July 1, 2013 - June 30, 2016

Community Health Needs Assessment

FINAL

Approved by:
Mission and Community Benefits Committee
June 14, 2013

Approved by:
Baylor Health Care System Board of Trustees
June 24, 2013

Approved by:
Baylor Health Care System Operation, Policy and Procedure Board
June 25, 2013

BAYLOR
Medical Center
at Frisco

BHCS.954.V8.2013 tm.6.13

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Executive Summary

Baylor Medical Center at Frisco (Baylor Frisco) 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, 2013. Its purpose is to identify the health needs of the communities served by Baylor Frisco and meet the requirements for community benefit planning as set forth in state and federal laws, including, but not limited to, Texas Health and Safety Code Chapter 311 and Internal Revenue Code Section 501(r).

About the Hospital

Opened in 2002 as Frisco Medical Center, Baylor Frisco is a model health care facility designed with the patient in mind. The 68-bed hospital has a hotel-like atmosphere, creating a comfortable, relaxing and patient-friendly environment with a focus on service and hospitality. From the gourmet food service to the private patient suites, Baylor Frisco has created a "culture of care" for its guests.

Baylor Frisco is a joint venture between Baylor Health Care System and United Surgical Partners International, and local physicians. The Hospital is operated as a part of a sustainable, integrated health care delivery system with BHCS and other affiliated hospitals and health care providers (System). As an affiliate of BHCS, the Hospital is operated in furtherance of BHCS's charitable purpose and mission and is required to adhere to high standards for medical quality, patient safety and patient satisfaction. These standards help ensure consistency and are set forth by the System.

The Hospital, along with other BHCS affiliates, provides community benefit activities reflective of the System mission: "Founded as a Christian ministry of healing, Baylor Health Care System exists to serve all people through exemplary health care, education, research and community service."

CHNA Summary

Creating healthy communities requires a high level of mutual understanding and collaboration with community individuals and partner groups. The development of this assessment brings together information from community health leaders and providers along with local residents for the purposes of researching, prioritizing and documenting the community health needs for the geographies served by Baylor Frisco. This health assessment will serve as the foundation for community health improvement efforts for next three years.

The FY 2013 CHNA brings together a variety of health status information. This assessment consolidates information from the recent community health needs assessment conducted for Texas' Regional Healthcare Partnership Region 9 (Region 9 RHP) and Region 18 (Region 18 RHP). 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 financers 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 Region 18 RHP report revealed the following community health needs in the Baylor Frisco community.

- 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.
- Primary Care Access Adults
    - No county within RHP 18 has a public hospital. Local hospitals, public health departments, and publically funded clinics are the staples of the health care system in the Region.
    - While no county within RHP 18 is a Health Professions Shortage Area or a Medically Underserved Area (according to federal criteria), there are pockets with severely limited access to primary and preventive care leading to potentially preventable hospital admissions and emergency department visits.
- Primary Care Access Children
    - Of the reported emergency department visits for the uninsured, 14.7 percent were for children under age 15. Preventable admissions for children tend to involve asthma or respiratory illnesses and accidents.
    - Race, ethnicity, poverty, chronic diseases, other health problems and low birth weight babies are all factors associated with the need for expanded access to primary care for children. Among the three counties in the region, an average of 7.7 percent of all newborns were considered low birth weight.
- 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.
    - Dallas County residents suffering from behavioral health illnesses often confront decision-making barriers. These barriers can impact preventive care and treatment decisions, thereby influencing aspects of their physical health.
    - 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 number of Dallas County children receiving publicly funded mental health services 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 percent of those children experiencing a significant impairment as a result. Among youth between the ages of 12-17, 7.2 percent have experienced a major depressive episode.
    - 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.
- Co-morbid Medical and Behavioral Health Conditions
    - A co-morbid psychiatric condition was present among 25 percent to 50 percent of the highest preventable admissions of the uninsured.
    - Though Collin and Rockwall counties participate in the NorthSTAR Behavioral Health System, they are still in great need of behavioral health services, though they have been perceived as having less demand for these services compared to Dallas County. The three areas of greatest need in behavioral health (mostly related to mental health and chemical dependency) are: increased access to care; targeted resources to prevent relapse and higher cost care; and expanded diversity of evidence-based services such as jail diversion/mental health courts, peer-counseling, and integrated physical/behavioral care.
    - It is estimated that over half of the people in community-based behavioral health programs are uninsured.
- 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.
- Emergency/Urgent Care
    - During the first quarter of 2012, 18.7 percent of emergency department visits to hospitals in RHP 18 and Dallas County were by the uninsured. This is an increase of 15 percent over the previous year.

- 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.
- Multiple 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.
- Prenatal Care
    - In RHP 18, more than a quarter of pregnant women in each county (28 percent in Collin, 42 percent in Grayson, and 31 percent in Rockwall) do not receive prenatal care during the first trimester. Higher proportions of white women–compared to black and Hispanic women–receive early prenatal care.
- Health Professions Shortage
    - RHP 18 shows patient flow to resources outside of the regional counties provide an important opportunity to recognize limited or underdeveloped resources in these three counties that if expanded would reduce the burden on hospitals in Dallas.
- Preventable Acute Care Admissions
    - Between January 2011 and April 2012, 4.3 percent of Parkland Hospital's discharged patients from RHP 18 were preventable admissions. This represents a need for expanded primary care access in RHP 18.

- Diabetes
    - In every county in RHP 18, the highest proportion of uninsured, potentially preventable admissions (PPAs) is diabetes for long-term problems.
- Heart Disease
    - In Collin and Grayson counties, asthma and hypertension admissions include a substantial proportion of uninsured events.
    - In all three regional counties, congestive heart failure was the second highest contributor to hospital admissions. The first was bacterial pneumonia. Both are conditions of increased incidence in the elderly population.
- Elderly at Home and Nursing Home Patients
    - In Collin and Grayson counties, a few zip codes contributed the largest number of admissions for several preventable admissions. This may suggest that outreach to nursing homes in these zip codes could be an effective tactic to reduce admissions.
    - In all three regional counties, congestive heart failure was the second highest contributor to hospital admissions. The first was bacterial pneumonia. Both are conditions of increased incidence in the elderly population.
    - Grayson County in particular has a growing elderly population.

The identified community health needs as outlined below were reviewed and prioritized with input from BHCS senior leadership, the BHCS Mission and Community Benefit Committee and approved by the BHCS Board of Trustees. In prioritizing the needs of the community BHCS 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 BHCS.
- Needs identified as Top Priorities in more than one of the collaborated CHNAs are assigned Medium Priority for BHCS.
- Needs identified as Top Priorities in only one of the collaborated CHNAs are assigned Low Priority for BHCS.

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/Underserved
- Behavioral Health
- Co-morbid Medical and Behavioral Health Conditions
- Emergency Department and Urgent Care
- Multiple Chronic Conditions

Medium Priority

- Prenatal Care
- Preventable Acute Care Admissions
- Elderly at Home and Nursing Home Patients

Key Contributors

Regional Healthcare Partnership Region 9

- Baylor Health Care System
- 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

Regional Healthcare Partnership Region 18

- Baylor Health Care System
- Children and Community Health Center McKinney
- Childrens' Legacy Hospital Plano
- Collin County Adult Clinic
- Collin County Health Care Services
- Grayson County Public Health Department
- HCA North Texas
- Health Services of North Texas
- Healthcare Committee of Collin County
- Lakes Regional MHMR
- LifePath Systems
- Plano Children's Medical Clinic
- Tenet Healthcare Corporation
- Texas Department Health Services Region 2/3
- Texas Health Resources
- Texoma Community Center
- Texoma Medical Center
- University of Texas Southwestern Medical Center

Assessment Methodology

To complete this CHNA, BHCS staff participated in the development of several CHNAs with other health care providers throughout the Dallas/Fort Worth Metroplex. These efforts include the Region 9 RHP report and Region 18 RHP report. 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 Baylor Frisco Hospital Advisory Board, Baylor Frisco management and BHCS senior leadership. In prioritizing the needs of the community BHCS adopted the methodology established in the collaborated CHNAs used for this assessment. Priority will be assigned as follows: Needs identified as Top Priorities in both of the collaborated CHNAs are assigned High Priority for BHCS. Needs identified as Top Priorities in only one of the collaborated CHNAs are assigned Medium Priority for BHCS.

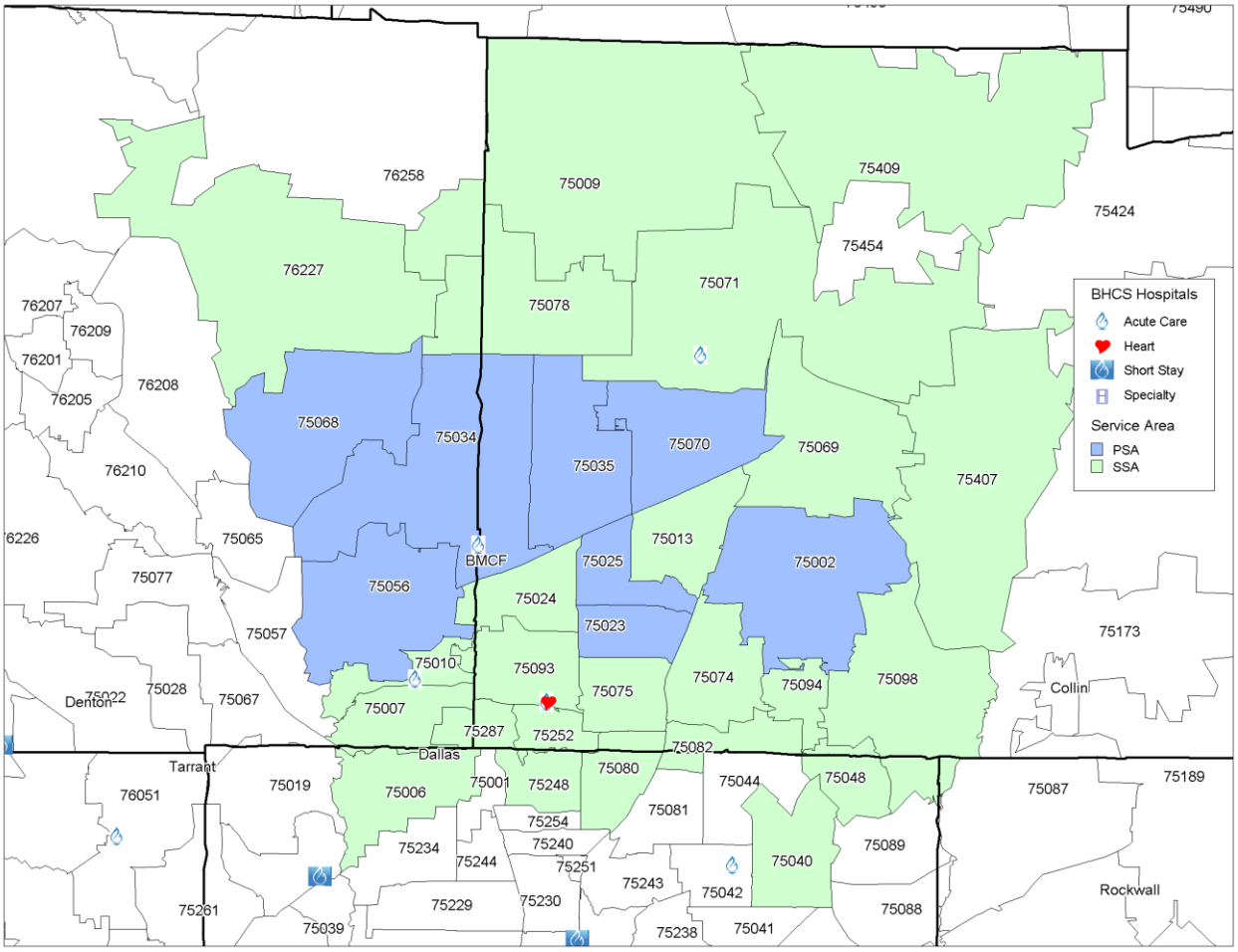
Regional Healthcare Partnership Region 9

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.

Baylor Frisco Community Definition



BHCS and its affiliated hospitals serve a 12 county area known as the Dallas/Fort Worth Metroplex. BHCS divides its service areas into three regions: the Eastern Region, the Central Region and the Western Region. BHCS' health care services are provided through a network of more than 300 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. BHCS 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 Collin County, Baylor Frisco serves the Eastern Region of the System. Its total service area (TSA) includes zip codes from Allen, Carrollton, Dallas and Richardson. The TSA comprises:

- An urban/suburban geographic area
- Service area population: 1,350,179
- Service area ethnicity: White Non Hispanic = 57.7 percent; Black Non Hispanic = 9.2 percent; Hispanic = 19.8 percent; Asian and Pacific Islanders Non-Hispanic = 10.6 percent; all others = 2.7 percent
- Service area payer mix: managed care = 48.0 percent; Medicaid = 11.1 percent; Medicare = 31.9 percent; self pay/charity = 8.4 percent; other = 0.6 percent
- Service area household average income: $95,214
- Service area living below the Federal Poverty Level (FPL): 5.4 percent (compared to 10.5 percent living below the FPL in the Dallas/Fort Worth Metroplex, and 10.2 percent living below the FPL in the United States)
- Number of other hospitals serving the community: 25 hospitals other than Baylor Frisco
- Medically underserved: The Baylor Frisco service area contains multiple medically underserved areas or populations.
- Service area education: less than high school = 4.5 percent; some high school = 5.0 percent; high school diploma = 17.4 percent; some college/associates degree = 29.7 percent; bachelor's degree or greater = 43.5 percent
- Service area male population = 676,841; service area female population = 673,338
- Service area age: 0-14 = 23.6 percent; 15-17 = 4.3 percent; 18-24 = 7.8 percent; 25-34 = 15.2 percent; 35-54 = 31.9 percent; 55-64 = 9.4 percent; 65+ = 7.7 percent

Baylor Regional Medical Center at Plano Service Area Providers

Hospitals
Baylor Institute For Rehabilitation At Frisco
Baylor Medical Center At Carrollton
Baylor Medical Center At Frisco
Baylor Regional Medical Center At Plano
Bush Renner
Centennial Medical Center
Childrens Medical Center Legacy
Columbia Medical Center Of McKinney Subsidiary, L.P.
Emerus Hospital
Forest Park Medical Frisco
Healthsouth Plano Rehabilitation Hospital
Lifecare Hospitals Of Plano
Medical Center Of Mckinney-Wysong Campus
Medical Center Of Plano
Methodist McKinney Hospital LLC
Methodist Richardson Medical Center
Plano Specialty Hospital

Reliant Rehabilitation Hospital North Texas
Select Specialty Hospital - Dallas
Texas Health Center For Diagnostics & Surgery Plano
Texas Health Presbyterian Hospital Allen
Texas Health Presbyterian Hospital Plano
The Heart Hospital Baylor Plano
The Hosptial At Craig Ranch
Twin Creeks Hospital

Ambulatory Surgery Centers
Baylor Ambulatory Endoscopy Center
Baylor Surgicare At Carrollton
Baylor Surgicare At Plano
Baylor Surgicare At Plano Parkway LLC
Breckenridge Surgery Center
Centennial Surgery Center
Cook Childrens Pediatric Surgery Center
Dallas IVF Surgery Center LLC
East Loop Surgery Center LP
Faith Surgical Center, LLC
Frisco Reproductive Surgery Center
Gastrointestinal Endoscopy Center
Heritage Surgery Center
Institute For Minimally Invasive Surgery
Legacy Surgery Center Of Frisco
McKinney Surgery Center
North Dallas Surgicare
Outpatient Surgery Center
Pain Care Of North Texas LLC
Park Ventura Endoscopy Center
Plastic And Cosmetic Surgery Center Of Texas
Preston Plaza Surgery Center
Stonebridge Surgery Center
Surgery Center Of Plano
Surgery Center Of Richardson
Surgery Center Of Texas
Texas Endoscopy
Texas Endoscopy LLC
The Surgery Centre At Craig Ranch
Windhaven Surgery Center LLC

Freestanding ER
Legacy ER
First Choice Emergency Room - Murphy
E-Care Emergency Center
ER Centers of America, Inc.
First Choice Emergency Room - Plano

Psychiatric Facilities
Carrollton Springs
Texas Health Seay Behavioral Health Center Plano

Community Health Needs Assessment

Public Participation

Baylor Frisco and BHCS 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), 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.

BHCS Community Benefit Committee

Community health needs identified in this document have also been reviewed and approved by the BHCS Community Benefit Committee.

The mission and role of the BHCS Community Benefit Committee is to assist the Board of Trustees in setting direction, identifying priorities, and monitoring performance in mission and vision integration into community benefits across BHCS. The Committee is comprised of trustees (current System and community board members) and other community representatives appointed by the BHCS board of trustees. The Committee will meet twice annually, or upon the request of the Committee chair. The current chair is Dr. Jim Denison.

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.

Regional Healthcare Partnership Region 18 (Executive Summary)

RHP 18 subscribes collectively to the principles recommended by the Population Health Institute in its annual national health outcomes and health factors report. Namely, that healthy communities depend on, and are derived from, community members working together to assess needs and resources, focusing on issues deemed by consensus to be the most important, and creating effective policies and programs to favorably impact population health.

In addition to the community needs identified through national, state and local sources, RHP 18 also is attending to six of the 12 health indicators identified by the U.S. Center for Disease Control in *Healthy People 2020*. These six indicators have emerged as important areas of need in the planning process for the Texas Healthcare Transformation and Quality Improvement Program in Collin, Grayson and Rockwall counties.

- Access to health services
- Clinical preventive services
- Injury and violence
- Maternal, infant, and child health
- Nutrition, physical activity and obesity
- Social determinants of medical and behavioral health problems

Table 10 on the following page provides a list of 14 broadly defined community needs (CN) per HHSC protocol to which providers have linked DSRIP projects.

Table 10.

Identification Number	Brief Description of Community Needs Addressed through RHP	Data Source for Identified Needs
CN.1	Primary care - adults	Request for PPA Data -DSHS Warehouse
CN.2	Primary care - children	Texas Department of State Health Services web site selected data: http://www.dshs.state.tx.us/wellness/data.shtm
CN.3	Prenatal care	Texas Department of State Health Services web site selected data: http://www.dshs.state.tx.us/wellness/data.shtm
CN.4	Urgent and emergency care	ED data, DFW Hospital Council Foundation
CN.5	Co-morbid medical and behavioral health conditions - all ages	DSHS data request; NorthSTAR Dashboard
CN.6	Health professions shortage	Federal government Health Indicators Warehouse website

CN.7	Preventable acute care admissions	Data request to DSHS
CN.8	Diabetes	DSHS PPA Data
CN.9	Cardiovascular Disease	2009 Texas Behavioral Risk Factors Surveillance System, Center for Health Statistics, Department of State Health Services. Available online at: http://www.dshs.state.tx.us/chs/brfss/query/brfss_form.shtm.
CN.10	Elderly at home, and Nursing Home patients	Extrapolated from DSHS PPA data
CN.11	Behavioral Health - all components - all ages	DSHS data website; Previously conducted studies and needs assessments available publicly.
CN.12	Other special populations at-risk	DSHS data and surveillance reports
CN.13	Communicable disease	Center for Disease Control
CN.14	Obesity and its co-morbid risk factors	http://www.window.state.tx.us/specialrpt/obesity cost/epidemic.php

Appendix A

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.

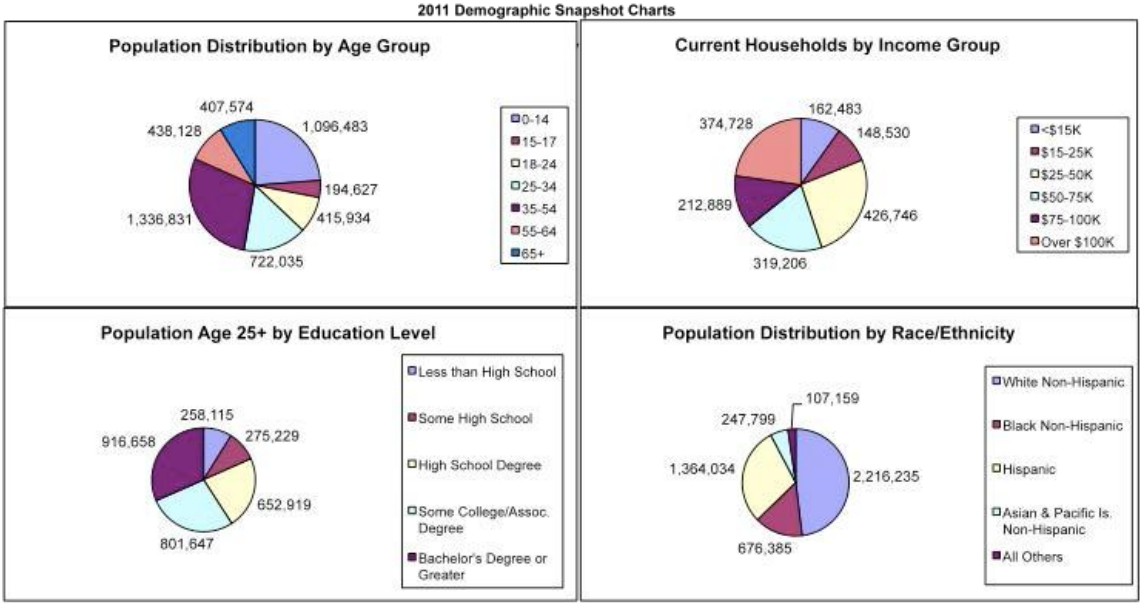
Demographics and Regional Description

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.[3] 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.[4] 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.[5]

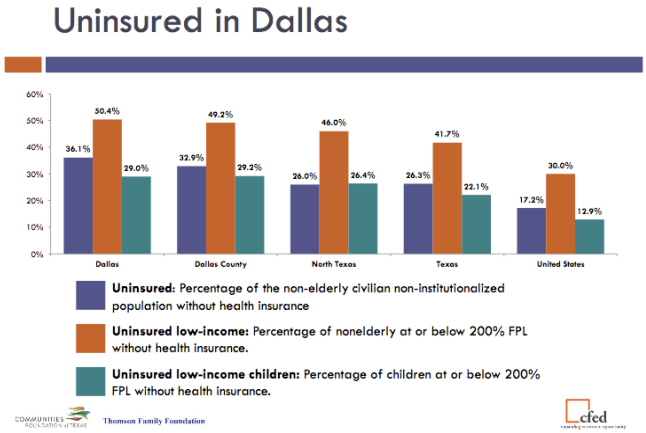
Figure 1: Regional Demographic Snapshot



[3] US Census Data, Thompson Reuters/Claritas Market Expert Data Extract, 2012.
[4] ibid.
[5] 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.[6]

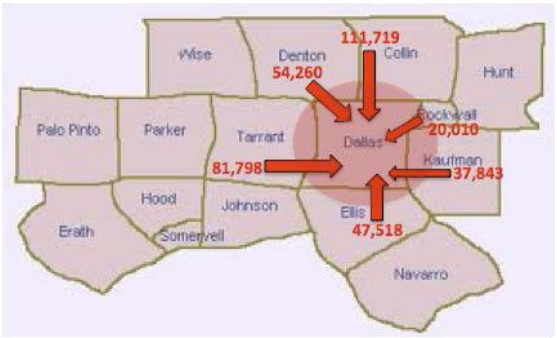
Figure 2: Summary of Uninsured in Dallas County[7]



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.[8]

Figure 3: Interconnectedness of Healthcare Delivery System: Dallas County Encounters from Patients with Adjacent County of Residence, 2011[9]



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.

[6] US Census Data. www.census.gov, 2011.
[7] Communities Foundation of Texas, Assets and Opportunities Profile. February 2012.
[8] DFWHC Foundation, Information and Quality Services Data Warehouse, 2011
[9] ibid

Figure 4: Location of Charitable Clinics in North Texas[10]

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.[11] 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.[12] 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

[10] Parkland Health & Hospital System. Charitable Clinic Locations Report. 2012.

[11] Health Professions Resource Center, Center for Health Statistics, Department of State Health Services, October 2011.

[12] ibid.

addition to other requirements designated by the U.S. Department of Health and Human Services.[13] 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.[14] 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[15]. Given that Texas is 50th in mental health funding nationwide[16], 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

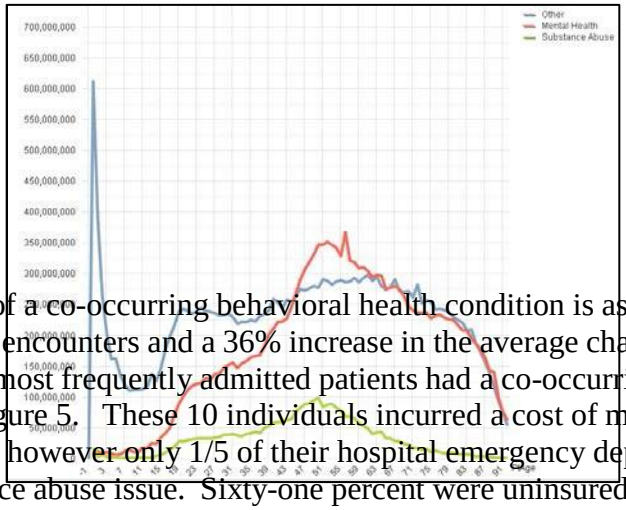
[13] US Department of Health and Human Services. 2012.
[14] Children's Medical Center. Beyond ABC Report, 2011.
[15] TriWest/Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010.
[16] National Alliance on Mental Illness. State Mental Health Cuts: The Continuing Crisis. March 2011

deaths in this region were due to medical illness, and most of those were due cardiovascular disease.[17] 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.[18]

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.[19]

Figure 5: Age and Charge Distribution by Mental Health and Substance Abuse Encounter (2010Q3-2011Q3)[20]



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).

[17] Mortality of Public Mental Health clients treated at the Local Mental Health Authorities of Texas, 2012.
[18] Personal communication between EA Becker and M Balfour
[19] Dallas Fort Worth Hospital Council Foundation, Readmission Patterns by Mental Health & Substance Abuse, 2012
[20] 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	3.2897	99%	1%	0%	0%	$577,739.	$1,455.
3358467	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	121	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%.[21] 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.[22]

[21] TriWest/Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010. [22] 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[23], and 27% of all book- ins to the Dallas County Jail are currently referred to jail behavioral health services.[24] Homeless individuals with behavioral health conditions cost three times as much and are booked into jail twice as often as the general NorthSTAR population.[25] 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

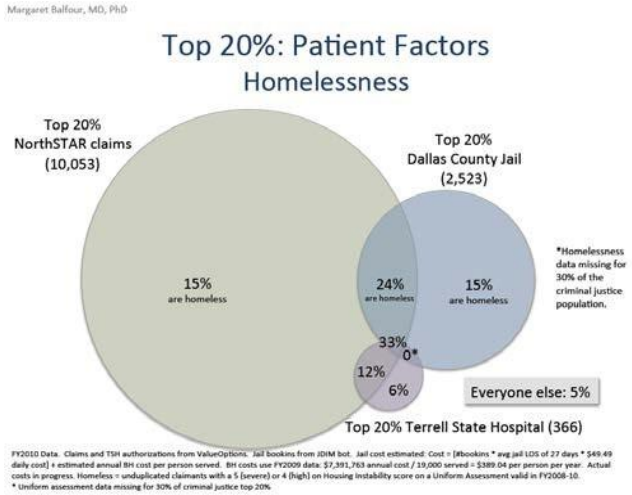
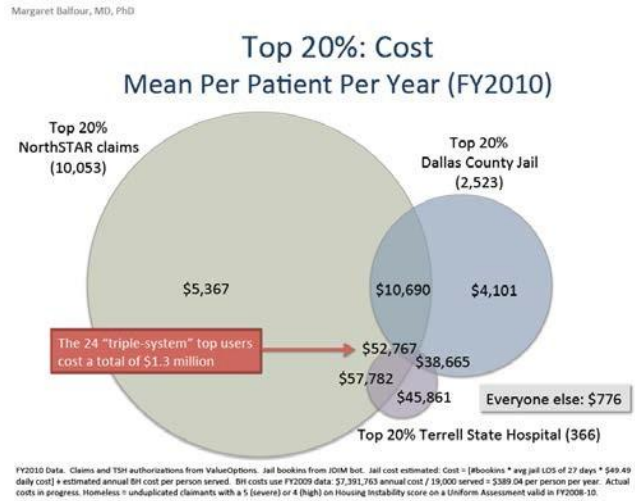


Figure 9: Behavioral Health Costs for Top 20% Utilizers of NorthSTAR, Dallas County Jail, and Terrell State Hospital, 2010



[23] Ron Stretcher and Jill Reese, Dallas County Criminal Justice Department

[24] Communication between Wassem Ahmed, Medical Director-Parkland Jail Behavioral Health and M. Balfour, MD

[25] 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.[26] 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

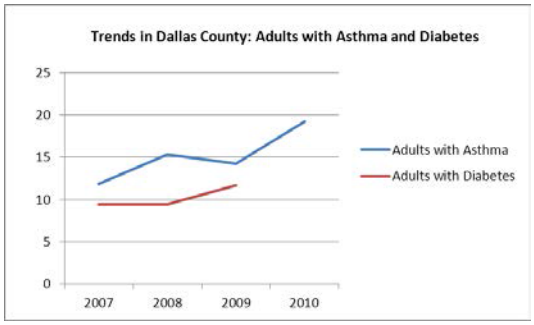
Following the economic downturn in 2009, there was a 17% increase in 23-hour observation visits at Green Oaks Hospital, mostly accounted for by new enrollees to NorthSTAR. More recently, there has been a sharp spike in 23-hour observation utilization, with Feb 2012 visits 26% higher compared to Dec 2011 (and 25% higher compared to Feb 2011).[27] 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

[26] TriWest/Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010.
[27] ValueOptions of Texas

joints, sinusitis, and hay fever.[28] 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 5th 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)[29]

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

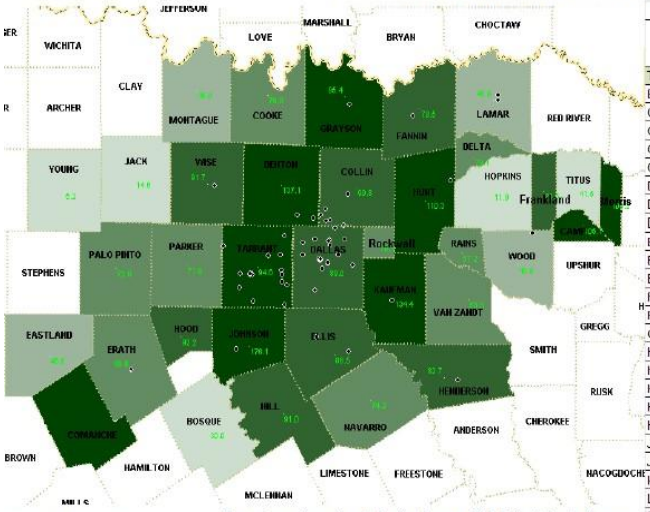
Asthma

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.[30] And in 2006, the state of Texas spent over $391.5 million for inpatient admissions with a primary discharge diagnosis of asthma.[31]

In 2008, the state of Texas had a risk-adjusted admission rate of 72.5 per 100,000 cases.[32] 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' astham admission rates are shown in the table below.

[28] Dallas Fort Worth Hospital Council Foundation, Information and Quality Services Data Warehouse. March 2011. [29] Dallas Fort Worth Hospital Council Foundation, Information and Quality Services Data Warehouse. March 2011. [30] Asthma Coalition of Texas. Texas Asthma Plan. 2007-2010.
[31] Asthma Coalition of Texas. 2012.
[32] AHRQ Prevention Indicators. Adult Asthma Admission Rate. 2008

AHRQ Prevention Quality Indicators
Adult Asthma Admission Rate - 2008



Named counties without shading have a Risk Adjusted rate of zero.

Risk Adjusted Rates per 100,000 Population

- 1 to 41.5
- 41.5 to 48.5
- 48.5 to 76.0
- 76.0 to 92.2
- > 92.2
- DI Hospitals

15 Adult Asthma Admission Rate

Asthma is one of the most common reasons for hospital admission and emergency room care. Most cases of asthma can be managed with proper ongoing therapy on an outpatient basis. Most published studies combine admission rates for children and adults; therefore, areas may wish to examine this indicator together with pediatric asthma.

2008				Per 100,000 cases		
county	Observed	Numerator (Outcomes)	Denominator (Population)	Risk Adjusted Rate	Confidence Interval	Stat. Sig
Texas	84.7	15,718	18,560,901	72.5	(71, 73.9)	O
BOSQUE	41.2	6	14,580	30.1	(0, 77.2)	O
CAMP	191.8	18	9,386	105.8	(54.8, 156.8)	O
COLLIN	61.8	324	524,278	90.9	(79.7, 102)	-
COMANCHE	201.0	22	10,947	105.0	(59, 150.9)	O
COOKE	86.6	26	30,030	76.1	(40.1, 112.1)	O
DALLAS	103.2	1,785	1,729,044	89.1	(84.4, 93.8)	-
DELTA	89.4	4	4,472	70.1	(0, 168.2)	O
DENTON	94.4	416	440,803	137.2	(125.1, 149.3)	-
EASTLAND	88.0	13	14,759	46.7	(6.8, 86.6)	O
ELLIS	71.3	75	105,148	86.6	(64, 109.2)	O
ERATH	73.2	20	27,307	70.0	(30.6, 109.4)	O
FANNIN	88.8	24	27,025	79.5	(41.2, 117.9)	O
FRANKLIN	107.1	9	8,401	80.5	(17.6, 143.5)	O
GRAYSON	109.5	102	93,065	95.4	(75.1, 115.8)	-
HENDERSON	105.9	68	64,198	82.7	(59.5, 106)	O
HILL	114.0	32	28,081	91.1	(55.6, 126.6)	O
HOOD	92.3	37	40,068	92.3	(59, 125.5)	O
HOPKINS	15.3	4	26,199	12.0	(0, 48.4)	+
HUNT	134.9	88	65,251	110.4	(86.8, 134)	-
JACK	13.3	1	7,517	14.6	(0, 95.1)	O
JOHNSON	156.6	179	114,276	176.1	(155.2, 197)	-
KAUFMAN	118.1	84	71,115	134.4	(107.8, 161)	-
LAMAR	85.1	33	38,769	46.1	(21.2, 70.9)	+
MONTAGUE	62.9	10	15,908	46.1	(0.9, 91.3)	O
MORRIS	144.3	15	10,398	109.3	(52.5, 166)	O
NAVARRO	89.4	34	38,032	74.2	(43.1, 105.3)	O
PALO PINTO	92.1	20	21,712	72.8	(32.7, 113)	O
PARKER	64.4	54	83,886	71.8	(47.5, 96.1)	O
RAINS	73.6	7	9,507	57.3	(0, 117.5)	O
ROCKWALL	51.1	27	52,789	70.5	(36.5, 104.5)	O
TARRANT	83.7	1,042	1,244,658	94.7	(88.3, 101)	-
TITUS	50.5	11	21,764	41.6	(0.7, 82.5)	O
VAN ZANDT	68.9	29	42,097	58.6	(28.7, 88.5)	O
WISE	77.6	35	45,104	91.8	(57.7, 125.9)	O
WOOD	63.6	22	34,584	48.5	(17.3, 79.8)	O
YOUNG	7.0	1	14,276	5.3	(0, 53.6)	O

Texas Hospital Inpatient Discharge Public Use Date File, FY2006. 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

O = No statistical difference

<u>Diabetes</u>

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.[33] 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.

[33] 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.[34]

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

[34] 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.[35]

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 5th top condition for those who are insured.

Figure 14: Adult Inpatient Emergency Department Encounters (2010Q3 - 2011Q3)[36]

Highest Volume	1	2	3	4	5
All	Stroke	Congestive Heart Failure	Weak/Failing Kidneys	Chronic Bronchitis	Diabetes
Insured	Stroke	Weak/Failing Kidneys	Congestive Heart Failure	Heart Attack	Diabetes
Medicaid	Diabetes	Congestive Heart Failure	Weak/Failing Kidneys	Stroke	Chronic Bronchitis
Medicare	Congestive Heart Failure	Stroke	Weak/Failing Kidneys	Chronic Bronchitis	Heart Attack
Uninsured	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)[37]

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

[35] DFWHC Foundation, Information and Quality Services Data Warehouse, 2011.
[36] Ibid.
[37] 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.[38] 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	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	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 50th 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.

[38] 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 %
Age Group				
All children 0–17	64.3	57.6	67.6	61.6
Age (years)				
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
Socioeconomic status				
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
Race/ethnicity				
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[39] 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.[40] In 2006, Texas had 36.0 dentists per 100,000 and it has been declining since.

[39] National Institute of Health. National Institute of Dental and Craniofacial Research. "Oral Health in America: A Report of the Surgeon General. 2000.

[40] 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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Appendix B

Regional Healthcare Partnership Region 18 Community Needs Assessment

Section III. Community Needs Assessment

This section of the RHP-18 Plan provides information prescribed by HHSC. All data sources are identified.

Geographic, Socio-Demographic and Economic Characteristics

The Regional Healthcare Partnership 18 (RHP-18) consists of three counties (Collin, Grayson and Rockwall) in North Texas, geographically located directly north of Dallas County. In the southern borders of Collin County metropolitan areas overlap with Dallas County. The overlap of city limits across county lines is an important consideration for the RHP-18 plan.

According to the U.S. Census Bureau, there are an estimated 1,014,935 residents in RHP-18, approximately 172,879 (17%) of whom are estimated to be uninsured. The Texas Department of State Health Services (DSHS) Medicaid website reports that in 2012, 64,288 (6.3%) individuals in RHP-18 were enrolled in Medicaid, reflecting increases over 2011, of 10% in Collin, 3% in Grayson, and 2% in Rockwall.

Collin and Rockwall counties are included in the Dallas-Fort Worth-Arlington Standard Metropolitan Statistical Area (SMSA) as defined by the U.S. Census Bureau. Grayson County is part of the Sherman-Denison SMSA. While none of these counties is classified as rural or small, large contiguous areas of each county are considered remote when considering access to health care. The urban population density in Collin County is 2,754 persons per square mile compared to Dallas' 3,401. Regarding rural populations, in Grayson County, 43% of the population lives in rural areas as defined by the U.S. Census Bureau, in Rockwall 16%, and in Collin, 5%. In Grayson County, the rural population density is 58 compared to Collin's 71, and Rockwall's 141. As a comparison, Dallas County's rural density is about 90.

Healthcare providers have historically been located close to the urban sectors of RHP-18, particularly in Collin County where eight acute care hospitals are located along the Southern-most border.

Health Status

Table 2 displays 18 indicators for the three counties in RHP-18 that we believe to be germane to this community needs assessment, with comparison data for Texas and the Nation. The sources are noted below the table.

While these high-level indicators influence the overall approach to the plan for expanding and transforming Medicaid services, data reporting existing services and their utilization, population health status and changes, are proxies for estimates of need. The qualitative analyses of these data combined with the perspectives of the county government, the citizens, and the healthcare providers enable us to pinpoint specific issues/needs that have been subsequently addressed by the performing providers as parties to this plan. Thus this RHP-18 plan relied both on high level and local assessments to establish and guide the projects, milestones, metrics and outcomes selected for the proposed 2011-16, Delivery System Reform Incentive Payment (DSRIP) projects.

Each county in RHP-18 has distinguishing characteristics and some features in common. As shown in Table 1, these communities have relatively healthy economies, and the communities are predominantly comprised of White Non-Hispanic residents. The culture is continuously changing, however, and some demographic features indicate important areas for attention. A distinguishing feature of Collin County for example, is the presence of a large Asian population compared to the rest of Texas and the sizeable

proportion of individuals who speak a language other than English at home.
Increases in non-farm employment, retail sales, median and per capita income indicate economic growth in Collin and Rockwall counties. Grayson County appears to have strong economic indicators, but faces a growing elderly population, decreased employment, and limited access to primary medical care.

Table 1. RHP 18 County and State Indicators

	COLLIN	GRAYSON	ROCKWALL	TEXAS
Land area in square miles, 2010	841	933	127	261,231.71
Persons per square mile, 2010	930	130	617	96
Population, 2011 estimate	812,226	121,419	81,290	25,674,681
Population change 4/1/10 - 7/1/11	4%	0.4%	4%	2%
Proportion of population enrolled in Medicaid	5%	13%	6%	13%
Persons under 18 years, percent, 2011	28%	24%	29%	27%
Persons under 18 enrolled in Medicaid	11%	28%	12%	32%
Persons 65 years and over, percent, 2011	8%	16%	10%	11%
Female persons, percent, 2011	51%	51%	51%	50%
Persons below poverty level, percent (2)	7%	14%	6%	17%
Percent population uninsured (ages 0 - 64)	17%	25%	19%	26%
Black	9%	6%	6%	12%
White	76%	89%	89%	81%
White non-Hispanic	62%	78%	73%	45%
Hispanic or Latino	15%	12%	17%	38%
Asian	12%	1%	3%	4%
Other racial ethnic groups	1.0%	2.0%	1.0%	1.0%
Foreign Born (2)	17%	6%	9%	16%
Over age 5: speak other language at home (2)	25%	10%	15%	34%
High school graduates over age 25 (2)	93%	85%	91%	80%
Bachelor's degree or higher over age 25 (2)	48%	19%	36%	26%
Veterans (2)	42,078	10,176	5,425	1,635,367
Housing units (3)	300,960	53,727	27,939	9,977,436
Households (2)	268,042	45,545	24,790	8,539,206
Per capita money in previous 12 months (2)	$37,362	$23,242	$33,274	$24,870
Median household income (2)	$80,504	$46,875	$78,032	$49,646
Private nonfarm employment change 2000-09	56%	-4%	74%	11%
Retail sales per capita, 2007	$16,850	$13,493	$12,797	$13,061

(1) 2011 estimates

(2) Averages for five years 2006-10

(3) for 2010

Table 2 displays key health indicators for each RHP-18 county. These data were obtained for each county at: http://www.countyhealthrankings.org/#app/texas/2012/measures/factors/9/map. Of particular note in this table are the rates of low birth weight infants that are only slightly lower than the average for all Texas counties, and higher than the national average. Also of note, RHP-18 counties overall have lower proportions of uninsured residents than the State as a whole but higher than the national estimates.

Table 2. Health Outcomes and Health Facts (1)

	Texas	Collin	Grayson	Rockwall	National
Health Outcomes		**1**	**125**	**3**	
MORTALITY RANKING		**2**	**138**	**3**	
Premature death	7,186	4,038	8,901	4,584	5,466
MORBIDITY RANKING		**14**	**121**	**8**	
Poor or fair health	19%	11%	19%	6%	10%
Poor physical health days	3.6	2.7	3.7	2.9	2.6
Poor mental health days	3.3	2.5	5.8	3.1	2.3
Low birthweight	8.20%	7.60%	7.40%	7.00%	6%
Health Factors		**2**	**54**	**4**	
HEALTH BEHAVIORS RANKING		**1**	**52**	**5**	
Adult smoking	19%	11%	24%	8%	14%
Adult obesity	29%	25%	27%	27%	25%
Physical inactivity	25%	22%	27%	27%	21%
Excessive drinking	16%	13%	11%	missing	8%
Motor vehicle crash death rate	17	9	25	11	12
Teen birth rate	63	24	63	26	22
CLINICAL CARE RANKING		**2**	**45**	**17**	
Uninsured	26%	17%	25%	19%	11%
Primary care physicians	1,050:1	681:1	1,305:1	1,080:1	631:1
Preventable hospital stays	73	66	73	82	49
Diabetic screening	81%	85%	83%	85%	89%
SOCIAL AND ECONOMIC RANKING		**3**	**81**	**5**	
Unemployment	8.20%	7.50%	8.40%	7.60%	5.40%
Children in poverty	26%	10%	21%	9%	13%
Children in single-parent households	32%	18%	33%	20%	20%

(2) University of Wisconsin Population Health Institute. County Health Rankings 2012. Accessible at www.countyhealthrankings.org.

Diabetic screening is the percent of Medicaid patients with diabetes who receive recommended annual screening

Rates of chronic disease vary slightly by source. The sources we used indicate that prevalence rates in RHP-18 for targeted conditions in this plan are equal to or lower than the State of Texas (%) for Asthma (8.2%), Diabetes (9.7%), overweight/obesity (66.7%), and Cardiovascular Disease (8.2%). More than a quarter of pregnant women in each county (28% in Collin, 42% in Grayson, and 31% in Rockwall) do not receive prenatal care within the first trimester. Higher proportions of White, compared to Black and Hispanic women, receive early prenatal care.

None of these counties has a public hospital. Local hospitals, public health departments, and publically funded clinics are the staples of the healthcare system in RHP-18. Table 3 displays total numbers from http://www.healthindicators.gov/ the Health Indicators Warehouse website, for hospital and personnel resources in RHP-18. Regarding public health departments, Collin and Grayson counties have full service public health departments. Rockwall County, however, has a different structure inasmuch as this county utilizes a city office of code enforcement and cooperates with the Dallas County Health Department for other public health related functions.

While none of these counties is a Health Professions Shortage Area or a Medically Underserved Area according to Federal criteria, there are pockets of severely limited access to primary and preventive care leading to potentially preventable hospital admissions (PPAs).

There are currently two Federally Qualified Health Clinics in RHP-18. Although it is difficult to pinpoint precisely how many primary care physicians are available per/1,000 residents, and even more difficult to document the number of physicians who accept Medicaid or uninsured persons (if any), the below table reflects the best available data from the CDC, DSHS, and other few national websites that count healthcare workers at the county level.

Table 3. Healthcare Resources

Hospital Resources	**Collin**	**Grayson**	**Rockwall**	**Total RHP 18**
Acute care hospitals	10	3	2	15
Psychiatric care licensed beds	0	0	0	0
Healthcare Personnel				
Direct Care Physicians	1,483	245	113	1,841
Primary Care Physicians	691	86	60	837
Physician Assistants and Nurse Practitioners	357	55	36	448
EMS Personnel Per 100,000 population	187	447	323	Not Available

http://www.dshs.state.tx.us/chs/hprc/tables/Emergency-Medical-Services-(EMS)-by-County-of-Residence---September,-2011/

Collin ranked 223 for EMS personnel
Grayson ranked 53 for EMS personnel
Rockwall ranked 105 for EMS personnel

Texas ranks 42nd with 212/100,000 physicians

Key health challenges specific to region

Potentially Preventable Hospital Admissions and ED Utilization

Tables 4, 5 and 6 present each county's data for each of the 10 conditions identified by DSHS as Potentially Preventable Hospital Admissions (PPAs) in Texas over a five year period of time (2006-10). We provide presented total admissions, average length of stay (ALOS), total charges in millions, average charge, percent of uninsured admissions, and the zip codes representing approximately half of the total admissions for that county per PPA. Some data were unavailable for Grayson and Rockwall counties (shaded).

Collin County

Table 4 on the following page provides Collin County data. The county seat in Collin County is McKinney. The median age in Collin County is 34, and 8% of residents are over age 65 (Table 1). Seven percent of Collin County residents live in poverty. In FY 2009, Collin County reported $669,300 spent for indigent health care

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In Collin County, two zip code areas (75070 and 75069) contributed the largest number of admissions for angina, bacterial pneumonia, congestive heart failure (CHF), dehydration, and hypertension. These factors may suggest that outreach to nursing homes may be important. The top three highest average charges were for pneumonia, CHF, and urinary tract infections (UTI), followed by chronic obstructive pulmonary disease (COPD), long-term diabetes problems, and asthma.

Potentially Preventable Admissions - Five Years: 2006 - 2010

Collin County

PPA	Total (Per Year)	ALOS*	Total Charges	Ave. Charge	Percent Uninsured	Combining Zip Codes 250%**
Angina	183 (37)	1.9	$ 3.4	$ 18,366	6.0%	070, 069, 098, 002, other
Asthma	1796 (359)	4.6	$ 54.8	$ 30,501	13.7%	069, 287, 075, other
Bacterial Pneumonia	5090 (1018)	5.6	$ 189.1	$ 37,157	6.5%	069,070, 002, other
Congestive Heart Failure	4950 (990)	5.4	$ 182.5	$ 36,866	5.8%	069, 070, 023, other
COPD	2505 (410)	5.4	$ 87.6	$ 34,970	5.2%	069, 002, 098, other
Dehydration	1394 (279)	3.6	$ 28.9	$ 20,760	4.4%	070, 069, 023, 002, other
Diabetes - Short Term	819 (164)	3.8	$ 22.4	$ 27,950	26.0%	287, 034, 069, 098, 023, other
Diabetes - Long Term	1639 (328)	6.6	$ 69.3	$ 42,276	11.3%	069, 098, 025, 002, other
Hypertension	1016 (203)	2.8	$ 23.1	$ 22,715	18.5%	069, 287, 070, 074, other
UTI	3643 (729)	4.4	$ 92.6	$ 25,418	7.5%	069, 075, 023, 074, 002, other

Grayson County

Table 5 provides Grayson County data. The county seat for Grayson County is Sherman, located near the Oklahoma border. The median age is 40, and 16% of the residents are over age 65 (Table 1). Fourteen percent of the population lives in poverty.

Potentially Preventable Admissions - Five Years: 2006 - 2010

Grayson County

PPA	Total (Per Year)	ALOS*	Total Charges	Ave. Charge	Percent Uninsured	Combining Zip Codes 250%**
Angina						
Asthma	519 (104)	4.1	$ 9.7	$ 18,640	13.9%	020, 090, 092
Bacterial Pneumonia	2322 (464)	5.3	$ 51.6	$ 22,229	5.1%	020, 090, 092
Congestive Heart Failure	1982 (396)	5.3	$ 44.3	$ 22,341	3.9%	020, 090, 092
COPD	1624 (325)	4.7	$ 32.6	$ 20,066	4.4%	020, 090
Dehydration	646 (129)	3.9	$ 9.5	$ 14,630	3.4%	020, 090
Diabetes - Short Term	306 (61)	3.8	$ 5.3	$ 17,242	22.5%	020, 090
Diabetes - Long Term	662 (132)	5.8	$ 16.3	$ 24,653	7.3%	090, 020
Hypertension	351 (70)	2.9	$ 4.9	$ 14,002	12.8%	020, 090, 092
UTI	1331 (266)	4.6	$ 22.2	$ 16,670	4.9%	020, 090, 092

In FY 2009, Grayson County reported $1,711,234 spent for indigent health care.In Grayson County, two zip code areas (75020 and 090) contributed the largest number of admissions. The highest charges over this five-year period were for pneumonia, CHF, and COPD, followed by UTI and asthma. These data also suggest follow up with nursing home residents may be important. No data were available for angina.

Rockwall County

Table 6 provides data for Rockwall County. The county seat for Rockwall County is Rockwall. The median age is 36, and 10% of the population is over age 65. In Rockwall County, 6.4% of the residents live in poverty (Table 1). In FY 2009, Rockwall County reported $197,026 spent for indigent health care. The greatest proportion of admissions for pneumonia, CHF, COPD, and UTI came from zip code 75087. PPAs with the highest charges were long-term complications of diabetes, pneumonia, and CHF. Data were not available for angina, asthma, or hypertension.

Rockwall County

PPA	Total (Per Year)	ALOS*	Total Charges	Ave. Charge	Percent Unins ured	Combining Zip Codes 2 50%**
Angina						
Asthma						
Bacterial Pneumonia	727 (145)	4.9	$ 19.8	$ 27,289	4.1%	087
Congestive Heart Failure	506 (101)	4.5	$ 12.8	$ 25,265	3.8%	087
COPD	403 (80)	4.2	$ 10.1	$ 25,102	0.0%	087
Dehydration	203 (40)	3.1	$ 3.3	$ 16,384	4.9%	087, 032
Diabetes - Short Term						
Diabetes - Long Term	186 (37)	5.0	$ 5.8	$ 31,631	5.4%	189
Hypertension						
UTI	406 (81)	4.0	$ 9.0	$ 22,203	4.4%	087

In every county in RHP-18, the highest proportion of uninsured potentially preventable admissions (PPAs) is diabetes for long-term problems. In Collin and Grayson, asthma and hypertension admissions include a substantial proportion of uninsured events. Of note is the presence of a co-morbid psychiatric condition in between 25% to 50% of these PPAs.

Other issues in PPAs and ED use in contiguous counties

Due to the close proximity and overlap between Collin and Dallas counties admissions to hospitals in Dallas County are of importance in planning the healthcare system. Admissions to Parkland Memorial Hospital (Parkland) for all RHP-18 counties are important, and admissions to all local RHP-18 hospitals are also critical data for planning.

Table 7 provides PPAs to hospitals located in Dallas County for Collin County residents for the past 15 months, by the total number of admissions, and the proportion of private insurance, public insurance, and uninsured events. Dallas County has a health and behavioral health care system of immense resources for Medicaid and uninsured populations, compared to RHP-18. Thus, it is an important aspect of the system when considering healthcare needs in RHP-18, in that patient flow to resources outside of RHP-18 provide an important opportunity to recognize limited or underdeveloped resources in these three counties that if expanded would reduce the burden on hospitals in Dallas particularly Parkland Memorial Hospital as the only major public hospital a large geographic area. RHP-18 also relies on private healthcare facilities in Dallas County for behavioral health emergencies.

Table 7. Collin County PPA to All Dallas County Hospitals January 2011- march 2012

Payment Source	Diabetes Short Term	Diabetes Long Term	Congestive Heart Failure	Bacterial Pneumonia	Dehydration	Hypertension	Angina (Not treated)	Adult Asthma	UTI	COPD	Totals
Totals	***126***	***83***	***168***	***252***	***72***	***48***	***6***	***33***	***164***	***91***	***1043***
Insured	71%	43%	38%	48%	58%	52%	50%	55%	38%	43%	48%
& Medicare	13%	48%	55%	47%	35%	31%	17%	30%	56%	53%	44%
Uninsured	17%	8%	8%	4%	7%	17%	33%	15%	5%	4%	8%

Tables 8 and 9 on the following pages provide information about the admissions from RHP-18 to all hospitals in these three counties and to Dallas County hospitals, combined, and admissions to Parkland Memorial Hospital. Interestingly, as shown in Table 8 and its accompanying graph, admissions were lower for Medicaid patients in 2010 compared to 2009, but higher for uninsured patients in 2010 compared to 2009. It is unclear if this is a trend or an anomaly.

In the first quarter of 2012 there were 14,035 Emergency Department (ED) visits reported for uninsured residents of RHP-18 to hospitals in RHP-18 and Dallas County hospitals combined (18.7% of all events), an increase of 15% over the previous year. Reported Medicaid and Medicare covered ED visits were 22,891, an increase of 23% over the same quarter in 2011. We also know from available data that an estimated 25% of these events are for individuals who are released without needing inpatient care. Between January 2011 and April 2012, Parkland Memorial Hospital (Parkland) discharged 577 uninsured admissions back to RHP-18, 4.3% of which were for PPAs. These individuals represent a population that will have access to expanded primary care services under the DSRIP projects proposed in this plan.

Table 8: RHP 18 Admissions to All Hospitals

Medicaid 2008	Medicaid 2009	Medicaid 2010	Uninsured 2008	Uninsured 2009	Uninsured 2010
6,085	8,643	7,408	4,537	5,022	5,100
2,677	2,791	3,020	1,050	1,170	1,239
668	839	785	468	421	451
9,430	12,273	11,213	6,055	6,613	6,790

As shown in Table 9 and its accompanying graph above, RHP-18 admissions to Parkland Memorial have decreased in the total number of uninsured events. This may be a function of patient transfers among hospitals in the general metropolitan area or increasing enrollment in Medicaid

Data in tables 7, 8 and 9 were obtained by request, from the Dallas-Fort Worth Hospital Council Foundation.

The needs in RHP-18 regarding PPAs and ED visits are at the heart of our plan to expand primary care access and implement innovative community interventions.

Graph Table 8: RHP 18 Admissions to all hospitals serving these counties 2008 - 10

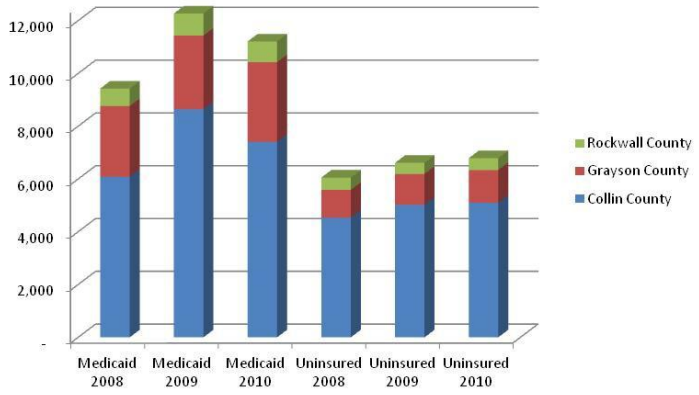
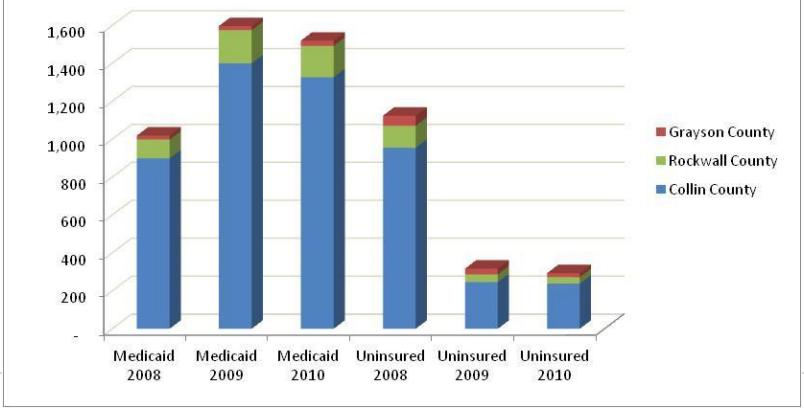


Table 9. RHP 18 Admissions To Parkland Hospital 2008-10

Medicaid 2008	Medicaid 2009	Medicaid 2010	Uninsured 2008	Uninsured 2009	Uninsured 2010
899	1,400	1,327	955	246	238
99	175	165	116	41	34
21	22	28	53	30	21
1,019	1,597	1,520	1,124	317	293

Graph Table 9: Parkland Hospital Admissions from RHP 18



Children's Health

Compared to 2009, the number of children of Hispanic ethnicity is on the rise in Collin and Grayson counties and on the decline in Rockwall. In addition, there are increases in the number of Black children in all three counties. The Black population nearly doubled in Collin, and there were decreasing numbers of White non-Hispanic children in Collin and Rockwall counties. The infant mortality rate was 5.2 per 1,000 in Collin, 5.7 in Grayson, and 3.0 in Rockwall.

In Collin County, an estimated 26,798 children are uninsured, 8,039 of whom live in households earning 200% or less of the Federal Poverty Level (FPL). Grayson and Rockwall counties have 5,380 (1,264 :: 200% FPL) and 3,514 (1,118 :S 200% FPL) in that status, respectively. In 2011, rates of confirmed victims of child abuse per 1,000 were 5.4 in Collin, 10.2 in Grayson, and 3.3 in Rockwall counties.

Of the 14,035 reported uninsured ED events for RHP-18, 14.7% were for children under age 15. PPAs for children tend to involve asthma or respiratory illnesses and accidents. National statistics suggest that 1 out of 7 pre-school age children in low-income families is obese, and 17% of children age 2 to 19. White Hispanic boys, and Black, non-Hispanic girls are at higher risk for obesity than other race and ethnic groups.

Statistics for 2008 reflect that in Collin County, ~8% of all births were considered low birth weight babies, in Grayson County, 7%, and in Rockwall County 8.2%. Race, ethnicity, poverty, chronic diseases, health problems, and low birth weight babies are all factors associated with the need for expanded access to primary care for children.

A generally accepted national risk estimate for youth needing mental health and chemical dependency treatment is 9%. Youth are typically underserved because they do not come to the attention of schools or families without a precipitating event usually violent. Many youth enter the public mental health system though the juvenile justice system. Family courts need more resources for referrals for troubled youth and families ordered for evaluation and possible counseling to avoid the child being removed from the home and placed in supervised living or foster care

Behavioral Health

The greatest three needs in behavioral health (mental health and chemical dependency) are increased access to care, targeted resources to prevent relapse/re-hospitalization/higher cost care, and expanded diversity of evidence-based services such as jail diversion/mental health courts, peer-counseling, and integrated physical/behavioral care. Crisis response systems are limited, and access to public inpatient care is primarily on an emergency basis primarily utilizing local law enforcement and Dallas County based programs for homeless and crisis services. Estimates are that over half of the persons in community based behavioral healthcare programs are uninsured.

Collin and Rockwall counties participate in the NorthSTAR Behavioral Health System operated by Value Options, a private for-profit insurance corporation (3,793 persons received services in the third quarter of 2012). LifePath Systems serves Collin County, and Rockwall County residents are served by Lakes Regional MHMR Center that also serves fourteen other counties in North Texas. Individuals who need behavioral health services in the NorthSTAR area must meet the same clinical criteria used statewide but must also document stricter financial eligibility to gain access to care.

Under the principle of open access, Collin and Rockwall County residents have equal access to care

throughout the geopolitical area covered by NorthSTAR. Collin and Rockwall County residents, particularly those in proximity to Dallas, can acquire behavioral health services anywhere in the seven counties by choice or as a consequence of insufficient locally available services. According to the DSHS "NorthSTAR Data Book: Summary Information on County Trends, FY06-FY11", the NorthSTAR system spends less than one-half of the per client amount spent in the rest of Texas. NorthSTAR's open access also has had an unintended consequence of certain services, such as jail diversion, veterans' services, mobile crisis, supported housing, and after hours clinics being centralized in Dallas County rather than distributed more evenly in Collin and Rockwall counties.

Two major shifts in the NorthSTAR system for behavioral health occurred in 2010. Outpatient providers' contract became a flat-rate contract resulting in limited access for new mental health clients with consequent referrals of some residents to other NorthSTAR providers in Dallas. In September of 2009, Value Options eliminated Supportive Outpatient Therapy for substance abuse treatment, requiring these consumers to meet the higher level of care criteria of Intensive Outpatient Treatment to access care.

Collin County has been perceived traditionally by the NorthSTAR system as having less demand for behavioral health services than its largest contiguous county, Dallas. Collin County's behavioral health services needs however, are apparent from the direct and synthetic estimates of need and in the historical patterns of services utilization by Collin County residents documented in a published 2010 report. While the population in Collin County has grown 59% over the past 10 years, LifePath Systems has not expanded its capacity, and due to funding cuts has been forced to reduce services available by almost 50% from the baseline of 1999.

According to a study conducted by The Strategic Planning and Population Medicine Department of the Parkland Health & Hospital System, titled "Collin County Community Checkup 2008", the arrest rate for all drug offenses increased from 180.1 per 100,000 persons in 2002 to 276.1 in 2006. Substance abuse (SA) related death rates increased from 33 per 100,000 persons in 2000 to 33.6 in 2004. These statistics reflect the increasing need for qualified chemical dependency provider, and the importance of early intervention services to prevent criminal justice involvement and SA related deaths. http://www.dfwhc.org/documents/CollinCountyCommunityCheckup2008_000.pdf. Rockwall County has identified a critical need to improve jail diversion services. Family services to improve early intervention with juveniles to prevent criminal activities is also a critical need.

A large population not getting access to treatment is the working-poor not eligible for state-funded services, but unable to actually pay the full cost of behavioral health services. According to a 2012 Substance Abuse and Mental Health Services Administration (SAMHSA) approximately 20% of the population met the criteria for "Any Mental Illness" during a 12 month period, resulting in an estimated 155,685 Collin County individuals each year that should be receiving behavioral health services. http://www.samhsa.gov/data/NSDUH/2k12Findings/CBHSQDataReviewC2MentalHealth2012.htm Physical and Behavioral Health services are also often not available or available in a timely manner to individuals with Intellectual and Developmental Disabilities (DD).Individuals with DD meet with access obstacles or long waiting periods for appointments, as there are too few providers who accept Medicaid. Few providers are experienced or trained in treating DD individuals with co-morbid psychiatric disorders.

RHP 18 has an estimated 2011 population of 1,014,935 (Census quick facts). The Center for Disease Control (CDC) estimated in 2012 that 1 in 88 individuals has an autism spectrum disorder (ASD). Studies also show that somewhere between one and 3 percent of Americans have DD. Thus approximately 20,289

individuals in RHP-18 may have DD. Using the CDC estimate, 11,533 individuals would have ASD. Approximately 55% of individuals with ASD also have an IQ under 70 (~6,343 individuals). People with ASD are at much higher risk (75%) of developing mental illness than people with IDD. People with IDD are estimated to experience mental illness at a rate of 33%. (Quintero and Flick, 2010)
Lakes Regional MHMR serves Rockwall County, as part of the NorthSTAR service system. Evidence suggests that an area of need is to expand access to services to segments of the community who have heretofore had limited access to care.

Texoma Community Center serves Grayson County. Evidence suggests that an area of need is to expand access to services to segments of the community that have heretofore had limited access to care.
Projected major changes in demographics, insurance coverage, and healthcare infrastructure expected to occur during the waiver period of FFY 2012 – FFY 2016

In the next five years, RHP-18 will increase in population at a rate of approximately 5.5% per year. Growth overall in RHP-18 is expected to be 25% over the 2010 census by the year 2020. The proportion of uninsured adults and children with household incomes :: 200% of FPL is likely to increase. There is a gap (100% vs. 200%) between the poverty eligibility criteria in RHP-18 counties and other healthcare systems.

The multi-cultural demographic character of the three counties will continue to become more complex. So much about the health of a community depends on the choices its citizens make and the values upheld by its community organizations, public and private. Economic conditions that drive health consumer choices will need to change to redirect health services utilization patterns away from higher-cost emergent care systems to lower cost effective and sustaining community support systems including health education, prevention, and long-term engagement with the healthcare consumer.

Local private and public providers need to become as easy to access as the ED, if we are going to influence healthcare consumer choices. Medical home models must provide wrap-around continuity of care programs for at-risk patients with co-morbid physical and mental challenges. Local clinics and hospitals must develop community-centered partnerships with efficient targeted patient registries, referral procedures, and follow up services to effectively engage families in a wellness model versus an illness model of care.

The DSRIP projects proposed by hospitals and community services providers are directed at these types of systems changes.

The suicide rate in Grayson County is ~15/100,000 compared to 8.5 for Collin, 10 for Dallas, and 13.8 for Rockwall counties. Counties contiguous with Grayson County have suicide rates similar to those in Grayson County. Evidence points to the need for expanded services and increased rapid access to care as well as continuity of information for patients across county borders. One way to do this in more rural areas is to enhance technical capabilities through telemedicine archiving and transmitting capabilities, increasing the number of providers with more flexible policies regarding eligible populations, addressing substance abuse, and ensuring services for co-morbid medical and behavioral health conditions.

Summary
RHP-18 subscribes collectively to the principles recommended by the Population Health Institute in the annual national health outcomes and health factors report. These are that healthy communities depend on

and are derived from community members working together to assess needs and resources, focus on issues deemed by consensus to be the most important, and create effective policies and programs to favorably impact population health.

In addition to the community needs identified through national, state and local sources, RHP-18 also is attending to six of the 12 health indicators identified by the U.S. Center for Disease Control in **Healthy People 2020**. These six indicators have emerged as important areas of need in the planning process for the Texas Healthcare Transformation and Quality Improvement Program in Collin, Grayson, and Rockwall counties of Texas.

- Access to health services
- Clinical preventive services
- Injury and violence
- Maternal, Infant, and Child Health
- Nutrition, Physical Activity and Obesity
- Social Determinants of medical and behavioral health problems

Table 10 on the following page provides the list of 14 broadly defined community needs (CN) per HHSC protocol to which providers have linked DSRIP projects.

Table 10.

Identification Number	**Brief Description of Community Needs Addressed through RHP Plan**	Data Source for Identified Needs
CN.1	Primary care - adults	Request for PPA Data -DSHS Warehouse
CN.2	Primary care - children	Texas Department of State Health Services web site selected data: http://www.dshs.state.tx.us/wellness/data.shtm
CN.3	Prenatal care	Texas Department of State Health Services web site selected data: http://www.dshs.state.tx.us/wellness/data.shtm
CN.4	Urgent and Emergency care	ED data DFW Hospital Council Foundation
CN.5	Co-morbid medical and behavioral health conditions - all ages	DSHS data request; NorthSTAR Dashboard
CN.6	Health professions shortage	Federal Government Health Indicators Warehouse website
CN.7	Preventable acute care admissions	Data request to DSHS
CN.8	Diabetes	DSHS PPA Data

CN.9	Cardiovascular Disease	2009 Texas Behavioral Risk Factors Surveillance System, Center for Health Statistics, Department of State Health Services. Available online at: http://www.dshs.state.tx.us/chs/brfss/query/brfss_form.shtm.
CN.10	Elderly at home, and Nursing Home patients	Extrapolated from DSHS PPA data
CN.11	Behavioral Health - all components - all ages	DSHS data website; Previously conducted studies and needs assessments available publicly
CN.12	Other special populations at-risk	DSHS data and surveillance reports
CN.13	Communicable Disease	Center for Disease Control
CN.14	Obesity and its co-morbid risk factors	http://www.window.state.tx.us/specialrpt/obesitycost/epidemic.php