



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



TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	iii
1. INTRODUCTION	1
Background.....	1
BEMCA Facility and Services.....	1
2. METHODOLOGY	2
Health Status Information.....	2
Key Contributors.....	4
3. COMMUNITY HEALTH NEEDS IDENTIFIED BY REGIONAL PLANS	5
Regional Health Partnership 9 Needs Assessment.....	5
Regional Health Partnership 18 Needs Assessment – Collin, Rockwall Counties	5
United Way of Denton County	6
Prioritization of Identified Needs	6
4. BEMCA SERVICE AREA.....	7
BEMCA Service Area Demographics.....	7
BEMCA Service Area Socioeconomic Status.....	10
Uninsured Status	11
BEMCA Service Area Educational Attainment.....	11
Community Need Index.....	12
5. PROVIDER INVENTORY.....	14
6. DENTON AND COLLIN COUNTIES—HEALTH INDICATORS.....	15
County Health Rankings and Roadmaps	15
Health Outcomes—Mortality and Morbidity	16
7. HIGH PRIORITY NEEDS	17
A. Primary Care Access Adults.....	17
B. Behavioral Health.....	20
8. MEDIUM PRIORITY NEEDS	20
A. Comorbid Medical and Behavioral Health Conditions.....	20
B. Dental Care	23

TABLE OF CONTENTS
(continued)

	<u>Page</u>
9. LOW PRIORITY NEEDS	23
A. Multiple Chronic Conditions	23
B. Emergency and Urgent Care	23
C. Preventable Acute Care Admissions	24
D. Healthcare Infrastructure	26
E. Patient Safety/Hospital Acquired Conditions	26
F. Prenatal Care	27
G. Elderly at Home and Nursing Home Patients	27
10. NEXT STEPS	28

EXECUTIVE SUMMARY

Background

Baylor Emergency Medical Center at Aubrey (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 The Woodlands-based Emerus 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.

The Hospital, located in Denton County, Texas and serving portions of Collin County, provides 24/7 emergency treatment, inpatient care and outpatient imaging services to the local community. When the joint venture was developed in May 2012, it was recognized as an opportunity to expand and develop high quality services which were needed in a growing North Texas community. The Hospital provides the highest quality care, excellent staff, operational efficiencies and a high level of patient satisfaction. All services conform to the highest standards of care and are provided in a safe, comfortable and welcoming environment.

As a specialized hospital offering emergency treatment, acute care and ancillary services, BHCS leadership and BEMCA administration want to ensure the current service mix and future service development fulfill identified gaps in care and treatment and meet priority community needs. This Community Health Needs Assessment (CHNA) synthesizes a wide range of community health information, including other needs assessments, in order to support the development of services and strategies leading to a healthier community.

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 the region, were a result of collaborative processes with BHCS staff and leadership integrally involved.

These RHP needs assessments provide the foundation for BEMCA'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 BEMCA 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 was assigned as follows:

- Needs identified as Top Priorities in 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 list below prioritizes the identified needs.

High Priority

- A. Primary Care Access Adults
- B. Behavioral Health

Medium Priority

- A. Co-morbid Medical and Behavioral health Conditions
- 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

The following presents overview information about each of these needs.

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 Needs Assessment states, “Behavioral health comprises a significant component of the health needs of RHP 9.” The Needs Assessment 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 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.

Medium Priority Needs

A. Co-Morbid Medical and Behavioral Health Conditions

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.

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:

- 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.

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 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 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 Needs Assessment 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.

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

C. Preventable Acute Care Admissions

Injuries results in 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.

Hospice care is the most frequent type of palliative care available, and is often only available in the home setting. BEMCA provides inpatient hospice treatment in collaboration with several home hospice providers.

- Inpatient hospice provides an option for patients without the necessary support for home hospice as well as those patients' families requiring respite from the daily care requirements.
- BEMCA has taken this opportunity to provide services that fulfill an identified RHP 18 need.

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*

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.

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 of their assessment. Additional services to meet seniors' daily living and health care requirements will be needed in Denton County as this population segment grows

Next Steps

BEMCA's Implementation Plan will be developed with input from community leaders, BEMCA 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. Co-Morbid Medical and Behavioral Health Conditions
- D. Dental Care
- E. Multiple Chronic Conditions
- F. Emergency and Urgent Care
- G. Preventable Acute Care Admissions
- H. Healthcare Infrastructure
- I. Patient Safety/Hospital Acquired Conditions
- J. Prenatal Care
- K. Elderly at Home and Nursing Home Patients

1. INTRODUCTION

Background

Baylor Emergency Medical Center at Aubrey (Hospital)¹ 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 The Woodlands-based Emerus 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.

The Hospital, located in Denton County, Texas and serving portions of Collin County, provides 24/7 emergency treatment, inpatient care and outpatient imaging services to the local community. When the joint venture was developed in May 2012, it was recognized as an opportunity to expand and develop high quality services which were needed in a growing North Texas community. The Hospital provides the highest quality care, excellent staff, operational efficiencies and a high level of patient satisfaction. All services conform to the highest standards of care and are provided in a safe, comfortable and welcoming environment.

As a specialized hospital offering emergency treatment, acute care and ancillary services, BHCS leadership and BEMCA administration want to ensure the current service mix and future service development fulfill identified gaps in care and treatment and meet priority community needs. This Community Health Needs Assessment (CHNA) synthesizes a wide range of community health information, including other needs assessments, in order to support the development of services and strategies leading to a healthier community.

BEMCA Facility and Services

BEMCA offers the highest quality emergency care, inpatient acute care, radiology and laboratory services to area residents.

The emergency room facility, with seven bays, was designed to provide compassionate, efficient and patient centered treatment. The complete spectrum of emergency services is available. More than 90% of emergency patients are treated and released. For patients requiring specialized treatment or procedures not available at BEMCA, such as trauma, surgery or cardiac catheterization, expert stabilization services are available prior to transfer to another facility.

The eight inpatient beds provide general medical treatment as well as hospice care. BEMCA offers superior inpatient care with private rooms and dedicated nurses. BEMCA follows the BHCS model in delivering patient centered care.

BEMCA offers inpatient hospice care for those seeking compassionate care for their end of life needs as well as respite care for those receiving the majority of their hospice care at home. BEMCA has partnered with area hospice providers to focus on meeting the physical, emotional, and spiritual needs of the individual while fostering the highest quality of life possible. A low nurse to patient ratio,

¹ Throughout the document Baylor Emergency Medical Center at Aubrey will be referred as either Hospital or BEMCA.

excellent ancillary and support services, easy access for families with open visitation are all part of the benefits that hospice patients receive at BEMCA.

BEMCA imaging services include CT, general radiology and ultrasound. These services are available for all ED, inpatients as well as outpatients in the community. BEMCA's in-house laboratory performs: EKG cardiac enzyme analysis, complete blood-cell counts, complete metabolic profiles, pregnancy tests, urinalysis, and liver panel.

BEMCA's facility has capacity to expand services to meet community needs. This community health needs assessment (CHNA) will help direct the development of those new services.

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 BEMCA is a specialized hospital, the focus is on health needs that are appropriate and realistic given the BEMCA setting and community. This health assessment will serve as BEMCA's foundation for community health improvement efforts in the service area for the next three years.

Health Status Information

The FY2013 BEMCA 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 providing an overview of the residents of BEMCA's service area.
- Information from secondary data sources that identify health indicators for the region. Much of this data is only available on a county level, but whenever possible, service area data has been collected.
- 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.
 - BEMCA's service area includes portions of 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 are included in this CHNA.

Key Contributors

Regional Healthcare Partnership Region 9

Baylor Health Care System	Parkland Health and Hospital System
Children's Medical Center	Texas Health Resources
Dallas County Medical Society	Texas Scottish Rite Hospital for Children
Dallas Fort Worth Hospital Council	University of Texas Southwestern Medical Center
HCA North Texas	UNT Health Sciences Center
Lakes Regional MHMR	Weatherford Regional Medical
Methodist Health System	Wise Regional Health System
North Texas Behavioral Authority	

Regional Healthcare Partnership Region 18

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

United Way of Denton County 2011 Health Assets/Assessment

Cooks Children's Medical Center	Denton Record Chronicle
Denton Bible Church	Denton Regional Medical Center
Denton Community Health Clinic	Parkland Health and Hospital System
Denton County Health Department	Texas Health Presbyterian Hospital of Denton
Denton County MHMR	The Village Church

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. In addition, 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 disease 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 facilities 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.**

Prioritization of Identified Needs

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 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 BEMCA service area:

High Priority Needs

- A. Primary Care Access Adults
- B. Behavioral Health

Medium Priority Needs

- A. Co-Morbid Medical and Behavioral Health Conditions
- B. Dental Care

Low Priority Needs

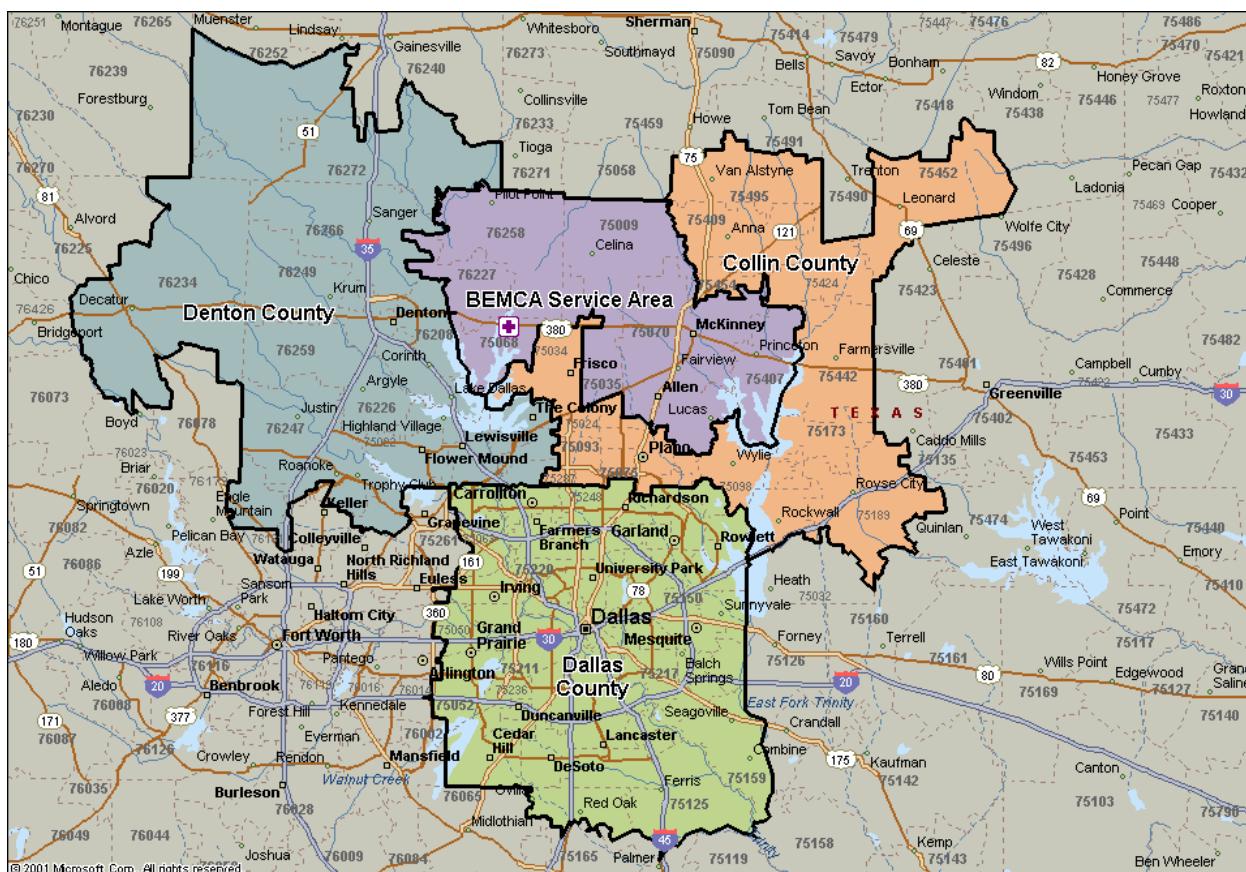
- A. Multiple Chronic Conditions
- B. Emergency and Urgent Care
- C. Preventable Acute Care Admissions
- D. Healthcare Infrastructure
- E. Patient Safety/Hospital Acquired Conditions
- F. Prenatal Care
- G. Elderly at Home and Nursing Home Patients

4. BEMCA 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.

BHCS uses the industry standard 80% rule in defining each hospital's service area. For BEMCA, which is located in Denton County, the service area spans portions of both Denton and Collin Counties, and is close to the northern areas of Dallas County. The BEMCA service area is depicted in purple on Map 4.1.

Map 4.1
BEMCA Service Area



BEMCA Service Area Demographics

BEMCA's service area, with over 400,000 residents in 2012, has grown by over 150% since 2000.

- The BEMCA service area population is projected to continue increasing to over half a million by 2017. This is a 21% increase between 2012 and 2017.
 - This 21% increase compares to a projected 4% increase for the U.S.
 - Gender is evenly divided in the service area. (Table 4.2)
 - Considering race/ethnicity, the BEMCA service area is predominantly White, non-Hispanic.

- Nearly 65% of the service area population is White, non-Hispanic. This compares to 63% of residents of the U.S. overall.
- The BEMCA service area has 9% Black, non-Hispanic residents versus 12.3% in the U.S.
- Sixteen percent of BEMCA service area residents are Hispanic compared with 17% in the U.S.
- Asian Pacific Islanders are 7.4% of BEMCA residents compared to 5% of U.S. residents.
- Considering age, the BEMCA service area population has a higher percentage of residents in the middle adult ages than found in the U.S. overall.
 - In the service area, 31.5% of residents are under the age of 25, compared to 34% of U.S. residents.
 - Only 6.1% of the service area population is age 65 and older. This compares to 13.3% in the U.S.

Table 4.1

Population and Population Increase BEMCA Service Area and U.S. 2000, 2012, 2017		
	Service Area	USA
2000 Total Population	166,336	281,421,906
2012 Total Population	416,088	313,095,504
2017 Total Population	504,753	325,256,835
% Change 2000 – 2012	150.15%	11.25%
% Change 2012 – 2017	21.30%	3.90%

Source: A.C. Nielsen 2011; Truven 2012

Table 4.2

Total Population and Population Increase by Gender BEMCA Service Area and U.S. 2012 and 2017			
	2012	2017	% Change
Total Male Population	209,405	253,560	21.1%
Total Female Population	206,683	251,193	21.5%

Source: A.C. Nielsen 2011; Truven 2012

Table 4.3

Race/Ethnicity BEMCA Service Area and U.S. 2012			
Race/Ethnicity	2012 Pop	% of Total	USA % of Total
White Non-Hispanic	268,805	64.6%	62.8%
Black Non-Hispanic	37,615	9.0%	12.3%
Hispanic	67,120	16.1%	17.0%
Asian & Pacific Is. Non-Hispanic	30,744	7.4%	5.0%
All Others	11,804	2.8%	2.9%
Total	416,088	100.00%	100.00%

Source: A.C. Nielsen 2011; Truven 2012

Table 4.4

Total Population by Age BEMCA Service Area 2012 and 2017				
Age Group	2012	% of Total	2017	% of Total
0-14	108,033	21.4%	126,527	20.9%
15-17	19,295	3.8%	25,741	4.2%
18-24	31,828	6.3%	44,271	7.3%
25-34	57,534	11.4%	56,490	9.3%
35-54	133,145	26.3%	155,796	25.7%
55-64	35,443	7.0%	50,713	8.4%
65+	30,810	6.1%	45,215	7.5%
Total	416,088	100.0%	504,753	100.0%
Females, Child Bearing Age (15-44)	89,669	17.7%	100,975	16.7%

Source: A.C. Nielsen 2011; Truven 2012

BEMCA Service Area Socioeconomic Status

BEMCA's service area population is affluent.

- The 2012 average household income was over \$102,000.
- This compares to a U.S. average household income of over \$67,000, a difference of over \$35,000.
- Considering the distribution of BEMCA service area household income groups:
 - Less than 5% of BEMC service area households have incomes below \$15,000. This compares to 13% of U.S. households.
 - Another 5% has incomes between \$15,000 and \$25,000. This compares to 11% of U.S. households.
 - Over a quarter of U.S. households have incomes in the \$25,000 to \$50,000 range, but in the BEMCA service area only 16.4% of households have this level of income.
 - More than 38% of BEMCA service area households have incomes over \$100,000. This compares to 18% of U.S. households with this income level.

Figure 4.1

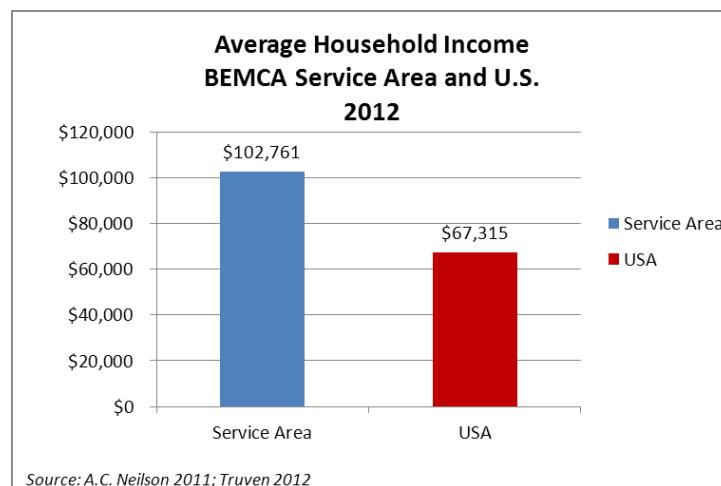


Figure 4.2

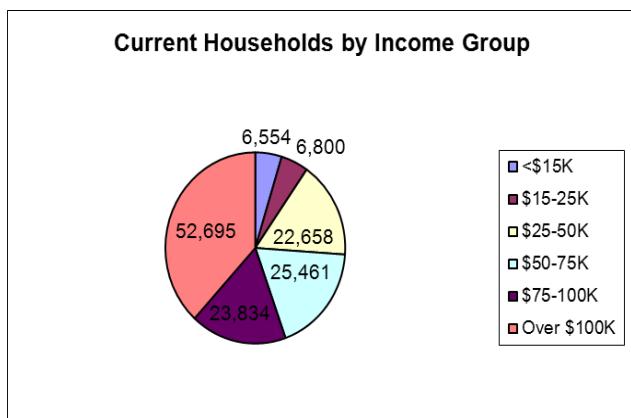


Table 4.5

Household Income Distribution BEMCA Service Area and U.S. 2012			
2012 Household Incomes	House-Holds	% of Total	U.S. % of Total
<\$15K	6,554	4.7%	13.0%
\$15-25K	6,800	4.9%	10.8%
\$25-50K	22,658	16.4%	26.7%
\$50-75K	25,461	18.4%	19.5%
\$75-100K	23,834	17.3%	11.9%
\$100K+	52,695	38.2%	18.2%
Total	138,002	100.0%	100.0%

Source: A.C. Nielsen 2011; Truven 2012

Uninsured Status

RHP 9 Plan states the uninsured population in Denton County is 20.9%. This equates to approximately 144,000 uninsured individuals.²

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.³

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.⁴ 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

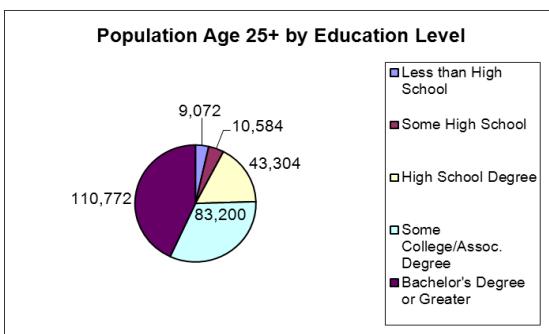
BEMCA Service Area Educational Attainment

BEMCA residents have a generally high level of education.

- Over 43% of residents age 25 and older have a bachelor's degree or greater. This compares to 28% of U.S. residents.
- Less than 8% of service area residents have not achieved a high school diploma compared to nearly 15% of U.S. residents.
 - This includes 3.5% of service area residents who have not attended high school.
 - This compares to 6.3% of U.S. residents who have not attended high school and 8.6% who have not graduated from high school.

Table 4.6

Figure 4.3



Education Level BEMCA Service Area and U.S. 2012				
2012 Adult Education Level	Pop Age 25+	% of Total	US % of Total	
Less than High School	9,072	3.5%	6.3%	
Some High School	10,584	4.1%	8.6%	
High School Degree	43,304	16.9%	28.7%	
Some College/ Assoc. Degree	83,200	32.4%	28.5%	
Bachelor's Degree or Higher	110,772	43.1%	27.8%	
Total	256,932	100.00%	100.00%	

Source: A.C. Nielsen 2011; Truven 2012

² RHP 9 Plan page 80

³ Kim, McCue & Thompson, 2009

⁴ Becker, 2001

Educational attainment 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.⁵

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.

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 represents a ZIP code with the greatest socio-economic barriers.

- 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.⁶

BEMCA service area's CNI scores demonstrate a wide range of community health need.

- The lowest CNI scores are 1.6 in Allen, Lucas and Frisco.
- The communities with the highest CNI scores are unincorporated Collin County (4.4 and 3.6) and Pilot Point (3.8). These communities may appropriately be the focus of interventions to improve health and reduce preventable hospitalizations.
- The town of Aubrey has a CNI score of 2.8.

⁵ <http://www.ahrq.gov/qual/literacy/>, retrieved July 16, 2012.

⁶ http://www.dignityhealth.org/Who_We_Are/Community_Health/STGSS044508. Retrieved July 3, 2012.

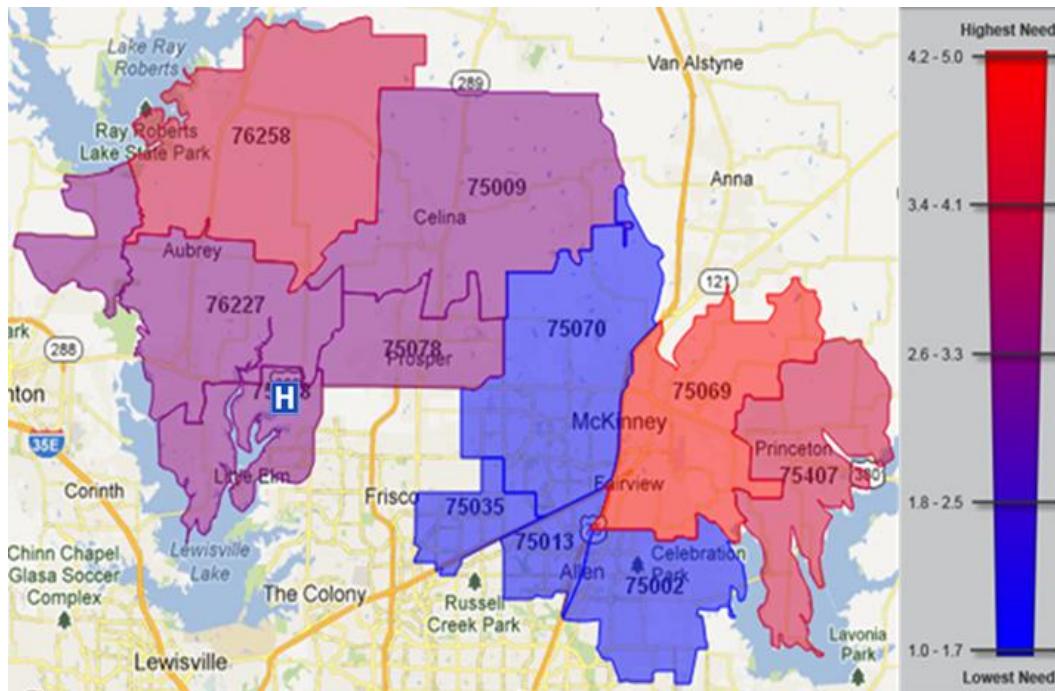
Table 4.7

CNI Scores BEMCA Service Area 2012				
ZIP Code	CNI Score	Population	City	County
75002	1.6	71,293	Lucas	Collin
75013	1.6	32,029	Allen	Collin
75035	1.6	54,830	Frisco	Collin
75070	1.6	87,789	McKinney	Collin
75078	2.6	8,534	Prosper	Collin
76227	2.8	19,805	Aubrey	Denton
75009	3.2	6,557	Celina	Collin
75068	3.2	31,202	Little Elm	Denton
			Collin County Unincorporated	
75407	3.6	13,696	Pilot Point	Collin
76258	3.8	6,267		Denton
			Collin County Unincorporated	
75069	4.4	38,483		Collin

Source: Dignity Health

Map 4.2 presents the CNI scores for each ZIP code in the BEMCA service area. Those with blue tones have the lower CNI scores and those with red have higher CNI scores.

Map 4.2



5. PROVIDER INVENTORY

BEMCA is in the western side of the service area. All acute care and emergency hospitals are located on the eastern half of the service area.

- One other emergency hospital is located on the eastern side of BEMCA's service area.
- Three other emergency hospitals are located outside the service area, southeast of BEMCA.
- Proximity of Baylor affiliates and other acute care hospitals provides access for necessary transfer for trauma and surgical patients after stabilization.

Map 5.1

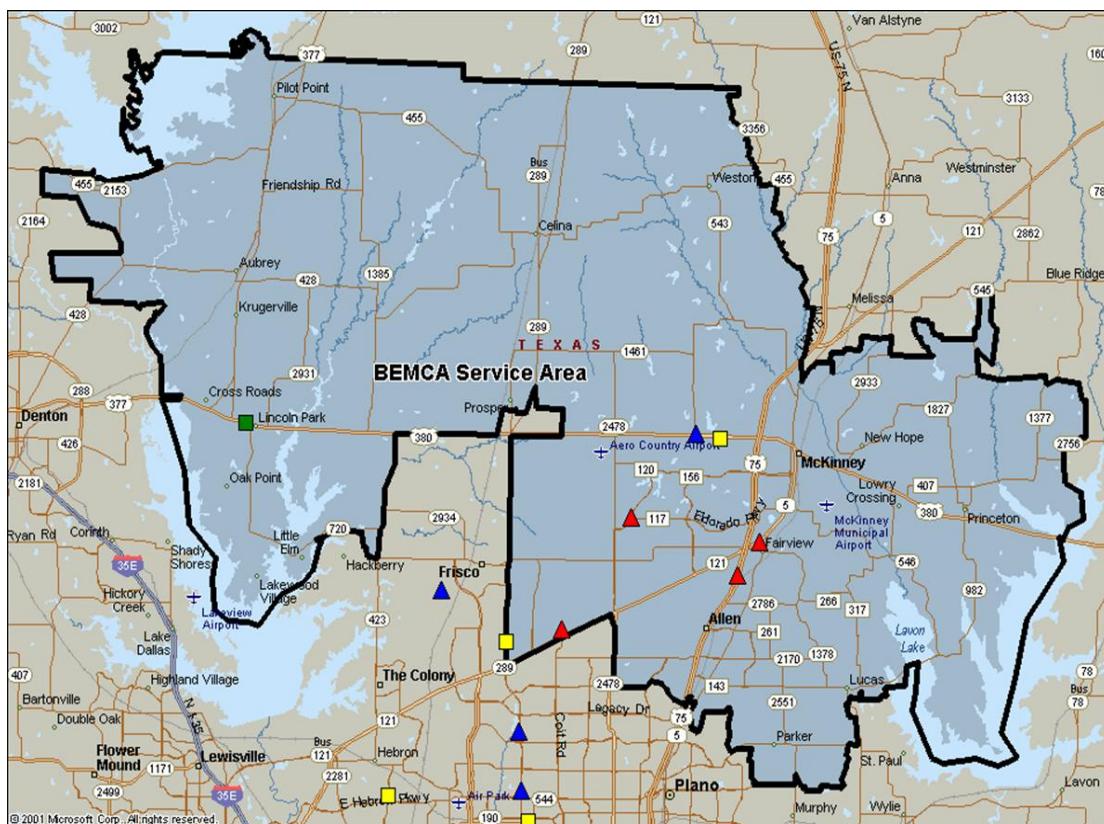


Table 5.1
Provider List

 Emergency Hospitals	
First Choice Emergency Room	First Choice Emergency Room
E-Care Emergency Center	Legacy ER
ER Centers of America, Inc.	
 Non-Affiliated Acute Care Hospitals	
Centennial Medical Center	Methodist McKinney Hospital LLC
Columbia Medical Center Of McKinney Subsidiary, L.P.	Texas Health Presbyterian Hospital Allen
 Baylor Health Care System Affiliates	
Baylor Medical Center at Carrollton	Baylor Medical Center at McKinney
Baylor Medical Center at Frisco	Baylor Regional Medical Center At Plano
 Baylor Emergency Medical Center at Aubrey	

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 BEMCA service area includes portions of 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.

Table 6.2
County Health Ranking
Health Outcomes
Denton County, Collin County, Texas and U.S

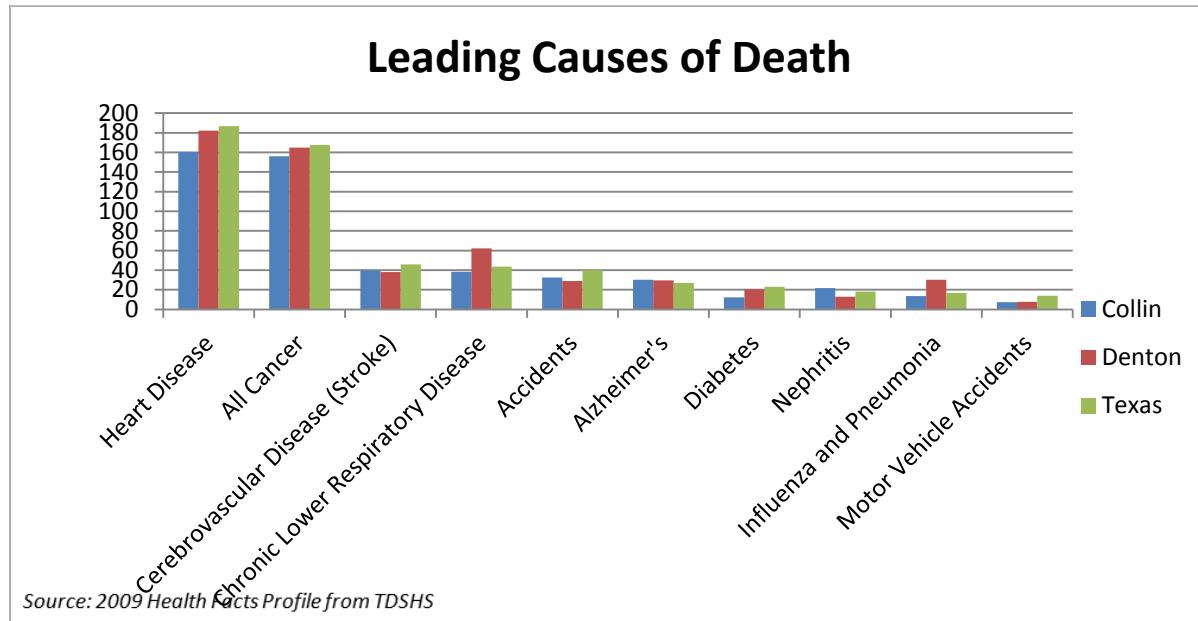
Indicator	Denton County	Collin County	Texas	National Benchmark
<i>Health Outcomes</i>				
Mortality				
Premature Death	4,776	4,134	6,928	5,317
Morbidity				
Poor or Fair Health	12%	11%	18%	10%
Poor Physical Health Days	2.8	2.8	3.7	2.6
Poor Mental Health Days	2.6	2.8	3.3	2.3
Low Birth Weight	7.1%	7.7%	8.4%	6.0%

Source: County Health Rankings and Roadmaps, 2013

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
Denton County, Collin County, Texas and U.S.
2009



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 both Regional Health Partnership Needs Assessments, the United Way of Denton County Health Assets/Assessment and the *County Health Rankings*.

The RHP 9 CNA clearly identifies access to primary and preventive care as a significant need in the region. The CNA states, “The demand for primary and specialty care services exceeds that of available medical physicians in these areas, thus limiting healthcare access for many... prevalent health conditions...Furthermore, expanding primary care access should reduce unnecessary ED visits freeing capacity in the ED for more urgent needs.”⁷

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

⁷ RHP 9 CNA page 8

- 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 (BRFSS) 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

Percent of Population Reporting a Personal Physician Collin County, Denton County and Texas 2011			
	2011		
	Collin	Denton	Texas
Total	80.1%	71.7%	68.4%
Male	71.5%	75.5%	61.9%
Female	87.2%	68.5%	74.7%

Source: Texas DSHS BRFSS 2011

Medically Underserved 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.⁸

County Health Rankings—Health Factors/Clinical Care

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

Health Factors-Clinical Care examines health care access and clinical prevention use. 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.”
 - 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.

Indicator	Denton County	Collin County	Texas	National Benchmark
Health Factors/Clinical Care				
Uninsured	18%	17%	26%	11%
Primary Care Physicians	1823:1	1236:1	1766:1	1067:1
Dentists	2221:1	1773:1	2200:1	1516:1
Preventable Hospital Stays	78	63	72	47

Source: *County Health Rankings and Roadmaps, 2013*

⁸ RHP 9 CNA page 8

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

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. Co-Morbid Medical and Behavioral Health Conditions

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.⁹

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.¹⁰

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.

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.

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

Source: County Health Rankings and Roadmaps, 2013

⁹ Sanchez, Weinraub, Tagtow, Collier, 2008, page 1

¹⁰ <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=33>, retrieved July 15, 2012.

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.

Indicator	Denton County	Collin County	Texas	National Benchmark
Health Factors/ Physical Environment				
Daily Fine Particulate Matter	10.5	10.7	10.2	8.8
Drinking Water Safety	0%	0%	6%	0%
Access to Recreational Facilities	8	9	7	16
Limited Access to Healthy Foods	4%	2%	9%	1%
Fast Food Restaurant	53%	51%	52%	27%

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 8.3
County Health Rankings
Health Factors—Clinical Care/Clinical Prevention
Denton County, Collin County, Texas and U.S.

Indicator	Denton County	Collin County	Texas	National Benchmark
Health Factors/Clinical Care				
Diabetic Screening	85%	87%	82%	90%
Mammography Screening	66%	69%	61%	73%

Source: County Health Rankings and Roadmaps, 2013

Co-Occurring Medical and Behavioral Health Diagnoses

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.

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.

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 joints, sinusitis, and hay fever.

B. Emergency and Urgent Care

Emergency Department Usage

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.¹¹

Inpatient Readmissions

“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.

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.

C. Preventable Acute Care Admissions

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.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.

¹¹ Dallas Fort Worth Hospital Council Foundation, Information and Quality Services Data Warehouse. March 2011. RHP 9 Community Health Needs Assessment, Page 20

¹² <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=24>, retrieved July 14, 2012.

- 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.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.
- 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.
- 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.

Table 9.1
Fatal & Non-Fatal Injury Incidence
Collin County and Denton County
2004 – 2007

Collin County	2004		2005		2006		2007	
Injury Cause:	Number	%	Number	%	Number	%	Number	%
Unintentional Falls	194	31	227	30.9	390	36.1	308	34
Motor Vehicle Traffic	209	33.4	244	33.2	330	30.6	290	32
Other Transport	72	11.5	107	14.6	107	9.9	110	12.1
Unintentional Struck By/Against	34	5.4	23	3.1	67	6.2	41	4.5
Unintentional Natural/Environment	10	1.6	12	1.6	14	1.3	12	1.3
Selected Injuries Total	519	82.9	613	83.4	908	84.1	761	83.9
All Injuries Total	626	100	735	100	1080	100	907	100

Denton County	2004		2005		2006		2007	
Injury Cause:	Number	%	Number	%	Number	%	Number	%
Unintentional Falls	322	37	268	34.3	348	39.4	411	40.9
Motor Vehicle Traffic	259	29.7	257	32.9	270	30.6	263	26.2
Other Transport	70	8	79	10.1	80	9.1	93	9.3
Unintentional Struck By/Against	35	4	31	4	34	3.9	50	5
Unintentional Natural/Environment	15	1.7	16	2	15	1.7	21	2.1
Selected Injuries Total	701	80.5	651	83.2	747	84.6	838	83.5
All Injuries Total	871	100	782	100	883	100	1004	100

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

¹³ Ibid. <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=24>, retrieved July 14, 2012.

Table 9.2
Fatal & Non-Fatal Injury Incidence
State of Texas
2004 – 2007

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

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

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.

Hospice care is the most frequent type of palliative care available, and is often only available in the home setting. BEMCA provides inpatient hospice treatment in collaboration with several home hospice providers.

- Inpatient hospice provides an option for patients without the necessary support for home hospice as well as those patients' families requiring respite from the daily care requirements.
- BEMCA has taken this opportunity to provide services that fulfill an identified RHP 18 need.

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.

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

United Way of Denton County Health Assets/Assessment identified a growing senior population as a priority area of their assessment. Additional services to meet seniors' daily living and health care requirements will be needed in Denton County. The report cited the following statistics on Denton County senior citizens:¹⁴

- 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.

¹⁴ 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.

10. Next Steps

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