### Community Health

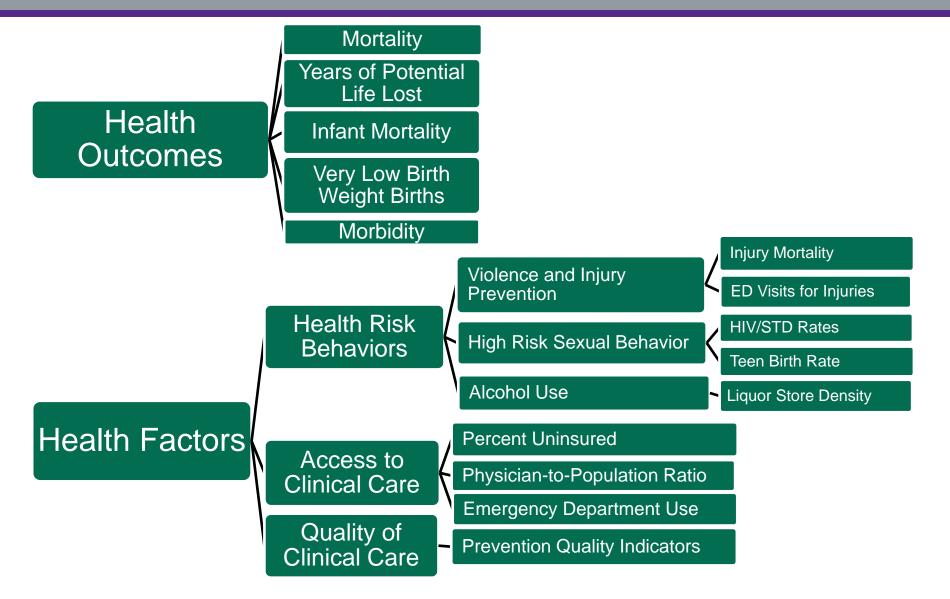
### Assessment







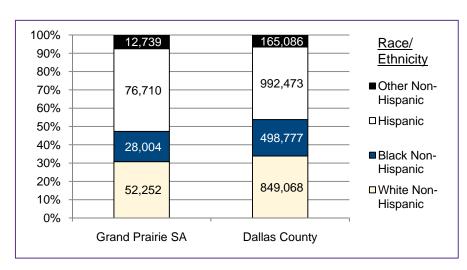
# Organizational Model For the Community Health Dashboard

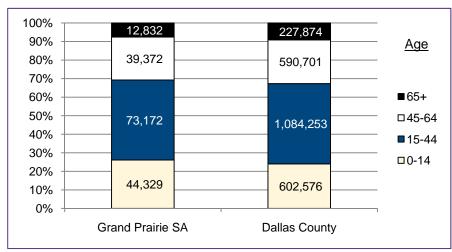


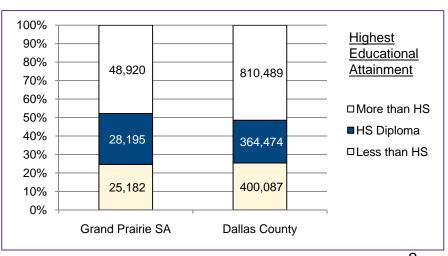


#### **Demographic Profile**

- The population of the Grand Prairie Dallas Service Area is much younger than the county population with only 76% of the population over 65 compared to 9.1% for the county average.
- The largest race/ethnic group in the Service Area population is Hispanics, comprising 45.2% of the population.
- Grand Prairie has a similar proportion of people with a high school diploma or more (75.4%) compared with Dallas County as a whole (74.5%).





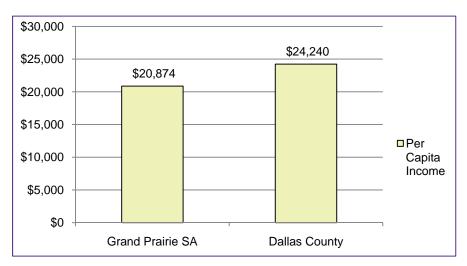


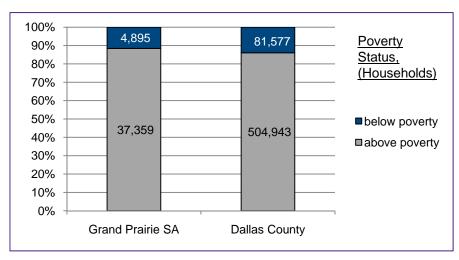


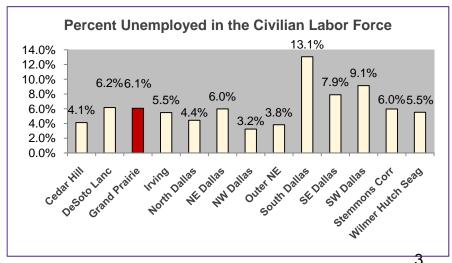
#### **Demographic Profile**

Grand Prairie Service Area

- The Grand Prairie Area has a slightly lower percentage of households in poverty (11.6%) than the Dallas County-wide rate (13.9%).
- The Service Area's per capita income was the eight lowest of the 13 service areas.
- This Service Area's percent unemployed is ranked 9<sup>th</sup> out of the 13 service areas.



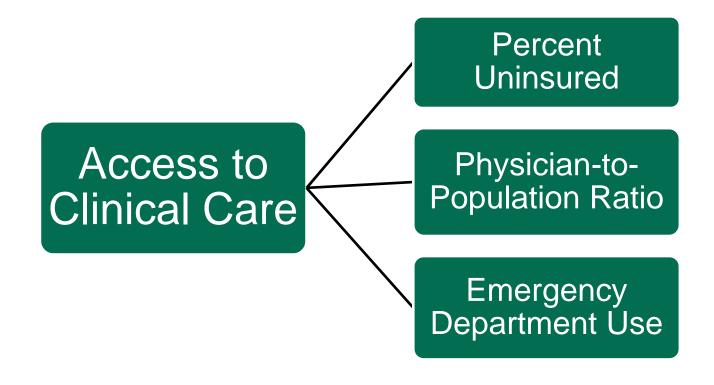




Source: Nielson,/Claritas Pop-Facts mid-2010 version





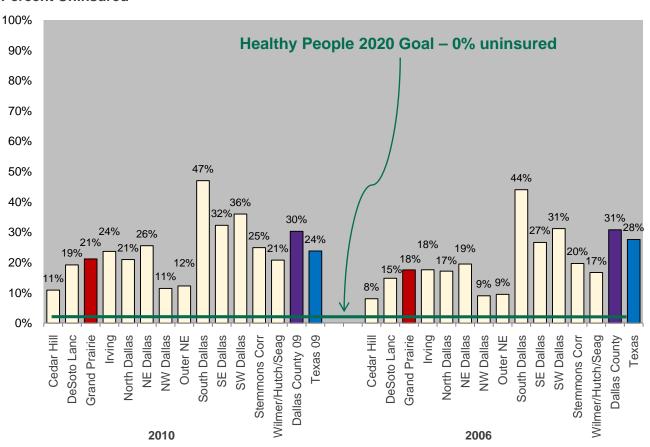




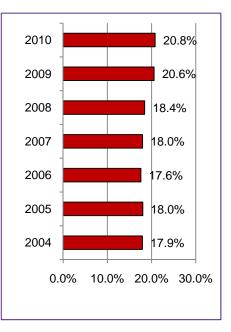
### Access to Healthcare: Percent Without Healthcare Insurance

Grand Prairie Service Area

#### **Percent Uninsured**



#### Percent Without Health Insurance, Grand Prairie Service Area

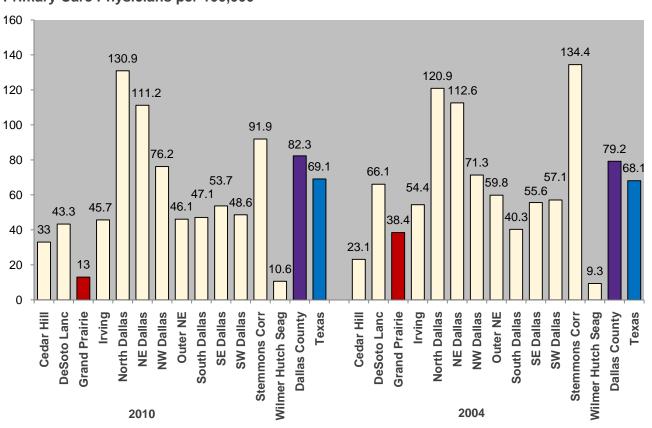




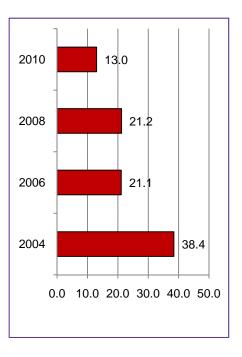
### Access to Healthcare: Primary Care Physician-to-Population Ratio

Grand Prairie Service Area

#### Primary Care Physicians per 100,000



Primary Care Physician-to-Population Ratio, per 100,000, Grand Prairie Service Area



Source: Texas Medical Association Physician Practice Address files; denominator population data from Claritas, Inc., except 2010 from Nielson/Claritas, Inc. Pop Facts. Mid 2010 version.

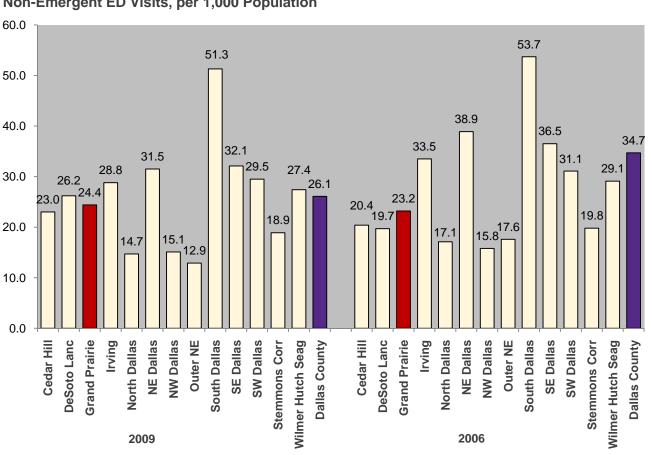
County and State sources is Texas Bureau of Primary Care. <a href="http://www.dshs.state.tx.us/chs/hprc/tables/Primary-Care-Physicians-(PC)-by-County-of-Practice---September,-2010/">http://www.dshs.state.tx.us/chs/hprc/tables/Primary-Care-Physicians-(PC)-by-County-of-Practice---September,-2010/</a> and



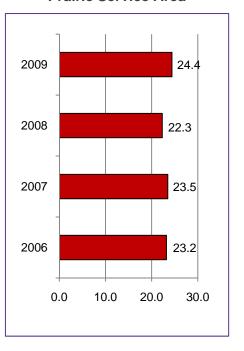
### Access to Healthcare: Non-**Emergent ED Utilization**

Grand Prairie Service Area

#### Non-Emergent ED Visits, per 1,000 Population



Rate of Non-Emergent ED Visits, per 1,000, Grand **Prairie Service Area** 





#### Access to Care

**Grand** 

Grand



- Doing better than the benchmark



- Same as/not significantly different from the benchmark

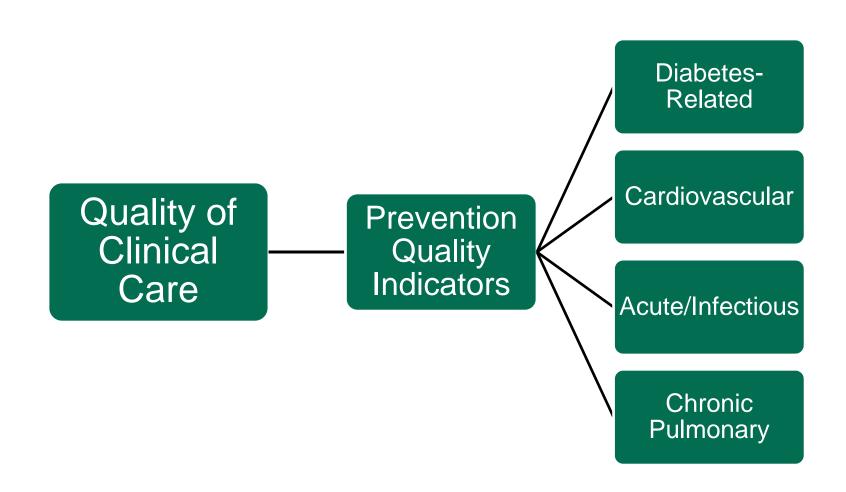
**Prairie Prairie Prairie** - Worse than the benchmark **Compared to** Compared to Compared Healthy **Benchmark** to Past People 2020 Counties\* Years' Data Goal (Quartiles) (CI) Percent Uninsured Access to Physician-to-Clinical N/A Population Ratio Care Emergency N/A N/A Department Use \*Benchmark Counties are:

**Grand** 

Maricopa, Los Angeles, Cook, Miami-Dade, Bexar, Harris and Tarrant

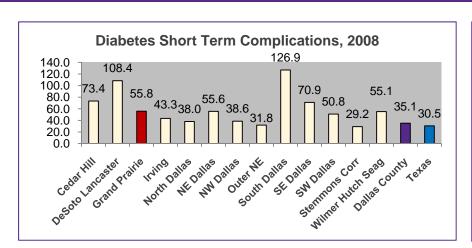


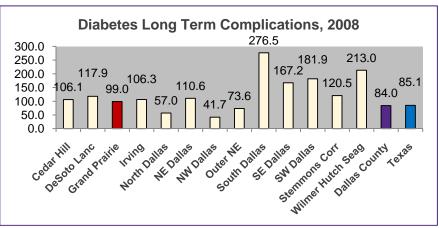
### **Quality of care**

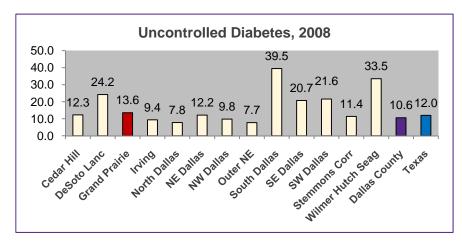


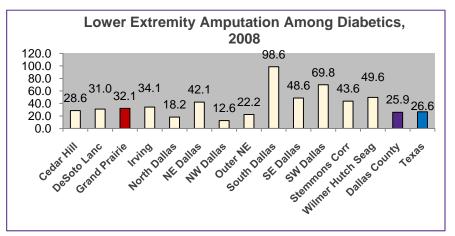


# Healthcare Quality: Rate of Preventable Hospitalizations, 2008 Diabetes-Related Hospitalizations Grand Prairie Service Area



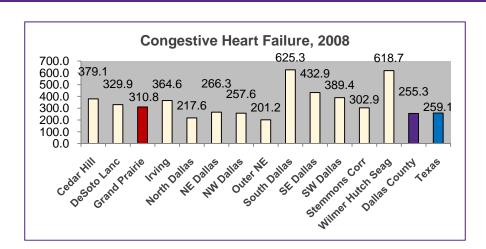


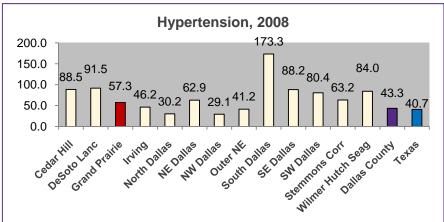


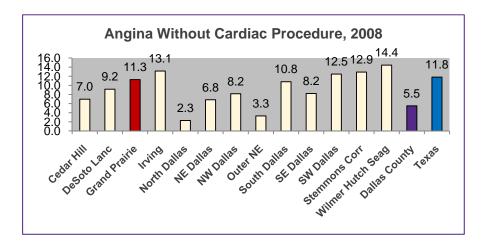




# Healthcare Quality: Rate of Preventable Hospitalizations, 2008 Cardiovascular Disease Hospitalizations Grand Prairie Service Area

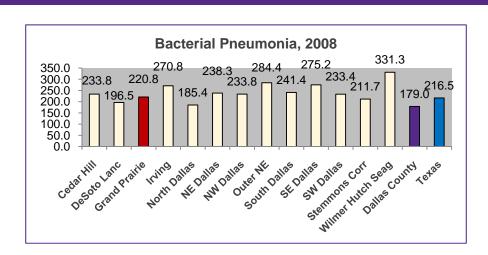


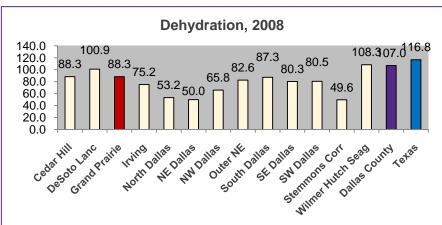


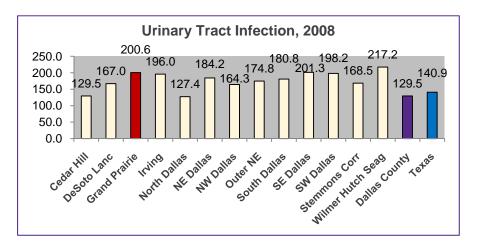




# Healthcare Quality: Rate of Preventable Hospitalizations, 2008 Acute/Infectious Disease Hospitalizations Grand Prairie Service Area

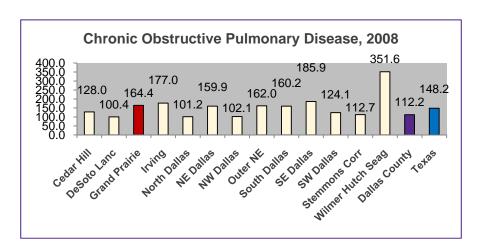


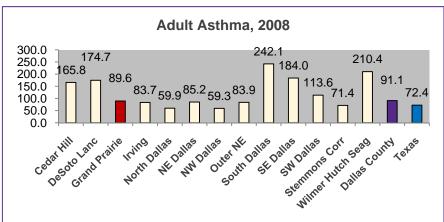






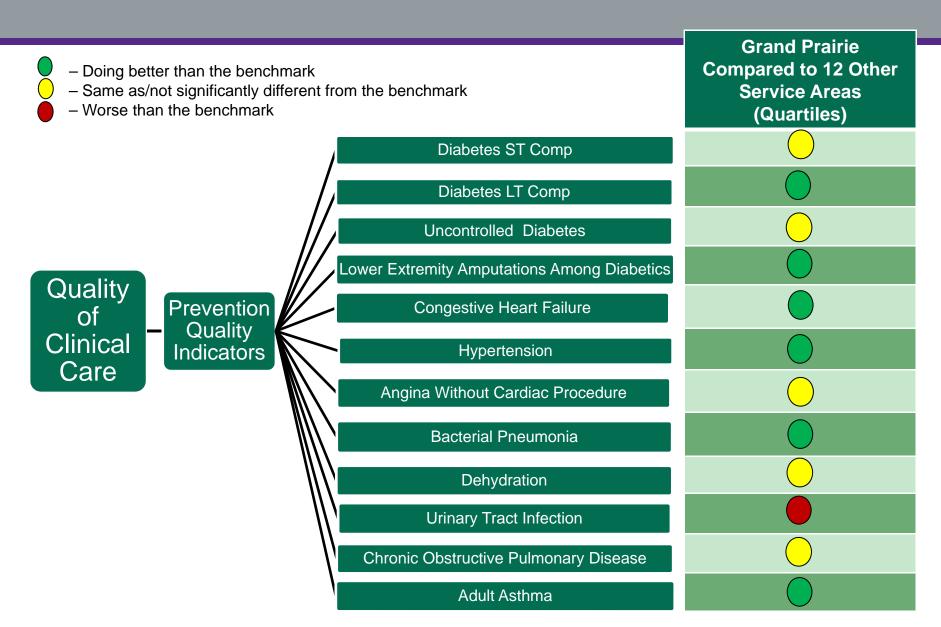
# Healthcare Quality: Rate of Preventable Hospitalizations, 2008 Chronic Pulmonary Disease Hospitalizations Grand Prairie Service Area





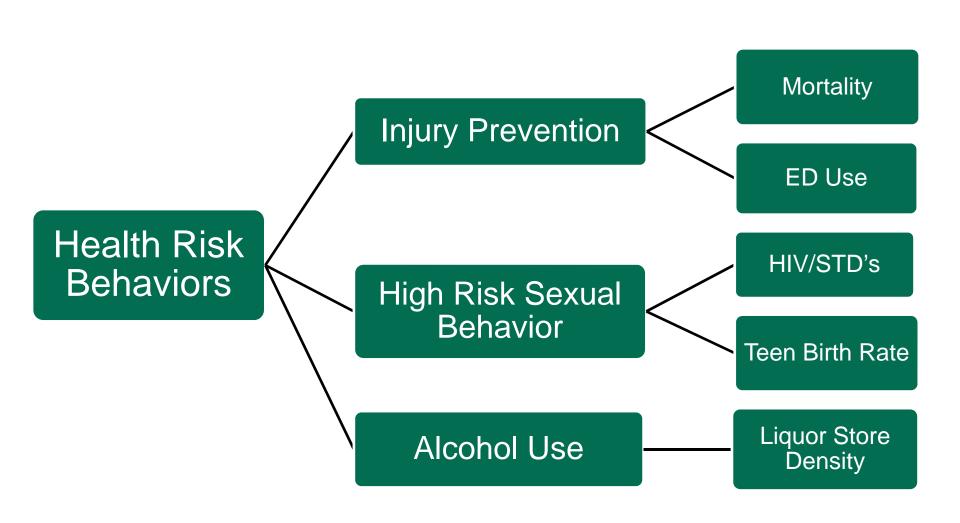


#### **Healthcare Quality**



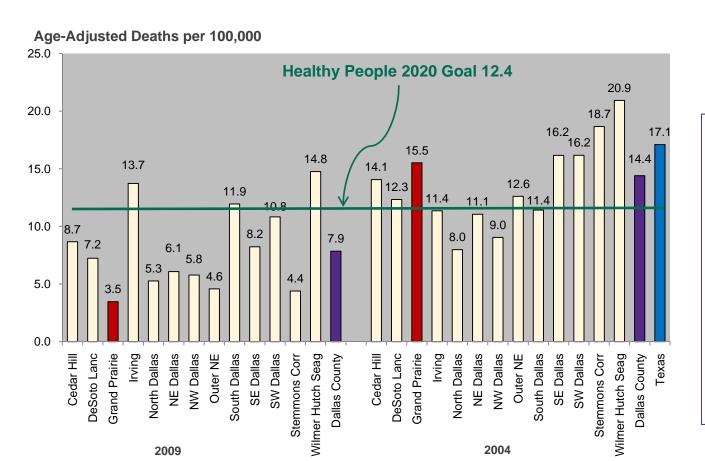




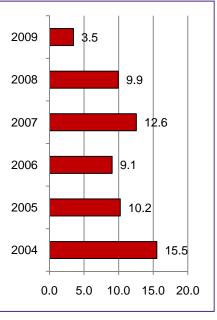




### Risk Factors: Auto Accident Mortality Rates

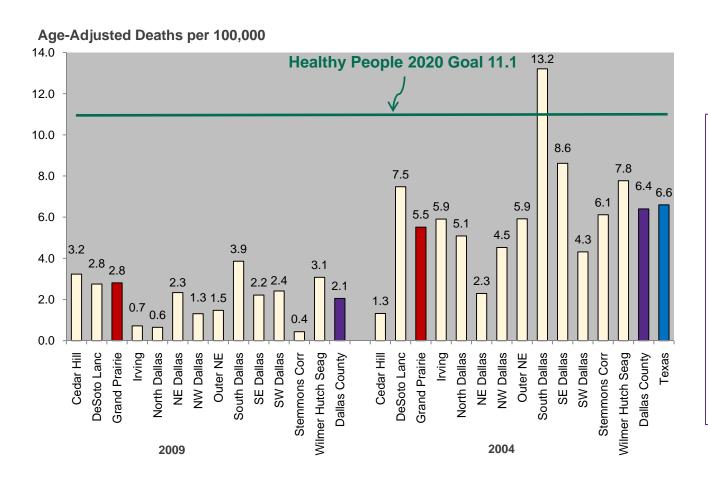


Auto Accident Mortality Rate, Age-Adjusted Death Rate per 100,000, Grand Prairie Service Area

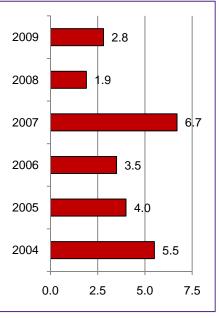




### Risk Factors: Accidental Poisoning Mortality Rates

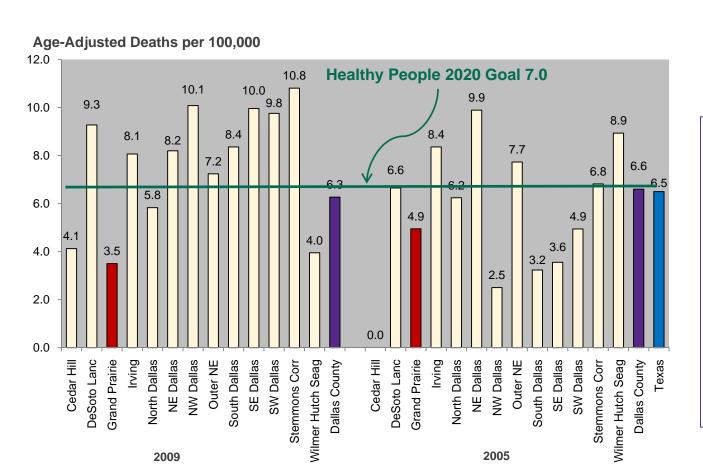


Accidental Poisoning Mortality Rate, Age-Adjusted Death Rate per 100,000, Grand Prairie Service Area

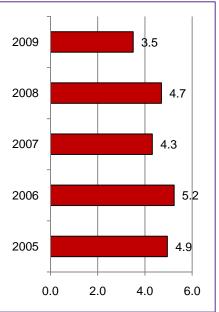




## Risk Factors: Accidental Falls Mortality Rates



Accidental Falls Mortality Rate, Age-Adjusted Death Rate per 100,000, Grand Prairie Service Area

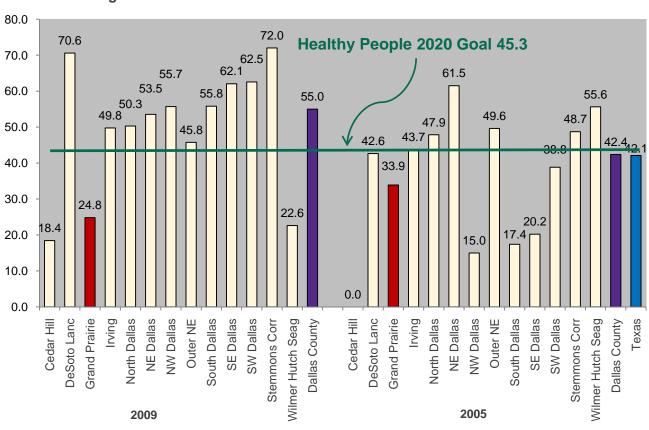




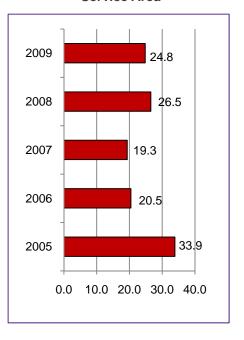
## Risk Factors: Falls Death Rates Among Seniors

Grand Prairie Service Area

#### Falls Deaths Age 65+



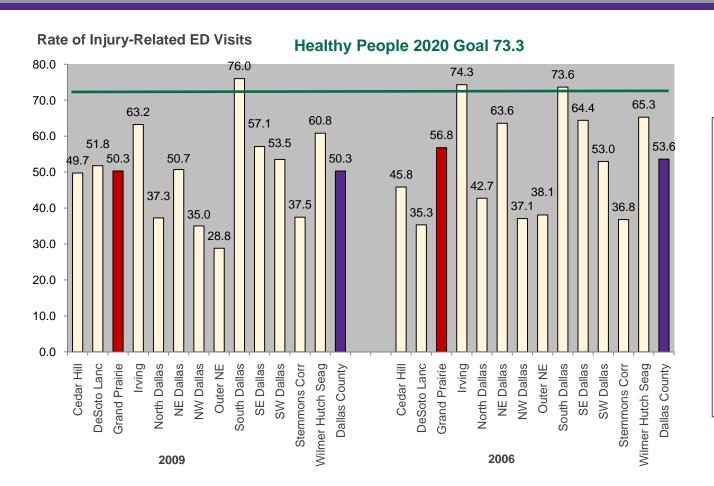
Falls fatality rates, ages 65+, per 100,000, Grand Prairie Service Area



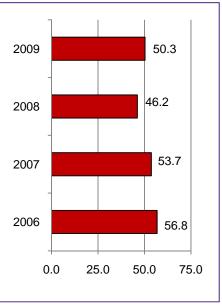
Source: Texas Department of State Health Services, Bureau of Vital Statistics, unpublished data; denominator population data from Claritas, Inc.; 2005 Dallas County data from Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death File 2005-2006. CDC WONDER On-line Database, compiled from Multiple Cause of Death File 2005-2006 Series 20 No. 2L, 2009. Accessed at <a href="http://wonder.cdc.gov/mcd-icd10.html">http://wonder.cdc.gov/mcd-icd10.html</a> on Mar 25, 2010 2:52:15 PM; 2005 Texas data from <a href="http://soupfin.tdh.state.tx.us/">http://soupfin.tdh.state.tx.us/</a>



### Risk Factors: Rate of Injury-Related ED Visits

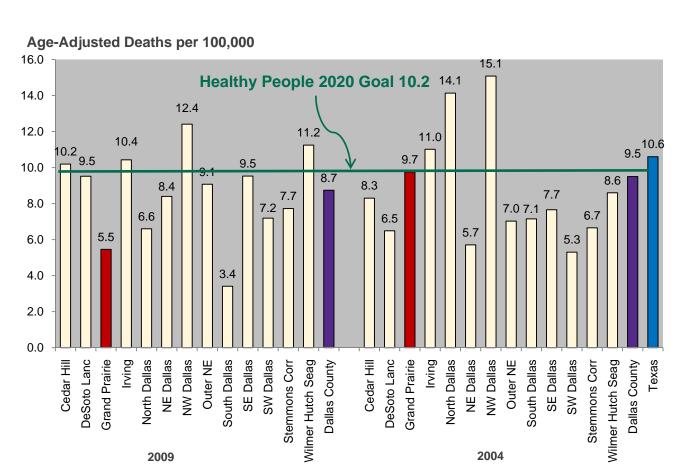


Rate of Injury-Related ED Visits, per 1,000, Grand Prairie Service Area

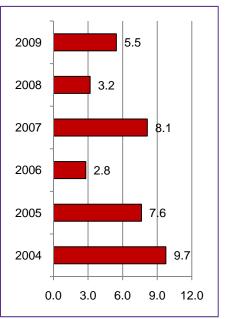




### Risk Factors: Suicide Mortality Rates



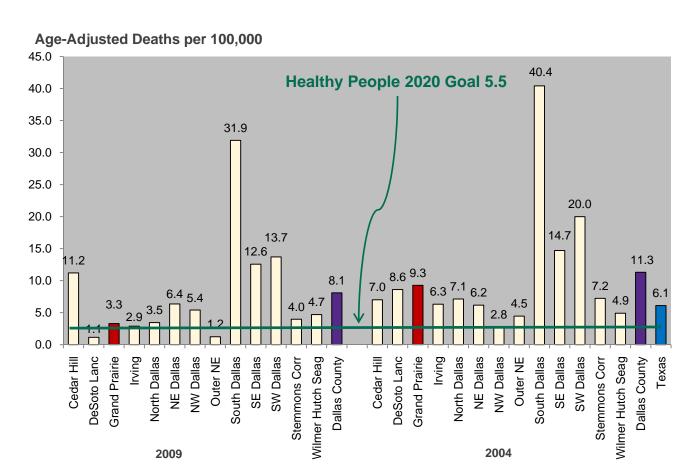
Suicide Mortality Rate, Age-Adjusted Death Rate per 100,000, Grand Prairie Service Area



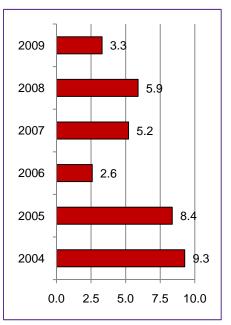


### Risk Factors: Homicide Mortality Rates

Grand Prairie Service Area

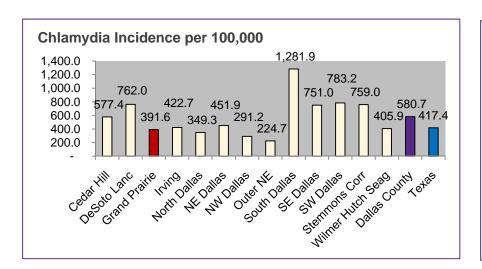


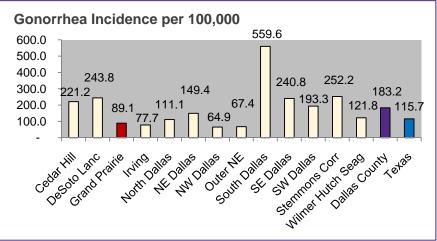
Homicide Mortality Rate, Age-Adjusted Death Rate per 100,000, Grand Prairie Service Area

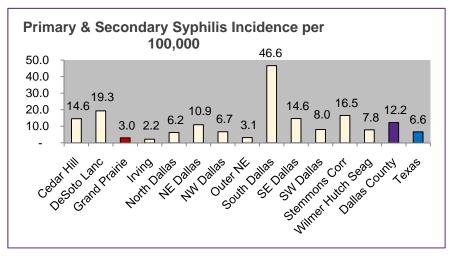


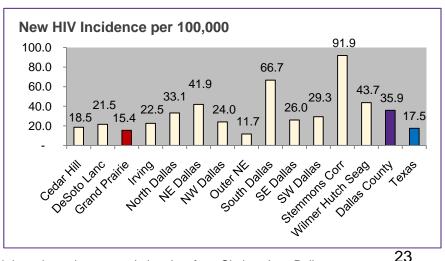


# Risk Factors: High Risk Sexual Behavior, Sexually Transmitted Disease Incidence Rates, 2009 Grand Prairie Service Area





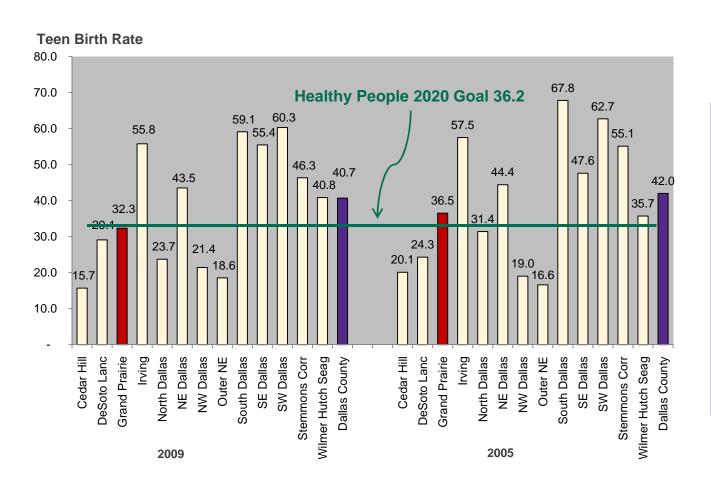


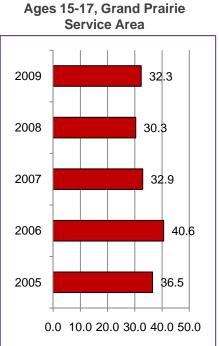




### Risk Factors: High Risk Sexual Behavior, Teen Birth Rates

Grand Prairie Service Area





Teen Births, Rate Per 1,000 Girls

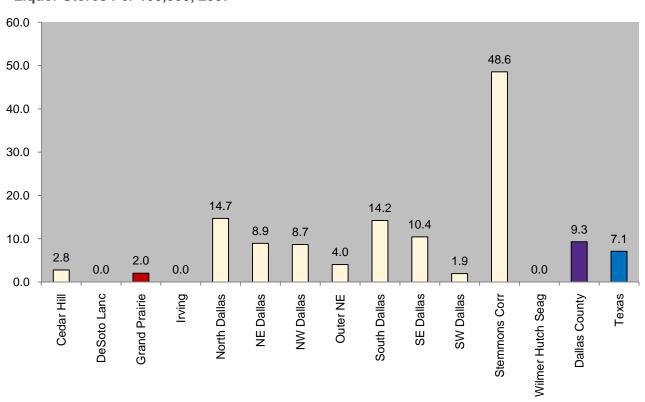
Source: Texas Department of State Health Services, Bureau of Vital Statistics; denominator population data from Claritas, Inc.



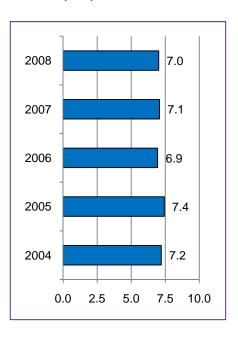
## Risk Factors: Liquor Store Density, 2007

Grand Prairie Service Area

#### Liquor Stores Per 100,000, 2007



Liquor Store Density, Stores per 100,000, State of Texas





#### **Health Risk Behaviors**

**Grand** 

**Grand Prairie** 

**Grand** 

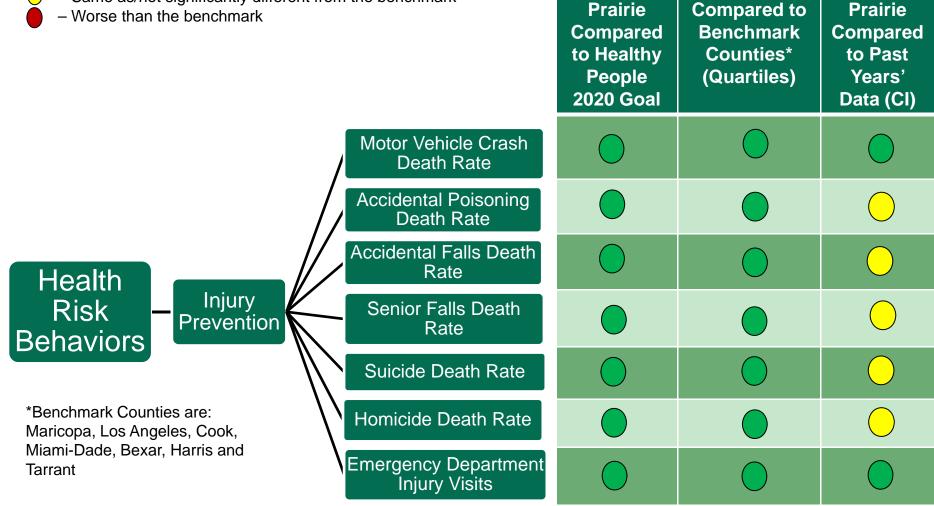


- Doing better than the benchmark



- Same as/not significantly different from the benchmark







#### **Health Risk Behaviors**



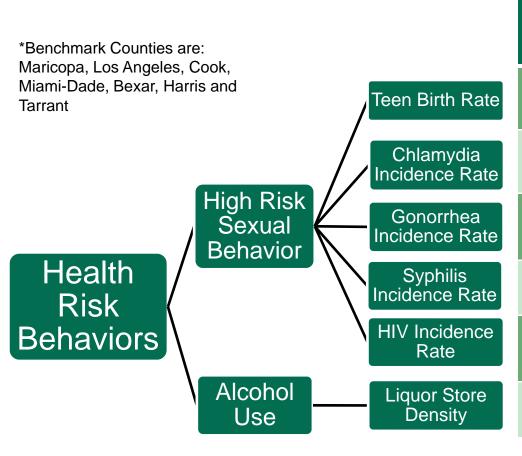
- Doing better than the benchmark



- Same as/not significantly different from the benchmark



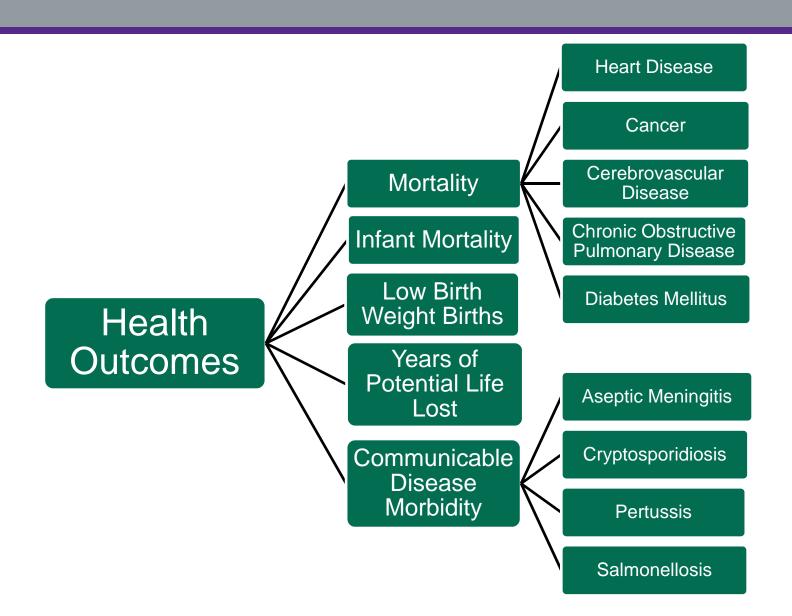
- Worse than the benchmark



Grand Prairie Compared to Healthy People 2020 Goal	Grand Prairie Compared to Benchmark Counties* (Quartiles)	Grand Prairie Compared to Past Years' Data (CI)
N/A		N/A



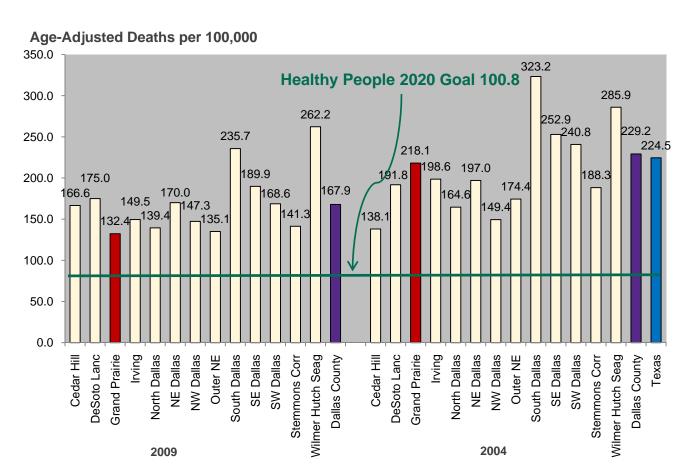
#### **Health Outcomes**



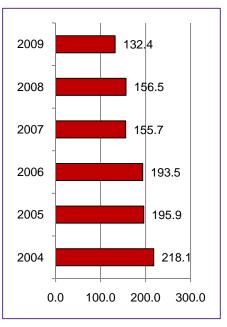


## **Health Outcomes: Heart Disease Mortality Rates**

Grand Prairie Service Area



Heart Disease Mortality Rate, Age-Adjusted Death Rate per 100,000, Grand Prairie Service Area



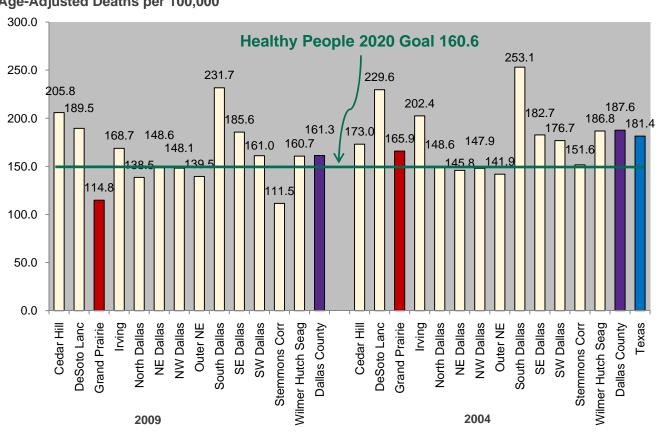
Source: Texas Department of State Health Services, Bureau of Vital Statistics; denominator population data from Claritas, Inc.



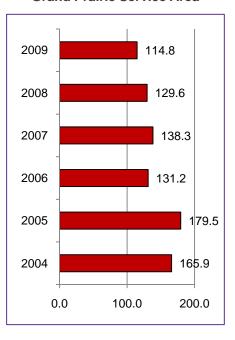
# Health Outcomes: Cancer Mortality Rates

Grand Prairie Service Area

#### Age-Adjusted Deaths per 100,000



Cancer Mortality Rate, Age-Adjusted Death Rate per 100,000, Grand Prairie Service Area



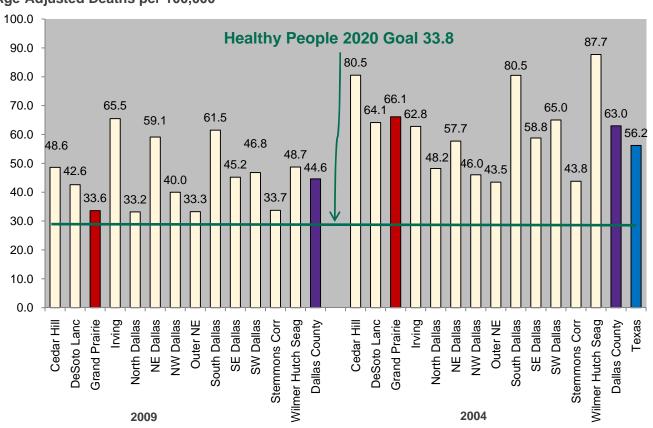
Source: Texas Department of State Health Services, Bureau of Vital Statistics; denominator population data from Claritas, Inc.



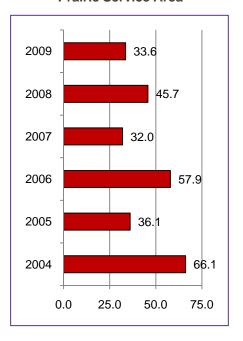
# Health Outcomes: Cerebrovascular Disease Mortality Rates

Grand Prairie Service Area





#### Cerebrovascular Disease Mortality Rate, Age-Adjusted Death Rate per 100,000, Grand Prairie Service Area

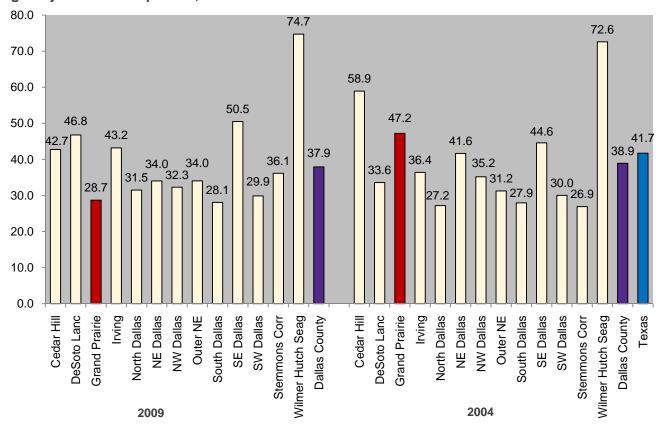




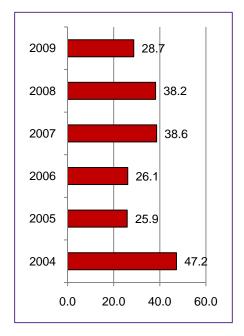
#### Health Outcomes: Chronic Obstructive Pulmonary Disease Mortality Rates

Grand Prairie Service Area

#### Age-Adjusted Deaths per 100,000



Chronic Obstructive Pulmonary
Disease Mortality Rate, AgeAdjusted Death Rate per 100,000,
Grand Prairie Service Area



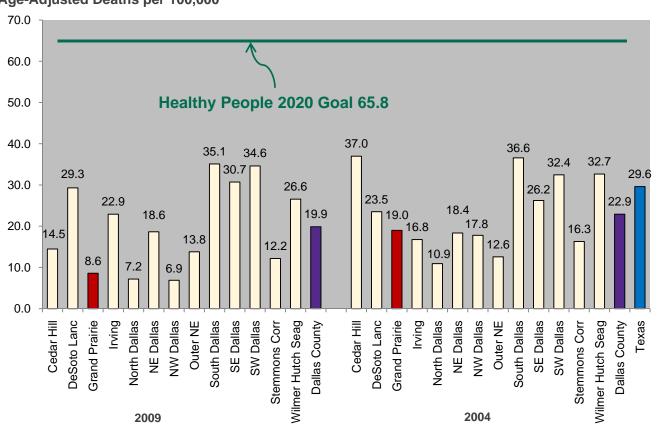
NOTE: No Healthy People 2020 goal matches this metric.



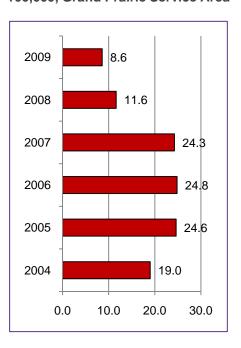
# **Health Outcomes: Diabetes Mortality Rates**

Grand Prairie Service Area

#### Age-Adjusted Deaths per 100,000

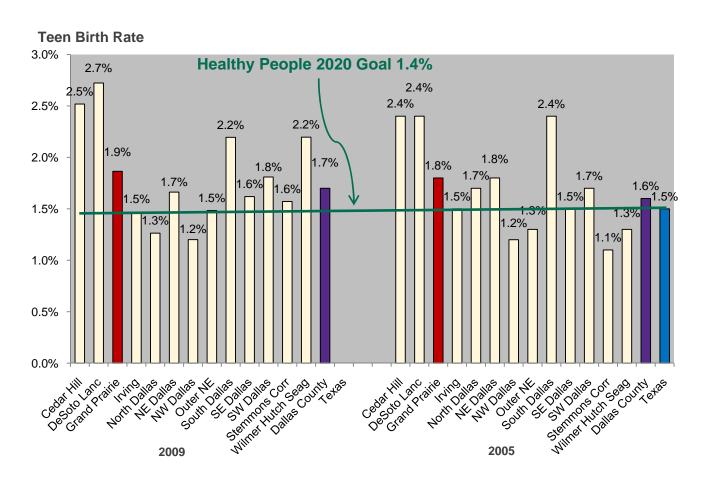


Diabetes Mellitus Mortality Rate, Age-Adjusted Death Rate per 100,000, Grand Prairie Service Area

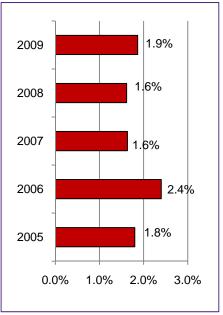




# Health Outcomes: Birth Outcomes, Rate of Very Low Birth Weight Births

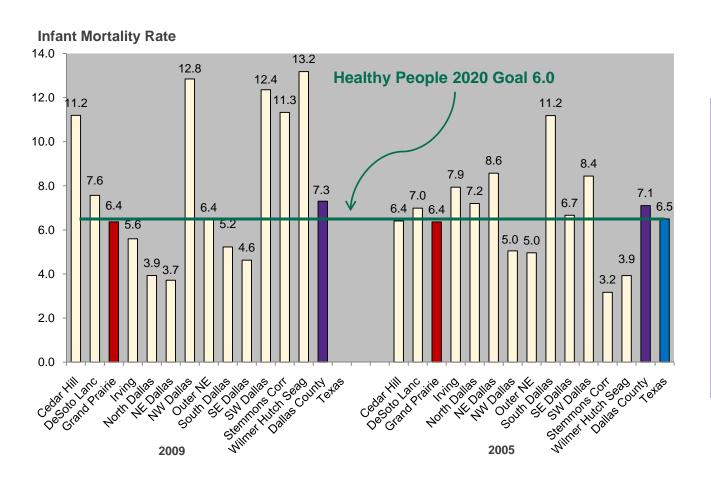


Very Low Birth Weight Rate, % of Births Below 1500 Grams at Birth, Grand Prairie Service Area

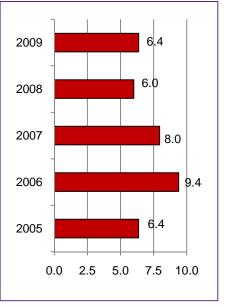




## Health Outcomes: Birth Outcomes, Infant Mortality Rate



Infant Mortality Rate, Deaths per 1,000 Live Births, Grand Prairie Service Area

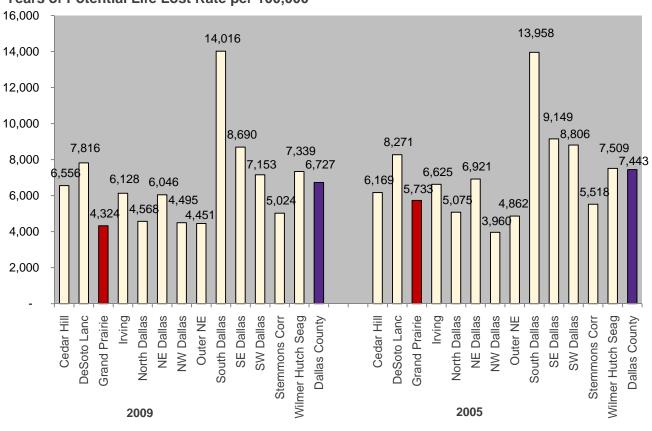




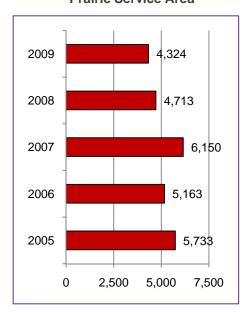
### Health Outcomes: Years of Potential Life Lost, All Causes

Grand Prairie Service Area





Years of Potential Life Lost Rate\*, per 100,000, Grand Prairie Service Area

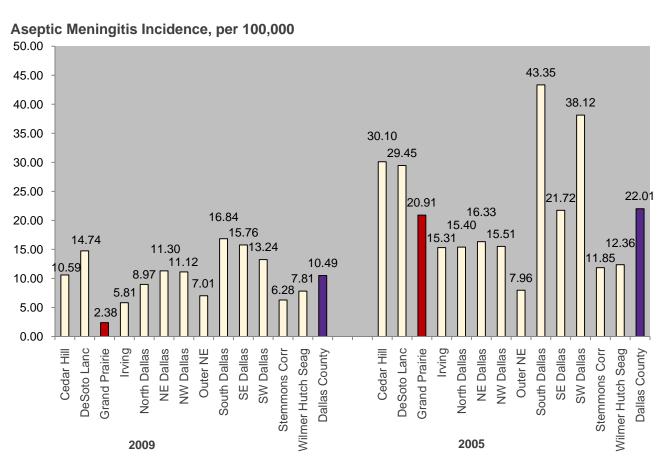


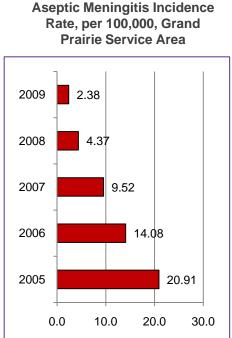
\*Years of Potential Life Lost Rate is defined as the rate of deaths under age 75 per 100,000 population under age 75.



# Health Outcomes: Reportable Communicable Disease Rates

Grand Prairie Service Area





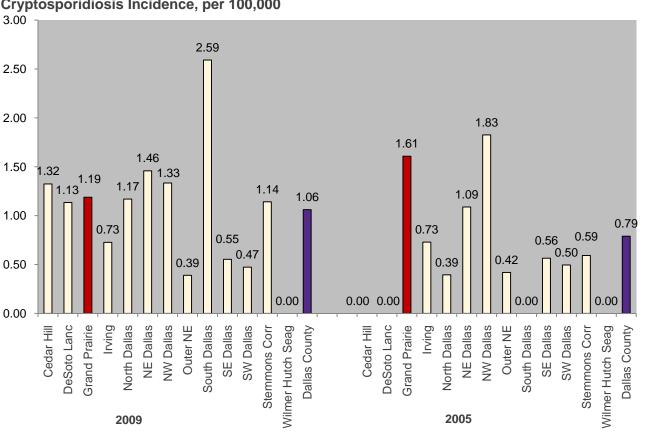
Source: Texas Department of State Health Services, Infectious Disease Control Unit, unpublished data; denominator population data from Claritas, Inc.; 2005 Dallas County data from Dallas County Health and Human Services web site: <a href="http://www.dallascounty.org/department/hhservices/services/communicable/documents/ReportableConditions2003-07Annual.pdf">http://www.dallascounty.org/department/hhservices/services/communicable/documents/ReportableConditions2003-07Annual.pdf</a>; 2005 Dallas County denominator population data from American Community Survey.



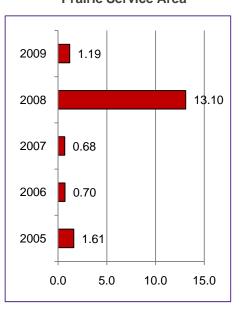
### Health Outcomes: Reportable **Communicable Disease Rates**

Grand Prairie Service Area





#### Cryptosporidiosis Incidence Rate, per 100,000, Grand Prairie Service Area

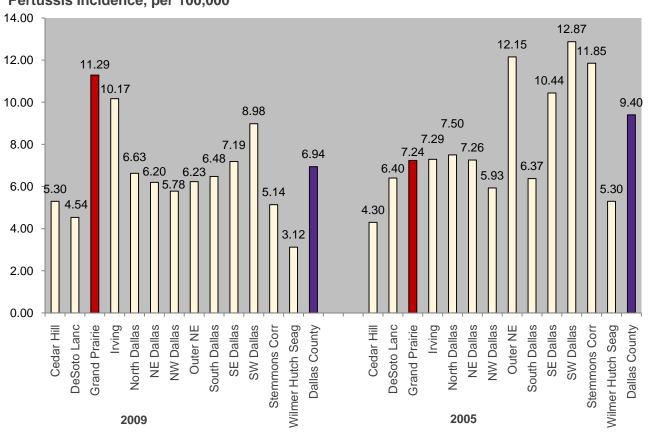




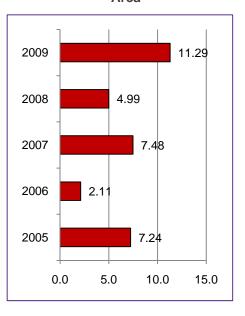
# Health Outcomes: Reportable Communicable Disease Rates

Grand Prairie Service Area





#### Pertussis Incidence Rate, per 100,000, Grand Prairie Service Area

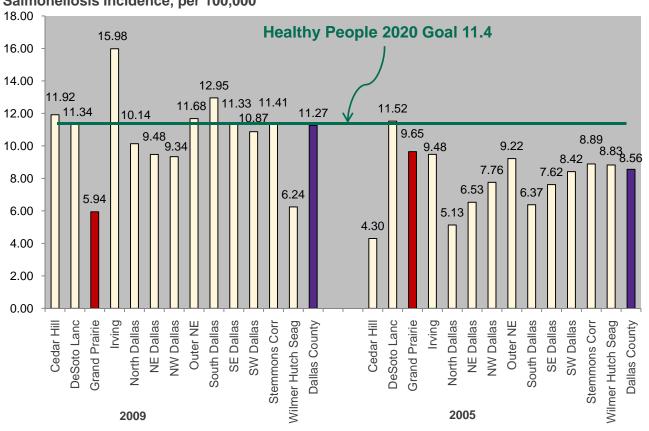




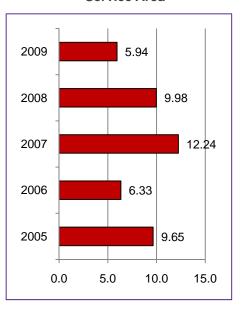
# Health Outcomes: Reportable Communicable Disease Rates

Grand Prairie Service Area





#### Salmonellosis Incidence Rate, per 100,000, Grand Prairie Service Area

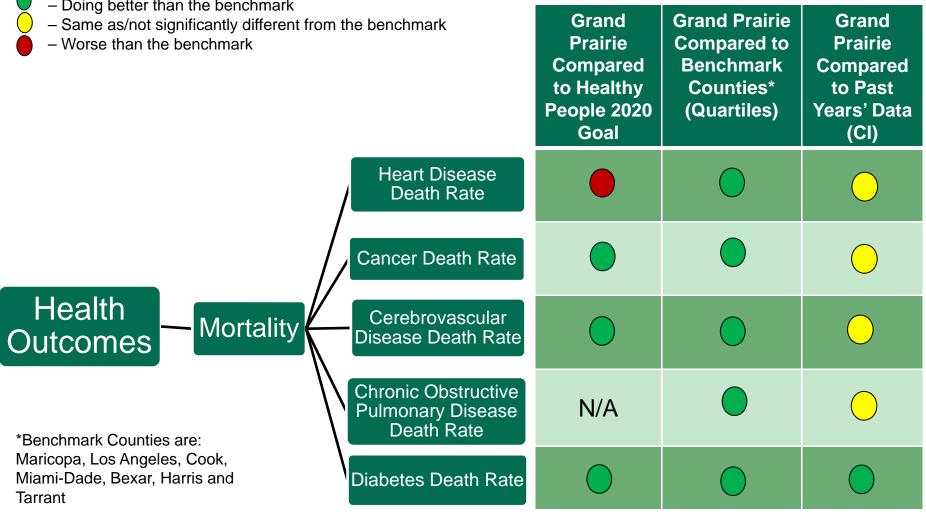




### **Health Outcomes**

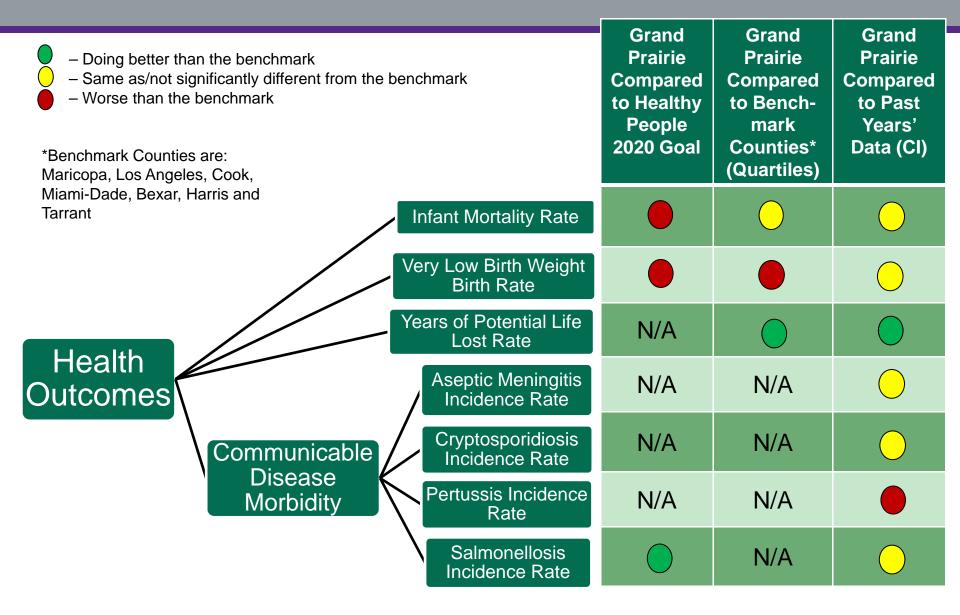


- Doing better than the benchmark



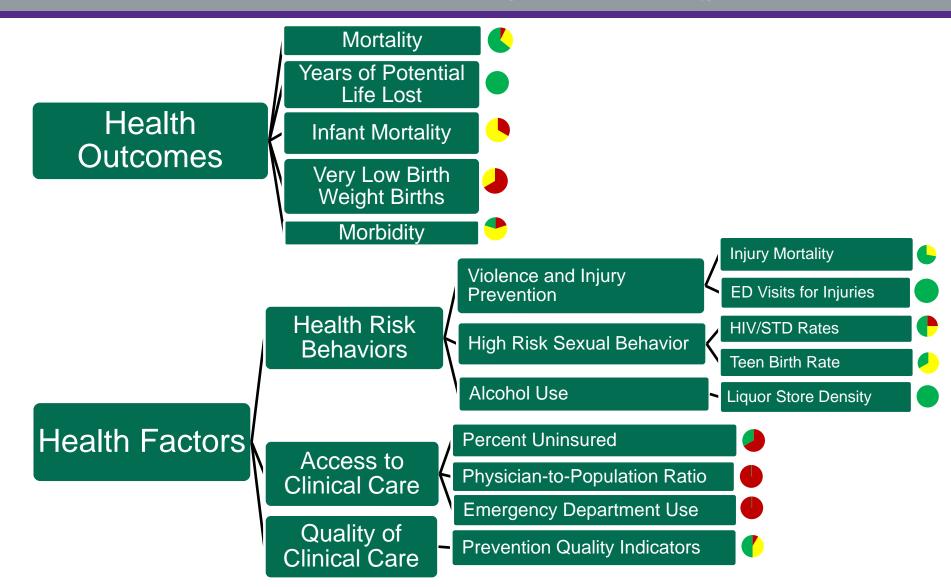


### **Health Outcomes**

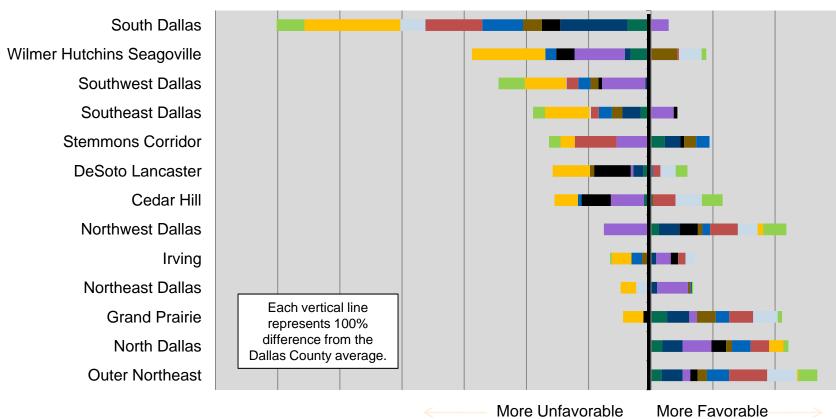




### Summary – Model With Stoplight Pie Charts, Grand Prairie Service Area



## Parkland Deviations from the Dallas County mean



NOTE: All data are from the years 2007-2010, years available varies by topic.

#### Percent Difference from the Dallas County Average

- Mortality
- Very Low Birth Weight
- High Risk Sexual Behavior
- Socioeconomic

- Years of Potential Life Lost
- Morbidity
- Access to Clinical Care

- Infant Mortality
- Violence and Injury
- Preventable Hospitalizations



## Methods of calculating deviations from the Dallas County mean for the preceding chart

- Mortality. For each service area and for Dallas County, add the 2009 age-adjusted death rates per 100,000 for the five leading causes of death, to get a single number. Calculate for each service area the percent deviation from the Dallas County total, from -infinity to +infinity. That deviation is the mortality deviation for the chart. Because heart disease and cancer predominate, this tends to over-weight these two causes compared to the other three (stroke, COPD and diabetes).
- Years of potential life lost. Using the Years of Potential Life Lost Rate per 100,000, calculate for each service area the percent deviation from the Dallas County YPLL rate, from -infinity to +infinity. That deviation is the YPLL deviation for the chart.
- Infant Mortality. Using the Infant mortality rate per 1,000 live births, calculate for each service area the percent deviation from the Dallas County infant mortality rate, from -infinity to +infinity. That deviation is the infant mortality deviation for the chart.
- Very Low Birth Weight. Using the Very Low Birth Weight rate per 1,000 live births, calculate for each service area the percent deviation from the Dallas County VLBW rate, from -infinity to +infinity. That deviation is the VLBW deviation for the chart.
- Morbidity. For each service area and for Dallas County, add the 2009 incidence rates per 100,000 for the four reportable diseases (aseptic
  meningitis, cryptosporidiosis, pertussis, salmonellosis), to get a single number. Calculate for each service area the percent deviation from the
  Dallas County total, from -infinity to +infinity. That deviation is the morbidity deviation for the chart. Meningitis and salmonellosis are more
  common, so this tends to over-weight them, although all are fairly rare in a population sense.
- · Violence and Injury. Three steps:
  - For each service area and for Dallas County, add the 2009 age-adjusted death rates for the injury-related causes of death (motor vehicle crashes, poisoning, falls, suicide and homicide) and the age-specific seniors falls death rate (all of which are in units of deaths per 100,000), to get a single number. Calculate for each service area the percent deviation from the Dallas County total, from -infinity to +infinity.
  - Then using the rate per 100,000 of ED visits for injuries, calculate for each service area the percent deviation from the Dallas County rate, from -infinity to +infinity.
  - Calculate the arithmetic mean of these two percent deviations. That is the Violence and Injury deviation for the chart. This might over-weight ED visits somewhat, but it is qualitatively different from mortality.



## Methods of calculating deviations from the Dallas County mean for the preceding chart

- High Risk Sexual Behavior. Three steps:
  - For each service area and for Dallas County, add the 2009 incidence rates for three non-HIV STDs (Chlamydia, gonorrhea and syphilis), to get a single number in units of cases per 100,000. Calculate for each service area the percent deviation from the Dallas County total, from -infinity to +infinity.
  - Then using the rate of new HIV diagnoses per 100,000, calculate for each service area the percent deviation from the Dallas County rate, from -infinity to +infinity.
  - The using the rate of births to girls 15-17, per population of girls 15-17, calculate for each service area the percent deviation from the Dallas County rate, from infinity to +infinity.
  - Calculate the arithmetic mean of these three percent deviations. That is the High Risk Sexual Behavior deviation for the chart. This might under-weight syphilis somewhat. By giving the three equal statistical weight (STDs, HIV and teen births) you could set off debates over which has the most impact over harm to the area's health status, but since they are qualitatively quite different we probably can't resolve that to everyone's satisfaction.
- Access to Clinical Care. For each service area and for Dallas County, add the 2010 percent of people without health insurance and rate of non-emergent ED user per 1000 population, then subtract the rate of primary care physicians per 100,000 population (since higher is better for this measure), to get a single number. Calculate for each service area the percent deviation of this total from the Dallas County total, from -infinity to +infinity. That deviation is the access to care deviation for the chart. Although these three measures are in different units, the values were in the range of 5-130 (in different units), such that the contributions of each of the three measures to the total was approximately equal.
- Quality of Clinical Care. There are 12 preventable hospitalization discharge rates for each service area, age-adjusted in units of discharges per 100,000. Some are more common, such as bacterial pneumonia (in the range of 100-400 discharges per 100,00), while some are more rare (around 5-10 per 100,000). So for each service area and for Dallas County, for each discharge category calculate the percent deviation from the Dallas County rate. Calculate the arithmetic average of these 12 deviations, that deviation is the quality of care deviation for the chart.
- Socioeconomic indicators. There are four socioeconomic indicators—percent age 65 or older, percent age birth to 14, percent of
  adults age 25+ without a high school diploma, percent of the population below the federal poverty limit. For each service area and
  for Dallas County, for each of these four indicators calculate the percent deviation from the Dallas County rate. Calculate the
  arithmetic average of these four deviations, that deviation is the socioeconomic deviation for the chart.





Age Adjusted Death Rates: Death rates that control for the effects in population age distributions. The centers for Disease Control and Prevention established the standard population weights for direct age adjustments. The need for age adjustment becomes particularly important when cause-specific mortality is of interest. Unadjusted rates for chronic diseases (cardiovascular diseases, cancers, or chronic lower respiratory diseases) may appear to be higher for older populations when compared to a younger population. With age-adjustment those differences may be reduced or even reversed. A mechanism for adjusting the age structure differences is needed to determine if there really are mortality differences between two populations. By applying age-specific mortality rates to a standard population, direct standardization controls for differences in population composition. Mortality trends can be more accurately compared along geographic, temporal, or race/ethnicity lines, etc. In short, standardization lets us look at what the death rate would be in one population if that population had the same age structure as the standard population. Beginning with 1999 events, the United States year 2000 population is used as the standard for age-adjusting.