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
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EXECUTIVE SUMMARY

Background

Baylor Institute for Rehabilitation-Frisco (Hospital) is a hospital owned and operated through a partnership that is controlled by Baylor University Medical Center (BUMC), an affiliate of Baylor Health Care System (BHCS). BUMC has partnered with Select Medical Corporation to operate the Hospital to bring quality health care services to the Hospital’s community and to further BUMC’s and BHCS’s charitable purpose and mission.

Baylor Institute for Rehabilitation (BIR) - Frisco operates 44-beds in Collin County, Texas. BIR-Frisco is dedicated to the care and treatment of persons with brain injury, stroke, spinal cord injury, amputation, neurological disorders, orthopedic conditions and general rehabilitation needs. BIR-Frisco patients benefit from the experience and expertise of a team of rehabilitation professionals who share one goal: to help each individual recover the skills, strengths and function to optimize his or her recovery. BIR-Frisco offers the comprehensive care, advanced treatment and leading-edge technologies to optimally address each patient's complex medical, physical, emotional and vocational challenges. BIR-Frisco also provides the necessary training and education to support patients and their families' transition to life ahead.

As a specialized rehabilitation hospital, BIR-Frisco administration wants to ensure the current service mix and future service development fulfill identified gaps in care and treatment. In addition, BHCS leadership wants to ensure that System resources and expertise are deployed to support the specialized charter of BIR-Frisco and optimally meet the health needs of all community residents.

This Community Health Needs Assessment (CHNA) synthesizes a wide range of community health information, including other needs assessments. The goal is to ensure that BIR-Frisco’s strategies support a healthier community and complement existing services available to areas residents.

County Health Rankings and Roadmaps

According to the County Health Rankings and Roadmaps, Collin and Denton counties are among the healthiest in Texas.

- Collin County was ranked second out of 232 Texas counties for both Health Outcomes (including mortality and morbidity indicators) and Health Factors (including health care access, health prevention and health risk indicators).
- Denton County was ranked third out of 232 Texas counties for Health Outcomes, and tenth for Health Factors.
- Both counties, however, received lower rating for physical environment (including air quality, recreation facilities, healthy food, fast food outlets), with Collin rated 72 and Denton rated 100 out of 232.

Identified Needs

The FY 2013 CHNA brings together information from a variety of sources. This report was developed with input from people representing the broad interests of the community and people with special knowledge or expertise in public health.
In 2012 Regional Health Partnerships (RHP) conducted community needs assessments (CNA) to develop plans for the Texas Medicaid 1115 waiver. RHP 9 includes Denton County and RHP 18 includes Collin County. These CNAs, which outline needs and priorities for their respective regions, were a result of collaborative processes with BHCS staff and leadership integrally involved.

These RHP CNAs provide the foundation for BIR-Frisco’s Community Health Needs Assessment (CHNA). In addition, United Way of Denton County conducted a Health Assets/Assessment in 2011, and the results also shaped this plan.

The identified community health needs were reviewed and prioritized with input from BIR-Frisco management and BHCS Senior Leadership. In prioritizing the needs of the community BHCS adopted the methodology established in the collaborated CNAs used for this assessment. Priority was assigned as follows:

- Needs identified as Top Priorities in each of the collaborated CNAs are assigned High Priority for BHCS.
- Needs identified as Top Priorities in more than one of the collaborated CNAs are assigned Medium Priority for BHCS.
- Needs identified as Top Priorities in only one of the collaborated CNAs are assigned Low Priority for BHCS.

The list below prioritizes the identified needs.

**High Priority**
A. Primary Care Access Adults  
B. Behavioral Health

**Medium Priority**
A. Preventive Health Screenings  
B. Dental Care

**Low Priority**
A. Multiple Chronic Conditions  
B. Emergency and Urgent Care  
C. Preventable Acute Care Admissions  
D. Healthcare Infrastructure  
E. Patient Safety/Hospital Acquired Conditions  
F. Prenatal Care  
G. Elderly at Home and Nursing Home Patients

This CHNA presents information about all of these needs, emphasizing those that the Hospital can most significantly impact.
1. **High Priority Needs**

A. **Primary Care Access Adults**

Access to primary care is a need in both Collin and Denton counties.
- Both counties have a shortage of primary care practitioners.
- All of Denton County has been designated a Medically Underserved Area (MUA) and eight MUAs exist in Collin County.
- Health insurance affects access to health care. Seventeen percent of Denton County residents are uninsured as are 18% of Collin County residents. While this is below the Texas average of 26%, it is higher than the U.S average of 11%.

B. **Behavioral Health**

Behavioral health, which encompasses both mental health and substance abuse, accounts for substantial volume and costs for the regional healthcare system. Services are often utilized at capacity, resulting in substantial unmet needs in the population.

The RHP 9 CNA states, “Behavioral health comprises a significant component of the health needs of RHP 9.” The CNA further states that over the past decade, the behavioral health system has significantly expanded access to care. This high level of access has resulted in funding and infrastructure challenges with funding per person served in RHP 9 among the lowest in the nation.

People with co-occurring behavioral health and medical illnesses incur the highest medical treatment costs. In RHP 9, the presence of a co-occurring behavioral health condition is associated with increased severity of medical encounters, a 36% increase in average charges per encounter, and in many cases reduced compliance with prescribed medical care regimens.

The RHP 9 CNA also reported a strong relationship between inpatient readmissions within 30 days of discharge and behavioral health disorders. This reiterated the need for behavioral health assessment and treatment to support compliance with medical regimens.

2. **Medium Priority Needs**

A. **Preventive Health Screenings**

Taken together, community prevention and clinical prevention can reduce morbidity and mortality and improve community health. These are Medium Priority Needs in Collin and Denton counties.
- Community prevention supports activities to reduce health risk factors including proper nutrition, maintaining ideal weight and participating in adequate physical activity.
- Clinical prevention focuses on accessing preventive screenings and tests for early identification and treatment of diseases.

Collin County has achieved the national benchmark in adult obesity, but Denton County has not. Denton County can improve in this area. Both counties can target improvements to achieve the national benchmarks for:
- Physical (in)activity,
• Excessive drinking,
• Sexually transmitted infections,
• Teen birth rate.

B. Dental Care

Both the RHP 9 CNA and the United Way of Denton County Assets/Assessment identified a need for additional dental care in the region. Preventive dental visits are below the recommended levels in Texas. These needs assessments report shortages of dentists and other dental care personnel resulting in limited dental access for minorities, the elderly, children on Medicaid, and other low income residents.

3. Low Priority Needs

A. Multiple Chronic Conditions

RHP 9 CNA reports that similar to national trends, North Texas is experiencing increasing rates of many chronic diseases, including heart disease, cancer, stroke, asthma and diabetes.

In an assessment of emergency department 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 joints, sinusitis, and hay fever.

B. Emergency and Urgent Care

The shortage of physicians, results in residents seeking primary care and non-emergent treatment in emergency departments (ED). The RHP 9 CNA found EDs are treating high volumes of patients with preventable conditions, or conditions that are suitable to be addressed in a primary care setting. This increases healthcare costs and may also result in poor continuity of care and disease management for the patient.

“All cause readmissions” are defined as a subsequent admission within 30 days from the initial inpatient encounter. The RHP 9 CNA found that North Texas hospitals have demonstrated a downward readmission trend since 2008, and reports that these providers are working to continue improvement in this area. Strategies which include patient centered medical homes, care navigators, home visits, extended patient education and other post-discharge support systems have met with positive results.

C. Preventable Acute Care Admissions

Examining injuries for Collin County, Denton County and Texas from 2004 through 2007:
• Collin County injuries increased 45% over this four year period. Unintentional falls and motor vehicle traffic related injuries were the most frequent. The former accounting for 34% of all injuries and the latter accounting for 32% of all injuries in 2007.
• Denton County total injuries increased 15% between 2004 and 2007. Unintentional falls and motor vehicle traffic related injuries accounted for two thirds of all Denton County injuries in 2007.
• In comparison, Texas injuries increased by 8% between 2004 and 2007.
D. **Healthcare Infrastructure**

Palliative care, an identified need from the Region 18 Health Plan, provides appropriate support and treatment to patients, often those with terminal illnesses. The overall goal of palliative care is to improve quality of life while ill, providing appropriate treatment and support to the patient and family.

E. **Patient Safety/Hospital Acquired Conditions**

RHP 9 CNA states that hospitals in the region address patient safety and care quality on a daily basis. Through continuous improvement initiatives regional health care providers are striving to improve patient safety and reduce hospital acquired conditions. An ongoing coordinated effort among providers will improve patient safety and quality throughout the region.

F. **Prenatal Care**

Pediatric services and prenatal care is another component of primary care access, critical to the health and wellness of the community. Issues of adequate numbers of obstetricians/ gynecologists and pediatricians and early access to prenatal care impact overall community health.

G. **Elderly at Home and Nursing Home Patients**

United Way of Denton County Health Assets/Assessment identified a growing senior population as a priority area. Additional services to meet seniors’ daily living and health care requirements will be needed in Denton County as this population segment grows.

**Next Steps**

BIR-Frisco’s Implementation Plan will be developed with input from community leaders, BIR-Frisco’s administration and BHCS leadership. The implementation plan will define strategies to address identified needs from this CHNA over the next three years.

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, these needs are organized as follows:

A. Primary Care Access--Adults  
B. Behavioral Health  
C. Preventive Health Screenings  
D. Dental Care  
E. Multiple Chronic Conditions  
F. Emergency and Urgent Care  
G. Healthcare Infrastructure  
H. Patient Safety/Hospital Acquired Conditions  
I. Pediatric Services and Prenatal Care  
J. Elderly at Home and Nursing Home Patients
1. **INTRODUCTION**

**Background**

Baylor Institute for Rehabilitation-Frisco (Hospital) is a hospital owned and operated through a partnership that is controlled by Baylor University Medical Center (BUMC), an affiliate of Baylor Health Care System (BHCS). BUMC has partnered with Select Medical Corporation to operate the Hospital to bring quality health care services to the Hospital’s community and to further BUMC’s and BHCS’s charitable purpose and mission.

Baylor Institute for Rehabilitation (BIR) - Frisco operates 44-beds in Collin County, Texas. BIR-Frisco is dedicated to the care and treatment of persons with brain injury, stroke, spinal cord injury, amputation, neurological disorders, orthopedic conditions and general rehabilitation needs.

- BHCS is a renowned regional and national health care leader, offering exemplary staff, high quality and cost effective care, a high level of patient satisfaction, and innovative services.
- SMC is one of the nation's largest providers of comprehensive rehabilitation and long term acute care. Through an affiliation with the renowned Kessler Institute for Rehabilitation, SMC provides state-of-the-art rehabilitation services to optimize patient outcomes.

Through this joint venture, BIR-Frisco brings a new level of rehabilitation treatment to Collin and Denton County residents.

BIR-Frisco patients benefit from the experience and expertise of a team of rehabilitation professionals who share one goal: to help each individual recover the skills, strengths and function to optimize his or her recovery. BIR-Frisco offers the comprehensive care, advanced treatment and leading-edge technologies to best address each patient's complex medical, physical, emotional and vocational challenges. BIR-Frisco also provides the necessary training and education to support patients’ and their families’ transition to life ahead.

As a specialized rehabilitation hospital, BIR-Frisco administration wants to ensure the current service mix and future service development fulfill identified gaps in care and treatment. In addition, BHCS leadership wants to ensure that System resources and expertise are deployed to support the specialized charter of BIR-Frisco and optimally meet the health needs of all community residents.

This Community Health Needs Assessment (CHNA) synthesizes a wide range of community health information, including other needs assessments. The goal is to ensure that BIR-Frisco’s strategies support a healthier community and complement existing services available to areas residents.

2. **METHODOLOGY**

Creating healthy communities begins with understanding the objective and subjective health needs of community residents. Objective information from secondary sources underpins the CHNA. Building on this is collaboration with community residents and partner groups to develop a high level of understanding. This CHNA brings together objective data and collaborative insight to identify community health needs.
Since BIR-Frisco is a specialized hospital, the focus is on health needs that are appropriate and realistic given the BIR-Frisco setting and community. This CHNA will serve as BIR-Frisco’s foundation for community health improvement efforts in the service area for the next three years.

**Health Status Information**

The FY2013 BIR-Frisco CHNA brings together information from a variety of sources. This report was developed with input from people representing the broad interests of the community and people with special knowledge or expertise in public health.

1. **Secondary Data**
   - Demographic data provide an overview of the residents of BIR-Frisco’s service area.
   - Information from secondary data sources that identify health indicators for the region.
   - Community Need Index (CNI) from Dignity Health.
   - *County Health Rankings and Roadmaps* provides rankings of each county in Texas through collaboration with the Robert Johnson Foundation and the University of Wisconsin Population Health Institute.

2. **Collaborative Regional Health Partnerships for the Medicaid 1115 Waiver**
   - In order to complete the requirements for the Texas Medicaid 1115 Waiver, regional health partnerships (RHP) were established.
     - These RHPs brought together health care executives, government and school officials, community-based organization leadership, local residents, and others with an interest in the health of their communities.
   - The RHPs conducted in-depth Community Health Needs Assessments (CNA) using collaborative approaches. Their goal was to identify key factors and issues to support the selection of programs and initiatives that directly address the unique health challenges of their geographic regions.
   - BHCS representatives and leadership were integrally involved with the development of the Regional Health Plans for Region 9 and Region 18.
     - Region 9 includes Dallas, Denton and Kaufman counties, with 75% of the regional population residing Dallas County. Included in that RHP were the representatives of Denton County Health and Human Services and Denton County MHMR Center, Denton County Medical Society.
     - Region 18 includes Collin, Grayson and Rockwall counties.
   - BIR-Frisco’s service area includes both Denton and Collin Counties.
     - RHP 9 and RHP 18 Community Health Needs have been reviewed and analyzed.
     - Findings relevant to Denton and Collin Counties are included in this CHNA.

3. **Other related documents and information**
   - United Way of Denton County 2011 Community Assets and Needs Assessment-Health was reviewed and findings included in this CHNA.
### Key Contributors

#### Regional Healthcare Partnership Region 9

<table>
<thead>
<tr>
<th>Baylor Health Care System</th>
<th>Parkland Health and Hospital System</th>
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<td>Children’s Medical Center</td>
<td>Texas Health Resources</td>
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<tr>
<td>Dallas County Medical Society</td>
<td>Texas Scottish Rite Hospital for Children</td>
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<tr>
<td>Dallas Fort Worth Hospital Council</td>
<td>University of Texas Southwestern Medical Center</td>
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<td>HCA North Texas</td>
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<td>Lakes Regional MHMR</td>
<td>UNT Health Sciences Center</td>
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<td>Methodist Health System</td>
<td>Weatherford Regional Medical</td>
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<td>North Texas Behavioral Authority</td>
<td>Wise Regional Health System</td>
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#### Regional Healthcare Partnership Region 18

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<td>LifePath Systems</td>
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<td>McKinney</td>
<td>Plano Children’s Medical Clinic</td>
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<td>Children’s Legacy Hospital Plano</td>
<td>Tenet Healthcare Corporation</td>
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<tr>
<td>Collin County Adult Clinic</td>
<td>Texas Department Health Services Region 2/3</td>
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<td>Collin County Health Care Services</td>
<td>Texas Health Resources</td>
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<td>Grayson County Public Health Department</td>
<td>Texoma Community Center</td>
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<tr>
<td>HCA North Texas</td>
<td>Texoma Medical Center</td>
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<td>Health Services of North Texas</td>
<td>University of Texas Southwestern Medical Center</td>
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<td>Healthcare Committee of Collin County</td>
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#### United Way of Denton County 2011 Health Assets/Assessment

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<tr>
<th>Cooks Children’s Medical Center</th>
<th>Denton Record Chronicle</th>
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<td>Denton Bible Church</td>
<td>Denton Regional Medical Center</td>
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<tr>
<td>Denton Community Health Clinic</td>
<td>Parkland Health and Hospital System</td>
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<tr>
<td>Denton County Health Department</td>
<td>Texas Health Presbyterian Hospital of Denton</td>
</tr>
<tr>
<td>Denton County MHMR</td>
<td>The Village Church</td>
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3. **COMMUNITY HEALTH NEEDS IDENTIFIED BY REGIONAL PLANS**

**Regional Health Partnership 9 Needs Assessment—Dallas, Denton and Kaufman Counties**

Analysis of the 2012 RHP 9 CNA identified the following community health needs for that region:

- **Increase capacity for primary and specialty care.** The demand for primary and specialty care services exceeds that of available medical physicians in Region 9, thus limiting healthcare access.
- **Palliative care capacity.** Costs are high in skilled nursing and long term care facilities, hospice and home health sectors. Increasing capacity will increase access to an appropriate level of care, limit inappropriate acute care utilization, and reduce health care costs.
- **Oral health capacity.** Preventive dental visits are below the recommended levels in Texas. Access can be a problem for minorities, the elderly, children on Medicaid, and other low income children. A shortage of dentists compounds the problem. Texas has approximately 60% of the national ratio of dentists to the population.
- **Chronic disease management.** Many individuals in North Texas suffer from chronic diseases that present earlier in life, are becoming more prevalent, and exhibit complications.
- **Emergency department overuse** Emergency departments are treating high volumes of patients with preventable conditions or conditions that could have been treated in a primary care setting.
- **Behavioral health design and capacity.** Either as a primary or secondary condition, behavioral health accounts for substantial volume and costs for healthcare providers. Services are often utilized at capacity.
- **Inpatient readmissions.** Thirty day readmissions are higher than desired, particularly for patients with severe chronic diseases or behavioral health disorders.
- **Patient safety/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. RHP 9 advocated an ongoing coordinated effort among providers to improve patient safety and quality throughout the region.

**Regional Health Partnership 18 Needs Assessment—Collin, Rockwall Counties**

Analysis of 2012 RHP 18 CNA identified the following community health needs for that region:

- **Access to Health Services, particularly Primary Care.** Shortages of primary care physicians in the region reduce primary care access. RHP 18 CNA stated that patients travel to Dallas County for treatment resulting in burdens on the patients, their families as well as the Dallas County facilities.
- **Pediatric Services and Prenatal Care.** This is another component of primary care access critical to the health and wellness of the community. Issues of adequate numbers of obstetricians/gynecologists and pediatricians and early access to prenatal care impact community health.
- **Clinical Preventive Services.** Access to prevention screening services resulting in early detection increases when services are available in local communities.
- **Injury and Violence.** Accidents and motor vehicle accidents are two of the ten leading causes of death in the region.
- **Nutrition, Physical Activity and Obesity.** The fight for proper nutrition and maintaining ideal weight is a priority in Region 18 and across the State and Nation.
- **Social Determinants of medical and behavioral health problems.** Behavioral health issues affect healthy living as well as compliance with medical care and treatment. Early identification of behavioral health issues with concomitant treatment improves individual health.
United Way of Denton County

Analysis of the needs outlined in the 2011 United Way of Denton County Community Health Assets and Needs Assessment includes:

- Affordable and accessible health care and dental care
- Preventive care
  - Overweight/obesity
- Services for the elderly. While the elderly are a small segment of the Denton County population, they consume many health care resources. Having appropriate and accessible services available for seniors promotes overall community health.
- Substance abuse prevention and rehabilitation. Providing the optimal substance abuse treatment continuum results in improved outcomes for residents struggling with addiction issues.
- Mental health services, including services for depression.

BIR-Frisco Service Area Needs From RHP 9, RHP 18 and Denton County United Way Needs Assessments

In prioritizing the needs of the community, BHCS adopted the methodology established in the collaborated CHNAs used for this assessment. Priority is 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.

The following presents priorities for the BIR-Frisco service area:

High Priority Needs
A. Primary Care Access Adults
B. Behavioral Health

Medium Priority Needs
A. Preventive Health Screenings
B. Dental Care

Low Priority Needs
A. Multiple Chronic Conditions
B. Emergency and Urgent Care
C. Preventable Acute Care Admissions
D. Healthcare Infrastructure
E. Patient Safety/Hospital Acquired Conditions
F. Prenatal Care
G. Elderly at Home and Nursing Home Patients
4. **BIR-FRISCO SERVICE AREA**

Baylor Health Care System (BHCS) and its affiliated hospitals serve a 12 county area in the Dallas-Ft. Worth metroplex. The healthcare services of BHCS are provided through a network of more than 300 access points. These include 30 owned/operated/ventured/affiliated hospitals, joint ventured ambulatory surgery centers, satellite outpatient locations, senior centers and more than 180 Health Texas Provider Network physician clinics.

Since BIR-Frisco is a specialty hospital, patients come from a wide geographic area, resulting in a broad service area. The service area for BIR-Frisco is defined as all of both Collin and Denton counties. The BIR-Frisco service area is depicted in purple on Map 4.1.

**Map 4.1**

BIR-Frisco Service Area
**Demographics**

Collin and Denton counties are considered suburban locations in the Dallas-Fort Worth metroplex.

- Both have higher population densities than Texas and the U.S. overall.
- Both have lower population density than Dallas County which has 2,718 persons per square mile.

**Table 4.1**

<table>
<thead>
<tr>
<th>Land Area and Population Density</th>
<th>Collin</th>
<th>Denton</th>
<th>Texas</th>
<th>U.S.</th>
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<td>Collin County, Denton County, Texas, U.S. 2010</td>
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<tr>
<td>Land Area (Sq. Miles)</td>
<td>841</td>
<td>878</td>
<td>261,231</td>
<td>3,531,905</td>
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<tr>
<td>Persons per Sq. Mile</td>
<td>930</td>
<td>754.3</td>
<td>96.3</td>
<td>87.4</td>
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*Source: State and County QuickFacts from U.S. Census Bureau*

Collin and Denton counties are rapidly growing areas.

- Between 2000 and 2010, Collin County’s population increased by 60%. From 2010 to 2012, it grew by another 6.7%.
- Denton County grew by 54% between 2000 and 2010, and 6.7% between 2010 and 2012.
- This compares to the Texas population which increased 27% between 2000 and 2010 and the U.S. population which increased by 10% during this time. From 2010 to 2012 Texas population grew 3.6% and the U.S. population expanded by 1.7%.

**Table 4.2**

<table>
<thead>
<tr>
<th>Population Overview</th>
<th>Collin</th>
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<td>Collin County, Denton County, Texas, U.S. 2011, 2012</td>
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<tr>
<td>Population (2012)</td>
<td>834,642</td>
<td>707,304</td>
<td>26,059,203</td>
<td>313,914,040</td>
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<td>Population Change (2010-2012)</td>
<td>6.7%</td>
<td>6.7%</td>
<td>3.6%</td>
<td>1.70%</td>
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<tr>
<td>Population Change (2000-2010)</td>
<td>60.4%</td>
<td>54.1%</td>
<td>21.1%</td>
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*Source: State and County QuickFacts from U.S. Census Bureau*

Collin and Denton counties are predominantly White, non-Hispanic, with percentages of White residents higher than found in Texas but similar to the U.S. overall.

- White, non-Hispanic residents range from 61.3% in Collin County to 62.1% in Denton County and 62.8% in the U.S. In Texas, White, non-Hispanic residents are 44.1% of the population.
- Black, non-Hispanic residents are 8.5% of Collin County’s population and 8.9% of Denton County’s. This compares to 11.5% of Texas residents and 12.3% of U.S. residents who are Black, non-Hispanic.
Hispanic residents are 15.3% of the Collin County population and 19.2% of the Denton County population. This compares to 38.6% of Texas residents and 17% of U.S. residents that are Hispanic.

- Collin County has a higher percentage of Asian/Pacific Islander residents, 12.2%, than found in Denton County (7%), Texas (4%) or the U.S (5%).

### Table 4.3

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Collin County</th>
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<td></td>
<td>Number%</td>
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<td>White Non-Hispanic</td>
<td>477,429 61.3%</td>
<td>470,869 62.1%</td>
<td>44.1%</td>
<td>62.8%</td>
</tr>
<tr>
<td>Black Non-Hispanic</td>
<td>65,979 8.5%</td>
<td>67,515 8.9%</td>
<td>11.5%</td>
<td>12.3%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>118,804 15.3%</td>
<td>145,389 19.2%</td>
<td>38.6%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Asian &amp; Pacific Is. Non-Hisp.</td>
<td>94,657 12.2%</td>
<td>53,620 7.1%</td>
<td>4.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>All Others</td>
<td>21,888 2.8%</td>
<td>20,611 2.7%</td>
<td>1.8%</td>
<td>2.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>778,757 100.0%</strong></td>
<td><strong>758,004 100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Source: A.C. Nielsen 2011; Truven 2012

Considering age, Collin and Denton counties have relatively young populations.

- Over 28% of Collin County residents and 27% of Denton County residents are under 18 years of age. This compares to 27% in Texas, and 24% in the U.S.
- Eight percent of Collin County residents are age 65 and older, and 7.4% of Denton County residents are in this age group. This compares to 10.5% and 13.3% of Texas and U.S. residents, respectively.
- The 65 and older population is expected to increase significantly between 2012 and 2017. Collin County is anticipating a 42.5% increase and Denton County a 49.7% increase.
- Collin and Denton counties have smaller percentages of women of child-bearing age (15 – 44 years) than found in Texas: 21.5% in Collin County and 23.7% in Denton County compared to 25.8% in Texas.
- Women of child-bearing age will increase overall by 2017, but it is projected they will be a smaller percentage of the total population, dropping to 20% in Collin County and 22% in Denton County.
Table 4.4

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Collin</th>
<th>Denton</th>
<th>Texas</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Under 18 (2011)</td>
<td>28.3%</td>
<td>27.3%</td>
<td>27.1%</td>
<td>23.7%</td>
</tr>
<tr>
<td>Population 65+ (2011)</td>
<td>8.1%</td>
<td>7.4%</td>
<td>10.5%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Women of Child-Bearing Age (15 – 44 years)</td>
<td>21.5%</td>
<td>23.7%</td>
<td>25.8%</td>
<td>na</td>
</tr>
</tbody>
</table>

Source: State and County QuickFacts from U.S. Census Bureau and A.C. Nielsen 2011; Truven 2012

Table 4.5

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Collin County</th>
<th>Denton County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 18</td>
<td>28.1%</td>
<td>14.5%</td>
</tr>
<tr>
<td>65 and over</td>
<td>9.5%</td>
<td>42.5%</td>
</tr>
<tr>
<td>Women of Child-Bearing Age (15 – 44 years)</td>
<td>20.1%</td>
<td>8.8%</td>
</tr>
</tbody>
</table>

Source: A.C. Nielsen 2012; Truven 2013

Socioeconomic Status

BIR-Frisco’s service area population is affluent.

- The 2012 median household income was $82,237 in Collin County and $69,644 in Denton County.
- This compares to $49,400 in Texas and $50,500 in the U.S.

Considering the distribution of Collin and Denton counties’ household income groups:

- Less than 5% of Collin County households and 7% of Denton County households have incomes below $15,000. This compares to 13.8% of Texas households and 13% of U.S. households.
- Another 5% of Collin County households and 6% of Denton County households have incomes between $15,000 and $25,000. This compares to 11% of both Texas and U.S. households.
Nearly 38% Collin County households and 30% of Denton County households have incomes over $100,000. This compares to 17% of Texas households and 18% of U.S. households with this income level.

Table 4.6

<table>
<thead>
<tr>
<th>Household Income</th>
<th>Collin County</th>
<th>Denton County</th>
<th>Texas</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income Range</td>
<td>Number (%)</td>
<td>Number (%)</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>&lt;$15K</td>
<td>13,021 4.7%</td>
<td>19,632 7.0%</td>
<td>13.8%</td>
<td>13.0%</td>
</tr>
<tr>
<td>$15-25K</td>
<td>13,477 4.8%</td>
<td>17,596 6.3%</td>
<td>11.3%</td>
<td>10.8%</td>
</tr>
<tr>
<td>$25-50K</td>
<td>50,231 18.0%</td>
<td>61,893 22.1%</td>
<td>27.5%</td>
<td>26.7%</td>
</tr>
<tr>
<td>$50-75K</td>
<td>51,143 18.3%</td>
<td>54,884 19.6%</td>
<td>18.8%</td>
<td>19.5%</td>
</tr>
<tr>
<td>$75-100K</td>
<td>45,158 16.2%</td>
<td>41,928 15.0%</td>
<td>11.3%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Over $100K</td>
<td>105,693 37.9%</td>
<td>83,777 30.0%</td>
<td>17.4%</td>
<td>18.2%</td>
</tr>
<tr>
<td>Total</td>
<td>278,723 100.0%</td>
<td>279,710 100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: A.C. Nielsen 2011; Truven 2012

Collin and Denton counties also have smaller percentages of residents living below the federal poverty level (FPL) compared to both Texas and the U.S.

- At 8.8%, Collin County’s 2011 percentage of residents below FPL is less than half that found in the state of Texas (18.5%). The U.S. percentage is 15.9%.
- Denton County also has a low percentage of residents below FPL, 9.7%.
- Collin and Denton counties also have low levels of unemployment. The February 2013 rates were 5.7% and 5.5%, respectively. This compares with 6.4% in Texas and 8.1% in the U.S.

Table 4.7

<table>
<thead>
<tr>
<th>Socioeconomic Factors</th>
<th>Collin</th>
<th>Denton</th>
<th>Texas</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Total Population Below FPL</td>
<td>8.8%</td>
<td>9.7%</td>
<td>18.5%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Unemployment*</td>
<td>5.7%</td>
<td>5.5%</td>
<td>6.4%</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

*Unemployment Rate as reported February 2013

Uninsured Status

Health insurance coverage provides people with the security to access preventive services and clinical care when needed. It has been documented that people without insurance will not be offered the same range of medical services as those who are insured.1

In addition, ongoing contact with physicians fosters more comprehensive health awareness that informs preventive care and illness management. The uninsured do not think about their health or medical conditions in the same comprehensive way as do the insured.2 When a medical condition occurs, they may delay treatment and/or use the emergency department instead of a lower cost, more appropriate primary care setting. Uninsured people are:

- Less likely to receive needed medical care
- More likely to have more years of potential life lost
- More likely to have poor health status

A similar percentage of Collin and Denton County residents are uninsured when compared to the U.S. This is a smaller percentage of uninsured than found throughout Texas.

- Fifteen percent of U.S. residents are uninsured, and 14.5% and 15.5% of Collin and Denton county residents are uninsured, respectively.
- Twenty three percent of Texas residents are uninsured.

Collin and Denton counties have small percentages of residents enrolled in Medicaid relative to both Texas and the U.S.

- Only 5.3% of Collin County and 6.1% of Denton County residents were enrolled in Medicaid in 2012.
- This compares to 14.1% of Texas residents and 21.6% of U.S. residents enrolled in the program.

Collin and Denton County Medicaid enrollees are under the age of 18 to a greater extent than found in Texas and the U.S.

- Nearly 78% of Collin County Medicaid recipients and 79.2% of Denton County Medicaid recipients are children and youth.
- This compares to 76% in Texas and 63.2% in the U.S.

This may reflect differing Medicaid benefits in Texas, and a smaller percentage of dual eligible3 residents in Collin and Denton counties.

---

1 Kim, McCue & Thompson, 2009
2 Becker, 2001
3 Dual eligible recipients are those receiving benefits from both Medicaid and Medicare, often reflecting a disability.
Table 4.8

<table>
<thead>
<tr>
<th>Percent Uninsured / Medicaid Enrollees</th>
<th>Collin</th>
<th>Denton</th>
<th>Texas</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Uninsured (2011)</td>
<td>14.5%</td>
<td>15.5%</td>
<td>23.0%</td>
<td>15.1%</td>
</tr>
<tr>
<td>Percent enrolled in Medicaid (2012)*</td>
<td>5.3%</td>
<td>6.1%</td>
<td>14.1%</td>
<td>21.6%</td>
</tr>
<tr>
<td>Percent under 19 in Medicaid (2012)*</td>
<td>77.9%</td>
<td>79.2%</td>
<td>75.9%</td>
<td>63.2%</td>
</tr>
</tbody>
</table>

*Most Recent U.S. data from FFY2010 reported as ‘Children enrolled in Medicaid or CHIP’

Source: U.S. Census Bureau, American Community Survey (2011), Texas Health and Human Services Commission, Centers for Medicare & Medicaid Services, The Department of Health and Human Services

**Educational Attainment**

Educational level is interrelated with health literacy. The Agency for Healthcare Research and Quality (AHRQ) has defined health literacy as the ability to obtain, process, and understand basic health information and services needed to make appropriate health care prevention and treatment decisions. Low health literacy is associated with:

- Poor management of chronic diseases,
- Poor ability to understand and adhere to medication regimes,
- Increased hospitalizations,
- Poor health outcomes.  

Collin and Denton County residents have a generally high level of education.

- Over 47% of Collin County residents and 39% of Denton County adults age 25 and older have a bachelor’s degree or greater. This compares to 25.5% of Texas residents and 28% of U.S. residents.
- Less than 8% of Collin County residents and less than 10% of Denton County residents have not achieved a high school diploma. This includes 3.5% of Collin County residents and 4% of Denton County residents who have not attended high school. This compares to 6.3% of U.S. residents and 10.2% of Texans who have not attended high school.

Collin County has a higher percentage of foreign born residents than both Texas and the U.S. Collin County’s percentage of foreign born residents is 17.2%. This compares to 13% of Texas residents and 16.4% of U.S. residents. Denton County has 14.3% of residents who are foreign born.

English fluency as reflected in the language spoken at home affects health communication.

- Nearly a quarter of Collin County residents and 22% of Denton County residents speak a language other than English at home.
- Nearly 35% of Texans speak a language other than English at home, and 21% of U.S. residents do so.

Table 4.9

<table>
<thead>
<tr>
<th>Educational Attainment--Adults Age 25+</th>
<th>Collin County</th>
<th>Denton County</th>
<th>Texas</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Less than High School</td>
<td>17,591</td>
<td>3.5%</td>
<td>19,369</td>
<td>4.0%</td>
</tr>
<tr>
<td>Some High School</td>
<td>19,602</td>
<td>3.9%</td>
<td>26,633</td>
<td>5.5%</td>
</tr>
<tr>
<td>High School Degree</td>
<td>81,230</td>
<td>16.3%</td>
<td>95,627</td>
<td>19.8%</td>
</tr>
<tr>
<td>Some College/Assoc. Degree</td>
<td>145,223</td>
<td>29.1%</td>
<td>153,878</td>
<td>31.8%</td>
</tr>
<tr>
<td>Bachelor's Degree or Greater</td>
<td>235,537</td>
<td>47.2%</td>
<td>188,444</td>
<td>38.9%</td>
</tr>
<tr>
<td>Total</td>
<td>499,183</td>
<td>100.0%</td>
<td>483,951</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: A.C. Nielsen 2011; Truven 2012

Table 4.10

<table>
<thead>
<tr>
<th>Foreign Born and Speak Language other than English at Home</th>
<th>Collin</th>
<th>Denton</th>
<th>Texas</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Born</td>
<td>17.2%</td>
<td>14.3%</td>
<td>13.0%</td>
<td>16.4%</td>
</tr>
<tr>
<td>Speak Language other than English at home</td>
<td>24.2%</td>
<td>22.1%</td>
<td>34.7%</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, American Community Survey (2011)

Community Need Index

Dignity Health’s Community Need Index (CNI) provides a numerical indicator that accounts for the underlying socioeconomic and access barriers that affect population health status.

- In developing the CNI, Dignity Health identified five prominent barriers related to income, culture/language, education, insurance, and housing.

Ratings are available at a ZIP code level. The “best” score is 1.0, which indicates a ZIP code with the lowest socio-economic barriers to health. On the other end of the spectrum, 5.0 identifies a ZIP code with the greatest socio-economic barriers to health.

- A comparison of CNI scores to hospital utilization shows a strong correlation between high need and high use—communities with high CNI scores can be expected to have higher hospital utilization.
- A causal relationship also exists between CNI scores and preventable hospitalizations for manageable conditions—communities with high CNI scores have more hospitalizations that...
could have been avoided with improved healthy community structures and appropriate outpatient/primary care.\footnote{http://www.dignityhealth.org/Who_We_Are/Community_Health/STGSS044508. Retrieved July 3, 2012.}

BIR-Frisco’s two-county service area has a wide range of community health need. Denton County’s average CNI score is 2.8 and Collin County’s average CNI score is 2.4.

- The lowest (best) CNI scores in Collin County are 1.6 in Allen, Lucas, Frisco and McKinney, followed by 1.8 in Murphy.
- The lowest CNI scores in Denton County are Flower Mound, Highland Village and Argyle all with scores of 1.6.
- The Collin County communities with the highest (poorest) CNI scores are McKinney with 4.4, Plano with 3.8
- The Denton County communities with the highest CNI scores are three ZIP codes in Denton with scores of 4.6, 4.2 and 4.0, and Lewisville with a CNI score of 4.2

The communities with the highest CNI scores may appropriately be targeted for interventions to improve health and reduce preventable hospitalizations.
The maps below visually depict the ZIP code level CNI scores for Denton and Collin counties. The lowest/best CNI scores are blue and the highest/poorest CNI scores are red. Scores between these are varying shades of red, blue and purple.
5. **PROVIDER INVENTORY**

Given the regional nature of rehabilitation services, the map below depicts inpatient rehabilitation providers in the Dallas-Ft. Worth metroplex. This includes BIR-Frisco’s two-county service area as well as providers in Dallas and Tarrant counties.

- BIR-Frisco is located on the border of Collin and Denton counties.
- Six other rehabilitation hospitals are located in these two counties.
- In addition, two acute care hospitals have inpatient rehabilitation units, one in Collin County and one in Denton County.
- The complete list of inpatient rehabilitation providers is presented in Table 5.1.

**Map 5.1**
Table 5.1
Rehabilitation Inpatient Providers
Dallas-Ft. Worth Metroplex

<table>
<thead>
<tr>
<th>Acute Care Hospitals with Rehabilitation Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collin County</strong></td>
</tr>
<tr>
<td>Medical Center of McKinney-Wysong Campus</td>
</tr>
<tr>
<td><strong>Denton County</strong></td>
</tr>
<tr>
<td>Medical Center of Lewisville</td>
</tr>
<tr>
<td><strong>Dallas County</strong></td>
</tr>
<tr>
<td>Baylor Medical Center at Garland</td>
</tr>
<tr>
<td>Medical City Dallas Hospital</td>
</tr>
<tr>
<td>Baylor Medical Center at Irving</td>
</tr>
<tr>
<td>UT Southwestern University Hospital-St. Paul</td>
</tr>
<tr>
<td>Texas Health Presbyterian Hospital Dallas</td>
</tr>
<tr>
<td>UT Southwestern University Hospital-Zale Lipshy</td>
</tr>
<tr>
<td><strong>Tarrant County</strong></td>
</tr>
<tr>
<td>Cook Children’s Medical Center</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Baylor Institutes for Rehabilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collin County</strong></td>
</tr>
<tr>
<td>Baylor Institute for Rehabilitation at Frisco</td>
</tr>
<tr>
<td><strong>Dallas County</strong></td>
</tr>
<tr>
<td>Baylor Institute for Rehabilitation at Northwest Dallas</td>
</tr>
<tr>
<td><strong>Tarrant County</strong></td>
</tr>
<tr>
<td>Baylor Institute for Rehabilitation at Forth Worth</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rehabilitation Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collin County</strong></td>
</tr>
<tr>
<td>Twin Creeks Hospital</td>
</tr>
<tr>
<td>Plano Specialty Hospital</td>
</tr>
<tr>
<td>HealthSouth Plano Rehabilitation Hospital</td>
</tr>
<tr>
<td><strong>Denton County</strong></td>
</tr>
<tr>
<td>Accel Rehabilitation Hospital of Plano</td>
</tr>
<tr>
<td>Select Rehabilitation Hospital of Denton</td>
</tr>
<tr>
<td>Continuum Rehabilitation Hospital of North Texas, LP</td>
</tr>
<tr>
<td><strong>Dallas County</strong></td>
</tr>
<tr>
<td>Baylor Institute for Rehabilitation (on BUMC campus)</td>
</tr>
<tr>
<td>Methodist Rehabilitation Hospital</td>
</tr>
<tr>
<td>Mesquite Rehabilitation Institute</td>
</tr>
<tr>
<td>Reliant Rehabilitation Hospital North Texas</td>
</tr>
<tr>
<td>Texas Specialty Hospital at Dallas</td>
</tr>
<tr>
<td>Reliant Rehabilitation Hospital Dallas</td>
</tr>
<tr>
<td><strong>Tarrant County</strong></td>
</tr>
<tr>
<td>HealthSouth Rehabilitation Hospital of Fort Worth</td>
</tr>
<tr>
<td>Kindred Rehabilitation Hospital Arlington</td>
</tr>
<tr>
<td>HealthSouth City View Rehabilitation Hospital</td>
</tr>
<tr>
<td>Reliant Rehabilitation Hospital Mid-Cities</td>
</tr>
<tr>
<td>HealthSouth Rehabilitation Hospital of Arlington</td>
</tr>
<tr>
<td>Texas Rehabilitation Hospital of Forth Worth</td>
</tr>
</tbody>
</table>
6. **DENTON AND COLLIN COUNTIES—HEALTH INDICATORS**

**County Health Rankings and Roadmaps**

The 2013 *County Health Rankings and Roadmaps* measure the overall health of each county in all 50 states on the many factors that influence health. They compare and rank each Texas county against others in the State. *County Health Rankings* will be cited throughout the discussion of health indicators.

Since the BIR-Frisco service area includes both Denton and Collin counties, the rankings of these two counties are included in this needs assessment, comparing them against each other and against the State.

The *County Health Rankings* provide overall rankings for two dimensions:
- Health Outcomes, which include mortality and morbidity
- Health Factors, which are contributing factors to health including clinical care, health behaviors, social and economic factors and physical environment

According to the *County Health Rankings and Roadmaps*, Collin and Denton counties are among the healthiest in Texas.
- Collin County was ranked second out of 232 Texas counties for both Health Outcomes and Health Factors.
- Denton County was ranked third out of 232 Texas counties for Health Outcomes, and tenth for Health Factors.

**Health Outcomes—Mortality and Morbidity**

Both Collin and Denton counties were better than the State and the national benchmark for the mortality indicator of premature death.

While Collin and Denton counties’ outcomes were better than the State on all morbidity indicators, neither achieved the morbidity national benchmarks. Therefore, outcomes can improve in the following areas:
1. Percent of residents stating they have either fair or poor health,
2. Number of poor physical health days,
3. Number of poor mental health days,
4. Percentage of low birth weight babies.
Heart disease and cancer are the two leading causes of death in Collin and Denton counties as well as Texas. Stroke, chronic lower respiratory disease, accidents and Alzheimer’s disease follow.

- Denton County has a higher rate of death due to chronic lower respiratory disease than Collin County or Texas.
- Denton County also has a higher mortality rate due to flu and pneumonia.

Figure 6.1
Leading Causes of Death (rate/100,000)
Denton County, Collin County, Texas and U.S.
2009

Source: 2009 Health Facts Profile from TDSHS
7. HIGH PRIORITY NEEDS

A. Primary Care Access Adults

Primary Care Provider Shortage

A primary care provider shortage exists in Denton and Collin counties. This shortage was identified by Regional Health Partnership 9 and 18 CNAs, the United Way of Denton County Health Assets/Assessment and the County Health Rankings.

Access to comprehensive, quality health care services is important for the achievement of health equity and for affording a healthy life for everyone. Access to health care impacts:

- Overall physical, social, and mental health status
- Prevention of disease and disability
- Detection and treatment of health conditions
- Quality of life
- Preventable death and life expectancy

Disparities in health care access negatively impact each of these outcomes. Access is governed by a range of systemic barriers across the continuum of prevention and care. These include: location of health facilities, resident geographic location, transportation infrastructure, health literacy and awareness, and ability to pay for services. These barriers can lead to:

- Unmet health needs
- Inability to access preventive services
- Emphasis on emergency treatment instead of prevention and primary care
- Hospitalizations that could have been prevented

According to the U.S. Government Accountability Office the national supply of primary care providers per 100,000 population is 90 physicians, 28 nurse practitioners, and 8 physician assistants, for a total of 126 providers per 100K population.

- Denton County has a shortage of primary care providers, with 51.8/100K.

The Behavioral Risk Factors Surveillance System (BFRSS) conducts annual surveys of health status. The 2011 survey found that higher percentages of Denton and Collin County residents report having a personal physician than Texas overall, a need continues to exist.

- 80% of Collin County residents report having a personal physician.
- 72% of Denton County residents report having a personal physician.
- 68.4% of Texas residents report having a personal physician.
- The Healthy People 2020 goal is 84% of U.S. residents with a personal physician.
### Table 7.1

<table>
<thead>
<tr>
<th>Percent of Population Reporting a Personal Physician</th>
<th>Collin County, Denton County and Texas 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Collin</td>
</tr>
<tr>
<td>Total</td>
<td>80.1%</td>
</tr>
<tr>
<td>Male</td>
<td>71.5%</td>
</tr>
<tr>
<td>Female</td>
<td>87.2%</td>
</tr>
</tbody>
</table>

Source: Texas DSHS BRFSS 2011

Medically Undeserved Areas or Populations, or MUAs/MUPs, are defined by the federal government to include areas or populations with a shortage of personal health care services. This is the case in both Collin and Denton counties:

- Collin County has eight MUAs
- All of Denton County is designated as MUA

Many primary care physicians accept limited number of the Medicaid/Uninsured population and may have limited or no extended office hours, ultimately even further restraining the capacity of many individuals to access important primary care services. Consequently, many residents seek primary care treatment in emergency care settings resulting in increased healthcare costs and higher volumes of preventable and avoidable cases populating emergency department waiting rooms.6

**County Health Rankings—Health Factors/Clinical Care**

The County Health Rankings Health Factors-Clinical Care provides additional insight into the Collin and Denton County needs for primary care physicians.

Health Factors-Clinical Care examines health care access and clinical prevention utilization. Specific results are presented in Table 7.2.

- Collin and Denton counties have smaller percentages of uninsured residents than found in Texas, but larger percentages than found in the U.S.
- A shortage of primary care physicians exists across the United States, and this shortage is worse in Texas including Denton and Collin counties.
  - While the U.S. benchmark is one physician for every 1,067 residents, the Texas average is one for every 1,766 residents. Denton County has one primary care physician for every 1,823 residents, and Collin County has a better ratio with one for every 1,236.
- Preventable hospital stays identify patients who might have avoided hospitalization with appropriate outpatient treatment. County Health Rankings defined the indicator as “hospitalization rate for ambulatory care sensitive condition per 1,000 Medicare enrollees.”

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6 RHP 9 CNA page 8
The U.S benchmark is 47/1,000 Medicare enrollees.
- Denton County has a larger number than Texas and the U.S with 78/1,000.
- Collin County has 63/1,000 Medicare enrollees.

### Table 7.2  
**County Health Rankings**  
**Health Factors—Clinical Care**  
**Denton County, Collin County, Texas and U.S.**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Denton County</th>
<th>Collin County</th>
<th>Texas</th>
<th>National Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health Factors/Clinical Care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uninsured</td>
<td>18%</td>
<td>17%</td>
<td>26%</td>
<td>11%</td>
</tr>
<tr>
<td>Primary Care Physicians</td>
<td>1823:1</td>
<td>1236:1</td>
<td>1766:1</td>
<td>1067:1</td>
</tr>
<tr>
<td>Dentists</td>
<td>2211:1</td>
<td>1773:1</td>
<td>2200:1</td>
<td>1516:1</td>
</tr>
<tr>
<td>Preventable Hospital Stays</td>
<td>78</td>
<td>63</td>
<td>72</td>
<td>47</td>
</tr>
</tbody>
</table>

*Source: County Health Rankings and Roadmaps, 2013*

### B. Behavioral Health

Behavioral health, which encompasses both mental health and substance abuse, accounts for substantial volume and costs for the regional healthcare system. Services are often utilized at capacity, resulting in a substantial unmet need in the population.

The RHP 9 CNA states, “Behavioral health comprises a significant component of the health needs of RHP 9.” The CNA further states that over the past decade, the behavioral health system has significantly expanded access to care. This high level of access has resulted in funding and infrastructure challenges with funding per person served in RHP 9 among the lowest in the nation.

Based on behavioral health resources consumed, the following populations should be considered for targeted programs:
- Children and Youth
- Adults between the ages of 47 to 65
- Incarcerated individuals
- Homeless and marginally housed

People with co-occurring behavioral health and medical illnesses incur the highest health care costs. In RHP 9, the presence of a co-occurring behavioral health condition is associated with increased severity of medical encounters, a 36% increase in average charges per encounter, and in many cases reduced compliance with medical care regimens.

The greatest three needs in RHP 18 for behavioral health 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 service.
The United Way of Denton County Health Assets/Assessment identified need in the areas of substance abuse prevention and rehabilitation resources and mental health treatment, particularly services for depression.

8. **MEDIUM PRIORITY NEEDS**

A. **Preventive Health Screenings**

Taken together, community prevention and clinical prevention can reduce morbidity and mortality and improve community health.

- Community prevention supports activities to reduce health risk factors including proper nutrition, maintaining ideal weight and participating in adequate physical activity.
- Clinical prevention focuses on accessing preventive screenings and tests for early identification and treatment of diseases.

Although Collin and Denton counties rank relatively highly for nutrition, overweight and obesity, Regional Health Partnership 18 and the United Way of Denton County Health Assets/Assessment identify these needs for health improvement in the two county region.

According to the Centers for Disease Control and Prevention (CDC), poor diet and physical inactivity have nearly caught up with tobacco use as the second leading actual cause of death in the United States. In trying to promote healthy eating as a way to raise the health status of individuals and communities, the specter of high prices for fresh fruits and vegetables and whole grains have put that common sense, non-medical approach out of reach for many low income Americans. The reality is that it is cheaper to eat poorly.

In addition, the “Physical Activity Guidelines for Americans” is the first-ever publication of national guidelines for physical activity.

- More than 80 percent of adults do not meet the guidelines for both aerobic and muscle-strengthening activities.
- More than 80 percent of adolescents do not do enough aerobic physical activity to meet the guidelines for youth.

**County Health Rankings—Health Factors/Health Behaviors**

Collin County ranked second in the state for Health Factors and received the number one ranking for Health Behaviors. Denton County ranked tenth out of 232 for Health Factors. It was ranked 21st in the State for Health Behaviors.

- Both Collin and Denton counties were better than the State average for all Health Behaviors. These counties also had better outcomes than the national benchmarks for adult smoking and motor vehicle crash death rate.

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7 Sanchez, Weinraub, Tagtow, Collier, 2008, page 1
Collin County has achieved the national benchmark in adult obesity, but Denton County has not. Both counties can target improvements to achieve the national benchmarks for:

1. Physical (in)activity
2. Excessive drinking,
3. Sexually transmitted infections,
4. Teen birth rate.

### Table 8.1

**County Health Rankings**

**Health Factors—Health Behaviors**

**Denton County, Collin County, Texas and U.S.**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Denton County</th>
<th>Collin County</th>
<th>Texas</th>
<th>National Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Smoking</td>
<td>12%</td>
<td>12%</td>
<td>18%</td>
<td>13%</td>
</tr>
<tr>
<td>Adult Obesity</td>
<td>30%</td>
<td>25%</td>
<td>29%</td>
<td>25%</td>
</tr>
<tr>
<td>Physical Inactivity</td>
<td>24%</td>
<td>22%</td>
<td>25%</td>
<td>21%</td>
</tr>
<tr>
<td>Excessive Drinking</td>
<td>15%</td>
<td>13%</td>
<td>16%</td>
<td>7%</td>
</tr>
<tr>
<td>Motor Vehicle Crash Death Rate</td>
<td>8</td>
<td>8</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Sexually Transmitted Infect.</td>
<td>255</td>
<td>251</td>
<td>476</td>
<td>92</td>
</tr>
<tr>
<td>Teen Birth Rate</td>
<td>28</td>
<td>23</td>
<td>60</td>
<td>21</td>
</tr>
</tbody>
</table>

*Source: County Health Rankings and Roadmaps, 2013*

Denton and Collin counties rank notably lower in physical environment factors.

- Collin County ranks 76 of 232 Texas counties
- Denton County ranks 100 of 232 Texas counties.

### Table 8.2

**County Health Rankings**

**Health Factors—Physical Environment**

**Denton County, Collin County, Texas and U.S.**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Denton County</th>
<th>Collin County</th>
<th>Texas</th>
<th>National Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Fine Particulate Matter</td>
<td>10.5</td>
<td>10.7</td>
<td>10.2</td>
<td>8.8</td>
</tr>
<tr>
<td>Drinking Water Safety</td>
<td>0%</td>
<td>0%</td>
<td>6%</td>
<td>0%</td>
</tr>
<tr>
<td>Access to Recreational Facilities</td>
<td>8</td>
<td>9</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Limited Access to Healthy Foods</td>
<td>4%</td>
<td>2%</td>
<td>9%</td>
<td>1%</td>
</tr>
<tr>
<td>Fast Food Restaurant</td>
<td>53%</td>
<td>51%</td>
<td>52%</td>
<td>27%</td>
</tr>
</tbody>
</table>

*Source: County Health Rankings and Roadmaps, 2013*
Clinical prevention includes those screenings and tests for early identification of specific medical conditions.

- Although Collin and Denton counties do not achieve the national benchmark for diabetic screening and mammography screening, they have higher percentages of residents receiving these screenings than found in the State.

<table>
<thead>
<tr>
<th>Health Factors/Clinical Care</th>
<th>Denton County</th>
<th>Collin County</th>
<th>Texas</th>
<th>National Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetic Screening</td>
<td>85%</td>
<td>87%</td>
<td>82%</td>
<td>90%</td>
</tr>
<tr>
<td>Mammography Screening</td>
<td>66%</td>
<td>69%</td>
<td>61%</td>
<td>73%</td>
</tr>
</tbody>
</table>

Source: County Health Rankings and Roadmaps, 2013

B. **Dental Care**

Both RHP 9 CNA and the United Way of Denton County Assets/Assessment identified a need for additional dental care in the region. Preventive dental visits are below the recommended levels in Texas. These needs assessments report dental access can be difficult for minorities, the elderly, children on Medicaid, and other low income children.

The United Way of Denton County Assets/Assessment, reports the need for dental care, especially among uninsured adults, was identified in their community surveys and community focus groups. This assessment states, “Since data about the number of individuals that do not have access to dental care is not available, it could be assumed that individuals that do not have health insurance also lack dental insurance.”

The RHP 9 CNA identifies shortages in the supply of dentists and other dental care providers. This assessment states that effective health policies intended to expand access, improve quality, and/or contain costs must consider the supply, distribution, preparation, and utilization of the dental workforce. Texas has approximately 60% of the national ratio of dentists to the population, and RHP 9 reports a similar shortage.
9. **LOW PRIORITY NEEDS**

A. **Multiple Chronic Conditions**

RHP 9 CNA reports that similar to national trends, North Texas is experiencing increasing rates of many chronic diseases, including heart disease, cancer, stroke, asthma and diabetes.

BIR-Frisco treats patients with a wide variety of chronic diseases, but the most notable are stroke, neurological conditions such as Parkinson’s disease, and complications of diabetes. Patients often confront multiple chronic conditions, increasing the complexity of their treatment.

**Stroke**

Collin and Denton counties have lower percentages with heart disease than found in Texas, and lower percentages with stroke than found in both Texas and the U.S. They also have lower percentages for all cardiovascular disease risk factors than found in Texas. However, the percentages reveal room from improvement in all of these areas.

<table>
<thead>
<tr>
<th>Heart Disease &amp; Stroke Mortality Age-Adjusted Rate per 100K pop. Collin County, Denton County, Texas, U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Year</strong></td>
</tr>
<tr>
<td>Year</td>
</tr>
<tr>
<td>Heart Disease</td>
</tr>
<tr>
<td>Stroke</td>
</tr>
</tbody>
</table>

*Source: Cardiovascular Disease in Texas 2012, Texas Department of State Health Services; CDC Wonder Online Database, 2012*

<table>
<thead>
<tr>
<th>Stroke Prevalence Among Adults (&gt;18) Collin County, Denton County, Texas, U.S. 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>White</td>
</tr>
</tbody>
</table>

1 U.S. data from 2010 BRFSS

*Source: Texas BRFSS, 2011; Texas Department of State Health Service; U.S. Dept. of Health & Human Services BRFSS, 2010*
Table 9.3

Cardiovascular Disease and Stroke Risk Factors  
Collin County, Denton County, and Texas  
2007

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Collin</th>
<th>Denton</th>
<th>Texas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Prevalence, Adults</td>
<td>6.9%</td>
<td>7.8%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Obesity</td>
<td>15.7%</td>
<td>27.2%</td>
<td>28.6%</td>
</tr>
<tr>
<td>Current Smoker</td>
<td>12.6%</td>
<td>14.1%</td>
<td>19.3%</td>
</tr>
<tr>
<td>High Cholesterol</td>
<td>33.2%</td>
<td>31.9%</td>
<td>38.5%</td>
</tr>
<tr>
<td>High Blood Pressure</td>
<td>21.0%</td>
<td>18.6%</td>
<td>27.8%</td>
</tr>
<tr>
<td>Consumption of &lt; 5 Servings of Fruits and Vegetables Daily</td>
<td>71.3%</td>
<td>70.1%</td>
<td>74.8%</td>
</tr>
<tr>
<td>No Leisure Time Physical Activity</td>
<td>12.5%</td>
<td>17.7%</td>
<td>28.3%</td>
</tr>
</tbody>
</table>

Source: Cardiovascular Health Facts 2001-2007 Collin County; Cardiovascular Health Facts 2001-2007 City of Denton (Denton County), Texas Department of State Health Services

Stroke Rehabilitation

At BIR - Frisco, patients receive specialized and individualized medical, nursing and therapy services that support the earliest possible return home. The Stroke Rehabilitation Program integrates evidence-based treatment and advanced technologies to help patients:

- Restore function and mobility
- Improve speech and swallowing
- Enhance cognition
- Maintain bowel and bladder integrity
- Manage spasticity
- Brain Injury Rehabilitation

Diabetes

Diabetes is a risk factor for many chronic conditions including heart disease, stroke and lower limb amputations. BIR-Frisco treats patients complications related to primary and secondary diabetes diagnoses. As seen in Table IX.3, seven percent of Collin County and 8% of Denton County residents have diabetes. Although these percentages are lower than found in the general Texas population, they are above the U.S. average of 6%.  

Diabetes is the leading cause of non-traumatic lower limb amputations. The rate of lower limb amputation is eight times higher among people with diagnosed diabetes compared to those without it. However, between 1996 and 2008, the rate of leg and foot amputations among U.S. adults aged 40 and older with diagnosed diabetes declined by 65%. The age–adjusted rate of non-traumatic lower–limb amputations was 3.9/1,000 people with diagnosed diabetes in 2008 compared to 11.2/1,000 in 1996.

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9 CDC, National Diabetes Fact Sheet, 2011.  
Amputee Rehabilitation

Inpatient rehabilitation services are provided for patients with single or multi-limb loss of the upper and/or lower extremities. The care team focuses on the medical management of the amputation as well as any other coexisting conditions. Our goal is to help patients regain strength and independence in order to maintain a fulfilling life. Inpatient services can include:

- Wound care for healing of the amputation
- Pain management
- Intensive physical therapy to build strength, endurance, balance and mobility
- Intensive occupational therapy to help with activities of daily living
- Hemodialysis
- Psychological care for emotional, social and behavioral issues
- Pre-prosthetic training and exercise
- Individualized prosthetic fitting and customization with a certified prosthetist and experienced therapists trained specifically in amputation
- Patient and family education

B. Emergency and Urgent Care

The shortage of physicians, results in residents seeking primary care and non-emergent treatment in emergency departments (ED). The RHP 9 CNA found EDs are treating high volumes of patients with preventable conditions, or conditions that are suitable to be addressed in a primary care setting.

RHP 9 conducted an analysis of ED encounters that demonstrated many people are accessing EDs for primary care treatable and non-urgent conditions.

- Over the most recent four quarters of data, the highest volume ED conditions were: low back pain, hypertension, pain/joint aching, chronic bronchitis, and asthma.
- With the exception of asthma, over 68% of the encounters for these conditions were either non-emergent or emergent/primary care treatable. Thus, 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 had been received prior to or early in the illness episode.  

“All cause readmissions” are defined as a subsequent admission within 30 days from the initial inpatient encounter. CMS has begun penalizing hospitals with high Medicare readmission rates for specific diagnoses. These include congestive heart failure, acute myocardial infarction, and pneumonia. It is anticipated that additional diagnoses will be added to the program in 2014.

The RHP 9 CNA found that North Texas hospitals have demonstrated a downward readmission trend since 2008, and report that these providers are working to continue improvement in this area. Strategies which include patient centered medical homes, care navigators, home visits, extended patient education and other post-discharge support systems have met with positive results.

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The RHP 9 CNA also reported a strong relationship between readmissions and behavioral health disorders. In an anecdotal evaluation of 10 high utilizers in the region, each patient has some component of mental health or substance abuse history over the course of their encounters. This reiterated the need for behavioral health assessment and treatment to support compliance with medical regimens.

Appropriate utilization of high quality inpatient rehabilitation services, such as those found at BIR-Frisco, supports reduced acute care hospital 30 day readmissions. With 78% of BIR-Frisco patients discharged to the home setting in 2011, the treatment plan focuses on the necessary and appropriate care to support discharge to the least restrictive environment. BIR-Frisco provides patients with physical and occupational therapy, case management, education, necessary medical equipment and extensive discharge planning. BIR-Frisco’s family-centered care supports post-discharge care transition, which has been shown to reduce readmissions.

**Parkinson’s Disease and ED Usage**

A University of Florida analysis demonstrates that patients with Parkinson’s disease are 50% more likely to visit an ED than those who do not have the disease. Often, they are treated because of ancillary issues such as urinary tract infection, pneumonia, and heart failure, according to the National Parkinson Foundation.

BIR-Frisco supports the services of the BHCS Neurological Institute, offering inpatient and outpatient rehabilitation to patient with Parkinson’s disease, multiple sclerosis, Guillain-Barre Syndrome and other neurological conditions. The integrated program of care that helps to optimize:

- Strength, coordination, balance and mobility
- Medication management
- Use of assistive devices
- Functional independence

These patient outcomes should lead to appropriate primary care access and treatment and may reduce ED overuse by these patients.

**C. Preventable Acute Care Admissions**

**Injury and Violence**

Nationally, injuries and acts of violence result in significant morbidity and mortality.

- Unintentional injuries and those caused by acts of violence are among the top 15 killers for Americans of all ages.
- Injuries are the number one cause of death for Americans ages 1 to 44.
- Injuries are a leading cause of disability for all ages, regardless of sex, race/ethnicity, or socioeconomic status.\(^\text{12}\)

Beyond their immediate health consequences, injuries and violence have a significant impact on the well-being of Americans by contributing to:

- Premature death
- Disability
- Poor mental health
- High medical costs
- Lost productivity

*Healthy People 2020* asserts most events resulting in injury, disability, or death are predictable and preventable. For unintentional injuries, there is a need to better understand the trends, causes, and prevention strategies. Specifically:

- Individual behaviors—choices people make such as alcohol use or risk-taking.
- Physical environment—home and community that affect the rate of injury related to falls, fires and burns, drowning, violence.
- Social environment—individual social relationships, community, societal-level factors.\(^\text{13}\)

The tables below present injury statistics for Collin County, Denton County and Texas from 2004 through 2007.

- **Collin County** total injuries increased 44.8% and the select injuries listed increased by 46.6% over this four year period.
  - Unintentional falls and motor vehicle traffic related injuries were the most frequent, with only a small difference between the two. The former accounting for 34% of all injuries and the latter accounting for 32% of all injuries in 2007.
  - An analysis of 2007 injuries by age found that 39% of Collin County unintentional falls were to people age 55 and over, with 25% to residents age 65 and older.
  - Over a quarter (27.5%) of Collin County motor vehicle accidents were to 15 – 24 year olds, with the highest percentage among those 20 to 24 years. Other high risk age groups include 25 – 34 year with 19% of motor vehicle injuries and 35 – 44 years with 13.8% of injuries.

- **Denton County** total injuries increased 15.2% and select injuries increased by 19.5%.
  - Unintentional falls and motor vehicle traffic related injuries accounted for two-thirds of all Denton County injuries in 2007.
  - An analysis of 2007 injuries by age found that 59% of Denton County unintentional falls were to people age 55 and over, with 47% to residents age 65 and older.
  - The most frequent age groups for Denton County motor vehicle injuries were 25 to 34 years and 35 to 44 years. Combined these residents accounted for 34% of all motor vehicle and traffic injuries.

- **In Texas** total injuries increased by 7.9% and select injuries increased by 12.2%.
  - Select injuries were a smaller percentage of total injuries in comparison to Collin and Denton Counties.
  - Over 57% of unintentional falls were to Texans over 55 years of age.
  - Twenty-seven percent of motor vehicle accidents were to Texans age 15 to 24 year.

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Table 9.4
Fatal & Non-Fatal Injury Incidence
Collin County and Denton County
2004 – 2007

<table>
<thead>
<tr>
<th>Injury Cause:</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unintentional Falls</td>
<td>194</td>
<td>31</td>
<td>227</td>
<td>30.9</td>
</tr>
<tr>
<td>Motor Vehicle Traffic</td>
<td>209</td>
<td>33.4</td>
<td>244</td>
<td>33.2</td>
</tr>
<tr>
<td>Other Transport</td>
<td>72</td>
<td>11.5</td>
<td>107</td>
<td>14.6</td>
</tr>
<tr>
<td>Unintentional Struck By/Against</td>
<td>34</td>
<td>5.4</td>
<td>23</td>
<td>3.1</td>
</tr>
<tr>
<td>Unintentional Natural/Environment</td>
<td>10</td>
<td>1.6</td>
<td>12</td>
<td>1.6</td>
</tr>
<tr>
<td>Selected Injuries Total</td>
<td>519</td>
<td>82.9</td>
<td>613</td>
<td>83.4</td>
</tr>
<tr>
<td>All Injuries Total</td>
<td>626</td>
<td>100</td>
<td>735</td>
<td>100</td>
</tr>
</tbody>
</table>

Denton County

<table>
<thead>
<tr>
<th>Injury Cause:</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unintentional Falls</td>
<td>322</td>
<td>37</td>
<td>268</td>
<td>34.3</td>
</tr>
<tr>
<td>Motor Vehicle Traffic</td>
<td>259</td>
<td>29.7</td>
<td>257</td>
<td>32.9</td>
</tr>
<tr>
<td>Other Transport</td>
<td>70</td>
<td>8</td>
<td>79</td>
<td>10.1</td>
</tr>
<tr>
<td>Unintentional Struck By/Against</td>
<td>35</td>
<td>4</td>
<td>31</td>
<td>4</td>
</tr>
<tr>
<td>Unintentional Natural/Environment</td>
<td>15</td>
<td>1.7</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>Selected Injuries Total</td>
<td>701</td>
<td>80.5</td>
<td>651</td>
<td>83.2</td>
</tr>
<tr>
<td>All Injuries Total</td>
<td>871</td>
<td>100</td>
<td>782</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Environmental & Injury Epidemiology and Toxicology Unit, Texas Department of State Health Services

Table 9.5
Fatal & Non-Fatal Injury Incidence
State of Texas
2004 – 2007

<table>
<thead>
<tr>
<th>Injury Cause:</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unintentional Falls</td>
<td>33.0</td>
<td>34.6</td>
<td>35.7</td>
<td>37.5</td>
</tr>
<tr>
<td>Motor Vehicle Traffic</td>
<td>29.1</td>
<td>28.3</td>
<td>27.8</td>
<td>26.6</td>
</tr>
<tr>
<td>Other Transport</td>
<td>5.6</td>
<td>7.3</td>
<td>7.0</td>
<td>6.8</td>
</tr>
<tr>
<td>Unintentional Struck By/Against</td>
<td>4.2</td>
<td>4.2</td>
<td>4.3</td>
<td>4.1</td>
</tr>
<tr>
<td>Unintentional Natural/Environment</td>
<td>1.6</td>
<td>1.7</td>
<td>1.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Selected Injuries Total</td>
<td>73.6</td>
<td>76.1</td>
<td>76.5</td>
<td>76.5</td>
</tr>
<tr>
<td>All Injuries Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Environmental & Injury Epidemiology and Toxicology Unit, Texas Department of State Health Services
**Traumatic Brain Injury**

The CDC reports at least 1.7 million people in the U.S. suffer brain trauma each year, including 144,000 Texans. Most of the injuries occur in motor vehicle crashes, strokes, assaults, falls, gunshot wounds and sports-related incidents. In Texas, about 4,200 brain-trauma patients die, 14,230 survive after being hospitalized. The CDC reports that at least three million U.S. residents and 440,000 Texans are living with disabilities because of traumatic brain injuries.\(^{14}\) \(^{15}\)

Baylor Institute for Rehabilitation is an important rehabilitation component of the North Texas Traumatic Brain Injury Model System.

- BIR is one of only 16 facilities nationwide to be designated as a model system of care for patients with traumatic brain injuries by the National Institute on Disability and Rehabilitation Research.
- Designed to increase knowledge about the effects of traumatic brain injuries and to improve outcomes and the quality of life for patients and their families, the North Texas Traumatic Brain Injury Model System is a cooperative effort between the University of Texas Southwestern Medical Center, Baylor University Medical Center and BIR to provide advanced research.
- Patients and their families are given the opportunity to enroll in specific research projects that may improve treatment and outcomes for future TBI survivors.

BIR-Frisco strives to bring the best practices of the BHCS to the residents of Collin and Denton counties.

**D. Healthcare Infrastructure**

Palliative care, an identified need from the Region 18 Health Plan, provides appropriate support and treatment to patients, often those with terminal illnesses. The overall goal of palliative care is to improve your quality of life while ill. Palliative care:

- Provides relief from pain and other uncomfortable symptoms.
- Assists patients and families in making difficult medical decisions.
- Coordinates care between clinicians and health professionals and helps patients navigate the often-complex health care system.
- Provides emotional and spiritual support and guidance for the patient and family.

**E. Patient Safety/Hospital Acquired Conditions**

Region 9 CNA states that hospitals in the region address patient safety and care quality on a daily basis. Through continuous improvement initiatives regional health care providers are striving to improve patient safety and reduce hospital acquired conditions. An ongoing coordinated effort among providers will improve patient safety and quality throughout the region.

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F. **Prenatal Care**

RHP 18 identified the following health issues associated with Collin County children and prenatal care:

- The 2010 infant mortality rate was 5.2 per 1,000 in Collin County.
- In 2008, nearly 8% of all Collin County births were considered low birth weight.
- An estimated 26,798 Collin County children are uninsured, 8,039 of whom live in households earning 200% or less of the Federal Poverty Level (FPL).
- In 2011, rates of confirmed victims of child abuse per 1,000 were 5.4 in Collin County.
- Of the 14,035 reported uninsured ED events for the region, 14.7% were for children under age 15.

United Way of Denton County identified the following health issues associated with Denton County children and prenatal care:

- In 2010 in Denton County there were over 42,000 unduplicated Medicaid clients and 2,600 of 9,422 (27%) births were to mothers on Medicaid.
- A quarter of Denton County 2010 births were to women who received inadequate prenatal care.
- There were 134 births to women under the age of 17 in the United Way of Denton County Service Area.
- In 2009, as many as 29% of Denton County children have a body mass index that is too high.
- In 2008, thirty five percent of parents said that they are not familiar with the types of health care services that are available in the community.
- More than half of all school age children in Denton County do not have their teeth sealed and when surveyed in 2008 just over 10% had decay that needed treatment.
- 7% to 12% of children in Denton County have mental health problems including behavior problems, learning difficulties and developmental delays.
- In 2011 the Denton County Health Department reported a growing concern about suicide among children and adolescents in the County.

G. **Elderly at Home and Nursing Home Patients**

Population projections estimate that between 2012 and 2017 Collin and Denton counties’ 65 and older population will increase 42.5% and 50%, respectively. This increase was recognized in the United Way of Denton County Health Assets/Assessment which identified the growing senior population as a priority area. That needs assessment cited the following statistics on Denton County senior citizens:\(^\text{16}\)

- The number of Denton County residents age 60 or older will increase by 72% by 2020. This is nearly 60,000 additional seniors in the area.
  - Retirees are attracted to the local area by senior living communities such as Robson Ranch.
- The cost of healthcare for adults over the age of 65 is 5 times higher than for those under the age of 65. Ninety-five percent of healthcare costs are related to chronic illnesses.
- Seventy percent of older adults have limited health literacy and are at risk for being misinformed about community resources or scammed.
- Nearly two-thirds of older Texans are overweight or obese, increasing the impact of chronic illnesses.

\(^{16}\) United of Denton County cites North Central Texas Area Agency on Aging for this information.
• Nearly a quarter of older Texans report a diagnosis of depression and 13% report an anxiety or panic disorder. As many as 60% of nursing home residents have psychiatric diagnoses.
• Older adults in Denton County whose death is attributed to an accident are twice as likely to have died as a result of a fall as in a motor vehicle accident.

BIR-Frisco provides a needed service to elderly residents of the service area. In 2011, the average patient age was 71 years with 5.5% of patient under the age of 50 years.

10. **Next Steps**

BIR-Frisco’s Implementation Plan will be developed with input from community leaders, BIR-Frisco administration and BHCS leadership. The implementation plan will define strategies to address identified needs identified in this CHNA over the next three years.