

## Mental and Behavioral Health

### Mental Health

Poor mental health is a major source of distress, disability, and social burden. In any given year, as many as one in five adults in the United States have a mental disorder.<sup>lv</sup>

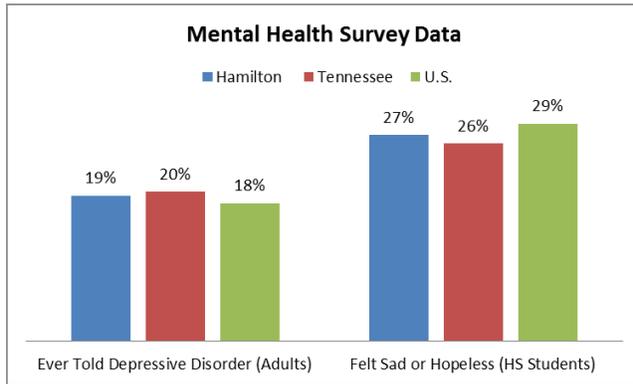


Figure 50 Source: 2011-2013 BRFSS and 2011 YRBS

- In Hamilton County, 19% of adults reported that a healthcare provider had ever told them they had a depressive disorder.
- 27% of Hamilton County high school students reported ever feeling “so sad or hopeless almost every day for two weeks or more in a row that stopped you from doing some usual activities.”

In 2012, there were 2,989 Emergency Department (ED) visits and 627 hospitalizations for mental disorders in Hamilton County. Self-inflicted injuries (including suicide attempts) resulted in 370 trips to the ED, 198 non-fatal hospitalizations, and 49 deaths.

Table 28. Mental Health Hospitalizations in Hamilton County, 2012, Short-term Hospitals Only

	Hamilton County Number	Hamilton County Age Adj. Rate	Tennessee Age Adj. Rate
<b>Mental Disorders</b>			
-Emergency Dept. Visits	2,989	865.0	1199.8
--Hospitalizations	627	181.5	349.6
<b>Suicide Attempt/Self Inflicted</b>			
--Emergency Dept. Visits	370	111.6	132.7
--Hospitalizations	198	58.2	49.3
<b>Suicide Fatalities</b>	49	13.2	14.3

Source: Tennessee Department of Health, Division of Health Statistics (Hospital Discharge Data and Vital Statistics). Mental Disorders include ICD-9 codes 290-319 as the primary diagnosis.

## Suicide

Suicide is a serious public health problem that can have lasting harmful effects on individuals, families, and communities. The 8<sup>th</sup> leading cause of death in Hamilton County, three-year age-adjusted suicide rates have increased by 27.3% since 2000 (from 11.3 to 14.4 per 100,000).

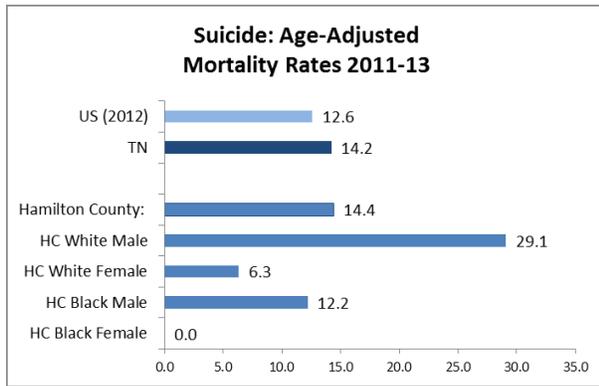


Figure 51 Source: Tennessee Department of Health, Division of Health Statistics

- There were 157 deaths by suicide in Hamilton County between 2011 and 2013, and the age-adjusted mortality rate was 14.4 per 100,000.
- Males have higher mortality rates than females regardless of race.
- White males had the highest mortality rate among four gender-race groups. In fact, of the 157 suicides over the three-year period, 119 (76%) were committed by white males.

## Alcohol and Drug Use

According to the Behavioral Risk Factor Surveillance System, over half of adults in the U.S. report having at least one drink of alcohol within the past 30 days. Although light to moderate alcohol drinking may have beneficial health effects on the heart, heavy or excessive alcohol drinking can lead to increased risk of unintentional injuries or health problems such as liver disease, high blood pressure, or certain forms of cancer.<sup>lvi</sup>

Excessive alcohol consumption cost the nation \$223.5 billion in the United States in 2006 or about \$1.90 per drink. Most of these costs were due to binge drinking, and resulted from losses in workplace productivity, health care expenses, and crimes related to excessive drinking.<sup>lvii</sup>

Binge drinking is defined as consuming 5 or more drinks (for men) or 4 or more drinks (for women) at the same time or within a couple of hours of each other. The *Healthy People 2020* objective is to reduce binge drinking among adults to 24%.<sup>8</sup>

<sup>8</sup> Progress towards meeting this *HP2020* objective is tracked through the National Survey on Drug Use and Health (NSDUH), a different survey and methodology than the BRFSS. According to the 2013 NSDUH, 26.9% of U.S. adults engaged in binge drinking during the past 30 days. The 2008 national baseline was 27.1%. ([healthypeople.gov](http://healthypeople.gov))

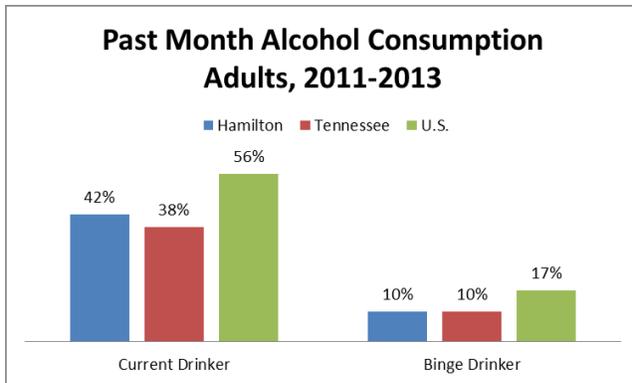


Figure 52 Sources: 2011-2013 BRFSS

- The prevalence of alcohol consumption and binge drinking among adults in Tennessee and Hamilton County is lower than national rates, according to 2011-2013 BRFSS data.
- Approximately four out of ten adults in Hamilton County and in Tennessee have had one or more alcoholic beverages within the past month, compared to 56% of adults nationwide.
- In Hamilton County and in Tennessee, approximately 10% of adults reported binge drinking, compared to 17% of adults nationwide.

### Alcohol and Drug Use among High School Students

The 2011 Hamilton County Youth Risk Behavior Survey found that alcohol is the most commonly used addictive substance: one-third of students consumed an alcoholic beverage within the past month and 18% had engaged in binge drinking. Twenty percent of students had used marijuana.

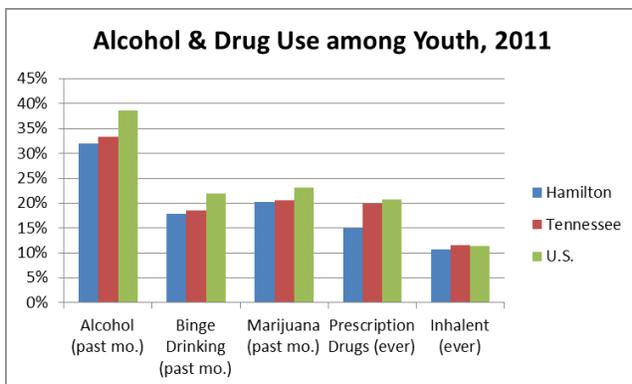


Figure 53 Source: 2011 Youth Risk Behavior Survey

- Approximately one-third of high school students in Hamilton County consumed an alcoholic beverage in the past month and 18% had engaged in binge drinking.
- 20% of local high school students used marijuana in the past month.
- 15% of local high school students had ever used a prescription drug not prescribed to them, and one in ten had ever used inhalants.
- Area students reported less alcohol and drug use than students nationwide.

### Prescription Drug Abuse

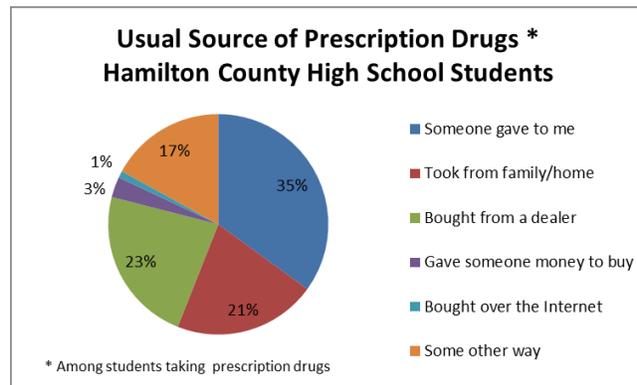
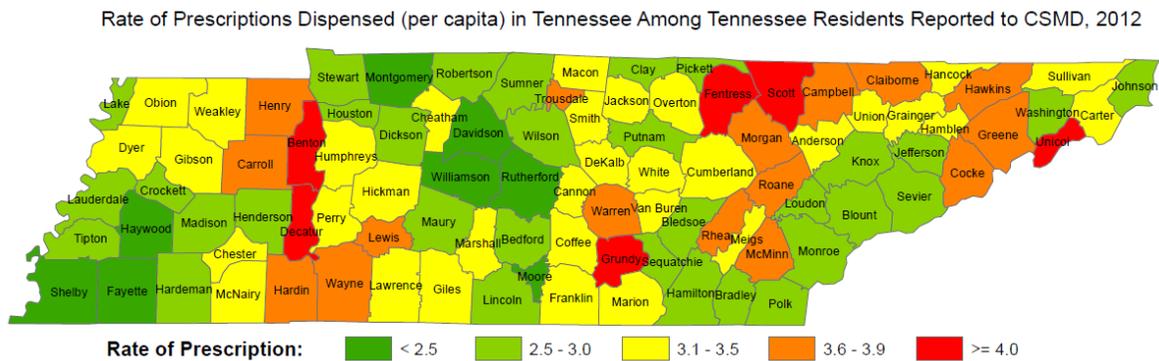
Nationwide, the CDC reports that deaths from drug overdose have been rising steadily over the past two decades. The Tennessee Department of Mental Health and Substance Abuse Services (TDMHSAS) declared prescription drug abuse an epidemic in Tennessee, where the number of drug overdose deaths increased 220% between 1999 (342 deaths) to 2012 (1,094 deaths). Health officials attribute this to an increased use of prescription drugs, which were linked to more than half of the drug overdose deaths in the United States in 2012.

Statewide, the number of prescriptions written increased by 23% from 2010 to 2011, contributing to addiction problems across the state, according to health officials. While some individuals abuse medications which have been prescribed to them, others obtain medications from friends or relatives. In addition, state officials are concerned about illegitimate pain clinics, doctor shopping, and prescription fraud.<sup>lviii</sup>

As part of the strategy to reduce prescription drug abuse in Tennessee, in 2006, the Tennessee Department of Health established a database to monitor the dispensing of Schedule II, III, IV and V controlled substances. The Prescription Safety Act of 2012 enhanced the monitoring capabilities of the database. The bill requires all medical professionals to register with the state’s Controlled Substance Monitoring Database and to check a patient’s history of opiate and benzodiazepine use before prescribing pain medications. Before 2012, state law required prescribers to report data but left checking the database up to each person’s discretion.

Map 2 indicates the rate of controlled substances dispensed across Tennessee counties adjusted by population. The map shows that Hamilton County had a rate of 2.5-3.0 prescriptions dispensed per capita. The counties with the highest rates (>=4.0 per capita) include Unicoi, Scott, Fentress, Benton, Decatur, and nearby Grundy.

**Map 2**



- In Hamilton County, 15% of high school students had used prescription drugs not prescribed for them. These students most often obtained prescription drugs from a friend or family member.
- White students were four times more likely to have used prescription drugs than black students (20% vs. 5%).
- Among all addictive substances students have tried, prescription drugs ranked fourth (15%), after alcohol (63%), cigarettes (43%), and marijuana (37%).

Figure 54 Source: 2011 Hamilton County YRBS

**Alcohol and Drug Related Hospitalizations**

In 2012, there were 2,916 Emergency Department (ED) visits and 1,391 hospital admissions for alcohol-related disorders among Hamilton County residents. Drug-related disorders accounted for 3,538 ED visits and 1,288 admissions. As noted earlier, 66 Hamilton County residents died from a drug overdose in 2012.

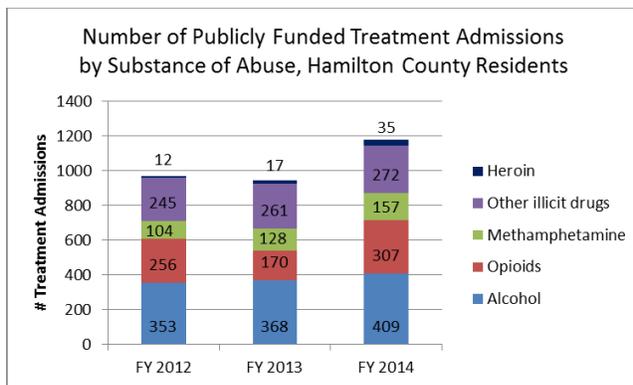
**Table 29: Alcohol and Drug-Related Hospital Visits, Short-term Hospitals Only, 2012**

	Hamilton County Number	Hamilton County Age Adj. Rate	Tennessee Age Adj. Rate
<b>Alcohol-Related</b>			
-Emergency Dept. Visits	2,916	843.9	816.2
--Hospitalizations	1,391	402.5	410.2
<b>Drug-Related</b>			
--Emergency Dept. Visits	3,538	1,023.9	1,098.0
--Hospitalizations	1,288	372.7	502.9

Source: TN Dept. of Health, Division of Health Statistics (Hospital Discharge Data System). Alcohol-related includes ICD-9 codes 291,303,305.0,790.3, and 980, any diagnosis. Drug-related includes ICD-9 codes 292,304,305.2-305.9, 960-977, any diagnosis

### Treatment Admissions

Figure 33 below illustrates the number of publicly funded treatment admissions to Hamilton County residents from 2012 to 2014 by substance of abuse. Individuals may be treated for more than one substance. The number of unique individuals receiving publicly funded treatment services in Hamilton County increased from 668 in 2012, to 692 in 2013, and to 852 in 2014.



**Figure 33 Source: TDMHSAS 2014 Tennessee Behavioral Health County Data Book**

- Over the 3-year period, treatment admissions increased for every recorded substance of abuse. Alcohol was the most commonly abused substance, followed by opioids, methamphetamines, and other drugs.
- The number of treatment admissions for heroin abuse doubled from 2013 (17) to 2014 (35).
- The number of unique individuals receiving publicly funded treatment services increased by 28% between 2012 and 2014 (from 668 to 852).

### Neonatal Abstinence Syndrome

One of the consequences of a rise in substance abuse among women is an increasing number of babies born with Neonatal Abstinence Syndrome (NAS). Babies with NAS suffer withdrawal symptoms after being exposed to illegal or prescription drugs while in the mother’s womb. Over the past decade, Tennessee has experienced a nearly ten-fold rise in the incidence of babies born with Neonatal Abstinence Syndrome. Infants with Neonatal Abstinence Syndrome stay in the hospital longer than other infants and may have serious medical and social problems. Hospital charges for newborns with NAS in Tennessee average \$62,973, compared to \$7,258 for newborns not experiencing withdrawal. In an analysis of Tennessee infants born in 2012 with TennCare coverage, infants born with Neonatal

Abstinence Syndrome were 14.8 times more likely to be in Department of Children’s Services custody during their first year of life compared with other TennCare infants.<sup>lix</sup>

As of January 2013, Neonatal Abstinence Syndrome is a reportable disease and all cases must be reported to the Tennessee Department of Health at the time of diagnosis. Table 30 shows the number and rate per 1,000 births for reported NAS by Tennessee Health Planning Region for 2014. Map 3 illustrates the locations of the Tennessee Department of Health Planning Regions.

**Table 30. Drug Dependent Newborns (NAS) by TN Department of Health Planning Region, 2014**

Region # (see map)	Region of Maternal Residence	# Cases	Rate per 1,000 Births
14	Sullivan	76	48.4
1	North East	140	42.2
2	East	264	33.9
4	Upper Cumberland	103	27.2
3	Knox	103	20.2
9	South Central	38	8.6
8	Mid-Cumberland	94	6.4
7	Davidson	55	5.6
5	South East	20	5.5
10 & 11	West	28	4.7
6	Hamilton	12	2.9
12	Shelby	37	2.7
13	Jackson/Madison	3	2.4
	Total	973	12.3

Source: TN Department of Health NAS Monthly Update  
Data through 1/2/2015

- The highest rates of NAS occur in Northeast Tennessee (Sullivan County and North East Region), East Tennessee (East Tennessee Region and Knox County), and in the Upper Cumberland Region.
- While the Hamilton County NAS rate is significantly lower than 10 of the 13 regions, the figure refers to Hamilton County resident births only. Hamilton County labor and delivery hospitals have a broad service area (approximately 40% of deliveries are to non-Hamilton County residents) and hospital officials report caring for many more infants with NAS.<sup>1</sup>

**Map 3. Tennessee Department of Health Regions**

