

# Williamson County, TN At-A-Glance

This summary serves as an excerpt of the VUMC Community Health Needs Assessment. For the full, board-approved report, please visit the VUMC Community Health Improvement website.





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# Introduction

Vanderbilt University Medical Center ("VUMC") is located in Nashville, Tennessee, and chiefly serves Tennessee, northern Alabama, and southern Kentucky. Although licensed as Vanderbilt University Hospitals under a single hospital facility license, VUMC owns and operates three separate hospitals: The Vanderbilt University Adult Hospital ("VUAH"), Monroe Carell Jr. Children's Hospital at Vanderbilt ("the Children's Hospital") and the Vanderbilt Psychiatric Hospital ("VPH"). As part of a joint venture with Encompass Health Corporation, VUMC also owns 50% of Vanderbilt Stallworth Rehabilitation Hospital ("Stallworth").

Non-profit hospital organizations such as VUMC are required to complete a Community Health Needs Assessment (CHNA) and an accompanying Implementation Strategy every three years as mandated by the 2010 Patient Protection and Affordable Care Act. The CHNA process is designed to identify key health needs and assets through systematic, comprehensive data collection in target communities.

VUMC conducts the CHNA in three Tennessee counties where a large number of VUMC's patients live—Davidson, Rutherford, and Williamson counties. These counties are diverse in socio-economic status, race and ethnicity, health risks and health outcomes. The CHNA sought to better understand community concerns related to health and health care, the social, environmental and behavioral factors that impact health, the greatest needs and assets in communities, and strategies for improving community health and well-being – with a focus on the underserved, low-income and minority populations. The CHNA serves as a health profile for the community in which VUMC patients live.

This "at a glance" excerpt provides a summary of data regarding Williamson County. The full VUMC CHNA report outlines the needs assessment process, shares results and describes how needs were prioritized by the community in each of the three counties. The accompanying Implementation Strategy (IS) outlines the programs and resources committed to address these prioritized needs. Both reports can be accessed via the Community Health Improvement Website.

# **Williamson County Collaborations**

In Williamson County, VUMC collaborated with the Williamson County Health Department (WCHD) on the CHNA. The Williamson County Health Department Director and staff were critical in identifying interview participants as well as recruiting participants and securing space for listening sessions. In addition, WCHD joined in the planning and implementation of the community summit in Williamson County.

The Community Health Assessment Advisory Council (CHAAC) is a group of leaders in Williamson County that guided the core planning team throughout the assessment design process, data collection, and needs prioritization for the 2019 CHNA. The CHAAC also aided in community mobilization to help drive participation and build relationships. VUMC and WCHD served as leaders and facilitators of the group which was comprised of community stakeholders.

The CHNA approach from which this summary derives relies on secondary data and primary data from community stakeholders and members. Input from persons representing the broad interests of the community, including those with expertise in public health, was obtained through face-to-face interviews, community listening sessions, and community surveys. An

environmental scan was conducted in each county to examine existing reports relevant to community health and identify strengths, assets, and areas of improvement regarding the health and healthcare in the community. In addition, VUMC continuously solicits written feedback on the most recent CHNA/IS on the VUMC Community Health Improvement website. VUMC and its collaborators benefitted from the input of over 1200 individuals, each sharing their time, perspectives, and experience in helping VUMC to identify significant health needs in the community.

In Williamson County, the assessment methods include: 1) an environmental scan of 6 community reports from 2016-2018; 2) 19 key informant interviews with community leaders; 3) 3 community listening sessions with 25 participants; and 4) community surveys with 1,207 respondents. We also conducted an in-depth review of secondary data using indicators recommended by the Centers for Disease Control, other national public health institutions, and community advisory groups. These efforts culminated in a summit in Williamson County to solicit community input in identifying and prioritizing health needs. A summary of methods and the overall assessment process are described in the table below.

Environmental Scan	Key Informant Interviews	Community Listening Sessions	Community Surveys	Secondary Data Analysis
<ul> <li>Reviewed reports on health and healthcare</li> <li>Determined recurring themes</li> </ul>	<ul> <li>Interviewed community leaders</li> <li>Focus on health concerns, social determinants, community resources, etc.</li> </ul>	<ul> <li>Focus on health and health care issues and concerns, and community assets</li> <li>Priorities for action</li> </ul>	<ul> <li>Focus on health and health care issues and concerns, and community assets</li> <li>Priorities for action</li> </ul>	<ul> <li>Data from publicly available sources</li> <li>Indicators: demographics and SES, SDOH, access to care, and health status</li> </ul>
<b>L</b>	Community Summits Prioriti		ta	

Figure 2. Methodology of the CHNA Process

# Environmental Scan Results

#### Introduction

This environmental scan is a summary of health and health-related studies that provide information, data, and common themes presented in various reports published about Williamson County. The purpose of the review is to examine existing data released within the last five years relevant to community health and identify strengths, assets, and areas of improvement regarding the health and healthcare in the community.

The reports that were assessed for Williamson County included the 2016 Community Health Needs Assessment, Drive your County to the Top Ten, Williamson County Cause of Death Data, Williamson County Trends Report, and PRIDE surveys (middle and high school students). When examining these reports, it is important to understand the underlying and systematic barriers affecting the health outcomes of the populations of focus. To ensure that the populations and communities at higher risk for adverse health outcomes were included, the review used "healthy equity buckets" as outlined in the Mobilizing for Action through Planning and Partnerships ("MAPP") handbook published by the National Association of County and City Health Officials ("NACCHO"). Some of the health equity buckets that were considered in the various reports include: economic security and financial resources; livelihood security and employment opportunity; adequate, affordable, and safe housing; school readiness and educational attainment; environmental quality; and availability and utilization of medical care.

# **Major Themes**

Williamson County is in the top ten for most populous counties in Tennessee and includes the cities of Franklin and Brentwood. Williamson County consistently ranks as the number one healthiest county in the state of Tennessee. Additionally, Williamson County residents have the highest median salary. Williamson County is also becoming a major business and economic hub that, along with their many other vast resources, is attracting new residents every day.

One of the main themes gathered from reports in Williamson County was air pollution and particulate matter. This is a problem that is affecting most residents of Williamson County. In addition to the expansion and growth of the county, many families are financially stable, allowing multiple members in a household to have a car. Few residents of Williamson County carpool to work and many people from neighboring counties commute into the county for work. Transportation and the increase in traffic has created a problem that is affecting the environmental quality and overall quality of life.

Excessive alcohol consumption was identified as a major health problem in Williamson County, with purchasing power to buy alcohol noted as one driver. Many adolescents and teens are able to more easily access their parent's alcohol, making underage drinking a noted theme as well. Additionally, attitudes towards drug use, including alcohol, are becoming increasingly more lenient, making this a potential issue to address in years to come.

Although many Williamson County residents have little to no financial burdens, there are pockets within the county, such as Fairview and parts of Franklin, where many residents are struggling with unaffordable housing and high food insecurity. According to Feeding America,

food insecurity is the inability to reliably access sufficient quantities of affordable and nutritional foods. The population most at risk for being financially burdened are vulnerable and minority populations, particularly African-Americans, Hispanics, and those without a high school diploma. Additionally, due to the high volume of new residents in Williamson County, new housing developments are being built, which is gentrifying neighborhoods and forcing residents out of their homes. While Williamson County has many useful resources and most residents are considered financially sound, there are many residents that are unable to afford even the most basic necessities.

#### Conclusion

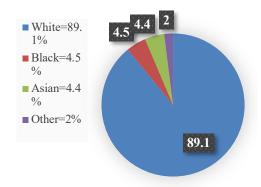
Overall, Williamson County is consistently the healthiest county in the state of Tennessee. However, not all county residents enjoy the same prosperity and health advantages. There are still many community health issues that need to be addressed to improve health outcomes for all residents in the county. By focusing on the top themes mentioned above: transportation and air pollution/particulate matter, excessive drinking, and unaffordable housing and food insecurity, we can begin to address major health concerns in the county.

# Secondary Data Results

## **Demographics and Socioeconomic Status**

Williamson County is home to approximately 226,250 people as of 2017. In the seven years prior to 2017, the population in Williamson County grew by nearly 23.5%, while the entire state of Tennessee's population only grew by 5.8%.1

The projected population of Williamson County by 2025 is approximately 308,000. The current average age of residents of Williamson County is 39 years old, however, seniors (65+) are expected to be the fastest growing age group over the next decade (+50%). While the population is projected to continue growing, the job market is also expected to increase. An estimated 41% increase in population is expected to occur between 2015-2035, while the number of jobs will likely increase by 47% during this same period of time.<sup>2</sup> In Williamson County specifically, many individuals in the county who are older than 25 years old have a bachelor's degree or higher. In fact, Williamson County had the highest percentage of bachelor's degree attainment in the state



Percent Hispanic or Latino: 4.8% Figure 3. Demographics of Williamson County, US Census Bureau (2017)

of Tennessee at 58.1%. In addition, the high school graduation rate in the county, reported as 95.5%, is remarkable compared to the state's rate of 88.5% and the nation's rate of 88.4%.

Notably, Williamson county households are very wealthy, especially when compared to other households statewide. The median household income in Williamson County is \$103,543 while for the state of Tennessee as a whole it is \$48,708. Poverty rates are very low in the county, with 4.6% of the population living below the federal poverty line. Furthermore, the percent of children living under the federal poverty line is very low at 6.39%, while in Tennessee 25.13% of children are living below the FPL.<sup>4</sup> Racial distributions in Williamson County can be seen in the chart in Figure 2.

<sup>&</sup>lt;sup>1</sup> United States Census Bureau. (2017). Population and Housing Unit Estimates. Retrieved from https://www.census.gov/programs-surveys/popest/data/tables.html

<sup>&</sup>lt;sup>2</sup> Nashville Metro Planning Organization. (2019). *Growth Trends and Forecast*. Retrieved from http://www.nashvillempo.org/growth/

<sup>&</sup>lt;sup>3</sup> United States Census Bureau. (2018). *QuickFacts Williamson Co. Tennessee*. Retrieved from https://www.census.gov/quickfacts/williamsoncountytennessee

<sup>&</sup>lt;sup>4</sup> Community Commons. (2018). *Total Number of Children Living in Poverty*. Retrieved from https://www.communitycommons.org/map/

#### **Social Determinants of Health**

The circumstances in which we are born, grow, live, work and play are called Social Determinants of Health. These determinants are related to the distribution of money, power and resources within a community. The World Health Organization states that social determinants of health are mostly responsible for health inequities, which are defined as the unfair and avoidable disparities in health statuses that exist within communities. While Williamson County faces low rates of poverty, inequities in health continue to exist in certain geographic pockets.

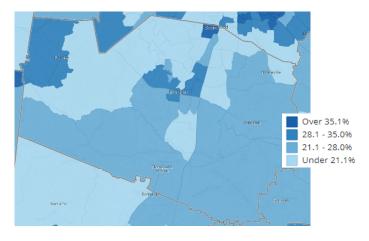


Figure 4. Housing insecurity in Williamson County, CDC (2018)

Housing is a key component that we examine when considering social determinants of health. Overall, housing costs are not a significant burden to the county, but there are large pockets where more than 20% of the population is burdened by the cost of housing. Figure 3 shows the distribution of the housing cost burden in the county.<sup>5</sup>

Commuting has become an increasing concern across Williamson County. Data highlight the magnitude of commuting that occurs across counties lines each day. For residents of Williamson County, the average commute time is 27.6 minutes. Many people are commuting

both to and from Williamson County daily. Most people commute to and from Davidson County, while many commuters also come from Rutherford, Marion, Wilson and even Sumner counties. Several factors within the built environment of Williamson County affect health, including violence in communities, food access, and air quality. While Williamson County ranks better than the state and nation, with 130 violent crimes/100,000 individuals, it does not rank within the top 10% of counties in the United States (62/100,000).6 Of the 7% of individuals in Williamson County that are food insecure, 12.2% of them are children.<sup>7</sup>

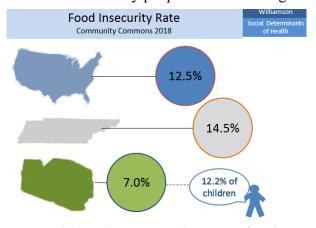


Figure 5. Child Food Insecurity, Feeding America (2018)

Food insecurity includes lack of access to healthy food, which largely contributes to our health and wellbeing. Rates of food insecurity are outlined in Figure 4.

<sup>&</sup>lt;sup>5</sup> Cost burdened can be defined as 30% or more of a monthly household income being spent on housing. <sup>6</sup> Violent crimes can be defined as crimes that involve face-to-face confrontation between the victim and perpetrator, such as homicide, robbery, and aggravated assault.

University of Wisconsin Population Health Institute. (2018). County Health Rankings. Retrieved from http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/county/outcomes/overall/snapshot

<sup>&</sup>lt;sup>7</sup> Feeding America: Map the Meal Gap. (2018). Child *Food Insecurity in The United States*. Retrieved from http://map.feedingamerica.org/county/2016/child

The quality of air can greatly impact health as well. Williamson County has lower air quality than both the state and nation, with a daily average of 10.2 PM2.5.8 Williamson County residents suffer from high rates of pediatric and adult asthma, COPD, and lung cancer, which is illustrated in **Table 3**.9

## **Access to Health Care**

Most people gain entry to the healthcare system through insurance coverage. Though uninsured rates have reached historic lows in Williamson County and across the nation, it is important to note that there are still plenty of

Table 1. Estimates of Lung Disease in Williamson County, American Lung Association (2018)

Estimates of Lung Disease Williamson County 2018				
Pediatric Asthma 5,897				
Adult Asthma	17,552			
COPD 16,276				
Lung Cancer 165				

populations that have no access to insurance. This lack of access can be attributed to costs or various other restrictions, such as immigrant eligibility. The populations most at risk for not having insurance are low income adults and minorities. Six percent of Williamson County residents are uninsured, falling right within the top 10% of counties in the United States. However, access to care depends on both insurance status and provider availability. Williamson County ranks much better than the state when it comes to the availability of primary care physicians. In fact, it ranks within the top 10% of all counties. The number of mental health care providers is not among the U.S. top 10%, however.

Table 2. Ratios of providers to population in Williamson County

	Williamson	TN	U.S. Top 10
Primary Care	670 : 1	1,380 : 1	1,030 : 1
Dental Care	1,310 : 1	1,890 : 1	1,280 : 1
Mental Health Care	700 : 1	740 : 1	330:1

<sup>&</sup>lt;sup>8</sup> University of Wisconsin Population Health Institute. (2018). *County Health Rankings*. Retrieved from <a href="http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/county/outcomes/overall/snapshot">http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/county/outcomes/overall/snapshot</a>

<sup>&</sup>lt;sup>9</sup> American Lung Association. (2018). *Tennessee: Williamson*. Retrieved from <a href="https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/states/tennessee/williamson.html">https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/states/tennessee/williamson.html</a>

County Health Rankings & Roadmaps. (2018). Williamson: Health Outcomes. Retrieved from <a href="http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/county/outcomes/overall/snapshot">http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/county/outcomes/overall/snapshot</a>
 County Health Rankings & Roadmaps. (2018). Williamson: Health Outcomes. Retrieved from <a href="http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/county/outcomes/overall/snapshot">http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/county/outcomes/overall/snapshot</a>

## **Health Status**

## Morbidity/Mortality

As advances in public health and medicine have continually developed over the last century, the top causes of death have shifted. An array of infectious diseases, such as influenza, pneumonia, and tuberculosis, remained the leading causes of death for much of the early 1900's. However, advances in public health such as vaccination development and implementation eventually allowed rates of chronic illnesses to begin surpassing rates of infectious diseases and the United States began to see a surge in rates of chronic diseases like heart disease, cancer, and stroke. These national trends are consistent with the leading causes of death in Williamson County, shown in **Figure 5**, as cancer and heart disease account for nearly 45% of the percentage of total deaths from 2016. Additional causes of death include Alzheimer's disease (7.8%), Accidents (6.8%), Stroke (5.3%), Lung Disease (4.9%), Suicide (2.4%), Diabetes (2.2%), Influenza (1.9%), and Kidney Disease (1.4%).

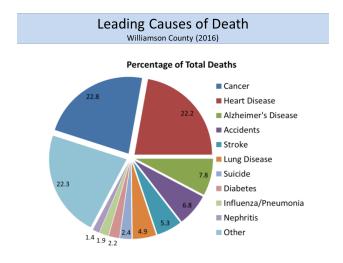


Figure 6. Percentages of deaths in Williamson County, CDC (2018)

<sup>&</sup>lt;sup>12</sup> **Source**: Centers for Disease Control and Prevention. (2018). National Vital Statistics System: Mortality Tables. Retrieved November 2018 from <a href="https://www.cdc.gov/nchs/nvss/mortality-tables.htm">https://www.cdc.gov/nchs/nvss/mortality-tables.htm</a>

<sup>&</sup>lt;sup>13</sup> **Source**: Centers for Disease Control and Prevention: CDC Wonder. (2018). *CDC Wonder*. Retrieved May 2018 from https://wonder.cdc.gov/

#### Cancer

As previously mentioned, cancer is the leading cause of death in Williamson County. The death rates of various cancer types between 2011 and 2015 are outlined in **Figure 6**, which compares rates in Williamson County to Tennessee. Breast cancer tops the list of total deaths in both geographical regions, followed by rates of prostate, lung, colorectal, and melanoma cancer. Deaths associated with prostate, breast, and skin cancer are occurring at a much higher rate in Williamson County than the state, yet rates of lung and colorectal cancer are higher in Tennessee. This discrepancy is likely due to the different

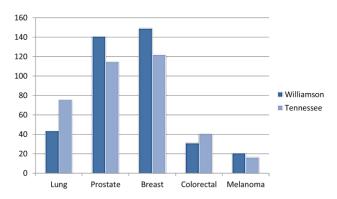


Figure 7. Rates of cancer deaths by diagnosis 2011-2015, CDC (2018)

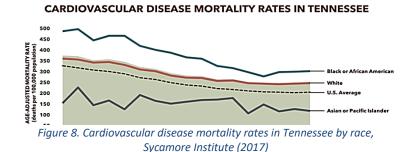
environmental and societal components that Williamson County residents are exposed to. Along with these geographic inconsistencies, racial and gender disparities are often extremely prominent. In addition to looking at racial and gender discrepancies, it is important to identify which types of cancers are affecting which age groups at higher rates. For example, studies indicate that lung cancer has been the leading cause of cancer deaths in Williamson County for adults aging from 45 to 74. This trend has remained consistent since the late 1990's, suggesting that the majority of Williamson County's residents are not being diagnosed with lung cancer until the disease has progressed into late stages. The CDC, along with many other public health agencies, are making important strides to improve the early detection of cancer and implement community-based interventions to reduce risky health behaviors.

#### Heart Disease

According to the CDC, more than 630,000 Americans die each year from heart disease,

making it the leading cause of death in both men and women nationwide. In addition to genetic risk factors, unhealthy behavior is most often the culprit for increasing the risk of heart disease.

Despite the general decline in heart disease rates that we have seen over the years, heart disease remains the second leading cause of death in



Williamson County. These rates likely allude to the unhealthy lifestyles that many Williamson County residents are living. Heart disease rates in Tennessee have disproportionately affected certain racial demographics at a higher rate for years. **Figure 7** shows racial and geographic

disparities in deaths from cardiovascular disease in Tennessee. Similar to many other risk

<sup>&</sup>lt;sup>14</sup> Source: Institute for Health Metrics and Evaluation (IHME), US County Profile: Williamson County, Tennessee. Seattle, WA: IHME, (2016). *IHME*. Retrieved May 2019 from <a href="http://www.healthdata.org/sites/default/files/files/county\_profiles/US/2015/County\_Report\_Williamson\_County\_Tennessee.pdf">http://www.healthdata.org/sites/default/files/files/county\_profiles/US/2015/County\_Report\_Williamson\_County\_Tennessee.pdf</a>

indicators, the burden of cardiovascular disease falls heaviest on African American populations.<sup>15</sup> These populations have consistently had the highest rates of heart disease mortality in Tennessee throughout the years. Additionally, the state averages for both white and black populations are higher than the national average. Continuing to employ more prevention-based models of care that reach all ages, races, and genders could have a tremendous impact on decreasing the national, state, and local trends of heart disease.

## Alzheimer's Disease

Tennessee has surpassed the national average in Alzheimer's disease death rates. In fact, Tennessee ranks seventh in the United States in total numbers of Alzheimer's deaths. Specific to Williamson County, Alzheimer's disease is noted as the third leading cause of death, with 114 deaths in 2016 alone. Figure 8 compares Tennessee's total Medicaid cost for beneficiaries with Alzheimer's disease to the cost per capita in the United States, Nevada, and North Dakota. <sup>16</sup> This comparison places

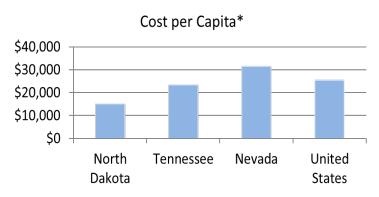


Figure 9. Cost of Alzheimer's disease per capita, Alzheimer's Association (2018)

Tennessee just below the national cost per capita, indicating the rising financial impact of this disease.

#### **Unintentional Injuries**

Unintentional injuries, or "accidents", have become the third leading cause of death in the United States. This reality calls for a deeper analysis to determine what types of injuries are most commonly resulting in deaths and how to prevent them. The CDC recognizes unintentional poisoning deaths as having resulted in the highest number of accidental deaths in 2016, followed by motor vehicle traffic deaths and deaths from unintentional falls. When looking at motor vehicle traffic deaths in Williamson County, it was noted that

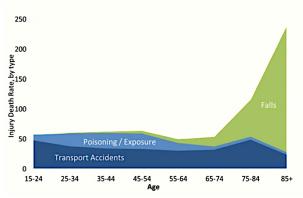


Figure 10. Accidental death rate of Tennessee males by age and type, (2013)

alcohol-impaired driving deaths accounted for 23%. The United States unintentional injury death rate in 2018 is 55 per 100,000 people. This number is in between the rates reported in Tennessee

<sup>&</sup>lt;sup>15</sup> **Source:** The Sycamore Institute. (2017). *Cardiovascular Disease Mortality Rates in Tennessee by Courtney Melton*. Retrieved from <a href="https://www.sycamoreinstitutetn.org/2017/07/11/cardiovascular-disease-mortality-rates-in-tennessee/">https://www.sycamoreinstitutetn.org/2017/07/11/cardiovascular-disease-mortality-rates-in-tennessee/</a>

<sup>&</sup>lt;sup>16</sup> **Source**: Alzheimer's Association. (2018) *2018 Alzheimer's disease facts and figures*. Retrieved from <a href="https://www.alzheimersanddementia.com/article/S1552-5260(18)30041-4/fulltext">https://www.alzheimersanddementia.com/article/S1552-5260(18)30041-4/fulltext</a>

and Williamson County, with these totals being 83 and 50, respectively.<sup>17</sup> A discrepancy exists among rates of males and females in Williamson County, as males are more than twice as likely as females to die from unintentional injuries, which is similar to national and state data. **Figure 9** shows the injury death rate by age and type in Tennessee males from 2013.

## Suicide

Williamson County prioritized the need to improve access to mental health services and

treatment, in hopes of decreasing the climbing rates of suicide reported over the last few years. **Figure 10** illustrates the total number of suicide-related deaths from 2015, the rate at which they occurred, and the age groups with the highest amounts of suicide in Tennessee. According to the Tennessee Suicide Prevention Network, white males between the ages of 45 and 64 have the highest suicide rate in Tennessee. Despite the high quality of life that is self-reported in Williamson County, residents still suffer from suicide risk factors, including excessive alcohol use, substance

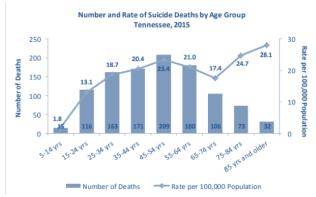


Figure 11. Number and rate of suicide deaths by age group in Tennessee, TN Suicide Prevention Network (2017)

abuse, and mental health issues. While demographic data for suicide in Williamson County are limited, we do know that Williamson County reported 28 suicide deaths in 2018. In addition, law enforcement agencies answered nearly 400 suicide-related phone calls.

#### **Birth Outcomes**

#### **Infant Mortality**

Through advances in medicine, rates of infant mortality in the United States have decreased dramatically since 1915. Over the last century, the infant mortality has dropped nearly 95% for both white and African Americans. Though both racial populations have experienced a decrease in rates, racial disparity has continuously existed between the two demographics over the years. In 1915, roughly 1 in every 10 white infants died, with rates for African American infants being twice as much. Today, we see nearly 1 in 200 deaths for white babies, yet we are still losing twice as many



Figure 12. Infant mortality comparison, TN Dept of Health (2017)

<sup>&</sup>lt;sup>17</sup> **Source**: County Health Rankings & Roadmaps. (2018). *Williamson: Health Outcomes*. Retrieved from <a href="http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/county/outcomes/overall/snapshot">http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/county/outcomes/overall/snapshot</a>
<sup>18</sup> **Source**: Tennessee Suicide Prevention Network. (2017). *Status of Suicide in Tennessee*. Retrieved from <a href="http://tspn.org/wp-content/uploads/2014/01/SOST17-Penultimate.pdf">http://tspn.org/wp-content/uploads/2014/01/SOST17-Penultimate.pdf</a>

African American babies nationwide. In fact, the relative disparity in outcomes is higher than it was 100 years ago. <sup>19</sup>Due to the limited data in Williamson County, we do not have county level infant mortality data to illustrate the racial disparity among the county's infant mortality rates. However, enough data exist to analyze how the rates in Williamson County compare to the national and state level numbers. **Figure 11** shows Williamson County having an infant mortality rate of 4% in 2017. Williamson County's rates are significantly lower than the rates in Tennessee and the United States, calculated at 7.4 and 5.8, respectively. <sup>20</sup> Behind birth defects, the leading causes of infant death are low and very-low birth weight. Williamson County is doing relatively well in this category of other birth outcomes as the percent for very low and low birthweight statistics meet the Healthy People 2020 goals of 1.4 and 7.8, respectively. However, a distinct disparity still exists between African American and white babies. For example, African American babies made up 20 percent of all births in 2016, yet accounted for 33% of total infant deaths.

#### **Teen Birth Rates**

Improvements in sex education and increased knowledge of preventative birth measures have coincided since the 1990's. Because of this, teen birth rates are declining rapidly in the

United States, with the sharpest decline taking place among black and Hispanic females. However, these groups still see have higher rates of teen birth when compared to whites and the total population. While teen birth rates in the United States have been declining, Williamson County reports show a large disparity with teens of color having a teen birth rate of 13.3 per 1,000 in 2017 and whites teens having a birth rate of 1.1 per 1,000.<sup>21</sup> Figure 12 shows rates among African American teens skyrocketing between 2016 and 2017, yet white teens experienced a steady decline. There are a multitude of reasons why this disparity exists, but it is often a result of differing social determinants of health and socioeconomic status.

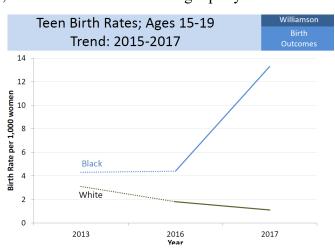


Figure 13. Teen births by race in Williamson Annie E. Casey
Foundation KIDS COUNT. (2017)

<sup>&</sup>lt;sup>19</sup> **Source:** Centers for Disease Control/National Center for Health Statistics. (2017). *Infant Health*. Retrieved from https://www.cdc.gov/nchs/fastats/infant-health.htm

**Source:** Kids Count Data Center. (2018). *Infant mortality by race in the United States*. Retrieved from <a href="https://datacenter\_kidscount.org/data/tables/21-infant-mortality-by-race#detailed/1/any/false/870,573,869,36,868,867,133">https://datacenter\_kidscount.org/data/tables/21-infant-mortality-by-race#detailed/1/any/false/870,573,869,36,868,867,133</a> ,38,35,18/10,11,9,12,1,13/285,284

<sup>&</sup>lt;sup>20</sup> **Source:** TN Dept of Health. (2017). *Number of Infant Deaths with Rates per 1,000 births, by race of mother*. Retrieved from <a href="https://www.tn.gov/content/dam/tn/health/documents/TN\_Infant\_Mortality\_Rates\_-2016.pdf">https://www.tn.gov/content/dam/tn/health/documents/TN\_Infant\_Mortality\_Rates\_-2016.pdf</a>

**Source:** Central Intelligence Agency World Factbook. (n.d.). *Country Comparison: Infant Mortality Rate.* Retrieved from <a href="https://www.cia.gov/library/publications/the-world-factbook/rankorder/2091rank.html">https://www.cia.gov/library/publications/the-world-factbook/rankorder/2091rank.html</a>
<sup>21</sup> **Source:** Annie E. Casey Foundation KIDS COUNT. (2017). *Teen births by race in Williamson*. Retrieved from <a href="https://datacenter.kidscount.org/data/tables/9372-teen-births-by-race?loc=44&loct=5#detailed/5/6513/false/871,870,573/107,133/18496">https://datacenter.kidscount.org/data/tables/9372-teen-births-by-race?loc=44&loct=5#detailed/5/6513/false/871,870,573/107,133/18496</a>

#### **Preventative Care / Behavioral Risk Factors**

The behaviors in which we choose to participate play a large role in our health outcomes and overall health status. It is essential to employ preventative methods in order to reach sustainable health and wellness in our communities. Oftentimes, the "health" of an individual is self-defined and subjective. Williamson County ranks within the top 10% of U.S. counties when it comes to selfreported health, with 12% of adults in the county reporting their health status as "poor" or "fair." <sup>22</sup> Healthy People 2020 determined a goal that only 12% of residents in any area use tobacco products. <sup>23</sup> The prevention of individuals using smoking tobacco is important because of the negative health consequences of such behavior. Unfortunately, in 2016, 15% of adults in Williamson County reported using or smoking tobacco. While this is better than the state and the nation, there is still a lot of work to do in the county to further prevent the use of tobacco products.<sup>24</sup> One of the most

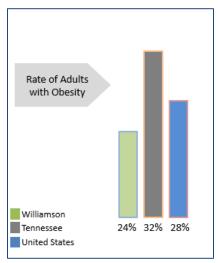


Figure 14. Comparative rates of adults with obesity, County Health Rankings (2018)

problematic and negative health behaviors in Williamson County is the excessive drinking. Approximately 17% of adults in the county report excessively drinking while only 14% of adults in the state of Tennessee report excessive drinking. The state of Tennessee had recommended a reduction in binge drinking in order to curb this disparity in the county.<sup>25</sup>

While obesity continues to be a pressing issue across the state of Tennessee, Williamson County has much lower rates than the state and nation when it comes to this issue, as seen in **Figure 13**. These lower obesity rates could be attributed to the adults in Williamson County generally being much less sedentary than adults across the state, with 20.8% of adults in Williamson County reporting themselves as inactive. The state of Tennessee reports 30.1% of individuals as inactive.

One of the largest preventative measures that society uses today is a vaccination. While vaccination rates are high, there is a large disparity that exists in 24-month vaccinations between white and African American children. 64.8% of African American children in Tennessee received their 24-month vaccinations on time, while 75.1% of white children received theirs on time. <sup>26</sup>

<sup>&</sup>lt;sup>23</sup> Healthy People 2020. (2014). *Tobacco*. Retrieved from <a href="https://www.healthypeople.gov/sites/default/files/HP2020">https://www.healthypeople.gov/sites/default/files/HP2020</a> LHI Tobacco 0.pdf

<sup>&</sup>lt;sup>24</sup> University of Wisconsin Population Health Institute. (2018). *County Health Rankings*. Retrieved from <a href="http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/countyhoutcomes/overall/snapshot">http://www.countyhealthrankings.org/app/tennessee/2018/rankings/williamson/countyhoutcomes/overall/snapshot</a>

<sup>&</sup>lt;sup>25</sup> Tennessee Department of Health. (2015). *Drive Your County to the Top Ten: Accelerating Action Towards Improving County Health*. Retrieved from <a href="https://www.tn.gov/content/dam/tn/health/documents/2015">https://www.tn.gov/content/dam/tn/health/documents/2015</a> Drive Your County to the Top Ten.pdf

<sup>26</sup> Tennessee Department of Health. (2016). *Results of the 2016 Immunization Status Survey of 24 Month Old Children in Tennessee*. Retrieved from <a href="https://www.tn.gov/content/dam/tn/health/documents/ImmunizationSurvey2016.pdf">https://www.tn.gov/content/dam/tn/health/documents/ImmunizationSurvey2016.pdf</a>

## Mental and Emotional Health

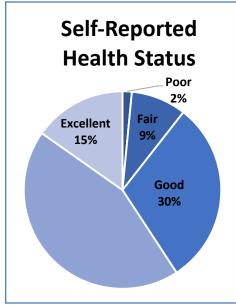


Figure 15. Self-reported health status, Williamson County Community Survey (2018)

"Evidence has shown that mental disorders are strongly related to [chronic diseases] and many risky behaviors that lead to chronic disease such as physical inactivity, smoking, excessive drinking and insufficient sleep." <sup>27</sup> Therefore, the mental health of an individual plays a very crucial role in their health and health outcomes. For this reason, it is important to not only consider the physical health of one, but also their mental and emotional health. Adults in Williamson County report 3.8 days per month of having poor mental health. While reports of poor mental health days are rather low, data highlight the lack of mental health services for those that need it the most. In the state of Tennessee, 56.8% of patients suffering a serious mental illness were not able to access the proper mental health services that they needed.<sup>28</sup> It is important to increase access and affordability of care for these individuals, in order to reduce the number of negative behaviors and outcomes.

<sup>&</sup>lt;sup>27</sup> Centers for Disease Control Mental Health Basics

<sup>&</sup>lt;sup>28</sup> Substance Abuse and Mental Health Services Administration. (2015). *Behavioral Health Barometer: Tennessee*. Retrieved from https://www.samhsa.gov/data/sites/default/files/2015 Tennessee BHBarometer.pdf

# Primary Data Results

## Williamson County Community Survey Description and Themes

A community survey was distributed throughout Williamson County focused on the

health status and needs of Williamson County residents. The overall themes from the survey will inform the Williamson County Health Department's Community Health Improvement Plan (CHIP). The community survey can be found through the link provided on the Community Health Improvement website.

The survey consisted of 63 open-ended and close-ended questions that focused on community assets, issues and concerns, and future goals for the community. Questions were created

"A mismatch between *affluenza* and not enough resources for less affluent children"

- Community Survey Respondent

using the domains of the needs prioritized in the 2016 CHNA and with feedback from the CHAAC. Many of the questions were adapted from the Behavioral Risk Factor Surveillance System (BRFSS). The survey was piloted to test for timing and accuracy and translated into Spanish for Spanish speakers. The survey was distributed through the health system networks, community networks, and schools. The data were entered in REDCap and exported into Excel for analysis. Thematic analysis was conducted for the open-ended questions using a team of four reviewers.

This survey accumulated over 1,000 responses from Williamson County residents. The majority of respondents were female and retired with an age of 55 or more. Most individuals were college graduates or higher. A quarter were Veterans or lived with a Veteran. The most prevalent zip codes were from Franklin, Brentwood, and Cool Springs, and a third of respondents had a household income of less than \$75,000.

When asked about their general health, over half of respondents noted their health to be "very good" (44%) or "excellent" (15%), and 11% described their health as "poor" or "fair". Most individuals have exercised in the previous month (85%) and have seen a doctor in the last year (88%) or two years (95%). Only 5% of respondents currently use tobacco or e-cigarettes.

Participants were asked about experiences of stress in the last two weeks, to which about a third of responses were "none" (29%) or "a little" (33%). About a quarter of individuals noted they have been stressed some of the time (23%) within the last two weeks, and 10% answered they have been stressed most of the time or all of the time. When asked how many days each respondent has felt sad, blue, or depressed within the last 30 days, most respondents answered 0-2 days (72%), while 12% of people reported feeling sad for 7-30 of the last 30 days.

About a quarter of respondents had a child under the age of 18 in the house. Of that number, most individuals had one child (44%) or two children (39%) in the house. Most respondents reported they are *always* able to take their children to a doctor when needed.

When asked how satisfied individuals are with their care, the majority reported being "very satisfied" (72%) or "somewhat satisfied" (26%). Nearly all of respondents were insured with about half using employer-based insurance and a third using Medicare. Additionally, one in eleven people noted they could not see a doctor because of cost at some point in the last year.

Participants were then asked about mental health and substance abuse, to which most people agreed or strongly agreed that mental illness (92%), alcohol abuse (92%), and drug use and abuse (94%) are problems in their county. The next question asked whether there are accessible, affordable resources for people in their county. About half of individuals agreed and half disagreed that there are accessible, affordable resources for people who need mental health services. Additionally, more than half of respondents agreed there are accessible, affordable resources for people who want to stop using drugs or alcohol.

When asked whether individuals have the ability to meet basic needs such as food, clothing, housing, and medication, most individuals recorded having the ability to meet basic needs both for their families (97%) and for themselves (97%). In response to questions about resources available in their community, most people agreed there are accessible resources to address domestic violence (76%) and accessible, affordable healthy food available to all (68%).

However, most individuals disagreed that there is affordable, accessible housing available in their community (77%). For whether transportation in their county is safe, affordable, and accessible to everyone, half of the respondents agreed and half of them disagreed.

For the open-ended questions, when asked what the most important health issues for children are, the primary concerns included stress and mental health, nutrition, bullying and abuse, and substance abuse. Substance abuse included drugs, tobacco, and e-cigarettes. One respondent noted "a mismatch between *affluenza* and not enough resources for less affluent children." The next question was whether there are other important issues related to healthcare access, insurance, or the health system. The main concerns were cost and access for the uninsured, quality of care, and appointment availability, with one individual stating, "as a woman, not being taken seriously is still a problem." When asked what characteristics make a health community for all, the most prevalent responses were parks and greenspaces, safety, and healthcare. There were many calls to action, and topics to focus on include healthcare and mental health.

In summary, themes in Williamson County from the community survey include mental health, substance abuse, and housing accessibility. The majority of respondents indicated there are accessible resources in Williamson County.

# Williamson County Community Listening Session Description and Themes

To understand community members' opinions of health needs and assets within counties, thirteen listening sessions were held across the community. The community listening session guide can be found through the link on the Community Health Improvement website. VUMC and Saint Thomas Health provided gift cards to listening session participants.

The moderator's guide for the listening sessions covered topics such as community assets and issues, health and healthcare issues, priority actions, and barriers to addressing issues. A brief self-administered survey was used to obtain participant demographic information. Thematic analysis of listening session data was done using a team of four reviewers from Saint Thomas Health and VUMC. The survey data were entered into REDCap and exported into Microsoft Excel for analysis.

Listening sessions were conducted in Williamson County in collaboration with the Williamson County Health Department and other community stakeholders. One listening session was held at the Williamson County Health Department with recruitment by Better Options TN. Additional listening sessions were held at Mercy Clinic and Fairview Branch of Williamson

County Public Library. A total of 25 participants participated in the three sessions. The themes that come from these sessions will inform the Community Health Improvement Plan (CHIP) and Implementation Strategy for Williamson County Health Department and VUMC.

Most participants were female and spoke English as their primary language. About half of the 25 total respondents were Hispanic or Latino (44%) and half were white (56%). A majority of individuals were commercially insured and about a third were uninsured.

When asked what the community's strongest assets are, the primary responses included the education system, welcoming attitudes, and faith-based/other community resources. Safety and job opportunities were also mentioned as assets. The next question addressed the biggest concerns about the community, to which the main responses were child development and care, affluenza, teen stress and homelessness, affordable housing, senior care, and an overworked population.

"There is no time for your kids, much less for your health" – Listening Session Participant

Other key concerns include domestic violence, mental health, bullying, and racism. One respondent noted, "There is no time for your kids, much less your health."

Participants were then asked to discuss the kinds of obstacles that arise when addressing these issues. The top responses included stigma, awareness of problems and resources, and a lack community involvement in politics. The final question asked, "If you had a magic wand, what top health initiatives would you implement in your community in the next three years?" The primary responses were women's mental health, domestic violence, technology and education, and addressing language barriers with an emphasis on health literacy.

In summary, the main concerns from the Williamson County listening sessions included women's health and safety, mental health, care for children, affordable housing, and stigma. The welcoming atmosphere in Williamson County was consistently mentioned as an asset to the community.

# Williamson County Key Informant Interview Description and Themes

In collaboration with Saint Thomas Health and the Community Advisory Groups, VUMC identified leaders from public health, government, education, the faith community, private foundations, community organizations, and academia, among others as interviewees. Interviewees were selected based on their understanding of the broad interests of the community and underserved populations. Interviewees were health department directors from the community served, community physicians, public health researchers, and community-based organizations that have special knowledge and expertise in public health. Interview data were entered into REDCap by VUMC and Saint Thomas Health staff, as well as graduate students from the graduate public health programs at Vanderbilt University's Institute for Medicine and Public Health. Thematic analyses were conducted by reviewers from VUMC, Saint Thomas Health, and the county health departments. The interview guide can be found through the link provided on the Community Health Improvement website.

Interviews were conducted in Williamson County with 19 community representatives and leaders particularly who serve low-income, minority or underserved populations. The emphasis of the interviews was on the broad interests of the community. A variety of sectors were

represented including public health, government/public sector, health care, education, faith community, private non-profits, academia, and business. Interviews were conducted in pairs with an interviewer and a recorder, and all questions were open-ended. Topics focused on community assets, issues and concerns, obstacles to addressing concerns, and priorities. Data from the interviews were then submitted into REDCap, and teams of two reviewers conducted a thematic analysis. These themes were used to inform the CHIP for Williamson County Health Department.

"It is easy to get lost in the idea of being highly raised and forget about disadvantaged and marginalized groups" – *Interviewee* 

The first question asked the 19 total interviewees about the community's strongest assets. The primary responses were the small-town culture, parks, economy, education, and safety. Participants were also asked about the biggest concerns in their community. The top responses included mental health and substance abuse for adults and teens, affordable housing, and transportation.

When asked about the obstacles to addressing these concerns, interviewees expressed issues with awareness and education, difficulty serving specific sub-populations, and stigma surrounding different cultures.

Interviewees were asked, "If you had a magic wand, what top initiatives would you implement in your community in the next three years?" The main responses were housing, mental health and substance abuse, and resources "for all." One interviewee stated, "Guidance counselors are not mental health counselors, and most kids need someone to talk to."

Overall, Williamson County interview themes related to affordable housing, mental health, and substance abuse. The small-town culture and parks were commonly recognized assets to Williamson County.

# Identifying and Prioritizing Needs

## **Community Summits**

Results of the community interviews, community listening sessions, and secondary data analysis were presented at the Williamson County Community Health Summits. Summit invitees included participants in interviews and community listening sessions, as well as community members with expertise in public health or who work with medically under-served, minority, or low-income populations. Leadership from VUMC, Williamson County Health Department, and other community stakeholders were also present.

The purpose of the summits was to solicit input and take into account the broad interests of the community in identifying and prioritizing the community's health needs. The summit was facilitated by VUMC and Williamson County Health Department.

After presenting primary and secondary data gathered during the assessment on a number of issues, summit attendees provided input into prioritizing the most important health needs within the community. Each individual selected between one and three health issues and then discussed these needs with their tablemates. Each group consolidated the needs into three health need buckets. These buckets were then entered into the REDCap system, and all participants voted on their top three priorities via REDCap. The four health needs with the greatest number of votes were selected as the prioritized health needs.

Following the prioritization of needs, participants in each county provided further insight regarding each prioritized need by working in groups to answer the following questions; "Who is already working on this issue?"; "What are potential goals related to the issue?"; "After three years, what does success look like regarding this issues?"; and "Which population(s) are most affected by this need or problem?" The resulting prioritized needs are summatized below.

# **Summary of Prioritized Needs: Williamson County**

The prioritized needs for Williamson County are:

- Substance Abuse
- Mental Health/Suicide Prevention
- Health Education & Prevention/Resource Availability
- Affordable Housing

## Substance Abuse - Summary

Williamson County's substance abuse problem is in dire need of being addressed. All methods of data collection highlighted the urgency for Williamson County to address the substance abuse issues that the community is facing. Substance abuse was a prioritized need in the 2016 CHNA and continues to be one of the most important health needs to address in the community. All socioeconomic categories and age groups are affected by substance abuse in this county. Opioid use and related deaths, lack of mental health care services, and high rates of alcohol abuse, binge drinking, and drug use were highlighted as especially problematic.

Primary data collection revealed that 92% of adult respondents agreed or strongly agreed that alcohol abuse is a problem in their county, while 94% of respondents said that drug use and abuse are a problem in the county. When asked, youth noted drug abuse to be a larger issue than alcohol use in the county.

# State Drinking Recommendation In Williamson County

"Get 77 out of every 100
adults who currently drink in
excess to stop drinking more
than one(women) or
two(men) drinks per day, on
average"

-Tennessee Department of Health

When asked if there were resources in the county for those who wanted to quit using alcohol or drugs, only 63% of respondents thought that the proper resources were available for these individuals. Secondary data show that excessive or binge drinking is very problematic in the county; 17% of adults admit to binge drinking, compared to 14% of adults in Tennessee. This is so problematic that the state has provided a recommendation for the county to help curb the issue, which is outlined in the quote above.

During the prioritization process at the summit, conversations surrounding substance abuse noted the overall issues as being access to treatment, use of tobacco and E-cigarettes, drug abuse, alcohol abuse, excessive drinking, and the lack of education and preventative measures. Participants also highlighted the populations that are most affected by these issues, how to achieve success within the next three years, and who should be involved in the improvement process. As mentioned, this issue affects everyone, from the youth to older adults, as well as other at-risk populations. In three years, participants would like to see a decrease in dependency of substances, increased education to the public about substance use and abuse, and a decrease in drug-related deaths. It was highlighted that there needs to be more education in order to prevent substance abuse and there needs to be increased access to substance abuse treatment.

#### Mental Health/Suicide Prevention - Summary

Mental Health and Suicide Prevention were highlighted as key issues that residents of Williamson County face, and as an area that should be prioritized. Primary data especially highlighted the need for these issues to be addressed. Notably, this issue was prioritized in Williamson County in 2016, however, community members feel like there is still a lot of work to be done related to the issue.

Multiple data sources highlight the lack of access to mental health services in the county. County Health Rankings data state that for every 700 people in the county, there is one mental health provider. This is far below the top 10% of counties in the United States (330 people per one mental

If you had a magic wand...?

Increase mental health
resources
"Guidance counselors are not
mental health counselors.
Most kids need someone to

talk to"

health provider). While not specific to the county data, secondary data show that only 43% of individuals suffering from a serious mental illness were able to receive the proper mental health services in Tennessee. The need for mental health services was also highlighted in interviews with community members when asked what they would do if they had a magic wand. Nearly 50% of survey respondents did not think that there are *accessible*, *affordable resources for people in the county* who need mental health services. Furthermore, when asked if mental illnesses are a problem in their county, 92% of respondents either agreed or strongly agreed with the statement. Suicide was one of the leading causes of death in Williamson County in 2016, according to the Centers for Disease Control and Prevention.

During the prioritization process, summit participants emphasized the importance of educating the community on mental health. They also discussed issues revolving around the access to mental health services, the affordability of services, wellness and prevention, and the high suicide rates among middle-aged males in Williamson County. In the next three years, participants hope to see an increase in education regarding bullying and the effects of bullying. They also hope to see the addition of a decompression room in schools for kids to go to for alone time, as well as improved education about mental health and signs of suicide ideation.

#### Health Education & Prevention - Summary

This priority highlights the need to educate the community on the health issues that exist in the county, preventing health-related complications, and increasing resource accessibility for individuals who need them. It was stressed that vulnerable populations in Williamson County often do not have access to the resources and care they need. Other populations that are affected include rural populations, seniors, and young people. However, it is critical that health education and preventative resources and services are utilized by all populations. Summit participants highlighted the need for chronic disease prevention, resource awareness, overall improvement in health education - specifically on stroke, cancer, and heart disease. Some of the goals for the next three years include meeting the healthy people 2020 goals and increasing health literacy. Some additional goals were to create a central resource guide, in addition to increasing the number of transportation options. Some of the organizations that can collaborate on this effort include the American Cancer Society, the health department, WIC clinics, churches, schools, and libraries.

## Housing

While Williamson County continues to be one of the wealthiest counties in the nation, housing continues to be an issue for low income and vulnerable populations due to the costly housing market. People are also concerned about the quality and quantity of houses available for new residents.

During interviews with community representatives, one of the largest concerns for the community was housing. Interviewees highlighted the need to create certain zones that are guaranteed to be affordable. 77% of survey respondents disagreed with the statement "There is affordable and accessible housing available in the county."

During the summit, participants stressed that an increase in housing is a priority. Examples of people most affected by the lack of housing in the county include new residents, low-income individuals and families, and the aging population. When discussing this issue further, participants noted

concerns in your
community?

"People are concerned about
the rising cost of housing.
They are concerned about the

What are your biggest

lack of housing for the growing workforce... and the lack of diverse types of housing, and the ability of people to age in place."

the overall lack of quality housing, issues within the built environment, lack of awareness of the housing issue and how this affects health, and the need to address other health determinants. Over the course of the next three years, Williamson County residents hope to see increased awareness surrounding the great need for housing in the county, construction of more mixed community housing, and the development of an affordable housing plan.

# **Appendices**

**Appendix A: Acknowledgements** 

**Appendix B: Interviewee Demographics** 

**Appendix C: Community Listening Session Demographics** 

**Appendix D: Healthcare & Community Resources** 

**Appendix E: Secondary Data Table** 

# **Appendix A: Acknowledgements**

VUMC's 2019 CHNA and IS reports were completed primarily within the Institute for Medicine and Public Health and were made possible with invaluable contributions from those both within VUMC and from other areas of the community.

We would like to acknowledge the expertise provided by Vanderbilt's Community Health Improvement Working Group, and VUMC's CHNA/IS Advisory Committee. VUMC's CHNA/IS Advisory Committee (listed below), is a group of senior leaders responsible for high-level guidance on the CHNA/IS. A special thanks to the VUMC leadership who attended community health summits: Robert Dittus (Executive Vice President for Public Health and Health Care), Marilyn Dubree (Executive Chief Nursing Officer), Pam Jones (Sr. Associate Dean, Clinical and Community Partnerships), Jameson Norton (Chief Executive Officer of Vanderbilt Behavioral Health), Jeffrey Palmucci (Chief Executive Officer of Vanderbilt Stallworth Rehabilitation Hospital) and David Posch (Executive Vice President for Population Health). We are deeply appreciative of the Community Health Improvement Working Group (listed below) for their time, perspective, energy, and attention to detail. In addition, we would like to thank Abby Palmer from VUMC Finance for her guidance. We would also like to thank Vanderbilt's Office of Community, Neighborhood, and Government Relations for the work they have done on the "Vanderbilt in Tennessee: County by County" report which provided valuable information for this summary.

VUMC's collaborators at Saint Thomas Health were invaluable, and helped to add perspective, experience, and value to both the process and the end product. In particular, we would like to acknowledge the contributions made by Bridget Del Boccio, Liz Malmstrom, and Lindsay Voigt. We hope that the collaboration between the two hospital systems will serve as a springboard for future collaboration and as a model for other hospitals seeking to have a more collaborative process for their CHNAs, Implementation Strategies, and - most importantly – for driving changes in collaborative efforts to improve community health.

Most importantly, this summary would not have been impossible without the participation of individuals in the community who took time out of their busy schedules to participate in face-to-face interviews and/or community listening sessions as well as those who responded to the community surveys. Their feedback and expertise helped us understand the challenging and complex issues facing low-income, minority, and under-served populations in the community.

We would also like to thank participants in each of the three community summits, each of whom took several hours of their valuable time to discuss the assessment, to offer their own perspectives on community health and well-being, and to identify the most important health needs within the community.

In **Williamson County**, we would like to recognize the leadership and support that we received from our community collaborators:

- Williamson County Health Department: Director Cathy Montgomery, Carolina Tabares, and WCHD staff played an essential role in identifying and recruiting participants for listening sessions and interviews.
- Listening Session Host Sites: Fairview Library, Mercy Clinic, and Better Options TN
- Community Health Assessment Advisory Council (CHAAC): Williamson County Mayor's Office, Williamson County Parks & Recreation, UT Extension, Williamson

Medical Center, Chamber of Commerce, Mercy Clinic, Anti-Drug Coalition, Veteran's Affairs, Senior Center, Williamson County Sheriff's Department, and Williamson County School District.

The Implementation Strategy Development Process (ISDP) for LGBTQ Health could not have been completed without the hard work of the VUMC Program for LGBTQ Health staff and their summer interns. Program director Del Ray Zimmerman teamed up with Keanan Gottlieb and Shawn Reilley, as well as a talented group of interns to bring this project together. The interns included: Derek Chen from Stanford University, Angie Deng from John Hopkins Nursing School, Reid Gamble from Kansas City University of Medicine, Tyler Hanlyn from University of North Texas, and Andrew Pregnall from Virginia Tech. We would also like to thank the team at the Brain Injury Association of Tennessee, Angela Pearson and Woodrow Lucas, who helped convene a listening session with Stallworth patients.

We would also like to acknowledge the talented group of interns from across multiple academic institutions who supported the CHNA and IS process. Thanks go to the following: Morgan Batey, Rohini Chakravarthy, Carleigh Frazier, Katie Horneffer, Madeline Gordon, Tamee Livermont from Vanderbilt University, Danielle Epps and Mabya Nyannor from Meharry Medical College, Garvita Thareja from Middle Tennessee State University and Chandler Floyd from Harvard University.

VUMC CHNA/IS Advisory Committee
Christine Bradley
Laura Beth Brown
Robert Dittus
Marilynn Dubree
Pam Jones
Jameson Norton
Jeffrey Palmucci
Scott Phillips
David Posch
David Raiford
Margaret Rush
Paul Sternberg
Consuelo Hopkins Wilkins
Megan Youngblood

VUMC Community Health Improvement Working Group			
Rhonda Ashley-Dixon			
Claudia Barajas			
Leah Branam			

T 10 D 1
Jennifer Burdge
Marcia Colone
Janet Cross
Courtney Declercq
Tonya Elkins
Tracy Glascoe
Callie Hanks
Emily Hansen
Charity Ingersoll
Yvonne Joosten
Stacey Kendrick
Christian Ketel
Cari Lambrecht
Melanie Lutenbacher
Meaghan Lynch
Elise McMillan
Heather Misch
Alicia Moorehead
Amy New
Terrell Smith
Purnima Unni
Luis Vega
Anne Washburn
Sarah Williamson
Morgan Wright
Del Ray Zimmerman

# **Appendix B: Interviewee Demographics**

# Conducted by: Williamson County Health Department, Vanderbilt University Medical Center, and Other Community Organizations

Organization Sector	Organization		
Government	Fairview Mayor's Office		
Education	Williamson County Schools		
Non-profit – Public Health	Franklin Tomorrow		
Government	Fairview Mayor's Office		
Healthcare	Williamson Medical		
Education	Franklin Special School District		
Library	Williamson County Public Library		
Children Health	Coordinated School Health		
Youth	Department of Children's Services		
Veterans	Veterans' Affairs		
Youth - Law Enforcement	Williamson County Juvenile Court		
Public Health	Williamson County Health Department		
Government	Franklin Mayor's Office		
Senior Health	Williamson County Parks & Recreation		
Healthcare	Mercy Clinic		
Substance Abuse	Anti-Drug Coalition		
Housing	Franklin Housing Authority		
Basic Needs – Hispanic	Graceworks		

# **Appendix C: Community Listening Sessions**

Listening Session Site	# of Participants	County	Population Served
Fairview Branch of the	4	Williamson	Rural
Public Library			
Mercy Clinic	12	Williamson	Uninsured/underinsured
Williamson County	9	Williamson	Latino
Health Department			

# **Appendix D: Healthcare & Community Resources**

In addition to the resources listed for each county below, please refer to the resource guides below for Williamson County.

- 211: United Way of Metropolitan Nashville A database of more than 10,000 social, educational and health services
  - Meharry-Vanderbilt Alliance's Faith & Health Resource Guide
    - My Healthcare Home
    - TN Disability Pathfinder
    - Where to Turn in Nashville

Williamson	Prioritized Need: Mental Health and Substance Abuse
County	<u>Healthcare Resources:</u>
County	The Guidance Center-Franklin
	Mercy Behavioral Health
	Tennessee Association of Alcohol, Drug, and Other Addiction Services
	Community Resources:
	Erika's Safe Place
	The Prevention Alliance of Tennessee
	TN Quitline
	Tennessee Suicide Prevention Network
	Williamson County Anti-Drug Coalition
	Refuge Center for Counseling
	Williamson County Juvenile Court
	•

## **Prioritized Need: Mental Health and Substance Abuse**

Healthcare Resources:

The Guidance Center-Franklin

Mercy Behavioral Health

Tennessee Association of Alcohol, Drug, and Other Addiction Services

Community Resources:

Erika's Safe Place

The Prevention Alliance of Tennessee

TN Quitline

Tennessee Suicide Prevention Network

Williamson County Anti-Drug Coalition

Refuge Center for Counseling

Williamson County Juvenile Court

## **Prioritized Health Need: Access to Resources and Services**

Healthcare Resources:

Graceworks Health Clinic

Mercy Community Healthcare

ProHealth Rural Health Services

Williamson Medical Center

Graceworks Health Clinic,

Franklin Clinic

**Community Resources:** 

Williamson County Health Department

Workforce Essentials American Job Center

## **Prioritized Health Need: Prevention and Education**

Community Resources:

Boys and Girls Club of Williamson County

STARS-Student Assistance Program

D.A.R.E.

United Way of Williamson County

# **Appendix E: Secondary Data Tables**

# Demographics

Indicator	Williamson	TN	USA
Demographics	vv mamson		USIX
Population	Williamson	TN	USA
Land area in square miles, 2017	582.60	41,234.90	3,531,905.43
Population 2017 estimate	226,257	6,715,984	325,719,178
Percent of States/Countries Population in County/State	3.37%	2.06%	
Population density, persons per square mile, 2017	314.40	153.90	87.40
Population, percent change - April 1, 2010 to <u>July 1, 2017</u>	23.50%	5.80%	5.5
Population growth special population—elderly 2017-2030 (percent change)	128%	37%	31%
Projected population 2030	295,235	7,390,535	373,504,000
Population growth 2017-2030 (percent change)	32%	10%	20%
Population growth 2010-2040 (percent change)	161%	34%	24.10%
<u>Urban-Rural Population mix - Percent Urban</u>	80.61%	66.39%	80.89%
<u>Urban-Rural mix - Percent Rural</u>	19.39%	33.61%	19.11%
Gender	Williamson	TN	USA
Female persons, percent, 2013	51.10%	51.20%	50.8
Special Populations	Williamson	TN	USA
% Veterans (of total population age 18 and older)	6.6%	9.0%	8.0%
<u>older j</u>	0.070	7.070	0.070
Population with Any Disability, percent	7.1%	15.4%	12.5%
Population with Any Disability, percent	7.1%	15.4%	12.5%
Population with Any Disability, percent  Foreign born persons, percent, 2012-2016	7.1% 6.8%	15.4% 4.8%	12.5% 13.2%
Population with Any Disability, percent  Foreign born persons, percent, 2012-2016  Age	7.1% 6.8% <b>Williamson</b>	15.4% 4.8% TN	12.5% 13.2% <b>USA</b>
Population with Any Disability, percent  Foreign born persons, percent, 2012-2016  Age  Median age, years	7.1% 6.8% Williamson 39	15.4% 4.8% TN 38.5	12.5% 13.2% <b>USA</b> 37.7
Population with Any Disability, percent  Foreign born persons, percent, 2012-2016  Age  Median age, years  Persons under 5 years, percent, 2017	7.1% 6.8% Williamson 39 6.0%	15.4% 4.8% TN 38.5 6.1%	12.5% 13.2% <b>USA</b> 37.7 6.2%
Population with Any Disability, percent  Foreign born persons, percent, 2012-2016  Age  Median age, years  Persons under 5 years, percent, 2017  Persons under 18 years, percent, 2017	7.1% 6.8% Williamson 39 6.0% 27.6%	15.4% 4.8% TN 38.5 6.1% 22.6%	12.5% 13.2% <b>USA</b> 37.7 6.2% 22.8%
Population with Any Disability, percent  Foreign born persons, percent, 2012-2016  Age  Median age, years  Persons under 5 years, percent, 2017  Persons under 18 years, percent, 2017  Persons 65 years and over, percent, 2017	7.1% 6.8% Williamson 39 6.0% 27.6% 12.5%	15.4% 4.8% TN 38.5 6.1% 22.6% 15.7%	12.5% 13.2% USA 37.7 6.2% 22.8% 15.2%
Population with Any Disability, percent  Foreign born persons, percent, 2012-2016  Age  Median age, years  Persons under 5 years, percent, 2017  Persons under 18 years, percent, 2017  Persons 65 years and over, percent, 2017  Race/Ethnicity	7.1% 6.8% Williamson 39 6.0% 27.6% 12.5% Williamson	15.4% 4.8% TN 38.5 6.1% 22.6% 15.7% TN	12.5% 13.2% USA 37.7 6.2% 22.8% 15.2% USA

Asian alone, percent, 2017 (a)	4.2%	1.8%	5.7%
Native Hawaiian and Other Pacific Islander alone, %,2017a	0.1%	0.1%	0.2%
Two or More Races, percent, 2017	1.6%	1.9%	2.6%
Hispanic or Latino, percent, 2017 (b)	4.6%	5.2%	17.8%
White alone, not Hispanic or Latino, percent, 2017	85.3%	74.2%	61.3%
Language other than English spoken at home, pct. age 5+, 2012-2016	7.9%	6.8%	21.1%
Educational Attainment	Williamson	TN	USA
Percent Population Age 25+ with No High School Diploma, 2012-2016	4.42%	14.02%	13.02%
<u>- White</u>	4.17%	13.11%	11.06%
- Black or African American	10.64%	16.13%	15.66%
- Native American/Alaska Native	11.82%	22.20%	20.69%
- Asian	2.48%	14.89%	13.73%
- Native Hawaiian / Pacific Islander	0.00%	16.07%	13.61%
- Some Other Race	4.12%	47.92%	39.83%
- Multiple Race	6.66%	15.86%	13.31%
Bachelor's degree or higher, percent, 2012- 2016	56.6%	25.4%	30%

# Socio-Economic Status

Indicator	Williamson	TN	USA
Socio-Economic Status			
Income/Poverty	Williamson	TN	USA
Median household income, 2012-2016	\$100,140	\$46,574	\$55,322
Per capita money income in past 12 months (2016 dollars), 2012-2016	\$46,494	\$26,019	\$29,829
Adults in poverty, count, 2012-2016	10,547	1,100,169	46,932,225
Persons below poverty level, percent, 2012- 2016	5.2%	15.8%	12.7%
- White	4.8%	14.5%	12.4%
- Black	8.8%	28.1%	27.6%
- Native American	0.0%	18.5%	27.6%
<u>- Asian</u>	4.1%	12.5%	12.3%
-Native Hawaiian / Pacific Islander	0.0%	29.0%	20.1%
- Some other race"	33.8%	34.6%	25.4%
- "Multiple races"	6.6%	26.0%	19.3%
- Hispanic / Latino Ethnicity	24.3%	32.0%	23.4%
Children in Poverty, percent	5%	23%	20%

Non-Hispanic White	4.29%	17.82%	12.72%
- Black	7.97%	42.36%	37.42%
- Native American	0.00%	20.76%	35.20%
- Asian	3.96%	12.49%	12.54%
- Native Hawaiian/Pacific Islander	0.00%	46.67%	26.76%
- Some other race	50.56%	47.78%	34.63%
- Multiple Race	7.68%	29.71%	21.62%
Poverty - Children Below 100% FPL	6.39%	25.13%	21.17%
Poverty - Children Below 200% FPL	15.41%	49.36%	43.29%
Children eligible for Free/Reduced Price Lunch, (%)	13.47%	58.82%	52.61%
Percent of public school students who are economically disadvantaged, 2016-2017	3.7%	34%	
Households Receiving SNAP Benefits	3.4%	16.5%	13.05%
Households with Cash Public Assistance Income	0.9%	2.9%	2.67%
Income inequality: Ratio of household income at the 80th percentile to income at the 20th percentile (the higher the ratio the greater inequality)	4.2	4.7	5
Income inequality, County 80th Percentile Income	\$185,604		
Income inequality, County 20th Percentile Income	\$44,463		
Federal Poverty Threshold, Family of 1 (48 contiguous states)			\$12,140.00
Federal Poverty Threshold, Family of 4 (48 contiguous states)			\$25,100.00
Unemployment	Williamson	TN	USA
Unemployment rate, March 2018	2.50%	3.50%	4.20%
Number of Jobs, 2015	143,628		
Projected Jobs, 2025	196,539	3433000, by 2024	
Projected Jobs, 2035	269,755		
Population, 2015	229,052		
Projected Population, 2025	308,328		
Projected Population, 2035	387,970		
Average annual weekly wage (2017)	\$1,201	\$939	\$1,065
Annual establishments (2017)	8,650.00	157,095.00	9,851,747.00
<u>U-1 Persons employed 15 weeks or longer, as a</u> <u>% of the civilian labor force (2017-2018)</u>		1.00%	1.40%
U-2 Job losers and persons who completed temporary jobs as a % of the civilian labor force (2017-2018)		1.50%	1.90%
U-3 Total unemployed as a % of the civilian labor force (definition used for official unemployment rate) (2017-2018)		3.50%	4.00%

U-6 Total unemployed, plus all who want and are available for work but have given up looking, plus involuntary part-time workers (those who want to work full-time but are working <35 hours/week because hours were cut or unable to find full-time job) as a % of civilian labor force (2017-2018)		7.60%	7.80%
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# Social Determinants of Health

Indicator	Williamson	TN	USA
Social Determinants of Health			
Education	Williamson	TN	USA
Students in public schools, White, percent	81.4%	63.4%	
Student in public schools, Black or African American, percent	5.2%	24.1%	
Students in public schools, Hispanic or Latino, percent	5.9%	9.7%	
Students in public schools, Asian, percent	6.8%	2.2%	
Students in public schools, Native American/Alaskan, percent	0.5%	0.3%	
High School Graduation Rate (NCES), 2008-2009	99.1%	77.4%	75.5%
High School Graduation Rate, 2013-2014	94.4%	87.2%	
High School Graduation Rate, 2014-2015	95.5%	87.8%	
High School Graduation Rate, 2015-2016	95.5%	88.5%	<u>86.1%</u>
High School Graduation Rate, 2016-2017	95.6%	89.1%	
High school graduate or higher, percent, 2012-2016	95.6%	86.0%	87.0%
Event High School Dropouts, 2012	1.1%	4.3%	<u>3.4%</u>
Event High School Dropouts, 2013	0.8%	3.4%	<u>4.7%</u>
Event High School Dropouts, 2014	0.7%	3.4%	<u>5.2%</u>
Event High School Dropouts, 2015	0.8%	2.5%	
Event High School Dropouts, 2016	0.4%	2.7%	
College Going Rate among Public High School graduates, Fall 2015	82.7%	62.5%	
4th grader not proficient in reading, 2014-2015	23.9%	54%	46%

% of students grades three through 8 that are proficient or above in reading	Williamson	TN	USA
3-8th grade proficient or advance - language, 2015-2016	66.9%	33.8%	
3-8th grade proficient or advance - language, 2015-2016 Asian	78.5%	57.6%	
3-8th grade proficient or advance - language, 2015-2016 Black	46.0%	18.6%	
3-8th grade proficient or advance - language, 2015-2016  Hawaiian or Pacific Islander	64.8%	44.2%	
3-8th grade proficient or advance - language, 2015-2016 <u>Hispanic</u>	54.5%	22.4%	
3-8th grade proficient or advance - language, 2015-2016 White	67.9%	40.5%	
3-8th grade proficient or advance - math, 2015-2016	74.1%	38.0%	
3-8th grade proficient or advance - math, 2015-2016 Asian	86.4%	68.0%	
3-8th grade proficient or advance - math, 2015-2016 Black	51.8%	19.9%	
3-8th grade proficient or advance - math, 2015-2016 Hawaiian or Pacific Islander	66.7%	47.2%	
3-8th grade proficient or advance - math, 2015-2016 Hispanic	60.1%	27.7%	
3-8th grade proficient or advance - math, 2015-2016 White	75.2%	45.4%	
Student-to-Teacher Ratio, 2015-2016	14.66	14.89	
Adverse Childhood Experiences	Williamson	TN	USA
Percent Adults with 0 Adverse Childhood Experiences, 2014		48%	
Percent Adults with 1-2 Adverse Childhood Experiences, 2014		38%	
Percent Adults with 3 or more Adverse Childhood Experiences, 2014		13%	
Two most common ACEs in Tennessee		Economic Hardship, Divorce	
Housing	Williamson	TN	USA
Residential segregation - black/white 2012-2016 (where 0 is complete integration and 100 is complete segregation)	30.46	66.97	
Residential segregation - nonwhite/white 2012-2016 (where 0 is complete integration and 100 is complete segregation)	26.50	58.69	
Living in same house 1 year & over, percent, 2012-2016	85.3%	84.9%	85.2%
Housing units, 2016	78,585	2,919,671	135,697,926
Households, 2012-2016	71,043	2,522,204	117,716,237

Owner-occupied housing unit rate, 2012-2016	80.5%	66.3%	63.6%
Owner occupied Black householder households, % of Black occupied households (2012-2016)	59.1%		
Owner occupied Asian householder households, % of Asian occupied households (2012-2016)	64.4%		
Owner occupied Hispanic householder households, % of Hispanic occupied households (2012-2016)	57.3%		
Owner occupied white householder households, % of white occupied households (2012-2016)	82.5%		
Persons per household, 2012-2016	2.89	2.54	2.64
Median value of owner-occupied housing units, 2012-2016	\$368,100	\$146,000	\$184,700
Median household income, 2012-2016	\$100,140	\$46,574	\$55,322
House value: Income	3.68	3.13	3.34
Persons below poverty level, percent, 2012-2016	5.2%	15.8%	12.7%
Housing Cost Burden (>30% monthly income), 2012-2016	22.7%	28.7%	32.9%
% of Rental Households that are Cost Burdened, 2012-2016	41.9%	44.2%	47.3%
Severe Housing Problems, 2010-2014	11%	16%	19%
Overcrowded housing, 2012-2016	1.14%	2.1%	3.3%
Homelessness (2017)		8,309	<u>554,000</u>
Homelessness (2015)		9123	<u>564,708</u>
Students experiencing homelessness		15404	1,263,323
Residential Segregation - black / white	30	67	
Transportation	Williamson	TN	USA
Mean travel time to work (minutes), workers age 16+, 2012- 2016	27.6	24.7	26.1
Households with No Vehicles, 2012-2016	2.3%	6.25%	8.97%
Driving Alone to work, 2012-2016	81%	84%	76%
Long commute - driving alone	45%	34%	35%
Workers Commuting by Public Transportation, 2012-2016	0.35%	0.78%	5.13%
Workers Commuting by Public Transportation, 2010-2014	0.1%	0.8%	
Percent of workers who walk or bike to work, 2012-2016	1.09%	1.49%	3.37%
Mortality - Motor Vehicle Accident, age-adj. rate per 100,000, 2010-2016	7	15	11
Mortality - Pedestrian Accident, number of pedestrians killed, 2016	0	97	5,987.00
Annual public transit trips per capita (2011)		4.40	

Annual public transit trips per capita score/100 (percentile)  (urbanized area, 2011)		25.00	
Percent of population who commute by private vehicle (for Nashville-Davidson-Murfreesboro-Franklin Metropolitan Statistical Area and State)	92.20%	93.20%	
Percent of population who commute by public transit (for Nashville-Davidson-Murfreesboro-Franklin Metropolitan Statistical Area and State)	1.10%	0.80%	
Percent of population who commute by bicycle (for Nashville- Davidson-Murfreesboro-Franklin Metropolitan Statistical Area and State)	0.20%	0.10%	
Percent of population who commute by walking (for Nashville- Davidson-Murfreesboro-Franklin Metropolitan Statistical Area and State)	1.20%	1.30%	
Annual rate of DUI/DWI Fatalities per 10,000 residents (2012) (for Nashville-Davidson-Murfreesboro-Franklin Metropolitan Statistical Area and State)	3.1	4.60	
Annual rate of DUI/DWI Fatalities per 10,000 residents score/100 (percentile) (for Nashville-Davidson-Murfreesboro- Franklin Metropolitan Statistical Area and State)	48	26.00	
% of income average household spends on housing and transportation combined (for Nashville-Davidson-Murfreesboro-Franklin Metropolitan Statistical Area and State)	49.50%		
% of income average household spends on housing and transportation combined score/100 (percentile) (for Nashville-Davidson-Murfreesboro-Franklin Metropolitan Statistical Area)	61.00		
Road traffic fatalities per 100,000 residents - automobile (5- year avg. data 2008-2012) (for Nashville-Davidson- Murfreesboro-Franklin Metropolitan Statistical Area and State)	11.20	14.50	
Annual person miles of travel by private vehicle		31,480.00	
Annual person miles of travel by private vehicle score/100 (percentile)		35.00	
Annual person miles of travel by walking		95.00	
Annual person miles of travel by walking score/100 (percentile)		3.00	
% of foot/bicycle trips that are at least 10 minutes long (sustained exercise)		4.50%	
% of foot/bicycle trips that are at least 10 minutes long (sustained exercise) score/100 (percentile)		5.00	
Seat belt use by drivers and front seat passengers		83.70%	

Seat belt use by drivers and front seat passengers score/100 (percentile)		39.00	
Access to Healthy Food	Williamson	TN	USA
Food Environment Index (indicator of access to healthy foods with 0 being worst and 10 being the best)	9.10	6.20	
Food Insecurity Rate, 2014	8.22%	16.90%	14.91%
Child Food Insecurity, 2014	17.10%	25.45%	23.49%
% Food insecure children likely ineligible for assistance	65%	31%	21%
<u>Limited Access to Health Foods</u>	3%	8%	6%
Fast food restaurants/1,000 pop. (2014)	0.78		
Fast food restaurant growth (% change) 2009-2014	8.84%		
Expenditures per capita on fast food (2012)	\$665.32	\$665.32	
Number of Farmers' markets (2016)	4.00		
Farmers' market growth (% change 2009-2016)	300.00%		
Fast Food Restaurant Access, rate per 100,000 pop., 2015	91.17%	75.12%	74.60%
Fast Food Restaurant Access, rate per 100,000 pop., 2012	85.16%	72.15%	72.84%
Grocery Store Access, rate per 100,000 pop. 2015	15.83%	17.41%	21.19%
# of supermarkets and grocery stores per 1,000 population (Grocery Store Density)	0.15		
% of people 65+ with low access to a grocery store	1.71%		
Convenience stores/1,000 population (2014)	0.28		
Convenience stores % change 2009-2014	-10.56%		
<u>Liquor Store Establishments, Rate per 100,000 Population,</u> 2016	13.65	9.71	11.00
Low Income Population with Low food Access, 2010 (%)	28.20%	24.10%	18.94%
Percent Population in Census Tract with No Food Outlet, Mod.  Retail Food Environment Index	0.00%	0.34%	0.99%
Percent Population in Census Tract with No Healthy Food Outlet, Mod. Retail Food Environment Index	3.05%	23.74%	18.63%
Percent Population in Census Tract with Low Healthy Food Access, Mod. Retail Food Environment Index	21.97%	24.77%	30.89%

Percent Population in Census Tract with Moderate Healthy Food Access, Mod. Retail Food Environment Index	74.99%	48.87%	43.28%
Percent Population in Census Tract with High Healthy Food Access, Mod. Retail Food Environment Index	0.00%	2.27%	5.02%
Population with Low Food Access	24.73%	27.87%	22.43%
Neighborhood Safety - Crime	Williamson	TN	USA
Substantiated Child abuse/neglect cases, per 1,000 children,  2013	0.6	4.9	
Substantiated Child abuse/neglect cases, per 1,000 children, 2014	1.4	5.4	
Substantiated Child abuse/neglect cases, per 1,000 children,  2015	1.2	5.9	
Substantiated Child abuse/neglect cases, per 1,000 children,  2016	0.9	4.6	
Substantiated Child abuse/neglect cases, per 1,000 children,  2017	1.1	4.7	
Child Maltreatment / 1000 (2016)		6.3	9.1
Violent Crime Rate per 1,000,000, 2012-2014	130	614	380
Injury deaths, per 100,000, 2012-2016	50	83	65
Economic Opportunity	Williamson	TN	USA
Opportunity Index Score (score/100 where 100 is best) (2017)	71.5	48.1	
Access to revolving line of credit (% of population, 2016)		58.30%	
<u>Unbanked Households (2013)</u>		9.70%	
<u>Underbanked Households (2013)</u>		18.70%	
Income inequality (2014) (Ratio of income of top quintile to bottom quintile)		4.97	
<u>Underemployment rate 2017 (TN ranked 25th)</u>		9.40%	
Employed involuntary part time, 2017		102,100	5,300,000

## Access to Health Care

Indicator	Williamson	TN	USA
Access to Health Care			
PCP / Provider Availability	Williamson	TN	USA
Primary Care Provider Ratio, (population: provider), 2015	666:1	1382:1	
Dentists Ratio, (population: provider), 2016	1312:1	1892:1	
Mental Health Provider Ratio, (population: provider), 2017	700:1	742:1	529:1
Population Living in a Health Professional Shortage Area, Percent,  2016	0.00%	70.32%	33.13%

Percent Adults who needed to see a doctor but could NOT due to Cost, last 12 mo. TN BRFSS 2016		12.40%	
Less than \$15,000		30.80%	
\$15,000-\$24,999		21.60%	
\$25,000-\$34,999		12.70%	
\$35,000-\$49,999		9.20%	
\$50,000 <u>+</u>		9.60%	
White		11.00%	
Black		14.90%	
<u>Hispanic</u>		23.60%	
Have one person you think of as a personal doctor or health care provider, percent, TN BRFSS 2016 [NO]		22.00%	
White		20.60%	
Black		20.30%	
<u>Hispanic</u>		51.90%	
<u>18-24</u>		38.60%	
<u>25-34</u>		39.50%	
<u>35-44</u>		26.10%	
<u>45-54</u>		18.40%	
<u>55-64</u>		12.00%	
<u>65+</u>		5.90%	
Health Insurance	Williamson	TN	USA
Uninsured adults (>18) 2015	Williamson 7.44%	TN 15.00%	USA
			USA
Uninsured adults (>18) 2015	7.44%	15.00%	USA 54.50%
Uninsured adults (>18) 2015 Uninsured children (<18) 2015	7.44% 3.13%	15.00% 4.19%	
Uninsured adults (>18) 2015  Uninsured children (<18) 2015  Health Insurance Coverage of Total Population, 2013 - Employer	7.44% 3.13% 72.60%	15.00% 4.19% 52.20%	54.50%
Uninsured adults (>18) 2015 Uninsured children (<18) 2015 Health Insurance Coverage of Total Population, 2013 - Employer Health Insurance Coverage of Total Population, 2013 - Medicare	7.44% 3.13% 72.60% 10.80%	15.00% 4.19% 52.20% 17.10%	54.50% 15.50%
Uninsured adults (>18) 2015  Uninsured children (<18) 2015  Health Insurance Coverage of Total Population, 2013 - Employer  Health Insurance Coverage of Total Population, 2013 - Medicare  Health Insurance Coverage of Total Population, 2013 - Medicaid	7.44% 3.13% 72.60% 10.80% 5.30%	15.00% 4.19% 52.20% 17.10%	54.50% 15.50% 17.80%
Uninsured adults (>18) 2015  Uninsured children (<18) 2015  Health Insurance Coverage of Total Population, 2013 - Employer  Health Insurance Coverage of Total Population, 2013 - Medicare  Health Insurance Coverage of Total Population, 2013 - Medicaid  Health Insurance Coverage of Total Population, 2013 - Other Private  Health Insurance Coverage of Total Population, Uninsured 2014	7.44% 3.13% 72.60% 10.80% 5.30% 86.60%	15.00% 4.19% 52.20% 17.10% 19.10% 64.00%	54.50% 15.50% 17.80% 65.20%
Uninsured adults (>18) 2015  Uninsured children (<18) 2015  Health Insurance Coverage of Total Population, 2013 - Employer  Health Insurance Coverage of Total Population, 2013 - Medicare  Health Insurance Coverage of Total Population, 2013 - Medicaid  Health Insurance Coverage of Total Population, 2013 - Other Private  Health Insurance Coverage of Total Population, 2013 - Other Private  Health Insurance Coverage of Total Population, Uninsured 2014  ACS 5-year estimates  Percent Uninsured, Total civilian noninstitutionalized population.	7.44% 3.13% 72.60% 10.80% 5.30% 86.60%	15.00% 4.19% 52.20% 17.10% 19.10% 64.00% 13.60%	54.50% 15.50% 17.80% 65.20%
Uninsured adults (>18) 2015  Uninsured children (<18) 2015  Health Insurance Coverage of Total Population, 2013 - Employer  Health Insurance Coverage of Total Population, 2013 - Medicare  Health Insurance Coverage of Total Population, 2013 - Medicaid  Health Insurance Coverage of Total Population, 2013 - Other Private  Health Insurance Coverage of Total Population, 2013 - Other Private  Health Insurance Coverage of Total Population, Uninsured 2014  ACS 5-year estimates  Percent Uninsured, Total civilian noninstitutionalized population.  American FactFinder 2011-2013 ACS Health Insurance Status  Percent Uninsured, age Under 18 years American FactFinder 2011-	7.44% 3.13% 72.60% 10.80% 5.30% 86.60% 6.00%	15.00% 4.19% 52.20% 17.10% 19.10% 64.00% 13.60%	54.50% 15.50% 17.80% 65.20% 14.20%

Percent Uninsured, age 19 to 25 years American FactFinder 2011- 2013 ACS Health Insurance Status	14.40%	25.50%	26.70%
Uninsured Population by Race: Non-Hispanic White	5.20%	11.80%	10.40%
Uninsured Population by Race: Black or African American	6.80%	16.30%	17.30%
Uninsured Population by Race: Native American / Alaska Native		27.00%	27.30%
Uninsured Population by Race: Asian	9.00%	18.90%	15.00%
Uninsured Population by Race: Native Hawaiian / Pacific Islander		19.00%	18.20%
Uninsured Population by Race: Non-Hispanic Other		48.70%	32.50%
Uninsured Population by Race: Non-Hispanic Multiple Race	13.00%	13.90%	13.90%
Uninsured Population by Ethnicity Alone: Hispanic/Latino	24.10%	40.30%	29.10%
Public Health Insurance Coverage by Type	Williamson	TN	USA
Employee Share of Insurance Premium (2014) (Note that TN ranks 50th/51 (inc. Washington DC) in terms of what share of ins.  premium citizens pay)		32.80%	
Dental Care	Williamson	TN	USA
Visited the dentist or dental clinic for any reason in past year (2016)		59.10%	
<\$15,00 <u>0</u>		36.00%	
<u>\$15,000-\$24,999</u>		45.70%	
<u>\$25,000-\$34,999</u>		50.40%	
\$35,000-\$49,000		59.30%	
<u>\$50,000-\$74,000</u>		70.20%	
<u>\$75,000+</u>		79.00%	
Adults that have had 6+ permanent teeth removed because of tooth decay or gum disease (2016)		11.80%	
<u>&lt;\$15,000</u>		22.00%	
<u>\$15,000-\$24,999</u>		18.20%	
<u>\$25,000-\$34,999</u>		12.50%	
<u>\$35,000-\$49,000</u>		10.40%	
<u>\$50,000-\$74,000</u>		10.70%	
<u>\$75,000+</u>		3.00%	
College graduate		4.10%	
H.S. or G.E.D.		13.80%	
Less than H.S.		21.90%	
Adults aged 65+ who have had all their natural teeth extracted, TN BRFSS 2016		21.60%	
Have Not visited a dentist, dental hygienist or dental clinic within the past year, TN BRFSS 2016		59.10%	
Hospitalizations	Williamson	TN	USA

Preventable Hospital Stays, per 1,000 Medicare enrollees	37	59	
Preventive Care	Williamson	TN	USA
Number of doctor's office visits per 100 persons per year (2014)		353.5	
Number of doctor's office visits per 100 persons per year (2014) -  Non-Hispanic white			330.1
Number of doctor's office visits per 100 persons per year (2014) -  Non-Hispanic black			203.3
Number of doctor's office visits per 100 persons per year (2014) - <u>Hispanic or Latino</u>			215.20
Number of doctor's office visits per 100 persons per year (2014) -  Non-Hispanic Other			177.70
Preventive care visits made to primary care specialists per 100 people per year (2014) - all		84.70	
Preventive care visits made to primary care specialists per 100 persons per year - White (2014)		58.30	
Preventive care visits made to primary care specialists per 100 persons per year - Black (2014)		40.00	
Preventive care visits made to primary care specialists per 100 persons per year - Hispanic or Latino (2014)		46.10	
Women 40+ who have had a mammogram in past 2 years (2016)		71.10%	
Women 50-74 who have had a mammogram in past 2 years (2016)		77.10%	
Women 21-65 who have had a pap test in past 3 years (2016)		20.20%	
Mammography Screening (% of Medicare enrollees ages 67-69 who have had mammogram in last 2 years - 2014) - White	72.90%	62.90%	
Mammography Screening (% of Medicare enrollees ages 67-69 who have had mammogram in last 2 years - 2014) - Black	73.90%	61.00%	
Males 40+ who have had PSA test in past 2 years (2016)		56.80%	
Vaccinations	Williamson	TN	USA
During past 12 months, had a seasonal flu shot or vaccine spray  (Adults) 2016		36%	
During past 12 months, had a seasonal flu shot or vaccine spray  (Adults 65+) 2014		56.90%	
Ever had a pneumonia shot (Adult) 2016		34%	
Ever had a pneumonia shot (Adult Age 65+) 2016		74.10%	
24-Month Vaccinations, 7 vaccine series, % complete 2017		73.50%	
24-Month Vaccinations, DTaP, % complete 2017		81.20%	
24-Month Vaccinations, Poliomyelitis, % complete 2017		93.00%	
24-Month Vaccinations, MMR, % complete 2017		90.50%	
24-Month Vaccinations, Hepatitis B, % complete 2017		93.80%	
24-Month Vaccinations, Hib, % complete 2017		79.80%	

24-Month Vaccinations, Varicella, % complete 2017	90.70%	
24-Month Vaccinations, Pneumococcus, % complete 2017	82.70%	
24-Month Vaccinations, Hepatitis A, % complete 2017	89.90%	
24-Month Vaccinations, Influenza, % complete 2017	45.90%	
24-Month Vaccinations, Rotavirus, % complete 2017	77.30%	

## Social Environment

Indicator	Williamson	TN	USA
Social Environment			
Social / Emotional Supports	Williamson	TN	USA
Linguistically isolated households, % of all households, 2012-2016	0.9%	1.54%	
Lack of social or emotional support	16.1%	19%	21%
Social associations, memberships per 10,000 pop., 2015	12.9	11.3	9.3
Children in single-parent households, 2012-2016	15%	36%	34%
Faith congregations per 10K People, 2010	11		
How often do you get the social and emotional support you need?			
Always		49.40%	
<u>Usually</u>		24.20%	
Sometimes		14.50%	
<u>Rarely</u>		4.90%	
<u>Never</u>		7.10%	
In general, how satisfied are you with your life?			
<u>Very satisfied</u>		42.90%	
<u>Satisfied</u>		49.80%	
<u>Dissatisfied</u>		5.40%	
Very dissatisfied		1.90%	

#### Health Status

Indicator	Williamson	TN	USA
Health Status			
Self-reported health status	Williamson	TN	USA
% Fair or Poor Health (2014-2016)	12%	19%	18.0%
# Days in 30 - Physical Health Not Good (2016)	3.5	4.7	3.8
<u>-&lt;\$25k</u>		9.4	7.2
<u>- \$25k - 49.9k</u>		4.1	4.1
<u>- \$50-74.9k</u>		2.6	3.1
<u>- \$75k+</u>		2.2	2.2
<u>- Age 18-44</u>		2.7	2.6
<u>- Age 45-64</u>		6.5	4.9
<u>- Age 65+</u>		6	5.2
- Black		4.1	4
- Hispanic		3.6	3.6
- Multiracial		9.5	5.9
- White		4.7	4
- Female		5.1	4.2
<u>- Male</u>		4.2	3.5
<u>- &lt; HS</u>		9.6	6.6
<u>- HS Grad</u>		5.4	4.6
- College Grad		2.5	2.4
Poor mental health days, past 30 days, 2016	3.8	4.5	3.8
<u>- &lt;\$25k</u>		7.4	5.9
<u>- \$25k - 49.9k</u>		4.1	3.6
- \$50-74.9k		3.1	2.9
<u>- \$75k+</u>		2.4	2.3
<u>- Age 18-44</u>		4.6	4.2
- Age 45-64		5.2	3.9
- Age 65+		2.6	2.4
- Black		4.7	4
- Hispanic		4.2	3.4
- Multiracial		7.7	6.2
- White		4.2	3.8
- Female		5.2	4.3
- Male		3.5	3.1
<u>-&lt; HS</u>		7.6	5.1

- HS Grad		4.1	3.8
- College Grad		2.7	2.5
Mortality	Williamson	TN	USA
Life expectancy		76.3	80 (2017)
- male (2014)	80.1	73.5	77.7
<u>- female</u>	83.5	79	<u>82.2</u>
# of Deaths, by Cause	Williamson, 2012- 2016	TN, 2016	USA, 2016
<u>Total</u>	5468	67857	2,744,248
<u>Heart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)</u>	1215	15429	635,260
Cancer: Malignant neoplasms (C00-C97)	1246	14450	598,038
Accidents: Accidents (unintentional injuries) (V01-X59), Y85-Y86)	370	4318	161,374
Lung Disease: Chronic lower respiratory diseases (J40- J47)	267	4238	154,596
Alzheimer's Disease: Alzheimer's disease (G30)	429	3250	116,103
Stroke: Cerebrovascular diseases (I60-I69)	288	3508	142,142
<u>Diabetes: Diabetes mellitus (E10-E14)</u>	119	1883	80,058
Suicide: Intentional self-harm (suicide) (*U03,X60- X84,Y87.0)	129	1111	44,965
Flu / Pneumonia: Influenza and pneumonia (J09-J18)	103	1533	51,537
<u>Liver Disease / Cirrhosis: Chronic liver disease and</u> cirrhosis (K70,K73-K74)	66	960	40,545
31 1 1 (0100 3105 3115 3110 3105 3105))	7.5	44.50	
Nephritis ((N00-N07,N17-N19,N25-N27))	75	1150	50,456
Nephritis ((N00-N07,N17-N19,N25-N27))  % of deaths	Williamson, 2012- 2016	TN, 2016	50,456 USA, 2016
	Williamson, 2012-		
% of deaths  Heart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)  Cancer: Malignant neoplasms (C00-C97)	Williamson, 2012- 2016	TN, 2016	USA, 2016
% of deaths  Heart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)	Williamson, 2012- 2016 22.2	<b>TN, 2016</b> 22.7	<b>USA, 2016</b> 23.1
% of deaths  Heart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)  Cancer: Malignant neoplasms (C00-C97)  Accidents: Accidents (unintentional injuries) (V01-X59),	Williamson, 2012- 2016 22.2 22.8	TN, 2016  22.7  21.3	23.1 21.8
% of deaths  Heart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)  Cancer: Malignant neoplasms (C00-C97)  Accidents: Accidents (unintentional injuries) (V01-X59),  Y85-Y86)  Lung Disease: Chronic lower respiratory diseases (J40-	Williamson, 2012- 2016 22.2 22.8 6.8	TN, 2016  22.7  21.3  6.4	23.1 21.8 5.9
% of deaths  Heart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)  Cancer: Malignant neoplasms (C00-C97)  Accidents: Accidents (unintentional injuries) (V01-X59),	Williamson, 2012- 2016 22.2 22.8 6.8 4.9	TN, 2016  22.7  21.3  6.4  6.2	23.1 21.8 5.9 5.6
% of deaths  Heart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)  Cancer: Malignant neoplasms (C00-C97)  Accidents: Accidents (unintentional injuries) (V01-X59),	Williamson, 2012- 2016 22.2 22.8 6.8 4.9 7.8	22.7 21.3 6.4 6.2 4.8	23.1 21.8 5.9 5.6 4.2
% of deaths  Heart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)  Cancer: Malignant neoplasms (C00-C97)  Accidents: Accidents (unintentional injuries) (V01-X59),	Williamson, 2012- 2016  22.2  22.8  6.8  4.9  7.8  5.3	22.7 21.3 6.4 6.2 4.8 5.2	23.1 21.8 5.9 5.6 4.2 5.2
## Weart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)    Cancer: Malignant neoplasms (C00-C97)   Accidents: Accidents (unintentional injuries) (V01-X59),   Y85-Y86    Lung Disease: Chronic lower respiratory diseases (J40-J47)   Alzheimer's Disease: Alzheimer's disease (G30)   Stroke: Cerebrovascular diseases (I60-I69)   Diabetes: Diabetes mellitus (E10-E14)   Suicide: Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)   Flu / Pneumonia: Influenza and pneumonia (J09-J18)	Williamson, 2012- 2016 22.2 22.8 6.8 4.9 7.8 5.3 2.2	TN, 2016  22.7  21.3  6.4  6.2  4.8  5.2  2.8	23.1 21.8 5.9 5.6 4.2 5.2 2.9
### Weart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)    Cancer: Malignant neoplasms (C00-C97)   Accidents: Accidents (unintentional injuries) (V01-X59), Y85-Y86)    Lung Disease: Chronic lower respiratory diseases (J40-J47)    Alzheimer's Disease: Alzheimer's disease (G30)    Stroke: Cerebrovascular diseases (I60-I69)    Diabetes: Diabetes mellitus (E10-E14)    Suicide: Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)	Williamson, 2012- 2016 22.2 22.8 6.8 4.9 7.8 5.3 2.2 2.4	TN, 2016  22.7  21.3  6.4  6.2  4.8  5.2  2.8  1.6	23.1 21.8 5.9 5.6 4.2 5.2 2.9 1.6
## Weart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)  Cancer: Malignant neoplasms (C00-C97)  Accidents: Accidents (unintentional injuries) (V01-X59),  Y85-Y86)  Lung Disease: Chronic lower respiratory diseases (J40-J47)  Alzheimer's Disease: Alzheimer's disease (G30)  Stroke: Cerebrovascular diseases (I60-I69)  Diabetes: Diabetes mellitus (E10-E14)  Suicide: Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)  Flu / Pneumonia: Influenza and pneumonia (J09-J18)  Liver Disease / Cirrhosis: Chronic liver disease and	Williamson, 2012-2016  22.2  22.8  6.8  4.9  7.8  5.3  2.2  2.4  1.9  1.2  1.4	TN, 2016  22.7  21.3  6.4  6.2  4.8  5.2  2.8  1.6  2.3	23.1 21.8 5.9 5.6 4.2 5.2 2.9 1.6 1.9
## Weight Survival Age adjusted Death Rate / 100k, by Cause  ## Weight Survival Age adjusted Death Rate / 100k, by Cause  ## Weight Survival Age adjusted Death Rate / 100k, by Cause  ## Weight Survival Age adjusted Death Rate / 100k, by Cause  ## Weight Survival Age and preumonia (J09-J18)  ## Age adjusted Death Rate / 100k, by Cause  ## Disease: Diseases of heart (I00-I09,I11,I13,I20-I151)  ## Cancer: Malignant neoplasms (C00-C97)  ## Accidents: Accidents (unintentional injuries) (V01-X59),  ## Y85-Y86  ## Liver Disease: Chronic lower respiratory diseases (J40-J47)  ## Accidents: Accidents (unintentional injuries) (V01-X59),  ## Y85-Y86  ## Liver Disease: Chronic lower respiratory diseases (J40-J47)  ## Accidents: Accidents (unintentional injuries) (V01-X59),  ## Accidents: Accidents (unintentional injuries) (V01-	Williamson, 2012-2016  22.2  22.8  6.8  4.9  7.8  5.3  2.2  2.4  1.9  1.2  1.4  Williamson, 2012-2016	TN, 2016  22.7  21.3  6.4  6.2  4.8  5.2  2.8  1.6  2.3  1.4	23.1 21.8 5.9 5.6 4.2 5.2 2.9 1.6 1.9
## Weart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)  Cancer: Malignant neoplasms (C00-C97)  Accidents: Accidents (unintentional injuries) (V01-X59),	Williamson, 2012-2016  22.2  22.8  6.8  4.9  7.8  5.3  2.2  2.4  1.9  1.2  1.4  Williamson, 2012-	TN, 2016  22.7  21.3  6.4  6.2  4.8  5.2  2.8  1.6  2.3  1.4  1.7	23.1 21.8 5.9 5.6 4.2 5.2 2.9 1.6 1.9 1.5 1.8 USA, 2016 728.8
## Weart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)    Cancer: Malignant neoplasms (C00-C97)   Accidents: Accidents (unintentional injuries) (V01-X59), Y85-Y86)   Lung Disease: Chronic lower respiratory diseases (J40-J47)   Alzheimer's Disease: Alzheimer's disease (G30)   Stroke: Cerebrovascular diseases (I60-I69)   Diabetes: Diabetes mellitus (E10-E14)   Suicide: Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)   Flu / Pneumonia: Influenza and pneumonia (J09-J18)   Liver Disease / Cirrhosis: Chronic liver disease and cirrhosis (K70,K73-K74)   Nephritis ((N00-N07,N17-N19,N25-N27))   Age adjusted Death Rate / 100k, by Cause   Total Death Rate / Black male	Williamson, 2012-2016  22.2  22.8  6.8  4.9  7.8  5.3  2.2  2.4  1.9  1.2  1.4  Williamson, 2012-2016	TN, 2016  22.7  21.3  6.4  6.2  4.8  5.2  2.8  1.6  2.3  1.4  1.7  TN, 2016	23.1 21.8 5.9 5.6 4.2 5.2 2.9 1.6 1.9 1.5 1.8 USA, 2016 728.8 1,081.2
### Weight Stroke: Diseases of heart (100-109,111,113,120-151)    Cancer: Malignant neoplasms (C00-C97)	Williamson, 2012-2016  22.2  22.8  6.8  4.9  7.8  5.3  2.2  2.4  1.9  1.2  1.4  Williamson, 2012-2016	TN, 2016  22.7  21.3  6.4  6.2  4.8  5.2  2.8  1.6  2.3  1.4  1.7  TN, 2016	23.1 21.8 5.9 5.6 4.2 5.2 2.9 1.6 1.9 1.5 1.8 USA, 2016 728.8 1,081.2 734.1
## Weart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)    Cancer: Malignant neoplasms (C00-C97)   Accidents: Accidents (unintentional injuries) (V01-X59), Y85-Y86)   Lung Disease: Chronic lower respiratory diseases (J40-J47)   Alzheimer's Disease: Alzheimer's disease (G30)   Stroke: Cerebrovascular diseases (I60-I69)   Diabetes: Diabetes mellitus (E10-E14)   Suicide: Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)   Flu / Pneumonia: Influenza and pneumonia (J09-J18)   Liver Disease / Cirrhosis: Chronic liver disease and cirrhosis (K70,K73-K74)   Nephritis ((N00-N07,N17-N19,N25-N27))   Age adjusted Death Rate / 100k, by Cause   Total Death Rate / Black male	Williamson, 2012-2016  22.2  22.8  6.8  4.9  7.8  5.3  2.2  2.4  1.9  1.2  1.4  Williamson, 2012-2016	TN, 2016  22.7  21.3  6.4  6.2  4.8  5.2  2.8  1.6  2.3  1.4  1.7  TN, 2016	23.1 21.8 5.9 5.6 4.2 5.2 2.9 1.6 1.9 1.5 1.8 USA, 2016 728.8 1,081.2

- Hispanic male			631.8
- Hispanic female			436.4
Heart Disease: Diseases of heart (I00-I09,I11,I13,I20-I51)	133	198.8	165.5
Cancer: Malignant neoplasms (C00-C97)	125.6	179.9	155.8
Accidents: Accidents (unintentional injuries) (V01-X59), Y85-Y86)	40.4	61.1	47.4
Lung Disease: Chronic lower respiratory diseases (J40- J47)	30.4	54.7	40.6
Alzheimer's Disease: Alzheimer's disease (G30)	49.4	44.2	30.3
Stroke: Cerebrovascular diseases (I60-I69)	32.6	46.0	37.3
<u>Diabetes: Diabetes mellitus (E10-E14)</u>	12.7	24.0	21.0
Suicide: Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)	12.4	16.3	13.5
Flu / Pneumonia: Influenza and pneumonia (J09-J18)	11.9	20.1	13.5
<u>Liver Disease / Cirrhosis: Chronic liver disease and</u> <u>cirrhosis (K70,K73-K74)</u>	6.3	12.2	10.7
Nephritis ((N00-N07,N17-N19,N25-N27))	8.1	14.9	13.1
Septicemia (A40-A41)	3.7	11.9	10.7
Years of Potential Life Lost (YPLL)	Williamson	TN	USA
Premature Death (YPLL <75)	8539	613214	<u>22047384</u>
- White YPLL	7691	472,225	<u>16750094</u>
- Black YPLL	574	132,590	4359397
Age Adjusted YPLL / 100k (2014-2016)	3800	8,760.0	
- Black	6668		
- Hispanic	2506		
- White	3769		
YPLL Rate / 100k	227.9	557.9	
- White rate	235.9	578.5	
- Black rate	322.6	575.1	
# YPLL from Cancer	2207	116,575	4362037
# YPLL from Heart Disease	987	104582	3225740
# YPLL from Accidents	1796	103857	<u>3901259</u>
# YPLL from Suicide	676	31580	<u>1289181</u>
# YPLL from deaths in Perinatal Period		18725	860014

# YPLL from Homicide		22748	<u>795211</u>
# YPLL from Stroke	183	16942	<u>543414</u>
# YPLL from Chronic Lung Disease	124	23218	<u>622866</u>
# YPLL from Diabetes	135	15878	<u>596730</u>
# YPLL from Liver Disease	152	14342	<u>610807</u>
# YPLL congenital anomalies	298		
# YPLL from Septicemia	113		
Years of Potential Life Lost (YPLL), by % of Total YPLL (years reviewed)	Williamson	TN	USA
% YPLL from Cancer	25.8	19.0	<u>19.8</u>
% YPLL from Heart Disease	11.6	17.1	<u>14.6</u>
% YPLL from Accidents	21.0	16.9	<u>17.7</u>
% YPLL from Suicide	7.9	5.1	<u>5.8</u>
% YPLL from deaths in Perinatal Period		3.1	<u>3.9</u>
% YPLL from Homicide		3.7	<u>3.6</u>
% YPLL from Stroke	2.1	2.8	<u>2.5</u>
% YPLL from Chronic Lung Disease	1.5	3.8	<u>2.8</u>
% YPLL from Diabetes	1.6	2.6	<u>2.7</u>
% YPLL from Liver Disease	1.8	2.3	2.8
% YPLL from congenital anomalies	3.5		
% YPLL from Septicemia	1.3		
Disability	Williamson	TN	USA
Difficulty doing errands alone %	3.2	7.3	5.8
Difficulty dressing or bathing %	1.4	3.30	2.70
Difficulty seeing, even w/ glasses %	1.1	3.00	2.30
Difficulty concentrating, remembering or making decisions %	2.3	6.30	5.00
Difficulty walking or climbing stairs %	3.3	9.10	7.00

## Mental Health

Indicator	Williamson	TN	USA
Mental Health	, , <u>, , , , , , , , , , , , , , , , , </u>		0.212
Self-Reported Mental Health	Williamson	TN	USA
Poor Mental Health Days, last 30 days (2016)	3.8	4.5	3.7 (2015)
% for whom mental health days not good, prev 30 (2015)	_	33.9	34.3
Adults with Mental Illness in the Past Year (2015)		19.90%	18.00%
MH Providers (2017)	700 :1	740:1	529:1
Serious Mental Illness in the past year (18+) (2012-2014)		5.0 (2016)	3.9 (2015)
Received MH Services (18+)		15.1	
Had serious thoughts of suicide (18+)		4.6	
Major depressive episode (18+)		7.1 (2016)	6.1 (2015)
Frequent Mental Distress (% of adults reporting 14+ days of poor mental health per month)	11%	14%	
TDMHSAS-funded Admissions to substance abuse treatment services (female) (2016)		4,944	
TDMHSAS-funded Admissions to substance abuse treatment services (male) (2016)		9,057	
TDMHSAS-funded Admissions to substance abuse treatment services, % Black/African American (2016)		20.80%	
TDMHSAS-funded Admissions to substance abuse treatment services, % White (2016)		77.10%	
TDMHSAS-funded Admissions to substance abuse treatment services, % of admissions with prescription opioids as a substance of abuse (2016)	35.60%	41.40%	
TDMHSAS-funded Admissions to mental health services in regional mental health/private psych hospitals - rate/1,000 pop 18+ (2016)	0.6	2.3	
TDMHSAS-funded Admissions to mental health services in regional mental health/private psych hospitals - # of admissions (2016)	90	12284	
TDMHSAS-funded Admissions to mental health services in regional mental health/private psych hospitals - % female (2016)		33.60%	
TDMHSAS-funded Admissions to mental health services in regional mental health/private psych hospitals - % male (2016)		66.40%	
TDMHSAS-funded Admissions to mental health services in regional mental health/private psych hospitals - % 18-25 (2016) (dropped for 18-25)		16.10%	
TDMHSAS-funded Admissions to mental health services in regional mental health/private psych hospitals - % 26+ (2016) (grew for 26+)		83.90%	
TDMHSAS-funded Admissions to mental health services in regional mental health/private psych hospitals - % black/African American (2016) (grew for blacks region 4)		23.80%	
TDMHSAS-funded Admissions to mental health services in regional mental health/private psych hospitals - % white (2016)		73.40%	
Behavioral Health Safety Net enrollees/1,000 individuals 18+ living in poverty (2016)		38.58 (has also declined steadily from 44.8 over 3 years)	
TDMHSAS-funded Admissions to mental health services in regional mental health/private psych hospitals - rate/1000 pop 18+ (2016)	0.6	2.3	

TDMHSAS-funded crisis services face-to-face assessments - rate/1000 pop 17 and under (2016)	2.8	7.38	
TDMHSAS-funded crisis services face-to-face assessments -	2.22	12.29	
Alcohol and drug abuse adolescent residential rehabilitation sites as	0	333	
of 05/15/2017 - # of beds available Substance abuse adolescent treatment sites in FY2016	0	15	
Alcohol and drug abuse adult residential rehabilitation sites as of 05/15/2017 - # of beds available	U	1305	
Substance abuse addictions recovery program sites in FY2016	0	84	
Mental Health Residential treatment sites for children / youth as of 05/15/2017 - # of beds available	0	1540 (up from 1371 in 2014)	
Mental Health Residential treatment sites for adults as of 05/15/2017  - # of beds available	16	377	
Mental Health Adult supportive residential sites as of 05/15/2017 - #  of beds available	0	651	
<u>Licensed MH Psychosocial rehab program sites as of 05/19/2017 - #</u> of beds available	0	54	
Opioid prescription rate per 100 population (2006-2017) (note that TN is ranked 3rd for this behind Alabama and Arkansas)	50.8	94.4	
Drug overdose deaths per 100,000 population (2010)		16.9	
Drug overdose deaths per 100,000 population (2016)		24.5	
Youth 12-17 who had at least one major depressive episode in last year (2015)		10.90%	11.90%
Youth high school grades 9-12 who reported depression (feeling sad or hopeless almost every day for 2 weeks + in a row) in previous 12 mo. (2015) (TN Ranked 17 of 37)		28.00%	29.90%
Youth high school grades 9-12 who attempted suicide in previous 12 mo. (2015) (TN ranked 22 of 35)		9.90%	8.60%
Youth high school grades 9-12 who were electronically bullied in previous 12 mo. (2015) (TN ranked 17 of 36)		15.30%	15.50%
Youth high school grades 9-12 who were bullied at school in previous 12 mo. (2015) (TN ranked 30 of 35)		24.10%	20.20%
Children 2-17 with a parent reporting doctor told them child has autism, developmental delays, depression, anxiety, ADD/ADHD, or behavioral problems (2012) (TN ranked 43/50)		21.00%	17.00%
Children 2-17 with emotional, developmental, or behavioral problems that received mental health care/counseling of some type in past 12 mo. (2011) (TN ranked 29/50)		60.20%	61.00%
Adults who report being very satisfied with access to mental health services, quality of services, and overall satisfaction (FY12-15)		>90%	
Children who report being very satisfied with participation in treatment, cultural sensitivity, social connectedness, and satisfaction with services (FY12-15)		>90%	

## **Birth Outcomes**

Indicator	Williamson	TN	USA
Birth Outcomes			
Infant Mortality	Williamson	TN	USA
Infant Mortality Rate (/1000 live births) (2016)	4	7.40	<u>5.87</u>
Infant Mortality Rate - Black		12.10	<u>11.1</u>
Infant Mortality Rate - White	3.4	6.20	<u>4.8</u>
Low Birth Weight	Williamson	TN	USA
Low birth weight, % (2016)	6	9.20	<u>8.17</u>
Low birthweight - black	7.3	14.40	13.68
Low birthweight - white	5.5	7.90	6.67
Very Low birth weight, % (2016)	0.7	1.60	1.40
Very Low Birthweight - black	1.2	3.20	<u>2.95</u>
Very Low Birthweight - white	0.7	1.20	1.07
Prenatal Care	Williamson	TN	USA
Adequate Prenatal Care, 2016	72.1	<u>52.40</u>	
Adequate Prenatal Care, 2015	71.1	55.00	
Adequate Prenatal Care, 2014	78.5	<u>56.60</u>	
Adequate Prenatal Care, 2013	79.2	60.00	
Adequate Prenatal Care, 2012	73.5	<u>59.10</u>	
Percentage of women who smoked during pregnancy, 2016, All	3	13.40	<u>7.20</u>
Percentage of women who smoked during pregnancy, 2016,  White	3.1	15.20	10.50
Percentage of women who smoked during pregnancy, 2016,  African American	6.1	8.00	6.00
Maternal outcomes	Williamson	TN	USA
Maternal mortality (per 100,000 births)		23.30	20.70
Maternal mortality - Black		38.20	47.20
Maternal mortality - White		20.80	18.10
<u>Aged 15-24</u>		8.70	11.00
Aged 25-34		19.20	14.00
Aged 35-44		54.40	38.50
Maternal Depression  Told by provider had depression before presently (2015)		12.20	
Told by provider had depression before pregnancy (2015)		12.20	
Self-reported postpartum depressive symptoms (2015)		15.40 71.10	82.50
Ever Breastfed (2016)	W/:II:amaan		
Teen Pregnancy	Williamson	TN	USA
Teen Pregnancy, rate/1,000 females age 15-17, 2016	2.5	13.7	

Teen Birth, rate/1,000 females age 15-17, 2016	2	11.50	
Teen Birth, rate/1,000 females age 15-19, 2006-2012	11.6		36.60
Teen Birth, rate/1,000 Black, 2017	13.3		
Teen Birth, rate/1,000 White, 2017	1.1		
Vaccinations	Williamson	TN	USA
Percent of children complete at 24-months			
<u>DTAP</u>		83.10	
<u>Polio</u>		94.40	
MMR		91.60	
<u>Hib</u>		94.70	
Hep B		81.80	
<u>Varicella</u>		91.10	
<u>Pneumococcus</u>		84.50	

# Child/Adolescent Health

Indicator	Williamson	TN	USA
Child / Adolescent Health			
Social / Emotional Supports	Williamson	TN	USA
Disconnected Youth (ages 16-24 who are neither working nor in school) 2014	8.81%	16.76%	
Child Injury / Death	Williamson	TN	USA
<u>Fatalities in crashes involving young drivers age 15 to 20, 2016</u>		127	4,853
Child Abuse / Neglect	Williamson	TN	USA
Reported child abuse cases victims younger than 18, 2017, percent of same age population	1.4%	4.9%	
Youth Risk Behavior Survey	Williamson	TN	USA
High School Youth, Ever tried cigarette smoking		31.6	28.9
High School Youth, Smoked a whole cigarette before age 13 yrs. for first time		12.3	9.5
High School Youth, Currently smoke cigarettes		9.4	8.8
High School Youth, Currently smoke cigarettes, White		11.6	11.1
High School Youth, Currently smoke cigarettes, Black or African <u>American Students</u>		1.9	4.4
High School Youth, Currently smoke cigarettes, Hispanic/Latino		7.4	7
High School Youth, Currently smoked cigarettes frequently		2.8	2.6
High School Youth, were obese		20.5	14.8
High School Youth, were obese, white		20.4	12.5
High School Youth, were obese, black or African American		20.7	18.2

High School Youth, were obese, Hispanic/Latino`		22	18.2
High School Youth, were overweight		17.5	15.6
High School Youth, did not eat vegetables		10.0	7.2
High School Youth, did not drink milk		30.2	26.7
High School Youth, did not participate in at least 60 min of Physical activity on at least 1 day		16.8	15.4
High School Youth, Were not physically active at least 60 min per day on 5 or more days		55.9	53.5
High School Youth, did not play on at least one sports team		50.8	45.7
Health Insurance	Williamson	TN	USA
Youth on TennCare (2017)	11.7	48.5	
Uninsured Children and youth under age 19 (2016)	2.9	3.7	
Uninsured Children and youth qualify for CHIP or Medicaid (2017)	10.5	4.8	
Pediatrician Rate (/10k) (2015)	12.0		
Psychiatrist rate (/10k) (2015)	6.1		
Psychologist rate (/10k) (2015)	9.7		
	9.7 10.1		
Psychologist rate (/10k) (2015)		TN	USA

# Environmental Health

Indicator	Williamson	TN	USA
Natural Environment			
Air	Williamson	TN	USA
Air Pollution - Particulate Matter, Avg. daily density of fine particulate matter in micrograms per cubic meter, 2012	10.2	9.7	8.7

## Behavioral Risk Factors

Indicator	Williamson	TN	USA
Behavioral Risk Factors			
Obesity & Nutrition	Williamson	TN	USA
Obese adults (%)	24%	32%	40%
Adults who have a Body Mass Index Greater than 25 (Overweight or Obese), 2016		33.20%	<u>35%</u>
Adults who have a Body Mass Index Greater than 30 (Obese), 2016	24%	34.80%	<u>30%</u>
Access to Exercise Opportunities, 2016	78%	71%	
Leisure Time / Physical Activity	Williamson	TN	USA
Adults who reported doing physical activity or exercise during past 30 days other than regular job		71.60%	<u>76.9%</u>
Recreation and fitness facilities - total # of sites in county (2014)	38.00		
Recreation and fitness facilities/ 1,000 pop. (2014)	0.19		
Percentage of adults age 20 and over reporting no leisure- time physical activity, 2014	21%	30%	
Have you used internet in the past 30 days			
<u>18 - 24</u>		97.20%	
<u>25-34</u>		95.20%	
<u>35-44</u>		91.60%	
45-54		80.70%	
55-64		74.70%	
<u>65+</u>		53.70%	
College graduate		96.20%	
H.S. or G.E.D.		75.70%	
Less than H.S.		47.00%	
Firearms	Williamson	TN	USA
Handgun Carry Permits Issued, 2017	6985	218536	16358844
Handgun Carry Permits Revoked, Suspended, or Denied, 2017	116	5134	
Firearm Deaths all intents, 2016 (per 100,000)	87	<u>1148</u>	
Firearm Deaths, homicide only, 2016		434	
Firearm deaths, suicide only, 2016		675	
Number of deaths due to firearms per 100,000 population, 2012-2016	8	16	
Substance Use / Abuse	Williamson	TN	USA
Number of drug overdose deaths per 100,000, 2014-2016	69	22	
Number of TDMHSAS-licensed mental health and substance abuse sites	46	2671	
Estimates of current illicit drug use among youth ages 12-17, 2012-2014		7.5%	9.3%

Estimates of current illicit drug use among adults 18+, 2012-2014		6.8%	9.6%
Tobacco	Williamson	TN	USA
Current smokers, Adult, Percent of Adults Age 18+, 2016	15%	21.9%	<u>15.5%</u>
Current tobacco use among youth ages 12-17, 2012-2014		10.0%	7.8%
Percent of Adults Ever Smoking 100 or More Cigarettes, 2011-2012	40.19%	47.97%	44.16%
Adults Ever Smoking 100 or More Cigarettes, White Non- Hispanic, Percent, 2011-12		50.64%	48.52%
Adults Ever Smoking 100 or More Cigarettes, Black Non- Hispanic, Percent, 2011-12		36.49%	38.34%
Adults Ever Smoking 100 or More Cigarettes, Other Race Non-Hispanic, Percent, 2011-12		44.11%	31.30%
Adults Ever Smoking 100 or More Cigarettes, Hispanic/Latino, Percent, 2011-12		45.36%	34.17%
Smoke Every Day		15.2%	12.4%
College graduate		4.5	
H.S. or G.E.D.		18.6	
Less than H.S.		27.5	
<\$1 <u>5000</u>		27.7	
\$15,000-\$24,999		21.0	
\$25,000-\$34,999		17.9	
\$35,000-\$49,999		12.3	
\$50,000+		9.2	
Annual deaths from smoking related causes			480,000
Percent Smokers with Quit Attempt in Past 12 Months, 2011-2012.	36.66%	61.54%	60.02%
Alcohol	Williamson	TN	USA
Excessive Drinking	17.0%	14.0%	26.9%
Alcohol-impaired driving deaths, % of deaths with alcohol involvement, 2012-2016	23%	28%	29%
Percent of admissions to substance abuse treatment services with alcohol as substance of abuse, FY 2016	49.4%	42.1%	34%
Estimates of alcohol dependence or abuse among youth ages 12-17, 2012-2014		2.7%	3%
Estimates of alcohol dependence or abuse among adults 18+, 2012-2014		5.8%	7%
Binge drinkers, percent, TNBRFSS 2016		<u>13.10%</u>	<u>16.9%</u>
Alcohol-impaired driving deaths, % of death with alcohol involvement, 2009-2013	23%	28%	29%
Opioid Use	Williamson	TN	USA
Past year nonmedical use of pain relievers, adults 18+, 2012- 2014		4.1%	4.2%
Past year nonmedical use of pain relievers, adults 18+, 2008- 2010		4.6%	4.7%
Percent of admissions to substance abuse treatment services with prescription opioids as substance of abuse, FY 2016	35.6%	41.4%	34.0%

Percent of drug overdose deaths involving an opioid, 2015	84%	<u>72%</u>	73.00%
Percent of drug overdose deaths involving heroin, 2015	16%	<u>15.90%</u>	<u>25.00%</u>