



**June 30, 2015**

**Community Health  
Needs Assessment**



Joint ownership with physicians

*Now part of* Baylor Scott & White Health

**Table of Contents#**

Executive Summary .....3  
    Community Health Needs.....4  
Key Contributors..... 8  
Assessment Methodology ..... 9  
THHBD Community Definition ..... 12  
Community Health Needs Assessment ..... 15  
    Public Participation ..... 15  
    NRC The Heart Hospital Baylor Denton Service Area Survey (Executive Summary) ..... 16  
    Regional Healthcare Partnership Region 9 (Executive Summary) ..... 17  
Appendix A..... 18  
Appendix B ..... 56

## **Executive Summary**

The Heart Hospital Baylor Denton (THHBD) is committed to serving all the neighborhoods in its service area and recognizes the importance of keeping a local focus in effectively meeting community needs. This Community Health Needs Assessment (CHNA) was conducted during the tax year ending June 30, 2015. Its purpose is to identify the health needs of the communities served by THHBD and meet the requirements for community benefit planning as set forth in state and federal laws, including, but not limited to, Internal Revenue Code Section 501(r).

### ***About the Hospital***

THHBD is the first and only freestanding, full-service hospital in Denton County dedicated solely to heart and vascular care. The 22 bed hospital has a medical staff of 315 physicians, with 140 being physician partners comprised of cardiovascular physicians and surgeons including multiple specialties to support the health care needs of North Texas residents. Of the 22 private inpatient suites, nine are cardiac universal beds, allowing the guest to receive the current level of care needed in-suite, without the need for transfer to a different unit to receive various levels of care during recovery. The hospital includes a 12 bed ambulatory surgical unit and a 12 bed post anesthesia care unit, a 24-hour, five bed emergency department, two cardiac catheterization labs, one electrophysiology lab, one hybrid operating room, and two cardiovascular operating suites.

### ***About Baylor Scott & White Health***

THHBD is an affiliate of Baylor Scott & White Health (BSWH) the largest faith based not-for-profit health care system in Texas (System). THHBD primarily serves the communities located in the North Texas Region of the System which is comprised of various legal entities including: philanthropic foundations; a research institute; a physician network; acute care hospitals; short-stay hospitals; specialty hospitals; ambulatory surgery centers; senior centers and other health care providers serving the needs of the 13 county Dallas-Fort Worth Metroplex area through a network of more than 360 access points. All these entities work together to meet the community's health needs.

### ***CHNA Summary***

Creating healthy communities requires a high level of mutual understanding and collaboration with individuals and partner groups. This CHNA brings together information from community health leaders and providers, along with local residents, for the purpose of researching, prioritizing and documenting the health needs of the geographic area served by THHBD. It serves as the foundation for implementing community health improvements for the community.

The CHNA brings together information from a variety of sources. This assessment consolidates information from the recent community health needs assessments conducted for the Texas' Regional Healthcare Partnership Region 9 (Region 9 RHP) and the Consumer Health Report conducted by the National Research Corporation (NRC) for THHBD. Each of these reports was developed with input from people representing the broad interest of the community and people with special knowledge or expertise in public health.

The importance and benefit of compiling information from other recognized assessments are as follows:

1. Increases knowledge regarding community health needs and resources.
2. Creates a common understanding of the community's priorities as it relates to health needs.
3. Enhances relationships and mutual understanding between and among stakeholders.
4. Provides a basis upon which community stakeholders can make decisions about how they can contribute to improving the health of the community.
5. Provides rationale for current and future financiers to support efforts to improve the health of the community.
6. Creates opportunities for collaboration in the delivery of services to the community.
7. Provides the hospital with guidance as to how it can align its services and community benefit programs to best meet needs.

### **Community Health Needs**

Analysis of the Region 9 RHP report and the Consumer Health Report revealed the following community health needs in the THHBD service area.

- Access to Care for Low Income Population
  - The community suffers a lack of preventive health care, quality medical care and supportive post-acute care services that promote the health of its residents. Community health and patient-centered medical home locations may not promote convenient access. Enrollment in health insurance programs is inconsistent across the demographic. In the consumer survey for the hospital's service area, a significant percentage of respondents utilize hospital services for "routine care" (i.e. primary care).
- Multiple Chronic Conditions
  - Compared to the region, state and nation, the community is at a higher risk for several chronic conditions.
  - Similar to national trends, total service area (TSA) residents exhibit increasing diagnoses of chronic conditions. It is common that the pathology for one condition may also affect other body systems, resulting in co-occurrence or multiple chronic conditions (MCC). The presence of MCCs adds a layer of complexity to disease management.
  - The NRC consumer survey identified the following chronic conditions as high risk for the TSA when compared to the region, state or nation: allergies, diabetes, and migraines.
- Chronic Disease—Adult and Pediatric
  - Compared to *Healthy People 2010* targets, the hospital service area exceeded goals for cigarette smoking, high blood pressure and obesity.
- Capacity—Primary and Specialty Care
  - RHP 9 identified that the demand for primary and specialty care services exceeds available physicians in these areas, thus limiting health care access.
- Behavioral Health—Adult, Pediatric and Jail Populations
  - Behavioral health—either as a primary or secondary condition—accounts for substantial patient volume and costs for health care providers, and is often utilized at capacity. Despite this, behavioral health remains a substantial unmet need in the population.
  - The presence of a co-occurring behavioral health condition is associated with increased case severity of medical encounters and a 36 percent increase in the

- average charges- per-encounter. In RHP 9, 100 percent of the 10 most frequently admitted patients had a co-occurring behavioral health diagnosis. These 10 individuals incurred more than \$26 million in costs between 2007 and 2011; however, only one-fifth of their hospital emergency department visits were for a mental health or substance abuse issue. Sixty- one percent of those 10 individuals were uninsured, while 24 percent were on Medicaid, 12 percent were on Medicare and 3 percent were insured.
- The structure of the behavioral health system (including mental health and substance abuse) in RHP 9 struggles to meet the demand of patients in the community. Unlike most of Texas, the majority of behavioral health services for Medicaid and indigent patients are delivered through the NorthSTAR program instead of the traditional Local Mental Health Authority (LMHA) system. NorthSTAR provides both mental health and substance abuse treatment to over 60,000 Medicaid enrollees and indigent uninsured annually. While NorthSTAR has greatly expanded access to care, it has struggled with funding and infrastructure challenges. The growth in enrollment has outpaced funding such that the funding per person served is 30 percent less than when the program started in 1999 and is half that of the state average for other LMHAs. Texas is 50th in mental health funding nationwide, and therefore the funding per person served in RHP 9 is among the lowest in the nation.
- The number of NorthSTAR enrollees booked into jail has been steadily increasing, and 27 percent of all bookings to the Dallas County Jail are currently referred to jail behavioral health services.
- Patient Safety and Hospital-acquired Conditions
  - Hospitals in the region address patient safety and care quality on a daily basis. They are paramount for any health care entity. An ongoing, coordinated effort among providers is needed to improve patient safety and quality throughout the region.
  - The Dallas Fort Worth Hospital Council Foundation's (DFWHCF) 77 hospitals had 1,706 adverse hospital events in 2010. These events included air embolism, Legionnaires, iatrogenic pneumothorax, delirium, blood incompatibility, glycemic control issues and *clostridium difficile*—none of which are included in the 10 adverse events specified by Centers for Medicaid and Medicare Service (CMS).
- Emergency Department (ED) Usage and Readmissions
  - ED visits are on the rise, and EDs are becoming overcrowded due to reduced inpatient capacity and impaired patient flow.
  - An analysis of ED encounters demonstrates that many members of the population are accessing EDs for both urgent and non-urgent conditions. This is mostly due to the patient's lack of understanding of their medical conditions, and/or uninsured/underinsured status. The RHP 9 finds the following related to ED usage:
    - Over the most recent four quarters of available data, conditions for which the most volume of care was provided in an emergency outpatient setting were: low back pain, hypertension, pain/joint aching, chronic bronchitis and asthma.
    - Further assessment demonstrates that, with the exception of asthma, over 68 percent of encounters for the top primary health conditions listed above were either non-emergent or emergent/primary care treatable, meaning that the care

- could have been provided effectively in a primary care setting.
    - For ED encounters that resulted in a hospital admission, the most common health conditions by volume were stroke, diabetes, congestive heart failure, weak/failing kidneys, chronic bronchitis and heart attack.
    - When reviewing by payer type, diabetes is the top condition for the uninsured and Medicaid.
- Preventive Health Screenings
  - According to *Healthy People 2010*, the community has not achieved several national preventive health metrics.
  - However, preventive health behavior services for underserved households in the TSA exceed the market average in the following areas:
    - Blood pressure testing
    - Eye exams
    - Dental exams
    - Mammograms
    - Cardiovascular stress testing
    - Body mass index screening
    - Mental health screening
    - Pre-natal care
    - Smoking cessation
    - Carotid artery screening
  - Preventive health behavior services for underserved households in the TSA fall below the market average in the following areas:
    - Cholesterol screenings
    - Routine physical exams
    - Flu shots
    - Diabetes screenings
    - Pap smear
    - Hearing tests
    - Child immunizations
    - Colon screening
    - Weight loss programs
    - Osteoporosis screening
- Smoking Cessation
  - The *Healthy People 2010* goal is to reduce smoking to 12 percent of adults 18 years of age and older. In the hospital's TSA, 26 percent of respondents identified as being smokers.
- High Blood Pressure
  - The *Healthy People 2010* goal is to reduce the percentage of the adult population with high blood pressure to 16 percent. In the hospital's TSA, 16 percent of residents report high blood pressure, meeting the goal.

The identified community health needs as outlined below were reviewed and prioritized with input from BSWH senior leadership. In prioritizing the needs of the community BSWH adopted the methodology established in the collaborated CHNAs used for this assessment. Priority will be assigned as follows:

- Needs identified as Top Priorities in the each of the collaborated CHNAs are assigned High

Priority for BSWH.

- Needs identified as Top Priorities in more than one of the collaborated CHNAs are assigned Medium Priority for BSWH.
- Needs identified as Top Priorities in only one of the collaborated CHNAs are assigned Low Priority for BSWH.

In developing a plan to address all identified community health needs, the Hospital and the System found that aggregating the needs allows for significant, crosscutting initiatives. Therefore, the Hospital's community health implementation plan organizes the aggregated, prioritized needs as follows:

### **High Priority**

- Access to Care for Low Income Population
- Multiple Chronic Conditions

### **Medium Priority**

- Behavioral Health
- Patient Safety and Hospital-acquired Conditions
- Emergency Department and Urgent Care

### **Low Priority**

- Preventive Health Screenings
- Health Care Infrastructure

## Key Contributors

### **Regional Healthcare Partnership Region 9**

- Baylor Scott & White Health
- Children's Medical Center
- Dallas County Medical Society
- Dallas Fort Worth Hospital Council
- HCA North Texas
- Lakes Regional MHMR
- Methodist Health System
- North Texas Behavioral Authority
- Parkland Health and Hospital System
- Texas Health Resources
- Texas Scottish Rite Hospital for Children
- University of Texas Southwestern Medical Center

## **Assessment Methodology**

To complete this CHNA, BSWH staff participated in the development of several CHNAs with other health care providers throughout the Dallas/Fort Worth Metroplex. These include the Region 9 RHP report and the THHBD Consumer Health Report conducted by National Research Corporation (NRC). The methodology for each is detailed below (see the appendix for the complete assessments). Once the assessments were completed, the identified community health needs were reviewed and prioritized with input from the THHBD management and BSWH senior leadership. In prioritizing the needs of the community BSWH adopted the methodology established in the collaborated CHNAs used for this assessment. Priority will be assigned as follows: Needs identified as Top Priorities in the each of the collaborated CHNAs are assigned High Priority for BSWH. Needs identified as Top Priorities in more than one of the collaborated CHNAs are assigned Medium Priority for BSWH. Needs identified as Top Priorities in only one of the collaborated CHNAs are assigned Low Priority for BSWH.

### **Regional Healthcare Partnership Region 9**

The Texas Health and Human Services Commission originally defined the geographic boundaries of RHP 9 as Collin, Dallas, Denton, Ellis, Fannin, Grayson, Kaufman, Navarro and Rockwall counties. However, subsequently, in May 2012, the Health and Human Services Commission issued a revised state map, reducing RHP 9 to two counties: Dallas and Kaufman. In analyzing demographic and patient flow patterns, it was determined that the CHNA would cover the original Texas Health and Human Services Commission-defined region. Specific county information is available as appropriate and provided in this report.

To conduct this CHNA, a CHNA Task Force was convened with representatives from local hospitals, medical centers, and other health care providers from a multi-county geographic area. Members of the CHNA Task Force included experts from the following organizations: Baylor Health Care System; Children's Medical Center; Dallas County Behavioral Health Leadership Team; Dallas County Medical Society; HCA North Texas; Homeward Bound; Methodist Health System; North Texas Behavioral Health Authority; Parkland Health and Hospital System; Scottish Rite Hospital for Children; Texas Health Resources; UT Southwestern Medical Center; ValueOptions of Texas.

This core planning team reviewed and identified the regional priorities through data analysis, expert presentations and committee feedback. The criteria used by the Task Force to identify the regional priorities were: degree of population impact, financial burden on the health care system, alignment with intervention categories, and health issues whose solutions lend themselves to regional-based approaches. Whenever possible, regional, county and local data were obtained for assessment. Indicators and data sources were selected based on consistency and availability of data from reliable data sources.

## **The Heart Hospital Baylor Denton Service Area Survey**

The NRC Consumer Health Report provides a detailed summary of the health needs, health status, behaviors and perceptions of residents within THHBD's community. The NRC Consumer Health Report is conducted annually across communities in more than 200 of the nation's largest metropolitan statistical areas (MSAs). State and national surveys also are conducted.

### ***Sample Size***

The THHBD TSA sample for 2011 was comprised of 481 households. The standard error range for the sample was  $\pm 4.5$  percent at the 95 percent confidence level.

### ***Benchmarks***

The Dallas-Fort Worth-Arlington CBSA sample for 2011 was comprised of 5,694 households. The standard error range for the sample was  $\pm 1.3$  percent at the 95 percent confidence level.

The Texas sample for 2011 was comprised of 20,075 households. The standard error range for the sample was  $\pm 0.7$  percent at the 95 percent confidence level.

The national sample for 2011 was comprised of 278,824 households, which includes the largest 180 MSAs within the U.S. The standard error range for the sample was  $\pm 0.2$  percent at the 95 percent confidence level.

### ***Survey Instrument***

The survey document was an Internet-based questionnaire that respondents received through Internet invitations. The questionnaires were developed utilizing NRC's experience in the design and implementation of hundreds of consumer research studies. Questions were designed to meet the objectives as determined by the combined input of health care marketing directors and strategic planners nationwide.

The questions were presented in a clear and concise manner, in an easy-to-understand format, and the questionnaire was thoroughly pre-tested in an actual field situation to ensure respondents' question comprehension.

### ***Survey Timing***

Beginning in May 2008, ongoing data collection was implemented for the survey. Internet survey invitations were sent on the first of each month. The 22<sup>nd</sup> of each month was the completion deadline.

### ***The Respondent***

The respondent was the individual in the household who is most often the target for health care communications—the primary health care decision-maker. This individual most often selects the hospitals, physicians, and health care products and services utilized by household members.

### ***The Sample***

Survey invitations were sent to households that were representative of the 48 contiguous states. The national balancing criteria included:

- U.S. census regions
- Age of head of household
- Population density

The survey data was electronically coded and tabulated by the NRC according to an innovative and thorough tabulation specification plan.

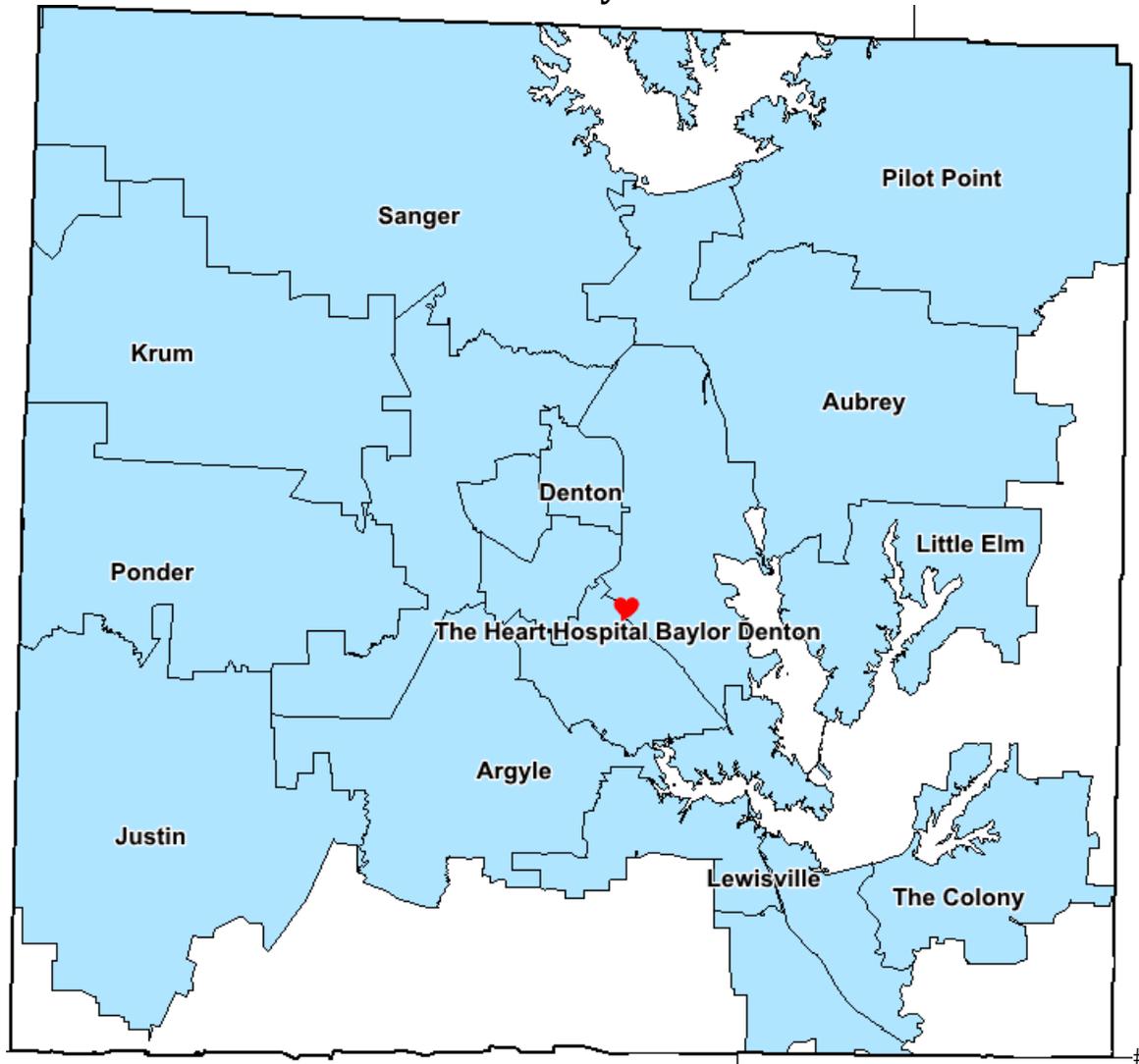
### ***Weighting the Data***

To ensure proper sample representation within each tabulated market area, the data was weighted according to a number of key demographic variables:

- Age of head of household
- Area population
- Race
- Household income
- Presence of children
- Marital status

Weighting ensured that the sample was representative of the population being surveyed. For example, if 20 percent of households within the market area were headed by a family member 18 to 24 years old, then 20 percent of the sample was comprised of heads of households who were 18 to 24 years old. This weighting pattern was held consistent across all variables.

## THHBD Community Definition#



BSWH North Texas Division affiliated hospitals serve a 13 county area known as the Dallas/Fort Worth Metroplex. BSWH divides its service areas into three regions: the Eastern Region, the Central Region and the Western Region. BSWH’ health care services are provided through a network of more than 360 access points, including 30 owned/operated/ventured/affiliated hospitals, joint ventured ambulatory surgical centers, satellite outpatient locations, senior centers and more than 180 HealthTexas Provider Network physician clinics.

BSWH uses the health care industry’s standard “80 percent” rule to define each hospital service areas.

- 80 Percent Rule = 50 percent of inpatient volume from Primary Service Area (PSA) + 30 percent inpatient volume from Secondary Service Area (SSA)—both of which make up the Total Service Area (TSA)

The following steps were taken to assure true representation of the area served:

- Outlier zip codes were removed.
- Missing zip codes adjacent to the facility were included

- Zip codes needed to complete the contiguous service area were included.

Located in Denton County, THHBD serves the Eastern Region of the System, and its TSA includes ZIP codes from Denton, Frisco and Lewisville. The service area comprises:

- An urban/suburban geographic area
- Service Area Population: 534,819
- Service Area Ethnicity: White Non Hispanic = 62.7 percent; Black Non Hispanic = 8.6 percent; Hispanic = 21.4 percent; Asian and Pacific Islanders Non-Hispanic = 4.6 percent; All Others = 2.7 percent.
- Service Area Household Average Income = \$82,203
- Service Area living below the Federal Poverty Level (FPL): 4.3 percent (compared to 9.7 percent living below the FPL in the Dallas/Fort Worth Metroplex, and 9.4 percent living below the FPL in the United States).
- Number of other hospitals serving the community: 10 hospitals other than The Heart Hospital Baylor Denton
- Medically Underserved: The Heart Hospital Baylor Denton service area does not contain any medically underserved areas or populations.
- Service Area Education: Less than High School = 4.4 percent; Some High School = 5.7 percent; High School Diploma = 22.2 percent; Some College/Associates Degree = 34.8 percent; Bachelor's Degree or Greater = 32.9 percent
- Service Area male population = 264,185; Service Area female population = 270,634
- Service Area Age: 0-14 = 21.3 percent; 15-17 = 4.3 percent; 18-24 = 11.0 percent; 25-34 = 15.4 percent; 35-54 = 28.0 percent; 55-64 = 10.3 percent; 65+ = 9.8 percent
- Service Area Payer Mix: Managed Care = 47.9 percent; Medicaid = 11.3 percent; Medicare = 30.3 percent; Self Pay/Charity = 10.2 percent; Other = 0.4 percent

### **Baylor Medical Center at Carrollton Service Area Providers**

#### Hospitals

Baylor Emergency Medical Center - Aubrey  
 Baylor Institute for Rehabilitation at Frisco  
 Baylor Medical Center at Carrollton  
 Baylor Medical Center at Frisco  
 Baylor Medical Center at Trophy Club  
 The Heart Hospital Baylor Denton  
 Continuum Rehabilitation Hospital of North Texas  
 Forest Park Medical Frisco  
 Integrity Transitional Hospital  
 Denton Regional Medical Center  
 Medical Center of Lewisville  
 Select Rehabilitation Hospital of Denton  
 Select Specialty Hospital - Dallas  
 Texas Health Presbyterian Hospital Denton  
 Texas Health Presbyterian Hospital Flower Mound  
 Mayhill Hospital  
 Atrium Medical Center at Corinth

Ambulatory Surgery Centers

Baylor Surgicare at Carrollton  
Children's Ambulatory Surgery Center at Southlake  
Day Surgery Center at Denton Regional Medical Center  
Denton Surgicare Dba Baylor Surgicare at Denton  
Faith Surgical Center  
IHeart Denton  
Lewisville Surgery Center  
Surgery Center of Lewisville  
Texas Health Orthopedic Surgery Center - Flower Mound  
Texas Health Surgery Center Denton

Freestanding ER

Elite Care Emergency Center  
Elite Care Emergency Center  
ERCA Little Elm LLC  
First Choice Emergency Room  
Southlake Emergency Care Center

Psychiatric Facilities

Carrollton Springs  
University Behavioral Health Of Denton

## Community Health Needs Assessment#

### **Public Participation**

THHBD and BSWH have fostered continued community participation and outreach activities through membership in the Dallas Fort Worth Hospital Council. They have used data from this collaboration of health care providers, including data that served as the basis for this CHNA. This data—drawn from a variety of local, state and federal sources—represents the most recent evaluation of Dallas/Fort Worth residents’ health status and the assets available to the community for improving health.

In addition, data was drawn from the *Healthy North Texas* website ([www.healthytexas.org](http://www.healthytexas.org)), which was created under the direction of the Dallas Fort Worth Hospital Council Foundation’s Community Health Collaborative. The website features data regarding overall population health. It boasts more than 100 local health indicators that can be compared across other Texas regions and the nation. The information can be used to expose crucial health concerns in North Texas, including incidents of diabetes, breast cancer and suicide. The site also has a database of information detailing ways to combat these health ailments. Sponsors of the site include Blue Cross Blue Shield of Texas, Communities Foundation of Texas, HCA North Texas, JPS Health Network, Methodist Health System, Texas Health Resources, University of North Texas Health Science Center and Baylor Health Care System.

## **NRC The Heart Hospital Baylor Denton Service Area Survey (Executive Summary)**

The Community Assessment conducted by NRC on behalf of THHBD identified the following as community health needs (see Appendix for more detail).

- Primary care: Fifty-two percent of respondents sought access to routine care.
- Specialty care, particularly for patients lacking of coverage: Thirty-seven percent of respondents identified Parkland as a facility providing service for those unable to pay. The next closest facility was only identified by 8 percent of respondents. When looking at several chronic conditions, a higher percentage of the lower income population is at risk.
- Multiple Chronic Conditions: Several chronic conditions are identified as high risk for the community when compared to the region, state or nation. The highest are allergies, diabetes, and migraines.

**Healthy People 2010 Targets:** *Healthy People* provides science-based, 10-year national objectives for improving the health of all Americans. It has established benchmarks and monitored progress over time in order to:

- A. Encourage collaborations across communities and sectors.
  - B. Empower individuals toward making informed health care decisions.
  - C. Measure the impact of prevention activities.
- Smoking Cessation: The community exceeds the cigarette smoking goal of 12 percent among adults 18 years plus.
  - High Blood Pressure: The community exceeds the goal of 16 percent of adults with high blood pressure.
  - Pediatric services and prenatal care: Childhood immunizations are below the goal of 80 percent. The prenatal goals of 90 percent care beginning in the first trimester of pregnancy and 90 percent early and adequate pre-natal care are not being met.
  - Preventive Health Screenings: The community is well below several national preventive health metric goals.

## **Regional Healthcare Partnership Region 9 (Executive Summary)**

To develop the Community Needs Assessment, a regional Task Force was convened by representatives from the following organizations: Baylor Health Care System, Children’s Medical Center, Dallas County Medical Society, Dallas County Behavioral Health Leadership Team, HCA North Texas, Methodist Health System, North Texas Behavioral Health Authority, Parkland Health & Hospital System, Scottish Rite Hospital for Children, Texas Health Resources, UT Southwestern Medical Center, and ValueOptions of Texas.

This Task Force reviewed and identified the regional needs through data analysis, expert presentations, and committee discussions. The major criteria used to identify and rank regional priorities included population impact, alignment with intervention categories, and whether solutions lend to regional based approaches. The following priorities were identified as the region’s major community health needs:

### Capacity - Primary and Specialty Care

The demand for primary and specialty care services exceeds that of available physicians in these areas, thus limiting health care access.

### Behavioral Health - Adult, Pediatric and Jail Populations

Behavioral health, either as a primary or secondary condition, accounts for substantial volume and costs for health care providers, and is often utilized at capacity, while still leaving a substantial unmet need in the population.

### Chronic Disease - Adult and Pediatric

Many individuals in North Texas suffer from chronic diseases that present earlier in life. They also are becoming more prevalent and result in health complications.

### Patient Safety and Hospital-acquired Conditions

Hospitals in the region address patient safety and care quality on a daily basis. It is a continuous process and always at the forefront of any strategy of a health care entity. An ongoing coordinated effort among providers is needed to improve patient safety and quality throughout the region.

### Emergency Department Usage and Readmissions

Emergency departments are treating high volumes of patients with preventable conditions or conditions that could be addressed in a primary care setting. Additionally, readmissions are higher than desired, particularly for those with severe chronic disease or behavioral health issues.

### Palliative Care

Overall, costs are higher in skilled nursing facilities, long-term care facilities, hospice and home health sectors, and slightly higher in physician services.

### Oral Health

In Texas, preventive dental visits are below the recommended levels, and access can be a problem for minorities, the elderly, children on Medicaid and other low-income children. Compounding the problem is the shortage of dentists in Texas, which stands at approximately 60 percent of the national ratio of dentists-to-population.

## Appendix A

### **Baylor University Medical Center Service Area Survey**

(Source: 2011 NRC Healthcare Market Guide, National Research Corporation)

#### Study Objectives

National Research Corporation (NRC) Consumer Health Report is a valuable resource in determining the health status, health risk/chronic conditions, preventive health behaviors, physician access and community perceptions of healthcare in BAYLOR - BUMC TSA.

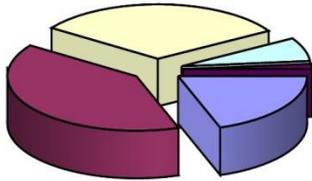
The Consumer Health Report provides a tool to enable organizations to strengthen the health of their community by assisting in the following:

1. Measurement and evaluation of health status and healthcare utilization within the community.
2. Identification of the prevalence of chronic conditions within various demographic and geographic segments within the community.
3. Profiling of high-risk populations.
4. Identification of gaps in care and preventive health behaviors among various demographic and geographic segments within the community.

# Executive Summary Consumer Health Report Card THHBD TSA

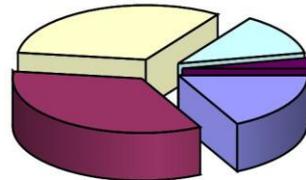
## Overall Household Health Status

**THHBD TSA**



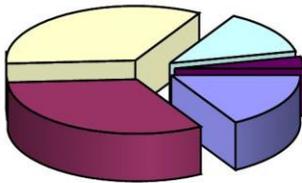
- Excellent (20%)
- Very Good (40%)
- Good (32%)
- Fair (7%)
- Poor (2%)

**Dallas-Fort Worth-Arlington, TX CBSA**



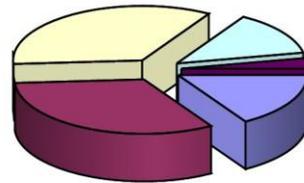
- Excellent (17%)
- Very Good (35%)
- Good (32%)
- Fair (12%)
- Poor (3%)

**State of TEXAS**



- Excellent (17%)
- Very Good (32%)
- Good (34%)
- Fair (13%)
- Poor (4%)

**National**



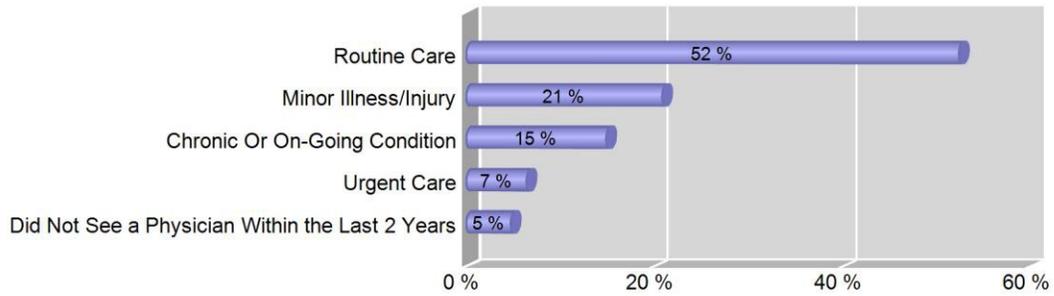
- Excellent (16%)
- Very Good (33%)
- Good (35%)
- Fair (13%)
- Poor (3%)

Source: 2011 NRC Healthcare Market Guide, National Research Corporation

# Executive Summary Consumer Health Report Card THHBD TSA

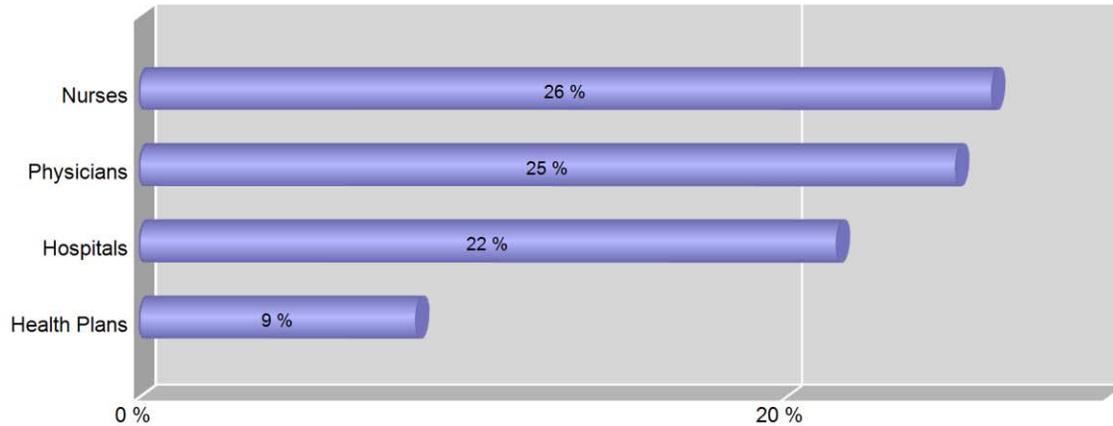
## Your Consumers' Access to Healthcare

- Purpose of Physician Visit (force ranked high to low):



- Days to Appointment for Routine Care

## Your Community's Trust and Confidence in Healthcare

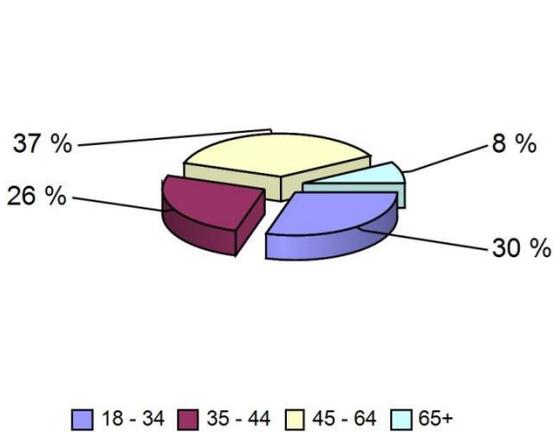


## Community Demographics

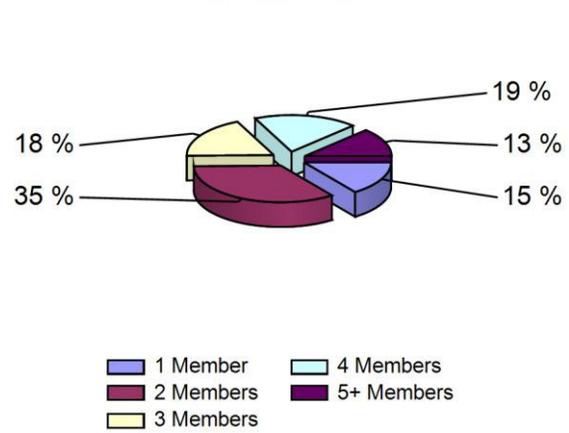
Provided below is a presentation of four key demographic factors for THHBD TSA respondents within the annual Healthcare Consumer Health Report survey. The majority of questions within the Consumer Health Report can be analyzed across any one of these factors.

### THHBD TSA Demographics

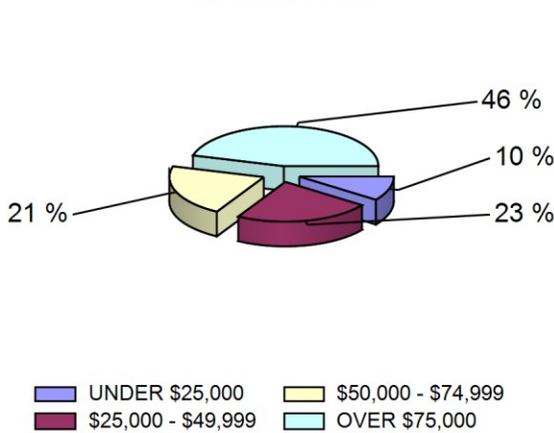
Decision-Maker Age



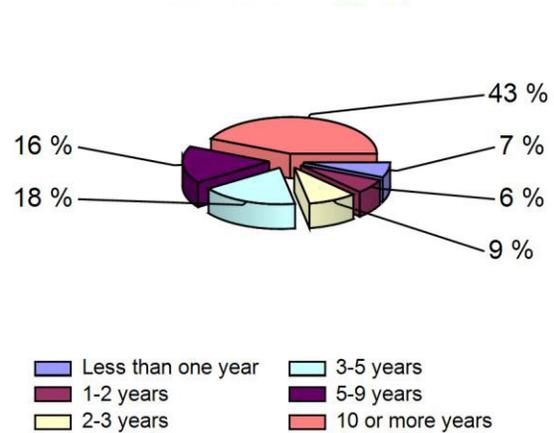
Household Size



Household Income



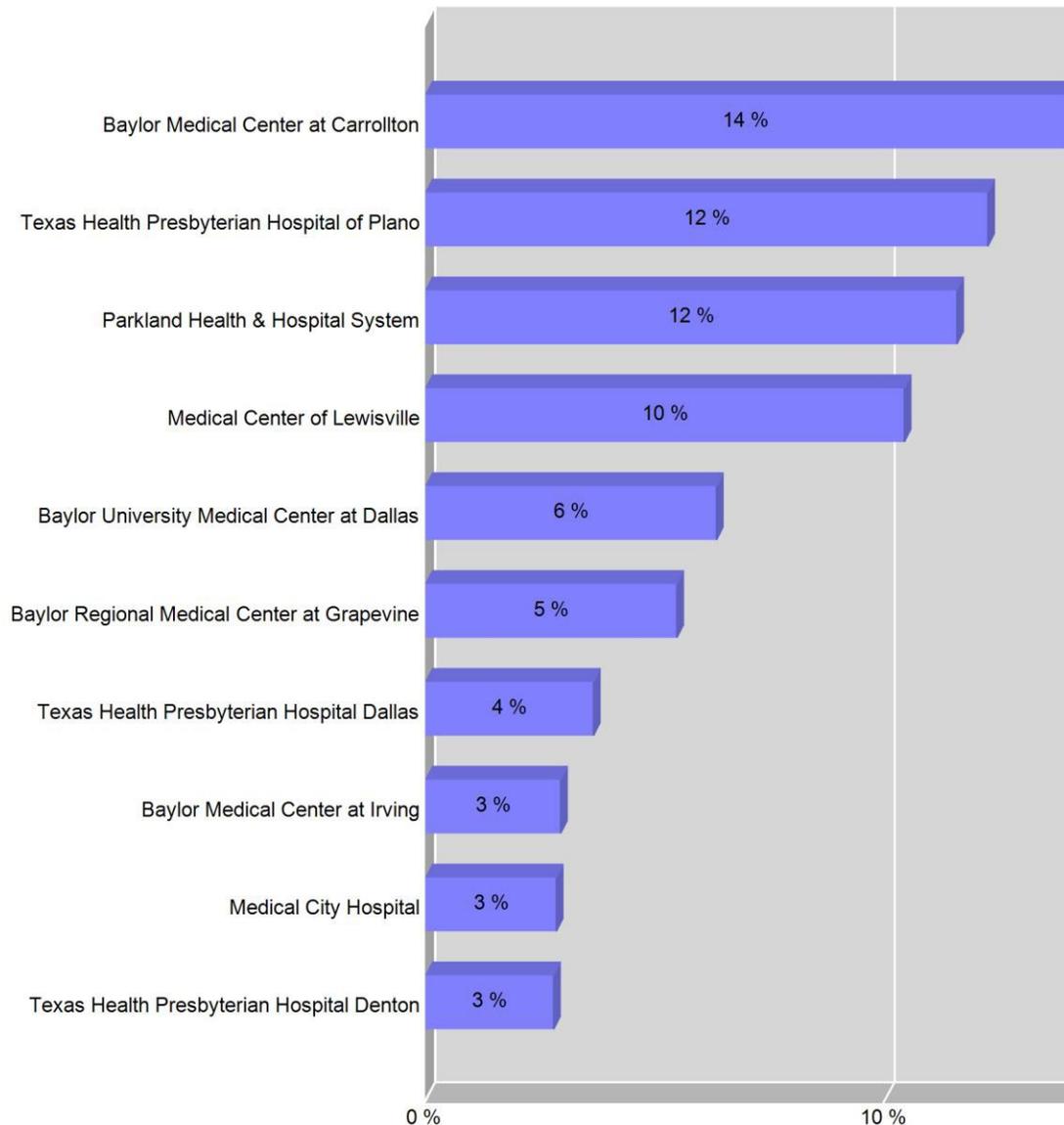
Years Lived in Community



## Consumer Perception of Best Community Health Programs

This section reports consumer perception of community health programs by hospital name. THHBD TSA respondents were asked to name the hospital/facility they perceive has the Best Community Health Programs in their area.

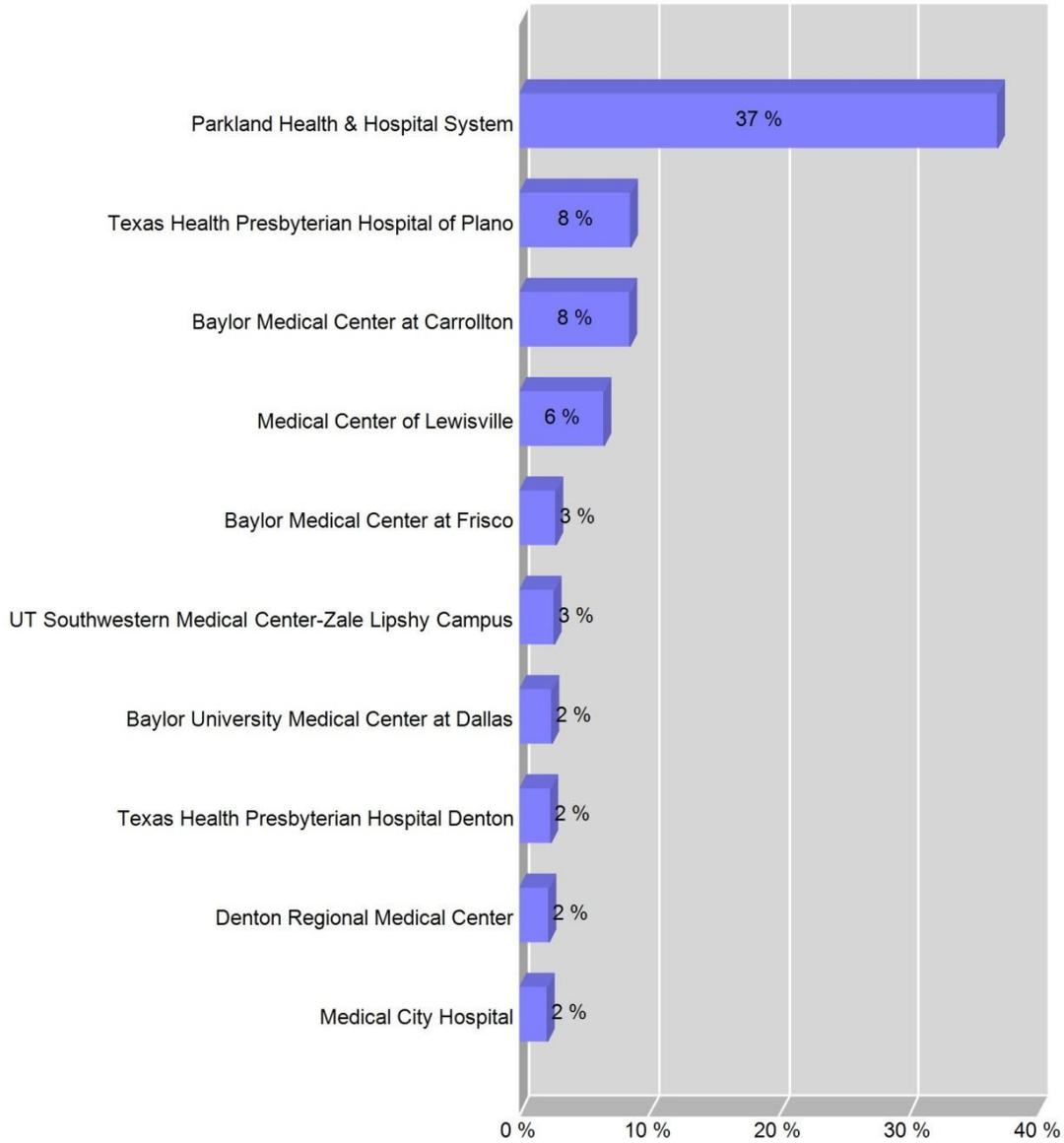
### Hospital/Facility with Best Community Health Programs THHBD TSA, TX (% of Respondents Naming Facility)



## Providers to Those Unable to Pay

THHBD TSA respondents were asked to name the hospital/facility they perceive provides care to those unable to pay.

### Top of Mind Hospital/Facility Provides Care to Those Unable to Pay THHBD TSA, TX (% of Respondents Naming Facility)



## Health Status and Utilization

This section reports the various self-reported measures of the general physical health among THHBD TSA residents, including information regarding healthcare service utilization.

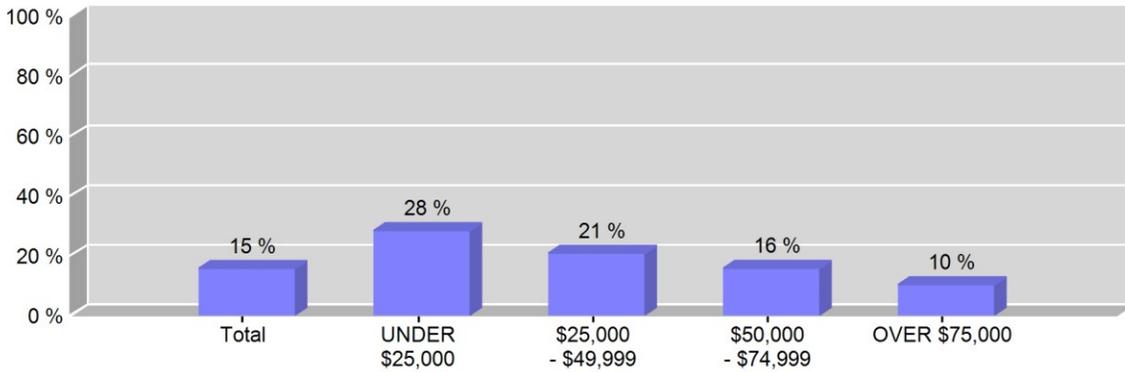
### Overall Health Status

Health status within the NRC Consumer Health Report is measured by asking residents to individually rate the health status of themselves and each member of their household, and creating a household score.

### Household Health Status

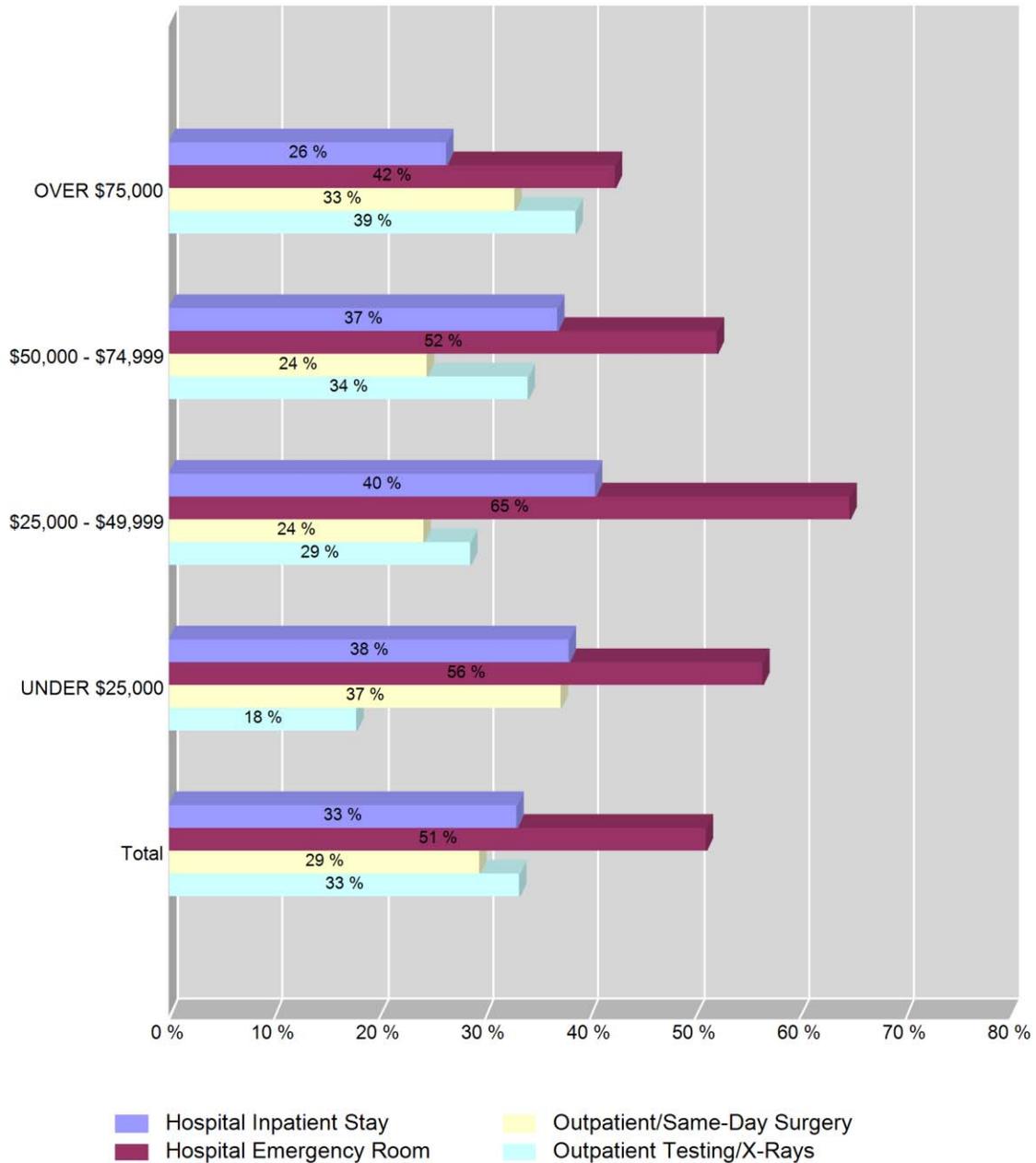
Within the national sample, with a score of 0%, represent the lowest percentage who responded their health status was either "Fair or Poor"

### THHBD TSA Household Health Status by Income Bottom 2 Box (Fair and Poor)



## Healthcare Service Utilization

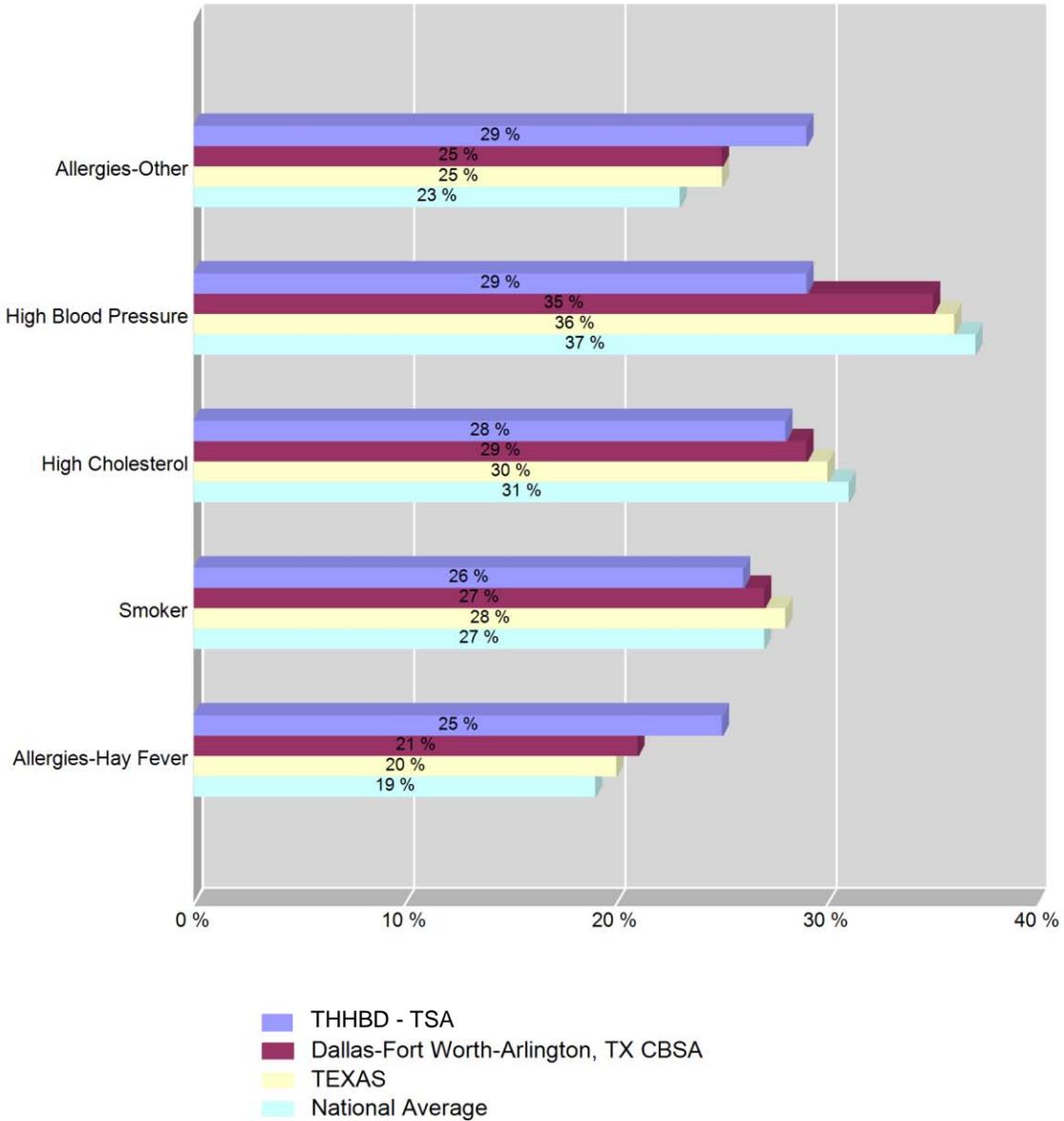
### THHBD TSA Service Utilization Last 36 Months by Income



## Health Risk Profiles

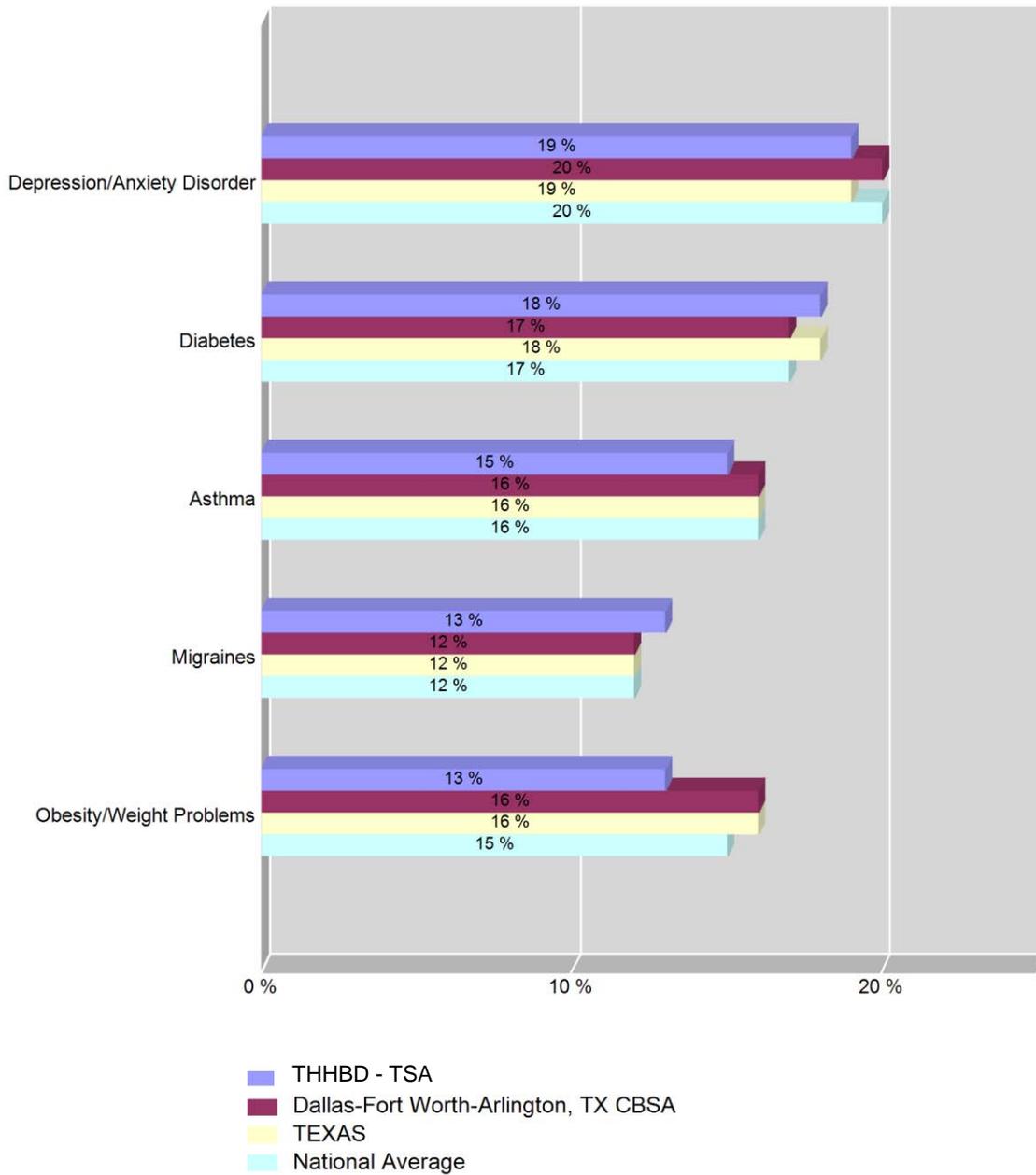
This section reports the various self-reported measures of the general physical health among THHBD TSA residents, including information regarding the existence of various health risks, health behaviors, and chronic conditions.

Represented below is the percentage of THHBD TSA households that report one or more household members have been diagnosed with having the following chronic condition. Comparison benchmarks are given for the MSA, state and national.



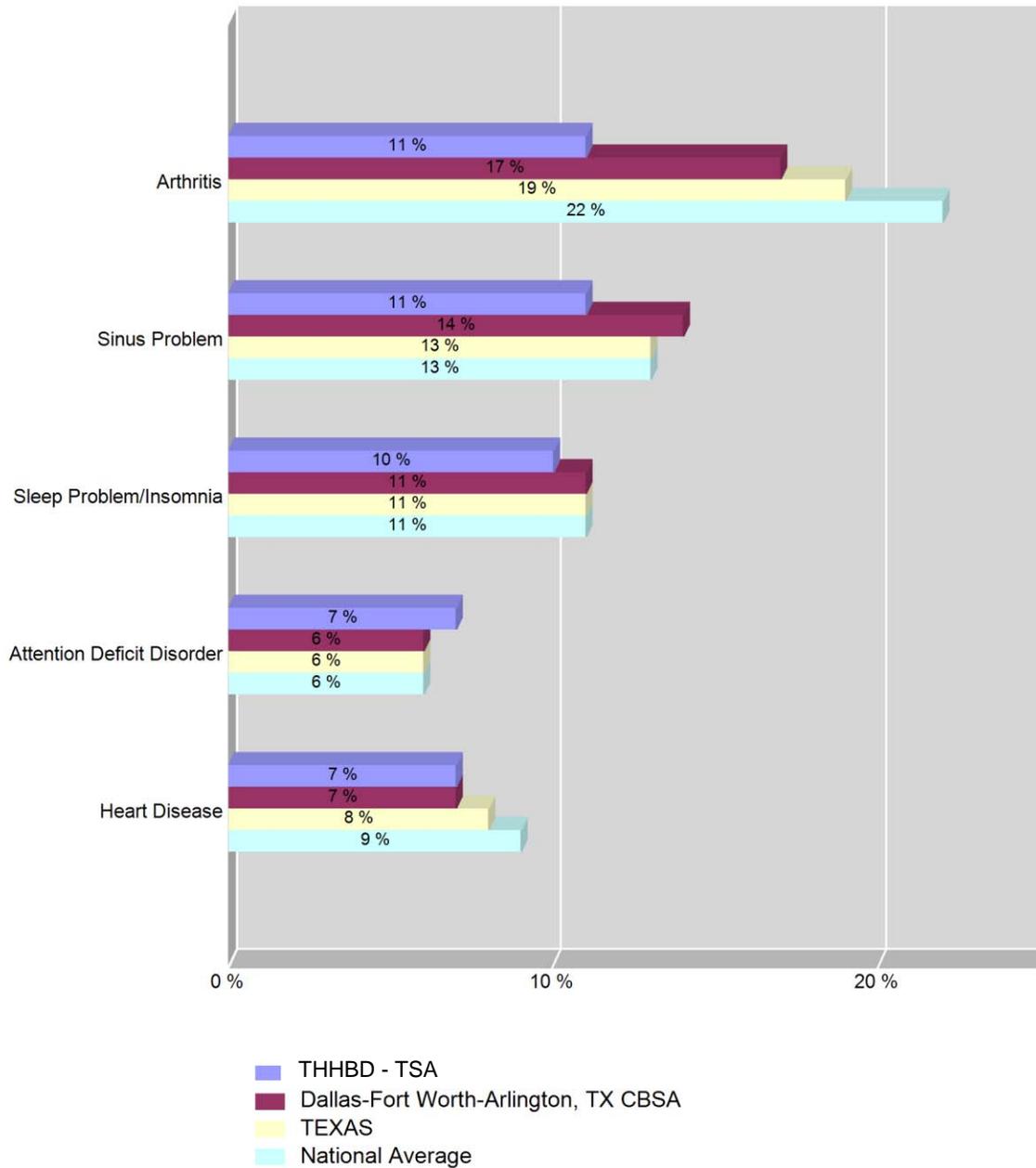
## Health Risk Profiles

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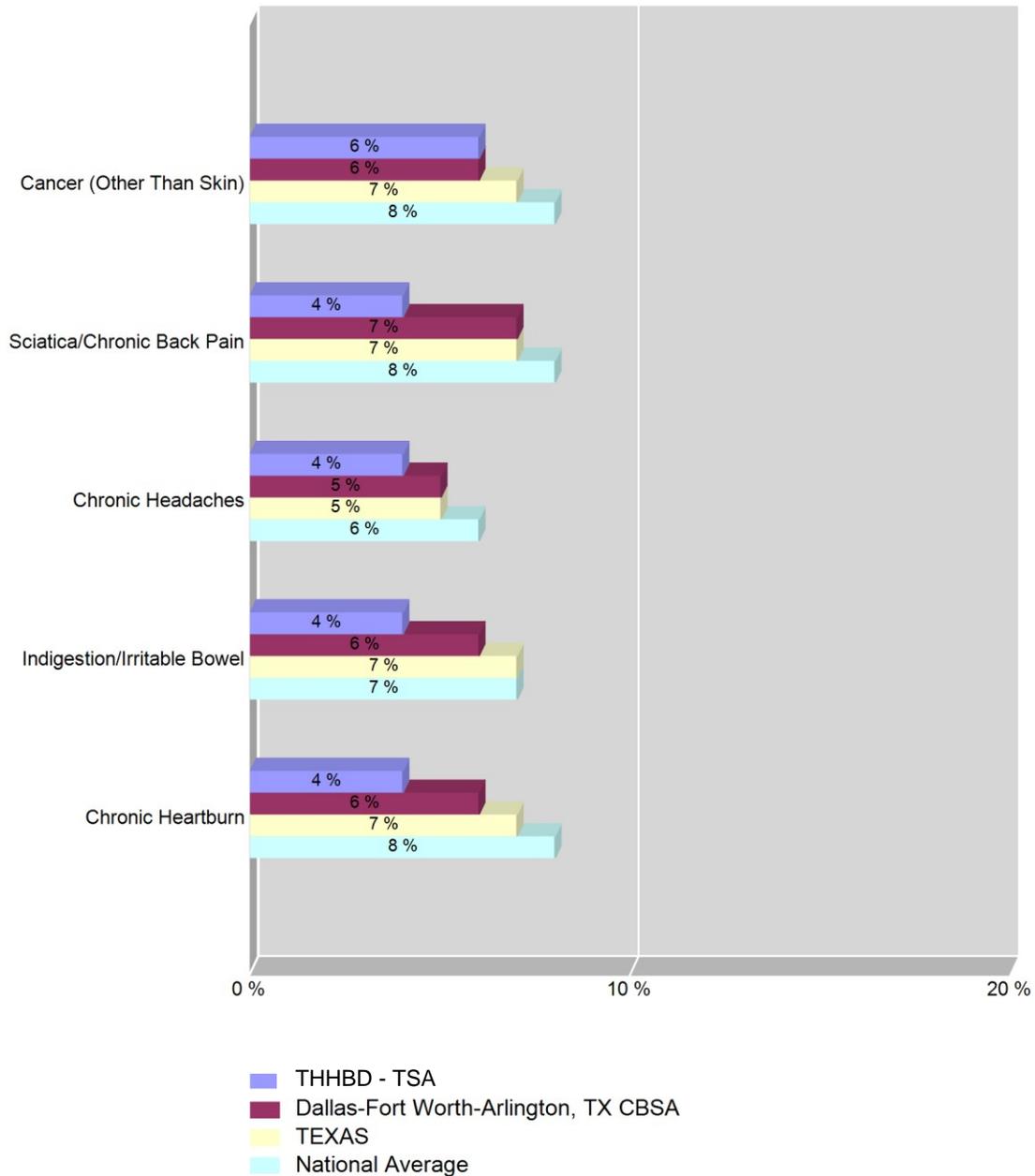
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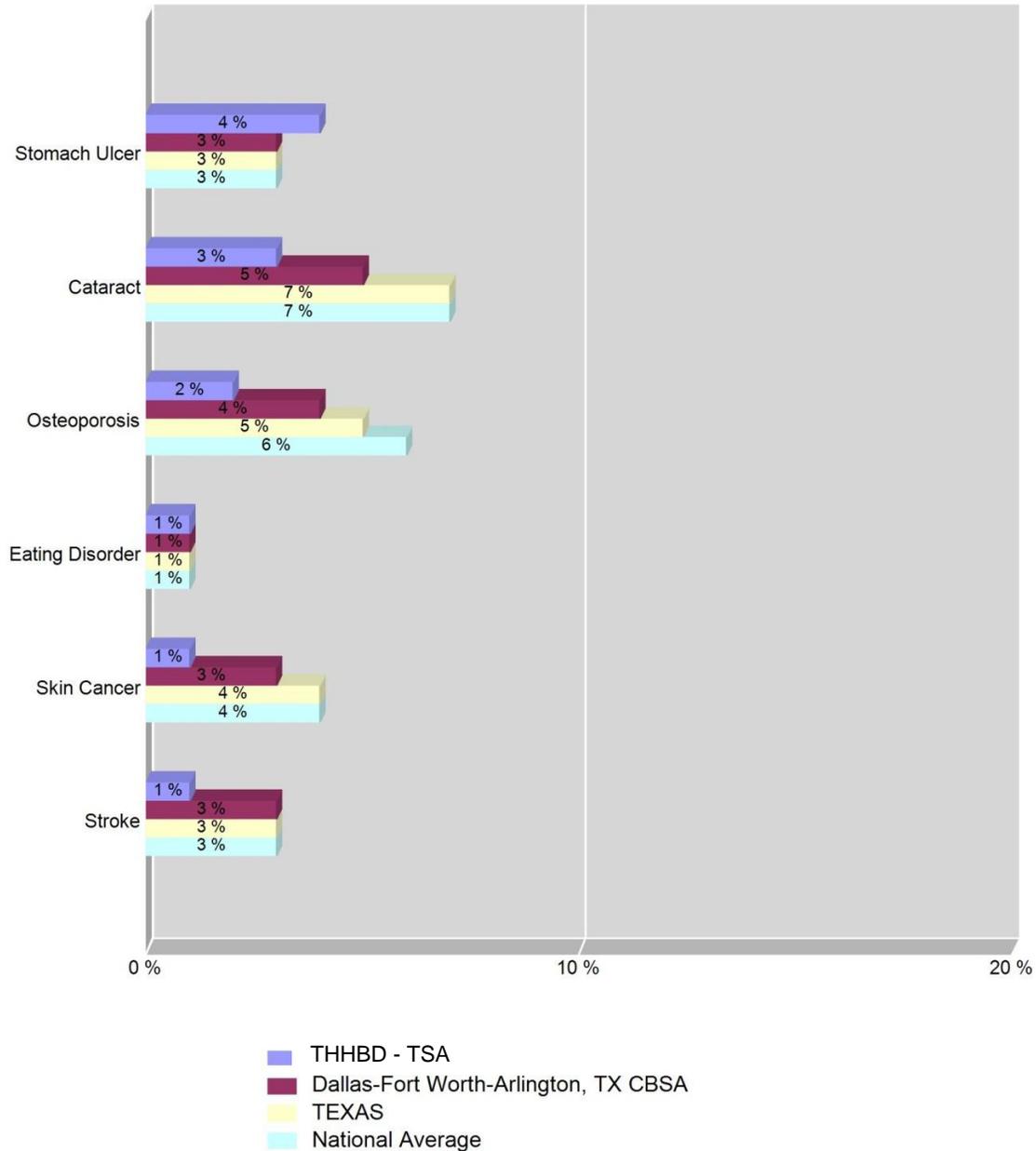
## Health Risk Profiles

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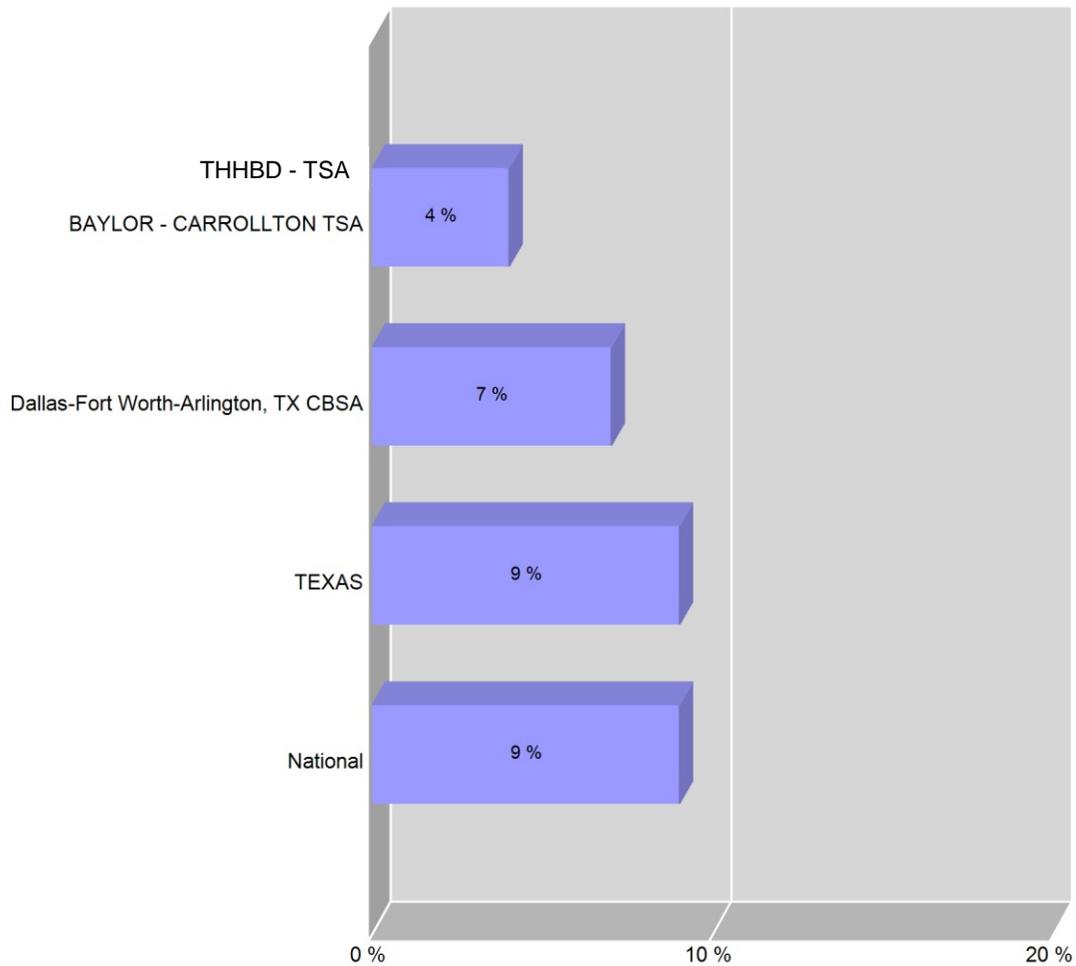
## Health Risk Profiles

Represented below is the percentage of THHBD TSA households that report one or more household members have been diagnosed with having the following chronic condition. Comparison benchmarks are given for the MSA, state and national.



## Health Risk Profiles Compared to Healthy People 2010

Presence of Osteoporosis among Households with an Adult 50 Years Plus



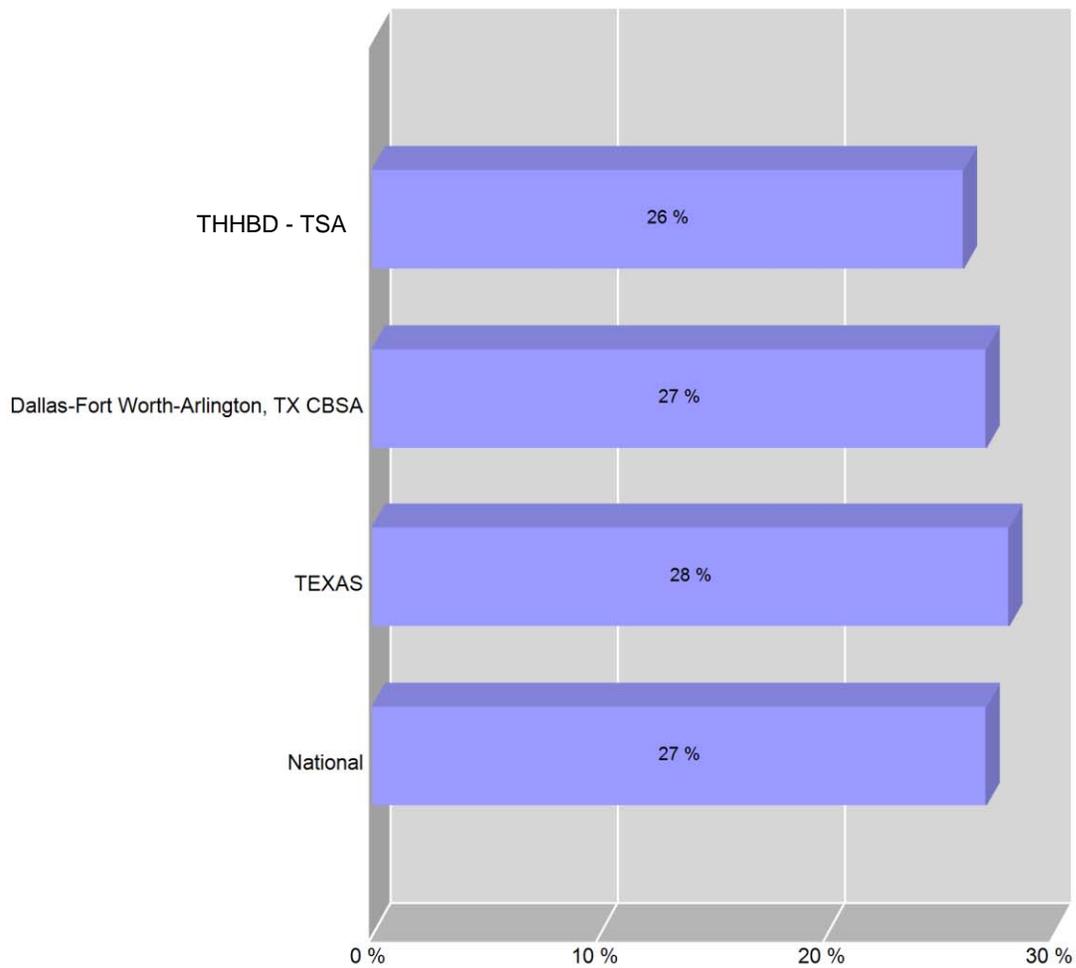
### Healthy People 2010 Target:

- 8% adults 50 years plus as measured by bone mineral density test had the disease.

## Health Risk Profiles Compared to Healthy People 2010

---

**Smokers among Households with an Adult 18 Years Plus**



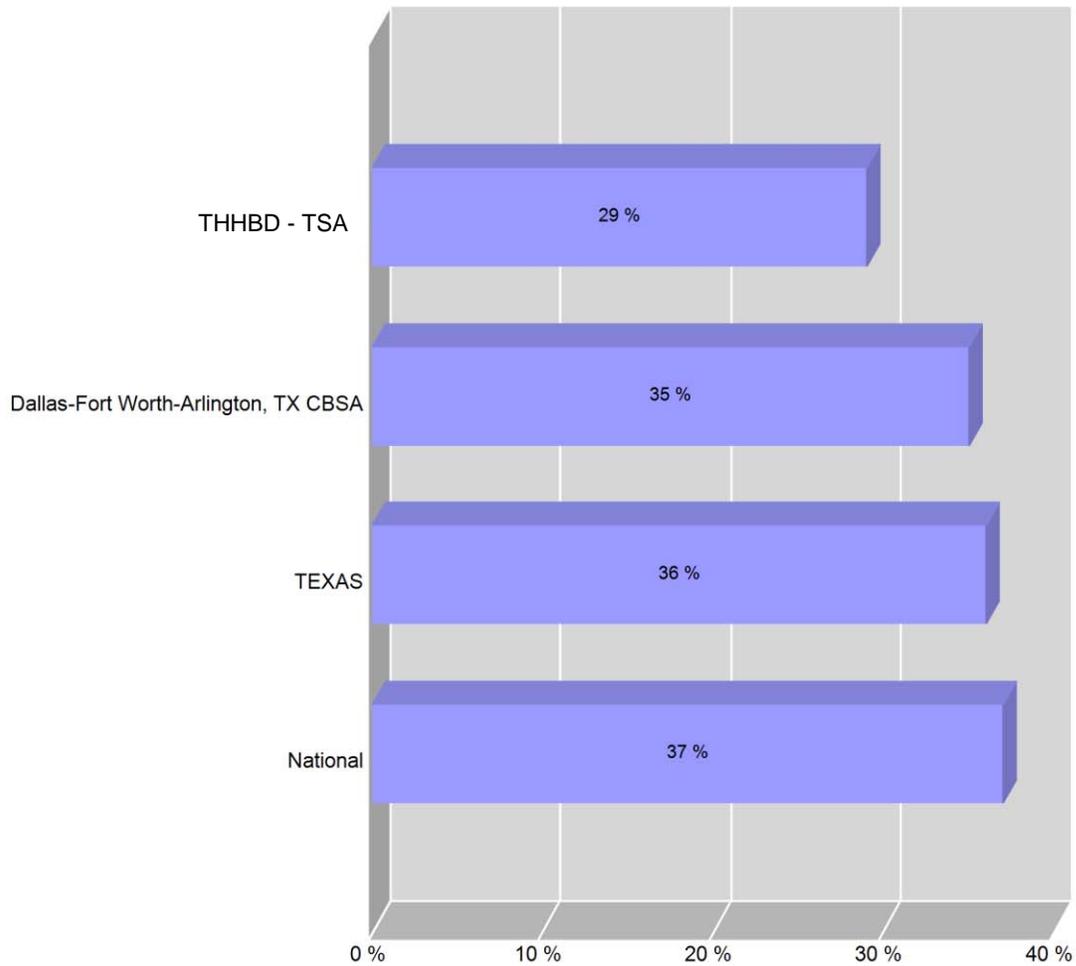
**Healthy People 2010 Target:**

- Reduce cigarette smoking to 12% among adults 18 years plus.

## Health Risk Profiles Compared to Healthy People 2010

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High Blood Pressure among Households with an Adult 18 Years Plus

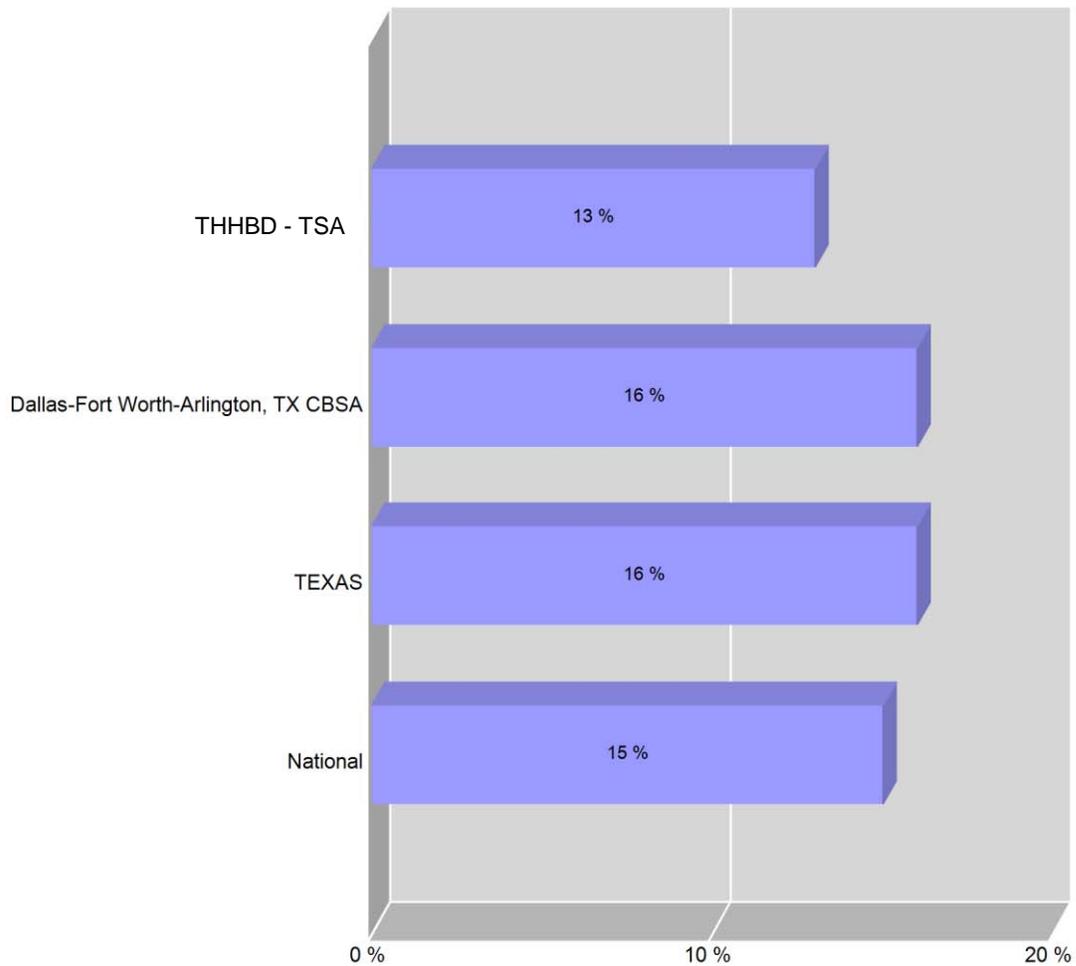


### Healthy People 2010 Target:

- Reduce the proportion of adults with high blood pressure to 16%.

## Health Risk Profiles Compared to Healthy People 2010

Obesity among Households with an Adult 18 Years Plus



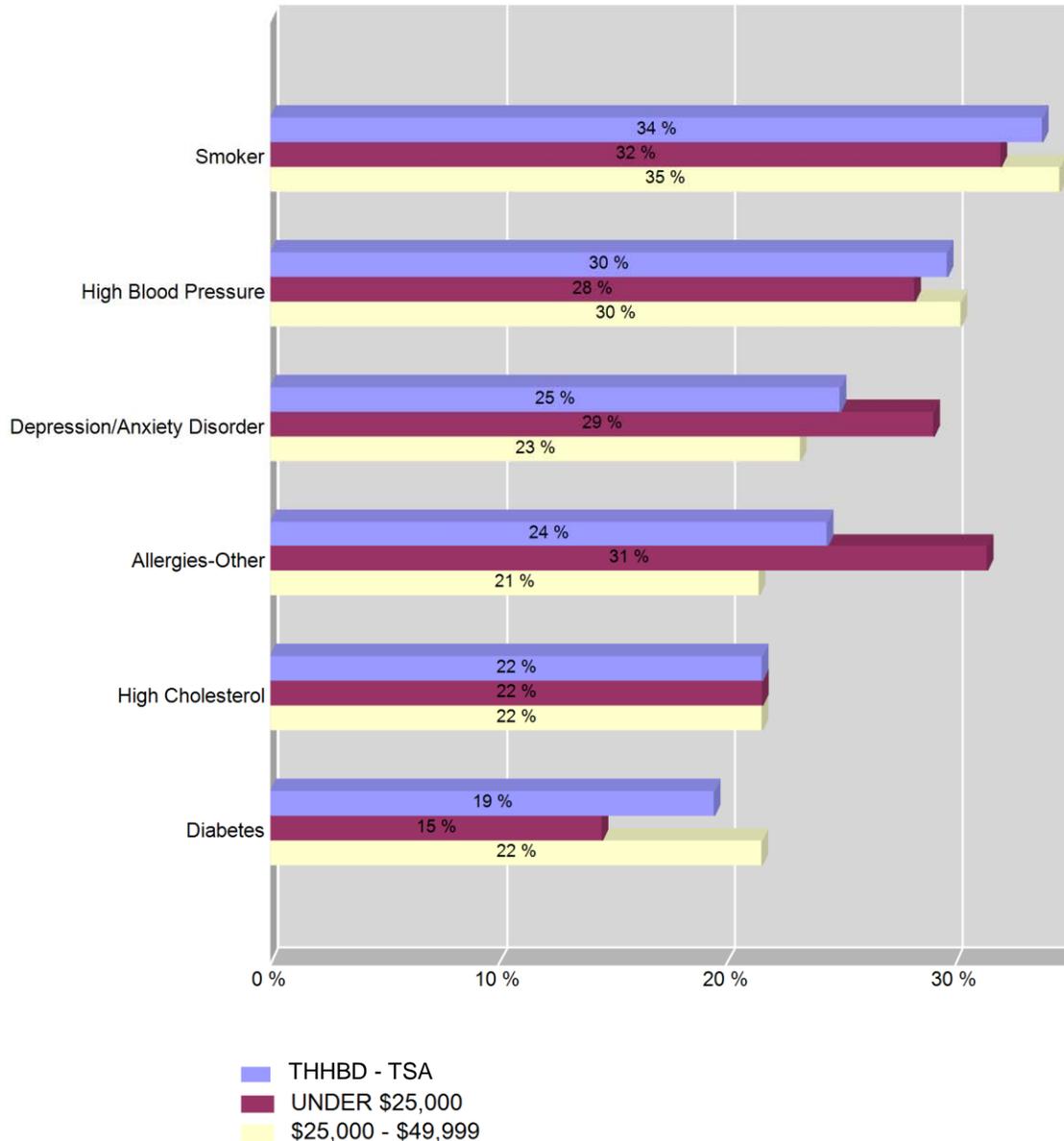
### Healthy People 2010 Target:

- Reduce the proportion of adults who are obese by 15%.

## Health Risk Profiles - Low Income

Represented below is the percentage of THHBD TSA households in lower income categories that report one or more household members have been diagnosed with the chronic condition, compared to the market average.

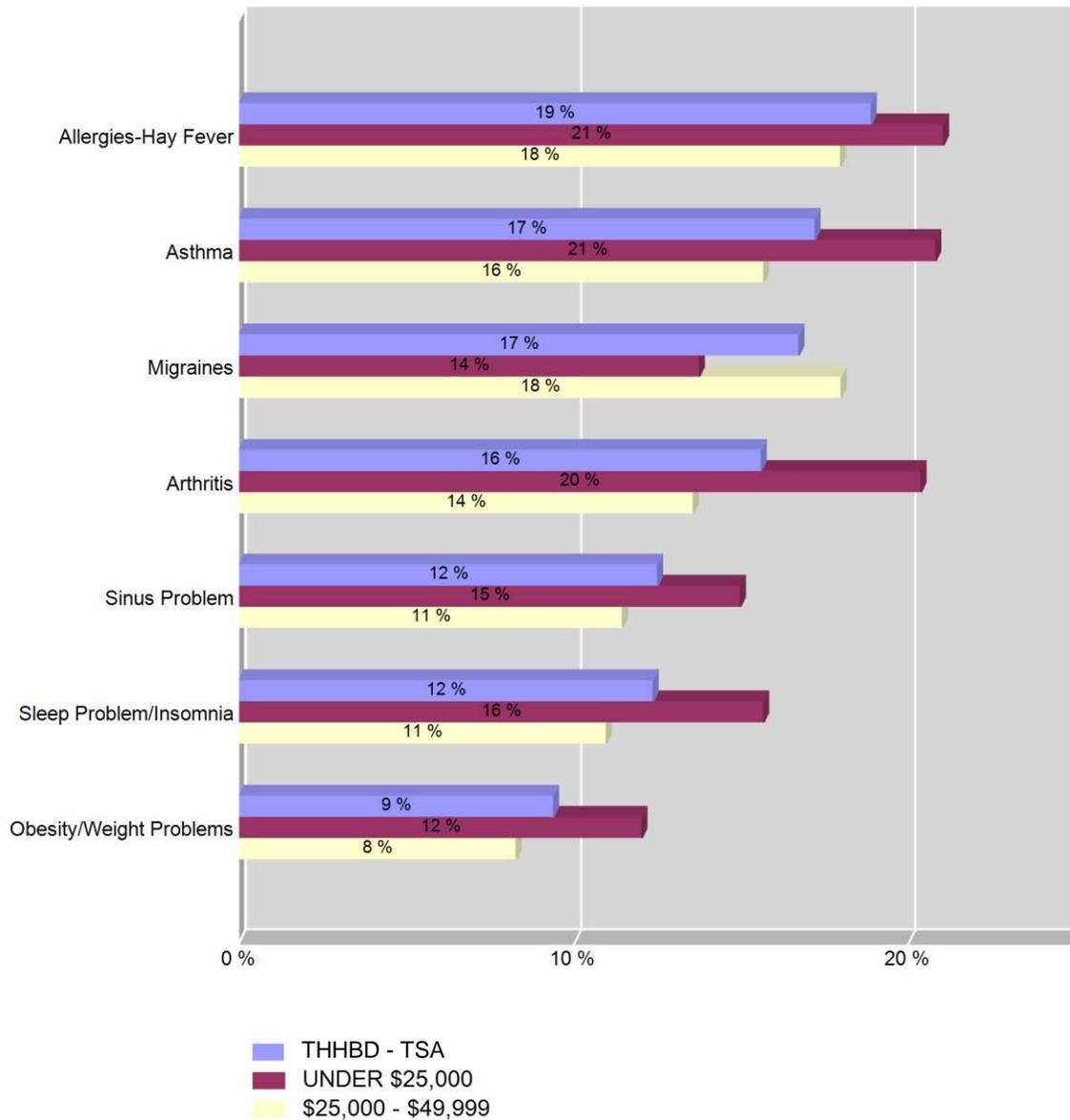
Households in Lower Income Categories by Chronic Conditions



## Health Risk Profiles - Low Income

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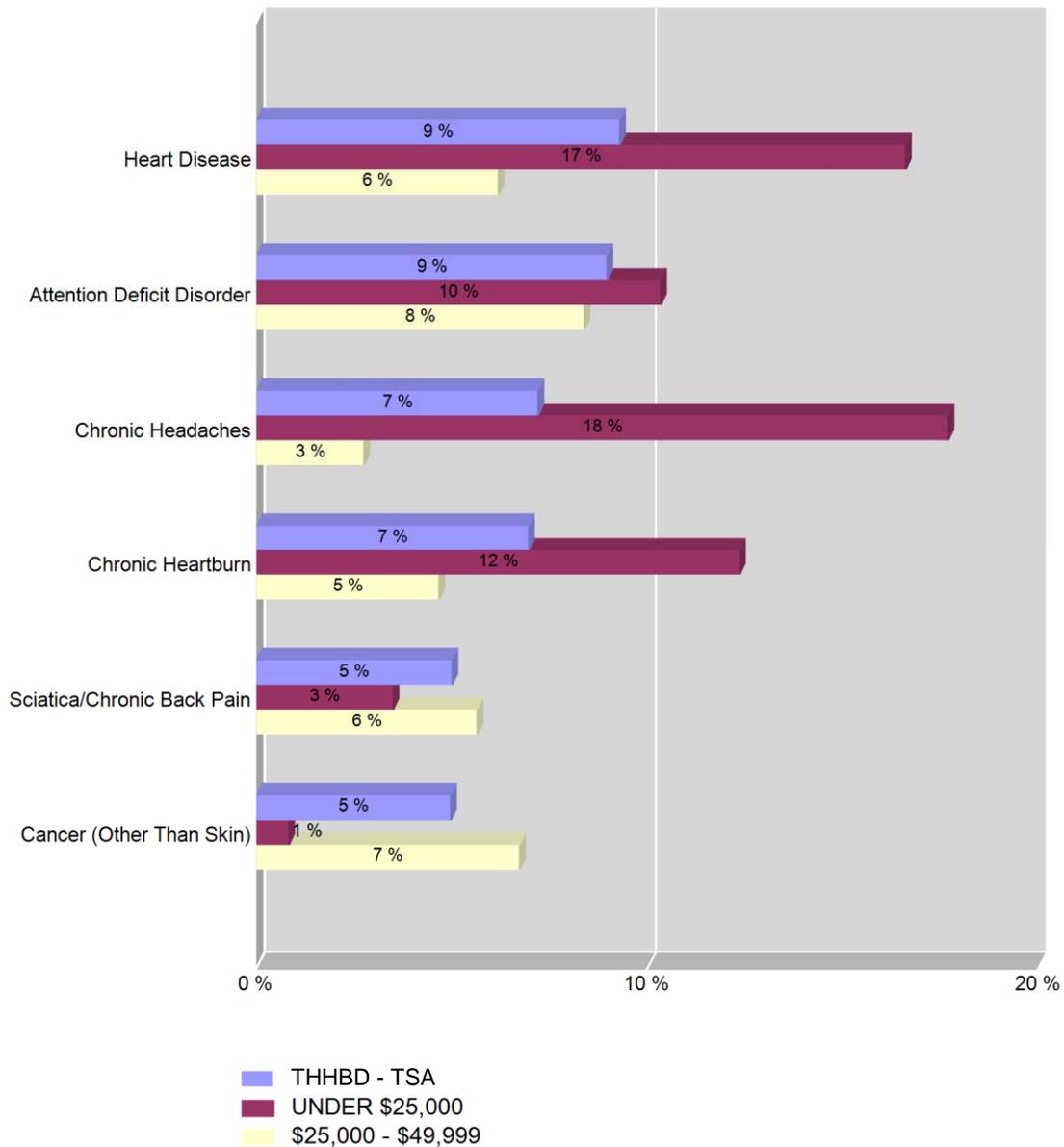
**Households in Lower Income Categories by Chronic Conditions**



## Health Risk Profiles - Low Income

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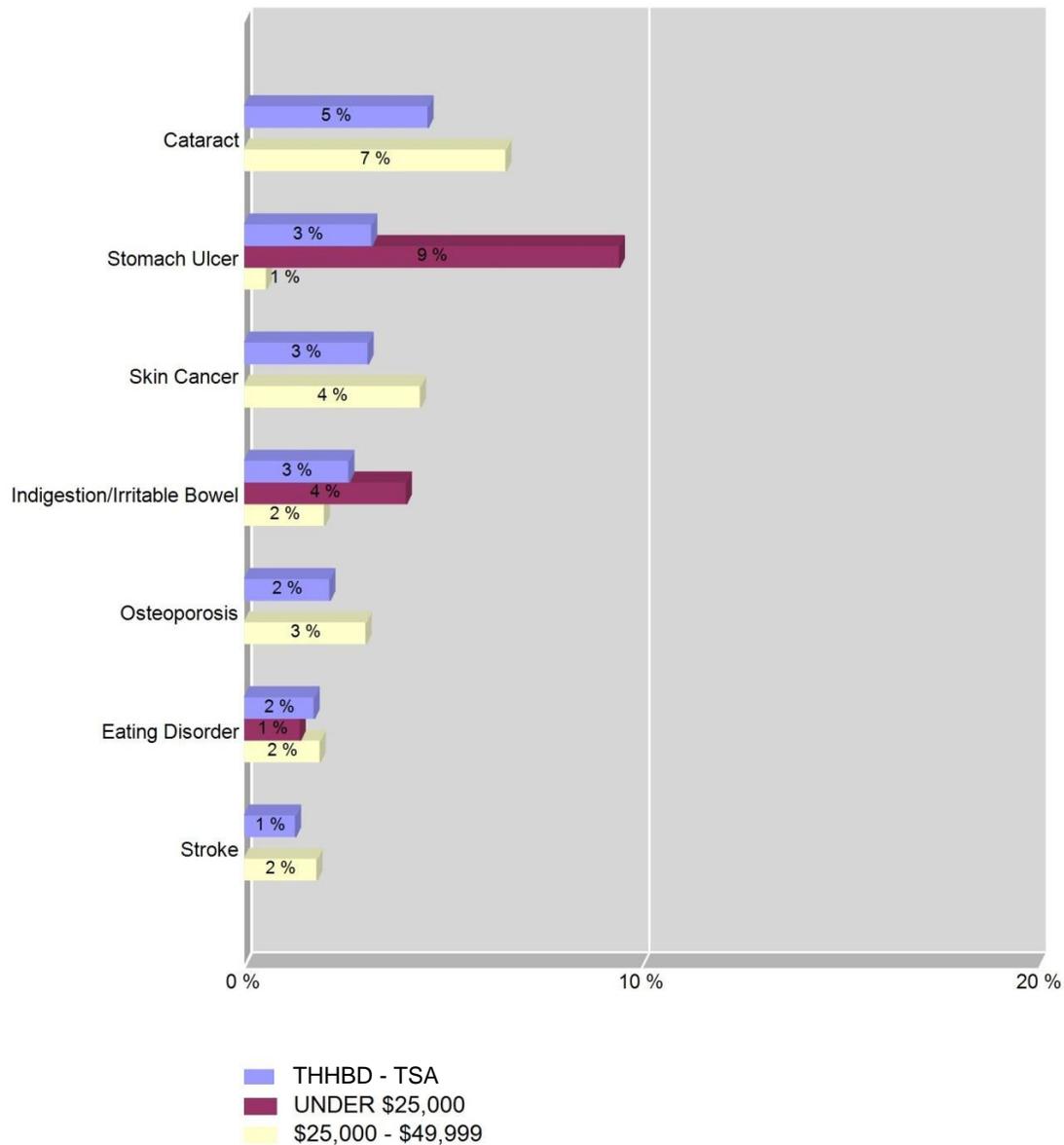
Households in Lower Income Categories by Chronic Conditions



## Health Risk Profiles - Low Income

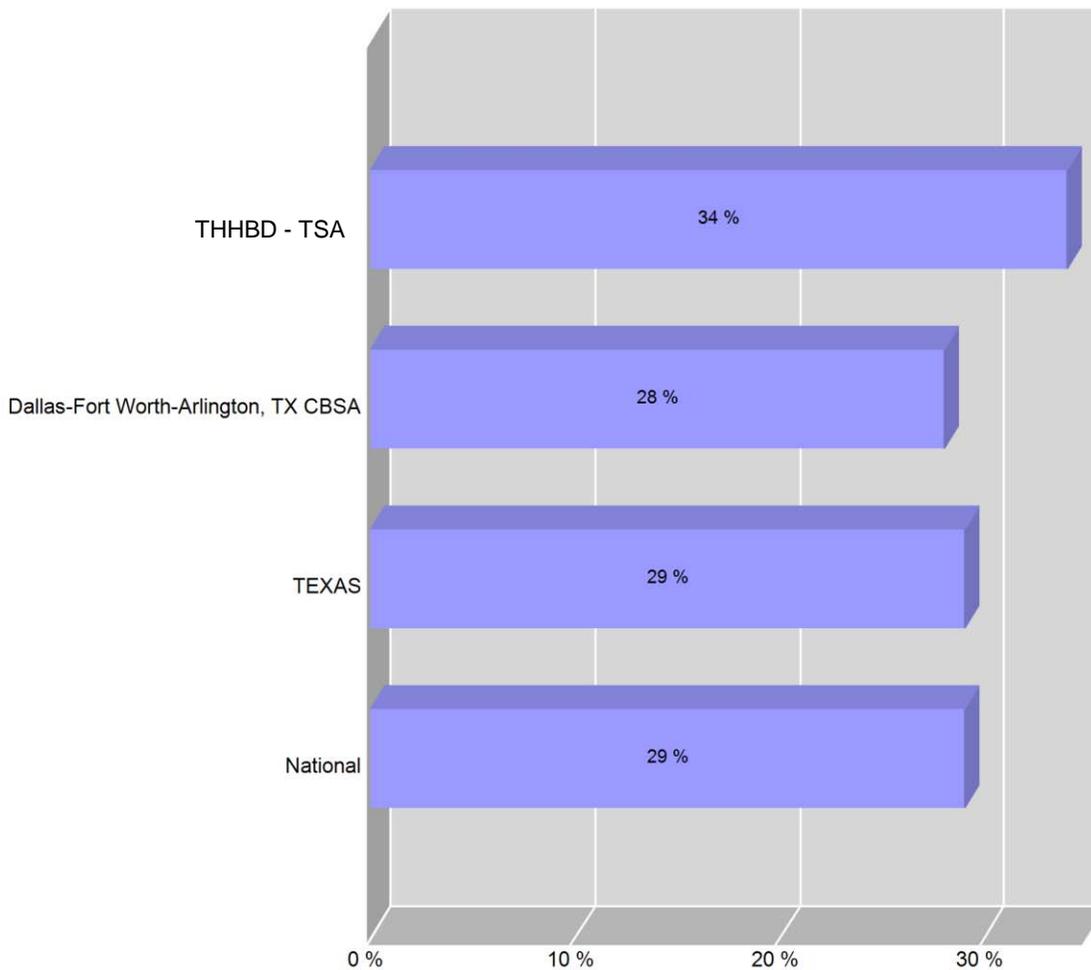
Represented below is the percentage of THHBD TSA households in lower income categories that report one or more household members have been diagnosed with the chronic condition, compared to the market average.

Households in Lower Income Categories by Chronic Conditions



## Preventive Health Behaviors Compared to Healthy People 2010

### Child Immunizations among Households with Children

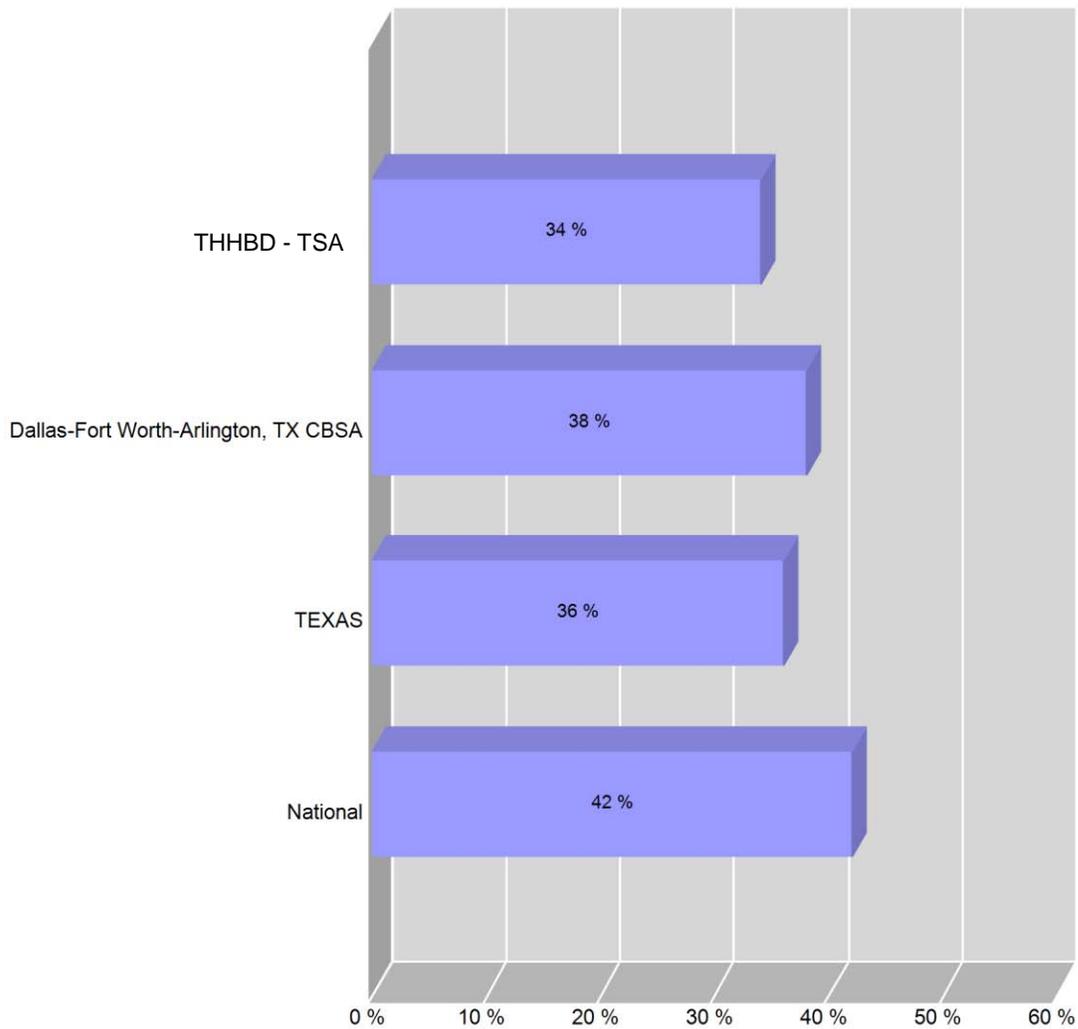


#### **Healthy People 2010 Target:**

- Increase the proportion of young children and adolescents who receive all vaccines that have been recommended or universal administration for at least 5 years to 80%.

## Preventive Health Behaviors Compared to Healthy People 2010

### Mammograms among Households with a Female 40 Years Plus

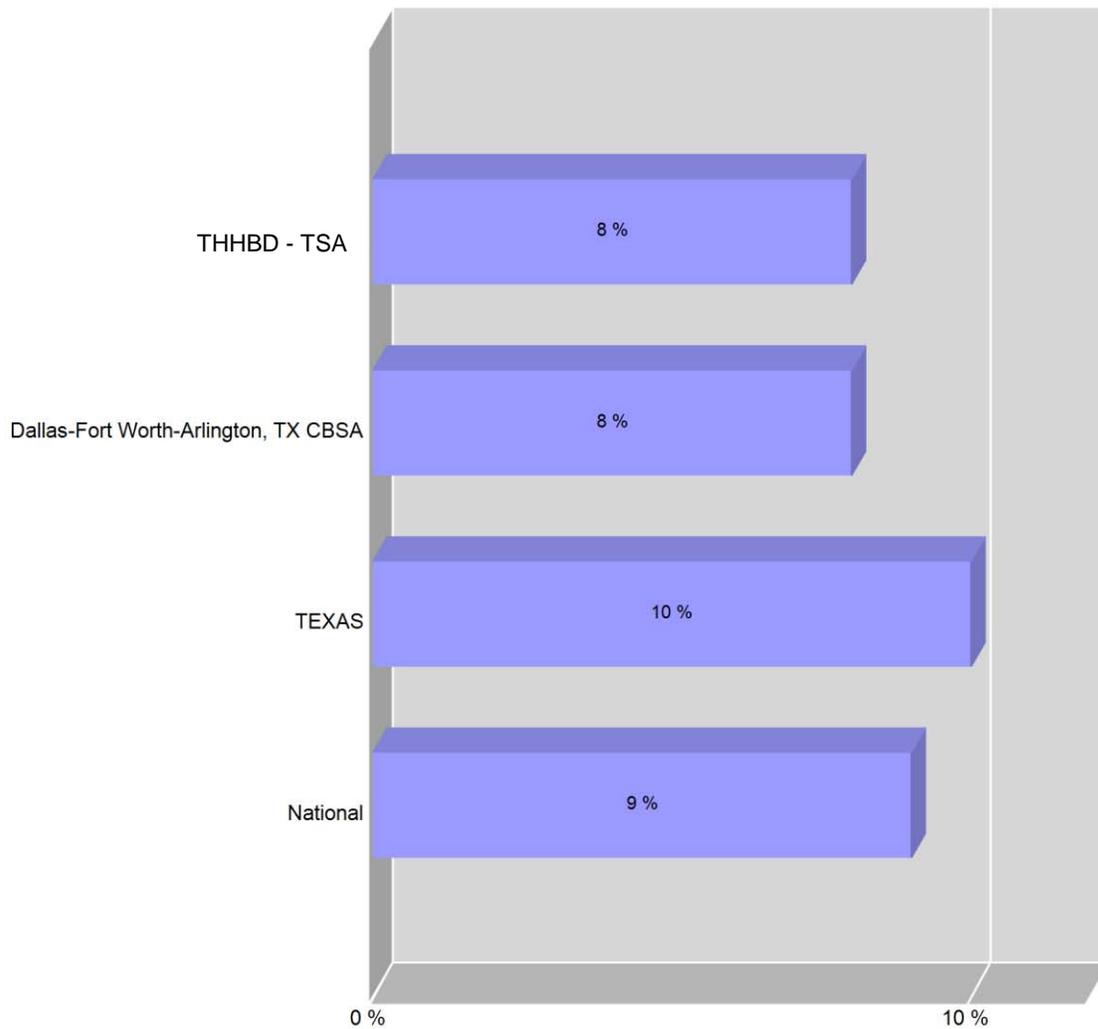


#### **Healthy People 2010 Target:**

- 70% women 40 years plus have had mammogram within past 2 years.

## Preventive Health Behaviors Compared to Healthy People 2010

### Osteoporosis Testing among Households with an Adult 50 Years Plus

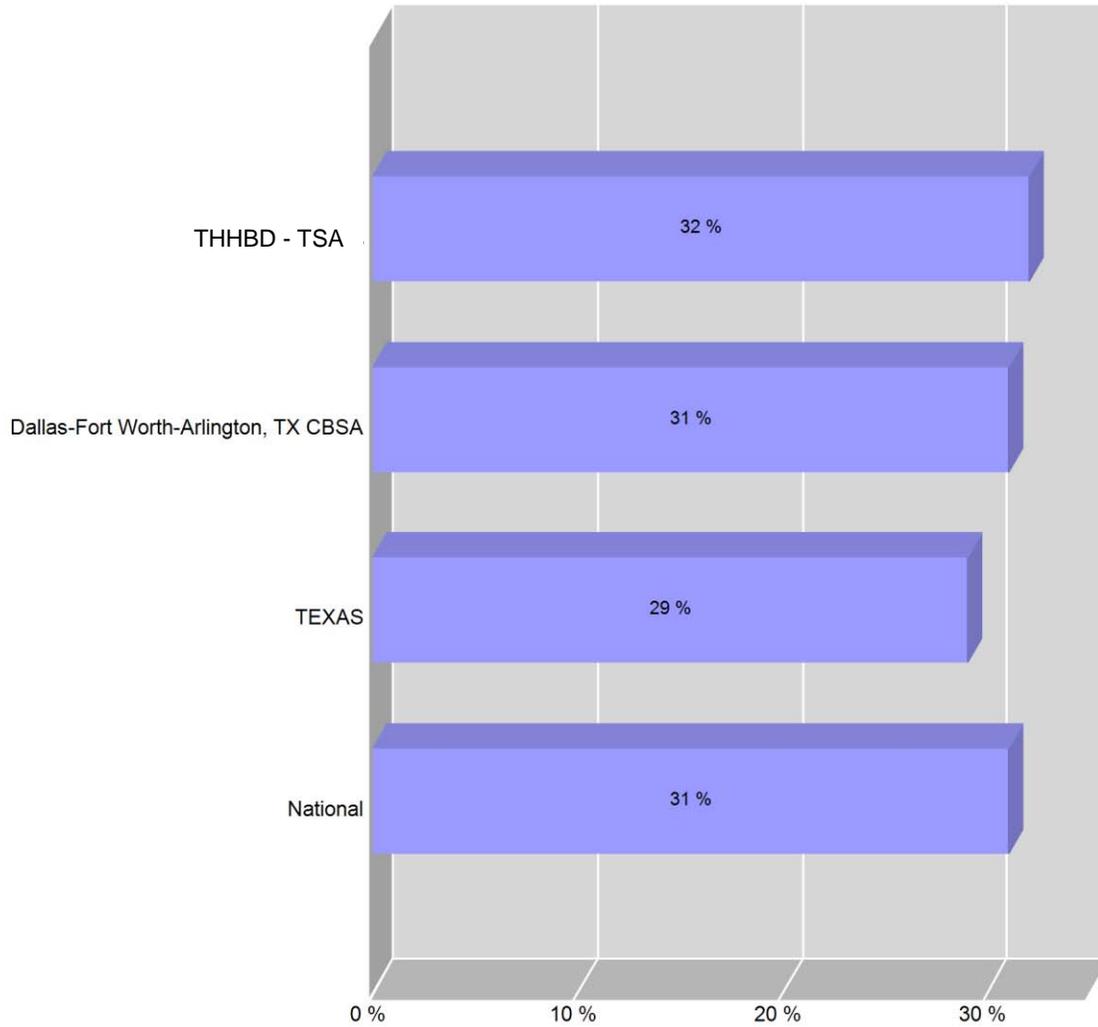


#### **Healthy People 2010 Target:**

- 8% adults 50 years plus as measured by bone mineral density test had the disease.

## Preventive Health Behaviors Compared to Healthy People 2010

### Pap Smear Test among Households with a Female 18 Years Plus

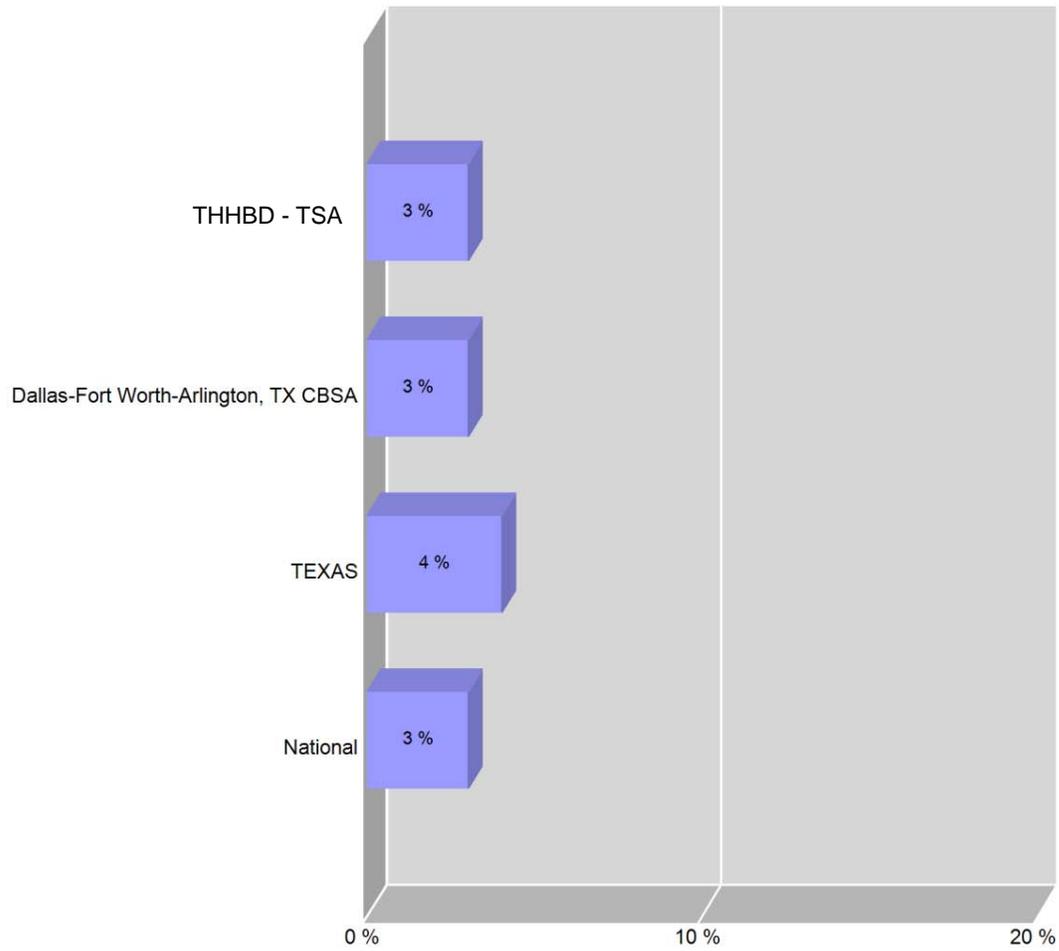


#### **Healthy People 2010 Target:**

- 97% women 18 years plus have had pap smear test.

## Preventive Health Behaviors Compared to Healthy People 2010

### Pre-Natal Care among Households with a Female 15 Years Plus

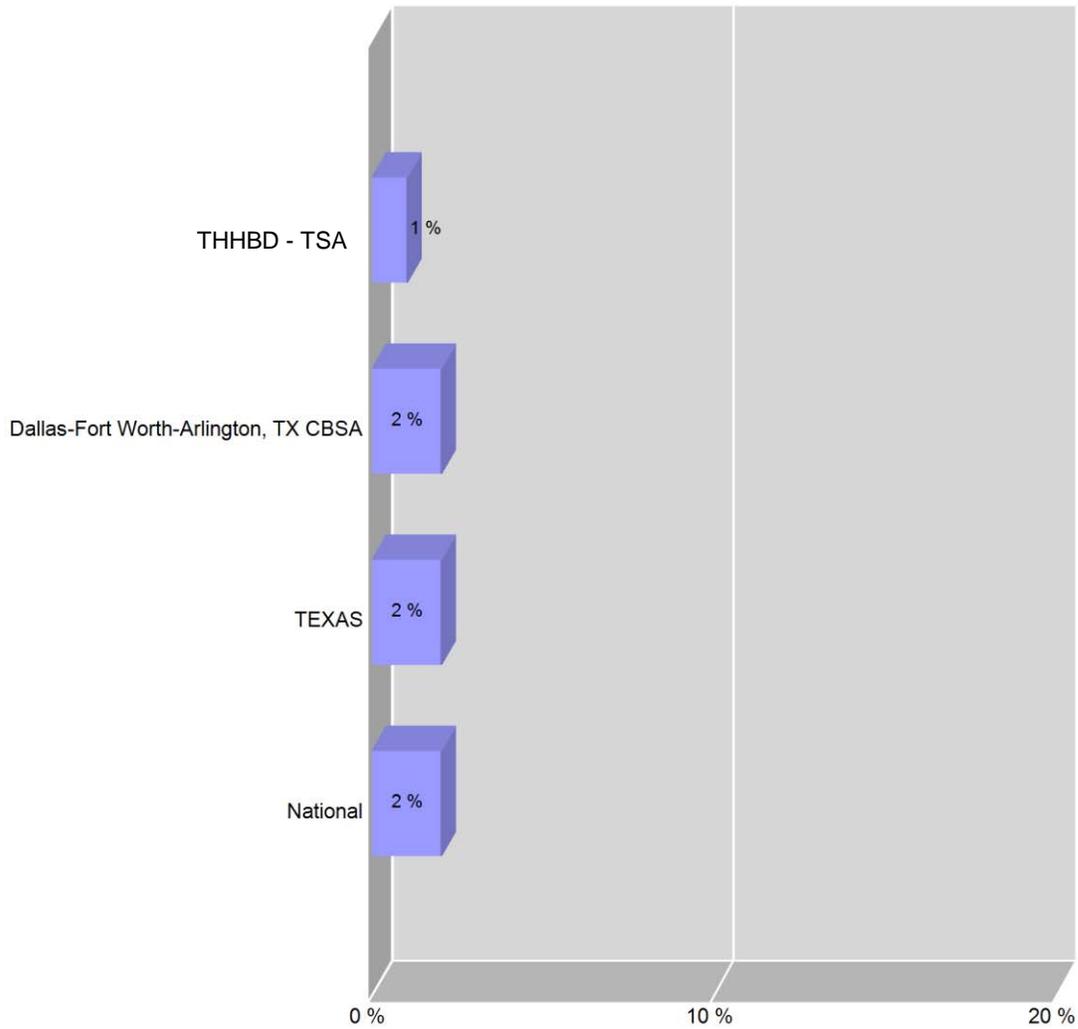


#### **Healthy People 2010 Target:**

- 90% care beginning in the first trimester of pregnancy.
- 90% early and adequate pre-natal care.

## Preventive Health Behaviors Compared to Healthy People 2010

### Stop Smoking Program among Households with an Adult 18 Years Plus

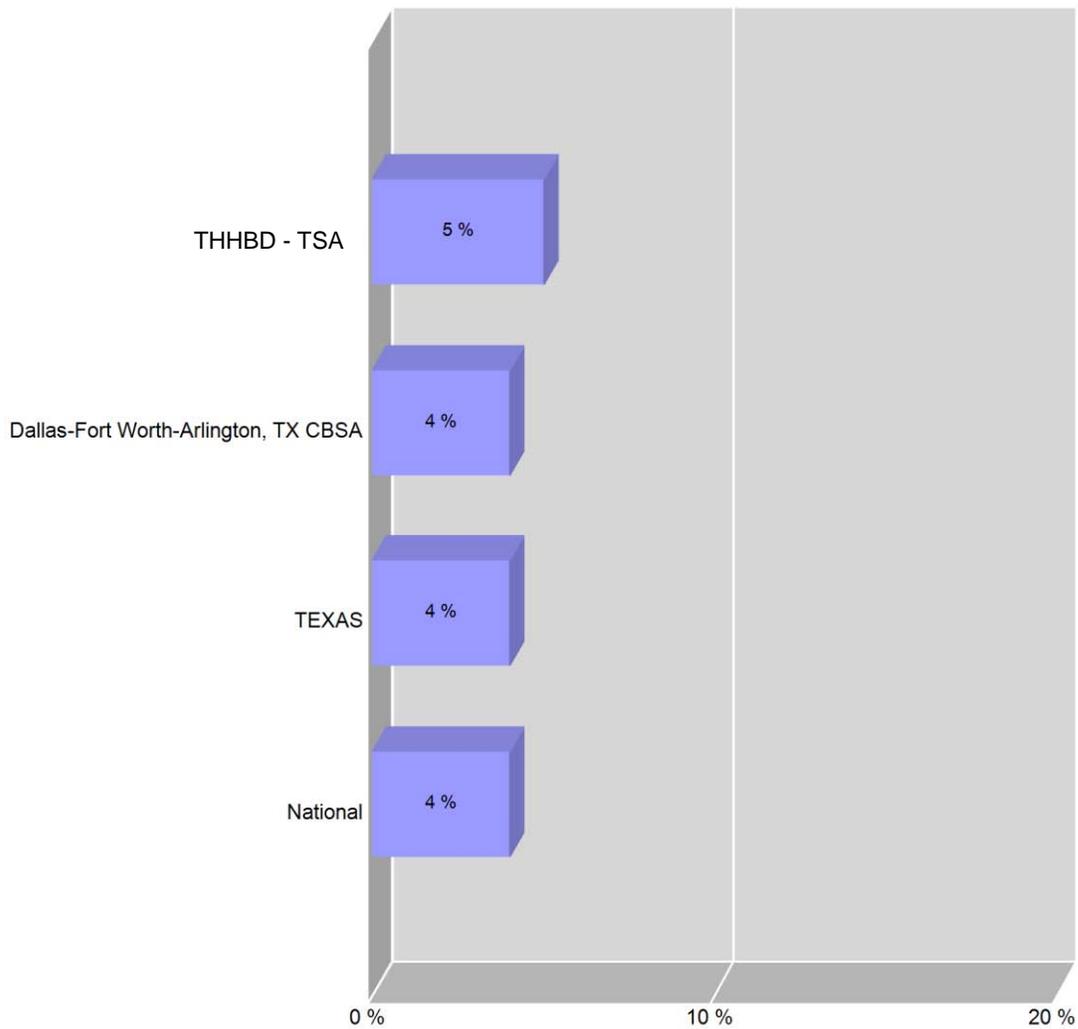


#### **Healthy People 2010 Target:**

- Increase smoking cessation attempts to 75% by adult smokers.

## Preventive Health Behaviors Compared to Healthy People 2010

### Weight Loss Program among Households with an Adult 20 Years Plus

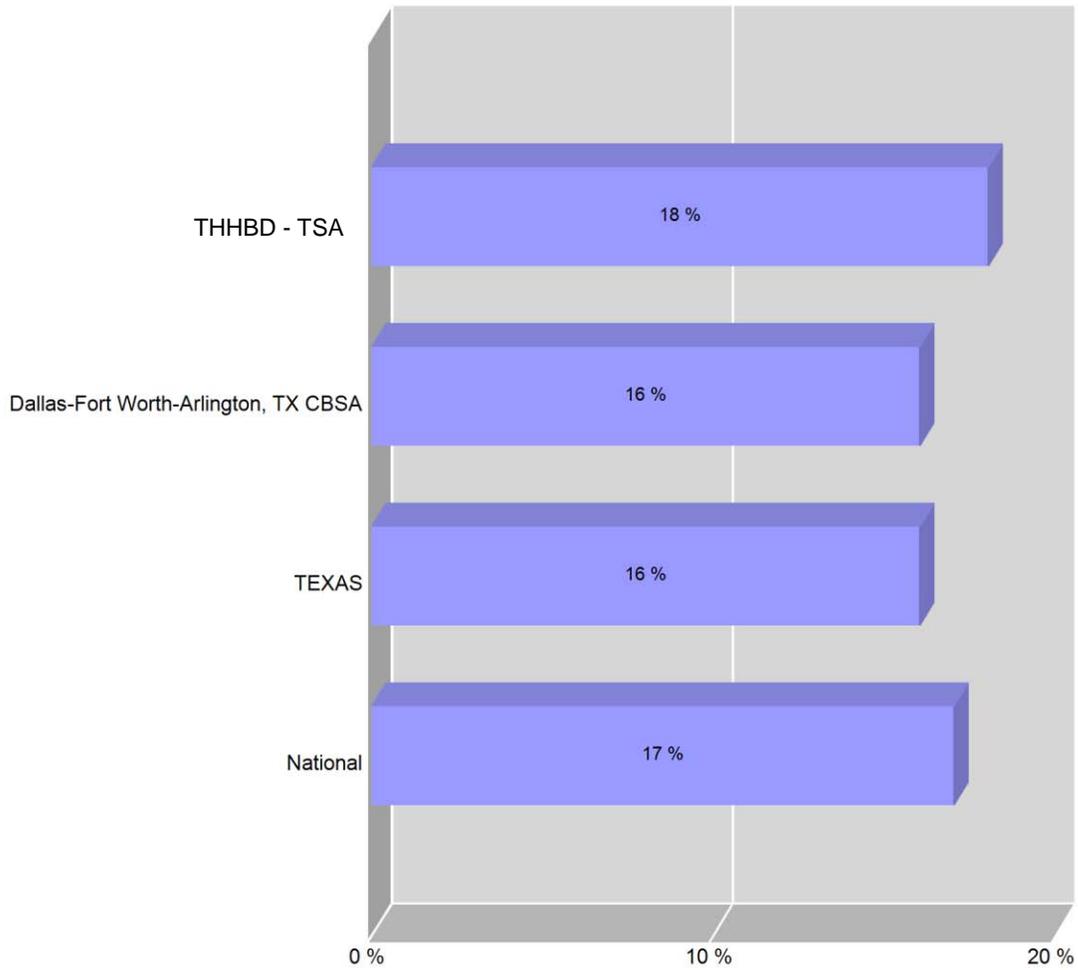


#### **Healthy People 2010 Target:**

- 60% adults 20 years plus at a healthy weight (Body Mass Index of 18.5 to 25).

## Preventive Health Behaviors Compared to Healthy People 2010

### Colon Screening among Households with an Adult 50 Years Plus

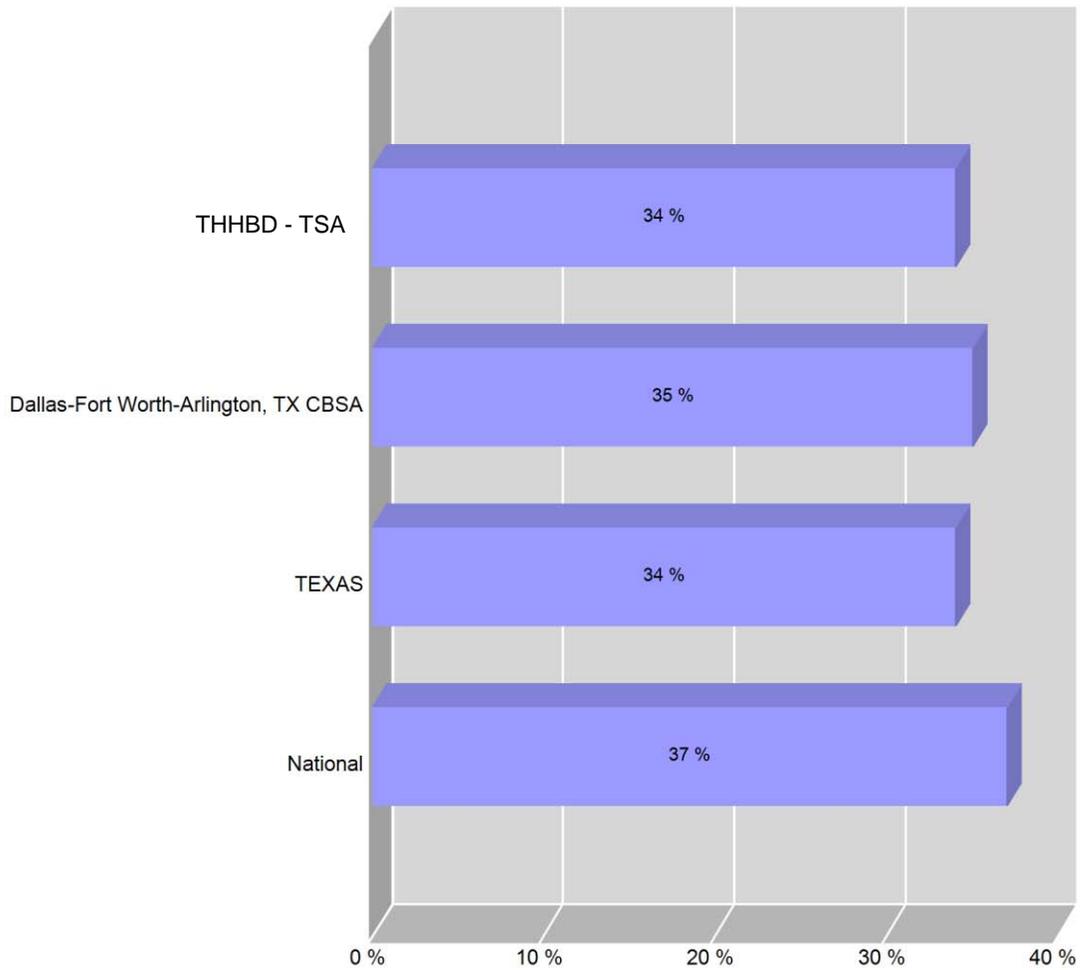


#### **Healthy People 2010 Target:**

- Increase the proportion of adults who receive a colorectal cancer screening examination to 50%

## Preventive Health Behaviors Compared to Healthy People 2010

### Cholesterol Test among Households with an Adult 18 Years Plus

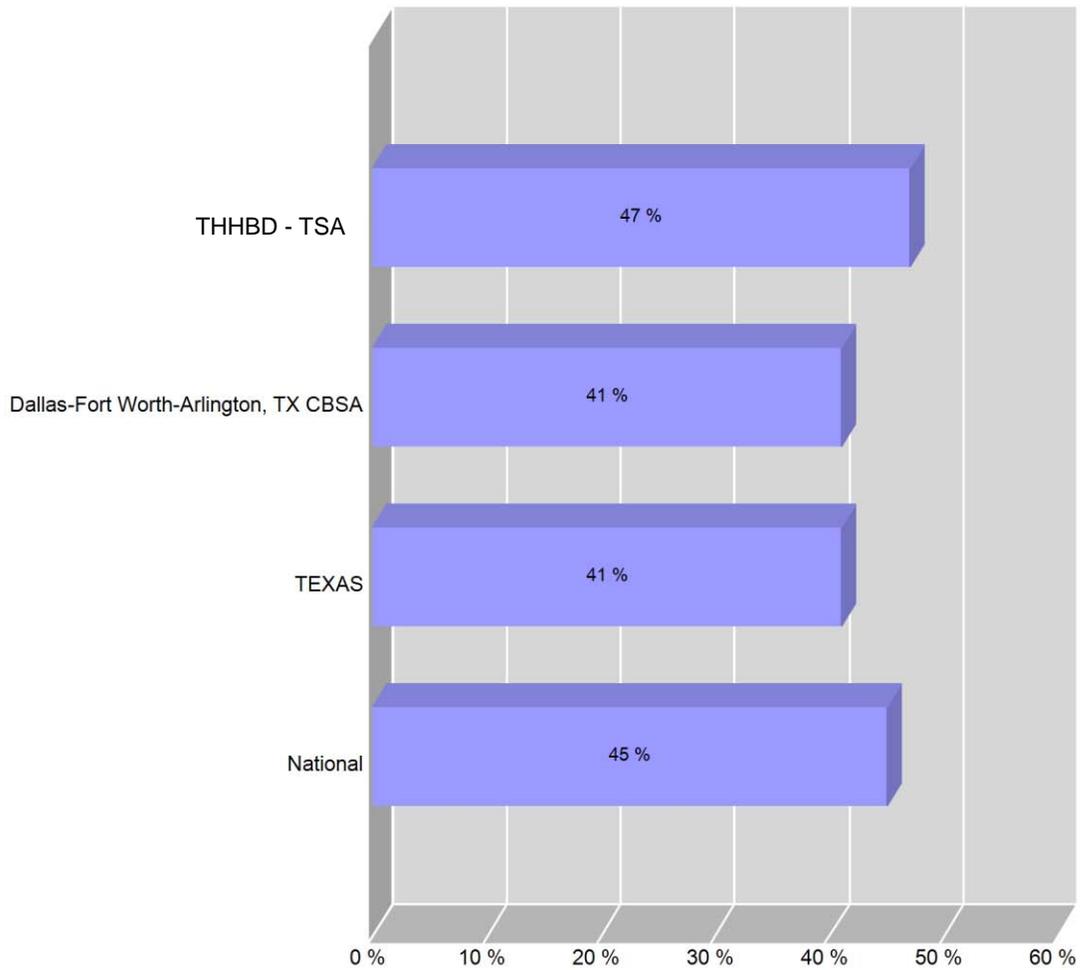


#### **Healthy People 2010 Target:**

- Increase the proportion of adults who have had their blood cholesterol checked within the preceding 5 years to 80%

## Preventive Health Behaviors Compared to Healthy People 2010

### Dental Exam among Households with Children



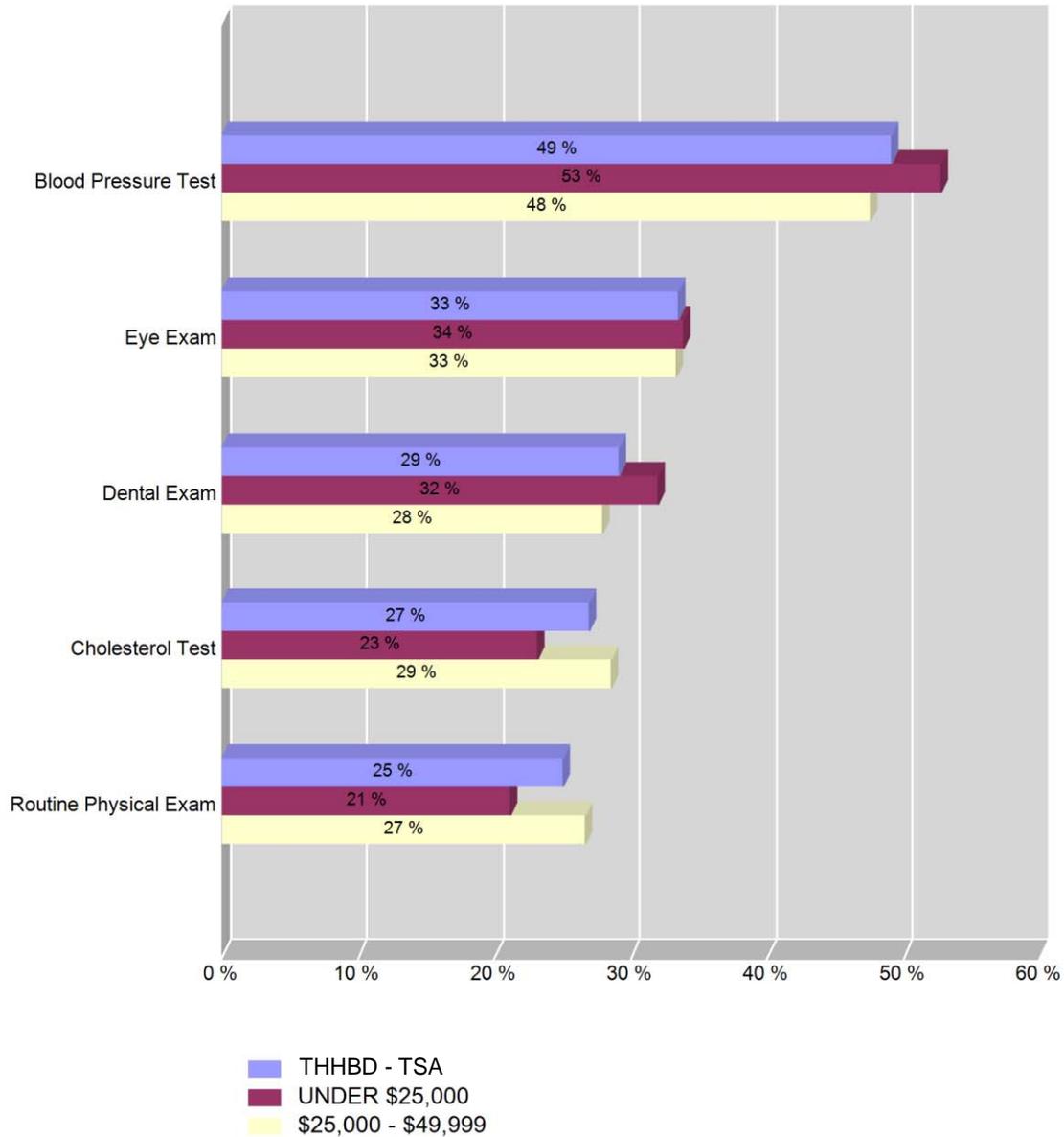
#### **Healthy People 2010 Target:**

- Increase the proportion of children and adults who use the oral health care system each year by 56%

## Preventive Health Behaviors - Low Income

Represented below is the percentage of THHBD TSA households in lower income categories that have had the following preventive healthcare services or tests in the last 12 months, compared to the market average.

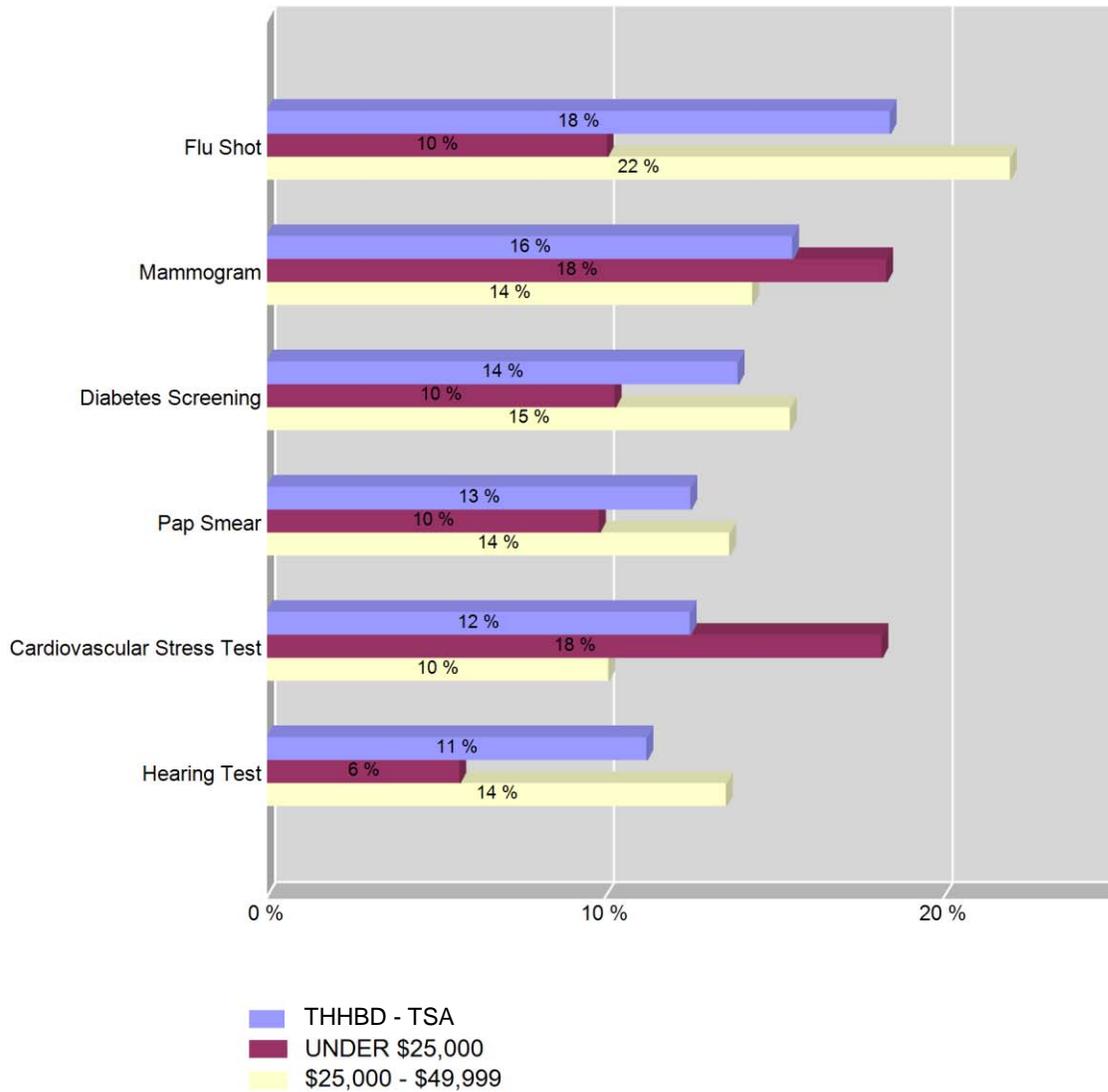
Households in Lower Income Categories by Preventive Health Behaviors



## Preventive Health Behaviors - Low Income

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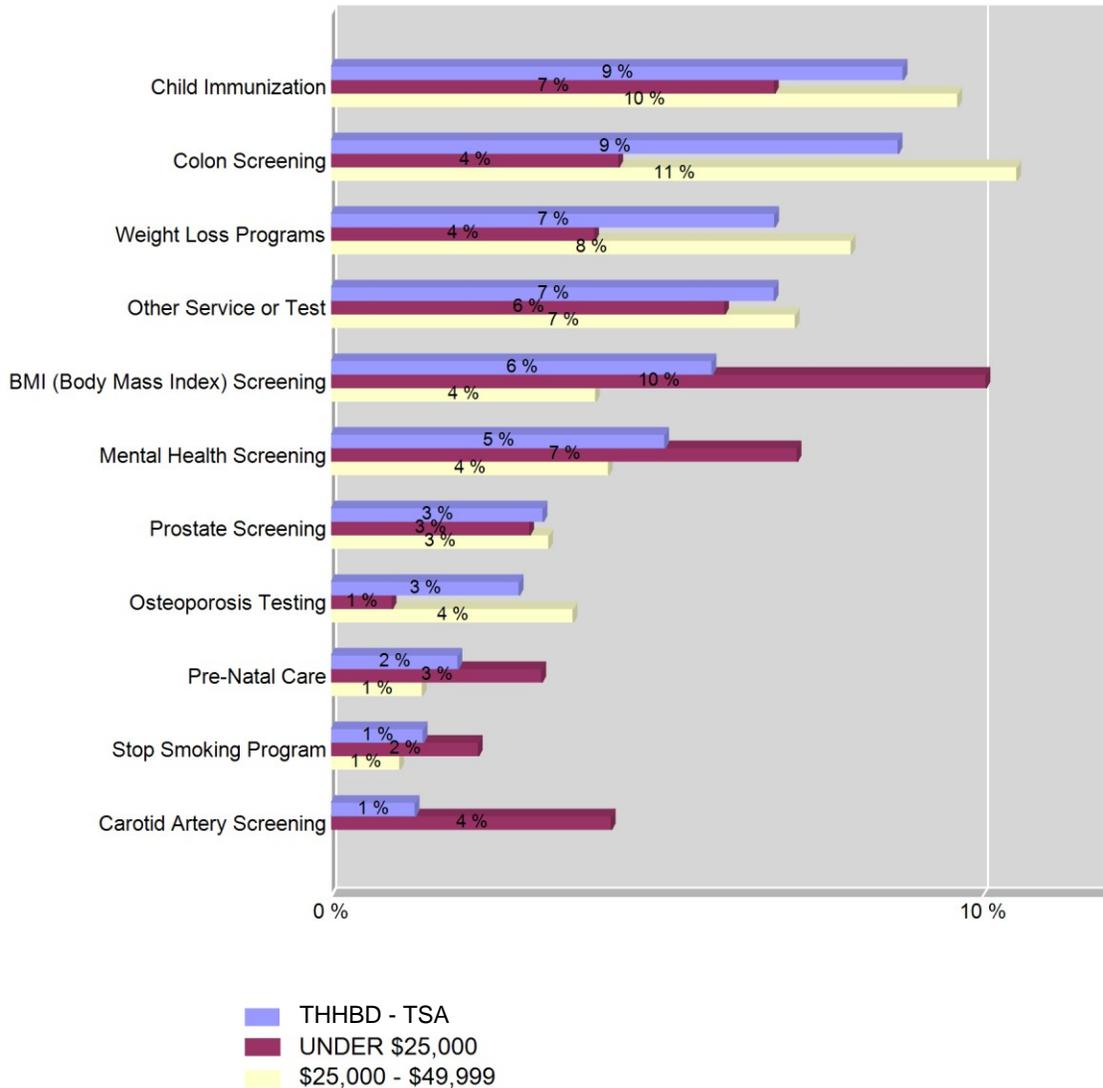
Households in Lower Income Categories by Preventive Health Behaviors



## Preventive Health Behaviors - Low Income

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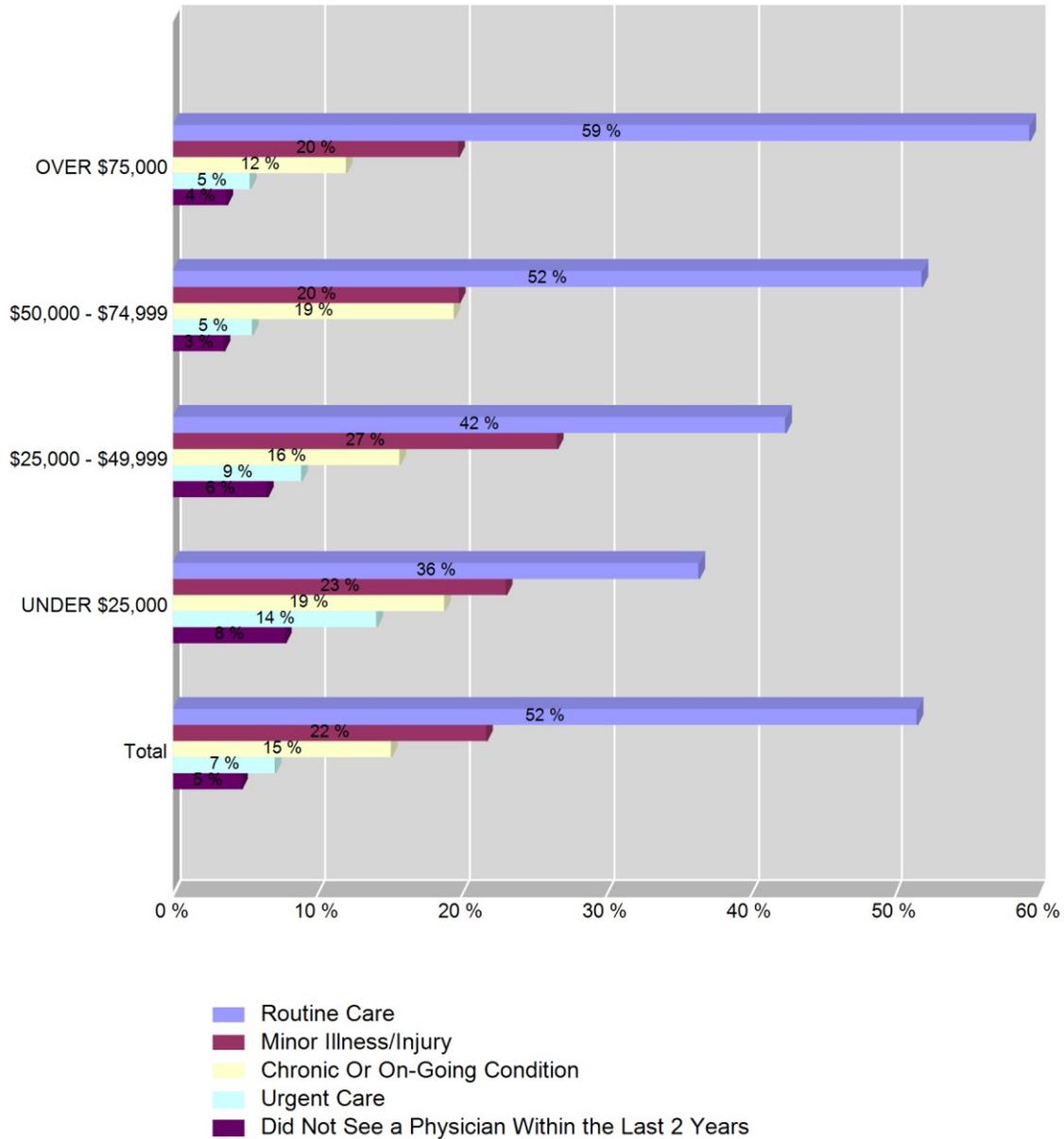
Households in Lower Income Categories by Preventive Health Behaviors



## Physician Visit Usage and Access

This section outlines the household's last physician visit usage and days to appointment access, including purpose of visit.

**Purpose of Physician Visit by Income  
THHBD TSA**

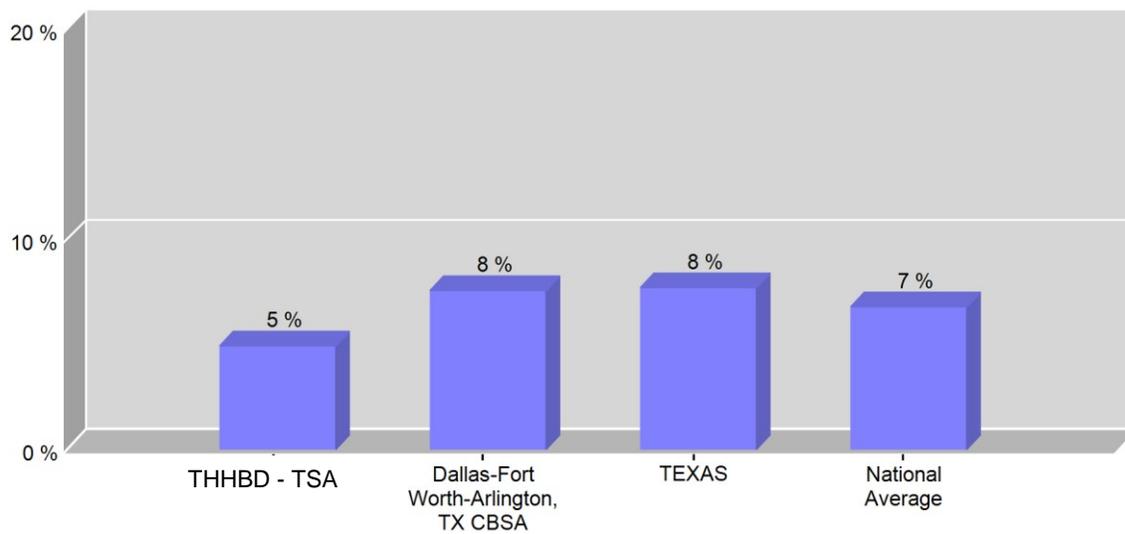


## Physician Visit Usage and Access

### No Physician Visit

- Within the national sample has the highest percentage of households at 0% who reported they have not seen a physician within the last two years.
- Within the national sample has the lowest percentage of households at 0% who reported they have not seen a physician within the last two years.

**Households That Have Not Seen a Physician in Last 2 Years**

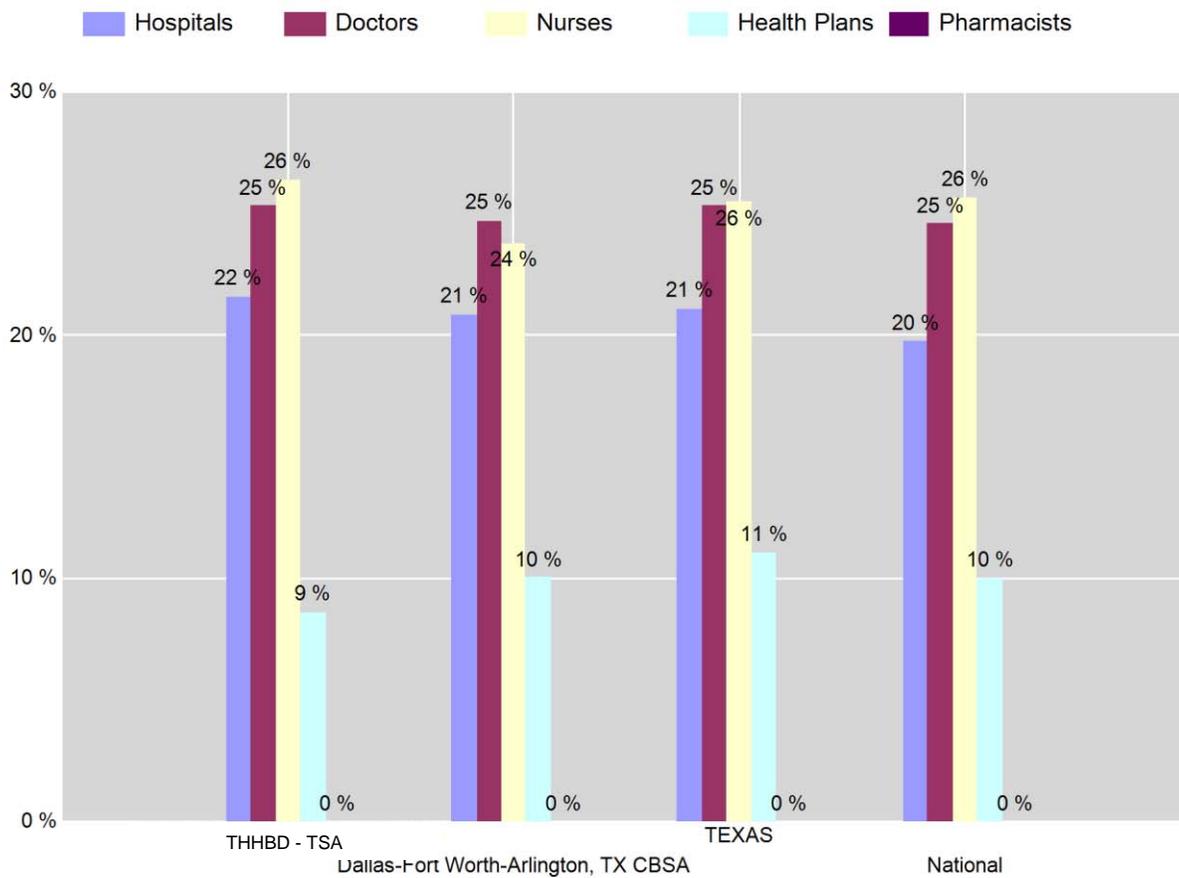


## Community Trust and Confidence in Healthcare

This section reports the various self-reported measures regarding the communities trust and confidence in healthcare, including measurements of trust in doctors, nurses, and health plans.

### Level of Trust and Confidence - "Very High"

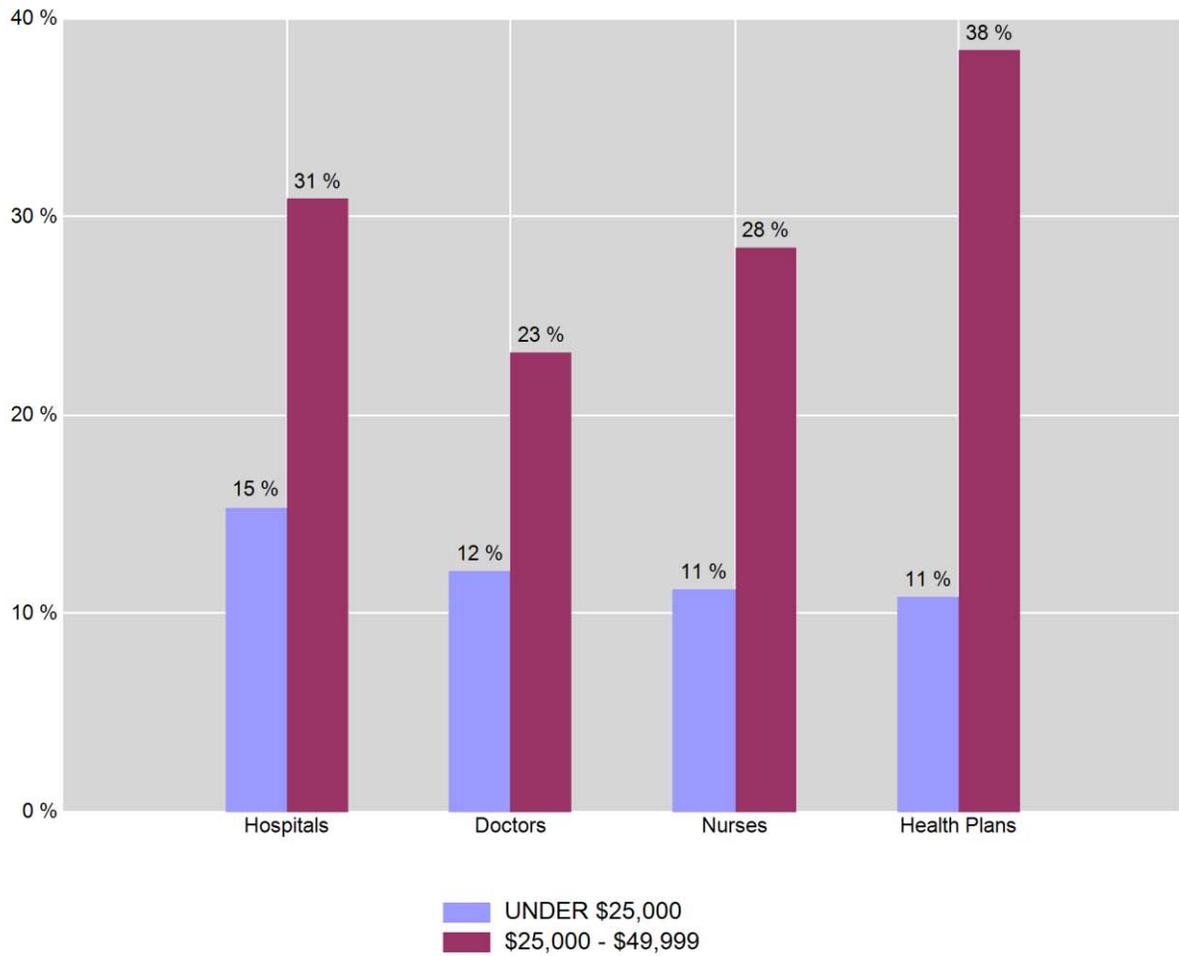
Market/Trust in	THHBD TSA	Dallas-Fort Worth-Arlington, TX CBSA	TEXAS	National
Hospital	22 %	21 %	21 %	20 %
Doctors	25 %	25 %	25 %	25 %
Nurses	26%	24 %	26 %	26 %
Health Plans	9 %	10 %	11 %	10 %
Pharmacists	0 %	0 %	0 %	0 %



## Community Trust and Confidence in Healthcare

### "Very High" Trust/Confidence in Lower Income Categories

THHBD TSA



## **Appendix B**

### **Regional Healthcare Partnership Region 9 Community Needs Assessment**

### **Section III. Community Needs Assessment#**

To develop the Community Needs Assessment, a regional Task Force was convened by representatives from the following organizations: Baylor Health Care System, Children’s Medical Center, Dallas County Medical Society, Dallas County Behavioral Health Leadership Team, HCA North Texas, Methodist Health System, North Texas Behavioral Health Authority, Parkland Health & Hospital System, Scottish Rite Hospital for Children, Texas Health Resources, UT Southwestern Medical Center, and ValueOptions of Texas.

This Task Force reviewed and identified the regional needs through data analysis, expert presentations, and committee discussions. The major criteria used to identify and rank regional priorities included population impact, alignment with intervention categories, and whether solutions lend to regional based approaches. The following priorities were identified as the region’s major community health needs:

**Capacity - Primary and Specialty Care** - The demand for primary and specialty care services exceeds that of available medical physicians in these areas, thus limiting healthcare access.

**Behavioral Health - Adult, Pediatric and Jail Populations** - Behavioral health, either as a primary or secondary condition, accounts for substantial volume and costs for existing healthcare providers, and is often utilized at capacity, despite a substantial unmet need in the population.

**Chronic Disease - Adult and Pediatric** - Many individuals in North Texas suffer from chronic diseases that present earlier in life, are becoming more prevalent, and exhibit complications.

**Patient Safety and Hospital Acquired Conditions** – Hospitals in the region address patient safety and care quality on a daily basis. It is a continuous improvement initiative and is always at the forefront of any strategy for a health care entity. An ongoing coordinated effort among providers is needed to improve patient safety and quality throughout the region.

**Emergency Department Usage and Readmissions** - Emergency departments are treating high volumes of patients with preventable conditions, or conditions that are suitable to be addressed in a primary care setting. Additionally, readmissions are higher than desired, particularly for those with severe chronic disease or behavioral health.

**Palliative Care** - Overall, costs are high in skilled nursing facilities, long term care facilities, hospice and home health sectors, and slightly higher in physician services.

**Oral Health** - In Texas, preventive dental visits are below the recommended levels, and access can be a problem for minorities, the elderly, children on Medicaid, and other low income children. Compounding the issue is the shortage of dentists in Texas at approximately 60% of the national ratio of dentists to the population.

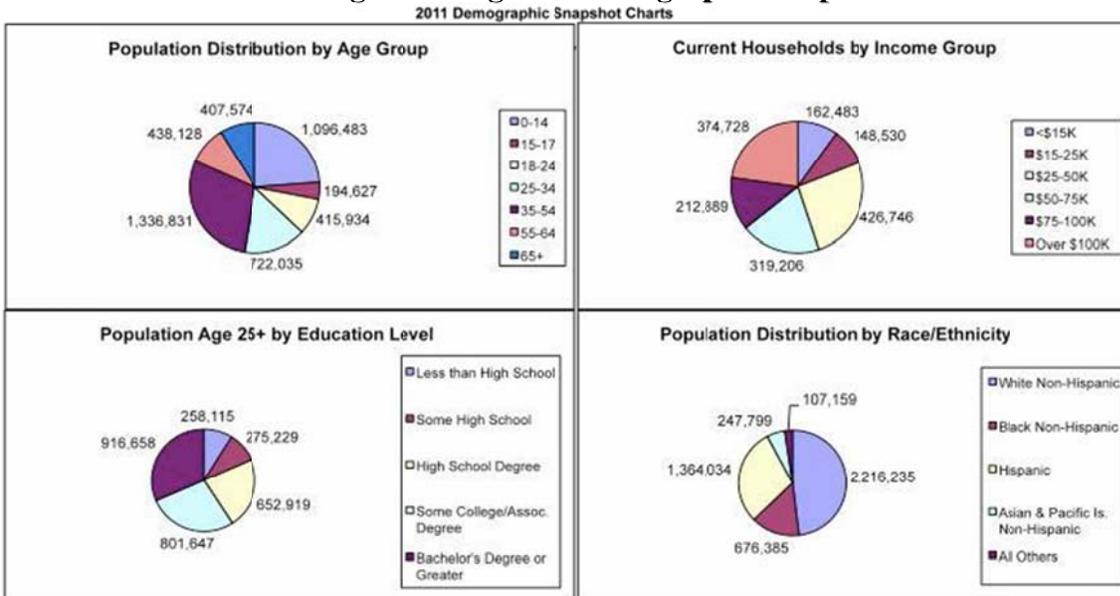
**Demographics and Regional Description**

Based on population alone, Texas is the second largest state in the nation with more than 25 million people. From 2000 to 2010, Texas experienced a 20% growth in population, as compared to only a 9.7% increase nationally. Originally, the North Texas RHP 9 Region was defined to include Collin, Dallas, Denton, Ellis, Fannin, Grayson, Kaufman, Navarro, and Rockwall counties. The broader demographics were considered to be representative of the narrower final RHP boundaries and as demonstrated in Figure 3 below, there is considerable in- migration from the original RHP counties to Dallas County for health care services.

In the North Texas RHP 9 region (original definition), the 2011 population is estimated to be 4,611,612 and is expected to grow by 9.5% by 2016 to 5,048,283 residents.<sup>3</sup> The most prevalent age group is 35-54 years (27.6%), followed by the 0-14 age group (20.2%). While 15.1% of adults have less than some high school level of education, approximately 85% of adults have at least a high school degree.

White non-Hispanics represent 48.1% of the population, followed by Hispanics, Black non-Hispanics, Asians, and others, respectively.<sup>4</sup> Approximately 44% of Dallas-Fort Worth residents are New Americans (defined as either foreign born or the children of foreign born) of which 46% are undocumented. English is not the language spoken in 32% of homes in North Texas and over 239 languages are spoken in the North Texas Area, with more than 1/3 reflecting African cultures new to the region.<sup>5</sup>

**Figure 1: Regional Demographic Snapshot**



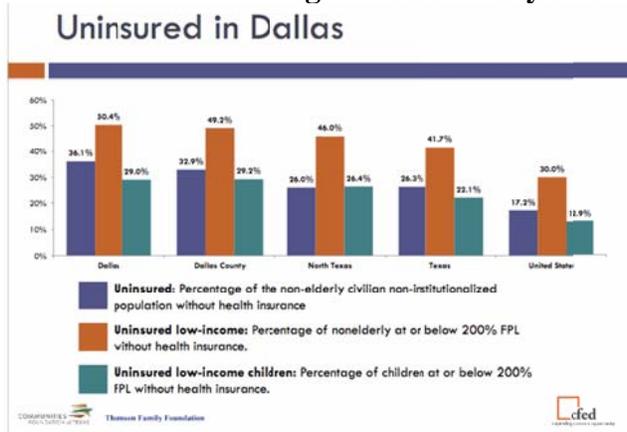
<sup>3</sup> US Census Data, Thompson Reuters/Claritas Market Expert Data Extract, 2012.

<sup>4</sup> ibid.

<sup>5</sup> DFW International Community Alliance. 2010 North Texas Progress Report.

Within Dallas County specifically, 29.6% of children under 18 live below the federal poverty level and 15.8% of adults between 18 to 64 years live below the federal poverty level.<sup>6</sup>

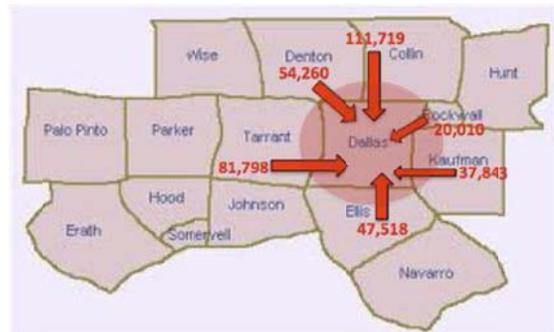
**Figure 2: Summary of Uninsured in Dallas County<sup>7</sup>**



**Health Delivery System and Patient Migration Patterns**

Data analysis identified patient migration patterns within multiple RHP regions. Many individuals receive healthcare services in nearby counties. In the pediatric population, Dallas County residents account for 75% of the outpatient services and 74% of the inpatient services. In the adult population, Dallas County residents account for 77% and 73% of the outpatient and inpatient population, respectively.<sup>8</sup>

**Figure 3: Interconnectedness of Healthcare Delivery System: Dallas County Encounters from Patients with Adjacent County of Residence, 2011<sup>9</sup>**



The locations of charitable clinics in Dallas County are shown on the map below. Additional analysis is warranted to determine the causal factors of the patient flow and migration patterns and how they relate to the locations of clinics/other service sites in the region. It is apparent though that the data presents strong justification to consider a broader geographic area for the purposes of this assessment.

<sup>6</sup> US Census Data. [www.census.gov](http://www.census.gov), 2011.

<sup>7</sup> Communities Foundation of Texas, Assets and Opportunities Profile. February 2012.

<sup>8</sup> DFWHC Foundation, Information and Quality Services Data Warehouse, 2011

<sup>9</sup> ibid

**Figure 4: Location of Charitable Clinics in North Texas<sup>10</sup>**



### **Regional Health Care Capacity**

#### Physician Supply and Availability

RHP 9 is affected by the limited physician capacity in primary and select specialties. According to the Health Professions Resource Center, primary care physician supply trends have consistently increased to a current statewide rate of 70 per 100,000 people in 2011.<sup>11</sup> In 2011, the RHP 9 region demonstrated a physician need in excess of over 30% of the current workforce and by 2016 the physician need is expected to be 50% higher than projected availability.<sup>12</sup> With such a shortage of physicians, which is disparately worse in rural areas of Texas, many residents seek primary care and non-emergent treatment in emergency departments, resulting in increased healthcare costs and higher volumes of preventable and avoidable cases in the ED.

#### Medical Education

Dallas County is home to the University of Texas Southwestern Medical Center, an academic medical center that trains over 1000 medical students and approximately 1300 clinical residents annually. Many training and residency placements are completed within the DFW Metroplex providing an important source of physicians to the local healthcare system.

#### Medically Underserved and Shortage Areas

A Health Professional Shortage Area (HPSA) is a federally designated geographic area, a facility or population group with a shortage of primary care physicians (or dental or mental health providers) as defined by a population-to-primary care physician ratio of at least 3,500:1 in

<sup>10</sup> Parkland Health & Hospital System. Charitable Clinic Locations Report. 2012.

<sup>11</sup> Health Professions Resource Center, Center for Health Statistics, Department of State Health Services, October 2011.

<sup>12</sup> *ibid.*

addition to other requirements designated by the U.S. Department of Health and Human Services.<sup>13</sup> Poverty rate, infant mortality rate, fertility rate and physical distance from care are all considerations in scoring for HPSA designation.

Medically Underserved Areas or Populations (MUA/MUP) are generally defined by the federal government to include areas of populations with a shortage of personal health care services or groups of people who may have cultural or linguistic barriers to health care. In RHP 9, Dallas County has significant HPSA and MUA regions that overlap and Kaufman County is a county-level HPSA with no MUAs.

### Children/Youth

The impact of the limited primary and specialty care is profound for children and families in the region. The current pediatric need is more than 80% of the current supply in the region. In Dallas County alone, over 36.2% of children were enrolled in Medicaid in 2010, exacerbating the issue of availability of pediatric primary care access and treatment.<sup>14</sup> Data also indicates that many of the pediatric specialists have limited capacity, creating a backlogged pipeline for those needing specialty services after seeking primary care.

## **Behavioral Health**

### Behavioral Health System Structure and Funding

The behavioral health system (including mental health and substance use) in RHP 9 differs from that of the rest of the state in that the majority of behavioral services for Medicaid and indigent patients are delivered through the NorthSTAR program instead of the traditional Local Mental Health Authority (LMHA) system. It is a managed behavioral healthcare carve-out program, administered by ValueOptions of Texas under a Medicaid 1915(b) waiver under the oversight of the North Texas Behavioral Health Authority (NTBHA), and it provides both mental health and substance use treatment to over 60,000 Medicaid enrollees and indigent uninsured annually.

Over the past decade, the NorthSTAR program has greatly expanded access to care. However, this high level of access results in funding and infrastructure challenges. Since the program's inception, the growth in enrollment has outpaced funding such that the funding per person served is 30% less than when the program started in 1999 and is half that of the state average for other LMHAs<sup>15</sup>.

Given that Texas is 50th in mental health funding nationwide<sup>16</sup>, the funding per person served in RHP 9 is among the lowest in the nation.

### Mortality Trends in the Behavioral Health Population

An inadequate supply of behavioral health services is one of the most significant unmet health needs of RHP 9. A recent study in Texas found that NorthSTAR was one of only four LMHAs in which age-adjusted mortality rates were significantly higher for the mental health population compared to the general population. Consistent with the NASMHPD study, the majority of

<sup>13</sup> US Department of Health and Human Services. 2012.

<sup>14</sup> Children's Medical Center. Beyond ABC Report, 2011.

<sup>15</sup> TriWest/Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010.

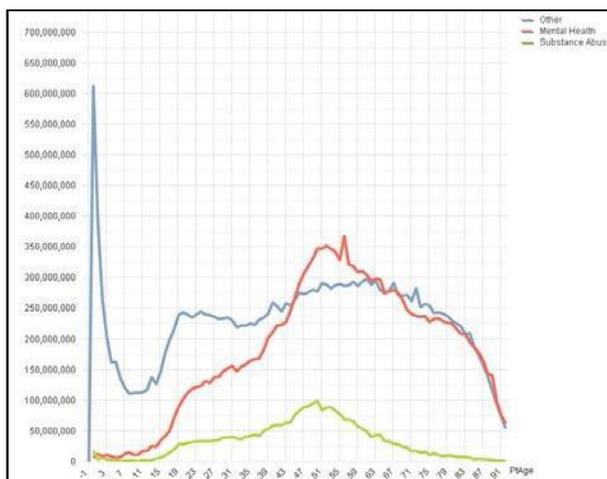
<sup>16</sup> National Alliance on Mental Illness. State Mental Health Cuts: The Continuing Crisis. March 2011

deaths in this region were due to medical illness, and most of those were due cardiovascular disease.<sup>17</sup> The NorthSTAR system differs from the rest of the state in that it includes patients with primary diagnoses of substance use disorders, a preliminary analysis of death records showed similar mortality rates between the mental health and substance abuse populations.<sup>18</sup>

Cost Trends in the Behavioral Health Population

The financial implications of caring for those with behavioral health conditions are substantial and impact resources within the healthcare institutions of RHP 9. Analysis of DFW Hospital Council Foundation data demonstrates that charges associated with the care of mental health patients more than doubles from \$50,000,000 to over \$100,000,000 between the ages of 17 through 21. Charges continue to rise through adulthood, and between the ages of 47-65, the estimated charges for mental health encounters are higher than those of all other conditions combined. When substance abuse encounters are included, this difference is even greater.<sup>19</sup>

**Figure 5: Age and Charge Distribution by Mental Health and Substance Abuse Encounter (2010Q3-2011Q3)<sup>20</sup>**



In RHP 9, the presence of a co-occurring behavioral health condition is associated with increased case severity of medical encounters and a 36% increase in the average charges per encounter. In RHP 9, 100% of the 10 most frequently admitted patients had a co-occurring behavioral health diagnosis depicted in Figure 5. These 10 individuals incurred a cost of more than \$26 million between 2007 and 2011; however only 1/5 of their hospital emergency department visits were for a mental health or substance abuse issue. Sixty-one percent were uninsured (24% Medicaid, 12% Medicare, and 3% Insured).

<sup>17</sup> Mortality of Public Mental Health clients treated at the Local Mental Health Authorities of Texas, 2012.

<sup>18</sup> Personal communication between EA Becker and M Balfour

<sup>19</sup> Dallas Fort Worth Hospital Council Foundation, Readmission Patterns by Mental Health & Substance Abuse, 2012

<sup>20</sup> DFWHC Foundation, Information and Quality Services Data Warehouse, 2012.

**Figure 6: Mental Health and Substance Abuse: Intersection**



**Figure 7: Top Ten High Emergency Department Utilizers: Mental Health and Substance Abuse Integration - Behavioral Health and Primary Care**

*DFWHC Foundation, Information and Quality Services (IQSC) Data Warehouse*  
Mental Health and Substance Abuse Interactions with Readmissions Patterns: Most Frequent 10 Patients (In and Outpatient)  
RHP9 Cohort: 2007Q1 - 2011Q3

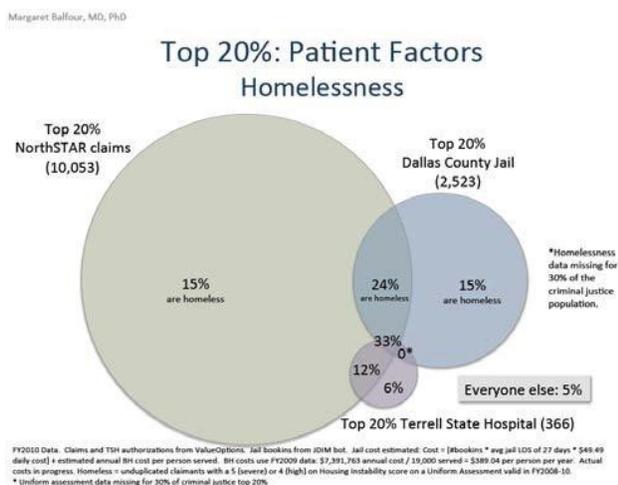
QUID	Total Cases	Mental Health	Substance Abuse	2007	2008	2009	2010	2011	Hospitals Visited	Average LOS (Days)	Uninsured	Insured	Medicaid	Medicare	Total Charges	Average Total Charges
430172	571	356	111	98	137	109	138	89	6	1.7375	2%	6%	86%	5%	\$1,326,311	\$2,323
811367	537	396	17	110	117	109	125	76	22	1.0152	0%	0%	0%	100%	\$931,952	\$1,735
1495682	490	267	35	77	125	125	83	80	26	1.3313	6%	15%	79%	0%	\$2,310,619	\$4,716
3554434	397	266	34	45	39	115	121	77	4	1.2897	99%	1%	0%	0%	\$577,739	\$1,455
8358467	379	297	10	15	38	56	116	154	7	1.4190	4%	39%	0%	57%	\$369,397	\$975
3048466	370	297	14	62	143	82	52	31	23	1.9093	11%	4%	24%	61%	\$2,145,038	\$5,797
1590501	362	245	94	60	2	118	101	81	4	10.5363	14%	1%	3%	82%	\$289,747	\$800
1993887	362	201	7	63	68	124	66	41	24	0.9448	7%	8%	84%	1%	\$1,805,928	\$4,989
1308998	361	235	133	37	51	93	122	58	9	1.2975	48%	2%	50%	0%	\$1,804,562	\$4,999
1411963	334	312	1	71	106	26	10	111	19	1.5736	45%	5%	50%	0%	\$637,233	\$1,908

The percentage of residents below 200% Federal Poverty Level in Dallas County who receive behavioral healthcare in primary care settings is 19.8% which is significantly lower than the national average of 37.1%.<sup>21</sup> Parkland, the largest primary care provider to low-income populations in Dallas County, is not a NorthSTAR provider and consequently, some who may be successfully served in primary care settings are referred to NorthSTAR. This may result in dilution of limited NorthSTAR resources, as well as coordination of care issues for those with high complexity co-occurring illness. An analysis of the diabetic population at Parkland revealed that diabetics receiving antipsychotic medications from the NorthSTAR system were twice as likely to receive second-generation antipsychotics, which adversely affect metabolic indicators associated with poor diabetes outcomes, compared to those receiving antipsychotics from the Parkland pharmacy.<sup>22</sup>

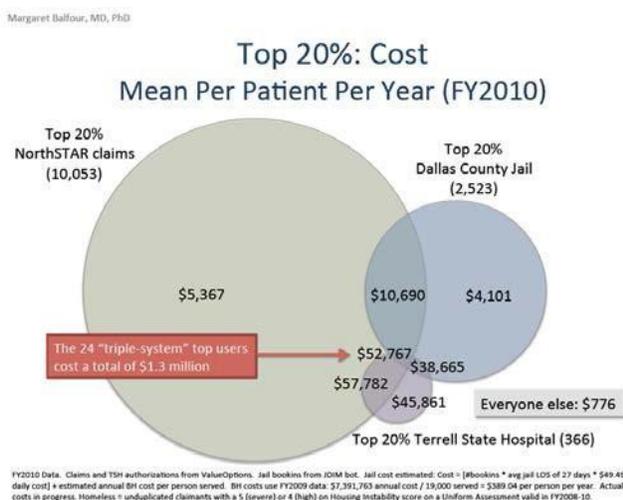
<sup>21</sup> TriWest/Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010. <sup>22</sup> Balfour, ME et al. Highlighting High Utilizers: How can our systems better meet their needs? Institute on Psychiatric Services Annual Meeting, 2011.

The funding challenges combined with the complexity of the behavioral health system may adversely impact sub-populations with the highest needs. The number of NorthSTAR enrollees booked into jail has been steadily increasing as shown below in Figure 8<sup>23</sup>, and 27% of all book-ins to the Dallas County Jail are currently referred to jail behavioral health services.<sup>24</sup> Homeless individuals with behavioral health conditions cost three times as much and are booked into jail twice as often as the general NorthSTAR population.<sup>25</sup> Among high utilizers, these relationships are magnified, as illustrated below.

**Figure 8: Behavioral Health Patient Factors for Top 20% Utilizers of NorthSTAR, Dallas County Jail, and Terrell State Hospital, 2010**



**Figure 9: Behavioral Health Costs for Top 20% Utilizers of NorthSTAR, Dallas County Jail, and Terrell State Hospital, 2010**



<sup>23</sup> Ron Stretcher and Jill Reese, Dallas County Criminal Justice Department

<sup>24</sup> Communication between Wassem Ahmed, Medical Director-Parkland Jail Behavioral Health and M. Balfour, MD

<sup>25</sup> Balfour, ME. Homelessness, Criminal Justice, and the NorthSTAR Top 200 Report, 2011.

### Children/Youth

The number of Dallas County children receiving publicly funded mental health services has tripled from 2000 to 2010. In Dallas County, the number of children identified with a diagnosable emotional disturbance or addictive disorder has increased to approximately 142,000 children with 5% of those children experiencing a significant impairment as a result. Among youth between the ages of 12-17, 7.2% have experienced a major depressive episode.

### Cultural and Linguistic Minorities

Hispanics comprise 40% of the population but only 25% of the NorthSTAR population.<sup>26</sup> While there is a lack of services available and written materials available in Spanish, it is difficult to characterize the extent of the need, because data on primary language is not collected.

### Demand for Behavioral Health Services

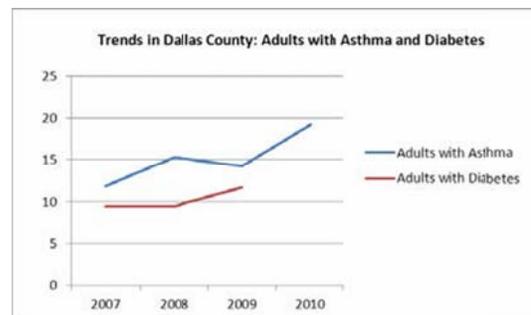
Following the economic downturn in 2009, there was a 17% increase in 23-hour observation visits at Green Oaks Hospital, mostly accounted for by new enrollees to NorthSTAR. More recently, there has been a sharp spike in 23-hour observation utilization, with Feb 2012 visits 26% higher compared to Dec 2011 (and 25% higher compared to Feb 2011).<sup>27</sup> This increase coincided with both regulatory oversight limiting the capacity of Parkland’s Psychiatric ED by 50% and a reduction in funding for outpatient services in the NorthSTAR system.

In addition to hospital-type services, there is also a need for less-acute levels of behavioral care in order to prevent the need for these high-cost services. A sub-acute crisis residential level of care exists but there are only 21 beds for the entire NorthSTAR region. The Behavioral Health Leadership Team has identified the highest need for service development to be post-crisis “wraparound” services to reduce the 20% 30-day readmission rate to crisis services, and peer-driven services to engage clients early in order to prevent crisis episodes.

### Chronic Disease

Similar to national trends, North Texas is experiencing increasing rates of many chronic diseases, including heart disease, cancer and stroke. Also there are increasing rates of asthma and diabetes in adults within the Dallas County Metropolitan Statistical Area as shown below.

**Figure 10: Dallas County Adults with Asthma and Diabetes**



In an assessment of ED utilization, the five encounter types that were most frequent and of highest volume are those for chronic conditions of asthma, chronic bronchitis, pain/aching of

<sup>26</sup> TriWest/Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010.

<sup>27</sup> ValueOptions of Texas

joints, sinusitis, and hay fever.<sup>28</sup> There were slight variations presented when encounters were analyzed by payer type. More Medicaid and uninsured patients sought treatment for asthma than those with insurance or Medicare and for the uninsured specifically, diabetes was listed as the 5<sup>th</sup> top condition, while not even listed as a top 5 condition for the insured or Medicaid.

**Figure 11: Volume for Adult Outpatient Emergency Department Encounters (2010Q3 - 2011Q3)<sup>29</sup>**

Highest Volume	1	2	3	4	5
<i>All</i>	Low Back Pain	Hypertension	Pain/Aching of Joints	Chronic Bronchitis	Asthma
<i>Insured</i>	Low Back Pain	Hypertension	Pain/Aching of Joints	Chronic Bronchitis	Asthma
<i>Medicaid</i>	Low Back Pain	Pain/Aching of Joints	Asthma	Chronic Bronchitis	Depression/ Anxiety
<i>Medicare</i>	Low Back Pain	Hypertension	Chronic Bronchitis	Pain/Aching of Joints	Diabetes
<i>Uninsured</i>	Low Back Pain	Pain/Aching of Joints	Hypertension	Asthma	Diabetes

Asthma

Over the past decade, asthma has become a widespread public health problem that has increased in both Texas and the United States. Asthma has a major impact on the health of the population and the burden falls unevenly on some populations. According to Texas Behavioral Risk Factor Surveillance System in 2005, approximately 1.5 million adults (ages 18 and older) and 389,000 children (ages 0-17) were reported to have asthma at the time.<sup>30</sup> And in 2006, the state of Texas spent over \$391.5 million for inpatient admissions with a primary discharge diagnosis of asthma.<sup>31</sup>

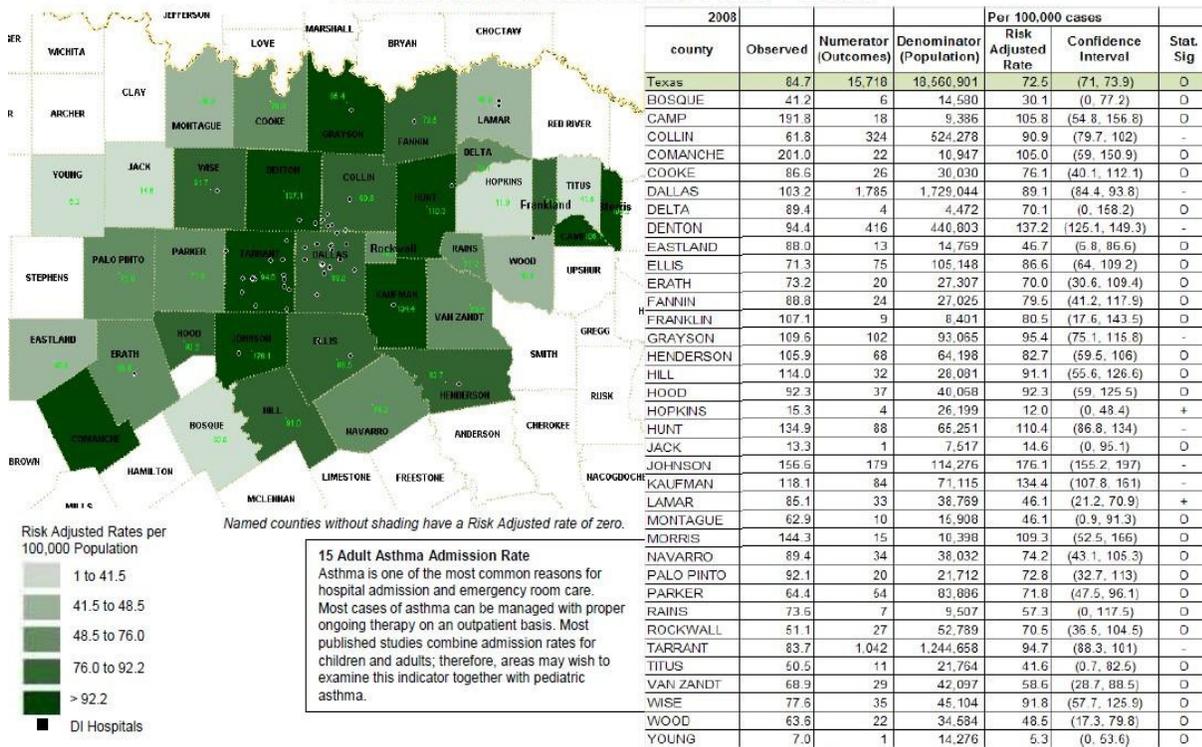
In 2008, the state of Texas had a risk-adjusted admission rate of 72.5 per 100,000 cases.<sup>32</sup> Although Dallas County had a slightly higher rate at 89.1 per 100,000 cases, six of the ten counties surrounding Dallas County were significantly more burdened with a risk-adjusted admission rate of greater than 92.2 per 100,000 cases. Only one county of the ten had a lower risk-adjusted rate (Rockwall County) at 70.5 per 100,000 cases. Other North Texas counties’ asthma admission rates are shown in the table below.

<sup>28</sup> Dallas Fort Worth Hospital Council Foundation, Information and Quality Services Data Warehouse. March 2011. <sup>29</sup> Dallas Fort Worth Hospital Council Foundation, Information and Quality Services Data Warehouse. March 2011. <sup>30</sup> Asthma Coalition of Texas. Texas Asthma Plan. 2007-2010.

<sup>31</sup> Asthma Coalition of Texas. 2012.

<sup>32</sup> AHRQ Prevention Indicators. Adult Asthma Admission Rate. 2008

## AHRQ Prevention Quality Indicators Adult Asthma Admission Rate - 2008



Texas Hospital Inpatient Discharge Public Use Data File, FY2008. Texas Health Care Information Council, Austin, Texas. January, 2008.  
 + = County's RA rate significantly lower than State RA rate  
 - = County's RA rate significantly higher  
 0 = No statistical difference

### Diabetes

Diabetes affects 11.4% of the population in Dallas County, which is above both the state average of 10% and the national average of 8%. In patients seen throughout the regional healthcare system and who are residents of Dallas County, the top five primary diagnoses, those patients with an underlying condition of diabetes were 29% for pneumonia, 39% for septicemia, 31% for other rehabilitation, 34% of urinary tract infection and 45% of acute kidney failure.<sup>33</sup> Those with diabetes had a higher mortality percentage than those without in four of the five top inpatient diagnoses revealing that a co-morbidity of diabetes increases your risk for mortality.

Dallas County's top seven diagnoses for ER patients were Acute URI Unspecified, Otitis Media, abdominal pain, chest pain unspecified, urinary tract infection, headache and other chest pain. Within those top seven diagnoses, 20%-45% had an underlying condition of diabetes. Specifically, of all patients who came to the ER with chest pain as a diagnosis, 21%-25% had a comorbidity of diabetes. Of patients presenting with abdominal pain, urinary tract infections and headache, 10% also had diabetes.

<sup>33</sup> Doughty, P. et al. Diabetes in Dallas County: Provider Report. 2011

**Figure 12: Prevalence of Co-Occurring Diabetes, Dallas County 2009-2010**

Top Five Diagnosis INPATIENTS 2009-2010 Dallas County	Number of Patients	Number of Patients with Diabetes	% with Diabetes	Mortality %	Mortality % with Diabetes
Pneumonia	4,359	1,279	29%	3.1%	3.5%
Septicemia	3,142	1,217	39%	21.4%	23.0%
Other Rehabilitation	2,816	872	31%	0.1%	0.1%
Urinary Tract Infection	2,447	822	34%	0.5%	0.6%
Acute Kidney Failure Unspecified	2,355	1,068	45%	3.2%	3.5%
Top Seven Diagnosis ER VISITS 2009-2010 Dallas	Number of Patients	Number of Patients with Diabetes	% with Diabetes	Mortality %	Mortality % with Diabetes
Acute URI Unspecified	23,979	392	2%	0%	0%
Otitis Media	18,576	84	0%	0%	0%
Abdominal Pain	14,677	1,516	10%	0%	0%
Unspecified Chest Pain	14,511	3,010	21%	0%	0%
Urinary Tract Infection	14,302	1,254	9%	0%	0%
Headache	13,531	1,228	9%	0%	0%
Other Chest Pain	13,217	2,980	25%	0%	0%

**Children/Youth.**

Between 2000 and 2010, the number of Children’s Medical Center admissions of youth with a primary or secondary diagnosis of diabetes increased by 34%. With the association of diabetes and obesity, there is also cause for concern of the future trajectory as low income preschool obesity within the Dallas Metropolitan Statistical Area was 17.2% in 2009, placing many young children at higher rates of developing diabetes in later years.<sup>34</sup>

**Cost/Charge.**

Isolation of a specific “direct cost” is complicated. However, it is understood that the societal burden for this condition is extremely large and has manifestations in healthcare service utilization due to increases complexity and severity of other co-occurring medical conditions. Additionally, there are important societal costs of lower economic productivity of individuals with severe diabetic complications. The magnitude of the issues is only projected to increase as more people begin to develop diabetes at earlier in life.

**Patient Safety and Quality and Hospital Acquired Conditions**

The DFWHC Foundation’s 77 hospitals had 1,706 adverse hospital events in 2010. These events included air embolism, Legionnaires, Iatrogenic Pneumothorax, delirium, blood incompatibility, glycemic control issues and Clostridium difficile, which are not part of the ten adverse events specified by CMS. A significant portion was made up of Medicare patients (46%) and insured (54%) according to the claims data within the DFWHC Foundation claims data warehouse.

**Emergency Department Usage and Readmissions**

An analysis of the emergency department encounters demonstrates that many in the population are accessing emergency departments for both urgent and non-urgent conditions. Over the most recent four quarters of data, the conditions for which the most volume of care

<sup>34</sup> Children’s Medical Center. Beyond ABC Report, 2012  
was provided in an emergency outpatient setting were: low back pain, hypertension, pain/joint

aching, chronic bronchitis, and asthma. Further assessment demonstrates that, with the exception of asthma, over 68% of the encounters for the top primary health conditions listed above were either non-emergent or emergent/primary care treatable, in that the care could have been provided effectively in a primary care setting. For asthma, approximately 98.1% of all encounters were emergent, however the condition could have been potentially avoidable or preventable if effective ambulatory care could have been received during the illness episode.<sup>35</sup>

For emergency department encounters that resulted in a hospital admission, the most common health conditions by volume include stroke, diabetes, congestive heart failure, weak/failing kidneys, chronic bronchitis and heart attack. When reviewing by payer type, diabetes is the top condition for the uninsured and Medicaid and the 5<sup>th</sup> top condition for those who are insured.

**Figure 14: Adult Inpatient Emergency Department Encounters (2010Q3 - 2011Q3)<sup>36</sup>**

Highest Volume	1	2	3	4	5
<i>All</i>	Stroke	Congestive Heart Failure	Weak/Failing Kidneys	Chronic Bronchitis	Diabetes
<i>Insured</i>	Stroke	Weak/Failing Kidneys	Congestive Heart Failure	Heart Attack	Diabetes
<i>Medicaid</i>	Diabetes	Congestive Heart Failure	Weak/Failing Kidneys	Stroke	Chronic Bronchitis
<i>Medicare</i>	Congestive Heart Failure	Stroke	Weak/Failing Kidneys	Chronic Bronchitis	Heart Attack
<i>Uninsured</i>	Diabetes	Stroke	Weak/Failing Kidneys	Congestive Heart Failure	Heart Attack

Specific to children, the high volume ED encounters includes asthma, diabetes, pain/aching joints, and arthritis most frequently. Regardless of payer type, asthma and diabetes are the top conditions for ER and inpatient admissions.

**Figure 15: Pediatric Inpatient Emergency Department Encounters (2010Q3 - 2011Q3)<sup>37</sup>**

Highest Volume	1	2	3	4	5
<i>All</i>	Asthma	Diabetes	Pain/Aching of Joints	Arthritis	Congestive Heart Failure/Liver Condition
<i>Insured</i>	Asthma	Diabetes	Pain/Aching of Joints	Arthritis	Liver Condition
<i>Medicaid</i>	Asthma	Diabetes	Arthritis	Congestive Heart Failure	Pain/Aching of Joints
<i>Uninsured</i>	Asthma	Diabetes	Pain/Aching of Joints	Arthritis	Liver Condition/Low Back Pain

<sup>35</sup> DFWHC Foundation, Information and Quality Services Data Warehouse, 2011.

<sup>36</sup> Ibid.

<sup>37</sup> Ibid.

In North Texas, all-cause readmissions as defined by a subsequent admission within 30 days from the incident encounter of any type has demonstrated a downward trend since 2008.<sup>38</sup> Many hospitals are working to continue improvement in this area, specifically for readmission related to congestive heart failure, acute myocardial infarction, and pneumonia.

As evidenced by an assessment of 10 individual high utilizers in the region, there is a strong relationship between readmissions and behavioral health. Each patient has some component of mental health or substance abuse history over the course of their encounter history.

**Figure 16: Top Ten High Emergency Department Utilizers: Mental Health and Substance Abuse**

*DFWHC Foundation, Information and Quality Services (IQSC) Data Warehouse*  
*Mental Health and Substance Abuse Interactions with Readmissions Patterns: Most Frequent 10 Patients (In and Outpatient)*  
*RHP9 Cohort: 2007Q1 - 2011Q3*

QUID	Total Cases	Mental Health	Substance Abuse	2007	2008	2009	2010	2011	Hospitals Visited	Average LOS (Days)	Uninsured	Insured	Medicaid	Medicare	Total Charges	Average Total Charges
430172	571	356	111	98	137	109	138	89	6	1.7375	2%	6%	86%	5%	\$1,326,311	\$2,323
811367	537	396	17	110	117	109	125	76	22	1.0152	0%	0%	0%	100%	\$931,952	\$1,735
1495682	490	267	35	77	125	125	83	80	26	1.3313	6%	15%	79%	0%	\$2,310,619	\$4,716
3554434	397	266	34	45	39	115	121	77	4	3.2897	99%	1%	0%	0%	\$577,739	\$1,455
3358467	379	297	10	15	88	56	116	154	7	1.4190	4%	39%	0%	57%	\$369,397	\$975
3048466	370	297	14	62	143	82	52	31	23	1.9093	11%	4%	24%	61%	\$2,145,038	\$5,797
1590501	362	245	94	60	2	118	101	81	4	10.5363	14%	1%	3%	82%	\$289,747	\$800
1993887	362	201	7	63	68	124	66	41	24	0.9448	7%	8%	84%	1%	\$1,805,928	\$4,989
1308998	361	235	133	37	51	93	122	58	9	1.2975	48%	2%	50%	0%	\$1,804,562	\$4,999
1411963	334	312	1	71	106	26	10	121	19	1.5736	45%	5%	50%	0%	\$637,233	\$1,908

**Cost/Charge**

From quarter 3 of 2010 to quarter 3 of 2011, the estimated charges associated with all regional emergency outpatient encounters was \$312,816,490 and for emergency inpatient encounters, the total charges increase to \$2,076,778,420. For emergency inpatient encounters, there was little charge variation across insured, Medicaid, Medicare, and Uninsured payer types.

**Palliative Care**

Palliative care is an important factor in the care delivery system of RHP 9. Overall, Medicare reimbursements to providers in Dallas County are higher than average and higher than the 50<sup>th</sup> percentile in the country during a patient’s last two years of life signifying a large volume of palliative care services being provided. Even within the health service area of RHP 9, there is variability of the percentage of deaths occurring within hospitals, ranging from 0.69 percent to 1.17 when compared to the national average.

**Oral Health**

Tooth decay (dental caries) is the most common chronic childhood disease. In 2003, the proportion of Texas children reported to have teeth in excellent or very good condition was lower than the national average and lower within all age, sex, and racial/ethnic subgroups.

<sup>38</sup> DFWHC Foundation, Information and Quality Services Database, 2010.

**Figure 17: Oral Health – Condition of Teeth for Texas Children (2003)**

	Condition of Teeth: Excellent or very good		Preventive Dental Care: ≥ 1 Visit within Past Year	
	US %	Texas %	US %	Texas %
<b>Age Group</b>				
All children 0–17	64.3	57.6	67.6	61.6
<b>Age (years)</b>				
1–5	75.8	70.7	46.8	48.4
6–11	61.7	50.9	83.4	74.8
12–17	67.4	61.2	79.4	69.7
<b>Socioeconomicstatus</b>				
0–99% Federal poverty level	45.4	40.7	54.1	56.0
100–199% Federal poverty level	56.5	48.9	61.6	52.6
200–399% Federal poverty level	71.2	66.7	73.0	67.4
≥400% Federal poverty level	78.1	78.3	77.8	73.3
<b>Race/ethnicity</b>				
White	69.3	65.4	70.6	64.4
Black	57.4	53.4	62.6	64.9

Dental problems in adults are equally problematic. According to the U.S. Surgeon<sup>39</sup> most adults in the U.S. show signs of periodontal or gingival diseases and severe periodontal disease affects 14 percent of adults (ages 45–54 years). However, a little less than two-thirds of adults report visiting a dentist within the past 12 months, and those with incomes at or above the poverty level are twice as likely to report a dental visit in the past 12 months as those below the poverty level. The American Dental Association cited the major reason for not accessing regular oral health care is the high cost of dental care. And the number of individuals who lack dental insurance is more than 2.5 times the number of those who lack medical insurance.

Effective health policies intended to expand access, improve quality, or contain costs must consider the supply, distribution, preparation, and utilization of the workforce. According to the National Health Service Corps, Texas needs 784 additional dentists to achieve the recommended ratio of one dentist for every 3,000 residents. The overall supply of dentists in Texas has been consistently below the national average of 59-60 dentists per 100,000 for many years.<sup>40</sup> In 2006, Texas had 36.0 dentists per 100,000 and it has been declining since.

<sup>39</sup> National Institute of Health. National Institute of Dental and Craniofacial Research. “Oral Health in America: A Report of the Surgeon General. 2000.

<sup>40</sup> State Department of Health & Human Services, Center for Health Statistics Health Professions Resource Center. Publication No. 25-12581. E-Publication No. E25-12581. March 2007.

## Summary of Community Needs

Identification Number	Brief Description of Community Needs Addressed in RHP Plan	Data Source for Identified Need
CN.1	Community Description – Demographics	US Census Data, DFW International Community Alliance Report, Communities Foundation of Texas Report
CN.2	Regional Healthcare Infrastructure and Patient Migration Patterns	DFWHC Foundation, Information Quality and Services Data Warehouse, Parkland Health and Hospital System
CN.3	Healthcare Capacity	Health Professions Resource Center, Center for Health Statistics, US Department of Health and Human Services; Children’s Medical Center Beyond ABC Report; Horizons (2012): The Dallas County Community Health Needs Assessment
CN.4	Primary Care and Pediatrics	Health Professions Resource Center, Center for Health Statistics, US Department of Health and Human Services, Children’s Medical Center Beyond ABC Report
CN.5	Behavioral Health	TriWest/Zia Partners Report, National Alliance on Mental Illness, DFWHC Foundation, Information Quality and Services Data Warehouse
CN.6	Behavioral Health and Primary Care	TriWest/Zia Partners Report, National Alliance on Mental Illness, DFWHC Foundation, Information Quality and Services Data Warehouse, Horizons: The Dallas County Community Health Needs Assessment
CN.7	Behavioral Health and Jail Population	Dallas County Criminal Justice Department, Parkland Health and Hospital System
CN.8	Specialty Care	DFWHC Foundation, Information and Quality Services Data Warehouse retrieved March 2012, Children’s Medical Center Beyond ABC Report, 2011 US Census Data, Thompson Reuters/Claritas Market Expert Extract prepared by Devin Hill, Baylor Health Care System, generated February 2012.
CN.9	Chronic Disease	DFWHC Foundation Information Quality and Services Data Warehouse, Diabetes in Dallas County Report, Children’s Medical Center Beyond ABC Report, Horizons: The Dallas County Community Health Needs Assessment
CN.10	Oral Health	US Department of Health and Human Services Healthy People 2010, Texas Department of State Health Services Oral Health Program, DSHS Primary Care Office
CN.11	Patient Safety and Quality	DFWHC Foundation Information Quality and Services Data Warehouse, Institute of Medicine Report
CN.12	Emergency Department Usage and Readmissions	DFWHC Foundation Information Quality and Services Data Warehouse
CN.13	Palliative Care	Barnato et al., Teno et al., Wennenberg et al.

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