AUSTIN PUBLIC HEALTH

CRITICAL HEALTH INDICATORS REPORT

2017

Austin Public Health

2017 Critical Health Indicators Report

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Executive Summary

Travis County is home to 1.2 million people. Every day, we hear or learn of serious public health problems such as the obesity epidemic, higher rates of diabetes, cancer and heart disease, outbreaks of communicable diseases, the emergence of the new influenza virus strains, and the persistent disparities in health status among various population groups.

The 2017 Critical Health Indicators Report represents the Austin Public Health Department's efforts to gather, analyze, and present information on adverse health conditions that affect the county's population. The 2017 Critical Health Indicators Report provides an updated overview to the 2012 and 2015 editions on the health of the county's population.

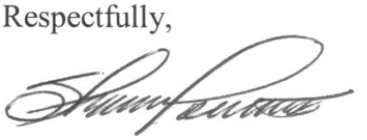
Information in the 2017 report was primarily obtained from the United States Census Bureau, Texas Department of State Health Services, the Texas Behavioral Risk Factor Surveillance Survey, and from morbidity and mortality reports collected by the Epidemiology and Public Health Preparedness Division. The report is the product of Austin Public Health epidemiologists and staff using the most recent county, state, and national data available.

Data in the report notes many successes in creating a healthier community. Less middle and high school students are using tobacco products. Lung cancer mortality rates are decreasing. The infant mortality rate for Blacks continues to decline. Vaccines have reduced the number of people sick with hepatitis A, hepatitis B, meningococcal disease, and mumps.

In spite of the successes, a number of challenges persist. There is still an HIV epidemic and it remains a major health issue in Travis County. Many of our residents die by suicide. Unhealthy diets contribute to higher rates of cardiovascular disease and obesity. Many diseases disproportionately strike people of lower social economic status.

Austin Public Health is committed to addressing these challenges. On behalf of the Austin Public Health staff, I am pleased to share with you the 2017 Critical Health Indicators Report. I hope this report generates questions and discussions on how to best improve the health status of the population and to ensure our vision that *"Our community will be the healthiest in the nation"*.

Respectfully,



Shannon Jones, III
Director

Acknowledgements

This report was prepared by Austin Public Health.

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The expertise and contributions of the following persons who prepared and wrote various sections made the 2017 Critical Health Indicators Report possible.

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Introduction

On behalf of the Austin Public Health staff, I am pleased to share with you the 2017 Critical Health Indicators Report. The report provides information on selected diseases, conditions, and risk factors for the Travis County population. The report includes over 50 figures, 20 tables and 15 maps on over 20 health topics.

The report notes several successes in moving toward a healthier community. These successes include:

- A decreasing prevalence of tobacco use among middle and high school students.
- A 60% decrease in infant mortality rates for Blacks since 2003-2004.
- A decreasing number of deaths due to lung cancer.
- A 95% decrease in the incidence rate for hepatitis A since 1996.
- A 28% decrease in the proportion of births among Hispanics by women under 20 years of age since 2009.

Yet we have much work to do.

- Blacks have disproportionately higher rates of HIV and other sexually transmitted diseases compared with Whites.
- The infant mortality rate for Blacks was two times higher compared with Whites.
- The incidence of tuberculosis is increasing.
- Over 125 Travis County residents die by suicide each year.
- Over 2,000 county residents were diagnosed with HIV during the past ten years.
- Poisonings due to narcotics, alcohol, psychotropic drugs, and other medications or noxious substances are the leading cause of unintentional injury death for those 25 through 64 years of age.
- Adults aged 85 years and older have the highest mortality rate from unintentional falls.

This report highlights areas where we need to focus efforts, and also helps us to monitor our progress in combating these issues. We remain committed to our mission to preventing disease, promoting health, and protecting the well-being of our community. We appreciate your thoughts, suggestions, and ideas as we work together to move the needle on these critical health indicators.

Sincerely,

Philip Huang, MD, MPH
Medical Director/Health Authority

1.0 Demographic Characteristics

In 1990, Austin was ranked as the 25th largest city in the United States. In 2014, twenty-four years later, the City of Austin was ranked as the 11th most populated city in the United States. From 2010 to 2015, the City of Austin population increased 17.1% with a population increase of approximately 25,000 people per year. Travis County was ranked as the 39th fastest growing county in the United States from 2010 to 2015.

Table 1.1 shows selected demographic characteristics for the populations of the City of Austin, Travis County, and the State of Texas. An estimated 931,000 people resided in the City of Austin in 2015. The City of Austin population comprised about 3.4% of the State of Texas population.

For the City of Austin and Travis County a similar percentage of the population is younger than 18 years of age. The City of Austin and Travis County populations are slightly younger, less than 35 years of age, compared with the Texas population. A majority (73.3%) of people living in Austin is white; most (64.8%) are non-Hispanic.

From 2010 to 2015, the number of Blacks within the City of Austin increased 11.8% while the number of Asians increased 49.3%. The percentage of the City of Austin and Travis County populations who are foreign born is 19.5% and 18.0% respectively. These percentages are slightly higher compared with the Texas population (17.0%) and the United States population (13.5%). Spanish is spoken at home in 24.7% of the households in Austin compared with 29.5% of the households in Texas.

Table 1.2 shows aspects of educational attainment and poverty level for populations of Austin, Travis County and the State of Texas. Generally, the City of Austin and Travis County populations have attained a higher level of education. The percentages of the City of Austin and Travis County populations 25 years of age or older who have attained a bachelor's, graduate, or professional degree are over 47% compared with 28% of the Texas population 25 years of age or older.

In 2015, an estimated 189,124 families resided in the City of Austin; 252,395 families resided in Travis County. A low percentage (6.4%) of two person families living in the City of Austin and Travis County were at poverty level. Generally, the percentage of families in the City of Austin and Travis County at poverty level is lower compared with families in Texas.

Table 1.1. Selected Population Demographic Characteristics, City of Austin, Travis County, and Texas, 2015

Population Characteristic	City of Austin		Travis County		Texas
	Number	%	Number	%	%
	931,840	100.0	1,176,558	100.0	100.0
Gender					
Male	475,718	51.1	592,723	50.4	49.6
Female	456,122	48.9	583,835	49.6	50.4
Age					
Under 18 years	194,876	20.9	267,942	22.8	26.2
18 to 34 years	312,699	33.6	348,305	29.6	24.6
35 to 64 years	349,122	37.5	457,734	38.92	37.4
65 years and over	75,143	8.1	102,577	8.7	11.7
Race					
White	683,349	73.3	872,255	74.1	74.9
Black/African American	70,992	7.6	100,301	8.5	12.0
American Indian/Alaska Native	2,832	0.3	4,785	0.4	0.5
Asian alone	69,994	7.5	75,784	6.4	4.5
Other/Two or more races	104,673	11.2	123,433	10.5	7.9
Ethnicity					
Not Hispanic or Latino	604,106	64.8	777,788	66.1	61.1
Hispanic or Latino (of any race)	327,680	35.2	398,770	33.9	38.9
Language Spoken at Home					
Population 5 years and over	869,627		1,096,947		
English only	579,124	66.6	749,569	68.3	64.6
Spanish	214,583	24.7	262,458	23.9	29.5
Asian or Pacific Island languages	39,403	4.5	40,492	3.7	2.8
Other languages	36,517	4.2	44,428	4.2	3.1
Place of Birth					
Born in the United States	750,154	80.5	965,716	82.1	83.0
Foreign Born	181,686	19.5	211,842	18.0	17.0

Data Source: U.S. Census Bureau, 2015 American Community Survey 1-year estimates

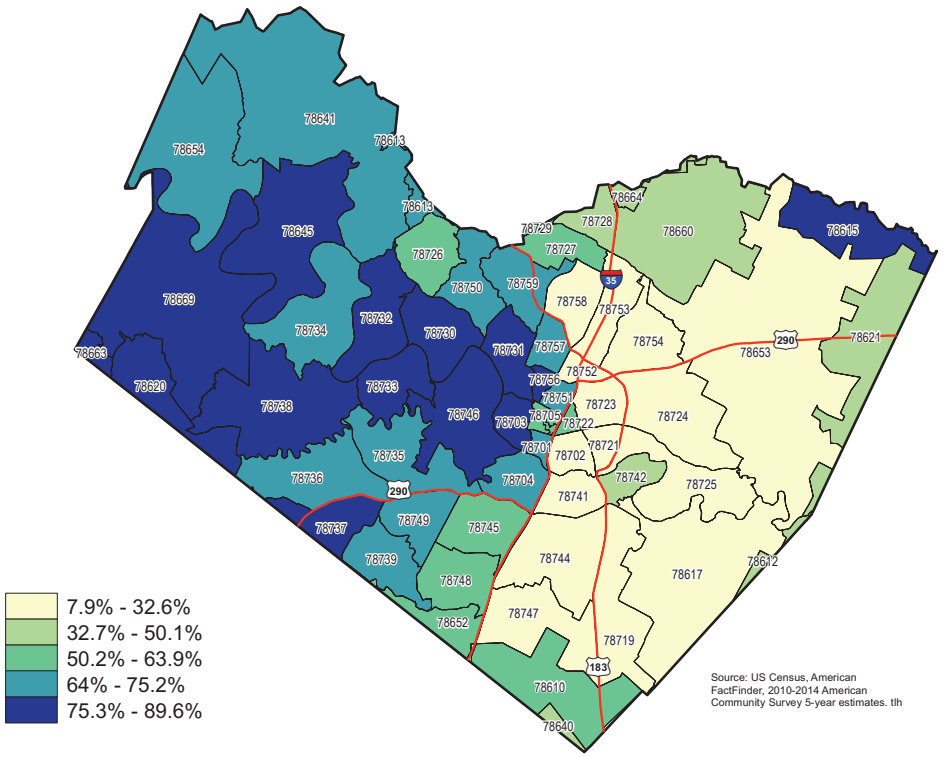
Table 1.2. Population Poverty Status over the Last 12 Months and Education Attainment, City of Austin, Travis County, and Texas, 2015

Population Characteristic	City of Austin		Travis County		Texas
	Number	%	Number	%	%
	931,840	100.0	1,176,558	100.0	100.0
Educational Attainment					
Population 25 years and over	635,470		795,105		
No high school diploma	75,873	12.0	92,636	11.7	17.6
High school graduate, includes equivalency	107,110	16.9	138,823	17.5	25.3
Some college or Associates degree	145,455	22.9	188,721	23.8	28.7
Bachelor's degree	196,563	30.9	243,554	30.6	18.7
Graduate or professional degree	110,469	17.5	131,371	16.5	9.7
Poverty Status of Families in the Past 12 Months					
Number of People in Family	% Below Poverty Level		% Below Poverty Level		% Below Poverty Level
2 people	6.4		6.4		8.8
3 or 4 people	9.7		8.7		12.5
5 or 6 people	22.4		18.6		19.0
7 or more people	21.9		25.1		27.4

Data Source: U.S. Census, 2015 American Community Survey1-year estimates

Maps 1.1 through 1.4 show the percentage of Whites, Blacks, Hispanics, and Asians by zip code in Travis County. Zip codes with the highest percentage of Whites are located in western Travis County. Conversely, zip codes with the highest percentage of Blacks are located in northeast Travis County while zip codes with the highest percentage of Hispanics are located in southeast Travis County. While Blacks comprise 8.5% of the county population, the percentage of Blacks in two zip codes is over 30%. The percentage of Hispanics in 11 zip codes is over 50%.

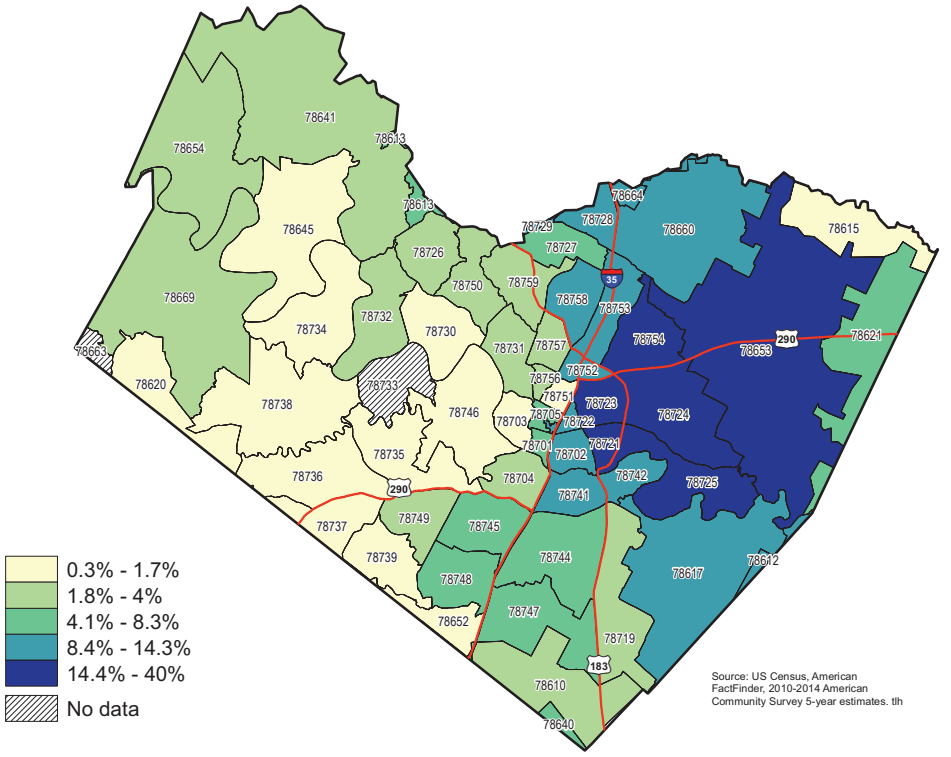
Map 1.1. Percentage of Whites by Zip Code, Travis County, 2010-2014



7.9% - 32.6%
32.7% - 50.1%
50.2% - 63.9%
64% - 75.2%
75.3% - 89.6%

Source: US Census, American FactFinder, 2010-2014 American Community Survey 5-year estimates. tlh

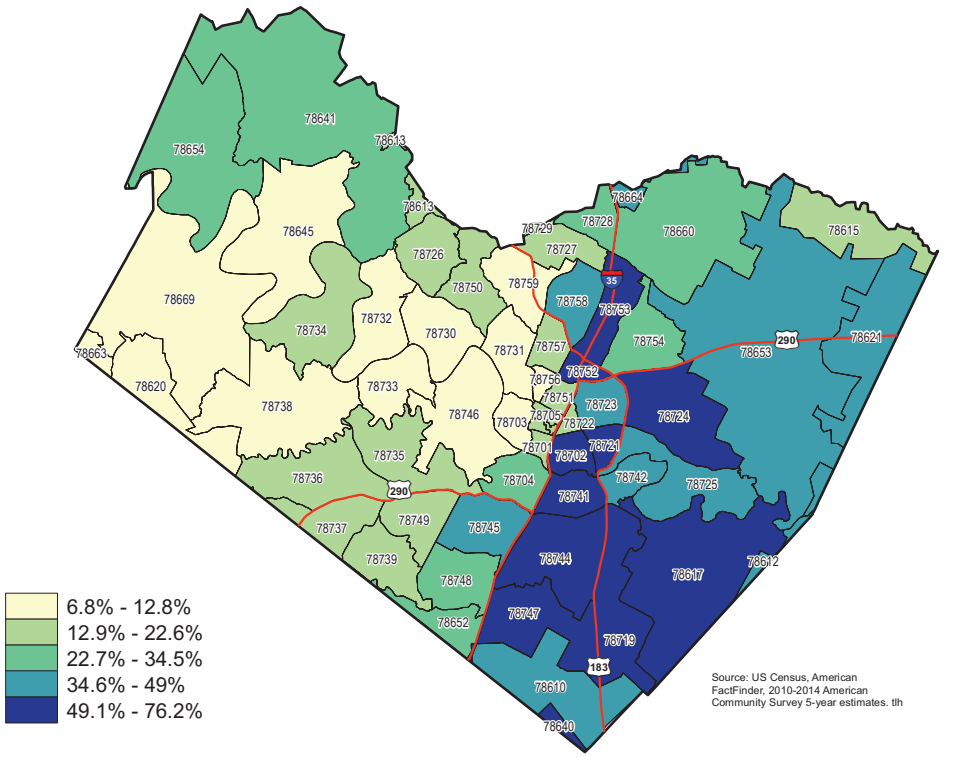
Map 1.2. Percentage of Blacks by Zip Code, Travis County, 2010-2014



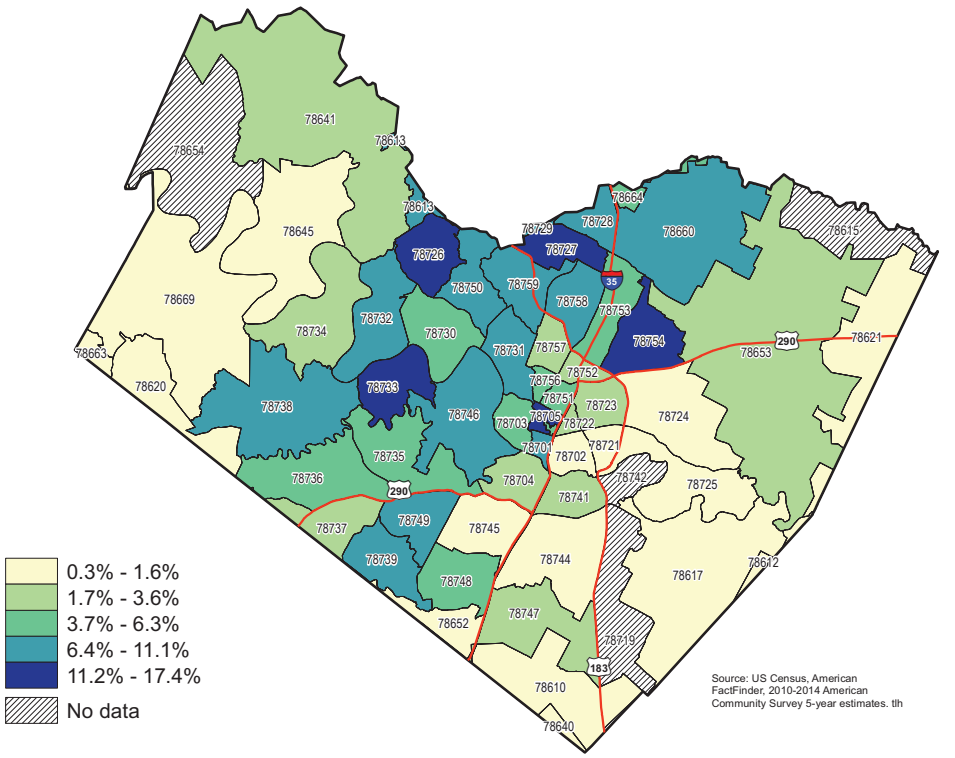
0.3% - 1.7%
1.8% - 4%
4.1% - 8.3%
8.4% - 14.3%
14.4% - 40%
No data

Source: US Census, American FactFinder, 2010-2014 American Community Survey 5-year estimates. tlh

Map 1.3. Percentage of Hispanics by Zip Code, Travis County, 2010-2014



Map 1.4. Percentage of Asians by Zip Code, Travis County, 2010-2014



2.0 Health Disparities

Gender, race/ethnicity, and age are a few of many factors that contribute to disparities or differences in achieving good health. Notable health disparities among different populations in Travis County presented in this report are noted below.

Obesity
Black adults are more than twice as likely to be obese compared with White adults. This disparity has persisted for several years.

Diabetes
Black and Hispanic adults are more likely to have diabetes compared with White adults. In Travis County, 13.4% of Black adults have diabetes compared with 11.2% among Hispanics and 5.4% among Whites.

Maternal and Child Health
Low birth weight is twice as frequent for Black infants compared with White infants. Similarly the infant mortality rate for Blacks is approximately twice the rate compared with Whites and Hispanics

Sexually-transmitted Diseases
While half the Travis County population is male, a majority (89%) of new human immunodeficiency virus (HIV) diagnoses are in males. Hispanics account for the higher percentage (42%) of new HIV cases. Blacks comprise 8.5% of the county population, yet a disproportionate number of new HIV cases are Black (19%).

Higher incidence rates for Blacks are seen for both chlamydia and gonorrhea. The chlamydia incidence rate in 2015 for Blacks was four times higher compared with Whites. Likewise the gonorrhea incidence rate for Blacks in 2015 was over four times higher compared with Whites.

Over 90% of reported primary and secondary (P&S) syphilis cases are males. In 2015, the incidence rates per 100,000 population for P&S syphilis for males was 17 times higher compared with females. Comparing 2010 and 2015 rates, the rate for males increased over 100% while the rate for females was unchanged.

Suicide
While males comprise 51% of the city's population, males comprise 74% of those who die by suicide. The suicide rate for males is almost three times higher compared with females.

Unintentional injuries
Patterns of accidental deaths or deaths due to unintentional injuries vary by age, race/ethnicity and gender. Falls are the leading cause of unintentional injury death for those 65 years of age or older while falls are an infrequent causes of death for those 34 or younger. Poisonings are the leading cause of unintentional injury deaths for those 25 to 64 years of age but infrequent for those 75 and older.

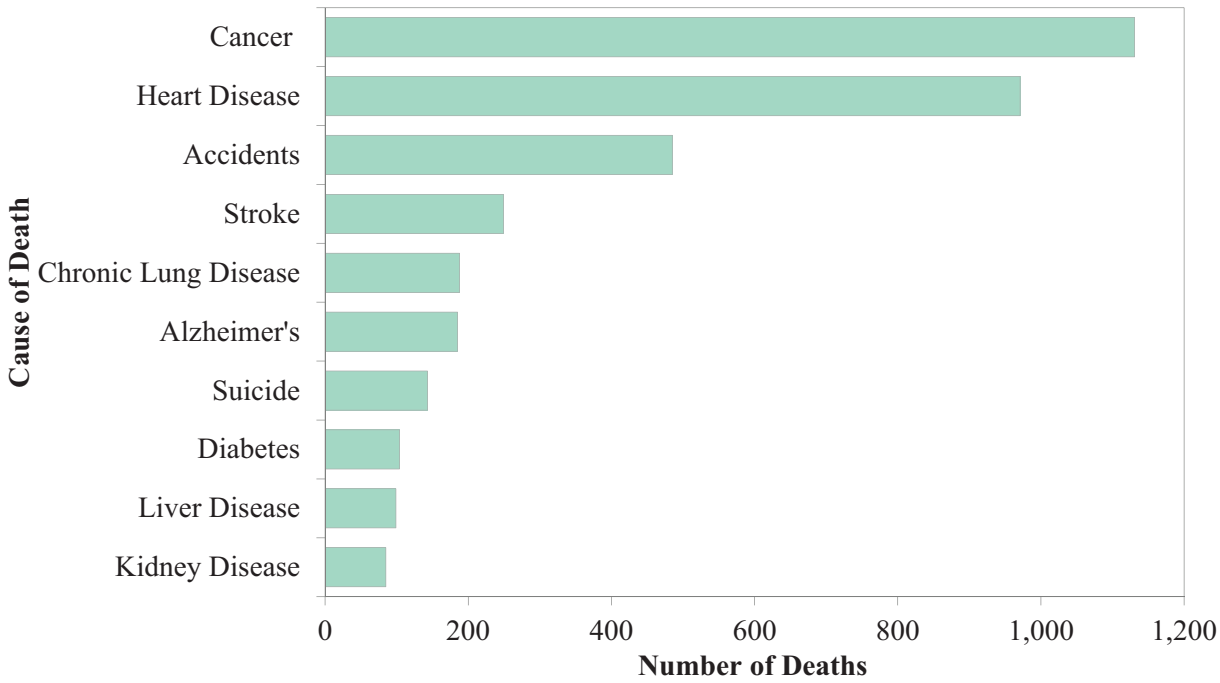
3.0 Leading Causes of Death

This section provides information on the leading causes of death for 2014 and the three-year period 2012 through 2014 with a focus on race/ethnicity, underlying causes of death, and age-related factors. Understanding the leading causes of death in a community is necessary for short- and long-term prevention and intervention efforts. All rates have been age-adjusted because crude rates are influenced by the underlying age distribution of the county's population. Age-adjusting the rates ensures that differences between one geographic area and another are not due to differences in the age distribution of the populations being compared.

Mortality

In 2014 in Travis County, there were a total of 5,163 deaths, of which, 2,653 were males and 2,510 were females. Cancer and heart disease were the top two leading causes of death among Travis County residents in 2014, far ahead of all other causes of death. Figure 3.1 shows the top ten causes of death.

Figure 3.1. Leading Causes of Death, Travis County, 2014



Data Source: Center for Health Statistics, Texas Department of State Health Services

The following provides a summary of additional facts about the mortality experience of Travis County residents in 2014:

- Cancer, which represents 22% of total deaths (n=1,131 deaths), is the leading cause of death in Travis County. While cancer is not the leading cause of death for Texas, it does account for 21% of total deaths for the state.

- In Travis County, lung cancer was the most common form of cancer (n=273 deaths) followed by breast cancer (n=96 deaths) and colorectal cancer (n=89 deaths).
- Nineteen percent of deaths were caused by heart disease (n=971 deaths), with mortality due to heart disease concentrated in persons over 75 years of age. The leading cause of death for Texas is heart disease, accounting for 23% of total deaths.
- Motor vehicle accidents were the leading cause of death for persons aged 15 to 24 years* in Travis County, as well as Texas.
- Diabetes, the eighth leading cause of death in the county, remains a significant cause of death among Hispanic and Black populations.
- Age-adjusted death rates were higher for men than women for the 10 leading causes of death, with the exception of Alzheimer's disease.
- Overall, cancer (n=1,131 deaths) and heart disease (n=971 deaths) caused 41% of all deaths, as compared with Texas where they caused 44% of all deaths.

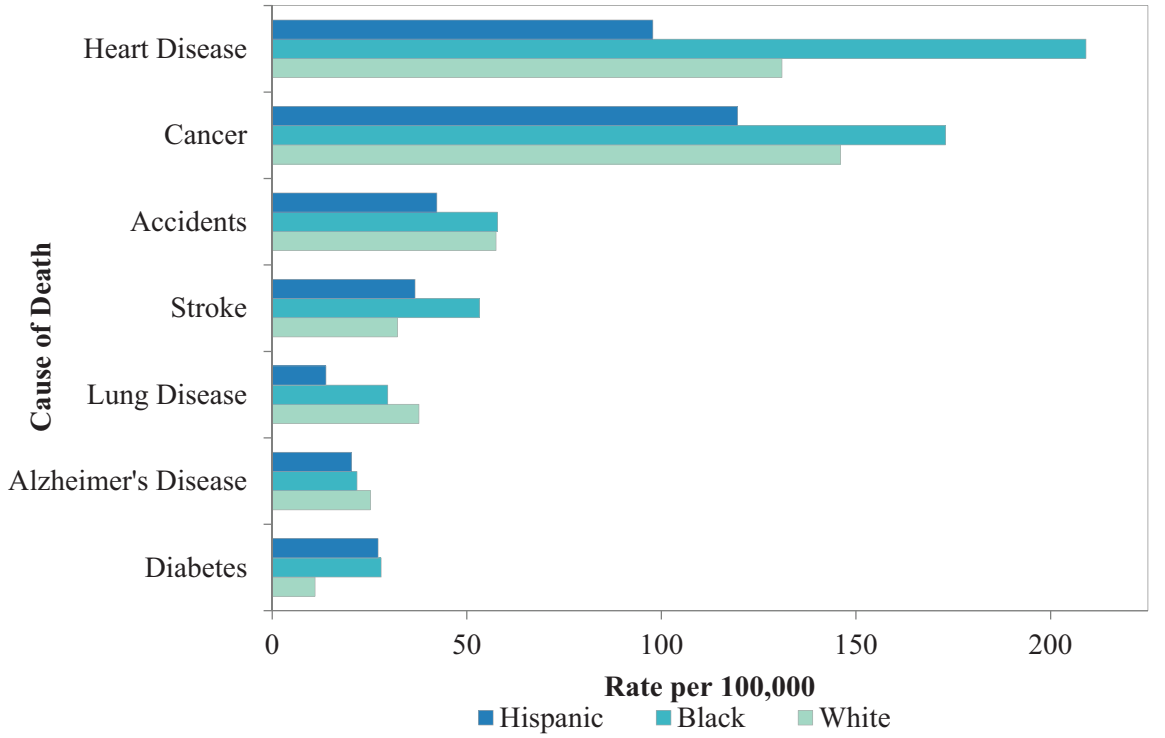
*The ten leading causes of death by age group in Travis County may be found in the appendix.

Race/Ethnicity: 2012-2014

Figure 3.2 shows seven leading causes of death for Travis County broken out by race and ethnicity for the three-year period, 2012-2014, combined. As shown in the figure, people of different races and ethnicities had different mortality experiences for cancer, heart disease, accidents, stroke, lung disease, and diabetes. Items of note include:

- Blacks have the highest rates of cancer, heart disease, and stroke.
- Diabetes mortality rates among Hispanics (27 per 100,000) and Blacks (28 per 100,000) are double the rate of Whites (11 per 100,000).
- In Travis County, Hispanics, Blacks, and Whites have lower diabetes mortality rates compared with Hispanics, Blacks, and Whites state-wide.

Figure 3.2. Age-adjusted Mortality Rates for Seven Leading Causes of Death by Race/Ethnicity, Travis County, 2012-2014



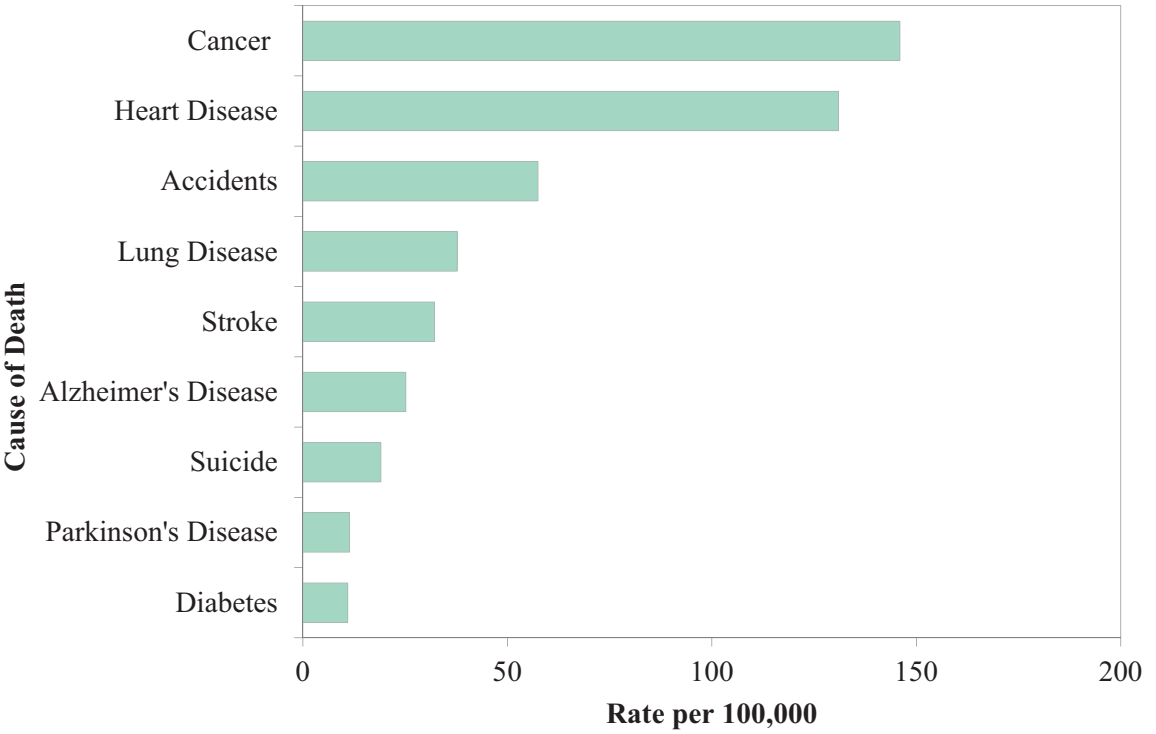
Age-adjusted rates use 2000 standard population

Data Source: Center for Health Statistics, Texas Department of State Health Services

Mortality rates for the top 10 leading causes of death for each race/ethnicity group are presented in the Figures 3.3, 3.4 and 3.5 shown below. Items of note include:

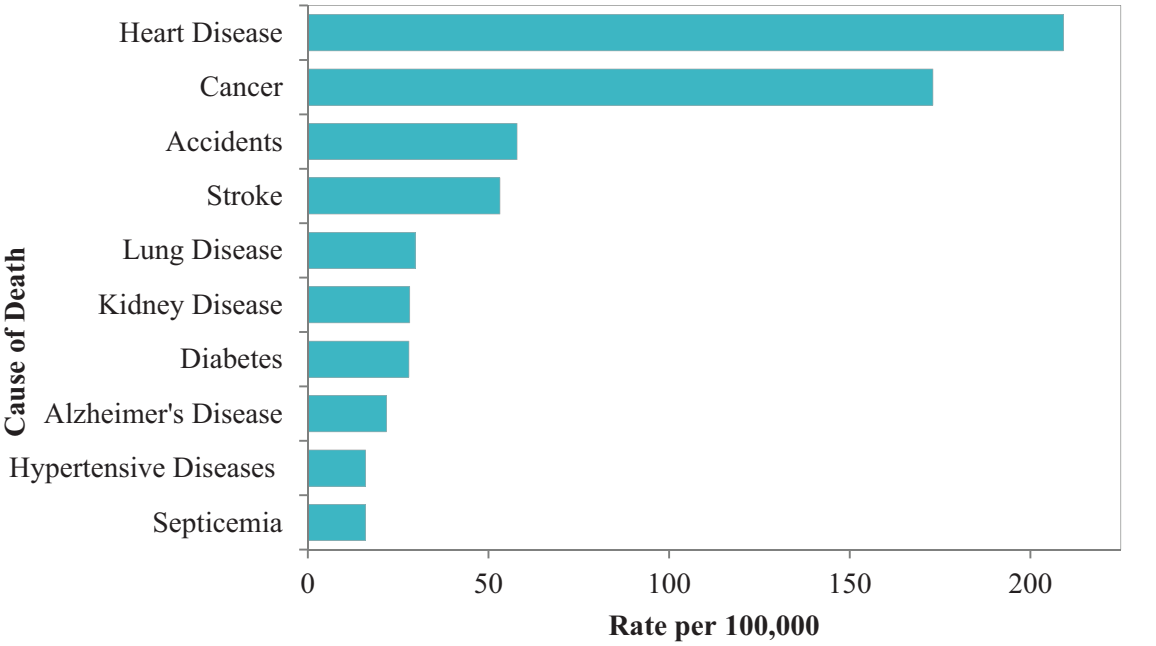
- Cancer was the number one cause of death for Whites and Hispanics. Lung cancer was the most frequent form of cancer. The number one cause of death for Blacks was heart disease.
- Accidents are the third leading cause of death for all race/ethnicities.
- Suicide among Whites is the seventh leading cause of death in Travis County and twelfth in Texas.
- Heart disease is the second leading cause of death for Whites and Hispanics, while it is the leading cause of death for Blacks. In Texas heart disease is the leading cause of death for all of these race/ethnicities.
- Diabetes among Hispanics is the fifth leading cause of death.

Figure 3.3. Age-adjusted Mortality Rates for Ten Leading Causes of Death among Whites, Travis County, 2012-2014



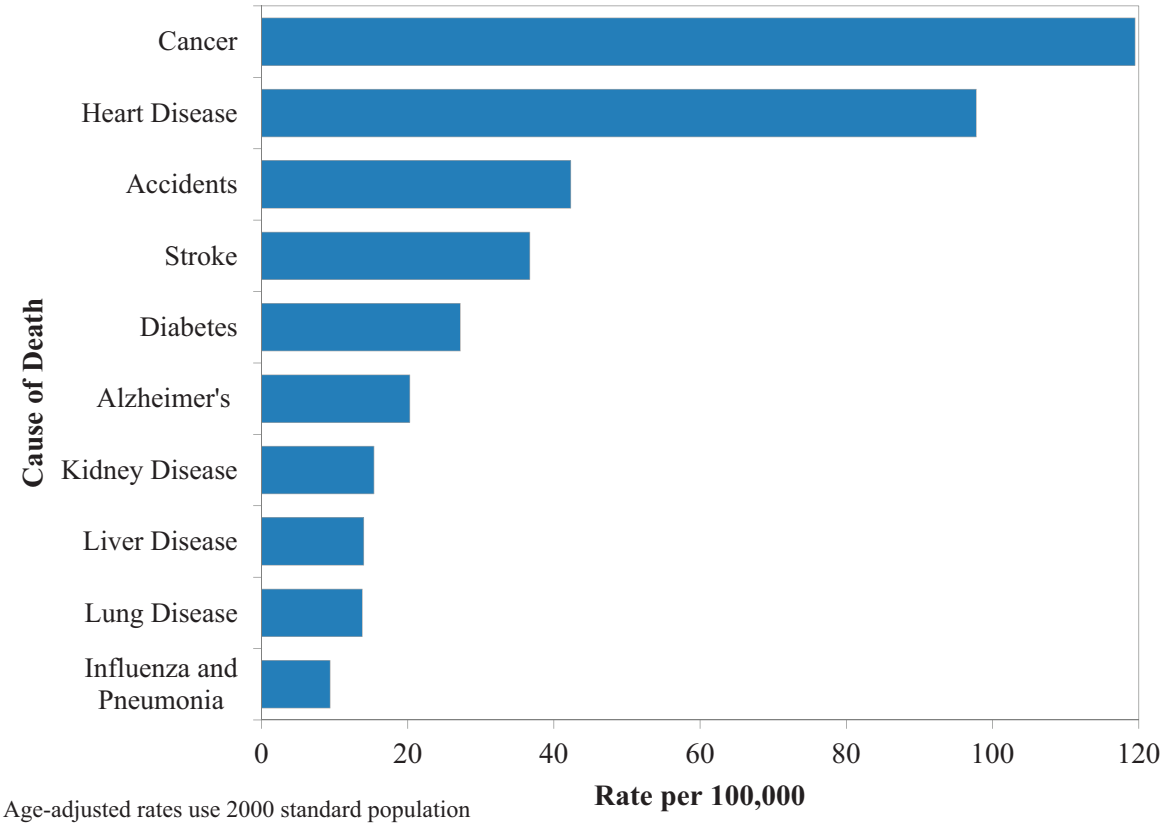
Age-adjusted rates use 2000 standard population
Data Source: Center for Health Statistics, Texas Department of State Health Services

Figure 3.4. Age-adjusted Mortality Rates for Ten Leading Causes of Death among Blacks, Travis County, 2012-2014



Age-adjusted rates use 2000 standard population
Data Source: Center for Health Statistics, Texas Department of State Health Services

Figure 3.5. Age-adjusted Mortality Rates for Ten Leading Causes of Death among Hispanics, Travis County, 2012-2014

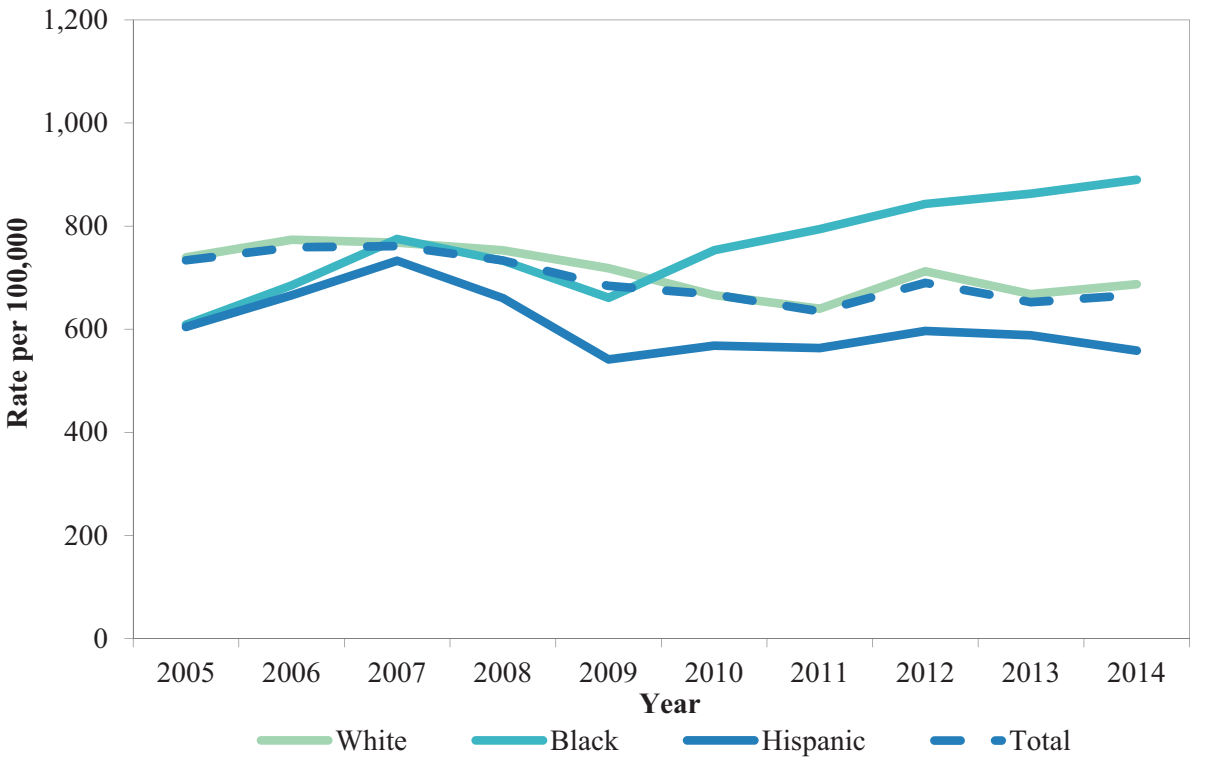


Age-adjusted rates use 2000 standard population
Data Source: Center for Health Statistics, Texas Department of State Health Services

Mortality Trends

As shown in Figure 3.6, the overall age-adjusted all-cause mortality rate for Travis County demonstrated a slight decline from 2005 to 2011; however, since 2011 the overall age-adjusted mortality rate has leveled off. The age-adjusted all-cause mortality rate among Blacks has been rising significantly since 2009, while Hispanics have seen a fairly stable all-cause mortality rates during the same time period.

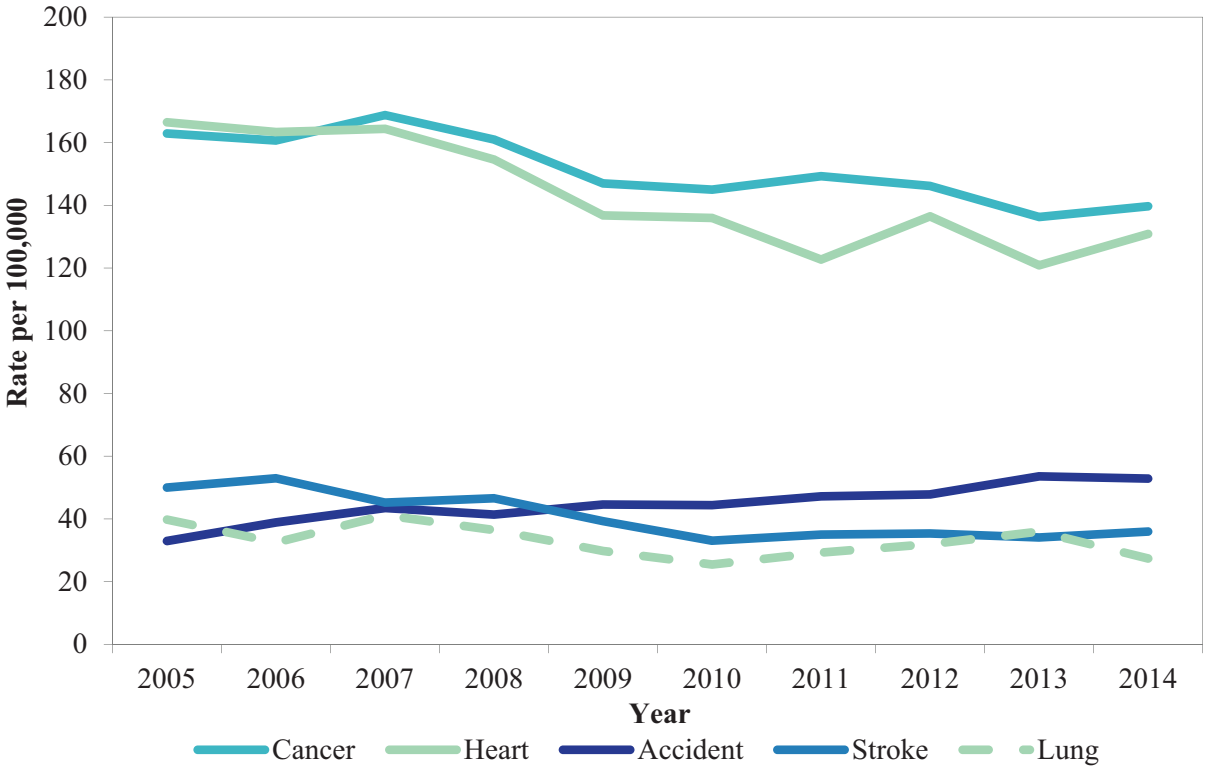
Figure 3.6. Age-adjusted All-Cause Mortality Rates by Race/Ethnicity, Travis County, 2005-2014



Age-adjusted rates use US 2000 standard population
Data Source: Center for Health Statistics, Texas Department of State Health Services

Figure 3.7 shows the age-adjusted mortality rates of the five leading causes of death in Travis County over the past decade. Cancer, heart disease, accidents, stroke, and chronic lung disease continue to be the five leading causes of death. During that time the mortality rate from cancer surpassed heart disease and the mortality rate from accidental deaths surpassed stroke and lung disease. While there is a general decline in mortality rates for cancer, heart disease, stroke, and lung disease, the mortality rate for accidents has increased.

Figure 3.7. Age-adjusted Mortality Rates by Cause of Death, Travis County, 2005-2014

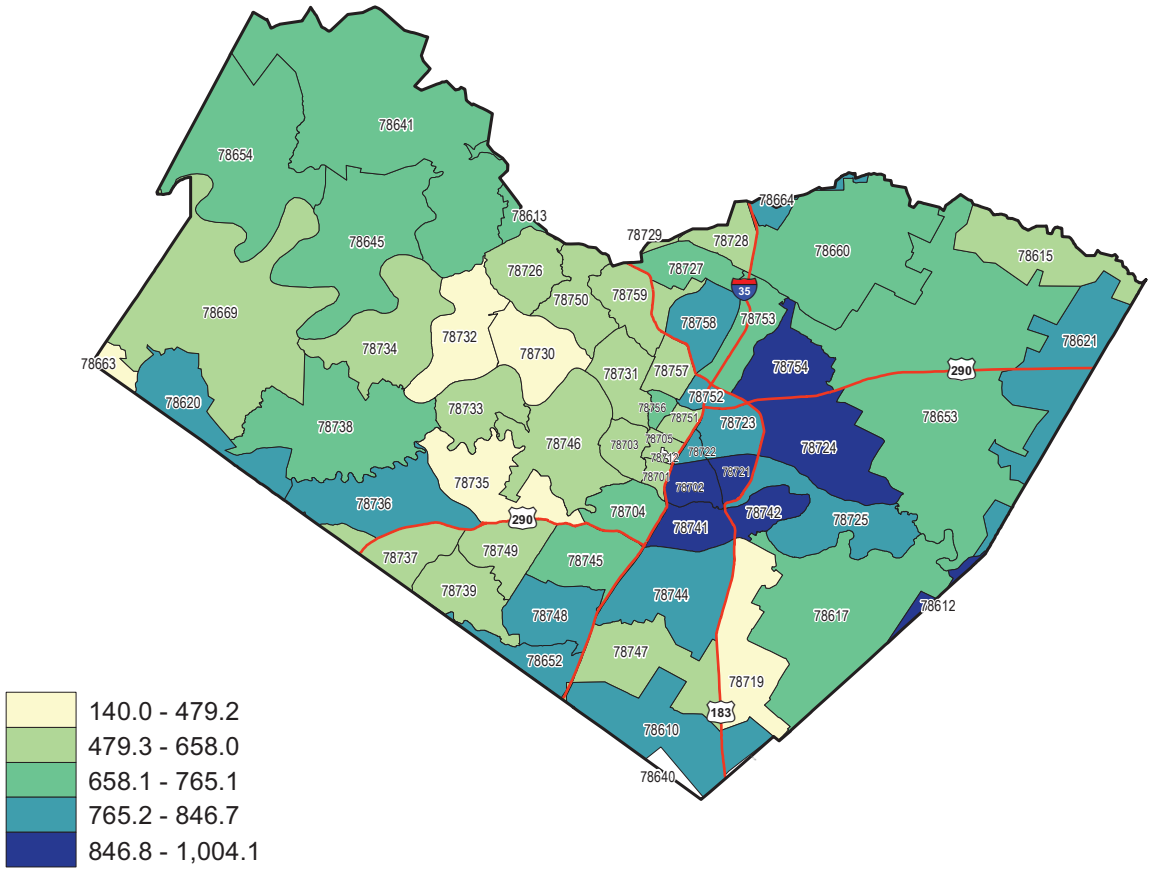


Age-adjusted rates use US 2000 standard population
Data Source: Texas Department of State Health Services Center for Health Statistics

Mortality Maps

Map 3.1 shows the age adjusted all-cause mortality by zip code. The seven zip codes with the highest rates of death are on the east side of the county. Meanwhile, four of the five zip codes with the lowest rates of death are on the West side of the county.

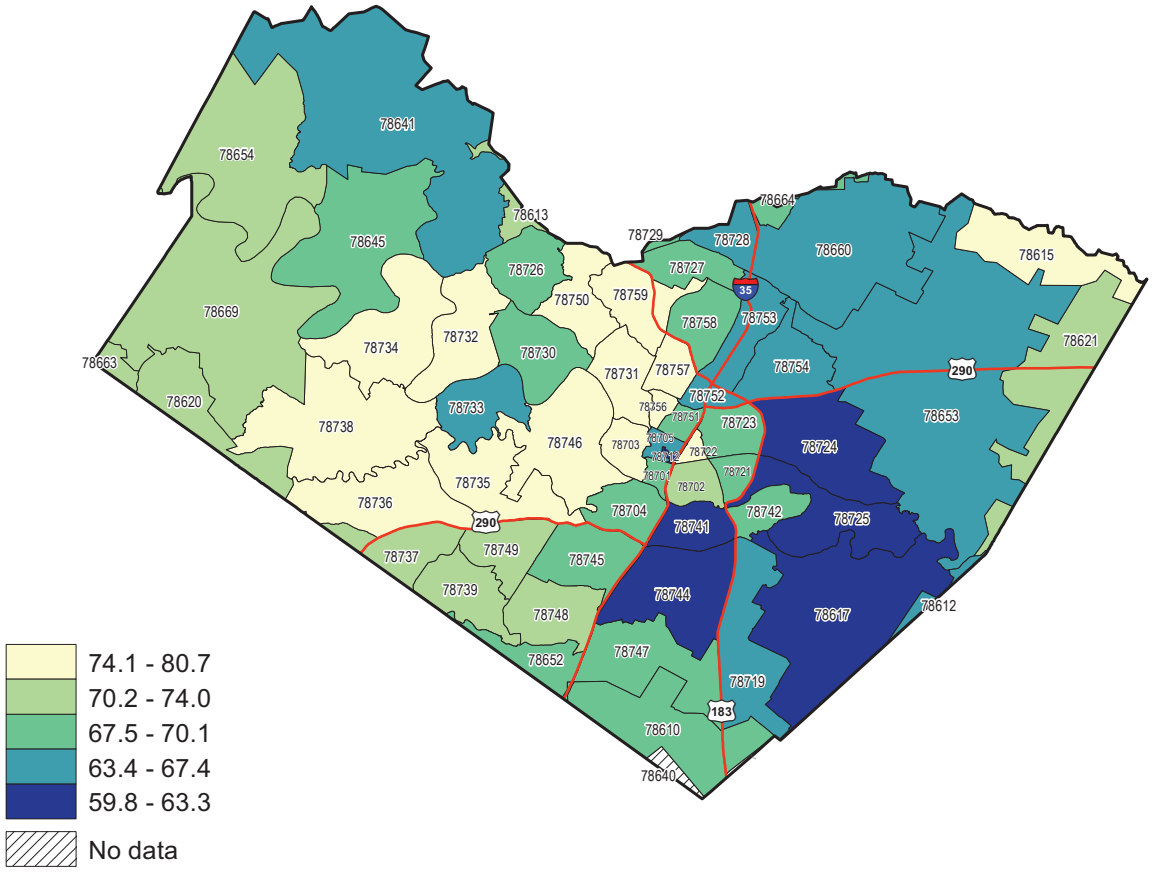
Map 3.1. Age-adjusted*† All-Cause Mortality Rates‡ by Zip Code, Travis County, 2011-2015



Source: Texas Department of State Health Services, Center for Health Statistics and U.S. Census Bureau, 2010 Census.
*Age adjustment uses US 2000 standard population
†In the case that the number of deaths were suppressed (due to value being between 1 and 9 deaths) an underestimated average of 4 was used. This was the case in 14 zip codes.
‡ Rates are per 100,000 population

Map 3.2 shows the average age at death by zip code. Overall people are living longer in the zip codes on the west side of Travis County as compared to the zip codes on the east side. There is a variance of 21 years from the zip code with the lowest average age at death (78741) to that of the highest (78731).

Map 3.2. Average Age at Death, Travis County, 2011-2015

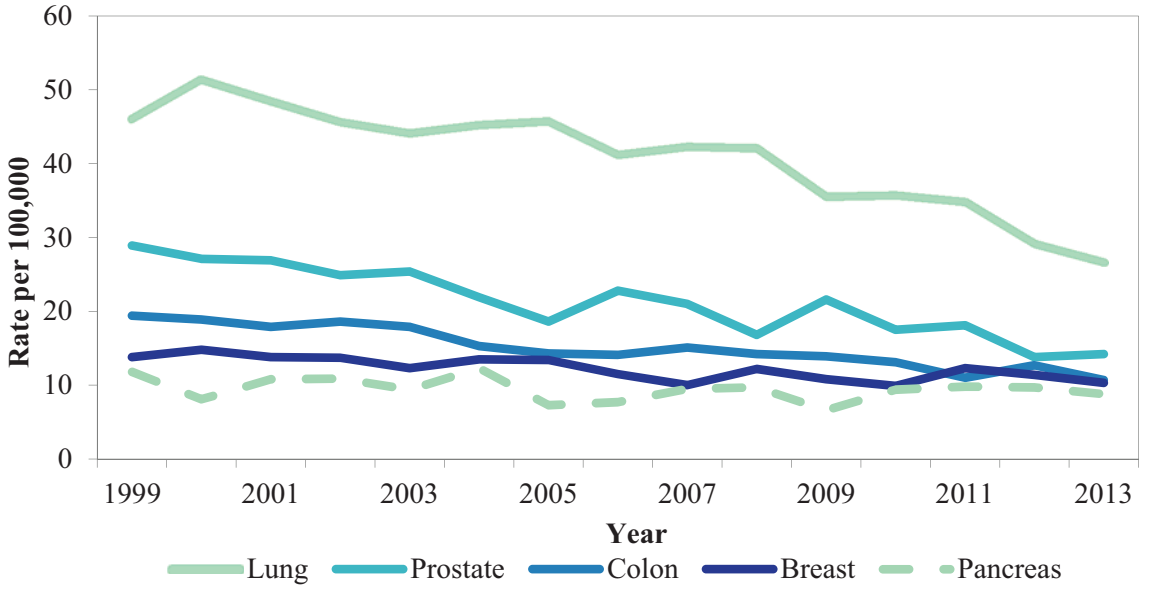


Source: Texas Department of State Health Services, Center for Health Statistics

4.0 Cancer

Cancer is the leading cause of death in Travis County, surpassing the historically number one cause of death – heart disease. During 2013, 3,408 new cancer cases were diagnosed and 1,056 people died from cancer in Travis County. Figure 4.1 shows the trend in age-adjusted mortality rates for selected cancers for Travis County. For each year during the 15 year period, the highest cancer mortality rate has been due to lung cancer.

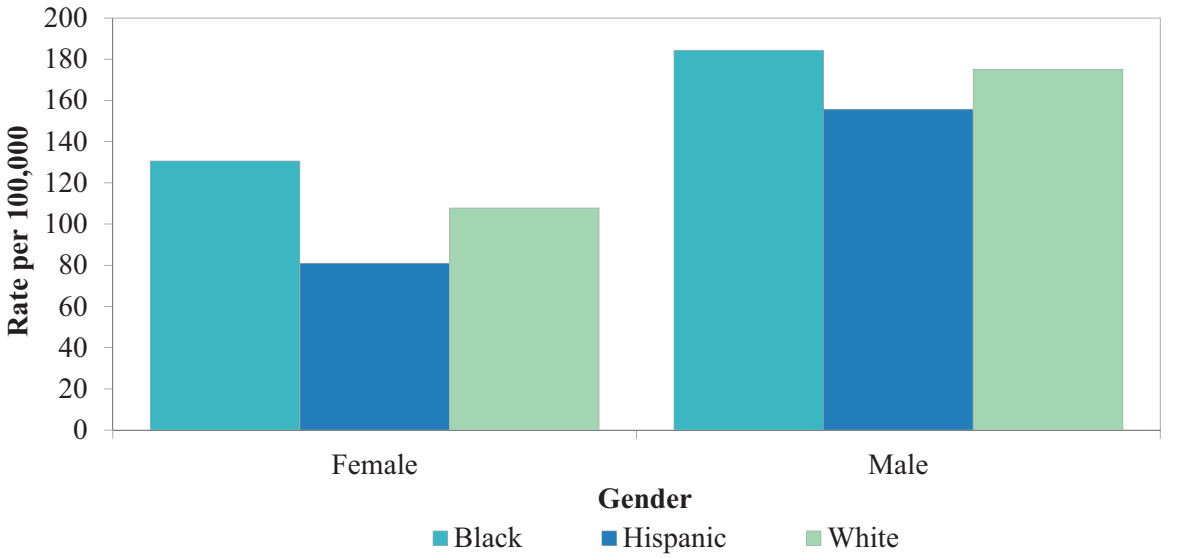
Figure 4.1. Age-adjusted Cancer Mortality Rates, Travis County, 1999-2013



Age-adjusted rates use US 2000 standard population
Data source: Texas Cancer Registry Mortality File, September 2015

Cancer affects men and women at different rates. Figure 4.2 shows age-adjusted cancer mortality rates by gender and race/ethnicity. In Travis County, males typically have higher cancer incidence and mortality rates than females, after adjusting for age. Disparities also exist by race and ethnicity with Blacks having higher age-adjusted mortality rates than Whites. Hispanic females have the lowest cancer mortality rate and Black males have the highest rate.

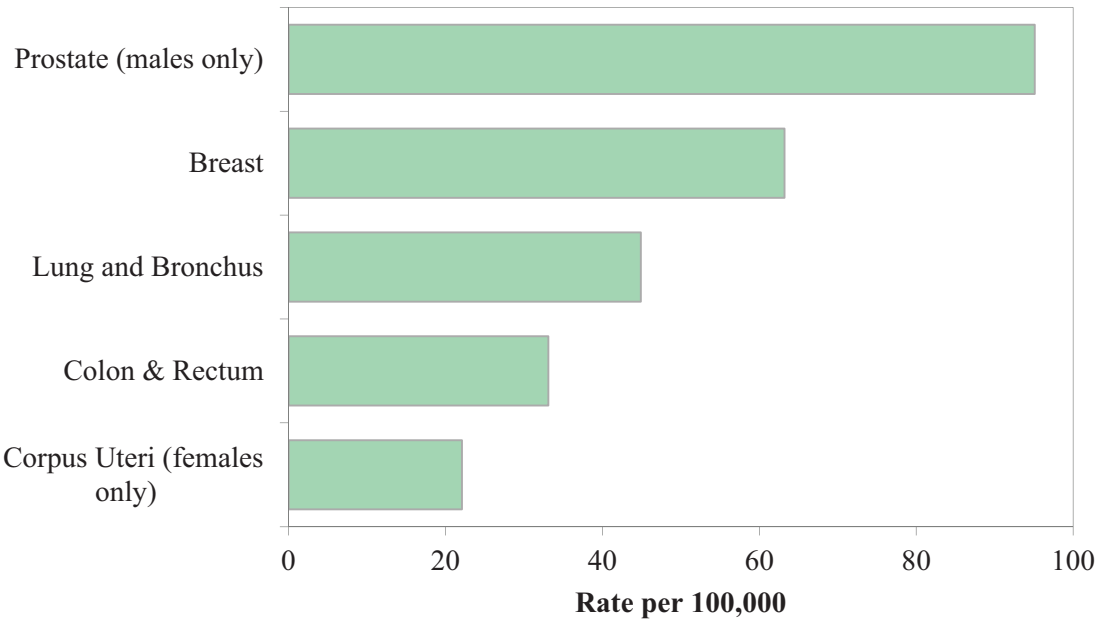
Figure 4.2. Age-adjusted Cancer Mortality Rates by Gender and Race/Ethnicity, Travis County, 2013



Age-adjusted rates use US 2000 standard population
Data source: Texas Cancer Registry Cancer Mortality File, September 2015

Cancers of the prostate, breast, lung and bronchus are the most commonly diagnosed cancer sites. Figure 4.3 shows the incidence rates for the five most common cancers in Travis County during 2009-2013. The highest incidence rate is for prostate cancer followed by breast cancer.

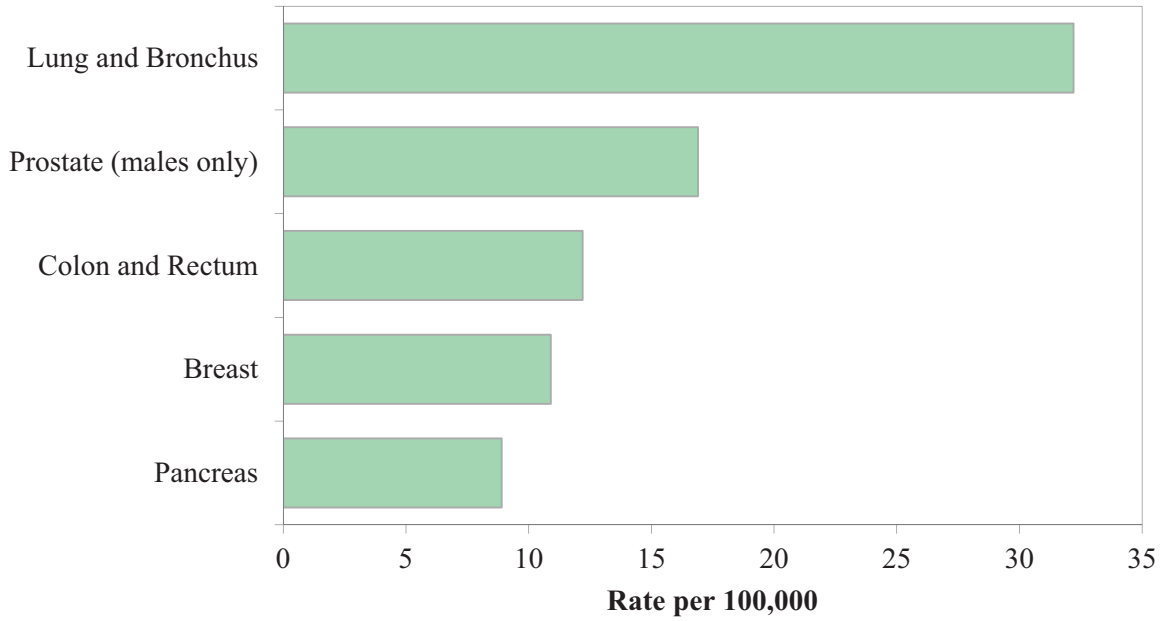
Figure 4.3. Age-adjusted Incidence Rates for Common Cancers, Travis County, 2009-2013



Age-adjusted rates use 2000 standard population
Data source: Texas Cancer Registry Invasive Cancer Incidence, January 2016

Figure 4.4 shows the mortality rates for the five most common cancers. Deaths from these five cancer sites account for approximately 50% of all cancer deaths.

Figure 4.4. Age-adjusted Mortality Rates for Selected Cancers, Travis County, 2009-2013



Age-adjusted rates use 2000 standard population
Data source: Texas Cancer Registry Cancer Mortality, September 2015

5.0 Chronic Disease Conditions

Cardiovascular Disease

Cardiovascular disease refers to a wide variety of heart and blood vessel diseases. The most common forms of cardiovascular disease are coronary heart disease (CHD) and stroke. Hypertension, heart failure (HF), and atherosclerosis are other common cardiovascular diseases.

The Texas Behavioral Risk Factor Surveillance System (BRFSS) is a telephone survey conducted on an annual basis of randomly selected adults 18 years of age and older in Travis County and Texas. Data on lifestyle risk factors contributing to the leading causes of chronic disease and death are collected. The prevalence of cardiovascular disease is determined if the survey respondent indicates they have been diagnosed by a doctor as ever having a heart attack, myocardial infarction, angina, coronary heart diseases, or a stroke in the past. Due to a small sample size, data for 2011 through 2015 are combined to provide the prevalence estimates.

Table 5.1 summarizes select demographic characteristics for cardiovascular disease in Travis County. The prevalence of cardiovascular disease increases with age and decreases with educational attainment. Blacks have a higher prevalence of cardiovascular disease than Whites and Hispanics. Adults who reported having diabetes also reported a higher prevalence of cardiovascular disease (19%) compared to adults without diabetes (4%). Obesity or being overweight are strongly associated with cardiovascular diseases as well. Over 6% of obese adults report having cardiovascular disease.

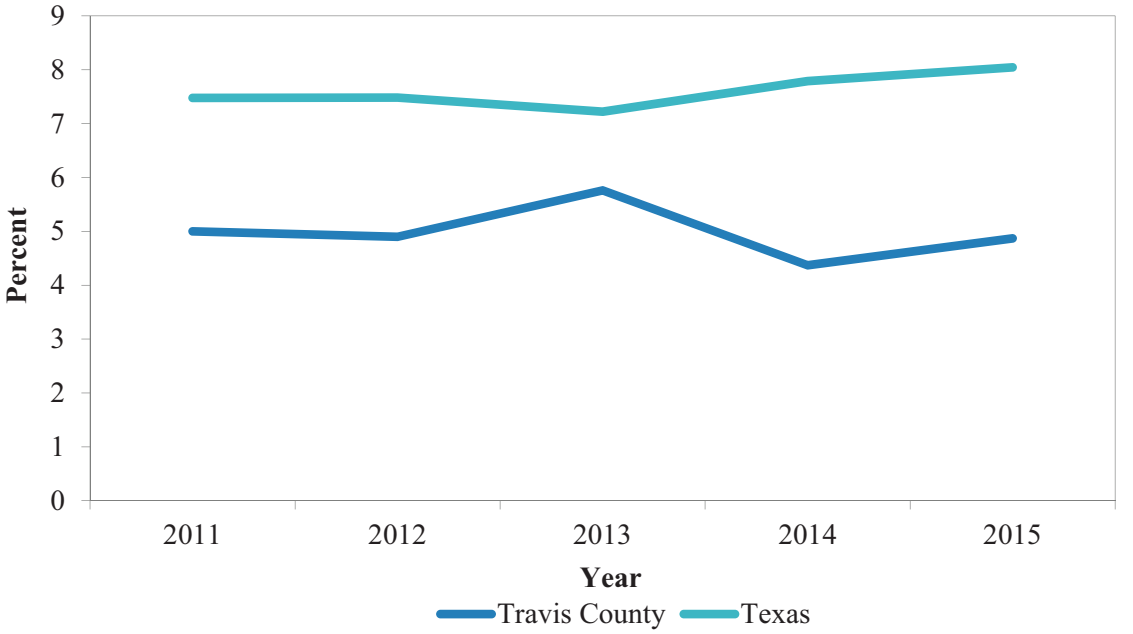
Table 5.1. Prevalence Estimates of Cardiovascular Disease among Adults by Select Demographic Characteristics, Travis County and Texas, 2011-2015

Demographic characteristics	Travis County (%)	Texas (%)
Total	4.9	7.6
Gender		
Male	4.9	6.5
Female	4.9	8.7
Age (in years)		
18 to 44	1.2	1.8
45 to 64	6.7	9.6
≥ 65	18.0	22.9
Race/ethnicity		
White	5.8	9.1
Black	7.5	10.0
Hispanic	3.2	5.0
Education		
< High school graduate	5.8	9.0
High school graduate and some college	3.8	5.1
College graduate	5.5	8.2
Employed		
Yes	10.6	13.2
No	1.9	3.5
Household income		
< $25,000	2.5	4.4
$25,000 to <$75,000	6.4	10.6
≥$75,000	4.9	7.2
Health insurance		
Insured	2.2	4.1
Uninsured	3.5	5.2

Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS) 2011-2015
*Estimate unstable and should be interpreted with caution

The prevalence of cardiovascular disease among adults in Travis County has remained fairly constant at about 5% over the last five years and is below the prevalence for the entire state (see Figure 5.1).

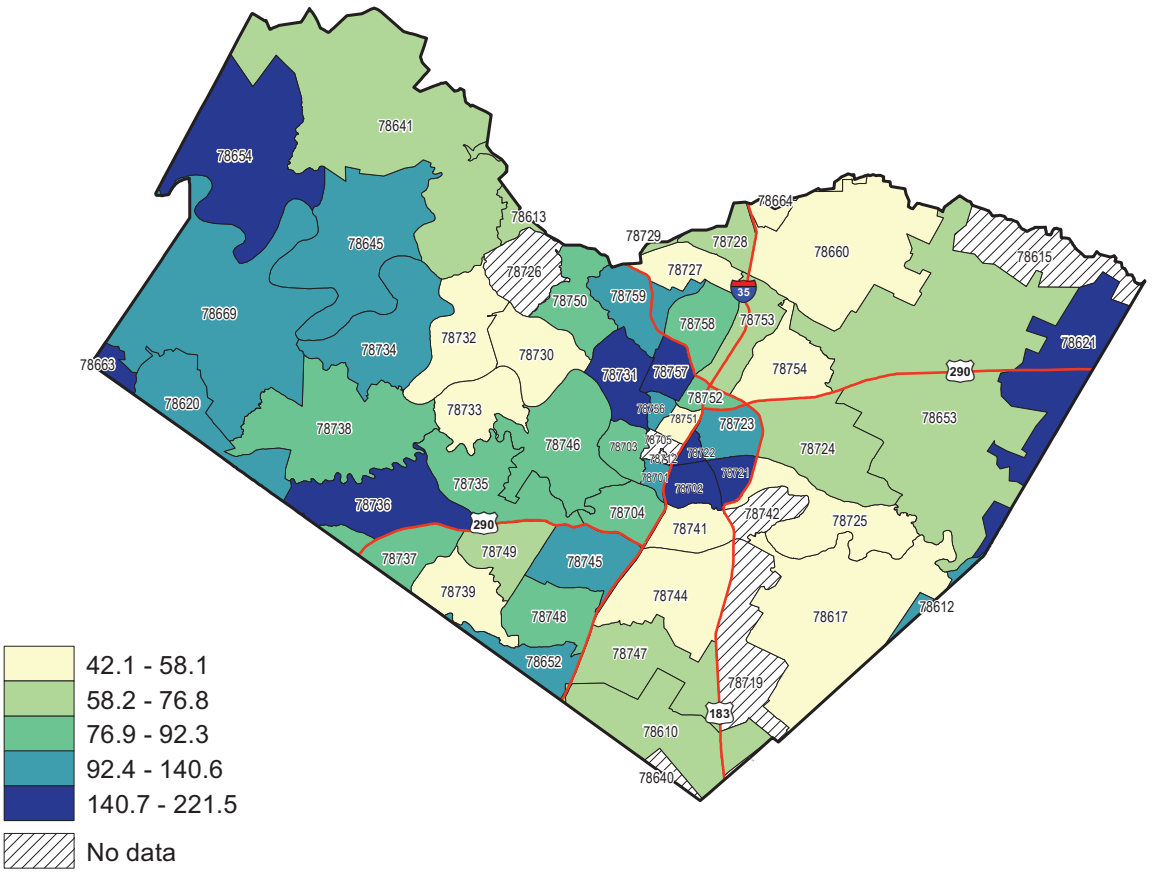
Figure 5.1. Cardiovascular Disease Prevalence among Adults, Travis County and Texas, 2011-2015



Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS) 2011-2015

Heart disease (131 deaths per 100,000) and stroke (32 deaths per 100,000) are the second and fourth leading causes of death respectively, in Travis County. Map 5.1 shows the geographical distribution of the crude mortality rates for diseases of the heart.

Map 5.1. Crude Mortality Rate* for Diseases of the Heart, Travis County by Zip Code, 2011-2015



Source: Texas Department of State Health Services, Center for Health Statistics
US Census, American FactFinder, 2010-2014 American Community Survey 5-year estimates
*Crudes rates are per 100,000 population

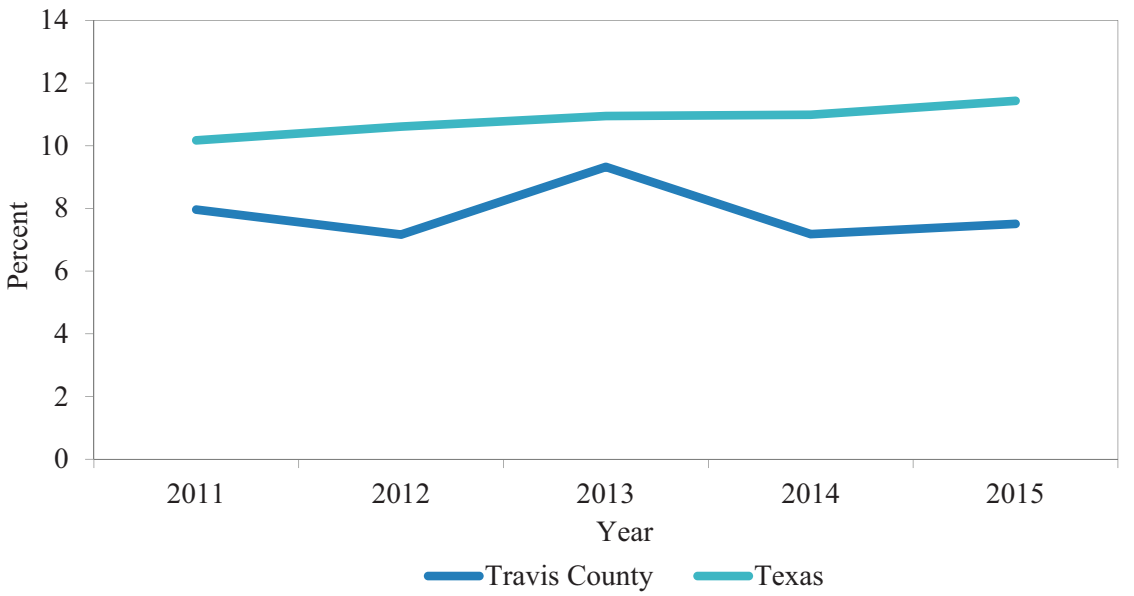
Diabetes

Diabetes is a group of diseases marked by high levels of sugar in the blood. The more severe form of diabetes is type 1 diabetes or insulin-dependent diabetes. The most common form of diabetes is type 2 or non-insulin dependent diabetes. People with type 2 diabetes can produce some of their own insulin, but the amount produced is not enough, or the person cannot use the insulin effectively. Diabetes affects more than 29 million Americans, and 86 million more Americans are living with a serious health condition called prediabetes, a condition that increases a person's risk of type 2 diabetes and other chronic diseases.[1]

Using the Texas Behavioral Risk Factor Surveillance System (BRFSS), the prevalence of diabetes is determined if the survey respondent indicates they been told by a doctor or other health professional that they have diabetes. The prevalence does not include women who were diagnosed with diabetes while pregnant. Due to a small sample size, data for 2011 through 2015 are combined to provide the prevalence estimates.

Diabetes affects many Travis County residents. In 2011-2015, 7.8% of adults reported being told by their doctor that they have diabetes. This prevalence corresponds to an estimated 67,000* Travis County adults being told they have diabetes. The prevalence of diabetes in Travis County is lower than in Texas (see Figure 5.2). Additionally, disparities among diabetes prevalence exist by race and ethnicity. In Travis County, 13.4% of Black adults have diabetes compared with 11.2% among Hispanics and 5.4% among Whites. (Figure 5.3)

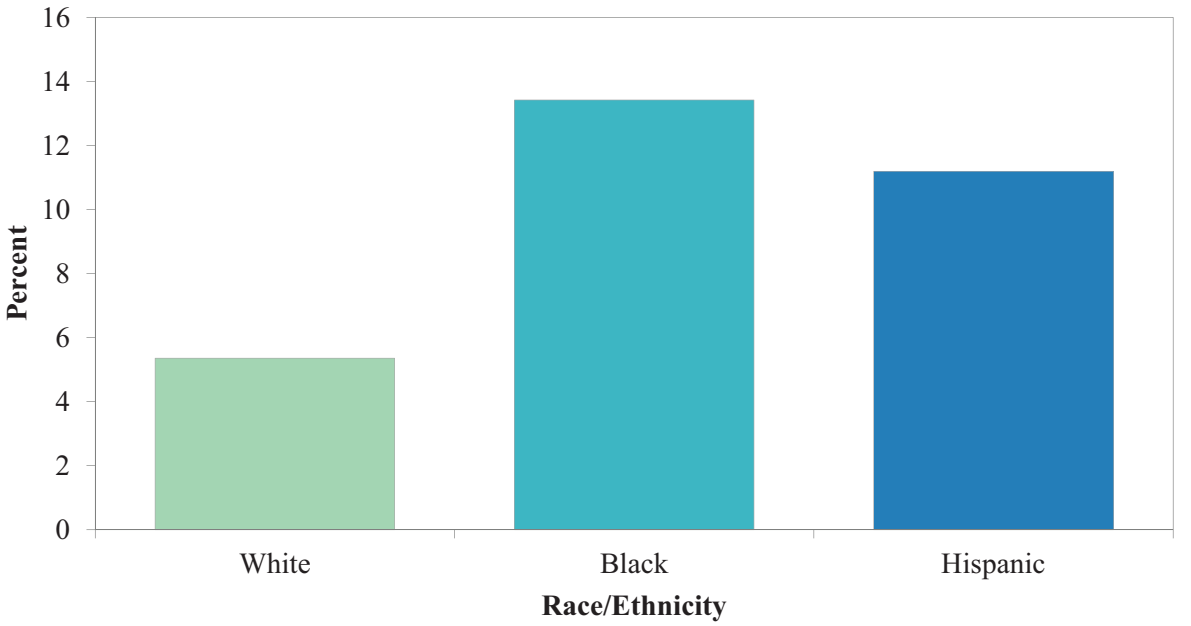
Figure 5.2. Diabetes Prevalence among Adults, Travis County and Texas, 2011-2015



Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS) 2011-2015

[1] https://www.cdc.gov/chronicdisease/resources/publications/aag/diabetes.htm
* Estimate based on American Community Survey 2015 estimate of persons over 18 years of age

Figure 5.3. Diabetes Prevalence by Race Ethnicity, Travis County, 2011-2015



Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS) 2011-2015

Table 5.2 summarizes the prevalence estimates of diabetes in Travis County by selected demographic characteristics. Older Travis County residents are more likely to report being diagnosed with diabetes. The prevalence of diabetes was 12.7% among residents age 45 to 64 years and 18.5% among residents 65 years and older. Adults with more education or higher incomes have lower prevalence of diabetes than adults with less education or lower incomes. Obesity and cardiovascular disease (CVD) are often co-morbid conditions among people with diabetes 25.3% of obese adults and 28.9% of adults with CVD also reporting having diabetes.

Table 5.2. Prevalence Estimates of Diabetes among Adults by Select Demographic Characteristics, Travis County and Texas, 2011-2015

Demographic characteristics	Travis County (%)	Texas (%)
Total	7.8	10.8
Gender		
Male	7.8	11.4
Female	7.8	10.3
Age (in years)		
18 to 44	2.7	3.3
45 to 64	12.7	16.3
≥ 65	18.5	24.4
Race/ethnicity		
White	5.4	9.7
Black	13.4	14.0
Hispanic	11.2	12.1
Education		
< High school graduate	15.5	15.8
High school graduate and some college	8.4	10.7
College graduate	3.9	7.1
Employed		
Yes	5.7	6.8
No	11.6	16.3
Household income		
< $25,000	10.5	15.2
$25,000 to <$75,000	9.3	10.4
≥$75,000	4.1	7.0
Health insurance		
Insured	6.0	8.8
Uninsured	7.4	7.4

Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS) 2011-2015

6.0 Chronic Disease Risk Factors

Tobacco

Tobacco is the leading cause of preventable death in Austin and Travis County. Each year approximately 800 deaths in Travis County are caused by cigarettes and other tobacco products. The use of tobacco, including smoking cigarettes and using smokeless tobacco, increases the risk of chronic diseases such as cardiovascular and respiratory diseases, as well as cancer of the lungs, throat, stomach, kidneys and pancreas.[2]

Tobacco use is measured in the population using the Texas Behavioral Risk Factor Surveillance System (BRFSS). Respondents who currently use any tobacco product including cigarettes and smokeless tobacco products are defined as tobacco users. Respondents who have smoked at least 100 cigarettes in their lifetime and report smoking some or every day are considered current smokers. Ever smokers are defined as a current smoker (every day or some days) or a former smoker. Due to a small sample size, data for 2011 through 2015 are combined to provide the prevalence estimates.

In 2011-2015, the prevalence of ever smoking in Travis County was lower as compared to Texas (34.8% vs. 36.6%, respectively).

Smoking status in Travis County differs by gender, age group, and income, as shown in Table 6.1.

- Males currently smoke at a higher rate than females.
- Adults aged 18-44 years have current smoking rates double those of adults over age 65 years.
- Adults with higher income levels have lower rates of smoking.
- Adults who have earned a college degree are less likely to smoke compared with adults who lack a high school diploma.

[2] http://www.cdc.gov/chronicdisease/resources/publications/aag/osh.htm

* Any tobacco use is defined as a current smoker (every day or some days) or a former smoker.

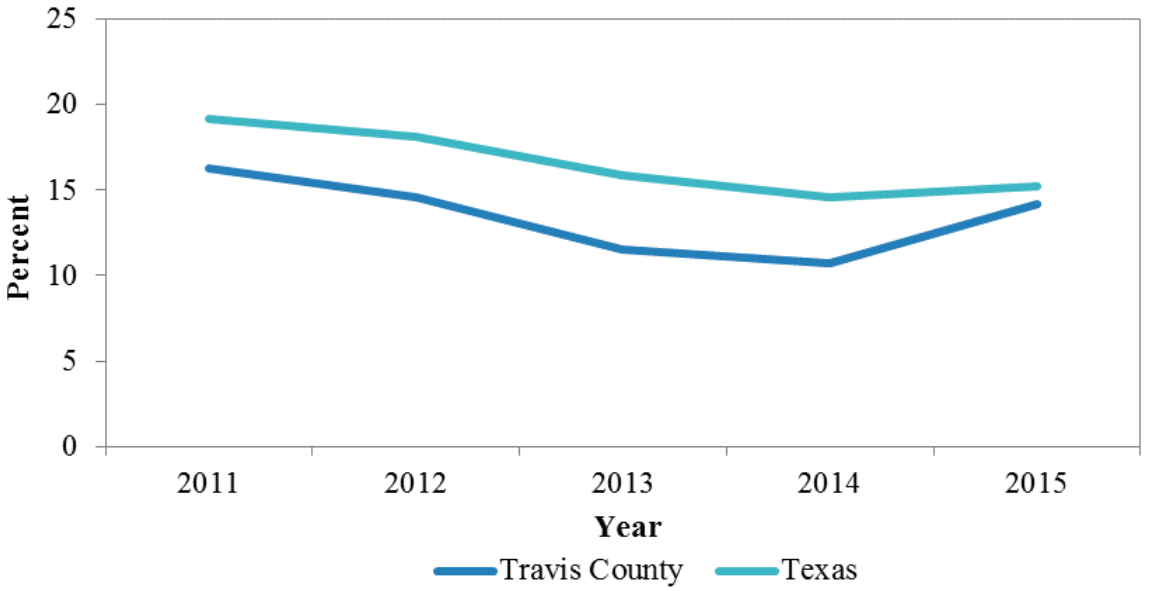
Table 6.1. Prevalence Estimates of Current Smoking and Ever Smoking among Adults by Select Demographic Characteristics, Travis County and Texas, 2011-2015

Demographic Characteristics	Current Smoker		Ever Smoker*	
	Travis County	Texas	Travis County	Texas
	%	%	%	%
Total	13.5	16.6	34.8	36.6
Gender				
Male	16.9	20.1	39.8	44.2
Female	10.1	13.2	29.9	29.3
Age (in years)				
18 to 44	14.8	18.6	30.2	31.1
45 to 64	13.8	17.6	38.2	40.6
≥ 65	6.2	8.3	47.4	46.9
Race/Ethnicity				
White	13.3	17.9	40.1	43.8
Black	18.5	18.6	30.6	32.0
Hispanic	12.9	14.5	28.7	30.2
Education				
< High School Graduate	14.1	21.4	32.1	38.7
High School Graduate and Some College	18.1	18.7	38.4	39.8
College Graduate	7.1	7.6	31.2	27.6
Employed				
Yes	14.8	17.4	36.2	36.2
No	11.1	15.4	32.5	37.6
Household Income				
< $25,000	20.8	22.4	38.7	40.2
$25,000 to < $75,000	15.6	17.2	39.0	39.8
≥ $75,000	7.1	10.3	31.6	32.6
Health Insurance				
Insured	12.9	15.4	32.5	33.8
Uninsured	19.2	24.2	34.9	37.2

Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS) 2011-2015
*Ever smoker is defined as a current smoker (every day or some days) or a former smoker.

The prevalence of smoking among adults in Travis County has been consistently lower than that of adults in Texas. Both have been trending downward until 2015 when there was a significant increase in Travis County that was only mirrored slightly in Texas (see Figure 6.1).

Figure 6.1. Current Smoker Prevalence among Adults, Travis County and Texas, 2011-2015



Data Source: Texas Behavioral Risk Factor Surveillnace System (BRFSS) 2011-2015

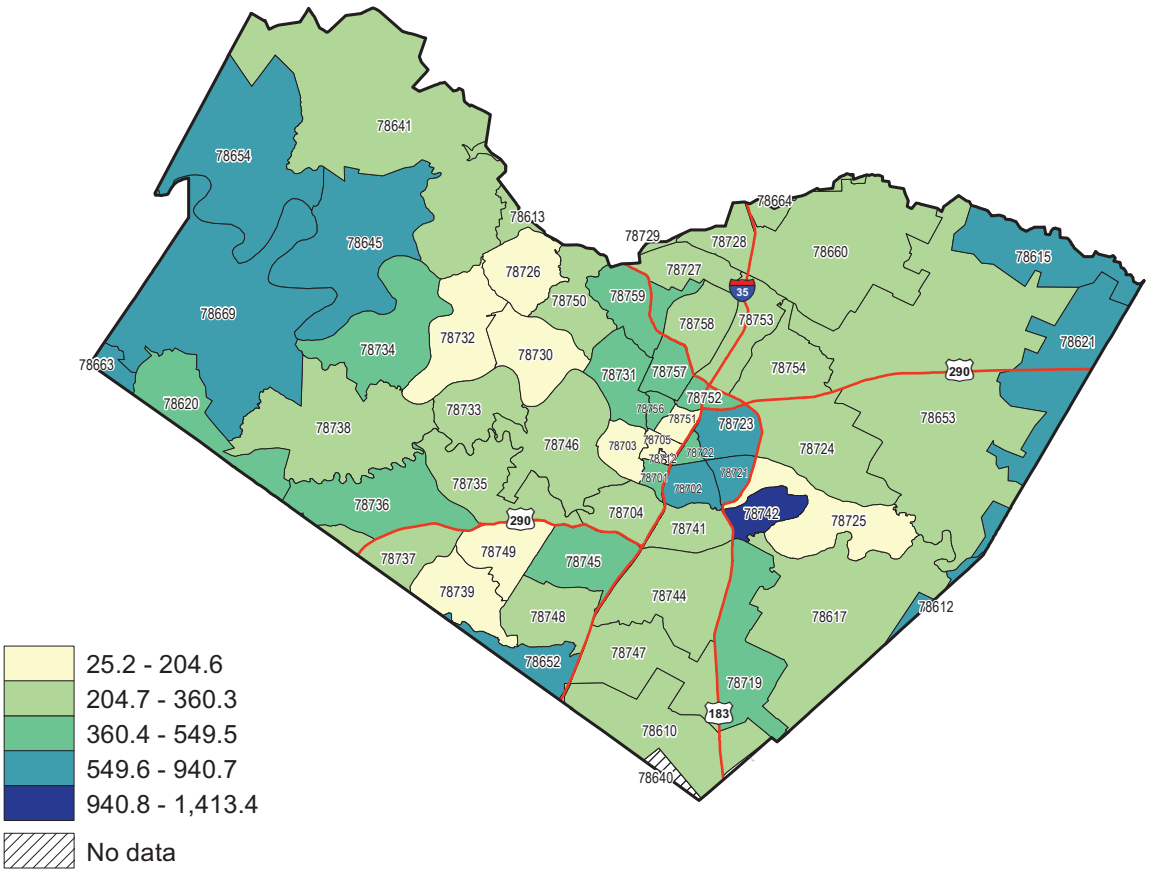
Use of electronic nicotine delivery systems (ENDS), including e-cigarettes, vape pens, e-hookahs, or personal vaporizers is increasing nationwide. In Travis County in 2015, 21% of adults had ever used or tried ENDS. A greater percentage of males than females have tried or used ENDS (25% vs. 16%, respectively). Whites have the highest prevalence of ever having tried or used ENDS (25%), compared to African-Americans (18%) and Hispanics (12%). Current users of ENDS are those individuals who use ENDS every day or some days. The prevalence of current electronic nicotine delivery system users in Travis County is 3.9%.

Mortality rates for smokers in the United States are about three times higher than for people who never smoked.[3] The major causes of mortality among smokers are cancer, cardiovascular disease, and respiratory diseases.[4] In Texas, deaths that are attributable to tobacco use are identified via a checkbox on the death certificate. Map 6.1 shows the geographical distribution of the crude mortality rates attributable to tobacco for the combined years 2010-2014.

[3] U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014 [accessed 2015 Aug 17].

[4] The health consequences of smoking: a report of the Surgeon General. [Atlanta, Ga.]: Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; Washington, D.C.: For sale by the Supt. of Docs., U.S. G.P.O., 2004.

Map 6.1. Crude Mortality Rate* Attributable to Tobacco by Zip Code, Travis County, 2011-2015



Source: Texas Department of State Health Services, Center for Health Statistics
US Census, American FactFinder, 2010-2014 American Community Survey 5-year estimates
*Crudes rates are per 100,000 population

Youth and Tobacco Use

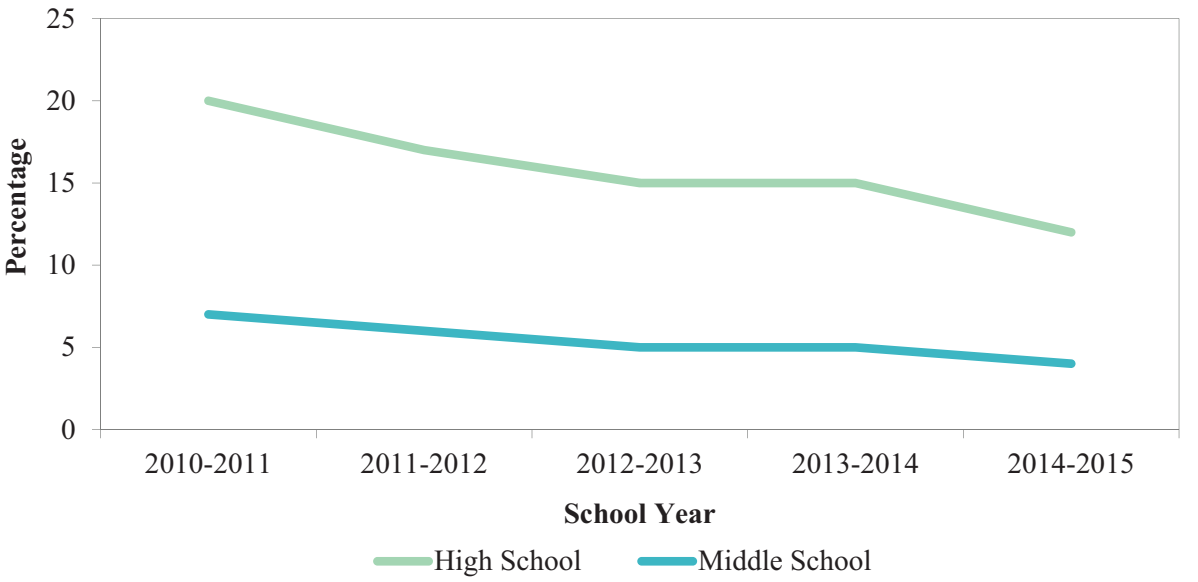
Prevention of teen tobacco use is vital because teens are more sensitive to nicotine, and the addiction process can begin earlier than for adults. Due to teen propensity for earlier addiction, three out of four teen smokers will become adult smokers.[5] Over 1,000 youth become regular smokers each day in the US. Almost half will die from a tobacco related condition.[6]
The Austin Independent School District (AISD) Substance Use and Safety Survey (SUSS) is a telephone survey given to a random representative sample of middle and high school students.

[5] https://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/factsheet.html
[6] U.S. Department of Health and Human Services. Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2012.

The survey collects data on knowledge, attitudes, and behaviors on a variety of topics. Survey data was grouped into two categories: Students who used tobacco and students who never used tobacco. Students who used tobacco at least once are defined as respondents who indicated that they had smoked less than once a year, about once this year, about once a month, several times a month, several times a week, or every day. Students who never used tobacco are defined as respondents who never used it/ heard of it.

The prevalence of tobacco use among AISD students has seen a decline in recent years in both Middle School and High School students (see figure 6.2). However, during the 2014-2015 SUSS survey frequency of e-cigarette use was assessed indicating 6% of middle school students and 16% of high school students had used an e-cigarette at least once in the past year. This trend is reflected in the National Youth Risk Behavior Survey (YRBS)[7] which has seen an increase in e-cigarette use among teens while rates of tobacco use remain constant.

Figure 6.2. Prevalence of Students Who Used Tobacco at Least Once, Austin Independent School District Middle School and High Schools, 2010-2015



Data Source: Austin Independent School District Department of Research and Evaluation Results of the Student Substance Use and Safety Survey, 2012-2015

[7] Singh T, Arrazola RA, Corey CG, et al. Tobacco Use Among Middle and High School Students — United States, 2011–2015. Morb Mortal Wkly Rep 2016;65:361–367. DOI: http://dx.doi.org/10.15585/mmwr.mm6514a1

Obesity

Persons who are overweight or obese are at increased risk for many diseases and health conditions such as high blood pressure, diabetes, coronary heart disease, stroke, high cholesterol, respiratory diseases, and some forms of cancer.[8]

The Texas Behavioral Risk Factor Surveillance System (BRFSS) provides an estimate of obesity prevalence in the population. Obesity in a survey respondent is defined as a Body Mass Index (BMI) greater than or equal to 30, based on self-reported height and weight. For example, a person 5 feet 6 inches in height weighing 186 to 191 pounds would have a BMI of 30. Due to a small sample size, data for 2011 through 2015 are combined to provide the prevalence estimates.

The prevalence of obesity or being overweight vary by demographic and socioeconomic indicators as shown in Table 6.2.

- Adults with lower income levels and lower educational attainment are more likely to be obese.
- The prevalence of obesity was higher in females and in persons who are unemployed.
- Health insurance status did not seem to be a significant factor.
- Black and Hispanic adults have a higher prevalence of obesity than White adults. This disparity has persisted for several years.

Adults who report being diagnosed with chronic conditions such as asthma, diabetes and heart disease have a higher prevalence of obesity or being overweight than those without these co-morbid conditions. Almost 84% of adults with diabetes are also obese.

[8] http://www.cdc.gov/obesity/adult/causes/index.html

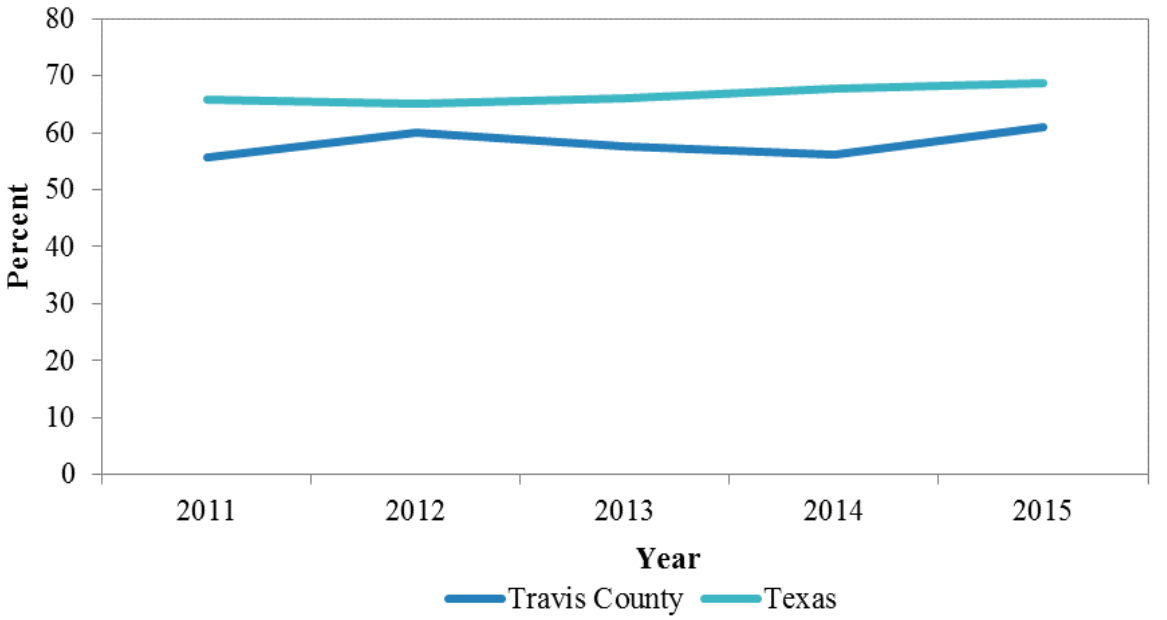
Table 6.2. Prevalence Estimates for Obesity, Overweight and Normal Weight Status among Adults by Select Demographic Characteristics, Travis County, 2011-2015

Demographic Characteristics	Travis County 2011-2015		
	Obese BMI* ≥ 30	Overweight 25 ≤ BMI ≥ 30	Normal Weight BMI < 30
	%	%	%
Total	21.9	36.1	42.0
Gender			
Male	20.1	43.0	36.9
Female	23.8	28.7	47.5
Age (in years)			
18 to 44	18.1	34.1	47.8
45 to 64	27.4	38.2	34.4
≥ 65	24.7	39.9	35.3
Race/Ethnicity			
White	17.8	35.9	46.3
Black	40.1	31.5	28.4
Hispanic	27.2	38.8	34.0
Education			
< High School Graduate	32.3	34.2	33.5
High School Graduate and Some College	24.7	35.2	40.0
College Graduate	14.7	37.7	47.6
Employed			
Yes	20.7	38.6	40.7
No	24.2	31.6	44.2
Household Income			
< $25,000	30.0	33.9	36.0
$25,000 to <$75,000	25.3	35.7	39.0
≥$75,000	14.4	39.0	46.6
Health Insurance			
Insured	21.2	34.8	44.0
Uninsured	22.9	39.2	37.9

Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS) 2011-2015
*Body Mass Index

The prevalence of overweight or obese among adults in Travis County has remained fairly constant at about 58% over the last five years and is below the prevalence rate for the entire state (see Figure 6.3).

Figure 6.3. Overweight or Obese Prevalence among Adults, Travis County and Texas, 2011-2015

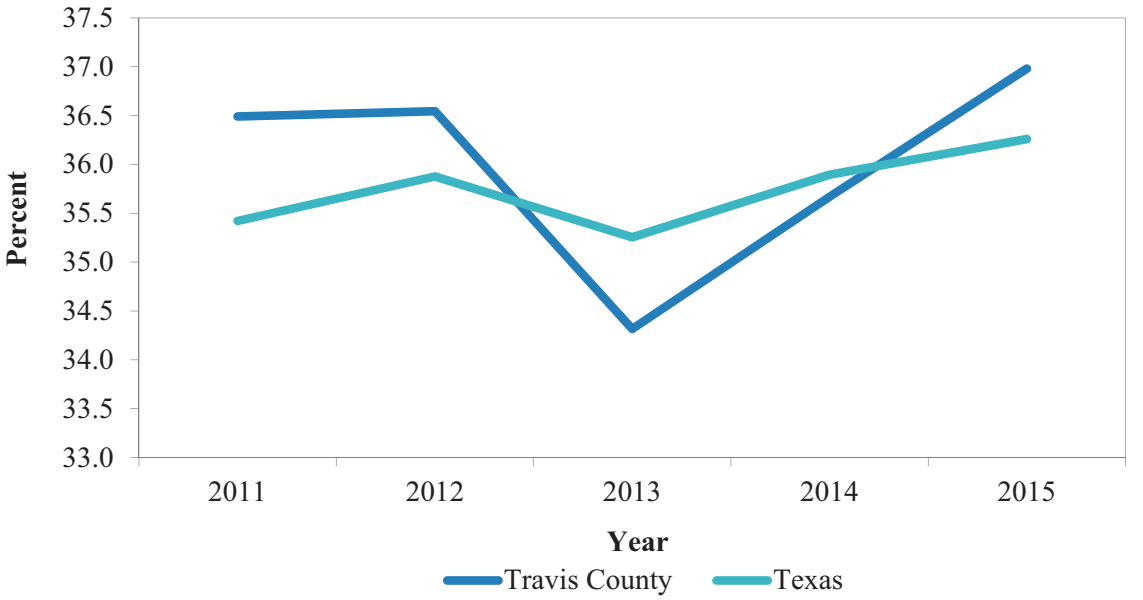


Data Source: Texas Behavioral Risk Factor Surveillnace System (BRFSS) 2011-2015

Over 312,000* Travis County adults (36.1% of adults) are considered overweight. Furthermore over 180,000* Travis County adults (21.9% of adults) are considered obese. While rates of obesity are lower in Travis County as compared to Texas (21.9% vs. 31.0%, respectively), the prevalence of being overweight in Travis County is similar to that of the state (36.1% vs. 35.7%, respectively) as shown in Figure 6.4 and 6.5.

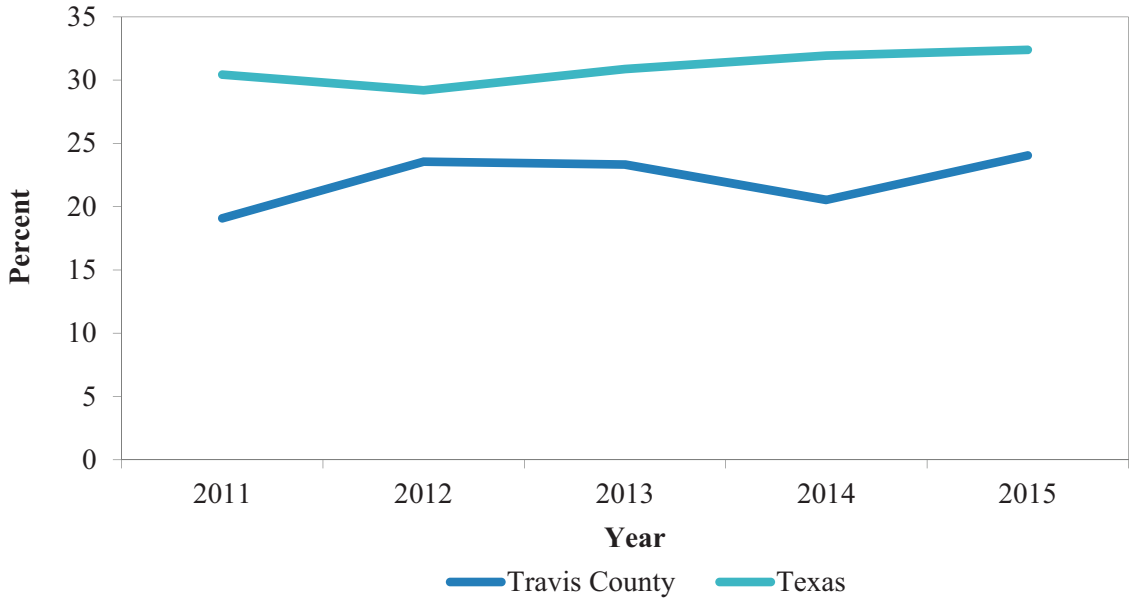
* Estimate based on American Community Survey 2015 estimate of persons over 18 years of age

Figure 6.4. Overweight Prevalence among Adults, Travis County and Texas, 2011-2015



Data Source: Texas Behavioral Risk Factor Surveillnace System (BRFSS) 2011-2015

Figure 6.5. Obesity Prevalence among Adults, Travis County and Texas, 2011-2015



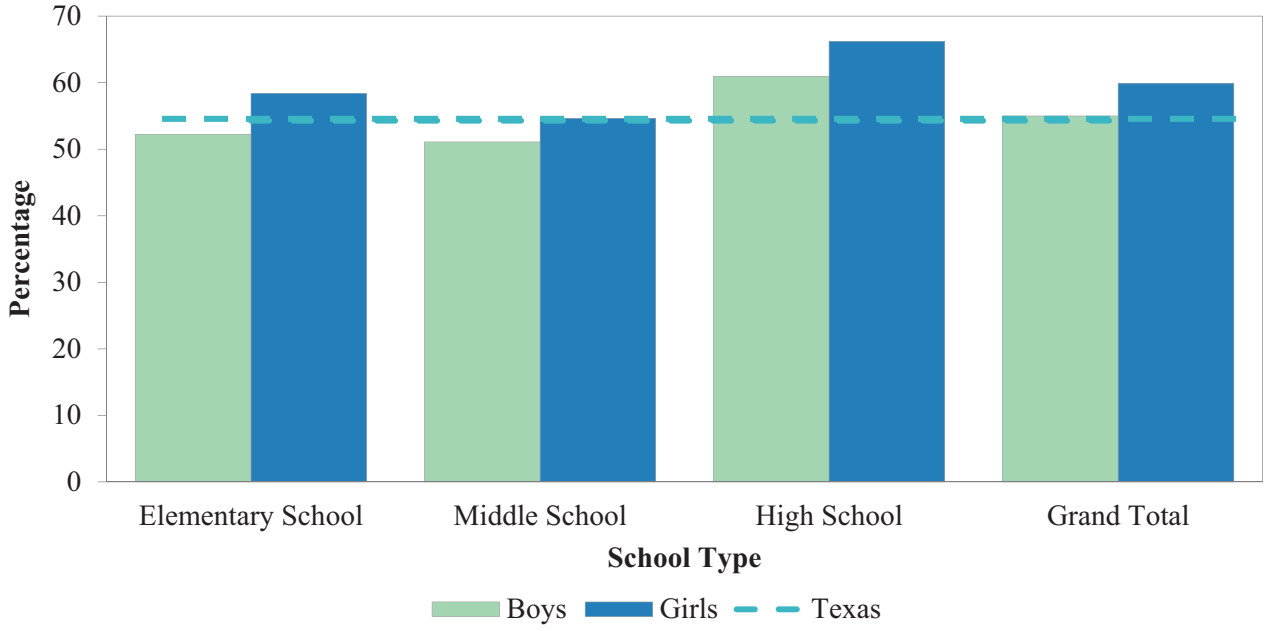
Data Source: Texas Behavioral Risk Factor Surveillnace System (BRFSS) 2011-2015

Youth Obesity

In the United States, the number of obese children and teens has continued to rise over the past two decades.[9] Childhood obesity is associated with various health-related consequences such as heart disease, type 2 diabetes, asthma, sleep apnea, and social discrimination. Additionally, children who are obese are 5 times more likely to be obese as adults.[10]

FitnessGram is a youth physical assessment tool used by the Texas Education Association (TEA) to monitor fitness levels of Texas students. TEA uses body mass index (BMI) to assess weight status. BMI data is broken out into fitness levels that vary by age and gender. These levels are based on levels of body fatness associated with increased risk of health problems and the CDC growth charts.[11] The percentage of students achieving FitnessGram BMI Fitness Zone targets are displayed below by gender and school type (Figure 6.6). Overall achievement was highest amongst high school students and females. BMI fitness zone achievement ranged from 51% (middle school boys) to 66% (high school girls). Overall only 57% of Travis County youth are meeting the appropriate BMI fitness goal, indicating that the other 43% of Travis County youth need improvement.

Figure 6.6. FitnessGram BMI Fitness Zone Achievement by Gender and School Type, Travis County, 2010-2014



Data Source: Texas Education Association Fiitnessgram, academic years 2010-2011 to 2013-2014

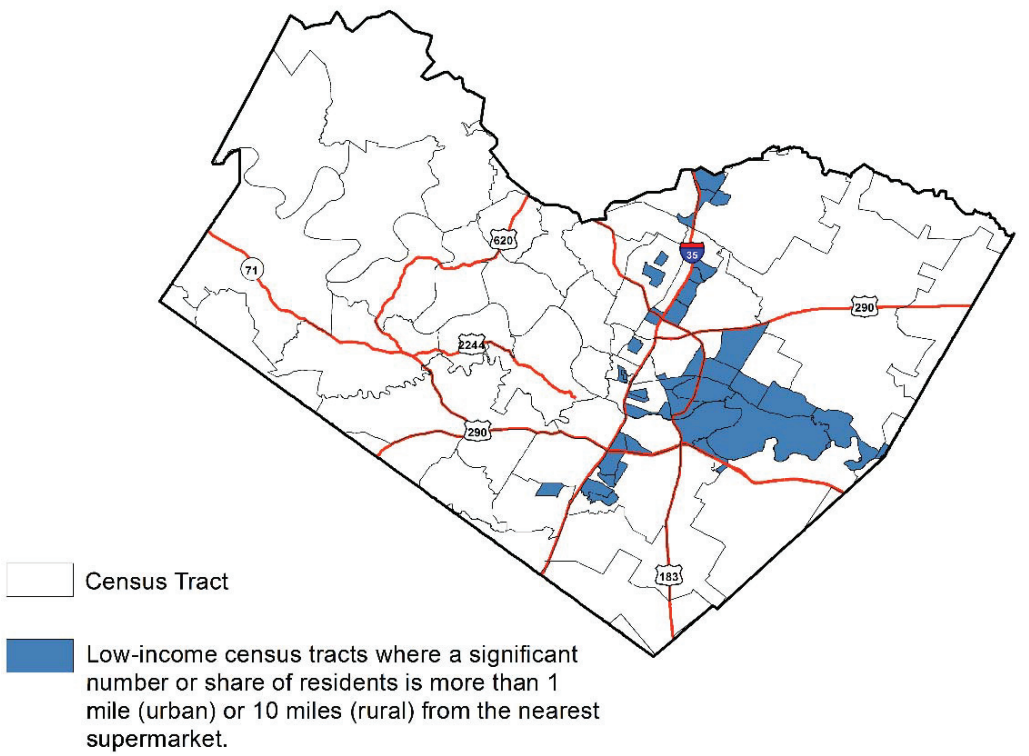
[9] https://www.cdc.gov/healthyweight/children/
[10] http://www.cdc.gov/vitalsigns/childhoodobesity/
[11] FITNESSGRAM® for the Presidential Youth Fitness Program

Food Deserts

The United States Department of Agriculture (USDA) considers a census tract to be a "food desert" if the tract is low income (poverty rate is 20% or more or in a metropolitan area the median family income is less than or equal to 80% of the metropolitan area's median family income) and 2) at least one-third of tract residents live more than 1 mile away (or 10 miles away in the case of rural areas) from a supermarket or large grocery store.[12] Convenience stores, drug stores or "dollar" stores are not considered supermarkets or large grocery stores by the USDA.

Map 6.2 was prepared from data available from the Economic Research Service, USDA for 2015. The map shows census tracts in Travis County considered to be a food desert based on the USDA definition. Census tracts considered food deserts are primarily located east of Interstate 35. Nearly 160,000 people reside in these census tracts. While living in a food desert, or an area with poor access to healthy foods, has been found to be related to a higher risk of obesity, other studies have not found a relationship between supermarket access and obesity.[13,14]

Map 6.2. United States Department of Agriculture Food Deserts by Census Tract, Travis County



[12] United States Department of Agriculture. Food deserts. https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx
[13] Chen D, Jaenicke EC, Volpe RJ. Food environments and obesity: Household diet expenditure versus food desert. Am J Public Health 106:881-8, 2016
[14] Budzynska D, West P, Savoy-Moore RT, Lindsey D, Winter M, Newby PK. A food desert in Detroit: associations with food shopping and eating behaviors, dietary intakes and obesity. Public Health Nutr 16:2114-23, 2013

7.0 Maternal and Child Health

Maternal and child heath indicators are often used as community benchmarks to provide a glimpse into the health status of a population. This section presents birth and infant mortality data for a variety of maternal and infant characteristics. Viewing data in this manner can be useful for understanding the relationships between risk factors and infant mortality. However, it is also important to note that women with one risk factor will often also have additional risk factors. Table 7.1 provides information on the number of births for Travis County and Texas for selected risk factors, including prenatal care, prematurity, and low birth weight by race/ethnicity. For each of the three indicators, the three-year averages for Travis County are slightly lower when compared with the Texas three-year averages.

Preterm Births

When a baby is born before 37 weeks of pregnancy the birth is considered preterm. Infants born too early are at higher risk of disability and death. The Centers for Disease Control and Prevention (CDC) notes that direct causes of preterm births remains poorly understood and that behavioral, medical, social, personal and economic conditions may affect a woman's risk of preterm birth.[15] For Travis County, the percentage of total premature births (<37 weeks gestation) has been fairly consistent from 2012 to 2014. Approximately 10% of all births are premature in Travis County. Premature births are more likely for Black mothers as indicated in Figure 8.1.

Prenatal Care

Late initiation of prenatal care or no prenatal care, both of which are often related to a mother's ability to access medical care, is an important risk factor for infant mortality. The three-year average for the percentage of births which women received "Late or No Prenatal Care" in Travis County is lower than that of Texas. In Travis County, the percent of births with "Late or No Prenatal Care" declined slightly from 2012 (28%) to 2014 (27%). As shown in figure 7.1 below, the three-year average for Blacks (33%) and Hispanics (39%) are twice the rate for Whites (14%). In Travis County, over a third of all Hispanic infants were born to mothers with late or no prenatal care.

Low Birth Weight

Low birth weight is another important risk factor closely linked with infant mortality. The three-year average percentage of infants with low birth rate in Travis County was 8%; this was on par with the state's three-year average. Shown in figure 7.1 below, low birth weight is more frequently seen in Black infants.

[15] https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm

Table 7.1. Key Maternal and Child Health Indicators for Travis County and Texas, 2012-2014

Race/Ethnicity	Travis County 2012 Number (%)	Travis County 2013 Number (%)	Travis County 2014 Number (%)	Travis County 2012-2014 Average Number (%)	Texas 2012-2014 Average Number (%)
	Prematurity (% of total births)†				
White	609 (10.0)	603 (9.9)	608 (9.5)	607 (10.2)	14,277 (10.6)
Black	194 (16.5)	211 (17.8)	191 (14.6)	199 (16.2)	7,007 (15.8)
Hispanic	728 (10.3)	743 (10.6)	691 (9.8)	721 (10.2)	22,986 (12.4)
All Races*	1,677 (10.6)	1,714 (10.9)	1,638 (10.0)	1,676 (10.5)	47,026 (12.1)
	Late or No Prenatal Care (% of total births)‡				
White	889 (14.6)	793 (13.0)	1,005 (15.7)	896 (14.4)	37,345 (27.8)
Black	394 (33.5)	368 (31.1)	441 (33.7)	401 (32.8)	19,551 (44.0)
Hispanic	2,857 (40.5)	2,661 (38.1)	2,645 (44.1)	2,721 (38.7)	73,895 (39.8)
All Races*	4,453 (28.1)	4,082 (26.0)	4,403 (26.9)	4,313 (27.0)	139,368 (35.8)
	Low Birth Weight (% of total births)§				
White	520 (8.5)	524 (8.6)	441 (6.9)	441 (7.1)	9,752 (7.3)
Black	200 (17.0)	235 (19.8)	177 (13.5)	180 (14.7)	5,997 (13.5)
Hispanic	572 (8.1)	605 (8.7)	430 (6.1)	478 (6.8)	14,069 (9.3)
All Races*	1,457 (9.2)	1,518 (9.7)	1,187 (7.2)	1,237 (7.7)	32,161 (8.3)

*The total includes other races and ethnicities.

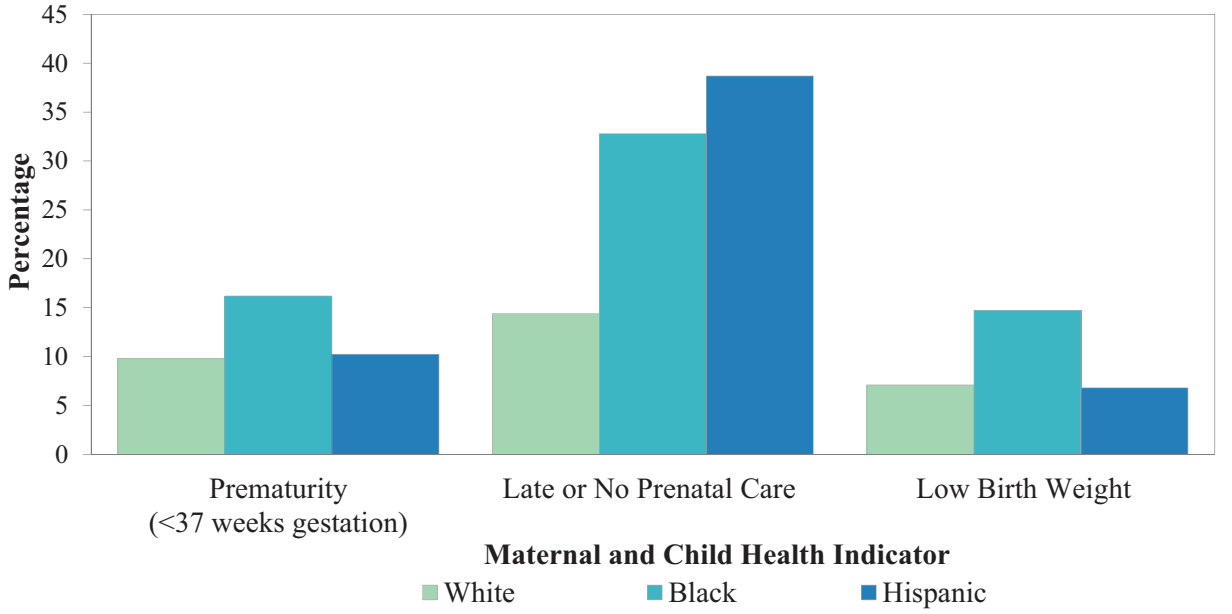
† "Prematurity" is considered <37 weeks gestation. Percent calculated for "Prematurity" is based on the total number of births.

‡"Late prenatal care" is considered prenatal care started in the second or third trimester. Percent calculated for "Late or No Prenatal Care" is based on the total number of births.

§ "Low birth weight birth" is considered a birth weight of less than 2,500 grams (5 pounds, 8 ounces). Percent calculated for "Low Birth Weight" is based on the total number of births.

Data Source: Center for Health Statistics, Department of State Health Services, Texas Births 2012-2014.

Figure 7.1. Prenatal Risk Factors for Travis County, Texas, and the United States, 2012-2014



Data Source: Centerfor Health Statistics, Texas Department of State Health Services

Infant Mortality

The death of a baby before his or her first birthday is called infant mortality. The infant mortality rate is the number of infant deaths for every 1,000 live births. Table 7.2 shows infant mortality rates by race/ethnicity for 2012 through 2014. Overall, the three-year average infant mortality rates for Travis County are less than that of Texas.

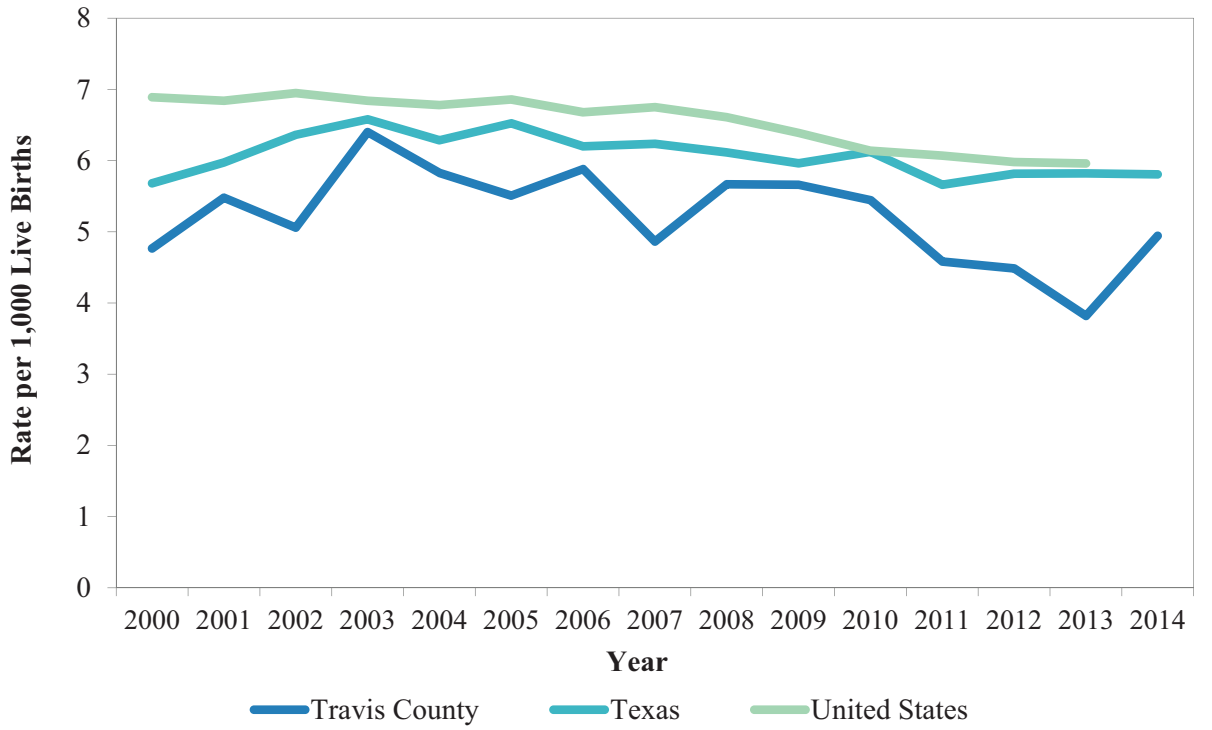
Table 7.2. Infant Mortality Rates per 1,000 Live Births for Travis County and Texas, 2012-2014

Race Ethnicity	Travis County				Texas
	2012	2013	2014	2012-2014 Average	2012-2014 Average
	No. (Rate)	No. (Rate)	No. (Rate)	No. (Rate)	No. (Rate)
White	29 (4.8)	28 (4.6)	16 (2.5)	24 (3.9)	678 (5.1)
Black	16 (13.6)	<10 (*)	10 (7.6)	11 (9.0)	511 (11.5)
Hispanic	22 (3.1)	22 (3.1)	46 (6.5)	30 (4.3)	978 (5.3)
Total	71 (4.5)	60 (3.8)	81 (4.9)	71 (4.4)	2,266 (5.8)

Data Source: Center for Health Statistics, Texas Department of State Health Services, Texas Births 2012-2014.
* Due to the low numbers of infant deaths, rates were not calculated.

As shown in Figure 7.2 below, the infant mortality rate in Travis County has been lower than either Texas or the national rate from 2003 through 2014. Over the 10-year period, the Travis County rate has varied between 3.8 and 6.4 deaths per 1,000 live births with the changes in the rate from year to year most likely due to random fluctuations.

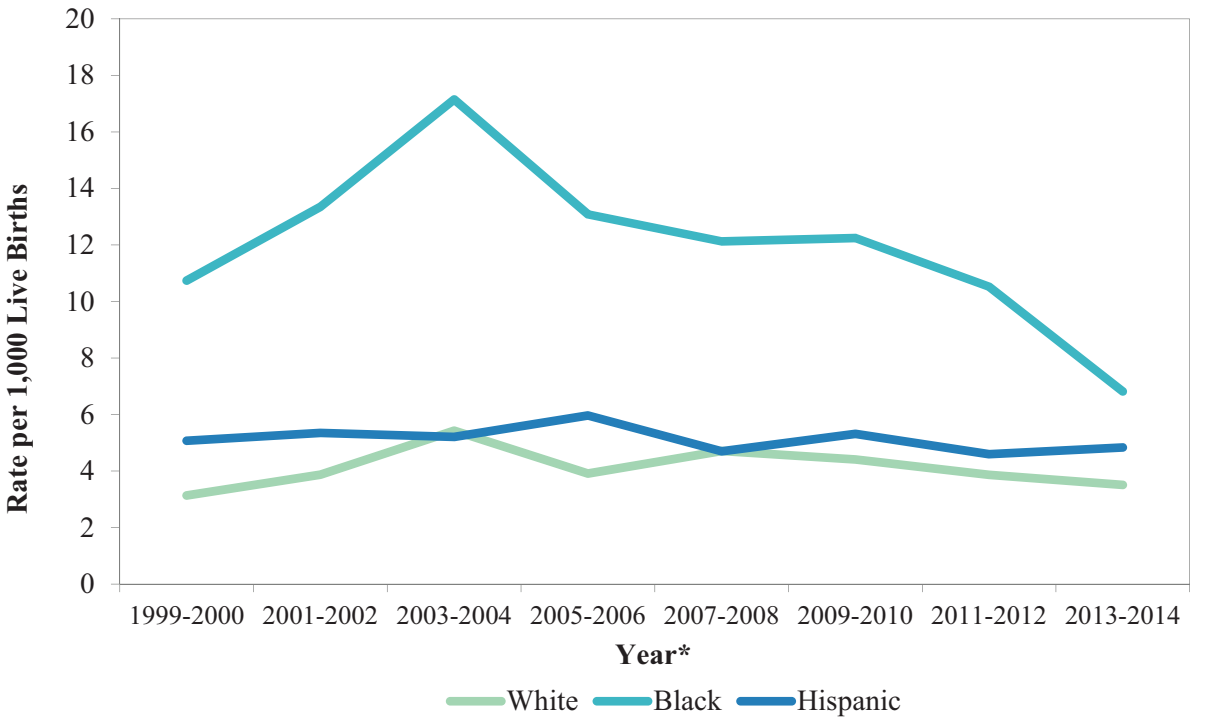
Figure 7.2. Infant Mortality Rates for Travis County, Texas, and the United States, 2000-2011



Data Source:
County and Texas data obtained from Center for Health Statistics, Texas Department of State Health Services
National statistics obtained from United States Department of Health and Human Services (US DHHS), Centers of Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics (DVS). Linked Birth / Infant Death Records 2000-2013, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program, on CDC WONDER On-line Database.

In Travis County and Texas, differences in infant mortality are observed in different racial/ethnic groups. Infant mortality rates are higher for Blacks than Whites and Hispanics as shown in figure 7.3. Infant mortality rates are highest for Blacks during this period; rates for Whites and Hispanics have remained steady. Although the rates for Blacks have been on the decline since 2003-2004 the infant mortality rate remains higher than the rates for Whites and Hispanics. Nationally, the higher infant mortality rates seen in Black infants are primarily due to higher levels of preterm births and preterm-related causes of death.

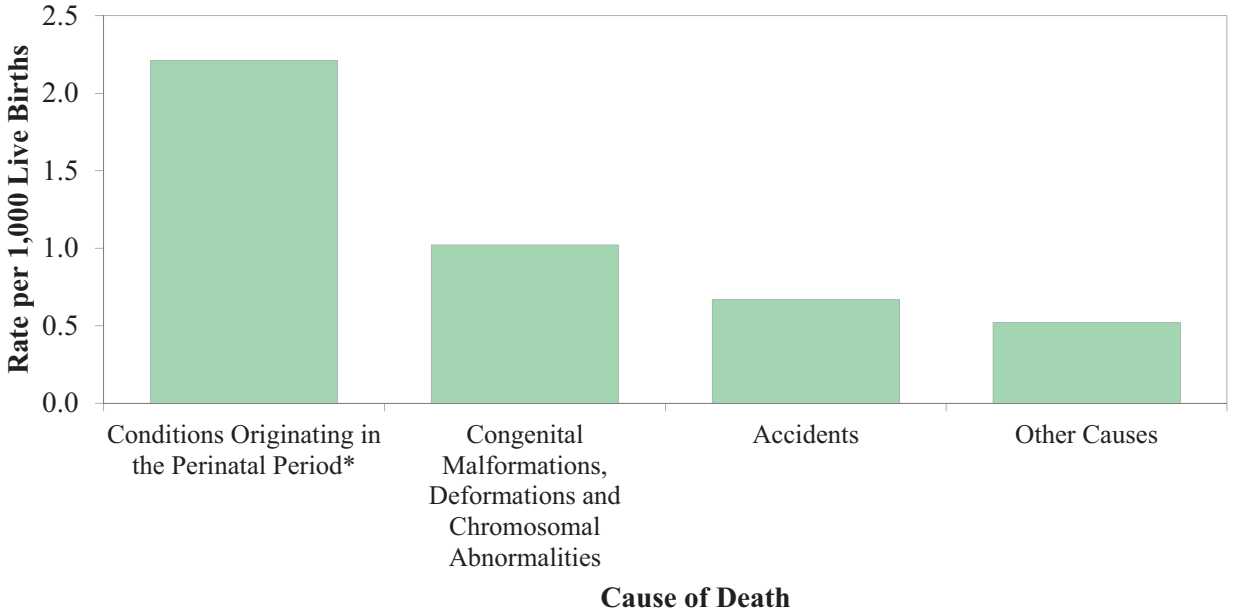
Figure 7.3. Infant Mortality Rates by Race/Ethnicity for Travis County, 1999-2014



*Data was aggregated into 2 year increments to ensure rate stability
Data Source: Center for Health Statistics, Texas Department of State Health Services

Selected causes of infant mortality are shown in Figure 7.4. Infant deaths are primarily due to conditions originating in the perinatal period, congenital malformations and accidents.

Figure 7.4. Infant Mortality Rates for Selected Causes of Death for Travis County, 2012-2014



*Conditions originating in the perinatal period are complications of labor and/or delivery, short gestation, low birth weight and hypertension, diabetes, smoking and stress during pregnancy
Data Source: Center for Health Statistics, Texas Department of State Health Services

Births to Teen Mothers

According to the CDC, infants born to teenage mothers are at greater risk for low birth weight, preterm birth, and death in infancy when compared with births to adult women.[16] The teen birth rate is defined as the percentage of females younger than 20 years of age who had a live birth during a given year. Table 7.3 provides information on the teen birth rate for females less than 20 years of age and a subset of that population, mothers 15 – 17 years old, by race/ethnicity. In Travis County, three out of every 100 babies born in Travis County is to a mother 15-17 years of age.

The percent of births to teen mothers for all race/ethnicities in Travis County is at or below the state average for 2012 through 2014. When comparing the 2012-2014 averages, Whites have the lowest percent of births to females 15 – 17 years old (0.4%) and females less than 20 years old (1.6%). Hispanics have the highest percentage of births to females 15 – 17 years old (4.0%) and females less than 20 years old (11.6%). The percentage of teen births among Hispanics is ten times higher than the percentage of teen births among Whites.

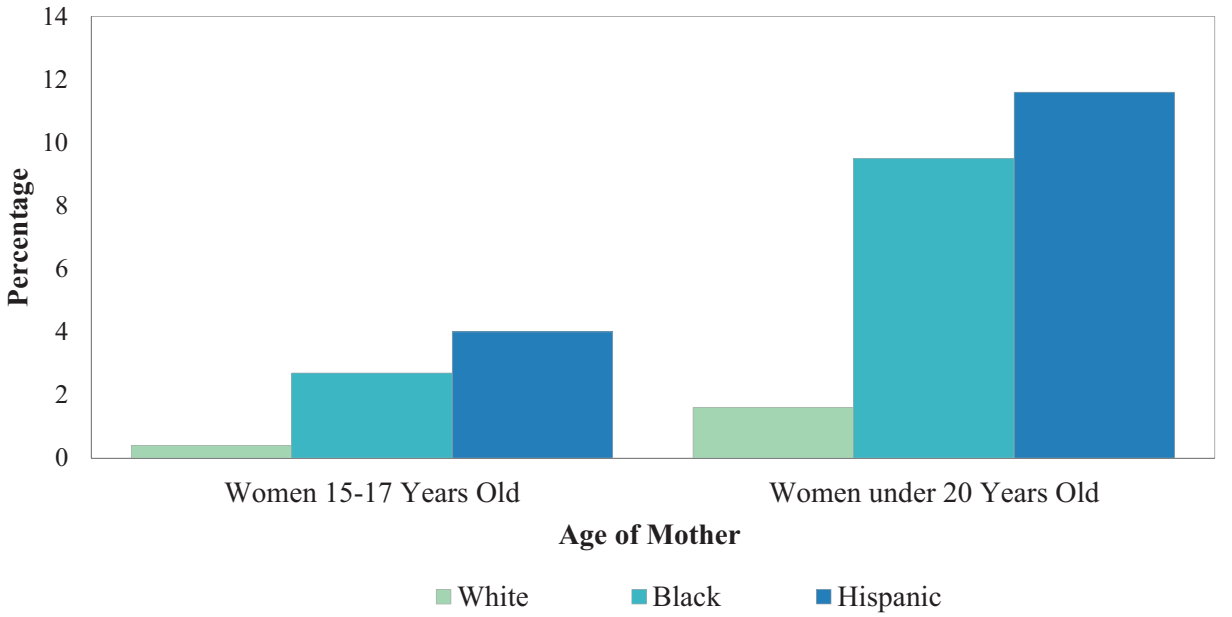
[16] Ventura SJ, Hamilton BE, Mathews TJ. National and state patterns of teen births in the United States, 1940–2013. National vital statistics reports; vol 63 no 4. Hyattsville, MD: National Center for Health Statistics. 2014.

Table 7.3. Births to Women under the Age of 20 Years Old and 15-17 Years of Age for Travis County and Texas, 2012-2014

Race/Ethnicity	Travis County				Texas
	2012	2013	2014	2012-2014 Average	2012-2014 Average
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
	Percent of Total Births to Women 15-17 Years Old				
White	34 (0.6)	20 (0.3)	16 (0.2)	23 (0.4)	1,836 (4.0)
Black	34 (2.9)	27 (2.3)	38 (2.9)	33 (2.7)	1,400 (9.1)
Hispanic	322 (4.6)	265 (3.8)	266 (3.8)	284 (4.0)	8,292 (13.1)
All Races	395 (2.5)	320 (2.0)	324 (2.0)	346 (2.2)	11,765 (8.8)
	Percent of Total Births to Women under 20 Years Old				
White	116 (1.9)	87 (1.4)	97 (2.1)	145 (1.5)	7,800 (17.1)
Black	120 (10.2)	108 (9.1)	119 (9.1)	116 (9.5)	4,877 (10.9)
Hispanic	822 (12.5)	791 (11.3)	781 (11.0)	818 (11.6)	24,648 (13.3)
All Races	1,142 (6.4)	1,010 (5.7)	1,017 (6.2)	1,056 (6.6)	38,171 (9.8)

Data Source: Center for Health Statistics, Texas Department of State Health Services, Texas Births 2012-2014.

Figure 7.5. Births to Women under the Age of 20 Years Old and 15-17 Years of Age for Travis County and Texas, 2012-2014



Data Source: Center for Health Statistics, Texas Department of State Health Services Center for Health Statistics

8.0 Human Immunodeficiency Virus

Human immunodeficiency virus (HIV) is spread through bodily fluids such as blood, semen, pre-seminal fluid, rectal fluids, vaginal fluids, and breast milk. In the United States, HIV is most commonly transmitted from person to person through unprotected anal or vaginal sex and through needle and syringe use. In addition, a mother can pass HIV to her baby during pregnancy, during labor, or through breastfeeding. HIV infection is diagnosed by testing blood or saliva for antibodies to the virus or by directly testing for the presence of the virus. HIV weakens a person's immune system leading to immunodeficiency; that is, the immune system is deficient in its ability to fight disease and infection. Acquired immunodeficiency syndrome (AIDS) is the late stage of infection with HIV. The time from HIV infection to the development of AIDS is extremely variable ranging from less than one year to over 15 years. There is no vaccine or effective cure that exists for HIV. But with proper medical care, HIV can be controlled. Antiretroviral therapy (ART) is the medicine used to treat HIV. ART can prolong the lives of many people infected with HIV, keep them healthy, and greatly lower their chance of infecting others.[17]

Today, more options than ever are available to prevent HIV. Using condoms correctly every time you have sex, limiting your number of sexual partners, never sharing needles, and taking advantage of highly effective medicines such as pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) can reduce the risk of HIV infection. PEP is used after a person is potentially exposed to HIV, while PrEP is a daily pill taken to prevent HIV for those at high risk for becoming infected with HIV.[17]

The Centers for Disease Control and Prevention estimates that over one million persons, aged 13 years and older, are living with HIV infection. While HIV can affect anyone, certain groups are at higher risk due to particular risk factors. In the United States, Blacks experience the highest burden of HIV compared with other races and ethnicities. Additionally gay, bisexual, and other men who have sex with men (MSM) are considered most at risk of HIV infection. In 2015 young MSM, aged 13-24 years, accounted for the majority of new HIV diagnoses, with young African American MSM affected even more severly.[17]

Table 8.1 shows the number of new HIV cases and new AIDS cases reported in Travis County during 2006 through 2015. The number of cases of AIDS are those who were diagnosed in that year regardless of whether they were previously diagnosed as HIV only or if they were newly diagnosed and already met the AIDS case definition. The annual number of new HIV diagnoses ranged from 191 to 288. In 2015, the majority of new diagnoses were male (88.9%) and younger than 35 years of age (63.2%). Additionally most cases identified as Hispanic (42.5%), followed by White (35.1%), and then Black (18.9%).

[17] https://www.cdc.gov/hiv/basics/index.html

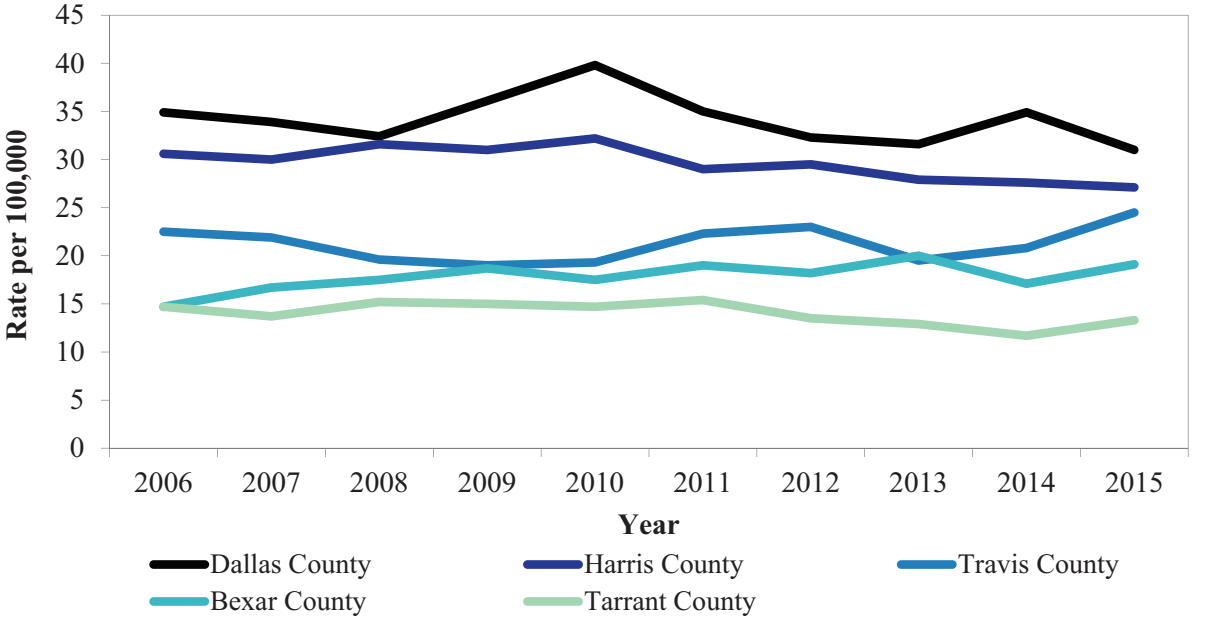
Table 8.1. Number of New HIV and AIDS Diagnoses, Travis County, 2006-2015

Diagnosis Year	HIV	AIDS
2006	208	144
2007	209	152
2008	192	139
2009	191	150
2010	199	126
2011	237	121
2012	252	112
2013	219	111
2014	239	96
2015	288	99
Total	2,234	1,250

Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Figure 8.1 shows the incidence rates per 100,000 population for new HIV infection diagnoses by county of residence for the five most populated counties in Texas. Consistently for the 10 years, rates in Travis County have been lower compared with Dallas and Harris counties and higher compared with Bexar and Tarrant counties.

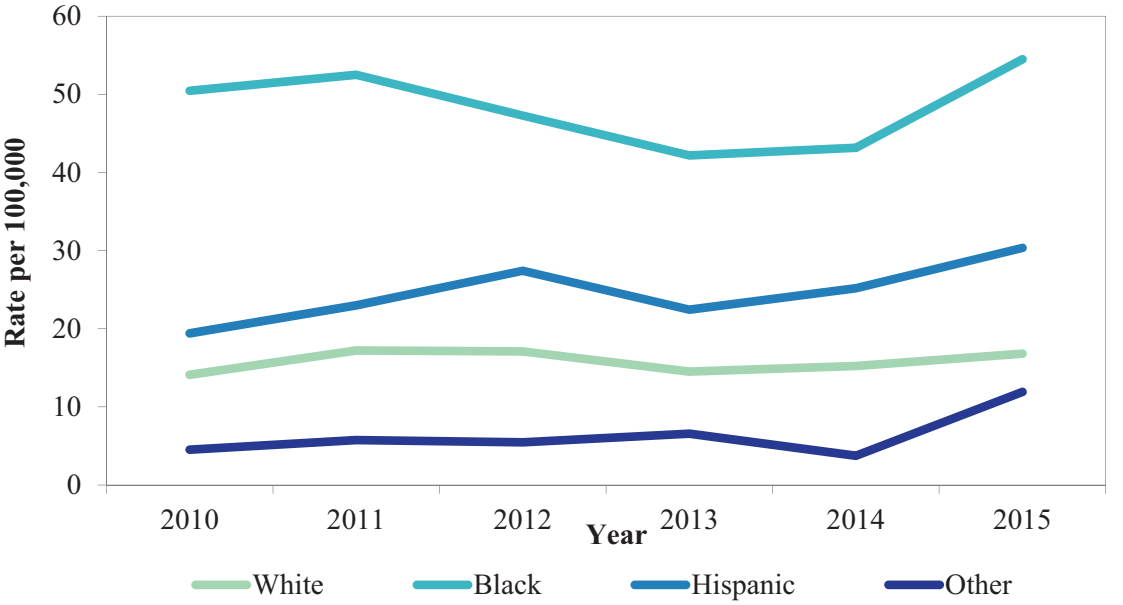
Figure 8.1. Incidence Rates for New HIV Infection Diagnoses by County of Residence, Bexar, Dallas, Harris, Tarrant, and Travis Counties, 2006-2015



Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Figure 8.2 shows the incidence rate of new HIV diagnoses. From 2010 through 2015, incidence rates for Blacks have been consistently higher compared with rates for Whites, Hispanics, and Others.

Figure 8.2. Incidence Rate per 100,000 Population of New HIV Diagnoses, Travis County, 2010-2015

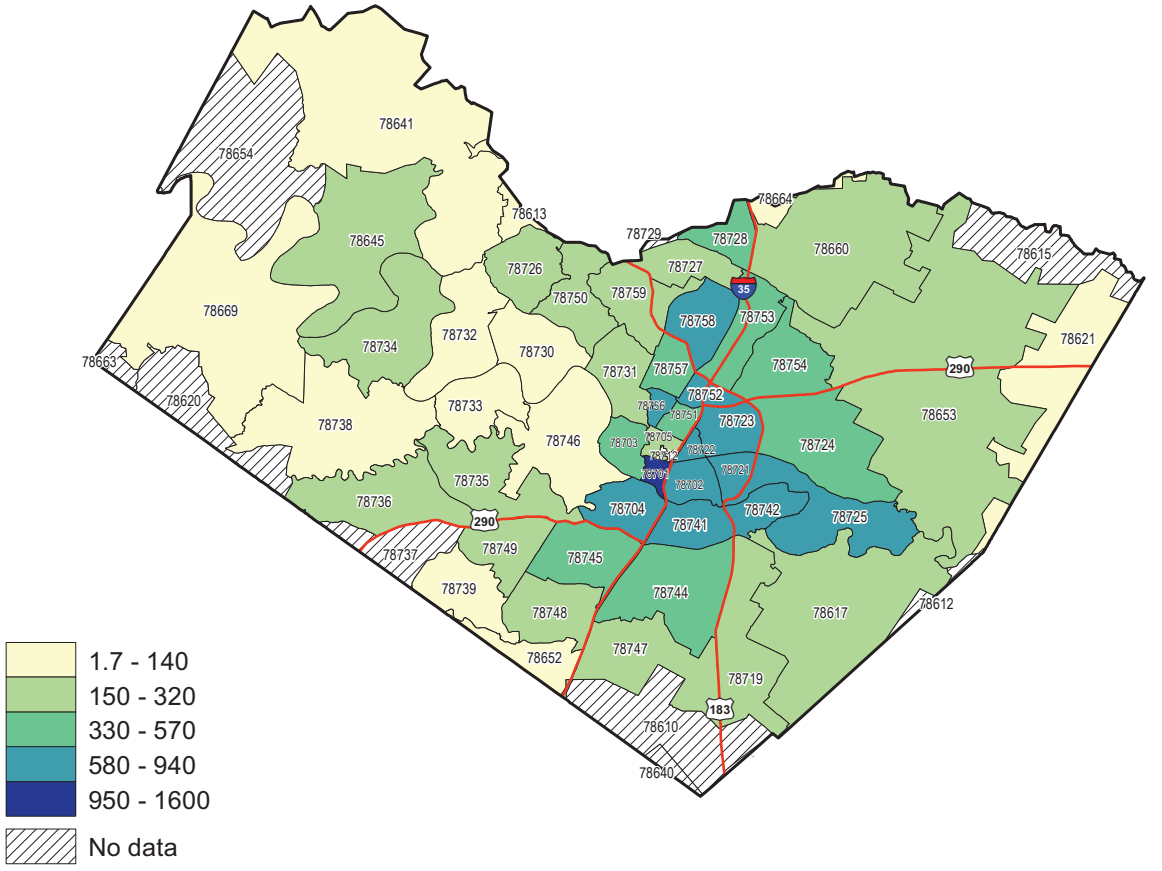


Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

On December 31, 2015, a total of 82,745 persons living with HIV (PLWH) resided in Texas. A majority (78.4%) of PWLH in Texas are male. In Texas, Blacks comprise 37.5% of PLWH. Hispanics and Whites comprise 31.3% and 26.9% of the PLWH, respectively.

A total of 4,422 persons living with HIV resided in Travis County on December 31, 2015. Most (86.4%) of the PLWH in Travis County are males. Whites and Hispanics races comprise 40.4% and 34.7% of the persons living with HIV, respectively. Map 8.1 shows the prevalence rate of HIV by zip code for Travis County in 2015. Higher HIV prevalence rates are concentrated along Interstate 35, particularly east of Interstate 35.

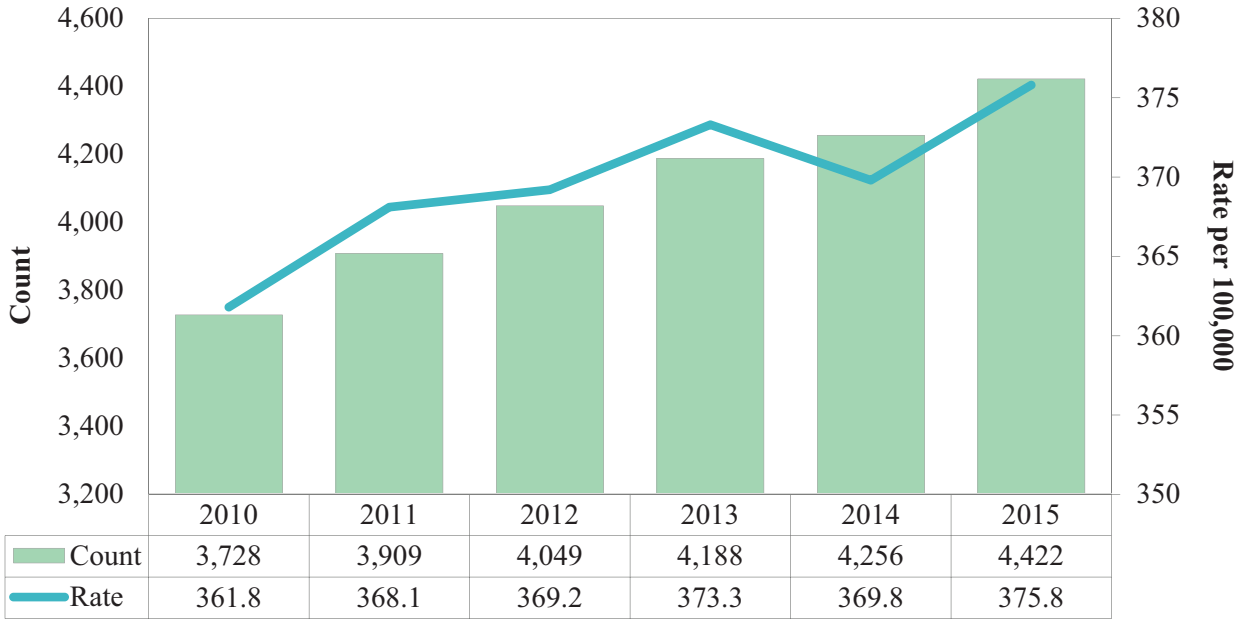
Map 8.1. Prevalence Rate per 100,000 Population of Persons Living with HIV by Zip Code, Travis County, 2015



1.7 - 140
150 - 320
330 - 570
580 - 940
950 - 1600
No data

Figure 8.3 shows the number of persons living with HIV in Travis County and the prevalence rate per 100,000 population by year. The number of PLWH in Travis County has increased 18.6% over the past six year, form 3,728 to 4,422. The rate of PWH increased 3.9% from 2010 to 2015.

Figure 8.3. Number and Prevalence Rate per 100,000 of Persons Living with HIV, Travis County, 2010-2015



	2010	2011	2012	2013	2014	2015
Count	3,728	3,909	4,049	4,188	4,256	4,422
Rate	361.8	368.1	369.2	373.3	369.8	375.8

Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Table 8.2 shows the percentage of persons living with HIV in Travis County by gender, race/ethnicity, and exposure category. For males, persons reporting the exposure category of MSM accounted for the largest proportion of PLWH at 80.9%. For Black males, this exposure category accounted for only 60.3% compared with 87.3% for White males. Intravenous drug use (IDU) accounted for over a quarter (25.5%) of females living with HIV compared with 5.5% for males living HIV. Overall, heterosexual sex accounted for 72.0% of females compared to 5.1% among males.

Table 8.2. Percentage of Persons Living with HIV by Gender, Race/Ethnicity and Exposure Category, Travis County, 2015

Gender	Race/Ethnicity	Exposure Category					
		MSM (%)	IDU (%)	MSM/IDU (%)	Heterosexual (%)	Pediatric (%)	Other Adult (%)
Male	White	87.3	2.5	8.7	1.2	0.3	0.0
	Black	60.3	15.3	11.3	12.3	0.8	0.0
	Hispanic	83.0	4.8	5.6	6.0	0.5	0.0
	Other	85.3	2.6	4.3	7.7	0.0	0.0
Males Total		80.9	5.5	8.1	5.1	1.8	0.0
Female	White	-	36.1	-	62.0	1.9	0.0
	Black	-	26.5	-	70.4	3.1	0.0
	Hispanic	-	15.3	-	82.8	1.3	0.7
	Other	-	24.0	-	76.0	0.0	0.0
Females Total		-	25.5	-	72.0	2.3	0.2

Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

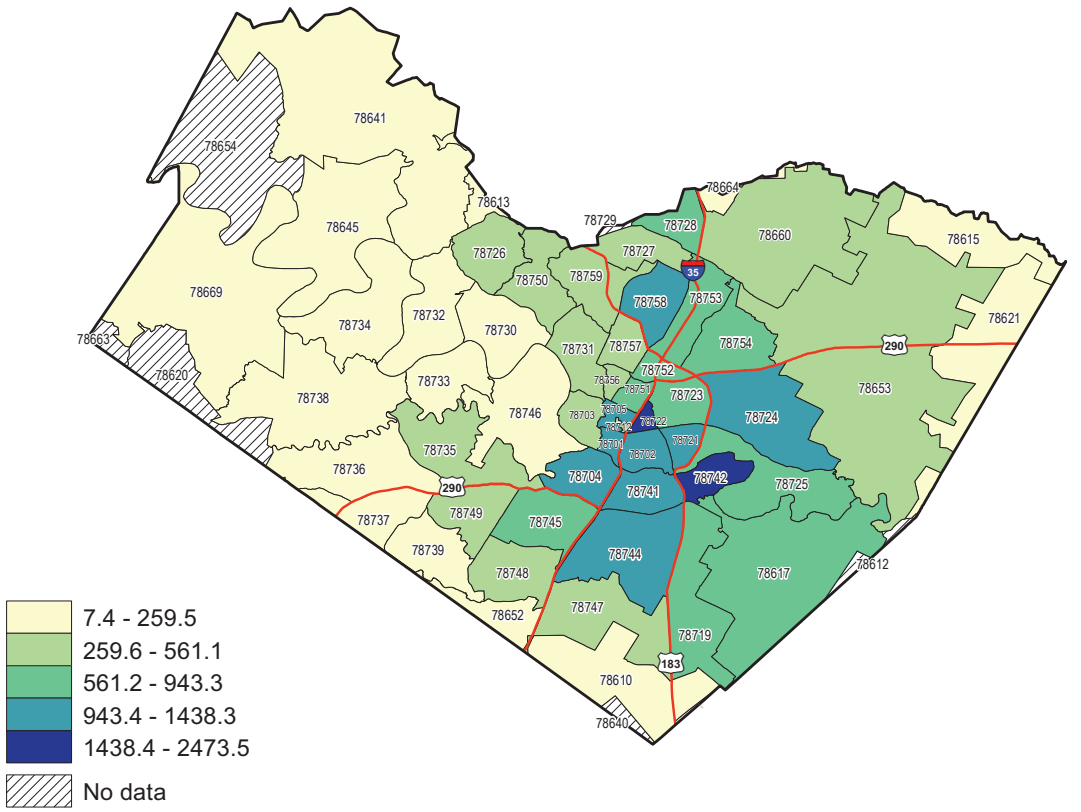
9.0 Sexually-transmitted Diseases

Chlamydia

Chlamydial infections, caused by *Chlamydia trachomatis*, are the most commonly reported sexually-transmitted infections in the United States, Texas, and Travis County. Both men and women can get infected with *Chlamydia*. A lot of cases go unreported because most infected people are asymptomatic. In women, chlamydia may result in pelvic inflammatory disease and ectopic pregnancies, potentially even causing permanent damage and making it difficult to get pregnant later on. Chlamydia can be easily treated with antibiotics.[18]

In 2015, a total of 133,850 cases were reported in Texas.[19] Since 2008, the number of cases in Travis County has increased from 5,471 to 7,787. Map 9.1 shows the Chlamydia rate in Travis County by zip code of the reported cases. Zip codes 78722 and 78742 show the highest incidence rate for chlamydia.

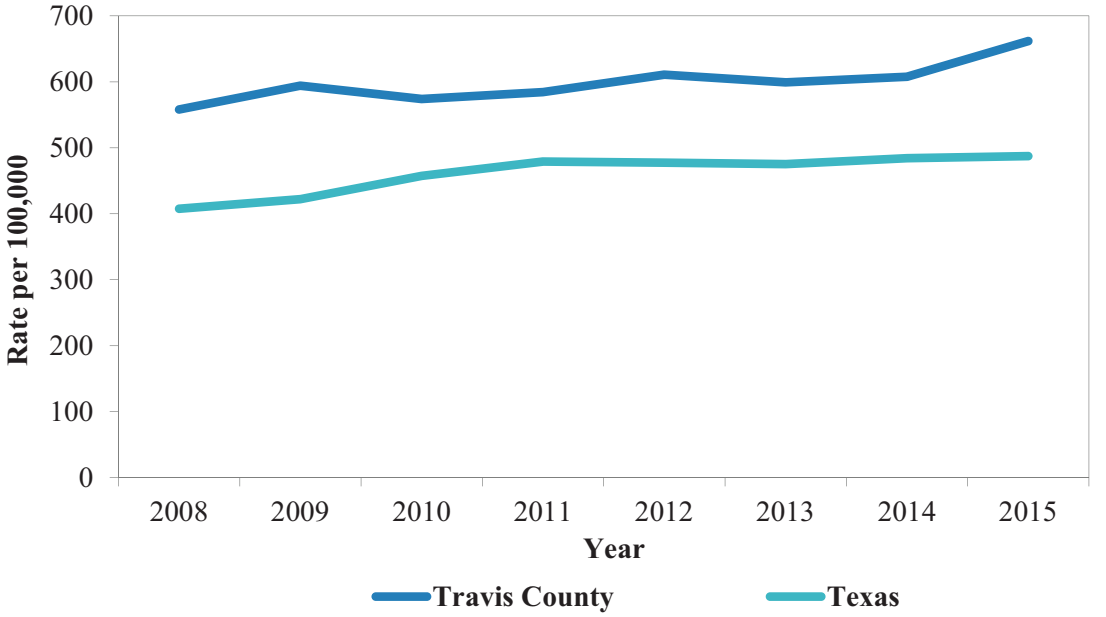
Map 9.1. Chlamydia Incidence Rate per 100,000 Population by Zip Code, Travis County, 2015



[18] https://www.cdc.gov/std/chlamydia/stdfact-chlamydia.htm
[19] Texas STD Surveillance Report, 2015 Annual Report, Texas Department of State Health Services

Figure 9.1 shows the incidence rate for Travis County and Texas for 2008 through 2015. During 2008 through 2015, incidence rates are higher each year in Travis County compared with Texas. The incidence rate for Travis County has increased from 557.9 cases per 100,000 population in 2008 to 661.8 cases per 100,000 population in 2015, an 18.6% increase. The state of Texas experienced a similar increase (19.6%) during this period.

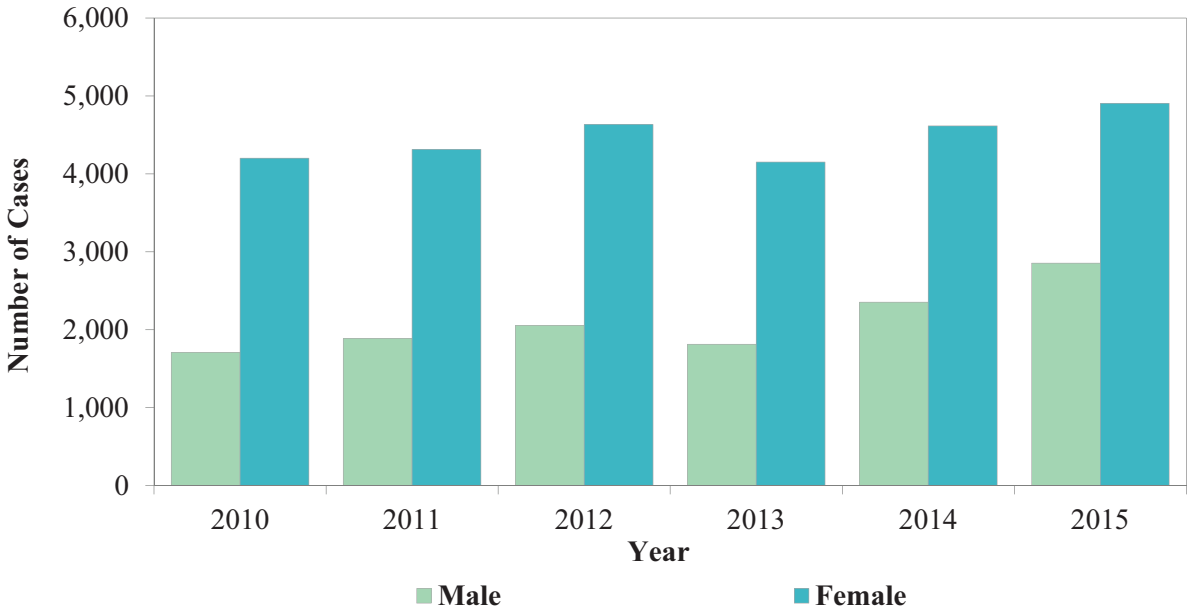
Figure 9.1. Chlamydia Incidence Rate, Travis County and Texas, 2008-2015



Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Figure 9.2 shows the number of cases in Travis County by gender for years 2010 through 2015. Each year, females comprise most of the cases ranging from 71.0% in 2010 to 63.0% in 2015.

Figure 9.2. Number of Chlamydia Cases by Gender, Travis County, 2010-2015



Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Table 9.1 shows the number of reported cases in Travis County in 2015 by gender and race/ethnicity. For those with known race/ethnicity, Hispanics comprise most (40.8%) of the cases, with females representing more than half (65.7%).

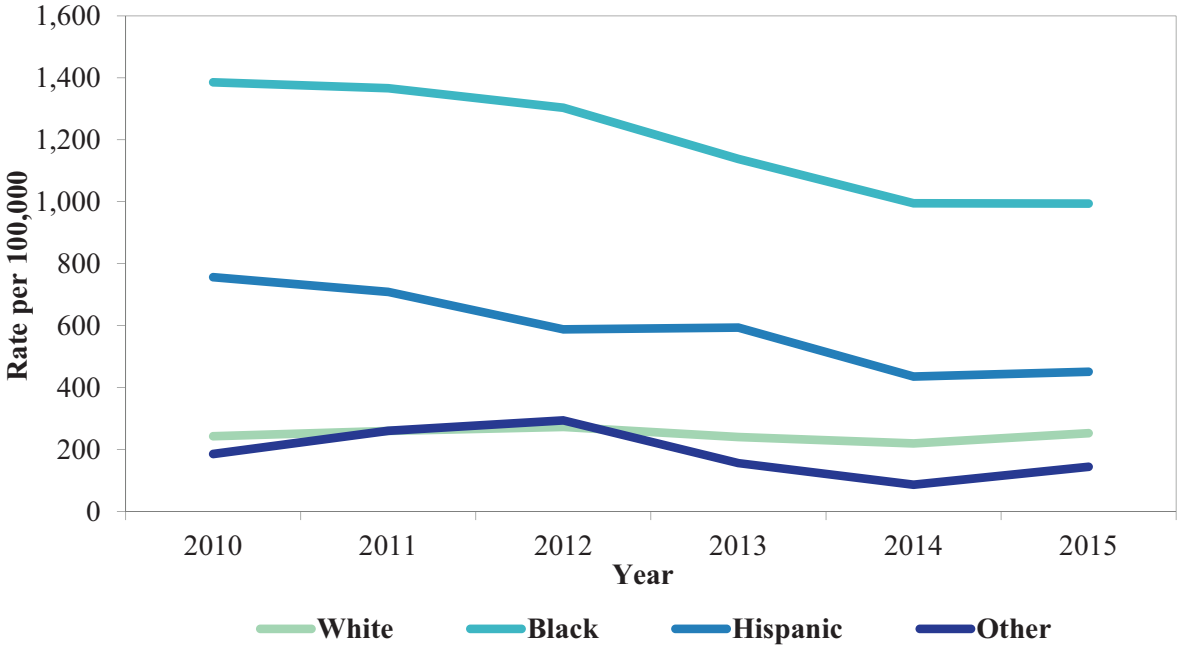
Table 9.1. Number of Chlamydia Cases by Gender and Race/Ethnicity, Travis County, 2015

Race/Ethnicity	Gender			Total
	Male	Female	Unknown	
White	664	837	0	1,501
Black	398	585	2	985
Hispanic	606	1,182	10	1,798
Other	51	68	2	121
Unknown	1,135	2,234	13	3,382
Total	2,854	4,906	27	7,787

Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Figure 9.3 shows the incidence rates by race/ethnicity. From 2008 through 2015, incidence rates for Blacks have been consistently higher compared with rates for Whites, Hispanics, and Others. The incidence rate in 2015 for Blacks was four times higher compared with Whites.

Figure 9.3. Chlamydia Incidence Rate by Race/Ethnicity, Travis County, 2008-2015



Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Gonorrhea

Gonorrhea, caused by the bacteria *Neisseria gonorrhoeae*, is the second most common sexually-transmitted infection in the United States. Infections due to gonorrhea, like chlamydia, are a major cause of pelvic inflammatory disease. Additionally, studies have shown gonococcal infections facilitate the transmission of HIV infection.[20]

Transmission occurs through contact with discharges from mucous membranes of infected persons. The clinical illness differs between males and females. In males, gonococcal infection presents as a discharge from the urethra with dysuria or painful urination within two-seven days after exposure. In females, infection is followed by the development of mucopurulent cervicitis. The cervicitis is usually asymptomatic. Gonorrhea is effectively treated with antibiotics.[4]

In 2015, a total of 37,539 cases were reported in Texas. In 2015, a total of 2,431 cases were reported in Travis County. Map 9.2 shows the Gonorrhea rate in Travis County by zip code of the reported cases. The four zip codes with the highest incidence rates are concentrated along the Interstate 35 corridor and eastward (zip codes 78701, 78702, 78721, and 78741).

[20] https://www.cdc.gov/std/gonorrhea/default.htm

Map 9.2. Gonorrhea Incidence Rate per 100,000 Population by Zip Code, Travis County, 2015

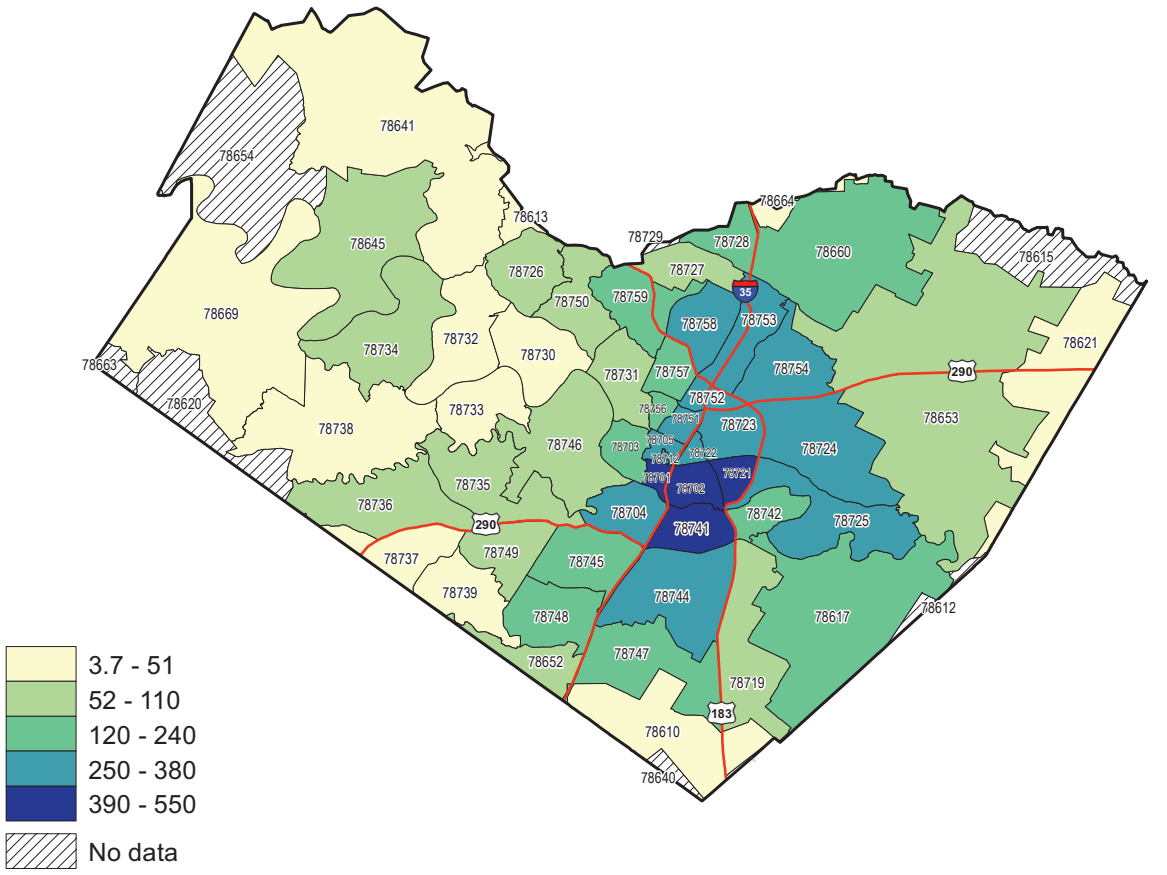


Table 9.2 presents the number of cases reported in 2015 by gender and race/ethnicity. A majority (70.8%) of cases were males. For males with a known race/ethnicity, Whites comprised 42.9% of the cases.

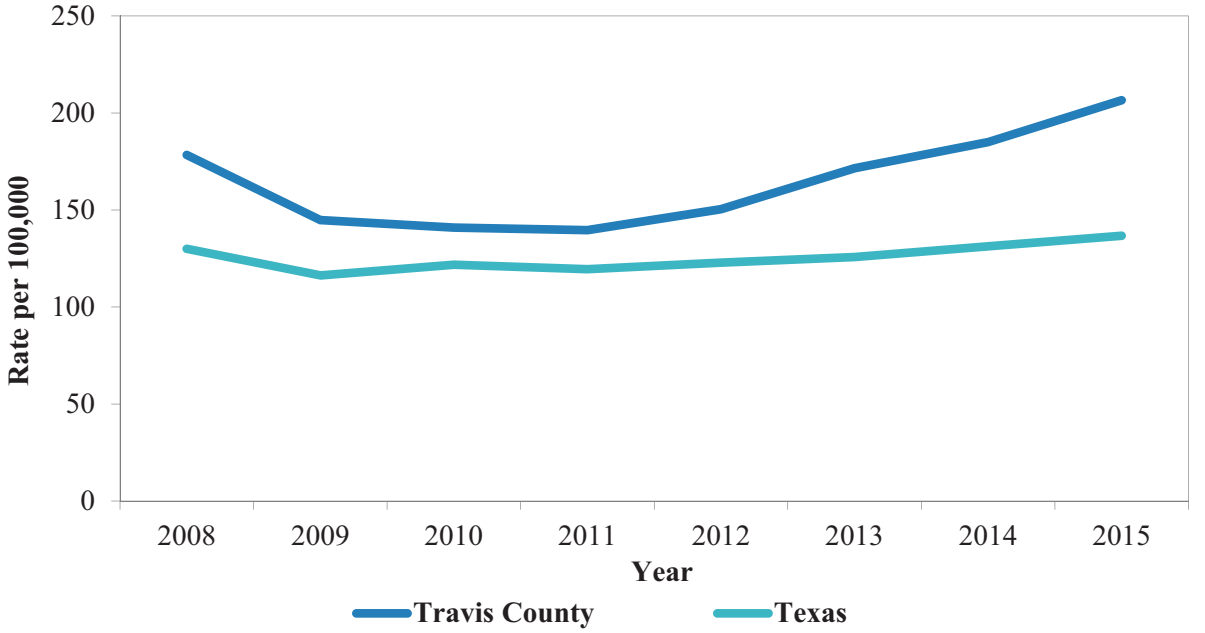
Table 9.2. Number of Gonorrhea Cases by Gender and Race/Ethnicity, Travis County, 2015

Race/Ethnicity	Gender			Total
	Male	Female	Unknown	
White	569	117	0	686
Black	303	193	2	498
Hispanic	416	169	4	589
Other	36	12	2	50
Unknown	398	203	7	608
Total	1,722	694	15	2,431

Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Figure 9.4 shows the gonorrhea incidence rates for Travis County and Texas for years 2008 through 2015. During this period rates in Travis County were higher compared with Texas. In 2014 and 2015, rates in Travis County were 34% and 41% higher, respectively, compared with Texas. In the five most populated counties in Texas, the incidence rate in Travis County (206.6) is higher compared with Harris County (161.9), Tarrant County (145.4), and Bexar County (205.8), and lower compared with Dallas County (208.9).[21]

Figure 9.4. Gonorrhea Incidence Rates, Travis County and Texas, 2008-2015

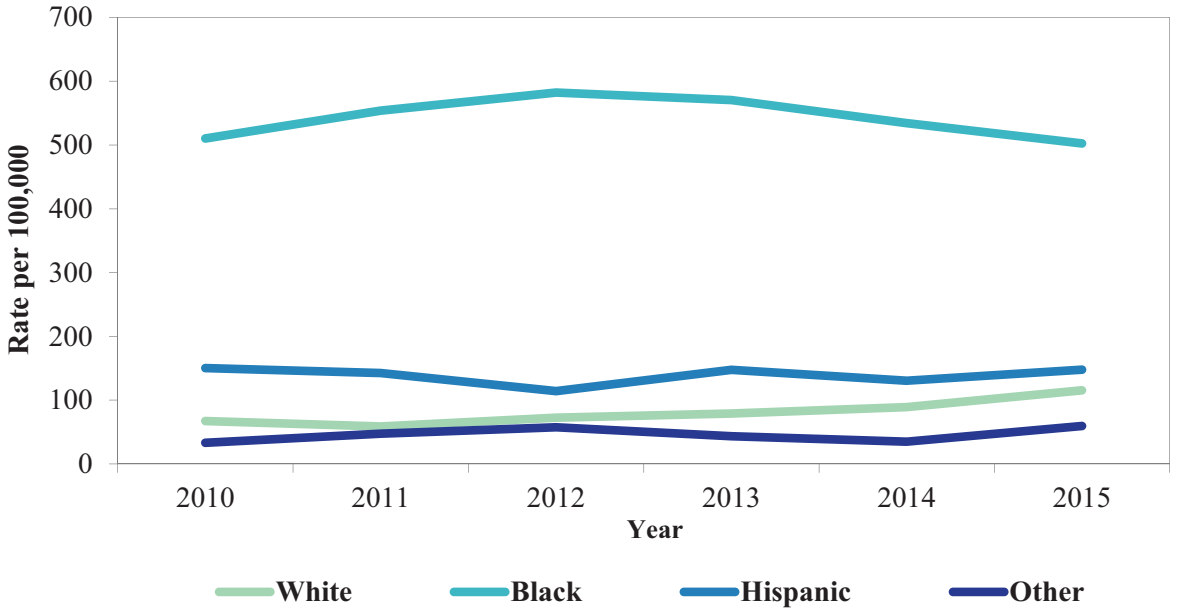


Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Figure 9.5 shows gonorrhea incidence rates by race/ethnicity for 2010 through 2015. During this period, there was a 71.3% increase among Whites in incidence rates comparing 2010 (67.3) to 2015(115.3). However incidence rates for Blacks in Travis County remained higher compared with Whites, Hispanics, and Others. In 2015 the incidence rate for Blacks (502.5) was over four times higher compared with Whites (115.3).

[21] Texas STD Surveillance Report, 2015 Annual Report, Texas Department of State Health Services

Figure 9.5. Gonorrhea Incidence Rates by Race/Ethnicity, Travis County, 2010-2015



Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Syphilis

Syphilis is caused by the bacteria *Treponema pallidum.* Syphilis in adults is categorized into four clinical stages. These stages are primary, secondary, latent, and late or tertiary syphilis. The primary stage is characterized by single or multiple lesions or ulcers at the location where *Treponema pallidum* entered the body. Without treatment, the lesions may last several weeks. Secondary syphilis occurs several weeks or months after the primary stage. The secondary stage is characterized by a rash. Other signs and symptoms of this stage include fever, swollen lymph nodes, headaches, fatigue, and muscle aches. Latent or hidden syphilis is typically without symptoms of disease. Tertiary syphilis occurs several years after the primary stage. Tertiary syphilis is associated with damage to the central nervous system, cardiovascular system, and bones. Syphilis is spread by direct contact with sores during sexual contact. Transplacental infection of the fetus occurs during pregnancy with an infected woman. Syphilis is curable with the right antibiotics from your health care provider. However, certain damage due to the infection can be permanent.

In 2015, a total of 1,708 primary and secondary (P&S) syphilis cases were reported in Texas.[22] A total of 181 P&S syphilis cases were reported in Travis County that year. Map 9.3 shows the P&S syphilis rate in Travis County by zip code of the reported cases. The seven zip codes with the highest incidence rates are located in eastern Travis County (zip codes 78701, 78702, 78723, 78725, 78741, 78751k and 78754).

[22] Texas STD Surveillance Report, 2015 Annual Report, Texas Department of State Health Services

Map 9.3. P&S Syphilis Incidence Rate per 100,000 Population by Zip Code, Travis County, 2015

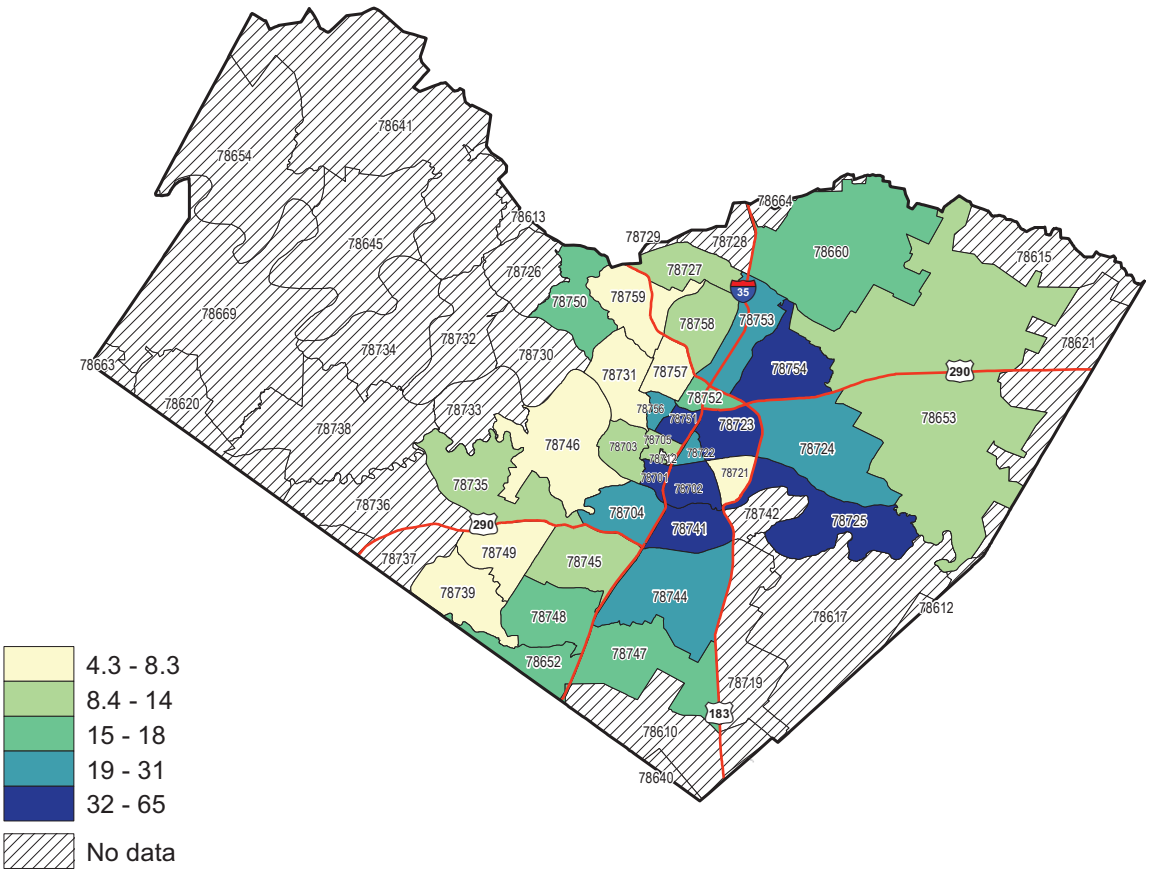


Table 9.3 shows the number of reported P&S syphilis cases reported in Travis County in 2015 by gender and age group. Almost 94.5% of reported cases are males. More than half (62.4%) of the cases were between the ages of 15 to 34 years. In 2015, incidence rates per 100,000 population for males (28.9) was 17 times higher compared with females (1.7). Comparing 2010 and 2015 rates, the rate for males increased over 100% (14.2 vs. 28.9) while rate for females (1.8 vs. 1.7) stayed almost the same.

Table 9.3. Number of P&S Syphilis Cases by Gender, Age Group, and Race/Ethnicity, Travis County, 2015

Age Group (Years)	Gender										Overall Total
	Males					Females					
	White	Black	Hispanic	Other	Total	White	Black	Hispanic	Other	Total	
0-14	0	0	0	0	0	0	0	0	0	0	0
15-24	8	5	23	3	39	1	1	1	0	3	42
25-34	28	6	30	4	68	1	1	1	0	3	71
35-44	18	1	7	3	29	0	0	1	0	1	30
≥45	26	4	3	2	35	0	2	1	0	3	38
Total	80	16	63	12	171	2	4	4	0	10	181

Data Source: Texas Department of State Health Services, 2015 Texas STD and HIV Epidemiologic Profile

Figure 9.6 shows the syphilis incidence rates for Travis County and Texas for 2008 through 2015. For 2008 through 2015, the incidence rate in Travis County is higher compared with the rate for Texas. For the five most populated counties in Texas, the incidence rate in Travis County (15.4) was highest, compared with Harris County (8.6), Dallas County (10.9), Tarrant County (8.3), and Bexar County (11.8).[23]

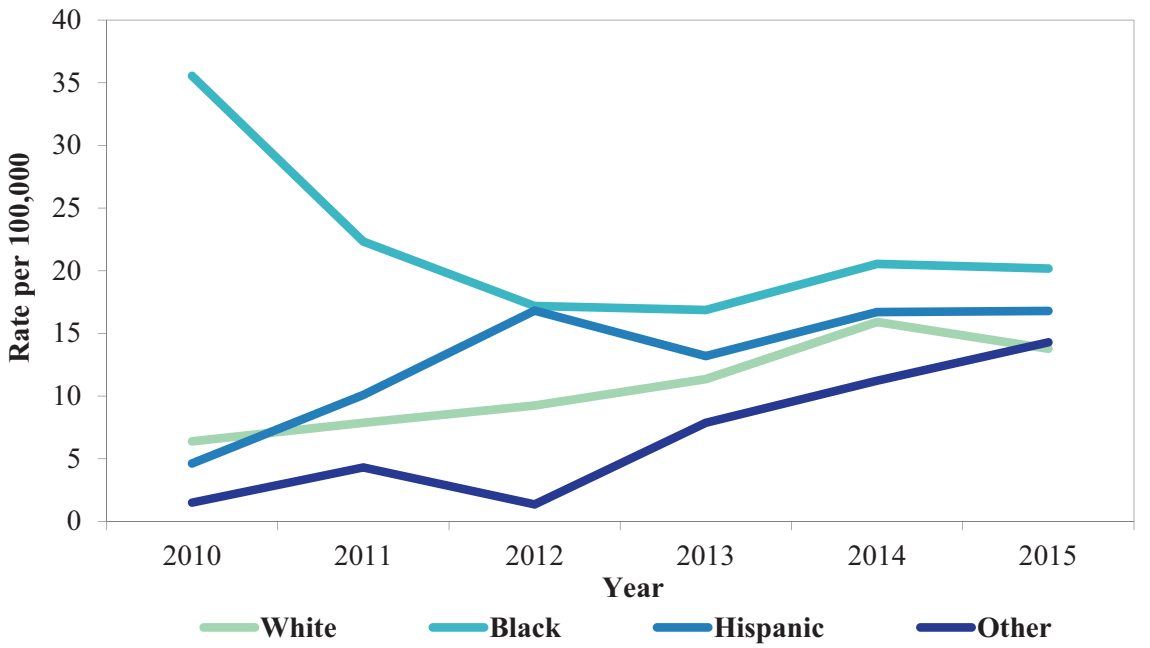
Figure 9.6. P&S Syphilis Incidence Rates, Travis County and Texas, 2008-2015

Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

[23] Texas STD Surveillance Report, 2015 Annual Report, Texas Department of State Health Services

Figure 9.7 shows the syphilis incidence rates by race/ethnicity for 2010 through 2015. There has been a significant decrease (43.1%) for Blacks, from 35.5 cases per 100,000 in 2010 to 20.2 in 2015. For 2010 through 2015 Whites (6.4 vs. 13.8), Hispanics (4.6 vs. 16.8), and Others (1.5 vs. 14.3) experienced increases in syphilis incidence rates. However Blacks still had higher overall rates when compared with White, Hispanics, and Others.

Figure 9.7. P&S Syphilis Incidence Rates by Race/Ethnicity, Travis County, 2010-2015



Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

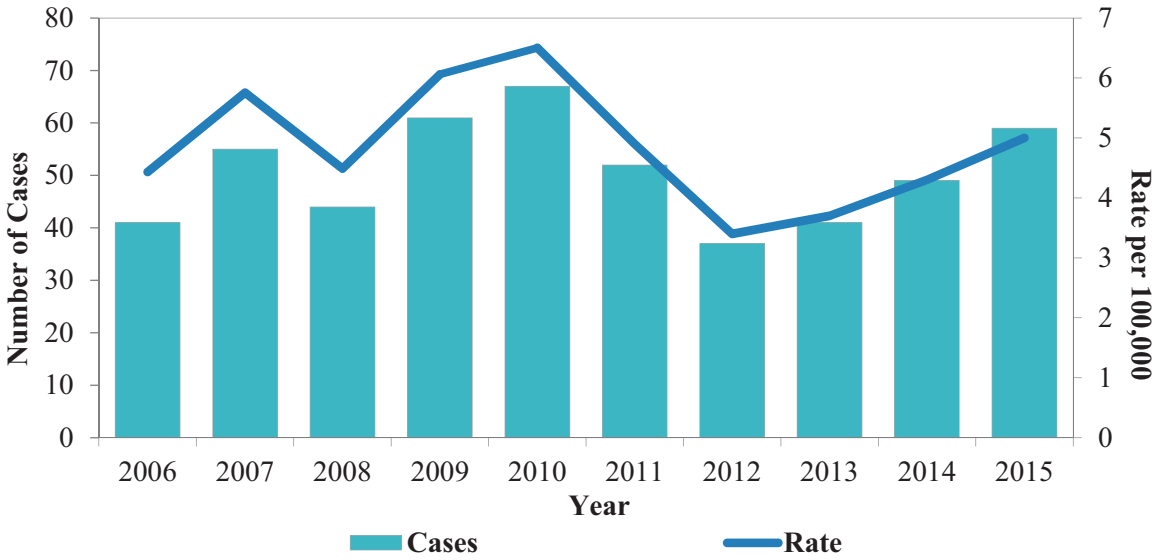
10.0 Tuberculosis

Tuberculosis (TB) is caused by a bacterium called *Mycobacterium tuberculosis* and is spread person to person through the air. The bacteria most often affect the lungs, but TB bacteria can affect any part of the body such as bones and the brain. Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection (LTBI) and TB disease.[24] TB is curable and preventable, but if not treated properly, TB disease can be fatal.

When TB bacteria live in the body without making you sick, it is called LTBI. In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria to stop them from growing. People with latent TB infection do not feel sick and do not have any symptoms. People with LTBI are not infectious and cannot spread TB bacteria to others. However those with compromised immune systems, such as people living with HIV, malnutrition, diabetes, or people who use tobacco, have a much higher risk of progressing to active TB disease.[24] If the immune system can't stop TB bacteria from growing, they become active. When TB bacteria are active (multiplying in your body), this is called TB disease. People with TB disease are sick. They also may be able to spread the bacteria to people they spend time with every day.[24]

Figure 10.1 shows the number of reported TB cases and incidence rates for Travis County from 2006 through 2015. In 2015, there were 59 TB cases in Travis County, an increase of 59.4% from 2012 and an incidence rate increase of 47.1%.

Figure 10.1. Tuberculosis Cases and Rates, Travis County, 2006-2015



Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

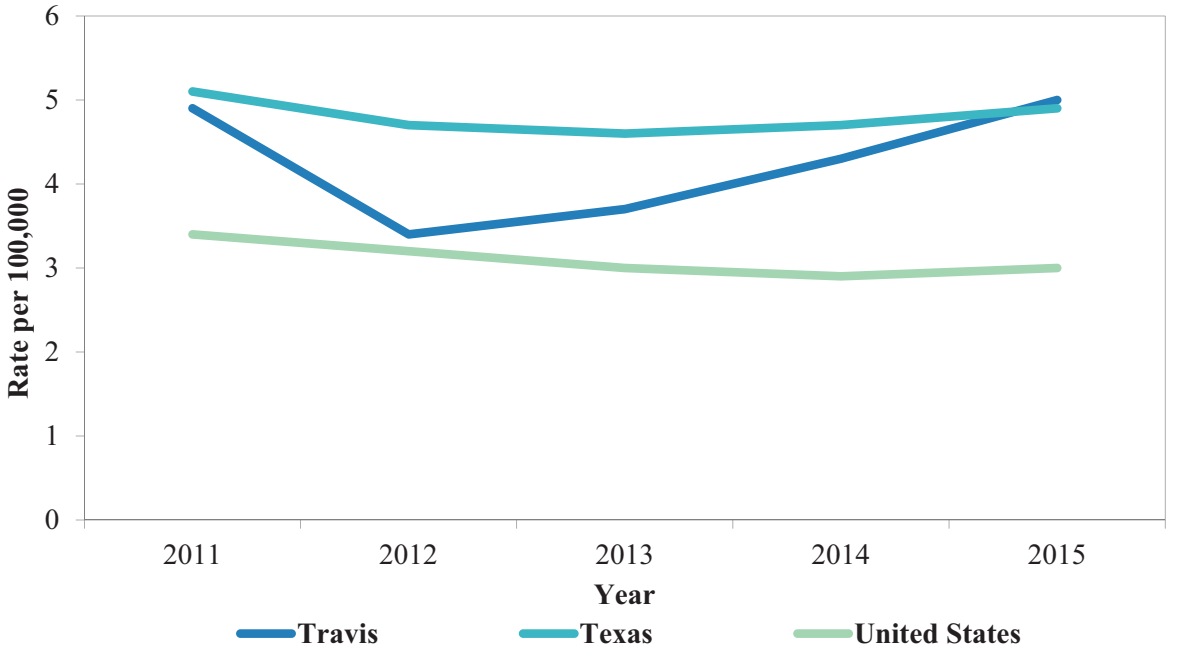
0

Figure 10.2 shows the incident rates for Travis County, the State of Texas, and the United States from 2011 to 2015. There were 1,334 cases of TB in the State of Texas in 2015. The rate of TB

[24] http://www.cdc.gov/tb/topic/basics/default.htm

cases in the State of Texas was 4.9 per 100,000 in 2015. The incidence rates for Travis County and Texas were higher when compared with the United States.

Figure 10.2. Tuberculosis Incidence Rates per 100,000 Population, Travis County, Texas, and United States, 2011-2015



Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

Table 10.1 shows the gender, race/ethnicity, and age of the TB cases in Travis County from 2011 to 2015. The proportion of TB cases occurring in males, compared to females, and among people 45 years of age and older, compared to the other age groups, was consistently higher from 2011 to 2015. The race and ethnicity of the Travis County TB cases in 2015 were as follows: White, 10.2%; Black, 16.9%; Hispanic, 35.6%; and Other, 37.3%.

Table 10.1. Tuberculosis Case Count by Gender, Race/Ethnicity and Age Group, Travis County, 2011-2015

Characteristic	Year									
	2011		2012		2013		2014		2015	
	Number	%	Number	%	Number	%	Number	%	Number	%
Gender										
Male	32	61.5	30	81.1	29	70.7	34	69.4	36	61.0
Female	20	38.5	7	18.9	12	29.3	15	30.6	23	39.0
Race/Ethnicity										
White	4	7.7	6	16.2	9	22.0	8	16.3	6	10.2
Black	8	15.4	4	10.8	11	26.8	10	20.4	10	16.9
Hispanic	22	42.3	16	43.2	12	29.3	17	34.7	21	35.6
Other	18	34.6	11	29.7	9	22.0	14	28.6	22	37.3
Age Group (years)										
0 - 14	6	11.5	1	2.7	.	.	3	6.1	2	3.4
15 - 24	5	9.6	2	5.4	7	17.1	4	8.2	7	11.9
25 - 34	9	17.3	8	21.6	7	17.1	11	22.4	19	32.2
35 - 44	9	17.3	6	16.2	10	24.4	6	12.2	7	11.9
≥45	23	44.2	20	54.1	17	41.5	25	51.0	24	40.7
Total	52	100.0	37	100.0	41	100.0	49	100.0	59	100.0

Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

In the United States, 66.4% of the reported TB cases in 2015 were born outside the United States.[25] Table 10.2 shows the place of birth for tuberculosis in Travis County reported during 2011 to 2015. In Travis County, 81.4% of the reported TB cases in 2015 were born outside the United States.

Table 10.2. Foreign-born versus U.S.-born Among TB Cases, Travis County, 2011 - 2015

Country of Birth	Year									
	2011		2012		2013		2014		2015	
	Number	%	Number	%	Number	%	Number	%	Number	%
U.S.-born	20	38.5	14	37.8	14	34.1	23	46.9	11	18.6
Foreign-born	32	61.5	23	62.2	27	65.9	26	53.1	48	81.4
Total	52	100.0	37	100.0	41	100.0	49	100.0	59	100.0

Data Source: TB/HIV/STD Epidemiology and Surveillance Branch, Texas Department of State Health Services

[25] https://www.cdc.gov/tb/publications/factsheets/statistics/tbtrends.htm

11.0 Vaccine-preventable Diseases

Immunizations or vaccines protect against a number of serious diseases. Widespread use of vaccines in the United States has eliminated or greatly reduced the occurrence of some infectious diseases. Table 11.1 shows the number of reported cases of selected vaccine-preventable diseases in Travis County for 2011 through 2015. During this period, no cases of diphtheria, measles, or rubella were reported in Travis County.

Table 11.1. Number and Incidence Rates* for Selected Vaccine-preventable Diseases, Travis County and Texas, 2011-2015

Condition	Year										Texas	
	2011		2012		2013		2014		2015		2015	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Chickenpox (Varicella)	98	9.3	143	13.3	129	11.5	90	7.8	89	7.6	1,491	5.4
Hepatitis A	5	†	5	†	5	†	13	†	13	†	147	0.5
Hepatitis B	10	†	11	†	11	†	10	†	17	†	159	0.6
Meningococcal disease, invasive	1	†	2	†	1	†	3	†	3	†	30	0.1
Mumps	1	†	0	†	0	†	1	†	8	†	20	0.1
Pertussis	224	21.3	276	25.7	311	27.7	311	27.0	110	9.3	1,504	5.4
Pneumococcal disease, invasive	70	7.5	89	8.3	94	8.4	77	6.7	85	7.2	1,693	6.1

*Rate per 100,000 population. 2011-2015 population from the Texas Center for Health Statistics.
†Rate not calculated, fewer than 20 cases reported annually
Data Sources: Epidemiology and Disease Surveillance Unit, Austin Public Health– National Electronic Disease Surveillance System and the Texas Department of State Health Services Infectious Disease Control Unit

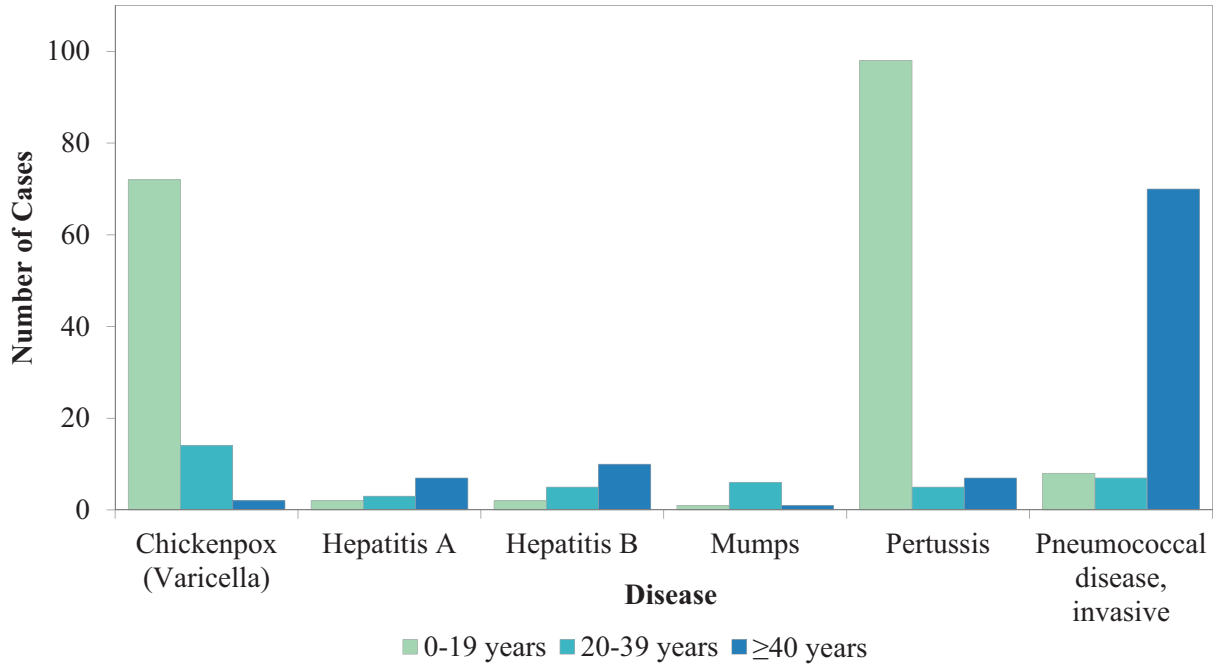
Chickenpox is a very contagious disease caused by the varicella-zoster virus (VZV). The virus causes a blister-like rash, itching, tiredness, and fever. Chickenpox spreads in the air through coughing or sneezing. Chickenpox can be serious, especially in babies, and people with weakened immune systems. It also can be spread by touching or breathing in the virus particles that come from chickenpox blisters. During 2011-2015, the annual number of reported chickenpox cases ranged from 89 to 143 in Travis County. In 2015, varicella was identified more frequently in children as shown in Figure 11.1, but has been on a downward trend since 2005 as depicted in Figure 11.2.

Hepatitis A and hepatitis B are viral diseases of the liver. In 1996, 20 years ago, the incidence rates for acute hepatitis A and acute hepatitis B in Travis County, were 23.1 and 7.7 cases per 100,000 population respectively.[26] In 2015, the incidence rates for both of these diseases have decreased over 95% and 80% respectively.

[26] Texas Department of Health, Epidemiology in Texas, 1996 Annual Report

Pertussis, also known as whooping cough, is a bacterial disease of the respiratory tract often spread from person-to-person by coughing or sneezing. Pertussis begins with cold-like symptoms then progresses to severe coughing or coughing fits over several weeks. In infants the cough may be minimal or absent, but they may develop apnea or a pause in their breathing pattern. Pertussis can cause serious illness in infants, children and adults. Incidence rates for pertussis are highest in children less than one year of age. During 2011 through 2015, the annual number of pertussis cases in Travis County ranged from 110 to 331 (Table 11.1). Pertussis was identified more frequently in children (Figure 11.1) in 2015 and has been in a cyclical pattern since 2005 (Figure 11.2). This pattern is similar to Texas where pertussis peaks occur in 3 to 5 year cycles.[27] Since 2005, the last peak year in Travis County was in 2010 with 905 cases. Map 11.1 depicts the density of pertussis cases in Travis County from 2011-2015. The zip codes with the highest density of pertussis cases from 2011-2015 were 78753 and 78758.

Figure 11.1. Number of Selected Vaccine-Preventable Diseases by Age Group, Travis County, 2015

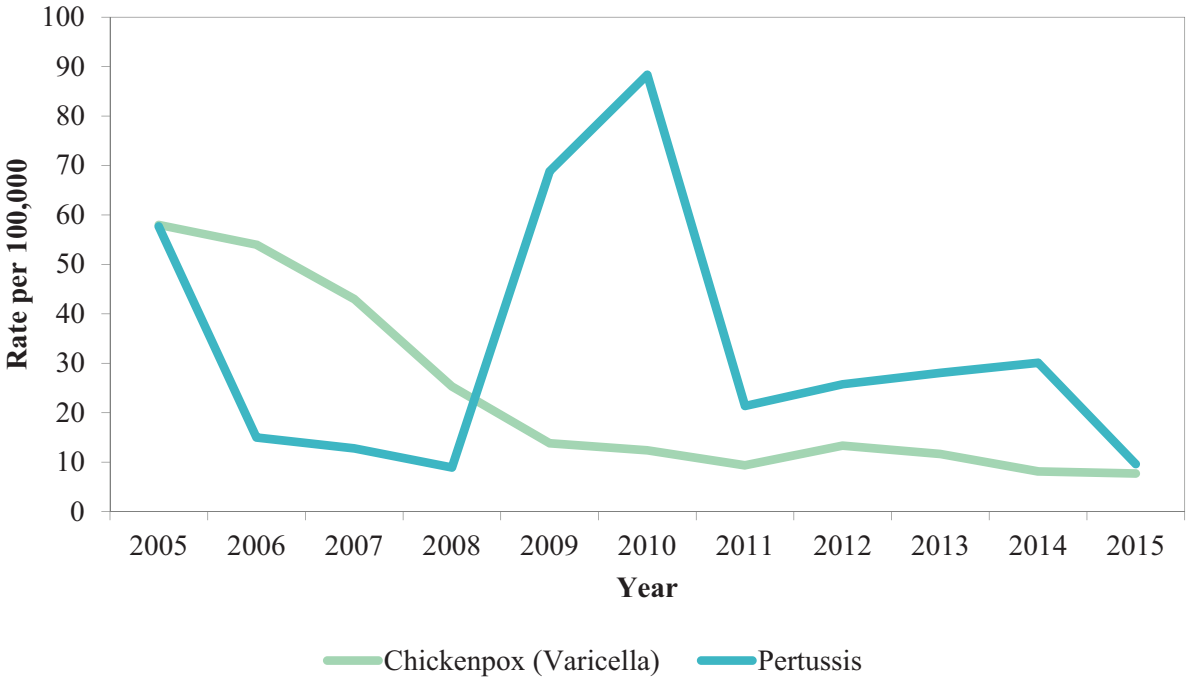


Data Source: Epidemiology and Disease Surveillance Unit, Austin Public Health– National Electronic Disease Surveillance System

Streptococcus pneumoniae bacteria, or pneumococcus, can cause many types of illnesses. These illnesses include pneumonia, meningitis, and bacteremia or blood stream infections. Persons less than two years of age and those 65 years of age and older have the highest rates of disease. In 2015, 85 cases of invasive *Streptococcus pneumoniae* infections were reported in Travis County, the majority of those cases were identified in adults aged 40 years or older (Figure 11.1).

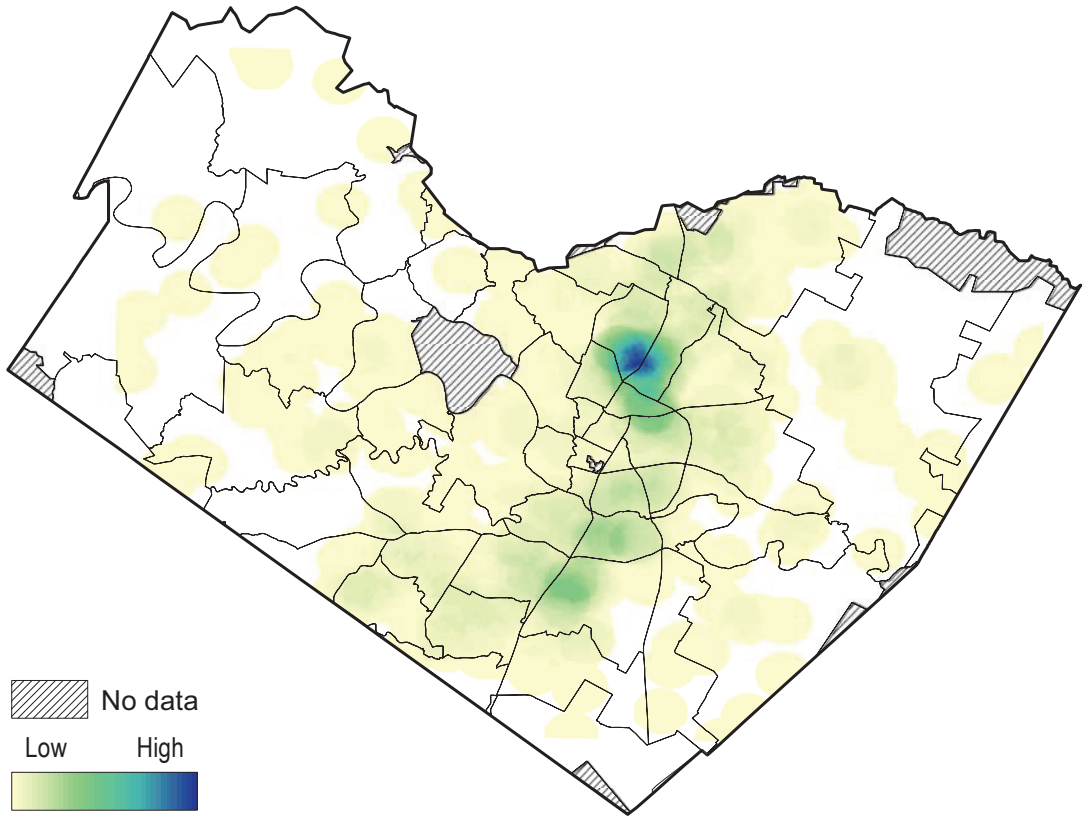
[27] https://www.dshs.texas.gov/idcu/disease/pertussis/

Figure 11.2. Incidence Rates of Chickenpox and Pertussis by Year, Travis County, 2005-2015



Data Sources: Epidemiology and Disease Surveillance Unit, Austin Public Health– National Electronic Disease Surveillance System

Map 11.1. Density of Pertussis Cases in Travis County, 2011-2015



Data source: Epidemiology and Disease Surveillance Unit, Austin Public Health– National Electronic Disease Surveillance System

12.0 Foodborne Diseases

Foodborne disease is a term used to collectively describe illnesses resulting from the consumption of contaminated foods. These diseases may be caused by bacteria, viruses, parasites, or toxins produced by these organisms. Contamination may occur during food production and preparation via inadequate sanitization, improper food handling, or holding food items at inadequate temperatures. The Centers for Disease Control and Prevention (CDC) estimate that one in six Americans, approximately 48 million people, have a foodborne illness each year.[28] Additionally, foodborne diseases kill thousands in the United States each year and cause billions of dollars in healthcare-related and industry costs annually.[29]

Table 12.1. Number and Incidence Rate* for Selected Foodborne Diseases, Travis County and Texas, 2010-2015

Condition	Travis County												Texas	
	2010		2011		2012		2013		2014		2015		2015	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Amebiasis	41	4.0	17	†	22	2.1	19	†	30	3.1	25	3.1	206	0.7
Botulism‡	1	†	0	†	1	†	1	†	0	†	0	†	8	†
Campylobacteriosis	181	17.7	140	13.3	182	17.0	216	19.5	183	16.0	235	20.5	3,944	14.2
Cryptosporidiosis	8	†	11	†	12	†	15	†	33	2.9	36	3.1	740	2.7
Cyclosporiasis	0	†	0	†	0	†	17	†	10	†	113	9.9	316	1.1
Shiga toxin-producing *Escherichia coli* (STEC)	8	†	8	†	8	†	11	†	12	†	10	†	610	2.2
Listeriosis	7	†	0	†	0	†	0	†	0	†	2	†	41	0.1
Salmonellosis	255	24.9	274	26.1	250	23.3	228	20.5	293	26.8	253	22.0	5,727	20.7
Shigellosis	174	17.0	316	30.1	146	13.6	65	5.9	220	21.4	435	38.0	5,623	20.3
Vibriosis§	6	†	4	†	2	†	2	†	3	†	4	†	102	0.4

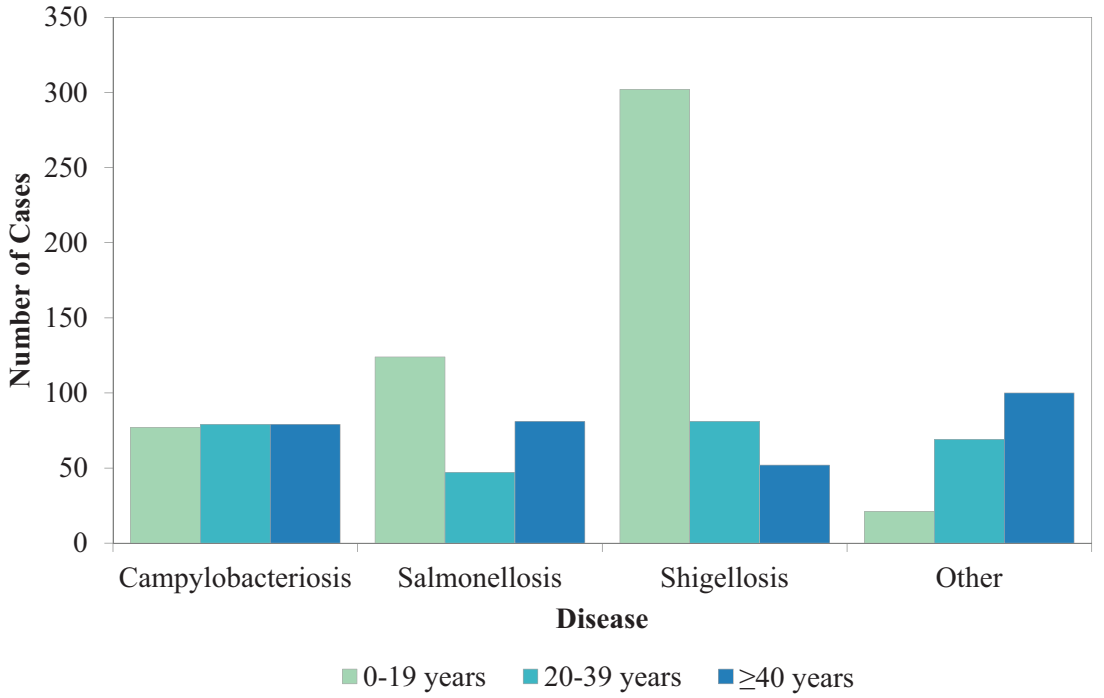
*Rate per 100,000 population. 2010-2015 population from the Texas Center for Health Statistics.
†Rate not calculated, fewer than 20 cases reported annually
‡Botulism includes: infant and wound botulism
§Vibriosis infections include: *Vibrio parahaemolyticus, Vibrio vulnificus*, and *Vibrio* other or unspecified.
Data Sources: Epidemiology and Disease Surveillance Unit, Austin Public Health– National Electronic Disease Surveillance System and the Texas Department of State Health Services Infectious Disease Control Unit

Table 12.1 shows the number of cases of various foodborne diseases reported in Travis County from 2010 through 2015. Foodborne disease rates in Travis County are significantly higher than those reported for Texas. Foodborne diseases are commonly underreported, and only a small proportion of illnesses are confirmed by laboratory testing; as a result, the higher Travis County rates could reflect an increased disease burden or a higher proportion of diseases identified and reported as compared to Texas overall.

[28] http://www.cdc.gov/foodborneburden/
[29] http://www.cdc.gov/WinnableBattles/FoodSafety/index.html?s_cid=fb1651

The most common foodborne diseases reported in Travis County and Texas were salmonellosis, campylobacteriosis, and shigellosis. All three diseases are caused by bacteria and result in a self-limiting diarrheal illness; however, in some persons, the diarrhea may be so severe that the patient needs to be hospitalized.

Figure 12.1. Number of Selected Foodborne Diseases by Age Group, Travis County, 2015



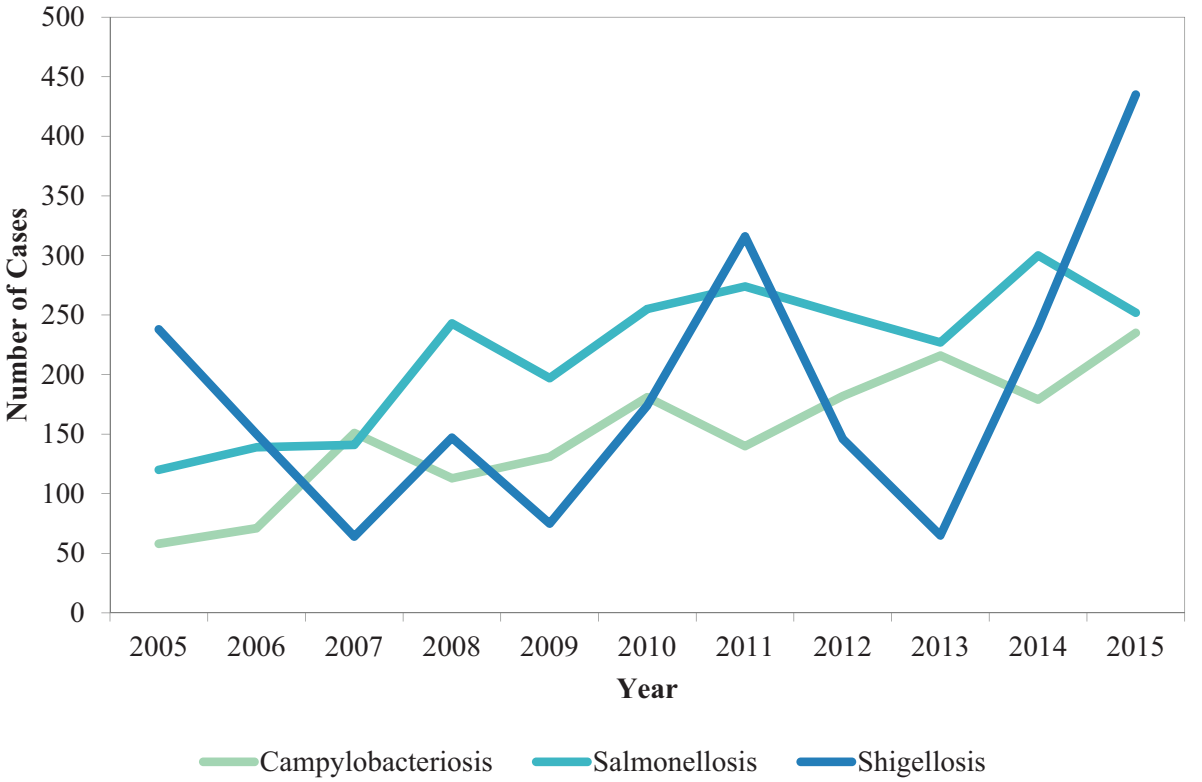
Data Source: Epidemiology and Disease Surveillance Unit, Austin Public Health– National Electronic Disease Surveillance System

Commonly associated with contaminated food, water, or contact with infected animals, salmonellosis has been associated with many food items and animal exposures over the past several years. Nationally, salmonellosis is identified more frequently in children[3] which is also the case in Travis County as shown in Figure 12.1. Travis County has seen an increasing trend in salmonellosis cases from 2005 to 2015 as shown in Figure 12.2. This is similar to national trends which have shown a 10.3% increase from 2004 to 2014.[30] Map 12.1 illustrates the density distribution of salmonellosis cases from 2011-2015 in Travis County. The highest density of salmonellosis cases occurred in zip codes 78753 and 78758.

Campylobacteriosis is associated with eating raw or undercooked poultry, raw milk dairy products, contaminated produce and drinking water. Figure 12.1 shows that campylobacteriosis does not vary by age group in Travis County; however, this is different from national trends which indicate higher risk among children.[31] Travis County has seen a slow increasing trend in campylobacteriosis cases from 2005 to 2015 as shown in Figure 12.2.

[30] Centers of Disease Control and Prevention, Summary of Notifiable Infectious Diseases and Conditions-United States, 2014. https://www.cdc.gov/mmwr/volumes/63/wr/mm6354a1.htm?s_cid=mm6354a1_w
[31] https://www.cdc.gov/foodnet/reports/annual-reports-2014.html

Figure 12.2. Number of Selected Foodborne Diseases by Year, Travis County, 2005-2015



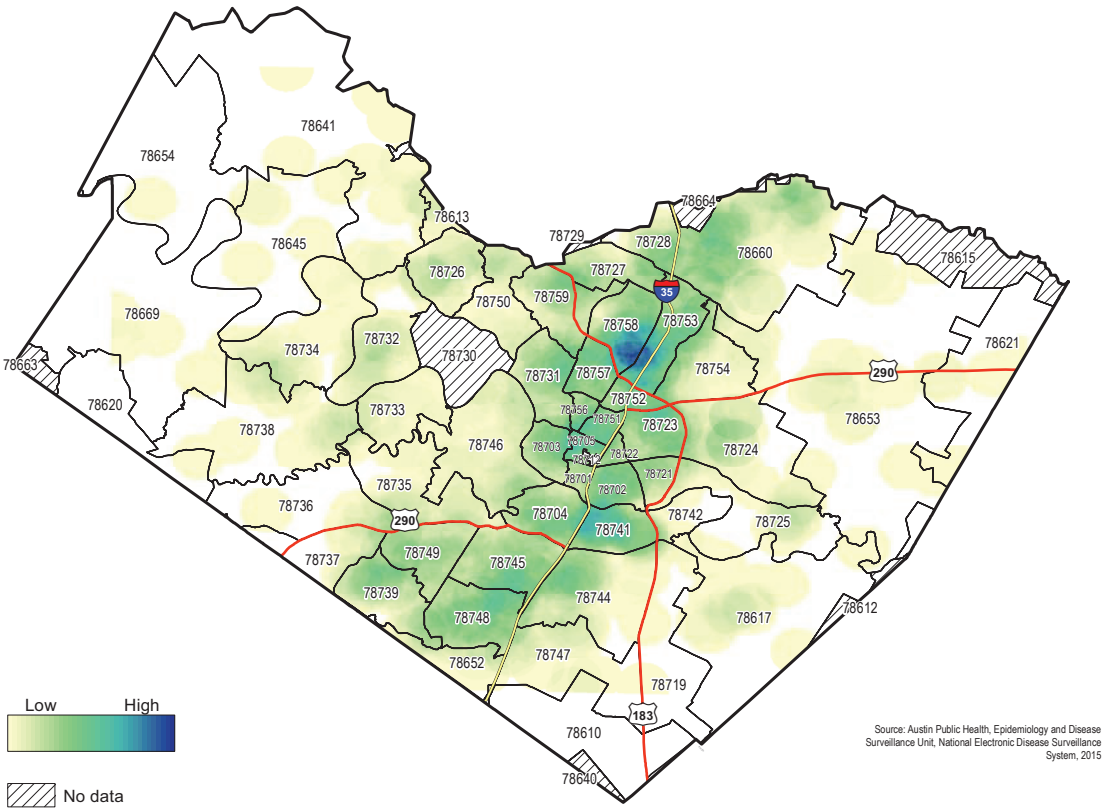
Data Source: Epidemiology and Disease Surveillance Unit, Austin Public Health– National Electronic Disease Surveillance System

Shigellosis is associated with person-to-person transmission, consuming contaminated food or water and may also be transmitted by flies and sexual contact.[32] Similar to salmonellosis, shigellosis is identified more frequently in children nationally[32] which is also the case in Travis County as shown in Figure 12.1. Travis County has seen a significant increase in shigellosis cases from 2013 to 2015 as shown in Figure 12.2. This is similar to national trends which have shown a 24.7% increase from 2012 to 2014.[30] Map 12.2 illustrates the density distribution of shigellosis cases from 2011-2015 in Travis County. The highest density of shigellosis cases occurred in zip codes 78753 and 78758.

The remaining foodborne diseases noted in Table 12.1 such as botulism, listeriosis, Shiga-toxin producing *E. coli*, and vibriosis are rarely reported in Travis County.

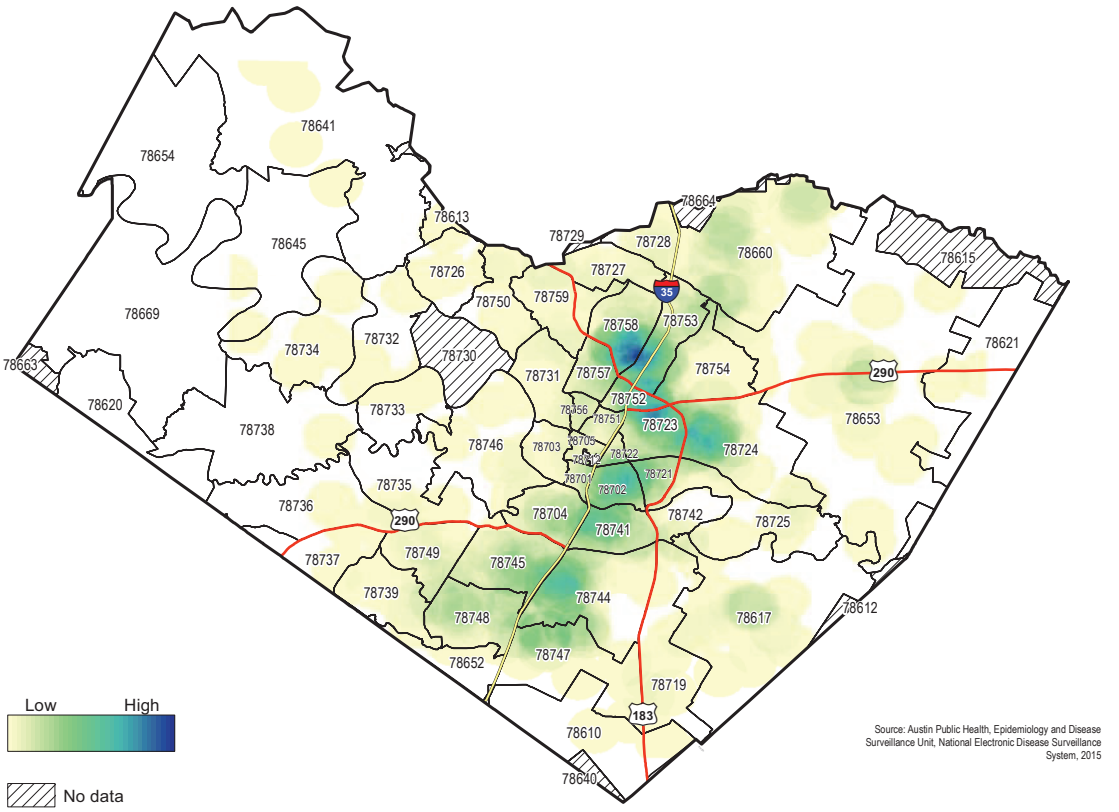
[32] https://www.cdc.gov/shigella/general-information.html

Map 12.1. Density of Salmonellosis Cases in Travis County, 2011-2015



Data source: Epidemiology and Disease Surveillance Unit, Austin Public Health– National Electronic Disease Surveillance System

Map 12.2. Density of Shigellosis Cases in Travis County, 2011-2015



Data source: Epidemiology and Disease Surveillance Unit, Austin Public Health– National Electronic Disease Surveillance System

13.0 Vectorborne Diseases

The term "vectorborne disease" is commonly used to describe a disease transmitted to people by blood-sucking arthropods. The arthropods that most commonly serve as vectors of infectious agents include mosquitoes, fleas, and arachnids such as mites and ticks. The arthropod typically becomes infected with an infectious agent while feeding on infected vertebrates (e.g., birds, rodents, other larger animals, or humans). For almost all vectorborne diseases, the infectious agent must infect and multiply inside the arthropod before the arthropod is able to transmit the disease through its salivary glands. The most common vectorborne diseases in Texas and Travis County are carried by mosquitoes and fleas.

Table 13.1 shows the number of cases of various vectorborne diseases reported in Travis County for 2013 through 2015. During 2012, Texas and Travis County experienced an outbreak of West Nile virus (WNv). A total of 153 WNv cases were reported in Travis County in 2012. Since 2012, few West Nile virus cases have been reported in Travis County. Murine typhus is caused by bacteria named *Rickettsia typhi*. This bacteria is transmitted to humans by the bite of an infected flea or by inoculation with flea feces containing *Rickettsia typhi*. During this three year period, 34 murine typhus cases have been reported.

Table 13.1. Number and Incidence Rates for Selected Vectorborne Diseases, Travis County and Texas, 2013-2015

Condition	Travis County 2013		Travis County 2014		Travis County 2015		State of Texas 2015	
	No.	Rate*	No.	Rate	No.	Rate	No.	Rate
Dengue	4	0.4	3	0.3	6	0.5	32	0.1
Lyme Disease	6	0.5	5	0.3	4	0.3	54	0.2
Malaria	6	0.5	7	0.6	3	0.3	99	0.4
Spotted Fever Rickettsiosis	6	0.5	0	0.0	4	0.3	61	0.2
Murine Typhus	15	1.3	4	0.3	15	1.3	324	1.2
West Nile Virus	0	0.0	6	0.5	0	0.0	275	1.0

Data Source: Infectious Disease Control Unit, Texas Department of State Health Services
*Rate per 100,000 population

Similar to West Nile virus, malaria and dengue are also spread by the bite of infected mosquitos. These two diseases are primarily associated with travel to endemic areas outside the United States. They are reported infrequently in Travis County.

Other vectorborne diseases that are reported in Texas include Chagas' disease, leishmaniasis, plague, and tularemia. These diseases are rarely reported in Travis County although in 2015 one case of Chagas' disease and one case of leishmaniasis were reported in Travis County.

14.0 Unintentional Injury ("Accidents")

Unintentional injuries – falls, motor vehicle crashes, poisonings, drownings, and other events sometimes called "accidents" – are a leading cause of death in Travis County.

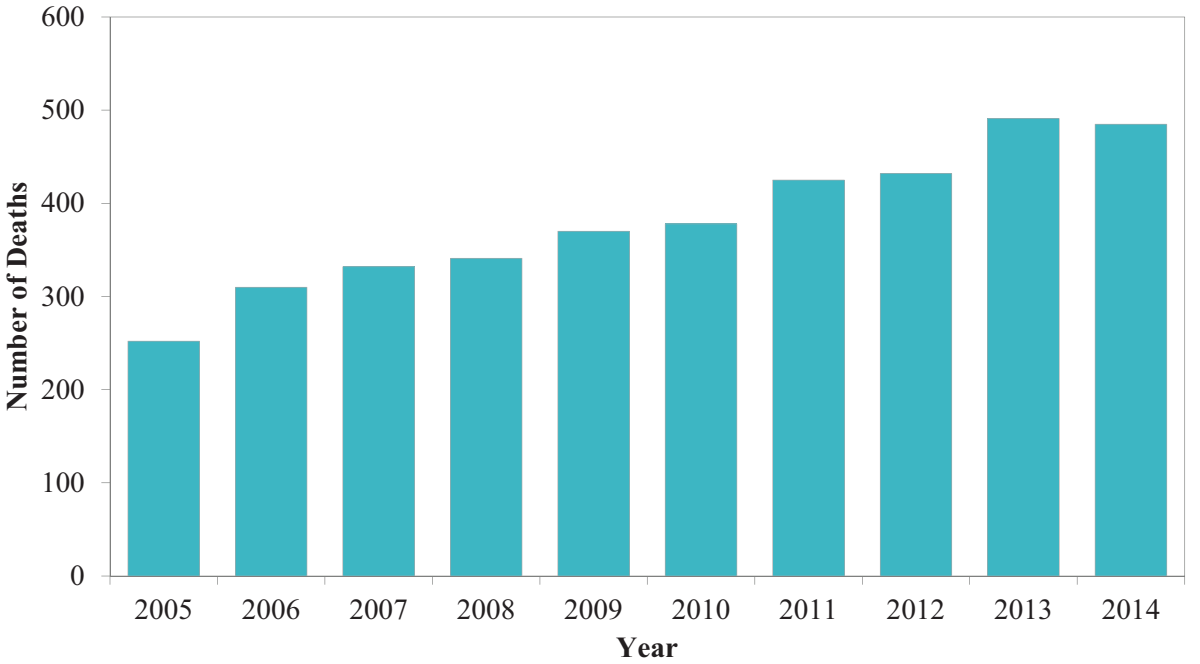
In Travis County, unintentional injuries are:

- The number one cause of death of residents aged 1-44 years (~68% of the county population)
- The third leading cause of death for all ages
- The leading cause of death for children
- Responsible for the deaths of nearly 500 residents per year

Only cancer and heart disease take more lives than unintentional injuries.

As shown in Figure 14.1, the number of deaths due to unintentional injuries has increased in the last decade. The number of deaths ranged from a low of 252 in 2005 to a high of 491 in 2013; nearly 4,000 deaths due to unintentional injuries occurred during this 10 year period.

Figure 14.1. Number of Unintentional Injury Deaths, Travis County, 2005-2014

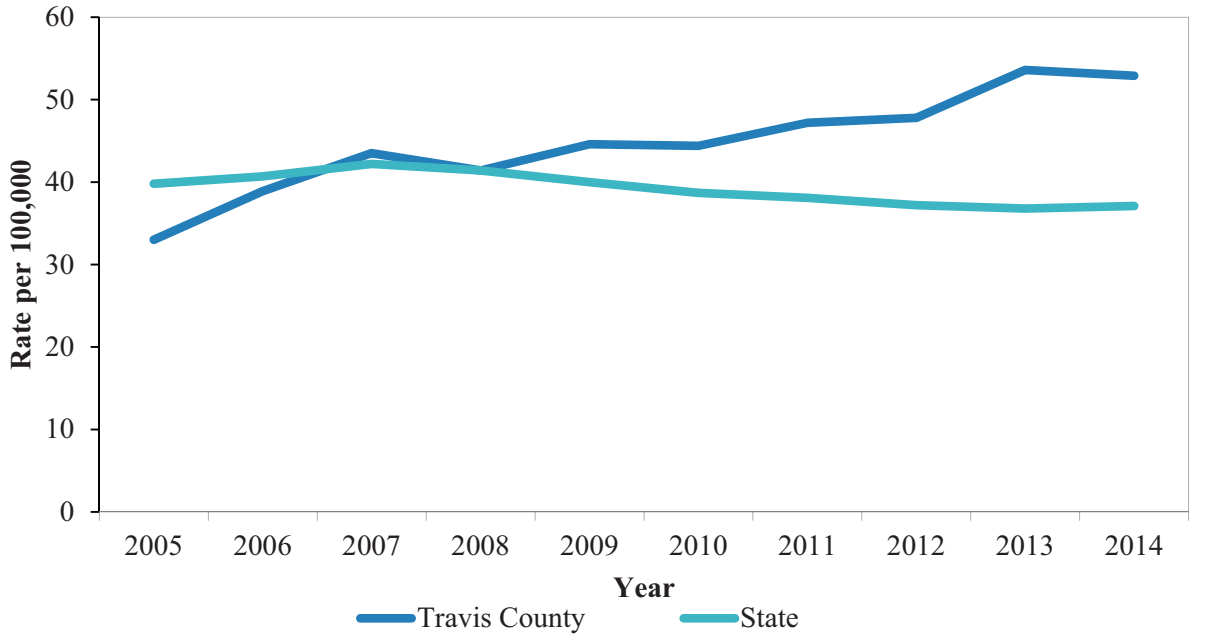


Data Source: Center for Health Statistics, Texas Department of State Health Services

Notation: ICD-10 Codes: V01-X59, Y85-Y86

As shown in Figure 14.2, the age-adjusted unintentional injury mortality rate for Travis County has increased over the past decade. Between 2005 and 2014, the age-adjusted rate has increased 60% (from 33 to 52.9 per 100,000 population). In recent years, the rate has been higher in Travis County compared with the rate for Texas.

Figure 14.2. Age-adjusted Unintentional Injury Mortality Rate, Travis County, and Texas 2005-2014

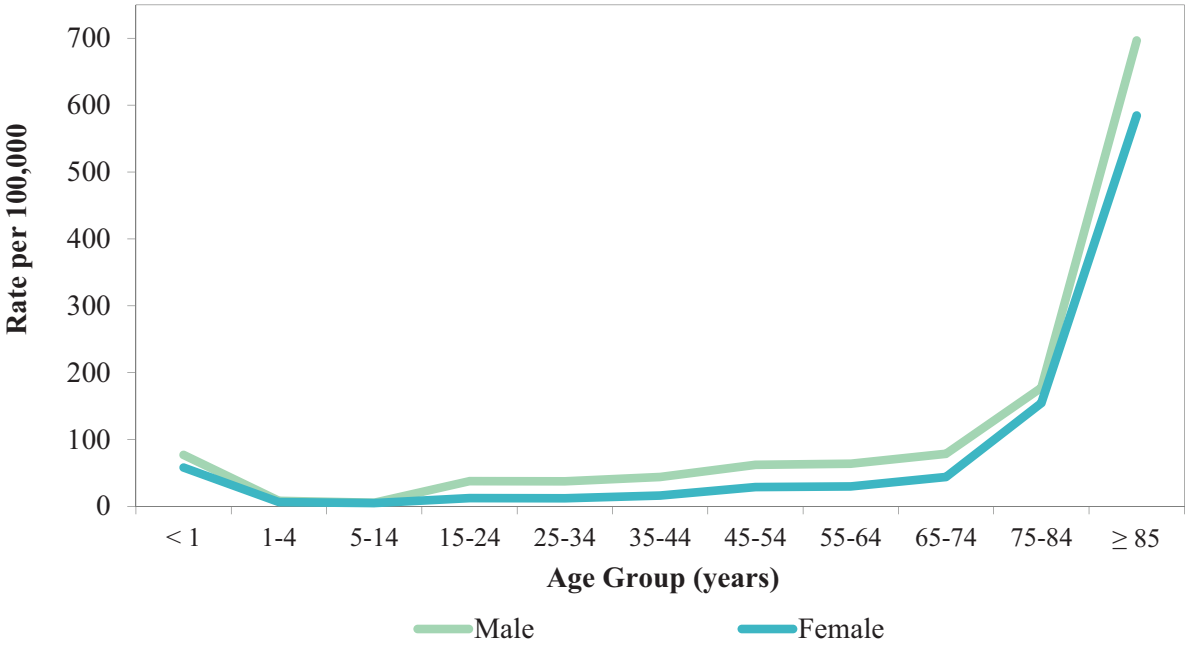


Data Source: Center for Health Statistics, Texas Department of State Health Services

As Appendix C ("10 Leading Causes of Death by Age Group, Travis County, Texas, 2010-2014") shows, unintentional injury is the third leading cause of death for all ages. Unintentional injury is also the leading cause of death for those between the ages of 1-44 years. This age group represents approximately 68% of the county population. Unintentional injury is the leading cause of death for five age groups: those aged 1 to 4, 5 to 14, 15 to 24, 25 to 34, and 35 to 44 years.

As Figure 14.3 shows, in all age groups males have a higher mortality rate than females. Older adults have the highest unintentional injury mortality rate.

Figure 14.3. Unintentional Injury Mortality Rate by Gender and Age Group, Travis County, 2005-2014



Data Source: Center for Health Statistics, Texas Department of State Health Services

The most common unintentional injury deaths result from drownings, falls, motor vehicle crashes, poisonings, and suffocations.

Table 14.1 shows the top three leading causes of unintentional injury (”accidental”) death by age group in Travis County for a five year period (2010-2014). Suffocation is the leading cause of unintentional injury death for those aged under 1 year. Suffocations include infant deaths caused by blockage of the infant's airway in a sleeping environment (such as by soft bedding, wedging or entrapment, strangulation, or another person shares the sleep surface with the infant and lays on or rolls on top of or against the infant while sleeping) and deaths resulting from accidental inhalation and ingestion of food or other objects causing obstruction of the airway.

Drowning (in addition to motor vehicle crash) is the leading cause of death for those 1 to 4 years. Motor vehicle crash is the leading cause of death for those aged 5 to 14 and 15 to 24 years. Poisoning (primarily drug overdose) is the leading cause for four age groups: 25 to 34, 35 to 44, 45 to 54, and 55 to 64 years. Fall is the leading cause for those 65 years and above.

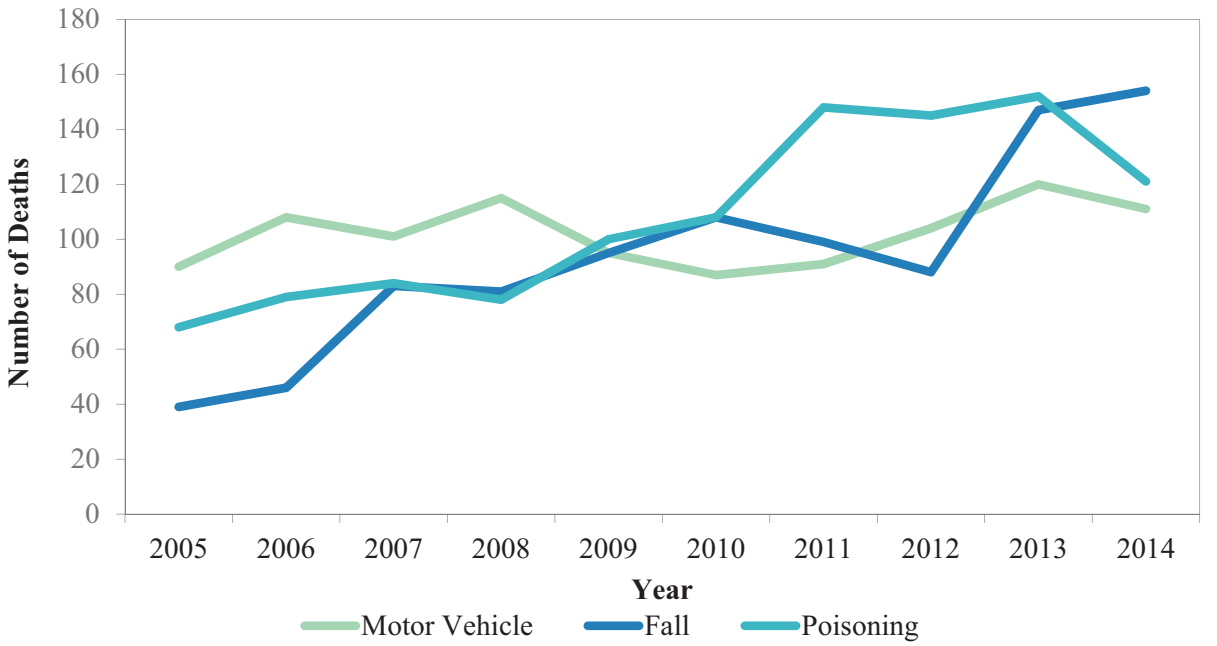
Table 14.1. Top Three Leading Causes of Unintentional Injury ("Accidental") Death by Age Group, Travis County, Texas (2010-2014)

	Rank (Top Three)			
Age Group (years)	1	2	3	Total Injury Deaths
Under 1	Suffocation (53)	Drowning (2)	Motor Vehicle; Poisoning (1 each)	57
1 to 4	Drowning; Motor Vehicle (7 each)		Suffocation (3)	19
5 to 14	Motor Vehicle (16)	Drowning (3)	Fire (2)	25
15 to 24	Motor Vehicle (103)	Poisoning (62)	Drowning (9)	193
25 to 34	Poisoning (126)	Motor Vehicle (121)	Drowning (16)	295
35 to 44	Poisoning (123)	Motor Vehicle (74)	Drowning (11)	247
45 to 54	Poisoning (189)	Motor Vehicle (77)	Fall (22)	340
55 to 64	Poisoning (130)	Motor Vehicle (57)	Fall (40)	288
65 to 74	Fall (55)	Poisoning; Motor Vehicle (32 each)		166
75 to 84	Fall (157)	Suffocation (19)	Motor Vehicle (12)	213
85 and over	Fall (310)	Suffocation (20)	Motor Vehicle (12)	368
Total				2,211

Notation: ICD-10 Codes: Suffocation (*W75-W77, W81-W84; W78-W80)*; Drowning *(W65-W74*); Motor Vehicle (*V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2*); Poisoning (*X40-X49*); Fire *(X00-X09)*; Fall (*W00-W19*). The number in parenthesis represents the number of deaths by injury cause.
Data Source: Center for Health Statistics, Texas Department of State Health Services

However, for Travis County as a whole the top three causes of unintentional injury deaths are motor vehicle crash, poisoning, and fall. Figure 14.4 shows the trend of these top three causes in Travis County between 2005 and 2014. Each of these unintentional injury causes killed nearly or more than 1,000 residents during that 10 year period.

Figure 14.4. Top Three Causes of Unintentional Injury Deaths, Travis County, 2005-2014



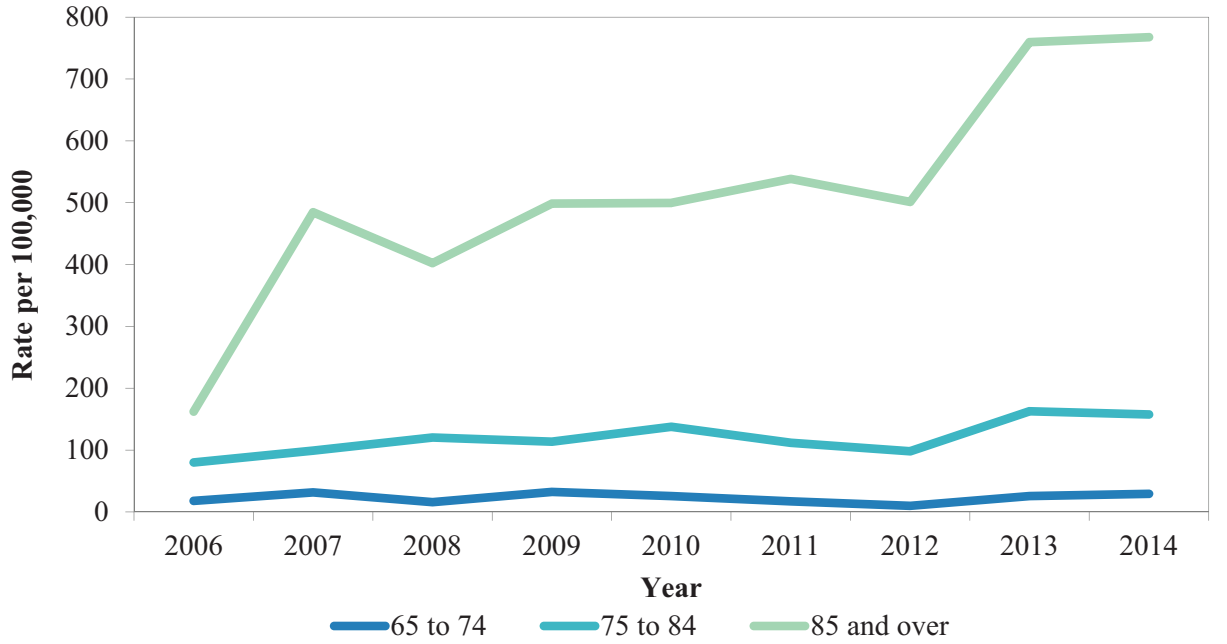
Data Source: Center for Health Statistics, Texas Department of State Health Services

Notation: ICD-10 Codes: Motor Vehicle (*V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2*); Fall (*W00-W19*); Poisoning (*X40-X49*)

Since 2005, the number of deaths resulting from falls and poisonings has generally increased and the number of deaths resulting from motor vehicle crashes has generally remained constant. In 2014, the rank order of unintentional injury deaths was related to falls (154 deaths), poisonings (121 deaths), and motor vehicles (111 deaths).

Those adults older than 64 years of age have the highest mortality rate from unintentional falls. As Figure 14.5 shows, the mortality rate increases with age, with those 85 years and older having the highest deaths rates. The unintentional fall injury mortality rate for those 85 years and older increased fourfold between 2006 and 2014 (162 to 767 per 100,000 population, respectively).

Figure 14.5. Unintentional Fall Mortality Rates, Adults 65 Years of Age and Older, Travis County, 2006-2014



Data Source: Center for Health Statistics, Texas Department of State Health Services

Notation: ICD-10 Codes: W00-W19

Coinciding with fall mortality data, there is information related to falls available from the Texas Behavioral Risk Factor Surveillance System. The Texas Behavioral Risk Factor Surveillance System is a telephone survey conducted annually of randomly selected adults 18 years of age and older in Travis County and Texas. In 2014, over a quarter (28%) of adults aged 65 years or older in Travis County reported a fall in the past year; using this percentage, approximately 24,000 Travis County residents 65 years of age or older are presumed to have experienced a fall that year.

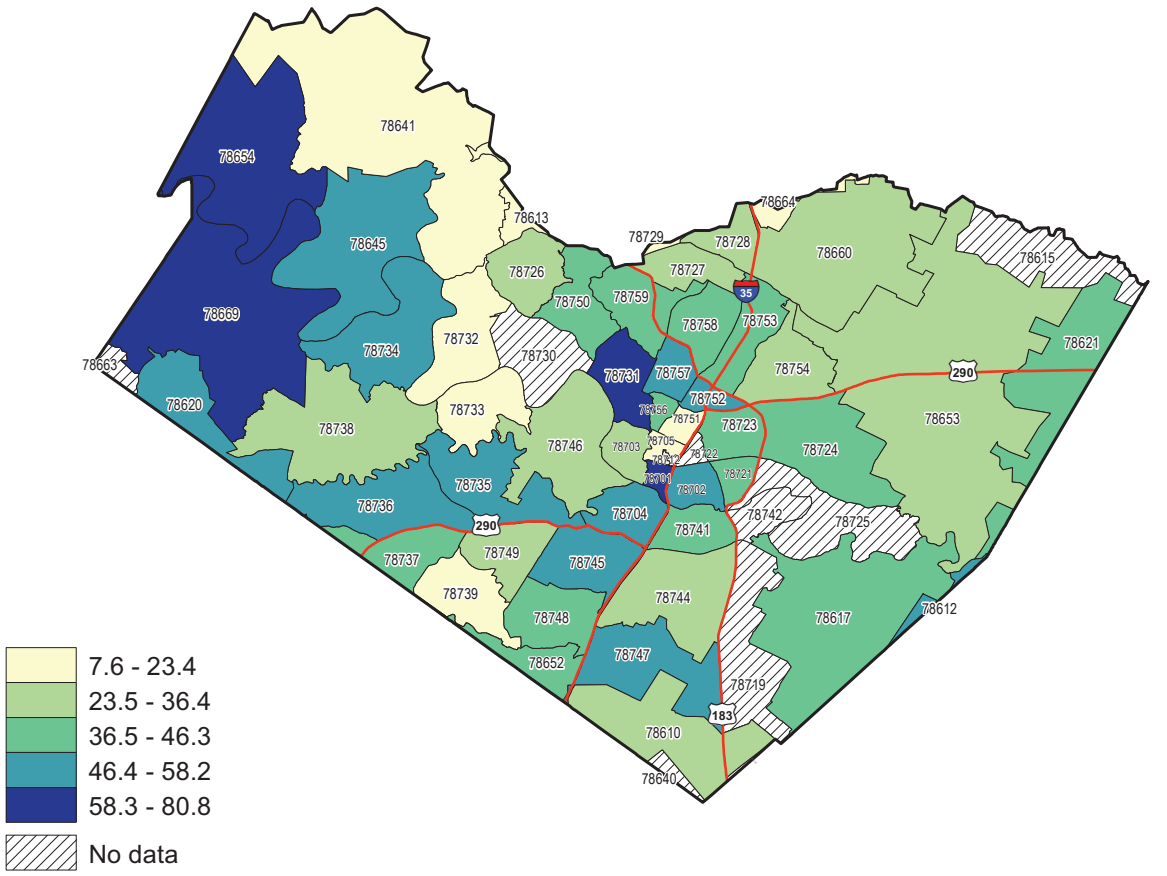
Mortality Map

Between 2010 and 2014, there were a total of 2,211 unintentional injury deaths among Travis County residents. The crude mortality rate for unintentional injury for this five year period was 38 deaths per 100,000 population.

Data were obtained on the number of unintentional injury deaths by residency of zip code for this period. Crude mortality rates for unintentional injury by zip code were then calculated. Approximately eight percent of the zip codes had between 1– 9 unintentional injury deaths and therefore rates were not calculated. Rates were calculated for those zip codes with over 10 unintentional injury deaths; these zip codes had a range of 11-152 unintentional injury deaths per zip code.

Map 14.1 shows the geographical distribution of the crude mortality rates for unintentional injury. Zip codes with the highest crude mortality rates are primarily located in western Travis County although zip codes with lowest rates are also primarily located in western Travis County.

Map 14.1. Crude Mortality Rates* for Unintentional Injury by Zip Code, Travis County 2010-2014



Source: Texas Department of State Health Services, Center for Health Statistics
US Census, American FactFinder, 2010-2014 American Community Survey 5-year estimates
*Crudes rates are per 100,000 population

Caution should be used in interpreting these data for a number of reasons. First, this analysis only involved deaths over a five year period and therefore the rates may not be stable. Second, current data limitations do not permit age adjustment of these rates, which is more appropriate for making rate comparisons among zip codes. Third, the injury may have occurred in a location outside of the zip code where the decedent lived. Finally, unintentional injury is a broad category of injuries, such as motor vehicle crashes, falls, and poisonings; calculating mortality rates by injury sub-types by zip code may ultimately show geographical patterns themselves. More investigation is needed to explore geographical patterns of unintentional injury mortality in the county.

15.0 Suicide

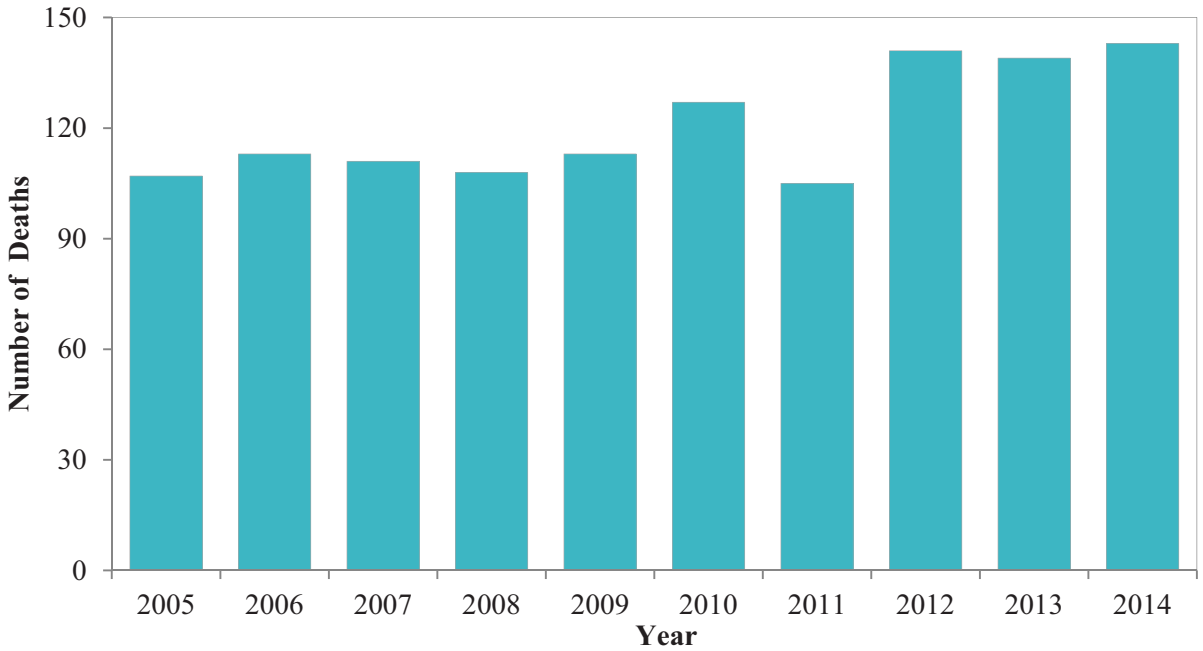
Austin Public Health Office of Vital Records (OVR) receives, processes, and reports birth and death records for the City of Austin. Currently, the City of Austin boundaries include areas of Travis, Hays, and Williamson Counties. City of Austin data represents a portion of data within all three counties but not these counties entirely. Data available from the OVR for the City of Austin is preliminary.

The Texas Department of State Health Services provided data for the state and county level for 2005-2014 via the web site for Texas Health Data – Death Data. This data represents the usual residence of each individual regardless of location of death. Travis County level data is obtained from Texas Health Data. It is of value to note that the different data sources provide different time frames and different jurisdictional levels of data. Every effort has been made to provide the most current and accurate data available.

Anyone reviewing suicide data should be aware that this report is a snapshot, a point-in-time representation of suicide data. The data represented in this report, regardless of data source, ultimately is based on a subset of variables from the death certificates processed by the registrar of the city, precincts, county, and state of occurrence. Although rare, it is possible that a death record filing could be delayed for an extended period of time or amended which could ultimately change the picture presented within this report.

Figure 15.1 shows the number of deaths by suicide among Travis County residents for the period 2005 through 2014. During this 10 year period, 1,207 deaths by suicide occurred. The annual number of suicides ranged from 105 to 143.

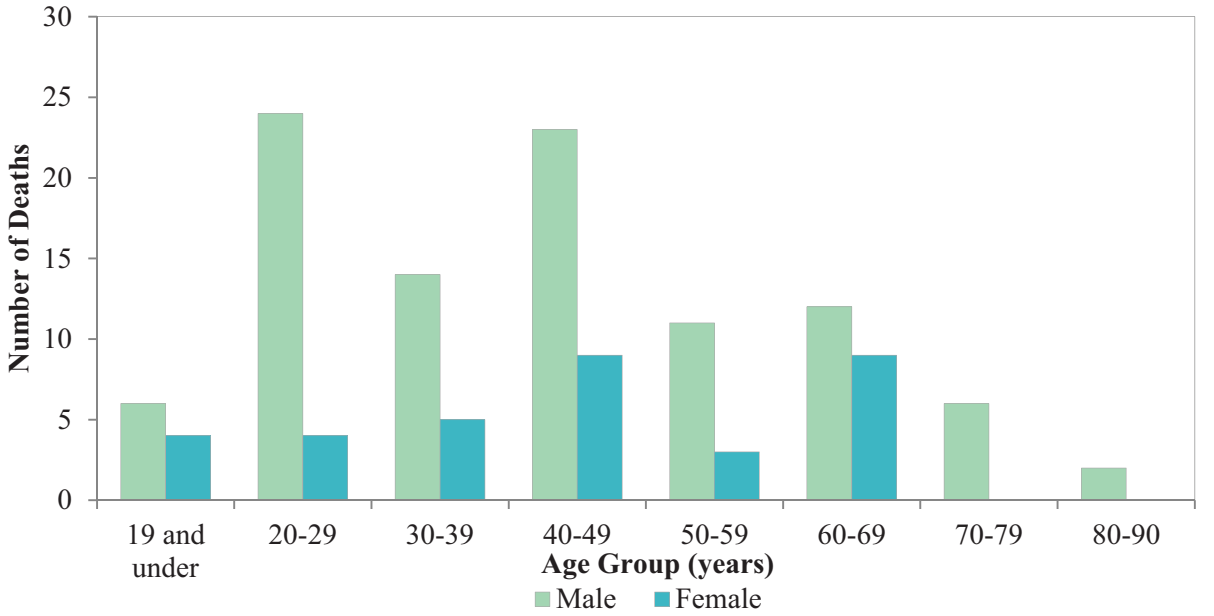
Figure 15.1. Suicide Mortality by Year, Travis County, 2005-2014



Data Source: Center for Health Statistics, Texas Department of State Health Services

A total of 132 suicides were reported in the City of Austin in 2015. A majority (74.2%) of persons who died by suicide were males. In 2015, the rate of death by suicide was 20.6 per 100,000 for males and 7.5 per 100,000 for females. Figure 15.2 shows suicide mortality by age group and gender. Persons under 50 years of age accounted for 67% of the deaths by suicide.

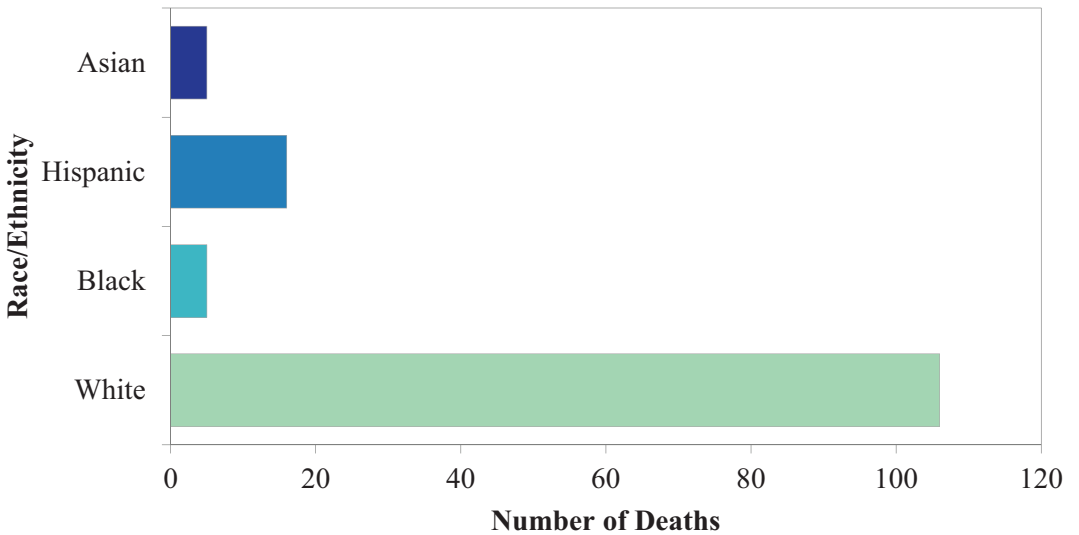
Figure 15.2. Suicide Mortality by Age Group and Gender, City of Austin, 2015



Data Source: Office of Vital Records, Austin Public Health

As shown in Figure 15.3, most (80.3%) deaths by suicide in the City of Austin in 2015 were among Whites. Death by suicide were also reported among Blacks, Hispanics, and Asians; however, there were no deaths by suicide among American Indian or other groups.

Figure 15.3. Suicide Mortality by Race and Ethnicity, City of Austin, 2015



Data Source: Office of Vital Records, Austin Public Health

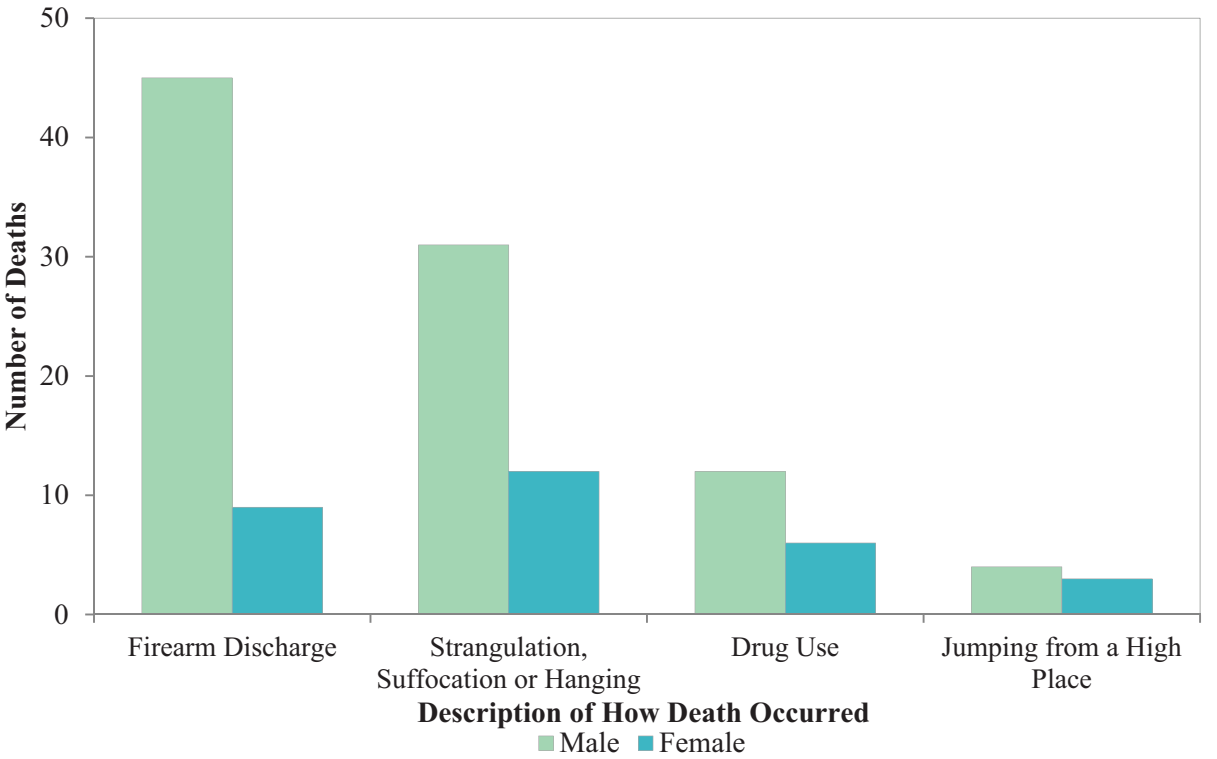
Table 15.1 and Figure 15.4 present suicide mortality by method of death and gender. Almost half (40%) of all deaths by suicide were with a firearm. Strangulation, suffocation, or hanging was the method for 35% of females.

Table 15.1. Number of Deaths by Suicide by Method of Self-inflicted Death, City of Austin, 2015

Method of self-inflicted death	Male		Female	
	Number	%	Number	%
Intentional self-poisoning by or exposure to:				
Drug use[1]	12	12.2	6	17.7
Ingestion of a toxic substance[2,3]	0	0.0	2	5.9
Intentional self-harm by:				
Firearm discharge[4]	45	46.0	9	26.5
Strangulation, suffocation, or hanging[5]	31	31.6	12	35.3
Jumping from a high place[6]	4	4.1	3	8.8
Other Specified Means[7]	0	0.0	0	0.0
Sharp object[8]	2	2.0	0	0.0
Drowning and/or submersion[9]	0	0.0	1	2.9
Jumping or lying before a moving object[10]	4	4.1	1	2.9
Crashing of a motor vehicle[11]	0	0.0	0	0.0
Total	98		34	

Notations: [1] ICD-10 Codes X60 – X66, X68. [2] ICD-10 Code X67. [3] ICD-10 Codes X69. [4] ICD-10 Code X72 – X74. [5] ICD-10 Code X70. [6] ICD-10 Code X80. [7] ICD-10 Code X83. [8] ICD-10 Code X78. [9] ICD-10 Code X71. [10] ICD-10 Code X81. [11] ICD-10 Code X82.
Data Source: Office of Vital Records, Austin Public Health

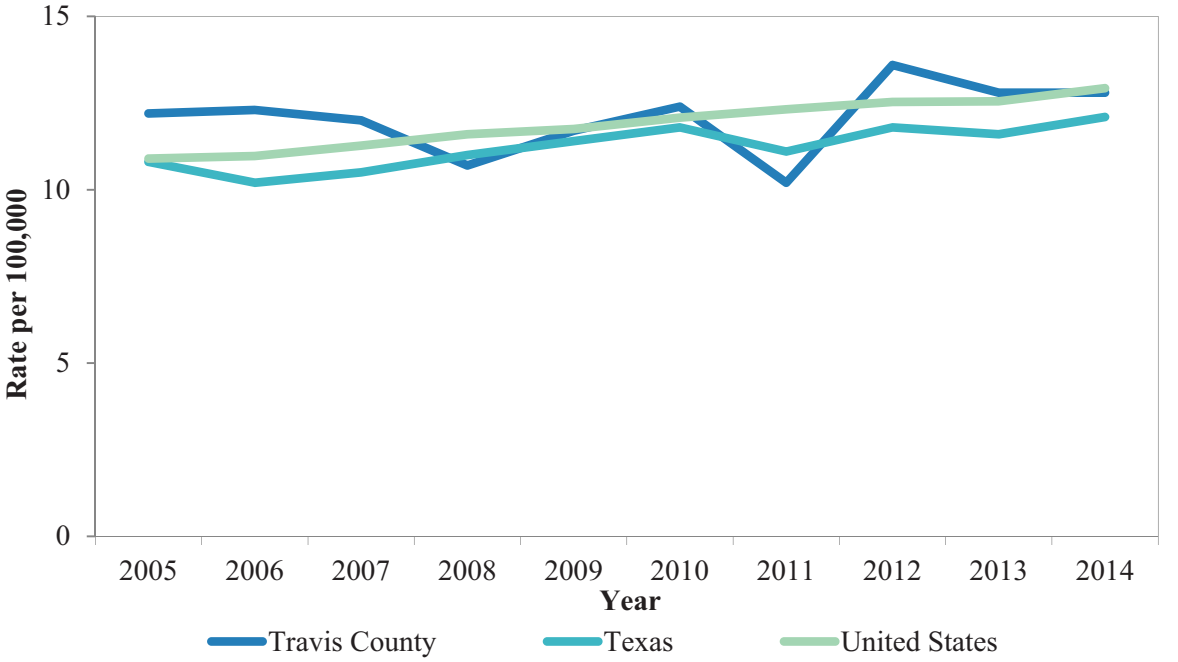
Figure 15.4. Suicide Mortality by Method of Self-inflicted Death and Gender, City of Austin, 2015



Data Source: Office of Vital Records, Austin Public Health

During 2005 through 2014, the age-adjusted suicide mortality for Travis County ranged from a high of 13.6 deaths by suicide per 100,000 population in 2012 to a low of 10.2 in 2011. Figure 15.5 shows the age-adjusted suicide mortality rate for Travis County, Texas, and the United States. Generally during this time period the rate has been slightly higher in Travis County compared with the rate for Texas.

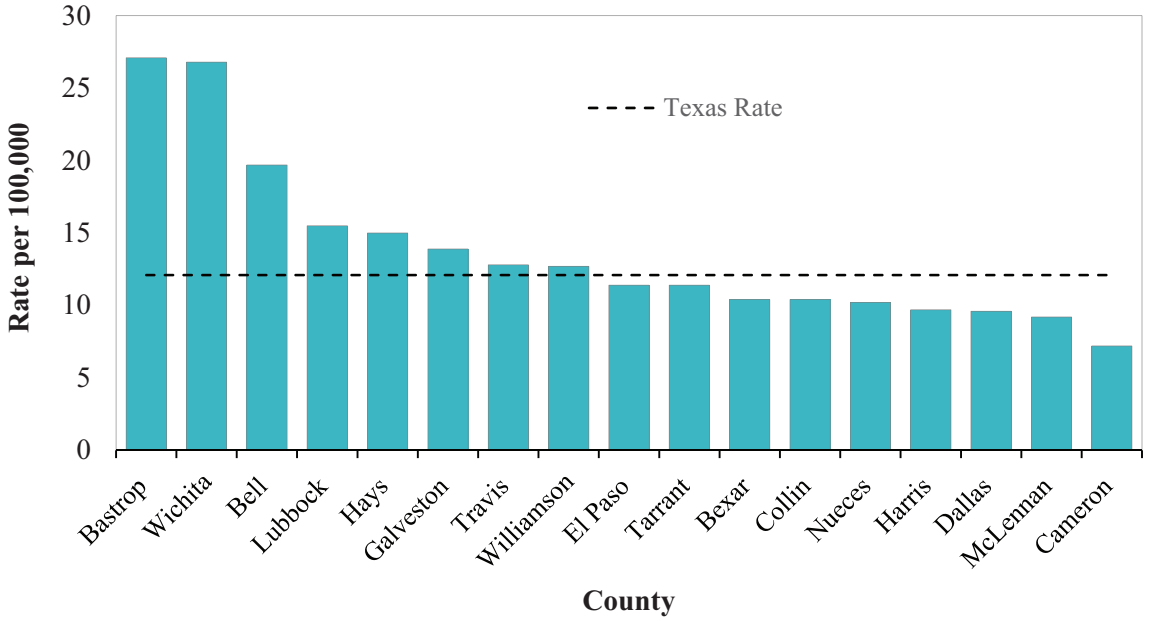
Figure 15.5. Suicide Mortality Age-adjusted Rate per 100,000 population, Travis County, Texas, and the United States, 2005-2014



Data Sources: Center for Health Statistics, Texas Department of State Health Services and WISQARS Injury Mortality Report, Centers for Disease Control and Prevention

Figure 15.6 shows the age-adjusted suicide mortality rate for select counties in Texas. Travis County has a slightly higher rate than the four most populated counties in Texas, i.e. Bexar, Dallas, Harris, and Tarrant.

Figure 15.6. Suicide Mortality Age-adjusted Rate per 100,000 Population for Select Counties in Texas, 2014



Data Source: Center for Health Statistics, Texas Department of State Health Services

Commentary:

- Age adjustment uses United States 2000 standard population.
- Data Source: Texas Health Data - Death Data at http://soupfin.tdh.state.tx.us/death10.htm
- The number of deaths attributed to suicide was too low to calculate a rate in the following neighboring counties: Blanco, Burnet, and Caldwell.

Glossary of Key Terminology

Age-adjusted mortality rate. A mortality rate statistically modified to eliminate the effect of different age distributions in the different populations.

BMI. Body mass index (BMI) is a measure of body fat based on height and weight that applies to adult men and women. BMI Categories: Underweight = <18.5; Normal weight = 18.5–24.9; Overweight = 25–29.9; Obesity = BMI of 30 or greater

BRFSS. Behavioral Risk Factor Surveillance System. The BRFSS is an on-going telephone survey program designed to measure behavioral risk factors in the U.S. adult, noninstitutionalized, civilian population. The survey is conducted in all 50 states as well as the District of Columbia and three U.S. territories. BRFSS completes more than 400,000 adult interviews each year. The objective of the BRFSS is to collect uniform, state-specific data on preventive health practices and risk behaviors that are linked to chronic diseases, injuries, and preventable infectious diseases. Factors assessed by the BRFSS include safety-belt use, tobacco use, physical activity, diet, and use of cancer screening services, among others. Data are collected from a random sample of adults (one per household) through a telephone survey.

Case. In epidemiology, a countable instance in the population or study group of a particular disease, health disorder, or condition under investigation. Sometimes, an individual with the particular disease.

Crude mortality rate. A mortality rate without adjustment.

Demographic information. The "person"' characteristics--age, sex, race, and occupation--of descriptive epidemiology used to characterize the populations at risk.

Ethnicity. The classification of a person's ethnicity, i.e. Hispanic or non-Hispanic, is generally derived from how the person self-reported when asked.

Hispanic. Refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race.

Health. A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

Health indicator. A measure that reflects, or indicates, the state of health of persons in a defined population, e.g., the infant mortality rate.

Incidence rate. A measure of the frequency with which an event, such as a new case of illness, occurs in a population over a period of time. The denominator is the population at risk; the numerator is the number of new cases occurring during a given time period.

Low birth weight. A birthweight less than 5.5 pounds (2,500 grams). Low birth weight is the single most important factor affecting neonatal mortality and is a determinant of post-neonatal mortality.

MMWR. The Morbidity and Mortality Weekly Report, a weekly scientific publication prepared and published by the CDC (US Centers for Disease Control and Prevention). MMWR contains data and reports on specific health and safety topics. The data are on specific diseases as reported by state and territorial health departments. Note: the MMW "Year" does not correspond to a calendar year, but a 52 week period established by the Centers for Disease Control and Prevention.

Morbidity. Any departure, subjective or objective, from a state of physiological or psychological well-being.

Mortality rate. A measure of the frequency of occurrence of death in a defined population during a specified interval of time.

Mortality rate, infant. A ratio expressing the number of deaths among children less than one year of age reported during a given time period divided by the number of births reported during the same time period. The infant mortality rate is usually expressed per 1,000 live births.

Prematurity/Premature birth. It is a birth that is at least three weeks before a baby's due date. It is also known as preterm birth (or less than 37 weeks — full term is 40 weeks).

Population. The total number of inhabitants of a given area or country. In sampling, the population may refer to the units from which the sample is drawn, not necessarily the total population of people.

Prevalence. The number or proportion of cases or events or conditions in a given population.

Public health surveillance. The systematic collection, analysis, interpretation, and dissemination of health data on an ongoing basis, to gain knowledge of the pattern of disease occurrence and potential in a community, in order to control and prevent disease in the community.

Race. The classification of a person's race is generally derived from how the person self-reported when asked.

White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Black. A person having origins in any of the Black racial groups of Africa.

American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment.

Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Rate. An expression of the frequency with which an event occurs in a defined population.

Risk factor. An aspect of personal behavior or lifestyle, an environmental exposure, or an inborn or inherited characteristic that is associated with an increased occurrence of disease or other health-related event or condition.

Trend. A long-term movement or change in frequency, usually upwards or downwards.

Appendix A. Number and Rate of Common Reported Conditions by Year, Travis County, 2013-2015[1,2,3]

Condition	2013		2014		2015	
	Number	Rate	Number	Rate	Number	Rate
AIDS[4]	111	9.9	96	8.3	99	8.4
Amebiasis	19	1.7	30	2.6	25	2.1
Campylobacteriosis	216	19.3	183	15.9	235	20.0
Chicken Pox (Varicella)	129	11.5	90	7.8	89	7.6
Chlamydia[5]	6,722	599.1	6,994	607.6	7,787	661.8
Cryptosporidiosis	15	1.3	33	2.9	36	3.1
Cyclosporiasis	17	1.5	10	0.9	113	9.6
Escherichia coli, Shiga toxin-producing (STEC)	11	1.0	12	1.0	10	0.8
Gonorrhea[5]	1,924	171.5	2,129	185.0	2,431	206.5
Hepatitis A, Acute	5	0.4	13	1.1	13	1.1
Hepatitis B, Acute	11	1.0	10	0.9	17	1.4
HIV[4]	219	19.5	239	20.8	288	24.5
Legionellosis	8	0.7	4	0.3	15	1.3
Lyme disease	6	0.5	5	0.4	4	0.3
Malaria	6	0.5	7	0.6	3	0.3
Pertussis	311	27.7	311	27.0	110	9.3
Salmonellosis	228	20.3	293	25.5	253	21.5
Shigellosis	65	5.8	220	19.1	435	37.0
Streptococcus, invasive group A	30	2.7	32	2.8	41	3.5
Streptococcus, invasive group B	51	4.5	62	5.4	74	6.3
Streptococcus pneumoniae, invasive	94	8.4	77	6.7	85	7.2
Primary & Secondary Syphilis[5]	137	12.2	188	16.3	181	15.4
Tuberculosis[6]	41	3.7	49	4.3	59	5.0
Typhus, murine	15	1.3	4	0.3	15	1.3

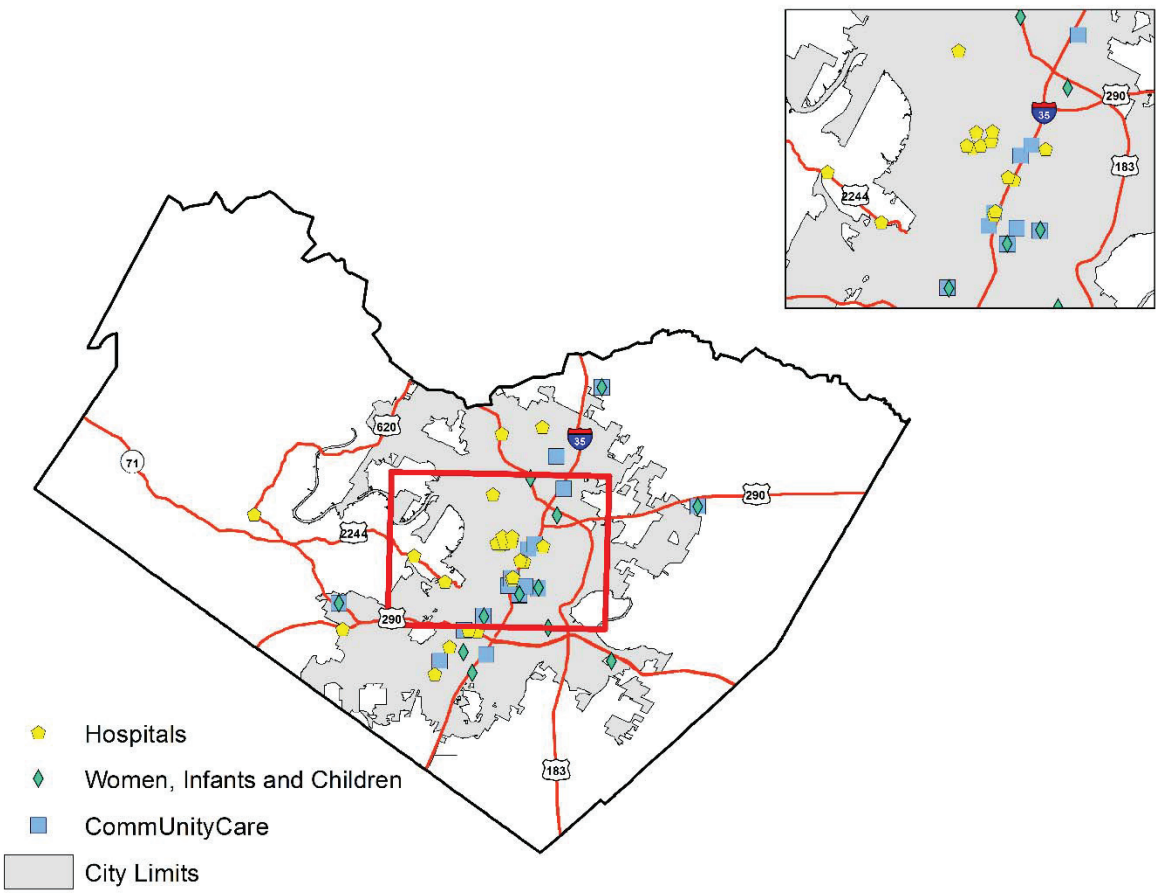
[1]Rates per 100,000 population
[2]Population data from US Census Bureau, American Community Survey 1-year estimates
[3]Unless otherwise noted, data source is the National Electronic Disease Surveillance System
[4]Texas HIV Surveillance Report 2015 Annual Report, Texas Department of State Health Services
[5]Texas STD Surveillance Report 2015 Annual Report, Texas Department of State Health Services
[6]Texas TB Surveillance Report 2015 Annual Report, Texas Department of State Health Services

Appendix B

Map B shows the location of acute care and rehabilitation hospitals in Travis County. The map also shows location of CommUnityCare clinics and Austin Public Health Women, Infants and Children clinics.

A total of 22 acute care and rehabilitation hospitals are located in Travis County. Most hospitals are located west of Interstate 35. Hospitals are generally located adjacent to major roadways in Travis County, i.e. Interstate 35, United States Highways 183 and 290 and Texas State Highway Loop 1 also termed MoPac Expressway. CommUnityCare provides services to about 92,000 patients at over 20 locations in Travis County. These services are provided to all Travis County residents including those whose incomes and lack of private health insurance qualify them for enrollment. Austin Public Health Women, Infants and Children (WIC) is a supplemental nutrition program that provides nutrition and breastfeeding education, nutritious foods, and improved access to regular health care and social services to low- and moderate-income women and young children with, or at risk of developing nutrition related health problems. WIC services are provided to about 27,500 participants at 12 locations in Travis County and two in Bastrop County. Many WIC clinics and CommUnityCare clinics are located near each other.

Map B. Locations of Acute Care and Rehabilitation Hospitals, Austin Public Health Women, Infants and Children Clinics, and CommUnityCare Clinics, Travis County, 2016



Appendix C. 10 Leading Causes of Death by Age Group, Travis County, Texas (2010 - 2014)

Rank	Under 1	1 to 4	5 to 14	15 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 to 84	85 and over	All Ages
1	Certain Conditions in the Perinatal Period **190**	Unintentional Injury 19	Unintentional Injury 25	Unintentional Injury 193	Unintentional Injury 295	Unintentional Injury 247	Malignant Neoplasms **576**	Malignant Neoplasms **1235**	Malignant Neoplasms **1291**	Malignant Neoplasms **1262**	Diseases of the Heart **1643**	Malignant Neoplasms **5415**
2	Congenital Malformations **79**	Congenital Malformations **6**	Malignant Neoplasms **20**	Suicide **66**	Suicide **127**	Malignant Neoplasms **148**	Diseases of the Heart **392**	Diseases of the Heart **680**	Diseases of the Heart **723**	Diseases of the Heart **962**	Malignant Neoplasms **783**	Diseases of the Heart **4604**
3	Unintentional Injury 57	Homicide* **6**	Suicide **7**	Homicide **40**	Malignant Neoplasms **71**	Diseases of the Heart **139**	Unintentional Injury 340	Unintentional Injury 288	Chronic Lower Respiratory Diseases **237**	Cerebro-vascular Diseases **333**	Cerebro-vascular Diseases **469**	Unintentional Injury 2211
4	Homicide **5**	Malignant Neoplasms **3**	Influenza and Pneumonia 4	Malignant Neoplasms **26**	Homicide **45**	Suicide **115**	Chronic Liver Disease and Cirrhosis **163**	Chronic Liver Disease and Cirrhosis **170**	Unintentional Injury 166	Chronic Lower Respiratory Diseases **332**	Alzheimer's Disease **444**	Cerebro-vascular Diseases **1156**
5	Diseases of the Heart **4**	Diseases of the Heart; Influenza, Pneumonia **2**	Homicide* **4**	Diseases of the Heart **16**	Diseases of the Heart **42**	Chronic Liver Disease and Cirrhosis **40**	Suicide **138**	Suicide **126**	Cerebro-vascular Diseases **147**	Unintentional Injury 213	Unintentional Injury 368	Chronic Lower Respiratory Diseases **990**
6	Pneumonitis Due to Solids and liquids **2**	Certain Conditions in the Perinatal Period; Septicemia Hernia; In Situ Neoplasms, Benign Neoplasms and Neoplasms of Uncertain or Unknown Behavior; Meningitis; Nutritional Deficiencies **1 each**	Congenital Malformations **2**	Cerebro-vascular Diseases **and** Pregnancy, Childbirth **6 each**	HIV Disease **12**	Homicide **34**	Diabetes Mellitus **59**	Cerebro-vascular Diseases **115**	Diabetes Mellitus **126**	Alzheimer's Disease **177**	Chronic Lower Respiratory Diseases **284**	Alzheimer's Disease **669**
7	Nephritis, Nephrotic Syndrome, Nephrosis; Cerebrovascular Disease; Whooping Cough **1 each**		Diseases of the Heart; Hernia; Septicemia; Cerebro-vascular Disease; Chronic Lower Respiratory Diseases; Anemias; Pneumonitis due to Solids, Liquids **1 each**		Diabetes Mellitus **11**	Cerebro-vascular Diseases **26**	HIV Disease **50**	Chronic Lower Respiratory Diseases **99**	Nephritis, Nephrotic Syndrome, Nephrosis **97**	Diabetes Mellitus **137**	Nephritis, Nephrotic Syndrome, Nephrosis **146**	Suicide **655**
8				Diabetes Mellitus **3**	Chronic Liver Disease and Cirrhosis **10**	HIV Disease **25**	Cerebro-vascular Diseases **50**	Diabetes Mellitus **98**	Septicemia **74**	Parkinson's Disease **124**	Influenza and Pneumonia **143**	Diabetes Mellitus **551**
9				Influenza/ Pneumonia; Chronic Lower Respiratory Diseases;	Cerebro-vascular Diseases **8**	Diabetes Mellitus **19**	Viral Hepatitis **36**	Viral Hepatitis **57**	Chronic Liver Disease, Cirrhosis **71**	Nephritis, Nephrotic Syndrome, Nephrosis **110**	Parkinson's Disease **127**	Chronic Liver Disease, Cirrhosis **489**
10				Nephritis, Nephrotic Syndrome, Nephrosis; **2 each**	Congenital Malformations; **7**	Septicemia **13**	Nephritis, Nephrotic Syndrome, Nephrosis **28**	Septicemia **52**	Parkinson's Disease **46**	Influenza and Pneumonia **79**	Pneumonitis Due to Solids and liquids **102**	Nephritis, Nephrotic Syndrome, Nephrosis **435**
Total	**369**	**53**	**81**	**402**	**712**	**967**	**2242**	**3619**	**3785**	**5151**	**7022**	**24403**

*Same number of deaths as the cell above. Sources: US Census, 2015, Texas Department of State Health Services, and Texas Association of Counties.

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