



## Violent Deaths, Delaware 2000 – 2017

Intentional injury deaths include both homicides and suicides and are most commonly referred to as violent deaths. In 2016, suicide was the tenth leading cause of death across all age groups in the United States.<sup>1</sup> Nationally, homicide was the third leading cause of death among 15 to 34 year olds.<sup>1</sup> Delaware's trends are slightly different from national trends and vary by race, age, and geographic location. From 2013 to 2017, homicides were the thirteenth leading cause of death in New Castle County (1.0%) and sixth leading cause of death in the city of Wilmington (3.5%).<sup>2</sup>

This data brief is a summary of the 18-year trends of homicide and suicide deaths from 2000 to 2017 and provides a more in-depth exploration of the circumstances reported for 2017 violent deaths using data from the National Violent Death Reporting System (NVDRS).

### BACKGROUND

Delaware resident deaths, regardless of location, and all non-resident deaths that occurred in Delaware are reported to the Delaware Division of Public Health (DPH) Office of Vital Statistics. Analyses of death certificate data are used to describe causes of death and variations across age, race, and other sociodemographic characteristics. In 2017, DPH began recording violent death data (i.e., homicides and suicides) in the Centers for Disease Control and Prevention's (CDC) NVDRS. NVDRS is a state-based national surveillance system that compiles data from multiple data sources on demographic and circumstance information from law enforcement and medical examiner reports.<sup>3</sup>

The Delaware Violent Death Reporting System (DVDRS) uses vital records data in combination with data from the Division of Forensic Science medical examiners to identify persons who died of a suicide or homicide. Data from the death certificate, medical examiner records, and law enforcement records are abstracted. Cases are entered into the NVDRS based on injury location and not the individual's residence location or death location. A narrative synopsis of both the police and medical examiners' reports includes information from the investigation that is not collected elsewhere such as circumstance data. Circumstance data are information on the relationship between perpetrator(s) and victim; mental health history, substance abuse, and life stressors of the victim; and other crimes committed at the same time as the homicide or homicide-suicide.

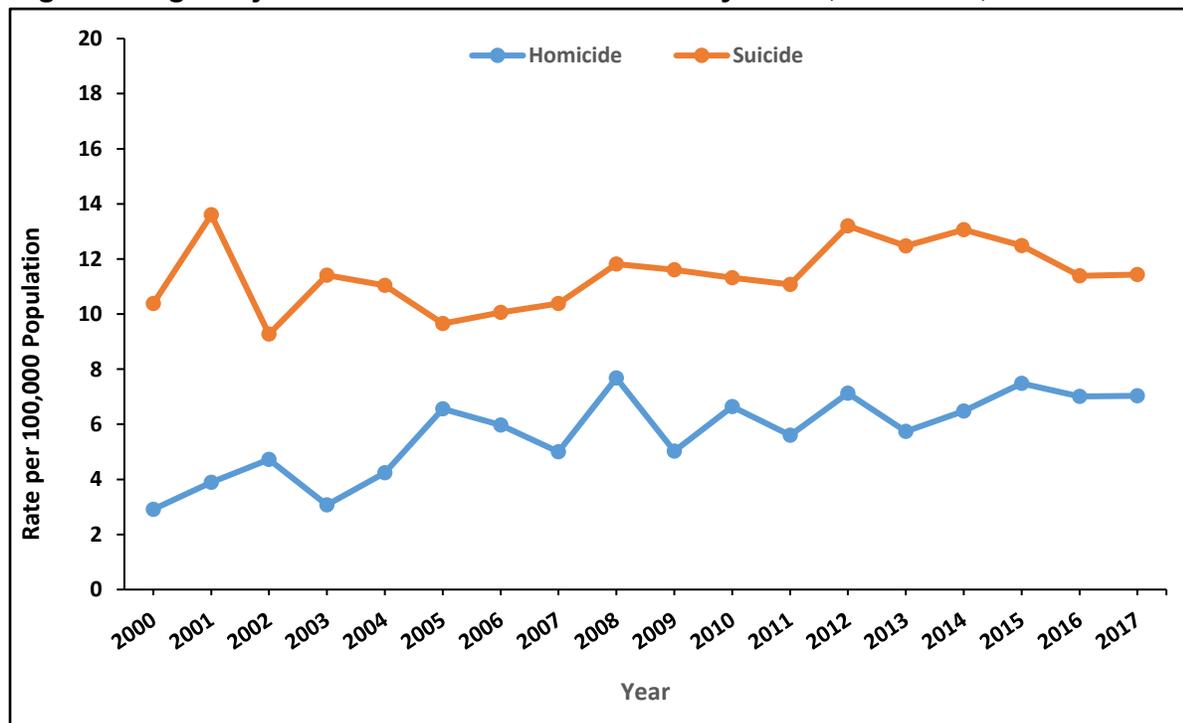
In 2017, Delaware reported 189 violent deaths in NVDRS, 69.0 percent of which had circumstances collected from medical examiner records and 84.0 percent of which had circumstances collected from law enforcement records. Circumstances are attributed to an individual decedent. One violent death occurrence may have several circumstances associated with the death.

## OVERVIEW

Overall, the suicide rate increased from 10.4 suicides per 100,000 population to 11.4 suicides per 100,000 population. The age-adjusted rate of suicides has fluctuated slightly from 2005 to 2017 with a more recent decrease (14%) in the suicide rate from 2012 to 2017 (13.2 deaths per 100,000 population and 11.4 deaths per 100,000 population, respectively). The highest suicide rate occurred in 2001 (13.6). (Figure 1)

Homicides have gradually but steadily increased over the 18-year period and have noticeable annual fluctuations between 2005 and 2013. The age-adjusted homicide rate increased (141%) from 2.9 homicides per 100,000 population in 2000 to 7.0 homicides per 100,000 population in 2017; however, the past five years, 2013 to 2017, have experienced a slight increase with the same rate reported in 2016 and 2017 (7 homicides per 100,000 population). The highest homicide rate occurred in 2008 (7.7). (Figure 1)

**Figure 1. Age-Adjusted Rates of Violent Deaths by Intent, Delaware, 2000-2017**



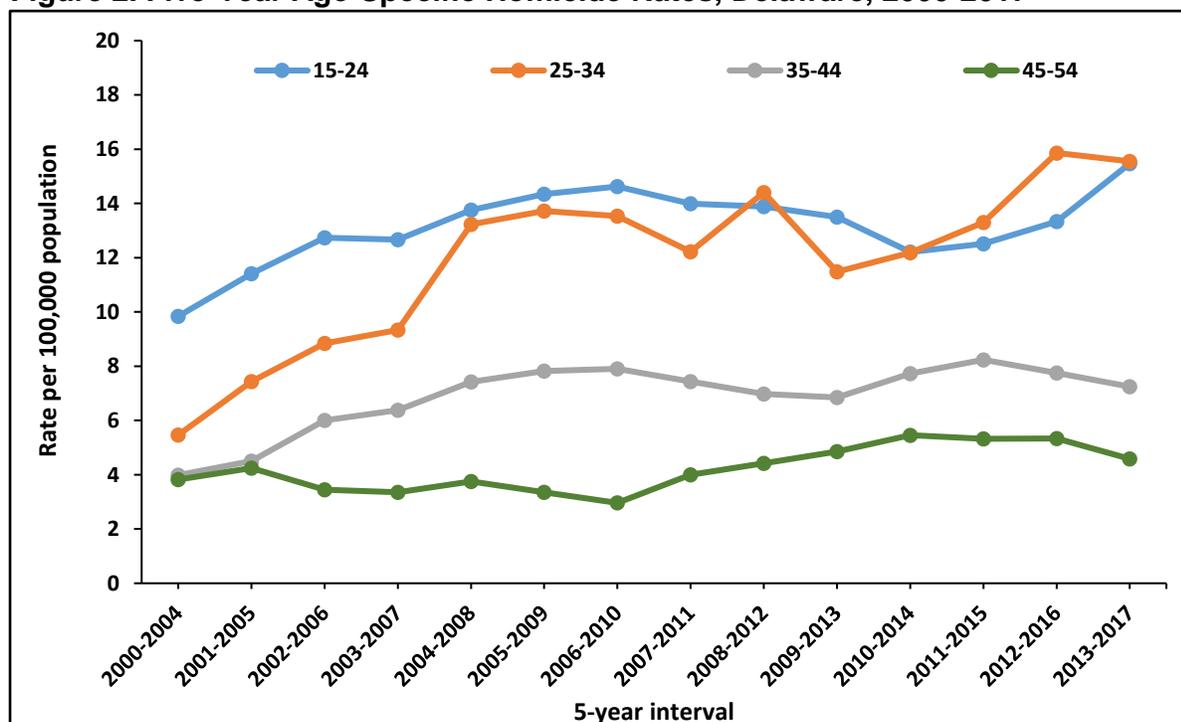
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center  
Note: Rates are age-adjusted to the 2000 U.S. Standard Population.

## HOMICIDES

### Five –year Average Age-Specific Homicide Rates 2000-2017

Figure 2 presents five-year average age-specific homicide mortality rates from 2000 to 2017. For 2003-2007 and 2008-2012, the 25-34 year age group homicide mortality rate showed the greatest increase at 54.2 percent from 9.3 in 2003-2007 to 14.4 in 2008-2012. The 45-54 age group had the second greatest increase at 31.7 percent from 3.4 in 2003-2007 to 4.4 in 2008-2012. For 2008-2012 and 2013-2017, the 15-24 age group had the greatest increase at 11.4 percent from 13.9 in 2008-2012 to 15.5 in 2013-2017. The second largest increase was in the 25-34 age group at 8.0 percent from 14.4 in 2008-2012 to 15.6 in 2013-2017. From 2008-2012 to 2013-2017 the 35-44 and 45-54 age groups both increased by 3.8 percent.

**Figure 2. Five-Year Age-Specific Homicide Rates, Delaware, 2000-2017**



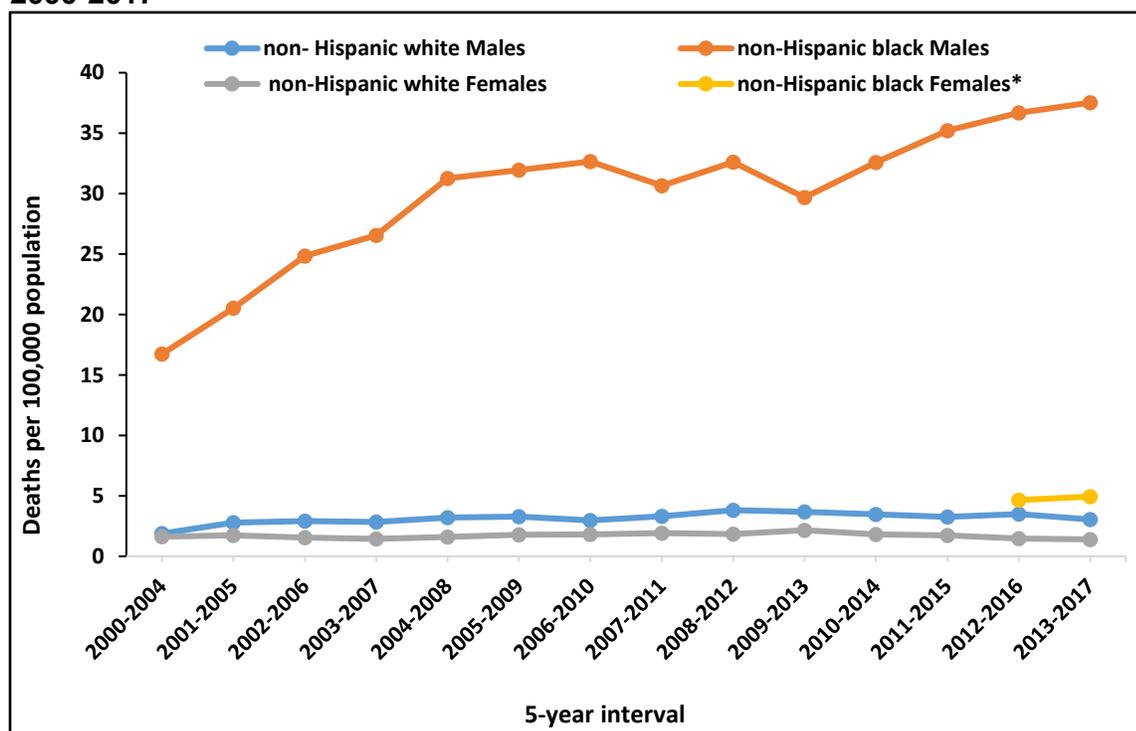
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

### Five-year Age Adjusted Homicide Rates by Race and Sex

The rate of non-Hispanic black male homicides increased over 2000 to 2017. For 2003-2007, the homicide rate for non-Hispanic black males was 26.6 per 100,000 population, 9.5 times higher than non-Hispanic white males (2.8 per 100,000 population). For 2008-2012, the homicide rate for non-Hispanic black males (32.6) was 8.5 times higher than non-Hispanic white males (3.8) and for 2013-2017, the homicide rate for non-Hispanic black males (37.5) is 12.5 times higher than non-Hispanic white males (3.0).

Non-Hispanic white male homicide rate showed the greatest increase at 35.0 percent from 2.8 in 2003-2007 to 3.8 in 2008-2012. Non-Hispanic white females had the second greatest increase from 1.5 in 2003-2007 to 1.8 in 2008-2012 with 25.7 percent. Non-Hispanic black male homicide rate increased 22.8 percent from 26.6 in 2003-2007 to 32.6 in 2008-2012. Non-Hispanic black male homicide rate showed the greatest increase at 15.1 percent from 32.6 in 2008-2012 to 37.5 in 2013-2017. From 2008-2012 to 2013-2017, rates decreased for the following: non-Hispanic white females (23.3 percent) and non-Hispanic white males (20.4 percent). Rates with counts less than 20 in the numerator are suppressed for this analysis to ensure rate stability. (Figure 3)

**Figure 3. Five-year Age-Adjusted Homicide Mortality Rates by Race and Sex, Delaware, 2000-2017**

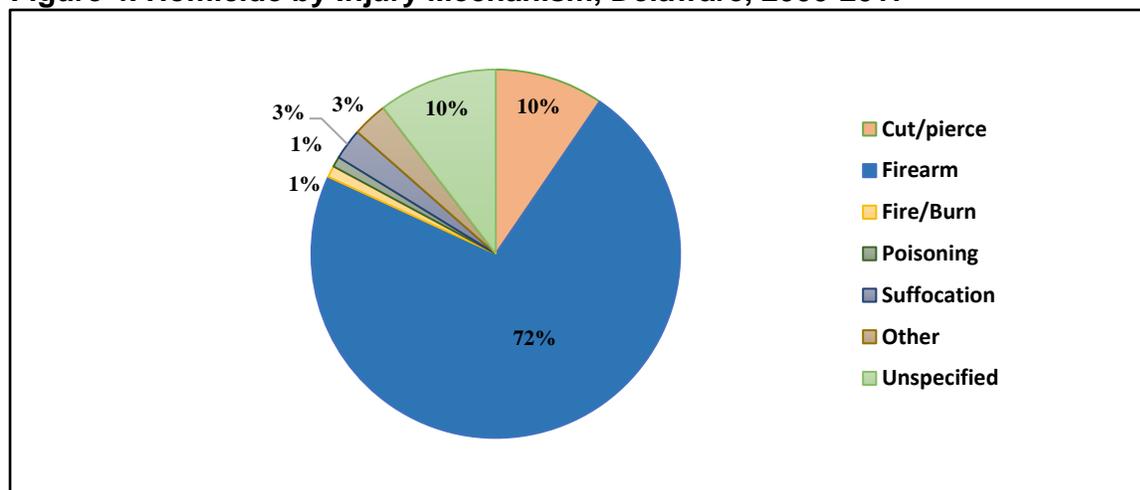


Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center  
Note: Rates are age-adjusted to the 2000 U.S. Standard Population. \*Rates were suppressed for counts less than 20 in the numerator.

### Homicide Mechanism of Injury

The most common mechanism of injury in homicides involved a firearm, with 72 percent from 2000 to 2017. (Figure 4)

**Figure 4. Homicide by Injury Mechanism, Delaware, 2000-2017**

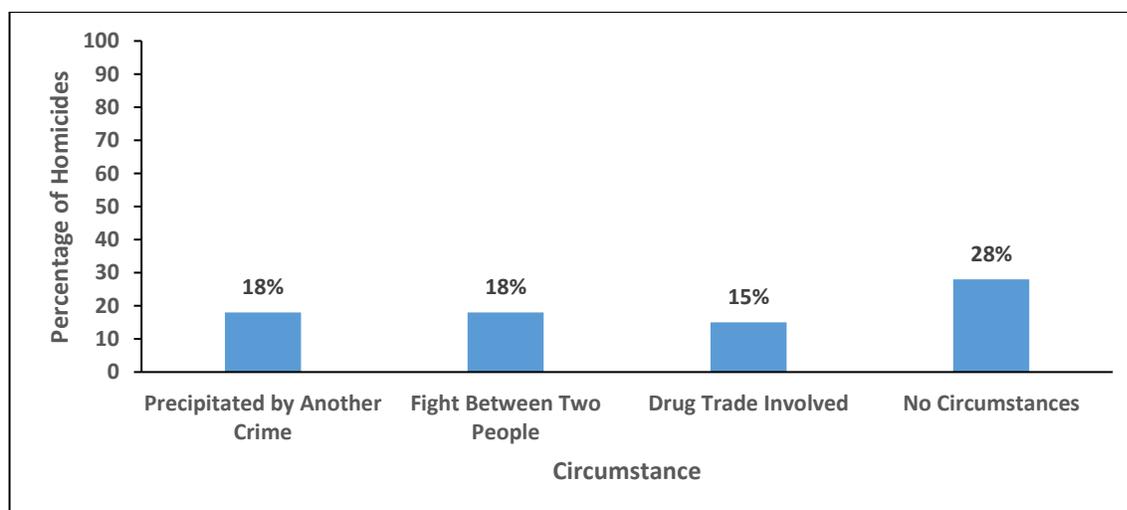


Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

### Homicide Circumstance Data

In 2017, DPH began reporting homicide death data in the NVDRS. Since multiple circumstances may be found for each homicide, the circumstance categories are not mutually exclusive. Circumstances for homicides in 2017 included homicide precipitated by another crime (18%), a fight between two people (18%), and drug trade involvement (15%). There were no circumstance data available for 28 percent of homicides that occurred in 2017. (Figure 5)

**Figure 5. Percentage of Homicides by Circumstance, Delaware, 2017**



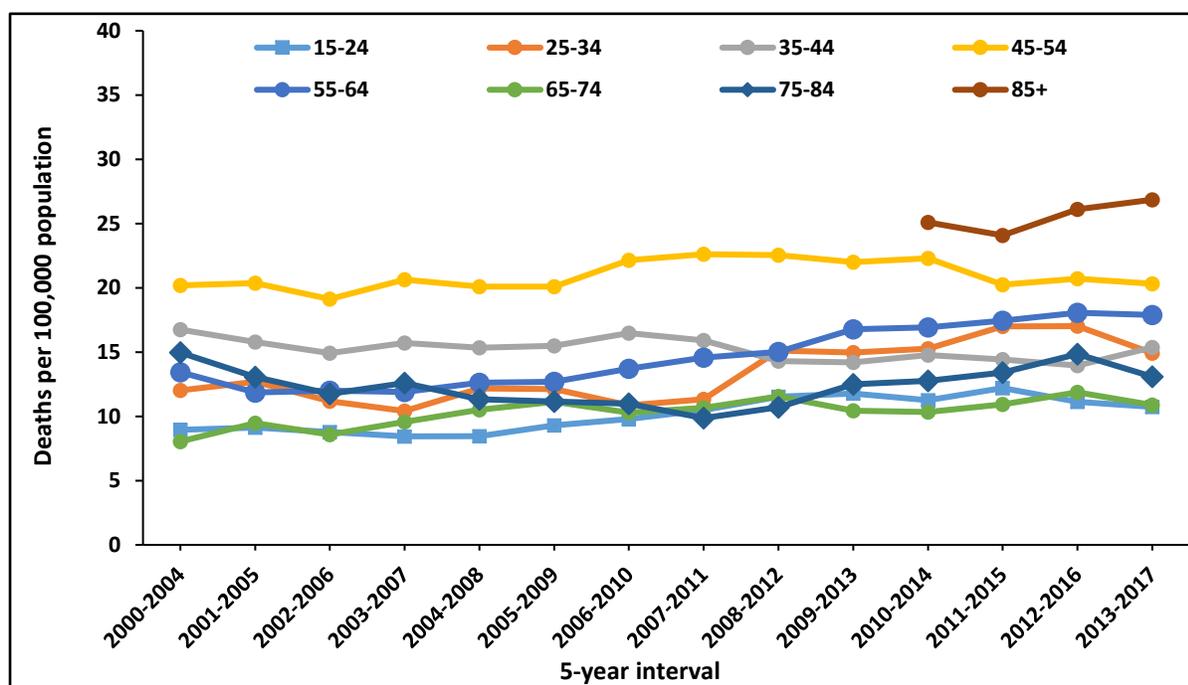
Source: Delaware Health and Social Services, Division of Public Health, Delaware Violent Death Reporting System

## SUICIDES

### Five –year Average Age-Specific Suicide Rates 2000-2017

The suicide rate for the 25-34 age group showed the greatest increase at 45.1 percent from 10.4 in 2003-2007 and 15.1 in 2008 -2012. The 15-24 age group had the second greatest increase from 8.4 in 2003-2007 and 11.5 in 2008-2012 with 36.5 percent. The largest increase was in the 55-64 age group from 15.0 in 2008-2012 and 17.9 in 2013-2017 with 19.0 percent. From 2008-2012 and 2013-2017, rates decreased for the following age groups: 45-54 (9.9%), 15-24 (6.8%), 65-74 (5.9%), and 25-34 (1.3%). Rates with counts less than 20 in the numerator were suppressed for this analysis to ensure rate stability. (Figure 6)

**Figure 6. Five-Year Age-Specific Suicide Rates, Delaware, 2000-2017**



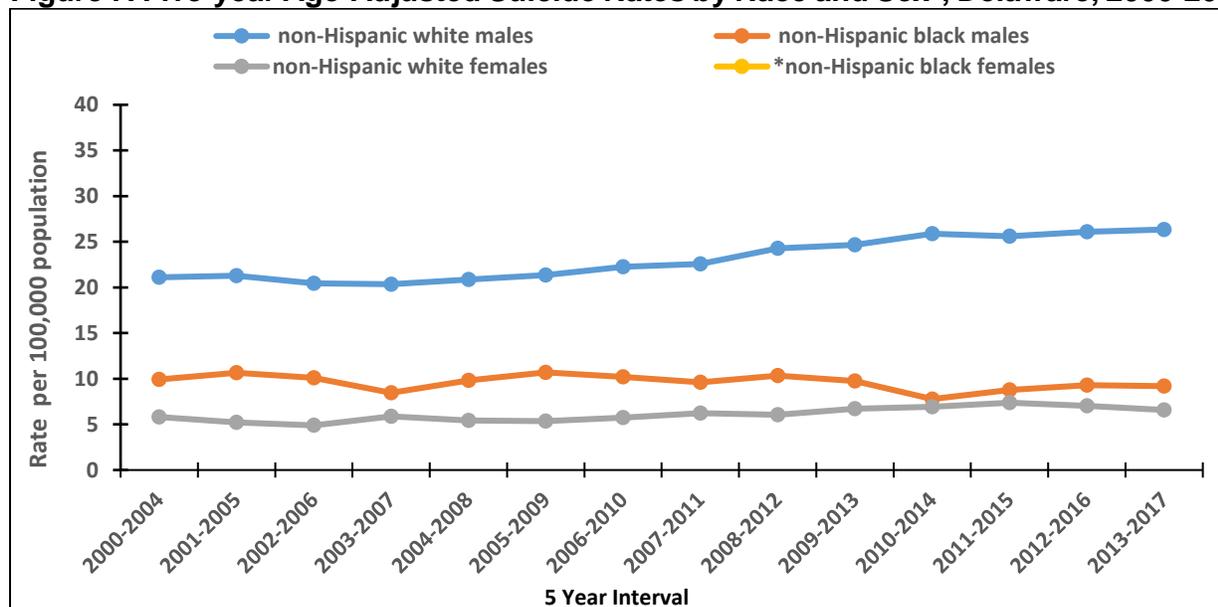
Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center  
 Note: Rates were suppressed for counts less than 20 in the numerator.

### Five-year Age Adjusted Suicide Rates by Race and Sex

The rate of non-Hispanic white male suicide mortality demonstrates an increase from 2000 to 2017. For 2003-2007, the suicide mortality rate for non-Hispanic white males was 20.4 per 100,000 population, 2.6 times higher than the rate in non-Hispanic black males (8.4 per 100,000 population). For 2008-2012, the suicide mortality rate for non-Hispanic white males was 2.4 times higher than the rate in non-Hispanic black males and for 2013-2017, the suicide mortality rate for non-Hispanic white males (26.3) is 2.9 times higher than non-Hispanic black males (9.2).

Non-Hispanic black male suicide rate showed the greatest increase at 22.3 percent from 8.5 in 2003-2007 and 10.34 in 2008-2012. Non-Hispanic white males had the second greatest increase from 20.4 in 2003-2007 and 24.3 in 2008-2012 with 19.3 percent. From 2008-2012 and 2013 -2017, non-Hispanic white males had the greatest increase at 8.5 percent and the second largest increase was non-Hispanic white females with 8.5 percent. From 2008-2012 and 2013-2017, the rate decreased for non-Hispanic black males by 11.1 percent. Rates with counts less than 20 are suppressed for this analysis to ensure rate stability. (Figure 7)

**Figure 7. Five-year Age-Adjusted Suicide Rates by Race and Sex\*, Delaware, 2000-2017**

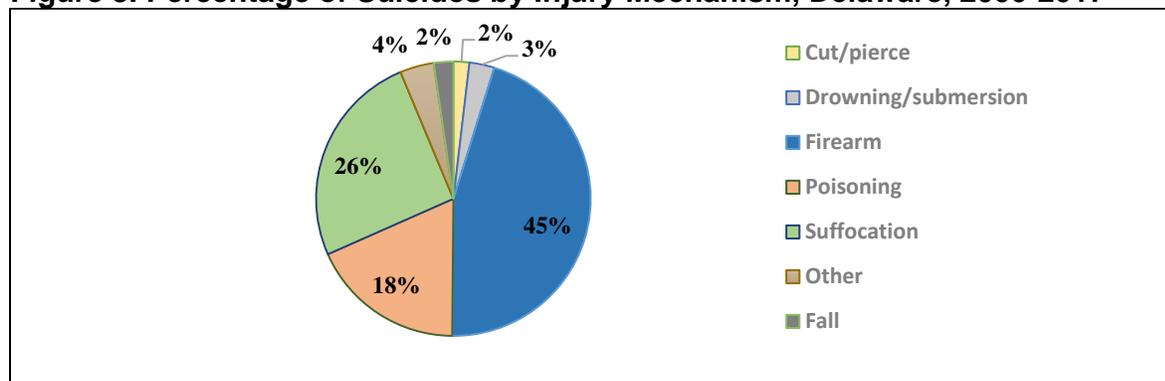


Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center  
 Note: Rates are age-adjusted to the 2000 U.S. Standard Population. \*Rates were suppressed for counts less than 20 in the numerator.

**Suicide Mechanism of Injury**

Firearms were the most common injury mechanism in suicides, followed by suffocation and poisoning. These three mechanisms combined make up 89 percent of suicide mechanisms for 2000 to 2017. (Figure 8)

**Figure 8. Percentage of Suicides by Injury Mechanism, Delaware, 2000-2017**

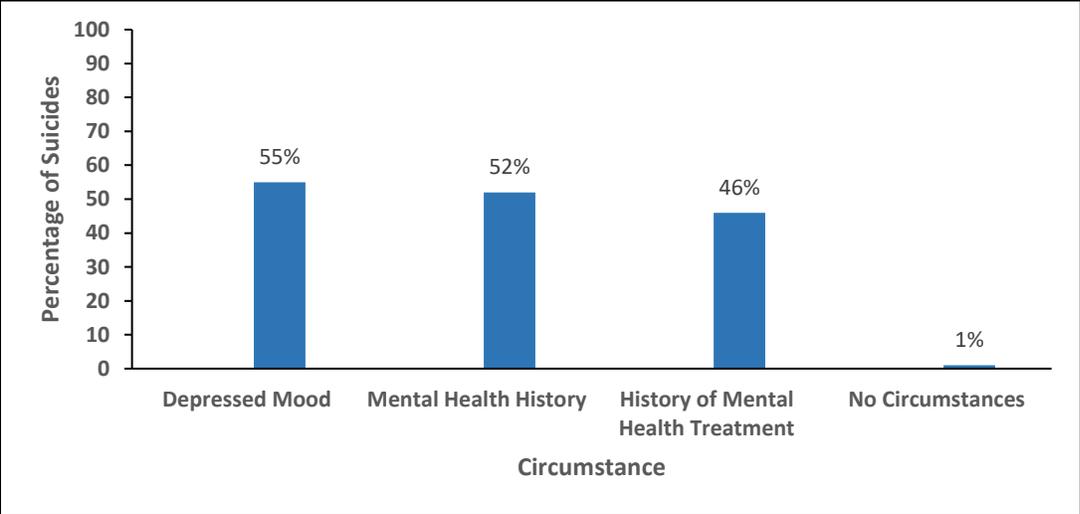


Source: Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center

*Suicide Circumstance Data*

In 2017, the DPH began reporting suicide death data in the NVDRS. Since multiple circumstances may be found for each suicide, the data is not mutually exclusive. For 2017, 55 percent of suicides had a victim with a depressed mood as a circumstance, 52 percent the victim had a known mental health history, and 46 percent a history of mental treatment was noted. In 1 percent of 2017 homicides, there were no circumstance data captured by the system. (Figure 9)

**Figure 9. Percentage of Suicide by Circumstance, Delaware, 2017**



Source: Delaware Health and Social Services, Division of Public Health, Delaware Violent Death Reporting System

Future data briefs will explore the inclusion of emergency department visits, hospitalization claims, and crime data to provide a descriptive picture of related factors associated with violent deaths.

**REFERENCES**

1. Centers for Disease Control and Prevention. Leading Causes of Death. Accessed at [https://www.cdc.gov/injury/wisqars/pdf/leading\\_causes\\_of\\_death\\_by\\_age\\_group\\_2016-508.pdf](https://www.cdc.gov/injury/wisqars/pdf/leading_causes_of_death_by_age_group_2016-508.pdf).
2. Delaware Health Statistics Center. Delaware Vital Statistics Annual Report 2017, Mortality file. Delaware Department of Health and Social Services, Division of Public Health, 2019.
3. Centers for Disease Control and Prevention. Violence Prevention. National Violent Death Reporting System. <https://www.cdc.gov/violenceprevention/datasources/nvdrs/index.html>  
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## **ACKNOWLEDGMENTS**

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