TENNESSEE Violent Death Reporting System

2022 Suicide Deaths

Annual Report

TN Department of Health
Office of the State Chief Medical Examiner
November 2024

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Executive Summary

The Tennessee Violent Death Reporting System (TNVDRS) is a statewide surveillance system that collects de-identified data on violent deaths where the injury occurred in TN. This CDC-funded program links medical examiner, law enforcement, and vital records data for all homicides, suicides, unintentional firearm deaths, legal intervention deaths, and deaths of undetermined intent. Over 600 unique data elements are collected yearly to provide context on demographics, mechanism of injury, and circumstances of injury from multiple sources with the goal of aiding state and local officials, data partners, and community interest groups in understanding and reducing violent death. This annual report summarizes information collected by TNVDRS about suicide deaths in TN in 2022.

TNVDRS identifies decedents based on location of injury rather than residence. According to this case definition, in 2022, the suicide mortality rate in TN was 17.9 deaths per 100,000 residents, meaning that for every 100,000 TN residents, there were 17.9 suicide deaths where injury occurred within the state. There were 32 counties with 10 or more injuries. No county experienced a statistically significant change in injury rate from 2021 to 2022. The majority of decedents were injured in their own county of residence.

The mortality rate of suicide was 4.2 times higher for males than females (29.3 per 100,000 compared to 6.9 per 100,000), as shown in Figure 0.1. Figure 0.1 also shows that white individuals had a higher rate than black individuals (20.3 per 100,000 compared to 9.6 per 100,000). These groupings include Hispanic white and Hispanic black decedents respectively due to the available population groups for rate calculation[i]. The mortality suicide rate for Hispanic decedents of all races was 8.0 per 100,000.

Figure 0.2 shows the mortality rate by age. Adolescents (10-17 years) had the lowest suicide mortality rate at 5.7 per 100,000. For decedents aged 18 or higher at death, the average mortality rate was 22.7, and Figure 0.2 shows that the highest rate is among decedents aged 75 to 84, at 27.1 per 100,000.

Figure 0.1 Suicide Mortality Rate by Sex and Race/Ethnicity, 2022 (N = 1,262)

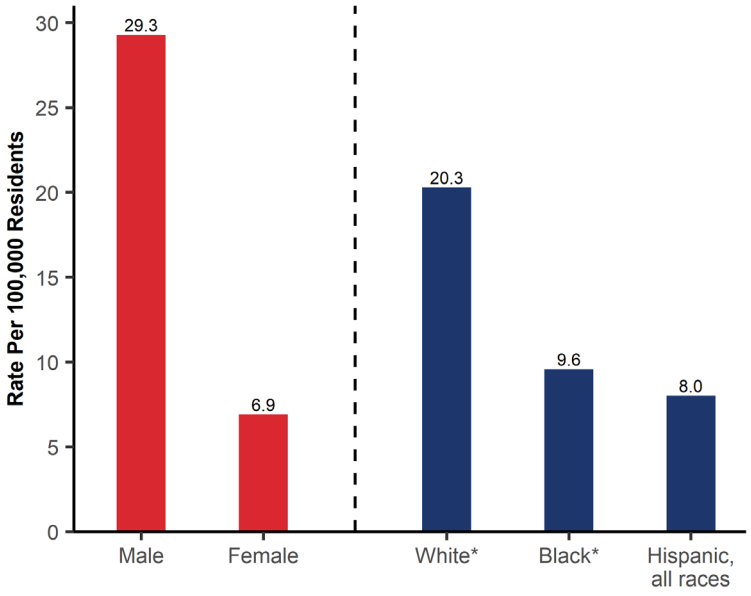
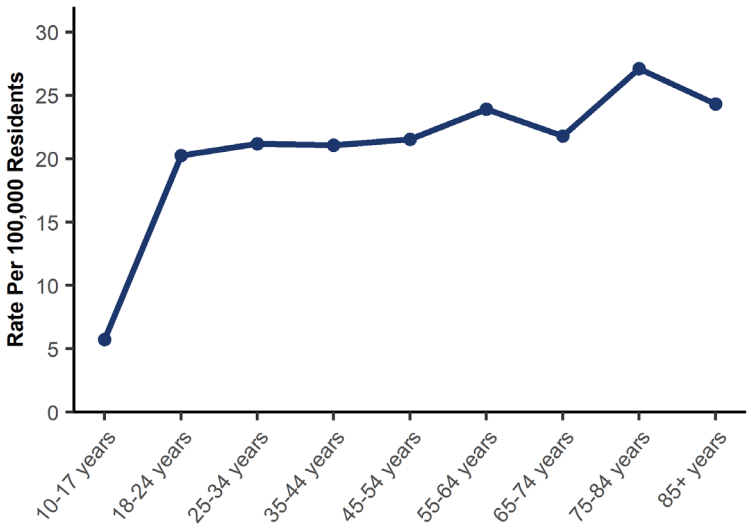


Figure 0.2 Suicide Mortality Rate by Age at Death, 2022 (N = 1,262)



[i] https://www.tn.gov/health/health-program-areas/statistics/health-data/population.html

The majority of suicide deaths are due to firearm (66.6%), as shown in Figure 0.3, followed by hanging (19.7%) and poisoning (8.6%). In 82.1% of firearm suicide deaths, the firearm used was a handgun; the most common handgun was a semi-automatic pistol.

Decedents who died by suicide due to poisoning most commonly had positive toxicology results for antidepressants (45.7%), antihistamines (38.3%), or benzodiazepines (26.6%). Decedents who died by other methods were more likely to have no substances present (34.5%), or to have positive results for alcohol (30.2%) or marijuana (15.7%). TNVDRS had available toxicology testing information for 75.4% of decedents in 2022.

Figure 0.3 Method of Death Among Suicide Decedents, 2022 (N = 1,262)

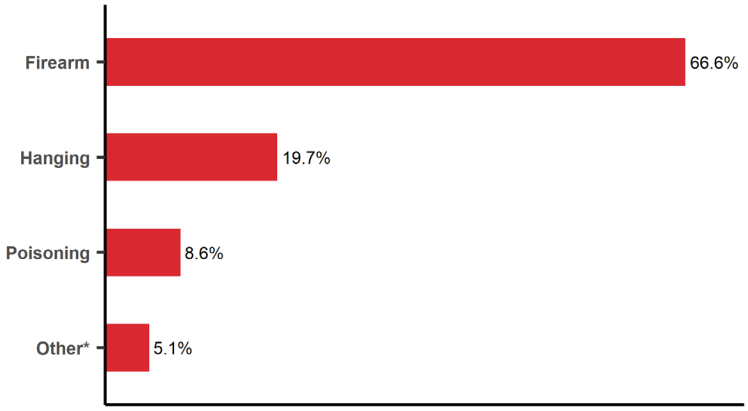
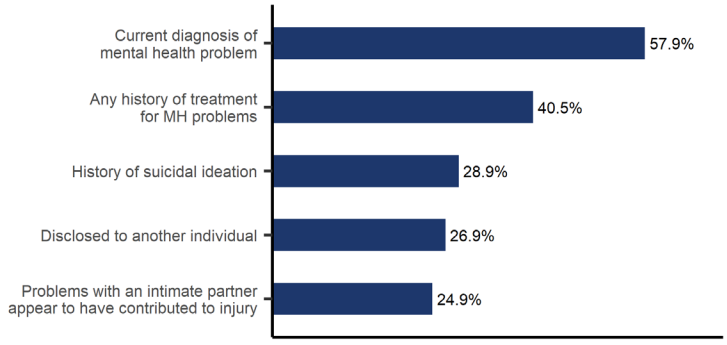


Figure 0.4 shows the most common circumstances associated with each incident; sufficient data to collect circumstance information was available for 97.2% of decedents. Females were more likely than males to have a current diagnosis, and non-Hispanic white individuals were more likely to have a current diagnosis than non-Hispanic black individuals. The most common diagnosis was depression or dysthymia.

Figure 0.4 Common Circumstances Among Suicide Decedents, 2022 (N = 1,262)



This pattern of females being more likely to have a circumstance endorsed than males, as well as NH white individuals being more likely to have that same circumstance endorsed than NH black individuals is also consistent for both a history of mental health treatment and a history of prior suicidal ideation.

The percentage of decedents disclosing to another individual prior to injury is consistent across both sex and race/ethnicity. While male decedents were more likely than female decedents to experience problems with an intimate partner that appear to have contributed to injury, the percentage of decedents with this circumstance endorsed was similar for both NH black and NH white decedents.

For more information about TNVDRS or any of the data contained in this report, please visit our website at https://www.tn.gov/health/health-program-areas/oscme/tnvdrs.html or email us at TN.VDRS@tn.gov. TNVDRS data can be complex to interpret due to its collection methodology, and we encourage anyone looking to use information from any of our data products, including this report, to reach out so that we can clarify any necessary details.

Click to visit the TNVDRS site!

I. Overview and Methodology

The Tennessee Violent Death Reporting System

The National Violent Death Reporting System (NVDRS) is a surveillance system funded and maintained by the CDC with the goal of collecting de-identified data on violent deaths across the United States[1] [1-2]. The Office of the State Chief Medical Examiner, housed in the TN Department of Health, was awarded an NVDRS grant in 2018 to begin developing a process for implementing this multisource data collection here in Tennessee. The Tennessee Violent Death Reporting System (TNVDRS) has been gathering statewide data on violent deaths since 2020.

Most mortality statistics are gathered primarily using information available on death certificates, which tends to be limited to cause of death and basic demographics such as race, sex, and age. The NVDRS is designed instead to collect information from at least three sources for each incident: death certificates (DC), coroner/medical examiner (CME) reports, and law enforcement (LE) reports. The goal is to build as complete a picture as possible of the circumstances contributing to incidents where violent deaths occur, and as a result, more than **600 variables** are potentially collected in the NVDRS for analysis.

The process by which these various reports are synthesized into a group of variables for each violent death is called **abstraction**. In abstraction, a trained individual called an abstractor reads all of the information available on a single incident where one or more violent deaths have occurred and then fills out the corresponding data elements in the NVDRS user interface. Some of these data elements, such as a decedent's height or weight, are relatively intuitive to complete, but others, such as whether a family stressor contributed to death, are more complex to determine. A comprehensive coding manual provides guidance on how to consistently abstract each data element, and the CDC provides ongoing training and support for all abstractors to ensure proper data quality across all variables in the NVDRS. This manual, in addition to all publications and fact sheets produced by the CDC's NVDRS team, is available on the resources section of the NVDRS website[1].

Incidents in the TNVDRS dataset are grouped by the year in which the death occurred, regardless of the date of injury. For example, if someone was injured in 2017 and subsequently died of those injuries in 2018, they would be included in the 2018 dataset. In order to ensure that the agencies providing information for abstraction on each incident have sufficient time to investigate, the yearly dataset is closed out sixteen months after the end of the calendar year. The 2022 incidents that are the subject of this report were completed by TNVDRS at the beginning of May of 2024. After closeout, TNVDRS works with the CDC to ensure data quality by performing additional checks on all variable fields. Once those checks are complete and the CDC has verified that TNVDRS meets the metrics for inclusion in the national dataset, the data are released for dissemination. TNVDRS has been included in the national dataset in every year of statewide collection.

TNVDRS Case Definition

A **violent death** is defined by NVDRS as "*a death that results from the intentional use of physical force or power, threatened or actual, against oneself, another person, or a group or community*." In practical terms, this definition identifies homicides, suicides, legal intervention deaths, and deaths due to undetermined intent. NVDRS also includes unintentional firearm deaths with the express purpose of providing a complete count of all firearm injuries [1].

[1]The NVDRS website is available at https://www.cdc.gov/nvdrs/about/index.html

To identify deaths meeting this case definition, TNVDRS considers two aspects:

1. **Cause and manner of death**: The cause of death is a description of the specific injury or medical scenario resulting in death, whereas the manner of death refers to the circumstances surrounding the death. To aid the tabulation of mortality statistics from the cause and manner of death, a system of standardization known as the International Classification of Disease was developed by the World Health Organization (WHO). We currently use the 10th revision of this system in the United States to classify deaths, and it is typically referred to as "ICD-10 coding." [3]

   Once a death certificate is registered, information on the cause and manner of death are used to generate ICD-10 coding. TNVDRS implements a process to identify all deaths with ICD-10 coding corresponding to violent deaths, as shown in Table 1.1. In addition, TNVDRS considers any death with a manner of homicide, suicide, or undetermined intent, regardless of ICD-10 coding. These cases are added to the list of incidents for abstraction, and we then begin requesting additional reports.

Table 1.1 ICD-10 Coding Used in Violent Death Reporting*

Manner of Death	Death within a year of injury	Death more than a year after injury
Intentional self-harm (Suicide)†	X60 – X84	Y87.0
Assault (Homicide)†	X85 – X99, Y00 – Y09	Y87.1
Event of undetermined intent	Y10 – Y34	Y87.2, Y89.9
Unintentional firearm exposure	W32 – W34	Y86
Legal intervention (excluding executions)	Y35.0 – Y35.4, Y35.6, Y35.7	

* Adapted from the NVDRS Coding Manual, Version 6.0, Revised January 2022
† Additional terrorism ICD-10 codes U01-U03 are also included, regardless of time of injury

   As more information about an individual incident is gathered, the abstractor generates a TNVDRS-specific abstractor manner of death based on a review of all available reports. The abstractor manner of death must agree with at least one of the manners stated in other data sources: death certificate, CME reports, or LE reports. We use the abstractor manner of death to classify incidents, as it represents as comprehensive a review of the data sources that we can produce. If at any point during the abstraction process, we receive information indicating that a case no longer meets the definition of a violent death, it is excluded from the final dataset.

2. **Location of injury**: One of the ways in which the NVDRS is a unique public health surveillance program is its geographic case definition. Most public health datasets are based on residency – i.e., where the decedent lived. However, NVDRS collects information based on occurrence – i.e., where the injury occurred. This decision is logical, as the CME and LE agencies investigating each incident do so based on where the scene of injury is located, regardless of the residence of any involved party, and it gives partner agencies who provide reports to NVDRS an opportunity to look at statistics based on jurisdiction. It must always be kept in mind by other groups using NVDRS data that violent death counts may differ from other public health sources. There are also additional statistical caveats regarding rate calculation, as discussed in Analysis Methodology on the next page.

   Using the case definition described above, TNVDRS has identified 2,212 violent deaths where injury occurred in Tennessee in 2022. Table 1.2 and the accompanying Figure 1.1 both show the abstractor manners of death for these deaths, comparing 2022 to the previous data years. There was no substantial change in either the overall number of violent deaths or in any of the manners in 2022 compared to previous years. Chi-square significance testing verified no statistical change by year.

Figure 1.1 Abstractor Manner of Death by Incident Year

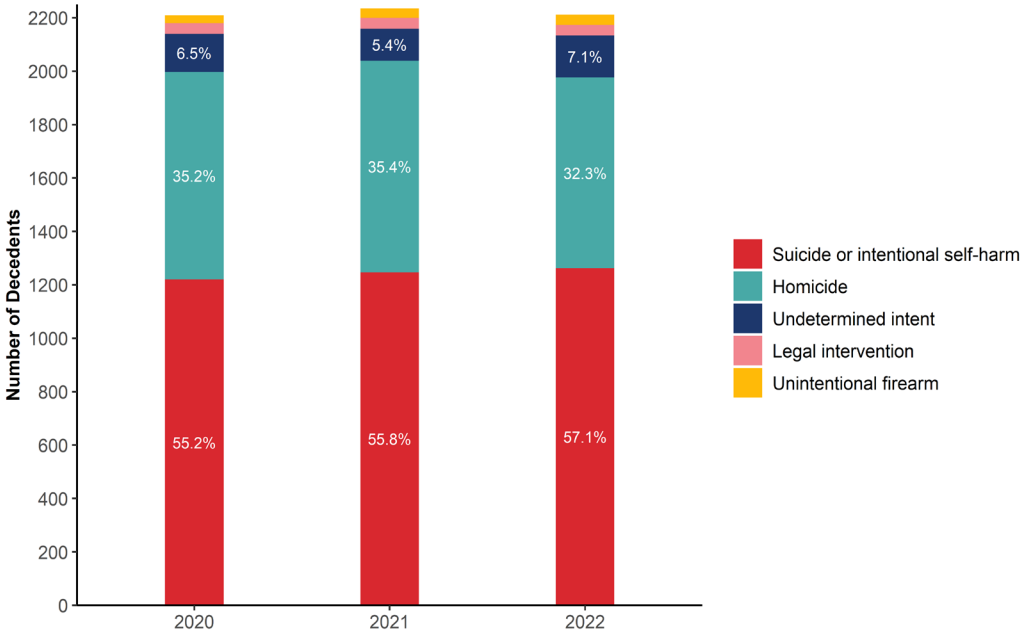


Table 1.2 Abstractor Manner of Death by Incident Year

	2020		2021		2022	
	Count	Percent	Count	Percent	Count	Percent
Suicide or intentional self-harm	1220	55.2	1247	55.8	1262	57.1
Homicide	777	35.2	792	35.4	714	32.3
Undetermined intent	143	6.5	120	5.4	158	7.1
Legal intervention	40	1.8	41	1.8	39	1.8
Unintentional firearm	29	1.3	35	1.6	39	1.8
Total	2209		2235		2212	

For the remainder of this report, we will focus on the 1,262 decedents with an abstractor manner of death of suicide in 2022, comparing to the decedents with the same manner in previous years when appropriate.

The database classifies decedents by incident, allowing us to distinguish incidents with multiple decedents, such as a suicide following a homicide, or a homicide with multiple victims. TNVDRS is therefore able to determine that these 2,212 violent deaths in TN in 2022 occurred across 2,151 incidents. Incidents with multiple decedents will be described in more detail in Section II, which covers location and scene details.

Analysis Methodology

Statistics in this report are presented in three ways:

- *Count data*: the number of decedents in the category of interest
- *Percentage data*: the percentage of decedents grouped by a demographic or year
- *Crude rate data:* the number of deaths per 100,000 residents in a particular geographic or demographic group

Rates are often preferred in public health data, as they allow comparisons between groups more effectively when there are differences in population sizes. This is particularly useful when studying smaller populations, when it can be difficult to get a sense of the impact of a problem from counts alone. To calculate a rate, the

count is divided by the population of interest. This rate is then commonly multiplied by 100,000, so what is presented is actually a "rate per 100,000." For example, if a rate is reported as 14.3, that really means that for every 100,000 people in the population of interest, 14.3 are affected by the problem.

There is a robust body of literature on the calculation of mortality rates in particular because of the question of how to determine the population that one uses as the denominator in the above equation. It is not the goal of this report to summarize this complexity, but we note it because NVDRS data presents an additional layer of difficulty in population definitions that must be addressed.

In large-scale mortality statistics, it is standard practice to use the US census population estimate in calculating rates. This is partially why public health datasets collect based on residency; if one has counted the number of residents impacted by a disease in a certain demographic, then using census estimates to calculate a rate makes logical sense. But the NVDRS case definition collects cases based on injury location, meaning that TNVDRS does not have a full resident count – if a TN resident died due to violence outside of Tennessee, they are not captured in TNVDRS and therefore cannot be included in our counts. Additionally, TNVDRS captures out-of-state residents who die due to violence in Tennessee.

We have chosen to include all TNVDRS decedents in our rate calculations and to also use the standard census estimates for the denominator. This allows us to compare violent death rates within the TNVDRS dataset itself as we continue to collect incidents in future years.

Finally, we note that due to the depth of information collected by TNVDRS, many data elements contain counts of 20 or fewer. Counts less than 10 will be suppressed throughout the report due to the potentially identifying nature of these demographics and circumstances, but counts less than 20 can also be challenging to interpret due to the associated large standard error. Essentially, when counts are small, even expected minor fluctuations look statistically more important than they are.

Because the issue of small counts can impact rate calculations more than other statistics shown in this report, we have decided to present 95% confidence intervals beside all rates shown in tables. A confidence interval (CI) is a good way of understanding the uncertainty present in a calculation; the wider the CI, the less accurate that rate likely is. If two confidence intervals overlap, then there is no statistical difference between the two values, which can be helpful for understanding when a change is significant or not.

Data Use and Requests

TNVDRS data can be complex to interpret due to its collection methodology, and we encourage anyone looking to use information from any of our data products, including this report, to reach out via email at TN.VDRS@tn.gov so that we can clarify any necessary details. We are also happy to generate custom reports, figures, or tables using TNVDRS data. You can reach us either at the above email or by using the Data Request button on our website (https://www.tn.gov/health/health-program-areas/oscme/tnvdrs.html).

If only general information such as yearly counts by county for a specific cause or manner of death is needed, we would encourage you to either contact the TN Office of Vital Records and Statistics (https://www.tn.gov/health/health-program-areas/statistics/health-data/vital-statistics.html) or access the CDC WONDER database (https://wonder.cdc.gov/). Death certificate data is public record, and the CDC has created a public-use system where anyone can generate basic death statistics. The reason we encourage using systems other than TNVDRS for general mortality statistics is due to the nuances in the differing case definitions described above.

II. Location and Scene Characteristics

Key Findings:

- The suicide mortality rate in Tennessee in 2022 using TNVDRS data was 17.9 deaths per 100,000 residents, with 32 counties being the location of injury of 10 or more deaths.
- The majority of decedents who die due to suicide (71.9%) are injured in their place of residence

TNVDRS collects several variables regarding the scene of injury and surrounding environmental circumstances. In this section, we will present information on the injury scene in terms of geography, time, and environment. For all statistics in this section, the denominator of any percentages will be the 1,262 suicide deaths where injury occurred in Tennessee in 2022. Rates are determined using 2022 US Census estimates published by the TN Division of Policy, Planning, and Assessment (https://www.tn.gov/health/health-program-areas/statistics/health-data/population.html).

Geographic Characteristics

Geographic information is available in the TNVDRS on injury location, residence, and death location. While the database enables collection to the census tract level, we have observed that the yearly counts below county level are too small for consistent interpretation[2]. We also see that our data suppression rules can sometimes lead to an incomplete picture of the geographic distribution of suicide injuries across Tennessee; only 32 of the 95 counties had ten or more suicide injuries in 2022, although every county had at least one.

Deaths due to suicide, as well as other non-natural manners, are investigated by medical examiners' offices across the state. Each county has its own medical examiner, but autopsy services are typically performed at one of the five regional forensic centers (RFCs), depending on the county ordering the exam. The RFCs are located in Memphis (West), Nashville (Middle), Knoxville (East), Chattanooga (Southeast), and Johnson City (Northeast), which provides TNVDRS a convenient distribution to present geographic data by region. We have chosen this distribution because it correlates well with our case definition, meaning that the county of injury tends to be the county ordering the autopsy from the RFC.

To show the broad geographic trend of all deaths due to suicide without data suppression, Figure 2.1 on the next page shows the geographic distribution of fatal suicide injuries by RFC-defined region; corresponding counts and rates are shown in Table 2.1.

[2] Once TNVDRS has enough data years to aggregate counts below county level, we will be pursuing census and zip code level analyses

Figure 2.1 Geographic Distribution of Deaths due to Suicide by Region in TNVDRS, 2022

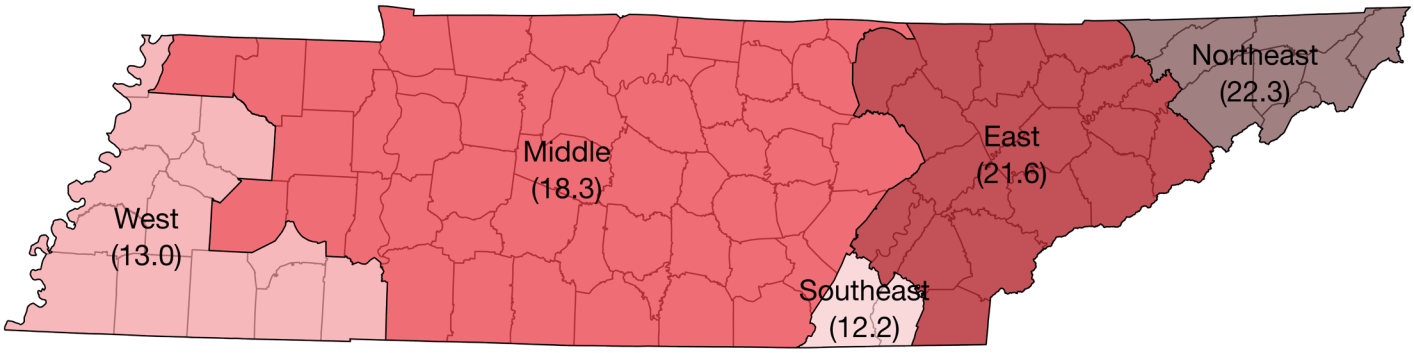


Table 2.1 Suicide Mortality Rate by Region of Injury, 2022 (N = 1,262)

	Count	Rate	95% CI
East	309	21.6	19.3 - 24.1
Middle	612	18.3	16.9 - 19.8
Northeast	117	22.3	18.4 - 26.7
Southeast	59	12.2	9.3 - 15.7
West	165	13.0	11.1 - 15.2
Tennessee	1262	17.9	16.9 - 18.9

We compared regional suicide mortality rates to the prior data year, and we found some nominal statistical fluctuation, but no change was statistically significant.

Figure 2.2 and the corresponding Table 2.2 present the geographic distribution of fatal suicide injuries by county. It should be noted that the county with the highest rate (Macon) has a small total count, so this rate should be interpreted with caution. All counties with rates not shown had fewer than ten fatal suicide injuries in 2022. When comparing county suicide mortality rates to the prior year, we found that seven counties (indicated in Table 2.2 with bold font) with more than 20 deaths per year had an increase in rate from 2021 to 2022, but none of these increases were statistically significant when their confidence intervals were compared.

Sixty-five decedents were out-of-state residents who were injured in Tennessee. Of the remaining 1,197 TN resident suicide decedents in TNVDRS, 91.5% were injured in their own county of residence.

Figure 2.2 Geographic Distribution of Deaths due to Suicide by County in TNVDRS, 2022

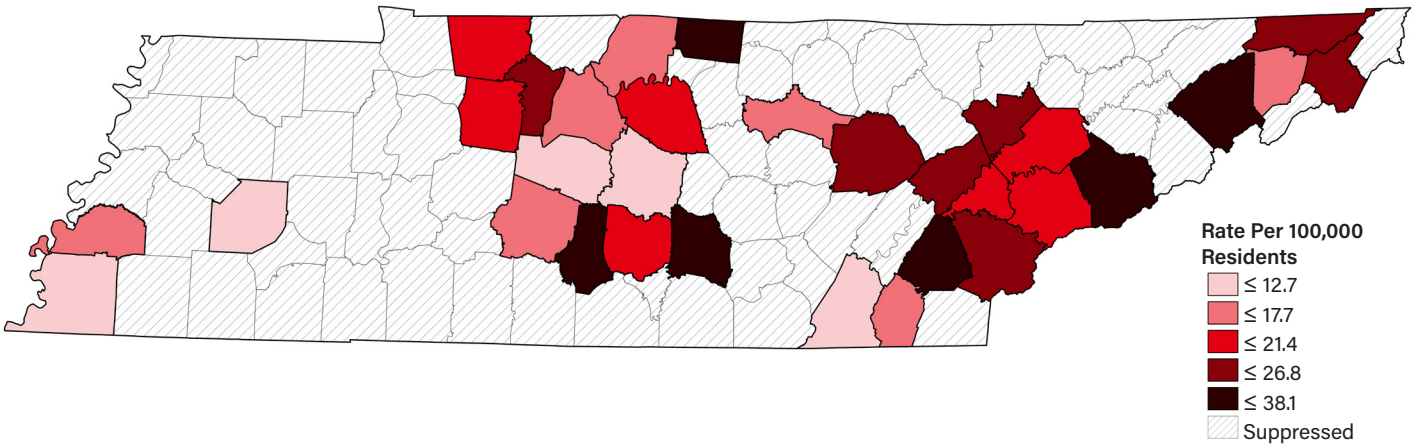


Table 2.2 Suicide Mortality Rate by County of Injury, 2022 (N = 1,262)

	Count	Rate	95% CI
Anderson	18	22.8	13.5 - 36.0
Bedford	10	19.2	9.2 - 35.4
Blount	28	20.0	13.3 - 28.9
Bradley	17	15.4	9.0 - 24.6
Carter	14	24.8	13.6 - 41.6
Cheatham	10	23.9	11.5 - 44.0
Coffee	18	30.1	17.9 - 47.6
Cumberland	17	26.8	15.6 - 42.8
Davidson	**125**	**17.7**	**14.7 - 21.0**
Dickson	11	19.7	9.8 - 35.3
Greene	**23**	**32.2**	**20.4 - 48.3**
Hamilton	42	11.2	8.1 - 15.2
Knox	**106**	**21.4**	**17.5 - 25.9**
Loudon	12	20.6	10.7 - 36.0
Macon	10	38.1	18.3 - 70.1
Madison	12	12.1	6.2 - 21.1
Marshall	11	30.6	15.3 - 54.8
Maury	18	16.6	9.9 - 26.3
McMinn	17	31.1	18.1 - 49.7
Monroe	12	25.1	13.0 - 43.9
Montgomery	46	19.6	14.3 - 26.1
Putnam	12	14.6	7.5 - 25.4
Roane	13	23.6	12.6 - 40.4
Rutherford	40	11.1	7.9 - 15.1
Sevier	**30**	**30.4**	**20.5 - 43.3**
Shelby	**116**	**12.7**	**10.5 - 15.2**
Sullivan	**36**	**22.4**	**15.7 - 31.0**
Sumner	33	16.2	11.1 - 22.7
Tipton	10	16.2	7.8 - 29.8
Washington	24	17.6	11.3 - 26.2
Williamson	**31**	**11.9**	**8.1 - 16.9**
Wilson	32	20.2	13.8 - 28.5
Tennessee	1262	17.9	16.9 - 18.9

County of death is also collected but not presented in this report. Decedents who were transported to a hospital in a different county where they subsequently died can have a significant impact on death location statistics, which is why we prefer to focus on county of injury instead.

Temporal Characteristics

The month and year of injury was available for 1,233 (97.7%) of decedents. There was no obvious trend in the time of year in which the incident occurred; there were an average of 102.7 incidents per month in 2022, and the majority of monthly count fluctuations are within one standard deviation, meaning that the trend is relatively flat, although we note that there is slightly more fluctuation in 2022 monthly counts compared to 2021 counts. No graphical data is shown because we currently do not have enough data years to perform a full trend analysis.

The specific date of injury was available for 1,076 (85.3%) of decedents. For 953 (75.5%) of these incidents, the individual died on the same day that injury occurred. An additional 68 (5.4%) died the following day. For the 177 decedents with a recorded time of injury, 109 (61.6%) were injured between noon and midnight, and 68 (38.4%) were injured between midnight and noon. The time of injury was unknown for 1,085 (86.0%) of decedents, so we cannot infer any trends from these counts because they are small compared to the total number of decedents.

Scene Characteristics

TNVDRS collects several data elements related to the location of injury, in addition to the geographical information discussed above. Table 2.3 on the next page displays specific characteristics of the injury location associated with each incident. The majority of decedents were injured at a house or apartment (74.4%), and for 879 of these, the house/apartment was the decedent's own residence. About nine percent (8.9%) were injured in a motor vehicle, excluding school buses or public transportation, 3.6% were injured in a natural area such as a river or the woods, 2.5% were injured in a jail or prison, 3.2% were injured in a hotel or motel, 1.3% were injured in a commercial establishment such as a grocery store or laundromat, and 1.1% were injured in a supervised residential facility such as a shelter or group home. The remaining injury location categories shown in Table 2.3 are aggregated due to small counts; the footnotes in the table give more detailed specifics about the categories available in TNVDRS. Figure 2.3 below provides a graphical representation of these injury location categories to help give the reader a sense of the distribution of these categories.

Figure 2.2 Category of the Location of Injury, 2022 (N = 1,262)

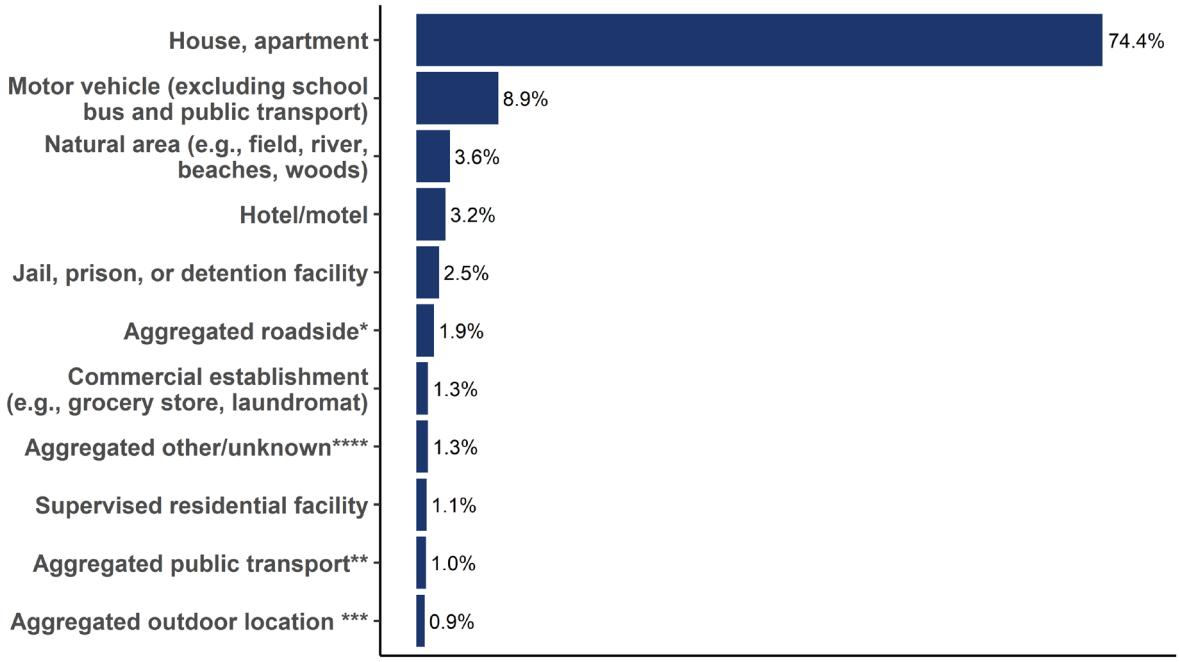


Table 2.2 Characteristics of the Location of Injury, 2022 (N = 1,262)

	Count	Percent
Category of Location of Injury		
House, apartment	939	74.4
Motor vehicle (excluding school bus and public transport)	112	8.9
Jail, prison, or detention facility	31	2.5
Natural area (e.g., field, river, beaches, woods)	46	3.6
Hotel/motel	40	3.2
Commercial establishment (e.g., grocery store, laundromat)	16	1.3
Supervised residential facility	14	1.1
Aggregated roadside*	24	1.9
Aggregated public transport**	13	1.0
Aggregated outdoor location ***	11	0.9
Aggregated other/unknown****	16	1.3
Decedent Injured at Home		
Yes	907	71.9
No or Unknown	355	28.1
Decedent Injured at Work or While Working		
Yes	12	1.0
No or Unknown	1250	99.0
Decedent in Public Custody When Injury Occurred		
In jail/prison, or under arrest but not in jail	32	2.5
Injured prior to arrest	29	2.3
Not in custody	1201	95.2
Category of Location of Death		
Home	697	55.2
Emergency department/outpatient	121	9.6
Hospital inpatient	97	7.7
Outdoor location	83	6.6
Dead on arrival	71	5.6
Roadside location or in vehicle	68	5.4
Other residence	49	3.9
Hotel/motel	32	2.5
Commercial establishment, including educational facility	19	1.5
Jail, prison, or detention facility	15	1.2
Longterm care facility, nursing home, or hospice	10	0.8

*Includes street, sidewalk, alley, highway, and bridge
**Includes railroad tracks, public transit or station, parking lot, and public garage
***Includes park/playground, farm, cemetery, industrial/construction area, sports/athletic area, and abandoned building
****Includes medical facility ,K-12 school, college/university, religious facility, and other (not specified)

We also examined these categories of injury location as a function of decedent sex and race, to see if there were any noteworthy variations by demographic. There were not enough differences to display in a table or figure due to small counts, but we note here that black decedents are over-represented in the number of decedents injured in a motor vehicle and in jail/prison, and there were no substantial differences based on sex in 2022. Counts are not high enough in a single year to present statistics, but these are trends where aggregation across years may show interesting results.

We also see in this table that the majority of injuries occurred at the decedent's home (74.4%), and most decedents were not at work or engaged in work when injury occurred. Additionally, about five percent of decedents were either in jail or prison when injury occurred, under arrest without being in jail when injury occurred, or injured prior to arrest. We also note that the variable associated with these counts has more options available than those listed in the table, including in foster care, in mental hospital or other state institution, although none of those options were endorsed for more than five decedents in 2022.

The information on death location is collected primarily from the death certificate, which has less detailed categories available as those for injury location, but we were able to generate additional categories by analyzing the text in the "Other (Specify)" field on the death certificate. Consistent with injury location information, the majority of decedents died at home (55.2%), and 17.3% died in either an inpatient or ER setting. Based on the text field accompanying death location on the certificate, we were able to determine that 6.6% of decedents died in an outdoor location (park, woods, lake, etc.), 5.4% died either at a roadside location (street, parking lot, sidewalk, etc.) or in an unspecified motor vehicle, 3.9% died at a residence not specified to be the decedent's home, and 2.5% died at a hotel or motel.

Table 2.3 General Injury Circumstances, 2022 (N = 1,262)

	Count	Percent
Child(ren) Present and/or Witnessed Incident		
Yes	60	4.8
No or Unknown	1202	95.2
Alcohol Use by Decedent Suspected*		
Yes	164	13.0
No or Unknown	1098	87.0
Decedent Recently Released from Institutional Setting†		
Jail, prison, or detention facility	19	1.5
Hospital	42	3.3
Psychiatric hospital	20	1.6
No evidence of recent release	1176	93.2
EMS Present at Scene		
Yes	1251	99.1
No	11	0.9
Decedent Seen at Hospital Following Incident		
Seen in ED following incident	195	15.5
Seen in ED and then admitted as inpatient	98	7.8
No or Unknown	969	76.8

*This variable is based on witness or investigator reports, or circumstantial evidence and does not use toxicology reports
†Fewer than ten decedents were recently released from other institutional settings not listed to preserve de-identfication

Table 2.3 displays data elements related more to the environment specific to the scene of injury. In 4.8% of incidents, one or more children were present during the incident. This does not necessarily indicate that they observed the event; the variable seeks to identify children who were present, regardless of whether they are described in reports as witnesses.

We looked at this count as a function of both sex and race, and we observed that black decedents were over-represented in this data element. Of the 113 black decedents in the dataset, children were present at 8.9% of incidents, while of the 1087 white decedents in the dataset, children were present at 4.2% of incidents. We noted this difference in the 2021 dataset as well; the percentages have decreased overall, but the ratio is similar. There are many complex factors potentially leading to this difference, and we also note that more years of data collection are needed for any detailed analysis.

In 13.0% of incidents, the decedent was suspected of using alcohol in the hours preceding the incident. This variable is collected based on witness or investigator reports, or scene evidence, and does not take toxicology information into account. If a witness stated that the decedent "had been drinking," or if empty bottles are found near the decedent, this variable is endorsed.

In 6.8% of incidents, the decedent had been released from an institutional setting within the month prior to injury. The most common institution indicated in reports was a hospital, followed by a jail, prison, or detention facility. We collect information about releases from long-term residential health facilities, supervised residential facilities such as sober houses or halfway houses, and release information from other facilities is typically noted in the narrative. The reader may note that we have suppressed institution information for fewer than ten decedents in Table 2.3; there was no meaningful way to aggregate the information for all decedents, and it was determined that this format communicates the maximum amount of detail possible.

In 99.1% of incidents, emergency medical services (EMS) were at the scene of injury. This simply indicates that they were present and not necessarily that medical services were delivered. About twenty-three percent (23.2%) of decedents were seen at a hospital following the incident; about a third of these were admitted as an inpatient after being seen in the emergency department (ED).

Table 2.4 Type of Suicide Incident, 2022 (N = 1,261)

	Count	Percent
Single suicide	1236	98.0
Multiple suicide	*	
Single homicide followed by suicide	21	1.7
Multiple deaths, homicide followed by suicide	*	

Table 2.4 shows information on the type of incident where one or more decedents died due to suicide. The TNVDRS is structured as a dataset of incidents containing one or more decedents[3] within each incident. This allows us to document more complex scene information, especially when different decedents have different manners of death. The 1,262 decedents with a manner of death of suicide in 2022 are distributed over 1,261 incidents. The majority of these incidents are classified as single-suicide incidents (98.0%), and a further 1.7% are classified as single homicide, followed by suicide. Fewer than ten incidents are described either as multiple-suicide incidents or multiple-death incidents, homicide followed by suicide[4].

[3] The NVDRS uses "victim/suspect" language; all decedents are either *victims* or *victim/suspects*, for decedents that commit homicide and subsequently die by suicide. Suspect data is also collected for homicide deaths. In this report, we choose to refer to all victims and victim/suspects as decedents.
[4] The coding guidance also describes these types of incidents as "homicide(s) followed by suicide(s), more than two fatalities."

III. Decedent Demographics

Key Findings:

- 86.1% of decedents who died due to suicide in 2022 were non-Hispanic white individuals
- 80.3% of decedents who died due to suicide in 2022 were male
- Decedents aged 75-84 years had the highest suicide mortality rate at 27.1 per 100,000 TN residents
  - Males had a higher mortality rate than females at all ages, although the gap was wider for males over 75
  - Non-Hispanic black individuals tended to have a lower mortality rate than non-Hispanic white individuals, with the exception of individuals aged 18-24 years, when the rates are comparable
- The most common occupations among decedents who died due to suicide in 2022 were in the fields of "Construction and Extraction" (12.2%) and "Transportation and Material Moving" (11.5%)

Many of the standard demographic variables collected by TNVDRS (age, sex, race/ethnicity, pregnancy status, occupation, etc.) come directly from the death certificate. Any difference in counts or rates in the TNVDRS compared to Vital Statistics for these data elements are due to the difference in case definition as described in Section I of this report.

General Demographics

Table 3.1 provides information on the sex, race, ethnicity, and age at death of TNVDRS decedents with a manner of death of suicide in 2022. The suicide mortality rate among males (29.3 per 100,000 TN resident males) is higher than females (6.9 per 100,000 TN resident females), and 80.3% of the decedents in our dataset are male.

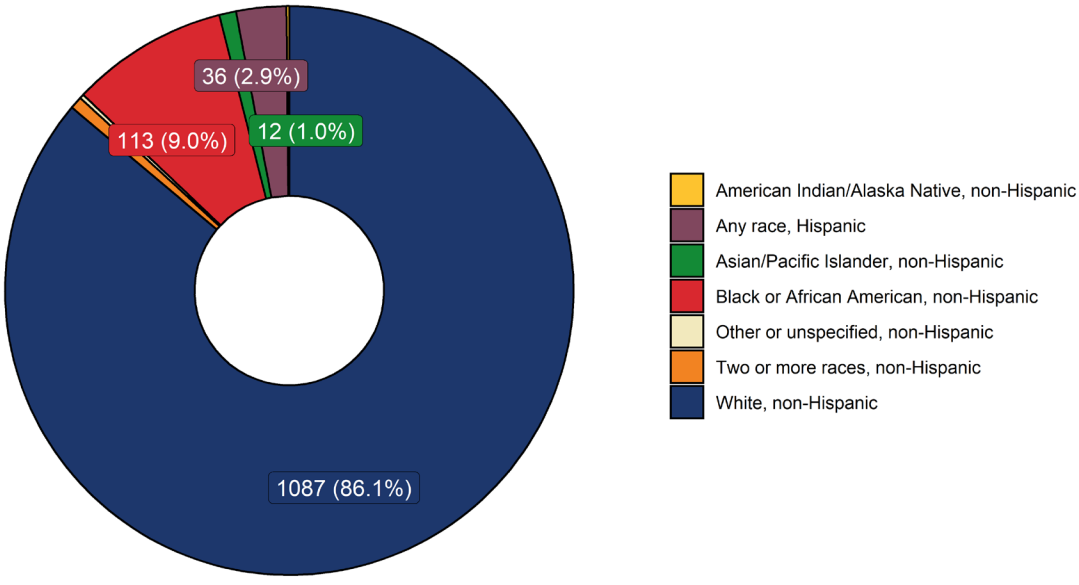
The population information available to the TNVDRS team separates race from ethnicity, so in order to calculate rates in Table 3.1, race and ethnicity are shown as separate categories. Figure 3.1 shows the percentage breakdown of a bridged race/ethnicity field, and we see that the majority of deaths due to suicide are in the white, non-Hispanic population (86.1%). We also see the different race/ethnicity categories that TNVDRS collects in this figure; in Table 3.1, racial groups are aggregated to match the population data TNVDRS has available.

Table 3.1 Suicide Mortality Rate by Sex, Race/Ethnicity, and Age, 2022 (N = 1,262)

	Count	Percent	Rate	95% CI
Sex				
Male	1014	80.3	29.3	27.5 - 31.1
Female	248	19.7	6.9	6.1 - 7.8
Race				
White	1120	88.7	20.3	19.1 - 21.5
Black or African American	113	9.0	9.6	7.9 - 11.5
Other*	29	2.3	8.3	5.6 - 11.9
Ethnicity				
Not Hispanic	1226	97.1	18.6	17.5 - 19.6
Hispanic	36	2.9	8.0	5.6 - 11.1
Age at Death				
Below 18 years	40	3.2	5.7	4.1 - 7.8
18-24 years	133	10.5	20.3	17.0 - 24.0
25-34 years	207	16.4	21.2	18.4 - 24.3
35-44 years	188	14.9	21.1	18.2 - 24.3
45-54 years	188	14.9	21.5	18.6 - 24.9
55-64 years	217	17.2	23.9	20.9 - 27.3
65-74 years	159	12.6	21.8	18.5 - 25.5
75-84 years	101	8.0	27.1	22.1 - 33.0
85+ years	29	2.3	24.3	16.3 - 34.9

*Includes American Indian/Alaskan Native, Asian/Pacific Islander, Other/Unknown, and two or more races

Figure 3.1 Decedent Race and Ethnicity, 2022 (N = 1,262)



Rather than using standard deciles, TNVDRS prefers to break age ranges to reflect the environmental differences between adolescents (12 to 17 years) and young adults (18 to 24 years). In Table 3.1, the youngest age grouping is characterized as 'below 18 years' to reflect that there were fewer than ten decedents below the age of twelve and no decedents below the age of ten. The rate calculation uses the age of the youngest decedents as the bottom of the population range.

Because of the small counts among females and among racial/ethnic groups other than non-Hispanic (NH) white individuals, there are a limited number of ways we can further stratify general demographic data without applying suppression rules. Table 3.2 stratifies race, ethnicity, and age by sex. We see that white males have the highest suicide mortality rate (33.0 per 100,000 residents), followed by black males (16.3 per 100,000 residents). Hispanic males have a suicide mortality rate of 12.4 per 100,000 residents. The suicide mortality rate for white females (7.8) is higher than that for black females (3.5), and the counts are too low to calculate the rate for Hispanic females.

Figure 3.2 on the following page shows the trend in suicide mortality rate by age at death by sex to compare to the numbers in Table 3.2. At all ages, males have a higher suicide rate than females, but the difference is more substantial in the oldest age groups.

Table 3.2 Suicide Mortality Rate by Race/Ethnicity and Age, by Sex, 2022

	Male (N = 1,014)				Female (N = 248)			
	Count	Percent	Rate	95% CI	Count	Percent	Rate	95% CI
Race								
White	902	89.0	33.0	30.9 - 35.3	218	87.9	7.8	6.8 - 8.9
Black or African American	91	9.0	16.3	13.1 - 20.0	22	8.9	3.5	2.2 - 5.4
Other*	21	2.1	12.2	7.6 - 18.7	*		*	
Ethnicity								
Not Hispanic	984	97.0	30.5	28.6 - 32.4	*		*	
Hispanic	29	2.9	12.4	8.3 - 17.8	*		*	
Age at Death								
Below 18 years	26	2.6	7.2	4.7 - 10.6	14	5.6	4.1	2.2 - 6.9
18-24 years	113	11.1	34.0	28.0 - 40.9	20	8.1	6.2	3.8 - 9.5
25-34 years	162	16.0	33.2	28.3 - 38.7	45	18.1	9.2	6.7 - 12.3
35-44 years	156	15.4	35.2	29.9 - 41.2	32	12.9	7.1	4.9 - 10.1
45-54 years	143	14.1	33.0	27.8 - 38.8	45	18.1	10.3	7.5 - 13.7
55-64 years	171	16.9	38.8	33.2 - 45.1	46	18.5	9.9	7.2 - 13.2
65-74 years	127	12.5	37.4	31.2 - 44.5	32	12.9	8.2	5.6 - 11.6
75-84 years†	88	8.7	53.9	43.2 - 66.4	*		6.2	3.3 - 10.6
85+ years	28	2.8	68.9	45.8 - 99.6	*		*	

*Includes American Indian/Alaskan Native, Asian/Pacific Islander, Other/Unknown, and two or more races
†Count suppressed to maintain de-identification across all age groups, but since count is above 10, rate with confidence interval is displayed

Figure 3.2 Suicide Mortality Rate by Age by Sex, 2022 (N = 1,262)

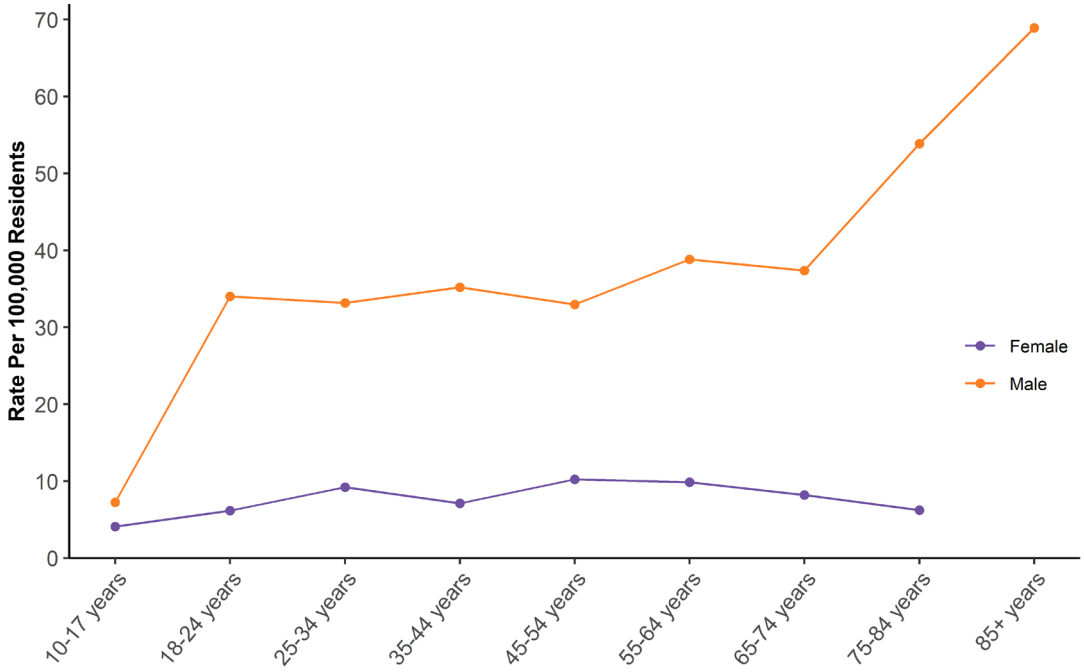


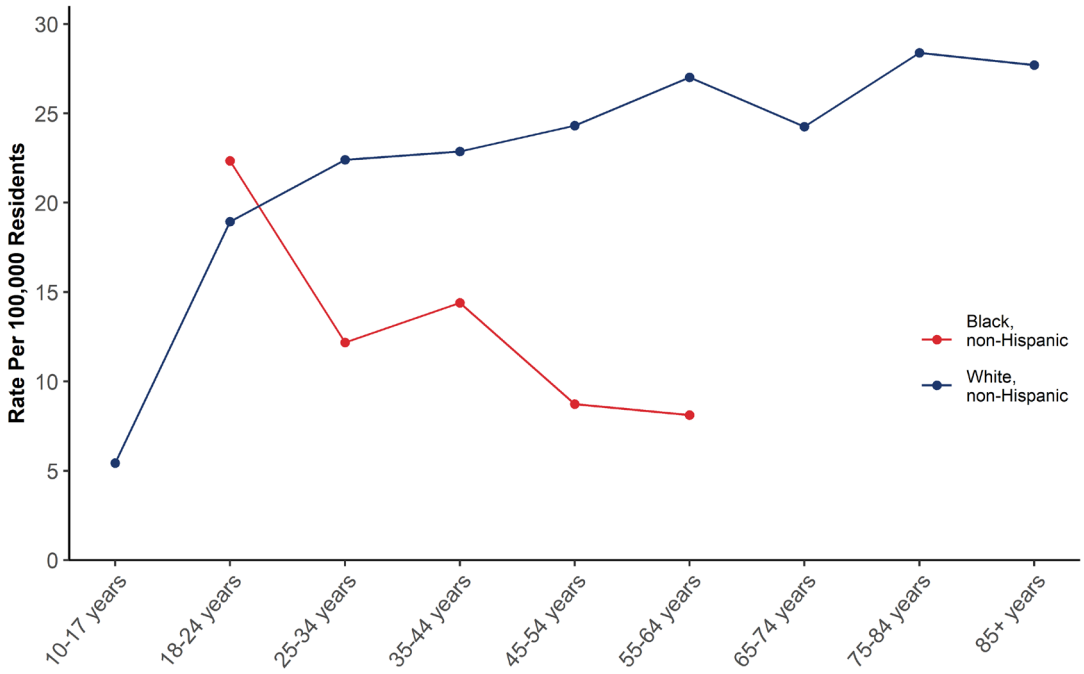
Table 3.3 stratifies sex and age by race. Ethnicity is excluded from this table due to the available population information; Hispanic decedents are included according to the race indicated. Statistics for decedents in racial groups other than white or black are excluded due to small counts.

As we showed in Table 3.2, the suicide mortality rate in the white population is higher than the black population in all stratifications with the single exception of decedents between 18 and 24 years old, where the rates are comparable. The confidence intervals shown demonstrate that this difference is statistically significant; a reminder that if the intervals overlap, we cannot conclude that a difference is significant. Figure 3.3 shows the rate by age by race to compare to the numbers in Table 3.3; we also note the change in scale between Figure 3.2 and Figure 3.3, despite the similar trends.

Table 3.3 Suicide Mortality Rate by Sex and Age, by Race, 2022

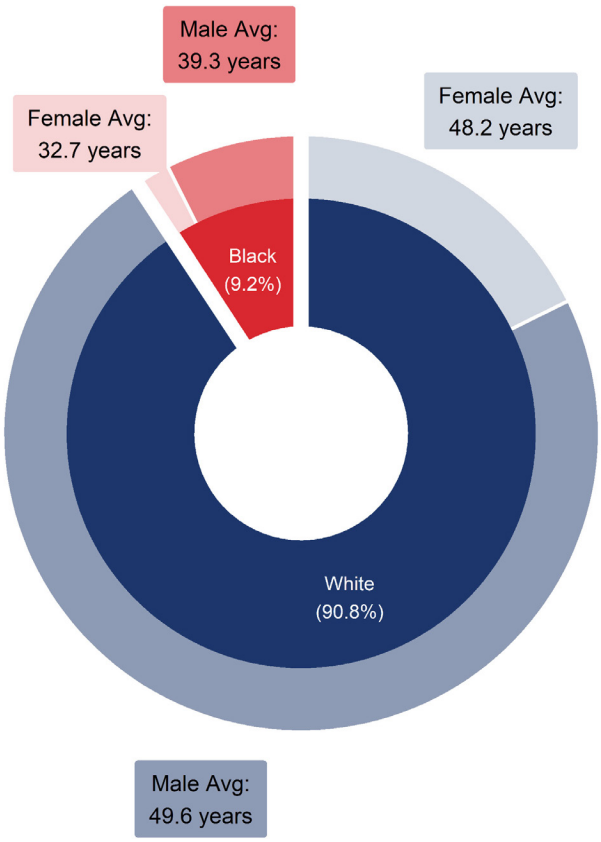
	White (N = 1,120)				Black or African American (N = 113)			
	Count	Percent	Rate	95% CI	Count	Percent	Rate	95% CI
Sex								
Male	902	80.5	33.0	30.9 - 35.3	91	80.5	16.3	13.1 - 20.0
Female	218	19.5	7.8	6.8 - 8.9	22	19.5	3.5	2.2 - 5.4
Age at Death								
Below 18 years	32	2.9	6.2	4.2 - 8.8	*		*	
18-24 years	100	8.9	20.4	16.6 - 24.8	28	24.8	22.3	14.8 - 32.3
25-34 years	176	15.7	23.9	20.5 - 27.7	23	20.4	12.2	7.7 - 18.3
35-44 years	164	14.6	23.6	20.1 - 27.5	22	19.5	14.4	9.0 - 21.8
45-54 years	174	15.5	24.9	21.3 - 28.9	12	10.6	8.7	4.5 - 15.3
55-64 years	203	18.1	27.3	23.7 - 31.3	11	9.7	8.1	4.1 - 14.5
65-74 years	149	13.3	24.3	20.5 - 28.5	*		*	
75-84 years	93	8.3	28.4	22.9 - 34.8	*		*	
85+ years	29	2.6	27.7	18.6 - 39.8	*		*	

Figure 3.3 Suicide Mortality Rate by Age by Race and Ethnicity, 2022 (N = 1,262)



We also note that there are variations in the average age at death both by sex and by race. Male decedents have an average age at death of 48.6 years, and female decedents have an average of 46.2 years. The difference is far more substantial by race, where black decedents have an average age at death of 38.0 years, and white decedents have an average age at death of 49.3 years. Figure 3.4 shows the variation in average across race and sex.

Figure 3.4 Average Age at Death by Race and Sex, 2022 (N = 1,262)



Physical and Social Demographics

TNVDRS captures pregnancy status at death from the death certificate, but the counts were not sufficiently high to generate meaningful statistics; for 48.0% of female decedents, it was unknown if the decedent had been pregnant in the year prior to death, and fewer than ten were pregnant at death.

Table 3.4 shows the body mass index (BMI) in kg/m^2 for decedents, calculated from the height and weight recorded at autopsy. It is important to note that this BMI may not be an accurate physical representation of physical characteristics prior to death; these counts are presented to illustrate a general trend rather than infer any specific conclusions. There was not sufficient information to calculate BMI for 17.6% of male decedents and 16.5% of female decedents.

Table 3.4 Body Mass Index (kg/m^2) at Autopsy by Sex, 2022

	Male (N = 1,014)		Female (N = 248)	
	Count	Percent	Count	Percent
< 18.5	45	4.4	20	8.1
18.5 – 25	283	27.9	92	37.1
25 – 30	287	28.3	48	19.4
> 30	221	21.8	47	19.0
Unknown	178	17.6	41	16.5

Calculated using height and weight collected at autopsy; may not be accurate representation of physical characteristics prior to death

Multiple data elements are collected in TNVDRS regarding the relationship status of the decedent, including marital status, relationship status, sex of current partner, and sexual orientation. Sexual identity cannot be inferred from the sex of the partner, and this is often not information collected in the type of reports available to TNVDRS, so the sexual orientation variable is not well-populated. We instead prefer to present information on the sex of the current partner, if known. Due to low counts, we cannot generate a table, but we observed fewer than ten decedents with same-sex partners based on available reports, 41.1% of decedents had opposite-sex partners, and the sex of 58.4% of decedent intimate partners was either unknown or not applicable due to age of the decedent.

Table 3.5 shows the status of decedent intimate partners by sex, showing the relationship between marital status and relationship status. Female decedents were more likely to be either divorced, widowed, or separated (35.9%) than male decedents (31.8%). Roughly the same percentage of male decedents (35.9%) and female decedents (34.3%) were never married or had an unknown marital status. A similarly close percentage of male decedents (32.3%) and female decedents (29.8%) were married or otherwise in a legal long-term relationship such as common-law marriage or a civil union. Regardless of marital status, slightly less than half of decedents were known to be in a relationship at time of injury – 45.2% of males and 43.1% of females.

Table 3.5 Decedent Intimate Partner Status by Sex, 2022

	Male (N = 1,014)			Female (N = 248)		
	Currently in relationship	Not in relationship	Unknown	Currently in relationship	Not in relationship	Unknown
Married/Civil union/Domestic partnership	326	*	*	72	0	*
Never married or unknown	63	18	283	14	*	67
Widowed, divorced, or separated	41	*	272	11	*	72

Education, Occupation, and Housing

When considering variables such as education status and occupation, it is important to keep in mind that 3.1% of the deaths due to suicide in TNVDRS for 2022 were adolescents, and an additional 10.5% were young adults aged 18-24. We decided to present these counts for all decedents due to the complex nature of when to subset based on age – for example, an 18-year-old may be in the workforce, may be enrolled in college, or both – but we remind the reader to keep in mind that some of the percentages for categories like incomplete high school or individual not in workforce are affected by the presence of young decedents in the dataset.

Table 3.6 Education and Military Status by Sex, 2022

	Male (N = 1,014)		Female (N = 248)	
	Count	Percent	Count	Percent
Education Level				
8th grade or less, or unknown	58	5.7	18	7.3
9th to 12th grade, no diploma	127	12.5	25	10.1
HS graduate or GED completed	481	47.4	91	36.7
Some college	160	15.8	48	19.4
Associate's degree	53	5.2	16	6.5
Bachelor's degree	88	8.7	30	12.1
Master's degree	29	2.9	13	5.2
Doctorate or professional degree	18	1.8	*	
Military Status Per Death Certificate				
Decedent has ever served in the US Armed Forces	211	20.8	11	4.4
No or unknown	803	79.2	237	95.6

Table 3.6 presents information regarding education and military status of the decedent. Both of these variables are collected directly from the death certificate. About forty-seven percent (47.4%) of male decedents and 36.7% of female decedents indicate that the highest level of education achieved is high school graduation or GED completion. Relatively similar percentages of male and female decedents completed some college – 15.8% of males and 19.4% of females. A higher percentage of females completed a bachelor's degree – 12.1% of females compared to 8.7% of males – but around five percent of both sexes completed associate's degrees. We see another small difference when looking at graduate degrees, where a higher percentage of women have master's degrees. We cannot compare doctorates/professional degrees because the count of women is too small to calculate a percentage, but we also note that the percentage of men is also small, so we cannot conclude that they are substantially different.

Information on military status in TNVDRS is collected again from the death certificate. This variable is representative of the decedent being in military service at any time prior to death; it does not distinguish between veterans or active-duty personnel. About seventeen percent (17.6%) of decedents had a history of military service, with male decedents being more likely to have this field endorsed than female decedents. Only about four percent of female decedents (4.4%) had a history of military service, compared to 20.8% of male decedents.

Table 3.7 Decedent Occupation†, 2022 (N = 1,262)

	Count	Percent
Architecture and Engineering	24	1.9
Arts, Design, Entertainment, Sports, and Media	21	1.7
Building and Grounds Cleaning and Maintenance	31	2.5
Business and Financial Operations	23	1.8
Computer and Mathematical	18	1.4
Construction and Extraction	154	12.2
Educational Instruction and Library	19	1.5
Food Preparation and Serving Related	48	3.8
Healthcare Practitioners and Technical	42	3.3
Healthcare Support	20	1.6
Installation, Maintenance, and Repair	77	6.1
Life, Physical, and Social Science	10	0.8
Management	84	6.7
Military	29	2.3
Missing, unknown, inadequate response to code	81	6.4
Office and Administrative Support	42	3.3
Personal Care and Service	13	1.0
Production	110	8.7
Protective Service	28	2.2
Sales and Related	84	6.7
Transportation and Material Moving	145	11.5
Not in workforce‡	141	11.2
Other categories (aggregated)*	18	1.4

† 2018 SOC system used to categorize occupations. Documentation available at https://www.bls.gov/soc/2018/home.htm

‡ Includes student, homemaker, volunteers, those unable to work (eg, child, patient, inmate)

* Includes "Community and Social Service", "Legal", and "Farming, Fishing, and Forestry"

Table 3.7 presents information regarding occupation. Occupation data is collected on the death certificate, and prior to releasing the dataset to the state, the CDC uses this field to categorize occupations according to the 2018 SOC System[5], and these are the categories shown in the table.

Eleven percent (11.2%) of decedents were not in the workforce at the time of death, and 12.2% of decedents worked in positions categorized as "Construction and Extraction" The next most common category is "Transportation and Material Moving," where 11.5% of decedents were classified. No other category represents more than ten percent of decedents who died due to suicide.

We chose not to display data by sex in this table due to small counts in many categories, and we did not want to suppress so many counts, but we wanted to note that the most common categories by sex were:

Male decedents

- Construction and Extraction: 150 decedents (14.8%)
- Transportation and Material Moving: 132 decedents (13.0%)
- Production: 99 decedents (9.8%)

Female decedents

- Healthcare Practitioners and Technical: 20 decedents (8.1%)
- Sales and Related: 17 decedents (6.9%)
- Office and Administrative Support: 16 decedents (6.5%)

For both male and female decedents, "not in workforce" was one of the most common options, but a higher percentage of females (26.2%) than males (7.5%) were categorized in this way.

[5] The CDC generates multiple occupation variables based on the death certificate field. The 2018 SOC categories are presented in this table because they are the most straightforward to categorize and interpret in our opinion. More detailed occupation information is available upon request.

Table 3.8 Decedent Housing and Financial Security, 2022 (N = 1,262)

	Count	Percent
Decedent was considered homeless at time of death		
Yes	14	1.1
No	1248	98.9
A recent eviction, loss of housing, or threat of it, appears to have contributed to death		
Yes	14	1.1
No	1248	98.9
Acute or chronic housing instability appears to have contributed to death		
Yes	35	2.8
No	1227	97.2
Transition out of an independent living situation appears to have contributed to death		
Yes	10	0.8
No	1252	99.2
Job problem(s) appear to have contributed to death		
Yes	79	6.3
No, not available, or unknown	1183	93.7
Financial problems appear to have contributed to death		
Yes	44	3.5
No, not available, or unknown	1218	96.5

Table 3.8 presents available information on housing stability and financial security. Due to small counts, we have chosen not to display data by sex.

For many data elements in TNVDRS, abstractors have the option to indicate whether a particular circumstance was a "crisis." This is formally defined by the coding manual as a current or acute event occurring within two weeks of death that is reported to have contributed to death. Several of the circumstances in Table 3.8 have a "crisis" option, meaning that the timeline of the onset of the problem is within two weeks prior to death.

About one percent (1.1%) of decedents were experiencing homelessness, defined as having no fixed address and living in a shelter, on the street, in a vehicle, or in makeshift quarters in an outdoor setting. One percent (1.1%) of decedents were experiencing acute or chronic housing instability that contributed to death. For 2.8% of decedents, a recent eviction, loss of housing, or threat of it appears to have contributed to death; for 26 of those 35 individuals, this event occurred within two weeks of death. For an additional 0.8% of decedents, a transition from an independent or family living situation to an assisted one appears to have contributed to death. Decedents experiencing an imminent transition of this type are included in this count.

About six percent (6.3%) of decedents experienced one or more job problems appearing to have contributed to death, and for 45 of the 79 individuals, this occurred within two weeks of death.

Three percent (3.5%) of decedents experienced financial problems that appear to have contributed to death; for fewer than ten of those 44 individuals, this occurred within two weeks of death.

We also observed that 11 individuals indicated both having job problems and financial problems, which is the same number of decedents in the 2021 dataset; in 2020, there was more overlap between these two variables, but the overall counts are low enough that this is likely due to statistical fluctuations rather than any external effect.

IV. Mechanism of Injury

Key Findings:

- The majority of deaths due to suicide in TNVDRS in 2022 are firearm deaths; 66.6% of all suicide deaths are due to firearm in this year
- In 82.1% of firearm suicide deaths in 2022, the firearm used was a handgun; the most common handgun was a semi-automatic pistol
- Decedents who died by suicide due to poisoning most commonly had positive toxicology results for antidepressants (45.7%), antihistamines (38.3%), or benzodiazepines (26.6%). Decedents who died by other methods were more likely to have no substances present (34.5%), or to have positive results for alcohol (30.2%) or marijuana (15.7%).

In this section, we will explore the data elements in TNVDRS regarding the details about the mechanism of injury, including method of death, firearm information when applicable, and decedent toxicology analysis.

Method of Death

Table 4.1 provides information on the method of death for each decedent in TNVDRS who died by suicide in 2022. The majority of deaths were due to firearm (66.6%), followed by hanging (19.7%) and poisoning (8.6%). The TNVDRS allows more than one method to be specified, but fewer than ten decedents had multiple methods listed.

We examined method of death by race/ethnicity, by sex, and by age. When looking at method of death by race/ethnicity, we saw little difference; the percentage distribution of methods shown in Table 4.1 is approximately the same for non-Hispanic Black individuals as for non-Hispanic White individuals. No other group had sufficient counts to consider.

Figure 4.1 shows the breakdown of method of death by sex, using percentage instead of counts. Counts fewer than ten are suppressed for female decedents for several methods. The majority of suicide deaths are due to firearm, regardless of sex, but a higher percentage of male decedents died by firearm (70.6%) compared to female decedents (50.0%). The percentage of suicide deaths due to hanging was roughly comparable in males (19.8%) and females (19.4%), but a substantially higher percentage of females died due to poisoning (23.8%) than males (4.9%).

Figure 4.2 shows method of death by age group, again using percentage instead of count data. The percentage of deaths due to firearm is between 50% and 70% until age 55, when firearm deaths become an increasingly higher percentage of all deaths due to suicide in TNVDRS. We also see that the highest percentage of suicide deaths by hanging occur in adolescent decedents aged 10 to 17 years, and this percentage consistently decreases with age. The percentage of suicide deaths by poisoning remains relatively consistent across all ages; only decedents aged 65 to 74 years had a higher percentage of deaths by poisoning compared to deaths by hanging.

Table 4.1 Method of Death Among Suicide Decedents, 2022 (N = 1,262)

	Count	Percent
Fall	23	1.8
Firearm	840	66.6
Hanging	249	19.7
Poisoning	109	8.6
Sharp instrument	20	1.6
Other (Aggregated)*	21	1.7

* Includes drowning, hypothermia, fire/explosives, blunt instrument, motor vehicles, buses, motorcycles, transport vehicles (eg, trains, boats)

Figure 4.1 Method of Death by Sex, 2022 (N = 1,262)

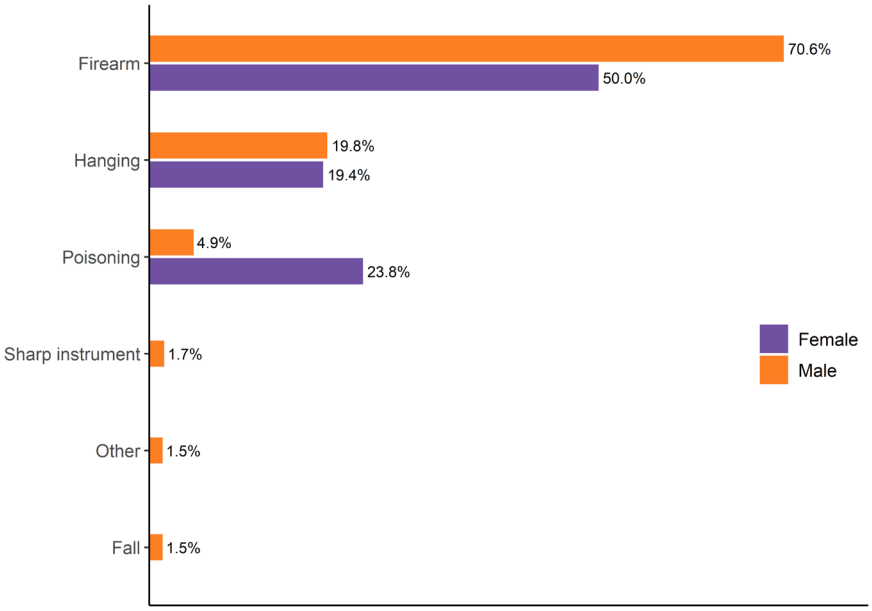
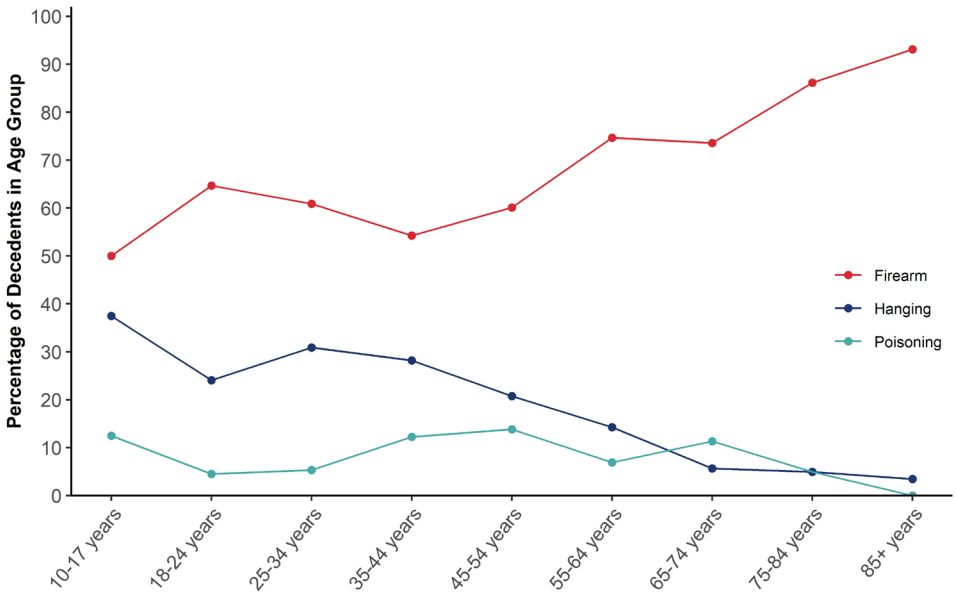
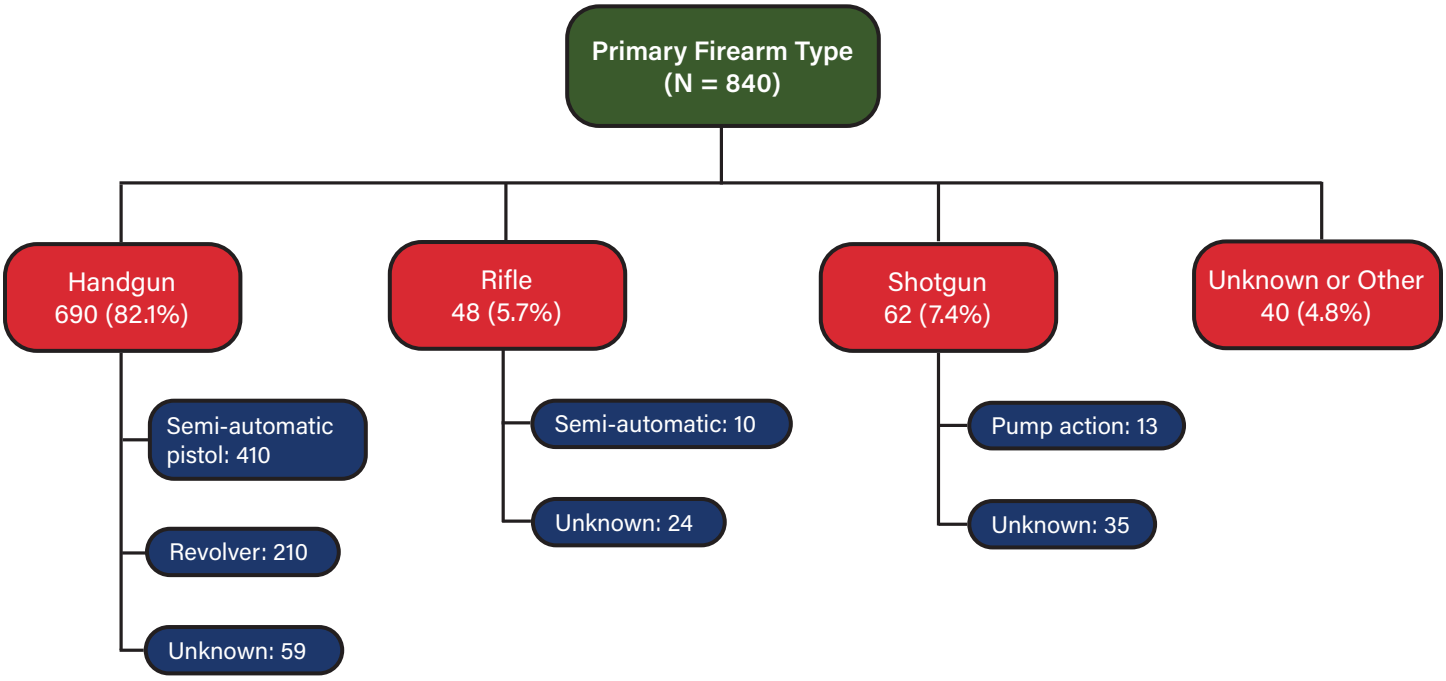


Figure 4.2 Method of Death by Age, 2022 (N = 1,262)



Firearm Circumstances

Figure 4.3 Type of Firearm Used in Suicide Deaths, 2022 (N = 840)



TNVDRS collects multiple data elements related to firearm type, weapon storage, and weapon ownership. Figure 4.3 shows a breakdown of the different firearm types involved in the 840 firearm suicide deaths in the 2022 dataset. The majority of firearms used were handguns (82.1%), with semi-automatic pistols being the most common type of handgun. About six percent (5.7%) of firearms were rifles, and approximately half of those were of unknown type. Another seven percent (7.4%) of firearms were shotguns, where again about half of them were of unknown type. The remaining 4.8% of firearms were of unknown type.

Information about firearm storage and ownership was not reported for the majority of decedents, although TNVDRS provides the option to record whether a firearm was stored locked or stored loaded, and who the owner of the firearm was. For the 840 firearms involved in suicide deaths in 2022, it is unknown whether the firearm was stored locked for 87.7% of decedents, unknown whether the firearm was stored loaded for 84.6% of decedents, and the owner of the firearm was unknown for 77.3% of decedents. For the firearms for which information was available, they tended not to be stored locked, to be stored loaded, and the most common owner of the firearm was the decedent themselves. Statistics are not provided for these variables because they are likely not representative of the entire dataset.

Toxicology Analysis

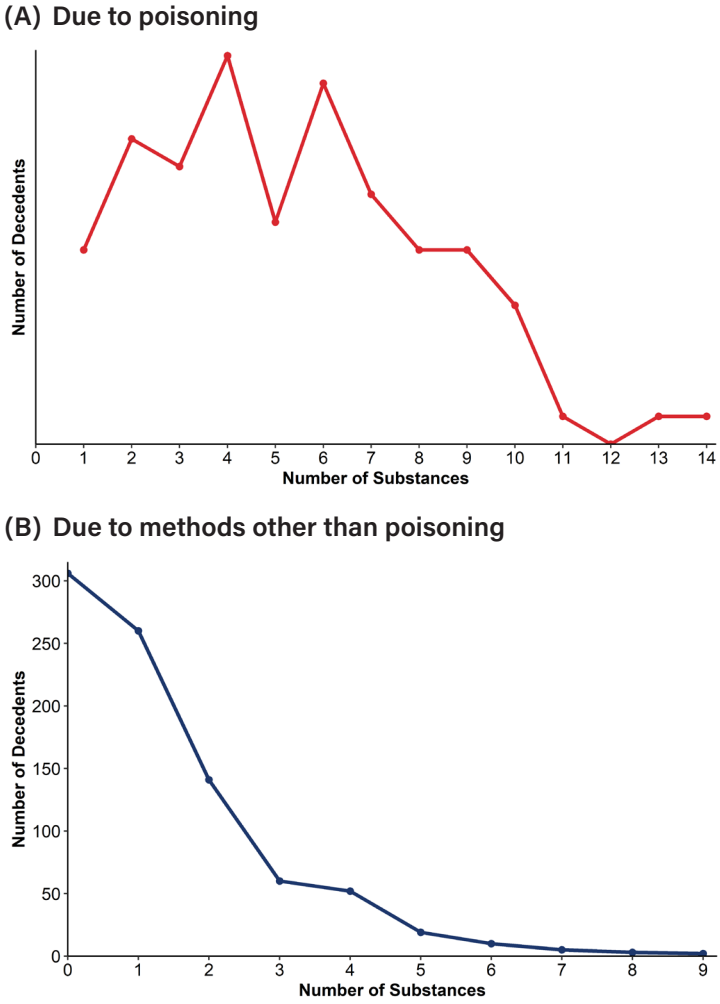
To analyze toxicology of decedents dying due to suicide, it is important to recognize that the circumstances around suicide by poisoning produce a very different toxicology pattern than other methods of suicide. Throughout this section, we will present separate statistics for poisoning deaths and non-poisoning deaths. We have toxicology information for 858 (74.4%) of the 1153 non-poisoning deaths due to suicide, and for 94 (86.2%) of the 109 poisoning deaths. We note that information being unavailable to TNVDRS does not necessarily mean toxicology testing was not performed, simply that if testing was done, those reports were not sent to TNVDRS.

Table 4.2 and the accompanying Figure 4.4 show information about the number of positive substances on the toxicology report per decedent. This count includes metabolites, and it should also be noted that a positive toxicology result does not necessarily indicate that the substance level was lethal.

Table 4.2 Number of Substances Per Decedent, Including Metabolites, 2022 (N = 952)

	Count	Percent
Due to Poisoning (n = 94)		
1-2	18	19.1
3	10	10.6
4	14	14.9
5-6	21	22.3
7-8	16	17.0
9 or more	15	16.0
Non-Poisoning (n = 858)		
None	306	35.7
1	260	30.3
2	141	16.4
3	60	7.0
4	52	6.1
5	19	2.2
6	10	1.2
7 or more	10	1.2

Figure 4.4 Number of Substances Per Decedent, Including Metabolites, 2022 (N = 952)



The average number of substances present in non-poisoning suicide deaths was 1.35 per decedent. No decedent had more than nine substances present, and 35.7% of deaths due to methods other than poisoning had no positive substances indicated in toxicology testing. In suicide deaths due to poisoning, the average number of substances was 5.35 per decedent. No decedent had more than 14 substances present. In the figure showing the number of substances per decedent in poisoning deaths, no scale is shown on the y-axis due to small counts; the objective of this figure is to show the trend only.

To analyze the specific substances present in toxicology data, we perform a de-duplication process by removing metabolites when substances were also detected. For example, if the toxicology shows fentanyl and norfentanyl, these are not two separate opioids. Rather, fentanyl was ingested and partially metabolized to norfentanyl prior to death. Thus, we can "remove" norfentanyl from the list because it is not a distinct substance. Some metabolites are also available in free form. For example, heroin metabolizes into a ratio of codeine and morphine, both of which are also substances that can be ingested separately. In the case that a potential metabolite is also a distinct substance, it is not "removed" from the list because we cannot know that the decedent did not take it as well. Finally, if a metabolite is present on the toxicology but the original substance is not (for example, if only norfentanyl is detected but fentanyl is absent), it is retained and counted as a proxy for the original substance because it cannot be present if the original substance was not taken. This de-duplication process allows us to consider substances by individual in a more representative manner.

Table 4.3 Substances Present in Suicide Deaths Due to Non-Poisoning Methods, 2022 (N = 858)

	Count	Percent
No substances present	306	35.7
Alcohol	268	31.2
Amphetamine	21	2.4
Anticonvulsant, including gabapentin	10	1.2
Antidepressant	24	2.8
Antihistamines	11	1.3
Barbiturates	10	1.2
Benzodiazepines	75	8.7
Buprenorphine	24	2.8
Chemical agents*	17	2.0
Cocaine	26	3.0
Fentanyl, including analogs	50	5.8
Marijuana	139	16.2
Methamphetamine	93	10.8
Other medications	37	4.3
Prescription opioid, excluding fentanyl	52	6.1

* Includes carbon monoxide, acetone, and isopropanol

Table 4.4 Substances Present in Suicide Deaths Due to Poisoning, 2022 (N = 94)

	Count	Percent
Acetaminophen	15	16.0
Alcohol	17	18.1
Antidepressant	43	45.7
Antihistamines	36	38.3
Antipsychotic	16	17.0
Benzodiazepines	25	26.6
Cardiovascular agents	19	20.2
Chemical agents**	15	16.0
Fentanyl, including analogs	10	10.6
Gabapentin	17	18.1
Naloxone	12	12.8
Other illicit substances*	20	21.3
Other medications	50	53.2
Prescription opioid, excluding fentanyl	26	27.7

* Includes marijuana, cocaine, and methamphetamine
** Includes carbon monoxide, ethylene glycol, cyanide, and other volatile agents

Table 4.3 shows the substances present in non-poisoning suicide deaths after this de-duplication process. The most common substance was alcohol; 31.2% of decedents tested positive for alcohol. The next most common substance was marijuana (16.2%), followed by methamphetamine (10.8%) and benzodiazepines (8.7%). The "other medications" category is an aggregation of small-count substances such as antipsychotics, sedatives, and acetaminophen, and the "chemical agents" category is an aggregation of small-count substances such as carbon monoxide and other volatile agents. Fewer than ten decedents were positive for supplements such as kratom, and fewer than ten decedents were positive for naloxone.

Table 4.4 shows the substances present in suicide deaths due to poisoning after de-duplication. There was an overall larger number of substances present, despite the smaller number of decedents compared to non-poisoning suicide deaths. While the category with the largest number of decedents in this table is "other medications," this only means that 53.2% of decedents tested positive for one or more medications that did not have a sufficiently large count to show as a separate category, such as sedatives, aspirin, or muscle relaxants. Slightly less than half of decedents (45.7%) of decedents tested positive for one or more antidepressants, followed by 38.3% testing positive for one or more antihistamines, and 26.6% testing positive for one or more benzodiazepines.

Also note that the substance categories on Tables 4.3 and 4.4 are different; this was a deliberate choice to highlight the variation in toxicology patterns between decedents who die due to poisoning compared to other methods. Substances like acetaminophen, gabapentin, and antipsychotic medications have sufficiently high counts in Table 4.4 to be shown as distinct categories, but in Table 4.3, those substances are all aggregated due to small counts. Similarly, substances like cocaine and methamphetamine are present in Table 4.3 as distinct categories, but the counts for those substances in Table 4.4 are so small that an aggregated category called "other illicit substances" had to be created.

V. Circumstances Contributing to Injury

Key Findings:

- 75.9% of female decedents and 53.4% of male decedents with available circumstance data identified as currently having a mental health problem; the most common diagnosis was depression/dysthymia
- 28.9% of decedents had a history of suicidal ideation; this percentage was relatively consistent across sex, while NH white decedents were more likely than NH black decedents to have this history
- 23.7% of decedents disclosed suicidal thoughts or plans within the month prior to injury; the most common disclosures were to intimate partners or other family members
- 26.5% of decedents had relationship problems with a current or former intimate partner that appear to have contributed to injury; this percentage was relatively consistent across sex and race/ethnicity

We now turn our attention to the circumstances associated with each incident. Circumstances are collected from CME reports and LE reports separately, but we present the aggregation of circumstances variables here, meaning that if a circumstance is indicated on either CME or LE data or both, it is reported here as being endorsed. We have circumstance information for 1,227 decedents in this dataset who died by suicide, so the denominator for any percentages calculated here will be 1,227.

Circumstance variables in TNVDRS are endorsed primarily using a checkbox mechanic, meaning that if the variable is checked, it is "Yes," but there is no distinction between whether a circumstance is unknown or confirmed not to have occurred. Thus, the counts indicate merely the decedents for which the circumstance is reported as having occurred in one or both data sources.

As mentioned in Section III, for some circumstances, abstractors have the option of indicating that the circumstance was "in crisis," meaning that a crisis related to the circumstance occurred or was impending within two weeks of injury. For example, if the decedent had an alcohol problem and was known to have relapsed a week prior to death, both the "alcohol problem" and "alcohol problem in crisis" circumstance variables would be endorsed by the abstractor. Chronic circumstances are not coded as being "in crisis." For example, a decedent in the process of a lengthy divorce would have the "civil legal problem" circumstance endorsed, but not the crisis variable, unless there had been a recent change such as an upcoming custody hearing that the decedent was concerned about. Not all circumstances have a crisis option. For example, "anniversary of a traumatic event" does not include a crisis variable.

Mental and Physical Health

Table 5.1 presents decedent counts for circumstances related to mental and physical health that were endorsed for ten or more decedents. There are two additional data elements in the TNVDRS that did not have sufficient counts to include in this table:

- Decedent had an addiction other than alcohol or other substance abuse (SA) that appears to have contributed to injury
- Decedent had a history of traumatic brain injury distinct from the injury causing death

Table 5.1 Circumstances Related to Mental and Physical Health, 2022 (N = 1,227)

	Count	Percent
Decedent identified as currently having a mental health problem	710	57.9
Has diagnosis of depression/dysthymia	397	32.4
Has diagnosis of an anxiety disorder	145	11.8
Has diagnosis of bipolar disorder	76	6.2
Has diagnosis of schizophrenia	37	3.0
Has diagnosis of post-traumatic stress disorder	34	2.8
Has diagnosis of dementia	15	1.2
Has other diagnosis	62	5.1
Has unknown diagnosis	174	14.2
Has multiple diagnoses	218	17.8
Decedent is currently in treatment for a mental health problem	439	35.8
Decedent has a history of ever being treated for a mental health or substance abuse problem	497	40.5
Not currently in treatment but has prior history	58	4.7
Decedent perceived by self or others to be depressed at time of injury	249	20.3
Decedent had alcohol dependence or an alcohol problem	31	2.5
Decedent had a non-alcohol-related substance abuse problem	62	5.1
Decedent's physical health problem(s) appear to have contributed to injury	233	19.0

The majority of decedents (57.9%) with available circumstance data were identified as currently having a mental health (MH) problem at the time of death. TNVDRS records up to three potential diagnoses, with a text field available to indicate more or information sufficiently not captured using the checkbox mechanic. Evaluating these fields, we see that 32.4% of decedents were diagnosed with depression or dysthymia, 11.8% with an anxiety disorder, and 6.2% with bipolar disorder. About eighteen percent (17.8%) of decedents had multiple mental health diagnoses.

Another variable TNVDRS collects relating to mental health is whether the decedent was perceived by themselves or others to be depressed at time of injury. It is important to note here that this variable is not related to clinical diagnosis, and there also does not need to be any indication that the depression directly contributed to injury. Twenty percent (20.3%) of decedents met the criteria for this variable to be endorsed.

Almost thirty-six percent (35.8%) of decedents were identified as currently in treatment for a MH problem at time of injury, and 40.5% indicated a history of ever being treated for a MH or substance abuse (SA) problem. About two percent (2.5%) had an alcohol problem or alcohol dependence, and 5.1% had a non-alcohol SA problem.

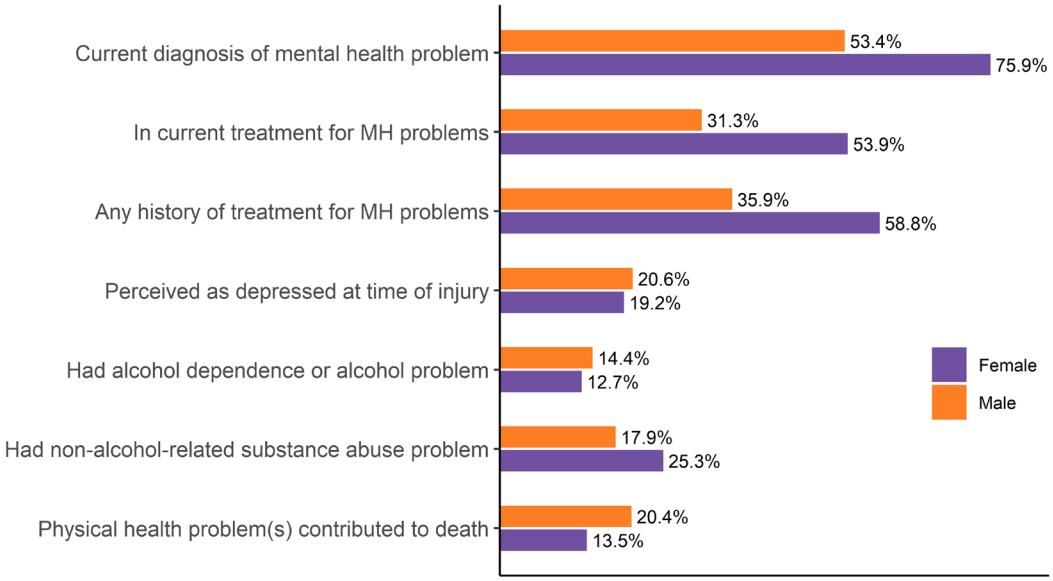
For 19.0% of decedents, their physical health appeared to have contributed to injury, meaning that the decedent was experiencing physical health problems that were relevant to the event. Decedents experiencing physical health problems contributing to injury are, on average, older than decedents who do not, and we also see differences by sex as well. Table 5.2 shows the average age for male and female decedents where a physical health problem was indicated compared to those that didn't have this variable endorsed. The difference between age of male and female decedents where this variable was not selected is minimal – the average age at death for male decedents was 43.9 years, compared to 43.8 years for female decedents. However, males with the physical health circumstance endorsed had an average age at death of 66.8 years, compared to an average for females of 61.3 years. Both average ages increased substantially, but the male average change was larger.

Table 5.2 Average Age at Death by Physical Health Circumstances by Sex, 2022 (N = 1,227)

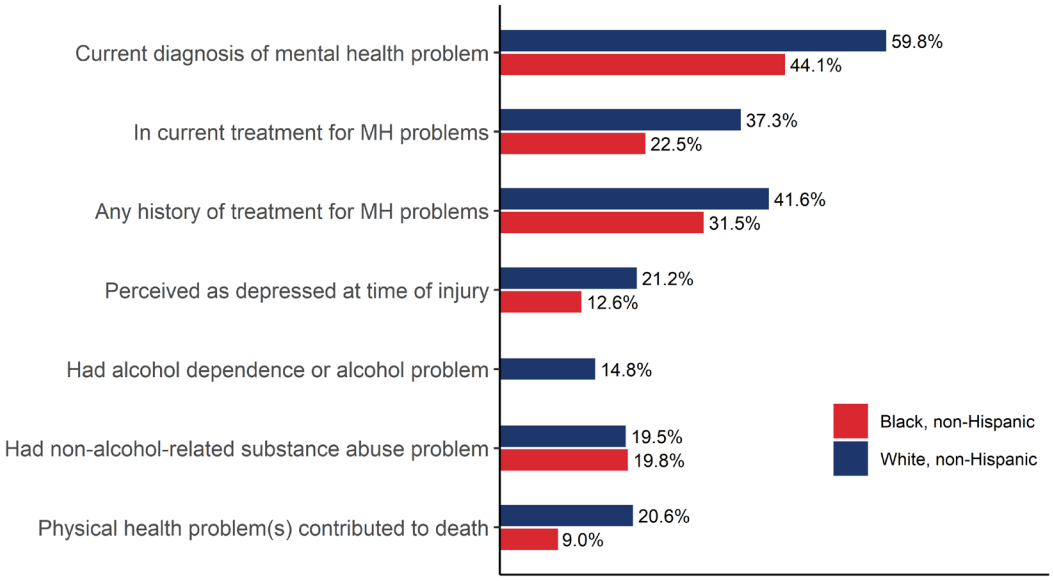
	Male	Female
Physical health circumstance endorsed	66.8	61.3
Physical health circumstance NOT endorsed	43.9	43.8

Figure 5.1 Circumstances Related to Mental and Physical Health, 2022 (N = 1,227)

(A) By Sex



(B) By Race/Ethnicity



Figures 5.1 and 5.2 present the information from Table 5.1 by sex and race/ethnicity to give a more detailed picture of mental and physical health circumstances. Figure 5.1(a) shows the percentage of decedents with each circumstance endorsed, grouped by sex. We can see that a higher percentage of male decedents had a physical health problem contributing to death. A comparable percentage of male and female decedents had the "perceived as depressed at time of injury" field endorsed, and a similarly comparable percentage had the alcohol dependence field endorsed. In all other fields, a higher percentage of female decedents were endorsed.

Figure 5.1(b) shows the percentage of decedents with each circumstance endorsed, grouped by race/ethnicity. Overall, the only data element with a comparable percentage of NH black decedents compared to NH white decedents is the field indicating that the decedent had a non-alcohol-related substance abuse problem. All other variables shown have a smaller percentage of NH black decedents compared to NH white decedents; fewer than ten NH black decedents had the alcohol dependence field endorsed, so that percentage is not shown in the figure.

Figure 5.2 Common Mental Health Diagnoses, 2022 (N = 1,227)

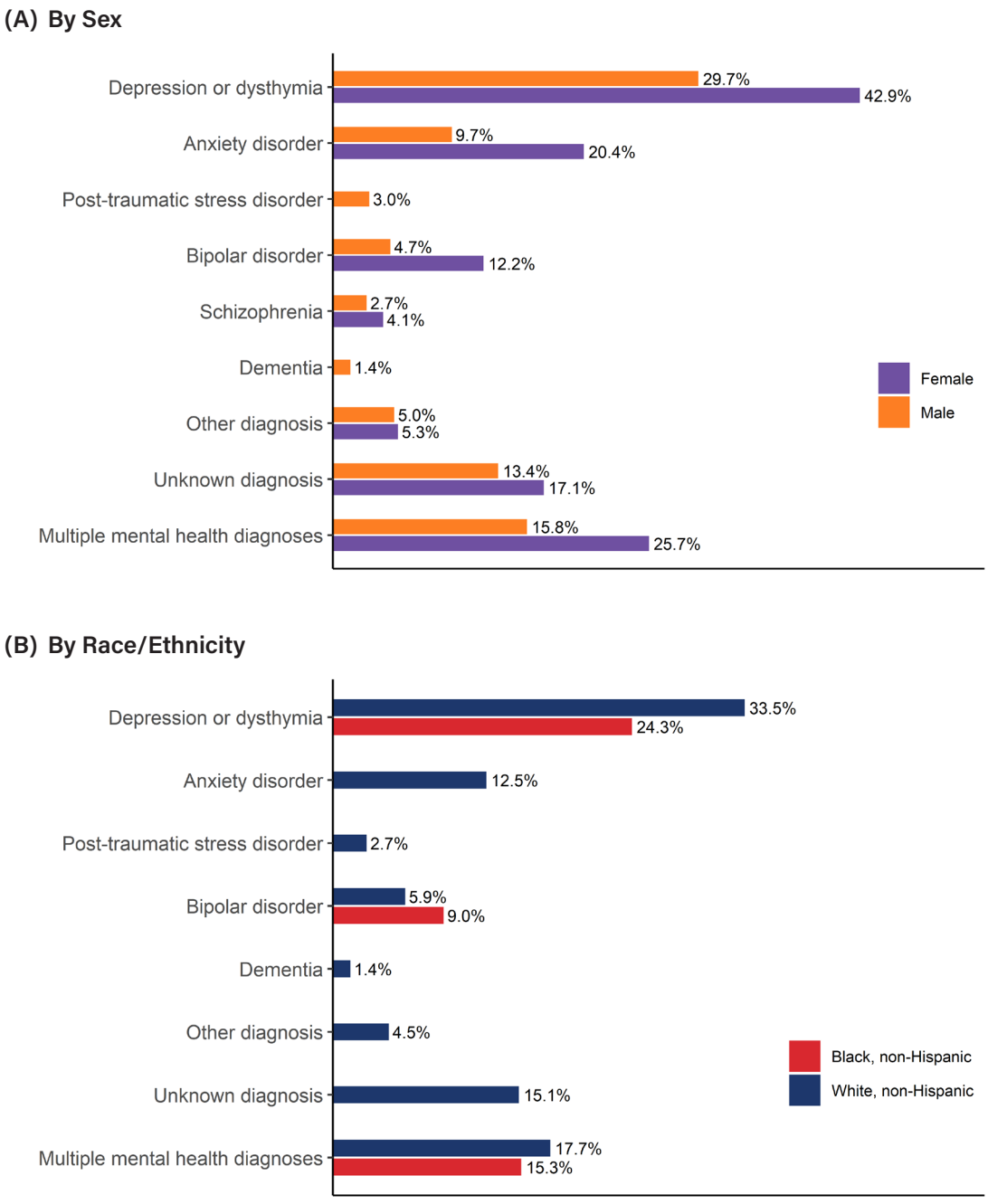


Figure 5.2(a) shows the percentage of decedents with a mental health diagnosis, grouped by sex. A higher percentage of female decedents were diagnosed with depression, anxiety disorder, bipolar disorder or schizophrenia than male decedents, and they also had a higher percentage of having multiple diagnoses or having an unknown diagnosis. A comparable percentage of female and male decedents had at least one diagnosis classified as "other." In the remaining categories, fewer than ten female decedents had that diagnosis, so the percentages are not shown. The most common diagnosis for both sexes was depression/dysthymia.

Figure 5.2(b) shows the percentage of decedents with a mental health diagnosis, grouped by race/ethnicity. Only three categories were endorsed for more than ten NH black decedents; for the remaining categories, the percentage is not shown in the figure. A higher percentage of NH white decedents had a diagnosis of depression/dysthymia, a higher percentage of NH black decedents had a diagnosis of bipolar disorder, and an approximately equal percentage of NH black and NH white decedents had multiple mental health diagnoses. The most common mental health diagnosis for both racial groups shown was depression/dysthymia.

Suicidal Ideation and Disclosure

Table 5.3 contains information about suicidal ideation and disclosure among decedents with available circumstance data. Twenty-nine percent (28.9%) of decedents had a history of suicidal thoughts or plans, and 15.2% of decedents had a history of attempting suicide prior to the fatal incident. Twenty-seven percent (26.9%) of decedents disclosed suicidal thoughts or plans within the month prior to injury. TNVDRS records persons disclosed to as separate data elements so that if a decedent discloses to multiple individuals, this information can be adequately captured. The most common disclosures were to intimate partners (current or intimate) and other family members. Additionally, 29.6% of decedents left a suicide note or other recorded communication.

Table 5.3 Circumstances Related to Suicidal Ideation and Disclosure, 2022 (N = 1,227)

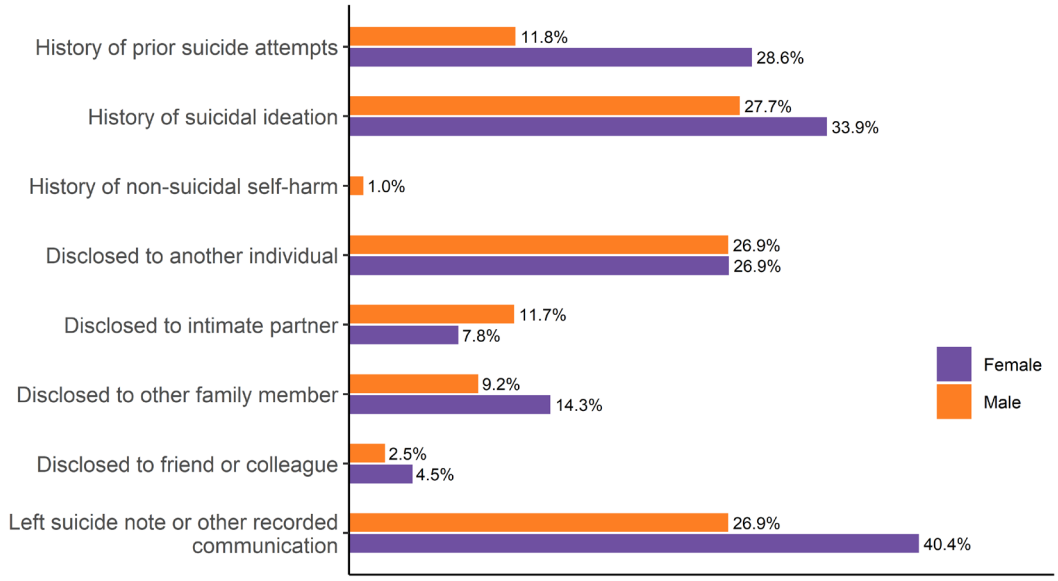
	Count	Percent
Decedent had a history of attempting suicide before the fatal incident	186	15.2
Decedent had a history of suicidal thoughts or plans	355	28.9
Decedent had a history of non-suicidal self-harm	18	1.5
Decedent disclosed to another person their suicidal thoughts/plans within the month prior to injury	330	26.9
Disclosed to previous or current intimate partner	134	10.9
Disclosed to other family member	125	10.2
Disclosed to friend or colleague	36	2.9
Disclosed via electronic means, including social media	11	0.9
Disclosed to other individuals, including neighbors, health care workers, or LE officers	48	3.9
Disclosed to unknown individuals	21	1.7
Decedent left a suicide note or other recorded communication	363	29.6

Figure 5.3 provides sex and race/ethnicity breakdowns of the data in Table 5.3 for deeper context. From Figure 5.3(a), we can see that a higher percentage of female decedents had a history of prior suicide attempts (28.6% compared to 11.8% of male decedents), as well as a history of suicidal ideation (33.9% compared to 27.7% of male decedents). Additionally, a higher percentage of female decedents left a note or other recorded communication (40.4% of females compared to 26.9% of males). While an equal percentage of male and female decedents had data indicating that they disclosed to another person within the month prior to injury, male decedents were more likely to disclose to a current or former intimate partner, and female decedents were more likely to disclose to another family member, or to a friend or colleague.

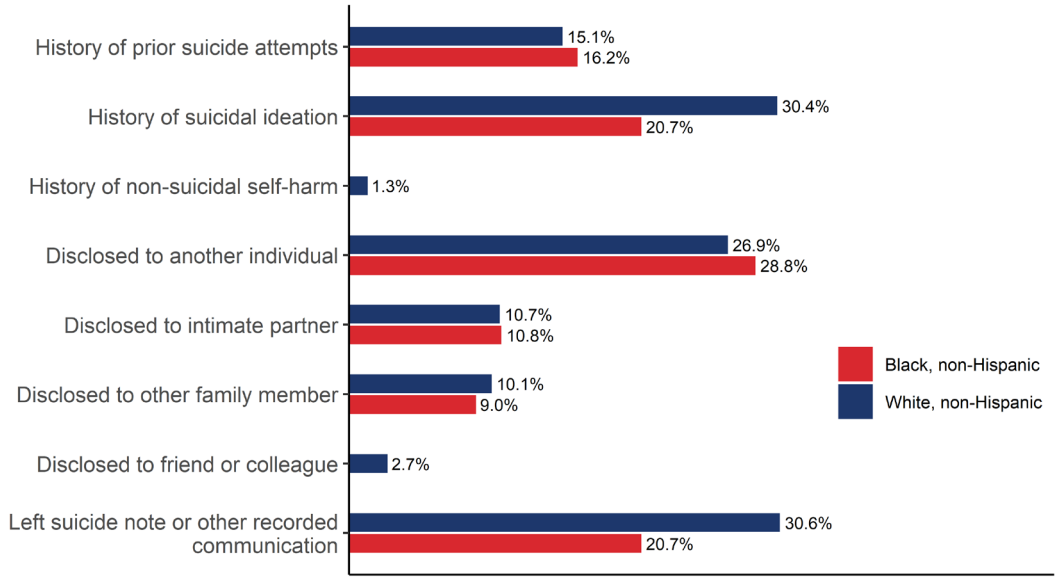
Figure 5.3(b) is grouped by race/ethnicity. For many of the circumstances shown, the percentage of NH black decedents and NH white decedents is relatively similar. There may be some difference between the percentages disclosing to certain persons, but the overall counts are small in these fields, especially for NH black decedents, and the usual caveats about interpretation of small counts must be applied. We do see that a smaller percentage of NH black decedents (20.7%) had a history of suicidal ideation compared to NH white decedents (30.4%), and additionally, a smaller percentage of NH black decedents (20.7%) left a suicide note or other recorded communication compared to NH white decedents (30.6%).

Figure 5.3 Circumstances Related to Suicidal Ideation and Disclosure, 2022 (N = 1,227)

(A) By Sex



(B) By Race/Ethnicity



Family and Community

Table 5.4 Circumstances Related to Family and Community, 2022 (N = 1,227)

	Count	Percent
An argument or conflict led to death of the decedent	219	17.8
Injury occurred during argument	60	4.9
Injury occurred within 24 hours, but not during argument	142	11.6
Injury occurred between 24 hours and 2 weeks after argument	10	0.8
Decedent was a perpetrator of violence in the previous month prior to injury	73	5.9
Problems with a current or former intimate partner appear to have contributed to injury	305	24.9
Intimate partner problem was a crisis	242	19.7
Relationship problems with a family member other than an intimate partner appear to have contributed	64	5.2
Family relationship problem was a crisis	52	4.2
A family stressor(s) appears to have contributed to injury	28	2.3
Decedent had a history of abuse or neglect as a child	12	1.0
Problems with a friend or associate appear to have contributed to injury	17	1.4
Suicide of a family member or friend appears to have contributed to injury	14	1.1
Death of a family member or friend due to something other than suicide appears to have contributed to injury	96	7.8
Decedent had contact with or was otherwise known to authorities in the 12 months prior to injury	265	21.6
Decedent's household had contact with local authorities	10	0.8

Table 5.4 contains information about circumstances related to family and community stressors. For 17.8% of decedents, an argument or conflict led to death. In the majority of these incidents, injury occurred either within 24 hours of the argument (64.8% of the 219 decedents where this circumstance was endorsed), or within the argument itself (26.8% of the 219 decedents where this circumstance was endorsed). This timing is consistent across sex and race/ethnicity.

Six percent (5.9%) of decedents were a perpetrator of violence within the month prior to injury. This variable is endorsed when the previous violence was distinct from the injury leading to death, and the previous violence does not have to be related to the death of the decedent. We do note that for incidents classified as homicide followed by suicide, this variable is endorsed for the decedent who died by suicide after perpetuating a homicide. There is also a variable available in TNVDRS indicating that the decedent was a victim of violence in the month prior to injury, but that was endorsed for fewer than ten decedents in this dataset.

For 24.9% of decedents, problems with a current or former intimate partner appear to have contributed to injury. This variable is only available in TNVDRS for deaths due to suicide or undetermined intent, and can indicate a broad range of issues including but not limited to: divorce, jealousy, or conflict. For 79.3% of the 305 decedents where this variable was endorsed, the problem was a "crisis," meaning that it occurred or became impending at some point in the two weeks preceding injury.

Problems with a family member other than an intimate partner appear to have contributed to injury for 5.2% of decedents; this variable is endorsed when the nature of the problem is relationship-based rather than environmental. For 2.3% of decedents, a family stressor appears to have contributed to injury. The "family stressor" circumstance is endorsed when there are significant problems related to home environment that affect the family unit. For example, if a family member is serving jail time and the family unit is experiencing stress as a result, the "family stressor" circumstance would be endorsed.

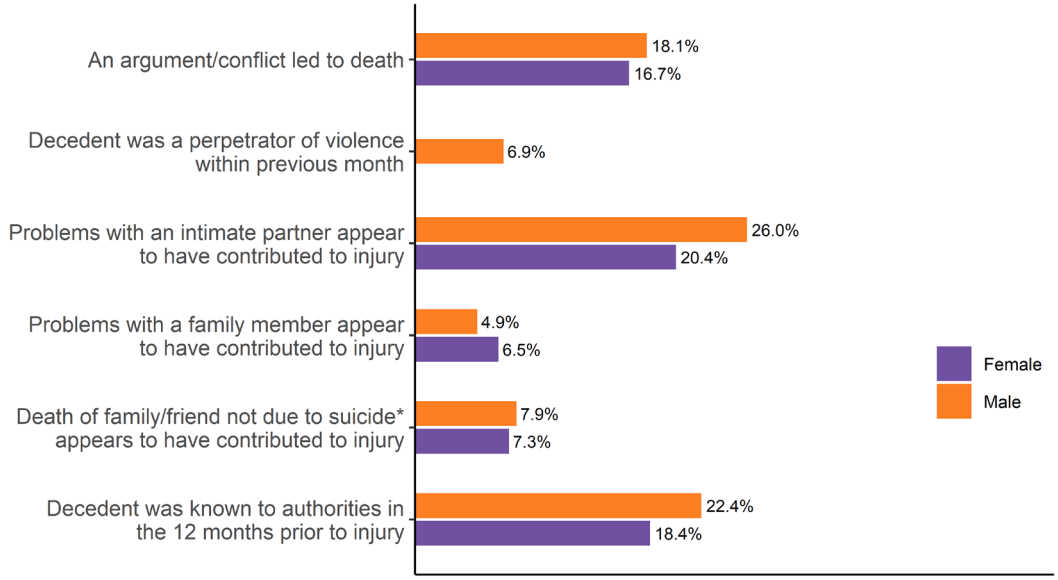
One percent (1.0%) of decedents were indicated to have a history of abuse or neglect as a child. It should be noted that this experience did not directly cause or precipitate the death; a different variable would be endorsed in those situations. This variable captures abuse or neglect regardless of its relationship to the incident leading to injury.

For 1.4% of decedents, relationship problems with a friend or associate other than an intimate partner or family member appear to have contributed to injury. When collecting information about how a death of a friend or family member potentially contributed to death, TNVDRS has a separate variable to endorse when it is known that the death was due to suicide. For 1.1% of decedents, a prior suicide of a family member or friend appears to have contributed to injury; for 7.8% of decedents, a prior death that was either not due to suicide or was unspecified appears to have contributed. Fewer than ten decedents indicated that death was related to the anniversary of a traumatic experience in the decedent's life.

TNVDRS also collects information on whether decedents had interactions with authorities such as law enforcement, child protective services, or first responders. About twenty-two percent (21.6%) of decedents had contact with or were otherwise known to authorities in the 12 months prior to injury, and the decedent's household had contact with local authorities for 0.8% of decedents. This second variable is endorsed only when a report confirms that someone in the decedent's household other than the decedent themselves has had previous contact with authorities.

Figure 5.4 Circumstances Related to Family and Community, 2022 (N = 1,227)

(A) By Sex



(B) By Race/Ethnicity

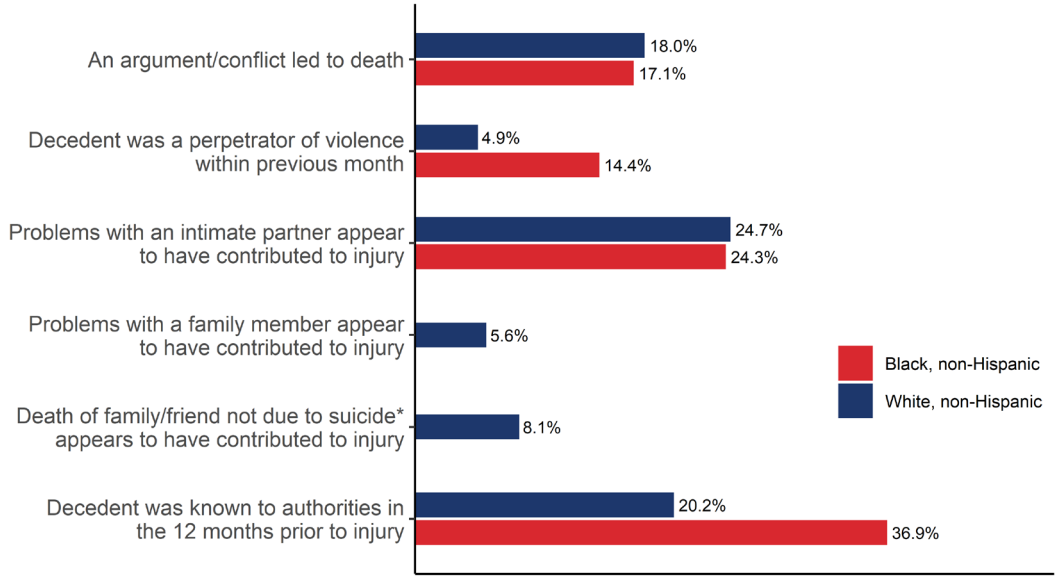


Figure 5.4 shows these circumstances by sex and by race when the counts are sufficiently large to display. There were not many differences in the percentage of male compared to female decedents for most of these circumstances. Intimate partner problems appear to have contributed to injury for a higher percentage of male decedents (26.0%) than female decedents (20.4%). Similarly, a higher percentage of male decedents were known to authorities (22.4%) compared to female decedents (18.4%), but this difference is not large. A higher percentage of male decedents were indicated to be a perpetrator of violence within the previous month, but fewer than ten female decedents had this circumstance endorsed, so the percentage is not shown.

There are some differences between NH black decedents and NH white decedents for these circumstances, although we note that counts are suppressed for NH black decedents for some circumstances. A higher percentage of NH black decedents were known to authorities (36.9%) compared to NH white decedents (20.2%). We also observe that a higher percentage of NH black decedents (14.4%) were indicated to be a perpetrator of violence within the previous month compared to NH white decedents (4.9%), but we note here that these counts are smaller than the other circumstances, so they are likely more sensitive to statistical fluctuation.

Criminal and Legal Issues

Table 5.5 Circumstances Related to Criminal and Legal Issues, 2022 (N = 1,227)

	Count	Percent
Civil legal problems appear to have contributed to injury	59	4.8
Civil legal problem was a crisis	25	2.0
Criminal legal problems appear to have contributed to injury	112	9.1
Criminal legal problem was a crisis	100	8.1
Death was precipitated by another serious crime	81	6.6
Death was precipitated by assault or homicide	52	4.2
Death was precipitated by rape or sexual assault	20	1.6
Precipitating crime was in progress at time of incident	12	1.0

Table 5.5 contains information about the circumstances related to legal issues. There are many circumstance variables related to criminal activity and legal issues in the NVDRS coding system, but few of them are endorsed for decedents who died due to suicide in 2022.

Five percent (4.8%) of decedents had civil legal problems that appear to have contributed to injury. Less than half (42.4%) of the 59 decedents experiencing civil legal issues also endorsed the "crisis" variable, indicating that the civil legal problems occurred or became imminent within two weeks prior to injury. The most common civil legal problems include divorce, custody disputes, or civil lawsuits.

Nine percent (9.1%) of decedents had criminal legal problems that appear to have contributed to injury, with 89.3% of the 112 decedents also endorsing the accompanying "crisis" variable. This variable is related specifically to legal or law enforcement consequences such as arrest or an impending court date rather than the commission of a crime itself.

Death was precipitated by another serious crime for 6.6% of decedents. In the majority of these incidents, the other crime was stated to be assault or homicide (64.2% of the 81 decedents where this variable was endorsed), followed by rape or sexual assault (24.7% of the 81 decedents). For 1.0% of decedents, the precipitating crime was being committed or attempted at the time of injury; when this variable is endorsed, the abstractor also endorses the "criminal legal problems" variable.

Fewer than ten female decedents had any of circumstances listed in Table 5.5 endorsed, with the exception of criminal legal problems. Nine percent (8.9%) of the 112 decedents indicating criminal legal problems were female, and 91.1% were male.

There were some notable differences by race/ethnicity in these circumstances. A higher percentage of NH black decedents experienced criminal legal problems contributing to injury (19.8%) compared to NH white decedents (7.7%). Similarly, a higher percentage of NH black decedents indicated that death was precipitated by another serious crime (18.9%) compared to NH white decedents (5.1%). The counts for the nature of the stated crime were too low in any category to present meaningful statistics.

VI. Acknowledgements

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Adamsville Police Department
Algood Police Department
Anderson County Sheriff's Office
Ashland City Police Department
Atoka Police Department
Baileyton Police Department
Bartlett Police Department
Bean Station Police Department
Bedford County Sheriff's Office
Benton County Sheriff's Office
Blount County Sheriff's Office
Bolivar Police Department
Bradley County Sheriff's Office
Brentwood Police Department
Brighton Police Department
Bristol Police Department
Brownsville Police Department
Campbell County Sheriff's Office
Cannon County Sheriff's Office
Carroll County Sheriff's Office
Carter County Sheriff's Office
Caryville Police Department
Chattanooga Police Department
Cheatham County Sheriff's Office
Chester County Sheriff's Office
Church Hill Police Department
City of Alcoa Police Department
City of Henderson Police Department
Claiborne County Sheriff's Office
Clarksville Police Department
Clay County Sheriff's Office
Cleveland Police Department
Cocke County Sheriff's Office
Coffee County Sheriff's Office
Collierville Police Department
Columbia Police Department
Cookeville Police Department
Coopertown Police Department
Covington Police Department
Crockett County Sheriff's Office
Crossville Police Department
Cumberland County Sheriff's Office
Dandridge Police Department
Decatur County Sheriff's Office
DeKalb County Sheriff's Office
Dickson County Sheriff's Office
Dickson Police Department
Dunlap Police Department
Dyer County Sheriff's Office
Dyersburg Police Department
East Ridge Police Department
ETSU Dept of Public Safety
Elizabethton Police Department
Erwin Police Department
Fairfield Glade Public Safety
Fairview Police Department
Fayette County Sheriff's Office
Fayetteville Police Department
Fentress County Sheriff's Office
Franklin County Sheriff's Office
Franklin Police Department
Gallatin Police Department
Gatlinburg Police Department
Germantown Police Department
Gibson County Sheriff's Office
Giles County Sheriff's Office
Goodlettsville Police Department
Grainger County Sheriff's Office
Greene County Sheriff's Office
Greeneville Police Department
Grundy County Sheriff's Office
Hamblen County Sheriff's Office
Hamilton County Sheriff's Office
Hardin County Sheriff's Office
Harriman Police Department
Hawkins County Sheriff's Office
Haywood County Sheriff's Office
Henderson County Sheriff's Office
Hendersonville Police Department
Henry County Sheriff's Office
Houston County Sheriff's Office
Humboldt Police Department
Huntingdon Police Department
Jackson Police Department
Jefferson County Sheriff's Office
Johnson City Police Department
Johnson County Sheriff's Office
Jonesborough Police Department
Kingsport Police Department
Kingston Police Department
Knox County Sheriff's Office
Knoxville Police Department
Lafayette Police Department
Lauderdale County Sheriff's Office
LaVergne Police Department
Lawrence County Sheriff's Office
Lawrenceburg Police Department
Lebanon Police Department
Lenoir City Police Department
Lewis County Sheriff's Office
Lewisburg Police Department
Lexington Police Department
Loudon County Sheriff's Office
Macon County Sheriff's Office
Madison County Sheriff's Office
Manchester Police Department
Marion County Sheriff's Office
Marshall County Sheriff's Office
Martin Police Department
Maryville Police Department
Mason Police Department
McKenzie Police Department
McMinn County Sheriff's Office
McMinnville Police Department
McNairy County Sheriff's Office
Meigs County Sheriff's Office
Memphis Police Department
Metro Nashville Police Department
Milan Police Department
Millington Police Department
Monroe County Sheriff's Office
Montgomery County Sheriff's Office
Moore County Sheriff's Office
Morgan County Sheriff's Office
Morristown Police Department
Mosheim Police Department
Mount Carmel Police Department
Mount Juliet Police Department
Mount Pleasant Police Department

Munford Police Department
Murfreesboro Police Department
Newport Police Department
Oak Ridge Police Department
Obion County Sheriff's Office
Oliver Springs Police Department
Overton County Sheriff's Office
Paris Police Department
Pickett County Sheriff's Office
Pigeon Forge Police Department
Polk County Sheriff's Office
Portland Police Department
Putnam County Sheriff's Office
Red Bank Police Department
Red Boiling Springs Police Department
Rhea County Sheriff's Office
Robertson County Sheriff's Office
Rocky Top Police Department
Rutherford County Sheriff's Office
Savannah Police Department
Scott County Sheriff's Office
Selmer Police Department
Sequatchie County Sheriff's Office
Sevier County Sheriff's Office
Sevierville Police Department
Sewanee Police Department
Shelby County Sheriff's Office
Shelbyville Police Department
Signal Mountain Police Department
Smith County Sheriff's Office
Smyrna Police Department
Soddy Daisy Police Department
South Pittsburg Police Department
Spring Hill Police Department
Springfield Police Department
Stewart County Sheriff's Office
Sullivan County Sheriff's Office
Sumner County Sheriff's Office
Tennessee Department of Correction
Tennessee Highway Patrol
Tennessee State Park Service
Tipton County Sheriff's Office
Trousdale County Sheriff's Office
Tullahoma Police Department
Unicoi County Sheriff's Office
Union City Police Department
Union County Sheriff's Office
Van Buren County Sheriff's Office
Walters State CC Campus Police
Warren County Sheriff's Office
Washington County Sheriff's Office
Waverly Police Department
Wayne County Sheriff's Office
Weakley County Sheriff's Office
White Bluff Police Department
White County Sheriff's Office
White House Police Department
Williamson County Sheriff's Office
Wilson County Sheriff's Office
Winchester Police Department
Woodbury Police Department

VII. References and Resources

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RG 82, Box 13, File 59, ID #26580

Useful Web Resources

- TNVDRS Program website and contact information
  https://www.tn.gov/health/health-program-areas/oscme/tnvdrs.html
  TN.VDRS@tn.gov
- NVDRS Program website (coding manual available on Resources page)
  https://www.cdc.gov/nvdrs/about/index.html
  https://www.cdc.gov/nvdrs/resources/index.html
- CDC WONDER
  https://wonder.cdc.gov
- TN Vital Statistics
  https://www.tn.gov/health/health-program-areas/statistics/health-data/vital-statistics.html
- TN Population Data
  https://www.tn.gov/health/health-program-areas/statistics/health-data/population.html