

TEXAS HEALTHCARE TRANSFORMATION AND QUALITY
IMPROVEMENT PROGRAM

Medicaid 1115 Waiver

REGIONAL HEALTH PARTNERSHIP 9:
COMMUNITY NEEDS ASSESSMENT REPORT

DRAFT

APRIL 2012

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Submitted to: Regional Health Partnership 9

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Executive Summary

Purpose

The Dallas Fort Worth Hospital Council is pleased to submit this Community Health Needs Assessment to provide an analysis of the health care needs of the North Texas community, inclusive of the Regional Health Partnership 9 (RHP 9). The purpose of this needs assessment is to provide examine key factors and issues to support the selection of programs and initiatives that directly address the unique challenges of this geographic region. By incorporating novel approaches in the areas of Infrastructure Development, Program Innovation and Redesign, Quality Improvements, and Population-Based Improvements, the efforts of all committees of Texas Medicaid 1115 Waiver RHP 9 will collaboratively address the health needs of the community. The specific objectives of the Community Health Needs Assessment are to:

- Provide baseline measures on the key regional health trends
- Provide a resource document for public officials to develop informed decisions regarding the programs and initiatives that will improve the health of people within the region
- Provide the public with information on the regional community health needs
- Provide support for the selection of programs, initiatives, and specific evaluation metrics to be implemented and utilized throughout the 1115 Medicaid Waiver funding period.

Development Process

To conduct this community health assessment, a Community Health Needs Assessment Task Force was convened with representation from local hospitals, medical centers, and other health providers from a multi-county geography. Members of the Community Health Needs Assessment Task Force included experts from the following organizations:

Baylor Health Care System

Children's Medical Center

Dallas County Behavioral Health Leadership Team

Dallas County Medical Society

HCA North Texas

Homeward Bound

Methodist Health System
North Texas Behavioral Health Authority
Parkland Health and Hospital System
Scottish Rite Hospital for Children
Texas Health Resources
UT Southwestern Medical Center
ValueOptions of Texas

This core planning team reviewed and identified the regional priorities through data analysis, expert presentations, and committee feedback. The criteria used by the Task Force to identify the regional priorities were the degree of population impact, the financial burden on the healthcare system, alignment with intervention categories, and health issues whose solutions lend to regional based approaches. Whenever possible, regional, county, and local data were obtained for assessment. Indicators and data sources were selected based on consistency and availability of data from reliable data sources. The findings and information from this report will be presented to the 1115 Medicaid Waiver RHP 9 Delivery System Reform Incentive Payment (DSRIP) Committee, co-chaired by Dr. Ron Anderson of Parkland Health and Hospital System and Dr. David Ballard of Baylor Healthcare System.

Findings

The following regional priorities were identified as primary community health needs and are recommended for consideration as context for identification of strategies and recommended actions of the regional plan:

Capacity - Primary and Specialty Care

The demand for primary and specialty care services exceeds that of available medical physicians in these areas, thus limiting healthcare access for many low level management or specialized treatment for prevalent health conditions.

Behavioral Health - Adult, Pediatric and Jail Populations

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

Chronic Disease - Adult and Pediatric

Many individuals in North Texas suffer from chronic diseases that present earlier in life, are becoming more prevalent, and exhibit more severe complications.

Patient Safety and Hospital Acquired Conditions

Continued coordinated effort is needed to improve regional patient safety and quality.

Emergency Department Usage and Readmissions

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

Report Structure

This report is organized into eight sections. The first two sections provide demographic and regional data, as well as an overview and description of the health system and patterns of patient migration. The following five sections highlight key findings, as identified by the Community Health Needs Assessment Task Force, including effects on children, and the cost/charge information, if available. Finally, the concluding section discusses the implications of the four Medicaid waiver categories and explores areas of possible intervention.

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SECTION I: Demographics and Regional Description

Summary

In population, Texas is the second largest state in the nation with more than 25 million people. From 2000 to 2010, Texas experienced a 20% growth in population, as compared to only a 9.7% increase nationally. In the North Texas RHP 9 Region (as originally defined by Collin, Dallas, Denton, Ellis, Fannin, Grayson, Kaufman, Navarro, and Rockwall), the 2011 population is estimated to be 4,611,612 and is expected to grow by 9.5% by 2016 to 5,048,283 residents.¹ North Texas regions, as well as counties within RHP 9, have experienced significant population growth and economic and social indicators point to continued population growth. North Texas cities expected to have highest population growth in 2010-2015 include: Fort Worth, Frisco, Dallas, McKinney, Plano, Allen, Prosper, Denton, Little Elm, and Garland.

The most prevalent age group is 35-54 (27.6%), followed by the 0-14 age group (20.2%). Additionally, only 15.1% of adults have less than some high school level of education as compared to 84.9% of adults who have a high school degree or greater. The average household income within the region is \$76,679 which is higher than the national average. White non-Hispanics represent 48.1% of the population, followed by Hispanics, Black non-Hispanics, Asians, and Others, respectively.²

Diversity in RHP 9 is increasing as 44% of DFW Residents are New Americans (defined as either foreign born or the children of foreign born) of which 46% are undocumented. English is not the language spoken in 32% of homes in North Texas and over 239 languages are spoken in the North Texas Area, with more than 1/3rd reflecting African cultures new to the region.³ Within RHP 9, there is a wide range of all-age and youth poverty rates that has widened over the past 10 years and higher poverty rates exist within rural and minority sub-populations. In Dallas County, 29.6% of children under 18 live below the federal poverty level and 15.8% of adults between 18 to 64 years live below the federal poverty level.⁴

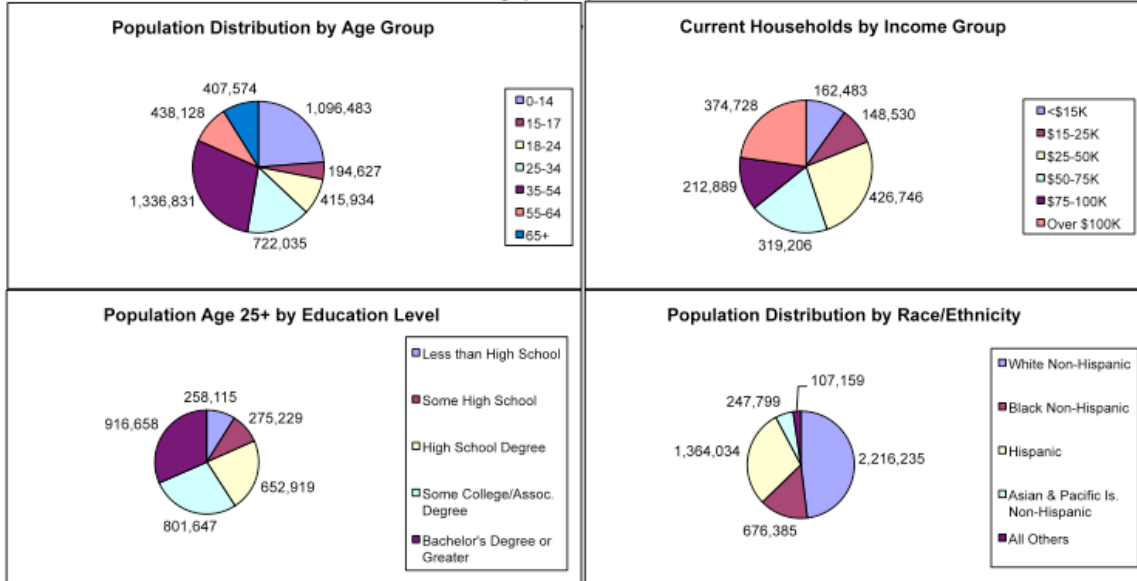
¹ US Census Data, Thompson Reuters/Claritas Market Expert Data Extract, 2012.

² *ibid.*

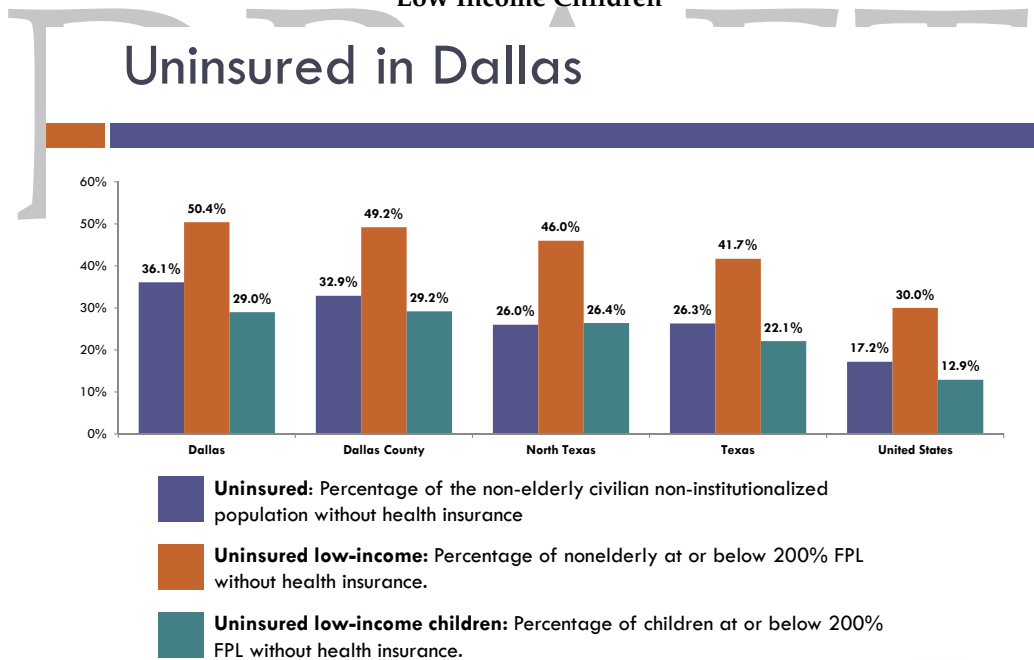
³ DFW International Community Alliance. 2010 North Texas Progress Report.

⁴ US Census Data. www.census.gov, 2011.

2011 Demographic Snapshot Charts



Summary of Uninsured in Dallas County: Uninsured, Uninsured and Low Income, and Uninsured Low Income Children⁵



COMMUNITIES FOUNDATION OF TEXAS Thomson Family Foundation

cfed expanding economic opportunity

⁵ Communities Foundation of Texas, Assets and Opportunities Profile. February 2012.

SECTION II: Health Delivery System and Patient Migration Patterns

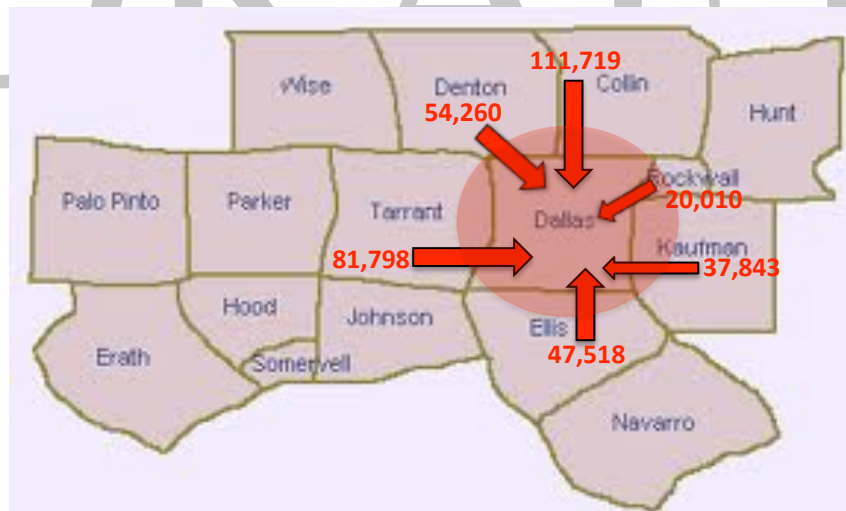
Summary

In the North Texas region, there are many outpatient clinics, surgical centers, physician owned hospital, long term acute care centers, rehabilitation centers, urgent care facilities, and other health provider services are available to children and adults. An analysis of the Dallas Fort Worth Hospital Council Foundation's Information and Quality Services Data Warehouse identified a significant patient migration patterns within multiple RHP regions.

As demonstrated in the commute patterns of North Texas, many individuals receive healthcare services in nearby counties, in some cases even when services may be available. In the pediatric population, Dallas County residents account for 75% of the outpatient population and 74% of the inpatient population. In the adult population, Dallas County residents account for 77% and 73% of the outpatient and inpatient population, respectively.⁶

Additionally analysis is warranted to determine the causal factors of these patterns; however as relevant to this assessment, the data indicates strong justification to consider a broad geography to successfully impact delivery system wide changes. Thus the data presented in the remainder of the report is consolidated into the more expansive definition of RHP 9 listed above.

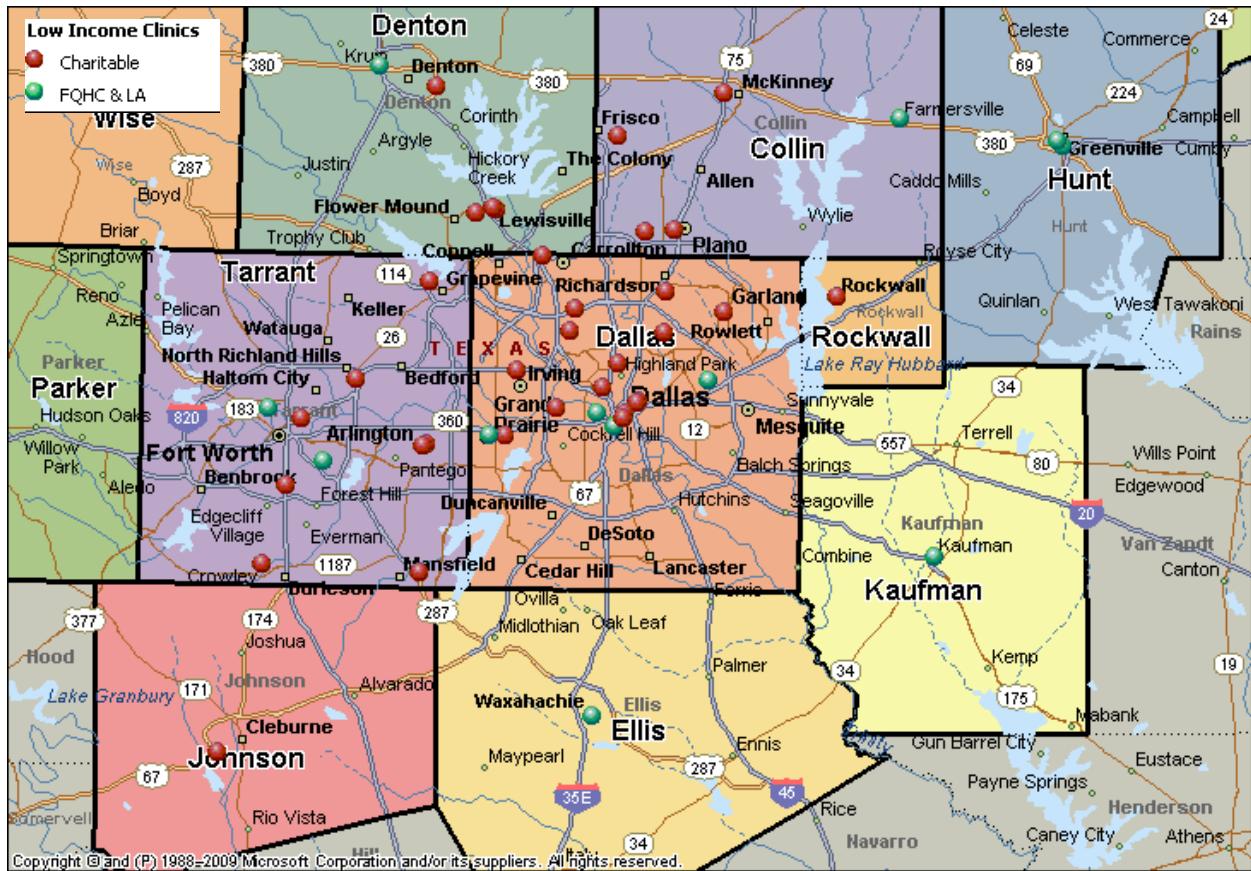
Interconnectedness of Healthcare Delivery System: Number of Dallas County Encounters from Patients with an Adjacent County of Residence, 2011⁷



⁶ DFWHC Foundation, Information and Quality Services Data Warehouse, 2011

⁷ *ibid.*

Location of Charitable Clinics in North Texas⁸



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⁸ Parkland Health and Hospital System, Charitable Clinic Location Report, 2012.

SECTION III: Capacity

Key Findings

The RHP 9 is affected by the limited physician capacity in primary and select specialties. According to the Health Professions Resource Center, primary care physician supply trends have consistently increased to a current statewide rate of 70 per 100,000 population in 2011.⁹ However, the percentage of primary care physicians is declining for Black and Hispanic physicians, with a slight increase White physicians as of 2009 as reported by the Texas Medical Board. In a regional analysis of primary care physician need, the data indicates a current need of over 30% of the current workforce, with the 2016 projection increasing to over 50% of the current level of providers.¹⁰

Additionally, there is a disparity in the availability of primary care physicians in urban and rural areas, with significantly limited access in remote and rural geographies. 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.

Dallas County is also home to the University of Texas Southwestern Medical School, a professional school which trains over 1000 medical students and approximately 1300 clinical residents annually. Many training and residency placements are completed within the Metroplex and provide a large opportunity for retention of students to the local workforce.

Federal designations, a health professional shortage area, or HPSA, is an area facility or population group with a shortage of primary care physicians, as defined by a population-to-primary care physician ratio of at least 3,500:1 and other requirements designated by the US Department of Health and Human Services.¹¹ Poverty rate, infant mortality rate, fertility rate and physical distance from care are all considerations in scoring for HPSA designation. Medically Underserved Areas or Populations, or MUAs/MUPs, are generally defined by the federal government to include areas of populations with a shortage of personal health care services. Originally, community health center grant funds were sent to areas of greatest need based on MUA/MUP designation. Scores can be a composite index for MUAs, or unusual local conditions resulting in access barriers to medical services.

⁹ Health Professions Resource Center, Center for Health Statistics, Texas Department of State Health Services, October 2011.

¹⁰ *ibid.*

¹¹ US Department of Health and Human Services. 2012.
Dallas Fort Worth Hospital Council, S. Collins, MPH

For the North Texas region, the listed geographies are federally designated as the following:

- Collin County has no HPSA's and 8 MUAs
- Dallas County has significant HPSA and MUA regions that overlap
- Denton has no HPSA's but entire county is designated as MUA
- Ellis County is a county level HPSA with no MUA's
- Fannin County is a county level HPSA and MUA
- Grayson County is a county level HPSA with no MUA's
- Kaufman County is a county level HPSA with no MUA's
- Navarro County is a county level HPSA and MUA

Children/Youth

The impact of the limited primary and specialty care is significantly profound for children and families in the region. With the current pediatric need being more than 80% of the current supply, in rural and urban areas the demand for primary care services is much higher than the current supply. In Dallas County alone, over 36.2% of children were enrolled in Medicaid in 2010, exacerbating the issue of availability of primary care access and treatment.¹² Additionally, data indicates that many of the pediatric specialists are limited creating a backlogged pipeline for those needing specialty services after seeking primary care.

¹² Children's Medical Center. Beyond ABC Report, 2011.
Dallas Fort Worth Hospital Council, S. Collins, MPH

SECTION IV: Behavioral Health

Key Findings

Behavioral Health System Structure and Funding

The behavioral health (defined as inclusive of both mental health and substance use) system in RHP 9 differs from that of the rest of the state in that the majority of services for Medicaid and indigent patients with behavioral health needs are delivered via the NorthSTAR program instead of a traditional Local Mental Health Authority (LMHA) system. This program serves a seven county region that overlaps with RHP 9 and includes Dallas, Collin, Ellis, Hunt, Kaufman, Navarro, and Rockwall counties. It is a managed behavioral healthcare carve-out program, administered by ValueOptions of Texas under a Medicaid 1915(b) waiver under the oversight of the North Texas Behavioral Health Authority (NTBHA), and it provides both mental health and substance use treatment to over 60,000 Medicaid enrollees and indigent uninsured annually.

Over the past decade, this system has greatly expanded access to care. However, this high level of access results in funding and infrastructure challenges. Since the program's inception, the growth in enrollment has outpaced funding such that the funding per person served is 30% less than when the program started in 1999 and is half that of the state average for other LMHAs¹³. Given that Texas is 50th in mental health funding nationwide¹⁴, this means that the funding per person served in RHP 9 is among the lowest in the nation.

In Dallas County, NorthSTAR accounts for half of the funding for the indigent population. Other significant partners include the Dallas County adult and juvenile criminal justice systems, Parkland Health and Hospital System, and the homeless services continuum. This results in a complex and at times difficult-to-navigate system. Last year, the Dallas County Commissioner's Court and Hospital District chartered a group of stakeholders (Dallas County Behavioral Health Leadership Team) to serve as a single point of accountability and coordination for Dallas County behavioral health services and funding streams.

Mortality Trends in the Behavioral Health Population

Behavioral health comprises a significant component of the health needs of RHP 9. The National Association of State Mental Health Program Directors (NASMHPD) reported a 25-year mortality disparity for persons with severe mental illness, with the majority of premature deaths attributed medical illnesses such as cardiovascular disease, diabetes and respiratory illnesses.¹⁵ The causes of these poor outcomes

¹³ TriWest/Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010.

¹⁴ National Alliance on Mental Illness. State Mental Health Cuts: The Continuing Crisis. March 2011.

¹⁵ Morbidity and Mortality in People with Serious Mental Illness, 2006.

include higher rates of modifiable risk factors, decreased likelihood to seek medical care, and the delivery of lower quality and less preventative care for those with severe mental illness. Within Texas, a recent study found that NorthSTAR was one of only four LMHAs in which age-adjusted mortality rates were significantly higher for the mental health population compared to the general population. Consistent with the NASMHPD study, the majority of deaths in this region were due to medical illness, and most of those due cardiovascular disease.¹⁶ While the NorthSTAR system differs from the rest of the state in that it includes patients with primary diagnoses of substance use disorders, a preliminary analysis of death records showed similar mortality rates between the mental health and substance abuse populations.¹⁷

Cost Trends in the Behavioral Health Population

The financial implications of caring for those with behavioral health conditions are substantial and impact resources within the healthcare institutions of RHP 9. Analysis of DFW Hospital Council Foundation data showed a sharp rise in charges for mental health encounters in the adolescent years. Charges continue to rise through adulthood, and between the ages of 47-65, the estimated charges for mental health encounters are higher than those of all other conditions combined. When substance abuse encounters are included, this difference is even greater.¹⁸

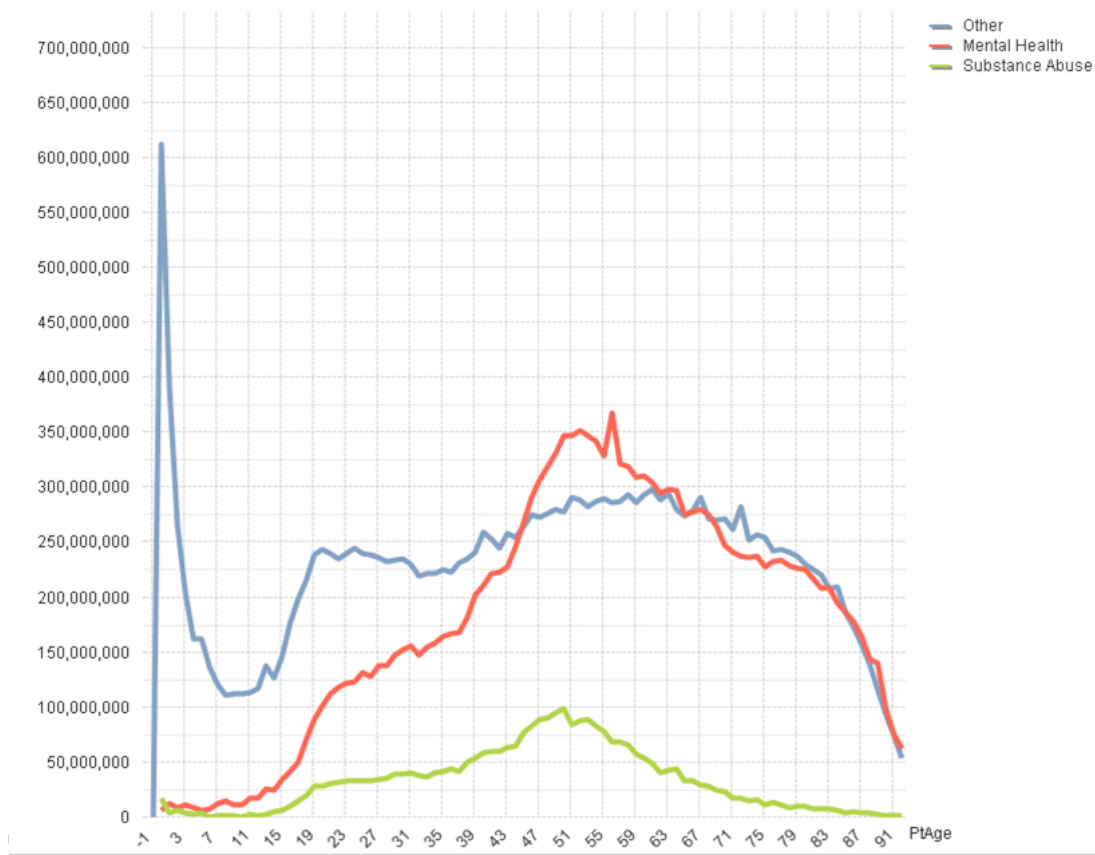
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¹⁶ Mortality of Public Mental Health clients treated at the Local Mental Health Authorities of Texas, 2012.

¹⁷ Personal communication between EA Becker and M Balfour

¹⁸ Dallas Fort Worth Hospital Council Foundation, Readmission Patterns by Mental Health and Substance Abuse, 2012

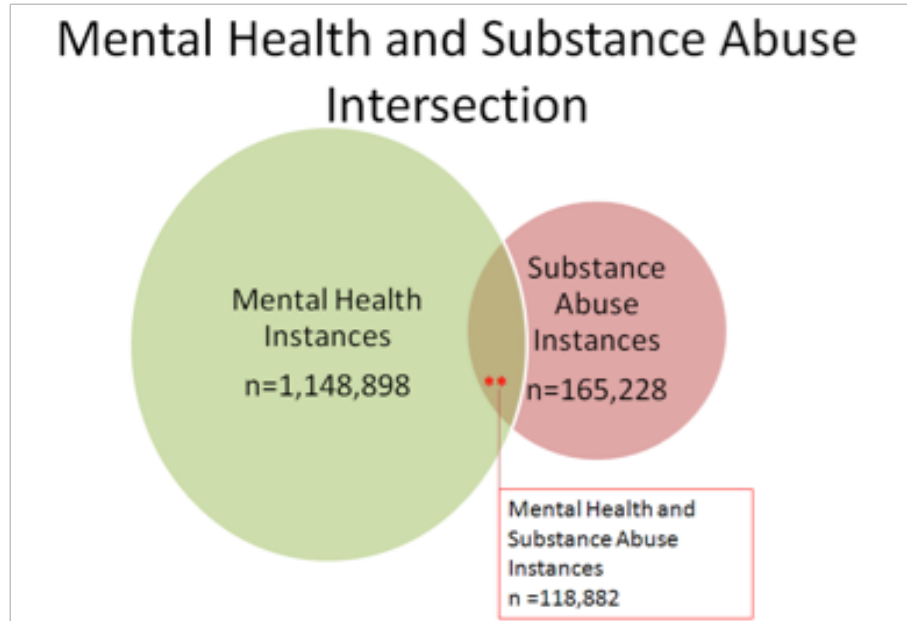
2010Q3 - 2011Q3 Encounters: Age and Charge Distribution by Mental Health and Substance Abuse¹⁹



People with co-occurring behavioral health and medical illnesses incur the highest cost. A study of the California Medicaid system demonstrated that people with serious mental illness comprise 10% of the population but account for 37% of the cost, mostly for the care of chronic medical illnesses.²⁰ Similarly, in RHP 9, the presence of a co-occurring behavioral health condition is associated with increased case severity of medical encounters and a 36% increase in the average charges per encounter. This effect is dramatically illustrated by a frequent user analysis performed by this Task Force. In RHP 9, 100% of the 10 most frequently admitted patients had a co-occurring behavioral health diagnosis. These 10 individuals incurred a cost of over \$26 million between 2007-2011. However only 1/5 of their hospital emergency department visits were for a mental health or substance abuse issue. Sixty-one percent were uninsured (24% Medicaid, 12% Medicare, and 3% Insured) placing a significant amount of financial burden on the hospital systems. Furthermore, in the frequent ER user group that was not admitted to the hospital, most of the visits were for conditions associated with chronic pain, suggesting that substance abuse treatment may be a co-occurring need.

¹⁹ DFWHC Foundation, Information and Quality Services Data Warehouse, 2012.

²⁰ JEN Associates. Beneficiary Risk Management: Prioritizing High Risk SMI Patients for Case Management Coordination, 2010.



DFWHC Foundation, Information and Quality Services (IQSC) Data Warehouse

Mental Health and Substance Abuse Interactions with Readmissions Patterns: Most Frequent 10 Patients (In and Outpatient)

RHP9 Cohort: 2007Q1 - 2011Q3

QUID	Total Cases	Mental Health	Substance Abuse	2007	2008	2009	2010	2011	Hospitals Visited	Average LOS (Days)	Uninsured	Insured	Medicaid	Medicare	Total Charges	Average Total Charges
430172	571	356	111	98	137	109	138	89	6	1.7375	2%	6%	86%	5%	\$1,326,311.	\$2,323.
811367	537	396	17	110	117	109	125	76	22	1.0152	0%	0%	0%	100%	\$931,952.	\$1,735.
1495682	490	267	35	77	125	125	83	80	26	1.3313	6%	15%	79%	0%	\$2,310,619.	\$4,716.
3554434	397	266	34	45	39	115	121	77	4	3.2897	99%	1%	0%	0%	\$577,739.	\$1,455.
3358467	379	297	10	15	38	56	116	154	7	1.4190	4%	39%	0%	57%	\$369,397.	\$975.
3048466	370	297	14	62	143	82	52	31	23	1.9093	11%	4%	24%	61%	\$2,145,038.	\$5,797.
1590501	362	245	94	60	2	118	101	81	4	10.5363	14%	1%	3%	82%	\$289,747.	\$800.
1998887	362	201	7	63	68	124	66	41	24	0.9448	7%	8%	84%	1%	\$1,805,928.	\$4,989.
1308998	361	235	133	37	51	93	122	58	9	1.2975	48%	2%	50%	0%	\$1,804,562.	\$4,999.
1411963	334	312	1	71	106	26	10	121	19	1.5736	45%	5%	50%	0%	\$637,233.	\$1,908.

Integration between Behavioral Health and Primary Care

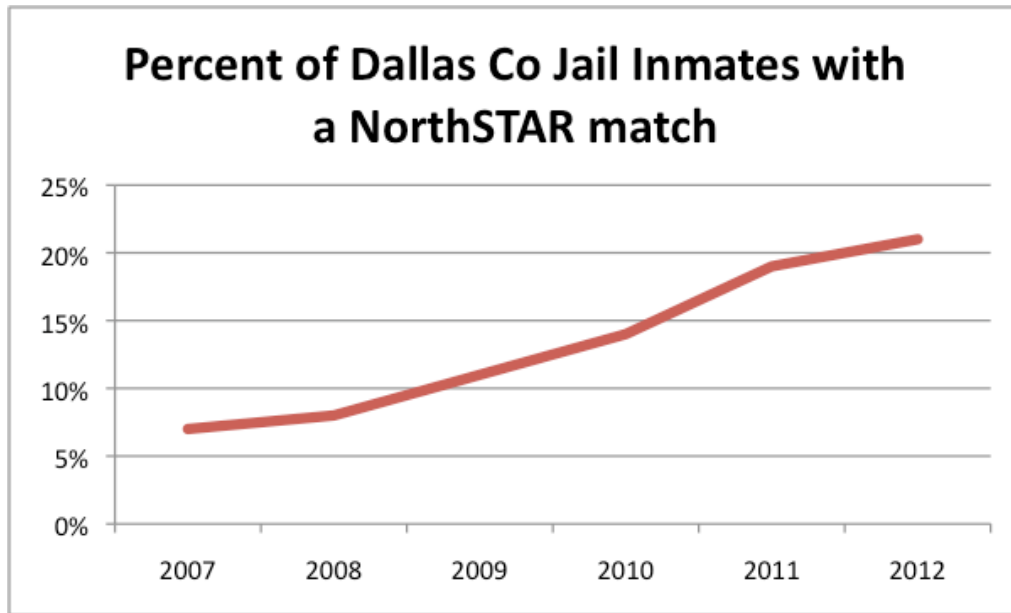
Despite the strong relationship between behavioral health and medical illness related outcomes and cost, the percentage of the 200% FPL population receiving behavioral healthcare in primary care settings is below the national average in Dallas County (19.8% vs. 37.1%).²¹ Parkland, the largest primary care provider to low-income populations in Dallas County, is not a NorthSTAR provider, and consequently, some who may be successfully served in primary care settings are referred to NorthSTAR. This may result in dilution of limited NorthSTAR resources, as well as coordination of care issues for those with high complexity co-occurring illness. For example, an analysis of the diabetic population at Parkland revealed that diabetics receiving antipsychotic medications from the NorthSTAR system were twice as likely to receive

²¹ TriWest/Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010. Dallas Fort Worth Hospital Council, S. Collins, MPH

second-generation antipsychotics – which adversely affect metabolic indicators associated with poor diabetes outcomes – compared to those receiving antipsychotics from the Parkland pharmacy.²²

Impact on Special Populations

Criminal Justice System: The funding challenges described above, combined with the complexity the behavioral health system, may adversely impact sub-populations with the highest needs. The number of NorthSTAR enrollees booked into jail has been steadily increasing as shown below²³, and 27% of all bookings to the Dallas County Jail are currently referred to jail behavioral health services.²⁴



Homeless and marginally housed: Homeless individuals with behavioral health conditions cost three times as much and are booked into jail twice as often as the general NorthSTAR population.²⁵ Among high utilizers, these relationships are magnified, as illustrated below. Permanent supported housing has reduced the incidence of chronic homelessness in RHP 9, but there have been challenges to the addition of more units, such as neighborhood opposition, and lack of support for so called “wet housing” units more matched to the needs and capabilities of those with severe substance abuse disorders. The marginally housed is a less studied but similarly challenging population, and the lack of regulation and poor quality

²² Balfour, ME et al. Highlighting High Utilizers: How can our systems better meet their needs? Institute on Psychiatric Services Annual Meeting, 2011.

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

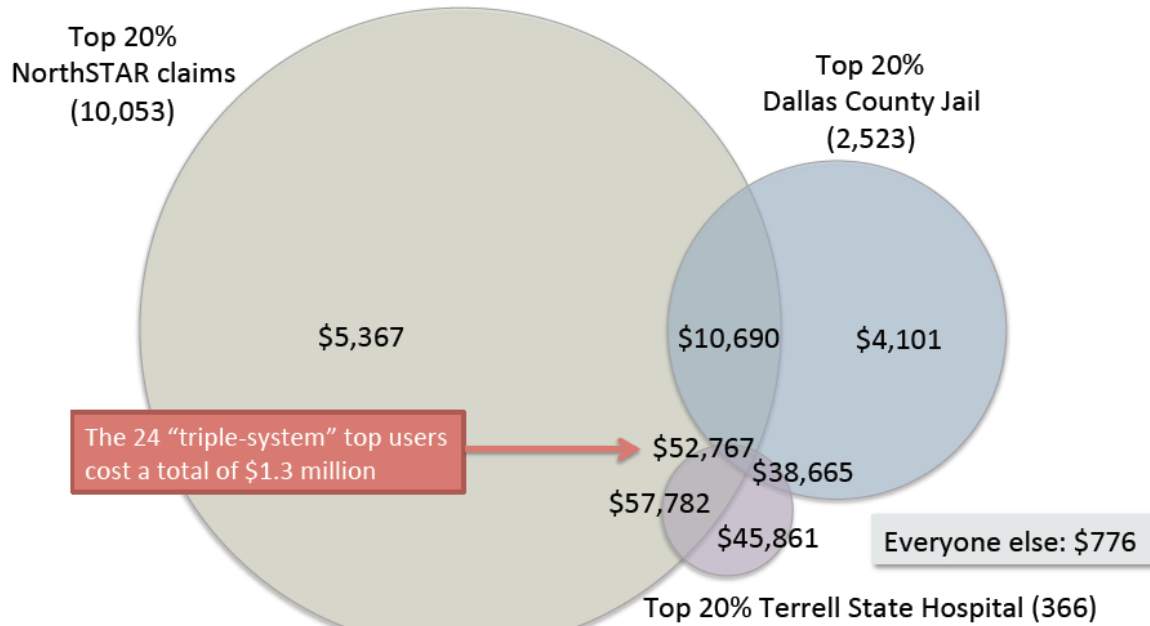
²⁴ Personal communication between Wassem Ahmed, Medical Director of Parkland Jail Behavioral Health Services and M. Balfour

²⁵ Balfour, ME. Homelessness, Criminal Justice, and the NorthSTAR Top 200 Report, 2011.

of many boarding homes results in unstable living conditions for the 2500 individuals with mental illnesses residing in boarding homes in Dallas.

Margaret Balfour, MD, PhD

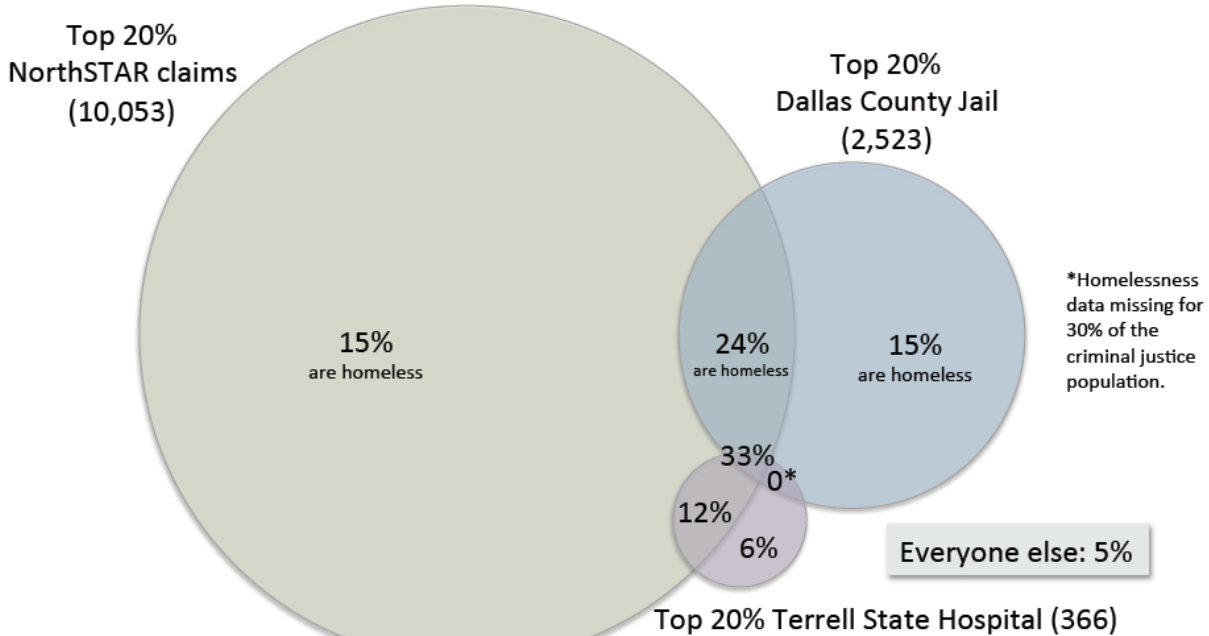
Top 20%: Cost Mean Per Patient Per Year (FY2010)



FY2010 Data. Claims and TSH authorizations from ValueOptions. Jail bookings from JDIM bot. Jail cost estimated: Cost = [#bookings * avg jail LOS of 27 days * \$49.49 daily cost] + estimated annual BH cost per person served. BH costs use FY2009 data: \$7,391,763 annual cost / 19,000 served = \$389.04 per person per year. Actual costs in progress. Homeless = unduplicated claimants with a 5 (severe) or 4 (high) on Housing Instability score on a Uniform Assessment valid in FY2008-10.



Top 20%: Patient Factors Homelessness



FY2010 Data. Claims and TSH authorizations from ValueOptions. Jail bookings from JDIM bot. Jail cost estimated: Cost = [#bookins * avg jail LOS of 27 days * \$49.49 daily cost] + estimated annual BH cost per person served. BH costs use FY2009 data: \$7,391,763 annual cost / 19,000 served = \$389.04 per person per year. Actual costs in progress. Homeless = unduplicated claimants with a 5 (severe) or 4 (high) on Housing Instability score on a Uniform Assessment valid in FY2008-10.
* Uniform assessment data missing for 30% of criminal justice top 20%

Children/Youth

The number of Dallas County children who are receiving publicly funded mental health services has tripled from 2000 to 2010. In Dallas County, the number of children identified with a diagnosable emotional disturbance or addictive disorder has increased to approximately 142,000 children with 5% of those children experiencing a significant impairment as a result. Among youth between the ages of 12-17, 7.2% have experienced a major depressive episode. However, mental health services available to children are limited and are often times not adequately covered by private and public insurance plans. Services in the healthcare community oftentimes do not include the family-focused and comprehensive approach needed to adequately address these issues. Rather, nearly all of the intensive service availability, including evidence-based programs such as multi-systemic therapy, is provided through the Juvenile Justice System. Furthermore, the number of youth served in the juvenile justice system is increasing, as evidenced by a 17% increase in the number of children receiving psychotropic medications in juvenile detention from 2010 to 2011.²⁶

²⁶ Personal communication between Lawrence Scurria, Associate Director of Pharmacy, Parkland Jail Services and M. Balfour

Cultural and linguistic minorities

Hispanics comprise 40% of the population but only 25% of the NorthSTAR population.²⁷ While there is a lack of services available and written materials available in Spanish, it is difficult to characterize the extent of the need, because data on primary language is not collected.

Infrastructure Challenges

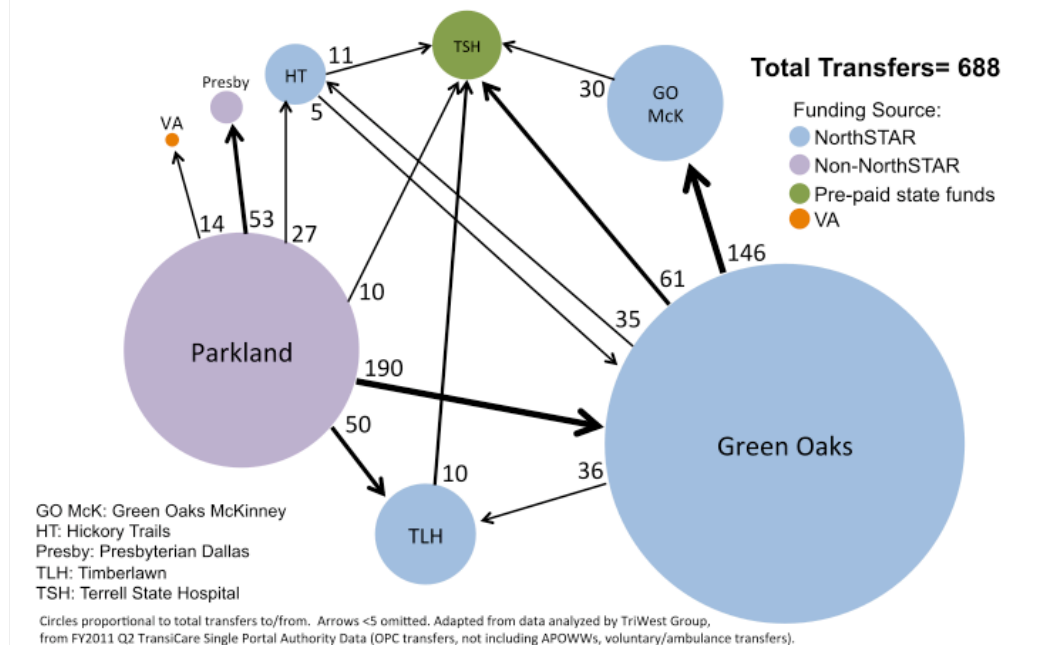
The NorthSTAR region has fewer community inpatient psychiatric beds compared to the Texas and national averages (12.9 per 100,000 compared to 26.4 for Texas and 25.2 nationally). As a consequence, the average length of stay is one-third to one-half lower than that of comparison cities. The local system adapts to this challenge by using Terrell State Hospital for acute care, effectively increasing the average length of stay from ~ 3 to 6 days. However, this results in over 40% of state hospital capacity being used for acute care, impacting the ability to provide longer term care for those who need it, and also likely impacts the state hospital's ability to free up capacity for inmates waiting in jail for competency restoration.²⁸ Due to these issues, patients can be transferred to multiple hospitals for a single episode of care, resulting in increased cost and service duplication, and more opportunities for errors and coordination problems.

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²⁷ TriWest/Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010.

²⁸ *ibid.*

Involuntary Hospital Transfers Jan-Mar 2011



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Residential substance abuse treatment beds have remained flat and at capacity since 2005, while outpatient substance use services rose steadily until the sharp decrease in November 2009, due to controls on use. Taken together, these trends suggest the capacity for substance abuse treatment has not kept pace with population growth and need.²⁹

Crisis service utilization has been increasing as well. Following the economic downturn in 2009, there was a 17% increase in 23-hour observation visits at Green Oaks Hospital, mostly accounted for by new enrollees to NorthSTAR. More recently, there has been a sharp spike in 23-hour observation utilization, with Feb 2012 visits 26% higher compared to Dec 2011 (and 25% higher compared to Feb 2011).³⁰ This increase coincided with both regulatory oversight limiting the capacity of Parkland’s Psychiatric Emergency Department by 50% and a reduction in funding for outpatient services in the NorthSTAR system. The full effects are currently being studied, but preliminary reports indicate that the dwell time of behav-

²⁹ TriWest Group / Zia Partners. Assessment of the Community Behavioral Health Delivery System in Dallas County, 2010.

³⁰ ValueOptions of Texas
 Dallas Fort Worth Hospital Council, S. Collins, MPH

ioral health patients in medical emergency rooms is increasing due to delays in placement, and that ERs are on divert more frequently.

In addition to these acute services, there is need for development of lower levels of care in order to prevent the need for these high-cost services. A subacute crisis residential level of care exists but there are only 21 beds for the entire NorthSTAR region. Mobile Crisis Outreach Teams have the ability to perform crisis interventions with a high rate of diversion, but lack capacity to perform as many face-to-face encounters as are needed. Outpatient services have undergone a change to a case-rate method of payment, followed by further funding cuts with have resulted in a near doubling of patient-to-staff ratios for case managers. The Behavioral Health Leadership Team has identified the highest need for service development to be post-crisis “wraparound” services to reduce the 20% 30-day readmission rate to crisis services, and peer-driven services to engage clients early in order to prevent crisis episodes. Data sharing among providers is another high priority need. Furthermore, the North Texas Behavioral Health Authority Needs Assessment Survey identified housing, counseling, and case management as unmet needs in addition to inpatient hospitalization, and transportation as the most common barrier to accessing needed services.³¹

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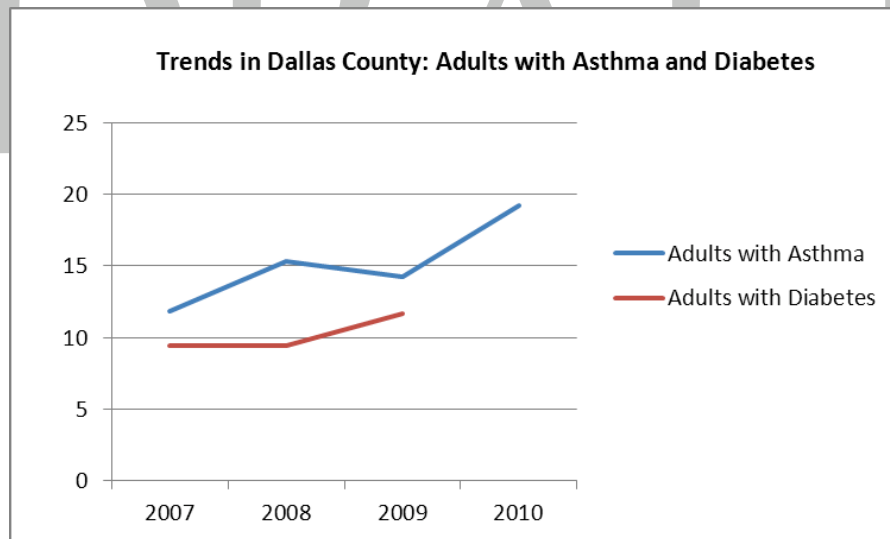
³¹ Brandy Ruckdeschel, Clinical Director, North Texas Behavioral Health Authority

SECTION V: Chronic Disease

Key Findings

Chronic diseases, generally defined as a condition that is slow in progression and long in duration, are increasing in the general population and significantly impacting individual's function, productivity, and quality of life.³² Chronic illnesses are a significantly impact the social and economic aspects of many residents of North Texas. While there are many likely causes for chronic disease such as genetic history and natural illness progression, there is oftentimes an opportunity for public infrastructure to support healthy communities where healthy eating, increased physical activity are commonplace.

Similar to national trends, North Texas is experiencing increasing rates of many chronic diseases as well. The following table illustrates the increasing rates of asthma and diabetes in adults within the Dallas County Metropolitan Statistical Area (inclusive of Dallas, Plano, and Irving). Additionally, research demonstrates that more than one in four Americans have multiple concurrent chronic illnesses, likely masking the true prevalence of many of these conditions.³³



In an assessment of the emergency department utilization, the five most frequent, highest volume of encounters types are those for the chronic conditions of asthma, chronic bronchitis, pain/aching of joints, sinusitis, and hay fever.³⁴ While slight variations presented when analyzed by payor type, the data over-

³² Institute of Medicine. Living Well with Chronic Illness: A Call for Public Health Action.

³³ Anderson, 2010.

³⁴ Dallas Fort Worth Hospital Council Foundation, Information and Quality Services Data Warehouse. March 2011. Dallas Fort Worth Hospital Council, S. Collins, MPH RHP 9: Community Needs Assessment Report

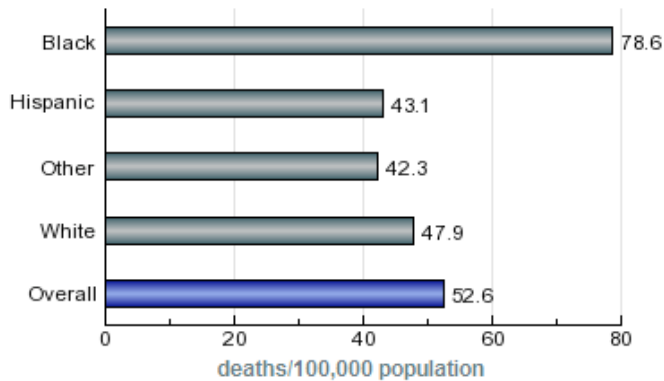
whelmingly indicated the high volume of chronic disease care occurring within the emergency departments. Additionally, there is a disproportionate distribution of chronic disease burden, as well as rates of complications and mortality, with African Americans and uninsured individuals experiencing higher rates of mortality.³⁵

DFWHC Foundation Data Warehouse: 2010Q3 - 2011Q3: Highest Volume for Adult Outpatient

Emergency Department Encounters

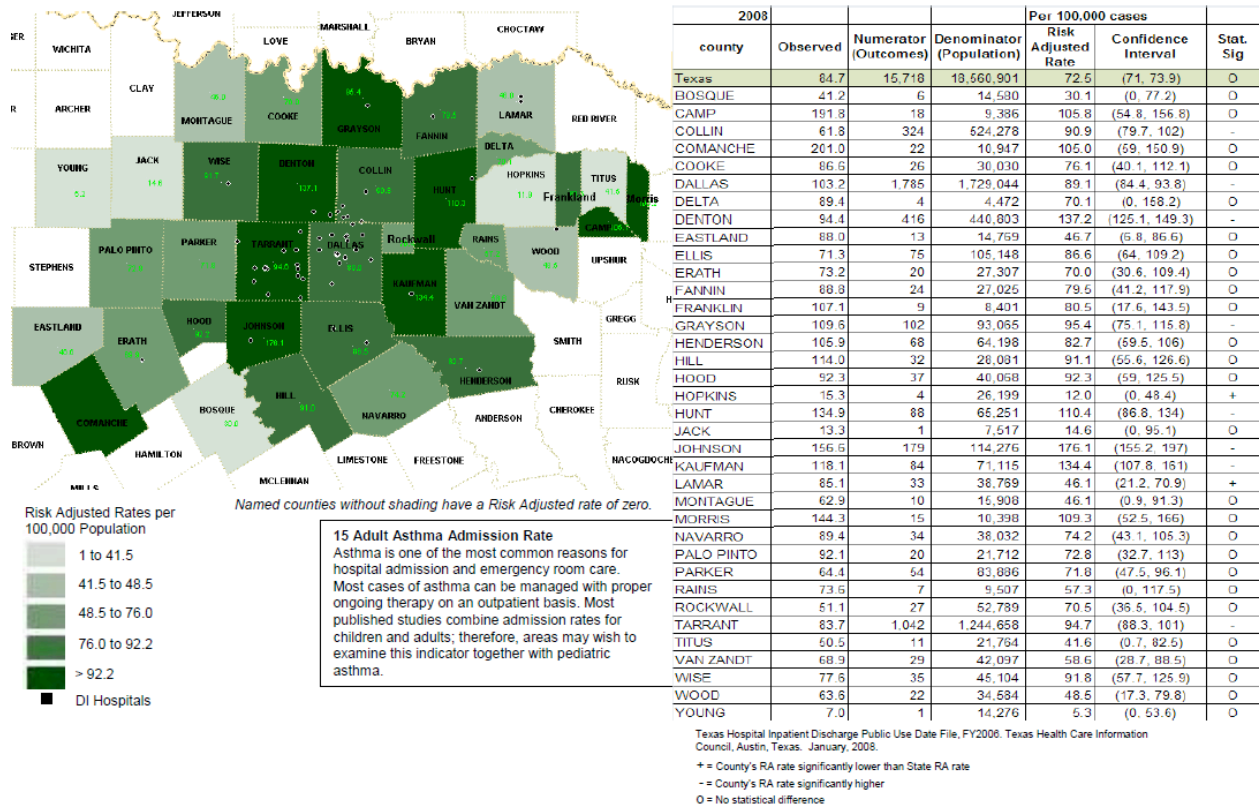
Highest Volume	1	2	3	4	5
<i>All</i>	Low Back Pain	Hypertension	Pain/Aching of Joints	Chronic Bronchitis	Asthma
<i>Insured</i>	Low Back Pain	Hypertension	Pain/Aching of Joints	Chronic Bronchitis	Asthma
<i>Medicaid</i>	Low Back Pain	Pain/Aching of Joints	Asthma	Chronic Bronchitis	Depression/ Anxiety
<i>Medicare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

Age-Adjusted Death Rate due to Cerebrovascular Disease (Stroke) by Race/Ethnicity



³⁵ Dallas Fort Worth Hospital Council Foundation, Healthy North Texas Community Health Website, 2012.

AHRQ Prevention Quality Indicators Adult Asthma Admission Rate - 2008



Another critical chronic disease is diabetes. Diabetes affects 11.4% of the population in Dallas County, which is above both the state average of 10% and the national average of 8%. Risk factors for type 2 diabetes include increasing age, obesity, physical inactivity, having a history of gestational diabetes, hypertension or dyslipidemia, being a member of a high risk racial group, or family history. To further understand the relationship between diabetes and other co-occurring conditions, and assessment was conducted to identify the other diagnoses for which diabetic patients were presenting in both in and outpatient settings. In patients seen throughout the regional healthcare system that are residents of Dallas County, the top five primary diagnoses, those patients with an underlying condition of diabetes were 29% for pneumonia, 39% for septicemia, 31% for other rehabilitation, 34% of urinary tract infection and 45% of acute kidney failure.³⁶

Those with diabetes had a higher mortality percentage than those without in four of the five top inpatient diagnoses revealing that a co-morbidity of diabetes increases your risk for mortality. Dallas County's top seven diagnoses for emergency room department (ER) patients were acute URI unspecified, Otitis media, abdominal pain, chest pain unspecified, urinary tract infection, headache and other chest pain. Within those top seven diagnoses, 20%-45% had an underlying condition of diabetes. Specifically, of all patients

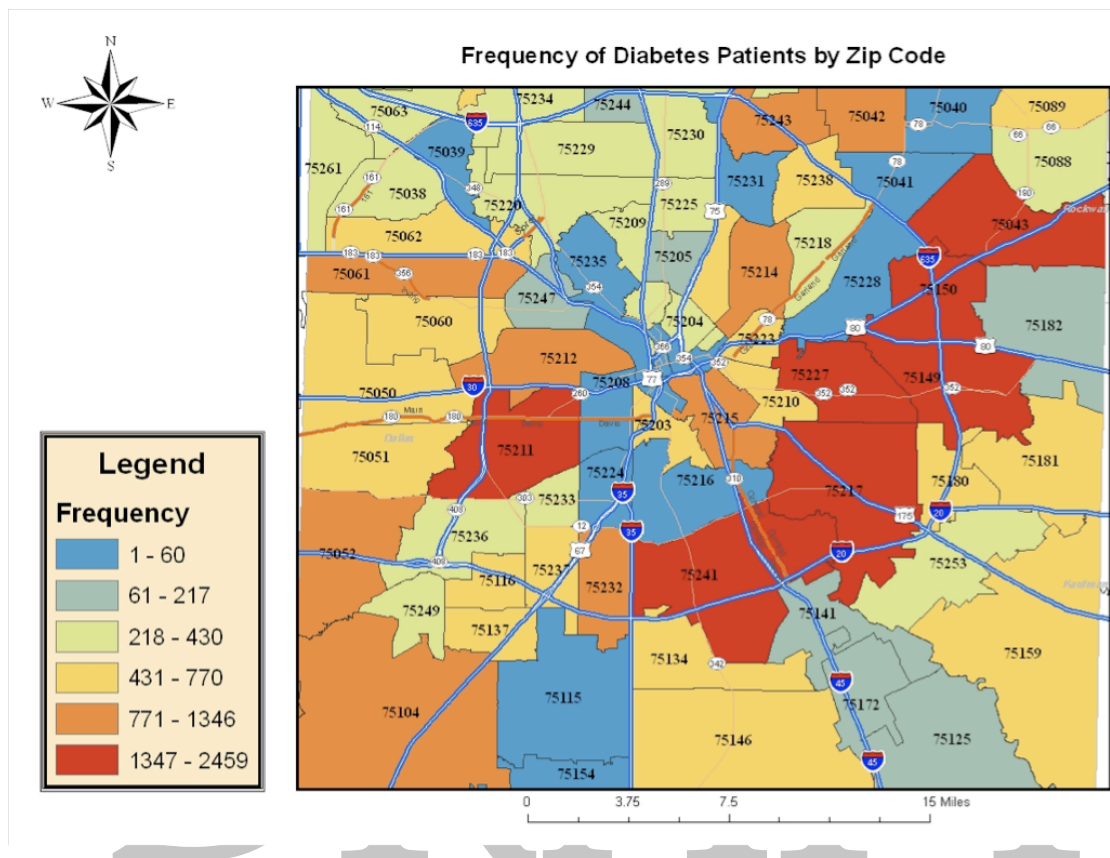
³⁶ Doughty, P. et al. Diabetes in Dallas County: Provider Report. 2011
 Dallas Fort Worth Hospital Council, S. Collins, MPH

who came to the ER with chest pain as a diagnosis, 21%-25% had a comorbidity of diabetes. Of patients presenting with abdominal pain, urinary tract infections and headache, 10% also had diabetes.

On average, patients in North Texas have amputations of lower extremities (diabetic related amputation rates) at or below the state average of 41 patients per year per 100,000 population that have diabetes. Amputations are numerically highest in the metroplex in patients' zip codes located primarily in South and West Dallas, and northeast Dallas County. Dallas and surrounding North Texas counties have around the same age adjusted death rate from diabetes mellitus as the underlying cause of death as the rest of Texas: 27.8 deaths per 100,000 population of diabetic patients.³⁷

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

³⁷ Doughty, P. et al. Diabetes in Dallas County: Provider Report. 2011
Dallas Fort Worth Hospital Council, S. Collins, MPH



Children/Youth

Between 2000 and 2010, the number of Children’s Medical Center admissions of youth with a primary or secondary diagnosis of diabetes has increased by 34%. Additionally, the racial disparity of higher diabetic-related deaths in African Americans demonstrated in the adult population is also present among children.³⁸ With the association of diabetes and obesity, there is also cause for concern of the future trajectory as low income preschool obesity within the Dallas Metropolitan Statistical Area was 17.2% in 2009, placing many young children at higher rates of developing diabetes in later years.³⁹

Cost/Charge

While complicated to isolate a specific “direct cost,” it is understood that the societal burden for this condition is extremely large and has manifestations in the healthcare community, in social and economic factors, and often increases complexity and severity of other co-occurring medical conditions. Additionally, it is important to consider the societal costs of lower economic prosperity of individuals with severe diabetic complications, which is only projected to increase as more children begin to develop diabetes at younger ages.

³⁸ Children’s Medical Center. Beyond ABC Report, 2010.

³⁹ *ibid.*

SECTION VI: Patient Safety and Quality and Hospital Acquired Conditions

Key Findings

In-hospital adverse events are a serious problem for patients, providers and insurers. “An adverse event is an injury caused by medical management rather than the underlying condition of the patient. An adverse event attributable to error is a “preventable adverse event” and in a systematic review of adverse event studies, 2 74,485 patient records reported an incidence rate of about 9.3% (about 1 in 10) adverse events and of those, 43.5% were avoidable. Most of those patients in de Vries’ study (56.3%) experienced minor or no disability with 7.4% of those patients dying as result of the adverse event.⁴⁰

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

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⁴⁰ deVries et al. The incidence and nature of in-hospital adverse events: a systematic review. 2008.

Table 1: Your Hospital's Performance on HEN HAC Measures - January 2010 - December 2010

HEN & Regional Hospital Compare

Measure	Number of Eligible Discharges at HEN Hospitals*	Number of HAC** Occurrences at HEN Hospitals	HEN Hospital's HAC Rate (per 1,000)	Number of Eligible Discharges at Region*** Hospitals	Number of HAC Occurrences Regionally	Regional HAC Rate (per 1,000)
HAC4 Pressure ulcer stages III and IV	138,850	563	4.05	579,050	2,811	4.85
HAC5 Falls and trauma (includes: fracture, dislocation, intracranial injury, crushing injury, burn, electric shock)	138,850	3,484	25.09	579,050	12,015	20.75
HAC6 Vascular catheter-associated infection - CLABSI	138,850	160	1.15	579,050	550	0.95
HAC7 Catheter-associated urinary tract infection - CAUTI	138,850	127	0.91	579,050	420	0.73
HAC8 Manifestations of poor glycemic control	138,850	353	2.54	579,050	1,282	2.21
Regional HACs						
REG100 SSI - CABG	1,046	0	0.00	4,279	0	0.00
REG101 SSI - Colectomy	256	13	50.78	1,376	100	72.67
REG105 Venous Thromboembolism - PE VTE All Cause	138,850	680	4.90	579,050	3,633	6.27
REG106 Clostridium Difficile - CDIF	138,850	969	6.98	579,050	4,420	7.63
Obstetrical Adverse Events						
REG801 Maternal Deaths	29,086	4	0.14	94,853	8	0.08
REG802 Intrapartum Neonatal Death	29,583	0	0.00	98,389	0	0.00
REG803 Uterine Rupture	29,086	0	0.00	94,853	0	0.00
REG804 Maternal Admission to ICU	29,086	78	2.68	94,853	478	5.04
REG805 Birth Trauma	29,583	80	2.70	98,389	220	2.24
REG806 Return to OR/L&D	29,086	20	0.69	94,853	81	0.85
REG807 Admission to NICU of Neonate birth weight 2500 grams	29,583	0	0.00	98,389	0	0.00
REG808 APGAR 5<7	29,583	0	0.00	98,389	0	0.00
REG809 Maternal Blood Transfusion	29,086	0	0.00	94,853	6	0.06
REG810 3rd of 4th Degree Perineal Laceration	29,086	628	21.59	94,853	2,146	22.62
*Hosp IDs 450647, 450669, 450675, 450651, 450403, 450089, 450672, 450822, 450634, 450015, 451370, 450374						
**Current HAC assignment does not include POA definitions since it is not available in 2010						
*** Includes all regional acute care hospitals currently submitting claim data to DFWHC						

Children/Youth

Current assessment was not conducted for pediatric sub-analyses in this section.

Cost/Charge

National costs (lost income, lost household production, disability and health care costs) of preventable adverse events (medical errors resulting in injury) are estimated to be between \$17 billion and \$29 billion, of which health care costs represent over one-half of the charges.⁴¹

⁴¹ Institute of Medicine Report. 2011.

SECTION VII: Emergency Department Usage and Readmissions

Key Findings

An analysis of the emergency department encounters demonstrates that many in the population are accessing emergency departments for both urgent and non-urgent conditions. Over the most recent four quarters of data, the conditions for which the most volume of care was provided in an emergency outpatient setting were: low back pain, hypertension, pain/joint aching, chronic bronchitis, and asthma. Further assessment demonstrates that, with the exception of asthma, over 68% of the encounters for the top primary health conditions listed above were either non-emergent or emergent/primary care treatable, in that the care could have been provided effectively in a primary care setting. For asthma, approximately 98.1% of all encounters were emergent, however the condition could have been potentially avoidable or preventable if effective ambulatory care could have been received during the episode of the illness.⁴²

For emergency department encounters that resulted in a hospital admission, the most common health conditions by volume are: stroke, diabetes, congestive heart failure, weak/failing kidneys, chronic bronchitis and heart attack. For the pediatric population, the high volume emergency department encounters include: asthma, diabetes, pain/aching joints, and arthritis most frequently. Slight variations occurs between payor types, but overwhelmingly the chronic diseases with serious complications are the primary source of volume in regional emergency departments.

This information would indicate that much of the outpatient emergency department care provided are for chronic and low emergent conditions that could be handled in a primary care setting without the utilization of the emergency department resources. It is also recognized that this analysis is for primary diagnosis only and additional research on patients with co-occurring illnesses would be valuable. Chronic pain often occurs with a variety of comorbidities and has a strong influence on patient's report of quality of life. For example, low back pain and chronic aching of joints are oftentimes symptoms associated with mental health conditions. Thus, these patterns may indicate a relationship with an underlying behavioral health need that could be further examined.

Emergency room encounters that result in an in-patient admission tend to be more complex in nature and based on the data, the most frequent conditions that lead to admissions were: stroke, congestive heart failure, weak/failing kidneys, heart attack, and chronic bronchitis. In total, these conditions accounted for 64% of all of the inpatient emergency department encounters in the region. In these cases, oftentimes the severity of illness of the diagnosis, based on the specific diagnoses and the procedures performed during the medical encounter, were either moderate or major in nature.

⁴² DFWHC Foundation, Information and Quality Services Data Warehouse, 2011.

DFWHC Foundation Data Warehouse: 2010Q3 - 2011Q3: Highest Volume for Adult Inpatient

Emergency Department Encounters

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

DFWHC Foundation Data Warehouse: 2010Q3 - 2011Q3: Highest Volume for Pediatric Inpatient

Emergency Department Encounters

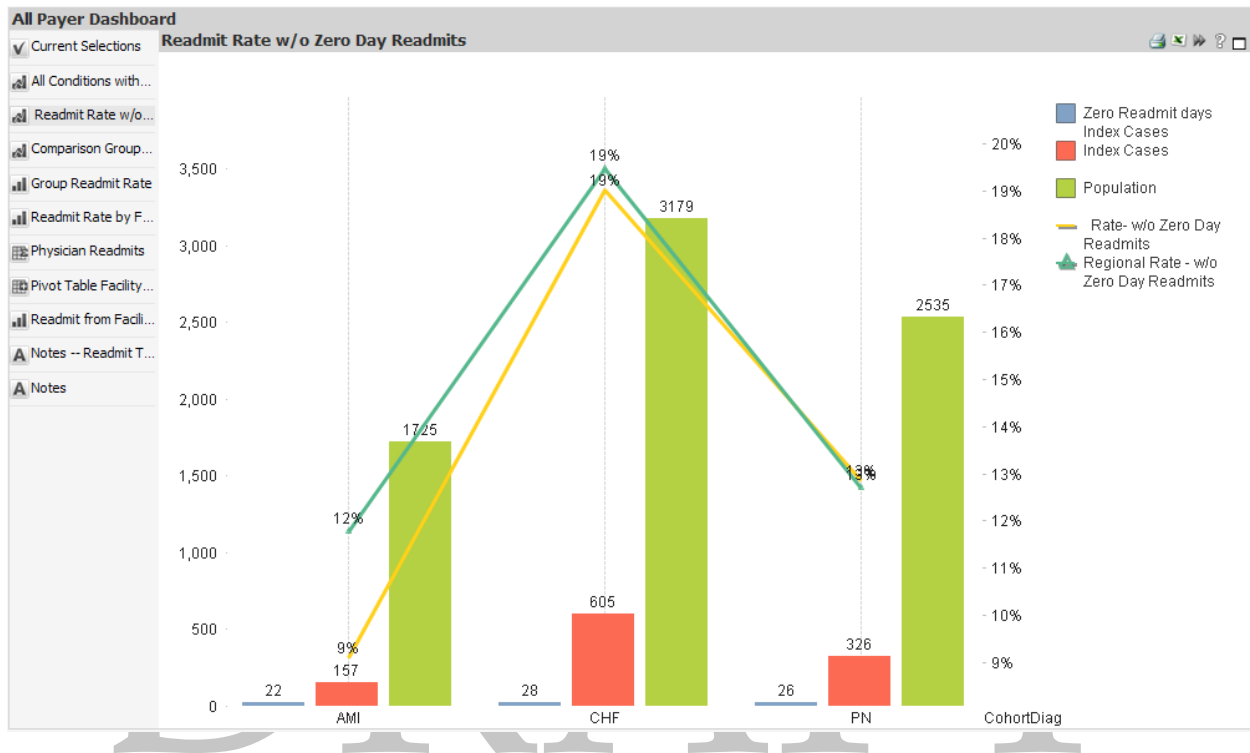
Highest Volume	1	2	3	4	5
<i>All</i>	Asthma	Diabetes	Pain/Aching of Joints	Arthritis	Congestive Heart Failure/Liver Condition
<i>Insured</i>	Asthma	Diabetes	Pain/Aching of Joints	Arthritis	Liver Condition
<i>Medicaid</i>	Asthma	Diabetes	Arthritis	Congestive Heart Failure	Pain/Aching of Joints
<i>Uninsured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

Regionally in North Texas, all-cause readmissions, as defined by a subsequent admission within 30 days from the incident encounter of any type, has demonstrated a downward trend since 2008.⁴³ Many hospitals are working to continue improvement in this area, specifically for readmission related to congestive heart failure, acute myocardial infarction, and pneumonia. As evidenced by an assessment of 10 individual high utilizers, there is a strong relationship with readmissions and behavioral health. Each of the unique patients listed by row have some component of mental health or substance abuse history over the course of their encounter history.

⁴³ DFWHC Foundation, Information and Quality Services Database, 2010.

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

QUID	Total Cases	Mental Health	Substance Abuse	2007	2008	2009	2010	2011	Hospitals Visited	Average LOS (Days)	Uninsured	Insured	Medicaid	Medicare	Total Charges	Average Total Charges
430172	571	356	111	98	137	109	138	89	6	1.7375	2%	6%	86%	5%	\$1,326,311.	\$2,323.
811367	537	396	17	110	117	109	125	76	22	1.0152	0%	0%	0%	100%	\$931,952.	\$1,735.
1495682	490	267	35	77	125	125	83	80	26	1.3313	6%	15%	79%	0%	\$2,310,619.	\$4,716.
3554434	397	266	34	45	39	115	121	77	4	3.2897	99%	1%	0%	0%	\$577,739.	\$1,455.
3358467	379	297	10	15	38	56	116	154	7	1.4190	4%	39%	0%	57%	\$369,397.	\$975.
3048466	370	297	14	62	143	82	52	31	23	1.9093	11%	4%	24%	61%	\$2,145,038.	\$5,797.
1590501	362	245	94	60	2	118	101	81	4	10.5363	14%	1%	3%	82%	\$289,747.	\$800.
1993887	362	201	7	63	68	124	66	41	24	0.9448	7%	8%	84%	1%	\$1,805,928.	\$4,989.
1308998	361	235	133	37	51	93	122	58	9	1.2975	48%	2%	50%	0%	\$1,804,562.	\$4,999.
1411963	334	312	1	71	106	26	10	121	19	1.5736	45%	5%	50%	0%	\$637,233.	\$1,908.



Children/Youth

Current assessment was not conducted for pediatric sub-analyses in this section.

Cost/Charge

From quarter 3 of 2010 to quarter 3 of 2011, the estimated charges associated with all regional emergency outpatient encounters was \$312,816,490 and for emergency inpatient encounters, the total charges increase to \$2,076,778,420. For the emergency inpatient encounters, there was relatively little pattern of charge variation across insured, Medicaid, Medicare, and Uninsured payor types. For emergency inpatient encounters, the data demonstrates more substantial variation with diabetes related complications becoming the highest volume of cases for the Medicaid and Uninsured population, followed by congestive heart failure and stroke. There is undoubtedly a huge financial impact on our healthcare delivery

system as a result of the significantly high charges of treating high rates of preventable, avoidable, or primary care treatable cases in an emergent setting. Additionally, there is a disproportionality in the high cost cases that occur within the Medicaid, Medicare, and Uninsured population which results in limited to no reimbursements to the facilities providing such cost-intensive care.

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SECTION VIII: Summary and Conclusion

Summary

RHP 9 has a number of interconnected health systems and providers, however based on the needs assessment findings, significant improvements to coordination of care with the behavioral health system, primary and specialty providers would help address many of the symptoms evidenced by the data. Implementation activities to address health disparities, behavioral health issues and the care of those with chronic conditions, such as diabetes are opportunities to directly impact community health needs. Many of the regional metrics indicate areas for improvement. Continued support and exchange of information and programs currently being conducted by the majority of hospital systems would be beneficial. Widespread population health improvements can be gained by innovative approaches to addressing social determinants of health, as well as the widespread behavioral health and capacity issues facing the RHP 9 region of North Texas.

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Appendices