of both preventive health and managing critical health concerns. Furthermore, to avoid a cycle of unmanaged health complications, specialty care must be received in a timely manner. However, when attempting to access these services, patients sometimes encounter barriers that make it difficult to receive care, including transportation, admission, and even fear of facing a health problem. The high cost and coordination of some specialty care services is a barrier for most vulnerable and underserved communities. To better understand these hurdles, the following section will explore the most common barriers to accessing specialty care in the Houston Methodist The Woodlands Hospital community, focusing on the high costs of specialty care, gaps in the continuum of care, specialty care service demands and specialty care physician shortages.

Higher Cost of Specialty Care

Specialty care is more expensive than primary care and is usually vital to the patient's health. The CDC states that 90% of the nation's $3.3 trillion spent on health care are for people living with chronic and mental health conditions.[123] Diagnostic procedures are often required to refer a patient to a specialist or to assist a specialist in forming their diagnosis. The cost of testing alone can be an impediment to specialty care referrals and treatment. For individuals who are uninsured, the costs of these tests could also be substantially higher than for individuals whose diagnostic screening costs are covered by their health insurance provider. Furthermore, specialty care may require more frequent visits and screening beyond the initial tests required for a referral. These additional screenings increase out of pocket costs to the patient.

Gaps in Providing a Continuum of Care

Should diagnostic tests be performed and a potential need for specialty care has been identified, patients might face another challenge – the lack of an effective and efficient referral process.

Primary care physicians are also challenged with finding specialists included in health insurance plans, particularly those plans purchased on the marketplace that have narrow networks. Insurance usually falls into two categories, either a preferred provider organization (PPO) plan or a health maintenance organization (HMO) plan. A PPO offers a network of providers to choose from, with the ability to see providers both in and out of the network, though out of network providers will be more expensive. An HMO offers only the ability to see a provider in the network, which in some regions — particularly in areas with limited medical resources — can be restrictive.

Also, once the patient begins to be seen by a specialist, who may determine that a patient requires expensive treatments or procedures, the ability to provide a full continuum of care is essential. Some organizations, like the Harris Health System, are established to address the gaps that are often found in the continuum of care for patients. Harris Health is an integrated health care system that cares for the vast majority of the Harris County population, particularly the underserved. Formerly the Harris County Hospital District, which was established through Texas voter referendum in 1965, the system provides a significant avenue for residents in need of specialty care services. Harris Health provides several specialty care options, including cancer care, cardiology, stroke care, women and infant care, and HIV/AIDS services. In 2016, Harris Health saw 340,860 visits to their specialty clinics, down from 345,900 in 2015.[124]

High Demand with Limited Options

Due to the high prevalence of chronic health conditions, there is an increased demand for specialists that can treat these diseases. The increase in specialty care requests has been a contributing factor in longer appointment wait times, with patients sometimes having to wait several weeks to several months to see a specialist. Dr. Laila S. Tabatabai, an endocrinologist in the department of medicine at Houston Methodist Hospital, references wait times but also discusses how primary care physicians can play a role in helping decrease wait times for those patients who are urgent:

"The length of time to get an appointment is a barrier to seeing a specialist. When we get a patient scheduled and I see them for the first time, they often had to wait for a long time (typically 3 – 6 months or longer). Patients who need to be seen urgently can be worked in earlier and primary care physicians or their staff need to make us aware of this need for an urgent appointment. If patients can safely wait for an appointment, we reassure them that we will add them to our wait list/cancellation list. The same principle applies to diabetes, thyroid disease, and other endocrinologic conditions – acutely ill patients need to be identified by their primary care physician so that their scheduling can be triaged into urgent/next-available slots with an endocrinologist who sees that condition." (Dr. L.S. Tabatabai, Houston Methodist Hospital)

In a 2017 study on physician appointment wait times, Merritt Hawkins, a health care staffing firm, noted that the average wait time to see a physician was 24 days, up from 18 days in 2014.[125] Table 10 shows the average wait times to see certain specialty care physicians in Houston, with appointments for obstetricians-gynecologists holding the longest wait time at 103 days:

Table 10. Physician Appointment Wait Times in Houston, TX

Specialty Care Service	Shortest Time to Appointment	Longest Time to Appointment	Average Time to Appointment
Cardiology	2 days	43 days	12 days
Obstetrics-Gynecology	1 day	103 days	27 days
Orthopedic Surgery	1 day	30 days	10 days
Dermatologist	1 day	75 days	28 days

Source: Merritt Hawkins

For indigent patients with limited provider options, wait times for seeing a specialty care physician are even longer than for those who have a wider network of options. In clinics that serve low-income patients, only a few have specialists on staff. Sometimes, the clinics have no direct connection with specialists, who are usually affiliated with hospitals or large practices. Even when there is an established connection, arranging timely and affordable specialty care may be extremely difficult. Furthermore, as the population in the United States grows, with the expected number of people over 65 increasing by 50% by 2030, so will the demand for specialty care physicians.[126]

Underserved Communities Face Specialty Care Physician Shortages

Because specialty care physicians are compensated at a higher rate than their primary care counterparts, settings that provide care for the underinsured and uninsured may not be able to compete with larger institutions

to obtain these specialists. FQHCs, which receive federal funding to provide a valuable and necessary medical safety net for underserved populations, are required to provide primary care services to patients on-site. However, they are not required to provide specialty care and therefore depend primarily on external sources to support specialty care programs. To meet the demands for specialty care physicians, some FQHCs are incorporating specialty care into community clinics to improve health outcomes. Most specialty care physicians working in FQHCs and free clinics are providing care pro-bono or through external programs providing support for the clinic. Otherwise, the majority of specialty care services must be referred out of the clinic, possibly leading to broken referral chains and/or long wait times, further increasing the barriers to accessing specialty care.

Living a Healthy Lifestyle and Its Impact on Well-being

Life expectancy at birth (LEB) — often abbreviated to 'life expectancy' — is how long, on average, a newborn can expect to live, if current death rates do not change. LEB reflects the overall mortality level of a population and is one of the most frequently used health status indicators.[127] [128] In Texas, life expectancy varies by as much as 30 years with a statewide life expectancy of 78.5 years. While Harris County is comparable with an average life expectancy of 78.9 years, life expectancy varies greatly across ZIP codes and can vary by up to 20 years ranging from 69.8 years to 89.7 years (see figure 23).[129]

Figure 23. Houstonian Life Expectancy by Zip Code
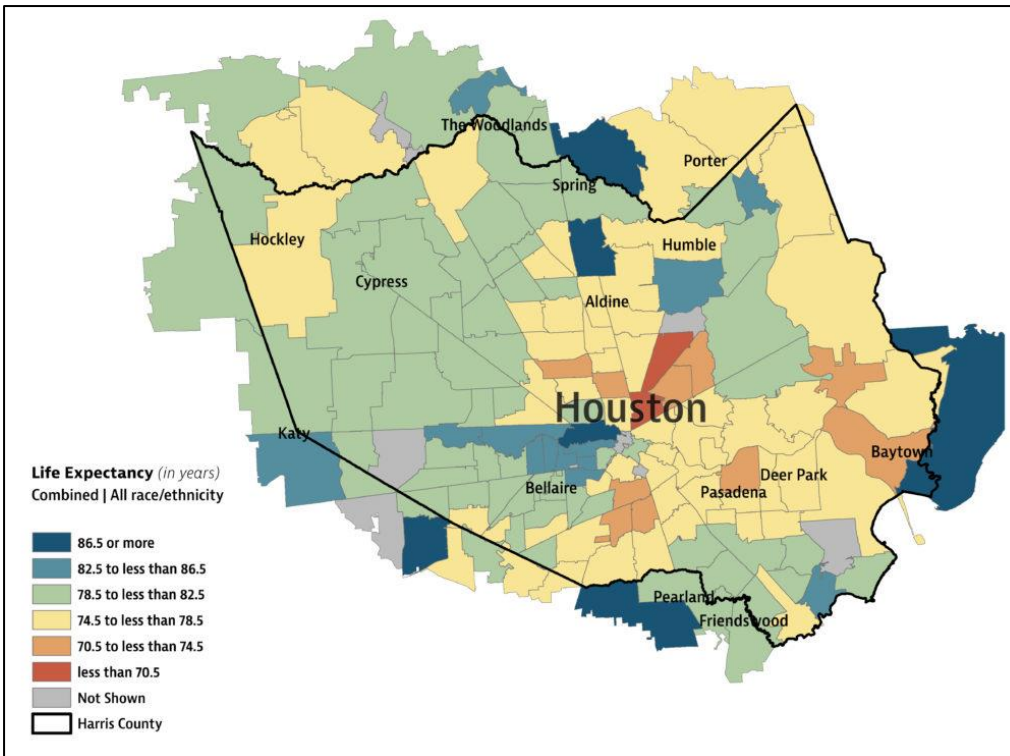
Source: UT Southwestern Medical Center

According to the National Center for Health Statistics' annual mortality report, life expectancy in the U.S, overall fell in 2017 for the second time in three years. The average American can now expect to live 78.6 years, down from 78.7 years in 2016. Robert Redfield, the director of the CDC, considers this decline in life expectancy "a wakeup call that we are losing too many Americans, too early and too often, to conditions that are preventable." Researchers from the Harvard T.H. Chan School of Public Health conducted a comprehensive analysis of the impact of adopting low-risk lifestyle factors on life expectancy in the United States and found that adopting healthy living behaviors could narrow the life expectancy gap between the United States and other industrialized nations.

The study found adherence to five low-risk lifestyle-related factors: healthy diet, regular physical activity, maintaining a healthy body weight, never smoking and moderate alcohol intake could prolong life expectancy significantly. According to their analysis, people who met criteria for all five habits at age 50 prolonged their life expectancy by 14 years for females and 12.2 years for male adults. People who had none of these habits were far more likely to die prematurely from cancer or cardiovascular disease.[130] This along with other related studies support the idea that health behaviors can impact the overall mortality rates of a population and can have a direct correlation to the development of chronic conditions.

Over time, as populations adopt healthy lifestyle behaviors, there is a long-term effect of curtailing the prevalence and seriousness of disease. Stephen Klineberg, a professor of sociology at Rice University, speaks to the importance of involving hospitals in community health promotion:

"We need to build communities, we need to reach out to communities – the hospitals need to serve the communities, they need to move outside of the hospital and bring wellness programs. We focus way too

much in America on curing people disease, rather than on helping them live healthy lives, and prevent those diseases from occurring in the first place, or when they do occur, having them be much less serious than they become." (S. Klineberg, Rice University)

Healthy Eating

Proper nutrition is essential for keeping people healthy across their lifespan. A healthy diet helps children grow and develop properly and reduces their risk of chronic diseases, including obesity. People with healthy eating patterns live longer and have a lower risk of heart disease, type 2 diabetes, certain cancers, and of being overweight and obese — all of which are leading causes of death in the primary county served by Houston Methodist The Woodlands Hospital, Harris County, as noted previously in this report. Healthy eating can help people with these chronic diseases manage their conditions and prevent disease-related complications. However, most Americans do not have a healthy diet. In fact, diets in the United States are high in added sugars, sodium and saturated fats, exacerbated by inexpensive, convenient, and widely available processed, fast food, and sugary drinks.[131] Fewer than 1 in 10 adults eat the recommended daily amount of fruits and vegetables and 9 in 10 Americans aged 2 or older consume more than the recommended amount of sodium. In addition, 6 in 10 young people aged 2 to 19 years and 5 in 10 adults consume a sugary drink daily.[132] Americans, aged 6 years and older, consumed about 14% of total daily calories from added sugars in 2003-10, 4% higher than the CDC recommendation. Most added sugars intake is from sugar-sweetened beverages, grain-based desserts, like cakes and cookies, and dairy desserts like ice cream.[133]

Micronutrients are dietary components, often referred to as vitamins and minerals, which although only required by the body in small amounts, are vital to development, disease prevention and well-being. Micronutrients are not produced in the body and must be derived from the diet. Deficiencies in micronutrients such as iron, iodine, vitamin A, folate and zinc can have devastating consequences. For instance, iron deficiency increases the risk of maternal and perinatal mortality, and low birth weight, and vitamin A is necessary to support healthy eyesight and immune system functions. Children who are deficient in vitamin A face an increased risk of blindness and death from infections.[134]

In regard to residents' biggest barriers to eating a healthy diet Karen Harwell, CEO for LoneStar Family Health lists transportation, education, and fear.

> "We have a really large county… there's a lot of rural areas, the west doesn't cater to the east very easily and vice versa… Our county has the I45 corridor that runs north/south and there's a ton of stuff up that interstate – just off that interstate, and even within one to two miles of that interstate. Once you get off of that interstate, you start getting into the east county and west county you'll go miles and mile and miles without grocery stores, so there are food deserts in our community. Transportation, access to healthy food, but quite honestly, a big part of it is education, and fear. So on the education piece, I cannot tell you how many children come in to our dental office, for example, and their entire lives, since they've been three months old, they've been drinking apple juice out of a bottle, Dr. Pepper out of a bottle. You know, parents just have no clue, what that does to the children's teeth, not to mention leading to obesity and all of that. Fear I mentioned just because we've been in the community about 15 years. We've got a good – we're known in the community, and we do a lot of outreach in the community that need to get connected to extra care, so that they can access their local services. And over that 15-year period it's come to trust us, but there's still that barrier there, that if I come to your health center, I have to fill out paperwork, I have to show you documents, in order to qualify for the low cost that you can extend to me. Yeah you speak my language, yes, you hire employees that kind of look like me and sound like me, but you need all this paperwork and I'm just really not sure about that, so, of course, that's still kind of a huge barrier, for those that have the fear of getting in the system and being tracked down, deported…" (K. Harwell, LoneStar Family Health Center)

There are still barriers to, and disparities in, the accessibility and availability of foods that support healthy eating patterns. Access to foods that support healthy eating patterns contributes to an individual's health throughout their life by lowering the risk of chronic disease. Within many Houston neighborhoods, the lack of ready access

to healthy foods, such as fresh fruits, vegetables and whole grains combines with low incomes, and other factors related to transportation, time, ability and proclivity to cook make food insecurity and food deserts a reality for many, which has an adverse effect on individual and community health.[135]

- **Food Deserts:** Regions of the country that feature large proportions of households with low incomes, inadequate access to transportation, and a limited number of food retailers providing fresh produce and healthy groceries for affordable prices have been defined by the United States Department of Agriculture (USDA) as food deserts. While there are many ways to measure food store access for individuals and neighborhoods, and many ways to define which areas are food deserts, most measures and definitions take into account the following indicators of access: accessibility to sources of healthy food, individual-level resources that may affect accessibility, and neighborhood-level indicators of resources. In the United States, the average distance from households to the nearest grocery store is 2.19 miles. This distance not only negatively impacts individuals without a vehicle or access to convenient public transportation, it also makes it difficult for those who do not have food venues with healthy choices within walking distance. Altogether, these barriers limit access to foods that support healthy eating patterns. Over 500,000 Houstonians live in USDA-designated food deserts areas.[136]

- **Food Insecurity:** As defined by the United States Department of Agriculture (USDA), food insecurity is a household-level economic and social condition of limited and uncertain access to adequate food that is associated with low incomes. There are an estimated 724,750 food-insecure individuals in the Greater Houston area with a food insecurity rate of 16.6%, which is about 4 percentage points above the national average.[137] Maintaining a healthy diet requires nutritious food to be affordable and accessible. People experiencing food insecurity often consume a nutrient-poor diet, which may contribute to the development of obesity, heart disease, hypertension, diabetes, and other chronic diseases. Additionally, people who live in food-insecure households have difficulties managing diet-related chronic conditions, such as type 2 diabetes.[138]

Regular Physical Activity

Although there are genetic, behavioral, metabolic and hormonal influences on body weight, obesity is caused by an energy imbalance that occurs when you take in more calories than you burn through exercise and normal daily activities, which results in one's body storing those excess calories as fat.[139] In 2016, 29.5% of Houstonian adults reported as sedentary, not participating in any physical activities other than their regular job during the past month.[140] Additionally, 29% of survey respondents to the Houston Methodist 2019 Community Needs Survey reported no physical activity per week when responding to "How many hours on average do you exercise per week?" According to the CDC, only about half of American adults get the recommended amounts of aerobic physical activity.[141]

Encouraging certain lifestyle modifications, such as balanced nutrition and physical activity can contribute to preventative care and may decrease the likelihood of certain diseases to develop. Daily exercise, a healthy diet, and a long-term commitment to watch what one eats and drinks are steps that can be taken to prevent unhealthy weight gain and related health problems.[142] Dr. Ruth Petersen, director of CDC's Division of Nutrition, Physical Activity, and Obesity, highlights the importance of physical activity by saying:

> "If you could package physical activity into a pill, it would be the most effective drug on the market." (R. Petersen, CDC)

The most common personal barrier to a regular physical activity routine is lack of time. Work, family obligations and other realities of daily life often get in the way of intentions to be more active. However, many cite a lack of resources or equipment as a significant barrier to physical activity.[143] While individuals make the final choice about whether to be physically active, they can face challenges that make this choice more difficult. They may not know about or have access to safe places to be physically active, may live in communities not designed for activity, or may have chronic conditions or physical limitations that create additional barriers.[144] Texas Health and Human Services attribute environmental changes, such as urban sprawl, as a barrier to physical activity.[145]

Programs, practices and policies can help individuals overcome these challenges and make regular physical activity an easy choice.[146]

Feedback received via the 2019 Houston Methodist Community Health Needs Survey highlights the need for safe neighborhoods as a necessary component of a healthy community. Sixty seven percent of respondents selected low crime/safe neighborhoods as one of the five most important things that are need for your city/community to be considered healthy; 34% of respondents cited parks and green space. A representative from the public health sector in Harris County gives insight into barriers Harris county residents may face when attempting to maintain routine physical activity.

> "Many folks are not going to be able to afford a gym membership, for instance, but then when you go outside of that and think about a neighborhood that doesn't have good sidewalks and sometimes they don't have sidewalks – sometimes they have them but they're in disrepair – those challenges make it physically difficult for people to just get around. Aside from that, there's issues related to lighting and safety, whether that be perceived safety or real issues of violence in a community, those definitely create barriers. And then the one things that we found pretty interesting was that the issue of loose animals gets in the way, often times, of people getting out and being physically active." (Harris County)

Maintaining a Healthy Body Weight

Of the Houstonians that were surveyed for this report, 36% reported having been told that they are overweight. Overweight and obesity are increasingly common conditions in the United States and may cause the following complications: death, sleep apnea and breathing problems, mental illness, and body pain or difficulty with physical functioning.

Obesity is a complex disease involving an excessive amount of body fat. Adults who have a body mass index (BMI) of 30 or higher are considered obese. While obesity is not a primary cause of death, it is a leading contributor to a number of potentially serious health problems including: coronary heart disease, type 2 diabetes, digestive problems and certain cancers (uterine, cervical, ovarian, breast, colon, rectum, esophageal, liver, gallbladder, pancreatic, kidney and prostate). Regarding population health outcomes, the percentage of overweight and obese adults is an indicator of the overall health and lifestyle of a community and carries significant economic costs due to increased health care spending and lost earnings.[147] In 2017, the CDC reported a 39.8% national prevalence of obesity in adults, noting that the prevalence was higher among middle-aged adults than among younger adults at a rate of 42.8% versus 35.7%. Data also shows differences in the national prevalence of adult obesity by race and Hispanic origin. Rates were lower among non-Hispanic Asian adults (12.7%) compared with all other race and Hispanic-origin groups. Hispanic (47%) and non-Hispanic black (46.8%) adults had a higher prevalence of obesity than non-Hispanic white adults (37.9%).[148] Texas has the 10th highest adult obesity rate (34.8%) in the nation, a rate that has increased by 13.1% since 2000.[149] Figure 24 notes the obesity rate distributions among age, race/ethnicity, and sex in Texas.

Figure 24. Texas Obesity Rates by Race, Gender, and Age
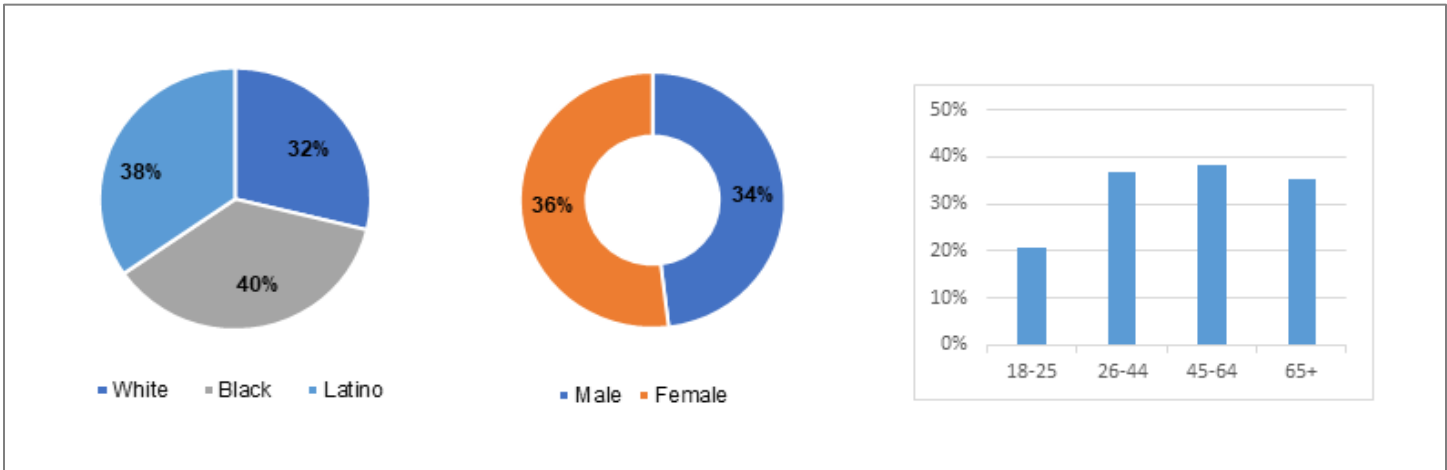
Source: The State of Obesity (2018)

In 2017, Harris County had an overall 32.8% rate of obesity among adults.[150] According to the Texas Department of State Health Services Behavioral Risk Factor Surveillance System[151], overweight and obesity are more pronounced in minorities, middle-aged adults, and women. Figure 25 notes the obesity rate distributions among age, race/ethnicity, and sex in Harris County, which closely reflect state trends.

Lack of physical exercise can be impacted by lack of green space which is conducive to exercise thereby supporting prevention of obesity. Dr. Stephen Klineberg, Professor of Sociology at Rice University's Kinder Institute for Urban Research, describes the benefit of green space to minimize obesity prevalence:

"You've got pockets of concentrated poverty and pockets of concentrated affluence, pockets of advantage and pockets of disadvantage. So many poor folks live in these pockets of disadvantage, with food deserts, with processed foods and little exercise, and the result is a serious problem for this city that the city is beginning to address. We are adding new parks, we have the Bayou Greenways initiative that will [support], by the time that [initiative] is completed, 60% of everybody in the city of Houston will be within a walking distance of a Bayou trail. You can begin to see a much greener city beginning to take shape, and we are working towards complete streets and the ability to ride a bicycle or to walk in safety. We are just at the beginnings of the reinventing of the city for the 21st century in those respects, but right now it's not surprising that obesity and diabetes are such a serious problem." (S. Klineberg, Rice University)

Figure 25. Harris County Obesity Rates by Race, Gender, and Age
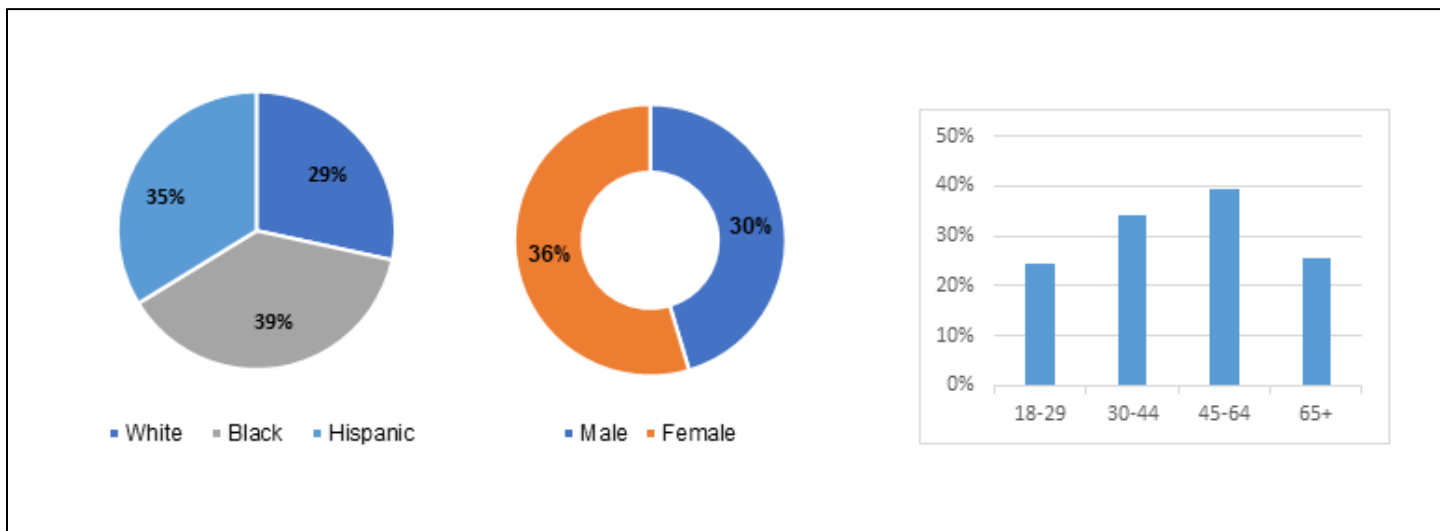
Source: Houston State of Health (2017)

Avoiding Tobacco Use

Smoking remains the leading cause of preventable death and disease in the United States, killing more than 480,000 Americans each year. Smoking causes immediate damage to your body, which can lead to long-term health problems. Currently, there are more than 16 million Americans living with a disease caused by smoking. According to the CDC, smoking causes cancer, heart disease, stroke, lung diseases, diabetes and chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis. Smoking also increases the risk for tuberculosis, certain eye diseases and immune system problems, including rheumatoid arthritis.[152]

Reducing tobacco use is a priority both in the United States and Harris County. According to Healthy People 2020: "Tobacco use is the single most preventable cause of death and disease in the United States."[153] In 2017, the CDC reported a 15.1% tobacco use rate for the Houston-The Woodlands-Sugar Land MSA, slightly lower than the Texas rate of 15.7%.[154] Of the total number of community members surveyed by Houston Methodist, approximately 17% reported as being current smokers.

Additionally, secondhand smoke, smoke from burning tobacco products, such as cigarettes, cigars, or pipes or smoke that has been exhaled, or breathed out, by the person smoking, contributes to approximately 41,000 deaths among nonsmoking adults and 400 deaths in infants each year. Secondhand smoke causes stroke, lung cancer, and coronary heart disease in adults. Children who are exposed to secondhand smoke are at increased risk for sudden infant death syndrome, acute respiratory infections, middle ear disease, more severe asthma, respiratory symptoms, and slowed lung growth.

Moderate Alcohol Intake:

Excessive alcohol use is harmful to one's health and attributes to numerous short-term and long-term health risks, such as injuries, violence, alcohol poisoning, risky sexual behaviors, miscarriages, stillbirths, or fetal alcohol spectrum disorders among pregnant women.

Over time, excessive alcohol use can lead to the development of chronic diseases and other serious problems, including: high blood pressure, heart disease, stroke, liver disease, digestive problems, certain cancers, learning and mental problems, social problems, and alcohol dependence or alcoholism.[155] Excessive alcohol consumption, including binge drinking, heavy drinking, and any drinking by pregnant women or people younger than age 21, leads to approximately 88,000 deaths annually, making alcohol the third leading preventable cause of death in the United States.

Binge drinking is a pattern of drinking that brings blood alcohol concentration levels to 0.08 g/dL. This typically occurs after four drinks for women and five drinks for men, in about two hours. Binge drinking is associated with health conditions, such as unintentional injuries, alcohol poisoning, liver disease, cardiovascular disease, and poor control of diabetes. Furthermore, binge drinking is associated with other intentional injuries, such as sexual assault and domestic violence.[156] Heavy alcohol use is defined as binge drinking on five or more days in the past month.[157] In 2018, 51.6% of Texas adults reported having at least one drink of alcohol within the past 30 days, 6.2% met criteria for heavy drinking, and 17.4% reported as binge drinkers.[158] In 2017, 19% of adults in Harris County reported as binge drinkers.[159]

Safe Sex Practices

All forms of sexual contact carry some risk, however, have sex with only one partner who only has sex with you when neither of you has a sexually transmitted infection is believed to be safe. Drug and alcohol use increases the chance that one will participate in high-risk sexual behaviors.[160] Untreated sexually transmitted diseases (STDs) and sexually transmitted infections (STIs) can lead to serious health issues, including infertility, cancer, and even death.[161] In 2017, Harris County had the highest number of STDs in the state of Texas, with over 26,000 chlamydia cases at a rate of 571.4 per 100,000, over 8,000 gonorrhea cases at a rate of 182.1 per 100,000 and nearly 2,800 cases of primary and secondary syphilis at a rate of 7 per 100,000.[162]

STI/STDs are infectious diseases that spread from one person to another via sexual contact. They are usually spread through contact with infected body fluids, such as semen, blood, and vaginal fluids, but can also be spread through sores in the mouth. STDs and STIs can also be transmitted non-sexually through blood transfusions or shared injection drug equipment, or from mother to child during pregnancy or childbirth.[163] The transmittal of STDs or STIs can often be prevented through use of both condoms and dental dams as well as abstinence. Though STDs and STIs are preventable, the CDC reports that rates of chlamydia, gonorrhea and syphilis are on the rise. The incidence of all three of these diseases has increased steadily in recent years.[164] The following section details some of the most prevalent STDs and STIs in the United States:

- **Chlamydia:** Chlamydia is the most commonly reported STI in the United States. When untreated, chlamydia can lead to pelvic inflammatory disease in women, a major cause of infertility and ectopic pregnancy. Between the years of 2013 and 2017, rates of chlamydia increased 22% nationally. In Harris County, rates of chlamydia increased by 33.6% since 2008. The rate of chlamydia is higher in Harris County than in Texas, at 571.4 cases per 100,000 and 511.6 cases per 100,000 respectively.[165] The prevalence of chlamydia is significantly higher for black individuals than any other racial or ethnic group.

- **Gonorrhea:** Gonorrhea, the second most commonly reported STD in the United States, is a major cause of pelvic inflammatory disease. Similar to chlamydia, untreated gonorrhea may cause infertility, ectopic pregnancy, and chronic pelvic pain. Furthermore, when left untreated, gonorrhea may facilitate the transmission of HIV. In Texas, the rate of gonorrhea has increased by 23% since 2008. Rates of gonorrhea are higher for men than women, at 178.7 cases per 100,000 and 141.2 per 100,000, respectively. In Harris County, the rate of gonorrhea is 182.1 per 100,000. Reported rates of gonorrhea are significantly higher for black individuals than any other racial or ethnic group.[166]

- **Syphilis:** Primary and secondary syphilis, when left untreated, can facilitate HIV transmission and may also cause brain damage and blindness. Syphilis may also have severe ramifications for pregnant women, potentially leading to infants who are either low birth weight, preterm or stillborn. In 2000 and 2001, the national rate of syphilis was 2.1 cases per 100,000, which is the lowest rate since reporting began in 1941.[167] However, since 2000, the rate of syphilis has increased steadily. In 2017, the CDC reported 30,644 cases of syphilis, a 76% increase since 2013.[168] Gay and bisexual men make up the majority of the cases. However, rates for both men and women have increased during this time. Harris County reported increased rates of syphilis from 2010 (6.5 cases per 100,000) to 2017 (7.0 cases per 100,000).[169]

- **Human Immunodeficiency Virus:** Human immunodeficiency virus (HIV) is a virus that attacks the cells that help the body fight infection, making a person more vulnerable to other infections and diseases. HIV is spread by contact with certain bodily fluids of a person living with HIV, most commonly during unprotected sex or through sharing injection drug equipment. If left untreated, HIV can lead to the disease AIDS (acquired immunodeficiency syndrome). Once people living with HIV have reached the AIDS phase, their survival time is three years on average. AIDS is a significant cause of death in many populations. In 2016, there were 15,807 deaths among people with diagnosed HIV in the United States and dependent areas. Currently, there is no cure, although advances in medicine have allowed for control of HIV. As of 2016, the CDC estimates approximately 1.1 million people in the United States are living with HIV, about 1 in 7 (14%) are unaware that they are infected.[170] As of 2018, 94,106 Texans were living with HIV, with 6,470 residing in Harris County.[171]

- **Human Papillomavirus:** Human papillomavirus, or HPV, is the most common sexually transmitted infection in the United States. Without treatment, HPV may cause cervical cancer or genital warts. In fact, HPV is responsible for 70% of cervical cancer cases diagnosed worldwide. In 2006, a vaccination was developed to prevent HPV. This vaccine is recommended for females ages 11-26 and males age 11-21 who have not been previously vaccinated. Although Healthy People 2020 established a goal of 80% adherence to the vaccination, recent data shows significantly less adherence to the recommendation.[172]

Mental Health Defined & Its Impact

The American Psychiatric Association defines mental illness as health conditions involving changes in emotion, thinking or behavior, or a combination of these, and is key to relationships, personal and emotional well-being, and contributing to community or society.[173] It is estimated that approximately 1 in 5 adults in the United States (46.6 million) experiences mental illness in a given year (see Figure 26) and approximately 1 in 25 adults in the United States (11.2 million) experiences what is considered a serious mental illness in a given year. As reference, serious mental illness is defined as a mental, behavioral or emotional disorder, excluding developmental and substance use disorders, resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities. Examples

Figure 26. Mental Illness Experienced Annually

Source: Houston Methodist

of serious mental illness include major depressive disorder, schizophrenia and bipolar disorder.[173]

According to the National Institute of Mental Health, serious mental illness is relatively rare, affecting only 5% of the population over 18, but is estimated to cost approximately $193 billion in lost earnings annually. Conditions classified as serious mental health conditions include, but are not limited to:

- **Schizophrenia:** Schizophrenia is a mental disorder characterized by disruptions in thought process, perception, emotional responsiveness and social interaction. It is typically persistent and can be both severe and disabling. Symptoms of schizophrenia include, but are not limited to, psychotic symptoms, such as hallucinations, delusions, and thought disorder (unusual ways of thinking) as well as reduced expression of emotions, among other symptoms.[174] It is typically diagnosed in the late teen years to early thirties, and tends to emerge earlier in males (late adolescence to early 20s) than females (early 20s to early 30s). It is considered one of the top 15 leading causes of disabilities worldwide. It is estimated 1 in 100 Americans live with this condition.[175]

- **Bipolar Disorder:** Bipolar disorder, also known as manic-depressive illness, is a brain disorder that causes unusual shifts in mood, energy, activity levels, and the ability to carry out day-to-day tasks. There are four forms of this condition: bipolar 1 and 2, cyclothymia, and other. The category other does not fit the listed three, but all include depressive episodes. Additionally, bipolar 1 is characterized as having full blown manic episodes.[176] There are 2.8% Americans adults living with this condition.[177]

- **Major Depressive Disorder:** Major depressive disorder (or clinical depression) is a common, but serious mood disorder that comes in many forms (i.e. postpartum depression, dysthymia, seasonal affective disorder, etc.). It causes severe symptoms that affect how an individual feels, thinks, and handles daily activities, such as sleeping, eating, or working. To be diagnosed with depression, symptoms must be present for at least two weeks. Symptoms can include but are not limited to having a persistent sad or anxious mood, feelings of hopelessness, thoughts of suicide, and restlessness among many others. It is estimated that 6.9% of Americans live with a form of this condition.[178]

Prevalence of Other Common Mental Health Conditions

Though the above health conditions are classified as serious, other mental health conditions impact quality of life and include but are not limited to anxiety disorders, addictive behaviors, eating disorders, attention deficit disorders, post-traumatic stress disorders and more, listed below:

- **Anxiety Disorders:** Anxiety disorders are the most common mental illness in the United States, affecting 18.1% of the adult population (40 million people) every year.[179] There are several types of anxiety disorders, including generalized anxiety disorder, panic disorder, and various phobia-related disorders.

Panic disorders are sudden periods of intense fear that come on quickly and reach their peak within minutes. Women are twice as likely to have panic disorders and the condition is estimated to impact 2.7% of the population.[179] People with generalized anxiety disorder display excessive anxiety or worry, most days for at least six months, about a number of things, such as personal health, work, social interactions, and everyday routine life circumstances. Generalized anxiety disorder effects approximately 3% of the population.[179] See figure 27 below for a breakdown of the prevalence of any mental health condition impacting American adults by gender, race and age.[180]

- **Addictive Behaviors:** Approximately 8% of Americans reported having a substance use disorder, with Texas ranking seventh for prevalence. In comparison to the rest of the country, Mississippi is ranked first for prevalence with substance use and Alaska ranked 50th.[195] Substance use disorders occur when the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home.[181] It is important to note that some individuals living with a substance use disorder may not have a mental illness. Of those with substance use disorders, approximately 38% also have a mental illness.[182] Addictive behaviors are often associated with drug use and alcoholism. However, when such behaviors extend beyond substances, they then can be classified as behavioral addictions. Behavioral addictions are a form of addiction that involves a compulsion to engage in a rewarding nonsubstance-related behavior, despite negative consequences to the person's physical, mental, social or financial well-being.[183] Examples of this include, gambling, food, pornography, video games and more.

- **Eating Disorders:** Millions of Americans are estimated to suffer from potentially life-threatening eating disorders, a family of behaviors characterized by an unhealthy relationship with food, an unhealthy relationship with one's body, and unhealthy weight-regulation practices.[184] The National Association of Anorexia Nervosa and Associated Disorders estimates that at least 30 million individuals of all ages and genders in the United States are diagnosed with an eating disorder. This condition has the highest mortality rate of any mental health illness.[185] There are a variety of eating disorders, many of which cause a variety of additional health problems ranging from heart failure, osteoporosis, and pancreatitis to tooth decay, muscle loss, and gallbladder disease.

Figure 27. Prevalence of Any Mental Health Illness Among Adults in the United States (2017)
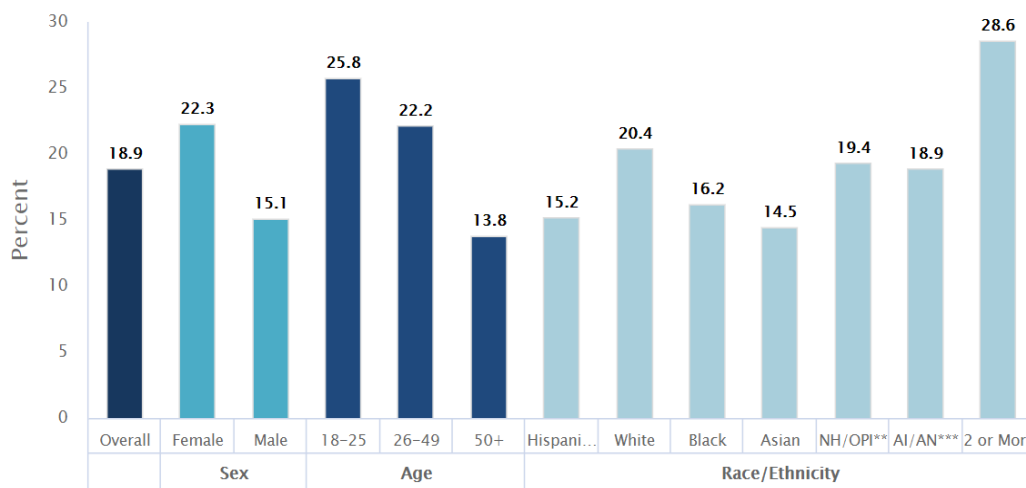
*All other groups are non-Hispanic or Latino | **NH/OPI = Native Hawaiian / Other Pacific Islander
***AI/AN = American Indian / Alaskan Native

Source: SAMHSA

45

Lack of Treatment

Despite the prevalence of mental health issues, approximately 57% of the American population with a mental illness did not receive treatment in 2018, per Mental Health America.[204] Untreated mental illness consequences range from public health crises like the epidemic of drug overdoses to individual impacts like poor physical health and lost jobs. For example, the National Center for Health Statistics estimates there were 68,557 drug overdose deaths in 2018. An estimated 47,590 involved opioids. In comparison, Texas had 1,458 opioid related deaths which is considered one of the lowest rates in the country.[186] Another potential outcome of not accessing mental health support can be a successful completion of suicide; 46% of people who die by suicide had a diagnosed mental health condition.[187]

Lack of treatment can also lead to or further complicate homelessness. According to a 2015 assessment by the United States Department of Housing and Urban Development, 564,708 people were homeless on a given night in the United States. At a minimum, 140,000 or 25% of these people had a serious mental illness, and 250,000 (45%) had any mental illness, with depression, bipolar disorder, schizophrenia, anxiety disorder and substance abuse disorder among the most common types of mental illness in the homeless population.[188] Among the 950 survey respondents of the Houston Methodist 2019 Community Health Needs Survey who disclosed their current health conditions, 9% indicated they had been diagnosed with a mental health condition. It should be noted, however, that this high percentage of respondents indicating a mental health condition may be primarily attributed to the population surveyed at Healthcare for the Homeless, which represented 84% of the overall respondents who indicated mental health was an issue.

Another aspect of the mental health treatment access issue ties to the corrections system in the United States. This can demonstrate a cycle in which failure to access appropriate mental health care services can result in a person's untreated condition placing them in negative situations that may result in incarceration. Mental Health America estimated 1.2 million people living with mental illness in the United States are in jail or prison.[189] For comparison, Texas is ranked 44th according to The Sentencing Project, which ranked states by incarceration rates. The higher the ranking number, the higher number of people incarcerated per 100,000 people. Texas incarcerates 584 people for every 100,000. The lowest ranked (#1) is Maine with 153 per 100,000.[190] The correction system has become the largest provider of mental health support in the country. Though those incarcerated can begin getting treatment, when they return to the community many lose access to the mental health services, which can be risky for people who suddenly lose access to prescribed medications, thus repeating the cycle. Bob Harvey, president and CEO of the Greater Houston Partnership, provides additional insight into the justice system and mental health:

> "We haven't really created an alternative to the criminal justice system that operates at scale that pays for people to be handled and treated, their issues to be addressed. So, the criminal justice system, the jail, has become the default answer to that." (B. Harvey, Greater Houston Partnership)

Financial Implications

The financial implications of mental health issues are significant for the country and the world. Depression and anxiety have a significant economic impact; the estimated cost to the global economy is $1 trillion per year in lost productivity.[191] In the United States, it costs an estimated $193 billion in lost earnings. According to a Harvard Medical School analysis of a 2006 World Health Organization mental health survey, researchers found that depression costs not only money, but time. Employees with depression reported the equivalent of 27 missed work days per year.[192] It is estimated that 69% of people with mental health conditions also have other physical medical conditions.[193] Because the presence of mental illness is associated with less effective preventive care and disease management, those with chronic physical health conditions incur higher health care costs than individuals with similar ailments who are not mentally ill.[193]

Mental Health and the State of Texas

It is estimated that almost 900,000 Texans are living with a serious mental health condition. Within the Houston Methodist The Woodlands Hospital community, it is estimated that Harris County has 163,000 people living with a serious mental health condition, representing an estimated 4% of the Harris County population.[194] 61% of survey respondents to the Houston Methodist 2019 Community Needs Survey answered "Yes" to the questions *"Do you have or have you ever had a friend or family member living with mental illness?".* The high number of "yes" responses demonstrates the prevalence of mental health issues in the Houston Methodist The Woodlands Hospital community. With the number of people impacted by mental health conditions in Texas and Harris County, it could be surprising that Texas is ranked 49th in the country by Mental Health America in terms of access to care for those with mental health conditions for both adults and youth/adolescent populations (see figure 28). The rankings took into account access to insurance and treatment, quality and cost of insurance, access to special education and workforce availability.[195] It also considered the following categories when assessing the adult population:

- Adults with any mental illness (AMI)
- Adults with serious thoughts of suicide
- Adults with AMI who did not receive treatment
- Adults with AMI reporting unmet need
- Adults with AMI who are uninsured
- Adults with disability who could not see a doctor due to costs

Figure 28. Rankings - Mental Health Access to Care
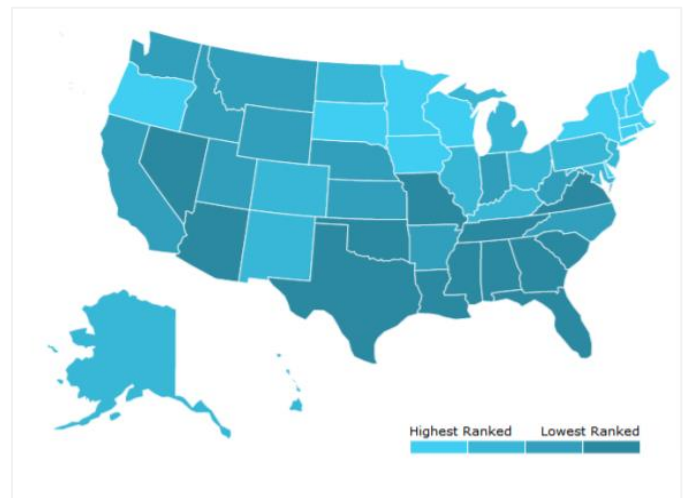
Source: Mental Health America 2019

It is worth noting that many of the states that rank the poorest when it comes to mental health care access also have the highest number of adults incarcerated. As mentioned in the previous section, the prison system is the primary provider of mental health care and many people in the prison system remain untreated until entering the system.

Additional statistics on Harris County and mental health include:

- 10.8 per 100,000 deaths are due to suicide in Harris County.[196]
- The average number of days adults reported their mental health was not good was 3.7 in a 30-day span.[197]
- $232 is the average cost per day for a person to spend in a mental health unit in Harris County jail. It is $57 per day for general population.[198]

Barriers to Accessing Care

Below is a list of barriers that are most commonly associated with lack of access to mental health care services and are tied to lack of treatment for conditions. These barriers can be exacerbated when additional factors, such as race, gender and general socioeconomic factors come into play:

1. Financial and insurance barriers
2. Physician and workforce shortages
3. Lack of education and awareness of services
4. Stigma

Before exploring the above barriers, it must be noted that the amount a state invests in mental health care can determine the weight of those challenges.

Funding for mental health services come from both private and public sources. Private sources include private health insurance, out of pocket payments, and self-payment. Public sources include governmental funding (federal, state and county) as well as funding from nonprofit agencies. As outlined in the previous section, Texas ranks 49th in the country regarding mental health care access. What may contribute to this low ranking is the low percentage of state spending towards mental health. It is estimated that Texas spends approximately 1.2% of its budget on mental health care services, which ranks Texas as 40th in terms of spending by states. For comparison, Maine ranks the highest in the country for state spending at 5.6%, while Arkansas is ranked last, with the lowest amount of spending at 0.7%.[199] The lack of state spending for mental health services varies and does not necessarily indicate poor

Figure 29. Per Capita Spending by State

Source: Addiction Centers of America: SAMHSA

quality of services, but can contribute to limited facilities, psychiatric beds and other shortages necessary for patients needing care. Texas has a total of nine psychiatric hospitals, which equates to a capacity of 2,463 beds.[200] For additional insight into state investments, the per capita spending in Texas on mental health is approximately $45. For comparison, the highest per capita spending in the country is in Maine ($362) and the lowest is in Florida ($36.05) (see figure 29).[201]

Financial & Insurance Barriers

As previously outlined regarding government/public spending, the lack of funding from public sources often places a heavier financial burden on an individual seeking mental health services. Insurance options such as private insurance and Medicaid can help decrease the financial burden. However, psychiatrists are less likely than other physicians to accept health insurance, which requires patients to pay out of pocket costs. This practice can limit access to only those who can afford upfront fees. In fact, only 55% of psychiatrists accept private insurance, compared to 89% of other practitioners.[202] This situation is even further complicated for Medicaid patients. Only an estimated 41% of psychiatrists accept Medicaid and 54% accept Medicare.[202] A primary reason for this discrepancy relates to the time it takes for psychiatrists to perform counseling and therapy. Since psychiatrists spend more time with patients than other practitioners, they may have fewer patients (limiting income). Coupled with the uncertainty of insurance reimbursement, psychiatrists may choose to abstain from dealing with insurance companies all together. Dr. Alok Madan, vice president of psychiatry for Houston Methodist Hospital, outlines the struggles psychiatrist face which prevents them accepting insurance:

> "Mental health professionals across the board are choosing to forego participating in third-party payer plans because reimbursement for services can be up to 75% less than what is fair market value. Insurance reimbursement rates are supposedly 'usual, customary, and reasonable.' This is far from reality. Then, there are the issues of excessive documentation requirements, chronic denials for services … administrative costs, etc. Once we put this in the context of not enough mental health providers in general, we find ourselves sitting in the middle of a mental health crisis. We find ourselves intervening only when there is a crisis, and that "intervention" is often counter therapeutic." (A. Madan, Houston Methodist Hospital)

The length of time therapy takes depends on the individual and his or her needs. The treatment methods, the goals of the person seeking support, the symptoms, and the patient's history all determine the length of therapy. Based on research cited by the American Psychology Association (APA), on average 15 to 20 sessions are required for 50% of patients to recover as indicated by self-reported symptom measures.[203] With estimations that the average cost for a therapy session is between $100 and $200, coupled with the APA estimated amount of sessions people need to make measurable progress, a person could easily have to pay full out-of-pocket costs between $1,500 to $4,000 for care. These cost constraints can feel even greater for a person who is uninsured

and living within the federal poverty level (FPL) spectrum. For example, paying up to $4,000 for services out-of-pocket can be a major undertaking for an uninsured person living 200% of the FPL ($24,980 annually), which can be a deterrent. It is important to note, for those who may be uninsured and living within the FPL, many charity organizations and federally qualified health centers are beginning to offer mental health services on a sliding scale including care free of charge. Approximately 10.3% of adults in the United States are uninsured.[204]

For patients who have the means to pay via support of insurance, it can still be difficult to access mental health care services due to a trend called phantom networks. Phantom networks are a list of providers given to clients of insurance companies to access in-network services. However, upon searching, insurance holders find that providers on the list have either resigned from the network or had never agreed to participate in the network. This creates delays in accessing care, which can cause additional emotional distress and loss of time in searching for providers. Such challenges, though not directly financial, still represent the insurance/payer barriers that can indirectly hinder access.[205]

Physician and Workforce Shortages

The most commonly associated professionals providing mental health care services are psychologists and psychiatrists. Though many people use these terms interchangeably, the two professions serve different roles in terms of providing care. A psychologist specializes in the study of the mind and behavior and in the treatment of mental, emotional and behavioral disorders. Psychologists may hold a doctoral degree but are not considered a medical doctor. A psychiatrist specializes in the same areas of study as a psychologist, but a main defining element is that a psychiatrist can prescribe medications and is a medical doctor. In addition to psychiatrists and psychologists, counselors and clinical social workers can provide mental health services. Serious mental health conditions are most often treated by psychiatrists. Texas has a physician shortage that includes those practicing psychiatry. It is estimated 185 counties out of 254 with a combined population of 3.3 million have no psychiatrist.[206] This shortage of psychiatrists is expected to grow in coming years. The Texas Department of State Health Services Health Professions Resource Center projects the demand for psychiatrists statewide will exceed available supply by about 50% in 2030, with a total deficit of 1,200 psychiatrists.[207] Furthermore, to illustrate this shortage, Texas has a 960:1 ratio of mental health providers to population according to the 2019 County Health Rankings. For Harris County, it is a 920:1 ratio.[208] The mental health provider ratio gets worse when expanding to other counties, with the greatest shortage in the Houston Methodist The Woodlands Hospital community being in Montgomery County where the ratio is 1,380:1. See table 11 for a comparison of counties.

Table 11. Ratio of Mental Health Providers to Population By County

Ratio of Mental Health Providers to Population	
Texas: 960:1	
Counties in Houston Methodist The Woodlands Community	
Harris	920:1
Montgomery	1,380:1

Source: County Health Facts 2019

There are various reasons these shortages may exist. The Association of American Medical Hospitals outlines a few reasons that may contribute to the growing physician shortages, including:[209]

- **More people seeking care:** Greater awareness of mental health problems that has led more people than in the past to seek treatment thereby outpacing the workforce.

- **Inability to meet salary demands:** Mental health providers are frequently reimbursed less than physical health providers, which makes it difficult for institutions to cover salaries. Note, average salary of a psychiatrist in Houston, Texas per Salary.com is $195,888.[210]

- **Aging out of profession:** More than 60% of practicing psychiatrists are over the age of 55, one of the highest proportions among all professions, which puts them in position for retirement.

Some areas in the country experience greater shortages than others. More than 113 million people in the United States live in designated health professional shortage areas (HPSA). These are areas in which the ratio of mental health professionals to residents is smaller than 1 per 30,000 people.[211] There are more than 6,000 areas designated as HPSAs in the United States which equate to a need for more than 6,000 practitioners (See figure 30).[212] Shortages occur across the United States and are more likely to be pronounced in rural areas. Some counties have no provider at all. Dr. Madan provides insight into the difficult decisions mental health providers must make that lead to many opting out of practicing in rural communities.

"You end up working close to where you train. The training programs are not in rural communities and that is where you tend to practice. That is a basic structural issue. It becomes a boundary issue, too. If you are in a small community where everybody knows everything about everybody, you get in a tough spot. Boundaries are tough in the profession to begin with and once you make that pool smaller and tighter, those boundaries get horribly blurred and makes you less effective at your job and can put you in more of a compromised position. Some of it is financial. If you want to accept insurance, great. But, rural communities tend to be under-insured too. This is your livelihood. You are going to literally have to work harder to take care of (that community). You are going to be the guy on crisis call, all the time. You're going to be in the middle of every crisis. You are going to know about every sexual assault and you are going to get reimbursed zero (by insurance companies) and you are going to have no friends because you know all their business because there are only 100 people in the community. There are so many things working against somebody getting mental health services in rural America." (A. Madan, Houston Methodist Hospital)

Because of a lack of trained mental health providers, primary care physicians are often the sole source or on the front line of health care used by patients with a mental health illness. According to the Centers for Disease Control and Prevention (CDC), one-fifth of all primary care visits address mental health concerns which may include a depression screening, a referral to counseling, a mental health diagnosis or a prescription for a psychiatric medication.[213] Though primary care visits may improve access for many patients, the utilization of primary care physicians as the main source of treatment for mental health may still lack both intensity and quality. A recent study addressing the integration of mental health care into the primary care setting focused on monitoring primary care protocols for patients with depression in comparison to other physical ailments. They found primary care doctors were less likely to complete the same level of follow-up protocol for patients with depression compared to other patients with nonmental health issues. This suggests that primary care providers may not be best equipped to handle treatment beyond medication prescribing and initial screening.[214] When asked about the positive and negatives of primary care physicians' involvement in mental health care, Dr. Madan provided insight on the necessity of primary care providers doing what they can to provide access:

"Out of necessity, primary care has done what they can and, as a consequence, because they have taken this ownership, I think they are at the forefront of restructuring, in some ways, mental health care. They are bringing in psychologists, therapists into the primary care setting, with appreciation that medication is only one part of the equation and that people need time. People need space and understanding. You are seeing an evolution of mental health care in part because primary care is driving it. We are trying different approaches, but I think primary care is, in some ways, leading part of the evolution just out of necessity. When you are in the middle of a fire, you learn fire-fighting skills." (A. Madan, Houston Methodist Hospital)

Stigma

One of the most significant barriers to care for mental health is stigma, which is defined as stereotypes or negative views attributed to a person or groups of people when their characteristics or behaviors are viewed as different from or inferior to societal norms.[215] Stigmas often lead to discrimination and can negatively impact those with mental health disorders. Stigma can be parsed into two categories, social and self-perceived. Social stigma

involves prejudiced attitudes towards others with mental health illness. Self-perceived is the internalized stigma the person with the illness suffers from. Stigmas associated with mental health that can impact a person's willingness to seek mental health support and can be broken down into two main emotions that include fear and shame:

Fear:
- Of being perceived as dangerous to others
- Of being perceived as less competent and capable than others in school and work settings
- Of being alienated /excluded by peers

Shame:
- In how one will be accepted when associated with culturally driven attitudes
- In how one will be viewed when associated with certain religious attitudes

There is a growing understanding of mental health and the awareness of the genetic and/or medical drivers behind them. The awareness and acceptance of the importance of mental health can be illustrated through the feedback received via the 2019 Houston Methodist Community Health Needs Survey. Most respondents agreed that mental health was just as important as physical health (98%) (see figure 31) and most respondents acknowledged knowing family and friends who had a mental health condition (61%) (see figure 32).

Figure 31. Perceptions of the Importance of Mental Health
Q. Mental Health Is As Important As Physical Health, Total (N=930)
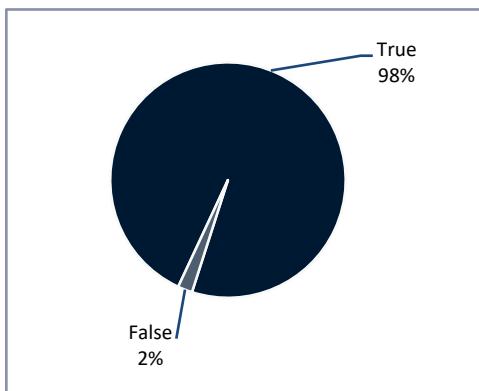
Source: Houston Methodist Health Needs Survey (2019)

Figure 32. Know Someone With A Mental Health Condition
Q. Have A Family Member/Friend Living With Mental Health Issues Total (N=921)
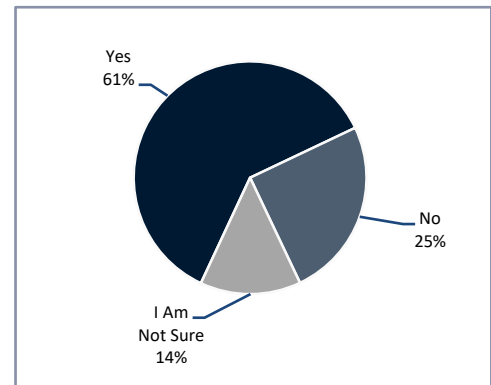
Source: Houston Methodist Health Needs Survey (2019)

Despite this growing awareness, social perceptions can still be a hindrance to those who may need care. Examples of stigma follow:

- **Fear of Being Perceived as Dangerous**: In the 2019 Houston Methodist Community Health Need Survey, 33% of respondents indicated they felt those with mental illness were a danger to the community, with 40% indicating uncertainty around it (see figure 33). The attitude that those with mental illness could be a danger to the community can hinder a person from taking that first step towards treatment.

What exacerbates the "dangerous" narrative is the phenomenon of mass shooting in the United States and the narrative that those who committed the shooting were living with a mental illness. Mass shootings are defined as three or more persons being shot in one incident, excluding the perpetrator, at one location, excluding organized crime as well as gang-related and drug-related shootings.[216] Contrary to the belief that those with mental illness are violent, a study published by American Psychiatric Publishing titled "Mass Shootings and Mental Illness," found mass shootings by people with serious mental illness represent less than 1% of all yearly gun-related homicides. In contrast, deaths by suicide using firearms account for most gun-related deaths suggesting those living with a mental illness are more likely to hurt themselves than others. The overall contribution of people living with serious mental illness to violent crimes is only about 3%.[217] Dr. Heather Chung, system director of psychiatry at Houston Methodist, provides perspective on the stigma that those with mental illness are dangerous:

Figure 33. Perceptions of Mental Illness
Q. People With Mental Illnesses Are A Danger To The Community TOTAL: (N=903)

Source: Houston Methodist
Health Needs Survey (2019)

"The current state of gun violence in America plays into the notion that those with mental illness are violent. This bias plays into the toxic stigma which may stem from personal prejudice that those with mental illness are dangerous. This humiliation often causes those with mental illness to isolate and resist gaining treatment. In health care, we have the opportunity to create a paradigm shift and act to make a change for this vulnerable population." (H. Chung, Houston Methodist Hospital)

What may surprise some is that those living with mental health disorders are more likely to be on the receiving end of violence. In a large study conducted in Sweden on the incidence of homicide on people living with a mental illness, it was found that people living with a mentally illness (all conditions considered) are seven times more at risk to be victims of homicide than those without a mental health condition.[218]

- **Religious Attitudes**: *S*ome religious people believe mental illness is a result of demonic possession, weak faith, and/or general sin which can cause some people who may be practicing a faith to shy away from seeking support due to this perception and passing of judgment. However, religious affiliation can give people something to believe in, can provide a sense of structure, and can offer an opportunity for a group of people to connect with each other over similar beliefs. These facets can have a positive impact on mental health and suggest a link with lower rates of depression, suicide and anxiety.[219] Many health care professionals also believe that spiritual and religious leaders can help those in need of mental health services take that first step towards getting treatment:

"Often times, regardless of your faith, our first point of contact with the mental health world frequently happens in our houses of worship. We find those to be safer, tighter communities with somebody in a healing profession and willing and able to listen without judgment and this is across faiths. This becomes, frequently, a point of contact into the mental health world for a lot of people who don't want to say depression, who don't want to say psychosis, who don't want to say addiction for all the
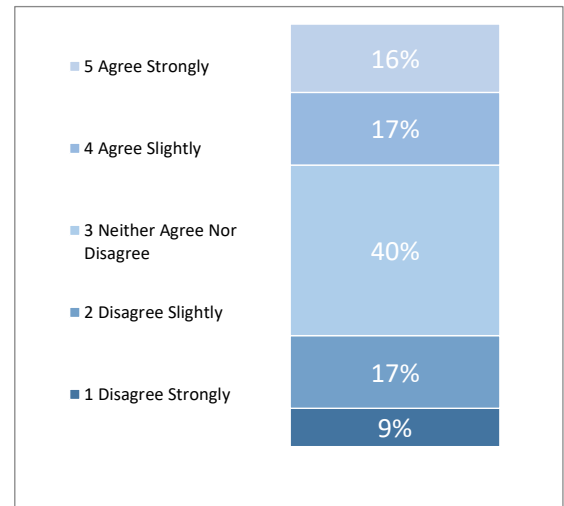
stigma and all that related to it. For them, it is ok to talk to your pastor, your imam, your rabbi. It is much easier to do that, than talking to your primary care doctor who you may or may not even have." (A. Madan, Houston Methodist Hospital)

- **Competence and Capabilities**: Those with mental health conditions may be hesitant to seek treatment or disclose their condition for fear of being discriminated against by employers and co-workers in terms of their capability to perform duties. The America Disabilities Act (ADA) prevents the workplace from discriminating against those with disabilities, which includes mental illness. However, even with these protections, concern persists in terms of office treatment. Laura Matthews, human resources director for Houston Methodist, provides insight into the challenges those with mental health disorders may feel in disclosing in a workplace setting:

"Statistics show that approximately 1 out of 5 employees suffer from some sort of mental health problem at some time in their life, however most people who experience mental health problems recover fully, or are able to live with and manage them, especially if they get help early on. Unfortunately, due to the labels often times placed on those suffering from mental illness, employees can be fearful to come forward. Employees usually are not fearful to come forward with a physical disease, such as cancer or arthritis, but because there is an emotional/behavioral aspect associated with mental illness, they can shy away due to either public stigma or even self-stigma. Both of these reasons can attribute to a person feeling like their employer may think less of them or discriminate towards them. This is a stigma that must be removed. Even with the protection of the ADA, until society removes labels associated with mental illness and care becomes more readily available, employers need to do more to internally remove the biases associated with mental illness. This starts with education, communication and compassion. We need to strive towards a workplace culture where it is acceptable for someone to believe that they are not weak or that will they get in trouble or be treated differently for talking about their mental health needs. In addition, workplaces need to communicate and encourage that it is okay to get support and treatment." (L. Matthews, Houston Methodist Hospital)

Lack of Awareness and Education

Some people don't access mental health care due to lack of awareness of signs and symptoms of needing support as well as lack of education on where to seek support. Based on the 2019 Houston Methodist Community Health Needs Survey, most respondents felt that there are many people who have mental health issues but just are not self-aware (86%). About 50% of respondents also indicated that they were not aware of mental health resources if they needed them (see figures 34 and 35). Lack of self-awareness of signs and symptoms of needing support contribute to the population not accessing treatment when needed.

Figures 34. Houston Methodist Community Health Needs Survey – Mental Health – Awareness of the Issue and Resources

Agreement With Many People Have Mental Problems, But Do Not Realize It
TOTAL: (N =915)

- 5 Agree Strongly
- 4 Agree Slightly
- 3 Neither Agree Nor Disagree
- 2 Disagree Slightly
- 1 Disagree Strongly

50%
36%
12%
1%   1%
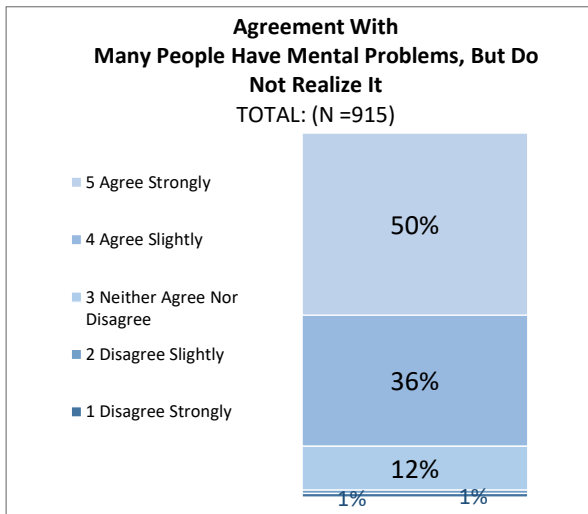
Source: Houston Methodist Health Needs Survey (2019)

Figures 35. Houston Methodist Community Health Needs Survey – Mental Health – Awareness of the Issue and Resources

Are You Aware of Resources for Mental Health Care
Total (N=910)

Yes 51%
No 49%
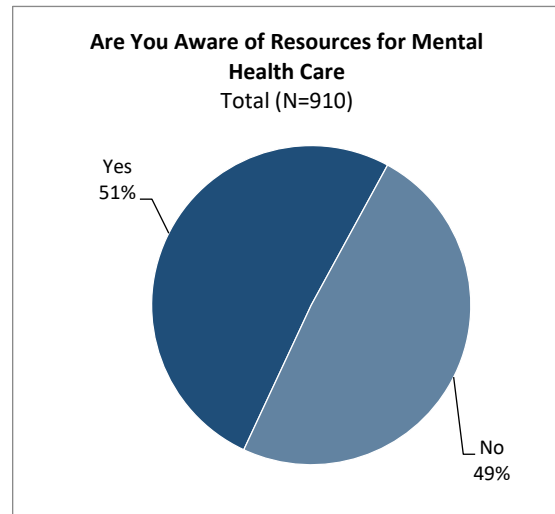
Source: Houston Methodist Health Needs Survey (2019)

Many people, when thinking of mental health, think of the more serious conditions, such as depression and anxiety. However, stress is also a sign of a person's mental and emotional well-being that can be given attention that many people may underestimate as something needing attention. Stress is described by the American Psychological Association (APA) as "a feeling of being overwhelmed, worried or run-down." Stress can affect people of all ages, genders and circumstances and can lead to both physical and psychological health issues. By definition, stress is any uncomfortable 'emotional experience accompanied by predictable biochemical, physiological and behavioral changes.'[220] Some stress can be beneficial at times, producing a boost that provides the drive and energy to help people get through situations like exams or work deadlines. However, an extreme amount of stress can have health consequences and adversely affect the immune, cardiovascular, neuroendocrine and central nervous systems.[220] In 2018, the APA conducted a survey on stress and found that various factors were contributing to stress, including but not limited to work, economy and health, with 64% of all adults surveyed indicating work and money was a major stressor.[221] Further, the survey indicated more than 40% of all adults say they lie awake at night because of stress. Prolonged stress can take not only a mental toll but also a physical toll on the body, resulting in conditions like insomnia, high blood pressure and a weakened immune system. The 2019 Houston Methodist survey asked respondents how they normally cope with stress and the results varied, with many citing turning to positive external de-stressors, such as exercise and talking to family and friends. Many also indicated de-stressors that could become negative if left unchecked, such as alcohol consumption (See figure 36).

Most Common Methods To Manage Your Stress
Total (N=867)

Method	Percentage
I talk to family and friends	65%
I watch TV	33%
I consume an alcoholic beverage(s)	15%
Exercise	12%
I smoke or use tobacco products	7%
I use illicit drugs	1%
Other	8%
I do not get stressed	8%

Note: numbers add up to >100% due to multiple responses
Q: Please indicate the most common methods used to manage your stress.
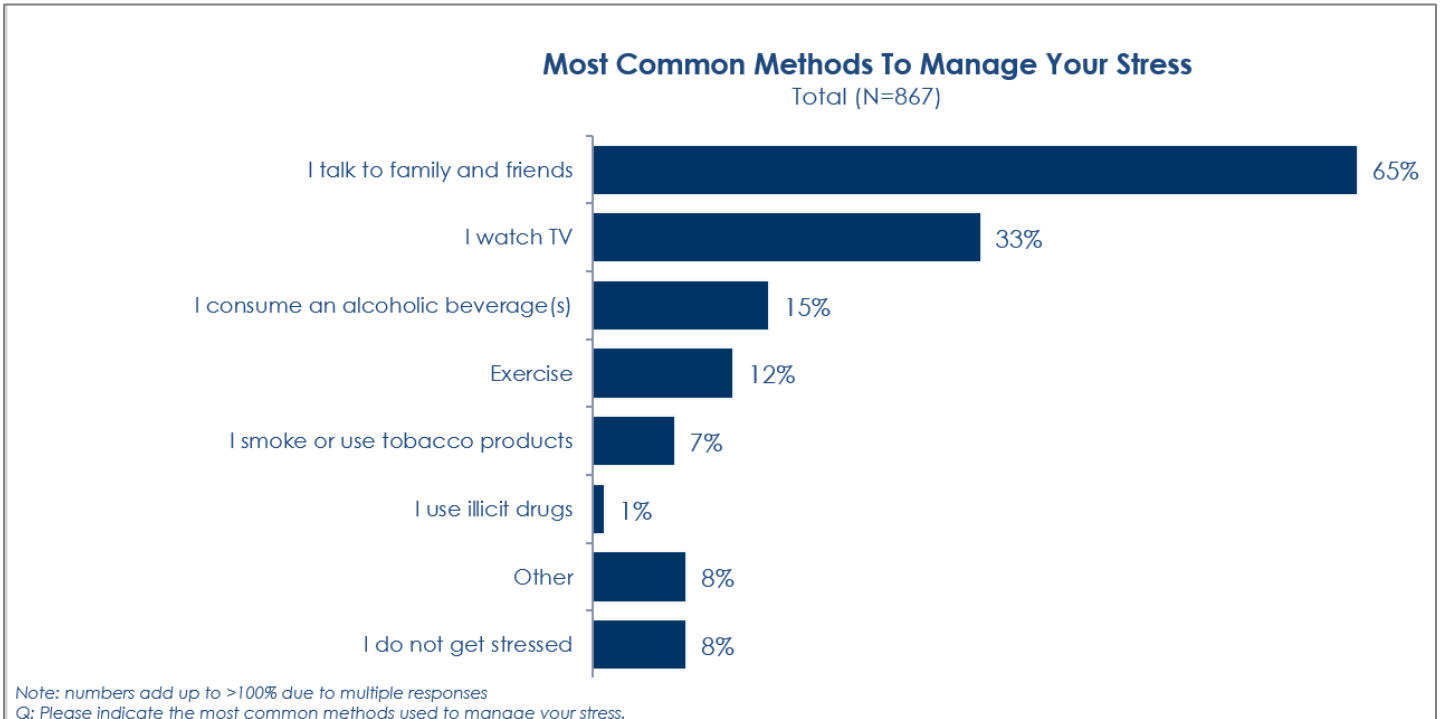
Source: Houston Methodist Health Needs Survey (2019)

More public education activities that continue to bring mental health to the forefront can help a community begin to better understand when individuals may need help and can help educate them on care options.

This Community Health Needs Assessment (CHNA) report provides the foundation for Houston Methodist The Woodlands Hospital's efforts to guide community benefit planning to improve the health status of the supported community. The priorities outlined in this report will serve as the foundation for the formulation of the Houston Methodist The Woodlands Hospital Implementation Plan for 2020-22.

The appendix at the end of this report will provide the following additional resources of information:

- Community Input
- Houston Methodist Community Survey Results: Gender & Race Data
- 2016 – 2019 Community Health Needs Assessment Implementation Plan Outcomes
- Community Resources
- References

Please note that this assessment and the subsequent implementation plan will be routinely reevaluated in order to ensure that Houston Methodist is responding in the most impactful ways to the most pressing health needs of the greater Houston community.

APPENDIX

Input Collection: Input from person(s) with special knowledge
- Julia Andrieni, MD, Vice President, Population Health, Houston Methodist
- Heather Chung, Ph. D., NE-BC, Director of System Psychiatric Services, Houston Methodist Hospital
- Suzan Deison, President/Chief Executive Officer, Greater Houston Women's Chamber of Commerce
- Dorothy Gibbons, CEO, The Rose
- Vita Goodell, BS, MBA, Executive Director, Fort Bend Women's Center
- Rodney Grimmer, Sergeant, Fort Bend County Sheriff's Office
- Ronnie Hagerty, CFRE, Assistant Vice President, Community Relations, United Way of Harris and Montgomery County
- Leslie Hargrove, Executive Director, Coastal Area Health Education Centers (AHEC)
- Ken Janda, Former CEO, Community Health Choice
- Joe Jimenez, President & CEO, Association for the Advancement of Mexican Americans
- Stephen Klineberg, PhD, Founding Director, The Kinder Institute
- Grenita Lathan, PhD, Interim Superintendent / Gwen Johnson, Manager of Health & Medical Services, Houston Independent School District
- Mary Lawler, BA, MPP, Executive Director, Avenue CDC
- Alok Madan, MD, Vice President, Psychiatry, Houston Methodist Hospital
- Laura Matthews, MS, SHRM-SCP, Director of Human Resources, Houston Methodist Hospital
- Ruthanne Mefford, BA, MBA, Chief Executive Officer, Child Advocates of Fort Bend
- Manager of Sexual Assault Advocate Team, Montgomery County Women's Center
- Evan Roberson, MPA, Executive Director, Tri County Services Behavioral Healthcare
- Robert Sanborn, EdD, President/Chief Executive Officer, Children at Risk
- Nadine Scamp, LMSW, Chief Executive Officer, Santa Maria Hostel, Inc.
- Anonymous representative, Chambers County
- Chuck Still, Former Executive Director, Midtown Arts and Theater Center Houston
- Laila S. Tabatabai, MD, Program Director, Houston Methodist Endocrinology Fellowship – Houston Methodist Hospital
- Steve Wright, BBA, MA, MS, Director, City of Houston Department of Parks and Recreation
- Wayne Young, BS, Med, MBA, Chief Executive Officer, The Harris Center for Mental Health and IDD (MHMRA)

Input Collection: Input from federal, regional, state, or local health departments/agencies
- Sector representative for Galveston County Health District
- Mary desVignes-Kendrick, MD, Director, Fort Bend County Health & Human Services
- Sector representative for Houston Health Department
- Anonymous representative, Harris County
- Umair Shah, MD, MPH, Executive Director, Harris County PHES
- Sandra Tyson, PhD, Senior Policy Planner, Harris County PHES

Input Collection: Input from leaders and members of medically underserved, low-income populations
- Anna (Dragsbaek) Coffey, CEO, The Women's Home
- C. Aguirre, President & CEO, Neighborhood Centers Head Start/Early Head Start Program Services/Baker Ripley
- Jane Bavineau, VP of Health and Wellness, Neighborhood Centers Head Start/Early Head Start Program Services/Baker Ripley
- Manuela Arroyos, CEO, Fort Bend Seniors
- Anna Babin, Former President & CEO, United Way of Greater Houston

- Gladys Brumfield, Associate Center Director, Mamie George Community Center, Catholic Charities-Fort Bend
- Melissa Burnham, BBA, Executive Vice President, Gulf Coast Medical Foundation
- Katy Caldwell, CEO; Ann Barnes, CMO, Legacy Community Health
- Andrea Caracostis, MD, MPH, HOPE Clinic (FQHC)
- Cynthia Colbert, President & CEO, Catholic Charities - Archdiocese of Galveston
- David Buck, MD, MPH, Patient Care Intervention Center (PCIC)
- Mike Dotson, CPA, MBA, Chief Executive Officer, Fort Bend Family Health Center, Inc. dba AccessHealth
- Brian Greene, President & CEO, Houston Area Food Bank
- Karen Harwell, CPA,CEO, LoneStar Family Health Center
- Missy Herndon, President/Chief Executive Officer, Interfaith
- Lara Hill (Hamilton), CEO, Christ Clinic
- Frances Isbell , MA, CEO, Healthcare for the Homeless-Houston
- Laura LaVigne, CEO, The Arc of Fort Bend County-Fort Bend
- Gloria Luna, Community Outreach Director, United Way of Brazoria County
- Marcie Mir, LCSW, CEO; Kavon Young, MD, Medical Director, El Centro de Corazon
- Anita Phillips, Director, Clinic Operations, Interfaith Community Clinic
- Lisa Poynor, CEO, Fort Bend Regional Council On Substance Abuse
- Mark Thiele, Senior Vice President, Houston Housing Authority
- Kelly Young, CEO, AIDS Foundation of Houston

Input Collection: Input from members with broad interests in the community
- Jaime Castro, Mental Health Unit Commander, Galveston County Mental Health Deputies
- Carbett "Trey" J. Duhon, III, County Judge
- Bob Harvey, President & CEO, Greater Houston Partnership
- Lovell Jones, PhD, Executive Director, HDEART Consortium, Prairie View A&M
- Elena Marks, JD, MPH, President & CEO, Episcopal Health Foundation
- Bobby Rader, Sheriff, Liberty County Sheriff's Office
- Ruth Petersen, MD, MPH, Director, Division of Nutrition, Physical Activity, and Obesity, Centers for Disease Control and Prevention, Centers for Disease Control and Prevention

Gender, racial and ethnic disparities in health care — whether in insurance coverage, access, or quality of care — are one of many factors producing inequalities in health status in the United States. Houston Methodist recognizes the importance of looking at all factors that contribute to higher mortality rates of its citizens. Below is a snapshot of the health status of the community by gender and by race/ethnicity, with emphasis on Harris County as it is the largest county in the state of Texas. The intention of this section is to provide an additional snapshot for community health providers interested in the unique disparities that individuals may face and the impact that such disparities may have on the providers' targeted service area.

Being overweight, high blood pressure, and cholesterol are the top health issues for male and female individuals.

Current Health Status
Males (N=238)

Statement	Percentage
I have been told I am overweight	30%
I have been diagnosed with high blood pressure	28%
I have been diagnosed with high cholesterol	25%
I have been diagnosed with diabetes	14%
I have been diagnosed with having a mental health condition	8%
I have smoked/used illicit drugs	12%
I have been diagnosed with a form of cancer at some point in my life	5%
I have been diagnosed with a sexually transmitted infection	4%
I have been told I am underweight	4%
I have had a stroke	4%
None of the above statements apply to me	37%

Current Health Status
Females (N=735)

Statement	Percentage
I have been told I am overweight	39%
I have been diagnosed with high blood pressure	22%
I have been diagnosed with high cholesterol	17%
I have been diagnosed with diabetes	13%
I have been diagnosed with having a mental health condition	10%
I have smoked/used illicit drugs	7%
I have been diagnosed with a form of cancer at some point in my life	5%
I have been diagnosed with a sexually transmitted infection	4%
I have been told I am underweight	2%
I have had a stroke	2%
None of the above statements apply to me	35%

Preventive care compliance is highest among female individuals.

Preventive Care Received In The Past 12 Months
Males (N=238)

Category	Percentage
I have been to the dentist within the last 12 months	44%
I have received a well woman/well man exam within the last 12 months	29%
I have received a flu shot within the last 12 months	42%
I have been to the eye doctor within the last 12 months	33%
I have received an STD/STI screening within the last 12 months	10%
I have not received any of the above exams/screenings in the past 12 months	29%

Preventive Care Received In The Past 12 Months
Females (N=735)*

Category	Percentage
I have been to the dentist within the last 12 months	51%
I have received a well woman/well man exam within the last 12 months	54%
I have received a flu shot within the last 12 months	42%
I have been to the eye doctor within the last 12 months	41%
I have received an STD/STI screening within the last 12 months	18%
I have not received any of the above exams/screenings in the past 12 months	18%

Lack of insurance, cost and fear were the biggest barriers to seeking medical treatment for both male and female individuals.

Biggest Barriers To Seeking Medical Treatment
Males (N=238)

Barrier	Percentage
Lack of insurance	78%
Unable to pay co-pay/Too Expensive	60%
Fear (not ready to face health problem)	45%
Can't take time away from work to see doctor	39%
Long waits to see the doctor	36%
Health services too far	19%
Language Barriers/Do not speak the language	18%
Don't know how to find a doctor	17%
Unreliable/Insufficient Transportation	15%
Cultural or religious beliefs	6%
Other	4%
There are no barriers	10%

Biggest Barriers To Seeking Medical Treatment
Females (N=735)

Barrier	Percentage
Lack of insurance	79%
Unable to pay co-pay/Too Expensive	69%
Fear (not ready to face health problem)	44%
Can't take time away from work to see doctor	41%
Long waits to see the doctor	37%
Health services too far	20%
Language Barriers/Do not speak the language	18%
Don't know how to find a doctor	18%
Unreliable/Insufficient Transportation	18%
Cultural or religious beliefs	18%
Other	4%
There are no barriers	4%

Being overweight is the top health issue for white, black and Hispanic individuals.

Current Health Status
White (N=280)

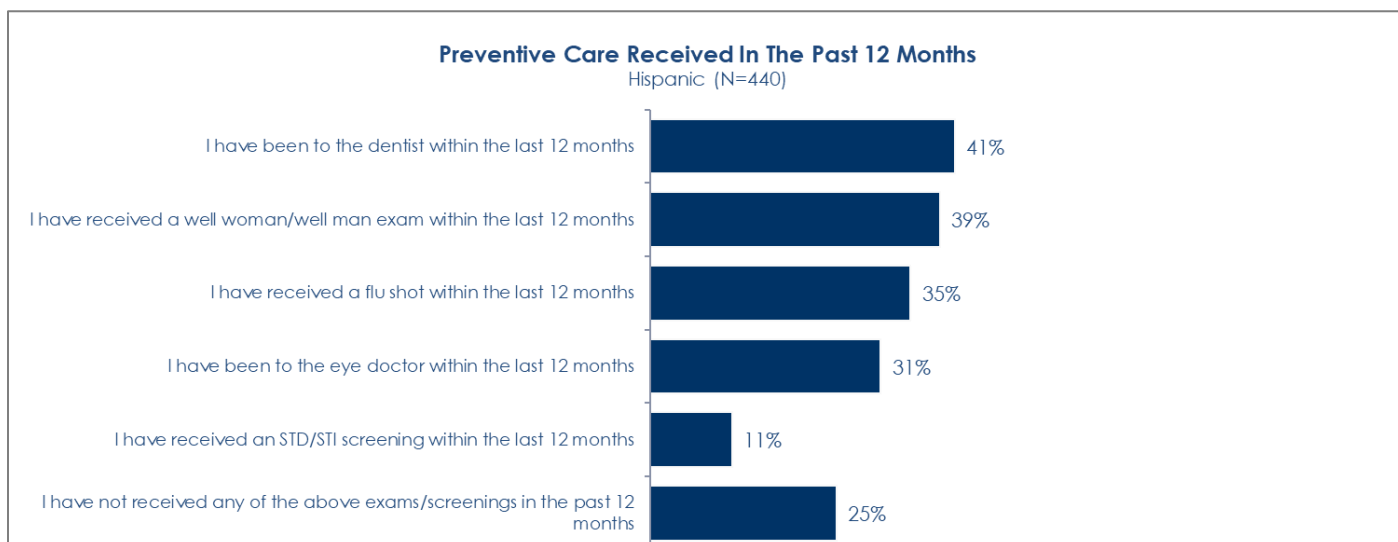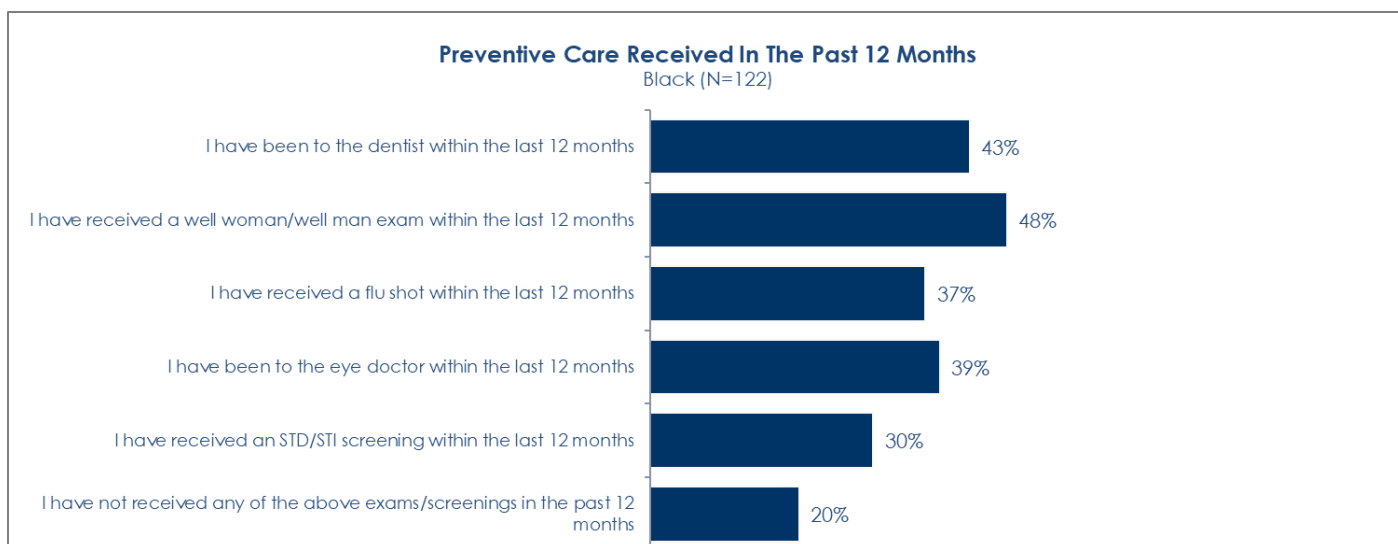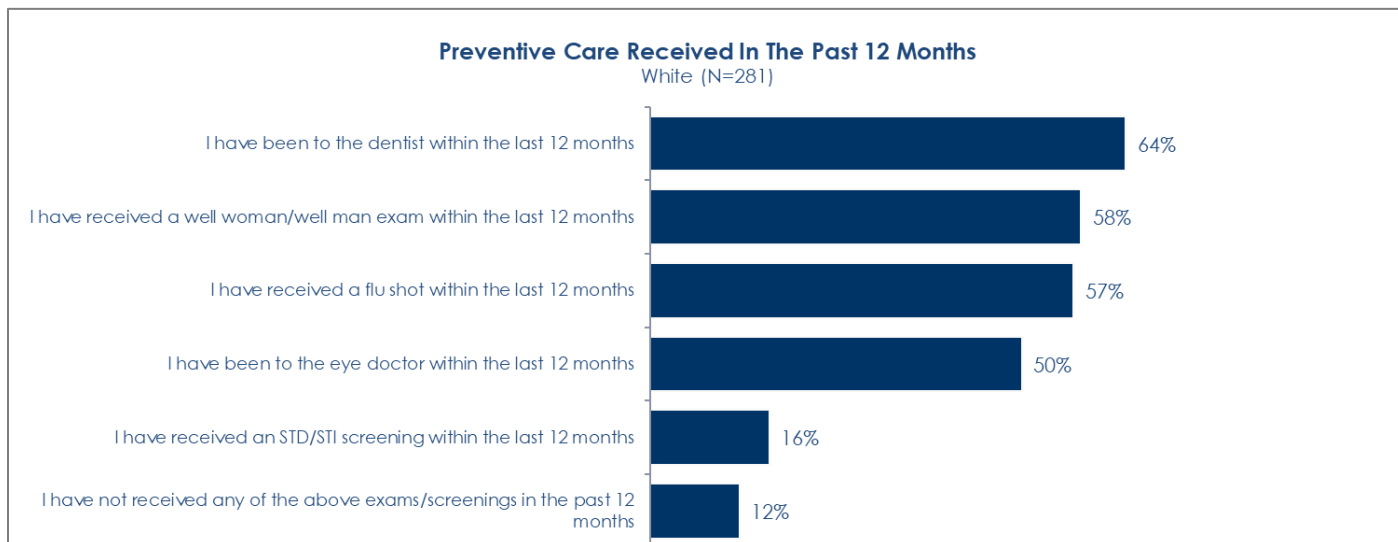| Statement	Percentage
I have been told I am overweight	39%
I have been diagnosed with high blood pressure	28%
I have been diagnosed with high cholesterol	18%
I have been diagnosed with diabetes	9%
I have been diagnosed with having a mental health condition	15%
I have smoked/used illicit drugs	11%
I have been diagnosed with a form of cancer at some point in my life	9%
I have been diagnosed with a sexually transmitted infection	5%
I have had a stroke	1%
I have been told I am underweight	3%
None of the above statements apply to me	29%

Current Health Status
Black (N=125)

Statement	Percentage
I have been told I am overweight	34%
I have been diagnosed with high blood pressure	33%
I have been diagnosed with high cholesterol	16%
I have been diagnosed with diabetes	14%
I have been diagnosed with having a mental health condition	14%
I have smoked/used illicit drugs	14%
I have been diagnosed with a form of cancer at some point in my life	2%
I have been diagnosed with a sexually transmitted infection	6%
I have been told I am underweight	2%
I have had a stroke	5%
None of the above statements apply to me	33%

Current Health Status
Hispanic (N=449)

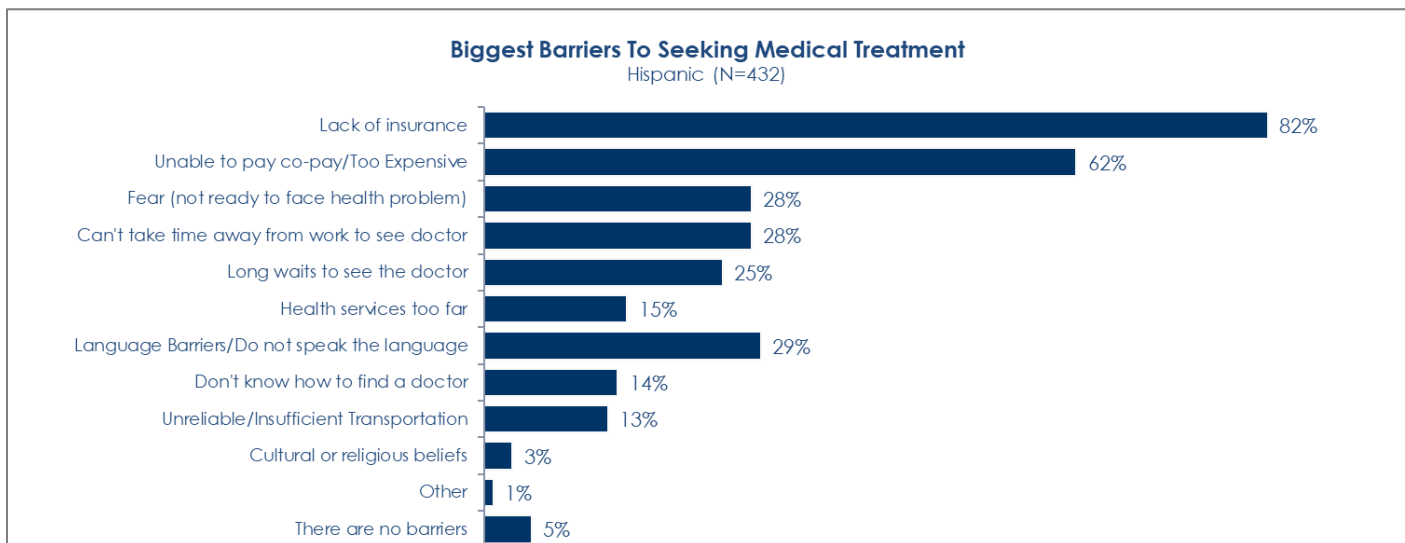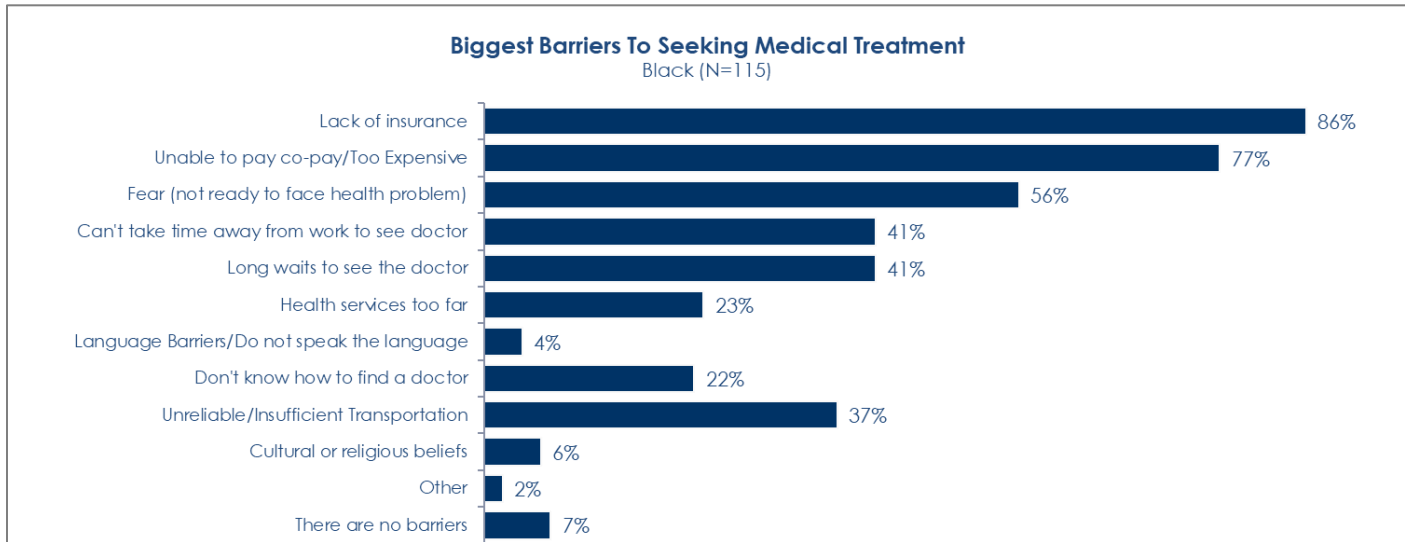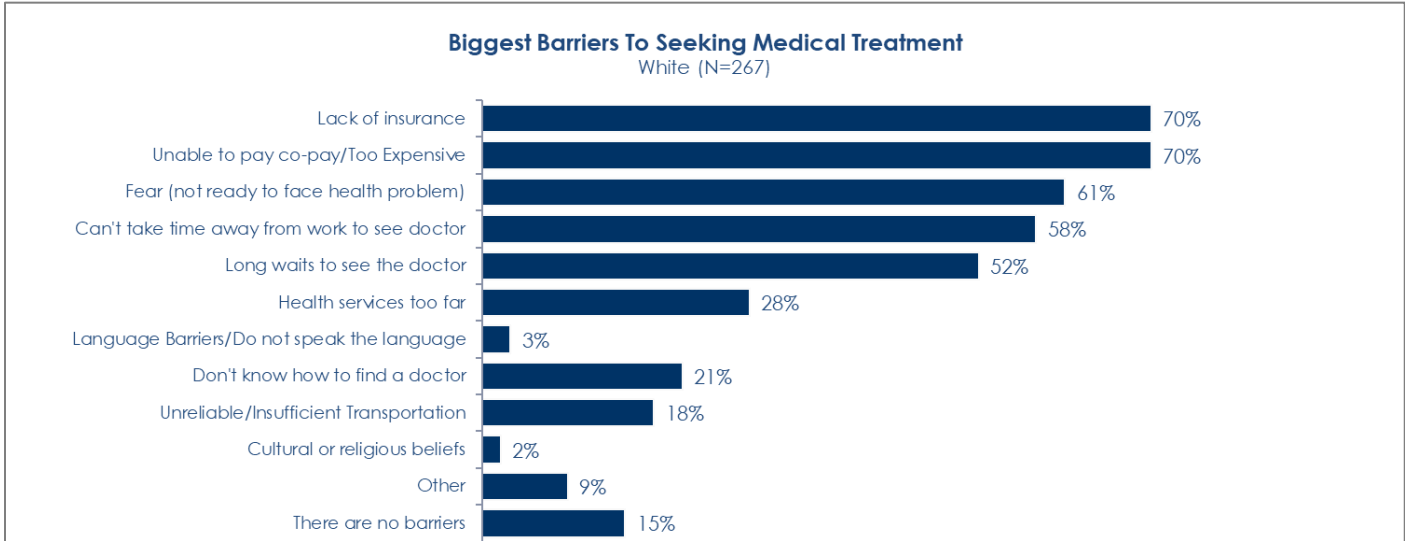| Statement	Percentage
I have been told I am overweight	35%
I have been diagnosed with high blood pressure	19%
I have been diagnosed with high cholesterol	21%
I have been diagnosed with diabetes	15%
I have been diagnosed with having a mental health condition	4%
I have smoked/used illicit drugs	4%
I have been diagnosed with a form of cancer at some point in my life	4%
I have been diagnosed with a sexually transmitted infection	3%
I have been told I am underweight	2%
I have had a stroke	2%
None of the above statements apply to me	39%

Preventative care is prevalent among white individuals, while less than half of black individuals and only 40% of Hispanic individuals received recommended preventive care within the last 12 months.

Preventive Care Received In The Past 12 Months
White (N=281)

I have been to the dentist within the last 12 months	64%
I have received a well woman/well man exam within the last 12 months	58%
I have received a flu shot within the last 12 months	57%
I have been to the eye doctor within the last 12 months	50%
I have received an STD/STI screening within the last 12 months	16%
I have not received any of the above exams/screenings in the past 12 months	12%

Preventive Care Received In The Past 12 Months
Black (N=122)

I have been to the dentist within the last 12 months	43%
I have received a well woman/well man exam within the last 12 months	48%
I have received a flu shot within the last 12 months	37%
I have been to the eye doctor within the last 12 months	39%
I have received an STD/STI screening within the last 12 months	30%
I have not received any of the above exams/screenings in the past 12 months	20%

Preventive Care Received In The Past 12 Months
Hispanic (N=440)

I have been to the dentist within the last 12 months	41%
I have received a well woman/well man exam within the last 12 months	39%
I have received a flu shot within the last 12 months	35%
I have been to the eye doctor within the last 12 months	31%
I have received an STD/STI screening within the last 12 months	11%
I have not received any of the above exams/screenings in the past 12 months	25%

Lack of insurance and cost are the top barriers for all 3 racial/ethnic groups represented in the survey. Nearly 4 in 10 black individuals report unreliable transportation as a barrier, and nearly one-third of Hispanic individuals report language barriers being present.

Biggest Barriers To Seeking Medical Treatment
White (N=267)

Barrier	Percent
Lack of insurance	70%
Unable to pay co-pay/Too Expensive	70%
Fear (not ready to face health problem)	61%
Can't take time away from work to see doctor	58%
Long waits to see the doctor	52%
Health services too far	28%
Language Barriers/Do not speak the language	3%
Don't know how to find a doctor	21%
Unreliable/Insufficient Transportation	18%
Cultural or religious beliefs	2%
Other	9%
There are no barriers	15%

Biggest Barriers To Seeking Medical Treatment
Black (N=115)

Barrier	Percent
Lack of insurance	86%
Unable to pay co-pay/Too Expensive	77%
Fear (not ready to face health problem)	56%
Can't take time away from work to see doctor	41%
Long waits to see the doctor	41%
Health services too far	23%
Language Barriers/Do not speak the language	4%
Don't know how to find a doctor	22%
Unreliable/Insufficient Transportation	37%
Cultural or religious beliefs	6%
Other	2%
There are no barriers	7%

Biggest Barriers To Seeking Medical Treatment
Hispanic (N=432)

Barrier	Percent
Lack of insurance	82%
Unable to pay co-pay/Too Expensive	62%
Fear (not ready to face health problem)	28%
Can't take time away from work to see doctor	28%
Long waits to see the doctor	25%
Health services too far	15%
Language Barriers/Do not speak the language	29%
Don't know how to find a doctor	14%
Unreliable/Insufficient Transportation	13%
Cultural or religious beliefs	3%
Other	1%
There are no barriers	5%

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2016 – 2019 COMMUNITY HEALTH NEEDS ASSESSMENT IMPLEMENTATION PLAN OUTCOMES

Mental Health Care Services				
Objectives	Provide access to mental health services to the underserved/uninsured via Mental Health Assessment Team (MAT) and telepsychiatry services			
Collaborators	▪ Community Agencies ▪ Administration			
Goals	**Evaluative Measures**	**Outcomes**		
		2017	**2018**	**2019**
Provide access to mental health services to the underserved/uninsured via Mental Health Assessment Team (MAT) and telepsychiatry services	Number MAT team referrals	In Progress	150	173
Additional Details	Overall, approximately 173 patients were referred via MAT at the conclusion of the three-year evaluation process.			

Specialty Care				
Objectives	Increase the breadth and depth of specialty care in the Houston Methodist The Woodlands market.			
Collaborators	▪ Business Development ▪ Specialty Care Group ▪ Administration			
Goals	**Evaluative Measures**	**Outcomes**		
		2017	**2018**	**2019**
Recruit board-certified, fellowship-trained specialists to expand access to a variety of specialty care services	Number of physicians recruited Specialties of recruited physicians	3 Cardiologists 1 Cardiovascular Surgeon 1 Endocrinologist 1 Infectious Disease Physician 1 Medical Oncologist 1 Radiation Oncologist 1 Neurologist 1 Neurointerventional Radiologist 2 Reconstructive and Plastic Surgeons 1 Urologist	1 Breast Surgical Oncologist 1 Cardiologist 1 Gynecological Oncologist 3 Hospitalists 1 Neurologist 1 Endovascular Neurosurgeon 1 Orthopedic Surgeon 1 Rheumatologist	1 Neurologist 1 Neurosurgeon 1 Vascular Surgeon 1 Cardiologist 1 Endocrinologist 5 Hospitalists
Recruit highly trained allied health professionals such as athletic trainers and physical therapists to support orthopedics and sports medicine program.	Number of allied health professionals recruited Number of concussion tests and physicals Number of New Partnerships	2 Athletic Trainers 200 Concussion Tests 510 Physicals 1 New Partnership	4 Athletic Trainers 200 Concussion Tests 140 Physicals 1 New Partnership	4 Athletic Trainers 10 Physical Therapists
Additional Details	Overall, 33 specialists across 18 specialty fields were recruited for the Houston Methodist The Woodlands community. Additionally, 10 athletic trainers and 10 physical therapists were recruited, 400 concussion tests and 650 physicals were completed, and 2 new partnerships were formed at the conclusion of the three-year evaluation process.			

Primary Care			
Objectives	Increase the amount of primary care physicians serving in the Houston Methodist The Woodlands service area and improve/facilitate access to primary care services.		
Collaborators	▪ Business Development ▪ Primary Care Group ▪ Administration		

Goals	Evaluative Measures	Outcomes		
		2017	**2018**	**2019**
Increase the amount of primary care physicians serving in the Houston Methodist The Woodlands service area and improve/facilitate access to primary care services.	Number of primary care physicians recruited, new clinics opened in area	2 New Physicians 1 New Primary Care Clinic	10 New Physicians 3 New Primary Care Clinics	7 New Physicians 1 New Primary Care Clinic
Additional Details	Over 12 new primary care physicians were recruited and 4 new primary care clinics were opened at the conclusion of the three-year evaluation process.			

Healthy Living Behaviors: Prevention				
Objectives	Improve community awareness for women's health, with a focus on breast cancer.			
Collaborators	▪ Community Agencies ▪ Marketing			
Goals	**Evaluative Measures**	**Outcomes**		
		2017	**2018**	**2019**
Improve community awareness for women's health, with a focus on breast cancer.	Number of seminars and educational events Number of attendees	2 Events 260+ Attendees	1 Event 240 Attendees	2 Events 260 Attendees
Additional Details	Overall, 5 events with over 760 attendees were held during the three-year evaluation period.			

Healthy Living Behaviors: Prevention				
Objectives	Partner with local employers, churches and community-focused organizations to educate community members about the importance of healthy eating, exercise and regular health screenings.			
Collaborators	▪ Community Agencies ▪ Marketing			
Goals	**Evaluative Measures**	**Outcomes**		
		2017	**2018**	**2019**
Partner with local employers, churches, and community-focused organizations to educate community members about the importance of healthy eating, exercise, and regular health screenings.	Types of events Number of events Number of attendees	Lunch and Learns: 2 Lectures 70 Attendees Community Group Events: 2 Events 350 Attendees Weight Management: 1 Seminar 125 Attendees Neck and Back Pain: 1 Seminar 120 Attendees Cancer: 1 Lecture 110 Attendees Health and Fitness: 1 Expo 7,000 Attendees Breast Cancer: 1 Event 200 Attendees Sports Medicine: 1 Luncheon 100 Attendees Heart Health: 1 Event 300 Attendees Primary Care: 2 Health Fairs 1200 Attendees	Health Seminars: 2 Events 243 Attendees Community Group Events: 3 Events 325 Attendees Heart Health: 1 Seminar 120 Attendees Health and Fitness: 1 Expo 4,700 Attendees Joint Pain: 1 Seminar 120 Attendees Stroke Prevention: 1 Event 150 Attendees Breast Health: 1 Event 260 Attendees Primary Care: 8 Health Fairs Attendees Not Reported	Health Seminars: 2 Events 243 Attendees Community Group Events: 3 Events 325 Attendees Heart Health: 1 Seminar 90 Attendees Health and Fitness: 1 Expo 5000 Attendees Joint Pain: 1 Seminar 130 Attendees Stroke Prevention: 1 Event 150 Attendees Breast Health: 1 Event 230 Attendees
Additional Details	Over 41 events spanning 16 categories were held during the three-year evaluation period, with over 21,600 individuals in attendance.			

Original Implementation Plan Goal Removals:

At the conclusion of the tracking season, it was determined that the following health care initiatives were no longer able to be tracked due to, but not limited to, a change in priorities and/or limited resources (personnel and/or financial). See below for a list of goals that were present in the original iteration of the Implementation Plan that were no longer able to be tracked by conclusion:

- **Goal:** Expand the Network of Care program to support Medicaid and uninsured patients in the Houston Methodist The Woodlands service area. (*Health Priority: Primary Care Access*)

For questions please contact CHNA@houstonmethodist.org.

COMMUNITY RESOURCES

Federally Qualified Health Centers

Avenue 360 Spring Cypress
17010 Sugar Pine Dr.
Houston, TX 77090
281.537.8621

Lone Star Family Health Center - Conroe
605 S Conroe Medical Dr.
Conroe, TX 77304
936.539.4004

Lone Star Family Health Center - Grangerland
13905 Grangerland Rd.
Conroe, TX 77306
936.539.4004

Lone Star Family Health Center - Spring
440 Rayford Rd., Suite 150
Spring, TX 77386
936.539.4004

Lone Star Family Health Center - Willis
9516 West FM 1097, Suite 140
Willis, TX 77318
936.539.4004

Salvation Army - Conroe Corps Community Center
304 Avenue E
Conroe, TX 77301
936.760.2440

Charity Clinics

Interfaith Community Clinic
101 Pine Manor Dr.
Oak Ridge North, TX 77385
281.364.7889

Multi-Service and Specialty Resources

Depelchin Children's Center - Spring
2940 FM 2920, Suite 150
Spring, TX 77388
281.367.7707

TIRR Memorial Hermann The Woodlands Medical Center - Inpatient
9250 Pinecroft Dr., East Tower - 7th Floor
The Woodlands, TX 77380
713.797.5942

UTMB Conroe RMCHP Clinic
701 E. Davis St., Suite A
Conroe, TX 77301
409.266.1888

Nonprofit Hospitals

CHI St. Luke's Health - Lakeside Hospital
17400 St. Luke's Way
The Woodlands, TX 77384
936.266.9000

CHI St. Luke's Health - Springwoods Village Hospital
2255 East Mossy Oaks Rd.
Spring, TX 77389
346.305.5000

CHI St. Luke's Health - The Woodlands Hospital
17200 St. Luke's Way
The Woodlands, TX 77384
936.266.2000

Houston Methodist The Woodlands Hospital
17201 Interstate 45 South
The Woodlands, TX 77385
936.270.2000

MD Anderson The Woodlands
Medical Arts Center
17198 St. Luke's Way
The Woodlands, TX 77384
713.563.0050

Memorial Hermann The Woodlands Medical Center
9250 Pinecroft Dr.
The Woodlands, TX 77380
713.897.2300

Texas Children's Hospital The Woodlands (Inpatient & Emergency)
17600 Interstate 45 South
The Woodlands, TX 77384
936.267.5000

Texas Children's Hospital The Woodlands (Outpatient Services)
17580 Interstate 45 South
The Woodlands, TX 77384
936.267.5000

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