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Office of the Chief Medical Examiner Annual Report 2017

Commonwealth of Virginia
Virginia Department of Health
Office of the Chief Medical Examiner
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Office of the Chief Medical Examiner
Annual Report 2017

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INTRODUCTION

Executive Summary

The Virginia Department of Health, Office of the Chief Medical Examiner (OCME) is proud to present the 2017 Annual Report. In addition to fulfilling accreditation requirements for the Virginia OCME by the National Association of Medical Examiners (NAME), the OCME Annual Report provides specific information about deaths occurring in the Commonwealth of Virginia during the 2017 calendar year and investigated by the OCME. This information is a valuable resource for Virginia's citizens and leaders to identify trends in preventable deaths, which can be used to protect the lives of all Virginians through education and changes in public policy.

As a model statewide death investigation system with four district offices, the OCME fulfills a core function mandated by Code of Virginia, § 32.1-283. By Code, the OCME is tasked with investigating the deaths of individuals who died in Virginia from trauma or violence, when sudden and unexpected, while unattended by a physician, under suspicious circumstances or in the custody of law enforcement or other state or local authority. When deaths are reported to one of the four district OCME offices, the case information is entered into the Virginia Medical Examiner Database (VMEDS) and the case is managed through this statewide data system allowing for consistent, reliable data that can be reviewed and interpreted for the annual report.

Some of the important trends for 2017 include:

- Among manners of death, the most notable changes in 2017 compared to 2016 were large increases among accidents (rates of 41.6 and 38.5 per 100,000, respectively) and significant decreases in undetermined manners of death (rates of 1.8 and 2.7 per 100,000, respectively). Overall, homicides, natural deaths under OCME jurisdiction, and suicides in 2017 only varied slightly from 2016 numbers
- Accidental deaths have been increasing since 2011 with an increase of 8.7% in 2017 compared to 2016
- Of all deaths investigated by the OCME in 2017, 49.0% (n=3,521) were accidents
- Gun-related homicides decreased by 5.6% in 2017 compared to 2016 (353 and 374 deaths, respectively)
- Black males had the highest homicide rate (28.0 per 100,000) in 2017. Black males were victims of homicide at a rate 8.5 times that of white males and 5.5 times that of Hispanic males

- Richmond City had both the largest number of homicides by locality of residence and locality of injury (n=51 and n=78, respectively) in 2017; Petersburg had the highest homicide rate by locality of residence and Highland County had the highest homicide rate by location of injury (40.9 and 45.2 per 100,000, respectively)
- The majority (64.6%) of gun related deaths were due to suicide in 2017, similar to previous years
- In 2017, Whites committed suicide at a rate 5.0 times that of Hispanics, 4.0 times that of Asians, 3.2 times that of Blacks, and 2.4 times that of Native Americans
- The number of drug/poisoning deaths in 2017 increased by 7.6% compared to 2016
- The 2017 rate of drug/poison deaths that occurred in Virginia was 18.1 per 100,000 persons, which is up from a rate of 17.0 per 100,000 persons in 2016
- Fatal fentanyl and/or heroin overdoses surpassed prescription opioid (excluding fentanyl) overdoses in 2015 and this trend continued at a greater magnitude in 2017
- Fentanyl and/or heroin was involved in 61.3% of all drug/poison cases in Virginia in 2017
- Nearly 95% of all fatal opioid overdoses in 2017 were accidents
- Out of all opioids deaths in 2017, fentanyl (Rx, illicit, and analogs) was responsible for the largest number of deaths (62.7%)

Final thanks must go to the dedicated and caring staff of the Office of the Chief Medical Examiner who must everyday help grieving families navigate the tragedy of a loved one's death. Their commitment to our mission allows the Virginia OCME to remain a respected, model system for the nation.

Office of the Chief Medical Examiner

Annual Report 2017

Virginia Department of Health

Commonwealth of Virginia

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Introduction

This report represents the deaths investigated by the Virginia Department of Health, Office of the Chief Medical Examiner in 2017.

Data Collection and Preparation

The data in this report reflect deaths accepted by the Office of the Chief Medical Examiner (OCME) pursuant to §32.1-283 of the Code of Virginia for the 2017 calendar year. These deaths are both Virginia residents and non-residents whose deaths generally occurred within the borders of the Commonwealth of Virginia. The Virginia OCME classifies these deaths by its own coding schema, which differs from mortality data published by other OCME surveillance groups, law enforcement agencies, the Virginia Center for Health Statistics, and the Centers for Disease Control and Prevention (CDC). Any discrepancies between data presented by the OCME and other nosology groups are the result of data collection and analytic variations among these groups.

Statistical Summary

- Data is based upon both Virginia residents and non-Virginia residents, whose deaths have come under the jurisdiction of the Virginia Office of the Chief Medical Examiner
- Rates
    - Rates are per 100,000 persons of the specific Virginia population being described
    - Crude rates are used for all deaths occurring in Virginia, regardless of residential status
    - Rates calculated from small case counts (<5) are considered unreliable and should be interpreted with caution
- Race/Ethnicity
    - Asian, Black, Native American, and White races represent those who have been identified as non-Hispanic ethnicity
    - 'Hispanic' are persons identified as White race with Hispanic ethnicity
    - 'Other' race are persons that are identified as more than one race and/or Hispanic ethnicity (excluding White)
- Toxicology
    - Results are based on blood specimens and vitreous fluid

OVERVIEW – OFFICE OF THE CHIEF MEDICAL EXAMINER

The General Assembly of Virginia abolished the Office of Coroner's Physician in 1946 and appointed a Chief Medical Examiner. Four years later, the Office of the Chief Medical Examiner (OCME) became an office within the Virginia Department of Health. The OCME is comprised of four district offices, all accredited by the National Association of Medical Examiners, to serve the citizens of the Commonwealth.

Jurisdictional Authority

Pursuant to § 32.1-283 of the Code of Virginia, all of the following deaths are investigated by the OCME:

- Any death from trauma, injury, violence, or poisoning attributable to accident, suicide or homicide
- Sudden deaths of persons in apparent good health and deaths unattended by a physician
- Deaths of persons in jail, prison, or other correctional institutions, as well as deaths in police custody This includes deaths during legal intervention such as a death following a police pursuit
- Deaths of patients/residents of state mental health facilities
- Sudden death of any infant less than eighteen months of age whose death might be attributable to Sudden Infant Death Syndrome
- Any other suspicious, unusual, or unnatural death

The OCME investigates deaths reported to the four offices, takes custody of deaths that fall under OCME jurisdiction as outlined by the Code of Virginia, and conducts medicolegal death investigations into those fatalities. In Virginia, this is performed by a statewide medical examiner system comprised of a chief medical examiner, several assistant chief medical examiners, local medical examiners, and medicolegal death investigators in four offices across the state. Medicolegal death investigators serve as principal case investigators for deaths falling within the OCME's jurisdiction and statutory authority. Medicolegal death investigators receive initial notification of death and determine if the death is under the jurisdiction of the OCME. After determining that a death is under OCME jurisdiction, medicolegal death investigators and/or local medical examiners may attend the death scene and review circumstances surrounding death. In 2017, the OCME worked with approximately 136 local medical examiners that externally examined bodies, collected toxicology

samples, and signed certificates of death. Using professionally established guidelines, certain cases were determined to require a medicolegal autopsy, which includes both an internal and external examination.

When an autopsy is required, it is conducted at one of four district offices: Central, Northern, Tidewater, or Western. Each OCME district is staffed by board certified forensic pathologists (American Board of Pathology), board certified medicolegal death investigators (American Board of Medicolegal Death Investigators), administrative and morgue personnel. The Chief Medical Examiner is based in the Central District office and is responsible for the overall operations of Virginia's medical examiner system.

The overall vision of the Virginia OCME is to be a model medical examiner system. There are two separate parts of the mission that form the core of OCME staff members' efforts in accomplishing this goal:

Medicolegal Mission

- Conduct medicolegal death investigations
- Perform examinations to certify cause and manner of death and recover evidence
- Testify in court proceedings
- Educate peers and professionals on subjects related to death investigation

Public Health Mission

- Reduce violent death by conducting surveillance and fatality reviews
- Provide support and technical assistance to local fatality review teams
- Identify index cases and pathogens in disease outbreaks in the interest of public health
- Cooperate with organ procurement organizations to save and enhance lives through organ and tissue donation and transplantation
- Administer the Virginia State Anatomical Program to provide cadavers for medical education

Virginia's local medical examiners and assistant chief medical examiners are committed to public safety and public health. To promote public safety, they testify to their findings in criminal and civil courts throughout the Commonwealth. They advance public health through their investigations of deaths that present a hazard to Virginia's citizens, such as emerging infections and bioterrorism.

Virginia Demographics in 2017

In 2017, the estimated population of the Commonwealth was 8,470,020 persons. The average age of Virginia residents was 37.5 years and females represented 50.8% of the population. Whites constituted 63.1% of the population, Blacks 20.0%, Hispanics 9.4%, Asians 7.2%, and Native Americans 0.3% of Virginia's people.

Division of Death Prevention, Fatality Review and Surveillance Programs

In addition to conducting medicolegal death investigations to identify the cause and manner of death, the OCME oversees several public health surveillance projects and fatality review team initiatives. Surveillance projects include the Family and Intimate Partner Violence Homicide Surveillance Project (FIPV), the Virginia Violent Death Reporting System (VVDRS), the Enhanced Surveillance for Opioid Involved Morbidity and Mortality Project (ESOOS), the Sudden Death in the Young Case Registry (SDY), and the Pregnancy-Associated Mortality Surveillance System (PAMSS). Fatality review is performed on child and maternal deaths at the state level and on adult, child, and domestic violence related deaths at the local and regional level.

These activities are designed to provide a better understanding of the factors contributing to the death so that legislators, policy makers, and other stakeholders can make informed decisions for injury and violence prevention. Surveillance projects and fatality review teams allow for something good to come from violence and destruction of human life.

By nature, fatality review and surveillance is retrospective, with most programs being approximately 1-3 years behind the current year. The data collection and review process requires a "deep dive" into a decedents medical, mental, social, educational, and criminal background, which takes time, as records must be requested, collected, collated, reviewed, and summarized. The data in this section of the report is the most recent fatality review and surveillance data available by year and may not correspond with the data year for the overall report.

The Virginia Violent Death Reporting System (VVDRS) was implemented in 2003 as part of the National Violent Death Reporting System (NVDRS). Virginia was among the first six states and the first statewide

medical examiner system to be funded for this project, which is now operating in all 50 states and two territories.

The VVDRS collects information about deaths of Virginians who die in Virginia due to violence (suicide, homicide, legal intervention, unintentional firearm discharge, deaths of an undetermined manner, and deaths due to terrorism) and correlates victim information with the circumstances surrounding the death. Data from several sources, among them forensic pathology, forensic science, law enforcement, vital records, and health statistics, are linked to provide a comprehensive picture of violent death in the Commonwealth of Virginia.

Data from VVDRS have described suicide risk as it relates to current or former military service members; violent death among Hispanic and Asian Virginians; suicide risk for first responders including firefighters and law enforcement; suicide deaths that occurred when the decedent was in jail, prison, or about to be arrested; and contributors to youth suicide deaths. VVDRS data are routinely used to support and inform Virginia's Statewide Suicide Prevention across the Lifespan plan. Additionally, data are routinely used to support and inform suicide prevention among service members, veterans, and their families in Richmond's Mayor's Challenge and in statewide initiatives. VVDRS continues to provide data and support to the Virginia Department of Behavioral Health and Developmental Services dashboard for suicide prevention and response efforts in Virginia communities.

VVDRS research and surveillance activities have also documented the following:

- Suicide is more common than homicide. In 2016, there were 440 homicide victims and 1,126 suicide decedents, a ratio of 2.5 completed suicides for each homicide.
- Suicide rates in Virginia have increased every year since 2003 except in 2015. In 2005, the suicide rate for Virginians over the age of 10 years was 13.0. The rate continued to rise to 15.3 with a small decrease in 2015 to 14.6; however, the rate increased again in 2016 to 15.3.[1]
- In 2016, almost one-third (29%) of suicide decedents were a Virginia resident 60 years of age or older.
- At the same time, the homicide rate in Virginia dropped from a rate of 6.2 (in 2005) to a rate of 3.8 (in 2013) and has been rising since to 5.2 (in 2016). The reduction in the overall homicide rate is attributed

[1] Rates are calculated per 100,000 Virginia residents.

to the decline in homicides among Black males. Despite this decline, more than half (54.3%) of all homicide victims in Virginia in 2016 were Black males.

- Overall, mechanisms of fatal injury in violent deaths involve firearms (61%), asphyxia[2] (17%), and poisons (11%). Firearm use is most frequent in legal interventions and homicides. Along with firearms, asphyxia deaths and those from the use of poisons are more common in deaths attributed to suicide. Since 2014, suicide deaths by poisoning have been decreasing. Suicide deaths by poisoning most commonly involve at least one the following: opiates (38.8%), antidepressants (34.0%), and benzodiazepines (19.9%).

Funded by the (CDC), VVDRS published reports on these topics and others. They are available at http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/virginia-violent-death-reporting-system/

The Enhanced Surveillance for Opioid Involved Morbidity and Mortality was implemented in 2017 as part of a collaborative effort between the Office of the Chief Medical Examiner, Office of Epidemiology, and the Office of Emergency Medical Services. The three-arm project strives to collect and understand fatality (OCME), emergency department (OEPI), and first responder (OEMS) efforts in combatting opioid addiction. Data is collected using the aforementioned NVDRS and OEPI's ESSENCE surveillance systems. The Department of Forensic Science also received funding as part of this award to implement quantification programs to quantify opioid derivatives for use in toxicology testing and monitoring.

The OCME's arm, the State Unintentional Drug Overdose Reporting System (SUDORS), is to prevent accidental death through the collection of surveillance data to create public health strategies to address opioid addition. SUDORS captures information on accidental and undetermined overdose deaths in Virginia. While much of this data is also collected through the VVDRS, the SUDORS collects additional information such as descriptions of paraphernalia found at the scene , prescription monitoring reports, naloxone administration, and any history of substance abuse, treatment, or relapse.

Preliminary data shows that most fatal overdoses were related to substance misuse, as opposed to intentional or unintentional overmedication or drug interactions. Approximately one quarter of fatal overdoses had

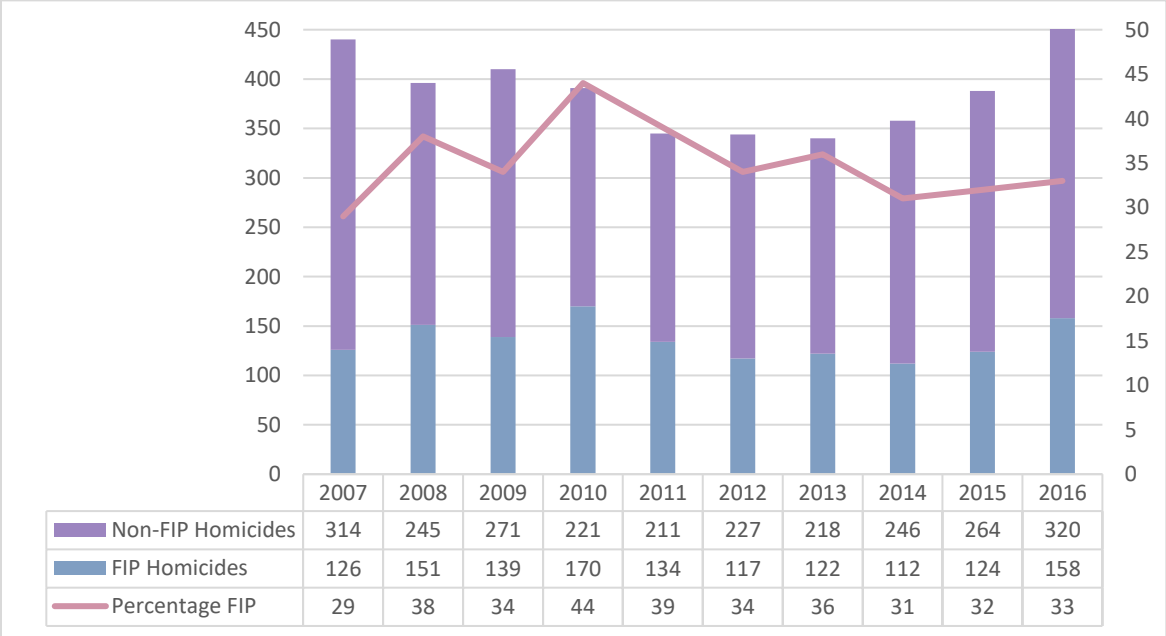
[2] Asphyxia includes hanging, suffocation, and strangulation deaths.

evidence of prescription drug use at the scene, approximately 10% of decedents were seen using drugs prior to their death, and 6% was using methadone or buprenorphine at the time of their overdose.

The Family and Intimate Partner Violence Homicide Surveillance Project (FIPV) was established in 1999 to describe the magnitude of lethal domestic violence in Virginia. Project staff members examine death investigation records and news reports to identify cases in which the alleged offender was an intimate partner or family member, or where the death was directly related to domestic violence. After cases are identified, they are placed in one of six violence-related homicide categories: intimate partner, intimate partner associated, child by caregiver, dependent adult or elder by caregiver, other family, and family associated. Information collected through this project is analyzed and published by the OCME.

A review of homicide data from 2016 indicates there were 158 Family and Intimate Partner (FIP) homicides that year, representing 33% of all homicides (478) in Virginia in 2016. This represents a 27% increase in the number of FIP homicides from 2015. While the percentage of homicides attributed to family or intimate partner violence remained consistent at roughly one in three between 2007 and 2016 (35% average; see Figure 1), this percentage increased slightly in 2016 as compared to 2015.

Figure 1: Number of Homicides and Family and Intimate Partner (FIP) Homicides and Percent of Homicides Attributed to Family or Intimate Partner Violence Virginia (N=3,890): 2007-2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Non-FIP Homicides	314	245	271	221	211	227	218	246	264	320
FIP Homicides	126	151	139	170	134	117	122	112	124	158
Percentage FIP	29	38	34	44	39	34	36	31	32	33

Seventeen years of data reveal the following trends:

- On average, one-third of all homicides are due to family or intimate partner conflict.
- Males and females are both vulnerable; however, women have a greater probability of being killed by current or former intimate partners, whereas males have a greater probability of being killed in the crossfire of an intimate partner relationship or by a family member.
- Among infants and children, the majority (57%) of infants and children were a biological child of the alleged offender, followed by being a child of the alleged offender's boyfriend or girlfriend (20%). The majority (53%) of victims of Child Homicide by Caregiver were under the age of one years, and male infants and children had a slightly greater probability of being killed by a caregiver.
- Racial disparities continue to exist: Black Virginians are at greater risk for family and intimate partner homicide than White Virginians.
- Most victims are killed with a firearm and while in a private residence.
- Risk factors associated with intimate partner violence, such as prior acts of violence, substance abuse, and periods of separation or divorce, are also associated with intimate partner homicide.
- The majority of murder-suicide incidents in Virginia is related to intimate partner conflict. Approximately 33% of intimate partner homicides involve the suicide of the alleged offender.

Data from the FIPV are disseminated to stakeholders and used to inform public policy and prevention activities. Annual reports from the Office of the Attorney General and the Family and Children's Trust Fund utilize FIPV data to describe family violence in Virginia.

Published reports from this project are available at: http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/family-and-intimate-partner-homicide-surveillance/reports-and-publications/

Domestic Violence Fatality Review was established in 1999 when the General Assembly enacted §32.1-283.3 of the Code of Virginia. This statute provides for the establishment of local and regional domestic violence fatality review teams and directs the OCME to provide technical assistance and support to these teams.

Domestic violence fatality review has gained prominence and momentum in the last decade, both here in Virginia and across the United States. The purpose of domestic violence fatality review is to prevent future deaths by carefully examining the events that led to a fatality; by analyzing system responses to those deaths; and by improving a community's coordinated response to domestic violence. Multidisciplinary teams are formed at the local or regional level. Membership in these teams varies among localities, but generally includes representatives from law enforcement, Commonwealth Attorneys, social services, courts, probation and parole, domestic violence programs, mental health, and healthcare.

Virginia has made great progress in the area of domestic violence fatality review. Twenty local or regional teams have been established throughout the Commonwealth. Reports published by Virginia's teams provide information on the victims and perpetrators in these fatal incidents, as well as the lethality factors that shaped these tragedies. Teams have developed recommendations for improved community response when deadly violence occurs among family members or intimate partners.

Information on Virginia's domestic violence fatality review effort including local and regional team reports, can be found at http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/domestic-violence-fatality-review/.

The State Child Fatality Review Team was established in 1995 by the Virginia General Assembly and the Governor of Virginia. Working in the spirit of public health, the multidisciplinary team conducts retrospective reviews of the circumstances surrounding violent and unexpected child death and develops consensus recommendations for intervention and prevention of future child deaths. The team reviews child deaths in a topical manner. By reviewing cases based on a specific type of death, the team is able to determine risk and protective factors associated with that type of injury and to develop targeted recommendations for intervention and prevention. Team members include representatives from pediatrics, emergency medicine, child psychiatry, law enforcement, mental health, social services, forensic pathology, Commonwealth Attorneys, local fire and emergency medical services providers, injury prevention groups, child advocacy organizations, and other state agencies.

Over the years, the team has identified common trends observed in child deaths, including the presence of family violence and economic instability as risk factors for homicide of young children, the importance of adult supervision in preventing unintentional injury death, and the prevalence of family substance abuse and mental health problems in cases of sleep-related infant deaths and deaths due to poisoning. Through its many reviews, the Virginia State Child Fatality Review Team has discerned that child death in Virginia is patterned and largely preventable.

The team has completed reviews in the following areas: firearm, suicide, unintentional injury to children under the age of five, caretaker homicide, motor vehicle collision, child deaths from heat-related motor vehicle entrapment, non-caretaker homicide, and sleep-related infant death. At the time of writing, the team is reviewing drowning-related infant and child fatalities, with recommendations expected to be released in 2019.

Published reports from past reviews are available at: http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/child-fatality-review-in-virginia/reports/

The Infant and Child Mortality Surveillance

In 2015, the team implemented the Infant and Child Mortality Surveillance Systems, one for those under the age of 1 years old and another for children aged 1-17 years in an effort to guide and better inform discussions, planning and legislative action that effects the health and well-being of children and families in the Commonwealth. This project seeks to provide reports detailing the circumstances and characteristics of both infant and child deaths occurring in Virginia.

In 2018, the project released a report on *Infant Mortality Trends in Virginia in 2014-2016*. Infant mortality encompasses all deaths to children during their first year of life. It is a critical indicator used to determine not only a population's maternal and infant health but also the overall health of a population. In its first infant mortality report, the team focused on this vital measure of societal health by examining both natural and non-natural infant fatalities in Virginia between 2014 and 2016. Provided below are the key findings from the team's analysis and an overview of trends in overall, natural and non-natural infant mortality rates in Virginia.

- Of the 1,652 infants who resided and died in Virginia from 2014 to 2016, 1,313 died of natural causes (79.5%) and 339 died of non-natural causes (20.5%).

- Males presented higher natural and non-natural infant mortality rates[3] (4.76 and 1.30) compared to females (3.76 and 0.90).
- Despite having a lower number of fatalities, black (6.93 and 1.75) and other race (4.89 and 1.19 per 100,000) infants died at a higher rate of both natural and non-natural causes than white infants (3.08 and 0.84).

The Eastern and Central Health Planning Regions (HPR) reported the highest natural infant mortality rates (5.83 and 5.55, respectively), while Southwest and Eastern Virginia reported the highest non-natural rates (2.01 and 1.60, respectively).

- In Virginia, the overall infant mortality rate decreased by 7.6% from 2013 to 2016 (from 5.63 to 5.20)
- The overall natural infant mortality rate decreased by 14.7% between 2013 and 2016 (from 4.69 to 4.00)
    - The rate of natural infant death fell for both white and black infants (27.1% and 25.5%) while the rate for other race infants increased by 99.6%.
    - The largest reduction was seen in the Eastern HPR (16.5%) followed by the Southwest (9.8%), Northern (6.9%), and Central (6.7%) regions. In contrast, the Northwest HPR experienced an 11.5% increase.
- Since 2013, the overall rate of non-natural infant death rose by 27.7%.
    - Other race infants experienced a 120.7% rise[4], which was significantly higher than the 29.9% for black infants and 13.9% for white infants.
    - Non-natural infant deaths escalated by 130.5% in Southwest Virginia, which was the largest upswing among HPRs of residence. Central Virginia saw a 62.3% growth followed by the Northwest (18.7%), Northern (9.3%), and Eastern (2%) regions.
    - Since 2013, the sleep-related infant death rate rose 37.7% despite numerous safe sleep initiatives throughout the Commonwealth.

At the time of writing, the team is currently preparing the first child mortality report, which will explore the leading causes and associated risk factors of deaths of children aged 1-17 years in Virginia. Published reports

[3] Rates are calculated per 100,000 Virginia live births.
[4] This rise may be due to small sample sizes. Further study is necessary to fully understand the scope of this issue.

from this project are available at: http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/infant-and-child-mortality-surveillance-system/

In 2012, Virginia established regional child fatality review teams in all five Virginia Department of Social Services (VDSS) regions in the Commonwealth. These teams review all child deaths investigated by a local department of social services for suspicions of abuse or neglect, regardless of the finding. The OCME provides training and technical assistance to these teams, assisting them with the theory and practice of effective child fatality review, developing guidance documents, and providing trainings for team members, coordinators and recorders. The OCME also assists these regional teams with the process of developing recommendations for intervention and prevention of child deaths as well as helping to improve data collection, entry, and quality assurance strategies.

A summary of recent efforts by these local teams can be found at https://www.dss.virginia.gov/files/about/reports/children/cps/all_other/2017/SFY16_Child_Fatality_Report_Final.pdf

Child fatality review is supported by the Virginia Department of Health, Office of Family Health Services with Title V funds from the U.S. Department of Health and Human Services, Maternal and Child Health Bureau.

Virginia's Pregnancy-Associated Mortality Surveillance System (PAMSS) and Maternal Mortality Review Team (MMRT) are housed in the OCME. Surveillance of all deaths of women occurring during pregnancy or within one year of pregnancy (termed "pregnancy-associated death") is conducted to provide up-to-date information on patterns and trends. Data from PAMSS includes not only surveillance data, but also data collected from the MMRT process. Current PAMMS data indicates pregnancy-associated maternal death in Virginia remains a significant public health problem. Recent reports from PAMSS noted the following:

- In the ten-year period between 2004 and 2013, the maternal mortality ratio in Virginia declined from 45.3 deaths per 100,000 live births to 36.3 deaths per 100,000 live births
- The majority of pregnancy-associated deaths in Virginia are from natural causes (53%) or from unintentional injury deaths (26%) such as motor vehicle collisions and drug overdoses. Common causes of natural death include cardiac disorders, infections, embolisms, and exacerbations of chronic disease

- Black women in the United States and Virginia are known to suffer the greatest burden of pregnancy-associated death, a perplexing and consistently reported fact. In each of the 15 years of pregnancy-associated deaths reported in Virginia, the mortality ratio for Black women exceeded that for White women. The overall pregnancy-associated mortality ratio for the 15-year period between 1999 and 2014 was 79.3 per 100,000 live births among Black women and 34.2 per 100,000 live births among white women – Black women died at 2.3 times the rate of White women

Rising maternal mortality rates throughout the United States have led to renewed interest in expanding state-based review teams. Virginia's Maternal Mortality Review Team is one of the longest continuously functioning multidisciplinary review teams in the US. The team was established in March of 2002 as a partnership between the Office of Family Health Services and the OCME. The OCME provides coordination for the team. Virginia's team is often asked to provide resources to other states considering undertaking maternal mortality reviews.

The Maternal Mortality Review Team reviews all cases of pregnancy-associated death, regardless of the cause or manner of death or outcome of the pregnancy. Systematic, retrospective review of these deaths is undertaken for the purpose of understanding the circumstances surrounding the death so that recommendations and interventions can be made to prevent future deaths.

The team is multidisciplinary and includes representatives from: Medical Society of Virginia; Virginia Section of the American College of Obstetricians and Gynecologists; Virginia College of Emergency Physicians; Virginia Chapter of the American College of Nurse Midwives; Association of Women's Health, Obstetrics and Neonatal Nurses; Virginia Chapter of the National Association of Social Workers; Virginia Hospital and Healthcare Association; Virginia Sexual and Domestic Violence Action Alliance; Virginia Dietetic Association; local health departments; and state planning agencies. Maternal mortality review is supported by the Virginia Department of Health, Office of Family Health Services with Title V funds from the U.S. Department of Health and Human Services, Maternal and Child Health Bureau.

Published reports are available at:
http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/virginia-pregnancy-associated-mortality-surveillance-system-pamss/

http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/maternal-mortality-review-team/virginia-maternal-mortality-review-team-reports/

Virginia's Sudden Death in the Young (SDY) Project began in January 2015 in four communities served by the Tidewater OCME: the cities of Hampton, Newport News, Norfolk, and Virginia Beach. In 2018 three addition cities and three counties were added to the project. Those additions include the cities of Chesapeake, Suffolk, and Portsmouth and Accomack, Northampton, and York Counties. Using techniques from surveillance and fatality review, this project involves intensive data collection and multidisciplinary review of all deaths involving infants, children and youth up to 19 years of age for which the cause of death was undetermined or not fully understood. These deaths include those from cardiac or neurological causes such as epilepsy or those attributed to Sudden Infant Death Syndrome (SIDS) and Sudden Unexpected Infant Death (SUID). Understanding the precise etiology of these deaths and defining who is at-risk is a necessary first step to designing interventions and preventions to reduce these deaths. Virginia is one of 10 states participating in this national project.

Findings from Virginia's SDY Project include the following:

- The team identified and studied 28 cases each year in 2015 and 2016, and 20 cases in 2017.
- Males are no more likely than females to die a SDY death. However, black infants and children are at disproportionate risk for a SDY death, representing 67% of all SDY deaths from 2015-2017.
- Common trends noted in cases involving infants with unsafe sleep risk factors, included families with economic and/or housing instability, substance abuse, mental health problems and past involvement with the criminal justice system. Many of the infants who died in an unsafe sleep environment had combinations of risk factors identified such as prematurity and respiratory infection along with the co-occurrence of multiple familial risk factors as noted above.

The SDY project involves an intensive death investigation of each case. This requires the collection and review of extensive records for the child and family including past medical histories, social service histories, school records for the child where applicable, criminal histories and other relevant records for the case. This information is used by both a multidisciplinary child fatality review team and a clinical review team. The project utilizes the VDSS Eastern Region review team, which is comprised of direct service providers in the areas of social services, law enforcement, education and child advocacy. Their role is to assess family protective and risk

factors for each death, to evaluate the quality of agency response, and to identify prevention strategies. The clinical review team is made up of a pediatric neurologist, geneticist, maternal fetal medicine specialist, pediatrician, cardiologist, a social worker, OB/GYN, and a forensic pathologist. Their role is to identify undiagnosed medical risk factors that may have contributed to the child's death. The critical purpose of these investigations and reviews is to determine if causes of death can be further clarified, refined, and described, and then ultimately lead to the prevention of these premature deaths.

An optional component of the project allows consenting families to participate in a study of these deaths through an SDY Case Registry, which is being conducted by the CDC, the National Heart, Lung, and Blood Institute (NHLBI), and the National Institute of Neurological Disorders and Stroke (NINDS) at the National Institutes of Health. Consent includes the storage of bio-specimens for DNA banking and testing in the event that medical insights or breakthroughs in the future promise additional information about the child's death. To date, 25% of families have consented to participate in the SDY Case Registry.

Adult Fatality Review was established for Virginia localities effective July 1, 2015. Currently, there are two local and regional teams (Richmond Metro and Northern Virginia) established in the Commonwealth. Similar to child and domestic violence death review efforts, local communities may now convene such teams to examine deaths of any persons 60 years of age or older or any vulnerable or incapacitated adult 18 years of age or older, under three different scenarios: (1) persons who were the subject of an adult protective services or law enforcement investigation; (2) adults whose death was due to abuse, neglect, or exploitation or acts suggesting abuse, neglect, or exploitation; and (3) persons whose death was investigated by the Office of the Chief Medical Examiner as suspicious, unusual, or unnatural. The goal of this process is to identify at risk populations in their communities, opportunities for improved response to adult abuse and neglect, and best practices for preventing further abuse and violence. Currently there is no funding for a State Adult Fatality Review Team and efforts to solicit grant funds have not been successful or funds have not been available for this work. At this time, the Adult Fatality Review remains an unfunded mandate.

Further information about these teams can be found at: http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/adult-fatality-review/

Local and Regional Overdose Fatality Review was established for Virginia localities effective July 1, 2018. Currently, there are no formal teams, but interest is growing. Similar to child, adult, and domestic violence death review efforts, local communities may now convene such teams to examine deaths of any persons who died of an overdose related death. Localities may establish a team under this statute (Code of Virginia §32.1-283.7) for the purpose of (1) conducting contemporaneous reviews of local overdose deaths, (2) promoting cooperation and coordination among agencies involved in investigations of overdose deaths or in providing services to surviving family members, (3) developing an understanding of the causes and incidence of overdose deaths in the locality, (4) developing plans for and recommending changes within the agencies represented on the local team to prevent overdose deaths, and (5) advising the Department and other relevant state agencies on changes to law, policy, or practice to prevent overdose deaths.. The goal of this process is to identify at risk populations in their communities, opportunities for improved response to overdoses, and best practices for preventing further overdose related deaths.

In Virginia, information learned from fatality review efforts will support the development of recommendations and information sharing with critical stakeholders to reduce injury and death.

Training and Education

Forensic Pathology Training Programs

Website — **http://www.vdh.virginia.gov/medical-examiner/forensic-pathology-training-programs/**

The Virginia Commonwealth University School of Medicine (VCU), in conjunction with the OCME, offers an Accreditation Council for Graduate Medical Education (ACGME) accredited fellowship in the subspecialty of forensic pathology. The forensic pathologists of the Central, Tidewater, and Western District offices are the core faculty of the Department of Legal Medicine at VCU, chaired by the Chief Medical Examiner. OCME office staff has full access to facilities at VCU and its medical, dental, pharmacy, hospital administration, nursing, and other health science schools. The Department of Legal Medicine Faculty also participate as attending physicians for the forensic pathology fellowship.

The forensic pathology training program is designed to provide training and experience to pathologists pursuing a career in forensics. It is the aim of the forensic pathology training program that, by the end of the fellowship

year, the trainee can adequately manage medicolegal death investigations with self-assurance and technical competence. After the 12-month fellowship, the physician should have obtained enough experience to be eligible to take the American Board of Pathology examination in the subspecialty of Forensic Pathology. Upon completion, the trainee will be ready to accept a position in all types of Medical Examiner/Coroner systems. During the last academic year, 2016-2017, the OCME trained one fellow. Multiple candidates were interviewed for the 2018-2019 academic year and two were accepted. The Northern District OCME was approved as a fellowship site in 2016 and as such, all district OCME offices are approved to host and train physicians for the fellowship.

The OCME offers forensic rotations to residents, medical students, and pathology assistant students. Medical students from VCU and EVMS typically rotate for a 2-4 week elective to learn autopsy techniques and death certification. Twelve pathology assistant students from EVMS learned autopsy techniques and procedures at the Tidewater and Central Offices. The OCME also offers month long rotations for resident physicians from VCU, University of Virginia, and Walter Reed Hospital, desiring exposure to forensic pathology as part of their anatomical pathology training. Residents from other in state or out of state programs may be accepted for training.

National Association of Medical Examiners Accreditation

The National Association of Medical Examiners (NAME) is the professional organization for physician medical examiners, medicolegal death investigators and death investigation system administrators who investigate deaths of public interest, either legal or public health, in the United States. NAME has developed an accreditation process to improve the quality of death investigation within medical examiner offices and systems. When an office is accredited by NAME, it is an endorsement that the office has provided an environment adequate for a medical examiner to practice his or her profession and that the office can adequately serve its jurisdiction. The accreditation process includes but is not limited to: inspection of facilities, review of facility and personnel safety, qualification of medical examiners, review of medicolegal procedures, and review of reports and records. One requirement within the reports and records section is an annual statistical report, which the Virginia OCME fulfills with this report. The following two tables provide data on the NAME required fields on 2017 death investigations:

	Central	Northern	Tidewater	Western	Total
TOTAL DEATHS STATEWIDE					
Total Deaths Reported to OCME	5518	2879	2366	3741	**14504**
OCME Cases by Examination Type					
Complete examinations (autopsy)	860	513	541	532	**2446**
External examination	1524	979	929	1121	**4553**
Partial examination	10	115	21	42	**188**
TOTAL CASES ACCEPTED BY THE OCME	**2394**	**1607**	**1491**	**1695**	**7187**
OCME Cases by Manner of Death					
Accident	1190	782	727	822	**3521**
Homicide	195	55	132	88	**470**
Natural	624	435	388	442	**1889**
Suicide	342	294	207	314	**1157**
Undetermined	43	41	37	29	**150**
TOTAL CASES ACCEPTED BY THE OCME	**2394**	**1607**	**1491**	**1695**	**7187**

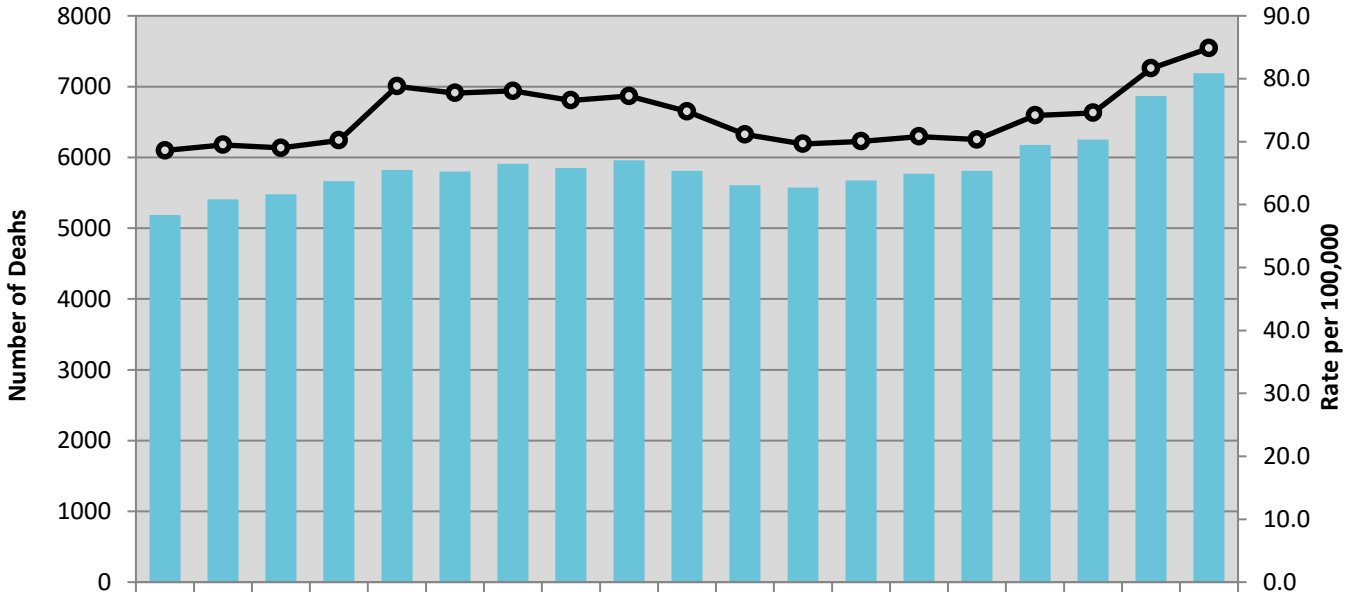
	Central	Northern	Tidewater	Western	Total
Bodies transported by office	2394	1607	1491	1695	**7187**
Bodies transported to office	1582	985	788	958	**4313**
Cases with toxicology (including retro cases)	1356	1067	908	839	**4170**
Exhumations	0	0	0	1	**1**
Eye donations on OCME cases	9	38	115	11	**173**
Hospital autopsies under OCME jurisdiction	0	0	0	0	**0**
Organ and tissue donations on OCME cases	24	71	118	30	**243**
Retrospective cases (cases handled separately)	35	27	19	53	**134**
Scene visits	370	121	344	134	**969**
Unclaimed bodies	13	9	18	23	**63**
Unidentified bodies after examination (long term)	0	0	1	0	**1**

SECTION 1: TOTAL OCME CASES (N=7,187)

In 2017, 14,504 deaths were reported to the Office of the Chief Medical Examiner (OCME), which accounted for 21.4% of the estimated total deaths in Virginia. The OCME accepted 7,187 or 49.6% of these investigated deaths as either autopsies or external examinations (views). [NOTE: Retrospective cases are not included in the accepted total case count, but are examined separately in Section 9. While these deaths were investigated in 2017, they may not necessarily have occurred in 2017]. The caseload for 2017 represented a 4.6% increase from 2016. Of the deaths investigated by the OCME in 2017:

- Among manners of death, the most notable changes in 2017 compared to 2016 were large increases among accidents (rates of 41.6 and 38.5 per 100,000, respectively) and significant decreases in undetermined manners of death (rates of 1.8 and 2.7 per 100,000, respectively). Overall, homicides, natural deaths under OCME jurisdiction, and suicides in 2017 only varied slightly from 2016 numbers
- Blacks continue to share a higher burden of homicides compared to their portion within the general population
- White males continue to have the highest rate of suicide in the Commonwealth
- Males continue to represent a larger portion of OCME deaths (69.1%) than females
- The 55-64 year old age group had the greatest number of OCME deaths, representing 18.1% of OCME cases
- Fairfax County had the largest number of both residential deaths (n=478) and deaths by injury locality (n=510). Greensville County had the highest rates of death by both residential locality and injury locality (221.6 and 282.6 per 100,000, respectively)

Figure 1.1 Number and Rate of OCME Cases by Year of Death, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	5184	5408	5478	5666	5821	5799	5908	5851	5958	5811	5608	5573	5672	5767	5809	6176	6252	6868	7187
Mortality Rate	68.6	69.5	69.0	70.2	78.8	77.7	78.1	76.6	77.3	74.8	71.1	69.7	70.1	70.8	70.3	74.2	74.6	81.6	84.9

Figure 1.2 Number of OCME Cases by Manner of Death, 1999-2017

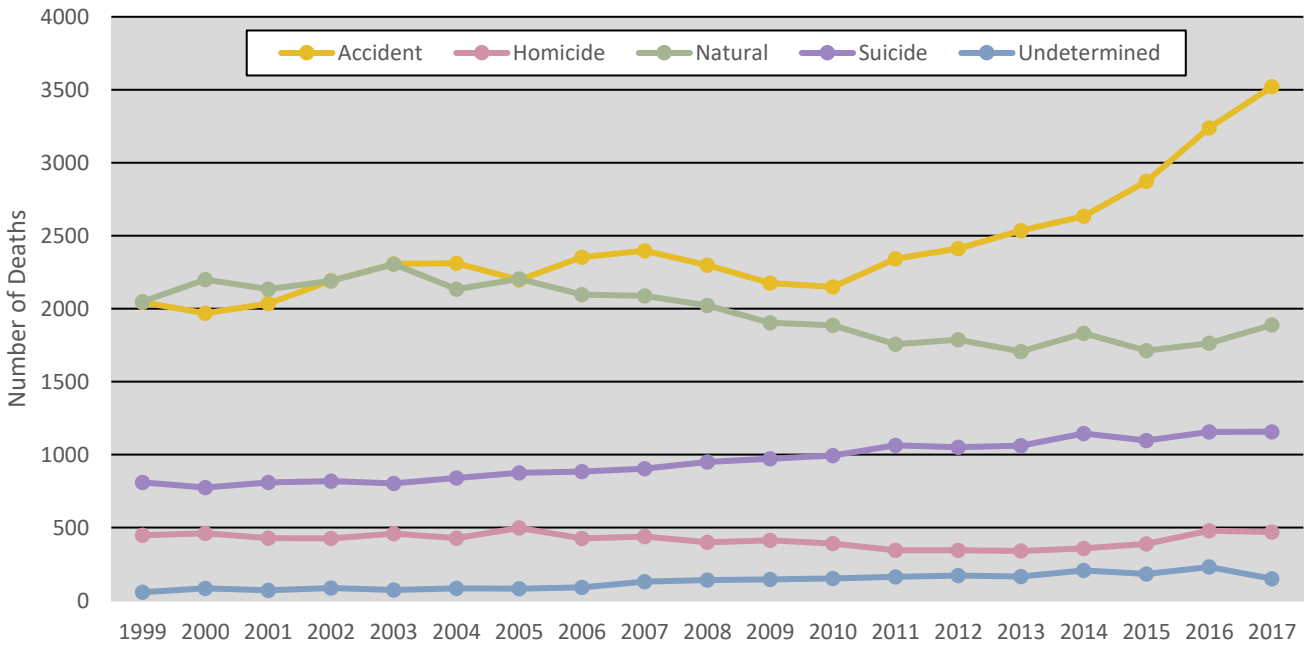


Figure 1.3 Percentage of OCME Cases by Manner of Death, 2017

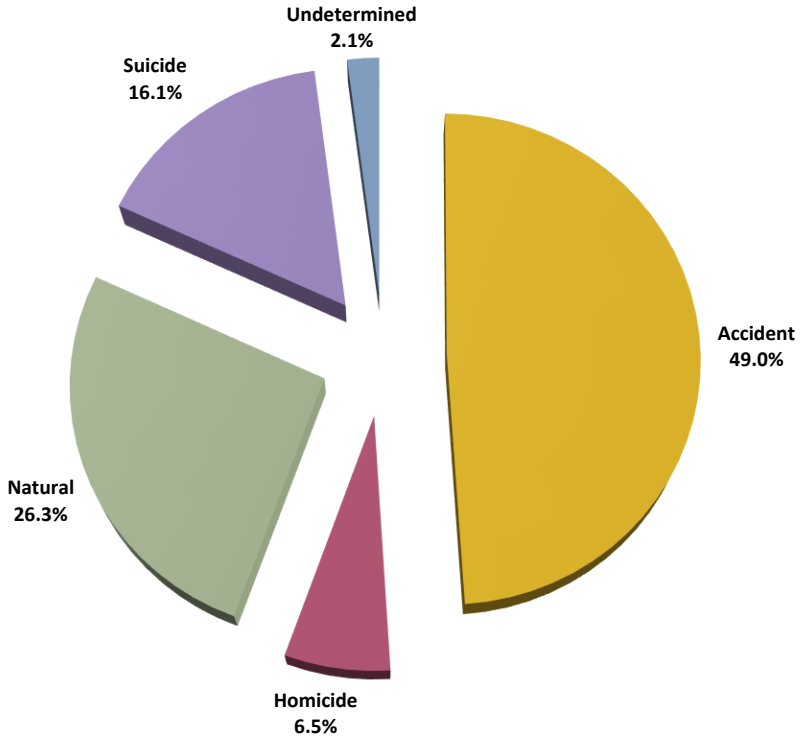


Table 1.1 Number of OCME Cases by District and Manner of Death, 2017

	OCME District				
Manner	**Central**	**Northern**	**Tidewater**	**Western**	**Total**
Accident	1190	782	727	822	**3521**
Homicide	195	55	132	88	**470**
Natural	624	435	388	442	**1889**
Suicide	342	294	207	314	**1157**
Undetermined	43	41	37	29	**150**
TOTAL	**2394**	**1607**	**1491**	**1695**	**7187**

Table 1.2 Number of OCME Cases by Autopsy Status and District, 2017

	Autopsy Performed		
OCME District	**Yes**	**No**	**Total**
Central	870	1524	**2394**
Northern	628	979	**1607**
Tidewater	562	929	**1491**
Western	574	1121	**1695**
TOTAL	**2634**	**4553**	**7187**

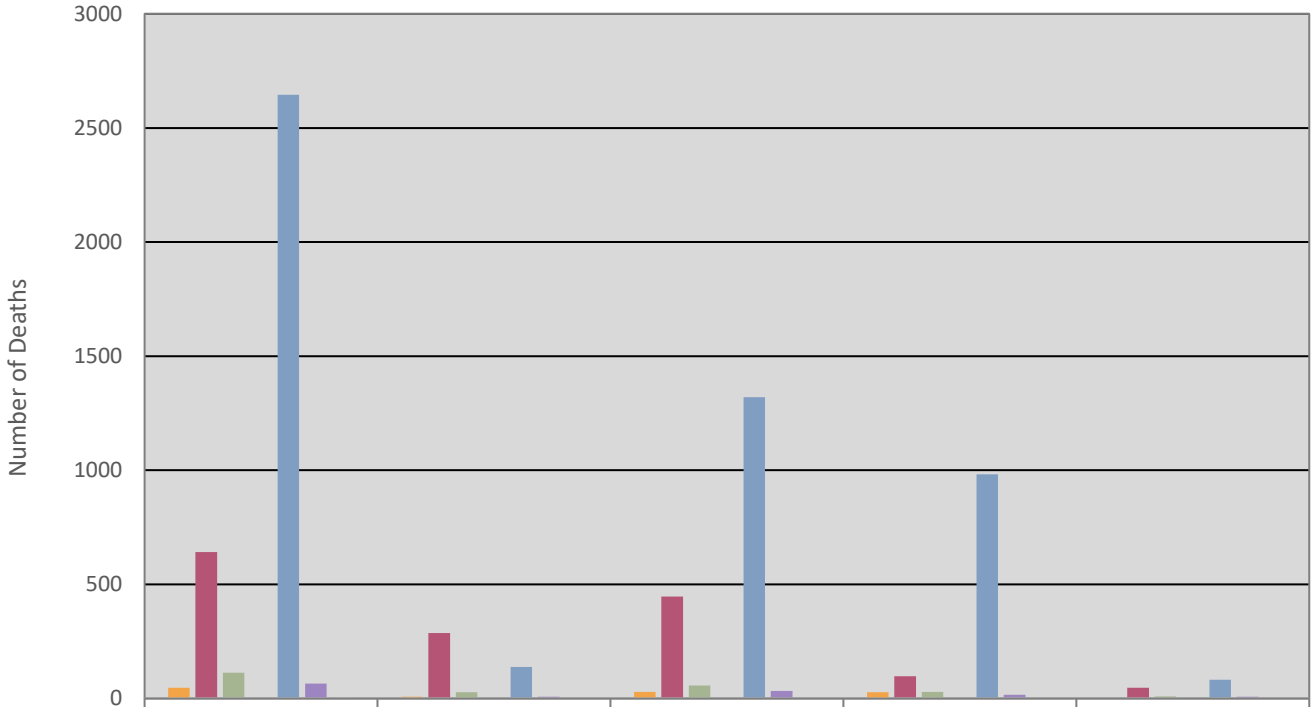
Table 1.3 Number of OCME Cases by Manner of Death and Autopsy Status, 2017

	Manner of Death					
Autopsy	**Accident**	**Homicide**	**Natural**	**Suicide**	**Undetermined**	**Total**
Yes	767	470	493	757	147	**2634**
No	2747	0	1396	400	10	**4553**
% Yes	**21.8%**	**100.0%**	**26.1%**	**65.4%**	**93.6%**	**36.6%**
TOTAL	**3514**	**470**	**1889**	**1157**	**157**	**7187**

Table 1.4 Number and Percentage of OCME Cases by Race/Ethnicity, 2017

Race/Ethnicity	Cases	Percent
Asian	114	1.6%
Black	1521	21.2%
Hispanic	235	3.3%
Native American	9	0.1%
White	5170	71.9%
Other	132	1.8%
Unknown	6	0.1%
TOTAL	**7187**	**100.0%**

Figure 1.4 Number of OCME Cases by Manner of Death and Race/Ethnicity, 2017



	Accident	Homicide	Natural	Suicide	Undetermined
Asian	47	8	29	28	2
Black	642	287	447	98	47
Hispanic	113	27	57	29	9
Native American	2	1	2	2	2
White	2646	138	1321	983	82
Other	66	8	33	17	8
Unknown	5	1	0	0	0

Figure 1.5 Number of OCME Cases by Age Group, 2017

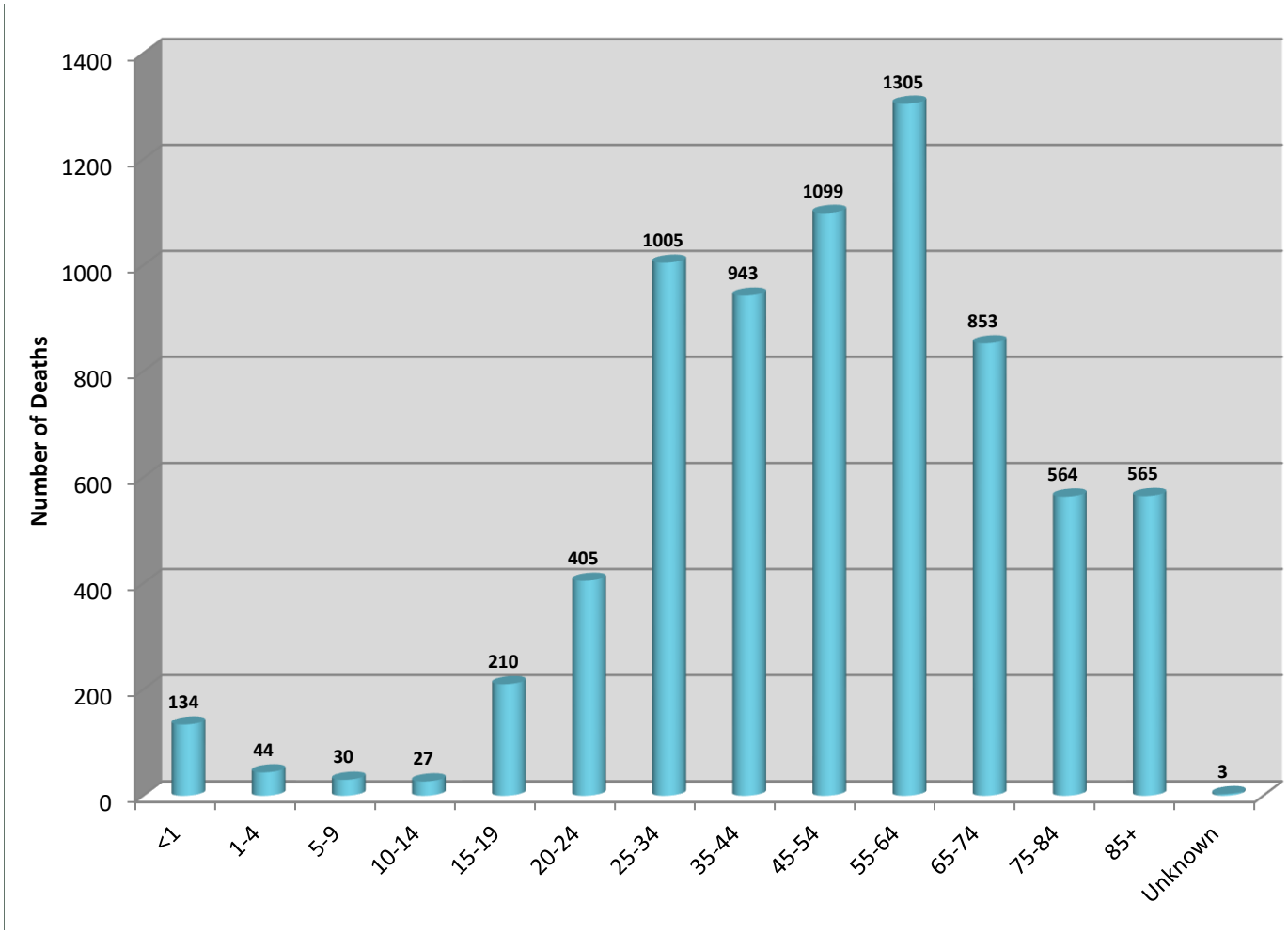


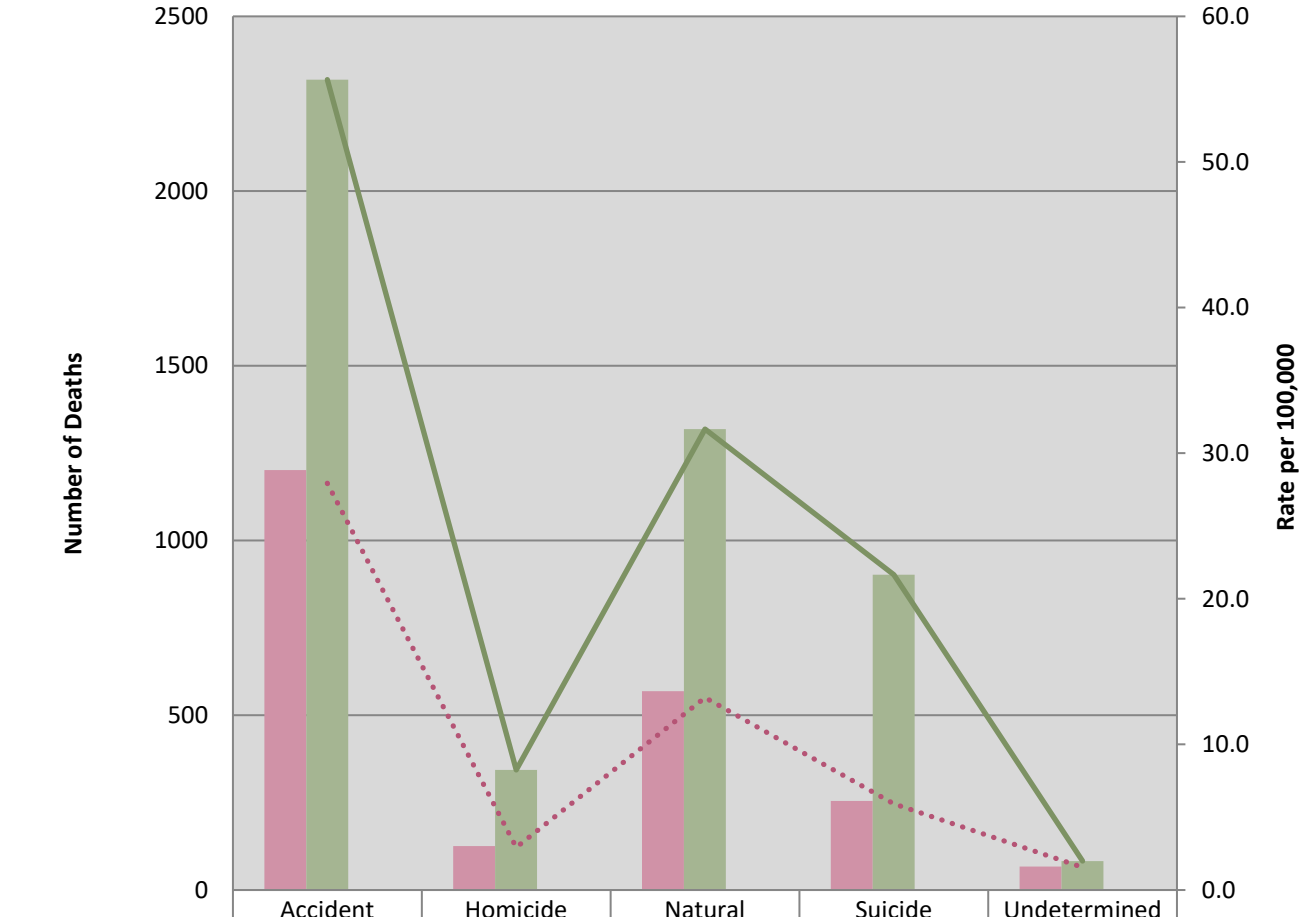
Table 1.5 Number and Percentage of OCME Cases by Gender, 2017

Gender	Cases	Percent
Female	2219	30.9%
Male	4967	69.1%
Unknown	1	0.0%
TOTAL	**7187**	**100.0%**

Table 1.6 Number and Percentage of OCME Cases by Manner of Death and Gender, 2017

Gender	Accident		Homicide		Natural		Suicide		Undetermined		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Female	1202	16.7%	126	1.8%	569	7.9%	255	3.5%	67	0.9%	**2219**	**30.9%**
Male	2319	32.3%	344	4.8%	1319	18.4%	902	12.6%	83	1.2%	**4967**	**69.1%**
Unknown	0	0.0%	0	0.0%	1	0.0%	0	0.0%	0	0.0%	**1**	**0.0%**
TOTAL	**3521**	**49.0%**	**470**	**6.5%**	**1889**	**26.3%**	**1157**	**16.1%**	**150**	**2.1%**	**7187**	**100.0%**

Figure 1.6 Number and Rate of OCME Cases by Manner of Death and Gender, 2017



	Accident	Homicide	Natural	Suicide	Undetermined
Female	1202	126	569	255	67
Male	2319	344	1319	902	83
Unknown	0	0	1	0	0
Female Rate	27.9	2.9	13.2	5.9	1.6
Male Rate	55.7	8.3	31.7	21.6	2.0

Table 1.7 Number of OCME Cases by Manner of Death, Gender, and Age Group, 2017

		Manner of Death					
Gender	**Age Group**	**Accident**	**Homicide**	**Natural**	**Suicide**	**Undetermined**	**Total**
FEMALE	**<1**	15	5	7	0	34	**61**
	1-4	9	2	2	0	4	**17**
	5-9	4	1	3	0	0	**8**
	10-14	6	0	1	5	1	**13**
	15-19	18	10	5	10	0	**43**
	20-24	61	8	7	13	3	**92**
	25-34	153	32	45	47	6	**283**
	35-44	164	20	57	37	4	**282**
	45-54	161	22	73	56	4	**316**
	55-64	139	18	122	50	5	**334**
	65-74	109	2	126	25	2	**264**
	75-84	126	5	55	11	1	**198**
	85+	237	1	66	1	3	**308**
	Subtotal	**1201**	**126**	**569**	**255**	**68**	**2219**
MALE	**<1**	14	4	9	0	46	**73**
	1-4	18	5	2	0	2	**27**
	5-9	16	3	2	0	1	**22**
	10-14	10	1	1	2	0	**14**
	15-19	53	48	13	51	2	**167**
	20-24	141	59	21	89	3	**313**
	25-34	405	98	59	153	7	**722**
	35-44	341	47	127	142	4	**661**
	45-54	351	37	247	144	4	**783**
	55-64	366	30	409	158	8	**971**
	65-74	232	8	263	82	4	**589**
	75-84	200	3	105	57	1	**366**
	85+	172	1	60	24	0	**257**
	Unknown	0	0	1	0	1	**2**
	Subtotal	**2319**	**344**	**1319**	**902**	**83**	**4967**
UNKNOWN	***Unknown***	**0**	**0**	**1**	**0**	**0**	**1**
	Subtotal	**0**	**0**	**1**	**0**	**0**	**1**
TOTAL		**3521**	**470**	**1889**	**1157**	**150**	**7187**

Figure 1.7 Number of OCME Cases by Month of Death, 2017

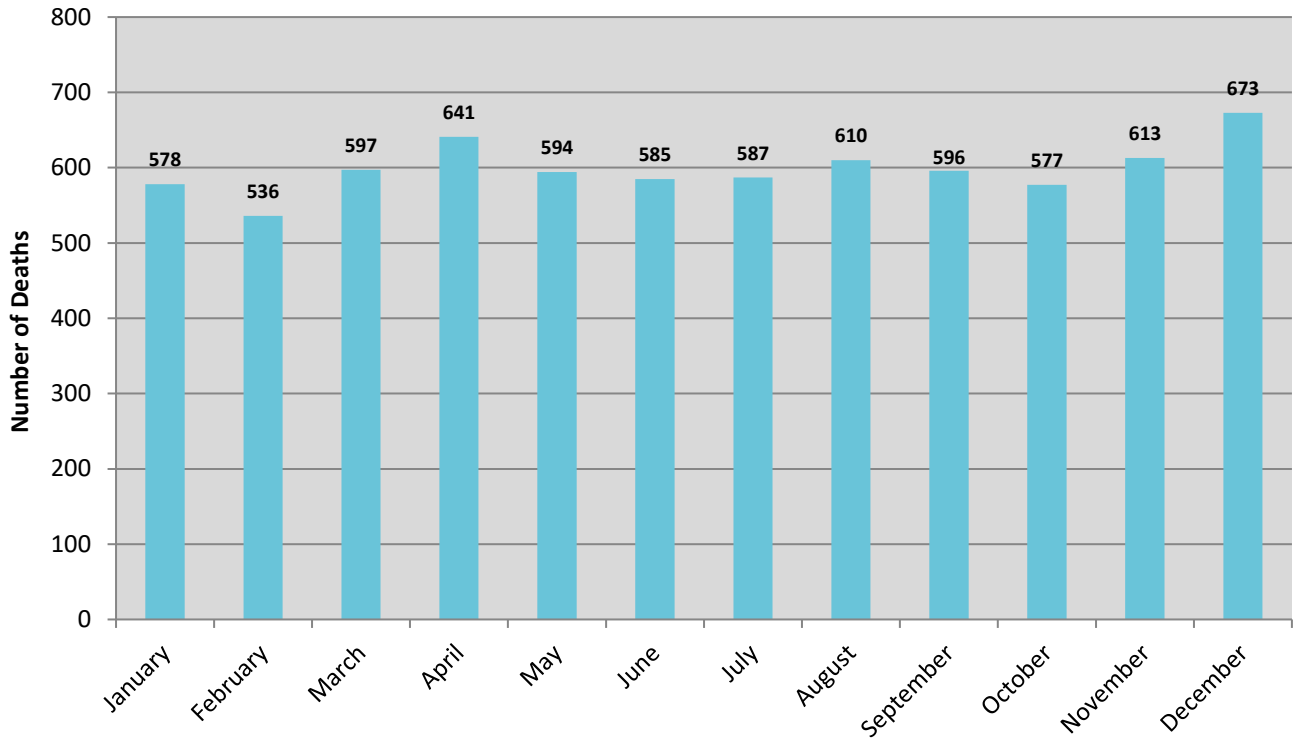


Figure 1.8 Number of OCME Cases by Month and Manner of Death, 2017

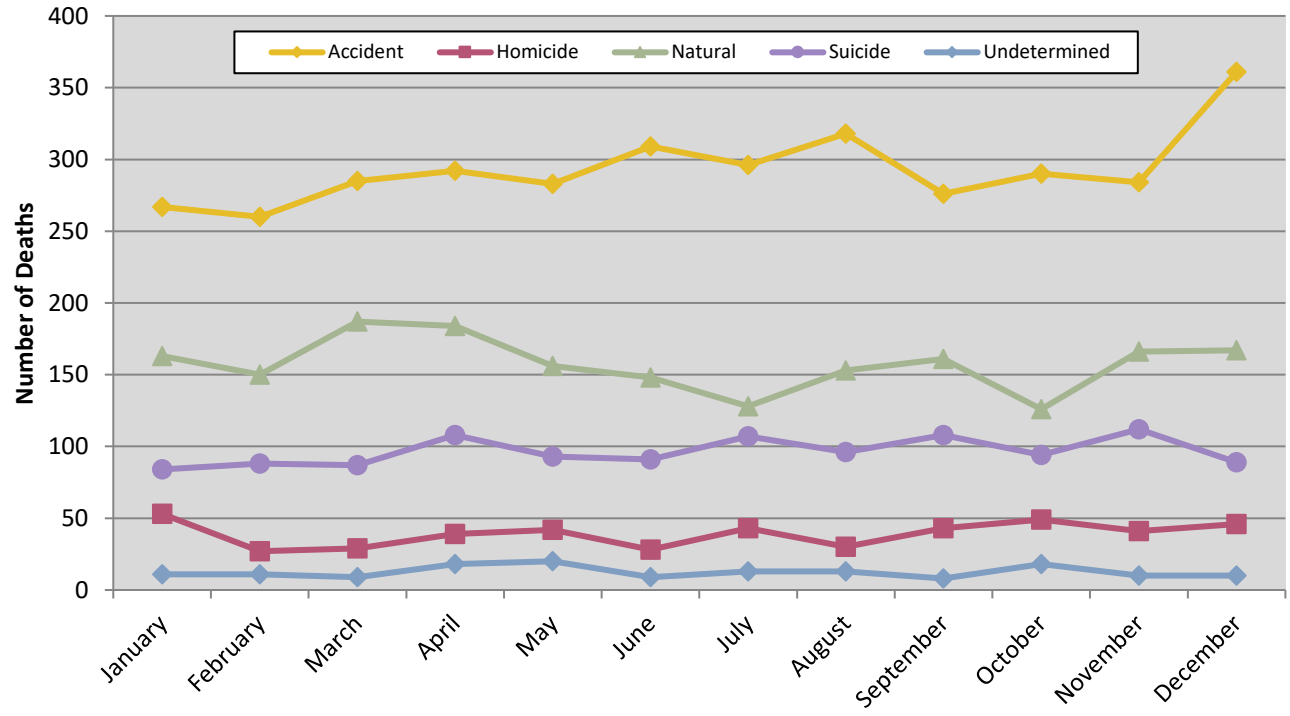


Figure 1.9 Number of OCME Cases by Day of Death, 2017

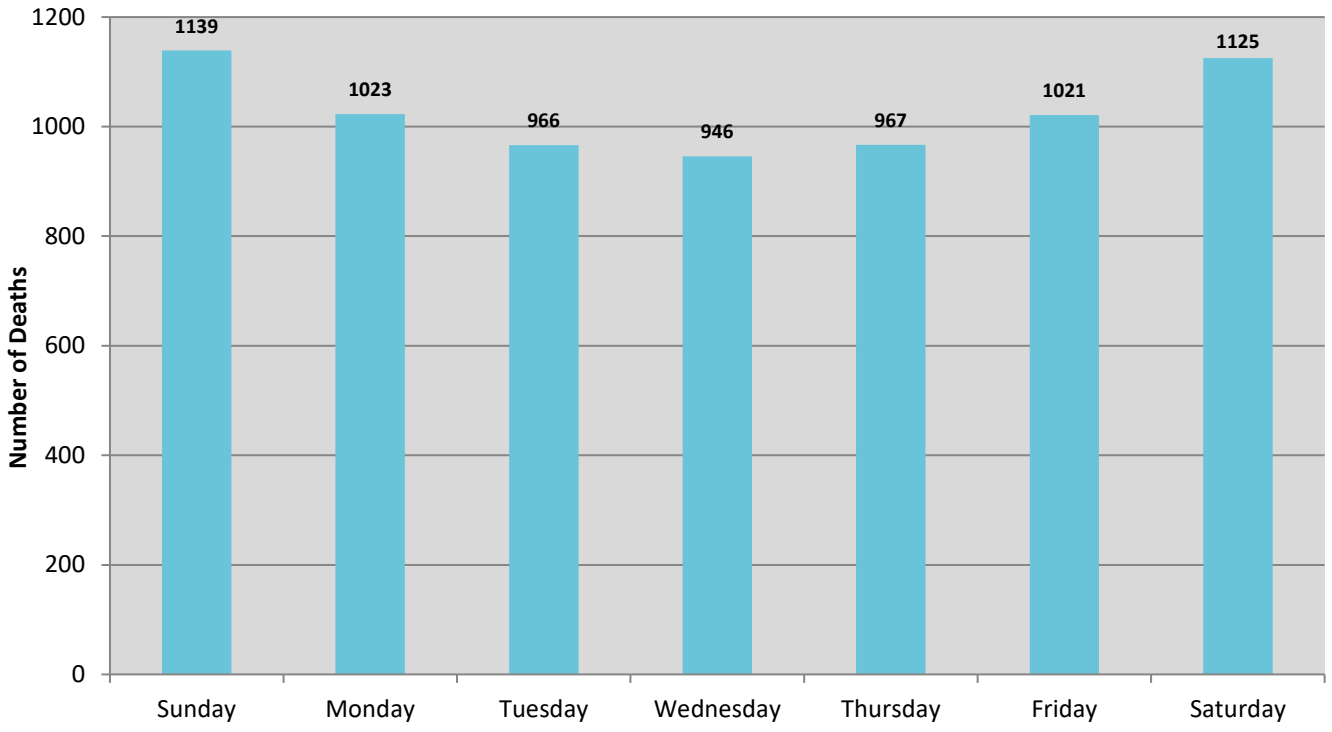


Figure 1.10 Number of OCME Cases by Day and Manner of Death, 2017

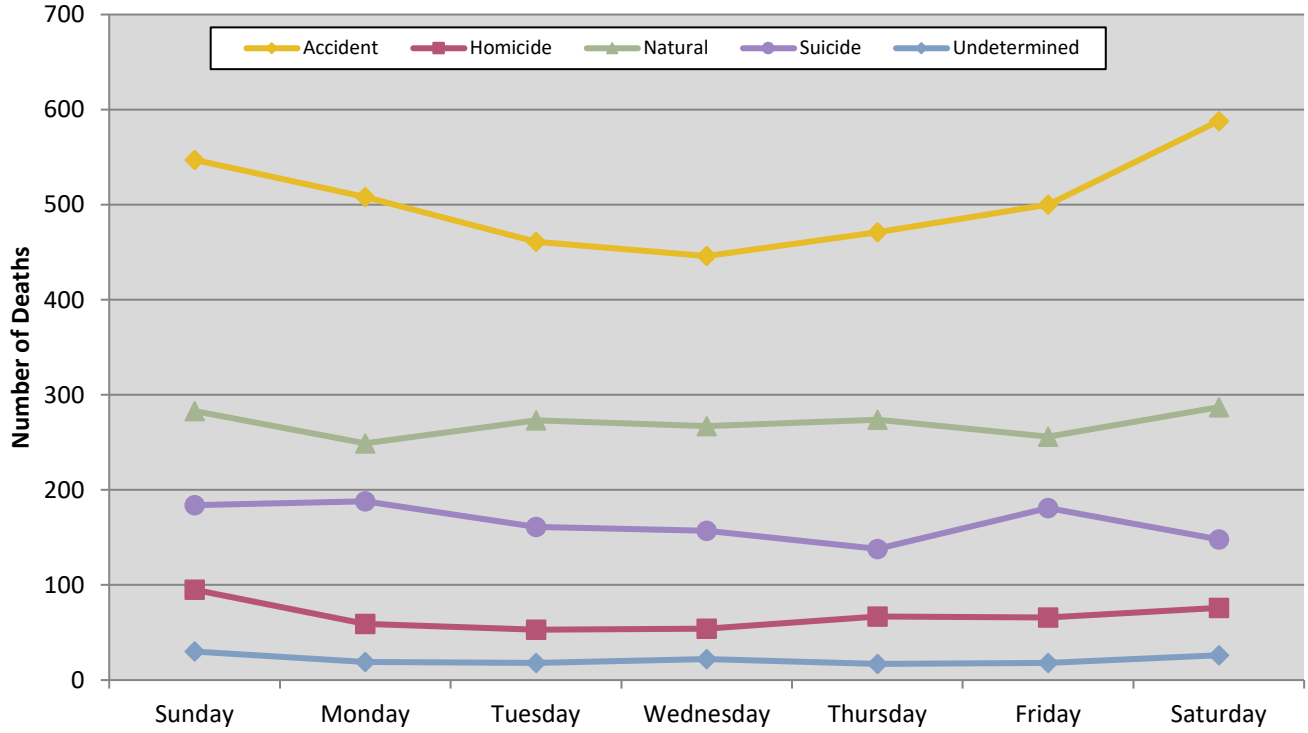


Table 1.8 Number and Rate of OCME Cases by Manner of Death and Locality of Residence, 2017

Locality of Residence	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Accomack County	11	33.8	1	3.1	4	12.3	5	15.4	0	0.0	**21**	**64.5**
Albemarle County	37	34.4	6	5.6	13	12.1	13	12.1	0	0.0	**69**	**64.1**
Alexandria City	31	19.4	6	3.7	34	21.2	16	10.0	3	1.9	**90**	**56.2**
Alleghany County	6	39.7	0	0.0	6	39.7	0	0.0	0	0.0	**12**	**79.4**
Amelia County	6	46.1	2	15.4	3	23.0	3	23.0	1	7.7	**15**	**115.2**
Amherst County	13	41.1	1	3.2	16	50.6	3	9.5	1	3.2	**34**	**107.6**
Appomattox County	4	25.5	1	6.4	3	19.1	1	6.4	0	0.0	**9**	**57.4**
Arlington County	27	11.5	2	0.9	33	14.0	19	8.1	2	0.9	**83**	**35.3**
Augusta County	42	55.9	1	1.3	15	20.0	15	20.0	0	0.0	**73**	**97.1**
Bath County	2	46.5	1	23.3	0	0.0	0	0.0	0	0.0	**3**	**69.8**
Bedford County	37	47.5	0	0.0	25	32.1	18	23.1	3	3.8	**83**	**106.4**
Bland County	6	94.5	0	0.0	1	15.7	1	15.7	0	0.0	**8**	**126.0**
Botetourt County	18	54.2	0	0.0	2	6.0	5	15.1	0	0.0	**25**	**75.3**
Bristol City	3	17.9	0	0.0	5	29.8	1	6.0	0	0.0	**9**	**53.6**
Brunswick County	11	67.7	0	0.0	11	67.7	4	24.6	1	6.2	**27**	**166.2**
Buchanan County	16	74.4	1	4.6	9	41.8	3	13.9	1	4.6	**30**	**139.4**
Buckingham County	13	76.2	1	5.9	5	29.3	2	11.7	1	5.9	**22**	**128.9**
Buena Vista City	4	63.2	0	0.0	4	63.2	2	31.6	0	0.0	**10**	**158.1**
Campbell County	26	47.3	3	5.5	12	21.8	6	10.9	0	0.0	**47**	**85.4**
Caroline County	13	42.7	4	13.1	7	23.0	7	23.0	0	0.0	**31**	**101.8**
Carroll County	9	30.3	0	0.0	7	23.6	8	26.9	0	0.0	**24**	**80.8**
Charles City County	2	28.6	0	0.0	2	28.6	1	14.3	0	0.0	**5**	**71.4**
Charlotte County	7	57.8	2	16.5	10	82.5	2	16.5	0	0.0	**21**	**173.3**
Charlottesville City	13	27.1	4	8.3	14	29.2	4	8.3	1	2.1	**36**	**75.0**
Chesapeake City	85	35.4	13	5.4	52	21.6	29	12.1	4	1.7	**183**	**76.1**
Chesterfield County	160	46.6	24	7.0	43	12.5	54	15.7	3	0.9	**284**	**82.7**
Clarke County	10	68.9	1	6.9	2	13.8	6	41.4	0	0.0	**19**	**131.0**
Colonial Heights City	12	67.3	3	16.8	2	11.2	4	22.4	0	0.0	**21**	**117.8**
Covington City	4	72.3	0	0.0	1	18.1	3	54.2	0	0.0	**8**	**144.6**
Craig County	4	79.0	1	19.8	0	0.0	1	19.8	0	0.0	**6**	**118.5**

Locality of Residence	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Culpeper County	40	78.0	3	5.9	13	25.4	11	21.5	0	0.0	**67**	**130.7**
Cumberland County	9	91.7	0	0.0	1	10.2	0	0.0	0	0.0	**10**	**101.9**
Danville City	14	34.0	14	34.0	20	48.6	6	14.6	1	2.4	**55**	**133.7**
Dickenson County	6	40.6	1	6.8	4	27.1	6	40.6	0	0.0	**17**	**115.0**
Dinwiddie County	16	56.7	1	3.5	14	49.6	5	17.7	0	0.0	**36**	**127.6**
Emporia City	2	37.9	2	37.9	0	0.0	0	0.0	1	18.9	**5**	**94.7**
Essex County	7	63.5	0	0.0	1	9.1	0	0.0	0	0.0	**8**	**72.5**
Fairfax City	12	49.8	1	4.1	8	33.2	5	20.7	0	0.0	**26**	**107.9**
Fairfax County	222	19.3	18	1.6	140	12.2	87	7.6	11	1.0	**478**	**41.6**
Falls Church City	3	20.6	0	0.0	3	20.6	2	13.7	0	0.0	**8**	**54.9**
Fauquier County	29	41.7	2	2.9	10	14.4	12	17.3	2	2.9	**55**	**79.2**
Floyd County	7	44.4	0	0.0	2	12.7	1	6.3	0	0.0	**10**	**63.5**
Fluvanna County	11	41.6	0	0.0	8	30.2	5	18.9	0	0.0	**24**	**90.7**
Franklin City	5	61.2	1	12.2	2	24.5	2	24.5	0	0.0	**10**	**122.3**
Franklin County	32	56.7	4	7.1	14	24.8	12	21.3	2	3.5	**64**	**113.4**
Frederick County	35	40.5	1	1.2	16	18.5	16	18.5	2	2.3	**70**	**80.9**
Fredericksburg City	18	63.5	0	0.0	10	35.3	4	14.1	2	7.1	**34**	**119.9**
Galax City	1	15.1	0	0.0	2	30.2	1	15.1	1	15.1	**5**	**75.5**
Giles County	10	59.4	2	11.9	1	5.9	3	17.8	1	5.9	**17**	**101.0**
Gloucester County	32	85.8	2	5.4	10	26.8	5	13.4	0	0.0	**49**	**131.4**
Goochland County	12	52.9	1	4.4	9	39.7	1	4.4	0	0.0	**23**	**101.4**
Grayson County	3	19.2	1	6.4	4	25.5	3	19.2	0	0.0	**11**	**70.2**
Greene County	7	35.7	0	0.0	5	25.5	4	20.4	2	10.2	**18**	**91.8**
Greensville County	7	59.9	3	25.7	13	111.3	3	25.7	0	0.0	**26**	**222.6**
Halifax County	11	31.8	2	5.8	12	34.7	4	11.6	2	5.8	**31**	**89.7**
Hampton City	58	43.1	17	12.6	29	21.5	15	11.1	4	3.0	**123**	**91.3**
Hanover County	53	50.0	2	1.9	18	17.0	14	13.2	0	0.0	**87**	**82.1**
Harrisonburg City	12	22.1	1	1.8	6	11.1	5	9.2	1	1.8	**25**	**46.1**
Henrico County	116	35.4	30	9.1	54	16.5	46	14.0	8	2.4	**254**	**77.5**
Henry County	33	64.4	2	3.9	10	19.5	9	17.6	1	2.0	**55**	**107.4**

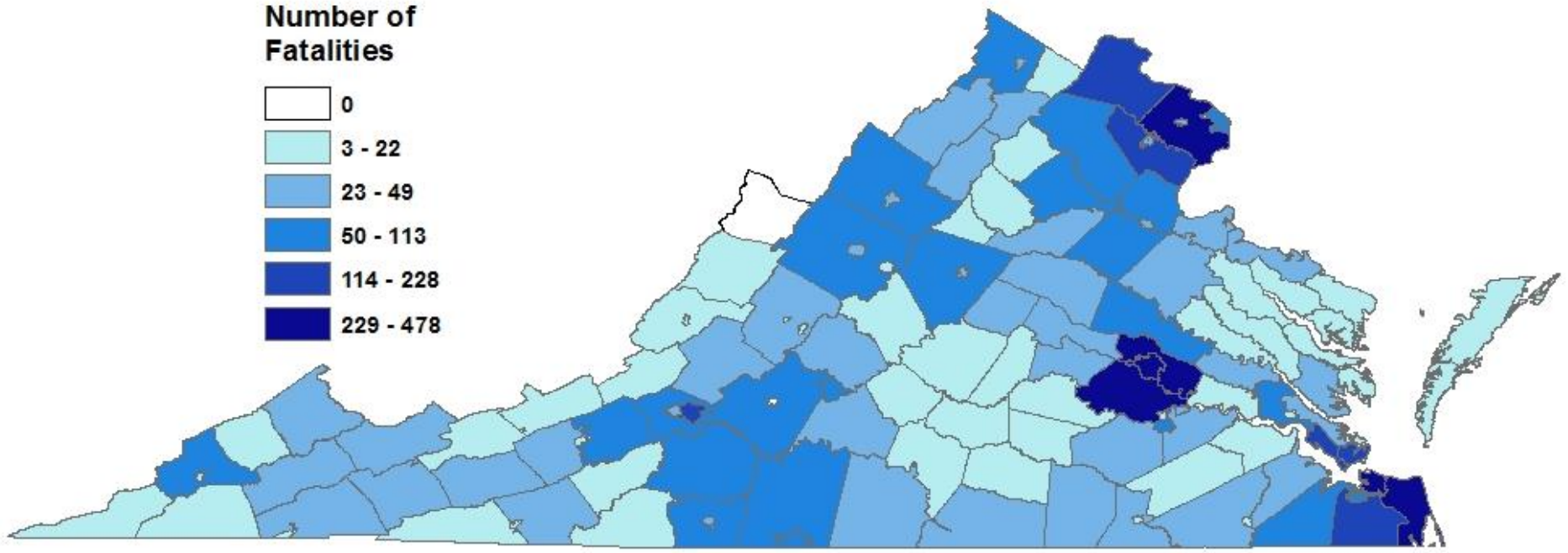
Locality of Residence	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Highland County	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Hopewell City	15	66.3	1	4.4	6	26.5	4	17.7	0	0.0	**26**	**114.9**
Isle of Wight County	14	38.3	3	8.2	7	19.2	7	19.2	0	0.0	**31**	**84.8**
James City County	26	34.4	4	5.3	18	23.8	9	11.9	0	0.0	**57**	**75.5**
King and Queen County	5	71.4	0	0.0	1	14.3	1	14.3	0	0.0	**7**	**100.0**
King George County	22	83.5	1	3.8	11	41.8	3	11.4	1	3.8	**38**	**144.3**
King William County	10	59.9	0	0.0	3	18.0	4	23.9	1	6.0	**18**	**107.7**
Lancaster County	7	64.9	0	0.0	8	74.2	4	37.1	0	0.0	**19**	**176.1**
Lee County	8	33.7	0	0.0	7	29.5	6	25.3	1	4.2	**22**	**92.6**
Lexington City	5	70.4	0	0.0	0	0.0	1	14.1	1	14.1	**7**	**98.5**
Loudoun County	74	18.6	3	0.8	39	9.8	41	10.3	3	0.8	**160**	**40.2**
Louisa County	21	58.6	3	8.4	11	30.7	8	22.3	0	0.0	**43**	**119.9**
Lunenburg County	6	49.0	0	0.0	3	24.5	5	40.9	0	0.0	**14**	**114.4**
Lynchburg City	24	29.6	4	4.9	16	19.8	16	19.8	0	0.0	**60**	**74.1**
Madison County	8	60.3	1	7.5	2	15.1	1	7.5	1	7.5	**13**	**97.9**
Manassas City	22	53.0	2	4.8	7	16.9	7	16.9	1	2.4	**39**	**94.0**
Manassas Park City	6	36.2	0	0.0	2	12.1	0	0.0	0	0.0	**8**	**48.2**
Martinsville City	11	83.7	2	15.2	7	53.3	3	22.8	0	0.0	**23**	**175.0**
Mathews County	3	34.2	1	11.4	3	34.2	1	11.4	1	11.4	**9**	**102.5**
Mecklenburg County	19	61.9	0	0.0	10	32.6	7	22.8	1	3.3	**37**	**120.6**
Middlesex County	5	46.8	0	0.0	3	28.1	4	37.5	0	0.0	**12**	**112.4**
Montgomery County	34	34.5	1	1.0	11	11.2	10	10.1	0	0.0	**56**	**56.8**
Nelson County	12	80.3	1	6.7	5	33.5	4	26.8	0	0.0	**22**	**147.2**
New Kent County	15	69.2	0	0.0	5	23.1	5	23.1	0	0.0	**25**	**115.3**
Newport News City	56	31.2	24	13.4	40	22.3	20	11.1	7	3.9	**147**	**81.9**
Norfolk City	108	44.1	33	13.5	71	29.0	33	13.5	7	2.9	**252**	**103.0**
Northampton County	8	67.5	0	0.0	6	50.7	2	16.9	0	0.0	**16**	**135.1**
Northumberland County	6	48.9	1	8.1	7	57.0	2	16.3	0	0.0	**16**	**130.3**
Norton City	3	76.2	0	0.0	1	25.4	1	25.4	0	0.0	**5**	**127.0**
Nottoway County	7	45.4	2	13.0	5	32.4	2	13.0	1	6.5	**17**	**110.1**

Locality of Residence	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Orange County	21	58.2	0	0.0	11	30.5	8	22.2	0	0.0	**40**	**110.9**
Page County	11	46.4	0	0.0	11	46.4	4	16.9	3	12.6	**29**	**122.2**
Patrick County	9	50.9	0	0.0	5	28.3	2	11.3	0	0.0	**16**	**90.6**
Petersburg City	21	66.1	13	40.9	15	47.2	3	9.4	2	6.3	**54**	**170.1**
Pittsylvania County	36	58.8	3	4.9	17	27.8	11	18.0	3	4.9	**70**	**114.3**
Poquoson City	6	49.8	0	0.0	1	8.3	3	24.9	0	0.0	**10**	**83.0**
Portsmouth City	57	60.3	15	15.9	26	27.5	12	12.7	3	3.2	**113**	**119.5**
Powhatan County	16	55.9	2	7.0	7	24.5	4	14.0	1	3.5	**30**	**104.9**
Prince Edward County	9	39.6	2	8.8	8	35.2	3	13.2	0	0.0	**22**	**96.9**
Prince George County	19	50.3	0	0.0	6	15.9	5	13.2	0	0.0	**30**	**79.3**
Prince William County	114	24.6	11	2.4	58	12.5	41	8.9	4	0.9	**228**	**49.2**
Pulaski County	20	58.5	3	8.8	8	23.4	7	20.5	0	0.0	**38**	**111.2**
Radford City	5	28.3	0	0.0	1	5.7	0	0.0	0	0.0	**6**	**34.0**
Rappahannock County	7	95.6	1	13.7	2	27.3	1	13.7	0	0.0	**11**	**150.3**
Richmond City	141	62.1	51	22.5	69	30.4	26	11.5	4	1.8	**291**	**128.2**
Richmond County	6	67.1	1	11.2	1	11.2	0	0.0	0	0.0	**8**	**89.5**
Roanoke City	84	84.1	18	18.0	33	33.1	23	23.0	3	3.0	**161**	**161.3**
Roanoke County	55	58.7	2	2.1	27	28.8	12	12.8	3	3.2	**99**	**105.6**
Rockbridge County	13	57.4	2	8.8	8	35.3	7	30.9	1	4.4	**31**	**136.8**
Rockingham County	28	34.9	1	1.2	13	16.2	14	17.5	1	1.2	**57**	**71.0**
Russell County	9	33.3	1	3.7	22	81.3	4	14.8	2	7.4	**38**	**140.5**
Salem City	14	54.1	1	3.9	5	19.3	6	23.2	1	3.9	**27**	**104.4**
Scott County	4	18.3	0	0.0	5	22.9	4	18.3	0	0.0	**13**	**59.5**
Shenandoah County	19	44.0	1	2.3	6	13.9	9	20.8	1	2.3	**36**	**83.3**
Smyth County	7	22.8	4	13.0	9	29.4	7	22.8	0	0.0	**27**	**88.1**
Southampton County	10	56.3	0	0.0	16	90.1	1	5.6	1	5.6	**28**	**157.7**
Spotsylvania County	56	42.1	3	2.3	31	23.3	11	8.3	3	2.3	**104**	**78.2**
Stafford County	30	20.5	3	2.0	19	13.0	12	8.2	1	0.7	**65**	**44.3**
Staunton City	12	48.9	1	4.1	12	48.9	6	24.5	0	0.0	**31**	**126.4**
Suffolk City	35	38.8	1	1.1	15	16.6	10	11.1	1	1.1	**62**	**68.7**

Locality of Residence	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Surry County	3	45.9	0	0.0	3	45.9	2	30.6	0	0.0	**8**	**122.3**
Sussex County	11	96.7	1	8.8	3	26.4	2	17.6	0	0.0	**17**	**149.5**
Tazewell County	19	46.2	3	7.3	12	29.2	8	19.5	2	4.9	**44**	**107.1**
Virginia Beach City	177	39.3	16	3.6	98	21.8	51	11.3	6	1.3	**348**	**77.3**
Warren County	28	70.8	3	7.6	9	22.7	8	20.2	0	0.0	**48**	**121.3**
Washington County	11	20.2	3	5.5	6	11.0	18	33.1	1	1.8	**39**	**71.7**
Waynesboro City	10	44.8	0	0.0	4	17.9	3	13.4	0	0.0	**17**	**76.1**
Westmoreland County	14	78.7	0	0.0	9	50.6	3	16.9	0	0.0	**26**	**146.2**
Williamsburg City	4	26.6	1	6.7	3	20.0	1	6.7	0	0.0	**9**	**59.9**
Winchester City	17	60.9	0	0.0	8	28.6	3	10.7	0	0.0	**28**	**100.2**
Wise County	25	64.8	1	2.6	15	38.9	16	41.5	0	0.0	**57**	**147.7**
Wythe County	15	51.9	2	6.9	5	17.3	5	17.3	0	0.0	**27**	**93.5**
York County	21	31.0	1	1.5	9	13.3	7	10.3	1	1.5	**39**	**57.6**
Subtotal (in-state)	**3244**	**38.3**	**447**	**5.3**	**1746**	**20.6**	**1117**	**13.2**	**136**	**1.6**	**6690**	**69.0**
Out of State	263	ND	20	ND	131	ND	39	ND	11	ND	**464**	**ND**
Unknown	14	ND	3	ND	12	ND	1	ND	3	ND	**33**	**ND**
Subtotal (out-of-state)	**277**	**ND**	**23**	**ND**	**143**	**ND**	**40**	**ND**	**14**	**ND**	**497**	**ND**
TOTAL	**3521**	**41.6**	**470**	**5.5**	**1889**	**22.3**	**1157**	**13.7**	**150**	**1.8**	**7187**	**84.9**

Note: No denominator is represented by ND; 'Undet.' Represents an undetermined manner of death

Map 1.1 Number of OCME Cases by Locality of Residence, 2017



Map 1.2 Rates of OCME Cases by Locality of Residence, 2017

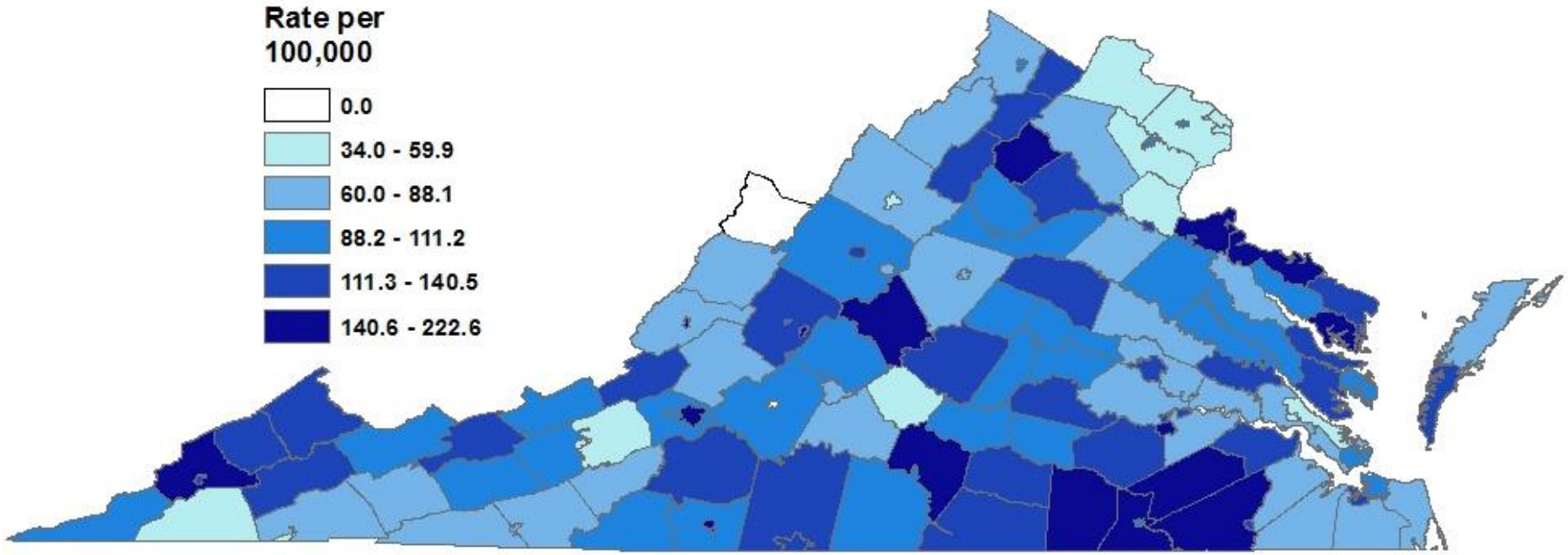


Table 1.9 Number and Rate of OCME Cases by Manner of Death and Locality of Injury, 2017

Locality of Injury	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Accomack County	13	39.9	1	3.1	6	18.4	5	15.4	0	0.0	**25**	**76.8**
Albemarle County	51	47.4	5	4.6	15	13.9	12	11.1	1	0.9	**84**	**78.0**
Alexandria City	34	21.2	5	3.1	43	26.9	18	11.2	4	2.5	**104**	**65.0**
Alleghany County	8	52.9	0	0.0	6	39.7	0	0.0	0	0.0	**14**	**92.6**
Amelia County	10	76.8	1	7.7	2	15.4	2	15.4	1	7.7	**16**	**122.9**
Amherst County	12	38.0	0	0.0	15	47.5	5	15.8	1	3.2	**33**	**104.5**
Appomattox County	3	19.1	0	0.0	4	25.5	1	6.4	0	0.0	**8**	**51.0**
Arlington County	35	14.9	4	1.7	34	14.5	21	8.9	4	1.7	**98**	**41.7**
Augusta County	37	49.2	1	1.3	14	18.6	17	22.6	0	0.0	**69**	**91.8**
Bath County	2	46.5	1	23.3	0	0.0	0	0.0	0	0.0	**3**	**69.8**
Bedford County	45	57.7	1	1.3	25	32.1	20	25.6	2	2.6	**93**	**119.3**
Bland County	4	63.0	0	0.0	3	47.2	1	15.7	0	0.0	**8**	**126.0**
Botetourt County	20	60.3	0	0.0	3	9.0	6	18.1	0	0.0	**29**	**87.4**
Bristol City	3	17.9	0	0.0	5	29.8	1	6.0	0	0.0	**9**	**53.6**
Brunswick County	9	55.4	0	0.0	13	80.0	4	24.6	0	0.0	**26**	**160.1**
Buchanan County	18	83.7	1	4.6	8	37.2	4	18.6	1	4.6	**32**	**148.7**
Buckingham County	12	70.3	1	5.9	4	23.4	2	11.7	1	5.9	**20**	**117.2**
Buena Vista City	3	47.4	0	0.0	4	63.2	2	31.6	0	0.0	**9**	**142.2**
Campbell County	27	49.1	2	3.6	13	23.6	5	9.1	1	1.8	**48**	**87.3**
Caroline County	13	42.7	1	3.3	10	32.8	8	26.3	0	0.0	**32**	**105.1**
Carroll County	13	43.8	0	0.0	9	30.3	10	33.7	0	0.0	**32**	**107.7**
Charles City County	1	14.3	0	0.0	2	28.6	1	14.3	0	0.0	**4**	**57.1**
Charlotte County	4	33.0	0	0.0	7	57.8	3	24.8	0	0.0	**14**	**115.5**
Charlottesville City	12	25.0	5	10.4	17	35.4	5	10.4	0	0.0	**39**	**81.2**
Chesapeake City	81	33.7	11	4.6	49	20.4	27	11.2	4	1.7	**172**	**71.5**
Chesterfield County	141	41.0	12	3.5	40	11.6	48	14.0	1	0.3	**242**	**70.4**
Clarke County	9	62.0	1	6.9	3	20.7	8	55.1	0	0.0	**21**	**144.7**
Colonial Heights City	5	28.0	3	16.8	1	5.6	6	33.7	0	0.0	**15**	**84.1**
Covington City	4	72.3	0	0.0	1	18.1	3	54.2	0	0.0	**8**	**144.6**
Craig County	2	39.5	0	0.0	0	0.0	1	19.8	0	0.0	**3**	**59.3**

Locality of Injury	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Culpeper County	34	66.3	1	2.0	10	19.5	10	19.5	0	0.0	**55**	**107.3**
Cumberland County	6	61.2	0	0.0	2	20.4	0	0.0	0	0.0	**8**	**81.5**
Danville City	18	43.8	14	34.0	22	53.5	6	14.6	2	4.9	**62**	**150.7**
Dickenson County	6	40.6	1	6.8	4	27.1	4	27.1	0	0.0	**15**	**101.5**
Dinwiddie County	18	63.8	0	0.0	17	60.3	5	17.7	0	0.0	**40**	**141.8**
Emporia City	1	18.9	2	37.9	2	37.9	0	0.0	1	18.9	**6**	**113.6**
Essex County	8	72.5	0	0.0	1	9.1	0	0.0	0	0.0	**9**	**81.6**
Fairfax City	9	37.3	0	0.0	4	16.6	5	20.7	0	0.0	**18**	**74.7**
Fairfax County	226	19.7	21	1.8	160	13.9	90	7.8	13	1.1	**510**	**44.4**
Falls Church City	2	13.7	0	0.0	2	13.7	2	13.7	0	0.0	**6**	**41.1**
Fauquier County	30	43.2	2	2.9	11	15.8	16	23.0	2	2.9	**61**	**87.8**
Floyd County	7	44.4	0	0.0	1	6.3	1	6.3	0	0.0	**9**	**57.1**
Fluvanna County	9	34.0	0	0.0	7	26.5	5	18.9	0	0.0	**21**	**79.4**
Franklin City	6	73.4	1	12.2	2	24.5	2	24.5	0	0.0	**11**	**134.5**
Franklin County	37	65.6	5	8.9	16	28.3	9	15.9	2	3.5	**69**	**122.2**
Frederick County	47	54.3	1	1.2	14	16.2	17	19.7	4	4.6	**83**	**96.0**
Fredericksburg City	29	102.3	2	7.1	10	35.3	3	10.6	3	10.6	**47**	**165.7**
Galax City	2	30.2	1	15.1	2	30.2	2	30.2	1	15.1	**8**	**120.8**
Giles County	12	71.3	1	5.9	1	5.9	3	17.8	1	5.9	**18**	**106.9**
Gloucester County	25	67.0	3	8.0	7	18.8	6	16.1	0	0.0	**41**	**109.9**
Goochland County	9	39.7	1	4.4	6	26.4	4	17.6	0	0.0	**20**	**88.2**
Grayson County	2	12.8	1	6.4	3	19.2	2	12.8	0	0.0	**8**	**51.1**
Greene County	9	45.9	0	0.0	4	20.4	4	20.4	2	10.2	**19**	**96.9**
Greensville County	8	68.5	3	25.7	18	154.1	4	34.2	0	0.0	**33**	**282.6**
Halifax County	12	34.7	2	5.8	11	31.8	4	11.6	0	0.0	**29**	**83.9**
Hampton City	50	37.1	19	14.1	28	20.8	13	9.7	4	3.0	**114**	**84.7**
Hanover County	46	43.4	2	1.9	20	18.9	13	12.3	0	0.0	**81**	**76.5**
Harrisonburg City	13	24.0	3	5.5	6	11.1	6	11.1	1	1.8	**29**	**53.5**
Henrico County	136	41.5	25	7.6	56	17.1	45	13.7	8	2.4	**270**	**82.3**
Henry County	32	62.5	1	2.0	12	23.4	8	15.6	1	2.0	**54**	**105.4**

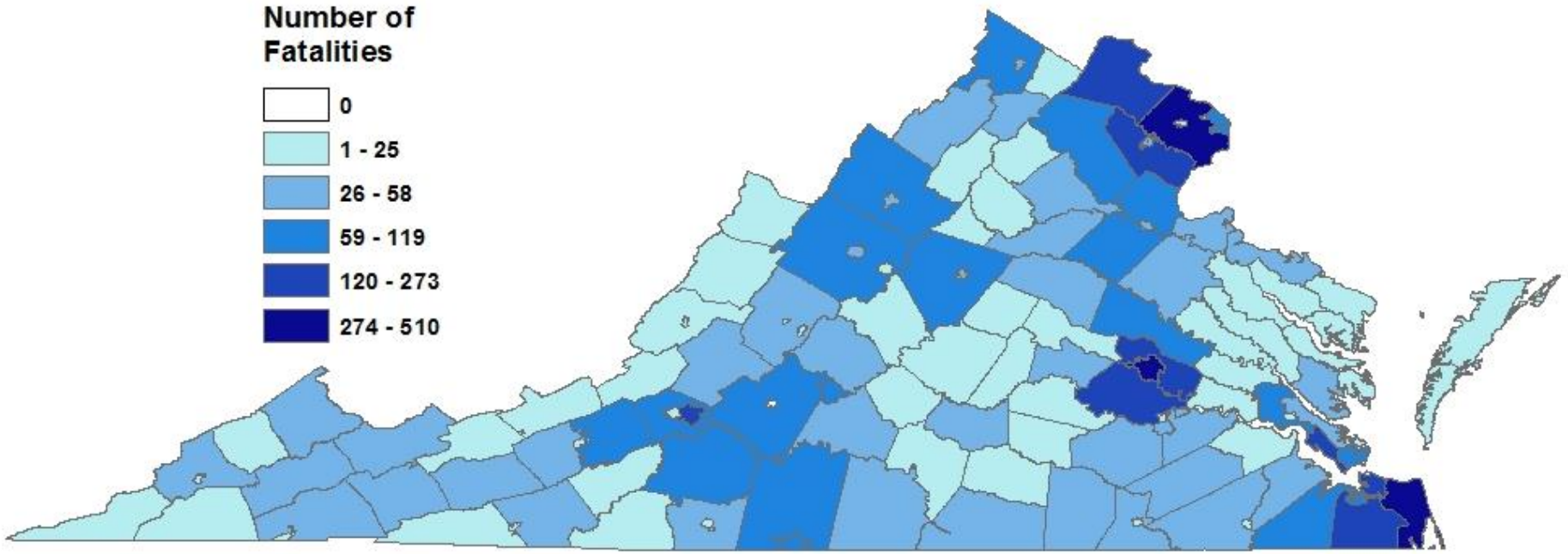
Locality of Injury	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Highland County	0	0.0	1	45.2	0	0.0	0	0.0	0	0.0	**1**	**45.2**
Hopewell City	14	61.9	2	8.8	7	30.9	4	17.7	0	0.0	**27**	**119.4**
Isle of Wight County	16	43.8	3	8.2	6	16.4	7	19.2	0	0.0	**32**	**87.5**
James City County	29	38.4	3	4.0	27	35.8	7	9.3	1	1.3	**67**	**88.7**
King and Queen County	6	85.7	0	0.0	2	28.6	1	14.3	0	0.0	**9**	**128.5**
King George County	23	87.3	0	0.0	10	38.0	3	11.4	0	0.0	**36**	**136.7**
King William County	7	41.9	0	0.0	3	18.0	3	18.0	1	6.0	**14**	**83.8**
Lancaster County	7	64.9	0	0.0	9	83.4	3	27.8	1	9.3	**20**	**185.4**
Lee County	7	29.5	0	0.0	7	29.5	7	29.5	1	4.2	**22**	**92.6**
Lexington City	7	98.5	0	0.0	0	0.0	1	14.1	1	14.1	**9**	**126.7**
Loudoun County	90	22.6	3	0.8	45	11.3	41	10.3	3	0.8	**182**	**45.7**
Louisa County	13	36.3	3	8.4	12	33.5	5	13.9	0	0.0	**33**	**92.0**
Lunenburg County	8	65.4	1	8.2	2	16.3	4	32.7	1	8.2	**16**	**130.8**
Lynchburg City	28	34.6	6	7.4	17	21.0	14	17.3	0	0.0	**65**	**80.3**
Madison County	12	90.4	1	7.5	3	22.6	0	0.0	1	7.5	**17**	**128.0**
Manassas City	22	53.0	3	7.2	8	19.3	4	9.6	1	2.4	**38**	**91.6**
Manassas Park City	6	36.2	0	0.0	1	6.0	0	0.0	0	0.0	**7**	**42.2**
Martinsville City	9	68.5	2	15.2	7	53.3	3	22.8	0	0.0	**21**	**159.8**
Mathews County	3	34.2	1	11.4	3	34.2	3	34.2	1	11.4	**11**	**125.3**
Mecklenburg County	26	84.7	1	3.3	10	32.6	7	22.8	2	6.5	**46**	**149.9**
Middlesex County	8	74.9	1	9.4	3	28.1	5	46.8	0	0.0	**17**	**159.2**
Montgomery County	37	37.5	3	3.0	10	10.1	15	15.2	0	0.0	**65**	**66.0**
Nelson County	12	80.3	1	6.7	5	33.5	5	33.5	0	0.0	**23**	**153.9**
New Kent County	6	27.7	0	0.0	3	13.8	3	13.8	0	0.0	**12**	**55.3**
Newport News City	68	37.9	24	13.4	37	20.6	23	12.8	4	2.2	**156**	**87.0**
Norfolk City	119	48.6	35	14.3	74	30.2	35	14.3	10	4.1	**273**	**111.6**
Northampton County	8	67.5	0	0.0	7	59.1	3	25.3	0	0.0	**18**	**152.0**
Northumberland County	5	40.7	1	8.1	7	57.0	2	16.3	0	0.0	**15**	**122.2**
Norton City	0	0.0	0	0.0	1	25.4	1	25.4	0	0.0	**2**	**50.8**
Nottoway County	6	38.9	2	13.0	9	58.3	2	13.0	2	13.0	**21**	**136.1**

Locality of Injury	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Orange County	27	74.8	0	0.0	13	36.0	7	19.4	0	0.0	**47**	**130.3**
Page County	8	33.7	0	0.0	9	37.9	4	16.9	3	12.6	**24**	**101.1**
Patrick County	8	45.3	0	0.0	6	34.0	3	17.0	0	0.0	**17**	**96.2**
Petersburg City	25	78.7	13	40.9	14	44.1	4	12.6	2	6.3	**58**	**182.7**
Pittsylvania County	35	57.1	3	4.9	16	26.1	14	22.9	2	3.3	**70**	**114.3**
Poquoson City	5	41.5	0	0.0	1	8.3	2	16.6	0	0.0	**8**	**66.4**
Portsmouth City	59	62.4	16	16.9	27	28.5	14	14.8	3	3.2	**119**	**125.8**
Powhatan County	15	52.4	1	3.5	16	55.9	5	17.5	1	3.5	**38**	**132.9**
Prince Edward County	11	48.5	3	13.2	10	44.0	4	17.6	0	0.0	**28**	**123.3**
Prince George County	22	58.2	1	2.6	6	15.9	8	21.2	0	0.0	**37**	**97.9**
Prince William County	117	25.3	3	0.6	57	12.3	39	8.4	3	0.6	**219**	**47.3**
Pulaski County	21	61.4	3	8.8	9	26.3	9	26.3	0	0.0	**42**	**122.9**
Radford City	7	39.6	0	0.0	1	5.7	1	5.7	0	0.0	**9**	**51.0**
Rappahannock County	6	82.0	2	27.3	4	54.6	1	13.7	0	0.0	**13**	**177.6**
Richmond City	167	73.6	78	34.4	97	42.7	30	13.2	5	2.2	**377**	**166.1**
Richmond County	8	89.5	0	0.0	1	11.2	0	0.0	0	0.0	**9**	**100.7**
Roanoke City	88	88.1	18	18.0	29	29.0	22	22.0	3	3.0	**160**	**160.3**
Roanoke County	54	57.6	1	1.1	36	38.4	12	12.8	2	2.1	**105**	**112.0**
Rockbridge County	12	53.0	3	13.2	7	30.9	6	26.5	1	4.4	**29**	**128.0**
Rockingham County	27	33.7	1	1.2	17	21.2	14	17.5	1	1.2	**60**	**74.8**
Russell County	11	40.7	1	3.7	19	70.2	4	14.8	2	7.4	**37**	**136.8**
Salem City	13	50.3	0	0.0	3	11.6	6	23.2	1	3.9	**23**	**88.9**
Scott County	9	41.2	0	0.0	5	22.9	7	32.0	0	0.0	**21**	**96.0**
Shenandoah County	19	44.0	0	0.0	5	11.6	10	23.1	1	2.3	**35**	**81.0**
Smyth County	10	32.6	2	6.5	12	39.1	6	19.6	0	0.0	**30**	**97.9**
Southampton County	10	56.3	0	0.0	17	95.8	3	16.9	0	0.0	**30**	**169.0**
Spotsylvania County	51	38.3	3	2.3	35	26.3	11	8.3	3	2.3	**103**	**77.4**
Stafford County	35	23.9	3	2.0	19	13.0	15	10.2	1	0.7	**73**	**49.8**
Staunton City	13	53.0	0	0.0	12	48.9	4	16.3	0	0.0	**29**	**118.2**
Suffolk City	38	42.1	2	2.2	12	13.3	10	11.1	2	2.2	**64**	**70.9**

Locality of Injury	Accident Total	Accident Rate	Homicide Total	Homicide Rate	Natural Total	Natural Rate	Suicide Total	Suicide Rate	Undet. Total	Undet. Rate	Total	Total Rate
Surry County	3	45.9	0	0.0	2	30.6	2	30.6	0	0.0	**7**	**107.0**
Sussex County	23	202.2	2	17.6	4	35.2	2	17.6	0	0.0	**31**	**272.6**
Tazewell County	20	48.7	2	4.9	11	26.8	8	19.5	2	4.9	**43**	**104.6**
Virginia Beach City	184	40.8	14	3.1	97	21.5	53	11.8	7	1.6	**355**	**78.8**
Warren County	35	88.5	3	7.6	11	27.8	6	15.2	1	2.5	**56**	**141.5**
Washington County	17	31.3	6	11.0	10	18.4	19	34.9	1	1.8	**53**	**97.4**
Waynesboro City	10	44.8	0	0.0	3	13.4	2	9.0	0	0.0	**15**	**67.2**
Westmoreland County	12	67.5	1	5.6	11	61.9	3	16.9	0	0.0	**27**	**151.9**
Williamsburg City	9	59.9	1	6.7	9	59.9	4	26.6	0	0.0	**23**	**153.0**
Winchester City	18	64.4	0	0.0	12	43.0	4	14.3	0	0.0	**34**	**121.7**
Wise County	25	64.8	1	2.6	14	36.3	15	38.9	0	0.0	**55**	**142.5**
Wythe County	19	65.8	2	6.9	7	24.2	8	27.7	0	0.0	**36**	**124.6**
York County	21	31.0	1	1.5	9	13.3	8	11.8	0	0.0	**39**	**57.6**
Subtotal (in-state)	**3409**	**40.2**	**455**	**5.4**	**1865**	**22.0**	**1155**	**13.6**	**143**	**1.7**	**7027**	**83.0**
Out of State	78	ND	6	ND	8	ND	1	ND	2	ND	**95**	**ND**
Unknown	34	ND	9	ND	16	ND	1	ND	5	ND	**65**	**ND**
Subtotal (out-of-state)	**112**	**ND**	**15**	**ND**	**24**	**ND**	**2**	**ND**	**7**	**ND**	**160**	**ND**
TOTAL	**3521**	**41.6**	**470**	**5.5**	**1889**	**22.3**	**1157**	**13.7**	**150**	**1.8**	**7187**	**84.9**

Note: No denominator is represented by ND; 'Undet.' Represents an undetermined manner of death

Map 1.3 Number of OCME Cases by Locality of Injury, 2017



Map 1.4 Rate of OCME Cases by Locality of Injury, 2017

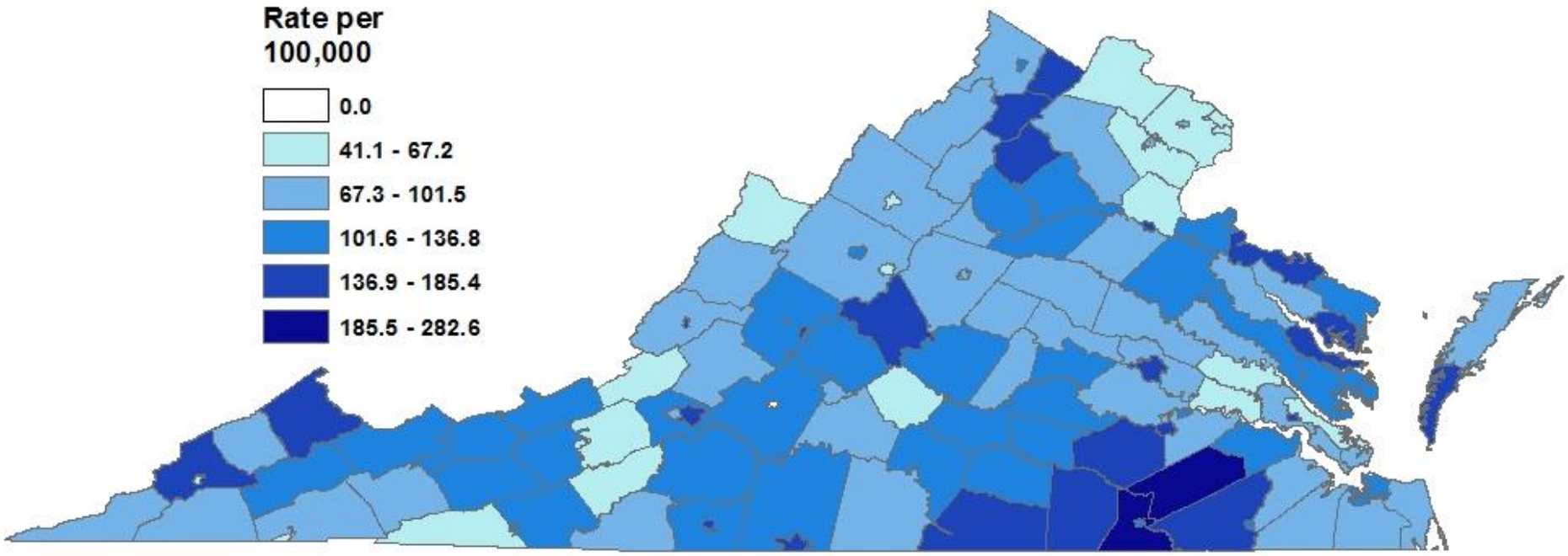


Table 1.10 Number of OCME Cases by Manner of Death and Locality of Death, 2017

Locality of Death	Accident Total	Homicide Total	Natural Total	Suicide Total	Undet. Total	Total
Accomack County	14	1	7	4	0	**26**
Albemarle County	45	4	18	14	0	**81**
Alexandria City	31	3	43	19	3	**99**
Alleghany County	7	0	6	0	0	**13**
Amelia County	7	1	2	2	1	**13**
Amherst County	5	0	15	3	0	**23**
Appomattox County	2	0	4	1	0	**7**
Arlington County	41	3	35	22	4	**105**
Augusta County	37	1	15	16	0	**69**
Bath County	2	1	0	0	0	**3**
Bedford County	31	1	24	17	2	**75**
Bland County	3	0	3	1	0	**7**
Botetourt County	9	0	2	6	0	**17**
Bristol City	3	0	5	1	0	**9**
Brunswick County	4	0	8	4	0	**16**
Buchanan County	17	1	9	4	0	**31**
Buckingham County	8	1	4	1	1	**15**
Buena Vista City	1	0	3	2	0	**6**
Campbell County	15	2	9	5	0	**31**
Caroline County	7	1	9	6	0	**23**
Carroll County	9	0	9	10	0	**28**
Charles City County	0	0	2	1	0	**3**
Charlotte County	1	0	7	2	0	**10**
Charlottesville City	74	10	18	11	4	**117**
Chesapeake City	70	6	49	24	3	**152**
Chesterfield County	102	11	33	44	1	**191**
Clarke County	2	1	2	7	0	**12**
Colonial Heights City	2	1	1	5	0	**9**
Covington City	3	0	1	3	0	**7**
Craig County	2	0	0	1	0	**3**
Culpeper County	31	2	9	8	0	**50**
Cumberland County	4	0	2	0	0	**6**
Danville City	22	14	23	5	2	**66**
Dickenson County	7	1	4	4	0	**16**
Dinwiddie County	13	0	13	5	0	**31**
Emporia City	4	2	3	0	1	**10**
Essex County	7	0	3	0	0	**10**
Fairfax City	5	0	3	3	0	**11**
Fairfax County	314	29	165	101	15	**624**
Falls Church City	2	0	2	2	0	**6**
Fauquier County	23	2	10	15	2	**52**
Floyd County	5	0	1	1	0	**7**

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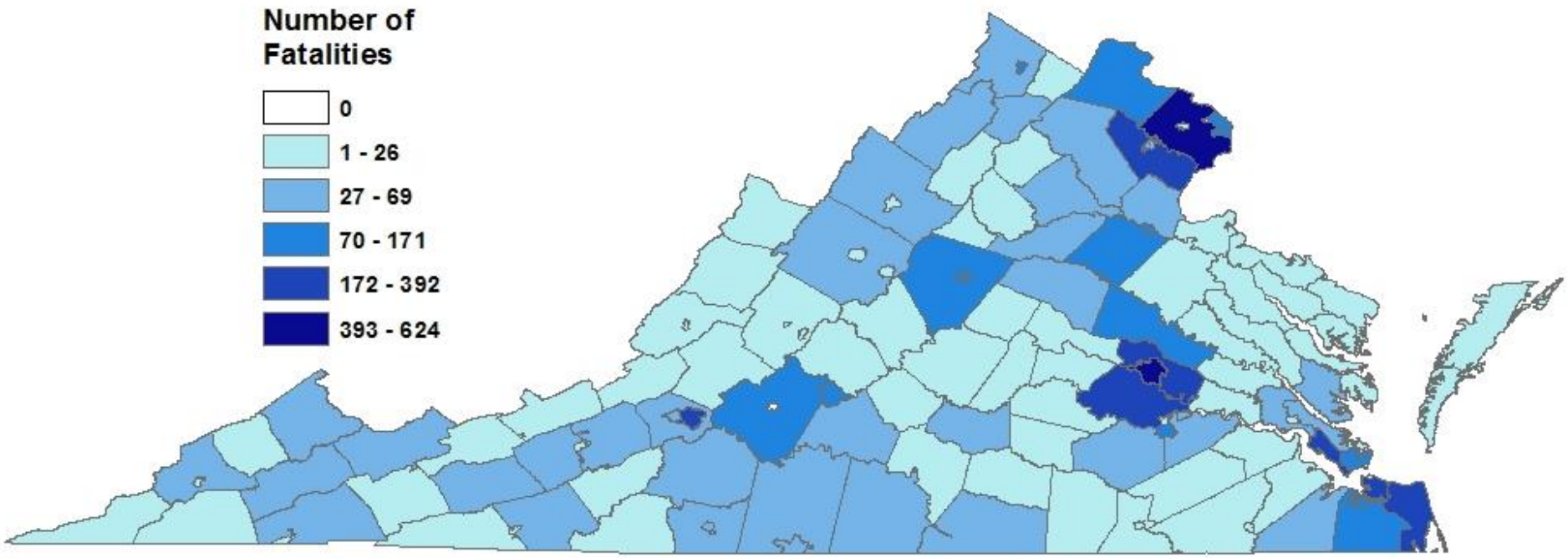
Locality of Death	Accident Total	Homicide Total	Natural Total	Suicide Total	Undet. Total	Total
Fluvanna County	6	0	5	5	0	**16**
Franklin City	5	1	5	2	0	**13**
Franklin County	23	4	14	9	2	**52**
Frederick County	19	0	13	16	2	**50**
Fredericksburg City	60	4	18	6	3	**91**
Galax City	3	1	3	2	1	**10**
Giles County	11	0	1	3	1	**16**
Gloucester County	20	2	7	4	1	**34**
Goochland County	8	0	6	3	0	**17**
Grayson County	1	1	2	2	0	**6**
Greene County	7	0	3	3	1	**14**
Greensville County	2	3	15	3	0	**23**
Halifax County	11	2	12	4	1	**30**
Hampton City	36	13	30	10	4	**93**
Hanover County	41	2	24	11	1	**79**
Harrisonburg City	6	0	5	6	0	**17**
Henrico County	119	18	52	43	6	**238**
Henry County	20	0	11	8	0	**39**
Highland County	0	1	0	0	0	**1**
Hopewell City	16	2	10	5	0	**33**
Isle of Wight County	9	2	6	7	0	**24**
James City County	19	1	19	6	0	**45**
King and Queen County	5	0	1	1	0	**7**
King George County	13	0	10	3	0	**26**
King William County	5	0	2	3	1	**11**
Lancaster County	5	0	9	3	1	**18**
Lee County	6	0	6	7	0	**19**
Lexington City	1	0	2	1	1	**5**
Loudoun County	82	4	44	38	3	**171**
Louisa County	9	2	11	6	0	**28**
Lunenburg County	4	1	1	4	0	**10**
Lynchburg City	64	5	25	17	2	**113**
Madison County	7	1	3	0	1	**12**
Manassas City	16	2	10	3	1	**32**
Manassas Park City	0	0	0	0	0	**0**
Martinsville City	15	3	8	3	1	**30**
Mathews County	2	1	3	3	0	**9**
Mecklenburg County	21	1	13	6	2	**43**
Middlesex County	4	1	3	5	0	**13**
Montgomery County	30	2	10	15	0	**57**
Nelson County	4	1	5	4	0	**14**
New Kent County	1	0	2	3	0	**6**

Locality of Death	Accident Total	Homicide Total	Natural Total	Suicide Total	Undet. Total	Total
Newport News City	110	32	39	26	6	**213**
Norfolk City	203	50	84	43	12	**392**
Northampton County	8	0	6	2	0	**16**
Northumberland County	3	0	7	2	0	**12**
Norton City	5	0	3	4	0	**12**
Nottoway County	2	0	6	2	0	**10**
Orange County	21	0	12	7	0	**40**
Page County	5	0	8	4	2	**19**
Patrick County	6	0	6	3	0	**15**
Petersburg City	39	10	19	5	2	**75**
Pittsylvania County	17	1	13	14	1	**46**
Poquoson City	4	0	1	2	0	**7**
Portsmouth City	56	13	25	14	3	**111**
Powhatan County	9	1	8	5	0	**23**
Prince Edward County	11	4	12	5	2	**34**
Prince George County	14	2	4	8	0	**28**
Prince William County	90	5	57	36	4	**192**
Pulaski County	13	2	8	9	0	**32**
Radford City	2	0	1	0	0	**3**
Rappahannock County	1	0	3	1	0	**5**
Richmond City	315	97	127	43	11	**593**
Richmond County	7	0	2	0	0	**9**
Roanoke City	226	28	50	30	5	**339**
Roanoke County	22	0	19	9	0	**50**
Rockbridge County	11	3	7	5	0	**26**
Rockingham County	31	2	18	14	2	**67**
Russell County	9	1	18	4	2	**34**
Salem City	14	0	8	7	2	**31**
Scott County	9	0	5	7	0	**21**
Shenandoah County	13	0	6	10	1	**30**
Smyth County	8	2	10	6	0	**26**
Southampton County	9	0	9	3	0	**21**
Spotsylvania County	39	2	32	10	2	**85**
Stafford County	26	2	15	12	1	**56**
Staunton City	6	0	9	3	0	**18**
Suffolk City	26	1	12	9	1	**49**
Surry County	2	0	2	2	0	**6**
Sussex County	16	2	1	2	0	**21**
Tazewell County	22	1	10	8	2	**43**
Virginia Beach City	163	13	96	52	8	**332**
Warren County	30	3	12	5	1	**51**
Washington County	20	6	12	19	1	**58**

Locality of Death	Accident Total	Homicide Total	Natural Total	Suicide Total	Undet. Total	Total
Waynesboro City	4	0	3	2	0	**9**
Westmoreland County	9	1	9	3	0	**22**
Williamsburg City	5	0	7	4	0	**16**
Winchester City	77	1	16	6	2	**102**
Wise County	21	1	13	12	1	**48**
Wythe County	15	2	7	6	0	**30**
York County	15	1	19	9	0	**44**
Subtotal (in-state)	**3516**	**469**	**1886**	**1157**	**149**	**7177**
Out of State	1	1	2	0	1	**5**
Unknown	4	0	1	0	0	**5**
Subtotal (out-of-state)	**5**	**1**	**3**	**0**	**1**	**10**
TOTAL	**3521**	**470**	**1889**	**1157**	**150**	**7187**

Note: No denominator is represented by ND; 'Undet.' Represents an undetermined manner of death

Map 1.5 Number of OCME Cases by Locality of Death, 2017



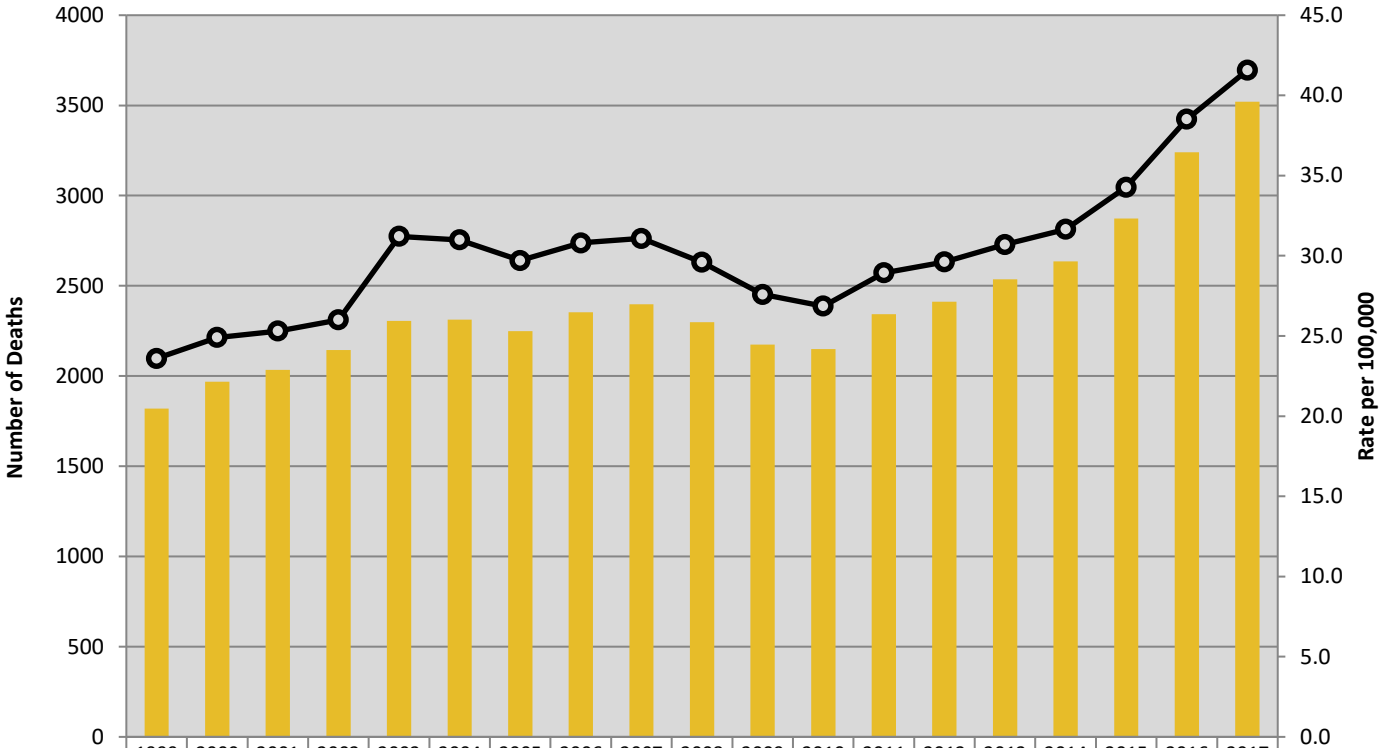
SECTION 2: MANNERS OF DEATH

ACCIDENTAL DEATHS (N=3,521)

Accidents accounted for 49.0% of the deaths investigated by the OCME in 2017, which is the greatest proportion of deaths by any manner.

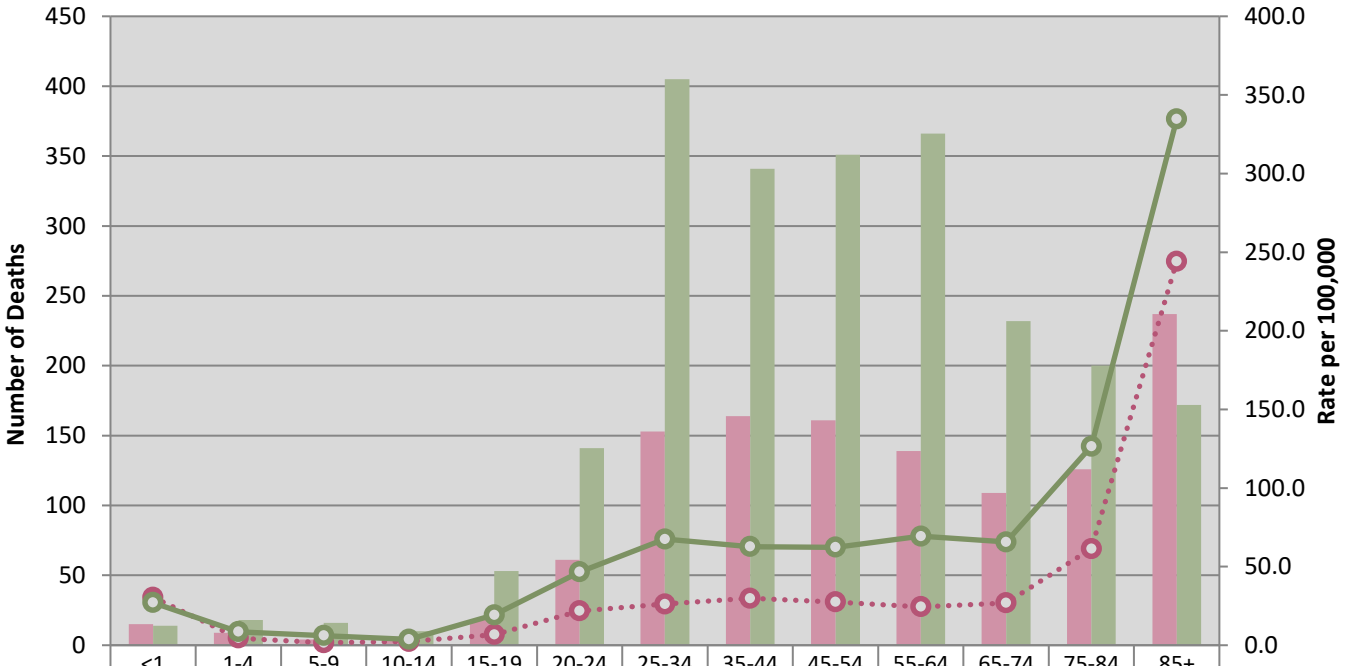
- The total number of accidental deaths in 2017 increased 8.7% from 2016
- For the fourth year in a row, fatal drug overdoses were the most common cause of accidental death (39.6%), followed by accidental motor vehicle deaths (26.5%)
- Seniors 85 years and older had the highest mortality rate due to falls (232.9 per 100,000 persons)
- Of the 2,399 (68.1%) of decedents of accidental death that were tested for ethanol, 699 (29.2%) had ethanol detected through toxicology. Of those tested, 451 (18.8%) had a blood alcohol level of 0.08% BAC or greater; the level of legal intoxication

Figure 2.1 Number and Rate of Accidental Deaths by Year of Death, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	1820	1969	2035	2145	2305	2312	2248	2354	2397	2299	2175	2149	2343	2412	2536	2635	2873	3240	3521
Mortality Rate	23.6	24.9	25.3	26.0	31.2	31.0	29.7	30.8	31.1	29.6	27.6	26.9	28.9	29.6	30.7	31.6	34.3	38.5	41.6

Figure 2.2 Number and Rate of Accidental Deaths by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	15	9	4	6	18	61	153	164	161	139	109	126	237
Male	14	18	16	10	53	141	405	341	351	366	232	200	172
Female Rate	30.4	4.5	1.6	2.3	6.8	21.7	26.1	29.8	27.5	24.4	26.8	61.4	244.0
Male Rate	27.1	8.6	6.1	3.7	19.3	46.6	67.5	62.7	62.3	69.3	65.7	126.5	334.6

Figure 2.3 Percentage of Accidental Deaths by Race/Ethnicity, 2017

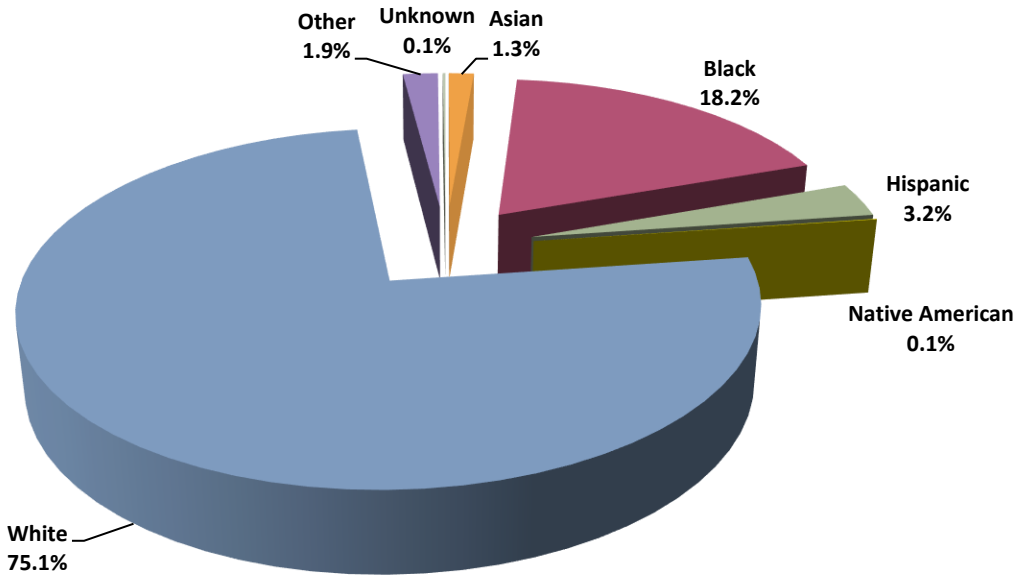
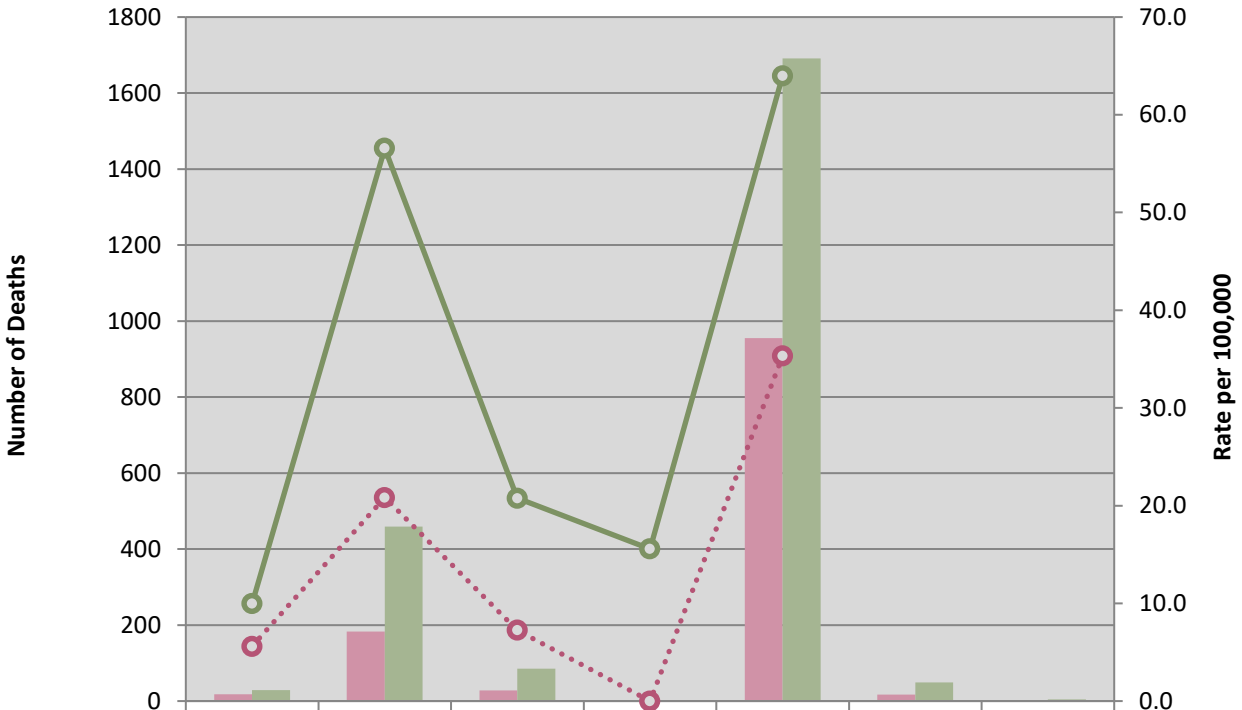


Figure 2.4 Number and Rate of Accidental Deaths by Race/Ethnicity and Gender, 2017



	Asian	Black	Hispanic	Native American	White	Other	Unknown
Female	18	183	28	0	955	17	1
Male	29	459	85	2	1691	49	4
Female Rate	5.6	20.8	7.3	0.0	35.3	*	*
Male Rate	10.0	56.6	20.8	15.6	64.0	*	*

*No rate can be calculated

Note: Rates calculated from small sample sizes (<5 deaths) is considered unreliable and should be interpreted with caution (Native Americans)

Table 2.1 Number of Accidental Death Cases by Cause and Method of Death, 2017

Method of Death	Autopsied	Total Cases
Animal/Insect		
Bit, stung, or kicked by an animal/insect	1	**5**
Asphyxia		
Choked on food/foreign object	2	**40**
Drowned	63	**91**
Hanged	0	**5**
Inhaled toxic agent (carbon monoxide)	1	**6**
Mechanical/Positional asphyxia	16	**25**
Oxygen depletion/replacement	0	**1**
Other asphyxia	0	**1**
Suffocated/Smothered	14	**14**
Drug Poisoning		
Ingested and/or injected ethanol, illicit, prescription, and/or other type of drug	418	**1394**
Electrical		
Contacted electrical current	6	**7**
Exposure		
Exposed to cold	11	**14**
Exposed to heat	2	**2**
Fall/Jump		
Fell/Jumped from any height	53	**800**
Fire		
Thermal burns and/or inhalation of combustion products	45	**88**
Motor Vehicle Collision		
Aircraft	2	**2**
All terrain vehicle	0	**17**
Bicycle	0	**12**
Car	40	**393**
Construction equipment	1	**1**
Dump truck	1	**3**
Farm equipment	1	**5**
Golf cart	0	**1**
Helicopter	1	**1**
Lawnmower	0	**2**
Mo-ped	1	**9**
Motorcycle	11	**115**
Multiple	1	**3**
Pickup truck	11	**101**
Sport utility vehicle	17	**130**
Tractor	0	**1**

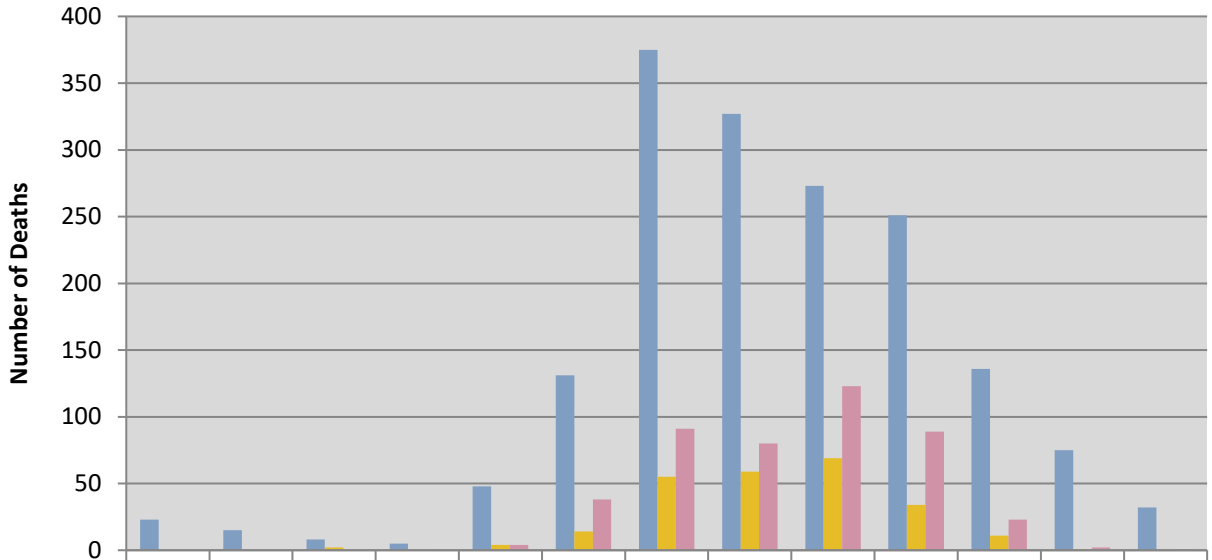
Tractor trailer	10	**25**
Train	2	**9**
Truck (other)	3	**31**
Van	3	**34**
Unspecified/Unknown	6	**36**
Traumatic Injury		
Accidental discharge of firearm		
Handgun	3	**3**
Shotgun	2	**2**
Blunt force trauma (other)	3	**12**
Hit/Crushed by falling object	9	**25**
Other/Undetermined		
Excited delirium	1	**1**
Other	4	**49**
Undetermined	2	**5**
TOTAL ACCIDENTAL DEATHS	**767**	**3521**

Table 2.2 Number and Rate of the Top 5 Accidental Methods of Death by Age Group, 2017

Age Group	Method of Death										TOTAL
	Drowning		Drug Use		Fall		Fire/Smoke Inhalation		Motor Vehicle Collision		
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	
<1	0	0.0	0	0.0	0	0.0	0	0.0	5	4.9	**5**
1-4	8	1.9	0	0.0	1	0.2	5	1.2	8	1.9	**22**
5-9	4	0.8	0	0.0	1	0.2	3	0.6	10	1.9	**18**
10-14	4	0.8	0	0.0	0	0.0	0	0.0	12	2.3	**16**
15-19	3	0.6	16	3.0	4	0.7	0	0.0	44	8.1	**67**
20-24	5	0.9	96	16.5	2	0.3	5	0.9	96	16.5	**204**
25-34	7	0.6	386	32.6	8	0.7	5	0.4	137	11.6	**543**
35-44	6	0.5	364	33.3	10	0.9	5	0.5	105	9.6	**490**
45-54	9	0.8	299	26.0	27	2.3	6	0.5	135	11.7	**476**
55-64	20	1.8	181	16.5	84	7.7	18	1.6	168	15.3	**471**
65-74	13	1.7	48	6.3	112	14.7	23	3.0	110	14.5	**306**
75-84	9	2.5	4	1.1	205	56.4	11	3.0	72	19.8	**301**
85+	3	2.0	0	0.0	346	232.9	7	4.7	29	19.5	**385**
TOTAL	**91**	**1.1**	**1394**	**16.5**	**800**	**9.4**	**87**	**1.0**	**931**	**11.0**	**3212**

Note: Highlighted pink cells indicate the highest rate among the method of death within the corresponding age group; rates are per 100,000

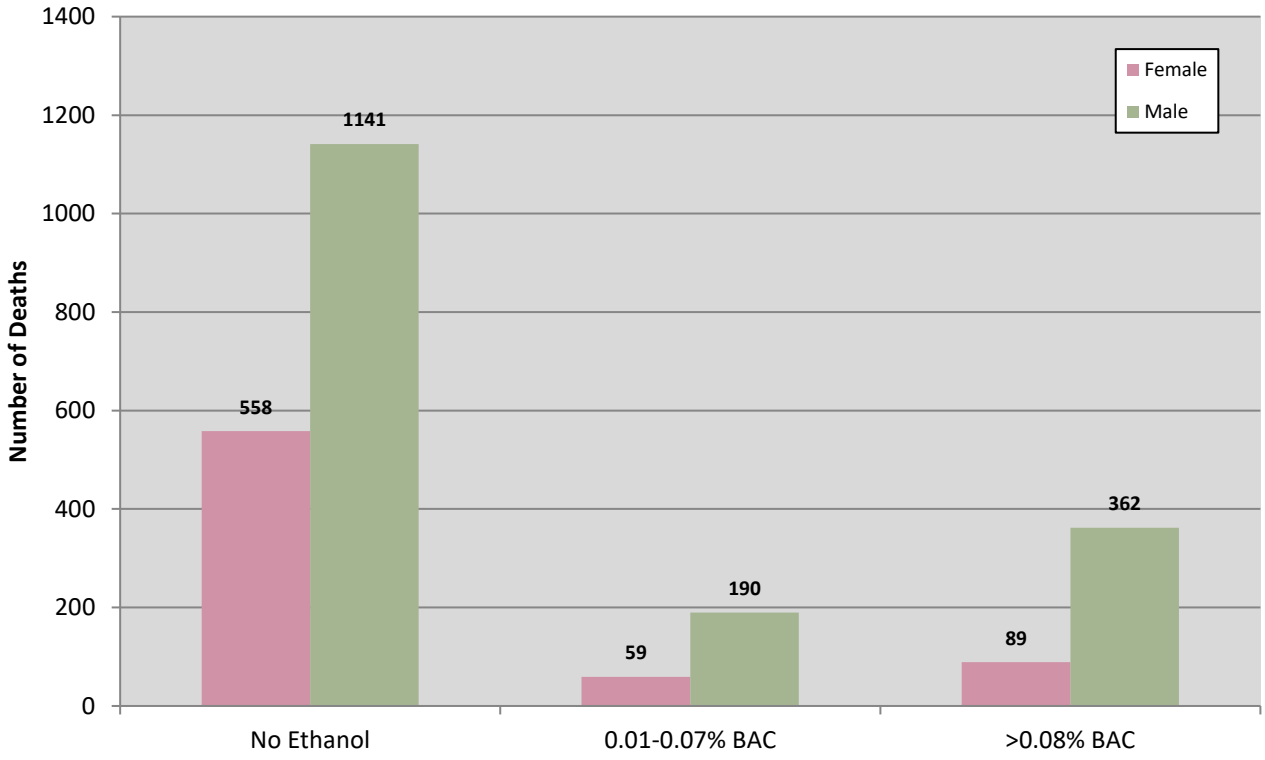
Figure 2.5 Number of Accidental Deaths by Age Group and Ethanol Level (N=2,399), 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
No Ethanol	23	15	8	5	48	131	375	327	273	251	136	75	32
0.01-0.07% BAC	0	0	2	0	4	14	55	59	69	34	11	1	0
>0.08% BAC	0	0	0	0	4	38	91	80	123	89	23	2	1

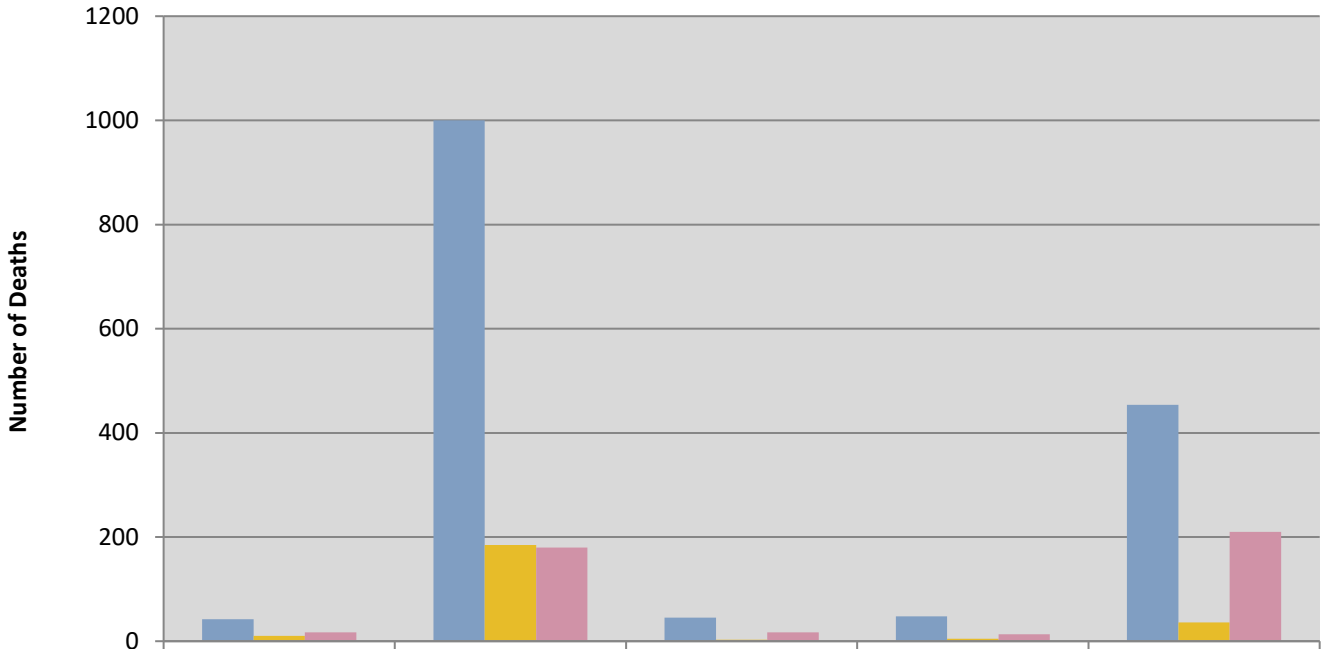
Note: Of the 3,521 accidental deaths, 31.9% (n=1,122) did not receive toxicology testing

Figure 2.6 Number of Accidental Deaths by Ethanol Level and Gender (N=2,399), 2017



Note: Of the 3,521 accidental deaths, 31.9% (n=1,122) did not receive toxicology testing

Figure 2.7 Number of the Top 5 Accidental Methods of Death by Ethanol Level, 2017



	Drowning (n=69)	Drug Use (n=1365)	Fall (n=65)	Fire/Smoke (n=66)	Motor Vehicle (n=700)
No Ethanol	42	1000	45	48	454
0.01-0.07% BAC	10	185	3	5	36
>0.08% BAC	17	180	17	13	210

Figure 2.8 Number of Accidental Deaths by Month of Death, 2017

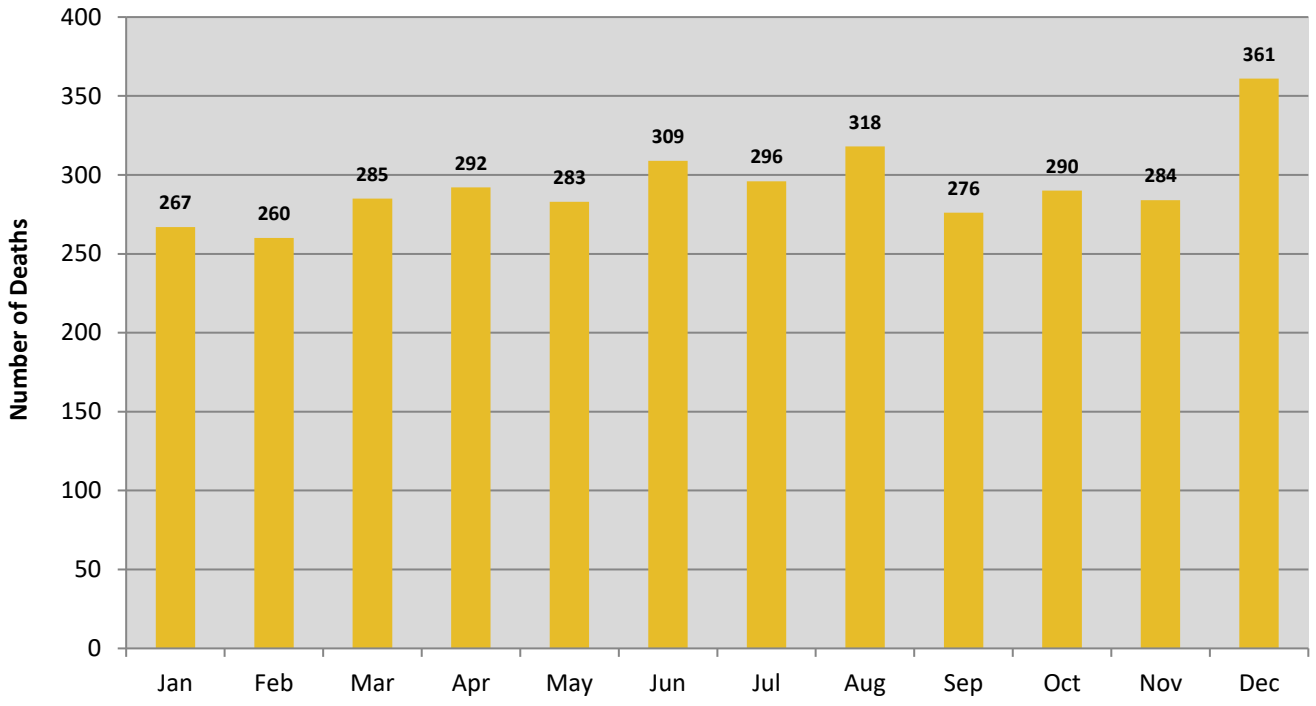


Figure 2.9 Number of Accidental Deaths by Day of Death, 2017

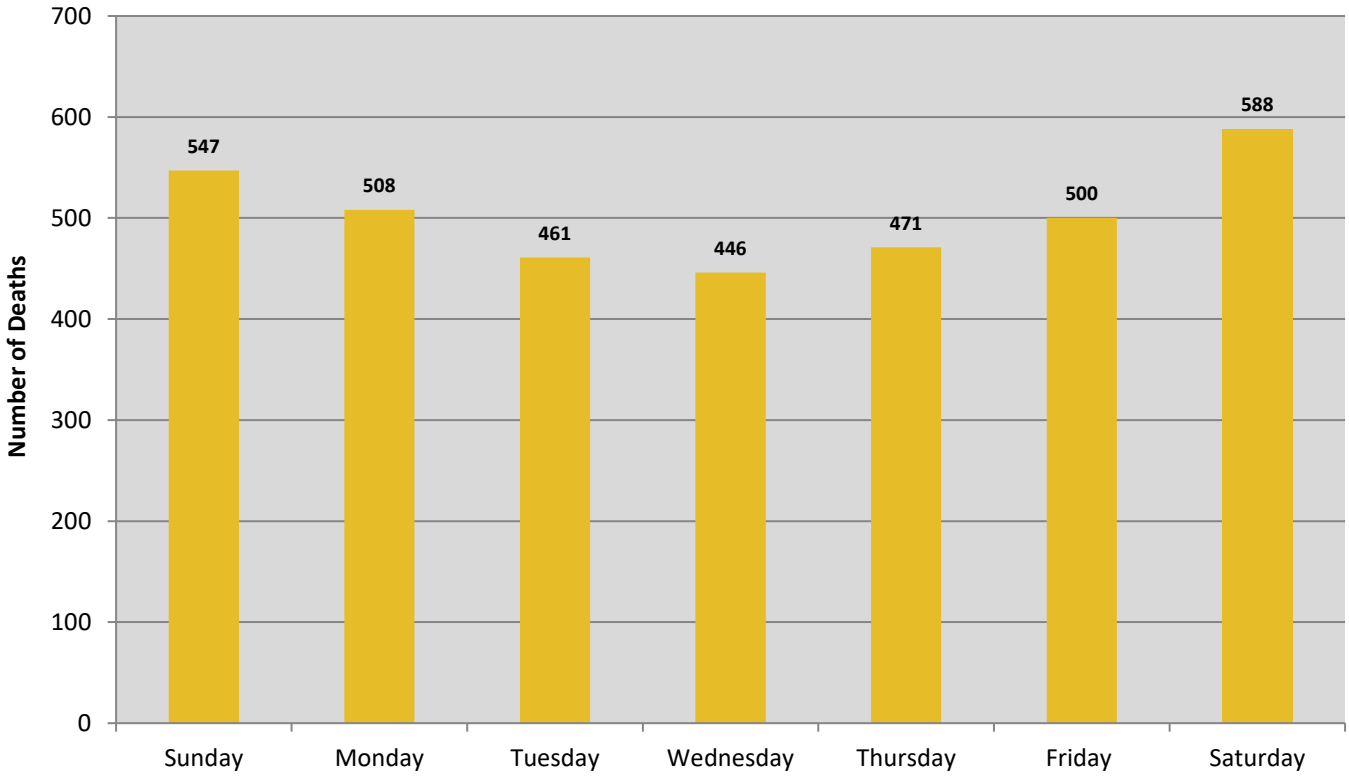


Table 2.3 Number of Accidental Deaths by Locality of Injury and Year of Death, 2006-2017

Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Accomack County	22	20	11	19	18	16	15	12	15	10	16	13	187
Albemarle County	17	20	33	25	28	34	28	32	44	40	35	51	387
Alexandria City	21	21	21	22	14	22	16	21	21	31	25	34	269
Alleghany County	10	14	8	5	6	4	7	8	10	7	13	8	100
Amelia County	4	7	11	9	4	8	9	5	7	6	9	10	89
Amherst County	11	8	16	9	5	18	19	12	12	9	17	12	148
Appomattox County	2	6	7	4	3	5	4	4	8	4	8	3	58
Arlington County	18	19	30	34	27	24	34	32	31	34	30	35	348
Augusta County	26	34	38	33	31	27	33	32	29	23	36	37	379
Bath County	2	3	1	4	3	3	6	2	1	1	3	2	31
Bedford City	3	5	5	4	4	2	0	2	*	*	*	*	25
Bedford County	22	27	16	30	31	24	40	32	24	31	38	45	360
Bland County	0	6	2	7	4	7	2	2	3	3	2	4	42
Botetourt County	12	12	13	11	11	19	15	12	14	20	15	20	174
Bristol City	6	10	3	3	7	5	7	1	6	2	1	3	54
Brunswick County	16	7	6	8	13	8	14	15	11	12	11	9	130
Buchanan County	21	18	19	11	23	18	20	13	15	15	9	18	200
Buckingham County	3	9	6	3	5	5	7	5	15	3	12	12	85
Buena Vista City	0	0	1	2	0	1	2	0	1	2	0	3	12
Campbell County	32	16	31	12	17	14	25	21	20	23	24	27	262
Caroline County	9	14	8	9	13	14	10	17	7	19	29	13	162
Carroll County	17	15	19	11	7	13	14	15	19	14	10	13	167
Charles City County	4	8	7	7	7	6	5	3	5	4	8	1	65
Charlotte County	4	6	6	5	6	9	5	6	4	7	9	4	71
Charlottesville City	21	28	11	16	12	9	8	11	13	18	19	12	178
Chesapeake City	55	60	48	53	43	58	57	67	59	86	101	81	768
Chesterfield County	56	68	92	68	70	74	82	78	89	96	124	141	1038
Clarke County	5	6	5	8	10	4	8	5	8	6	17	9	91
Colonial Heights City	6	3	4	2	2	3	3	5	6	3	15	5	57
Covington City	4	0	2	2	0	1	0	1	3	1	3	4	21
Craig County	7	2	2	4	2	2	1	4	3	2	3	2	34

Virginia Department of Health

Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Culpeper County	16	24	12	12	14	15	20	23	27	19	24	34	240
Cumberland County	1	2	4	3	2	3	4	9	2	6	3	6	45
Danville City	16	13	22	20	20	19	16	20	20	17	22	18	223
Dickenson County	11	16	13	5	11	13	10	8	10	11	14	6	128
Dinwiddie County	12	14	20	12	10	8	9	15	6	12	18	18	154
Emporia City	2	8	2	1	3	3	3	4	1	2	3	1	33
Essex County	4	7	4	7	5	8	3	2	5	5	7	8	65
Fairfax City	3	4	5	11	5	7	11	11	11	6	10	9	93
Fairfax County	221	156	144	148	152	195	184	197	210	243	253	226	2329
Falls Church City	2	1	0	2	1	6	0	2	4	0	1	2	21
Fauquier County	21	31	26	33	32	33	27	30	28	50	53	30	394
Floyd County	13	10	5	8	5	10	5	10	8	10	8	7	99
Fluvanna County	9	7	14	7	6	5	7	5	6	13	3	9	91
Franklin City	2	2	1	1	2	0	1	2	3	4	3	6	27
Franklin County	27	22	23	26	21	33	38	17	23	19	42	37	328
Frederick County	24	24	26	31	27	29	25	36	36	40	40	47	385
Fredericksburg City	22	14	15	6	11	12	21	14	8	22	24	29	198
Galax City	0	3	0	0	0	3	4	2	2	2	1	2	19
Giles County	9	5	9	9	10	3	10	12	14	10	12	12	115
Gloucester County	21	10	16	10	20	15	12	16	13	11	24	25	193
Goochland County	6	15	10	14	8	8	13	5	6	12	5	9	111
Grayson County	13	5	2	6	5	5	6	7	5	5	8	2	69
Greene County	4	14	5	4	7	2	9	5	7	5	4	9	75
Greensville County	10	3	2	5	6	2	5	3	9	5	7	8	65
Halifax County	15	22	27	14	20	16	9	9	23	15	20	12	202
Hampton City	31	27	28	25	35	38	24	38	29	35	58	50	418
Hanover County	21	27	26	13	18	30	26	36	42	32	30	46	347
Harrisonburg City	11	1	3	5	4	8	6	10	10	9	13	13	93
Henrico County	89	65	77	73	70	58	72	95	88	109	121	136	1053
Henry County	34	15	34	22	26	31	31	23	28	24	30	32	330
Highland County	1	2	2	2	2	1	0	1	2	2	1	0	16

Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Hopewell City	5	7	6	7	7	6	6	3	7	7	13	14	88
Isle of Wight County	16	16	14	12	13	7	11	11	15	11	15	16	157
James City County	17	9	24	16	13	19	11	27	16	27	26	29	234
King and Queen County	5	7	5	8	2	1	3	4	4	4	3	6	52
King George County	5	7	8	10	2	8	10	13	16	8	13	23	123
King William County	3	6	5	9	2	6	6	8	5	7	12	7	76
Lancaster County	9	9	6	2	2	8	2	6	2	5	11	7	69
Lee County	11	16	10	13	8	15	11	11	7	6	10	7	125
Lexington City	3	2	1	2	4	1	2	2	1	2	1	7	28
Loudoun County	23	36	27	29	32	36	52	55	64	50	69	90	563
Louisa County	16	24	17	21	14	11	13	17	7	11	28	13	192
Lunenburg County	6	11	9	5	2	1	6	7	5	5	4	8	69
Lynchburg City	13	24	24	16	25	21	34	25	26	28	26	28	290
Madison County	3	9	6	3	5	4	6	5	5	7	3	12	68
Manassas	8	8	5	11	4	6	15	3	9	12	7	22	110
Manassas Park	Unknown	1	1	2	3	4	1	1	5	1	1	6	26
Martinsville City	8	3	8	6	7	7	6	10	8	8	4	9	84
Mathews County	8	4	1	4	2	2	3	6	3	6	4	3	46
Mecklenburg County	18	17	11	16	10	13	13	15	16	15	18	26	188
Middlesex County	3	7	6	6	6	1	4	4	6	7	8	8	66
Montgomery County	15	24	27	24	30	28	23	26	23	21	28	37	306
Nelson County	6	11	6	11	6	9	9	9	11	9	8	12	107
New Kent County	15	7	7	8	12	11	9	6	11	15	9	6	116
Newport News City	52	35	36	53	40	45	33	43	54	64	75	68	598
Norfolk City	59	79	59	67	49	73	71	89	68	86	126	119	945
Northampton County	6	7	10	9	5	3	2	5	12	4	15	8	86
Northumberland County	2	3	8	4	6	9	8	7	7	6	3	5	68
Norton City	3	0	1	1	2	0	1	2	0	1	1	0	12
Nottoway County	6	7	3	14	6	7	5	7	8	9	9	6	87
Orange County	6	14	13	10	14	16	9	19	25	16	27	27	196
Page County	4	10	4	7	8	14	12	10	7	6	13	8	103

Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Patrick County	5	7	11	8	8	5	9	12	9	10	6	8	98
Petersburg City	16	22	14	14	13	3	11	10	12	8	25	25	173
Pittsylvania County	28	30	37	29	25	27	34	22	30	33	21	35	351
Poquoson City	5	1	1	3	1	2	0	2	1	4	3	5	28
Portsmouth City	29	20	18	29	23	28	19	33	30	45	52	59	385
Powhatan County	14	6	7	5	3	7	12	12	9	7	3	15	100
Prince Edward County	9	14	5	14	11	4	9	10	5	13	14	11	119
Prince George County	9	12	12	10	12	11	11	13	13	16	7	22	148
Prince William County	69	56	65	63	72	78	92	79	88	65	108	117	952
Pulaski County	16	23	19	15	19	19	14	18	25	18	21	21	228
Radford City	2	5	9	3	8	3	8	2	6	4	4	7	61
Rappahannock County	0	4	2	3	6	4	5	4	2	1	1	6	38
Richmond City	127	134	85	69	67	88	77	79	89	105	146	167	1233
Richmond County	2	2	6	2	4	4	5	3	5	2	6	8	49
Roanoke City	37	30	32	41	36	39	40	57	49	54	48	88	551
Roanoke County	27	22	23	19	17	26	27	28	36	41	44	54	364
Rockbridge County	12	14	10	13	7	10	14	7	13	16	13	12	141
Rockingham County	30	21	19	16	18	16	25	22	37	37	25	27	293
Russell County	19	19	15	11	16	20	14	12	9	14	16	11	176
Salem City	13	7	8	8	8	4	12	12	12	8	10	13	115
Scott County	6	8	11	9	5	8	9	10	7	6	9	9	97
Shenandoah County	14	5	24	13	12	15	17	15	23	32	20	19	209
Smyth County	13	10	11	7	12	10	9	12	10	14	11	10	129
Southampton County	10	15	10	10	11	6	8	17	9	11	7	10	124
Spotsylvania County	29	39	31	29	43	36	34	39	38	53	67	51	489
Stafford County	18	44	25	24	21	23	33	33	26	48	45	35	375
Staunton City	7	6	8	7	5	8	3	4	10	7	5	13	83
Suffolk City	16	37	26	17	30	25	25	30	27	34	25	38	330
Surry County	2	7	4	1	6	2	1	4	2	3	3	3	38
Sussex County	13	15	17	11	12	5	2	3	8	6	16	23	131
Tazewell County	36	11	16	19	25	30	23	14	20	17	14	20	245

Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Virginia Beach City	101	106	102	110	77	112	111	119	116	126	130	184	1394
Warren County	6	12	17	9	25	23	15	20	20	20	21	35	223
Washington County	18	20	22	14	21	28	16	10	21	23	14	17	224
Waynesboro City	7	2	7	6	7	3	13	8	5	10	7	10	85
Westmoreland County	13	9	11	6	11	10	7	7	5	13	15	12	119
Williamsburg City	6	5	3	6	2	9	5	6	6	1	7	9	65
Winchester City	15	2	4	10	7	7	16	17	19	19	14	18	148
Wise County	31	28	15	22	22	23	19	23	14	17	19	25	258
Wythe County	11	14	24	12	13	9	17	14	21	25	18	19	197
York County	14	17	14	7	15	17	8	16	18	16	18	21	181
Subtotal (in-state)	*2316*	*2322*	*2227*	*2105*	*2081*	*2275*	*2333*	*2456*	*2547*	*2753*	*3152*	*3409*	*29976*
Out of State	29	51	46	52	54	54	59	62	62	81	65	78	693
Unknown	8	24	26	18	14	14	20	18	26	39	23	34	264
Subtotal (out-of-state)	*37*	*75*	*72*	*70*	*68*	*68*	*79*	*80*	*88*	*120*	*88*	*112*	*957*
TOTAL	**2353**	**2397**	**2299**	**2175**	**2149**	**2343**	**2412**	**2536**	**2635**	**2873**	**3240**	**3521**	**30933**

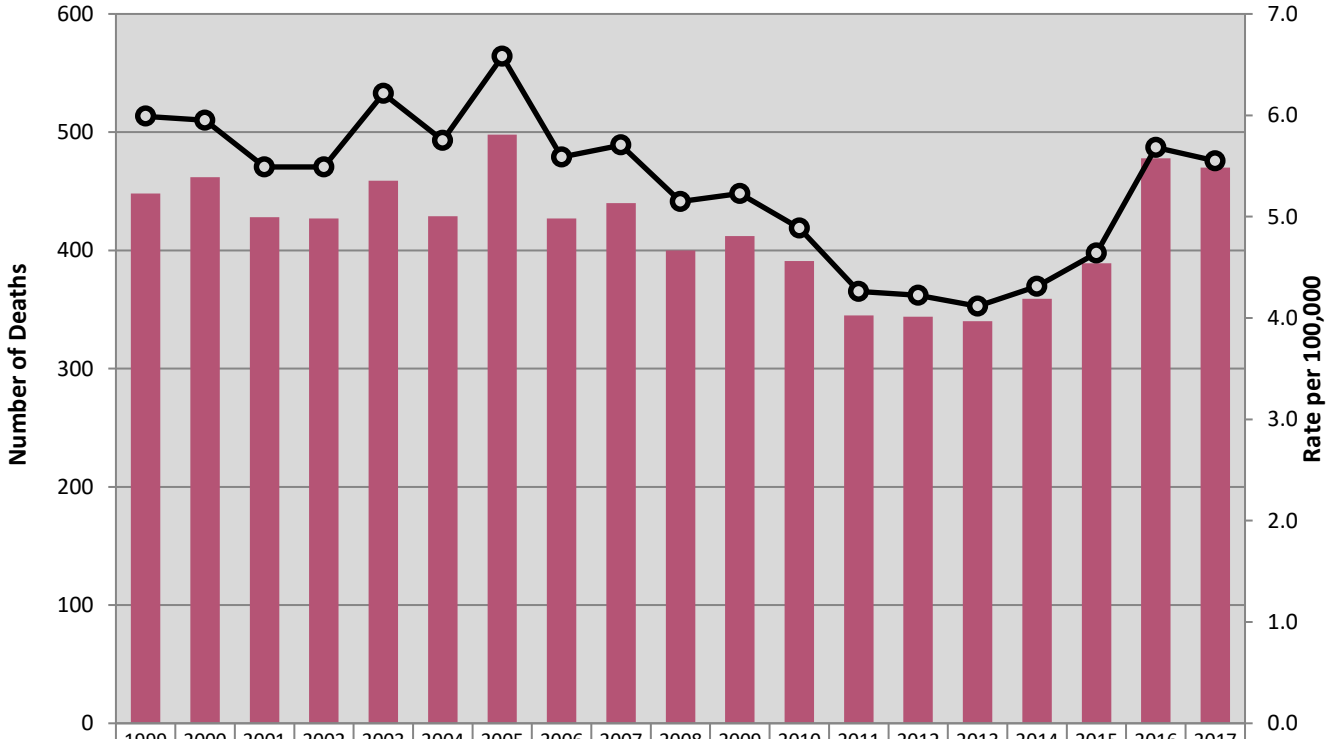
* Bedford City was incorporated into Bedford County in 2014 and therefore numbers are combined from there forward

HOMICIDE DEATHS (N=470)

The number of homicides in 2017 decreased slightly compared to 2016 (1.7%). As previous years have shown, homicides most frequently occurred among males (73.2%) and among blacks (61.2%). Males aged 20-24 years demonstrate the highest homicide rate with 19.5 deaths per 100,000 persons.

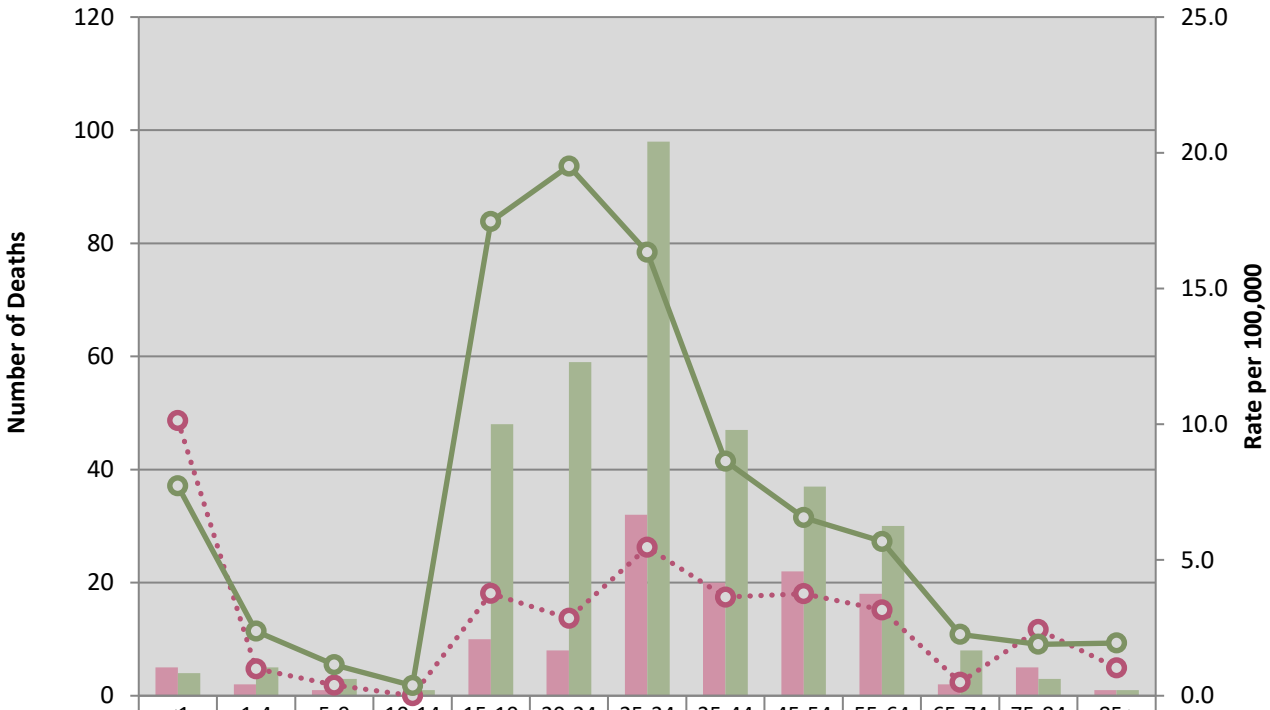
- Over seventy-four percent of all homicides were committed using a firearm, with handguns (the most common type) used in 77.5% of all firearm-related homicides
- Over fifty-seven percent of all homicides in the Commonwealth were committed using a handgun
- Of the 96.4% of homicide victims tested for ethanol, 32.9% had ethanol present. Furthermore, 18.8% of those tested had a blood alcohol of 0.08% BAC or greater
- Richmond City had both the largest number of homicides by locality of residence and locality of injury (n=51 and n=78, respectively). Petersburg had the highest homicide rate by locality of residence and Highland County had the highest homicide rate by location of injury (40.9 and 45.2 per 100,000, respectively).

Figure 2.10 Number and Rate of Homicide Deaths by Year of Death, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	448	462	428	427	459	429	498	427	440	400	412	391	345	344	340	359	389	478	470
Mortality Rate	6.0	6.0	5.5	5.5	6.2	5.8	6.6	5.6	5.7	5.1	5.2	4.9	4.3	4.2	4.1	4.3	4.6	5.7	5.5

Figure 2.11 Number and Rate of Homicide Deaths by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	5	2	1	0	10	8	32	20	22	18	2	5	1
Male	4	5	3	1	48	59	98	47	37	30	8	3	1
Female Rate	10.1	1.0	0.4	0.0	3.8	2.9	5.5	3.6	3.8	3.2	0.5	2.4	1.0
Male Rate	7.7	2.4	1.1	0.4	17.5	19.5	16.3	8.6	6.6	5.7	2.3	1.9	1.9

Figure 2.12 Percentage of Homicide Deaths by Race/Ethnicity, 2017

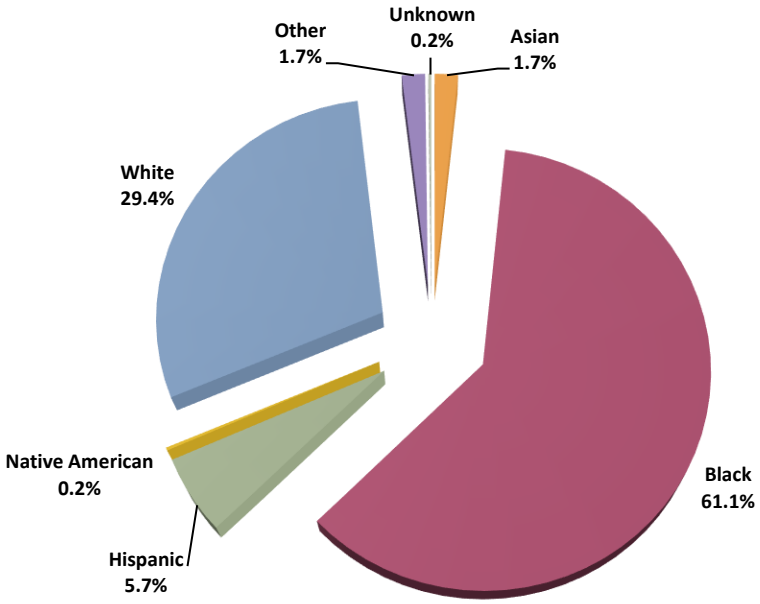
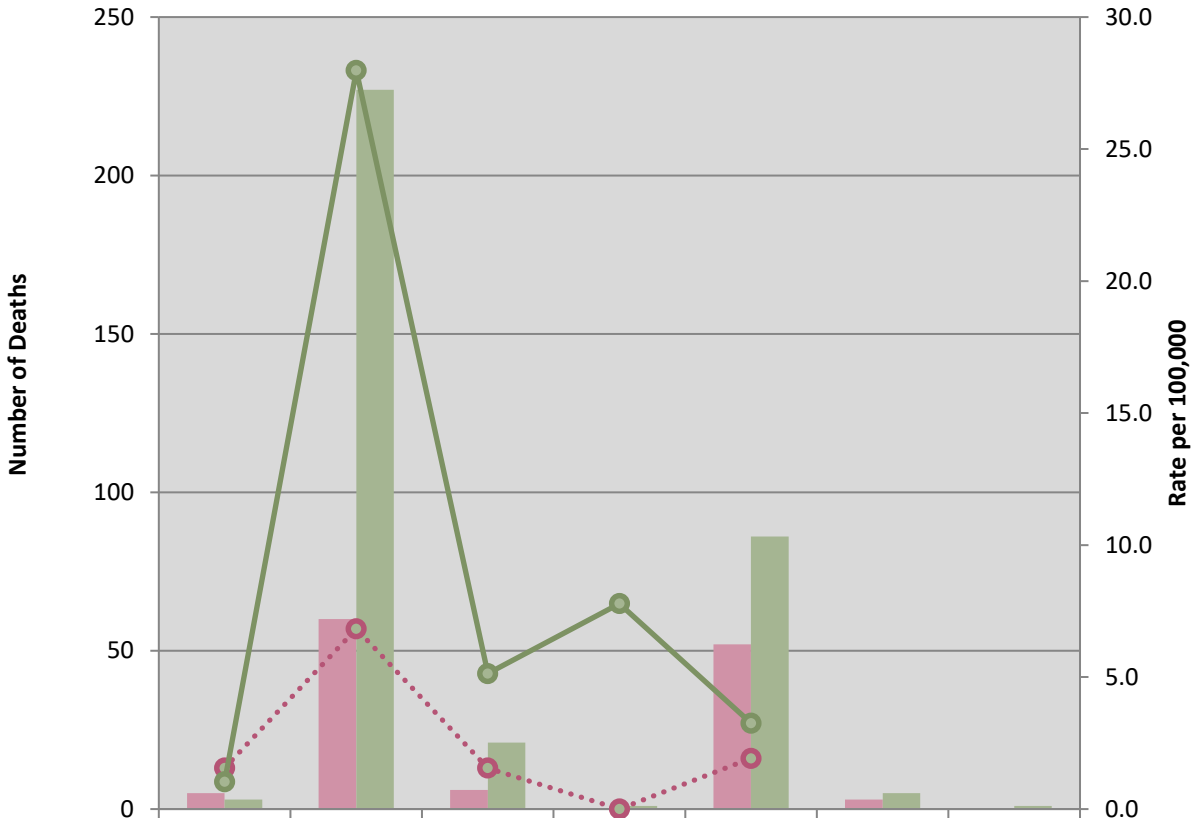


Figure 2.13 Number and Rate of Homicide Deaths by Race/Ethnicity and Gender, 2017



	Asian	Black	Hispanic	Native American	White	Other	Unknown
Female	5	60	6	0	52	3	0
Male	3	227	21	1	86	5	1
Female Rate	1.6	6.8	1.6	0.0	1.9	*	*
Male Rate	1.0	28.0	5.1	7.8	3.3	*	*

*No rate can be calculated
Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Asians, Hispanics, and Native Americans)

Table 2.4 Number of Homicide Deaths by Cause and Method of Death, 2017

Method of Death	Autopsied	Total Cases
Asphyxia		
Strangled by assailant(s)	11	**11**
Suffocated/Smothered by assailant(s)	1	**1**
Other asphyxia	2	**2**
Drug Poisoning		
Ingested and/or injected ethanol, illicit, prescription, and/or other type of drug	2	**2**
Fall/Jump/Push		
Fell/Jumped/Pushed from any height	1	**1**
Fire		
Thermal and/or inhalational Injuries	1	**1**
Judicial Execution		
Judicial Execution	2	**2**
Motor Vehicle Collision		
Struck by a vehicle	5	**5**
Traumatic Injury		
Beaten by assailant(s)	36	**36**
Shot by assailant(s)		
Handgun	272	**272**
Multiple	1	**1**
Rifle	18	**18**
Shotgun	18	**18**
Unspecified/Unknown	42	**42**
Stabbed by assailant(s)	53	**53**
Other/Undetermined		
Other/Undetermined	5	**5**
TOTAL HOMICIDE DEATHS	**470**	**470**

Figure 2.14 Number of the Leading Homicide Deaths by Method, 2017

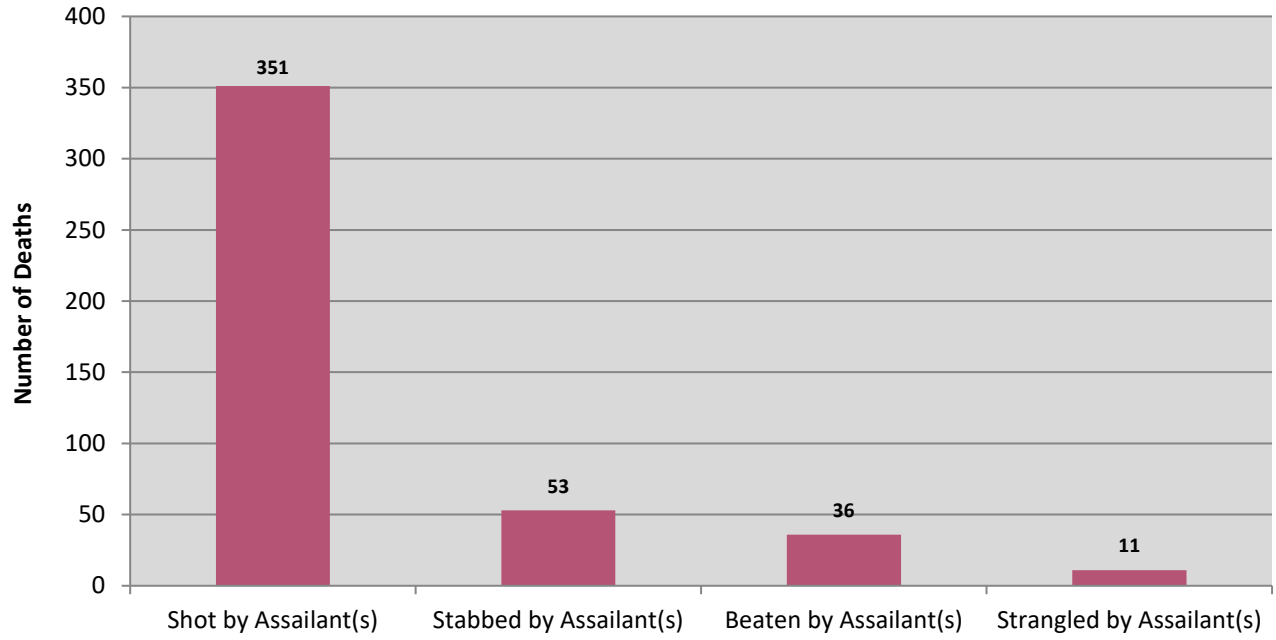
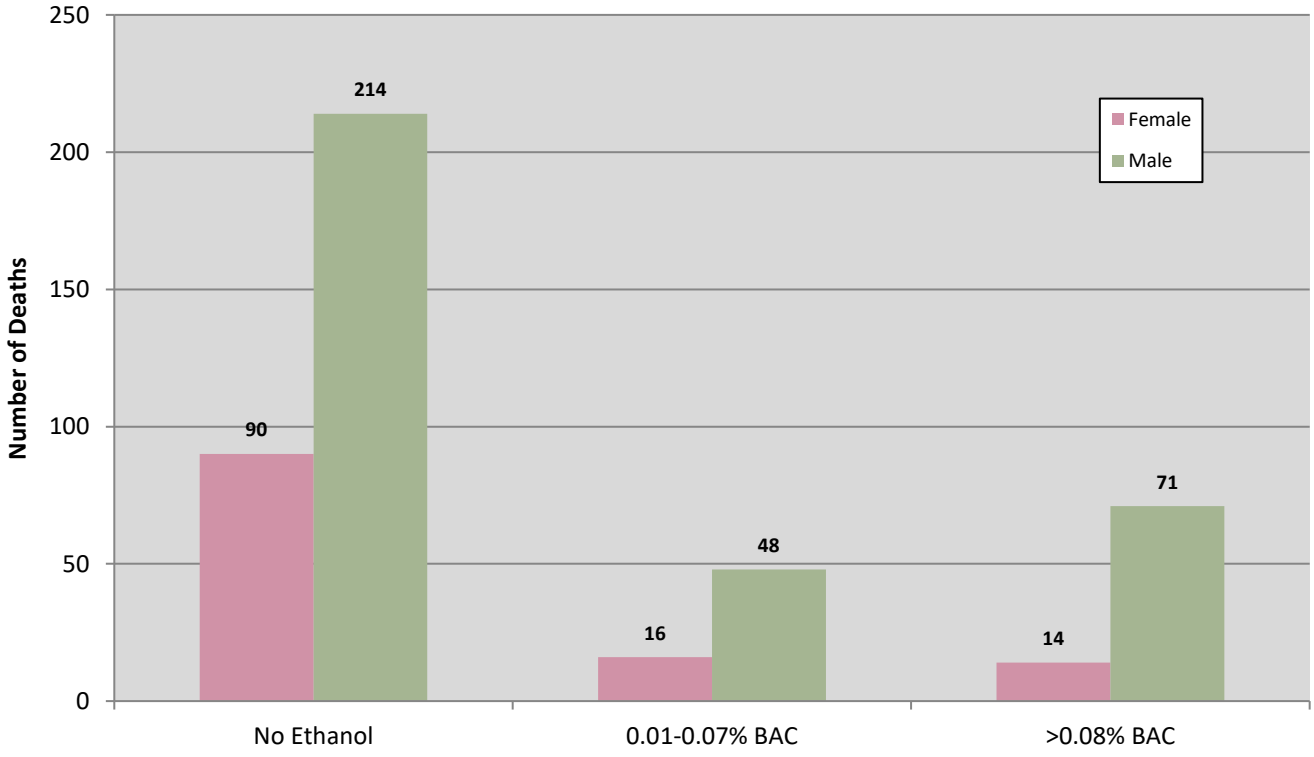
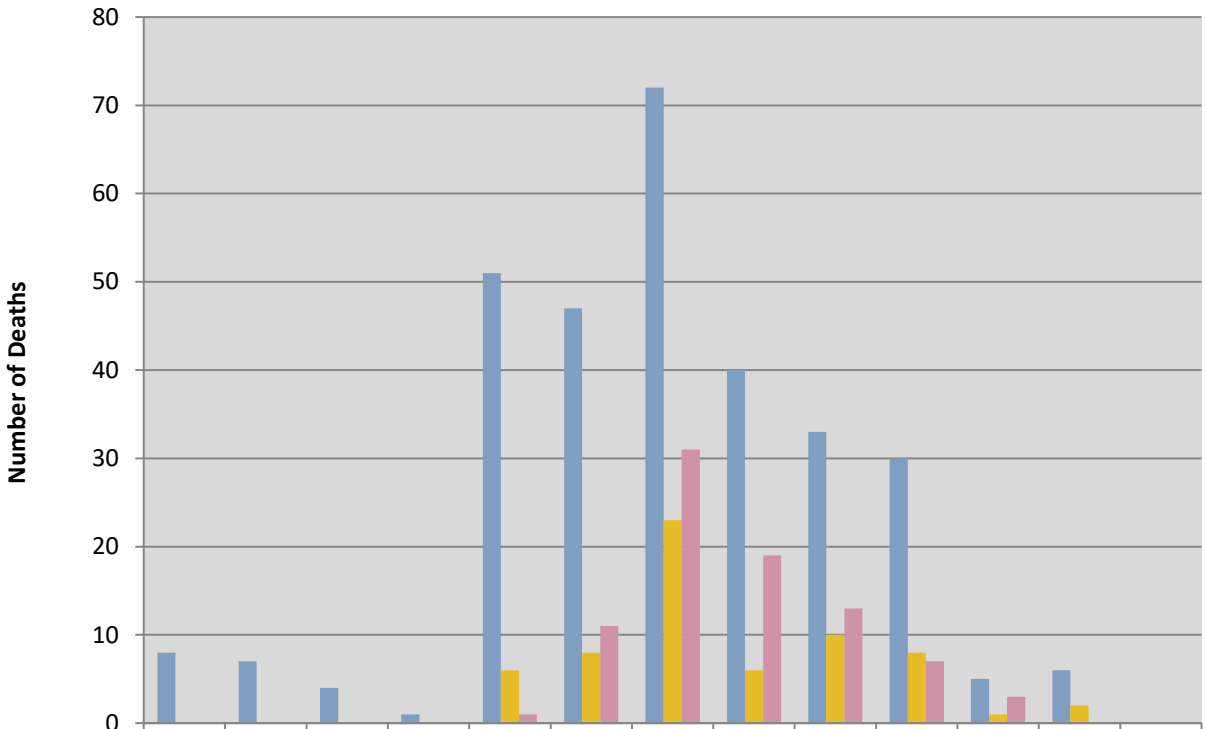


Figure 2.15 Number of Homicide Deaths by Ethanol Level and Gender (N=453), 2017



Note: Of the 470 homicide deaths, 3.6% (n=17) did not receive toxicology testing

Figure 2.16 Number of Homicide Deaths by Age Group and Ethanol Level (N=453), 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
No Ethanol	8	7	4	1	51	47	72	40	33	30	5	6	0
0.01-0.07% BAC	0	0	0	0	6	8	23	6	10	8	1	2	0
>0.08 BAC	0	0	0	0	1	11	31	19	13	7	3	0	0

Note: Of the 470 homicide deaths, 3.6% (n=17) did not receive toxicology testing

Table 2.5 Number of Homicide Deaths by Method of Death and Ethanol Level (N=453), 2017

Method of Death	No Ethanol	0.01-0.07% BAC	>0.08% BAC
Asphyxia			
Strangled by assailant(s)	9	1	1
Suffocated/Smothered by assailant(s)	1	0	0
Other asphyxia	0	1	1
Drug Poisoning			
Ingested and/or injected ethanol, illicit, prescription, and/or other type of drug	2	0	0
Fall/Jump/Push			
Fell/Jumped/Pushed from any height	0	0	0
Fire			
Thermal and/or inhalational Injuries	0	0	1
Judicial Execution			
Judicial Execution	2	0	0
Motor Vehicle Collision			
Struck by a vehicle	3	0	2
Traumatic Injury			
Beaten by assailant(s)	24	4	5
Shot by assailant(s)			
Handgun	177	42	49
Multiple	1	0	0
Rifle	10	3	4
Shotgun	11	2	3
Unspecified/Unknown	30	4	5
Stabbed by assailant(s)	30	7	14
Other/Undetermined			
Other/Undetermined	4	0	0
TOTAL HOMICIDE DEATHS	**304**	**64**	**85**

Note: Of the 470 homicide deaths, 3.6% (n=17) did not receive toxicology testing

Figure 2.17 Number of Homicide Deaths by Month of Death, 2017

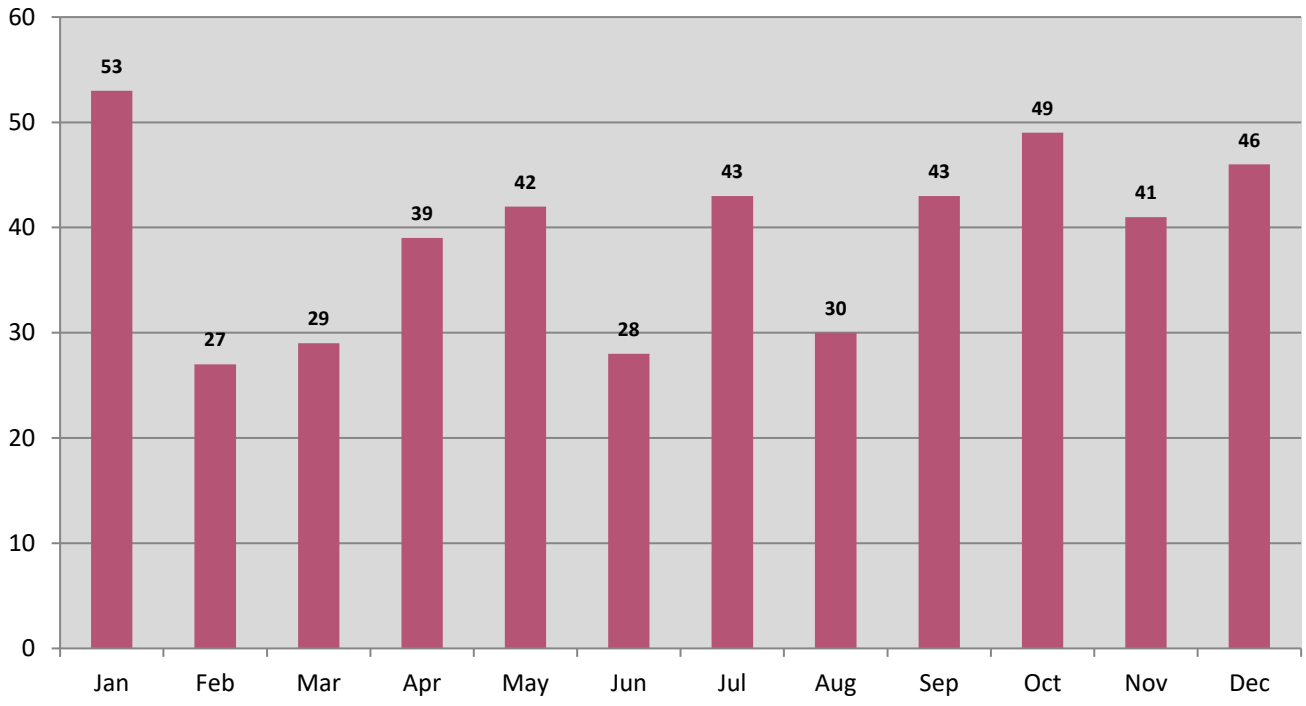


Figure 2.18 Number of Homicide Deaths by Day of Death, 2017

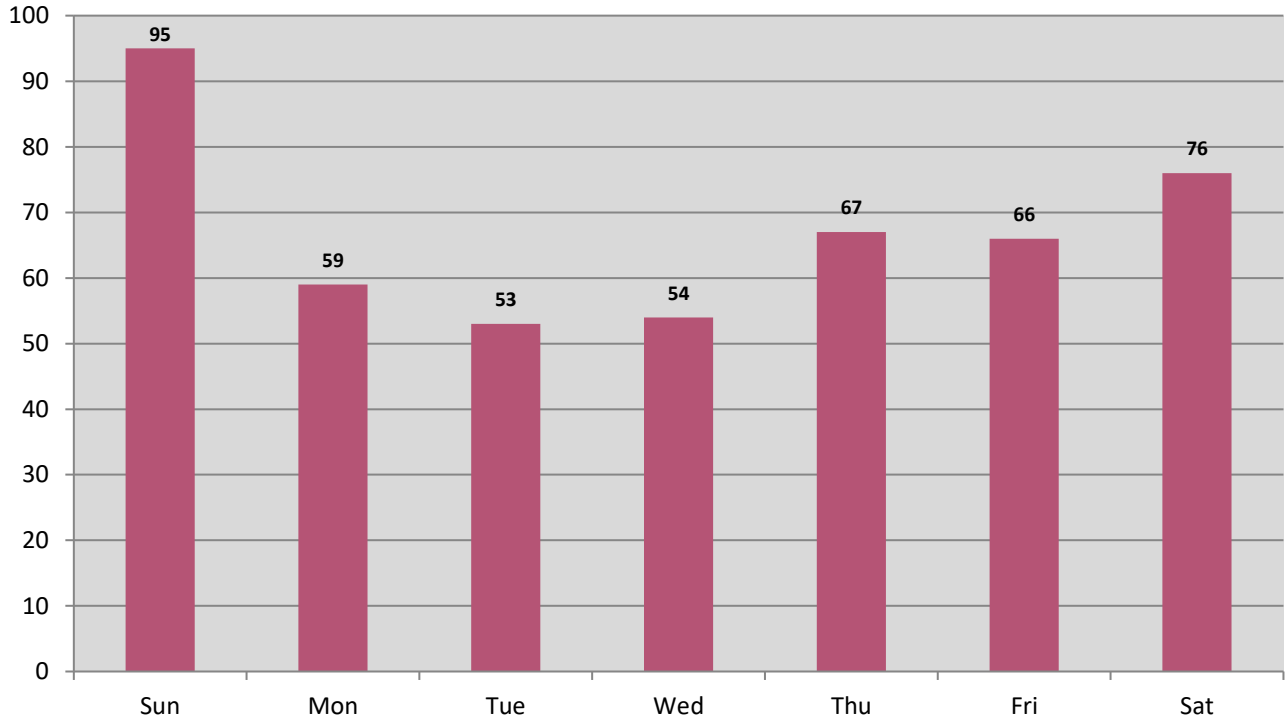


Table 2.6 Number and Rate of Homicide Deaths by Locality of Residence, 2017

Locality of Residence	Deaths	Rate
Accomack County	1	3.1
Albemarle County	6	5.6
Alexandria City	6	3.7
Alleghany County	0	0.0
Amelia County	2	15.4
Amherst County	1	3.2
Appomattox County	1	6.4
Arlington County	2	0.9
Augusta County	1	1.3
Bath County	1	23.3
Bedford County	0	0.0
Bland County	0	0.0
Botetourt County	0	0.0
Bristol City	0	0.0
Brunswick County	0	0.0
Buchanan County	1	4.6
Buckingham County	1	5.9
Buena Vista City	0	0.0
Campbell County	3	5.5
Caroline County	4	13.1
Carroll County	0	0.0
Charles City County	0	0.0
Charlotte County	2	16.5
Charlottesville City	4	8.3
Chesapeake City	13	5.4
Chesterfield County	24	7.0
Clarke County	1	6.9
Colonial Heights City	3	16.8
Covington City	0	0.0
Craig County	1	19.8
Culpeper County	3	5.9
Cumberland County	0	0.0
Danville City	14	34.0
Dickenson County	1	6.8
Dinwiddie County	1	3.5
Emporia City	2	37.9
Essex County	0	0.0
Fairfax City	1	4.1
Fairfax County	18	1.6
Falls Church City	0	0.0
Fauquier County	2	2.9
Floyd County	0	0.0
Fluvanna County	0	0.0

Locality of Residence	Deaths	Rate
Franklin City	1	12.2
Franklin County	4	7.1
Frederick County	1	1.2
Fredericksburg City	0	0.0
Galax City	0	0.0
Giles County	2	11.9
Gloucester County	2	5.4
Goochland County	1	4.4
Grayson County	1	6.4
Greene County	0	0.0
Greensville County	3	25.7
Halifax County	2	5.8
Hampton City	17	12.6
Hanover County	2	1.9
Harrisonburg City	1	1.8
Henrico County	30	9.1
Henry County	2	3.9
Highland County	0	0.0
Hopewell City	1	4.4
Isle of Wight County	3	8.2
James City County	4	5.3
King and Queen County	0	0.0
King George County	1	3.8
King William County	0	0.0
Lancaster County	0	0.0
Lee County	0	0.0
Lexington City	0	0.0
Loudoun County	3	0.8
Louisa County	3	8.4
Lunenburg County	0	0.0
Lynchburg City	4	4.9
Madison County	1	7.5
Manassas	2	4.8
Manassas Park	0	0.0
Martinsville City	2	15.2
Mathews County	1	11.4
Mecklenburg County	0	0.0
Middlesex County	0	0.0
Montgomery County	1	1.0
Nelson County	1	6.7
New Kent County	0	0.0
Newport News City	24	13.4
Norfolk City	33	13.5

Virginia Department of Health

Locality of Residence	Deaths	Rate
Northampton County	0	0.0
Northumberland County	1	8.1
Norton City	0	0.0
Nottoway County	2	13.0
Orange County	0	0.0
Page County	0	0.0
Patrick County	0	0.0
Petersburg City	13	40.9
Pittsylvania County	3	4.9
Poquoson City	0	0.0
Portsmouth City	15	15.9
Powhatan County	2	7.0
Prince Edward County	2	8.8
Prince George County	0	0.0
Prince William County	11	2.4
Pulaski County	3	8.8
Radford City	0	0.0
Rappahannock County	1	13.7
Richmond City	51	22.5
Richmond County	1	11.2
Roanoke City	18	18.0
Roanoke County	2	2.1
Rockbridge County	2	8.8
Rockingham County	1	1.2
Russell County	1	3.7
Salem City	1	3.9
Scott County	0	0.0
Shenandoah County	1	2.3
Smyth County	4	13.0
Southampton County	0	0.0
Spotsylvania County	3	2.3
Stafford County	3	2.0
Staunton City	1	4.1
Suffolk City	1	1.1
Surry County	0	0.0
Sussex County	1	8.8
Tazewell County	3	7.3
Virginia Beach City	16	3.6
Warren County	3	7.6
Washington County	3	5.5
Waynesboro City	0	0.0
Westmoreland County	0	0.0
Williamsburg City	1	6.7
Winchester City	0	0.0
Wise County	1	2.6
Wythe County	2	6.9
York County	1	1.5
Subtotal (in-state)	**447**	**5.3**
Out of State	20	ND
Unknown	3	ND
Subtotal (out-of-state)	**23**	**ND**
TOTAL	**470**	**5.5**

Note: No denominator is represented by ND.

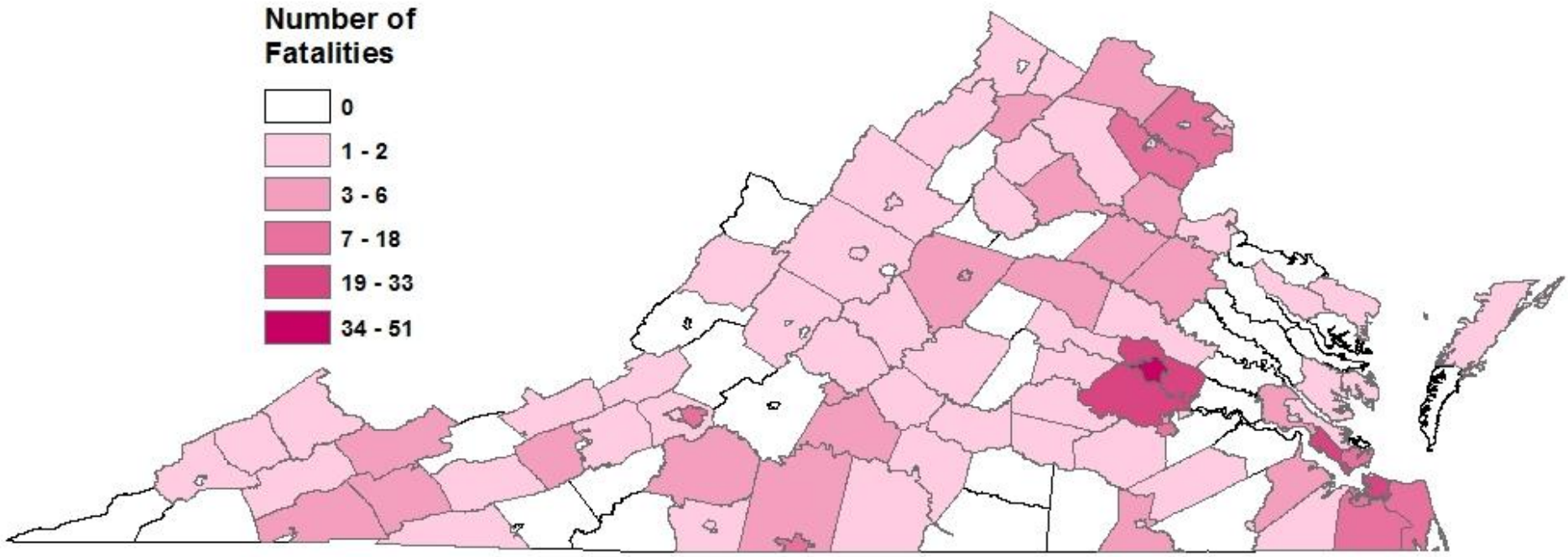
Table 2.7 Top 10 Localities with the Largest Number of Residential Homicides, 2017

Rank #	Locality of Residence	Homicide #
1	Richmond City	51
2	Norfolk City	33
3	Henrico County	30
4	Chesterfield County	24
	Newport News City	24
6	Fairfax County	18
	Roanoke City	18
8	Hampton City	17
9	Virginia Beach City	16
10	Portsmouth City	15

Table 2.8 Top 10 Localities with the Highest Rate of Residential Homicides, 2017

Rank #	Locality of Residence	Homicide Rate
1	Petersburg City	40.9
2	Emporia City	37.9
3	Danville City	34.0
4	Greensville County	25.7
5	Bath County	23.3
6	Richmond City	22.5
7	Craig County	19.8
8	Roanoke City	18.0
9	Colonial Heights City	16.8
10	Charlotte County	16.5

Map 2.1 Number of Homicides by Locality of Residence, 2017



Map 2.2 Homicide Rates by Locality of Residence, 2017

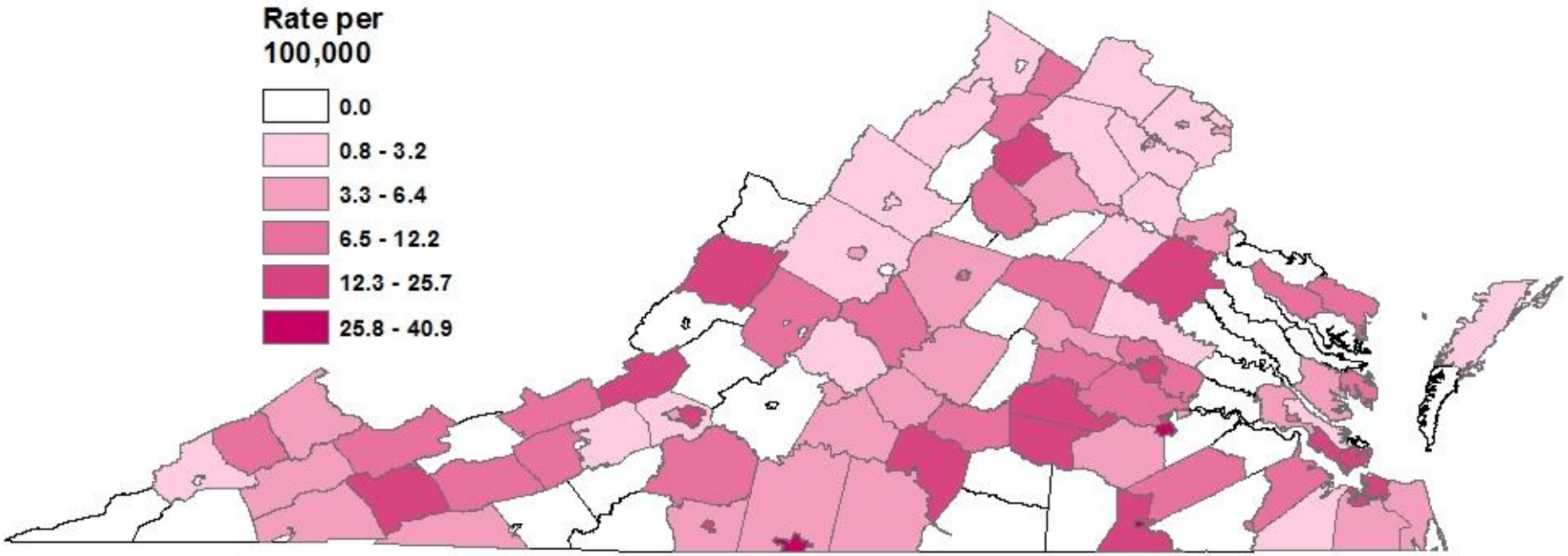

Rate per
100,000
0.0
0.8 - 3.2
3.3 - 6.4
6.5 - 12.2
12.3 - 25.7
25.8 - 40.9

Table 2.9 Number and Rate of Homicide Deaths by Locality of Injury, 2017

Locality of Injury	Deaths	Rate
Accomack County	1	3.1
Albemarle County	5	4.6
Alexandria City	5	3.1
Alleghany County	0	0.0
Amelia County	1	7.7
Amherst County	0	0.0
Appomattox County	0	0.0
Arlington County	4	1.7
Augusta County	1	1.3
Bath County	1	23.3
Bedford County	1	1.3
Bland County	0	0.0
Botetourt County	0	0.0
Bristol City	0	0.0
Brunswick County	0	0.0
Buchanan County	1	4.6
Buckingham County	1	5.9
Buena Vista City	0	0.0
Campbell County	2	3.6
Caroline County	1	3.3
Carroll County	0	0.0
Charles City County	0	0.0
Charlotte County	0	0.0
Charlottesville City	5	10.4
Chesapeake City	11	4.6
Chesterfield County	12	3.5
Clarke County	1	6.9
Colonial Heights City	3	16.8
Covington City	0	0.0
Craig County	0	0.0
Culpeper County	1	2.0
Cumberland County	0	0.0
Danville City	14	34.0
Dickenson County	1	6.8
Dinwiddie County	0	0.0
Emporia City	2	37.9
Essex County	0	0.0
Fairfax City	0	0.0
Fairfax County	21	1.8
Falls Church City	0	0.0
Fauquier County	2	2.9
Floyd County	0	0.0

Locality of Injury	Deaths	Rate
Fluvanna County	0	0.0
Franklin City	1	12.2
Franklin County	5	8.9
Frederick County	1	1.2
Fredericksburg City	2	7.1
Galax City	1	15.1
Giles County	1	5.9
Gloucester County	3	8.0
Goochland County	1	4.4
Grayson County	1	6.4
Greene County	0	0.0
Greensville County	3	25.7
Halifax County	2	5.8
Hampton City	19	14.1
Hanover County	2	1.9
Harrisonburg City	3	5.5
Henrico County	25	7.6
Henry County	1	2.0
Highland County	1	45.2
Hopewell City	2	8.8
Isle of Wight County	3	8.2
James City County	3	4.0
King and Queen County	0	0.0
King George County	0	0.0
King William County	0	0.0
Lancaster County	0	0.0
Lee County	0	0.0
Lexington City	0	0.0
Loudoun County	3	0.8
Louisa County	3	8.4
Lunenburg County	1	8.2
Lynchburg City	6	7.4
Madison County	1	7.5
Manassas	3	7.2
Manassas Park	0	0.0
Martinsville City	2	15.2
Mathews County	1	11.4
Mecklenburg County	1	3.3
Middlesex County	1	9.4
Montgomery County	3	3.0
Nelson County	1	6.7
New Kent County	0	0.0

Locality of Injury	Deaths	Rate
Newport News City	24	13.4
Norfolk City	35	14.3
Northampton County	0	0.0
Northumberland County	1	8.1
Norton City	0	0.0
Nottoway County	2	13.0
Orange County	0	0.0
Page County	0	0.0
Patrick County	0	0.0
Petersburg City	13	40.9
Pittsylvania County	3	4.9
Poquoson City	0	0.0
Portsmouth City	16	16.9
Powhatan County	1	3.5
Prince Edward County	3	13.2
Prince George County	1	2.6
Prince William County	3	0.6
Pulaski County	3	8.8
Radford City	0	0.0
Rappahannock County	2	27.3
Richmond City	78	34.4
Richmond County	0	0.0
Roanoke City	18	18.0
Roanoke County	1	1.1
Rockbridge County	3	13.2
Rockingham County	1	1.2
Russell County	1	3.7
Salem City	0	0.0
Scott County	0	0.0
Shenandoah County	0	0.0
Smyth County	2	6.5
Southampton County	0	0.0
Spotsylvania County	3	2.3
Stafford County	3	2.0
Staunton City	0	0.0
Suffolk City	2	2.2
Surry County	0	0.0
Sussex County	2	17.6
Tazewell County	2	4.9
Virginia Beach City	14	3.1
Warren County	3	7.6
Washington County	6	11.0
Waynesboro City	0	0.0
Westmoreland County	1	5.6
Williamsburg City	1	6.7
Winchester City	0	0.0
Wise County	1	2.6
Wythe County	2	6.9
York County	1	1.5
Subtotal (in-state)	**455**	**5.4**
Out of State	6	ND
Unknown	9	ND
Subtotal (out-of-state)	**15**	**ND**
TOTAL	**470**	**5.5**

Note: No denominator is represented by ND.

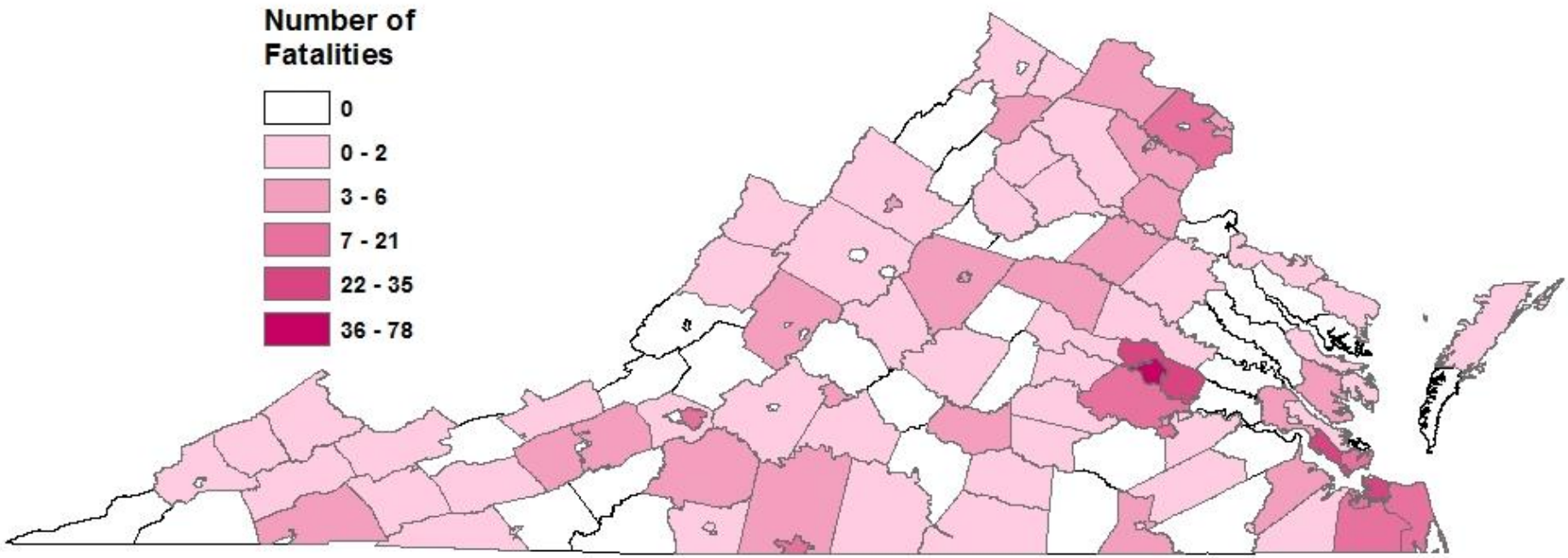
Table 2.10 Top 10 Localities with the Largest Number of Homicides by Locality of Injury, 2017

Rank #	Locality of Injury	Homicide #
1	Richmond City	78
2	Norfolk City	35
3	Henrico County	25
4	Newport News City	24
5	Fairfax County	21
6	Hampton City	19
7	Roanoke City	18
8	Portsmouth City	16
9	Danville City	14
	Virginia Beach City	14

Table 2.11 Top 10 Locations City/Counties with the Highest Rate of Homicides by Locality of Injury, 2017

Rank #	Locality of Injury	Homicide Rate
1	Highland County	45.2
2	Petersburg City	40.9
3	Emporia City	37.9
4	Richmond City	34.4
5	Danville City	34.0
6	Rappahannock County	27.3
7	Greensville County	25.7
8	Bath County	23.3
9	Roanoke City	18.0
10	Sussex County	17.6

Map 2.3 Number of Homicides by Locality of Injury, 2017



Map 2.4 Homicide Rates by Locality of Injury, 2017

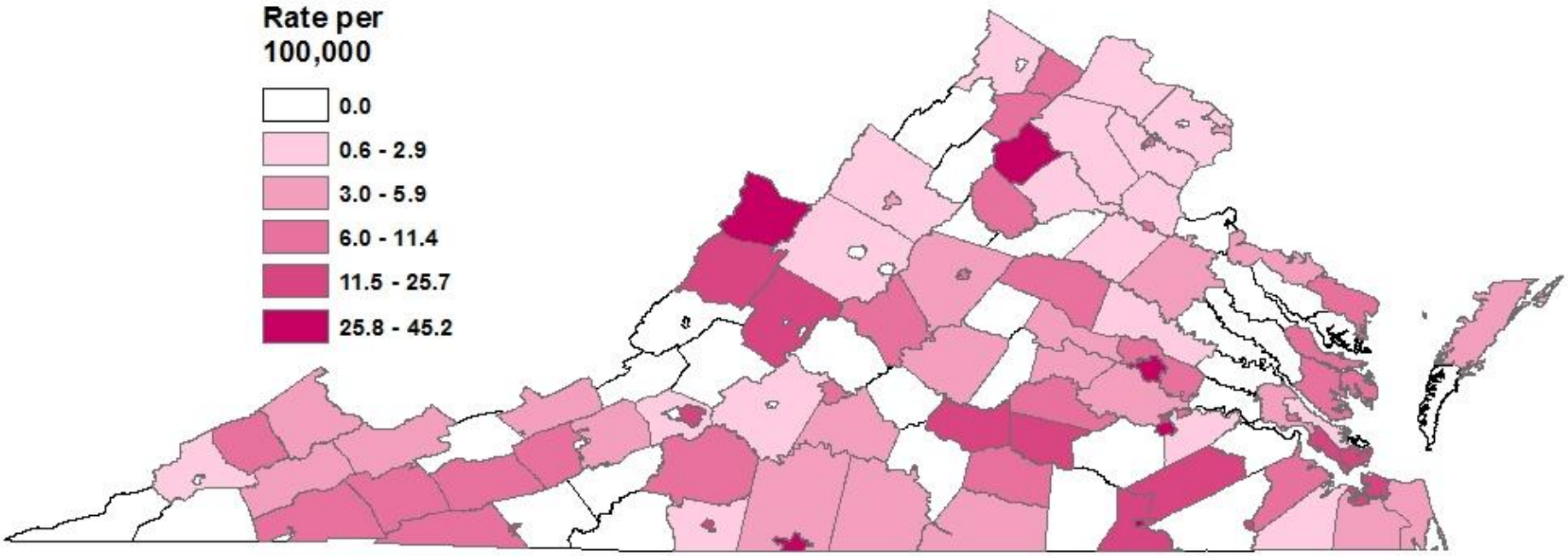


Table 2.12 Number of Homicide Deaths by Locality of Death and Year of Death, 2006-2017

Locality of Death	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Accomack County	5	4	2	2	2	4	1	3	4	3	4	1	**35**
Albemarle County	1	0	1	0	3	0	3	2	2	1	0	4	**17**
Alexandria City	4	7	4	4	2	0	2	6	4	3	5	3	**44**
Alleghany County	0	3	1	0	2	2	1	2	0	0	0	0	**11**
Amelia County	0	0	0	0	0	0	0	0	0	0	2	1	**3**
Amherst County	0	1	1	1	0	1	0	1	2	0	1	0	**8**
Appomattox County	0	1	1	0	7	1	0	0	1	3	0	0	**14**
Arlington County	3	3	4	2	0	0	5	0	1	2	0	3	**23**
Augusta County	3	1	1	1	3	3	2	0	4	1	4	1	**24**
Bath County	0	0	0	2	0	0	0	0	0	0	0	1	**3**
Bedford City	0	0	0	0	0	0	0	0	*	*	*	*	**0**
Bedford County	1	2	0	0	2	0	0	0	4	3	1	1	**14**
Bland County	0	0	0	1	1	0	0	0	0	0	0	0	**2**
Botetourt County	0	0	0	0	0	0	0	1	0	0	0	0	**1**
Bristol City	4	0	0	0	1	1	1	0	0	0	0	0	**7**
Brunswick County	3	1	2	0	0	0	1	0	0	0	0	0	**7**
Buchanan County	1	0	2	6	3	6	1	0	1	1	4	1	**26**
Buckingham County	1	1	0	0	0	1	0	0	2	0	1	1	**7**
Buena Vista City	0	0	0	0	0	0	0	1	0	0	0	0	**1**
Campbell County	2	2	2	5	2	1	3	3	0	0	6	2	**28**
Caroline County	5	4	0	0	0	0	0	0	0	1	1	1	**12**
Carroll County	1	4	1	1	1	0	0	3	1	0	0	0	**12**
Charles City County	0	0	1	0	1	0	0	0	0	0	0	0	**2**
Charlotte County	0	0	1	1	0	1	1	1	0	2	2	0	**9**
Charlottesville City	5	6	12	3	5	3	4	6	8	4	4	10	**70**
Chesapeake City	7	7	7	10	9	10	9	8	8	11	11	6	**103**
Chesterfield County	5	6	9	3	6	11	9	9	9	8	6	11	**92**
Clarke County	0	0	1	1	0	0	0	0	0	0	1	1	**4**
Colonial Heights City	0	0	0	0	0	2	0	0	1	1	0	1	**5**
Covington City	0	0	0	0	1	0	0	1	0	0	0	0	**2**
Craig County	0	0	1	0	0	0	0	0	0	0	0	0	**1**
Culpeper County	1	1	0	0	0	3	1	2	6	1	4	2	**21**

Virginia Department of Health

Locality of Death	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Cumberland County	0	1	0	2	0	0	1	0	0	0	0	0	**4**
Danville City	5	5	8	10	7	7	5	5	3	6	15	14	**90**
Dickenson County	0	1	1	1	2	2	0	1	1	0	0	1	**10**
Dinwiddie County	5	1	1	0	2	0	3	4	0	2	2	0	**20**
Emporia City	1	2	2	1	2	1	1	0	1	2	0	2	**15**
Essex County	0	0	0	0	1	1	0	1	1	1	0	0	**5**
Fairfax City	1	0	1	0	0	0	0	0	0	0	0	0	**2**
Fairfax County	29	20	28	24	19	16	19	10	16	17	27	29	**254**
Falls Church City	0	0	0	1	0	0	1	1	0	0	0	0	**3**
Fauquier County	2	4	1	2	1	1	3	2	1	1	1	2	**21**
Floyd County	0	0	2	1	0	1	0	0	0	0	0	0	**4**
Fluvanna County	0	0	1	0	0	0	0	0	0	1	0	0	**2**
Franklin City	0	0	0	2	1	0	0	0	1	0	0	1	**5**
Franklin County	2	1	0	4	4	2	0	4	2	9	1	4	**33**
Frederick County	7	0	1	2	1	1	2	2	2	2	0	0	**20**
Fredericksburg City	0	2	3	4	3	3	3	4	1	7	4	4	**38**
Galax City	1	2	0	1	0	0	0	0	0	0	2	1	**7**
Giles County	1	0	0	0	0	0	0	0	1	0	0	0	**2**
Gloucester County	0	1	1	0	1	2	3	0	0	0	1	2	**11**
Goochland County	1	0	2	0	1	0	0	1	1	1	0	0	**7**
Grayson County	0	0	7	0	0	0	0	1	0	1	0	1	**10**
Greene County	0	1	0	0	0	3	0	0	0	0	0	0	**4**
Greensville County	5	0	5	4	3	2	0	2	0	1	0	3	**25**
Halifax County	1	3	5	0	2	2	0	0	0	1	3	2	**19**
Hampton City	14	6	4	7	9	3	7	20	7	11	12	13	**113**
Hanover County	2	0	1	0	2	2	5	0	1	3	2	2	**20**
Harrisonburg City	4	0	0	0	1	2	1	1	0	1	2	0	**12**
Henrico County	10	6	15	7	9	9	9	6	6	9	14	18	**118**
Henry County	7	3	3	5	6	4	5	1	3	2	2	0	**41**
Highland County	0	0	0	0	0	0	0	0	0	0	0	1	**1**
Hopewell City	4	2	4	2	2	1	2	2	5	3	5	2	**34**

Locality of Death	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Isle of Wight County	1	0	0	1	0	1	2	1	1	1	0	2	**10**
James City County	1	0	1	0	0	1	1	2	0	2	2	1	**11**
King and Queen County	0	0	0	0	0	0	1	0	0	0	1	0	**2**
King George County	0	0	0	1	0	0	0	0	1	1	0	0	**3**
King William County	0	1	0	0	0	0	0	0	0	0	1	0	**2**
Lancaster County	2	0	1	0	2	1	1	0	0	0	0	0	**7**
Lee County	0	1	2	1	4	4	0	2	0	0	0	0	**14**
Lexington City	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Loudoun County	4	1	3	4	1	2	2	5	4	2	4	4	**36**
Louisa County	0	4	1	1	3	0	1	0	1	0	3	2	**16**
Lunenburg County	1	1	2	1	0	0	0	1	0	0	1	1	**8**
Lynchburg City	2	1	5	0	4	5	3	1	8	4	3	5	**41**
Madison County	0	0	1	0	1	3	1	1	0	1	0	1	**9**
Manassas	1	2	5	2	0	3	1	1	2	0	1	2	**20**
Manassas Park	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Martinsville City	0	2	3	0	4	3	1	2	2	3	1	3	**24**
Mathews County	0	0	0	1	0	0	0	0	0	0	1	1	**3**
Mecklenburg County	0	1	4	3	2	1	0	2	1	1	3	1	**19**
Middlesex County	1	0	0	0	0	1	0	1	2	0	0	1	**6**
Montgomery County	3	31	2	8	2	1	0	2	2	2	0	2	**55**
Nelson County	0	1	0	1	1	1	0	1	0	0	0	1	**6**
New Kent County	0	0	1	1	0	0	0	0	0	0	0	0	**2**
Newport News City	20	31	23	31	30	21	29	18	26	31	43	32	**335**
Norfolk City	34	75	41	63	47	40	56	38	48	48	64	50	**604**
Northampton County	2	3	0	0	2	1	1	4	0	3	3	0	**19**
Northumberland County	0	1	0	0	0	0	1	0	0	0	0	0	**2**
Norton City	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Nottoway County	0	1	0	0	0	0	2	0	1	0	2	0	**6**
Orange County	2	0	1	0	1	0	1	0	2	0	0	0	**7**
Page County	1	0	0	0	1	0	1	0	3	0	0	0	**6**
Patrick County	0	1	0	0	0	0	0	0	1	2	0	0	**4**

Locality of Death	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Petersburg City	10	8	4	11	11	8	5	6	12	18	9	10	**112**
Pittsylvania County	2	3	3	2	4	4	1	0	2	0	3	1	**25**
Poquoson City	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Portsmouth City	18	11	14	16	13	13	8	7	7	23	9	13	**152**
Powhatan County	0	0	3	1	1	3	0	0	0	1	1	1	**11**
Prince Edward County	0	1	1	7	1	1	1	3	0	0	0	4	**19**
Prince George County	0	0	0	1	2	0	0	1	1	0	0	2	**7**
Prince William County	12	11	10	9	9	7	1	5	4	9	15	5	**97**
Pulaski County	1	0	2	1	2	0	1	1	4	0	2	2	**16**
Radford City	1	0	0	0	1	0	1	0	0	0	0	0	**3**
Rappahannock County	1	0	0	0	1	0	0	0	0	0	0	0	**2**
Richmond City	85	76	47	58	56	50	55	56	55	55	82	97	**772**
Richmond County	0	0	1	0	0	0	0	0	0	0	0	0	**1**
Roanoke City	13	12	23	14	14	15	12	18	7	17	19	28	**192**
Roanoke County	1	2	0	1	4	0	1	0	1	0	2	0	**12**
Rockbridge County	0	1	0	0	1	1	0	0	0	1	0	3	**7**
Rockingham County	1	1	1	2	0	1	0	0	4	0	0	2	**12**
Russell County	2	0	1	1	0	2	0	2	3	0	0	1	**12**
Salem City	0	1	1	0	1	0	1	0	0	1	1	0	**6**
Scott County	0	2	1	0	1	1	1	0	0	0	2	0	**8**
Shenandoah County	0	0	0	1	0	0	1	1	3	0	1	0	**7**
Smyth County	0	0	1	0	0	2	1	0	0	0	2	2	**8**
Southampton County	1	3	0	2	1	0	0	0	0	0	3	0	**10**
Spotsylvania County	4	4	0	3	5	2	1	3	1	1	2	2	**28**
Stafford County	1	2	3	4	1	2	1	3	1	4	5	2	**29**
Staunton City	0	0	1	2	0	0	0	1	1	1	0	0	**6**
Suffolk City	8	2	5	5	3	3	2	6	2	2	5	1	**44**
Surry County	0	0	1	0	2	0	0	0	0	0	0	0	**3**
Sussex County	1	0	1	0	0	0	1	2	0	0	0	2	**7**
Tazewell County	0	3	2	5	3	0	2	0	1	1	1	1	**19**
Virginia Beach City	20	16	18	16	13	14	14	17	17	18	19	13	**195**

Locality of Death	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
Warren County	2	0	0	1	0	0	0	0	1	1	0	3	**8**
Washington County	0	0	2	1	2	2	1	2	4	0	0	6	**20**
Waynesboro City	0	1	0	0	1	0	0	0	0	0	1	0	**3**
Westmoreland County	2	1	1	0	0	0	1	0	0	2	0	1	**8**
Williamsburg City	1	0	0	0	0	0	0	0	0	0	0	0	**1**
Winchester City	2	2	2	0	0	2	1	1	1	2	0	1	**14**
Wise County	0	2	0	2	0	0	4	0	2	2	2	1	**15**
Wythe County	1	0	2	0	0	1	0	0	0	0	0	2	**6**
York County	3	1	1	0	0	3	0	4	4	1	2	1	**20**
Subtotal (in-state)	**422**	**439**	**398**	**408**	**388**	**341**	**337**	**338**	**354**	**387**	**471**	**469**	**4752**
Out of State	1	1	2	4	3	4	7	1	4	2	7	6	**42**
Unknown	4	0	0	0	0	0	0	1	1	0	0	9	**15**
Subtotal (out-of-state)	**5**	**1**	**2**	**4**	**3**	**4**	**7**	**2**	**5**	**2**	**7**	**15**	**57**
TOTAL	**427**	**440**	**400**	**412**	**391**	**345**	**344**	**340**	**359**	**389**	**478**	**484**	**4809**

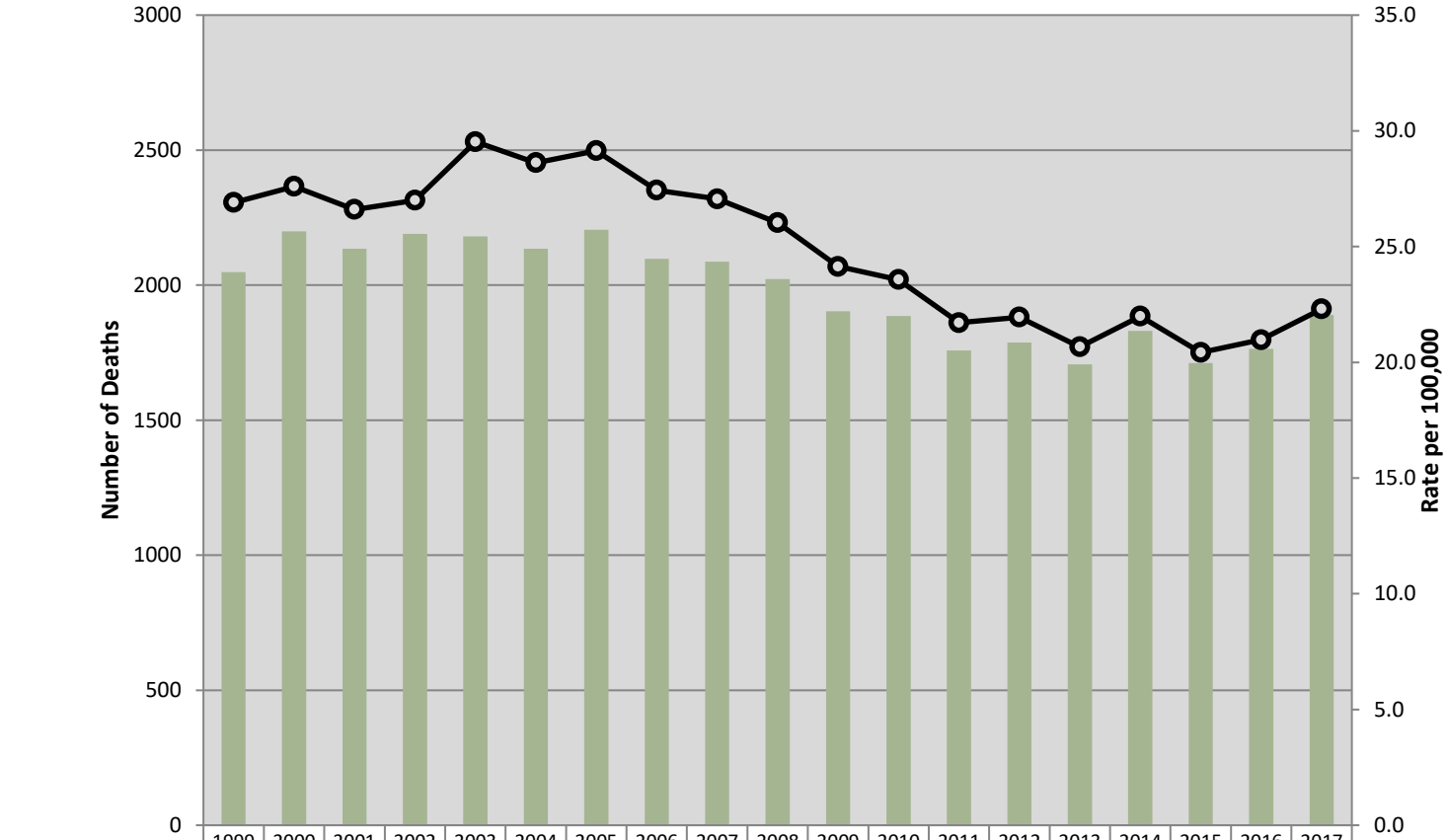
Note: Bedford City was incorporated into Bedford County in 2014 and therefore numbers are combined from there forward

NATURAL DEATHS (N=1,889)

Most natural deaths that occur in Virginia do not fall under the jurisdiction of the medical examiner. Natural deaths enter the medical examiner system as deaths that are sudden, unexpected, or suspicious, which upon examination and investigation are then established as natural. Natural deaths may also fall under the OCME's jurisdiction when the decedent does not have a primary care physician to certify their deaths, the decedent dies while in-custody, or the decedent is a patient of a state mental health facility.

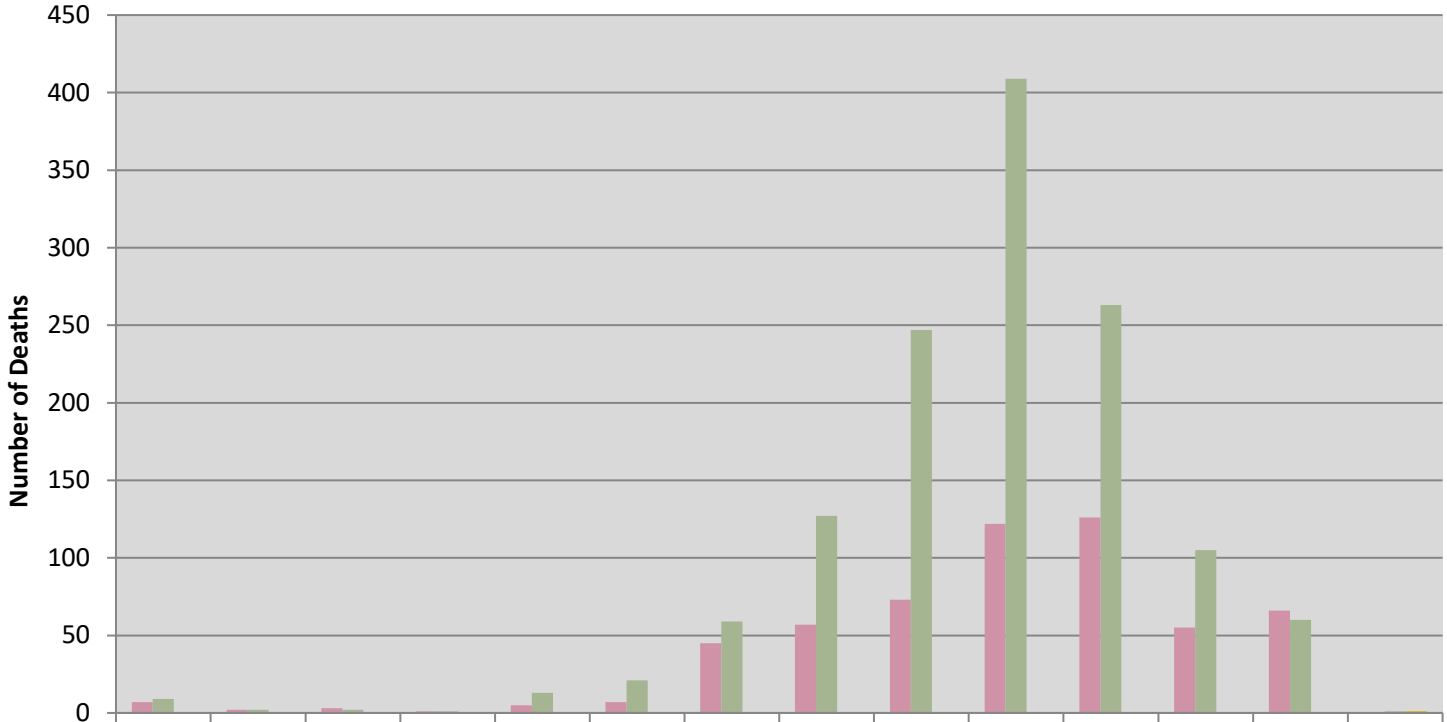
- Natural deaths accounted for 26.3% of all deaths investigated by the OCME in 2017
- The number of natural deaths accepted by OCME increased in 2017 compared with 2016 (an increase of 125 deaths or 7.1%).

Figure 2.19 Number and Rate of Natural Deaths Investigated by the OCME by Year of Death, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	2048	2199	2135	2190	2181	2135	2205	2097	2087	2022	1903	1886	1758	1788	1707	1831	1712	1764	1889
Mortality Rate	26.9	27.6	26.6	27.0	29.5	28.6	29.1	27.4	27.1	26.0	24.1	23.6	21.7	22.0	20.7	22.0	20.4	21.0	22.3

Figure 2.20 Number of Natural Deaths Investigated by the OCME by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Unknown
Female	7	2	3	1	5	7	45	57	73	122	126	55	66	0
Male	9	2	2	1	13	21	59	127	247	409	263	105	60	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Table 2.13 Number of Natural Deaths Investigated by the OCME by Cause and Method of Death, 2017

Method and Cause of Death	Autopsied	Total Cases
Cardiovascular Diseases/Disorders		
Acute coronary insufficiency	3	**172**
Arrhythmogenic right ventricular dysplasia	3	**4**
Atherosclerosis	48	**578**
Atherosclerosis and hypertension	105	**201**
Cardiac dysrhythmia of undetermined etiology	25	**31**
Cardiomyopathy not otherwise specified	21	**29**
Congenital defect	5	**5**
Hypertension	44	**250**
Other cardiac disease/disorder	11	**17**
Valvular	2	**4**
Vascular dissection/rupture	7	**8**
Central Nervous System Diseases/Disorders		
Degenerative disease	7	**18**
Other CNS disease/disorder	4	**13**
Meningitis (bacterial or viral)	1	**1**
Seizure disorder	15	**25**
Vascular disease	15	**24**
Gastrointestinal Diseases/Disorders		
Cirrhosis	5	**18**
GI hemorrhage	7	**19**
GI malignancy	10	**17**
Hepatitis	0	**3**
Other GI disease/disorder	6	**11**
Genitourinal Diseases/Disorders		
Genitourinal malignancy	3	**9**
Other GU disease/disorder	1	**2**
Renal disease	3	**8**
Other Natural Diseases/Disorders		
Other malignancy	5	**14**
Other natural disease/disorder	4	**5**
Perinatal and Pediatric Diseases/Disorders		
Fetal complications	1	**1**
Maternal complications	2	**3**
Other perinatal or pediatric disorder	1	**2**
Sudden Infant Death Syndrome (SIDS)	3	**3**
Pulmonary Disease/Disorders		
Asthma	5	**7**
COPD	1	**21**

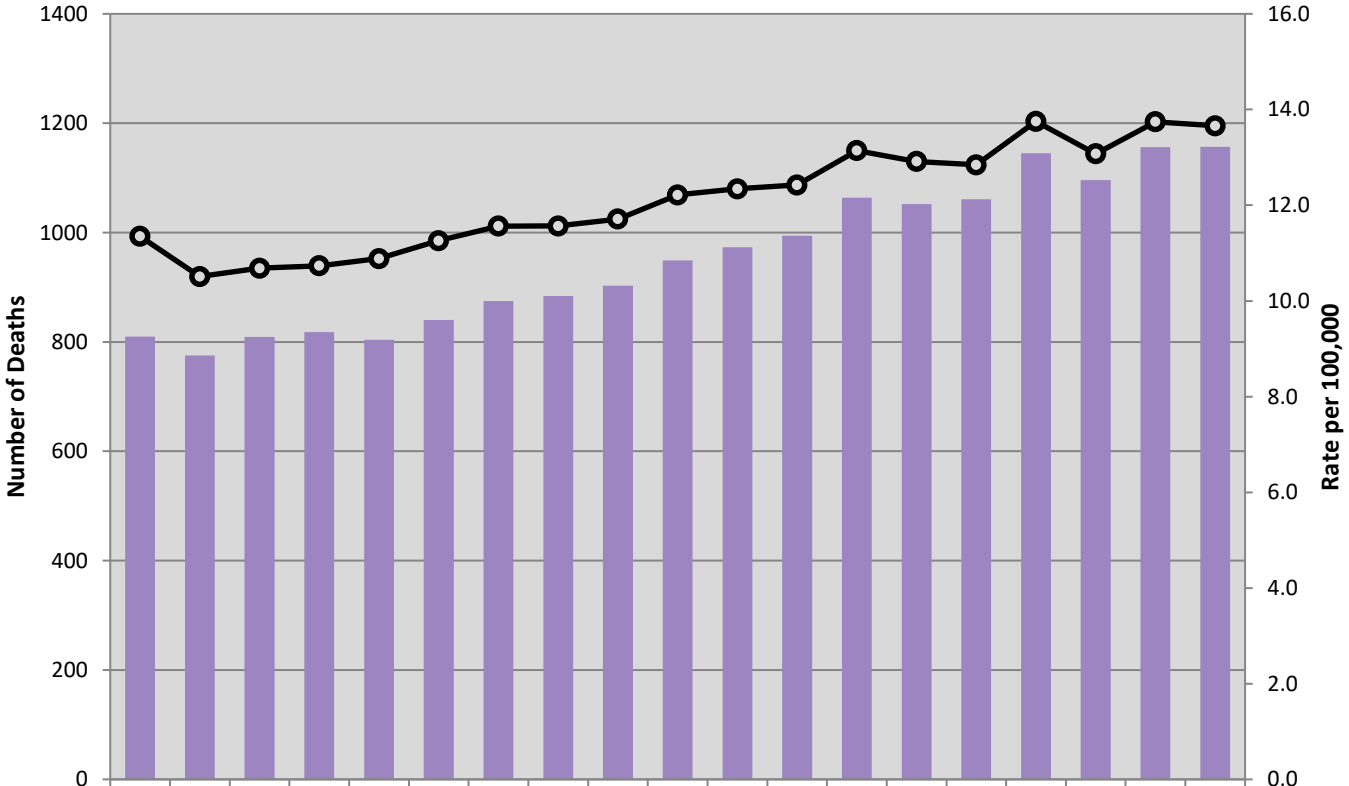
Emboli	28	**30**
Pneumonia	24	**39**
Pulmonary malignancy	7	**17**
Other pulmonary disease/disorder	4	**6**
Systemic Diseases/Disorders		
Blood disorders	3	**11**
Chronic alcoholism	21	**137**
Chronic drug abuse	3	**9**
Diabetes	8	**65**
Metastatic malignancy of unknown primary	2	**5**
Obesity	2	**14**
Other infectious disease	1	**3**
Other systemic disease/disorder	7	**16**
Sepsis	10	**14**
TOTAL NATURAL DEATHS	**493**	**1889**

SUICIDE DEATHS (N=1,157)

In general, suicide deaths have been slowly increasing since 1999, although the number of suicide deaths in 2017 compared to 2016 was nearly identical. The largest number of victims were male (78.0%), white (85.0%), and aged 55-64 years of age (18.0%). Males 85 years of age and older as well as white males had the highest rates of suicide compared to other groups within the total population (46.7 and 28.8 per 100,000 persons, respectively).

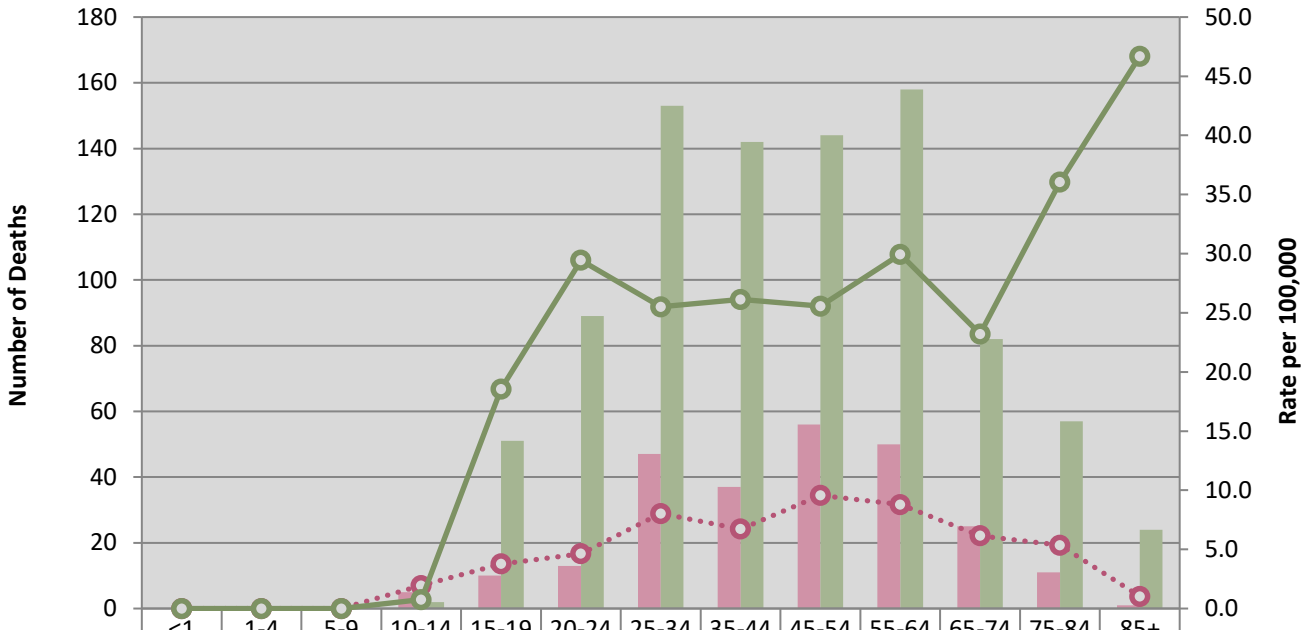
- Whites committed suicide at a rate 5.0 times that of Hispanics, 4.0 times that of Asians, 3.2 times that of Blacks, and 2.4 times that of Native Americans
- Males were 3.5 times more likely to commit suicide than females
- Firearms (specifically handguns), hangings, and drug use were the three most commonly used methods in suicides, with these deaths representing 57.3%, 21.4%, and 11.5% of all suicides, respectively

Figure 2.21 Number and Rate of Suicide Deaths by Year of Death, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	810	775	809	818	804	840	875	884	903	949	973	994	1064	1052	1061	1145	1096	1156	1157
Mortality Rate	11.3	10.5	10.7	10.7	10.9	11.3	11.6	11.6	11.7	12.2	12.3	12.4	13.1	12.9	12.8	13.8	13.1	13.7	13.7

Figure 2.22 Number and Rate of Suicide Deaths by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	0	0	0	5	10	13	47	37	56	50	25	11	1
Male	0	0	0	2	51	89	153	142	144	158	82	57	24
Female Rate	0.0	0.0	0.0	1.9	3.8	4.6	8.0	6.7	9.6	8.8	6.2	5.4	1.0
Male Rate	0.0	0.0	0.0	0.7	18.6	29.4	25.5	26.1	25.6	29.9	23.2	36.1	46.7

Figure 2.23 Percentage of Suicide Deaths by Race/Ethnicity, 2017

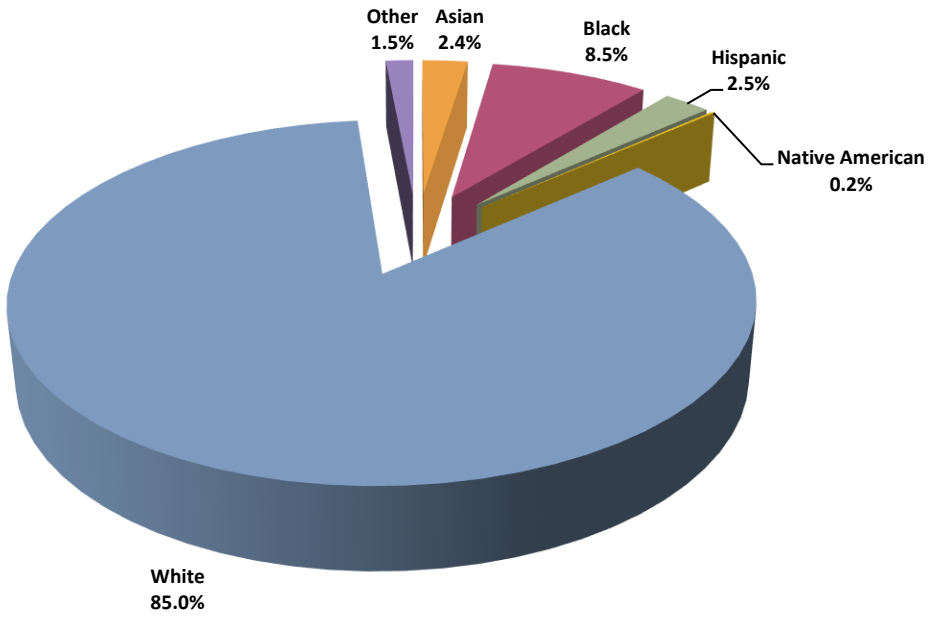
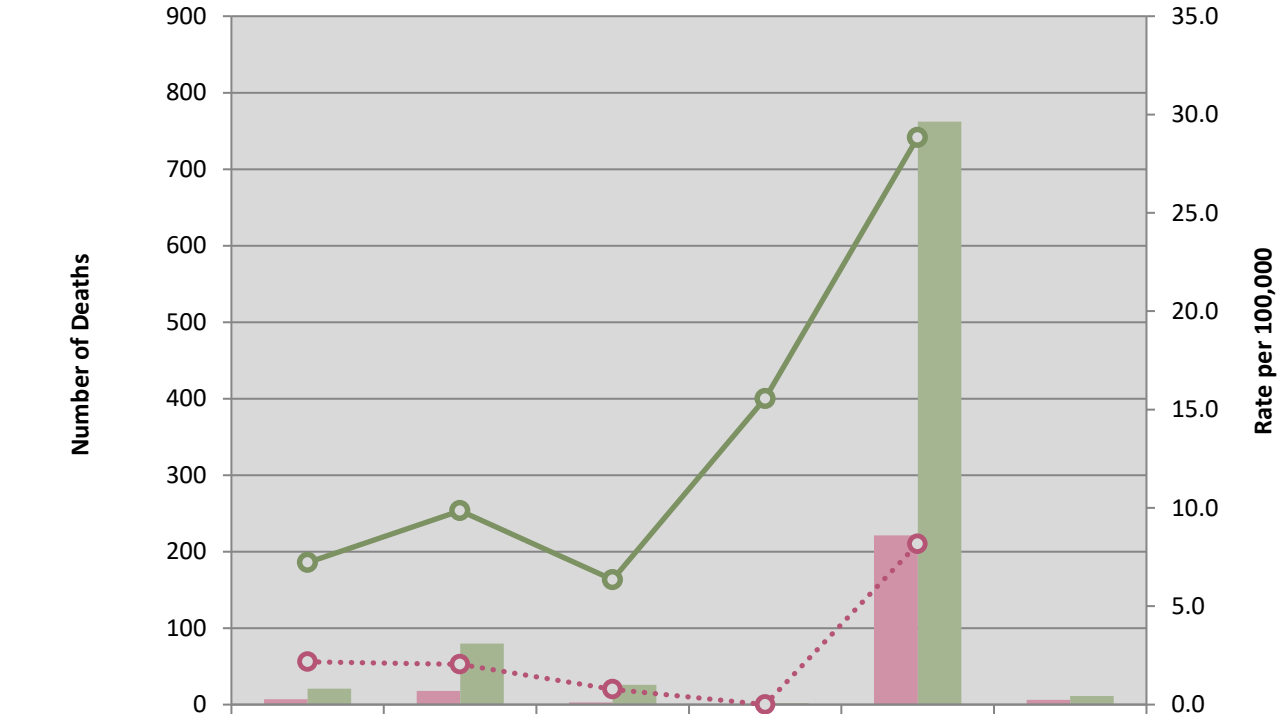


Figure 2.24 Number and Rate of Suicide Deaths by Race/Ethnicity and Gender, 2017



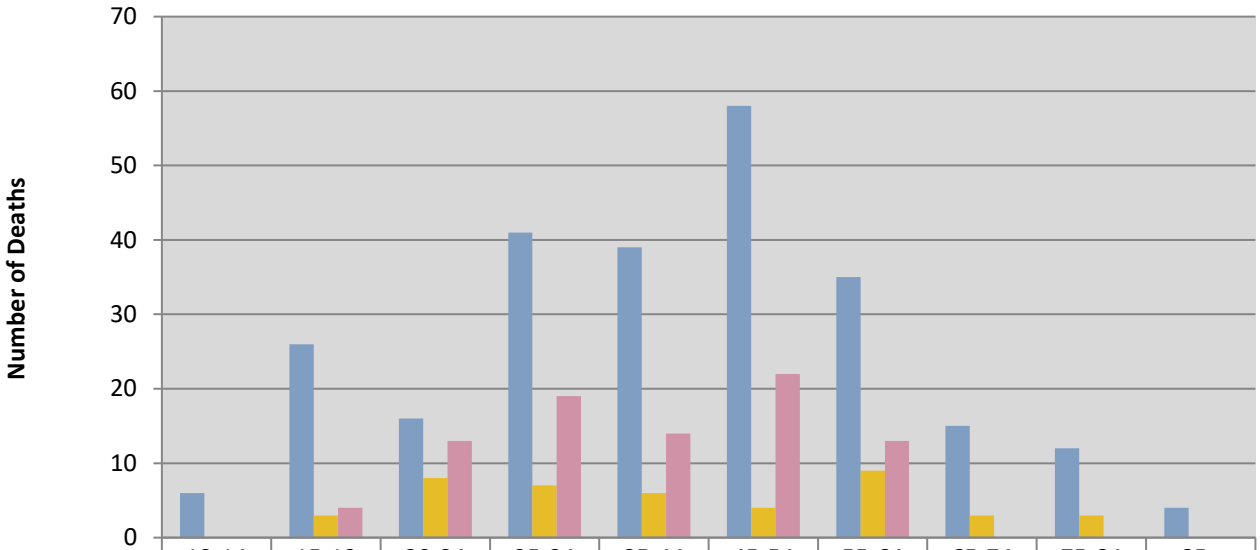
	Asian	Black	Hispanic	Native American	White	Other
Female	7	18	3	0	221	6
Male	21	80	26	2	762	11
Female Rate	2.2	2.0	0.8	0.0	8.2	*
Male Rate	7.2	9.9	6.4	15.6	28.8	*

*No rate can be calculated
Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Hispanics and Native Americans)

Table 2.14 Number of Suicide Deaths by Cause and Method of Death, 2017

Method of Death		Autopsied	Total Cases
Asphyxia			
	Carbon monoxide (CO) poisoning-motor vehicle exhaust	**0**	**14**
	Carbon monoxide (CO) poisoning-other	**1**	**3**
	Drowned	**5**	**7**
	Hanged	**39**	**248**
	Helium asphyxia	**0**	**1**
	Oxygen depletion or replacement	**0**	**4**
	Plastic bag asphyxia	**1**	**9**
	Strangled/Neck compression	**1**	**2**
	Suffocated/Smothered	**0**	**3**
Drug Use			
	Ingested ethylene glycol	**2**	**4**
	Ingested and/or injected illicit, prescription, and/or other type of drug	**31**	**125**
	Other poisoning (e.g. heavy metals, detergent suicide)	**1**	**4**
Fire			
	Thermal and/or inhalational Injuries	**2**	**3**
Jump/Fall			
	Jumped/Fell from height	**7**	**30**
Other			
	Other	**1**	**3**
Traumatic Injury			
	Cut/Stabbed self	**5**	**17**
	Gunshot wound		
	Handgun	**535**	**539**
	Other	**1**	**1**
	Rifle	**46**	**46**
	Shotgun	**73**	**73**
	Unknown	**3**	**4**
Vehicular			
	Car	**2**	**6**
	Multiple	**0**	**1**
	Pickup truck	**1**	**1**
	Sport utility vehicle	**0**	**2**
	Tractor trailer	**0**	**1**
	Train	**0**	**4**
	Truck other	**0**	**1**
	Unknown	**0**	**1**
TOTAL SUICIDE DEATHS		**757**	**1157**

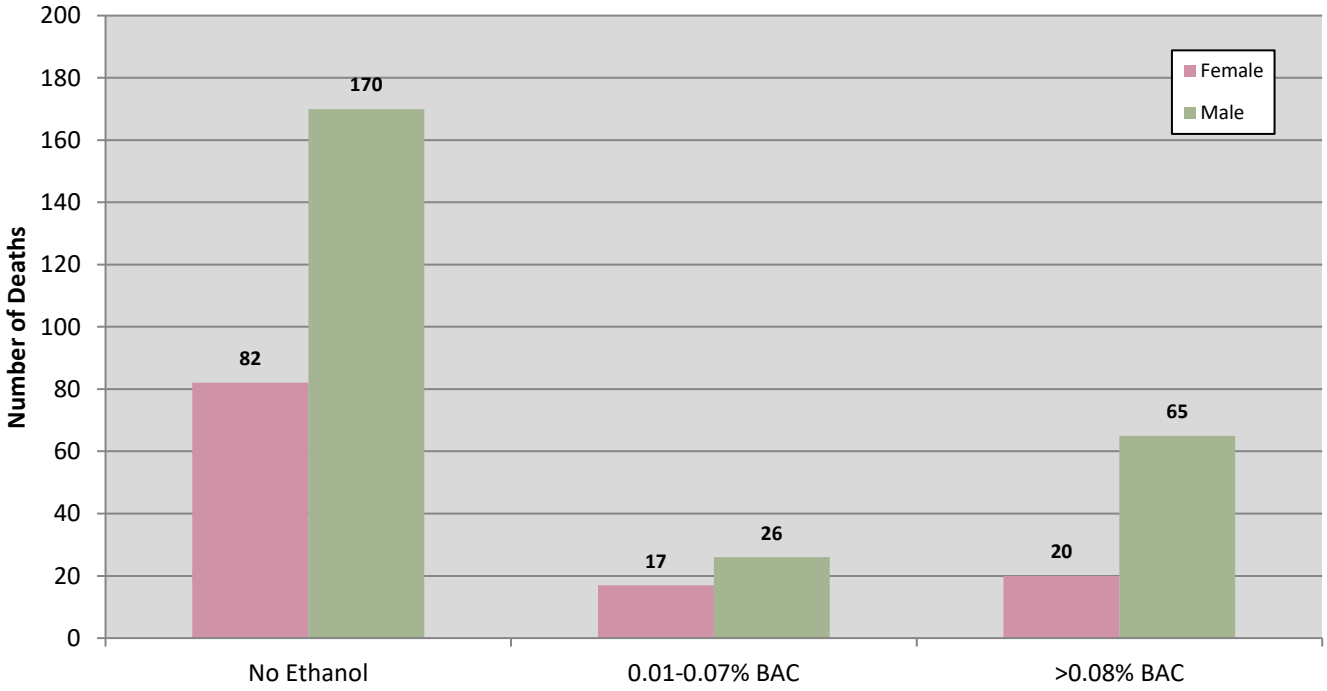
Figure 2.25 Number of Suicide Deaths by Age Group and Ethanol Level (N=380), 2017



	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
No Ethanol	6	26	16	41	39	58	35	15	12	4
0.01-0.07% BAC	0	3	8	7	6	4	9	3	3	0
>0.08% BAC	0	4	13	19	14	22	13	0	0	0

Note: Of the 1,157 suicides, 67.2% (n=777) did not receive toxicology testing

Figure 2.26 Number of Suicide Deaths by Gender and Ethanol Level (N=380), 2017



Note: Of the 1,157 suicides, 67.2% (n=777) did not receive toxicology testing

Table 2.15 Number of Suicide Deaths by Manner of Death and Ethanol Level (N=380), 2017

Method of Death	No Ethanol	0.01-0.07% BAC	>0.08% BAC	TOTAL
Asphyxia				
Carbon monoxide (CO) poisoning-motor vehicle exhaust	9	3	1	13
Carbon monoxide (CO) poisoning-other	2	0	1	3
Drowned	3	0	2	5
Hanged	34	6	12	52
Helium asphyxia				
Oxygen depletion or replacement	0	1	0	1
Plastic bag asphyxia	5	0	0	5
Strangled/Neck compression	1	1	0	2
Suffocated/Smothered	1	0	0	1
Drug Use				
Ingested ethylene glycol	3	1	0	4
Ingested and/or injected illicit, prescription, and/or other type of drug	89	17	18	124
Other poisoning (e.g. heavy metals, detergent suicide)	3	0	0	3
Fire				
Thermal and/or inhalational Injuries	2	0	1	3
Jump/Fall				
Jumped/Fell from height	9	1	1	11
Other				
Other	0	0	0	0
Traumatic Injury				
Cut/Stabbed self	5	0	0	5
Gunshot wound				
Handgun	69	11	39	119
Other	0	0	0	0
Rifle	2	1	3	6
Shotgun	8	0	3	11
Unknown	0	0	0	0
Vehicular				
Car	2	1	2	5
Multiple	0	0	1	1
Pickup truck	1	0	0	1
Sport utility vehicle	1	0	0	1
Tractor trailer	0	0	1	1
Train	3	0	0	3
Truck other	0	0	0	0
Unknown	0	0	0	0
TOTAL SUICIDE DEATHS	**252**	**43**	**85**	**380**

Note: Of the 1,157 suicides, 67.2% (n=777) did not receive toxicology testing

Figure 2.27 Number of Suicide Deaths by Month of Death, 2017

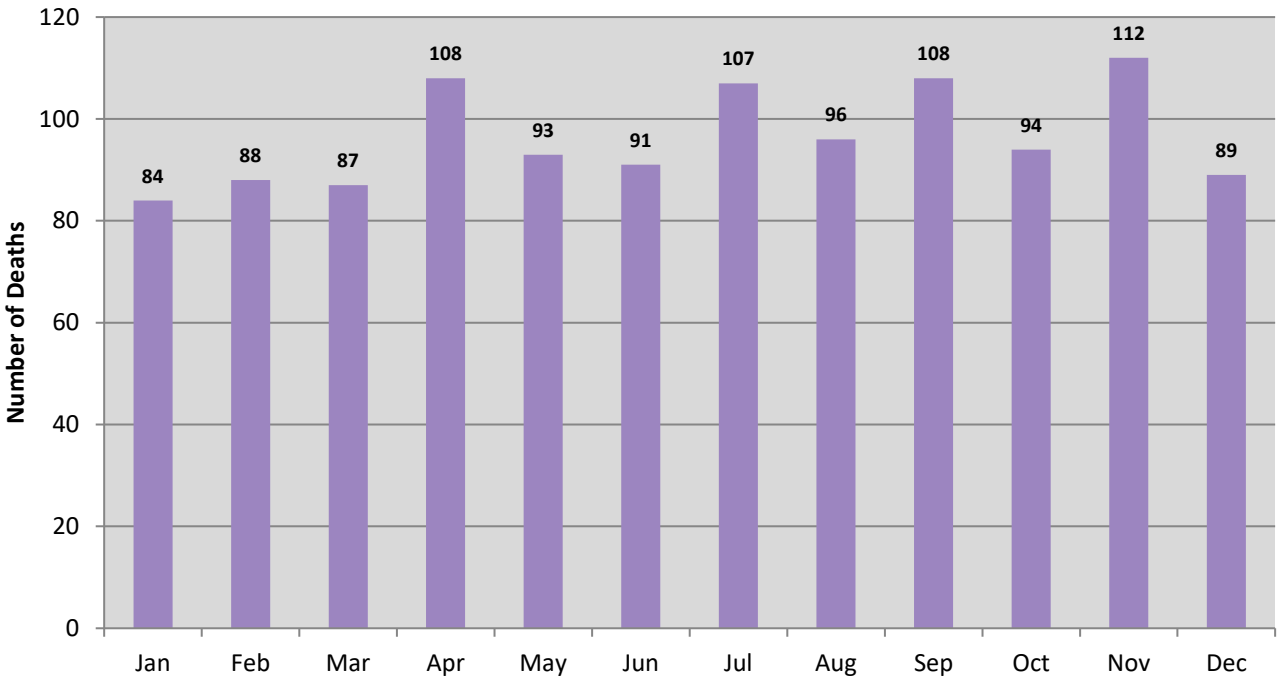


Figure 2.28 Number of Suicide Deaths by Day of the Week, 2017

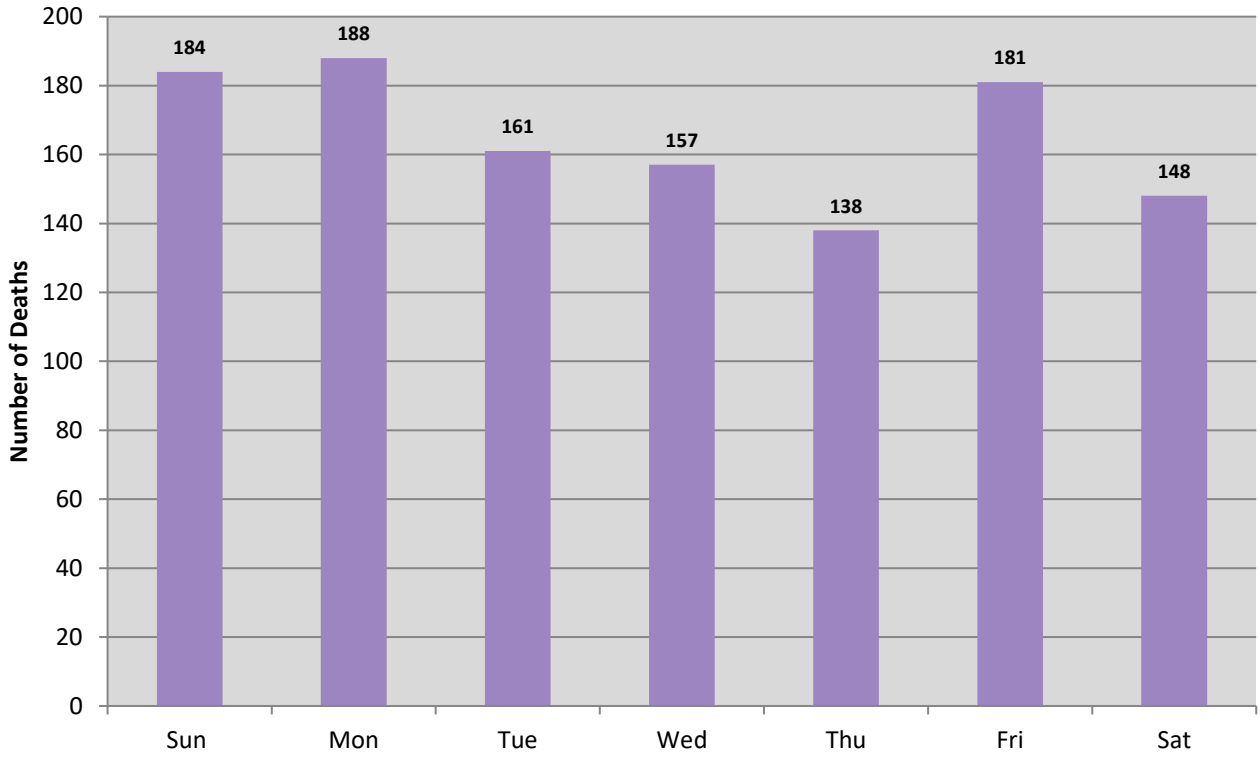


Table 2.16 Number and Rate of Suicide Deaths by Locality of Residence, 2017

Locality of Residence	Deaths	Rate
Accomack County	5	15.4
Albemarle County	13	12.1
Alexandria City	16	10.0
Alleghany County	0	0.0
Amelia County	3	23.0
Amherst County	3	9.5
Appomattox County	1	6.4
Arlington County	19	8.1
Augusta County	15	20.0
Bath County	0	0.0
Bedford County	18	23.1
Bland County	1	15.7
Botetourt County	5	15.1
Bristol City	1	6.0
Brunswick County	4	24.6
Buchanan County	3	13.9
Buckingham County	2	11.7
Buena Vista City	2	31.6
Campbell County	6	10.9
Caroline County	7	23.0
Carroll County	8	26.9
Charles City County	1	14.3
Charlotte County	2	16.5
Charlottesville City	4	8.3
Chesapeake City	29	12.1
Chesterfield County	54	15.7
Clarke County	6	41.4
Colonial Heights City	4	22.4
Covington City	3	54.2
Craig County	1	19.8
Culpeper County	11	21.5
Cumberland County	0	0.0
Danville City	6	14.6
Dickenson County	6	40.6
Dinwiddie County	5	17.7
Emporia City	0	0.0
Essex County	0	0.0
Fairfax City	5	20.7
Fairfax County	87	7.6
Falls Church City	2	13.7
Fauquier County	12	17.3
Floyd County	1	6.3
Fluvanna County	5	18.9

Locality of Residence	Deaths	Rate
Franklin City	2	24.5
Franklin County	12	21.3
Frederick County	16	18.5
Fredericksburg City	4	14.1
Galax City	1	15.1
Giles County	3	17.8
Gloucester County	5	13.4
Goochland County	1	4.4
Grayson County	3	19.2
Greene County	4	20.4
Greensville County	3	25.7
Halifax County	4	11.6
Hampton City	15	11.1
Hanover County	14	13.2
Harrisonburg City	5	9.2
Henrico County	46	14.0
Henry County	9	17.6
Highland County	0	0.0
Hopewell City	4	17.7
Isle of Wight County	7	19.2
James City County	9	11.9
King and Queen County	1	14.3
King George County	3	11.4
King William County	4	23.9
Lancaster County	4	37.1
Lee County	6	25.3
Lexington City	1	14.1
Loudoun County	41	10.3
Louisa County	8	22.3
Lunenburg County	5	40.9
Lynchburg City	16	19.8
Madison County	1	7.5
Manassas	7	16.9
Manassas Park	0	0.0
Martinsville City	3	22.8
Mathews County	1	11.4
Mecklenburg County	7	22.8
Middlesex County	4	37.5
Montgomery County	10	10.1
Nelson County	4	26.8
New Kent County	5	23.1
Newport News City	20	11.1
Norfolk City	33	13.5

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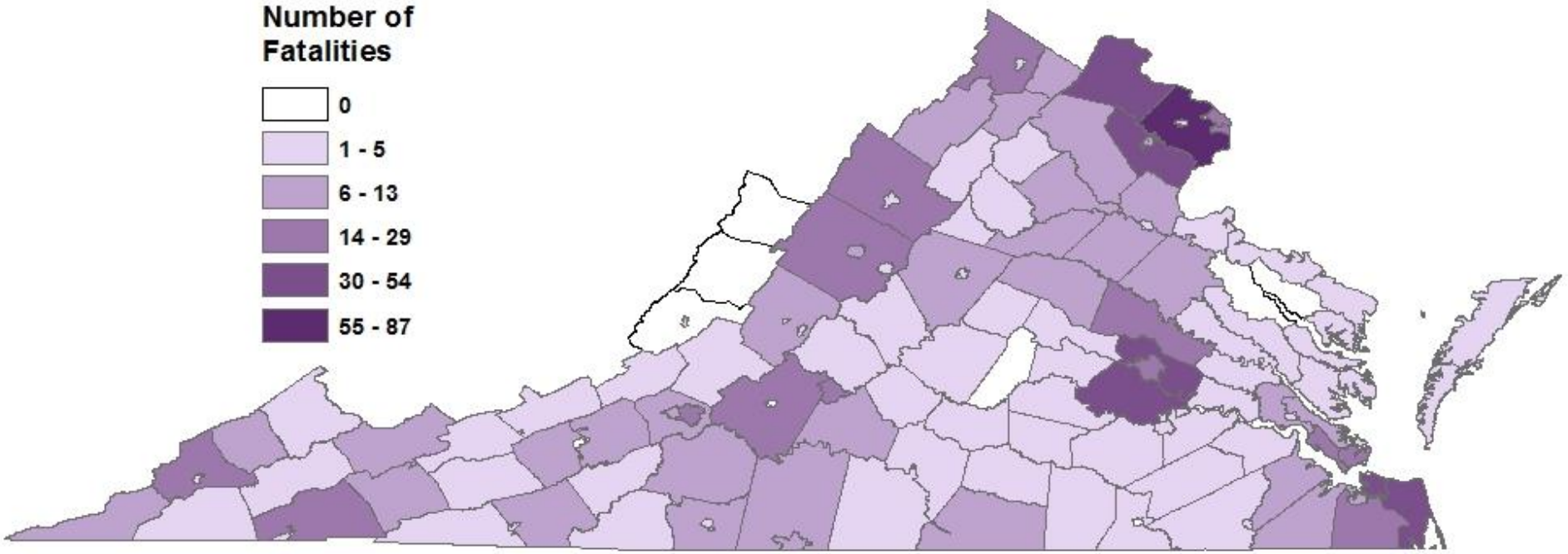
Locality of Residence	Deaths	Rate
Northampton County	2	16.9
Northumberland County	2	16.3
Norton City	1	25.4
Nottoway County	2	13.0
Orange County	8	22.2
Page County	4	16.9
Patrick County	2	11.3
Petersburg City	3	9.4
Pittsylvania County	11	18.0
Poquoson City	3	24.9
Portsmouth City	12	12.7
Powhatan County	4	14.0
Prince Edward County	3	13.2
Prince George County	5	13.2
Prince William County	41	8.9
Pulaski County	7	20.5
Radford City	0	0.0
Rappahannock County	1	13.7
Richmond City	26	11.5
Richmond County	0	0.0
Roanoke City	23	23.0
Roanoke County	12	12.8
Rockbridge County	7	30.9
Rockingham County	14	17.5
Russell County	4	14.8
Salem City	6	23.2
Scott County	4	18.3
Shenandoah County	9	20.8
Smyth County	7	22.8
Southampton County	1	5.6
Spotsylvania County	11	8.3
Stafford County	12	8.2
Staunton City	6	24.5
Suffolk City	10	11.1
Surry County	2	30.6
Sussex County	2	17.6
Tazewell County	8	19.5
Virginia Beach City	51	11.3
Warren County	8	20.2
Washington County	18	33.1
Waynesboro City	3	13.4
Westmoreland County	3	16.9
Williamsburg City	1	6.7
Winchester City	3	10.7
Wise County	16	41.5
Wythe County	5	17.3
York County	7	10.3
Subtotal (in-state)	**1117**	**13.2**
Out of State	39	ND
Unknown	1	ND
Subtotal (out-of-state)	**40**	**ND**
TOTAL	**1157**	**13.7**

Note: No denominator is represented by ND

Map 2.5 Number of Suicides by Locality of Residence, 2017



Map 2.6 Suicide Rates by Locality of Residence, 2017

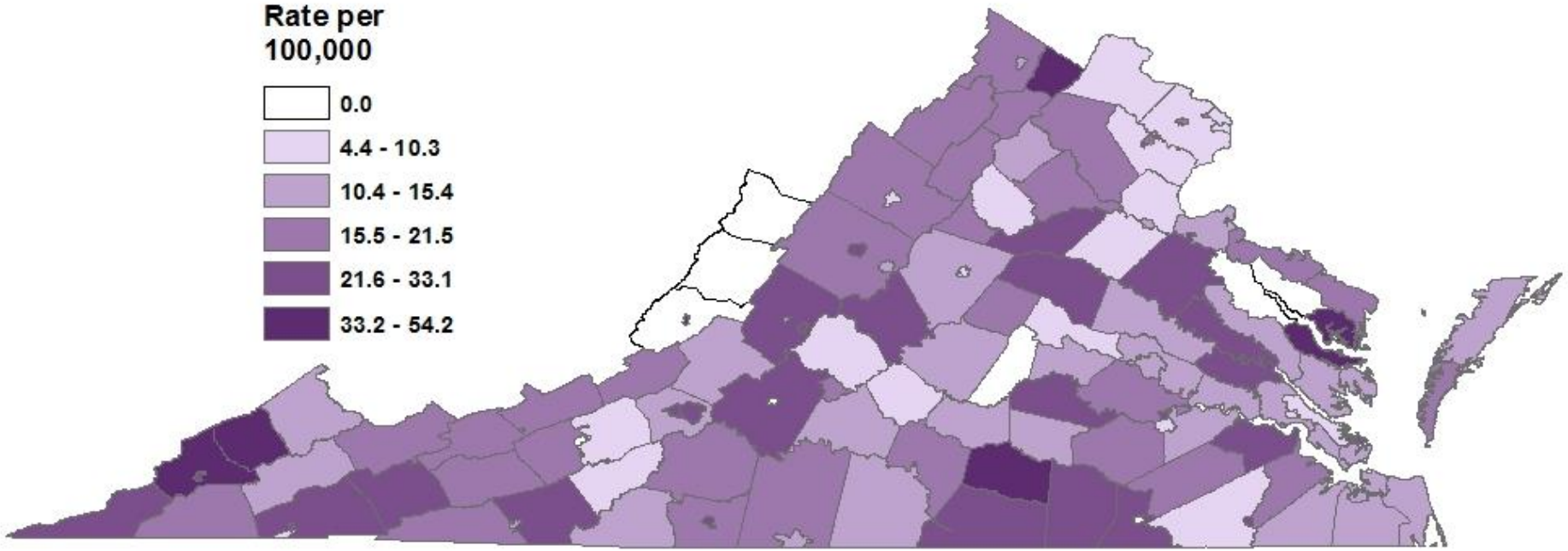


Table 2.17 Number of Suicide Deaths by Locality of Injury and Year of Death, 2006-2017

Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Accomack County	4	2	1	4	6	6	1	4	4	9	4	5	**50**
Albemarle County	2	6	8	13	6	11	10	12	15	11	7	12	**113**
Alexandria City	12	11	13	14	14	14	10	16	15	10	16	18	**163**
Alleghany County	3	2	0	4	6	5	4	1	2	3	5	0	**35**
Amelia County	2	1	1	3	1	4	6	1	5	6	2	2	**34**
Amherst County	4	6	6	7	7	4	7	2	10	2	6	5	**66**
Appomattox County	2	0	0	3	3	2	2	1	2	8	2	1	**26**
Arlington County	14	12	28	10	21	16	16	18	18	11	18	21	**203**
Augusta County	12	11	13	16	11	14	16	20	20	15	15	17	**180**
Bath County	1	0	1	0	0	1	1	2	2	2	0	0	**10**
Bedford City	1	1	1	2	2	0	1	3	*	*	*	*	**11**
Bedford County	7	6	9	14	14	13	8	10	10	15	12	20	**138**
Bland County	2	1	0	3	1	1	1	1	3	2	2	1	**18**
Botetourt County	3	4	3	5	2	6	5	7	1	9	7	6	**58**
Bristol City	4	4	1	2	3	3	1	1	5	0	2	1	**27**
Brunswick County	2	2	1	1	3	1	1	2	2	2	3	4	**24**
Buchanan County	5	6	7	7	10	1	5	4	3	5	5	4	**62**
Buckingham County	3	3	5	1	3	2	2	4	2	2	3	2	**32**
Buena Vista City	0	0	1	1	1	0	0	1	0	0	0	2	**6**
Campbell County	6	3	7	6	6	10	9	13	8	12	7	5	**92**
Caroline County	3	6	3	3	5	2	2	8	12	4	6	8	**62**
Carroll County	6	8	6	10	9	7	6	8	6	8	5	10	**89**
Charles City County	0	0	2	2	2	3	7	1	2	2	2	1	**24**
Charlotte County	3	2	1	3	2	3	1	3	1	3	1	3	**26**
Charlottesville City	11	7	5	4	3	1	7	5	6	5	4	5	**63**
Chesapeake City	19	20	18	25	25	24	26	26	31	36	29	27	**306**
Chesterfield County	29	25	32	32	34	40	39	46	49	31	51	48	**456**
Clarke County	2	1	3	3	3	5	0	1	3	8	2	8	**39**
Colonial Heights City	1	2	3	1	2	1	6	2	6	4	6	6	**40**
Covington City	2	2	1	0	0	2	2	2	1	2	1	3	**18**
Craig County	0	1	2	4	0	2	1	4	0	2	4	1	**21**

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Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Culpeper County	6	10	2	11	5	7	9	5	9	9	5	10	**88**
Cumberland County	0	1	2	2	0	3	1	3	1	0	1	0	**14**
Danville City	7	3	4	8	7	6	4	5	9	3	9	6	**71**
Dickenson County	2	5	5	8	7	5	7	7	7	4	6	4	**67**
Dinwiddie County	3	3	1	1	7	3	2	1	3	7	4	5	**40**
Emporia City	3	0	2	1	1	0	0	0	0	0	0	0	**7**
Essex County	0	1	3	2	3	2	3	2	5	0	1	0	**22**
Fairfax City	2	2	1	6	4	2	2	4	3	7	1	5	**39**
Fairfax County	85	87	88	104	87	90	98	109	107	85	93	90	**1123**
Falls Church City	0	1	3	0	1	0	2	1	0	0	1	2	**11**
Fauquier County	7	4	8	9	14	14	13	16	9	11	9	16	**130**
Floyd County	2	2	1	3	4	4	5	5	6	3	0	1	**36**
Fluvanna County	2	3	4	2	2	3	5	6	2	1	1	5	**36**
Franklin City	0	0	0	0	1	0	1	1	2	0	0	2	**7**
Franklin County	5	8	6	7	3	10	11	12	6	10	8	9	**95**
Frederick County	9	7	7	8	8	14	19	12	20	14	13	17	**148**
Fredericksburg City	6	4	5	2	4	5	3	2	3	9	1	3	**47**
Galax City	1	1	2	1	3	3	1	0	1	2	0	2	**17**
Giles County	2	3	3	5	3	4	2	3	2	1	4	3	**35**
Gloucester County	7	6	9	4	8	12	9	4	4	14	10	6	**93**
Goochland County	2	5	2	4	2	0	1	6	4	7	8	4	**45**
Grayson County	3	2	5	2	2	8	5	2	4	1	4	2	**40**
Greene County	4	2	2	3	4	3	1	1	2	1	4	4	**31**
Greensville County	2	0	0	2	2	4	1	4	1	0	0	4	**20**
Halifax County	8	4	4	5	5	4	6	3	6	7	7	4	**63**
Hampton City	13	16	18	16	9	7	13	17	18	15	19	13	**174**
Hanover County	12	15	17	11	6	15	23	21	16	13	14	13	**176**
Harrisonburg City	2	4	4	6	6	2	1	4	6	5	8	6	**54**
Henrico County	37	25	25	39	30	42	31	41	36	36	31	45	**418**
Henry County	11	12	19	13	16	10	9	9	10	10	10	8	**137**
Highland County	0	0	0	0	1	1	1	2	1	2	2	0	**10**

Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Hopewell City	1	2	2	3	3	2	3	4	5	4	5	4	**38**
Isle of Wight County	5	1	0	3	2	4	6	4	5	7	7	7	**51**
James City County	5	4	9	7	9	6	10	4	12	11	9	7	**93**
King and Queen County	2	4	2	1	1	1	3	0	1	1	2	1	**19**
King George County	3	2	2	3	6	3	4	8	5	3	6	3	**48**
King William County	1	1	1	4	0	2	7	2	3	5	5	3	**34**
Lancaster County	0	3	4	1	2	2	4	2	2	4	4	3	**31**
Lee County	5	4	7	5	2	5	9	4	5	7	3	7	**63**
Lexington City	0	1	0	0	0	0	1	1	1	2	4	1	**11**
Loudoun County	20	23	13	24	20	35	35	34	34	36	45	41	**360**
Louisa County	5	8	2	5	9	7	3	3	2	5	7	5	**61**
Lunenburg County	6	1	1	3	1	2	3	2	2	3	4	4	**32**
Lynchburg City	8	6	13	5	9	10	6	4	7	10	7	14	**99**
Madison County	2	4	3	1	3	1	4	1	4	6	4	0	**33**
Manassas	2	3	9	3	1	5	5	4	7	4	4	4	**51**
Manassas Park	Unknown	1	0	0	1	0	0	2	3	1	1	0	**9**
Martinsville City	0	4	0	1	1	4	1	3	2	2	0	3	**21**
Mathews County	1	0	2	0	1	2	1	1	3	2	3	3	**19**
Mecklenburg County	4	6	7	5	8	4	4	4	3	6	7	7	**65**
Middlesex County	0	1	1	5	1	3	3	4	0	3	1	5	**27**
Montgomery County	11	22	8	5	9	14	8	7	11	10	17	15	**137**
Nelson County	2	1	3	4	4	3	3	4	3	2	2	5	**36**
New Kent County	3	2	2	3	1	6	5	3	5	4	5	3	**42**
Newport News City	11	15	18	14	20	23	29	19	25	22	30	23	**249**
Norfolk City	27	33	29	22	29	28	29	30	34	23	26	35	**345**
Northampton County	0	4	1	0	1	5	0	2	3	3	2	3	**24**
Northumberland County	1	3	2	0	4	3	0	0	1	2	2	2	**20**
Norton City	0	0	2	1	0	1	1	0	0	0	1	1	**7**
Nottoway County	1	0	4	4	3	3	2	1	5	4	1	2	**30**
Orange County	6	4	5	2	4	5	12	6	9	10	6	7	**76**
Page County	6	5	7	3	4	8	4	5	11	5	6	4	**68**

Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Patrick County	3	4	4	4	7	4	5	9	5	6	5	3	**59**
Petersburg City	1	4	7	3	4	3	4	2	6	5	8	4	**51**
Pittsylvania County	13	9	6	13	9	9	12	16	5	10	14	14	**130**
Poquoson City	1	1	1	0	0	0	0	2	1	0	2	2	**10**
Portsmouth City	8	14	10	11	16	8	20	9	13	16	16	14	**155**
Powhatan County	5	1	4	2	8	6	5	4	6	6	4	5	**56**
Prince Edward County	3	3	1	5	3	3	4	3	4	4	2	4	**39**
Prince George County	6	7	7	7	5	4	2	5	8	6	7	8	**72**
Prince William County	32	28	35	41	41	28	33	37	38	30	47	39	**429**
Pulaski County	11	10	2	6	9	9	6	7	1	8	12	9	**90**
Radford City	1	0	2	0	2	1	1	5	2	1	2	1	**18**
Rappahannock County	0	4	3	1	3	2	5	0	2	2	1	1	**24**
Richmond City	32	25	22	35	21	32	25	27	23	25	30	30	**327**
Richmond County	1	1	4	0	2	1	1	1	0	1	4	0	**16**
Roanoke City	10	15	19	13	18	19	25	16	21	16	17	22	**211**
Roanoke County	11	7	19	9	20	14	13	12	17	14	16	12	**164**
Rockbridge County	5	4	6	5	5	6	3	3	7	4	4	6	**58**
Rockingham County	9	10	9	4	12	10	9	10	10	21	14	14	**132**
Russell County	5	4	10	7	5	6	6	6	4	4	7	4	**68**
Salem City	4	7	5	0	2	6	6	6	9	7	7	6	**65**
Scott County	3	12	5	4	5	6	5	4	2	4	7	7	**64**
Shenandoah County	7	5	8	8	5	9	7	7	8	10	15	10	**99**
Smyth County	3	11	5	3	3	6	7	10	6	5	4	6	**69**
Southampton County	4	1	4	3	4	2	2	2	1	2	2	3	**30**
Spotsylvania County	13	18	17	10	22	11	13	15	14	14	26	11	**184**
Stafford County	6	14	15	15	5	9	13	19	11	20	18	15	**160**
Staunton City	4	7	1	6	4	4	1	3	3	2	3	4	**42**
Suffolk City	11	1	10	6	5	14	12	12	14	11	6	10	**112**
Surry County	0	1	0	4	1	0	2	1	0	0	0	2	**11**
Sussex County	1	2	1	4	4	1	1	4	0	2	3	2	**25**
Tazewell County	11	4	4	12	6	6	8	5	5	14	7	8	**90**

Locality of Injury	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Virginia Beach City	61	49	45	59	63	65	51	49	71	46	61	53	**673**
Warren County	3	12	8	6	5	7	8	7	8	6	10	6	**86**
Washington County	6	10	11	13	10	10	11	9	8	12	14	19	**133**
Waynesboro City	6	3	3	4	2	3	2	4	0	6	3	2	**38**
Westmoreland County	4	2	4	2	2	5	5	3	4	1	4	3	**39**
Williamsburg City	10	2	1	1	8	6	1	0	6	4	2	4	**45**
Winchester City	6	1	7	2	6	5	3	3	9	7	4	4	**57**
Wise County	9	13	8	4	5	9	3	3	8	7	5	15	**89**
Wythe County	4	4	8	5	2	7	4	3	5	9	7	8	**66**
York County	3	8	11	6	11	15	8	7	8	6	4	8	**95**
Subtotal (in-state)	**882**	**897**	**945**	**968**	**989**	**1055**	**1049**	**1055**	**1133**	**1087**	**1151**	**1155**	**12366**
Out of State	2	6	3	4	4	9	3	5	9	8	4	1	**58**
Unknown	0	0	1	1	1	0	0	1	3	2	1	1	**11**
Subtotal (out-of-state)	**2**	**6**	**4**	**5**	**5**	**9**	**3**	**6**	**12**	**10**	**5**	**2**	**69**
TOTAL	**884**	**903**	**949**	**973**	**994**	**1064**	**1052**	**1061**	**1145**	**1097**	**1156**	**1157**	**12435**

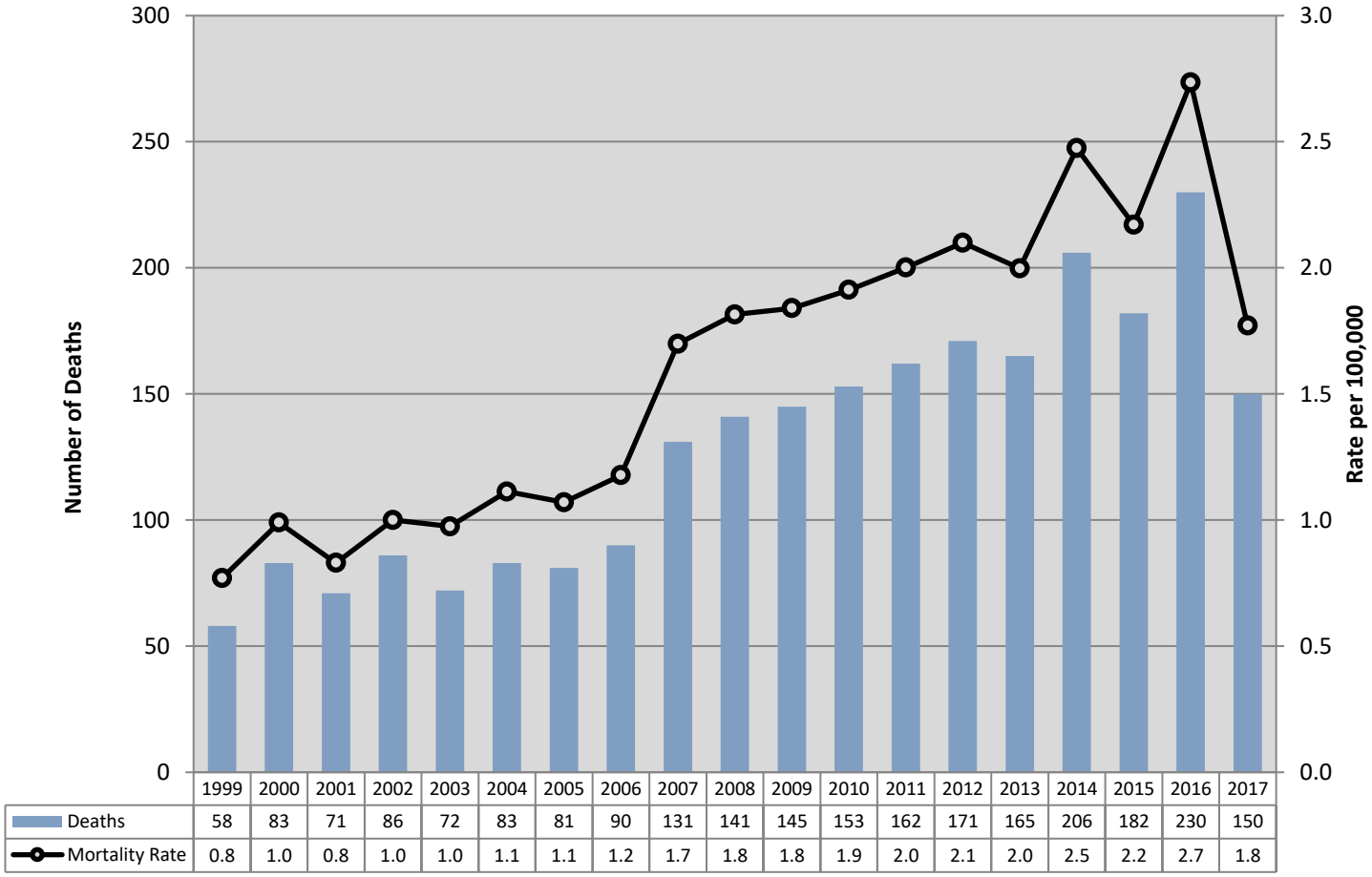
Note: Bedford City was incorporated into Bedford County in 2014 and therefore, numbers are combined from there forward

UNDETERMINED DEATHS (N=150)

Undetermined deaths are those in which after examination, two or more manners cannot be eliminated and therefore the death must be ruled undetermined. In 2017, the number of undetermined deaths decreased by 34.8% compared to 2016. Generally, undetermined deaths have increased since 2006 mainly due to the transition in diagnostic criteria of sudden infant death syndrome (SIDS) to sudden unexpected infant death (SUID), where SIDS deaths are classified as natural deaths and SUID deaths are classified as undetermined deaths.

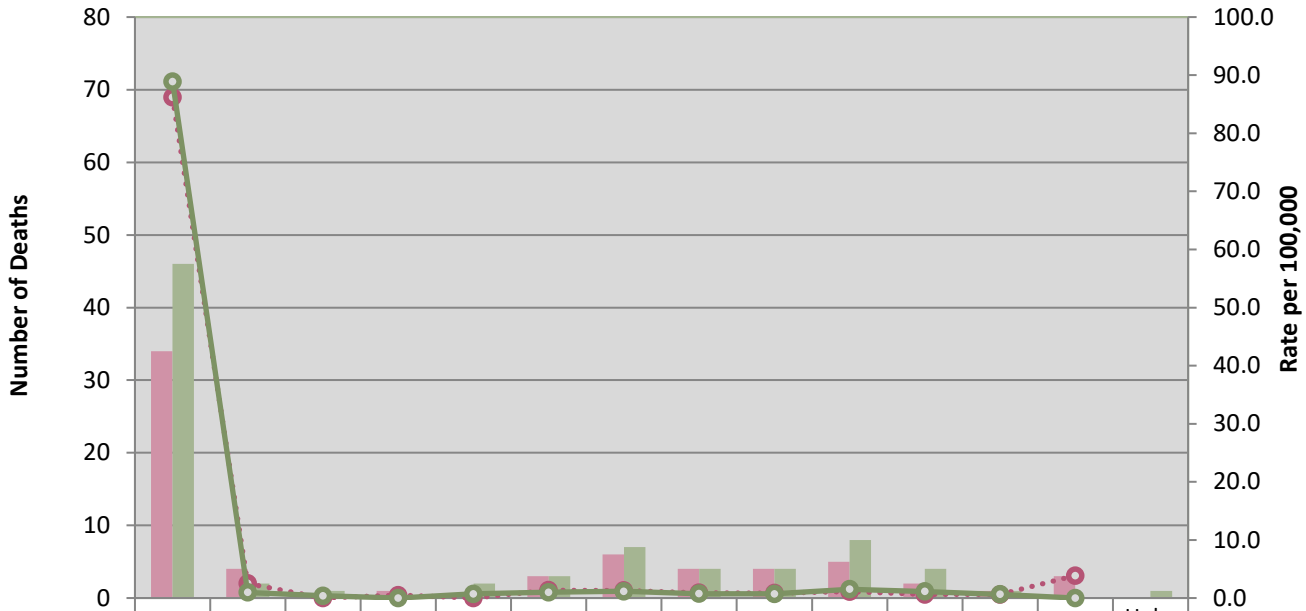
- Twenty-eight percent of the cases assigned an undetermined manner had a determined cause of death
- Over 53% of deaths with an undetermined manner were among infants less than 1 year of age

Figure 2.29 Number and Rate of Undetermined Deaths by Year of Death, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	58	83	71	86	72	83	81	90	131	141	145	153	162	171	165	206	182	230	150
Mortality Rate	0.8	1.0	0.8	1.0	1.0	1.1	1.1	1.2	1.7	1.8	1.8	1.9	2.0	2.1	2.0	2.5	2.2	2.7	1.8

Figure 2.30 Number and Rate of Undetermined Deaths by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Unknown
Female	34	4	0	1	0	3	6	4	4	5	2	1	3	0
Male	46	2	1	0	2	3	7	4	4	8	4	1	0	1
Female Rate	68.9	2.0	0.0	0.4	0.0	1.1	1.0	0.7	0.7	0.9	0.5	0.5	3.1	*
Male Rate	88.9	1.0	0.4	0.0	0.7	1.0	1.2	0.7	0.7	1.5	1.1	0.6	0.0	*

*No rate can be calculated

Figure 2.31 Percentage of Undetermined Deaths by Race/Ethnicity, 2017

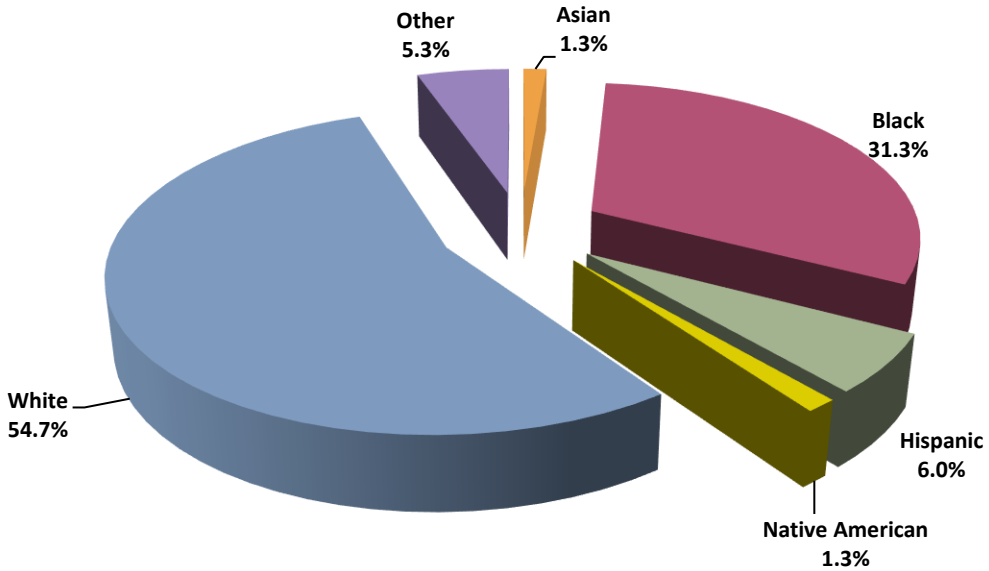


Table 2.18 Number of Undetermined Deaths by Cause of Death, 2017

Undetermined Manner of Death with Cause of Death Determined	Autopsied	Total Cases
Asphyxia		
Drowned	2	2
Strangled/Neck compression	1	1
Drug Use		
Ingested and/or injected illicit, prescription, and/or OTC medication	7	7
Fire		
Thermal burns and/or inhalation of combustion products	2	2
Jump/Fall		
Jumped/Fell from height	3	5
Motor Vehicle		
Car	1	1
Sport utility vehicle	1	1
Unknown	1	1
Traumatic Injury		
Gunshot wound		
Handgun	4	4
Rifle	2	2
Other/Unknown traumatic causes	15	15
Other		
Other	1	1
Subtotal (Undetermined Manner with Determined Cause of Death)	**40**	**42**
Undetermined Manner of Death and Undetermined Cause of Death		
Skeletal/Mummified remains	13	**13**
Sudden Unexpected Infant Death (SUID)	69	**69**
Undetermined after autopsy and/or toxicology	23	**26**
Subtotal (Undetermined Manner and Undetermined Cause of Death)	**105**	**108**
TOTAL UNDETERMINED DEATHS	**145**	**150**

SECTION 3: DEATHS OF CHILDREN (N=324)

Child deaths are deaths of persons aged 17 years and younger.

The OCME investigated 324 deaths of children, representing 4.5% of all OCME deaths in 2017.

- Males represented 63.9% of all child cases
- Infants under one year of age had the largest percentage of child death investigations (41.4%)
- The leading causes of death for children under 18 years of age were sudden unexpected infant death (SUID) (specifically among infants under 1 year of age), gunshot wounds, and motor vehicle collisions

Figure 3.1 Number of Child Deaths by Manner, 2017

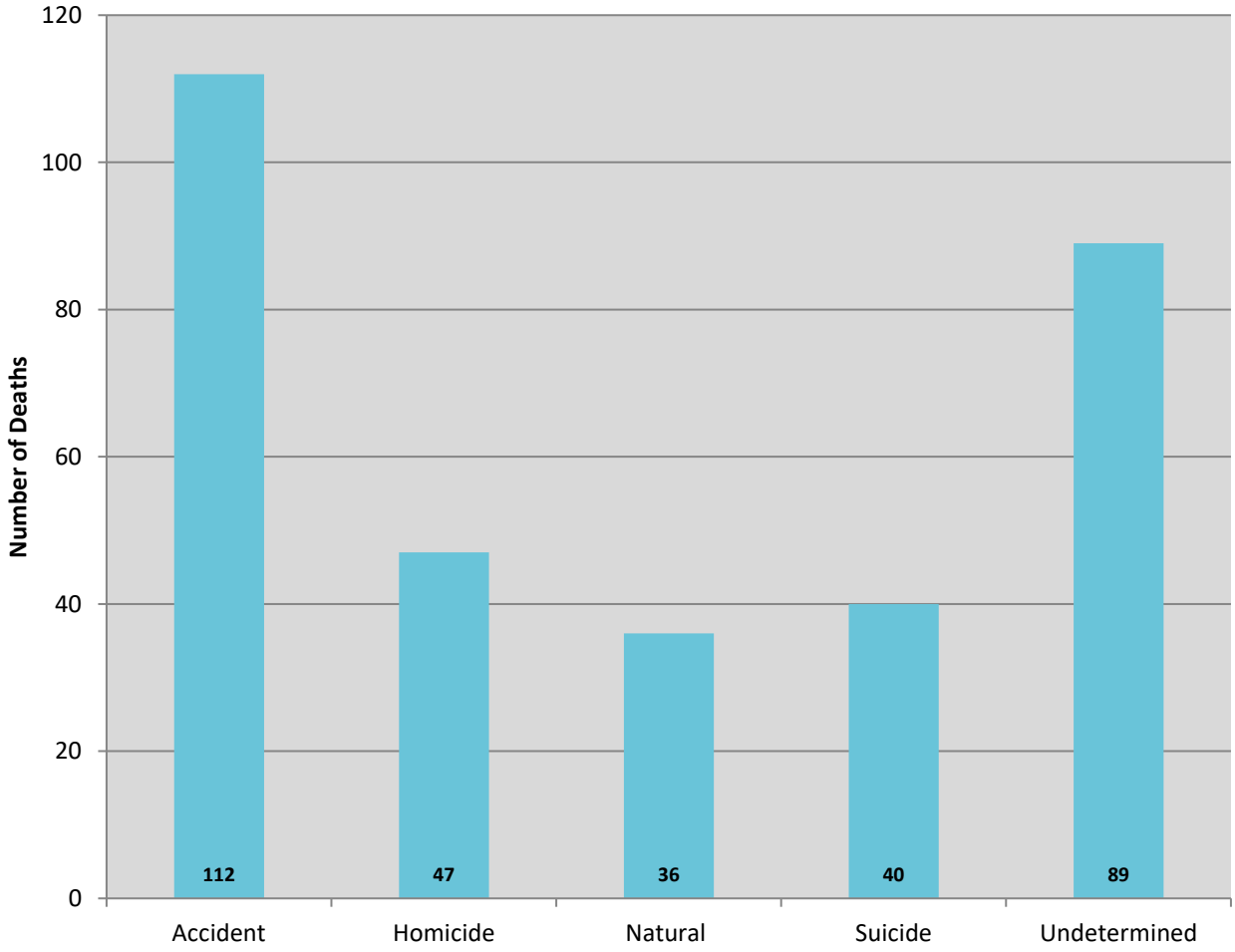
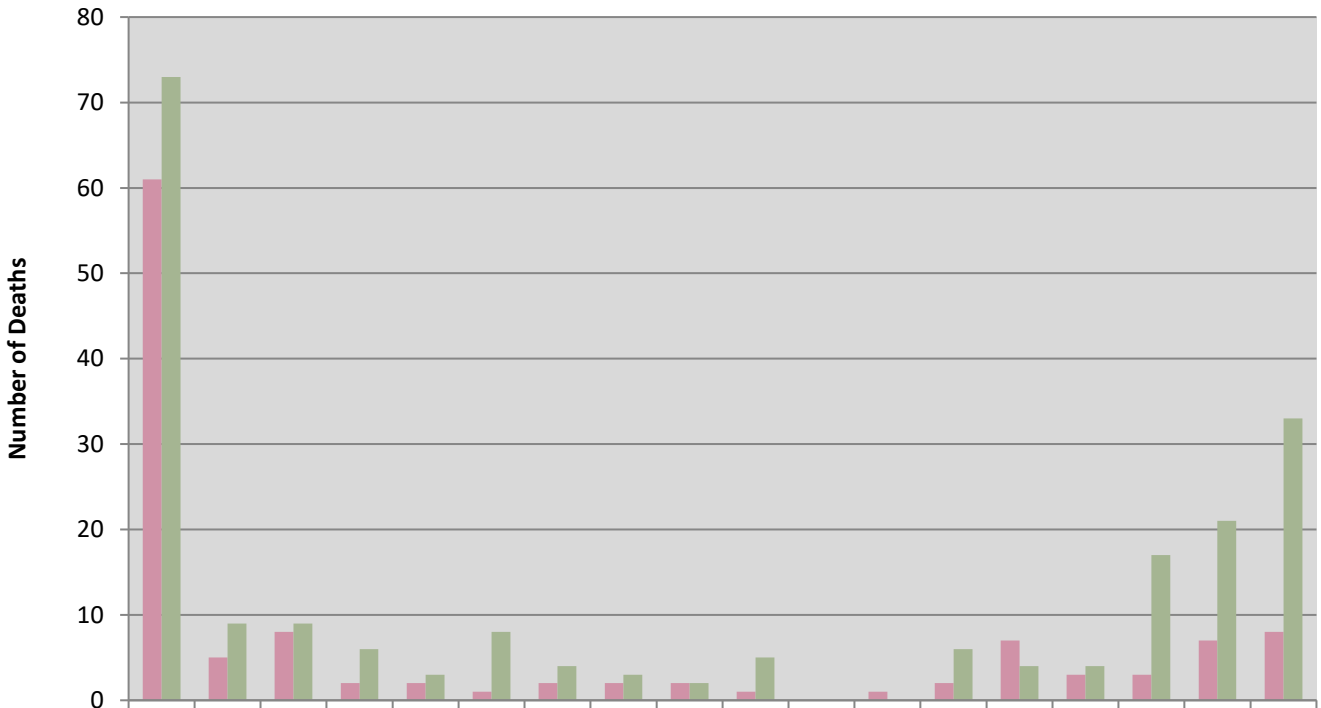


Figure 3.2 Number of Child Deaths by Age and Gender, 2017



	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Female	61	5	8	2	2	1	2	2	2	1	0	1	2	7	3	3	7	8
Male	73	9	9	6	3	8	4	3	2	5	0	0	6	4	4	17	21	33

Figure 3.3 Percentage of Child Deaths by Race/Ethnicity, 2017

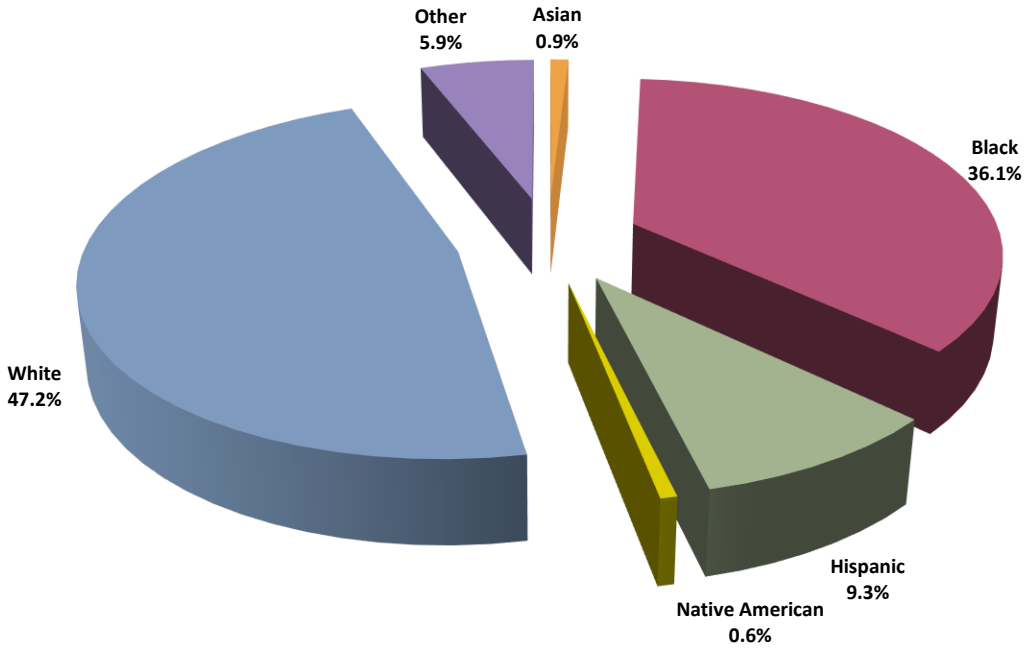
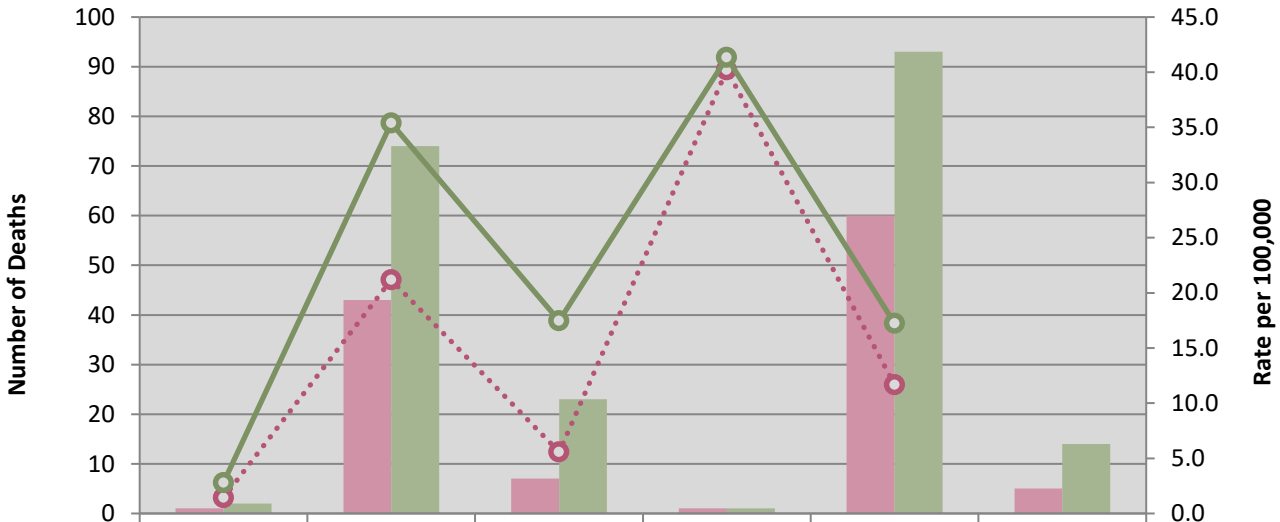


Figure 3.4 Number and Rate of Child Deaths by Gender and Race/Ethnicity, 2017



	Asian	Black	Hispanic	Native American	White	Other
Female	1	43	7	1	60	5
Male	2	74	23	1	93	14
Female Rate	1.4	21.2	5.6	40.2	11.7	*
Male Rate	2.8	35.4	17.5	41.3	17.2	*

*No rate can be calculated

Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Asians and Native Americans)

Figure 3.5 Number of Child Deaths by Manner and Race/Ethnicity, 2017

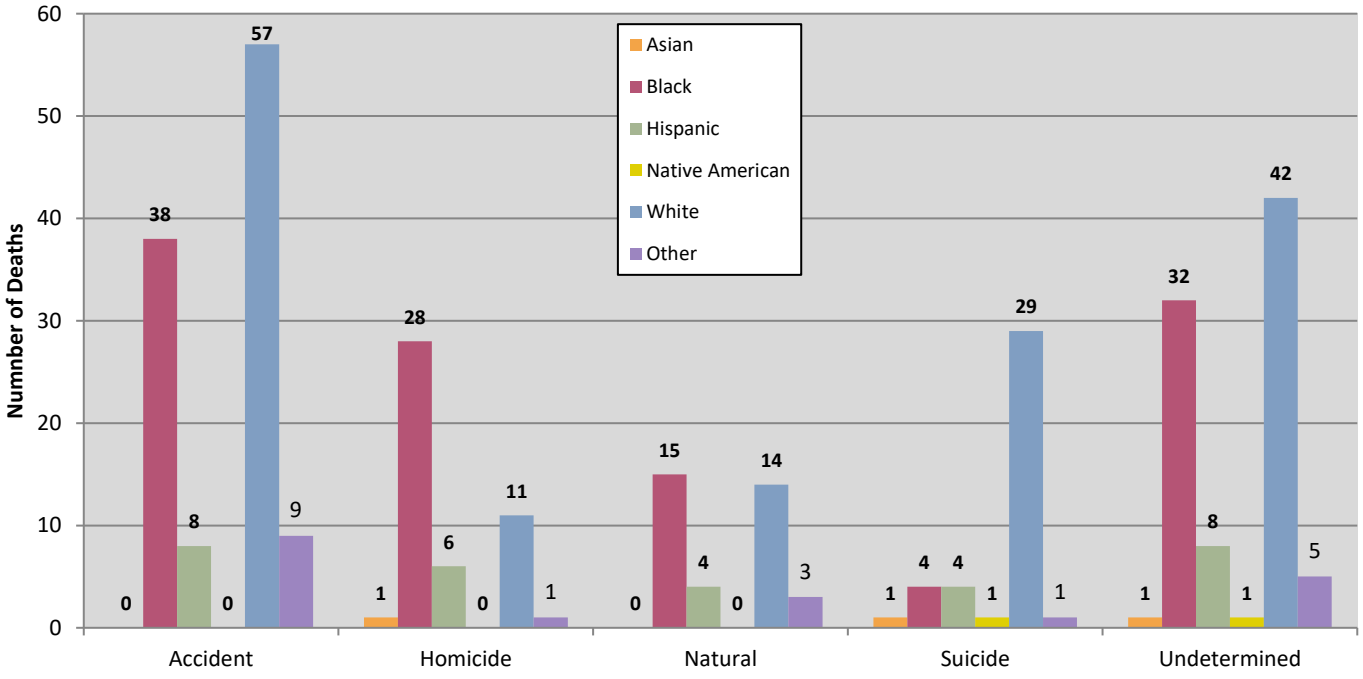
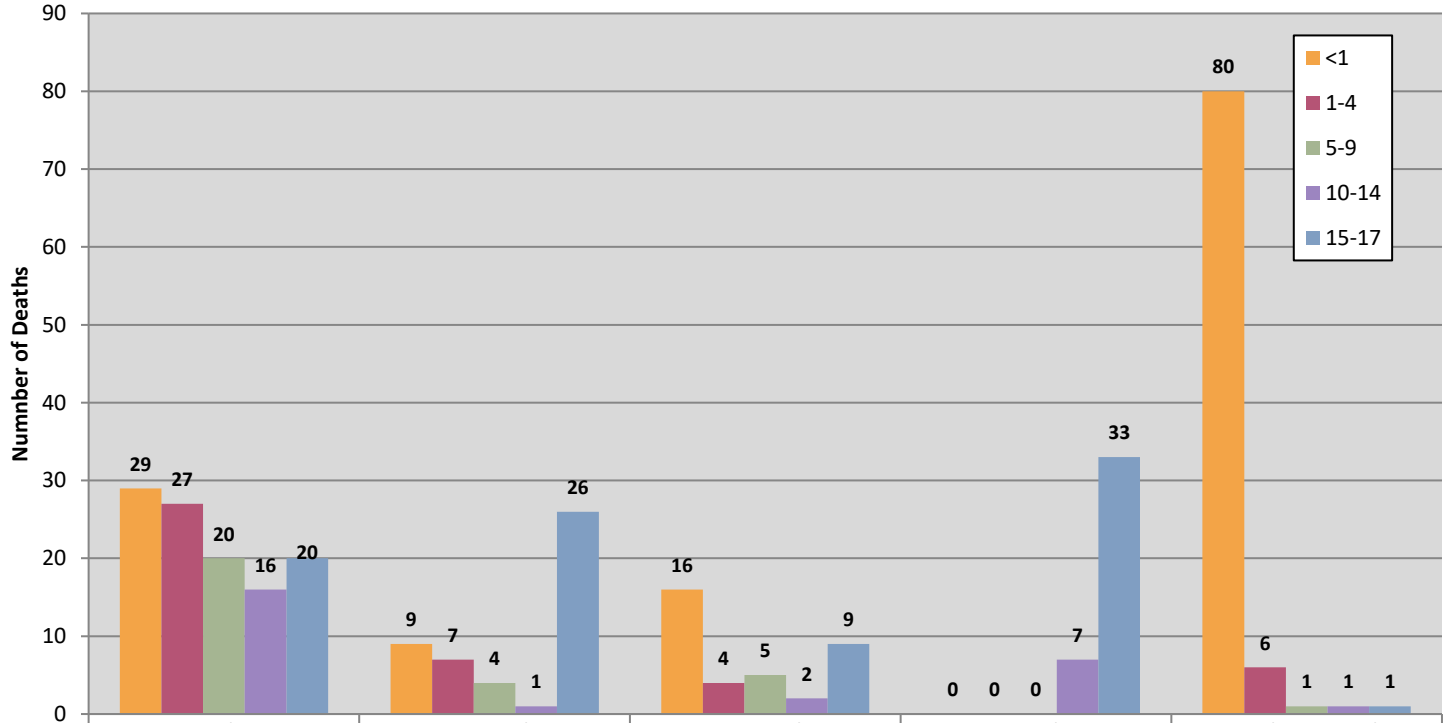


Figure 3.6 Number of Child Deaths by Manner and Age Group, 2017



	Accident	Homicide	Natural	Suicide	Undetermined
<1	29	9	16	0	80
1-4	27	7	4	0	6
5-9	20	4	5	0	1
10-14	16	1	2	7	1
15-17	20	26	9	33	1

Table 3.1 Number of Child Deaths by Cause of Death, 2017

NATURAL CHILD DEATHS	Autopsied	Total Cases
Cardiovascular Diseases/Disorders		
Cardiac arrhythmia not otherwise specified	4	**4**
Cardiomyopathy not otherwise specified	1	**1**
Congenital defect	3	**3**
Central Nervous System Diseases/Disorders		
Other CNS disease/disorder	2	**2**
Seizure Disorder	2	**2**
Gastrointestinal Diseases/Disorders		
Other gastrointestinal disease/disorder	1	**1**
Perinatal and Pediatric Diseases/Disorders		
Maternal complications	0	**1**
Other perinatal and pediatric disease/disorder	1	1
Sudden infant death syndrome (SIDS)	3	**3**
Pulmonary Diseases/Disorders		
Asthma	2	**2**
Other pulmonary diseases/disorders	1	**1**
Pneumonia	8	**8**
Systemic Diseases/Disorders		
Diabetes	1	**1**
Other infectious disease	1	**1**
Other systemic disease/disorder	2	**3**
Sepsis	2	**2**
Subtotal of Natural Child Deaths	**34**	**36**
UNNATURAL CHILD DEATHS	**Autopsied**	**Total Cases**
Asphyxia		
Choked (aspiration of food or foreign object)	1	**2**
CO (carbon monoxide) poisoning	1	**1**
Drowned	15	**19**
Hanged	8	**15**
Mechanical/Positional asphyxia	10	**11**
Other asphyxia	0	**1**
Strangled/Neck compression	1	**1**
Suffocated/Smothered	15	**15**
Drug Use		
Ingested and/or injected illicit, prescription, and/or other type of drug	9	**9**
Fall/Jump		
Fall/Jump from height	2	**3**
Fire Injuries		
Thermal burns and/or inhalation of combustion products	4	**8**

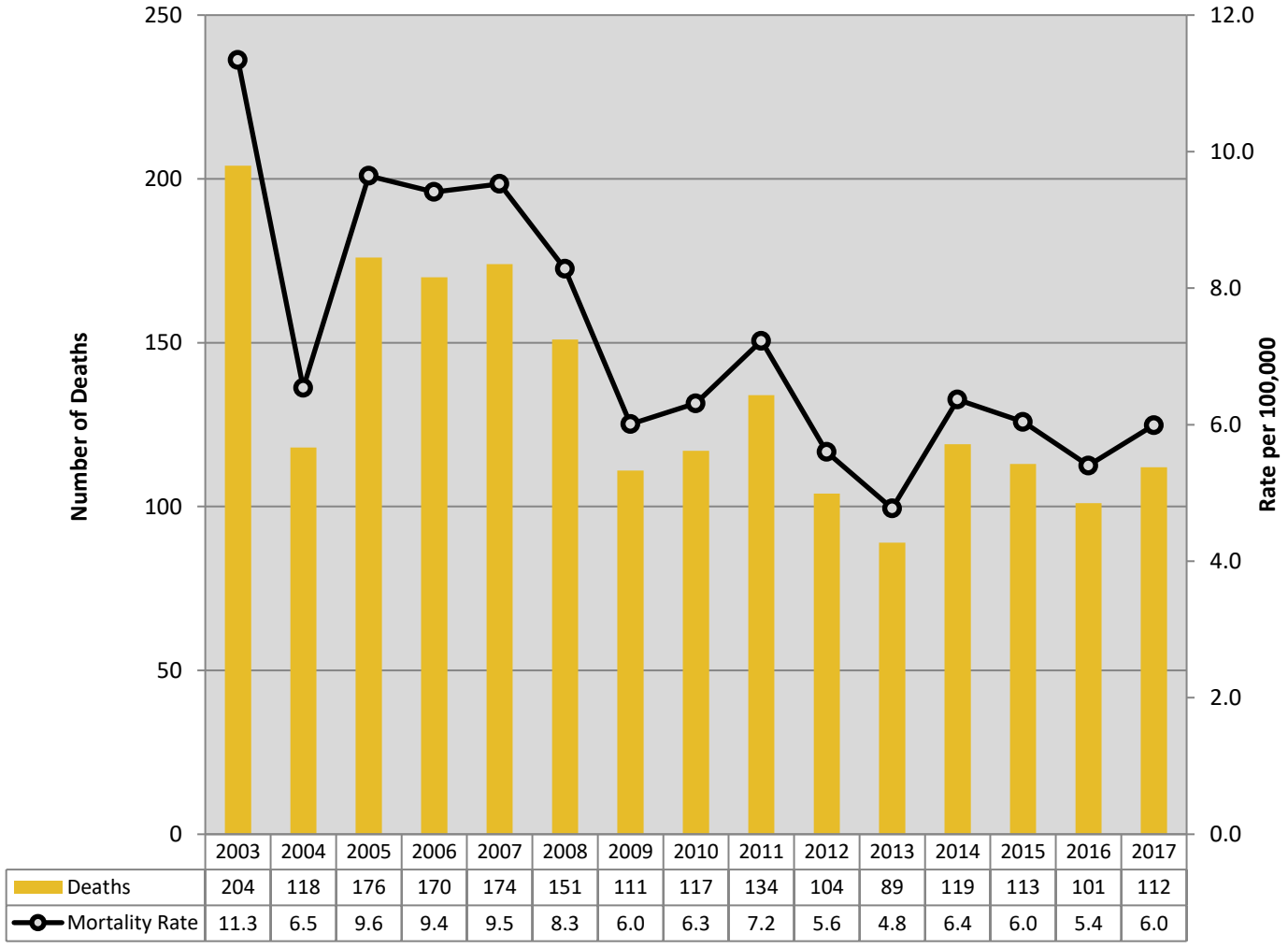
Gunshot Wound		
Handgun	36	**37**
Rifle	2	**2**
Shotgun	5	**5**
Unknown	4	**4**
Motor Vehicle		
All terrain vehicle	0	**5**
Bicycle	0	**1**
Car	0	**18**
Pickup truck	1	**4**
Sport utility vehicle	0	**5**
Tractor trailer	0	**3**
Train	1	**3**
Truck other	0	**1**
Van	0	**5**
Traumatic Injury		
Beatings	11	**11**
Falling object	3	**4**
Other Unnatural Deaths		
Other	10	**14**
Subtotal of Unnatural Child Deaths	**139**	**207**
UNDETERMINED CHILD DEATHS	**Autopsied**	**Total Cases**
Undetermined After Autopsy and/or Investigation		
Sudden unexpected infant death (SUID)	68	**68**
Undetermined after autopsy and/or toxicology	13	**13**
Subtotal of Undetermined Child Deaths	**81**	**81**
TOTAL CHILD DEATHS	**254**	**324**

ACCIDENTAL CHILD DEATHS (N=112)

The number of accidental child deaths increased by 10.9% in 2017 compared to 2016.

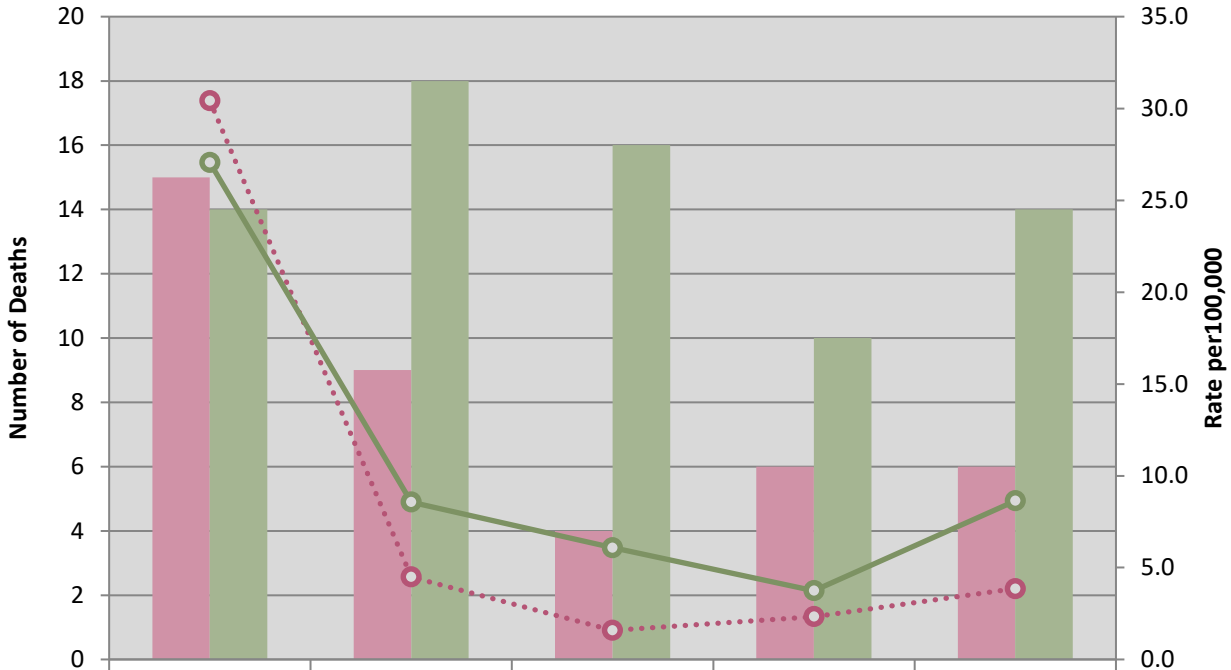
- The largest number of accidental deaths occurred among males (64.3%), whites (50.9%), and infants <1 year of age (25.9%)
- Black females had the highest rate of accidental death (9.9 deaths per 100,000 persons aged 0-17 years), followed closely by black males (8.6 deaths per 100,000 persons aged 0-17 years)
- Motor vehicle accidents were the leading method of death (38.4%), followed by accidental drownings (16.1%) and accidental suffocation/smothering (12.5%)

Figure 3.7 Number and Rate of Accidental Child Deaths by Year, 2003-2017



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	204	118	176	170	174	151	111	117	134	104	89	119	113	101	112
Mortality Rate	11.3	6.5	9.6	9.4	9.5	8.3	6.0	6.3	7.2	5.6	4.8	6.4	6.0	5.4	6.0

Figure 3.8 Number and Rate of Accidental Child Deaths by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-17
Female	15	9	4	6	6
Male	14	18	16	10	14
Female Rate	30.4	4.5	1.6	2.3	3.9
Male Rate	27.1	8.6	6.1	3.7	8.6

Figure 3.9 Percentage of Accidental Child Deaths by Race/Ethnicity, 2017

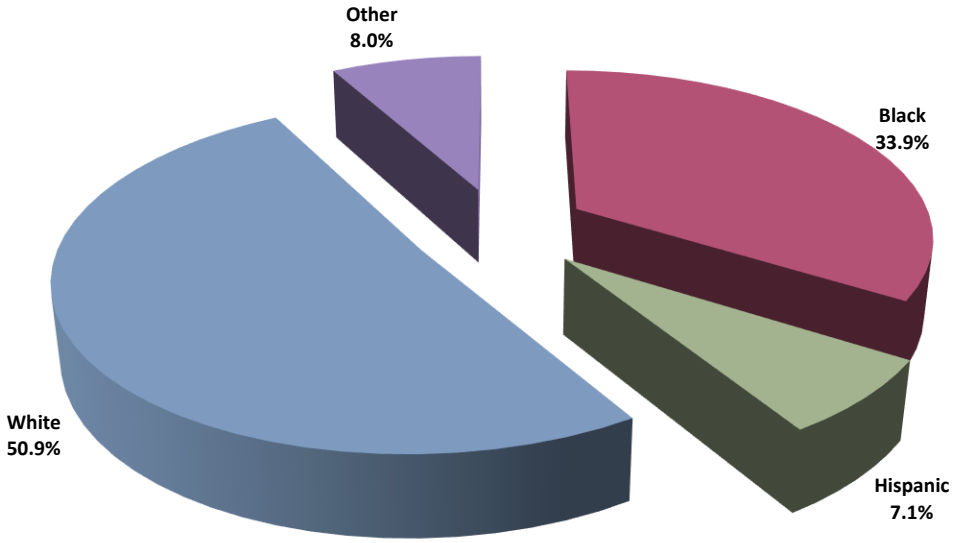
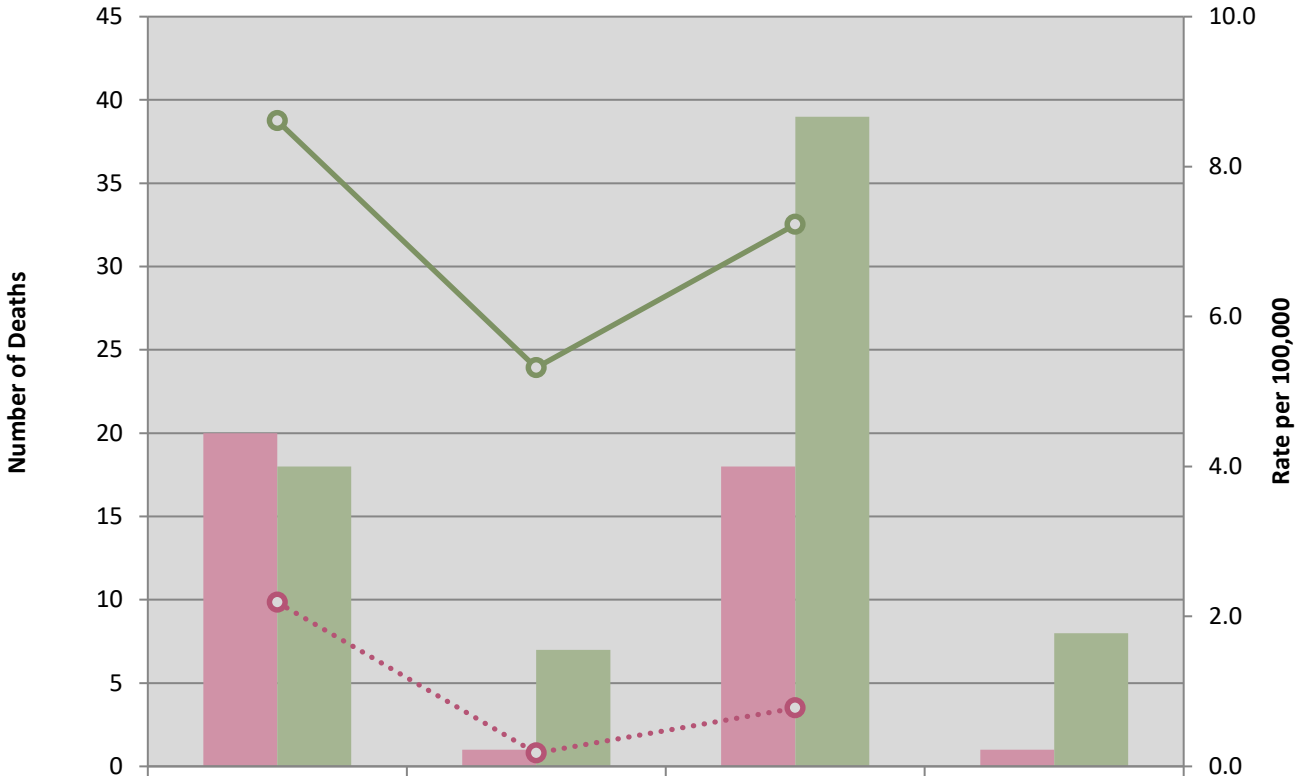


Figure 3.10 Number and Rate of Accidental Child Deaths by Gender and Race/Ethnicity, 2017



	Black	Hispanic	White	Other
Female	20	1	18	1
Male	18	7	39	8
Female Rate	9.9	0.8	3.5	*
Male Rate	8.6	5.3	7.2	*

*No rate can be calculated
Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Hispanics)

Figure 3.11 Number of Accidental Child Deaths by Month of Death, 2017

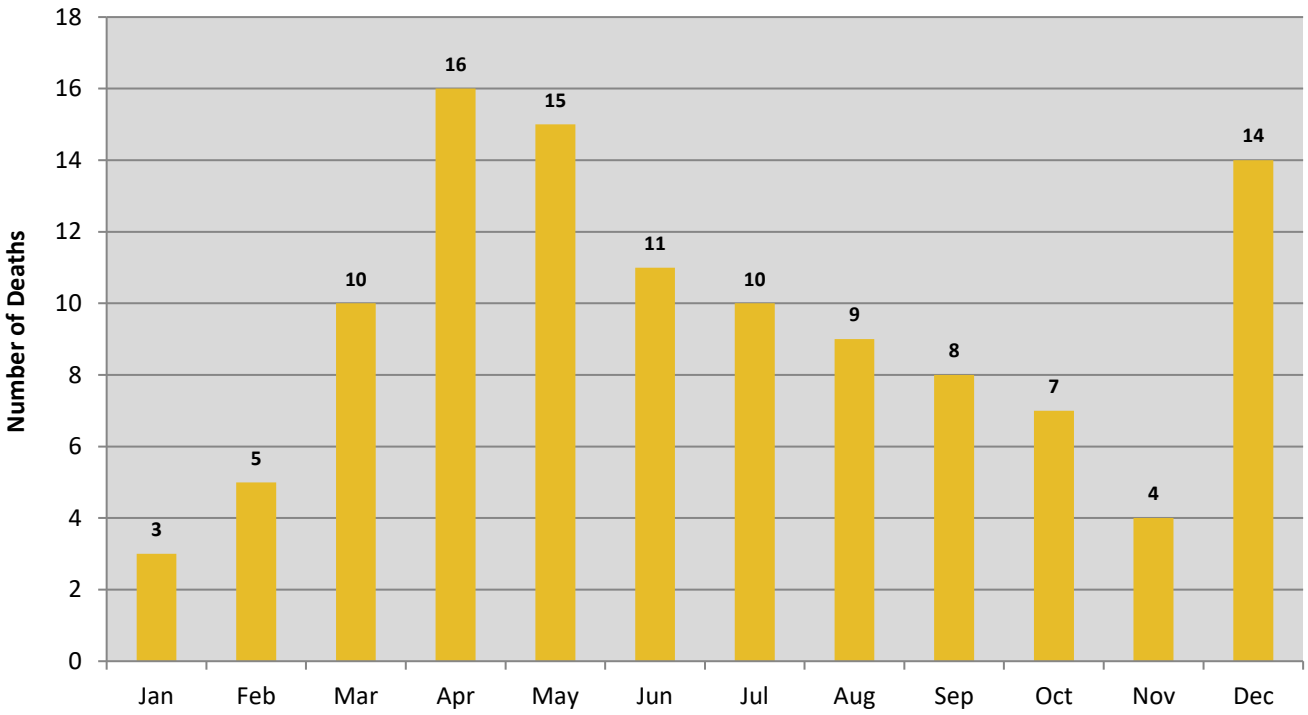


Figure 3.12 Number of Accidental Child Deaths by Day of Week, 2017

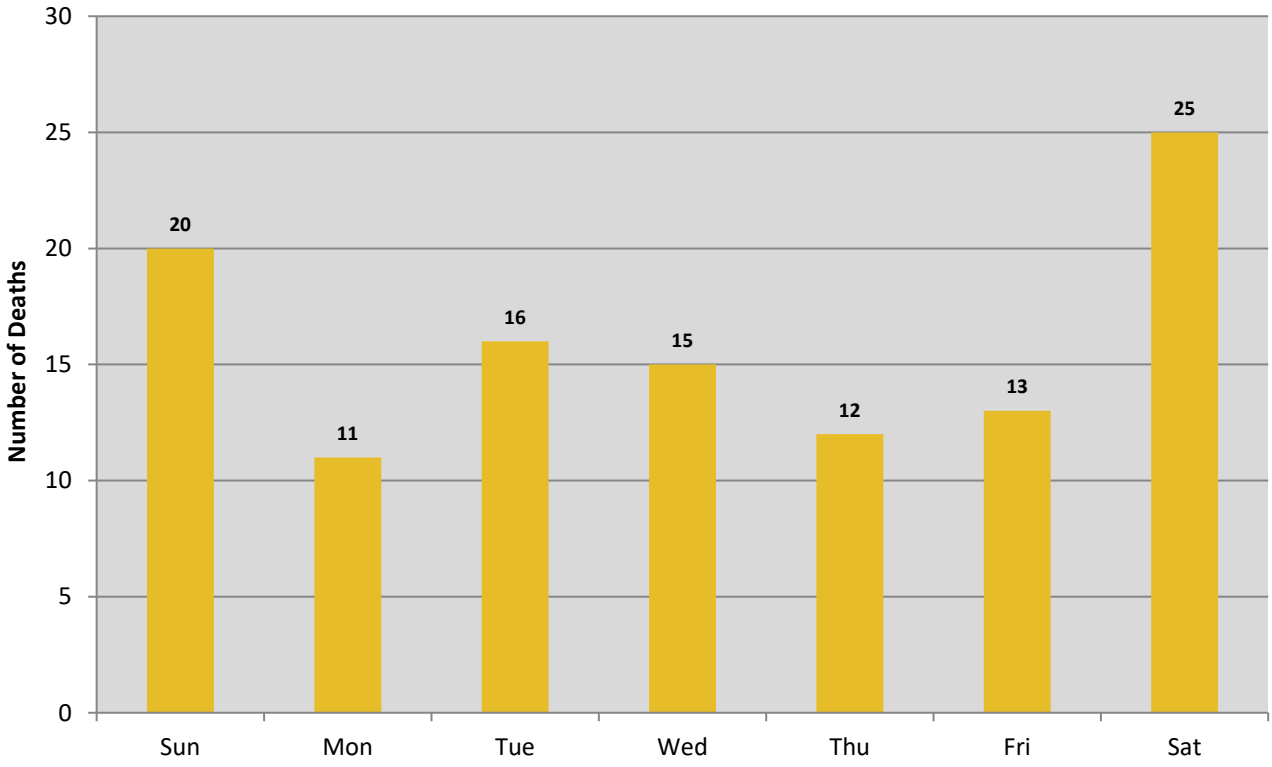


Table 3.2 Number of Accidental Child Deaths by Cause and Method of Death, 2017

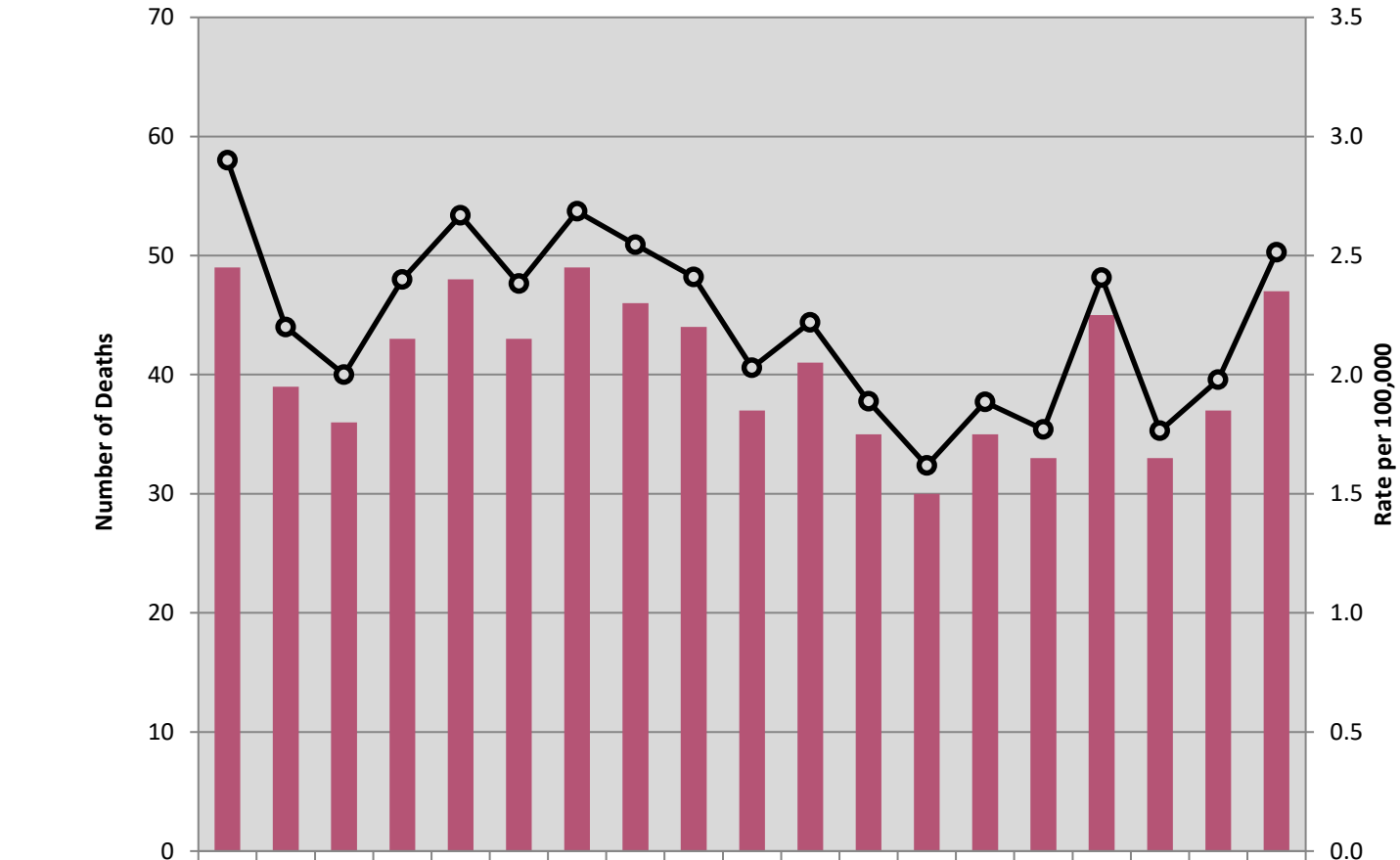
Method of Death	Autopsied	Total Cases
Asphyxia		
Carbon monoxide (CO) poisoning-other	1	**1**
Choked (aspiration of food or foreign object)	1	**2**
Drowned	14	**18**
Hanged	0	**1**
Mechanical/Positional asphyxia	10	**11**
Other asphyxia	0	**1**
Suffocated/Smothered	14	**14**
Drug Use		
Ingested and/or injected illicit, prescription, and/or other type of drug	2	**2**
Fall/Jump		
Fall/Jump from height	2	**2**
Fire Injuries		
Thermal burns and/or inhalation of combustion products	4	**8**
Gunshot Wound		
Handgun	1	**1**
Motor Vehicle		
All terrain vehicle	0	**5**
Bicycle	0	**1**
Car	0	**18**
Pickup truck	0	**3**
Sport utility vehicle	0	**5**
Tractor trailer	0	**3**
Train	1	**2**
Truck other	0	**1**
Van	0	**5**
Other Unnatural Deaths		
Other	3	**8**
TOTAL ACCIDENTAL CHILD DEATHS	**53**	**112**

CHILD HOMICIDE DEATHS (N=47)

The number of child homicide deaths in 2017 increased by 27.0% when compared to 2016. Homicides represented 14.5% of all child deaths.

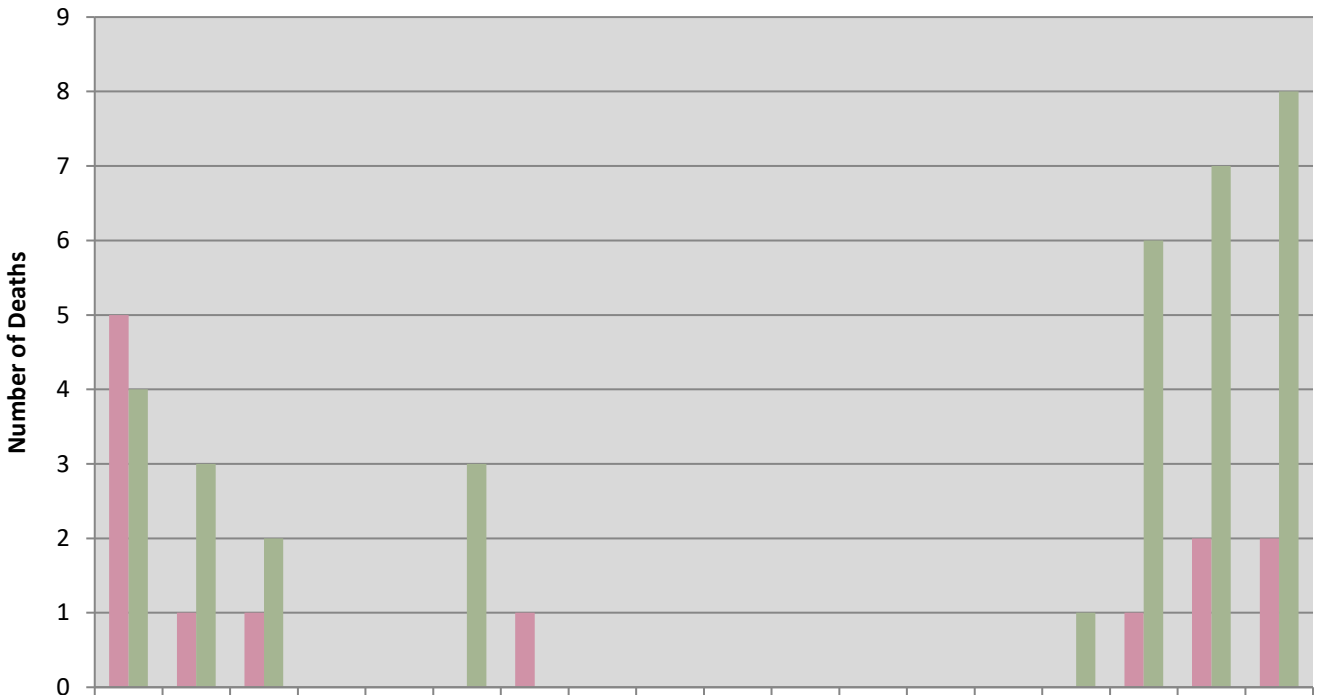
- Homicides in children occurred most frequently among males (72.3%) and among blacks (59.6%)
- Black males had the highest rate of child homicides with 10.5 deaths per 100,000 persons aged 0-17 years
- Gunshot wounds (57.4%) were the most common method of child homicide in 2017, followed by beatings (23.4%)

Figure 3.13 Number and Rate of Child Homicide Deaths by Year, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	49	39	36	43	48	43	49	46	44	37	41	35	30	35	33	45	33	37	47
Mortality Rate	2.9	2.2	2.0	2.4	2.7	2.4	2.7	2.5	2.4	2.0	2.2	1.9	1.6	1.9	1.8	2.4	1.8	2.0	2.5

Figure 3.14 Number of Child Homicide Deaths by Age and Gender, 2017



	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Female	5	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	2	2
Male	4	3	2	0	0	3	0	0	0	0	0	0	0	0	1	6	7	8

Figure 3.15 Percentage of Child Homicide Deaths by Race/Ethnicity, 2017

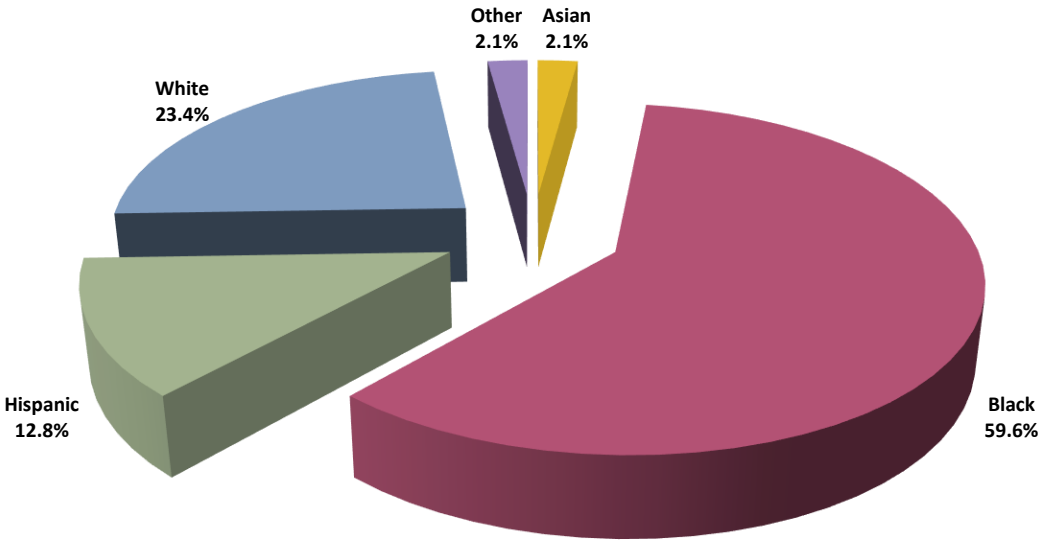
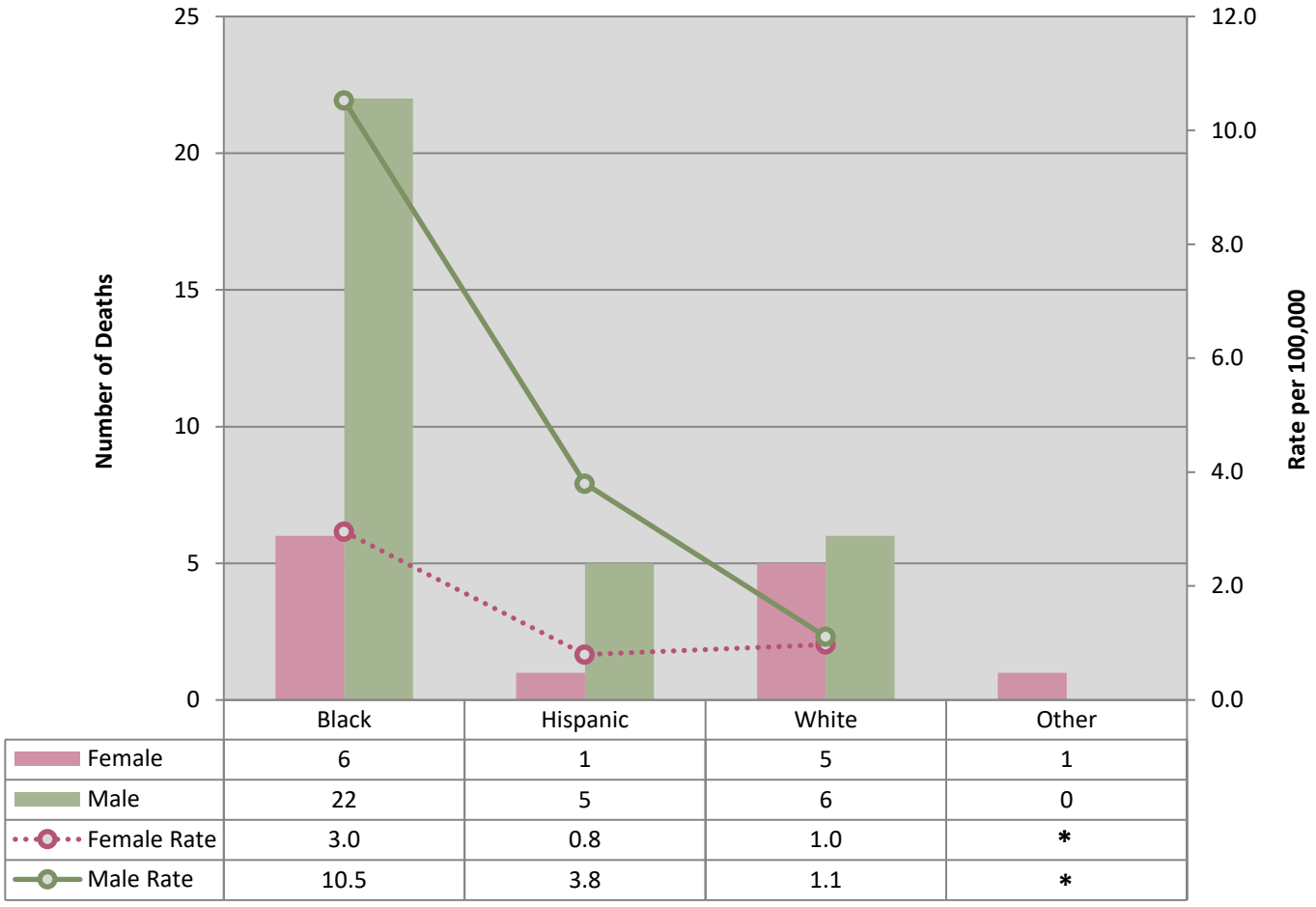


Figure 3.16 Number and Rate of Child Homicide Deaths by Gender and Race/Ethnicity, 2017



	Black	Hispanic	White	Other
Female	6	1	5	1
Male	22	5	6	0
Female Rate	3.0	0.8	1.0	*
Male Rate	10.5	3.8	1.1	*

*No rate can be calculated
Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Hispanics)

Figure 3.17 Number of Child Homicide Deaths by Month of Death, 2017

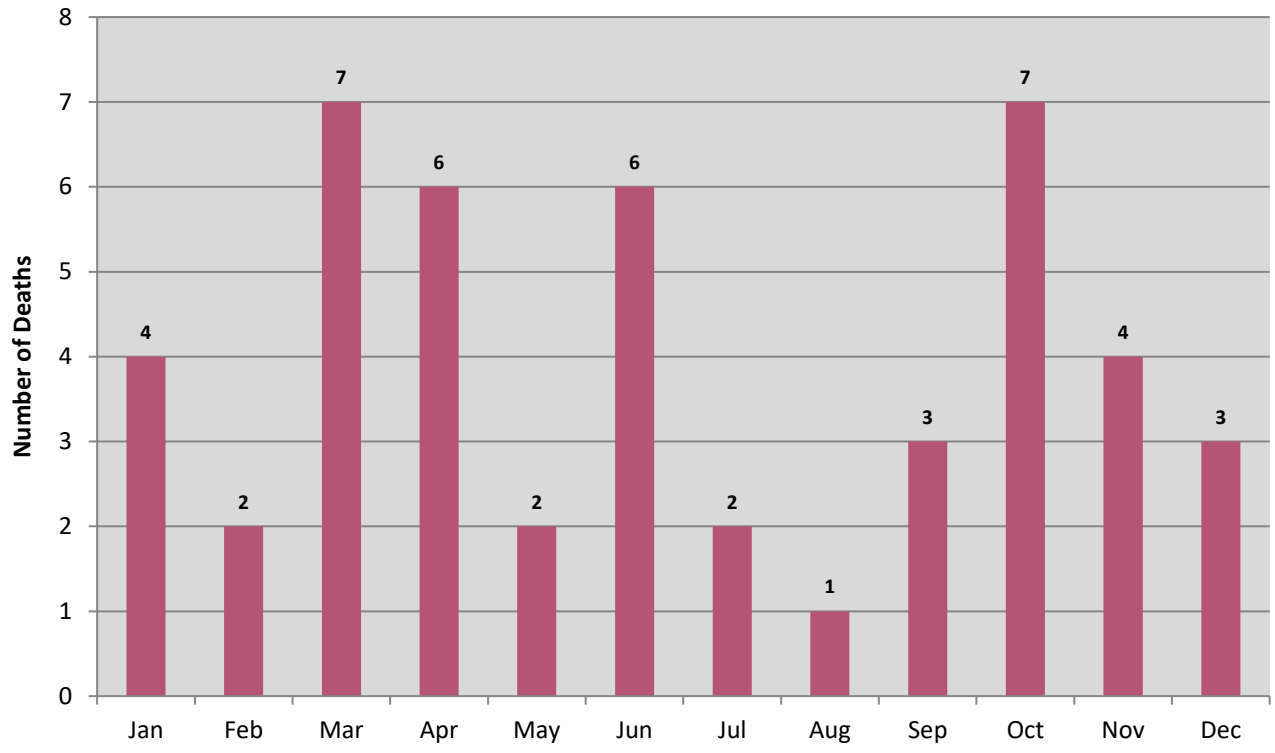


Figure 3.18 Number of Child Homicide Deaths by Day of the Week, 2017

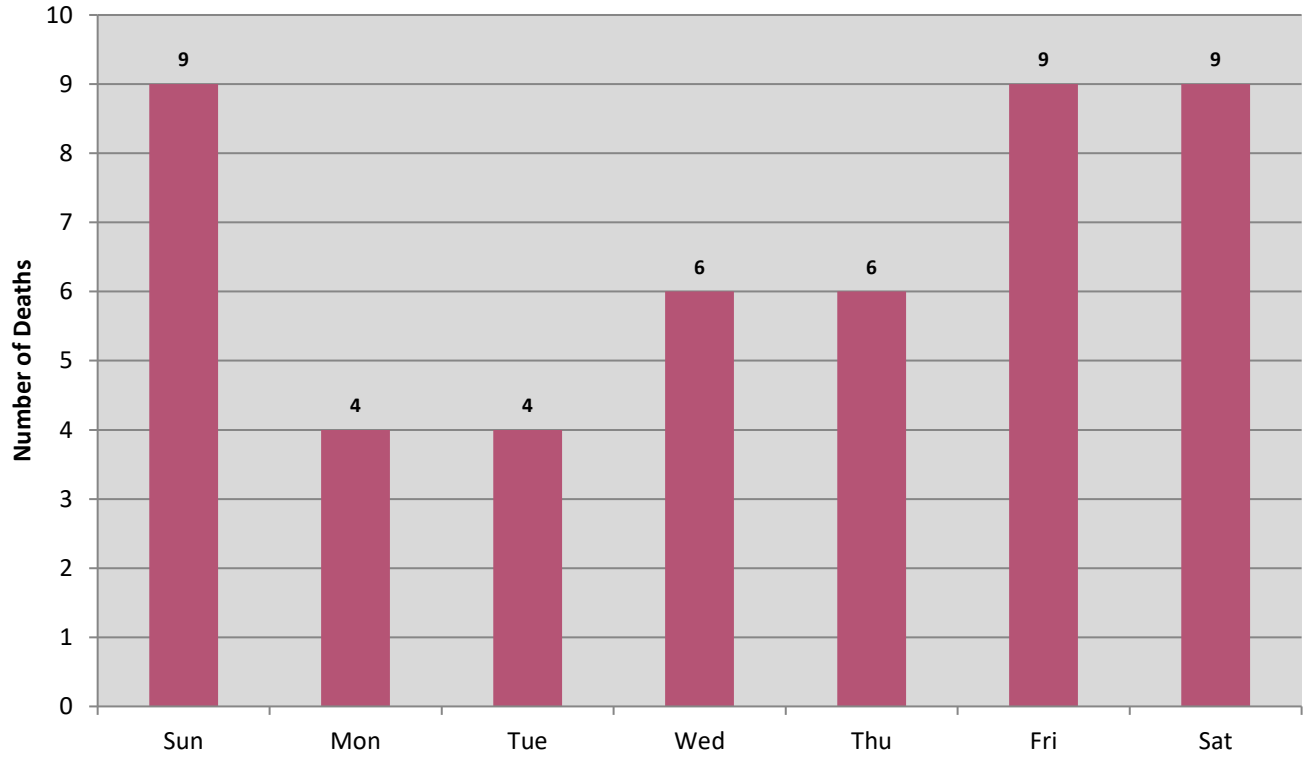


Table 3.3 Number of Child Homicide Deaths by Cause and Method of Death, 2017

Method of Death	Autopsied	Total Cases
Asphyxia		
Suffocated/Smothered	1	**1**
Drug Use		
Ingested and/or injected illicit, prescription, and/or other type of drug	1	**1**
Traumatic Injury		
Beaten by assailant(s)	11	**11**
Sharp force injuries	3	**3**
Shot by assailant(s) with firearm		
Handgun	22	22
Shotgun	1	1
Unknown	4	4
Other/Undetermined	4	4
TOTAL CHILD HOMICIDE DEATHS	**47**	**47**

NATURAL CHILD DEATHS (N=36)

Infants made up the largest proportion of natural child deaths (44.4%) that fell under the OCME's jurisdiction.

- Pneumonia was the most common category of natural deaths among children

NOTE: Due to the change of OCME case definitions which includes the addition of the sudden unexpected infant death (SUID) classification of infant death in 2007 (undetermined manner of death), sudden infant death syndrome (SIDS) cases have drastically decreased (natural manner of death)

Figure 3.19 Number of Natural Child Deaths by Age Group and Gender, 2017

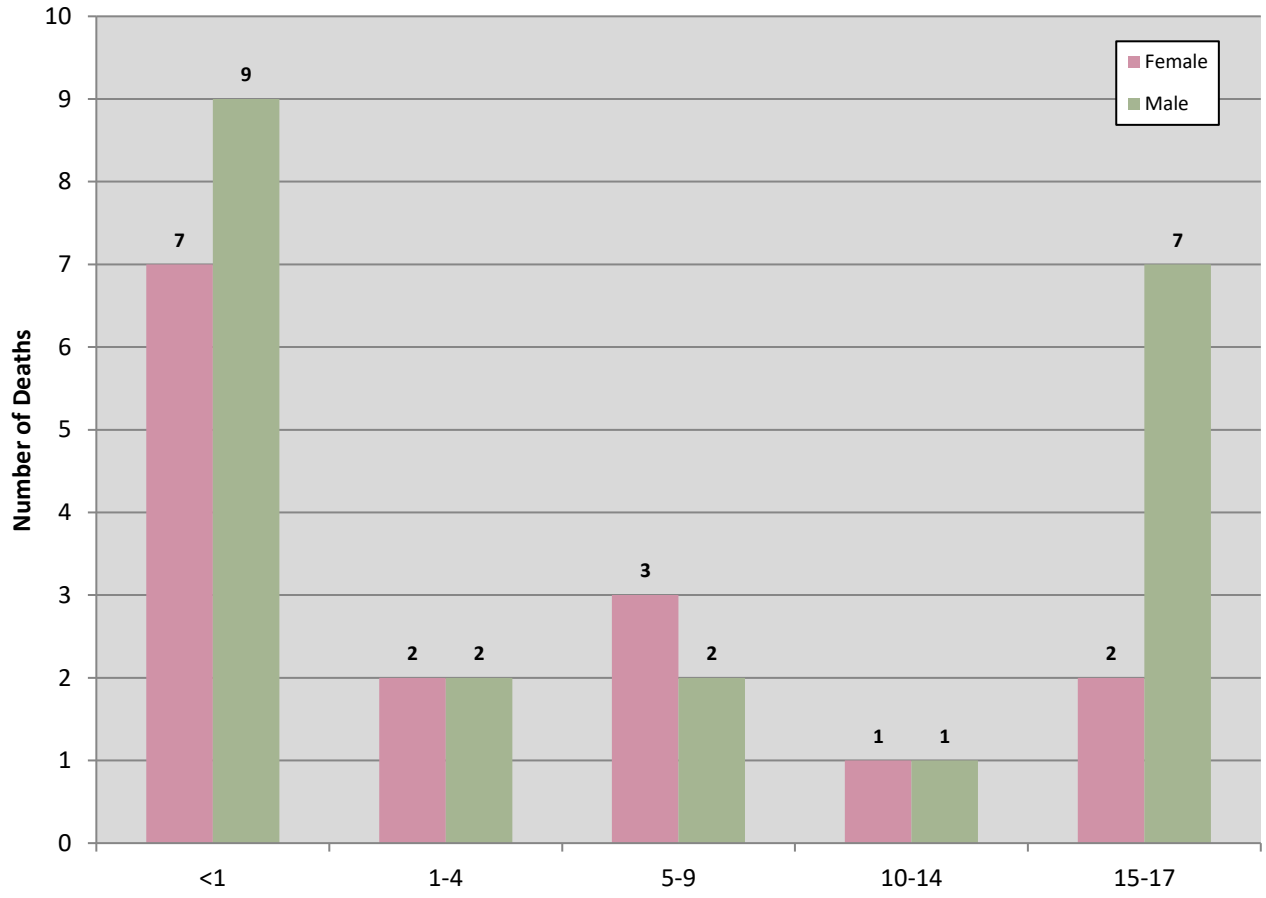


Figure 3.20 Percentage of Natural Child Deaths by Race/Ethnicity, 2017

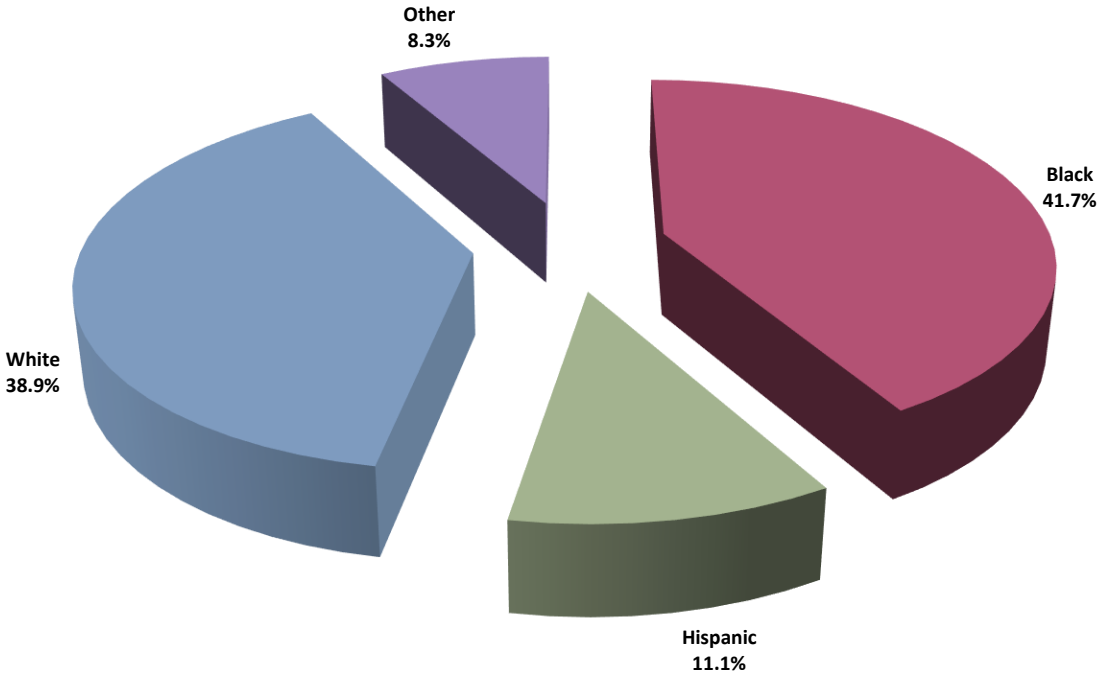


Figure 3.21 Number of OCME SIDS Cases by Year of Death, 2003-2017

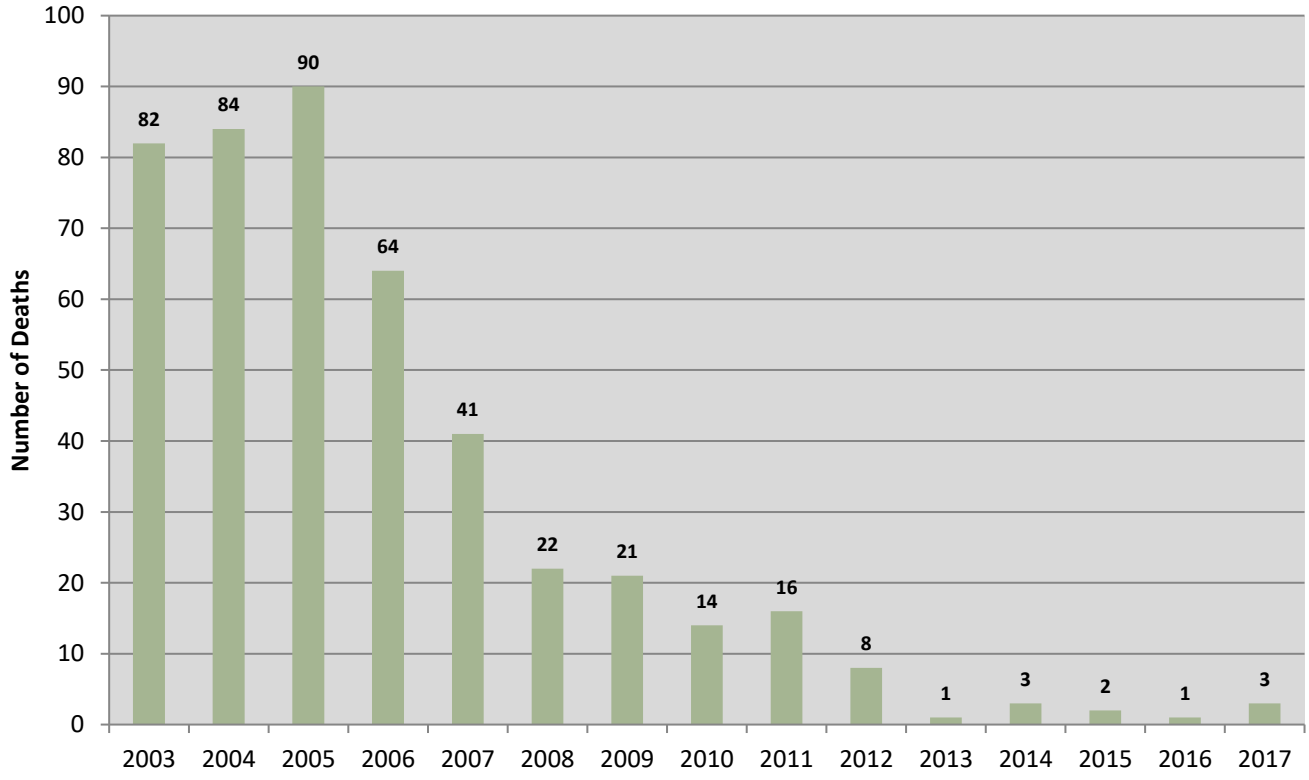


Table 3.4 Number of Natural Child Deaths by Cause and Method of Death, 2017

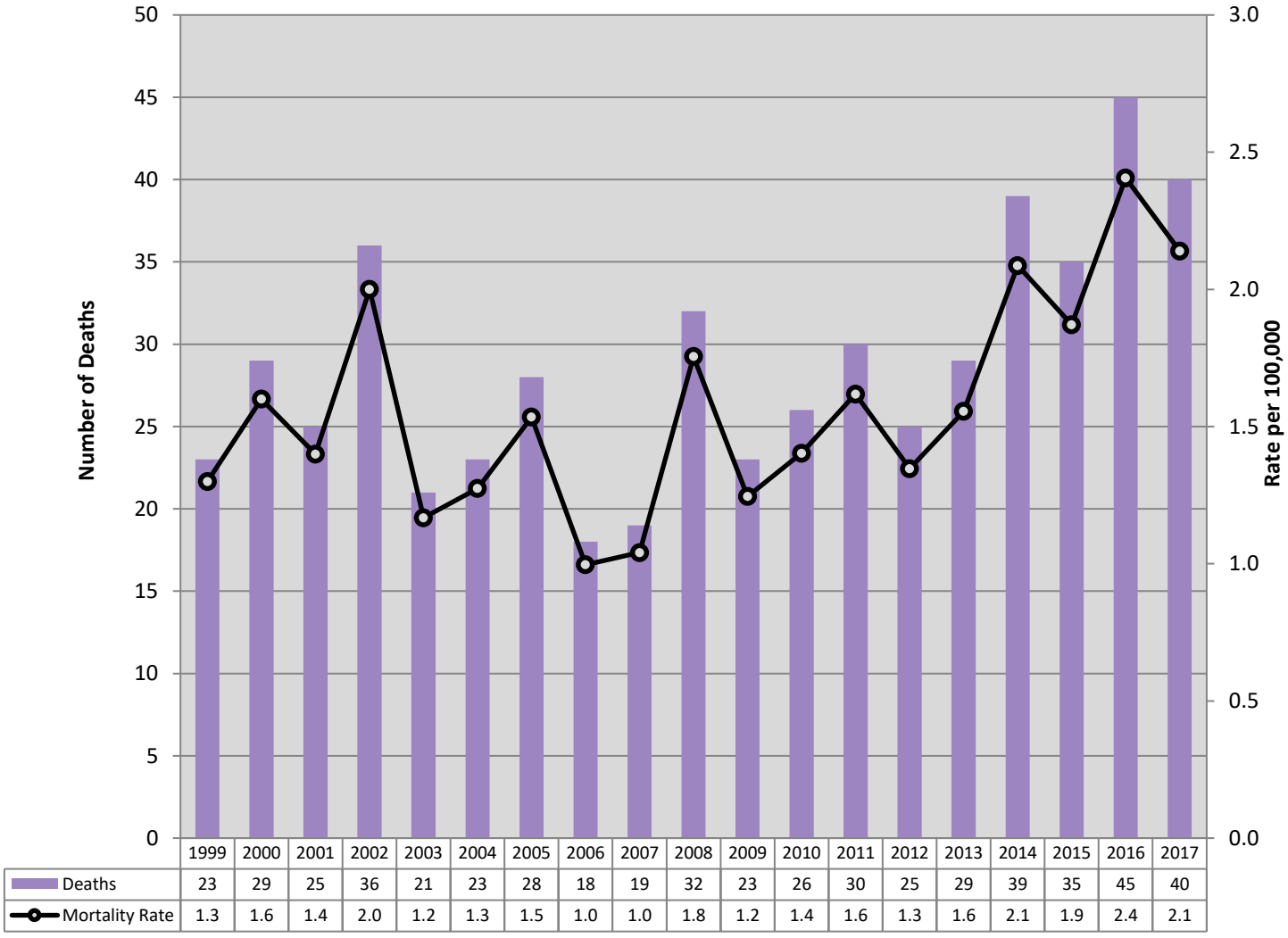
NATURAL CHILD DEATHS	Autopsied	Total Cases
Cardiovascular Diseases/Disorders		
Cardiomyopathy no otherwise specified	1	**1**
Cardiac arrhythmia not otherwise specified	4	**4**
Congenital heart defect	3	**3**
Central Nervous System Diseases/Disorders		
Seizure disorder	2	**2**
Other central nervous system disease/disorder	2	**2**
Gastrointestinal Disease/Disorder		
Other gastrointestinal disease/disorder	1	**1**
Perinatal and Pediatric Diseases/Disorders		
Maternal complications	0	**1**
Sudden Infant Death Syndrome (SIDS)	3	**3**
Other perinatal or pediatric disease/disorder	1	**1**
Pulmonary Diseases/Disorders		
Asthma	2	**2**
Pneumonia	8	**8**
Other pulmonary diseases/disorders	1	**1**
Systemic Diseases/Disorders		
Diabetes	1	**1**
Other infectious disease	1	**1**
Sepsis	2	**2**
Other systemic disease/disorder	2	**3**
TOTAL NATURAL CHILD DEATHS	**34**	**36**

CHILD SUICIDE DEATHS (N=40)

The number of child suicide deaths in 2017 decreased by 11.1% when compared to 2016.

- Child suicides are very similar to adult suicides as they occur more frequently in males (75.0%) and whites (72.5%)
- The most common methods of child suicides were gunshot wounds (47.5%) and hangings (35.0%)

Figure 3.22 Number and Rate of Child Suicide Deaths by Year, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	23	29	25	36	21	23	28	18	19	32	23	26	30	25	29	39	35	45	40
Mortality Rate	1.3	1.6	1.4	2.0	1.2	1.3	1.5	1.0	1.0	1.8	1.2	1.4	1.6	1.3	1.6	2.1	1.9	2.4	2.1

Figure 3.23 Number of Child Suicide Deaths by Age and Gender, 2017

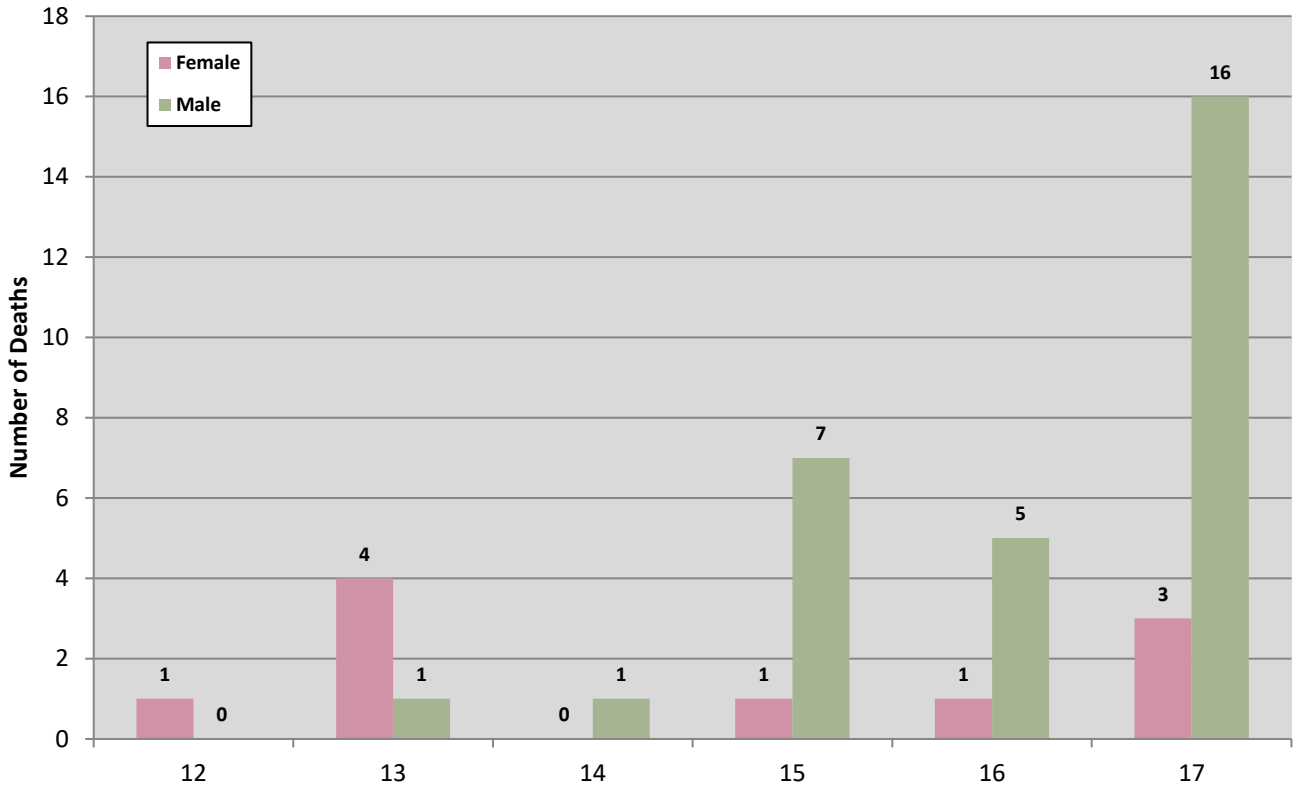


Figure 3.24 Percentage of Child Suicide Deaths by Race/Ethnicity, 2017

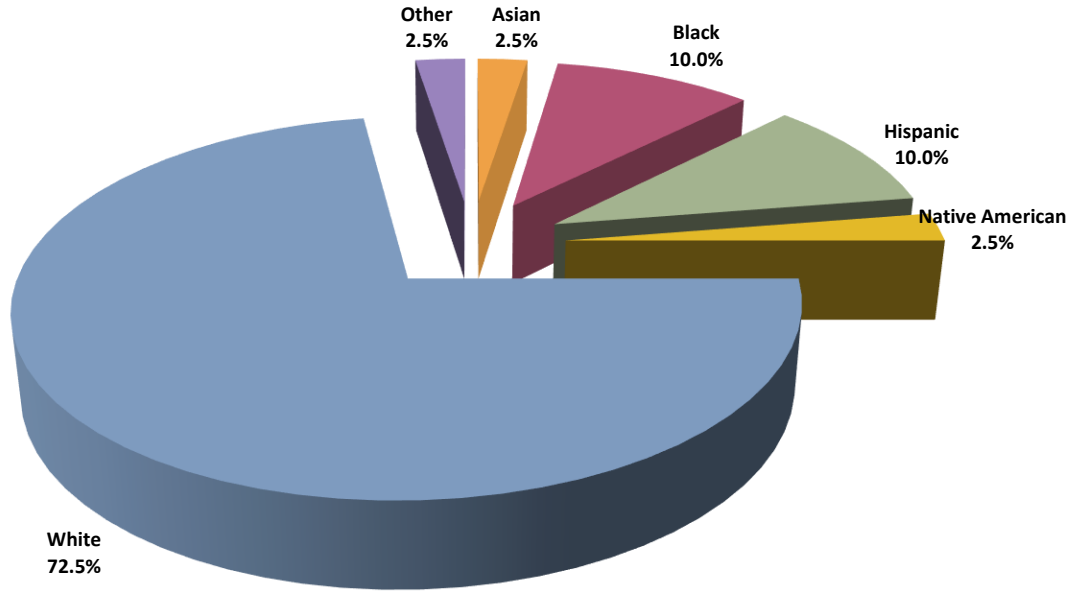
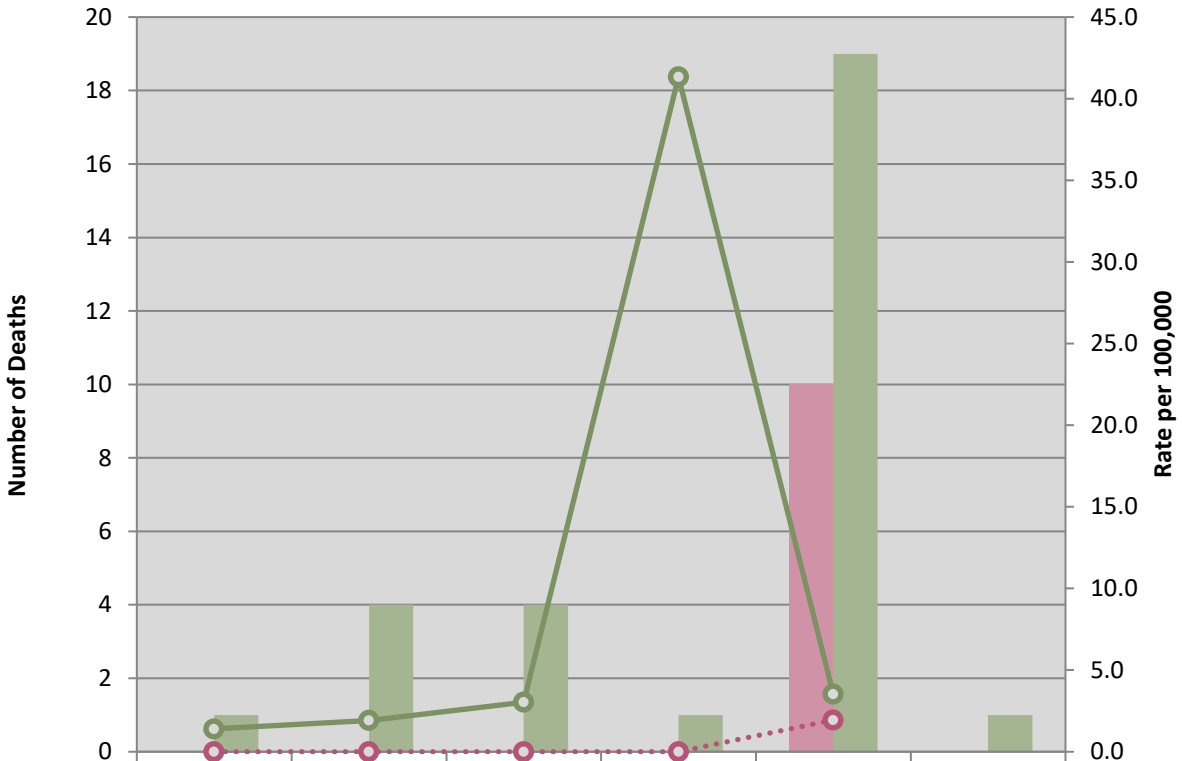


Figure 3.25 Number and Rate of Child Suicide Deaths by Gender and Race/Ethnicity, 2017



	Asian	Black	Hispanic	Native American	White	Other
Female	0	0	0	0	10	0
Male	1	4	4	1	19	1
Female Rate	0.0	0.0	0.0	0.0	1.9	*
Male Rate	1.4	1.9	3.0	41.3	3.5	*

*No rate can be calculated
Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (all but Whites)

Figure 3.26 Number of Child Suicide Deaths by Month, 2017

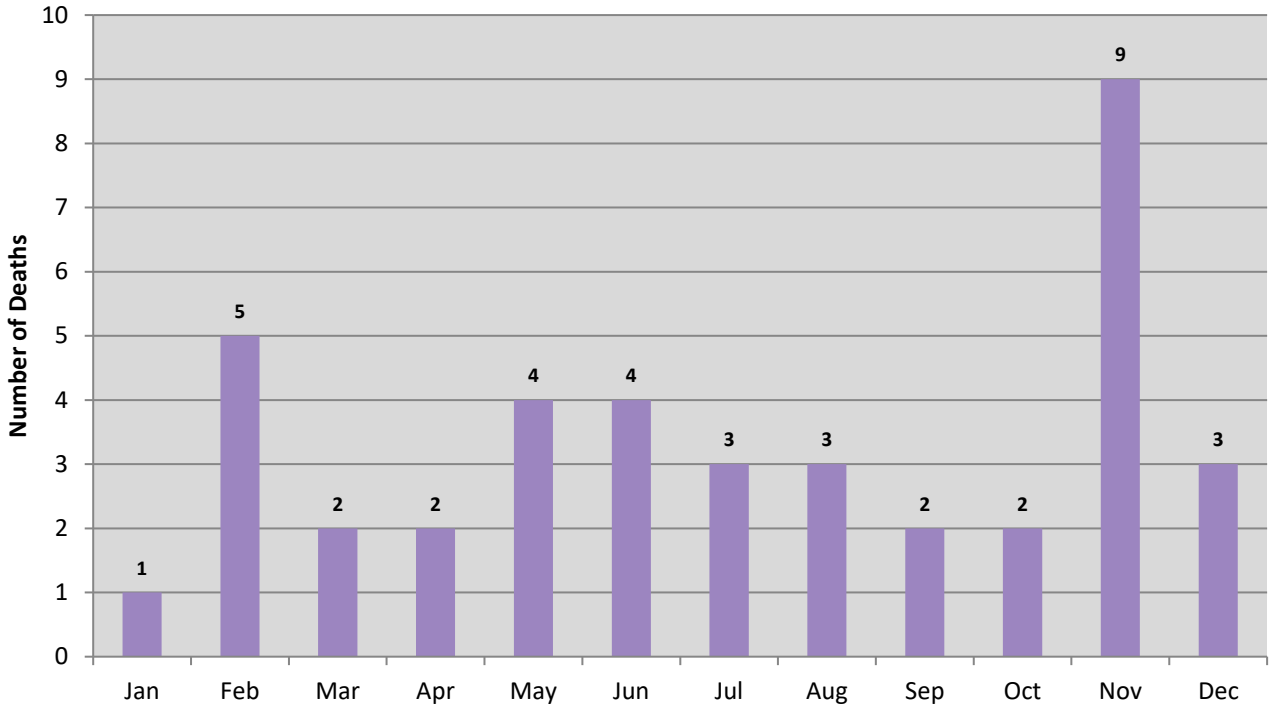


Figure 3.27 Number of Child Suicide Deaths by Day of the Week, 2017

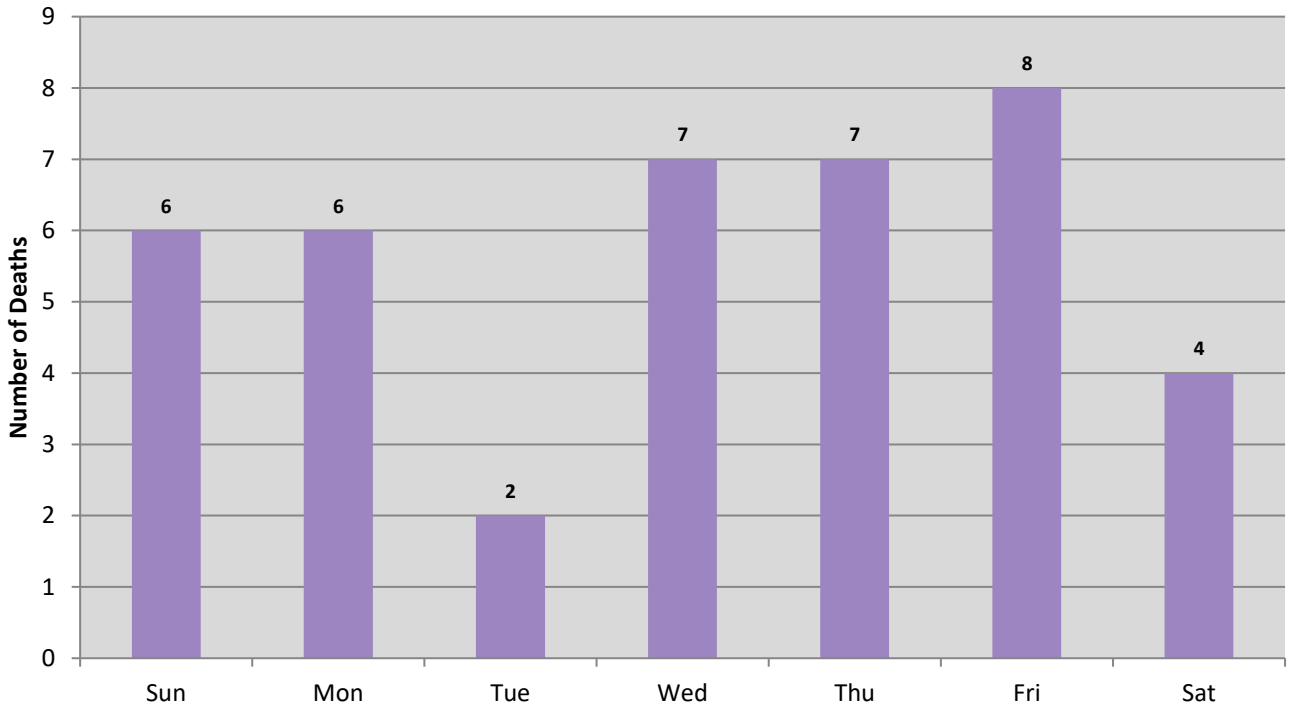


Table 3.5 Number of Child Suicide Deaths by Cause and Method of Death, 2017

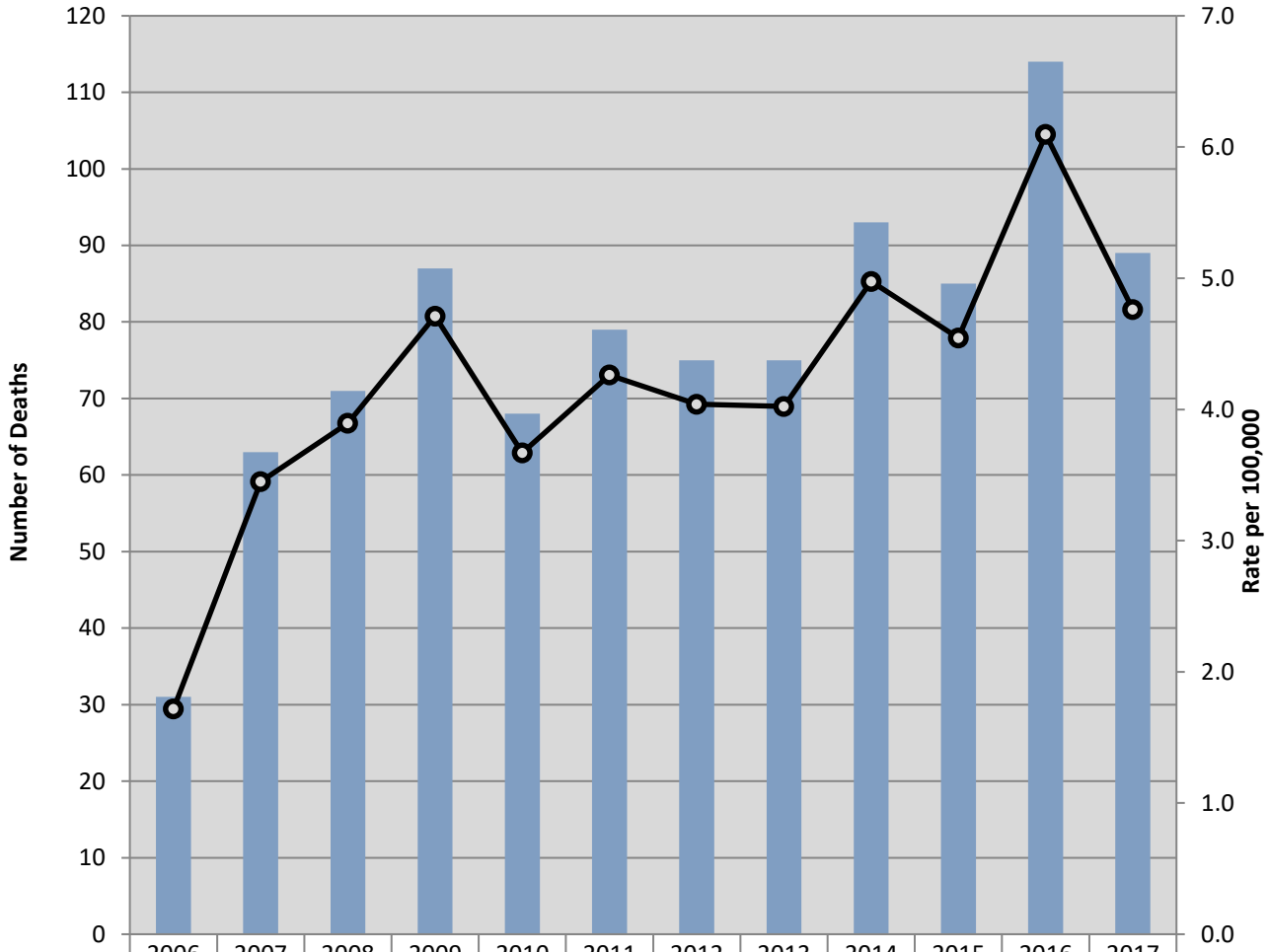
Method of Death	Autopsied	Total Cases
Asphyxia		
Hanged	8	**14**
Strangled/Neck compression	1	**1**
Drug Use		
Ingested and/or injected illicit, prescription, and/or other type of drug	4	**4**
Motor Vehicle		
Pickup truck	1	**1**
Train	0	**1**
Traumatic Injury		
Gunshot Wound		
Handgun	12	13
Rifle	2	2
Shotgun	4	4
TOTAL CHILD SUICIDE DEATHS	**32**	**40**

UNDETERMINED CHILD DEATHS (N=89)

A total of 89 undetermined deaths of children occurred in 2017, a decrease of 21.9% compared to 2016, and representing 27.5% of all child deaths that occurred in 2017.

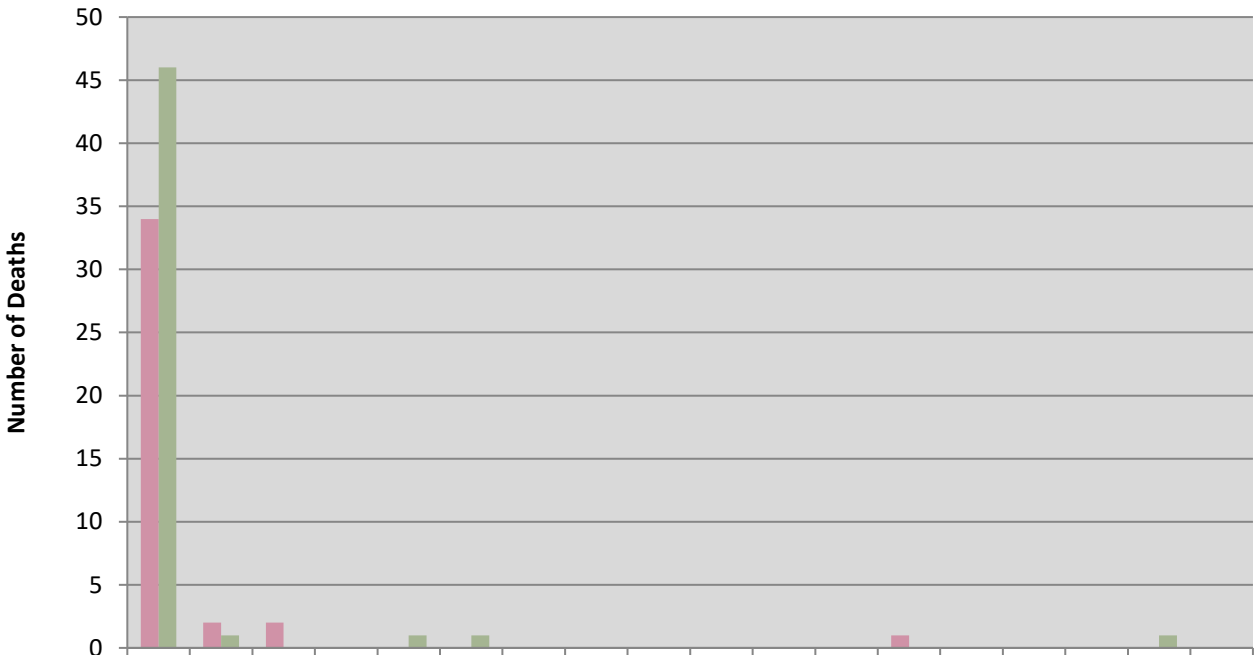
- Infants accounted for 89.9% of undetermined deaths
- Sudden unexpected infant death (SUID) deaths of infants <1 year of age represented 76.4% of all undetermined child deaths

Figure 3.28 Number and Rate of Undetermined Child Deaths by Year, 2006-2017



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	31	63	71	87	68	79	75	75	93	85	114	89
Mortality Rate	1.7	3.4	3.9	4.7	3.7	4.3	4.0	4.0	5.0	4.5	6.1	4.8

Figure 3.29 Number of Undetermined Child Deaths by Age and Gender, 2017



	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Female	34	2	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Male	46	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0

Figure 3.30 Percentage of Undetermined Child Deaths by Race/Ethnicity, 2017

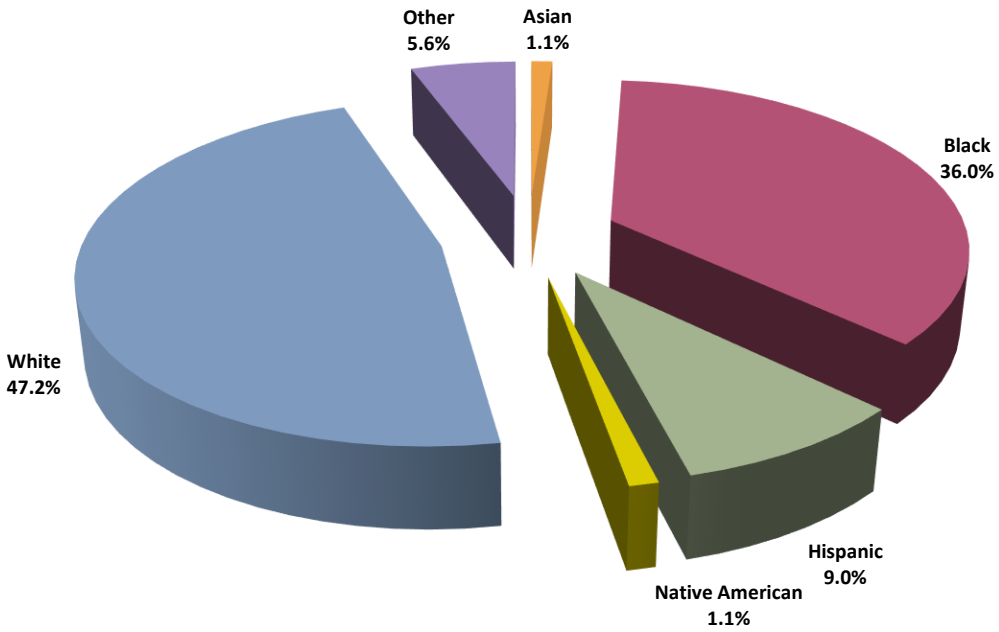
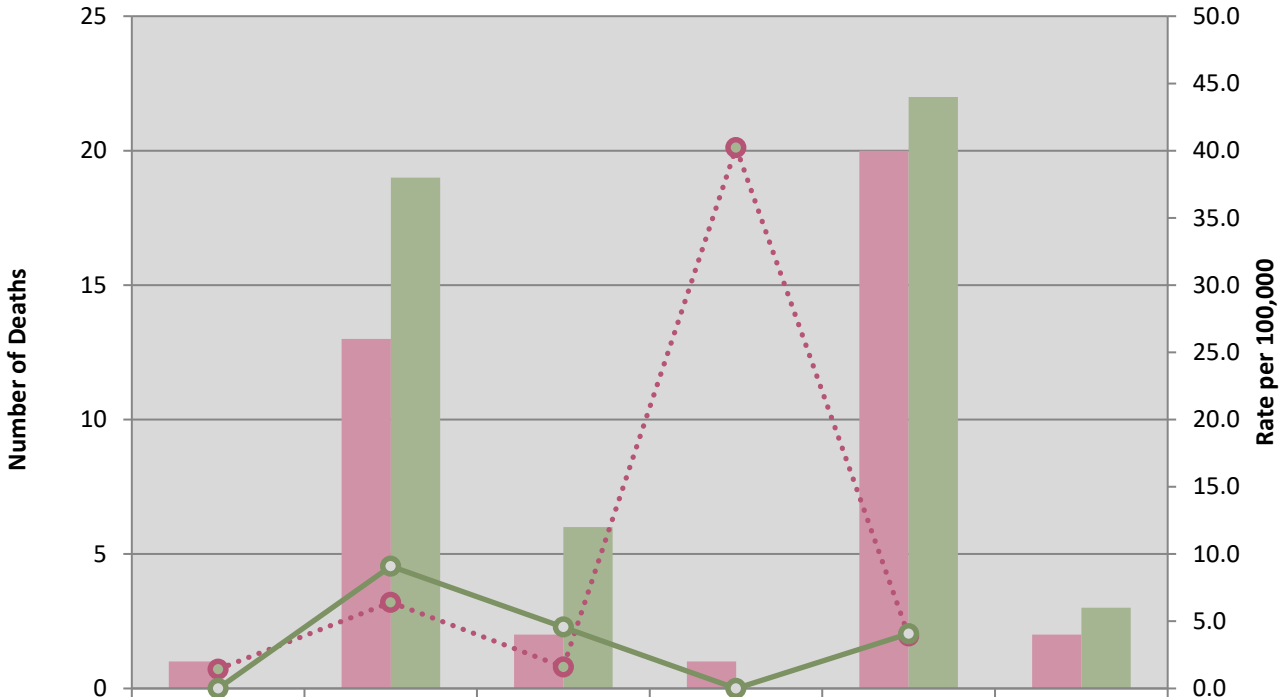


Figure 3.31 Number and Rate of Undetermined Child Deaths by Gender and Race/Ethnicity, 2017



	Asian	Black	Hispanic	Native American	White	Other
Female	1	13	2	1	20	2
Male	0	19	6	0	22	3
Female Rate	1.4	6.4	1.6	40.2	3.9	*
Male Rate	0.0	9.1	4.6	0.0	4.1	*

*No rate can be calculated

Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Asian and Native Americans)

Table 3.6 Number of Undetermined Child Deaths by Cause and Method of Death, 2017

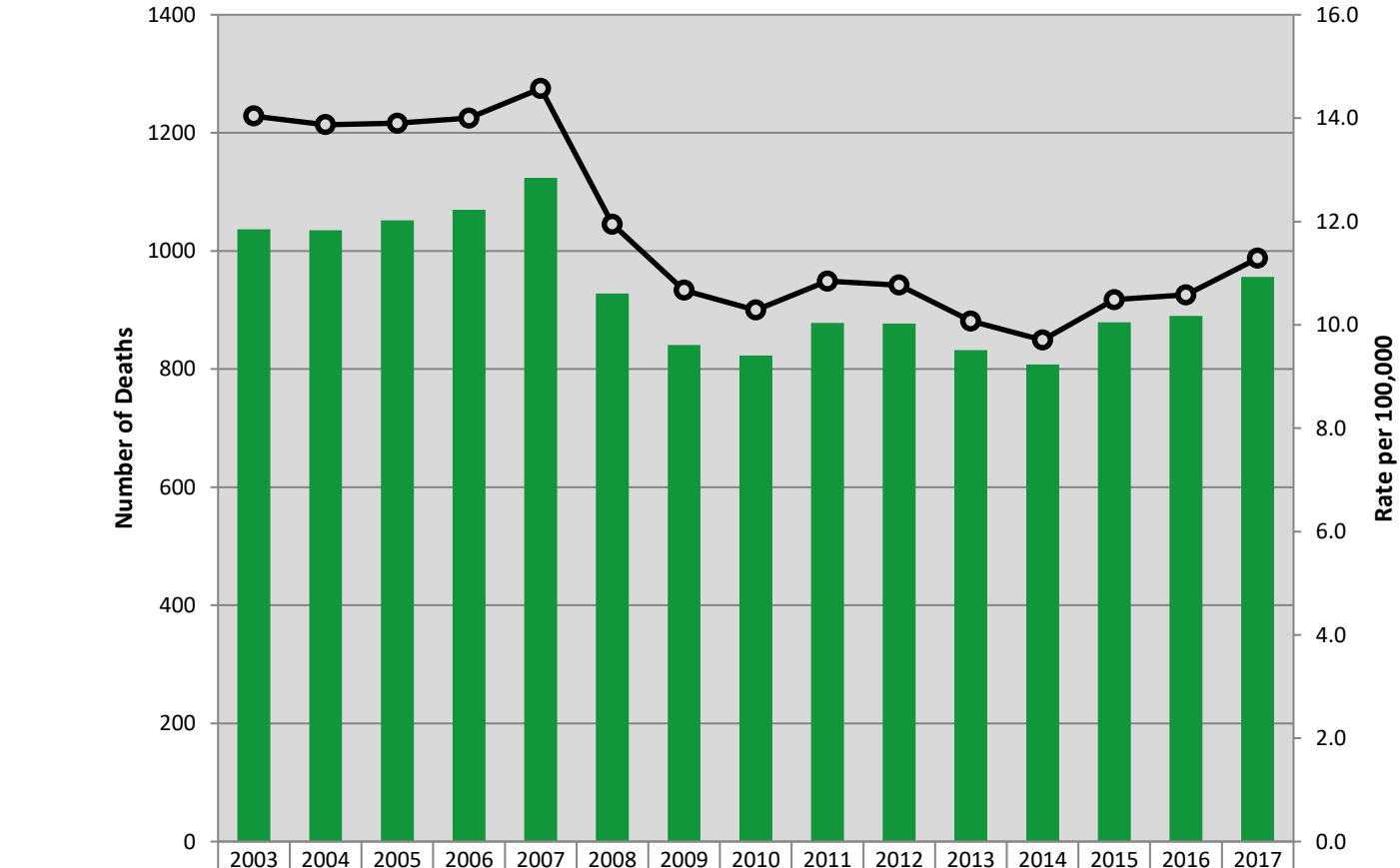
Determined Cause and Method of Death	Autopsied	Total Cases
Asphyxia		
Drowned	1	1
Drug Use		
Ingested and/or injected illicit, prescription, and/or other type of drug	2	2
Fall/Jump		
Fall/Jump from height	0	1
Gunshot		
Handgun	1	1
Other Unnatural		
Other	4	4
Subtotal for Determined Cause and Method of Death	***8***	***9***
Undetermined Cause and Method of Death	**Autopsied**	**Total Cases**
Undetermined Manner and Cause of Death		
Sudden Unexpected Infant Death (SUID)	68	68
Other or undetermined after autopsy and/or toxicology	12	12
Subtotal for Undetermined Manner and Cause of Death	***80***	***80***
TOTAL UNDETERMINED CHILD DEATHS	**88**	**89**

SECTION 4: MOTOR VEHICLE FATALITIES (N=956)

The OCME investigated 956 motor vehicle collision-related deaths in 2017, which was an increase of 7.4% when compared to 2016.

- The vast majority of cases were accidents (97.4%) and victims were most often male (71.1%)
- Of the 741 (77.5%) motor vehicle fatalities tested for ethanol, 30.0% (n=222) had a blood alcohol content greater than or equal to 0.08% BAC; of those 222 decedents who were at or above the legal limit of alcohol, 75.2% were drivers
- Persons aged 55-64 years old had more deaths (18.2%) due to motor vehicle incidents than any other age group, but males 75-84 years had the highest rate of death (35.4 deaths per 100,000)
- Thirty-five children under the age of 15 years died in motor vehicle-related incidents

Figure 4.1 Number and Rate of Motor Vehicle Deaths by Year, 2003-2017



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	1037	1035	1052	1070	1124	928	841	823	878	877	832	808	879	890	956
Mortality Rate	14.0	13.9	13.9	14.0	14.6	11.9	10.7	10.3	10.8	10.8	10.1	9.7	10.5	10.6	11.3

Figure 4.2 Percentage of Motor Vehicle Deaths by Manner, 2017

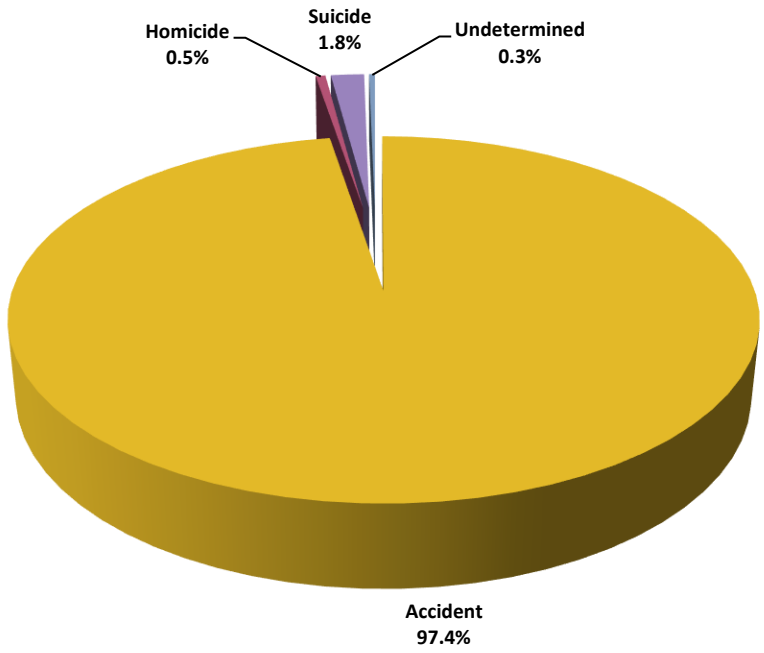
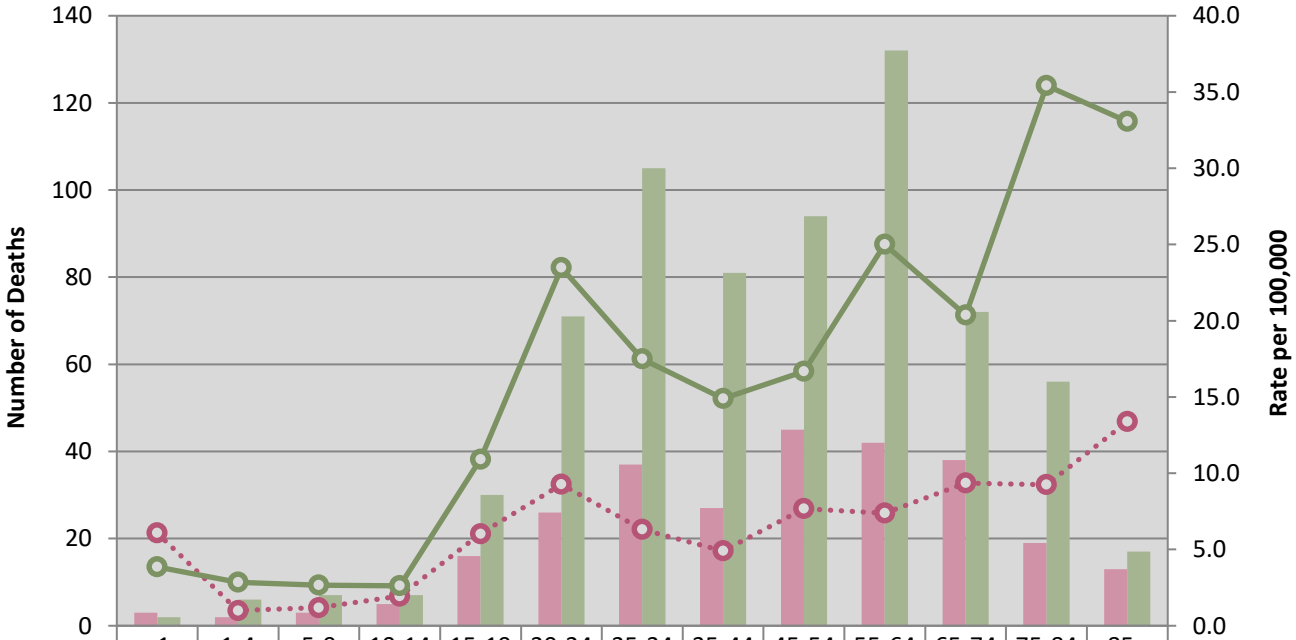


Figure 4.3 Number and Rate of Motor Vehicle Deaths by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	3	2	3	5	16	26	37	27	45	42	38	19	13
Male	2	6	7	7	30	71	105	81	94	132	72	56	17
Female Rate	6.1	1.0	1.2	1.9	6.0	9.3	6.3	4.9	7.7	7.4	9.4	9.3	13.4
Male Rate	3.9	2.9	2.7	2.6	10.9	23.5	17.5	14.9	16.7	25.0	20.4	35.4	33.1

Figure 4.4 Percentage of Motor Vehicle Deaths by Race/Ethnicity, 2017

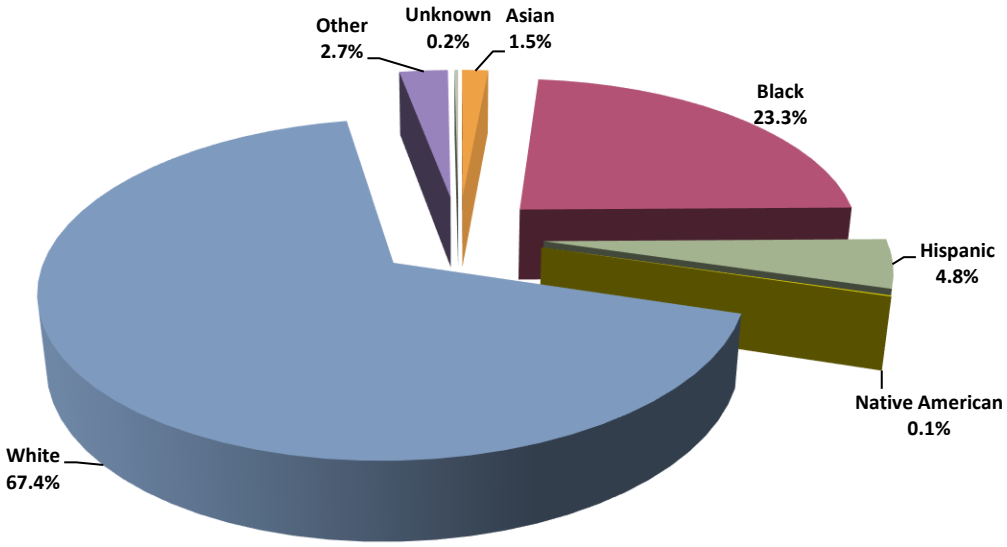
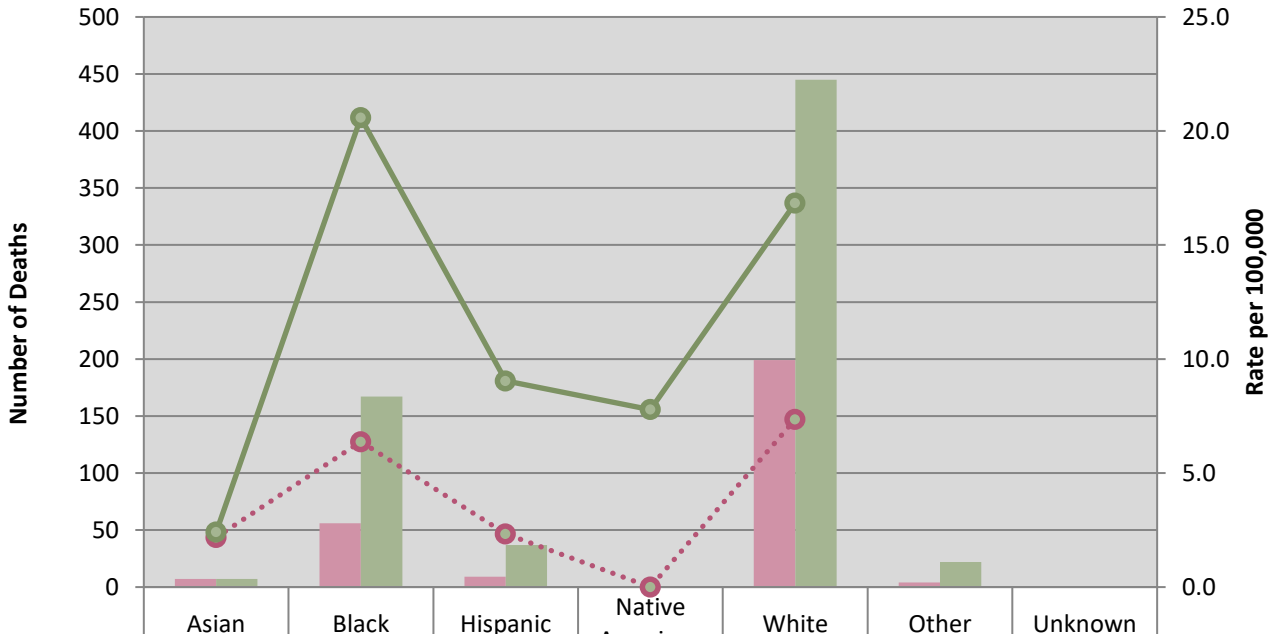


Figure 4.5 Number and Rate of Motor Vehicle Deaths by Race/Ethnicity and Gender, 2017

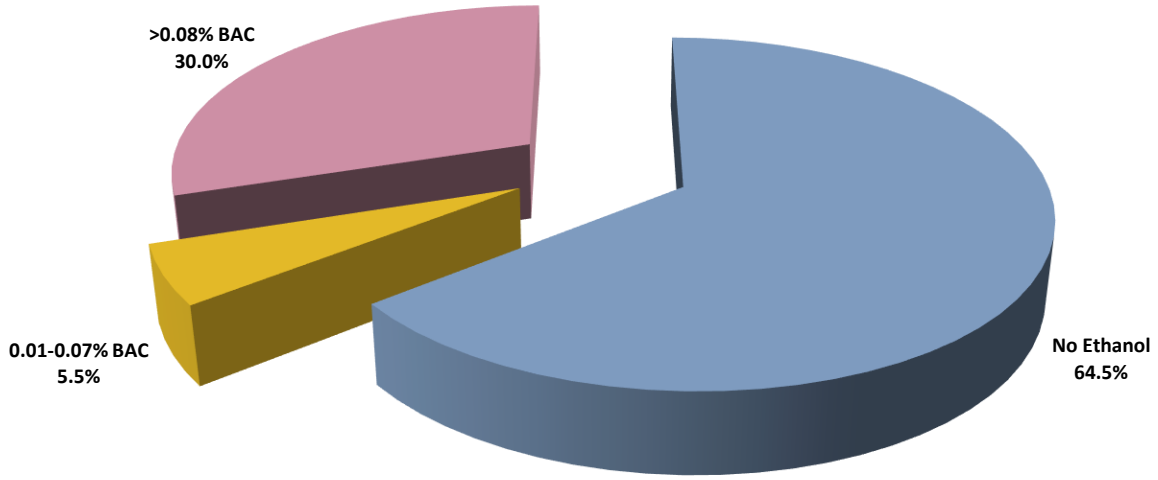


	Asian	Black	Hispanic	Native American	White	Other	Unknown
Female	7	56	9	0	199	4	1
Male	7	167	37	1	445	22	1
Female Rate	2.2	6.4	2.3	0.0	7.4	*	*
Male Rate	2.4	20.6	9.0	7.8	16.8	*	*

*No rate can be calculated

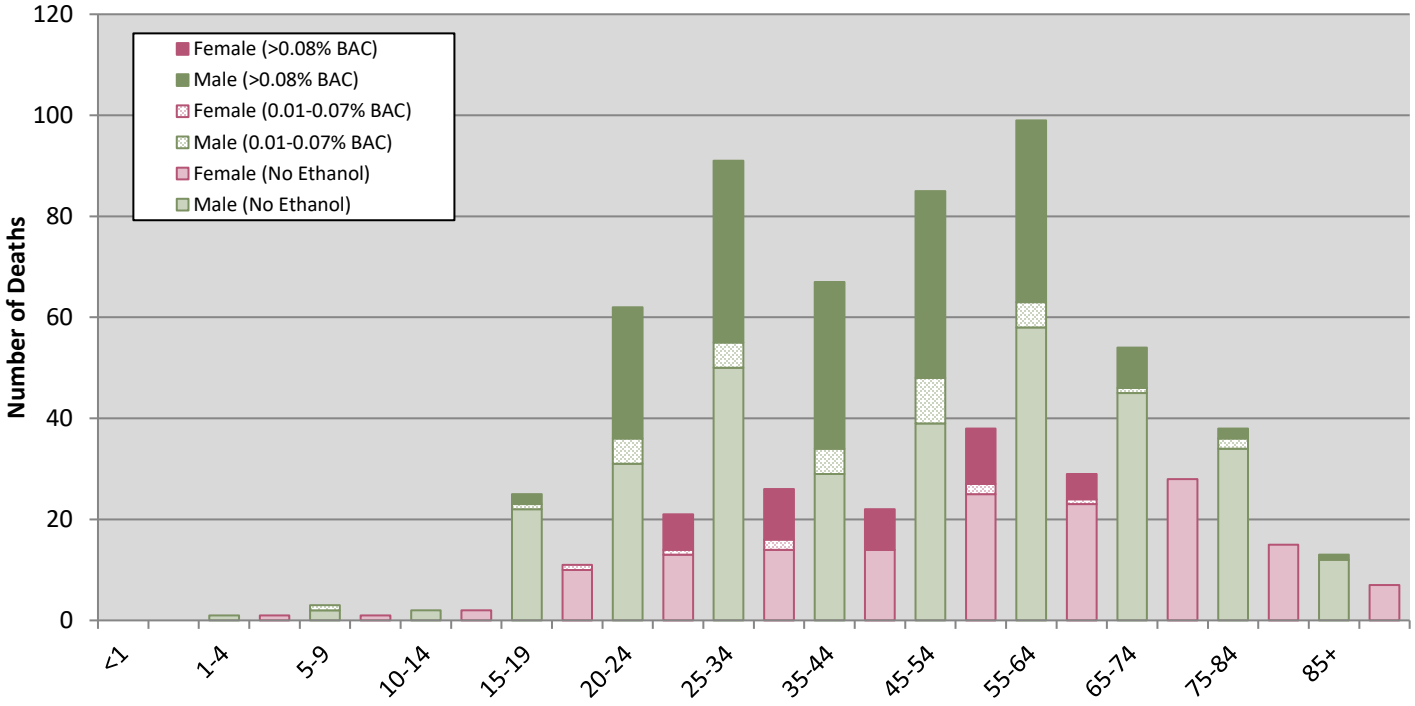
Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Native Americans)

Figure 4.6 Percentage of Motor Vehicle Deaths by Ethanol Amount (N=741), 2017



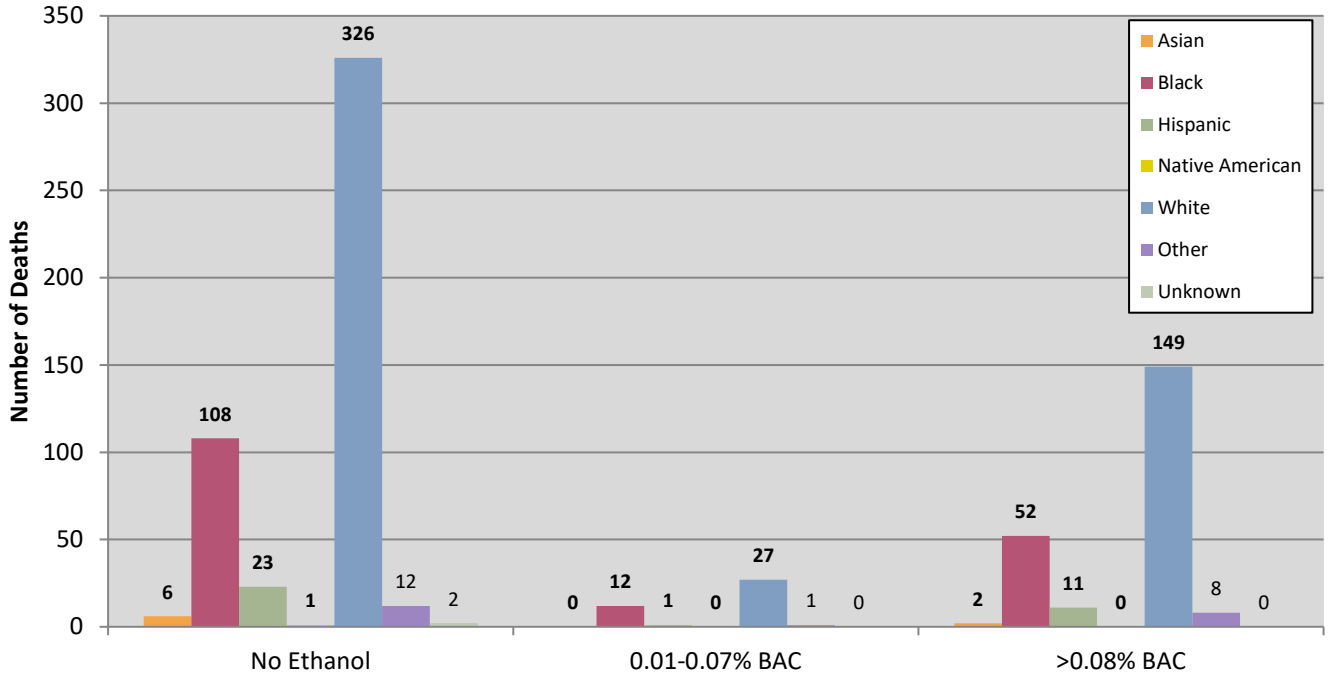
Note: Of the 956 motor vehicle deaths, 22.5% (n=215) did not receive toxicology testing

Figure 4.7 Number of Motor Vehicle Deaths by Age Group, Gender, and Ethanol Amount (N=741), 2017



Note: Of the 956 motor vehicle deaths, 22.5% (n=215) did not receive toxicology testing

Figure 4.8 Number of Motor Vehicle Deaths by Ethanol Level and Race/Ethnicity (N=741), 2017

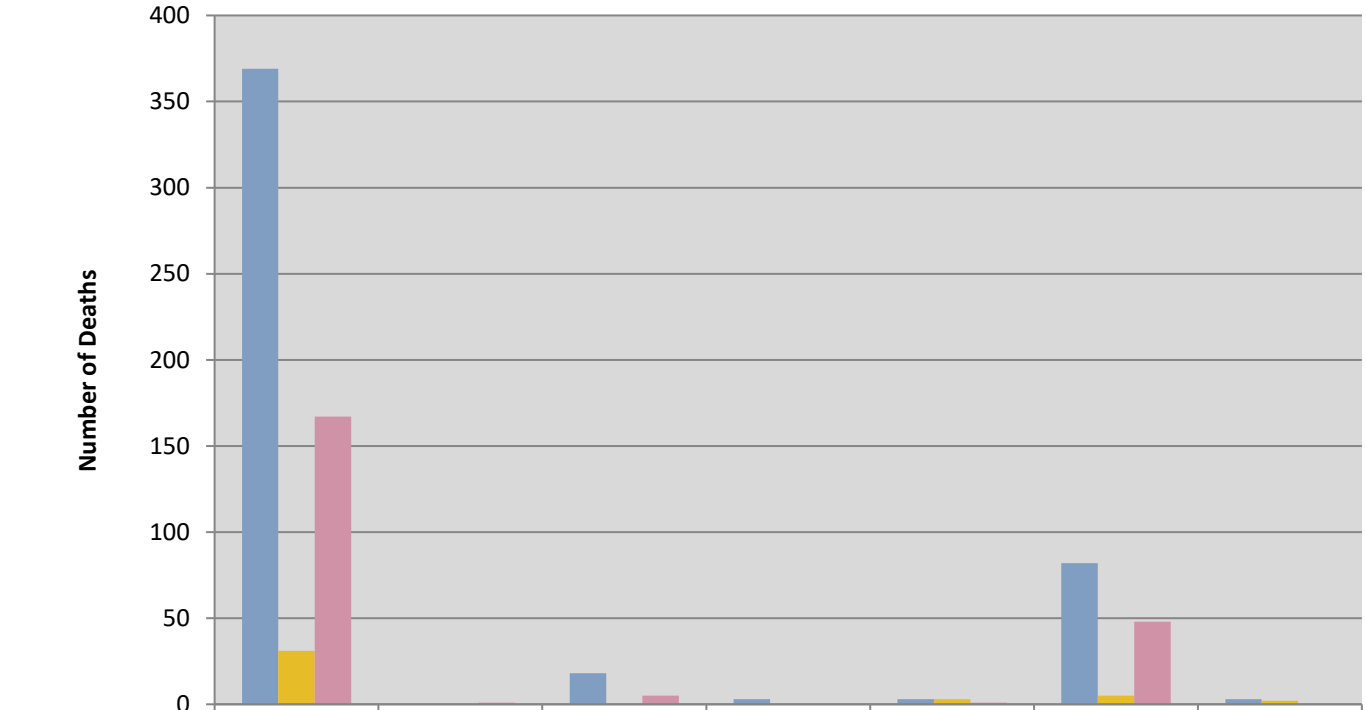


Note: Of the 956 motor vehicle deaths, 22.5% (n=215) did not receive toxicology testing

Table 4.1 Number of Motor Vehicle Deaths by Age Group and Position during Collision, 2017

Age Group (years)	Driver	Passenger Cargo	Passenger Front	Passenger Other	Passenger Rear	Pedestrian	Unknown	TOTAL
<1	1	0	0	1	3	0	0	**5**
1-4	0	0	2	0	3	3	0	**8**
5-9	1	0	0	0	4	5	0	**10**
10-14	1	0	3	1	4	3	0	**12**
15-19	32	0	6	0	4	4	0	**46**
20-24	69	0	11	0	4	12	1	**97**
25-34	100	0	17	2	1	20	2	**142**
35-44	73	0	14	1	4	13	3	**108**
45-54	96	1	5	2	1	33	1	**139**
55-64	120	0	9	1	3	34	7	**174**
65-74	76	1	10	0	1	22	0	**110**
75-84	54	0	9	0	1	9	2	**75**
85+	18	1	6	0	1	4	0	**30**
TOTAL	**641**	**3**	**92**	**8**	**34**	**162**	**16**	**956**

Figure 4.9 Number of Motor Vehicle Deaths by Position during Collision and Ethanol Level (N=741), 2017



	Driver	Passenger Cargo	Passenger Front	Passenger Other	Passenger Rear	Pedestrain	Unknown
No Ethanol	369	0	18	3	3	82	3
0.01-0.07% BAC	31	0	0	0	3	5	2
>0.08% BAC	167	1	5	0	1	48	0

Note: Of the 956 motor vehicle deaths, 22.5% (n=215) did not receive toxicology testing

Table 4.2 Number of Motor Vehicle Deaths by Position during Collision, Vehicle Type, and Ethanol Level (N=741), 2017

Position During Collision	Vehicle Type	No Ethanol	0.01-0.07% BAC	>0.08% BAC	Total
Driver	Aircraft	2	0	0	**2**
	All Terrain Vehicle	3	3	2	**8**
	Bicycle	7	1	1	**9**
	Car	161	13	78	**252**
	Dump Truck	2	0	0	**2**
	Farm Equipment	1	0	0	**1**
	Mo-Ped	7	0	0	**7**
	Motorcycle	57	8	30	**95**
	Pickup Truck	41	1	21	**63**
	Sport Utility Vehicle	51	3	23	**77**
	Tractor Trailer	11	0	0	**11**
	Train	1	0	0	**1**
	Truck Other	7	1	6	**14**
	Unknown	4	1	2	**7**
	Van	14	0	4	**18**
	Subtotal	**369**	**31**	**167**	**567**
Passenger Cargo	Pickup Truck	0	0	1	**1**
	Subtotal	**0**	**0**	**1**	**1**
Passenger Front	All Terrain Vehicle	1	0	0	**1**
	Car	6	0	2	**8**
	Pickup Truck	2	0	0	**2**
	Sport Utility Vehicle	7	0	1	**8**
	Tractor Trailer	1	0	0	**1**
	Unknown	0	0	1	**1**
	Van	1	0	1	**2**
	Subtotal	**18**	**0**	**5**	**23**
Passenger Other	Car	1	0	0	**1**
	Helicopter	1	0	0	**1**
	Pickup Truck	1	0	0	**1**
	Subtotal	**3**	**0**	**0**	**3**
Passenger Rear	All Terrain Vehicle	1	0	0	**1**
	Car	0	2	0	**2**
	Golf Cart	0	1	0	**1**
	Motorcycle	1	0	0	**1**
	Sport Utility Vehicle	0	0	1	**1**
	Van	1	0	0	**1**
	Subtotal	**3**	**3**	**1**	**7**

Pedestrian	All Terrain Vehicle	1	0	0	**1**
	Car	30	2	26	**58**
	Construction Heavy Equipment	1	0	0	**1**
	Motorcycle	0	0	1	**1**
	Multiple	0	1	3	**4**
	Pickup Truck	10	1	4	**15**
	Sport Utility Vehicle	6	0	7	**13**
	Tractor Trailer	8	0	1	**9**
	Train	6	1	4	**11**
	Truck Other	7	0	2	**9**
	Unknown	10	0	0	**10**
	Van	3	0	0	**3**
	Subtotal	**82**	**5**	**48**	**135**
Unknown	Pickup Truck	1	0	0	**1**
	Tractor Trailer	2	0	0	**2**
	Unknown	0	2	0	**2**
	Subtotal	**3**	**2**	**0**	**5**

Note: Of the 956 motor vehicle deaths, 22.5% (n=215) did not receive toxicology testing

Figure 4.10 Number of OCME Motor Vehicle Fatalities by Month of Death, 2017

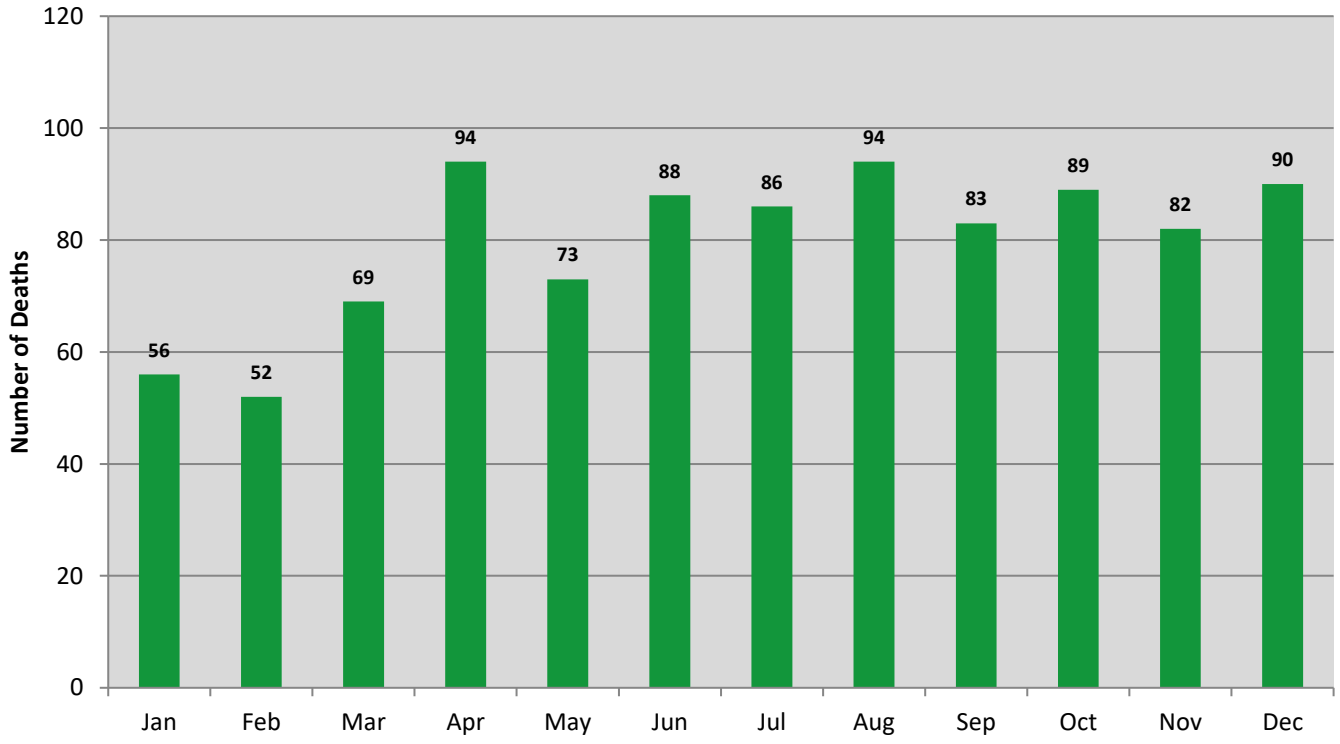


Figure 4.11 Number of OCME Motor Vehicle Fatalities by Day of Week, 2017

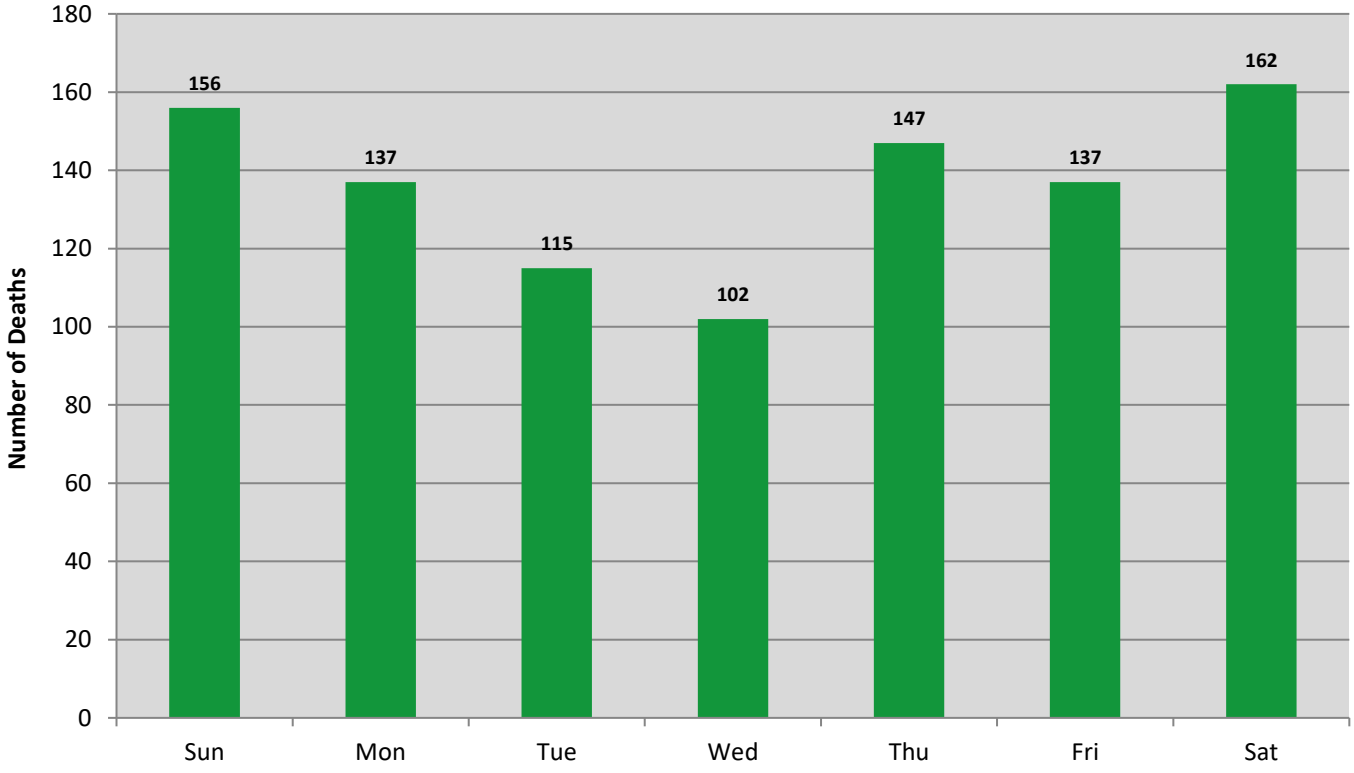


Table 4.3 Number and Rate of Motor Vehicle Deaths by Locality of Residence, 2017

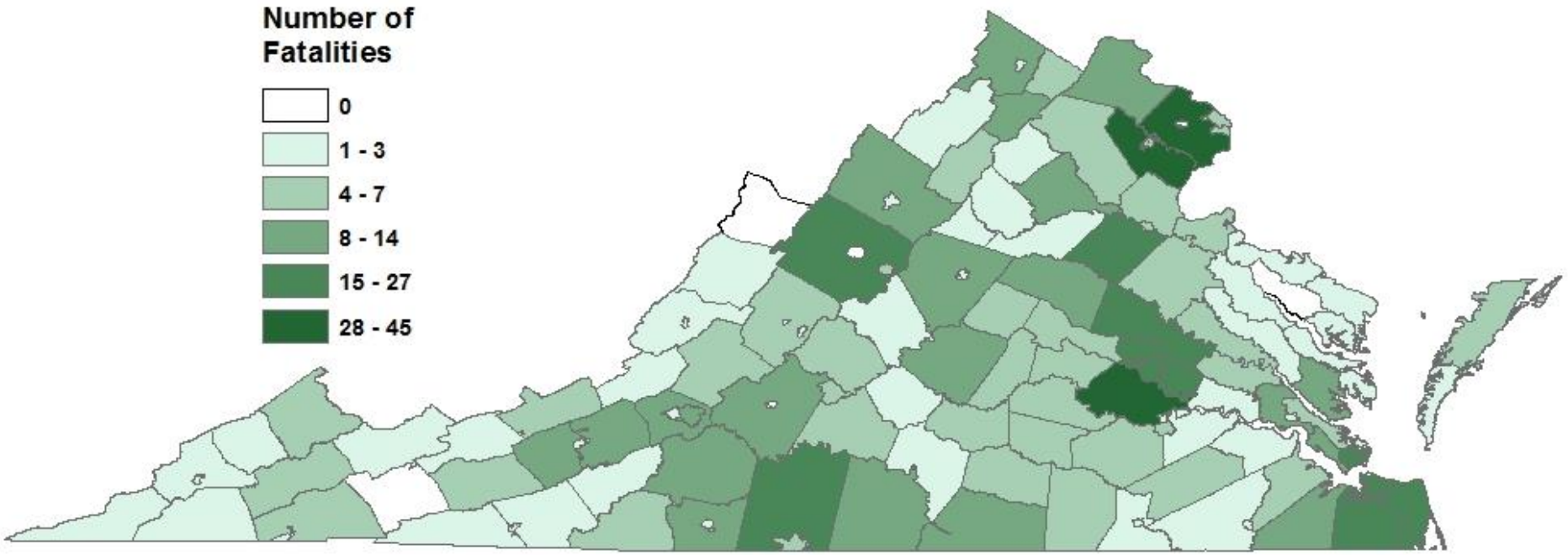
Locality of Residence	Deaths	Rate
Accomack County	4	12.3
Albemarle County	9	8.4
Alexandria City	4	2.5
Alleghany County	1	6.6
Amelia County	4	30.7
Amherst County	4	12.7
Appomattox County	1	6.4
Arlington County	4	1.7
Augusta County	18	24.0
Bath County	2	46.5
Bedford County	11	14.1
Bland County	2	31.5
Botetourt County	4	12.1
Bristol City	1	6.0
Brunswick County	6	36.9
Buchanan County	7	32.5
Buckingham County	11	64.5
Buena Vista City	2	31.6
Campbell County	4	7.3
Caroline County	5	16.4
Carroll County	1	3.4
Charles City County	1	14.3
Charlotte County	3	24.8
Charlottesville City	3	6.2
Chesapeake City	16	6.7
Chesterfield County	41	11.9
Clarke County	6	41.4
Colonial Heights City	3	16.8
Covington City	0	0.0
Craig County	2	39.5
Culpeper County	10	19.5
Cumberland County	4	40.8
Danville City	4	9.7
Dickenson County	2	13.5
Dinwiddie County	7	24.8
Emporia City	1	18.9
Essex County	3	27.2
Fairfax City	0	0.0
Fairfax County	45	3.9

Locality of Residence	Deaths	Rate
Falls Church City	0	0.0
Fauquier County	5	7.2
Floyd County	2	12.7
Fluvanna County	7	26.5
Franklin City	1	12.2
Franklin County	13	23.0
Frederick County	8	9.3
Fredericksburg City	5	17.6
Galax City	1	15.1
Giles County	4	23.8
Gloucester County	10	26.8
Goochland County	6	26.4
Grayson County	3	19.2
Greene County	1	5.1
Greensville County	3	25.7
Halifax County	9	26.0
Hampton City	18	13.4
Hanover County	17	16.0
Harrisonburg City	2	3.7
Henrico County	17	5.2
Henry County	11	21.5
Highland County	0	0.0
Hopewell City	1	4.4
Isle of Wight County	4	10.9
James City County	11	14.6
King and Queen County	3	42.8
King George County	5	19.0
King William County	4	23.9
Lancaster County	2	18.5
Lee County	3	12.6
Lexington City	0	0.0
Loudoun County	13	3.3
Louisa County	13	36.3
Lunenburg County	4	32.7
Lynchburg City	7	8.6
Madison County	2	15.1
Manassas City	4	9.6
Manassas Park City	0	0.0
Martinsville City	2	15.2

Locality of Residence	Deaths	Rate
Mathews County	1	11.4
Mecklenburg County	10	32.6
Middlesex County	1	9.4
Montgomery County	12	12.2
Nelson County	3	20.1
New Kent County	7	32.3
Newport News City	14	7.8
Norfolk City	16	6.5
Northampton County	1	8.4
Northumberland County	2	16.3
Norton City	3	76.2
Nottoway County	4	25.9
Orange County	3	8.3
Page County	6	25.3
Patrick County	5	28.3
Petersburg City	4	12.6
Pittsylvania County	15	24.5
Poquoson City	1	8.3
Portsmouth City	19	20.1
Powhatan County	5	17.5
Prince Edward County	5	22.0
Prince George County	3	7.9
Prince William County	32	6.9
Pulaski County	8	23.4
Radford City	1	5.7
Rappahannock County	3	41.0
Richmond City	26	11.5
Richmond County	0	0.0
Roanoke City	11	11.0
Roanoke County	9	9.6
Rockbridge County	4	17.7
Rockingham County	10	12.5
Russell County	4	14.8
Salem City	3	11.6
Scott County	2	9.1
Shenandoah County	3	6.9
Smyth County	0	0.0
Southampton County	2	11.3
Spotsylvania County	17	12.8
Stafford County	7	4.8
Staunton City	0	0.0
Suffolk City	10	11.1
Surry County	1	15.3
Sussex County	5	44.0
Tazewell County	3	7.3
Virginia Beach City	27	6.0
Warren County	8	20.2
Washington County	4	7.4
Waynesboro City	4	17.9
Westmoreland County	3	16.9
Williamsburg City	1	6.7
Winchester City	2	7.2
Wise County	1	2.6
Wythe County	6	20.8
York County	5	7.4
Subtotal (in-state)	**839**	**9.9**
Out of State	115	ND
Unknown	2	ND
Subtotal (out-of-state)	**117**	**ND**
TOTAL	**956**	**11.3**

Note: No denominator is represented by ND

Map 4.1 Number of Motor Vehicle Fatalities by Locality of Residence, 2017



Map 4.2 Rate of Motor Vehicle Fatalities by Locality of Residence, 2017

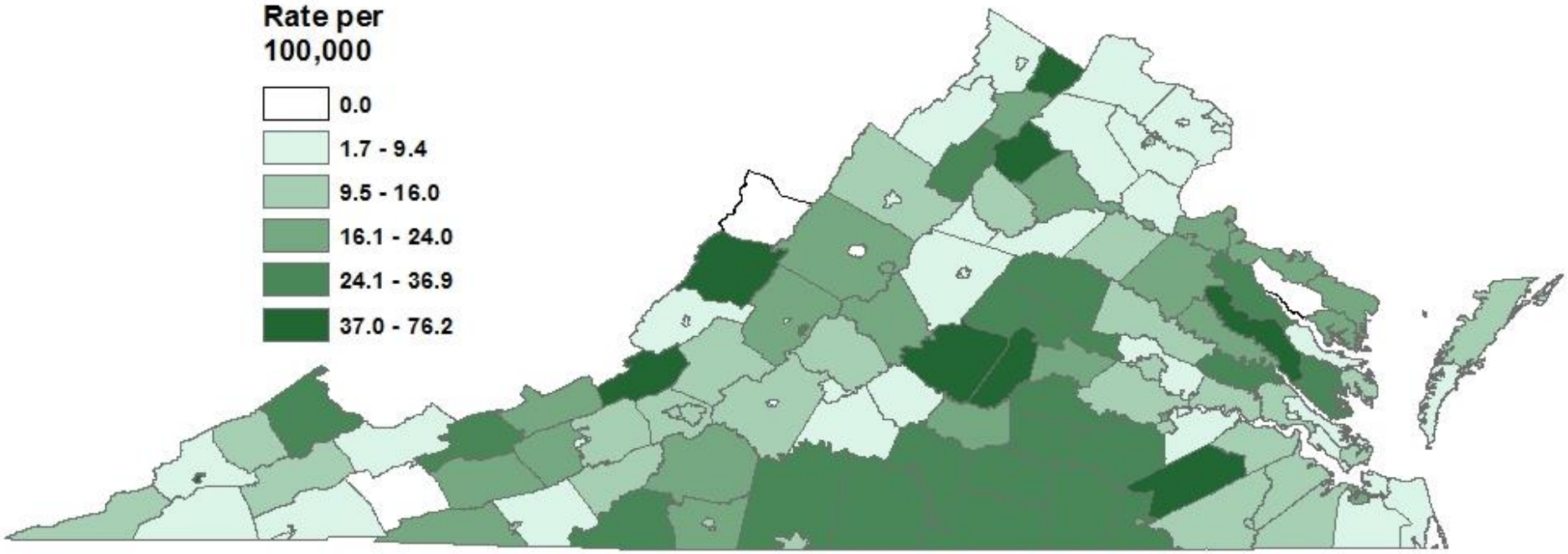

Rate per
100,000
0.0
1.7 - 9.4
9.5 - 16.0
16.1 - 24.0
24.1 - 36.9
37.0 - 76.2

Table 4.4 Number and Rate of Motor Vehicle Deaths by Locality of Injury, 2017

Locality of Injury	Deaths	Rate
Accomack County	5	15.4
Albemarle County	15	13.9
Alexandria City	4	2.5
Alleghany County	2	13.2
Amelia County	7	53.8
Amherst County	4	12.7
Appomattox County	2	12.8
Arlington County	2	0.9
Augusta County	19	25.3
Bath County	2	46.5
Bedford County	19	24.4
Bland County	2	31.5
Botetourt County	4	12.1
Bristol City	0	0.0
Brunswick County	5	30.8
Buchanan County	8	37.2
Buckingham County	7	41.0
Buena Vista City	0	0.0
Campbell County	8	14.5
Caroline County	7	23.0
Carroll County	7	23.6
Charles City County	1	14.3
Charlotte County	1	8.3
Charlottesville City	3	6.2
Chesapeake City	18	7.5
Chesterfield County	35	10.2
Clarke County	4	27.6
Colonial Heights City	1	5.6
Covington City	0	0.0
Craig County	0	0.0
Culpeper County	7	13.7
Cumberland County	3	30.6
Danville City	5	12.2
Dickenson County	3	20.3
Dinwiddie County	9	31.9
Emporia City	0	0.0
Essex County	3	27.2
Fairfax City	0	0.0
Fairfax County	38	3.3
Falls Church City	0	0.0
Fauquier County	11	15.8
Floyd County	1	6.3
Fluvanna County	7	26.5

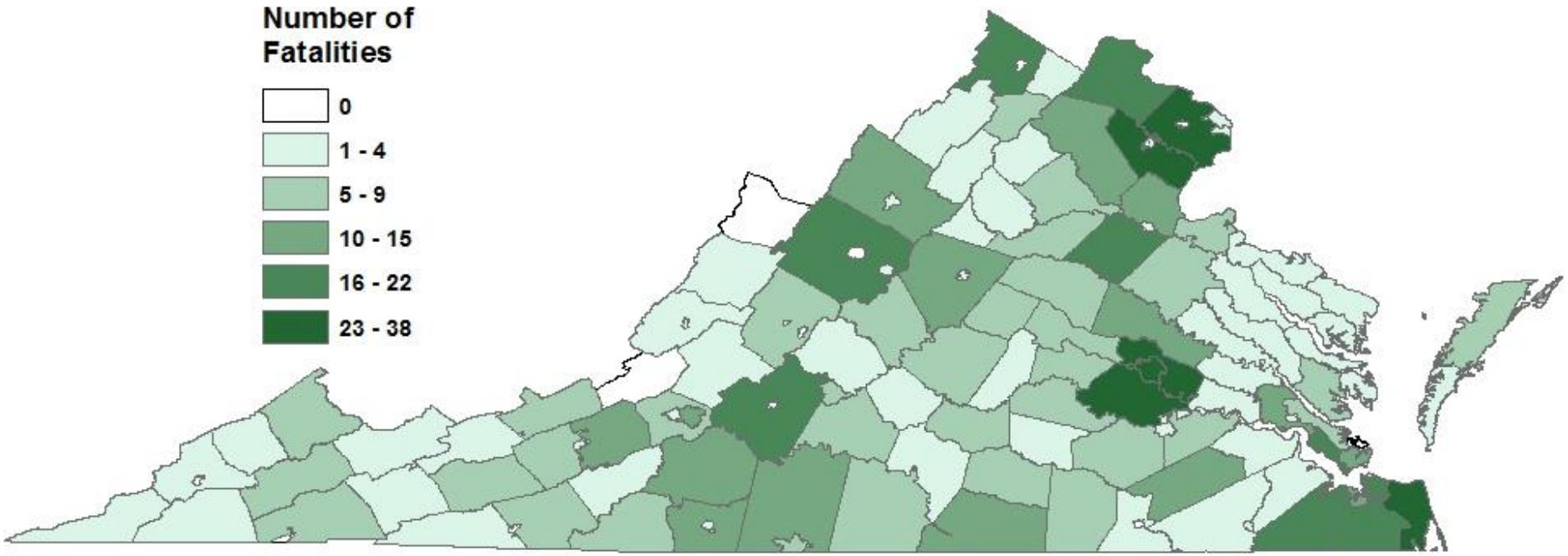
Locality of Injury	Deaths	Rate
Franklin City	1	12.2
Franklin County	15	26.6
Frederick County	22	25.4
Fredericksburg City	4	14.1
Galax City	0	0.0
Giles County	5	29.7
Gloucester County	8	21.5
Goochland County	5	22.0
Grayson County	2	12.8
Greene County	3	15.3
Greensville County	2	17.1
Halifax County	9	26.0
Hampton City	13	9.7
Hanover County	14	13.2
Harrisonburg City	1	1.8
Henrico County	26	7.9
Henry County	13	25.4
Highland County	0	0.0
Hopewell City	1	4.4
Isle of Wight County	4	10.9
James City County	14	18.5
King and Queen County	4	57.1
King George County	9	34.2
King William County	3	18.0
Lancaster County	3	27.8
Lee County	1	4.2
Lexington City	1	14.1
Loudoun County	21	5.3
Louisa County	8	22.3
Lunenburg County	7	57.2
Lynchburg City	5	6.2
Madison County	3	22.6
Manassas City	2	4.8
Manassas Park City	1	6.0
Martinsville City	2	15.2
Mathews County	2	22.8
Mecklenburg County	12	39.1
Middlesex County	2	18.7
Montgomery County	15	15.2
Nelson County	5	33.5
New Kent County	3	13.8
Newport News City	19	10.6
Norfolk City	20	8.2

Virginia Department of Health

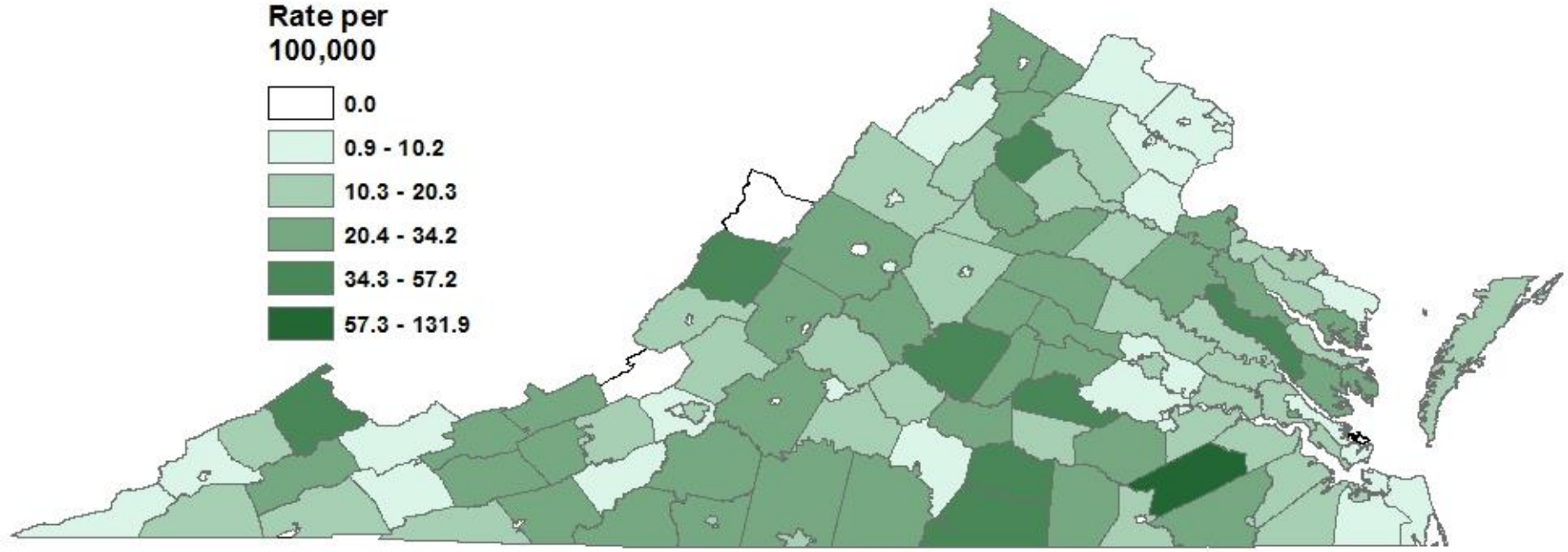
Locality of Injury	Deaths	Rate
Northampton County	2	16.9
Northumberland County	1	8.1
Norton City	0	0.0
Nottoway County	3	19.4
Orange County	8	22.2
Page County	4	16.9
Patrick County	5	28.3
Petersburg City	3	9.4
Pittsylvania County	15	24.5
Poquoson City	0	0.0
Portsmouth City	13	13.7
Powhatan County	6	21.0
Prince Edward County	5	22.0
Prince George County	6	15.9
Prince William County	32	6.9
Pulaski County	9	26.3
Radford City	2	11.3
Rappahannock County	3	41.0
Richmond City	26	11.5
Richmond County	1	11.2
Roanoke City	13	13.0
Roanoke County	7	7.5
Rockbridge County	7	30.9
Rockingham County	11	13.7
Russell County	7	25.9
Salem City	2	7.7
Scott County	4	18.3
Shenandoah County	4	9.3
Smyth County	2	6.5
Southampton County	4	22.5
Spotsylvania County	18	13.5
Stafford County	11	7.5
Staunton City	0	0.0
Suffolk City	18	19.9
Surry County	1	15.3
Sussex County	15	131.9
Tazewell County	3	7.3
Virginia Beach City	28	6.2
Warren County	9	22.7
Washington County	6	11.0
Waynesboro City	1	4.5
Westmoreland County	2	11.2
Williamsburg City	4	26.6
Winchester City	0	0.0
Wise County	1	2.6
Wythe County	9	31.2
York County	5	7.4
Subtotal (in-state)	**925**	**10.9**
Out of State	21	ND
Unknown	10	ND
Subtotal (out-of-state)	**31**	**ND**
TOTAL	**956**	**11.3**

Note: No denominator is represented by ND

Map 4.3 Number of Motor Vehicle Fatalities by Locality of Injury, 2017



Map 4.4 Rate of Motor Vehicle Fatalities by Locality of Injury, 2017



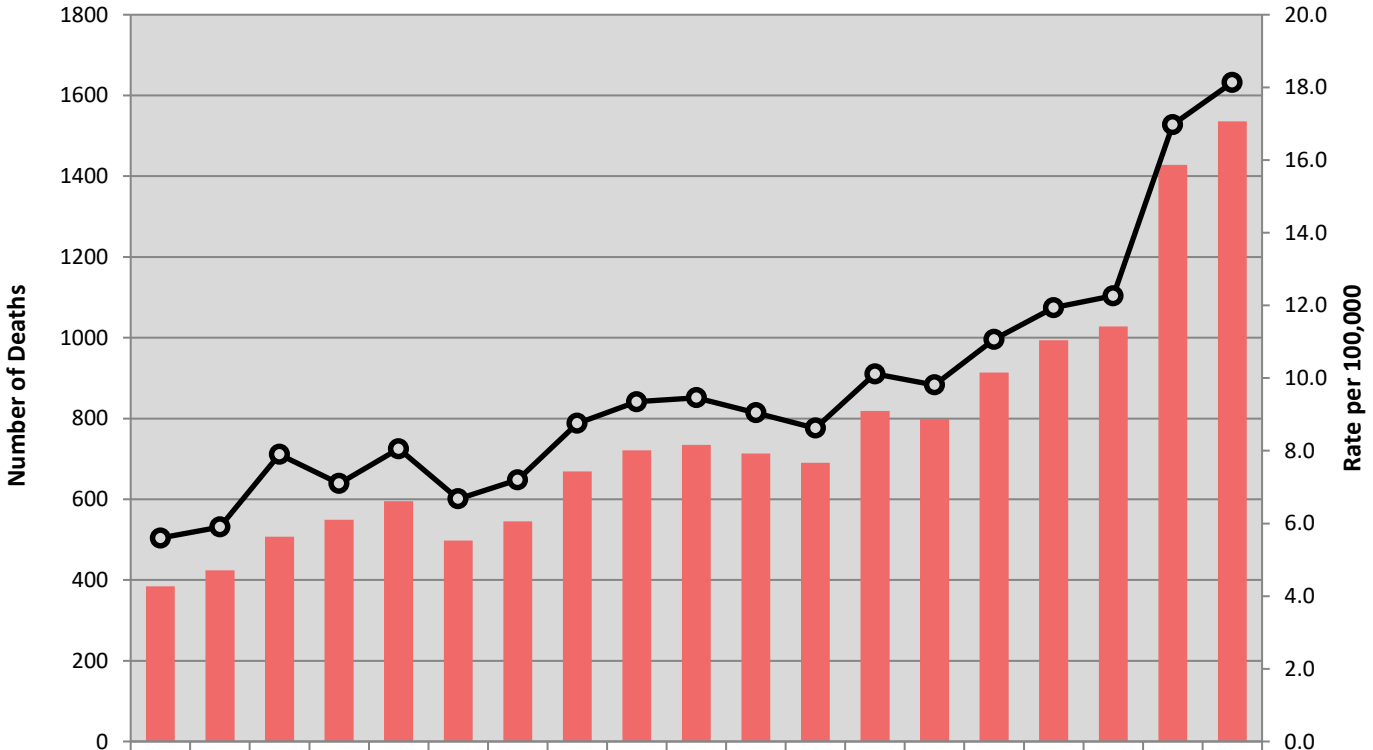
SECTION 5: DRUG/POISON DEATHS (N=1,536)

TOTAL DRUG/POISON DEATHS (N=1,536)

The number of drug/poisoning deaths have increased each year, with large spikes in recent years. In 2017, the number of fatal overdoses increased by 7.6% compared to 2016.

- The 2017 rate of drug/poison deaths that occurred in Virginia was 18.1 per 100,000 persons
- The majority were accidents (90.8%), male (66.1%), whites (76.3%), and 25-34 year olds (26.4%)
- Illicit opioids like heroin and illicit fentanyl have the highest mortality rates in urban localities like Central and Eastern Virginia, whereas prescription opioids have the highest mortality rates in rural areas of the state like the Western region of Virginia

Figure 5.1 Number and Rate of Fatal Drug/Poison Overdoses by Year of Death, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	384	424	507	549	595	498	545	669	721	735	713	690	819	799	914	994	1028	1428	1536
Mortality Rate	5.6	5.9	7.9	7.1	8.1	6.7	7.2	8.8	9.3	9.5	9.0	8.6	10.1	9.8	11.1	11.9	12.3	17.0	18.1

Table 5.1 Number and Percentage of Fatal Drug/Poison Overdoses by OCME District, 2017

OCME District	OCME Cases	Percentage
Central	516	33.6%
Northern	376	24.5%
Tidewater	326	21.2%
Western	318	20.7%
TOTAL	**1536**	**100.0%**

Figure 5.2 Percentage of Fatal Drug/Poison Overdoses by Manner of Death, 2017

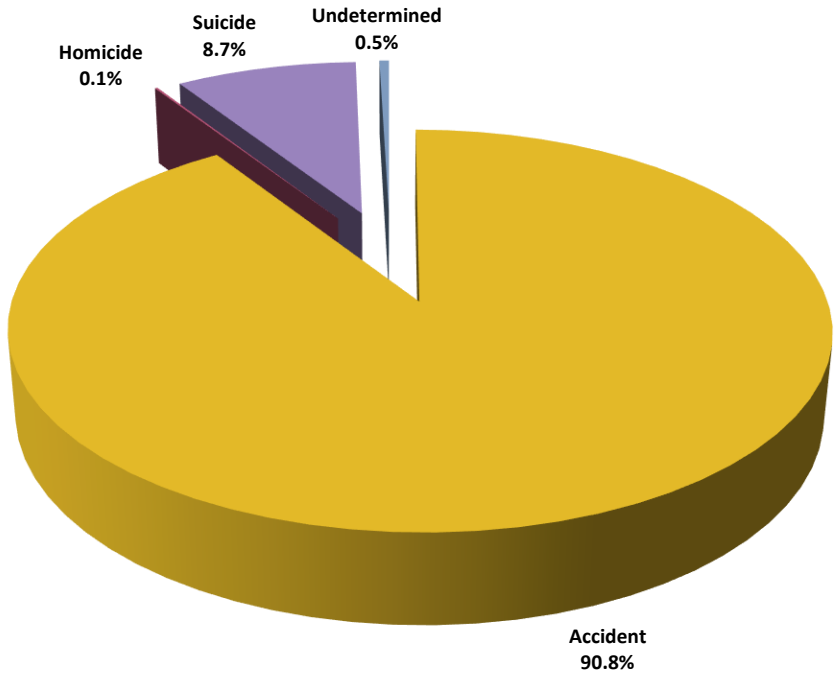
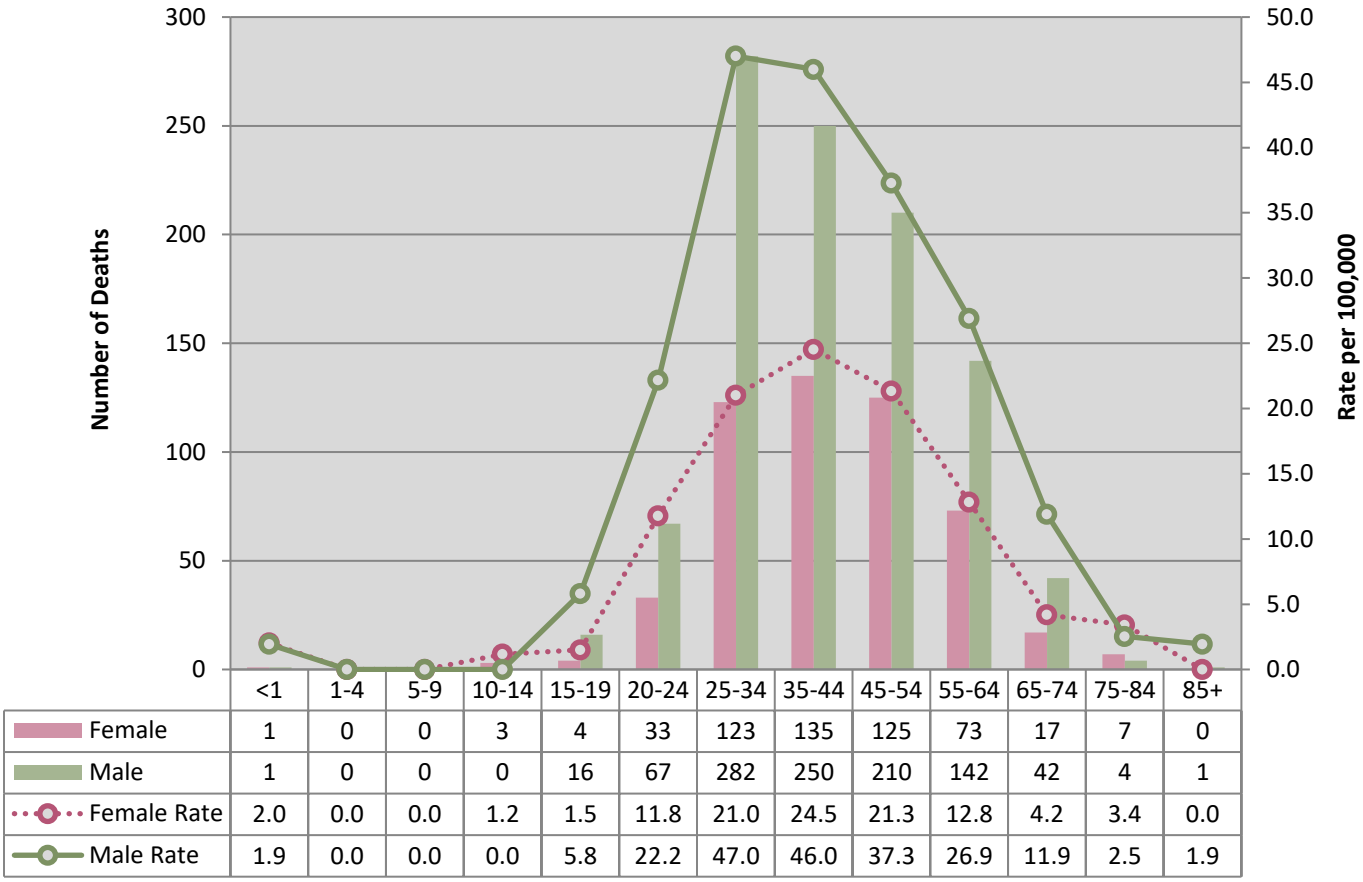


Figure 5.3 Number and Rate of Fatal Drug/Poison Overdoses by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	1	0	0	3	4	33	123	135	125	73	17	7	0
Male	1	0	0	0	16	67	282	250	210	142	42	4	1
Female Rate	2.0	0.0	0.0	1.2	1.5	11.8	21.0	24.5	21.3	12.8	4.2	3.4	0.0
Male Rate	1.9	0.0	0.0	0.0	5.8	22.2	47.0	46.0	37.3	26.9	11.9	2.5	1.9

Table 5.2 Number of Fatal Drug/Poison Overdoses by Age Group and Manner of Death, 2017

Age Group (years)	Accident	Homicide	Suicide	Undetermined	Total
<1	0	1	0	1	2
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	2	1	3
15-19	16	0	4	0	20
20-24	96	0	3	1	100
25-34	386	0	17	2	405
35-44	364	1	20	0	385
45-54	299	0	36	0	335
55-64	181	0	33	1	215
65-74	48	0	10	1	59
75-84	4	0	7	0	11
85+	0	0	1	0	1
Total	**1394**	**2**	**133**	**7**	**1536**

Figure 5.4 Percentage of Fatal Drug/Poison Overdoses by Race/Ethnicity, 2017

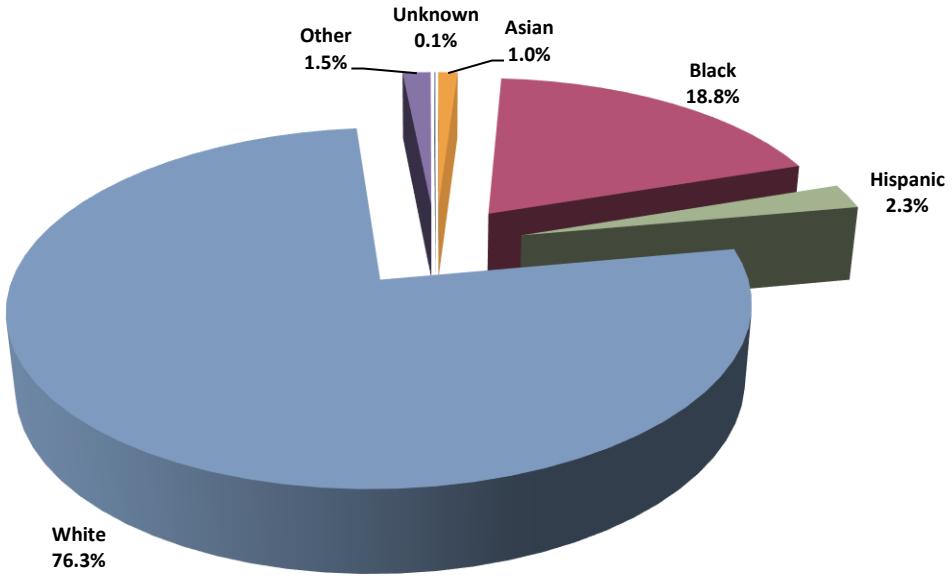
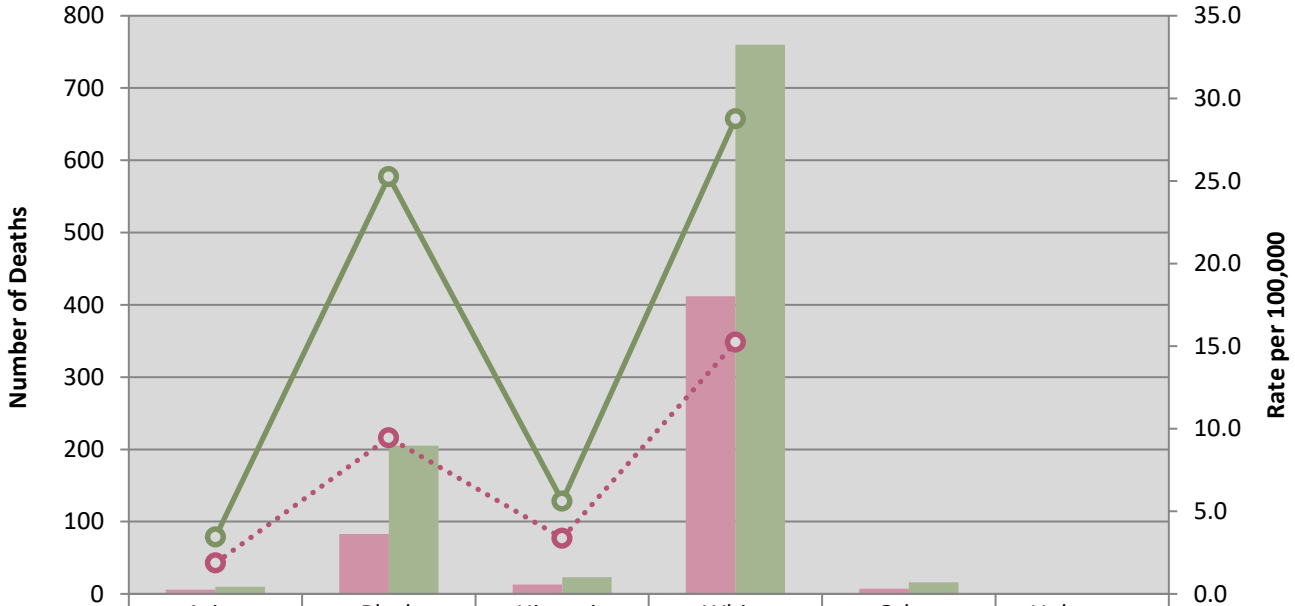


Figure 5.5 Number and Rate of Fatal Drug/Poison Overdoses by Race/Ethnicity and Gender, 2017



	Asian	Black	Hispanic	White	Other	Unknown
Female	6	83	13	412	7	0
Male	10	205	23	760	16	1
Female Rate	1.9	9.4	3.4	15.2	*	*
Male Rate	3.4	25.3	5.6	28.8	*	*

*No rate can be calculated

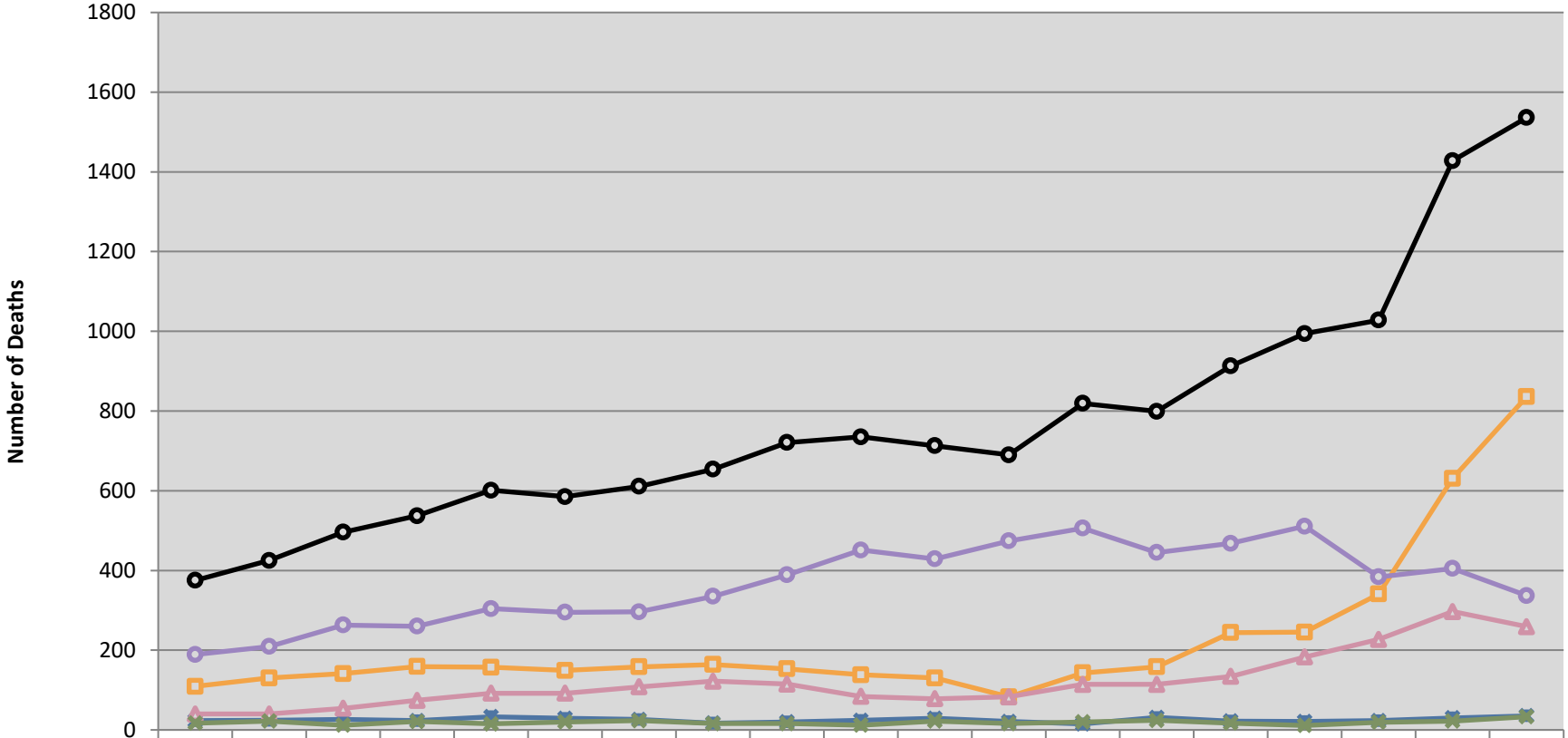
Table 5.3 Number of Fatal Drug/Poison Overdoses by OCME District and Cause of Death, 2017

Cause of Death	Central	Northern	Tidewater	Western	Total
Illegal (street) drug poisoning	326	209	176	125	**836**
Prescription drug poisoning	81	48	75	133	**337**
Mixed drug category	75	93	51	40	**259**
Ethanol poisoning	16	10	4	5	**35**
Over the counter drug poisoning	11	7	8	7	**33**
Drug type not specified	2	3	7	3	**15**
Inhalant poisoning	3	2	3	3	**11**
Other poisons (heavy metals, etc.)	1	2	2	1	**6**
Ethylene glycol poisoning	1	2	0	1	**4**
Total	**516**	**376**	**326**	**318**	**1536**

Table 5.4 Number of Fatal Drug/Poison Overdoses Manner and Cause of Death, 2017

Cause of Death	Accident	Homicide	Suicide	Undetermined	Total
Illegal (street) drug poisoning	833	0	1	2	**836**
Prescription drug poisoning	247	0	86	4	**337**
Mixed drug category	241	0	17	1	**259**
Ethanol poisoning	34	0	1	0	**35**
Over the counter drug poisoning	15	1	17	0	**33**
Drug type not specified	12	0	3	0	**15**
Inhalant poisoning	11	0	0	0	**11**
Other poisons (heavy metals, etc.)	1	1	4	0	**6**
Ethylene glycol poisoning	0	0	4	0	**4**
Total	**1394**	**2**	**133**	**7**	**1536**

Figure 5.6 Number of Fatal Drug/Poison Overdoses by Drug Category and Year of Death, 1999-2017



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Ethanol	23	24	26	23	33	29	26	17	20	24	29	21	15	31	22	21	23	30	35
Illegal	109	130	141	159	157	149	158	164	153	138	130	83	143	158	244	245	341	631	836
Mixed	40	40	54	74	92	92	108	122	115	84	78	83	114	114	134	183	227	297	259
OTC	17	22	12	21	15	20	23	16	16	12	22	16	20	24	17	11	19	22	33
Prescription	189	209	263	260	304	295	296	335	389	451	429	474	506	445	468	511	384	405	337
All Drug Deaths	375	425	496	537	601	585	611	654	721	735	713	690	819	799	913	994	1028	1428	1536

Note: all other categories of fatal drug overdose were excluded from this analysis because of low annual case counts (<20 deaths)

Figure 5.7 Number of Fatal Drug/Poison Overdoses by Drug Category and Gender, 2017

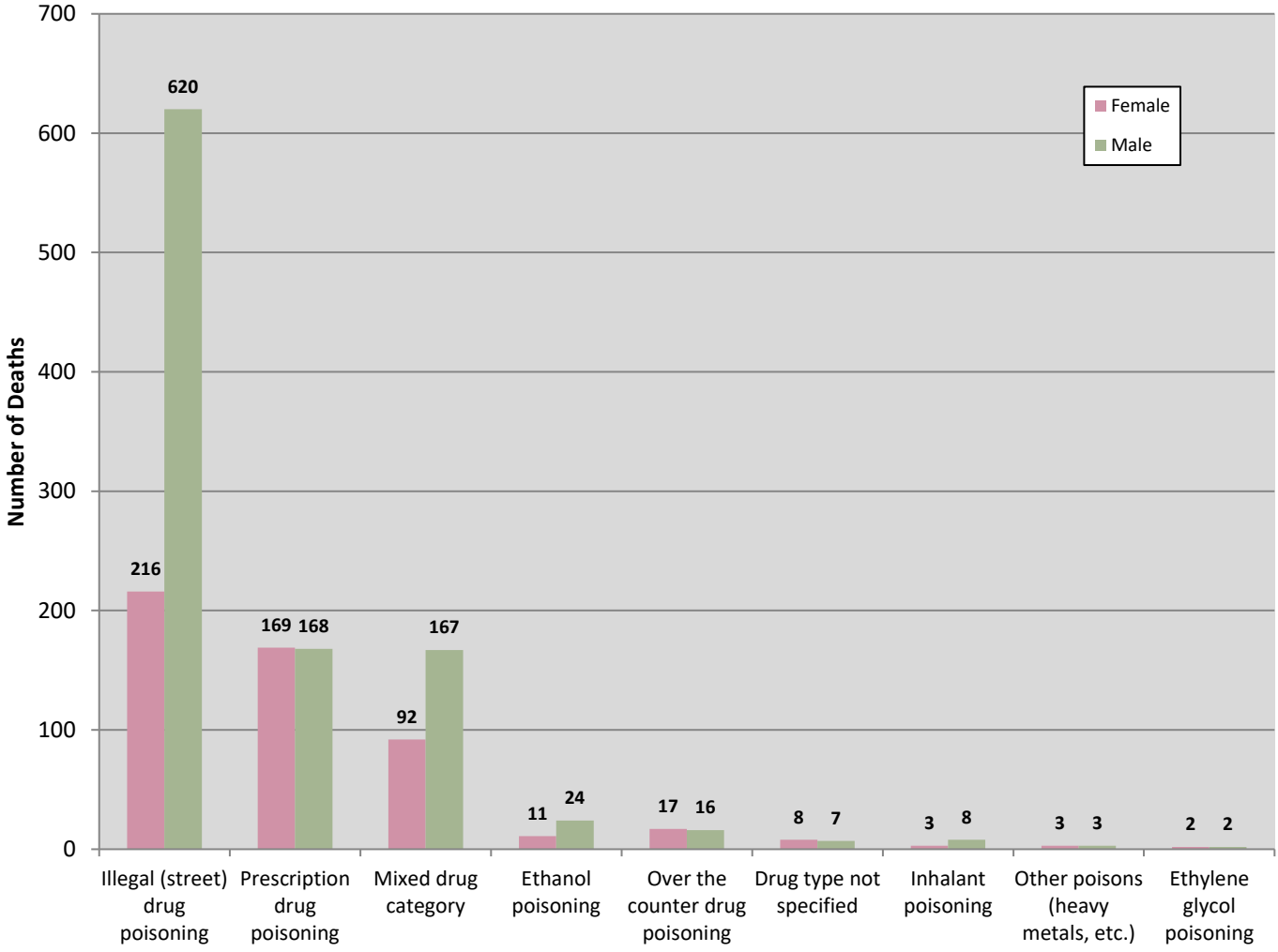
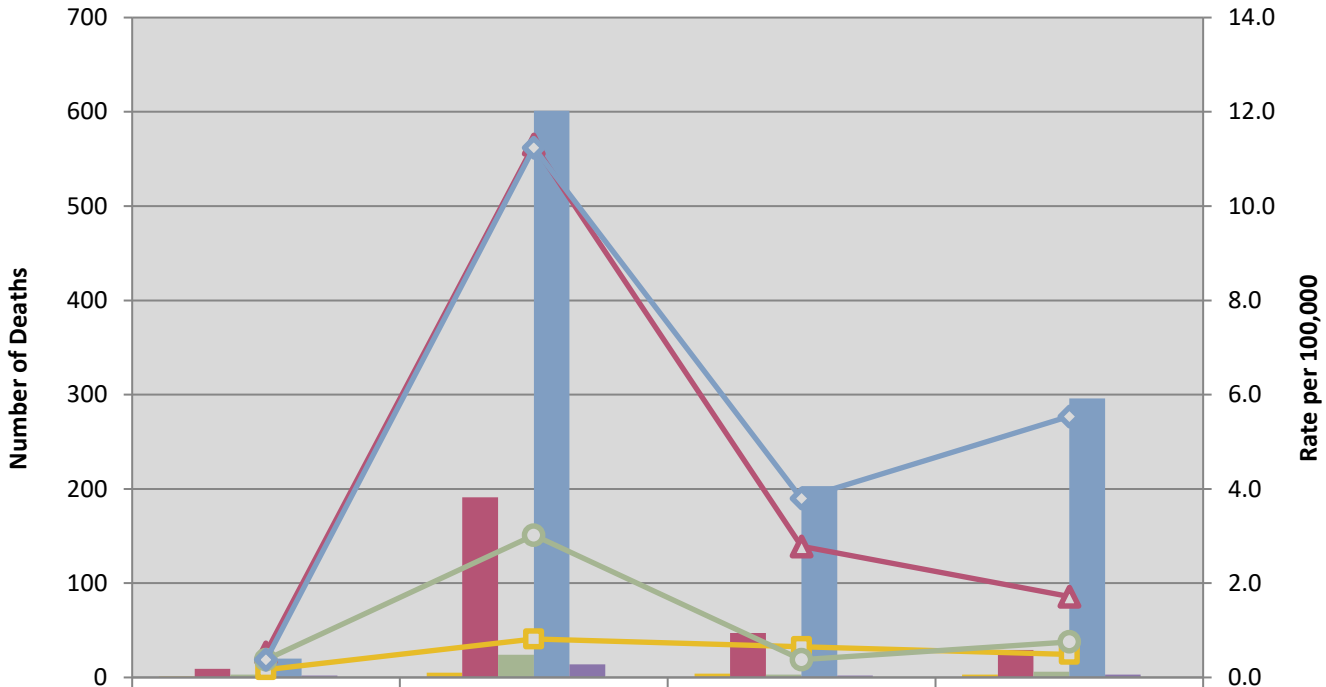
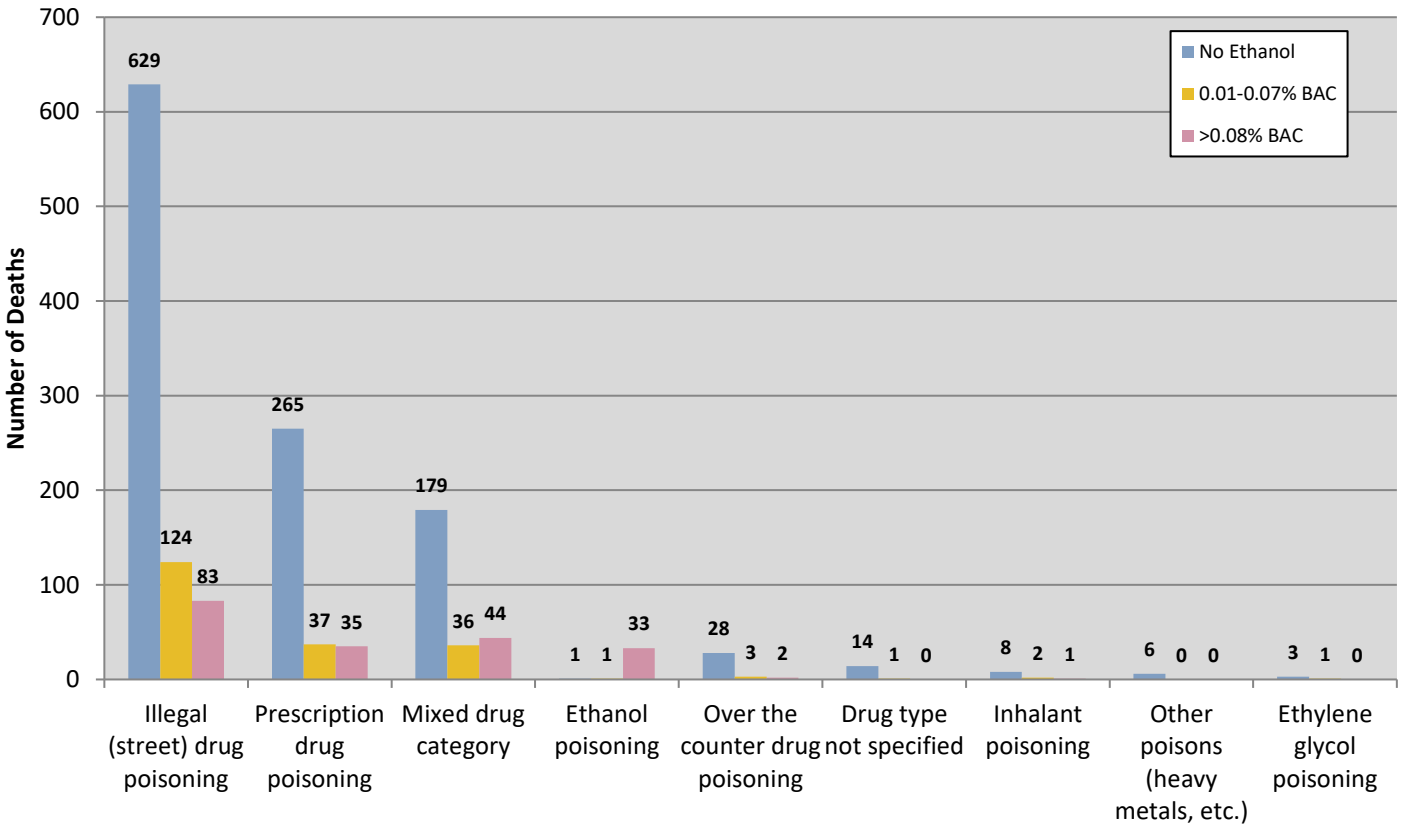


Figure 5.8 Number and Rate of Fatal Drug/Poison Overdoses by Drug Category and Race/Ethnicity, 2017



	Ethanol Poisoning	Illegal Drug Poisoning	Mixed Drug Category Poisoning	Prescription Drug Poisoning
Asian	1	5	4	3
Black	9	191	47	29
Hispanic	3	24	3	6
White	20	601	203	296
Other	2	14	2	3
Unknown	0	1	0	0
Asian Rate	0.2	0.8	0.7	0.5
Black Rate	0.5	11.3	2.8	1.7
Hispanic Rate	0.4	3.0	0.4	0.8
White Rate	0.4	11.2	3.8	5.5

Figure 5.9 Number of Fatal Drug/Poison Overdoses by Drug Category and Ethanol Level, 2017



Note: Ethanol poisoning deaths listed as 'no ethanol' detected or '0.01-0.07% BAC' were due to toxicology timing issues regarding metabolization of ethanol

Table 5.5 Number of Fatal Drug/Poison Overdoses by Cause of Death and Whether Alcohol Caused Death, 2017

Cause of Death	Caused Death	Contributed to Death	Did Not Cause Death	Total
Illegal (street) drug poisoning	100	35	701	836
Prescription drug poisoning	37	10	290	337
Mixed drug category	49	11	199	259
Ethanol poisoning	32	1	2	35
Over the counter drug poisoning	2	0	31	33
Drug type not specified	0	0	15	15
Inhalant poisoning	1	0	10	11
Other poisons (heavy metals, etc.)	0	0	6	6
Ethylene glycol poisoning	0	1	3	4
Total	**221**	**58**	**1257**	**1536**

Figure 5.10 Number of Fatal Drug/Poison Overdoses by Drug/Poison/Metabolites Detected, 2017

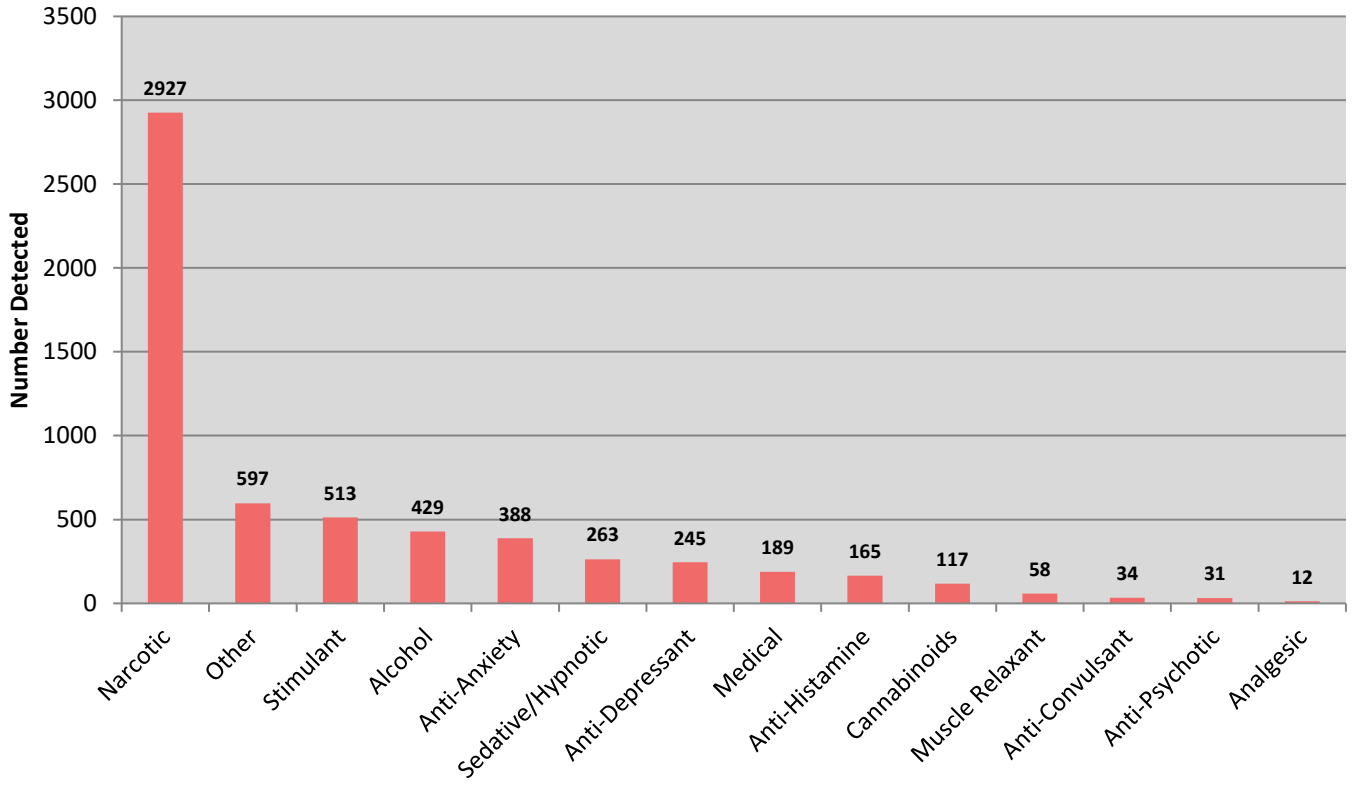


Table 5.6 Number and Percentage of Fatal Drug/Poison Overdoses by Drug/Poison/Metabolite Detected, 2017

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
Alcohol			**7.2%**
	Acetone	8	0.1%
	Ethanol	416	7.0%
	Isopropanol	1	0.0%
	Methanol	4	0.1%
Analgesic			**0.2%**
	Acetaminophen	12	0.2%
Anti-Anxiety			**6.5%**
	Alprazolam	188	3.2%
	Buspirone	2	0.0%
	Delorazepam	1	0.0%
	Diazepam	70	1.2%
	Etizolam	5	0.1%
	Flubromazepam	3	0.1%
	Lorazepam	21	0.4%
	Meprobamate	10	0.2%
	Nordiazepam (Diazepam Metabolite)	88	1.5%

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
Anti-Convulsant			**0.6%**
	Carbamazepine	10	0.2%
	Lamotrigine	10	0.2%
	Levetiracetam	4	0.1%
	Phenytoin	2	0.0%
	Topiramate	8	0.1%
Anti-Depressant			**4.1%**
	Amitriptyline	39	0.7%
	Bupropion	23	0.4%
	Citalopram	47	0.8%
	Clomipramine	1	0.0%
	Desmethysertraline	1	0.0%
	Doxepin	3	0.1%
	Duloxetine	3	0.1%
	Fluoxetine	23	0.4%
	Mirtazapine	12	0.2%
	Nortriptyline	45	0.8%
	O-Desmethylvenlafaxine	2	0.0%
	Paroxetine	7	0.1%
	Sertraline	23	0.4%
	Venlafaxine	16	0.3%
Anti-Histamine			**2.8%**
	Brompheniramine	1	0.0%
	Certirizine	1	0.0%
	Chlorpheniramine	7	0.1%
	Desloratadine	1	0.0%
	Diphenhydramine	94	1.6%
	Doxylamine	22	0.4%
	Hyrdoxyzine	8	0.1%
	Meclizine	2	0.0%
	Promethazine	29	0.5%
Anti-Psychotic			**0.5%**
	Clozapine	2	0.0%
	Litium	1	0.0%
	Olanzapine	9	0.2%
	Paliperidone	1	0.0%
	Quetiapine	16	0.3%
	Risperidone	2	0.0%
Cannabinoids			**2.0%**
	Tetrahydrocannabinol Carboxylic Acid (THC)-various compounds	117	2.0%
Medical			**3.2%**

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
	Amlodipine	1	0.0%
	Benztropine	5	0.1%
	Butalbital	11	0.2%
	Dextromethorphan	33	0.6%
	Dicyclomine	2	0.0%
	Digoxin	1	0.0%
	Diltiazem	3	0.1%
	Ephedrine/Pseudoephedrine	9	0.2%
	Etimidate	2	0.0%
	Flecainide	1	0.0%
	Gabapentin	86	1.4%
	Insulin	1	0.0%
	Isoflurane	2	0.0%
	Levamisole/Tetramisole	6	0.1%
	Loperamide	4	0.1%
	Metoprolol	3	0.1%
	Naloxone	7	0.1%
	Ondansetron	3	0.1%
	Phentermine	2	0.0%
	Pregabalin	2	0.0%
	Propranolol	1	0.0%
	Quinine	3	0.1%
	Tadalafil	1	0.0%
Muscle Relaxant			**1.0%**
	Baclofen	2	0.0%
	Carisoprodol	8	0.1%
	Cyclobenzaprine	45	0.8%
	Metaxalone	1	0.0%
	Methocarbamol	1	0.0%
	Tizanidine	1	0.0%
Narcotic			**49.0%**
	6-Acetylmorphine (Heroin Metabolite)	406	6.8%
	Acetyl Fentanyl	50	0.8%
	Buprenorphine	27	0.5%
	Butorphanol	1	0.0%
	Butyryl Fentanyl	2	0.0%
	Carfentanil	4	0.1%
	Codeine	225	3.8%
	Cyclopropyl Fentanyl	29	0.5%
	Despropiony Fentanyl	179	3.0%
	Fentanyl	627	10.5%
	Furanyl Fentanyl	30	0.5%

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
	Hydrocodone	87	1.5%
	Hydromorphone	69	1.2%
	Methadone	92	1.5%
	Methoxyacetyl Fentanyl	8	0.1%
	Morphine	626	10.5%
	Norbuprenorphine	27	0.5%
	Norfentanyl	10	0.2%
	Norpropoxyphene	1	0.0%
	Oxycocone	197	3.3%
	Oxymorphone	123	2.1%
	Para/Meta-Fluoroisobutyryl Fentanyl	41	0.7%
	Propoxyphene	1	0.0%
	Tapentadol	3	0.1%
	Tramadol	50	0.8%
	U-47700	12	0.2%
Other			**10.0%**
	1,1 Difluoroethane	15	0.3%
	Benzoylecgonine	410	6.9%
	Carboxyhemoglobin	9	0.2%
	Cocaethylene	112	1.9%
	Continine	6	0.1%
	Creatinine	1	0.0%
	Cyanide	1	0.0%
	Ethylene Glycol	5	0.1%
	Ketamine	8	0.1%
	Lidocaine	10	0.2%
	Mitragynine	11	0.2%
	Phencyclidine	9	0.2%
Sedative/Hypnotic			**4.4%**
	Chlordiazepoxide	7	0.1%
	Clonazepam	97	1.6%
	Midazolam	14	0.2%
	Oxazepam	30	0.5%
	Pentobarbital	9	0.2%
	Temazepam	34	0.6%
	Trazodone	42	0.7%
	Zaleplon	1	0.0%
	Zolpidem	28	0.5%
	Zopiclone	1	0.0%
Stimulant			**8.6%**
	Amphetamine	107	1.8%
	Caffeine	15	0.3%

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
	Cocaine	295	4.9%
	Dibutylone	1	0.0%
	Ethylone	1	0.0%
	Ethylpentylone	2	0.0%
	MDMA/MDA/MDFA (Mixed Compounds)	5	0.1%
	Methamphetamine	85	1.4%
	Methylphenidate	1	0.0%
	Modafinil	1	0.0%
TOTAL DRUG/POISON/ACTIVE METABOLITES DETECTED		**5968**	**100.0%**

Figure 5.11 Number of Fatal Drug/Poison Overdoses by Class of Drug/Poison/Metabolite Detected that Caused or Contributed to Death, 2017

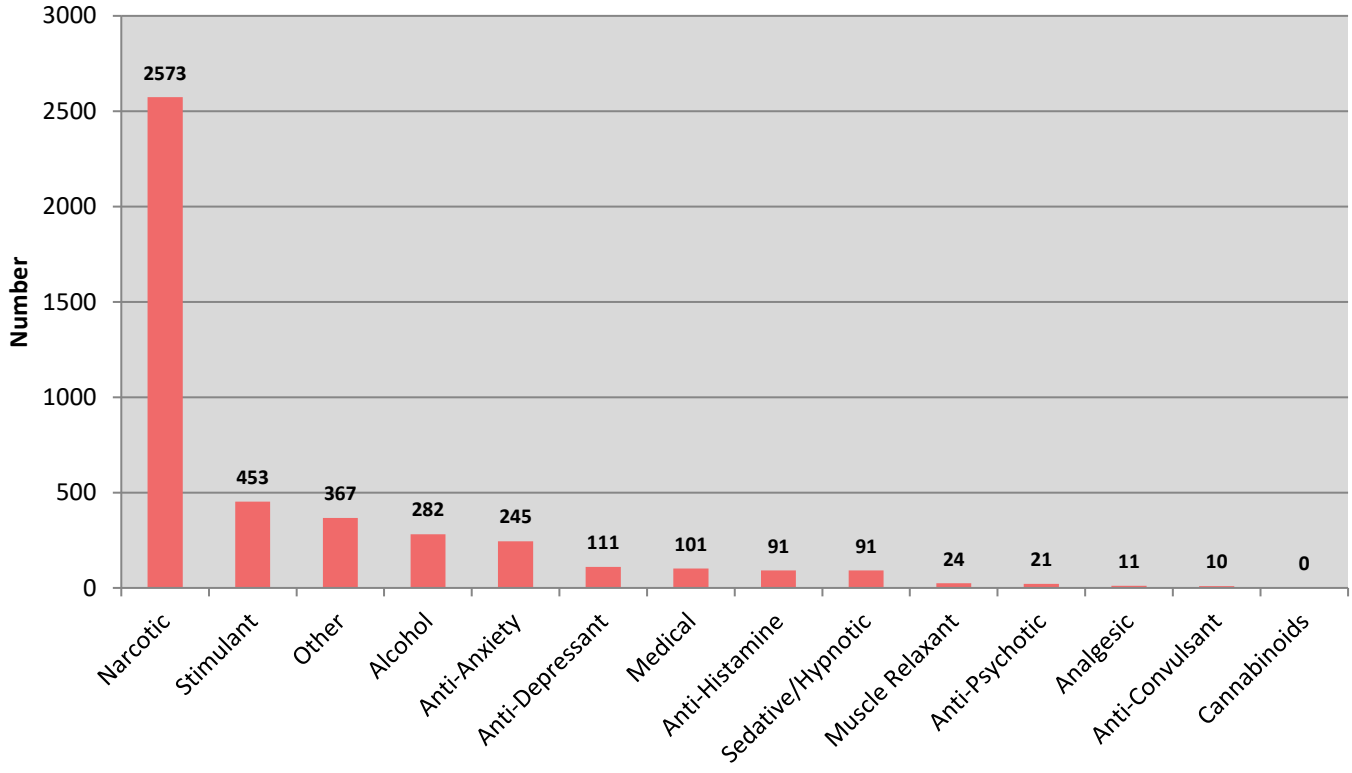


Table 5.7 Number of Fatal Drug/Poison Deaths by Drug/Poison/Metabolites Detected that Caused or Contributed to Death, 2017

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
Alcohol			**6.4%**
	Acetone	2	0.0%
	Ethanol	279	6.4%
	Isopropanol	0	0.0%
	Methanol	1	0.0%
Analgesic			**0.3%**
	Acetaminophen	11	0.3%
Anti-Anxiety			**5.6%**
	Alprazolam	148	3.4%
	Buspirone	1	0.0%
	Delorazepam	0	0.0%
	Diazepam	39	0.9%
	Etizolam	5	0.1%
	Flubromazepam	3	0.1%
	Lorazepam	10	0.2%

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
	Meprobamate	4	0.1%
	Nordiazepam (Diazepam Metabolite)	35	0.8%
Anti-Convulsant			**0.2%**
	Carbamazepine	2	0.0%
	Lamotrigine	5	0.1%
	Levetiracetam	0	0.0%
	Phenytoin	0	0.0%
	Topiramate	3	0.1%
Anti-Depressant			**2.5%**
	Amitriptyline	18	0.4%
	Bupropion	13	0.3%
	Citalopram	12	0.3%
	Clomipramine	0	0.0%
	Desmethysertraline	0	0.0%
	Doxepin	3	0.1%
	Duloxetine	3	0.1%
	Fluoxetine	9	0.2%
	Mirtazapine	4	0.1%
	Nortriptyline	18	0.4%
	O-Desmethylvenlafaxine	2	0.0%
	Paroxetine	7	0.2%
	Sertraline	11	0.3%
	Venlafaxine	11	0.3%
Anti-Histamine			**2.1%**
	Brompheniramine	0	0.0%
	Certirizine	1	0.0%
	Chlorpheniramine	3	0.1%
	Desloratadine	1	0.0%
	Diphenhydramine	47	1.1%
	Doxylamine	18	0.4%
	Hyrdoxyzine	9	0.2%
	Meclizine	0	0.0%
	Promethazine	12	0.3%
Anti-Psychotic			**0.5%**
	Clozapine	1	0.0%
	Litium	0	0.0%
	Olanzapine	5	0.1%
	Paliperidone	0	0.0%
	Quetiapine	12	0.3%
	Risperidone	3	0.1%
Cannabinoids			**0.0%**

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
	Tetrahydrocannabinol Carboxylic Acid (THC)-various compounds	0	0.0%
Medical			**2.3%**
	Amlodipine	1	0.0%
	Benztropine	0	0.0%
	Butalbital	6	0.1%
	Dextromethorphan	20	0.5%
	Dicyclomine	0	0.0%
	Digoxin	1	0.0%
	Diltiazem	3	0.1%
	Ephedrine/Pseudoephedrine	6	0.1%
	Etimidate	0	0.0%
	Flecainide	1	0.0%
	Gabapentin	50	1.1%
	Insulin	1	0.0%
	Isoflurane	2	0.0%
	Levamisole/Tetramisole	0	0.0%
	Loperamide	4	0.1%
	Metoprolol	2	0.0%
	Naloxone	0	0.0%
	Ondansetron	0	0.0%
	Phentermine	2	0.0%
	Pregabalin	1	0.0%
	Propranolol	1	0.0%
	Quinine	0	0.0%
	Tadalafil	0	0.0%
Muscle Relaxant			**0.5%**
	Baclofen	2	0.0%
	Carisoprodol	0	0.0%
	Cyclobenzaprine	19	0.4%
	Metaxalone	1	0.0%
	Methocarbamol	1	0.0%
	Tizanidine	1	0.0%
Narcotic			**58.7%**
	6-Acetylmorphine (Heroin Metabolite)	388	8.9%
	Acetyl Fentanyl	42	1.0%
	Buprenorphine	20	0.5%
	Butorphanol	1	0.0%
	Butyryl Fentanyl	2	0.0%
	Carfentanil	4	0.1%
	Codeine	85	1.9%
	Cyclopropyl Fentanyl	29	0.7%

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
	Despropiony Fentanyl	170	3.9%
	Fentanyl	611	13.9%
	Furanyl Fentanyl	30	0.7%
	Hydrocodone	62	1.4%
	Hydromorphone	48	1.1%
	Methadone	81	1.8%
	Methoxyacetyl Fentanyl	8	0.2%
	Morphine	604	13.8%
	Norbuprenorphine	18	0.4%
	Norfentanyl	9	0.2%
	Norpropoxyphene	1	0.0%
	Oxycocone	174	4.0%
	Oxymorphone	91	2.1%
	Para/Meta-Fluoroisobutyryl Fentanyl	40	0.9%
	Propoxyphene	1	0.0%
	Tapentadol	2	0.0%
	Tramadol	40	0.9%
	U-47700	12	0.3%
Other			**8.4%**
	1,1 Difluoroethane	15	0.3%
	Benzoylecgonine	220	5.0%
	Carboxyhemoglobin	0	0.0%
	Cocaethylene	101	2.3%
	Continine	0	0.0%
	Creatinine	0	0.0%
	Cyanide	1	0.0%
	Ethylene Glycol	5	0.1%
	Ketamine	5	0.1%
	Lidocaine	1	0.0%
	Mitragynine	10	0.2%
	Phencyclidine	9	0.2%
Sedative/Hypnotic			**2.1%**
	Chlordiazepoxide	9	0.2%
	Clonazepam	17	0.4%
	Midazolam	0	0.0%
	Oxazepam	9	0.2%
	Pentobarbital	5	0.1%
	Temazepam	13	0.3%
	Trazodone	24	0.5%
	Zaleplon	1	0.0%
	Zolpidem	12	0.3%
	Zopiclone	1	0.0%

Class	Drug/Poison/Active Metabolite	Number Detected	Percentage of Cases
Stimulant			**10.3%**
	Amphetamine	85	1.9%
	Caffeine	0	0.0%
	Cocaine	275	6.3%
	Dibutylone	1	0.0%
	Ethylone	1	0.0%
	Ethylpentylone	2	0.0%
	MDMA/MDA/MDFA (Mixed Compounds)	4	0.1%
	Methamphetamine	84	1.9%
	Methylphenidate	0	0.0%
	Modafinil	1	0.0%
TOTAL DRUG/POISON/ACTIVE METABOLITES DETECTED		**4380**	**100.0%**

Table 5.8 Number and Rate of Fatal Drug/Poison Overdoses by Locality of Residence, 2017

Locality of Residence	Deaths	Rate
Accomack County	2	6.1
Albemarle County	6	5.6
Alexandria City	17	10.6
Alleghany County	2	13.2
Amelia County	1	7.7
Amherst County	1	3.2
Appomattox County	0	0.0
Arlington County	15	6.4
Augusta County	14	18.6
Bath County	0	0.0
Bedford County	18	23.1
Bland County	1	15.7
Botetourt County	4	12.1
Bristol City	2	11.9
Brunswick County	3	18.5
Buchanan County	7	32.5
Buckingham County	2	11.7
Buena Vista City	1	15.8
Campbell County	6	10.9
Caroline County	7	23.0
Carroll County	3	10.1
Charles City County	1	14.3
Charlotte County	1	8.3
Charlottesville City	7	14.6
Chesapeake City	45	18.7
Chesterfield County	78	22.7
Clarke County	1	6.9
Colonial Heights City	7	39.3
Covington City	5	90.4
Craig County	0	0.0
Culpeper County	26	50.7
Cumberland County	4	40.8
Danville City	3	7.3
Dickenson County	5	33.8
Dinwiddie County	6	21.3
Emporia City	1	18.9
Essex County	0	0.0
Fairfax City	7	29.0
Fairfax County	108	9.4
Falls Church City	5	34.3
Fauquier County	17	24.5

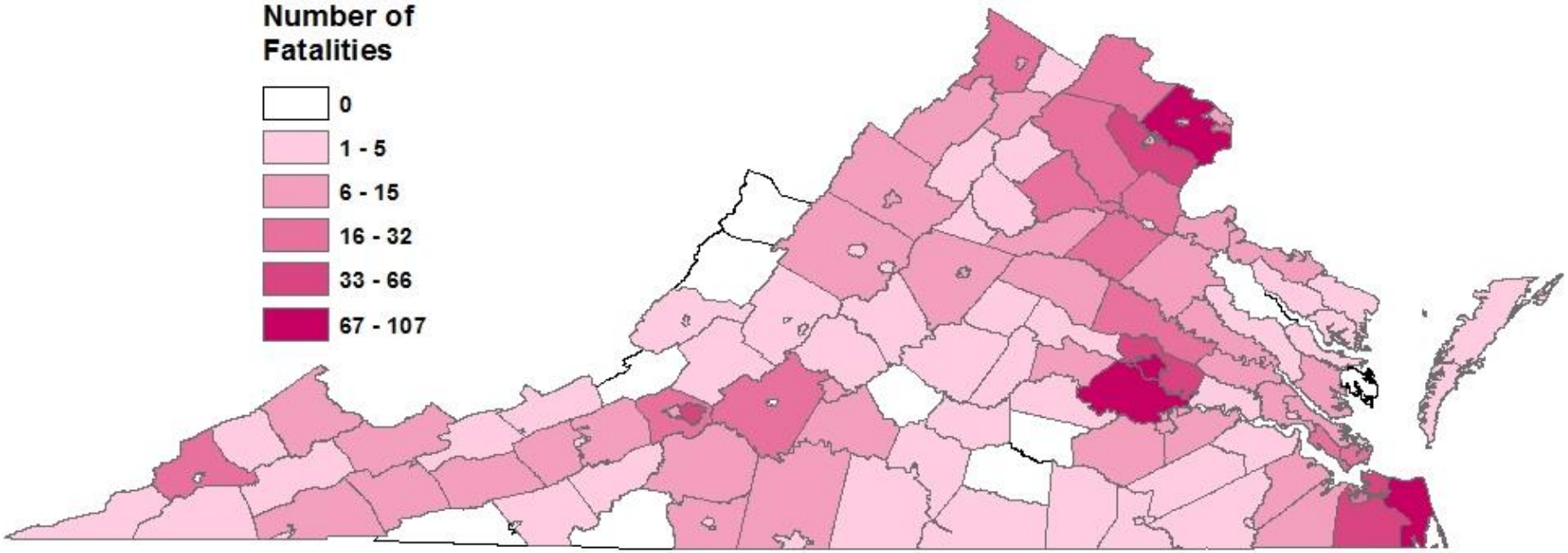
Locality of Residence	Deaths	Rate
Floyd County	2	12.7
Fluvanna County	2	7.6
Franklin City	3	36.7
Franklin County	9	15.9
Frederick County	17	19.7
Fredericksburg City	5	17.6
Galax City	0	0.0
Giles County	5	29.7
Gloucester County	9	24.1
Goochland County	3	13.2
Grayson County	0	0.0
Greene County	2	10.2
Greensville County	4	34.2
Halifax County	1	2.9
Hampton City	23	17.1
Hanover County	24	22.7
Harrisonburg City	6	11.1
Henrico County	66	20.1
Henry County	12	23.4
Highland County	0	0.0
Hopewell City	10	44.2
Isle of Wight County	7	19.2
James City County	11	14.6
King and Queen County	1	14.3
King George County	11	41.8
King William County	6	35.9
Lancaster County	2	18.5
Lee County	5	21.0
Lexington City	0	0.0
Loudoun County	29	7.3
Louisa County	6	16.7
Lunenburg County	0	0.0
Lynchburg City	9	11.1
Madison County	1	7.5
Manassas City	12	28.9
Manassas Park City	5	30.1
Martinsville City	5	38.0
Mathews County	0	0.0
Mecklenburg County	5	16.3
Middlesex County	3	28.1
Montgomery County	12	12.2

Locality of Residence	Deaths	Rate
Nelson County	3	20.1
New Kent County	7	32.3
Newport News City	32	17.8
Norfolk City	61	24.9
Northampton County	3	25.3
Northumberland County	3	24.4
Norton City	0	0.0
Nottoway County	0	0.0
Orange County	10	27.7
Page County	2	8.4
Patrick County	0	0.0
Petersburg City	11	34.6
Pittsylvania County	6	9.8
Poquoson City	2	16.6
Portsmouth City	28	29.6
Powhatan County	9	31.5
Prince Edward County	1	4.4
Prince George County	10	26.4
Prince William County	58	12.5
Pulaski County	10	29.3
Radford City	1	5.7
Rappahannock County	1	13.7
Richmond City	89	39.2
Richmond County	3	33.6
Roanoke City	48	48.1
Roanoke County	20	21.3
Rockbridge County	3	13.2
Rockingham County	9	11.2
Russell County	3	11.1
Salem City	10	38.7
Scott County	1	4.6
Shenandoah County	9	20.8
Smyth County	6	19.6
Southampton County	3	16.9
Spotsylvania County	22	16.5
Stafford County	16	10.9
Staunton City	5	20.4
Suffolk City	10	11.1
Surry County	2	30.6
Sussex County	2	17.6
Tazewell County	9	21.9
Virginia Beach City	79	17.5
Warren County	13	32.9

Locality of Residence	Deaths	Rate
Washington County	6	11.0
Waynesboro City	3	13.4
Westmoreland County	7	39.4
Williamsburg City	1	6.7
Winchester City	8	28.6
Wise County	20	51.8
Wythe County	6	20.8
York County	8	11.8
Subtotal (in-state)	1451	17.1
Out of State	79	ND
Unknown	6	ND
Subtotal (out-of-state)	85	ND
TOTAL	**1536**	**18.1**

Note: No denominator is represented by ND

Map 5.1 Number of Fatal Drug/Poison Overdoses by Locality of Residence, 2017



Map 5.2 Rates of Fatal Drug/Poison Overdoses by Locality of Residence, 2017

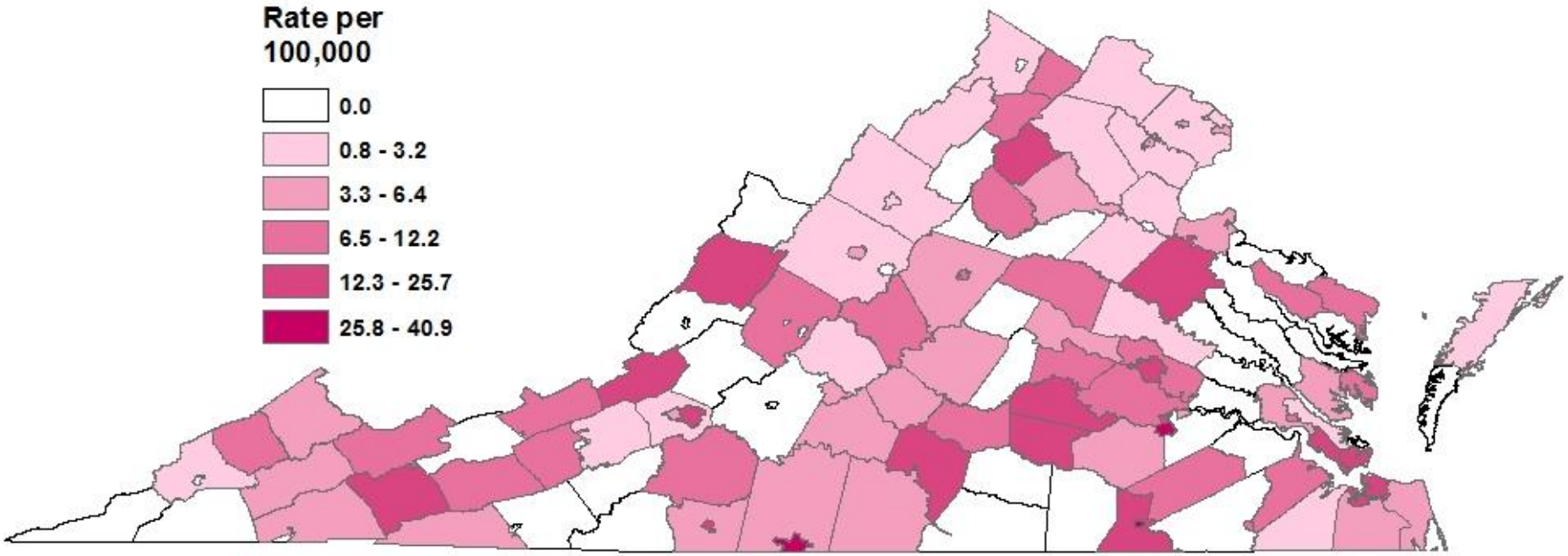


Table 5.9 Number and Rate of Fatal Drug/Poison Overdoses by Locality of Injury, 2017

Locality of Injury	Deaths	Rate
Accomack County	2	6.1
Albemarle County	9	8.4
Alexandria City	16	10.0
Alleghany County	2	13.2
Amelia County	2	15.4
Amherst County	2	6.3
Appomattox County	0	0.0
Arlington County	23	9.8
Augusta County	10	13.3
Bath County	0	0.0
Bedford County	16	20.5
Bland County	1	15.7
Botetourt County	3	9.0
Bristol City	3	17.9
Brunswick County	1	6.2
Buchanan County	8	37.2
Buckingham County	4	23.4
Buena Vista City	1	15.8
Campbell County	5	9.1
Caroline County	6	19.7
Carroll County	3	10.1
Charles City County	0	0.0
Charlotte County	1	8.3
Charlottesville City	6	12.5
Chesapeake City	40	16.6
Chesterfield County	68	19.8
Clarke County	2	13.8
Colonial Heights City	2	11.2
Covington City	5	90.4
Craig County	0	0.0
Culpeper County	23	44.9
Cumberland County	2	20.4
Danville City	5	12.2
Dickenson County	4	27.1
Dinwiddie County	5	17.7
Emporia City	1	18.9
Essex County	0	0.0
Fairfax City	7	29.0
Fairfax County	121	10.5
Falls Church City	4	27.4
Fauquier County	13	18.7
Floyd County	2	12.7
Fluvanna County	2	7.6

Locality of Injury	Deaths	Rate
Franklin City	2	24.5
Franklin County	11	19.5
Frederick County	14	16.2
Fredericksburg City	14	49.4
Galax City	0	0.0
Giles County	6	35.6
Gloucester County	6	16.1
Goochland County	3	13.2
Grayson County	0	0.0
Greene County	1	5.1
Greensville County	6	51.4
Halifax County	1	2.9
Hampton City	22	16.3
Hanover County	23	21.7
Harrisonburg City	8	14.8
Henrico County	73	22.3
Henry County	12	23.4
Highland County	0	0.0
Hopewell City	12	53.0
Isle of Wight County	6	16.4
James City County	10	13.2
King and Queen County	1	14.3
King George County	8	30.4
King William County	2	12.0
Lancaster County	1	9.3
Lee County	5	21.0
Lexington City	0	0.0
Loudoun County	31	7.8
Louisa County	3	8.4
Lunenburg County	0	0.0
Lynchburg City	8	9.9
Madison County	4	30.1
Manassas City	15	36.1
Manassas Park City	4	24.1
Martinsville City	4	30.4
Mathews County	0	0.0
Mecklenburg County	7	22.8
Middlesex County	3	28.1
Montgomery County	15	15.2
Nelson County	2	13.4
New Kent County	2	9.2
Newport News City	37	20.6
Norfolk City	66	27.0

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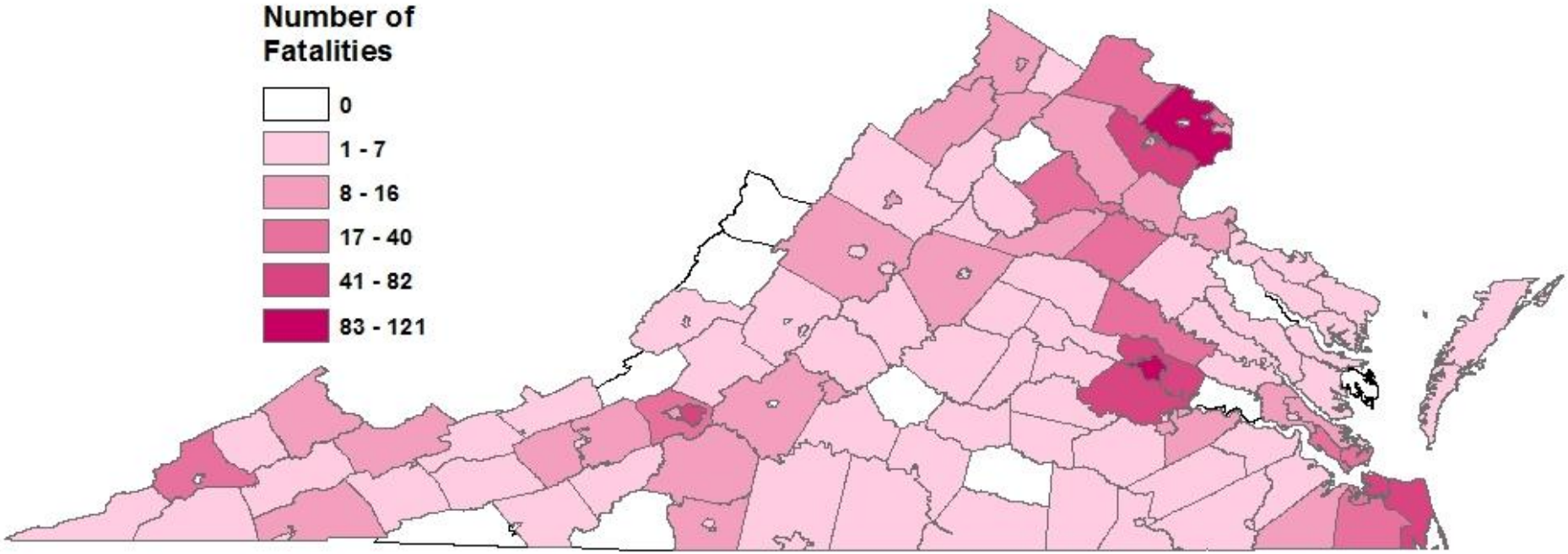
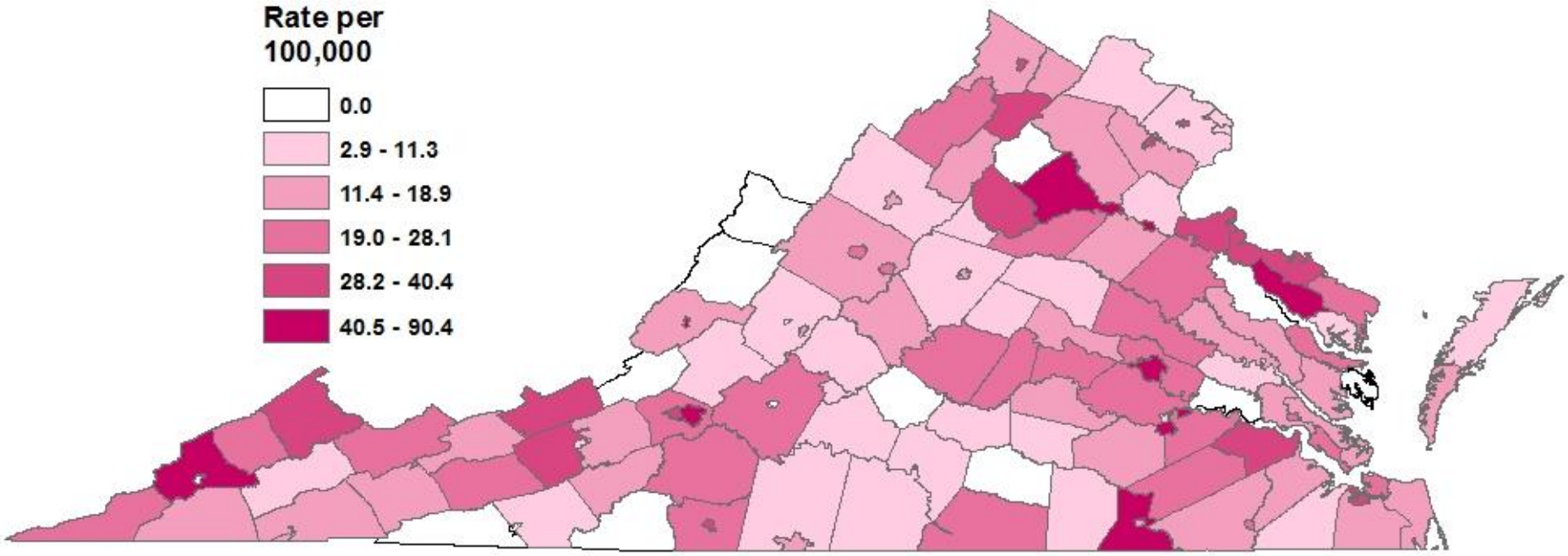
Locality of Injury	Deaths	Rate
Northampton County	2	16.9
Northumberland County	3	24.4
Norton City	0	0.0
Nottoway County	1	6.5
Orange County	10	27.7
Page County	3	12.6
Patrick County	0	0.0
Petersburg City	15	47.2
Pittsylvania County	5	8.2
Poquoson City	2	16.6
Portsmouth City	37	39.1
Powhatan County	6	21.0
Prince Edward County	2	8.8
Prince George County	8	21.2
Prince William County	60	13.0
Pulaski County	11	32.2
Radford City	2	11.3
Rappahannock County	0	0.0
Richmond City	116	51.1
Richmond County	4	44.7
Roanoke City	49	49.1
Roanoke County	24	25.6
Rockbridge County	2	8.8
Rockingham County	6	7.5
Russell County	3	11.1
Salem City	9	34.8
Scott County	3	13.7
Shenandoah County	9	20.8
Smyth County	5	16.3
Southampton County	3	16.9
Spotsylvania County	20	15.0
Stafford County	16	10.9
Staunton City	6	24.5
Suffolk City	8	8.9
Surry County	2	30.6
Sussex County	3	26.4
Tazewell County	10	24.3
Virginia Beach City	82	18.2
Warren County	16	40.4
Washington County	8	14.7
Waynesboro City	5	22.4
Westmoreland County	6	33.7
Williamsburg City	4	26.6
Winchester City	10	35.8
Wise County	20	51.8
Wythe County	7	24.2
York County	9	13.3
Subtotal (in-state)	1510	17.8
Out of State	14	ND
Unknown	12	ND
Subtotal (out-of-state)	26	ND
TOTAL	**1536**	**18.1**

Note: No denominator is represented by ND

Map 5.3 Number of Fatal Drug/Poison Overdoses by Locality of Injury, 2017



Map 5.4 Rates of Fatal Drug/Poison Overdoses by Locality of Injury, 2017

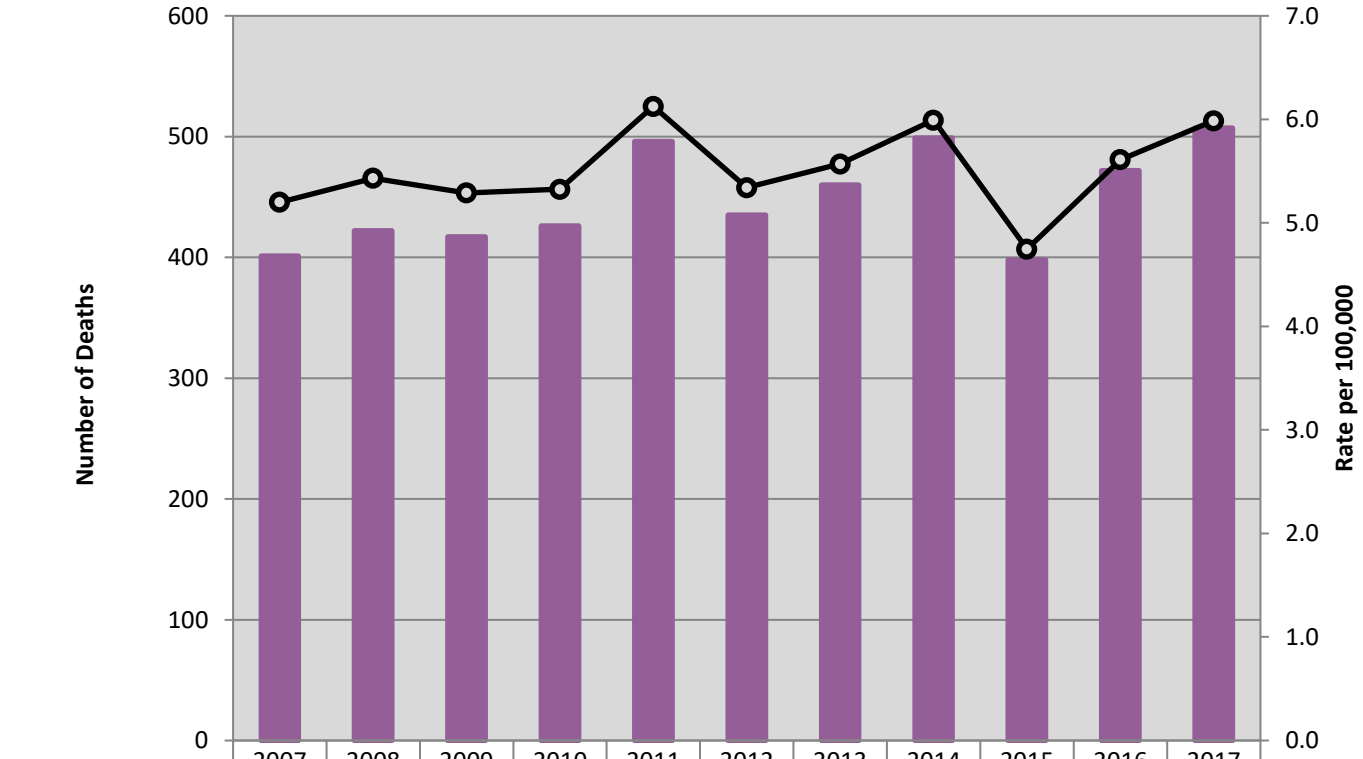

Rate per
100,000
0.0
2.9 - 11.3
11.4 - 18.9
19.0 - 28.1
28.2 - 40.4
40.5 - 90.4

PRESCRIPTION OPIOIDS EXCLUDING FENTANYL (N=507)

Prior to 2015, the largest number of fatal drug overdoses were attributed to prescription opioids. Although heroin and/or fentanyl deaths surpassed prescription opioid deaths in 2015, one or more prescription opioids (excluding fentanyl) still represented 33.1% of all fatal drug overdoses in 2017.

- Oxycodone continued to be the most common prescription opioid causing or contributing to death
- Whites made up 82.1% of the fatal prescription opioid (excluding fentanyl) overdoses in 2017
- Males aged 45-54 years and white males had the highest rates of fatal prescription opioid (excluding fentanyl) overdose in 2017 (12.2 deaths and 9.1 deaths per 100,00 persons, respectively)

Figure 5.12 Number of All Fatal Drug Overdoses Compared to All Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Year of Death, 2007-2017



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	401	422	417	426	496	435	460	499	398	472	507
Mortality Rate	5.2	5.4	5.3	5.3	6.1	5.3	5.6	6.0	4.7	5.6	6.0

Figure 5.13 Number of Prescription Opioids (Excluding Fentanyl) Causing or Contributing to Death in Fatal Drug/Poison Overdoses, 2017

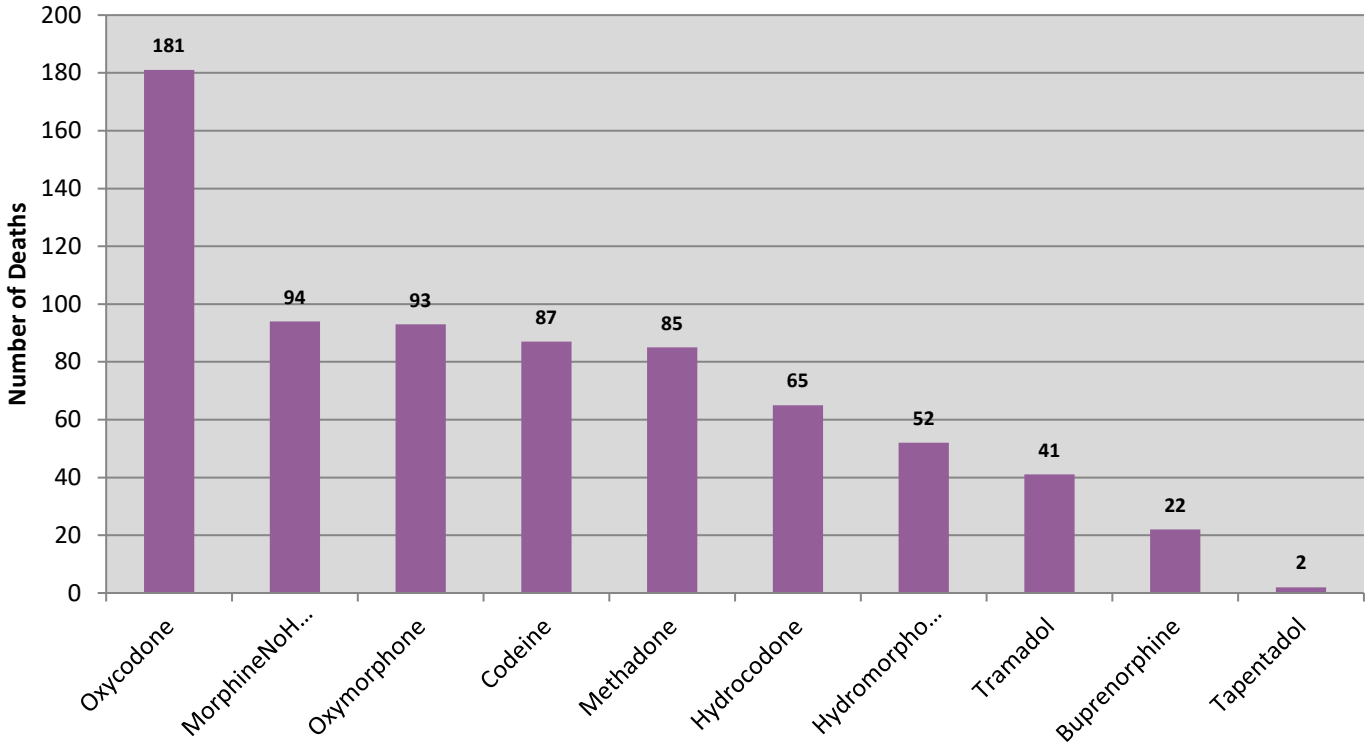


Figure 5.14 Percentage of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Manner of Death, 2017

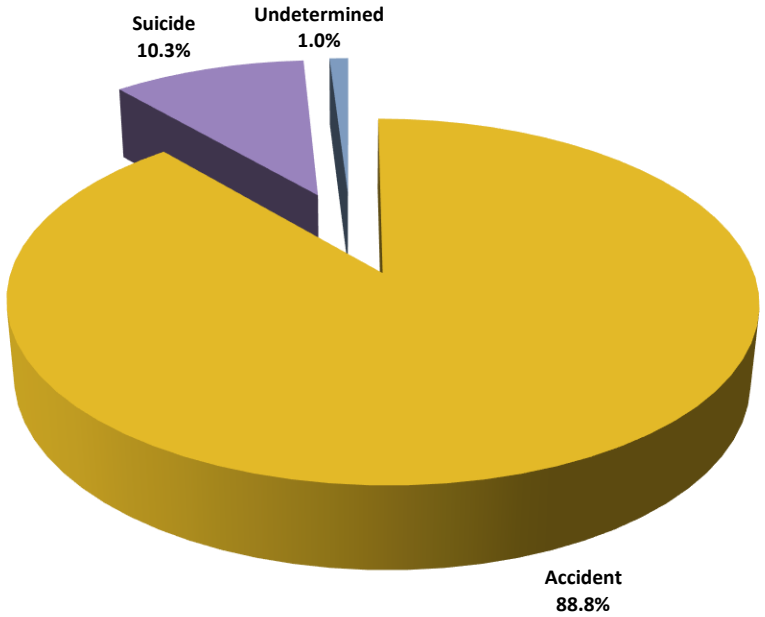
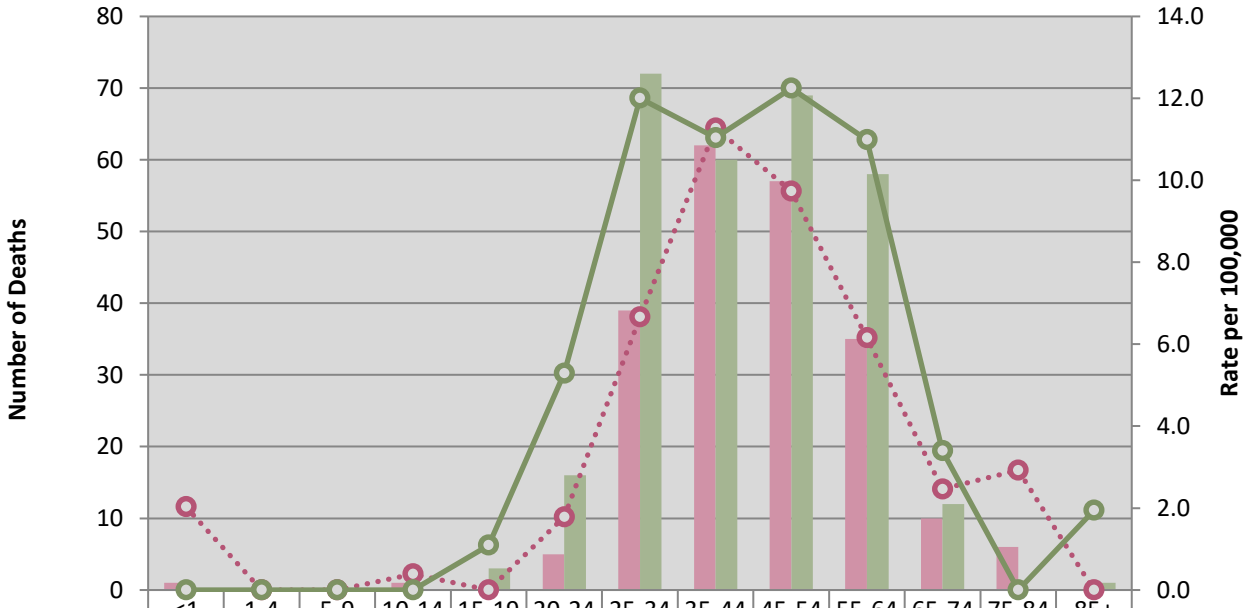


Table 5.10 Number of Prescription Opioids (Excluding Fentanyl) Detected in Fatal Drug Overdoses by OCME District, 2017

Prescription Opioid	Central	Northern	Tidewater	Western	TOTAL
Oxycodone	50	49	29	53	**181**
Morphine	17	48	12	17	**94**
Oxymorphone	22	29	16	26	**93**
Codeine	13	18	38	18	**87**
Methadone	29	22	11	23	**85**
Hydrocodone	12	10	16	27	**65**
Hydromorphone	10	12	15	15	**52**
Tramadol	11	12	4	14	**41**
Buprenorphine	2	3	0	17	**22**
Tapentadol	0	2	0	0	**2**
TOTAL	**166**	**205**	**141**	**210**	**722**

Figure 5.15 Number and Rate of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	1	0	0	1	0	5	39	62	57	35	10	6	0
Male	0	0	0	0	3	16	72	60	69	58	12	0	1
Female Rate	2.0	0.0	0.0	0.4	0.0	1.8	6.7	11.3	9.7	6.2	2.5	2.9	0.0
Male Rate	0.0	0.0	0.0	0.0	1.1	5.3	12.0	11.0	12.2	11.0	3.4	0.0	1.9

Figure 5.16 Percentage of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Race/Ethnicity, 2017

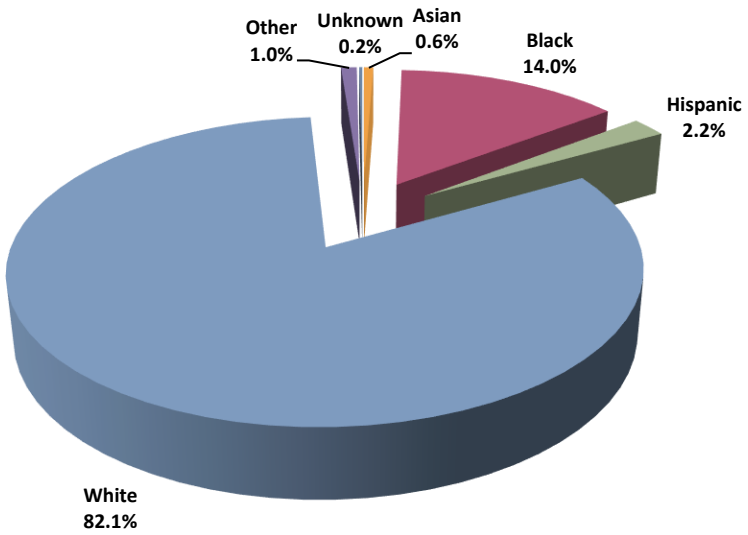
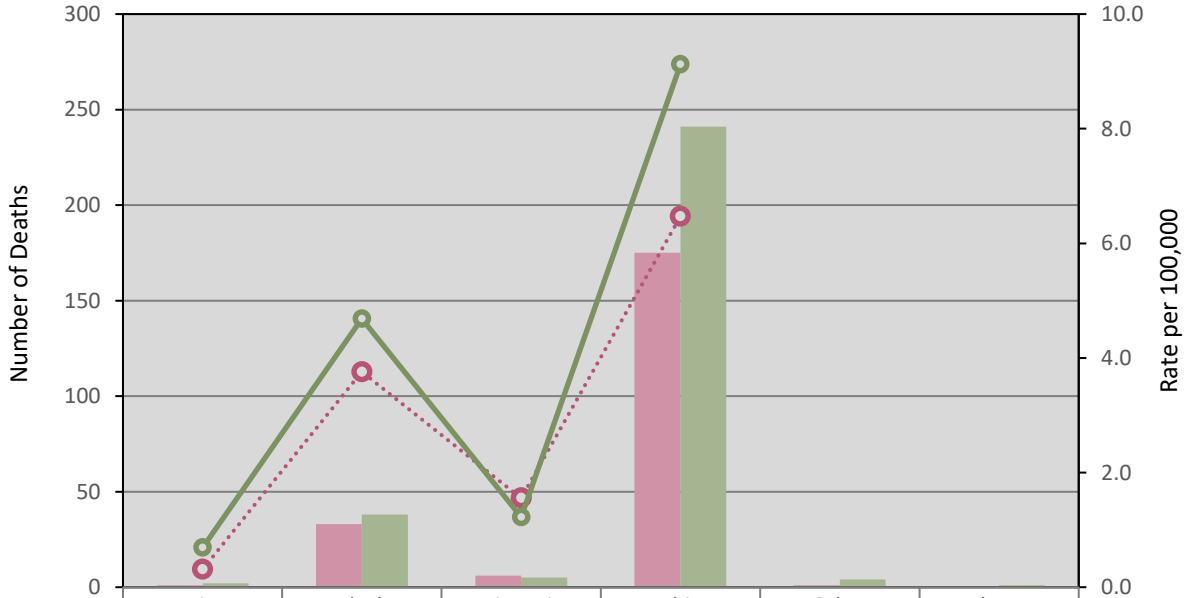


Figure 5.17 Number and Rate of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Race/Ethnicity and Gender, 2017



	Asian	Black	Hispanic	White	Other	Unknown
Female	1	33	6	175	1	0
Male	2	38	5	241	4	1
Female Rate	0.3	3.8	1.6	6.5	*	*
Male Rate	0.7	4.7	1.2	9.1	*	*

*No rate can be calculated
Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Asians)

Table 5.11 Number and Rate of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Locality of Residence, 2017

Locality of Residence	Deaths	Rate
Accomack County	1	3.1
Albemarle County	2	1.9
Alexandria City	7	4.4
Alleghany County	0	0.0
Amelia County	0	0.0
Amherst County	1	3.2
Appomattox County	0	0.0
Arlington County	7	3.0
Augusta County	7	9.3
Bath County	0	0.0
Bedford County	5	6.4
Bland County	1	15.7
Botetourt County	1	3.0
Bristol City	1	6.0
Brunswick County	0	0.0
Buchanan County	3	13.9
Buckingham County	1	5.9
Buena Vista City	0	0.0
Campbell County	0	0.0
Caroline County	2	6.6
Carroll County	2	6.7
Charles City County	1	14.3
Charlotte County	1	8.3
Charlottesville City	0	0.0
Chesapeake City	16	6.7
Chesterfield County	17	4.9
Clarke County	0	0.0
Colonial Heights City	3	16.8
Covington City	3	54.2
Craig County	0	0.0
Culpeper County	7	13.7
Cumberland County	1	10.2
Danville City	2	4.9
Dickenson County	3	20.3
Dinwiddie County	2	7.1
Emporia City	0	0.0
Essex County	0	0.0
Fairfax City	3	12.4
Fairfax County	43	3.7

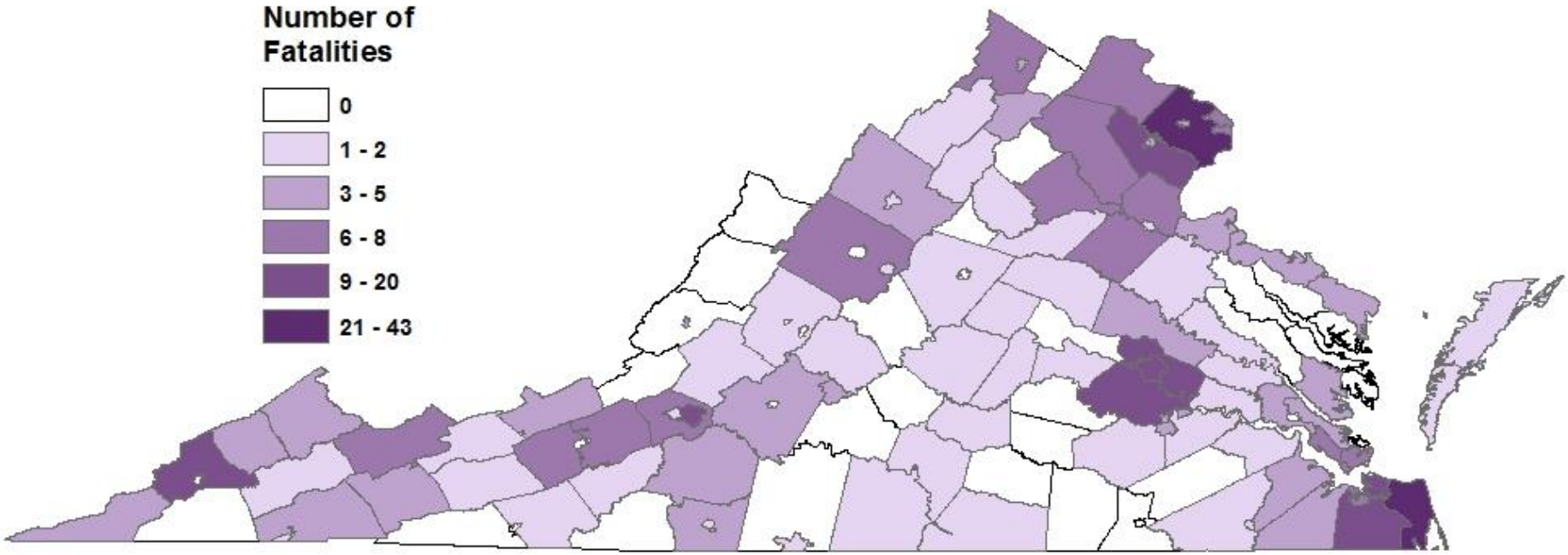
Locality of Residence	Deaths	Rate
Falls Church City	3	20.6
Fauquier County	6	8.6
Floyd County	1	6.3
Fluvanna County	1	3.8
Franklin City	1	12.2
Franklin County	5	8.9
Frederick County	7	8.1
Fredericksburg City	1	3.5
Galax City	0	0.0
Giles County	4	23.8
Gloucester County	4	10.7
Goochland County	0	0.0
Grayson County	0	0.0
Greene County	0	0.0
Greensville County	0	0.0
Halifax County	1	2.9
Hampton City	8	5.9
Hanover County	5	4.7
Harrisonburg City	1	1.8
Henrico County	13	4.0
Henry County	4	7.8
Highland County	0	0.0
Hopewell City	4	17.7
Isle of Wight County	3	8.2
James City County	4	5.3
King and Queen County	0	0.0
King George County	4	15.2
King William County	2	12.0
Lancaster County	0	0.0
Lee County	5	21.0
Lexington City	0	0.0
Loudoun County	6	1.5
Louisa County	2	5.6
Lunenburg County	0	0.0
Lynchburg City	5	6.2
Madison County	1	7.5
Manassas City	3	7.2
Manassas Park City	3	18.1
Martinsville City	2	15.2

Locality of Residence	Deaths	Rate
Mathews County	0	0.0
Mecklenburg County	2	6.5
Middlesex County	0	0.0
Montgomery County	6	6.1
Nelson County	0	0.0
New Kent County	1	4.6
Newport News City	7	3.9
Norfolk City	13	5.3
Northampton County	1	8.4
Northumberland County	3	24.4
Norton City	0	0.0
Nottoway County	0	0.0
Orange County	1	2.8
Page County	2	8.4
Patrick County	0	0.0
Petersburg City	3	9.4
Pittsylvania County	0	0.0
Poquoson City	0	0.0
Portsmouth City	8	8.5
Powhatan County	2	7.0
Prince Edward County	1	4.4
Prince George County	2	5.3
Prince William County	19	4.1
Pulaski County	6	17.6
Radford City	0	0.0
Rappahannock County	0	0.0
Richmond City	20	8.8
Richmond County	0	0.0
Roanoke City	18	18.0
Roanoke County	7	7.5

Locality of Residence	Deaths	Rate
Rockbridge County	2	8.8
Rockingham County	4	5.0
Russell County	1	3.7
Salem City	1	3.9
Scott County	0	0.0
Shenandoah County	2	4.6
Smyth County	4	13.0
Southampton County	2	11.3
Spotsylvania County	7	5.3
Stafford County	6	4.1
Staunton City	0	0.0
Suffolk City	5	5.5
Surry County	1	15.3
Sussex County	0	0.0
Tazewell County	8	19.5
Virginia Beach City	32	7.1
Warren County	3	7.6
Washington County	4	7.4
Waynesboro City	1	4.5
Westmoreland County	3	16.9
Williamsburg City	0	0.0
Winchester City	3	10.7
Wise County	13	33.7
Wythe County	2	6.9
York County	3	4.4
Subtotal (in-state)	**481**	**5.7**
Out of State	24	ND
Unknown	2	ND
Subtotal (out-of-state)	**26**	**ND**
TOTAL	**507**	**6.0**

Note: No denominator is represented by ND

Map 5.5 Number of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Locality of Residence, 2017



Map 5.6 Rates of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Locality of Residence, 2017

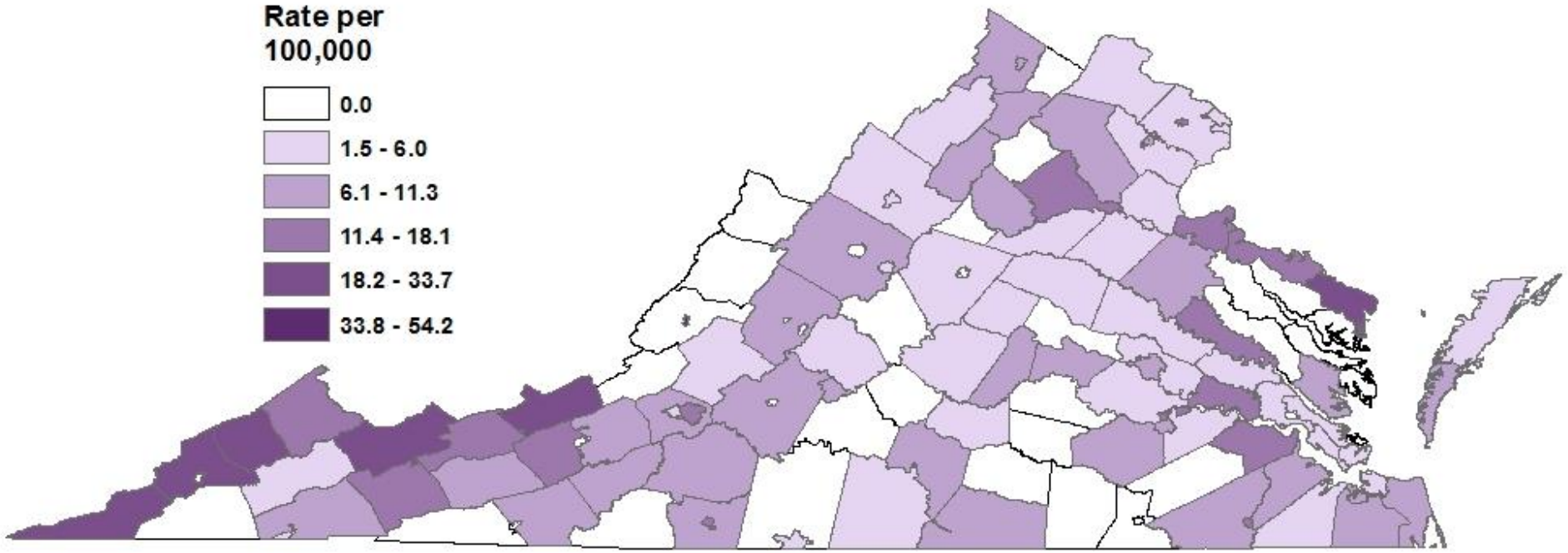


Table 5.12 Number and Rate of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Locality of Injury, 2017

Locality of Injury	Deaths	Rate
Accomack County	0	0.0
Albemarle County	3	2.8
Alexandria City	6	3.7
Alleghany County	0	0.0
Amelia County	1	7.7
Amherst County	1	3.2
Appomattox County	0	0.0
Arlington County	9	3.8
Augusta County	6	8.0
Bath County	0	0.0
Bedford County	5	6.4
Bland County	1	15.7
Botetourt County	0	0.0
Bristol City	1	6.0
Brunswick County	0	0.0
Buchanan County	4	18.6
Buckingham County	1	5.9
Buena Vista City	0	0.0
Campbell County	0	0.0
Caroline County	2	6.6
Carroll County	2	6.7
Charles City County	0	0.0
Charlotte County	1	8.3
Charlottesville City	0	0.0
Chesapeake City	14	5.8
Chesterfield County	14	4.1
Clarke County	0	0.0
Colonial Heights City	1	5.6
Covington City	3	54.2
Craig County	0	0.0
Culpeper County	7	13.7
Cumberland County	0	0.0
Danville City	2	4.9
Dickenson County	2	13.5
Dinwiddie County	2	7.1
Emporia City	0	0.0
Essex County	0	0.0
Fairfax City	3	12.4
Fairfax County	47	4.1
Falls Church City	3	20.6
Fauquier County	5	7.2
Floyd County	1	6.3

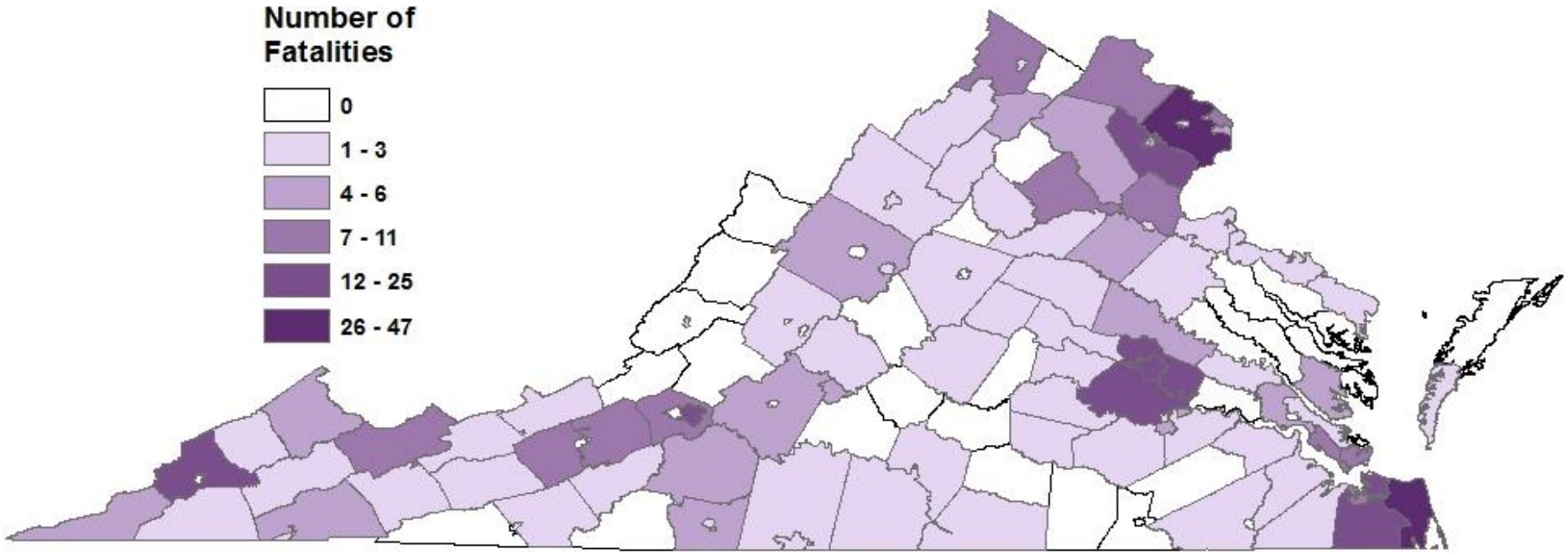
Locality of Injury	Deaths	Rate
Fluvanna County	1	3.8
Franklin City	0	0.0
Franklin County	6	10.6
Frederick County	8	9.3
Fredericksburg City	2	7.1
Galax City	0	0.0
Giles County	3	17.8
Gloucester County	4	10.7
Goochland County	1	4.4
Grayson County	0	0.0
Greene County	0	0.0
Greensville County	0	0.0
Halifax County	1	2.9
Hampton City	7	5.2
Hanover County	4	3.8
Harrisonburg City	2	3.7
Henrico County	16	4.9
Henry County	5	9.8
Highland County	0	0.0
Hopewell City	4	17.7
Isle of Wight County	3	8.2
James City County	5	6.6
King and Queen County	0	0.0
King George County	3	11.4
King William County	0	0.0
Lancaster County	0	0.0
Lee County	5	21.0
Lexington City	0	0.0
Loudoun County	8	2.0
Louisa County	1	2.8
Lunenburg County	0	0.0
Lynchburg City	5	6.2
Madison County	1	7.5
Manassas City	4	9.6
Manassas Park City	3	18.1
Martinsville City	1	7.6
Mathews County	0	0.0
Mecklenburg County	2	6.5
Middlesex County	0	0.0
Montgomery County	8	8.1
Nelson County	0	0.0
New Kent County	1	4.6

Virginia Department of Health

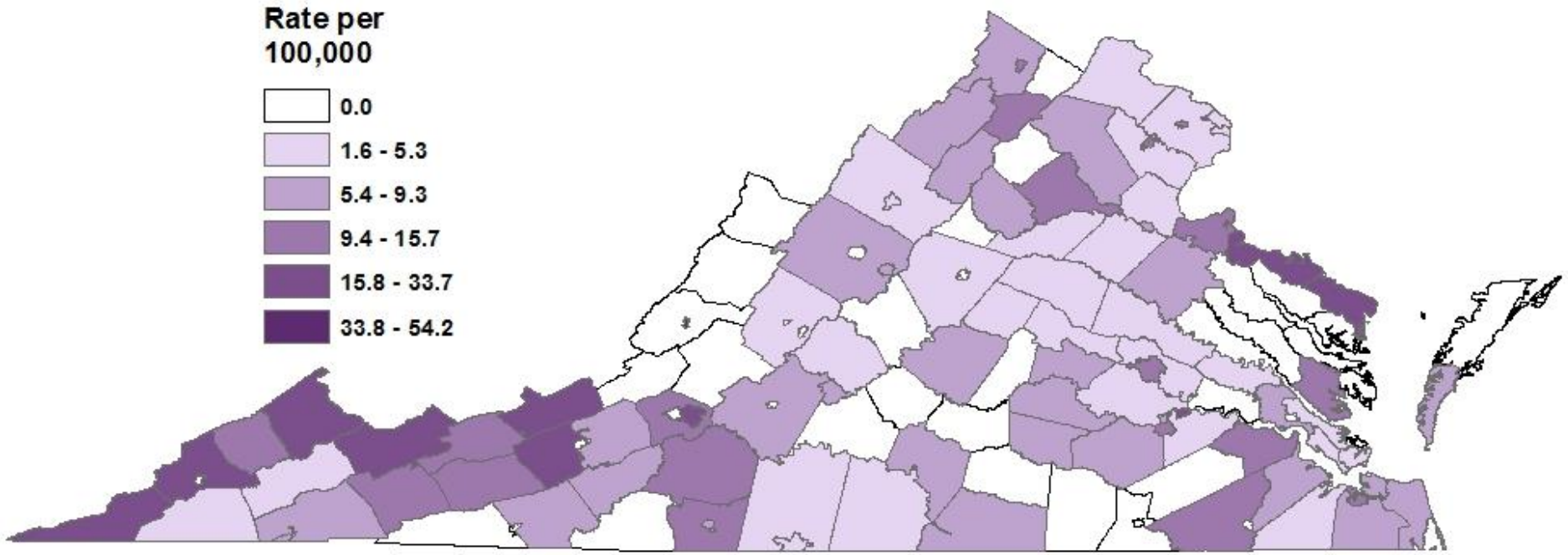
Locality of Injury	Deaths	Rate
Newport News City	9	5.0
Norfolk City	16	6.5
Northampton County	1	8.4
Northumberland County	3	24.4
Norton City	0	0.0
Nottoway County	1	6.5
Orange County	1	2.8
Page County	2	8.4
Patrick County	0	0.0
Petersburg City	4	12.6
Pittsylvania County	1	1.6
Poquoson City	0	0.0
Portsmouth City	11	11.6
Powhatan County	2	7.0
Prince Edward County	0	0.0
Prince George County	2	5.3
Prince William County	18	3.9
Pulaski County	7	20.5
Radford City	0	0.0
Rappahannock County	0	0.0
Richmond City	25	11.0
Richmond County	0	0.0
Roanoke City	17	17.0
Roanoke County	9	9.6
Rockbridge County	1	4.4
Rockingham County	2	2.5
Russell County	1	3.7
Salem City	0	0.0
Scott County	1	4.6
Shenandoah County	3	6.9
Smyth County	3	9.8
Southampton County	2	11.3
Spotsylvania County	6	4.5
Stafford County	7	4.8
Staunton City	0	0.0
Suffolk City	3	3.3
Surry County	1	15.3
Sussex County	0	0.0
Tazewell County	8	19.5
Virginia Beach City	34	7.5
Warren County	5	12.6
Washington County	5	9.2
Waynesboro City	2	9.0
Westmoreland County	3	16.9
Williamsburg City	0	0.0
Winchester City	3	10.7
Wise County	13	33.7
Wythe County	3	10.4
York County	2	3.0
Subtotal (in-state)	**498**	**5.9**
Out of State	4	ND
Unknown	5	ND
Subtotal (out-of-state)	**9**	**ND**
TOTAL	**507**	**6.0**

Note: No denominator is represented by ND

Map 5.7 Number of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Locality of Injury, 2017



Map 5.8 Rates of Fatal Prescription Opioid (Excluding Fentanyl) Overdoses by Locality of Injury, 2017

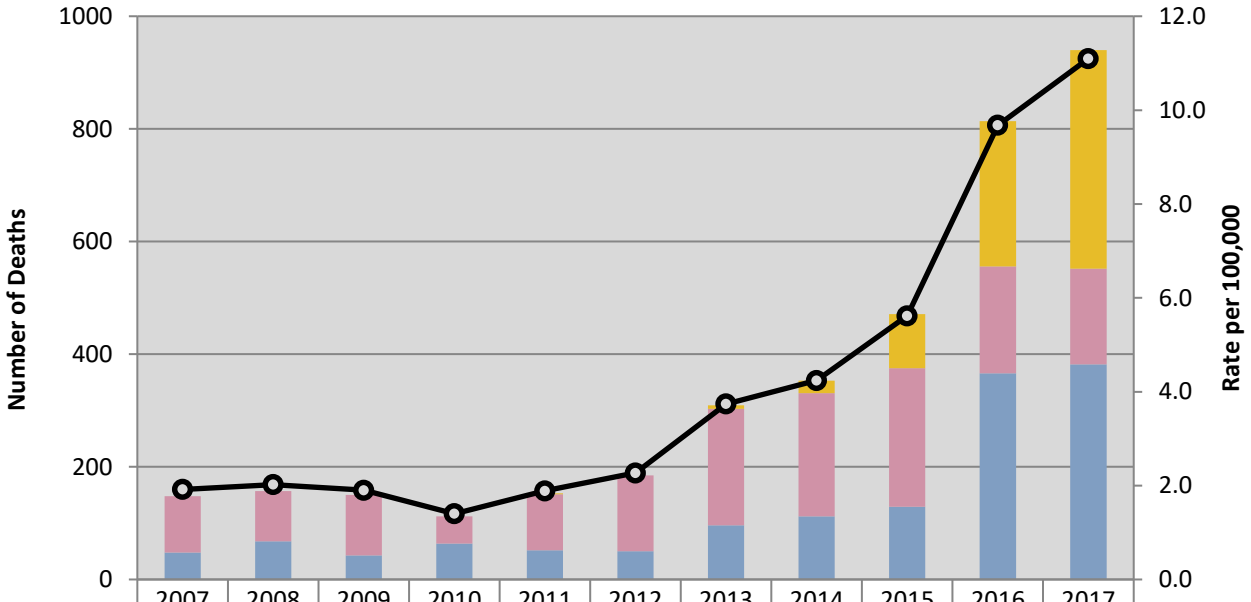

Rate per
100,000
0.0
1.6 - 5.3
5.4 - 9.3
9.4 - 15.7
15.8 - 33.7
33.8 - 54.2

FENTANYL AND/OR HEROIN DEATHS (N=940)

The number of fatal fentanyl and/or heroin overdoses has significantly increased each year since 2010. Illicitly produced fentanyl began appearing in Virginia in 2013/2014 and is often mixed in with heroin or sold disguised as heroin, often unbeknownst to the user. In 2016, Virginia began seeing a spike in fentanyl analogs; drugs similar to fentanyl, but slightly different in their chemical structure which alters potency. Illicitly produced fentanyl, but not the various fentanyl analogs, is indistinguishable from pharmaceutical fentanyl in toxicology.

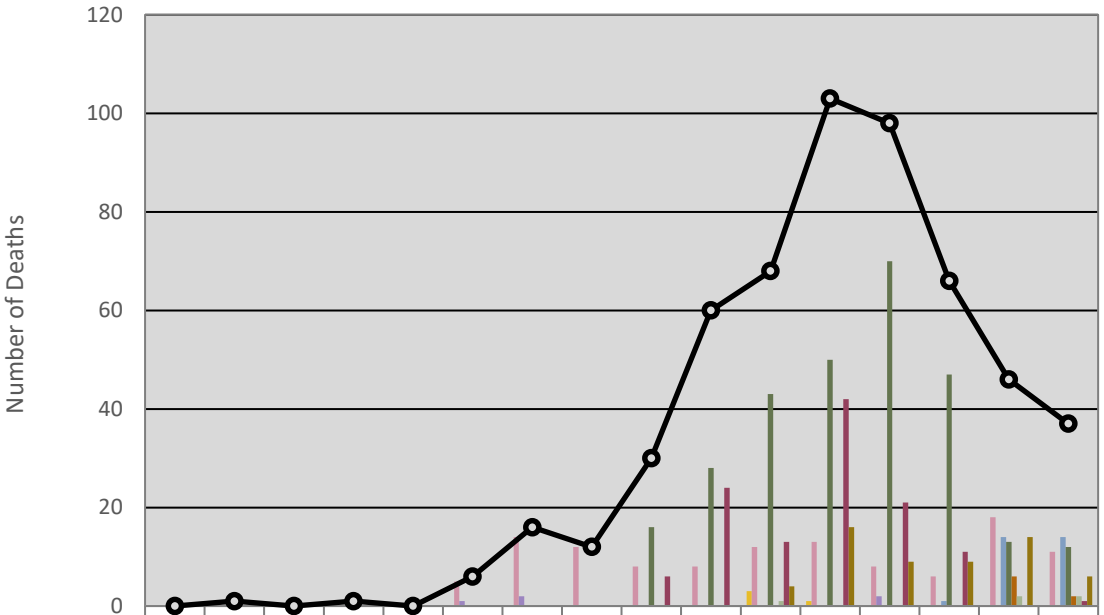
- Fatal fentanyl and/or heroin overdoses in 2017 increased by 15.5% when compared to 2016
- Over 98% of fatal fentanyl and/or heroin overdoses in 2017 were accidents
- In 2017, males 25-34 years of age had the highest rate of death (36.0 deaths per 100,000 persons)
- Fentanyl and/or heroin was involved in 61.3% of all drug/poison cases in Virginia in 2017
- Of all fentanyl and/or heroin overdoses in 2017, only 12.2% occurred in the Western OCME region

Figure 5.18 Number and Rate of Fatal Fentanyl and/or Heroin Overdoses by Year of Death, 2007-2017



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Fentanyl and Heroin	0	0	0	0	2	0	6	22	96	258	388
Heroin	100	89	107	48	99	135	207	219	246	190	170
Fentanyl	48	68	43	64	52	50	96	112	129	366	382
Mortality Rate	1.9	2.0	1.9	1.4	1.9	2.3	3.7	4.2	5.6	9.7	11.1

Figure 5.19 Number of Fatal Fentanyl Analog Overdoses Quarter, 2014-2017



	2014				2015				2016				2017			
3-Methyl Fentanyl	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0
Acetyl Fentanyl	0	1	0	1	0	5	14	12	8	8	12	13	8	6	18	11
Butyryl Fentanyl	0	0	0	0	0	1	2	0	0	0	0	0	2	0	0	0
Cyclopropyl Fentanyl	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14	14
Despropionyl Fentanyl**	0	0	0	0	0	0	0	0	16	28	43	50	70	47	13	12
Methoxyacetyl Fentanyl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2
Carfentanil	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2
Furanyl Fentanyl	0	0	0	0	0	0	0	0	6	24	13	42	21	11	0	1
Para-Fluoroisobutyryl Fentanyl***	0	0	0	0	0	0	0	0	0	0	4	16	9	9	14	6
Total Fentanyl Analog Fatalities	0	1	0	1	0	6	16	12	30	60	68	103	98	66	46	37

** Despropionyl fentanyl is a major metabolite of furanyl fentanyl. Therefore, numbers presented in the 'despropionyl fentanyl' category control for furanyl fentanyl (despropionyl deaths without furanyl fentanyl).

***In certain cases, specialized testing through an outside laboratory is needed for toxicology testing. In this laboratory, their testing for para-fluoroisobutyryl fentanyl and para-fluorobutyryl fentanyl cannot distinguish between the two analogs and therefore in this analysis, the two drugs are grouped together under 'para-fluoroisobutyryl fentanyl'

Table 5.13 Number of Fatal Fentanyl and/or Heroin Overdoses by OCME District, 2017

OCME District	Fentanyl	Heroin	Fentanyl and Heroin	Total
Central	102	66	191	**359**
Northern	133	39	84	**256**
Tidewater	90	43	77	**210**
Western	57	22	36	**115**
Total	**382**	**170**	**388**	**940**

Figure 5.20 Percentage of Fatal Fentanyl and/or Heroin Overdoses by Manner of Death, 2017

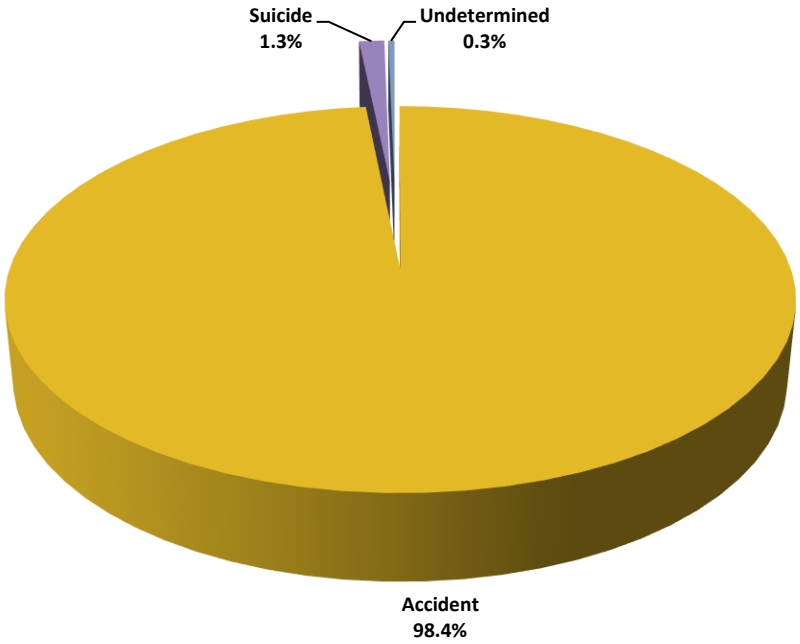
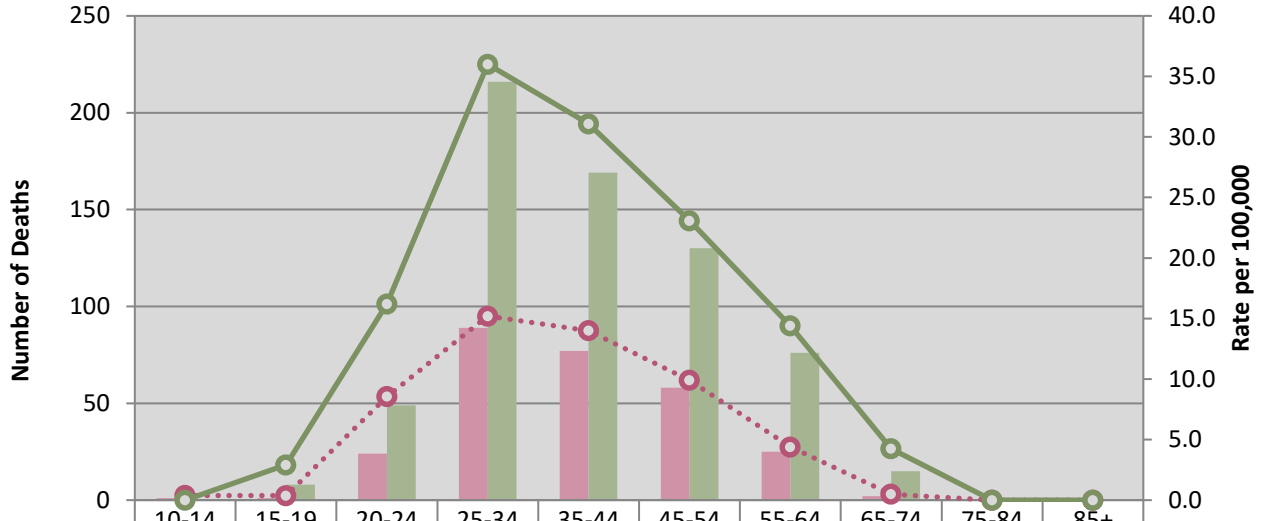


Figure 5.21 Number and Rate of Fatal Fentanyl and/or Heroin Overdoses by Age Group and Gender, 2017



	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	1	1	24	89	77	58	25	2	0	0
Male	0	8	49	216	169	130	76	15	0	0
Female Rate	0.4	0.4	8.6	15.2	14.0	9.9	4.4	0.5	0.0	0.0
Male Rate	0.0	2.9	16.2	36.0	31.1	23.1	14.4	4.2	0.0	0.0

Figure 5.22 Percentage of Fatal Fentanyl and/or Heroin Overdoses by Race/Ethnicity, 2017

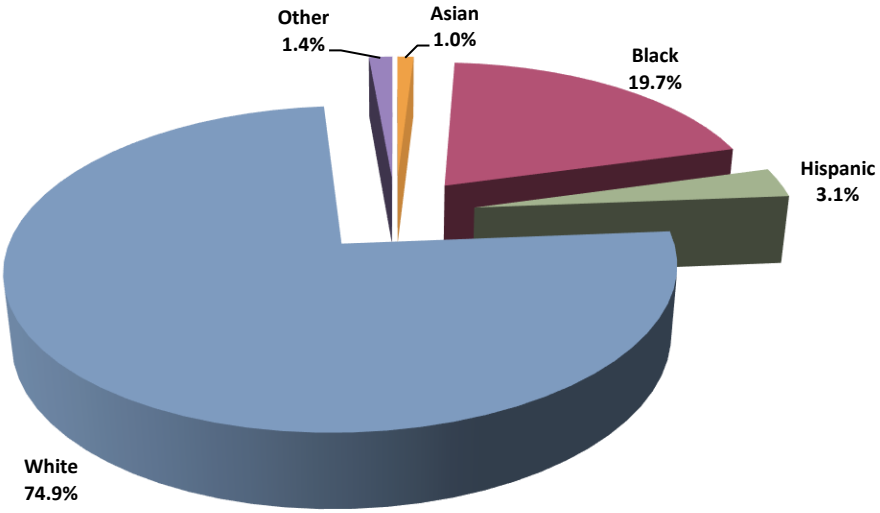
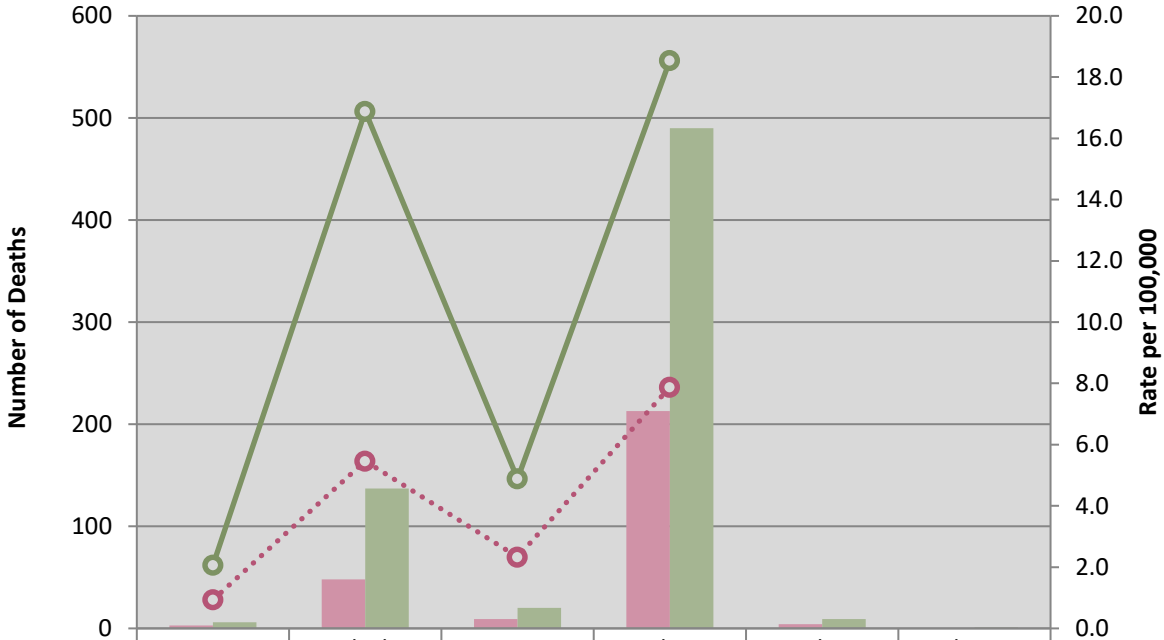


Figure 5.23 Number and Rate of Fatal Fentanyl and/or Heroin Overdoses by Race/Ethnicity and Gender, 2017



	Asian	Black	Hispanic	White	Other	Unknown
Female	3	48	9	213	4	0
Male	6	137	20	490	9	1
Female Rate	0.9	5.5	2.3	7.9	*	*
Male Rate	2.1	16.9	4.9	18.5	*	*

*No rate can be calculated
Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Asians)

Table 5.14 Number and Percentage of Fatal Fentanyl and/or Heroin Overdoses by Whether Alcohol Caused Death, 2017

Whether Alcohol Played a Role in Death	Deaths	Percentage
Yes	118	12.6%
Contributed	41	4.4%
No	781	83.1%
TOTAL	**940**	**100.0%**

Table 5.15 Number and Rate of Fatal Fentanyl and/or Heroin Overdoses by Locality of Residence, 2017

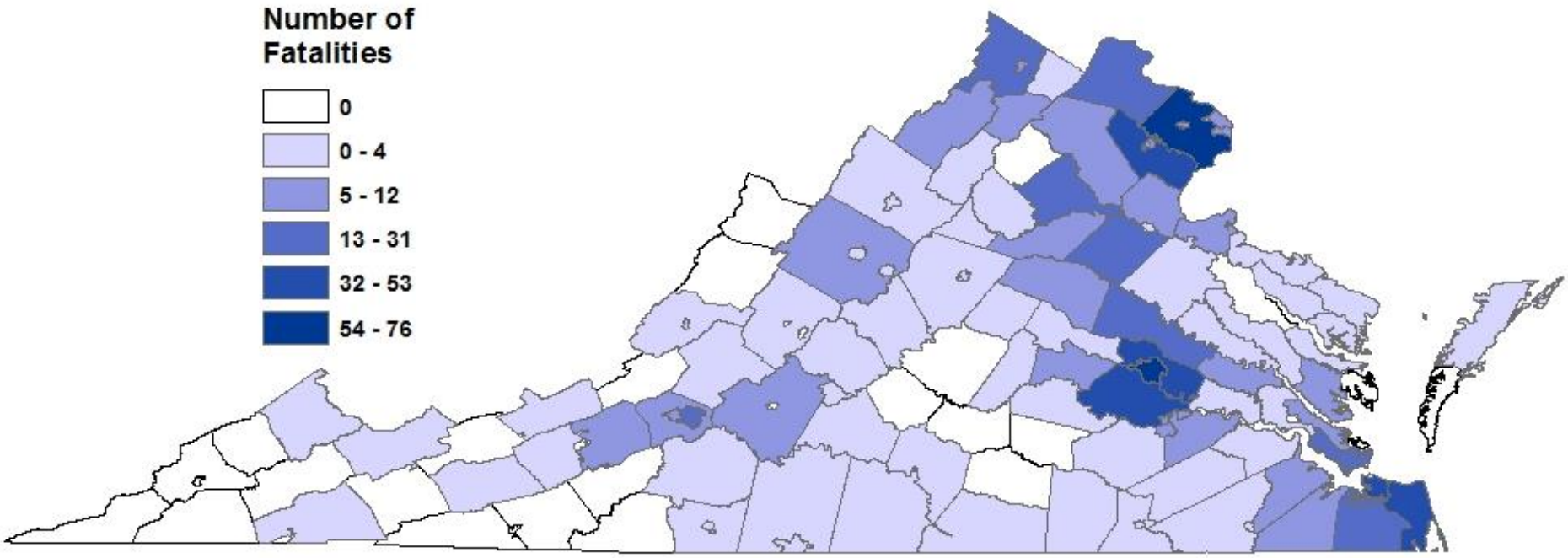
Locality of Residence	Deaths	Rate
Accomack County	1	3.1
Albemarle County	3	2.8
Alexandria City	8	5.0
Alleghany County	2	13.2
Amelia County	1	7.7
Amherst County	1	3.2
Appomattox County	0	0.0
Arlington County	11	4.7
Augusta County	5	6.7
Bath County	0	0.0
Bedford County	8	10.3
Bland County	0	0.0
Botetourt County	4	12.1
Bristol City	0	0.0
Brunswick County	2	12.3
Buchanan County	1	4.6
Buckingham County	0	0.0
Buena Vista City	0	0.0
Campbell County	4	7.3
Caroline County	4	13.1
Carroll County	0	0.0
Charles City County	1	14.3
Charlotte County	1	8.3
Charlottesville City	4	8.3
Chesapeake City	31	12.9
Chesterfield County	53	15.4
Clarke County	1	6.9
Colonial Heights City	5	28.0
Covington City	2	36.2
Craig County	0	0.0
Culpeper County	17	33.2
Cumberland County	3	30.6
Danville City	1	2.4
Dickenson County	0	0.0
Dinwiddie County	3	10.6
Emporia City	1	18.9
Essex County	0	0.0
Fairfax City	6	24.9
Fairfax County	76	6.6

Locality of Residence	Deaths	Rate
Falls Church City	2	13.7
Fauquier County	12	17.3
Floyd County	0	0.0
Fluvanna County	1	3.8
Franklin City	3	36.7
Franklin County	4	7.1
Frederick County	14	16.2
Fredericksburg City	3	10.6
Galax City	0	0.0
Giles County	1	5.9
Gloucester County	9	24.1
Goochland County	3	13.2
Grayson County	0	0.0
Greene County	1	5.1
Greensville County	2	17.1
Halifax County	1	2.9
Hampton City	16	11.9
Hanover County	16	15.1
Harrisonburg City	1	1.8
Henrico County	50	15.2
Henry County	4	7.8
Highland County	0	0.0
Hopewell City	8	35.4
Isle of Wight County	5	13.7
James City County	4	5.3
King and Queen County	1	14.3
King George County	6	22.8
King William County	4	23.9
Lancaster County	1	9.3
Lee County	0	0.0
Lexington City	0	0.0
Loudoun County	23	5.8
Louisa County	6	16.7
Lunenburg County	0	0.0
Lynchburg City	2	2.5
Madison County	1	7.5
Manassas City	8	19.3
Manassas Park City	3	18.1
Martinsville City	2	15.2

Locality of Residence	Deaths	Rate
Mathews County	0	0.0
Mecklenburg County	2	6.5
Middlesex County	1	9.4
Montgomery County	7	7.1
Nelson County	1	6.7
New Kent County	6	27.7
Newport News City	22	12.3
Norfolk City	45	18.4
Northampton County	0	0.0
Northumberland County	3	24.4
Norton City	0	0.0
Nottoway County	0	0.0
Orange County	6	16.6
Page County	1	4.2
Patrick County	0	0.0
Petersburg City	9	28.3
Pittsylvania County	2	3.3
Poquoson City	0	0.0
Portsmouth City	18	19.0
Powhatan County	6	21.0
Prince Edward County	0	0.0
Prince George County	8	21.2
Prince William County	36	7.8
Pulaski County	2	5.9
Radford City	0	0.0
Rappahannock County	0	0.0
Richmond City	69	30.4
Richmond County	2	22.4
Roanoke City	29	29.0
Roanoke County	11	11.7
Rockbridge County	1	4.4
Rockingham County	3	3.7
Russell County	0	0.0
Salem City	7	27.1
Scott County	0	0.0
Shenandoah County	6	13.9
Smyth County	0	0.0
Southampton County	1	5.6
Spotsylvania County	16	12.0
Stafford County	12	8.2
Staunton City	2	8.2
Suffolk City	7	7.8
Surry County	1	15.3
Sussex County	1	8.8
Tazewell County	1	2.4
Virginia Beach City	42	9.3
Warren County	10	25.3
Washington County	1	1.8
Waynesboro City	2	9.0
Westmoreland County	4	22.5
Williamsburg City	0	0.0
Winchester City	6	21.5
Wise County	0	0.0
Wythe County	2	6.9
York County	6	8.9
Subtotal (in-state)	**894**	**10.6**
Out of State	44	ND
Unknown	2	ND
Subtotal (out-of-state)	**46**	**ND**
TOTAL	**940**	**11.1**

Note: No denominator is represented by ND.

Map 5.9 Number of Fatal Fentanyl and/or Heroin Overdoses by Locality of Residence, 2017



Map 5.10 Rates of Fatal Fentanyl and/or Heroin Overdose by Locality of Residence, 2017

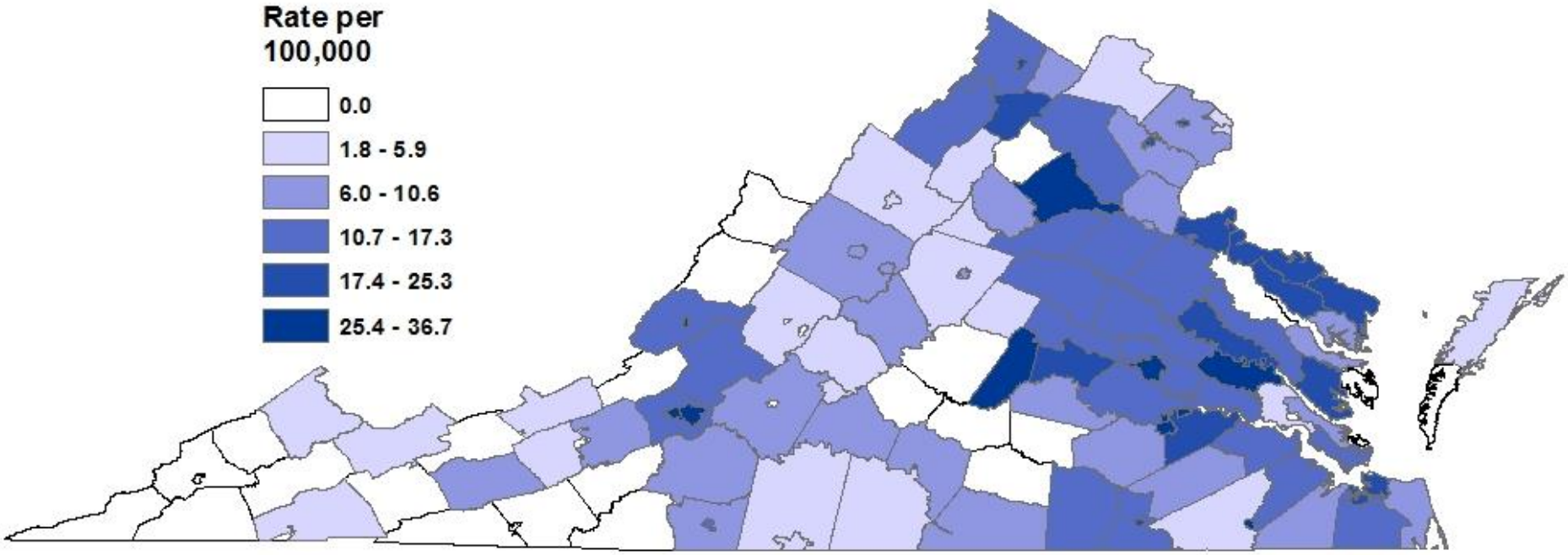


Table 5.16 Number and Rate of Fatal Fentanyl and/or Heroin Overdoses by Locality of Injury, 2017

Locality of Injury	Deaths	Rate
Accomack County	1	3.1
Albemarle County	4	3.7
Alexandria City	7	4.4
Alleghany County	1	6.6
Amelia County	1	7.7
Amherst County	2	6.3
Appomattox County	0	0.0
Arlington County	19	8.1
Augusta County	2	2.7
Bath County	0	0.0
Bedford County	5	6.4
Bland County	0	0.0
Botetourt County	3	9.0
Bristol City	1	6.0
Brunswick County	1	6.2
Buchanan County	1	4.6
Buckingham County	2	11.7
Buena Vista City	0	0.0
Campbell County	3	5.5
Caroline County	4	13.1
Carroll County	0	0.0
Charles City County	0	0.0
Charlotte County	1	8.3
Charlottesville City	4	8.3
Chesapeake City	28	11.6
Chesterfield County	46	13.4
Clarke County	2	13.8
Colonial Heights City	2	11.2
Covington City	2	36.2
Craig County	0	0.0
Culpeper County	14	27.3
Cumberland County	1	10.2
Danville City	2	4.9
Dickenson County	0	0.0
Dinwiddie County	1	3.5
Emporia City	1	18.9
Essex County	0	0.0
Fairfax City	6	24.9
Fairfax County	84	7.3
Falls Church City	1	6.9
Fauquier County	8	11.5
Floyd County	0	0.0

Locality of Injury	Deaths	Rate
Fluvanna County	1	3.8
Franklin City	2	24.5
Franklin County	6	10.6
Frederick County	11	12.7
Fredericksburg City	11	38.8
Galax City	0	0.0
Giles County	2	11.9
Gloucester County	6	16.1
Goochland County	2	8.8
Grayson County	0	0.0
Greene County	1	5.1
Greensville County	2	17.1
Halifax County	1	2.9
Hampton City	15	11.1
Hanover County	15	14.2
Harrisonburg City	2	3.7
Henrico County	57	17.4
Henry County	4	7.8
Highland County	0	0.0
Hopewell City	9	39.8
Isle of Wight County	4	10.9
James City County	3	4.0
King and Queen County	1	14.3
King George County	3	11.4
King William County	2	12.0
Lancaster County	0	0.0
Lee County	0	0.0
Lexington City	0	0.0
Loudoun County	24	6.0
Louisa County	3	8.4
Lunenburg County	0	0.0
Lynchburg City	3	3.7
Madison County	3	22.6
Manassas City	11	26.5
Manassas Park City	1	6.0
Martinsville City	1	7.6
Mathews County	0	0.0
Mecklenburg County	3	9.8
Middlesex County	1	9.4
Montgomery County	8	8.1
Nelson County	1	6.7
New Kent County	1	4.6

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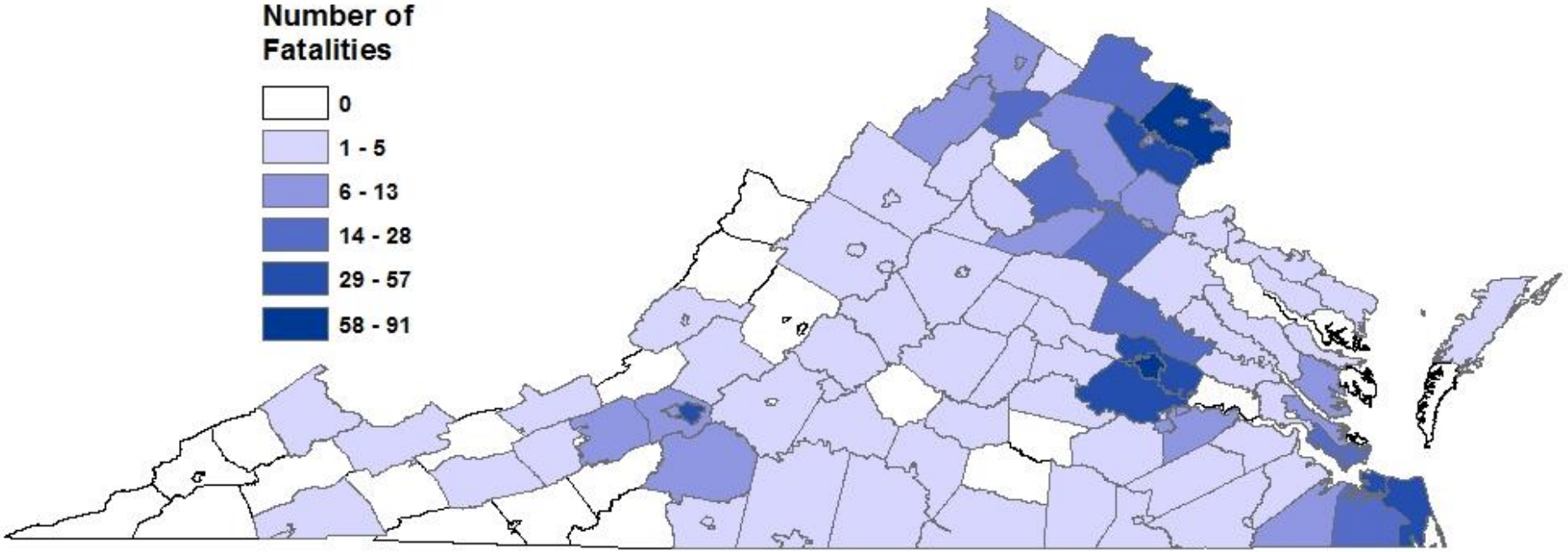
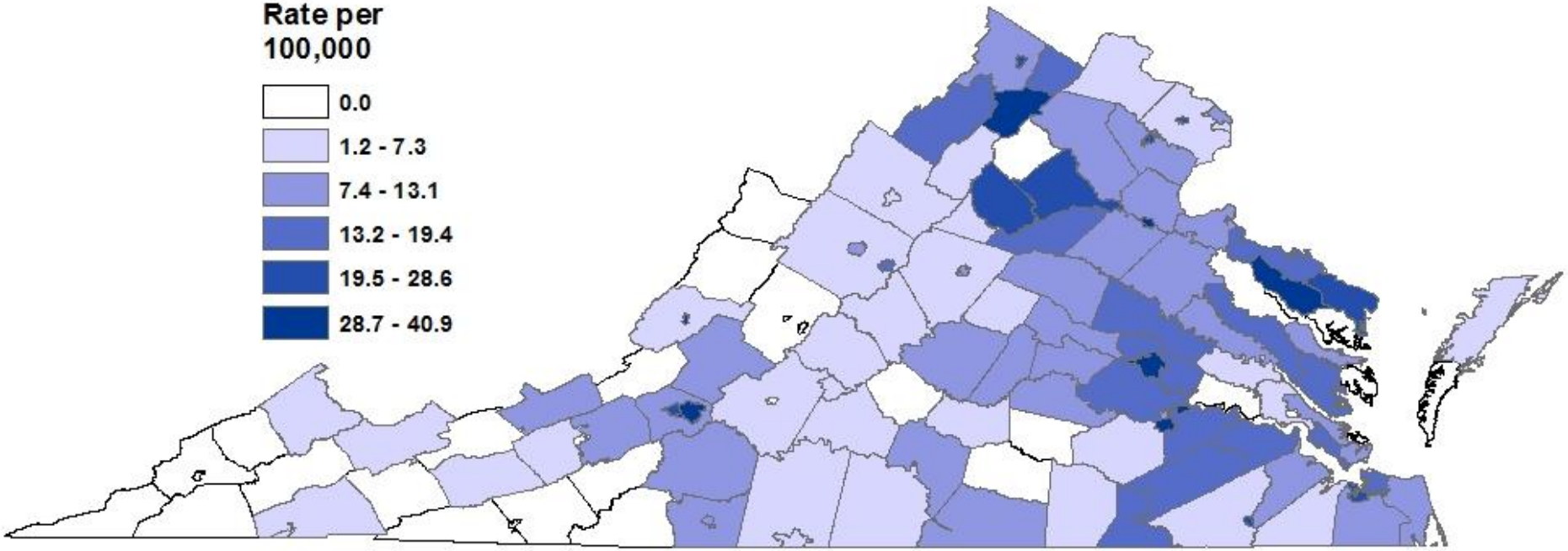
Locality of Injury	Deaths	Rate
Newport News City	25	13.9
Norfolk City	46	18.8
Northampton County	0	0.0
Northumberland County	3	24.4
Norton City	0	0.0
Nottoway County	0	0.0
Orange County	7	19.4
Page County	1	4.2
Patrick County	0	0.0
Petersburg City	13	40.9
Pittsylvania County	1	1.6
Poquoson City	0	0.0
Portsmouth City	25	26.4
Powhatan County	3	10.5
Prince Edward County	1	4.4
Prince George County	7	18.5
Prince William County	37	8.0
Pulaski County	2	5.9
Radford City	0	0.0
Rappahannock County	0	0.0
Richmond City	91	40.1
Richmond County	3	33.6
Roanoke City	32	32.1
Roanoke County	12	12.8
Rockbridge County	0	0.0
Rockingham County	1	1.2
Russell County	0	0.0
Salem City	6	23.2
Scott County	0	0.0
Shenandoah County	7	16.2
Smyth County	0	0.0
Southampton County	1	5.6
Spotsylvania County	15	11.3
Stafford County	11	7.5
Staunton City	3	12.2
Suffolk City	6	6.6
Surry County	1	15.3
Sussex County	2	17.6
Tazewell County	1	2.4
Virginia Beach City	47	10.4
Warren County	14	35.4
Washington County	1	1.8
Waynesboro City	4	17.9
Westmoreland County	3	16.9
Williamsburg City	0	0.0
Winchester City	8	28.6
Wise County	0	0.0
Wythe County	2	6.9
York County	8	11.8
Subtotal (in-state)	**930**	**11.0**
Out of State	4	ND
Unknown	6	ND
Subtotal (out-of-state)	**10**	**ND**
TOTAL	**940**	**11.1**

Note: No denominator is represented by ND.

Map 5.11 Number of Fatal Fentanyl and/or Heroin Overdoses by Locality of Injury, 2017



Map 5.12 Rates of Fatal Fentanyl and/or Heroin Overdose by Locality of Injury, 2017

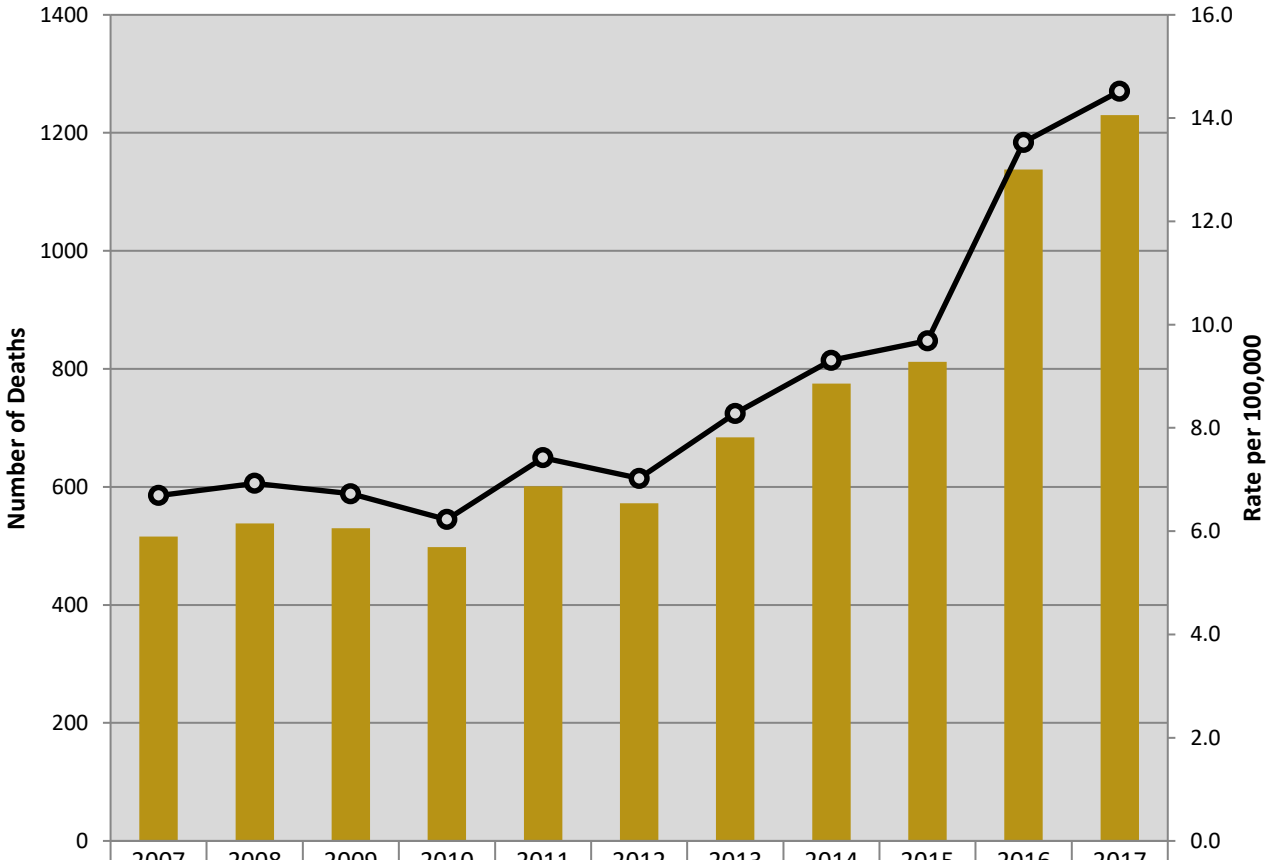


ALL OPIOID DEATHS (N=1,230)

All fatal opioid overdoses include fatal overdoses that included at least fentanyl, heroin, U-47700 (a synthetic illicit opioid), and/or one or more prescription opioids. Fatal opioid overdoses increased in 2017 when compared to 2016 (8.1%) and represented 80.1% of all fatal drug overdose cases in 2017.

- White males and males aged 25-34 years had the highest mortality rates compared to other demographic groups (23.5 and 41.2 deaths per 100,000 persons, respectively)
- Nearly 95% of all fatal opioid overdoses in 2017 were accidents
- Out of all opioids in 2017, fentanyl (Rx, illicit, and analogs) were responsible for the largest number of deaths

Figure 5.24 Number and Rate of All Fatal Opioid Overdoses Year of Death, 2007-2017

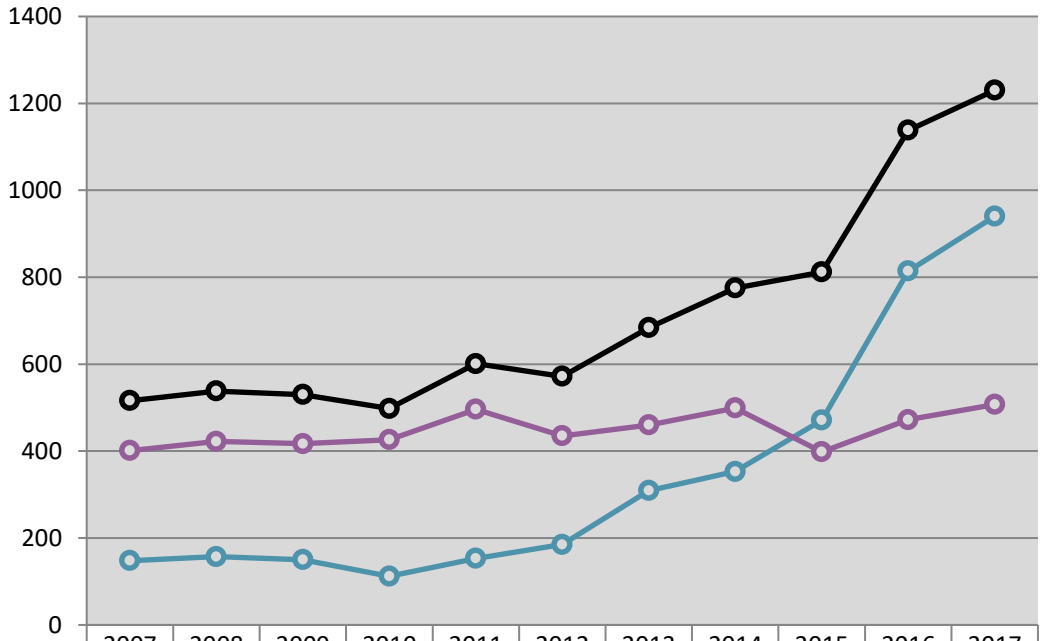


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	516	538	530	498	601	572	684	775	812	1138	1230
Mortality Rate	6.7	6.9	6.7	6.2	7.4	7.0	8.3	9.3	9.7	13.5	14.5

Table 5.17 Number of All Fatal Opioid Overdoses by Combination and OCME District, 2017

Drug Combination	Central	Northern	Tidewater	Western	Total
Fentanyl and/or heroin	289	174	141	81	**685**
One or more prescription opioids (excluding fentanyl)	55	60	40	104	**259**
Fentanyl and/or heroin and one more prescription opioids (excluding fentanyl)	70	78	64	34	**246**
Opioids unspecified	9	8	7	3	**27**
Fentanyl and/or heroin and U-47700	0	3	4	0	**7**
U-47700	1	1	1	1	**4**
Fentanyl and/or heroin, U-47700, and one more prescription opioids (excluding fentanyl)	0	1	1	0	**2**
Total	**424**	**325**	**258**	**223**	**1230**

Figure 5.25 Percentage of All Fatal Opioid Overdoses by Manner of Death, 2017



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Fentanyl and/or Heroin	148	157	150	112	153	185	309	353	471	814	940
Rx Opioid (Excluding Fentanyl)	401	422	417	426	496	435	460	499	398	472	507
All Opioids	516	538	530	498	601	572	684	775	812	1138	1230

Figure 5.26 Percentage of All Fatal Opioid Overdoses by Manner of Death, 2017

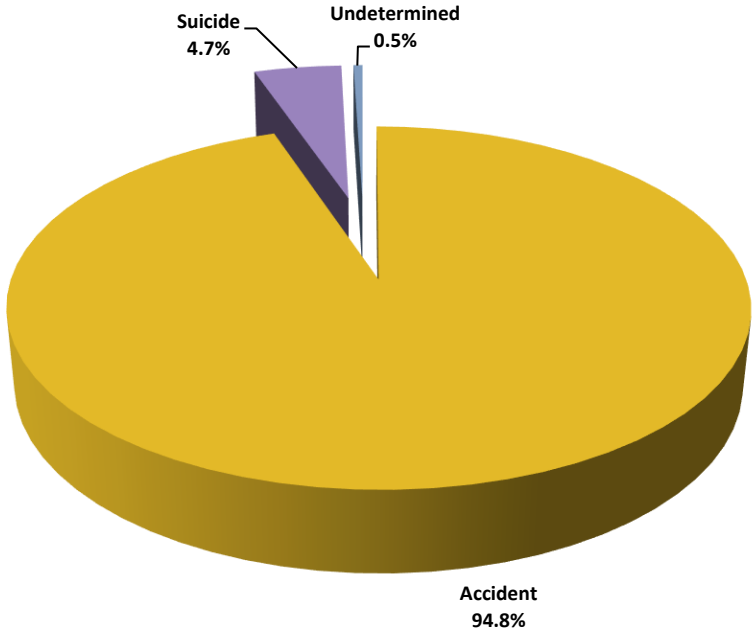
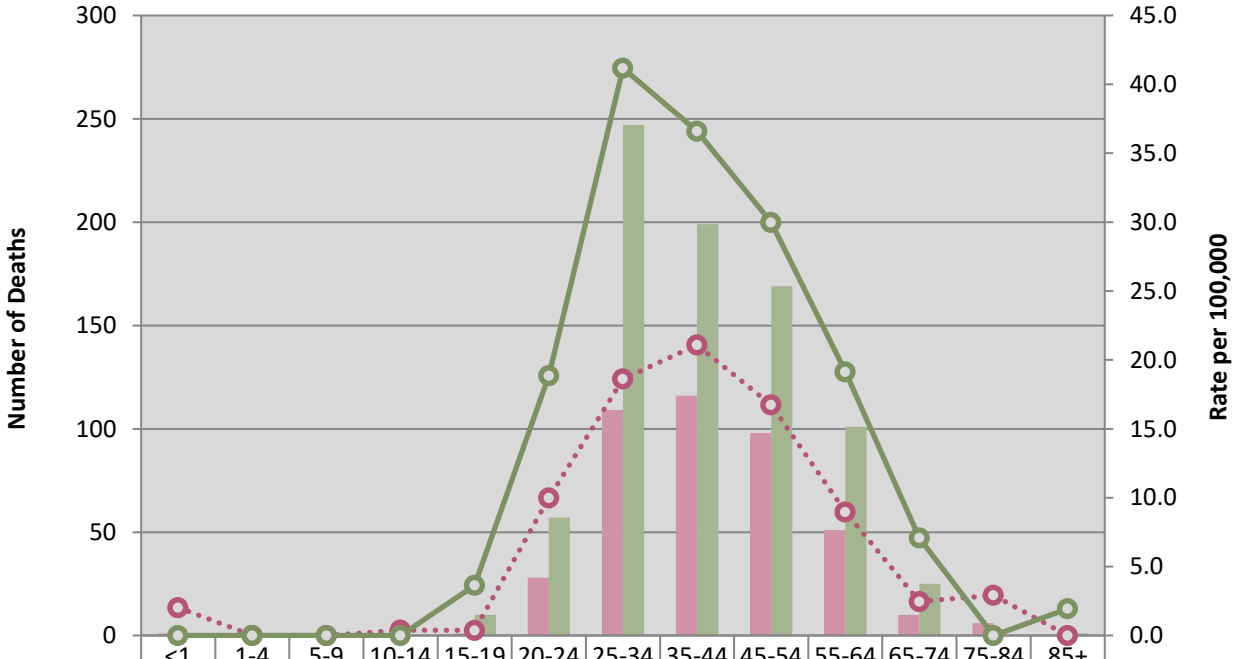


Figure 5.27 Number and Rate of All Fatal Opioid Overdoses by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	1	0	0	1	1	28	109	116	98	51	10	6	0
Male	0	0	0	0	10	57	247	199	169	101	25	0	1
Female Rate	2.0	0.0	0.0	0.4	0.4	10.0	18.6	21.1	16.7	9.0	2.5	2.9	0.0
Male Rate	0.0	0.0	0.0	0.0	3.6	18.9	41.2	36.6	30.0	19.1	7.1	0.0	1.9

Figure 5.28 Percentage of All Fatal Opioid Overdoses by Race/Ethnicity, 2017

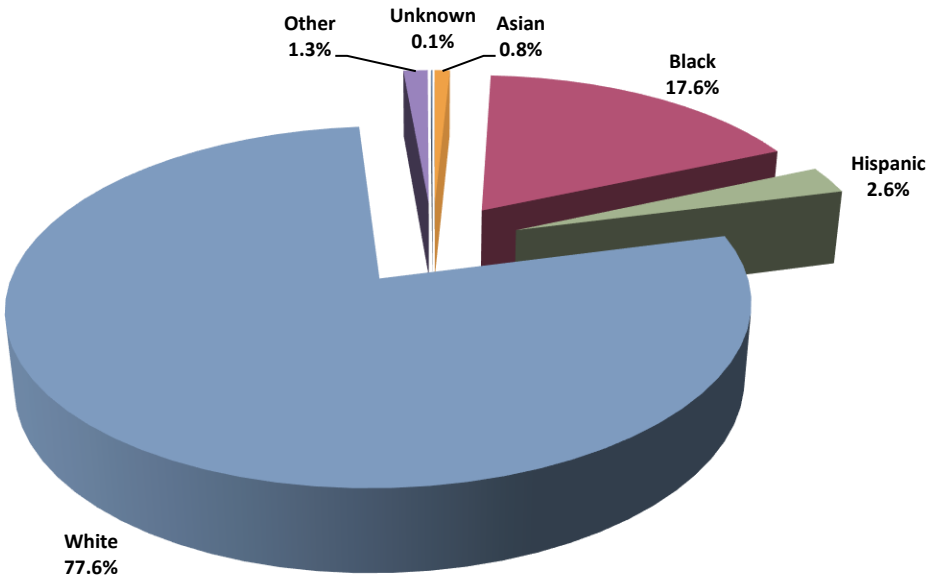
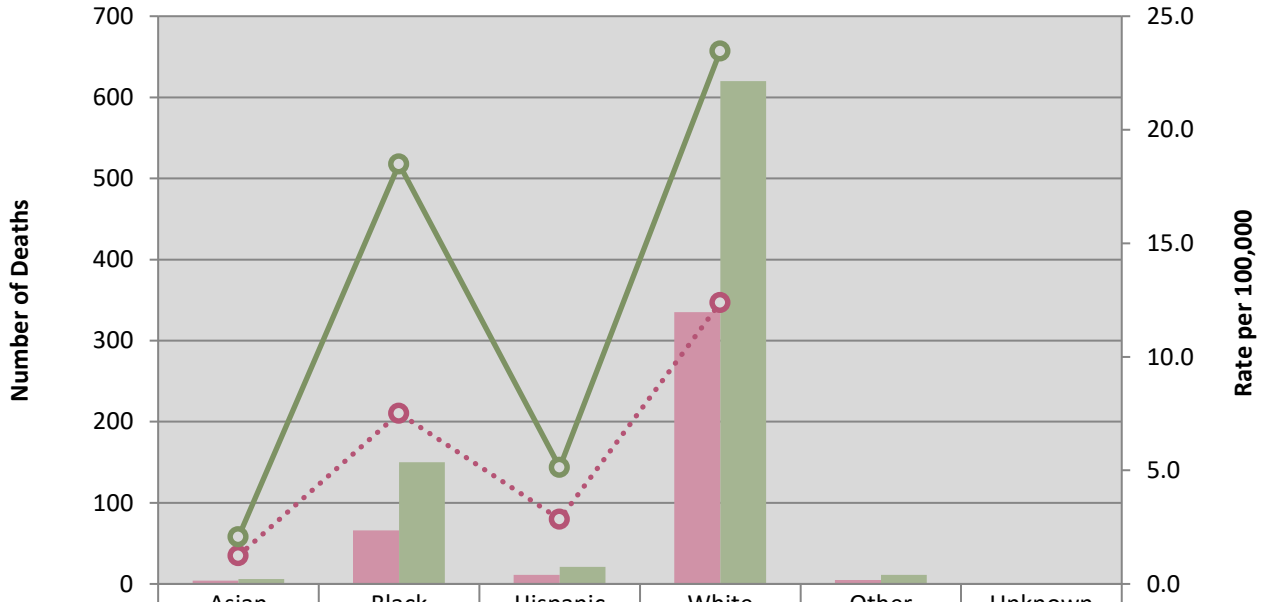


Figure 5.29 Number and Rate of All Fatal Opioid Overdoses by Race/Ethnicity and Gender, 2017



	Asian	Black	Hispanic	White	Other	Unknown
Female	4	66	11	335	5	0
Male	6	150	21	620	11	1
Female Rate	1.2	7.5	2.8	12.4	*	*
Male Rate	2.1	18.5	5.1	23.5	*	*

*No rate can be calculated

Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Asians)

Figure 5.30 Number of Opioids Causing or Contributing to Fatal Opioid Overdoses, 2017

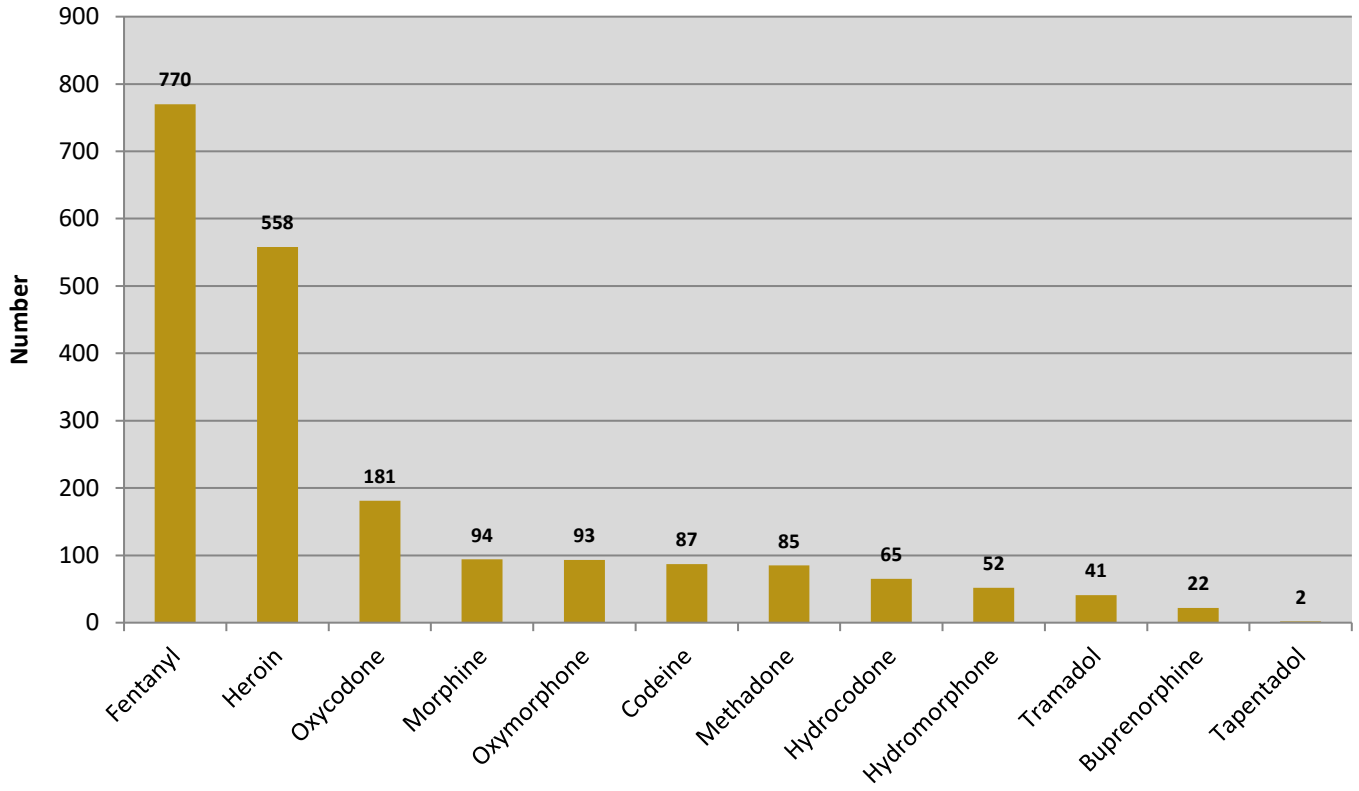


Table 5.18 Number and Percentage of All Fatal Opioid Overdoses by Whether Alcohol Caused Death, 2017

Whether Alcohol Played a Role in Death	Deaths	Percentage
Yes	153	12.4%
Contributed	51	4.1%
No	1026	83.4%
TOTAL	**1230**	**100.0%**

Table 5.19 Number of All Fatal Opioid Overdoses by Locality of Residence, 2017

Locality of Residence	Deaths	Rate
Accomack County	2	6.1
Albemarle County	5	4.6
Alexandria City	13	8.1
Alleghany County	2	13.2
Amelia County	1	7.7
Amherst County	1	3.2
Appomattox County	0	0.0
Arlington County	13	5.5
Augusta County	11	14.6
Bath County	0	0.0
Bedford County	13	16.7
Bland County	1	15.7
Botetourt County	4	12.1
Bristol City	1	6.0
Brunswick County	2	12.3
Buchanan County	4	18.6
Buckingham County	1	5.9
Buena Vista City	0	0.0
Campbell County	4	7.3
Caroline County	6	19.7
Carroll County	2	6.7
Charles City County	1	14.3
Charlotte County	1	8.3
Charlottesville City	4	8.3
Chesapeake City	37	15.4
Chesterfield County	64	18.6
Clarke County	1	6.9
Colonial Heights City	6	33.7
Covington City	4	72.3
Craig County	0	0.0
Culpeper County	22	42.9
Cumberland County	4	40.8
Danville City	2	4.9
Dickenson County	3	20.3
Dinwiddie County	4	14.2
Emporia City	1	18.9
Essex County	0	0.0
Fairfax City	6	24.9
Fairfax County	91	7.9
Falls Church City	4	27.4
Fauquier County	15	21.6
Floyd County	1	6.3
Fluvanna County	1	3.8

Locality of Residence	Deaths	Rate
Franklin City	3	36.7
Franklin County	6	10.6
Frederick County	17	19.7
Fredericksburg City	3	10.6
Galax City	0	0.0
Giles County	5	29.7
Gloucester County	9	24.1
Goochland County	3	13.2
Grayson County	0	0.0
Greene County	1	5.1
Greensville County	2	17.1
Halifax County	1	2.9
Hampton City	17	12.6
Hanover County	19	17.9
Harrisonburg City	2	3.7
Henrico County	57	17.4
Henry County	9	17.6
Highland County	0	0.0
Hopewell City	10	44.2
Isle of Wight County	7	19.2
James City County	8	10.6
King and Queen County	1	14.3
King George County	10	38.0
King William County	6	35.9
Lancaster County	1	9.3
Lee County	5	21.0
Lexington City	0	0.0
Loudoun County	25	6.3
Louisa County	6	16.7
Lunenburg County	0	0.0
Lynchburg City	7	8.6
Madison County	1	7.5
Manassas City	9	21.7
Manassas Park City	5	30.1
Martinsville City	3	22.8
Mathews County	0	0.0
Mecklenburg County	3	9.8
Middlesex County	1	9.4
Montgomery County	10	10.1
Nelson County	2	13.4
New Kent County	7	32.3
Newport News City	25	13.9
Norfolk City	52	21.3

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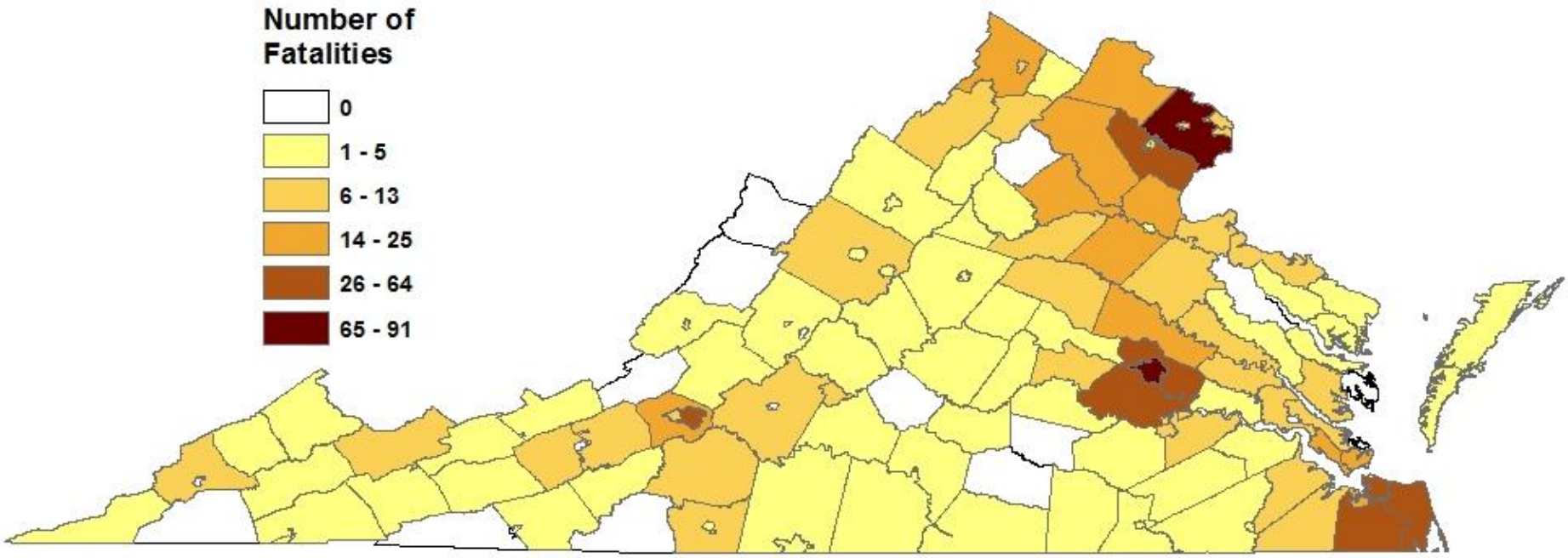
Locality of Residence	Deaths	Rate
Northampton County	1	8.4
Northumberland County	3	24.4
Norton City	0	0.0
Nottoway County	0	0.0
Orange County	6	16.6
Page County	2	8.4
Patrick County	0	0.0
Petersburg City	9	28.3
Pittsylvania County	2	3.3
Poquoson City	0	0.0
Portsmouth City	21	22.2
Powhatan County	7	24.5
Prince Edward County	1	4.4
Prince George County	8	21.2
Prince William County	49	10.6
Pulaski County	7	20.5
Radford City	0	0.0
Rappahannock County	0	0.0
Richmond City	76	33.5
Richmond County	2	22.4
Roanoke City	38	38.1
Roanoke County	16	17.1
Rockbridge County	2	8.8
Rockingham County	5	6.2
Russell County	1	3.7
Salem City	8	30.9
Scott County	0	0.0

Locality of Residence	Deaths	Rate
Shenandoah County	9	20.8
Smyth County	4	13.0
Southampton County	2	11.3
Spotsylvania County	22	16.5
Stafford County	15	10.2
Staunton City	2	8.2
Suffolk City	9	10.0
Surry County	1	15.3
Sussex County	1	8.8
Tazewell County	9	21.9
Virginia Beach City	58	12.9
Warren County	11	27.8
Washington County	4	7.4
Waynesboro City	2	9.0
Westmoreland County	6	33.7
Williamsburg City	0	0.0
Winchester City	7	25.1
Wise County	13	33.7
Wythe County	3	10.4
York County	7	10.3
Subtotal (in-state)	**1165**	**13.8**
Out of State	61	ND
Unknown	4	ND
Subtotal (out-of-state)	**65**	**ND**
TOTAL	**1230**	**14.5**

Note: No denominator is represented by ND.

Map 5.13 Number of All Fatal Opioid Overdoses by Locality of Residence, 2017



Map 5.14 Rates of All Fatal Opioid Overdoses by Locality of Residence, 2017

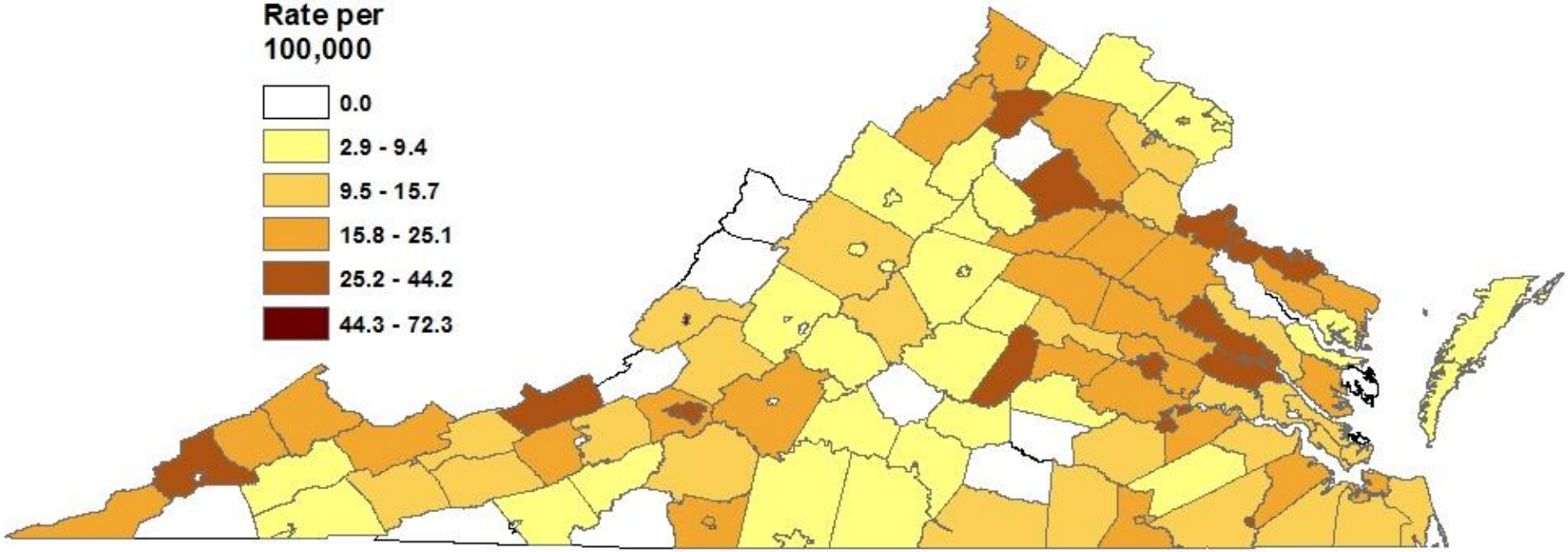

Rate per
100,000
0.0
2.9 - 9.4
9.5 - 15.7
15.8 - 25.1
25.2 - 44.2
44.3 - 72.3

Table 5.20 Number and Rate of All Fatal Opioid Overdoses by Locality of Injury, 2017

Locality of Injury	Deaths	Rate
Accomack County	1	3.1
Albemarle County	6	5.6
Alexandria City	11	6.9
Alleghany County	1	6.6
Amelia County	2	15.4
Amherst County	2	6.3
Appomattox County	0	0.0
Arlington County	21	8.9
Augusta County	7	9.3
Bath County	0	0.0
Bedford County	9	11.5
Bland County	1	15.7
Botetourt County	3	9.0
Bristol City	2	11.9
Brunswick County	1	6.2
Buchanan County	5	23.2
Buckingham County	3	17.6
Buena Vista City	0	0.0
Campbell County	3	5.5
Caroline County	6	19.7
Carroll County	2	6.7
Charles City County	0	0.0
Charlotte County	1	8.3
Charlottesville City	4	8.3
Chesapeake City	33	13.7
Chesterfield County	56	16.3
Clarke County	2	13.8
Colonial Heights City	2	11.2
Covington City	4	72.3
Craig County	0	0.0
Culpeper County	19	37.1
Cumberland County	2	20.4
Danville City	3	7.3
Dickenson County	2	13.5
Dinwiddie County	3	10.6
Emporia City	1	18.9
Essex County	0	0.0
Fairfax City	7	29.0
Fairfax County	104	9.1
Falls Church City	3	20.6
Fauquier County	11	15.8
Floyd County	1	6.3
Fluvanna County	1	3.8

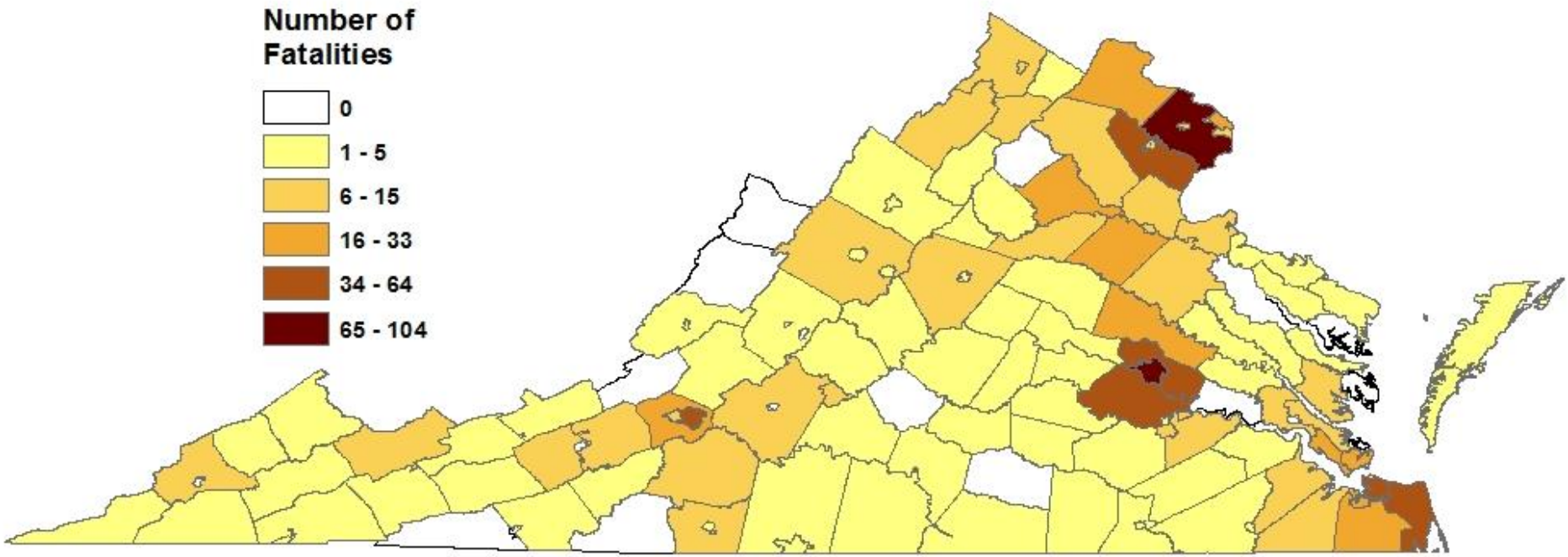
Locality of Injury	Deaths	Rate
Franklin City	2	24.5
Franklin County	8	14.2
Frederick County	14	16.2
Fredericksburg City	12	42.3
Galax City	0	0.0
Giles County	5	29.7
Gloucester County	6	16.1
Goochland County	2	8.8
Grayson County	0	0.0
Greene County	1	5.1
Greensville County	2	17.1
Halifax County	1	2.9
Hampton City	17	12.6
Hanover County	18	17.0
Harrisonburg City	3	5.5
Henrico County	64	19.5
Henry County	9	17.6
Highland County	0	0.0
Hopewell City	11	48.6
Isle of Wight County	6	16.4
James City County	8	10.6
King and Queen County	1	14.3
King George County	7	26.6
King William County	2	12.0
Lancaster County	0	0.0
Lee County	5	21.0
Lexington City	0	0.0
Loudoun County	26	6.5
Louisa County	3	8.4
Lunenburg County	0	0.0
Lynchburg City	8	9.9
Madison County	4	30.1
Manassas City	12	28.9
Manassas Park City	4	24.1
Martinsville City	2	15.2
Mathews County	0	0.0
Mecklenburg County	4	13.0
Middlesex County	1	9.4
Montgomery County	12	12.2
Nelson County	1	6.7
New Kent County	2	9.2
Newport News City	28	15.6
Norfolk City	54	22.1

Locality of Injury	Deaths	Rate
Northampton County	1	8.4
Northumberland County	3	24.4
Norton City	0	0.0
Nottoway County	1	6.5
Orange County	7	19.4
Page County	2	8.4
Patrick County	0	0.0
Petersburg City	13	40.9
Pittsylvania County	2	3.3
Poquoson City	0	0.0
Portsmouth City	30	31.7
Powhatan County	4	14.0
Prince Edward County	1	4.4
Prince George County	7	18.5
Prince William County	50	10.8
Pulaski County	8	23.4
Radford City	0	0.0
Rappahannock County	0	0.0
Richmond City	100	44.0
Richmond County	3	33.6
Roanoke City	39	39.1
Roanoke County	20	21.3
Rockbridge County	1	4.4
Rockingham County	3	3.7
Russell County	1	3.7
Salem City	6	23.2
Scott County	1	4.6

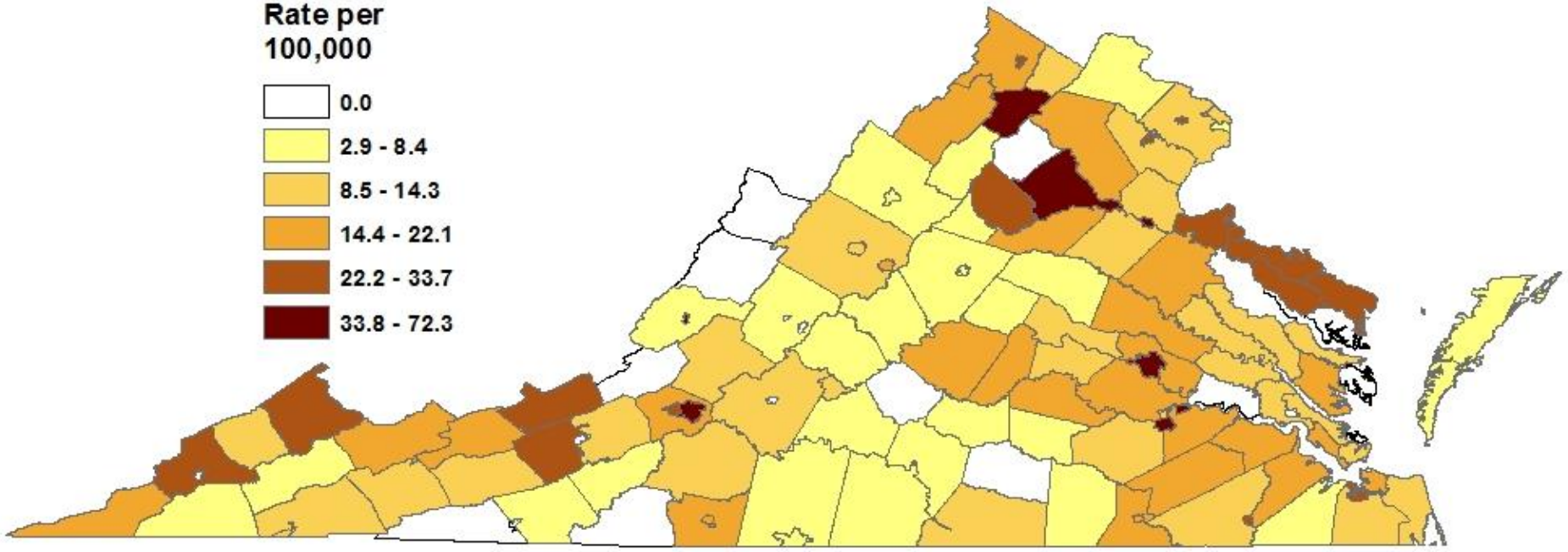
Locality of Injury	Deaths	Rate
Shenandoah County	9	20.8
Smyth County	3	9.8
Southampton County	2	11.3
Spotsylvania County	19	14.3
Stafford County	15	10.2
Staunton City	3	12.2
Suffolk City	7	7.8
Surry County	1	15.3
Sussex County	2	17.6
Tazewell County	9	21.9
Virginia Beach City	62	13.8
Warren County	15	37.9
Washington County	5	9.2
Waynesboro City	4	17.9
Westmoreland County	5	28.1
Williamsburg City	0	0.0
Winchester City	9	32.2
Wise County	13	33.7
Wythe County	4	13.8
York County	8	11.8
Subtotal (in-state)	**1208**	**14.3**
Out of State	11	ND
Unknown	11	ND
Subtotal (out-of-state)	**22**	**ND**
TOTAL	**1230**	**14.5**

Note: No denominator is represented by ND.

Map 5.15 Number of All Fatal Opioid Overdoses by Locality of Injury, 2017



Map 5.16 Rates of All Fatal Opioid Overdoses by Locality of Injury, 2017

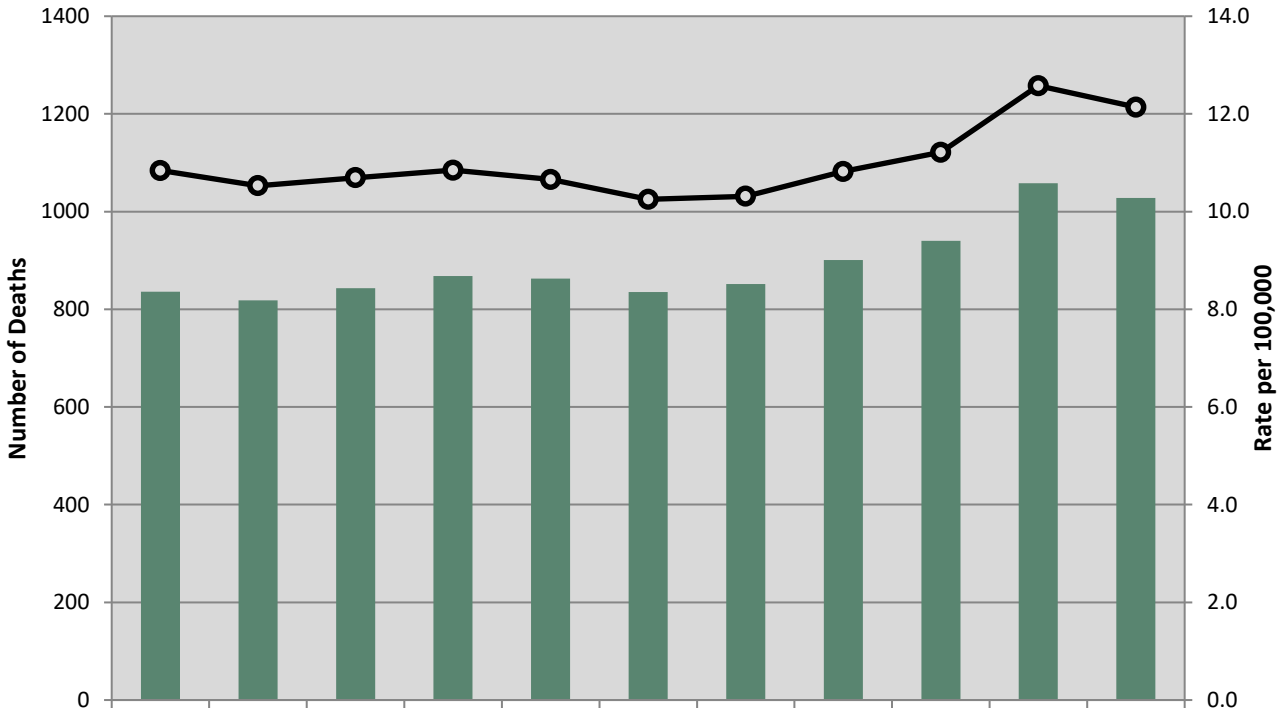

Rate per
100,000
0.0
2.9 - 8.4
8.5 - 14.3
14.4 - 22.1
22.2 - 33.7
33.8 - 72.3

SECTION 6: GUN-RELATED DEATHS (N=1,028)

Gun-related fatalities continue to be one of the top three methods of unnatural death in Virginia since 2007. Generally, the number of gun-related suicides slowly increase each year, and since 2012, gun-related homicides slowly increased; however, in 2017, gun-related homicides actually decreased in comparison to 2016.

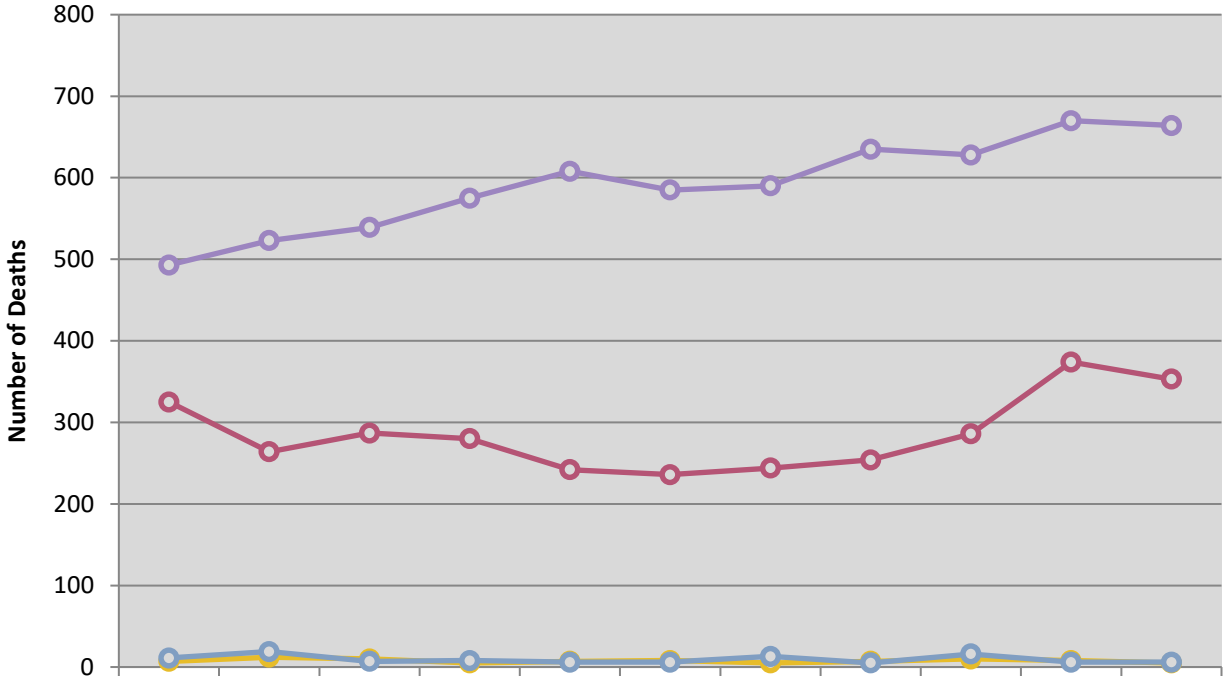
- Gun-related homicides decreased 5.6% in 2017 compared to 2016
- The majority (64.6%) of gun related deaths were due to suicide
- The Northern OCME region had the lowest number and the lowest rate of gun-related death of all manners (6.2 deaths per 100,000 persons) compared to all other OCME district offices
- Males (83.1%), 25-34 year olds (21.1%), and whites (65.8%) had the largest number of gun-related deaths; however, black males had the highest rate of gun-related death (32.0 deaths per 100,000 persons)

Figure 6.1 Number and Rate of Gun-Related Deaths by Year of Death, 2007-2017



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths	836	818	843	868	863	835	852	901	940	1058	1028
Mortality Rate	10.8	10.5	10.7	10.8	10.7	10.3	10.3	10.8	11.2	12.6	12.1

Figure 6.2 Number of Gun-Related Deaths by Year and Manner of Death, 2007-2017



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Accident	7	12	10	5	7	8	5	7	10	8	5
Homicide	325	264	287	280	242	236	244	254	286	374	353
Suicide	493	523	539	575	608	585	590	635	628	670	664
Undetermined	11	19	7	8	6	6	13	5	16	6	6

Figure 6.3 Percentage of Gun-Related Deaths by Manner of Death, 2017

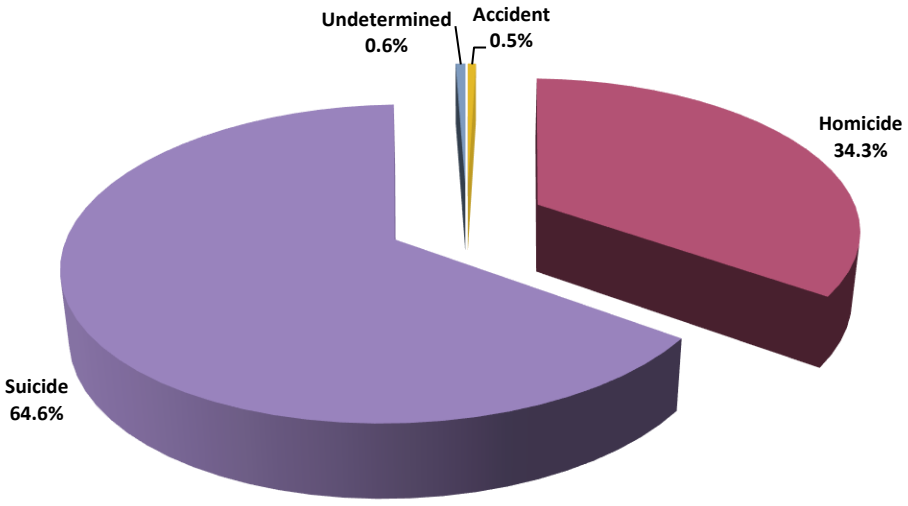


Table 6.1 Number and Rate of Gun-Related Deaths by OCME District and Manner of Death, 2017

Manner of Death	Central		Northern		Tidewater		Western		TOTAL	
	n	rate	n	rate	n	rate	n	rate	n	rate
Accident	1	0.0	1	0.0	1	0.1	2	0.1	**5**	**0.1**
Homicide	151	6.6	27	0.9	117	7.2	58	3.5	**353**	**4.2**
Suicide	195	8.5	153	5.3	124	7.6	192	11.7	**664**	**7.8**
Undetermined	1	0.0	1	0.0	2	0.1	2	0.1	**6**	**0.1**
TOTAL	**348**	**15.2**	**182**	**6.2**	**244**	**15.1**	**254**	**15.4**	**1028**	**12.1**

Table 6.2 Number of Gun-Related Deaths by Gun Type and Manner of Death, 2017

Manner of Death	Handgun	Multiple*	Rifle	Shotgun	Other	Unknown	Total
Accident	3	0	0	2	0	0	**5**
Homicide	274	1	18	18	0	42	**353**
Suicide	539	0	46	74	1	4	**664**
Undetermined	4	0	2	0	0	0	**6**
Total	**820**	**1**	**66**	**94**	**1**	**46**	**1028**

Note: 'Multiple' indicates the decedent died of more than one gun; either more than one gun type (e.g. a handgun and a shotgun) or same gun type but multiple weapons (e.g. two handguns)

Figure 6.4 Percentage of Gun-Related Deaths by Gender, 2017

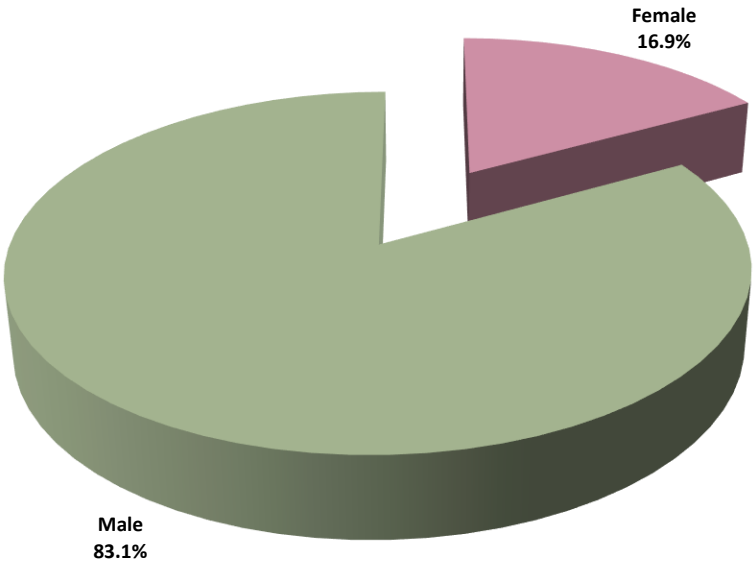
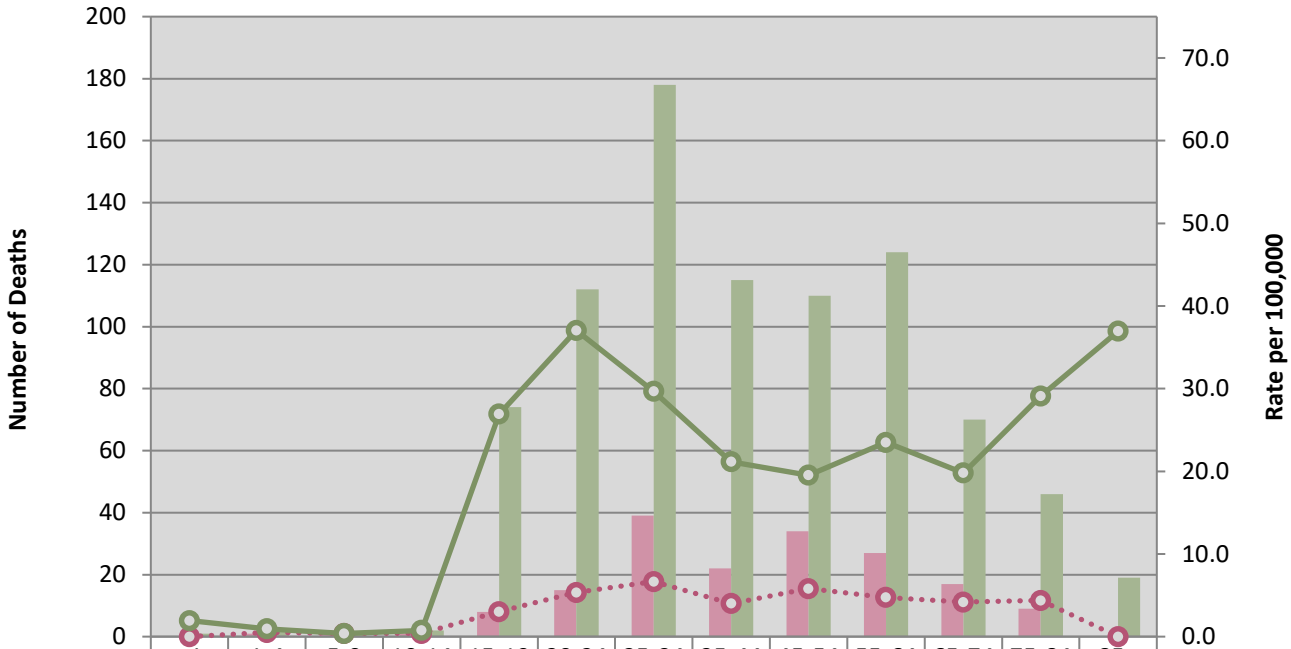


Figure 6.5 Number and Rate of Gun-Related Deaths by Age Group and Gender, 2017



	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	0	1	1	1	8	15	39	22	34	27	17	9	0
Male	1	2	1	2	74	112	178	115	110	124	70	46	19
Female Rate	0.0	0.5	0.4	0.4	3.0	5.3	6.7	4.0	5.8	4.7	4.2	4.4	0.0
Male Rate	1.9	1.0	0.4	0.7	26.9	37.0	29.7	21.2	19.5	23.5	19.8	29.1	37.0

Figure 6.6 Percentage of Gun-Related Deaths by Race/Ethnicity, 2017

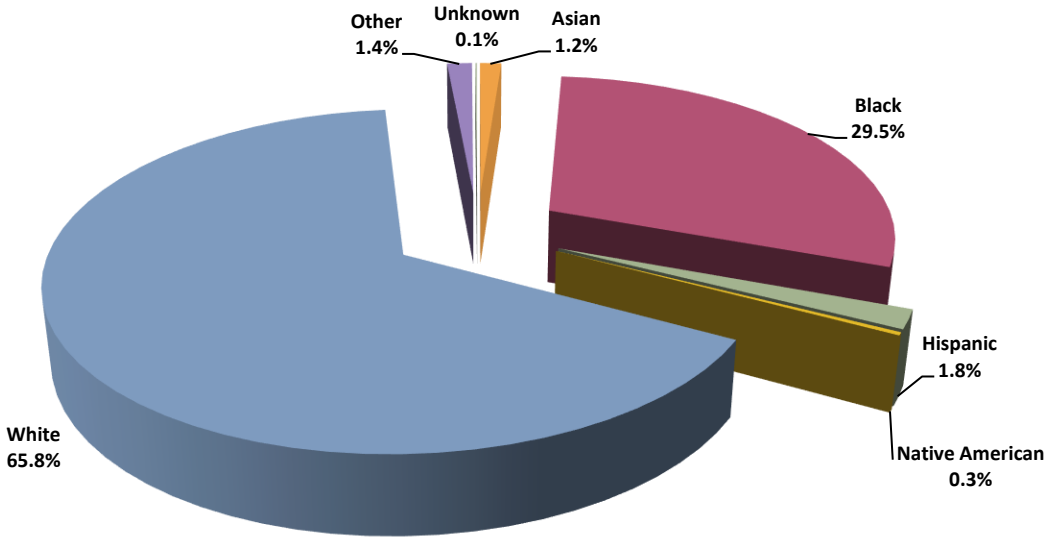
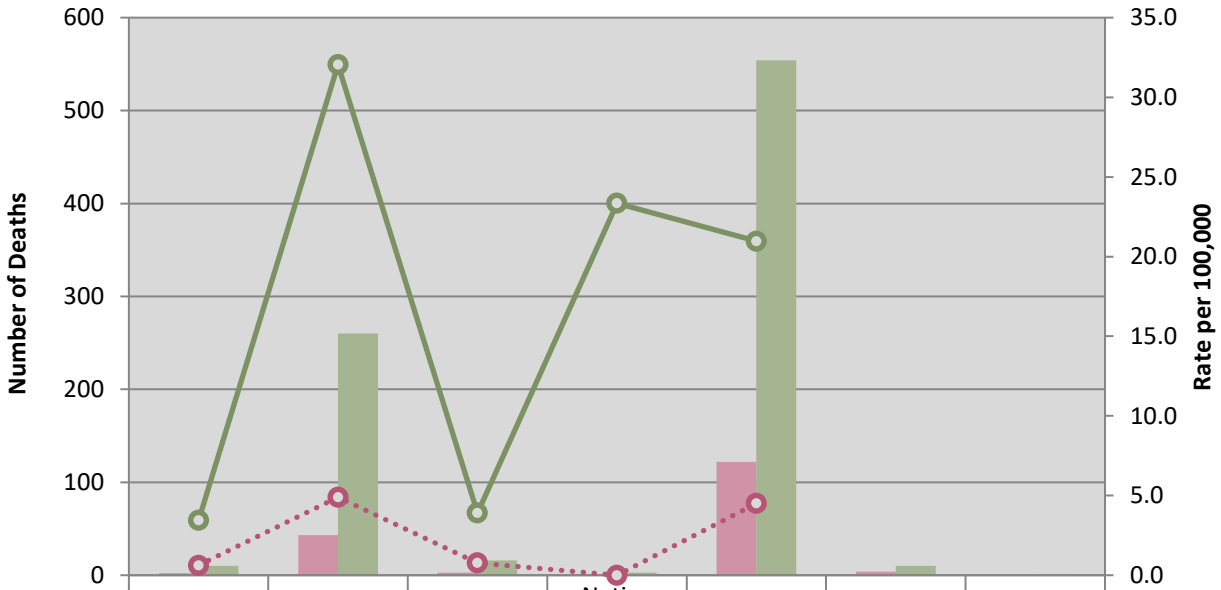


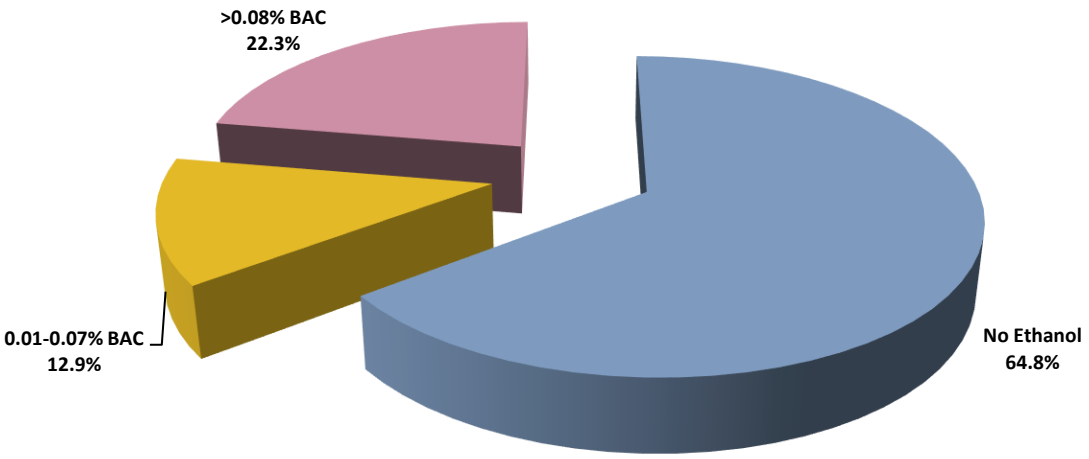
Figure 6.7 Number and Rate of Gun-Related Deaths by Race/Ethnicity and Gender, 2017



	Asian	Black	Hispanic	Native American	White	Other	Unknown
Female	2	43	3	0	122	4	0
Male	10	260	16	3	554	10	1
Female Rate	0.6	4.9	0.8	0.0	4.5	*	*
Male Rate	3.4	32.0	3.9	23.3	21.0	*	*

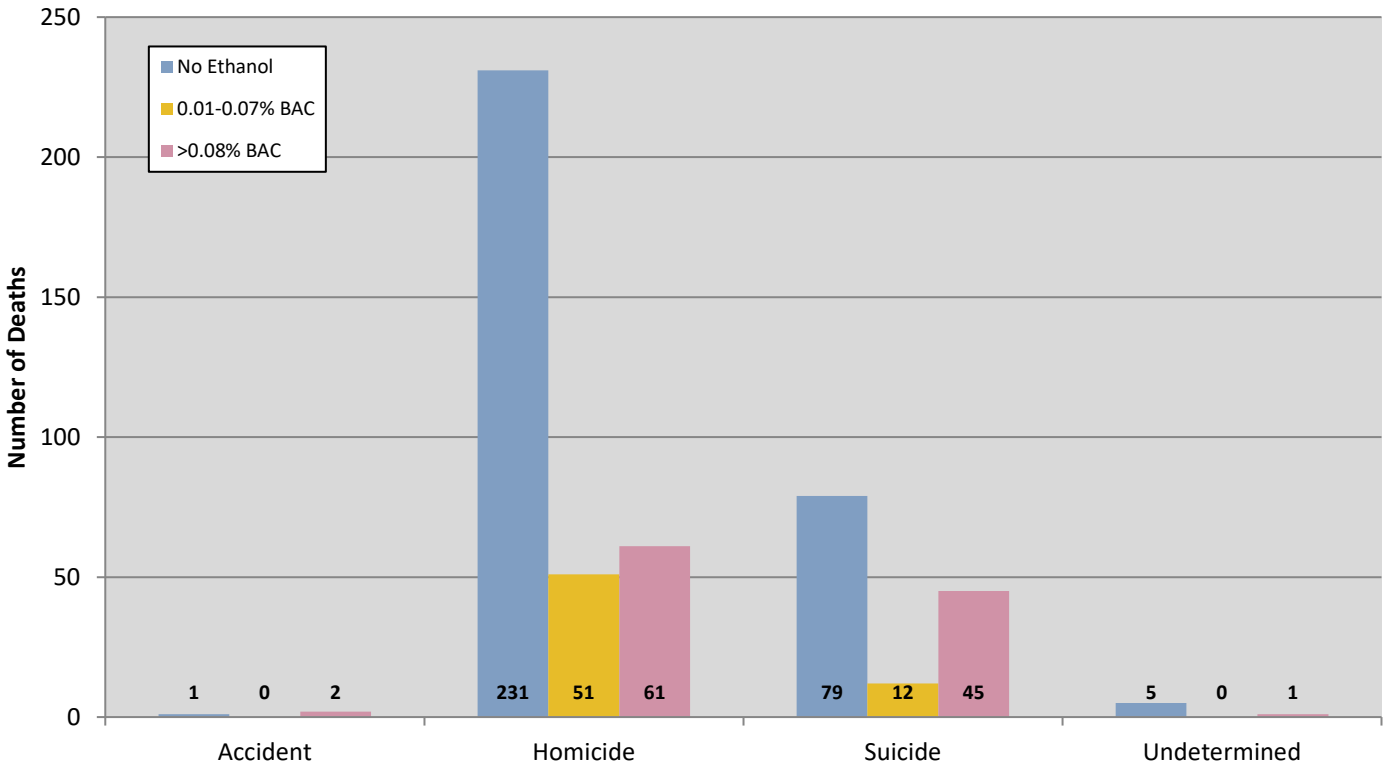
*No rate can be calculated
Note: Rates calculated from small case counts (n<5) are considered unreliable and should be interpreted with caution (Asians, Hispanics, and Native Americans)

Figure 6.8 Percentage of Gun-Related Deaths by Ethanol Level (N=488), 2017



Note: Of the 1,028 gun related fatalities, 52.5% (n=540) did not receive alcohol testing

Figure 6.9 Number of Gun-Related Deaths by Alcohol Level and Manner of Death (N=488), 2017



Note: Of the 1,028 gun related fatalities, 52.5% (n=540) did not receive alcohol testing.

Figure 6.10 Number of Gun-Related Deaths by Month of Death, 2017

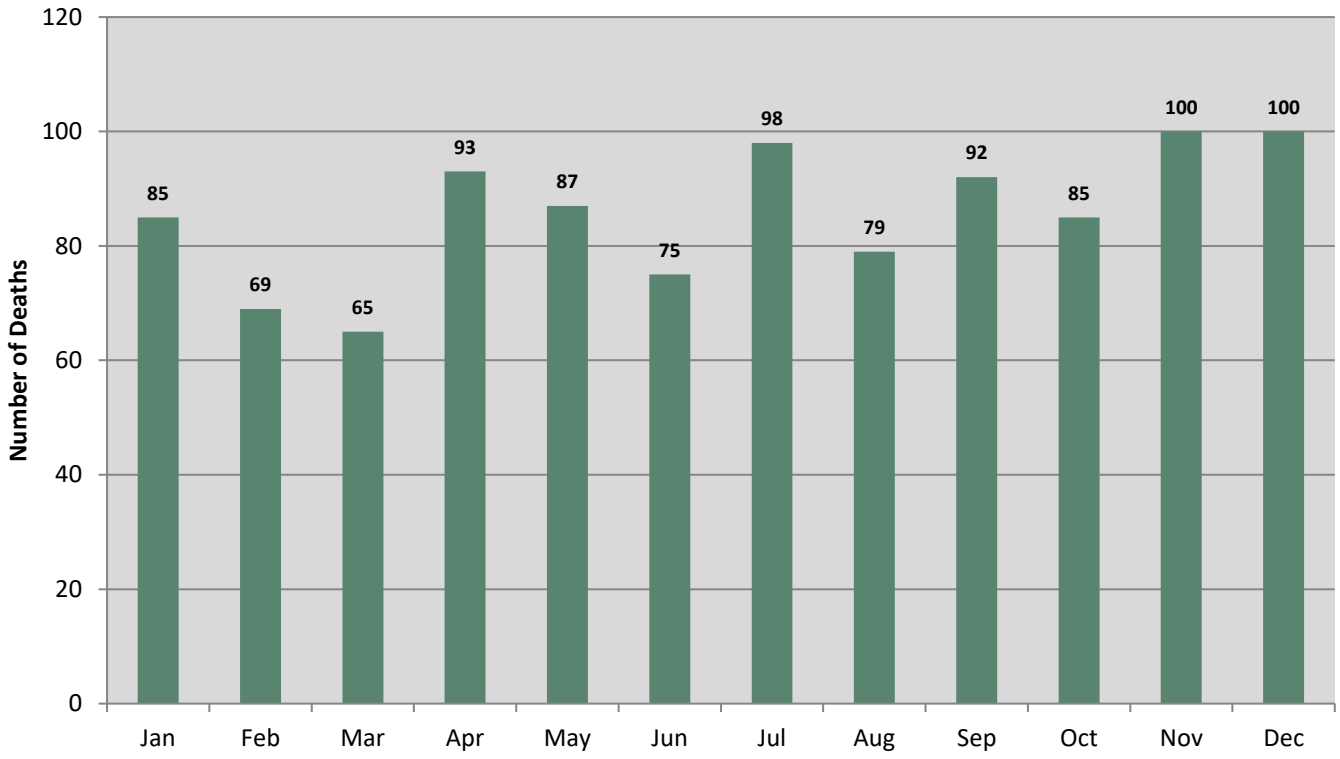


Figure 6.11 Number of Gun-Related Deaths by Day of Week, 2017

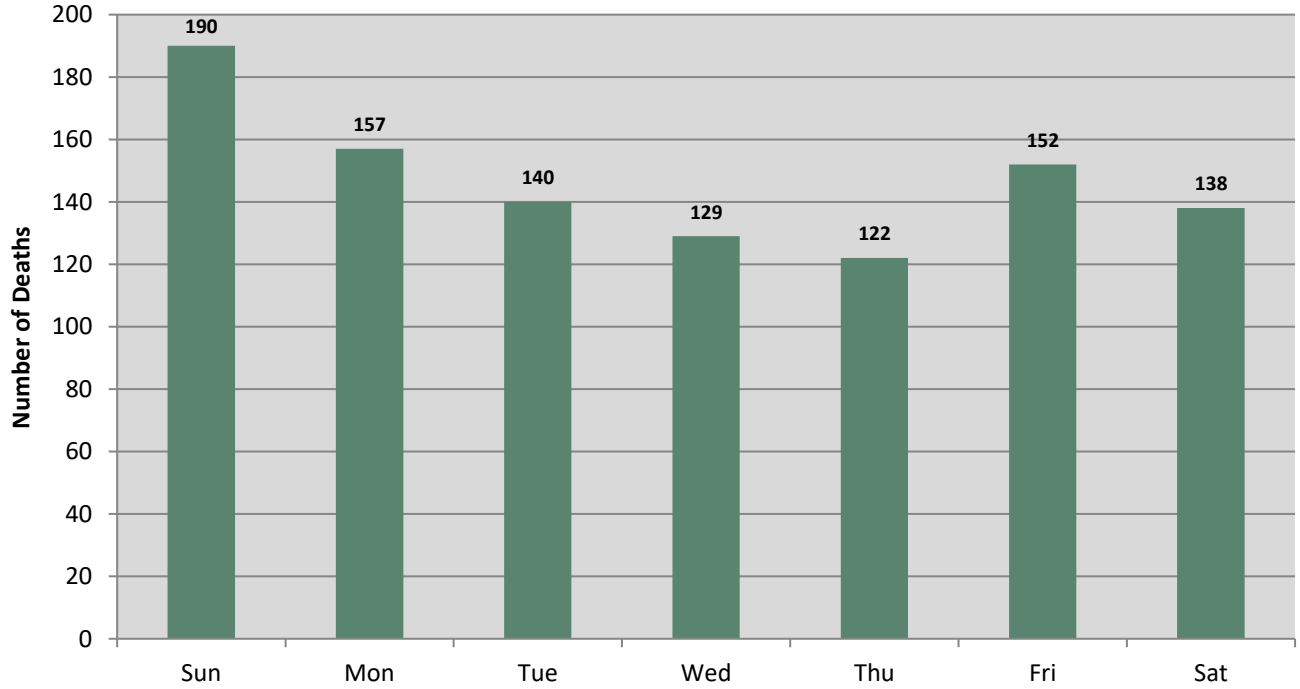


Table 6.3 Number and Rate of Gun-Related Deaths by Locality of Residence, 2017

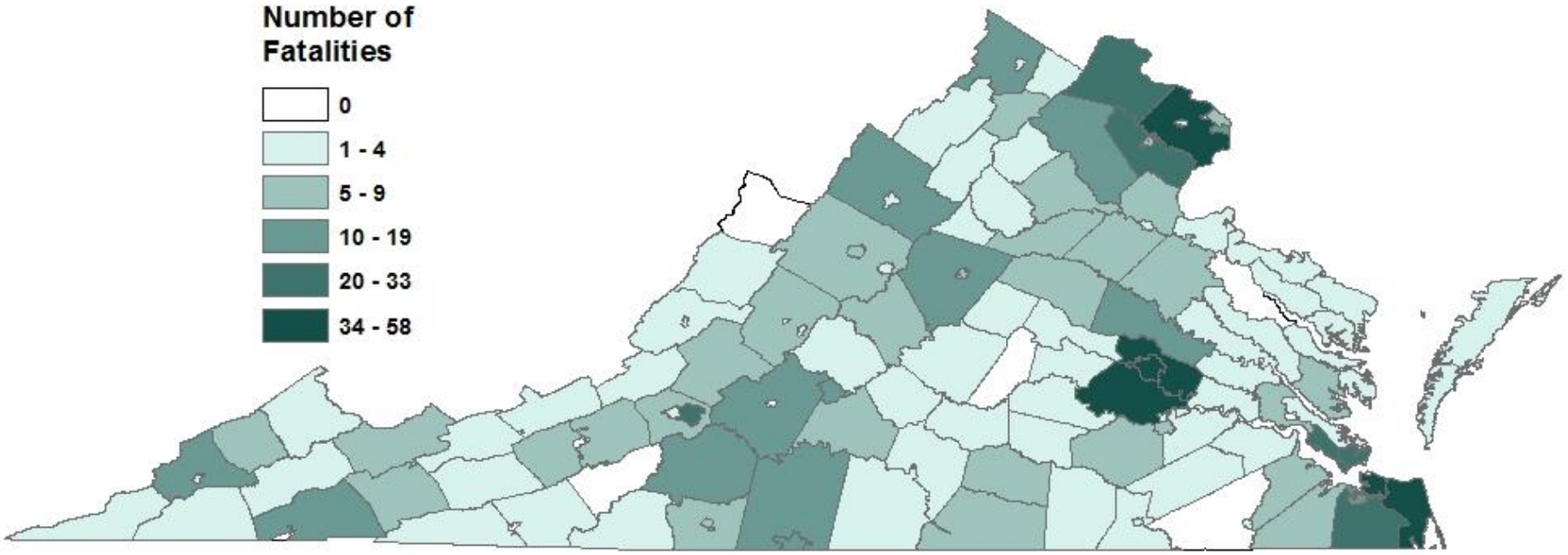
Locality of Residence	Deaths	Rate
Accomack County	3	9.2
Albemarle County	12	11.1
Alexandria City	10	6.2
Alleghany County	1	6.6
Amelia County	4	30.7
Amherst County	4	12.7
Appomattox County	1	6.4
Arlington County	7	3.0
Augusta County	7	9.3
Bath County	1	23.3
Bedford County	12	15.4
Bland County	1	15.7
Botetourt County	5	15.1
Bristol City	0	0.0
Brunswick County	2	12.3
Buchanan County	3	13.9
Buckingham County	2	11.7
Buena Vista City	2	31.6
Campbell County	6	10.9
Caroline County	7	23.0
Carroll County	4	13.5
Charles City County	1	14.3
Charlotte County	3	24.8
Charlottesville City	6	12.5
Chesapeake City	30	12.5
Chesterfield County	46	13.4
Clarke County	4	27.6
Colonial Heights City	4	22.4
Covington City	1	18.1
Craig County	2	39.5
Culpeper County	7	13.7
Cumberland County	0	0.0
Danville City	16	38.9
Dickenson County	5	33.8
Dinwiddie County	5	17.7
Emporia City	1	18.9
Essex County	0	0.0
Fairfax City	4	16.6
Fairfax County	49	4.3
Falls Church City	0	0.0
Fauquier County	11	15.8

Locality of Residence	Deaths	Rate
Floyd County	0	0.0
Fluvanna County	3	11.3
Franklin City	3	36.7
Franklin County	12	21.3
Frederick County	12	13.9
Fredericksburg City	3	10.6
Galax City	0	0.0
Giles County	3	17.8
Gloucester County	7	18.8
Goochland County	2	8.8
Grayson County	3	19.2
Greene County	3	15.3
Greensville County	2	17.1
Halifax County	4	11.6
Hampton City	24	17.8
Hanover County	10	9.4
Harrisonburg City	2	3.7
Henrico County	47	14.3
Henry County	7	13.7
Highland County	0	0.0
Hopewell City	4	17.7
Isle of Wight County	8	21.9
James City County	5	6.6
King and Queen County	1	14.3
King George County	3	11.4
King William County	1	6.0
Lancaster County	3	27.8
Lee County	4	16.8
Lexington City	0	0.0
Loudoun County	23	5.8
Louisa County	9	25.1
Lunenburg County	5	40.9
Lynchburg City	10	12.3
Madison County	3	22.6
Manassas City	5	12.0
Manassas Park City	0	0.0
Martinsville City	5	38.0
Mathews County	2	22.8
Mecklenburg County	5	16.3
Middlesex County	1	9.4
Montgomery County	6	6.1

Locality of Residence	Deaths	Rate
Nelson County	5	33.5
New Kent County	3	13.8
Newport News City	33	18.4
Norfolk City	57	23.3
Northampton County	1	8.4
Northumberland County	3	24.4
Norton City	1	25.4
Nottoway County	2	13.0
Orange County	6	16.6
Page County	3	12.6
Patrick County	2	11.3
Petersburg City	9	28.3
Pittsylvania County	11	18.0
Poquoson City	2	16.6
Portsmouth City	19	20.1
Powhatan County	3	10.5
Prince Edward County	3	13.2
Prince George County	3	7.9
Prince William County	32	6.9
Pulaski County	7	20.5
Radford City	0	0.0
Rappahannock County	1	13.7
Richmond City	58	25.5
Richmond County	1	11.2
Roanoke City	22	22.0
Roanoke County	9	9.6
Rockbridge County	8	35.3
Rockingham County	10	12.5
Russell County	3	11.1
Salem City	2	7.7
Scott County	4	18.3
Shenandoah County	3	6.9
Smyth County	7	22.8
Southampton County	0	0.0
Spotsylvania County	8	6.0
Stafford County	6	4.1
Staunton City	5	20.4
Suffolk City	6	6.6
Surry County	2	30.6
Sussex County	2	17.6
Tazewell County	7	17.0
Virginia Beach City	44	9.8
Warren County	6	15.2
Washington County	12	22.1
Waynesboro City	2	9.0
Westmoreland County	2	11.2
Williamsburg City	0	0.0
Winchester City	1	3.6
Wise County	13	33.7
Wythe County	2	6.9
York County	3	4.4
Subtotal (in-state)	**993**	**11.7**
Out of State	32	ND
Unknown	3	ND
Subtotal (out-of-state)	**35**	**ND**
TOTAL	**1028**	**12.1**

Note: No denominator is represented by ND

Map 6.1 Number of Gun-Related Deaths by Locality of Residence, 2017



Map 6.2 Rates of Gun-Related Death by Locality of Residence, 2017

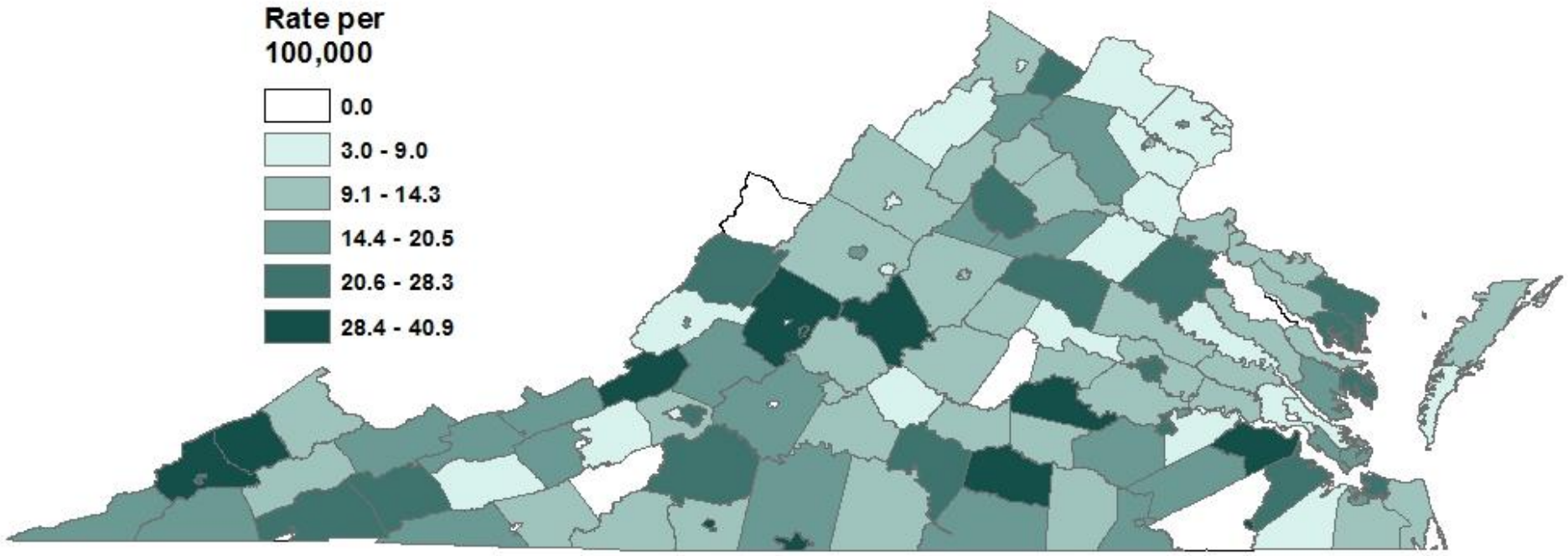


Table 6.4 Number and Rate of Gun-Related Deaths by Locality of Injury, 2017

Locality of Injury	Deaths	Rate
Accomack County	4	12.3
Albemarle County	12	11.1
Alexandria City	10	6.2
Alleghany County	1	6.6
Amelia County	2	15.4
Amherst County	3	9.5
Appomattox County	0	0.0
Arlington County	10	4.3
Augusta County	8	10.6
Bath County	1	23.3
Bedford County	13	16.7
Bland County	1	15.7
Botetourt County	6	18.1
Bristol City	1	6.0
Brunswick County	2	12.3
Buchanan County	4	18.6
Buckingham County	2	11.7
Buena Vista City	2	31.6
Campbell County	5	9.1
Caroline County	6	19.7
Carroll County	5	16.8
Charles City County	1	14.3
Charlotte County	2	16.5
Charlottesville City	6	12.5
Chesapeake City	25	10.4
Chesterfield County	32	9.3
Clarke County	5	34.5
Colonial Heights City	5	28.0
Covington City	1	18.1
Craig County	1	19.8
Culpeper County	5	9.8
Cumberland County	0	0.0
Danville City	14	34.0
Dickenson County	3	20.3
Dinwiddie County	5	17.7
Emporia City	1	18.9
Essex County	0	0.0
Fairfax City	2	8.3
Fairfax County	51	4.4
Falls Church City	0	0.0
Fauquier County	14	20.2
Floyd County	0	0.0
Fluvanna County	3	11.3

Locality of Injury	Deaths	Rate
Franklin City	3	36.7
Franklin County	12	21.3
Frederick County	13	15.0
Fredericksburg City	4	14.1
Galax City	0	0.0
Giles County	3	17.8
Gloucester County	9	24.1
Goochland County	3	13.2
Grayson County	3	19.2
Greene County	4	20.4
Greensville County	1	8.6
Halifax County	4	11.6
Hampton City	24	17.8
Hanover County	9	8.5
Harrisonburg City	3	5.5
Henrico County	45	13.7
Henry County	6	11.7
Highland County	1	45.2
Hopewell City	3	13.3
Isle of Wight County	8	21.9
James City County	5	6.6
King and Queen County	1	14.3
King George County	2	7.6
King William County	1	6.0
Lancaster County	2	18.5
Lee County	4	16.8
Lexington City	0	0.0
Loudoun County	26	6.5
Louisa County	6	16.7
Lunenburg County	5	40.9
Lynchburg City	12	14.8
Madison County	2	15.1
Manassas City	4	9.6
Manassas Park City	0	0.0
Martinsville City	4	30.4
Mathews County	3	34.2
Mecklenburg County	6	19.6
Middlesex County	1	9.4
Montgomery County	8	8.1
Nelson County	6	40.2
New Kent County	2	9.2
Newport News City	36	20.1
Norfolk City	60	24.5

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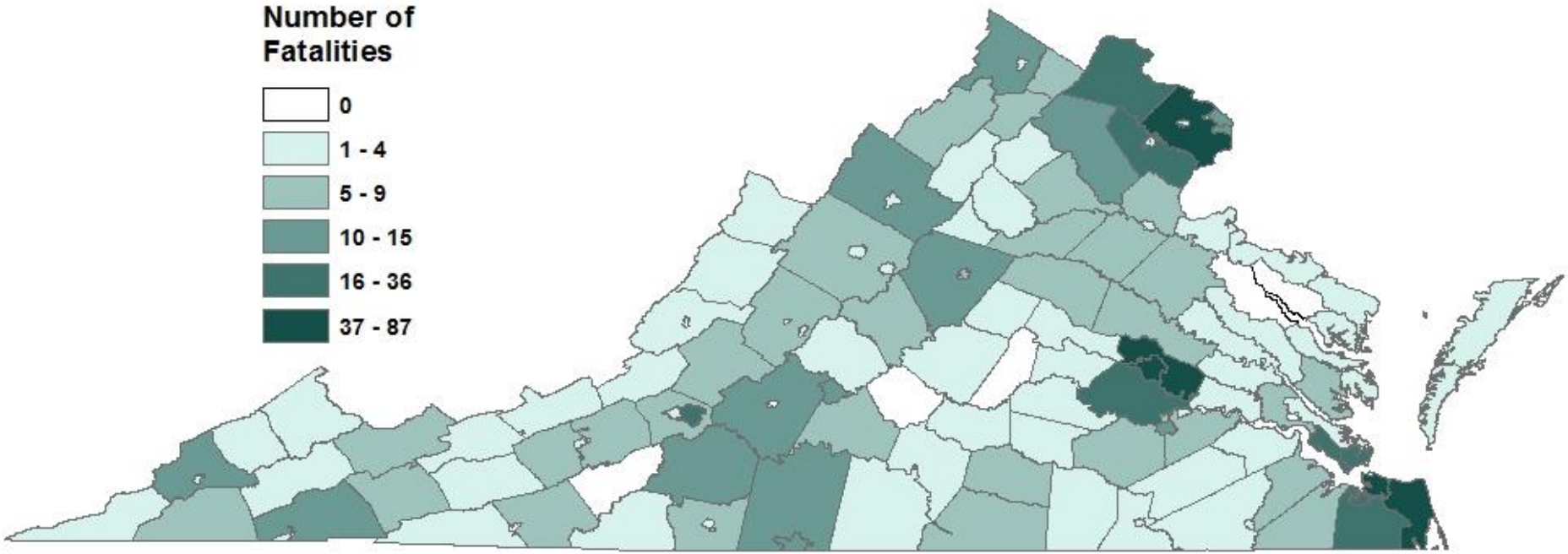
Locality of Injury	Deaths	Rate
Northampton County	2	16.9
Northumberland County	3	24.4
Norton City	1	25.4
Nottoway County	2	13.0
Orange County	6	16.6
Page County	3	12.6
Patrick County	3	17.0
Petersburg City	10	31.5
Pittsylvania County	15	24.5
Poquoson City	1	8.3
Portsmouth City	22	23.3
Powhatan County	2	7.0
Prince Edward County	3	13.2
Prince George County	5	13.2
Prince William County	21	4.5
Pulaski County	8	23.4
Radford City	1	5.7
Rappahannock County	2	27.3
Richmond City	87	38.3
Richmond County	0	0.0
Roanoke City	22	22.0
Roanoke County	7	7.5
Rockbridge County	8	35.3
Rockingham County	10	12.5
Russell County	3	11.1
Salem City	2	7.7
Scott County	6	27.4
Shenandoah County	5	11.6
Smyth County	5	16.3
Southampton County	2	11.3
Spotsylvania County	8	6.0
Stafford County	9	6.1
Staunton City	3	12.2
Suffolk City	7	7.8
Surry County	2	30.6
Sussex County	2	17.6
Tazewell County	7	17.0
Virginia Beach City	44	9.8
Warren County	6	15.2
Washington County	14	25.7
Waynesboro City	2	9.0
Westmoreland County	2	11.2
Williamsburg City	0	0.0
Winchester City	2	7.2
Wise County	12	31.1
Wythe County	4	13.8
York County	4	5.9
Subtotal (in-state)	**1023**	**12.1**
Out of State	4	ND
Unknown	1	ND
Subtotal (out-of-state)	**5**	**ND**
TOTAL	**1028**	**12.1**

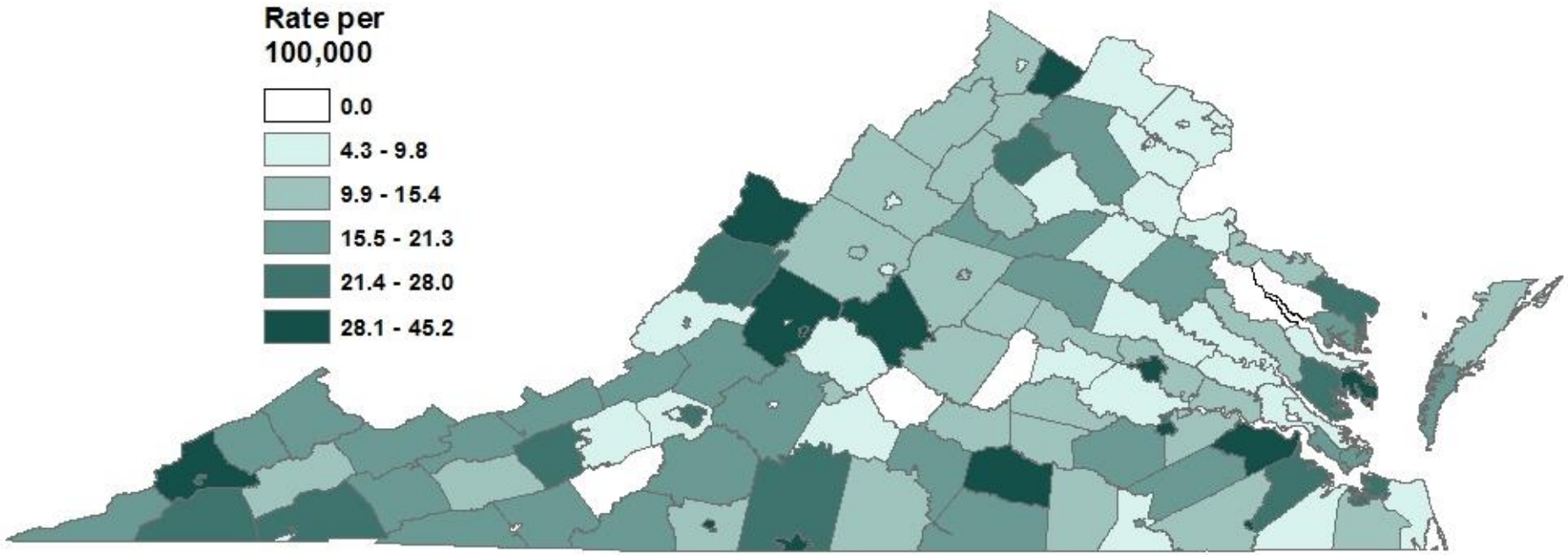
Note: No denominator is represented by ND

Map 6.3 Number of Gun-Related Deaths by Locality of Injury, 2017



Virginia Department of Health

Map 6.4 Number of Gun-Related Deaths by Locality of Injury, 2017



SECTION 7: IN-CUSTODY (PRISONER) DEATHS (N=164)

Pursuant to § 32.1-283 of the Code of Virginia, the OCME investigates deaths of all persons in jail, prison, or other correctional institution, or in police custody. The OCME took jurisdiction of 164 in-custody deaths in 2017.

- The majority (72.0%) of in-custody deaths were natural deaths
- The vast majority of deaths were male (90.2%) and white (54.9%)

Figure 7.1 Percentage of In-Custody Deaths by Manner of Death, 2017

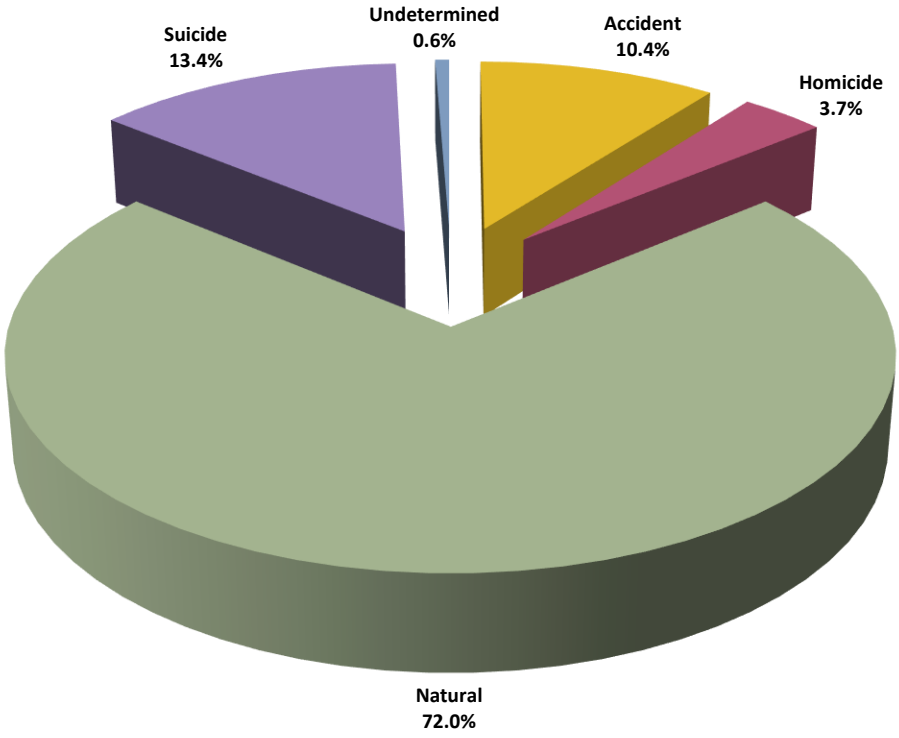


Figure 7.2 Percentage of In-Custody Deaths by Race/Ethnicity, 2017

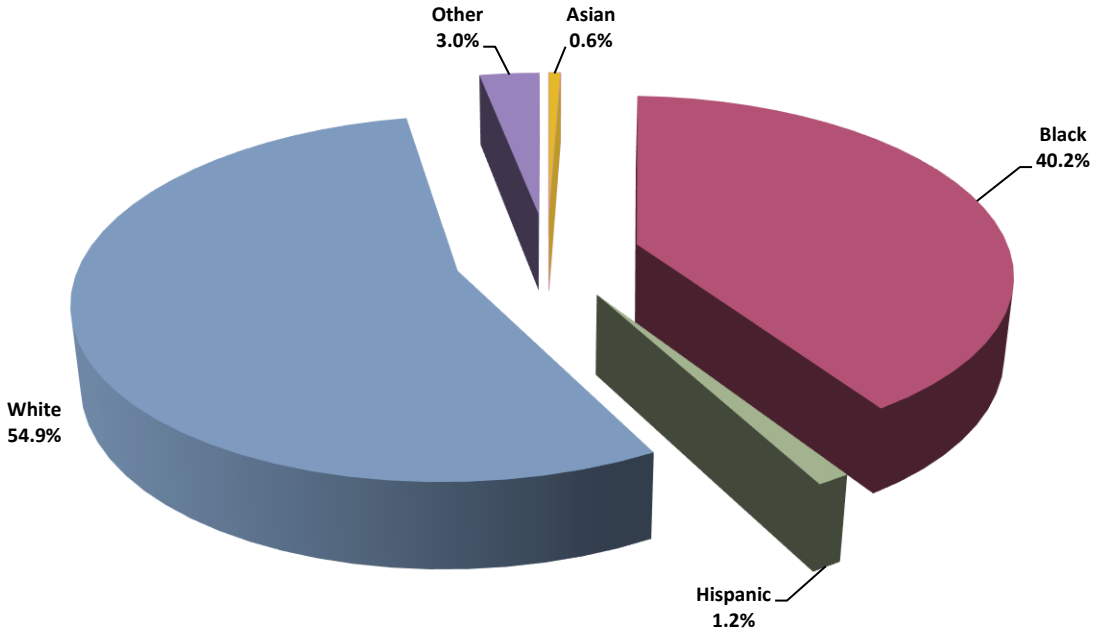
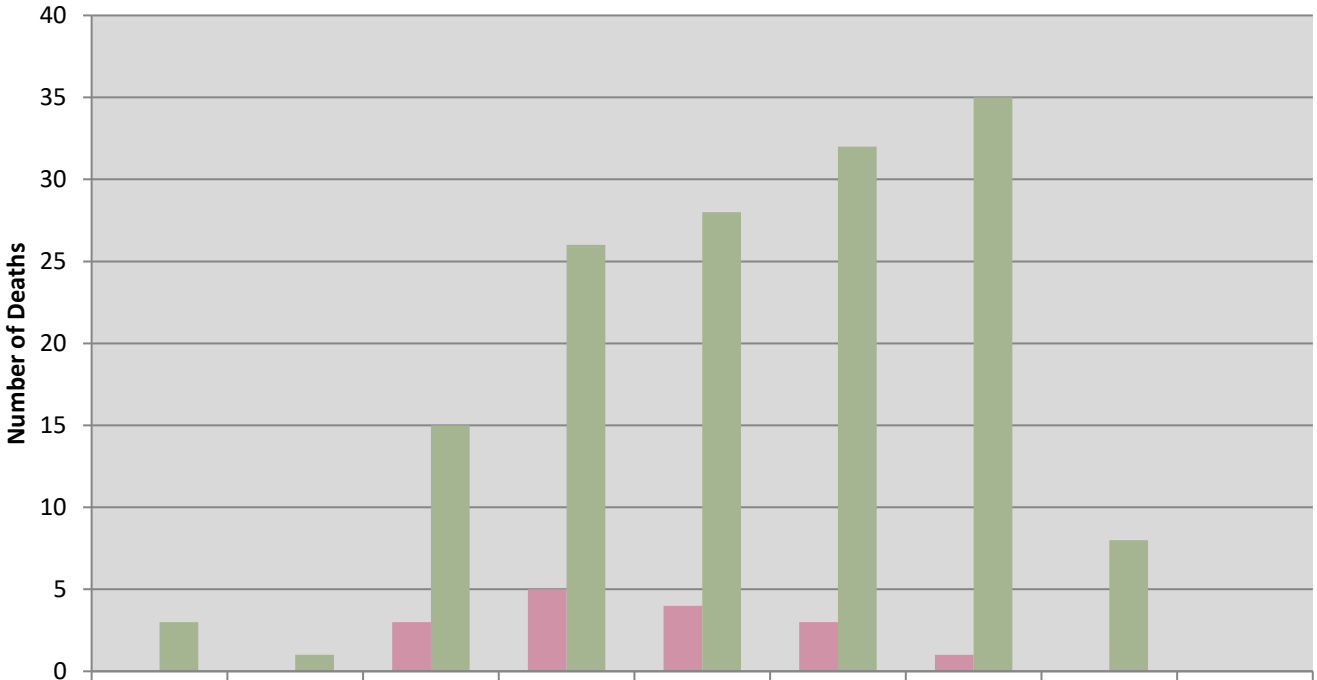
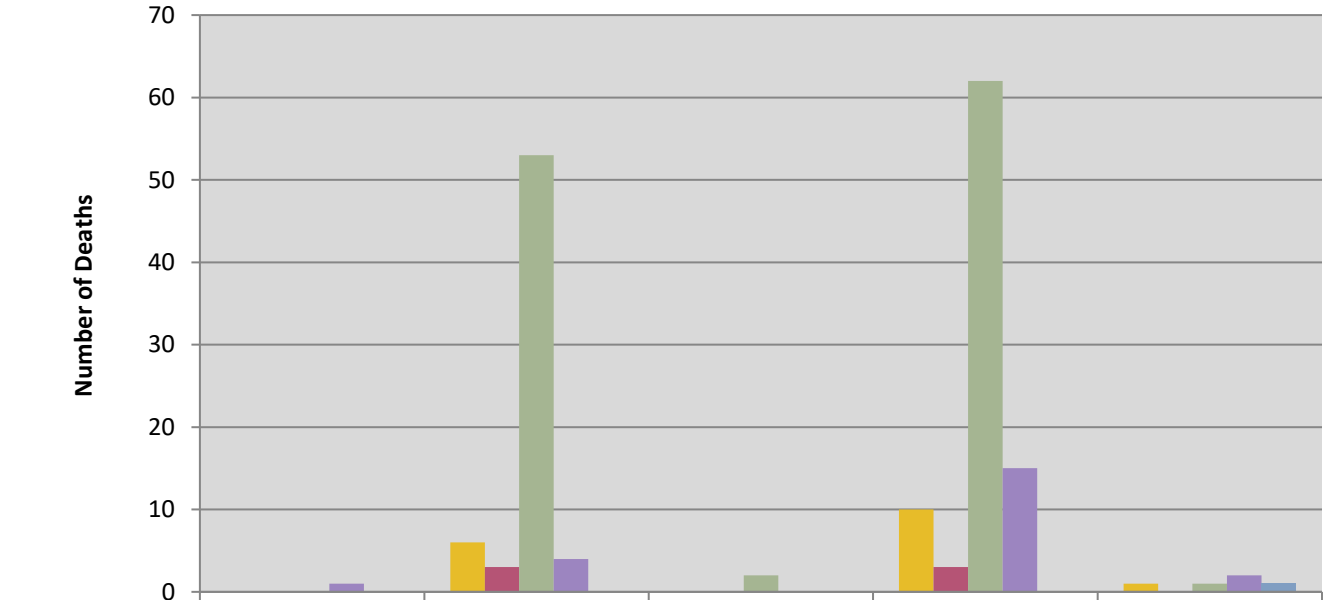


Figure 7.3 Number of In-Custody Deaths by Age Group and Gender, 2017



	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Female	0	0	3	5	4	3	1	0	0
Male	3	1	15	26	28	32	35	8	0

Figure 7.4 Number of In-Custody Deaths by Manner and Race/Ethnicity, 2017



	Asian	Black	Hispanic	White	Other
Accident	0	6	0	10	1
Homicide	0	3	0	3	0
Natural	0	53	2	62	1
Suicide	1	4	0	15	2
Undetermined	0	0	0	0	1

Table 7.1 Number of In-Custody Deaths by Cause and Method of Death, 2017

NATURAL DEATHS	Autopsied	Total Cases
Cardiovascular Diseases/Disorders		
Atherosclerosis	4	10
Atherosclerosis and hypertension	14	14
Cardiac arrhythmia (not specified)	1	1
Cardiomyopathy	1	2
Hypertension	5	5
Other cardiac disease/disorder	1	1
Central Nervous System Diseases/Disorders		
Degenerative disease	1	1
Seizure disorder	2	2
Vascular disease	2	6
Other CNS disease/disorder	2	4
Gastrointestinal Diseases/Disorders		
Cirrhosis	1	7
GI Hemorrhage	1	2
GI Malignancy	7	13
Hepatitis	0	3
Other GI disease/disorder	1	3
Genitourinal Diseases/Disorders		
Malignancy	2	4
Renal disease	1	2
Pulmonary Disease/Disorders		
COPD	0	2
Emboli	5	5
Pneumonia	2	6
Pulmonary malignancy	4	7
Other pulmonary disease/disorder	0	1
Systemic Diseases/Disorders		
Blood disorders	1	3
Chronic alcoholism	2	2
Chronic drug abuse	1	2
Metastatic malignancy of unknown primary	1	3
Sepsis	1	2
Other infectious disease	0	1
Other systemic disease/disorder	2	3
Other Natural Death/Disorder		
Other malignancy	1	4
Natural Death Subtotal	***66***	***121***
UNNATURAL DEATHS		
Asphyxia		
Hanged	19	20
Strangled/Neck Compression	2	2
Drug Use		

Ingested and/or injected ethanol, illicit, prescription, and/or other type of drug	10	10
Judicial Execution		
Judicial Execution	2	2
Traumatic Injury		
Beatings	1	1
Fall/jump from height	0	1
Gunshot wound	3	3
Motor vehicle accident	3	4
Unnatural Death Subtotal	***40***	***43***
TOTAL OCME DEATHS	106	164

SECTION 8: STATE MENTAL HEALTH DEATHS (N=60)

Pursuant to § 32.1-283 of the Code of Virginia, the OCME investigates the death of any patient or resident of a state mental health facility. The OCME took jurisdiction of 60 state mental health resident deaths in 2017.

- The majority of state mental health deaths were natural (93.3 %), white (80.0%) and male (73.3%)

Figure 8.1 Percentage of State Mental Health Deaths by Manner, 2017

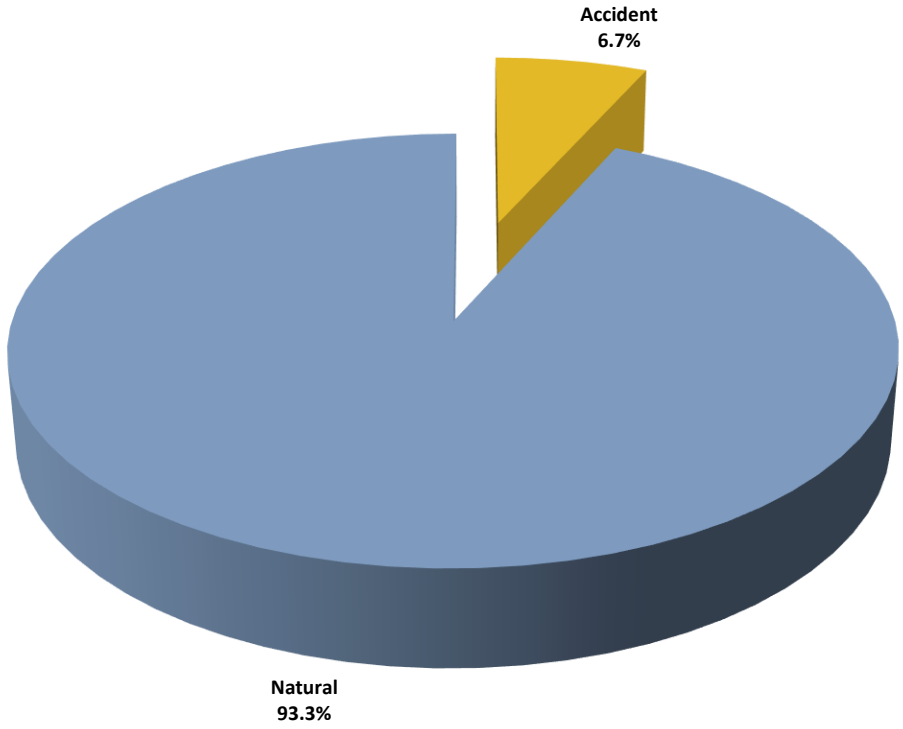


Figure 8.2 Percentage of State Mental Health Deaths by Race/Ethnicity, 2017

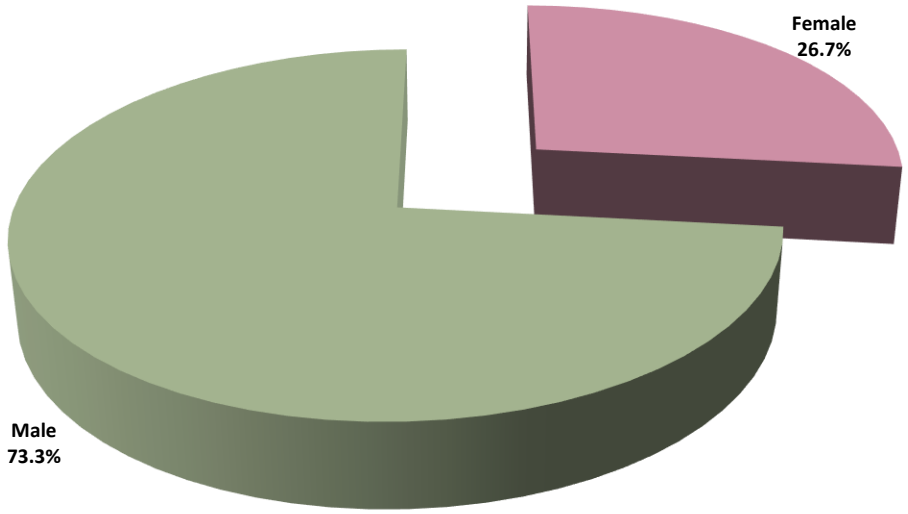


Figure 8.3 Number of State Mental Health Deaths by Age Group and Gender, 2017

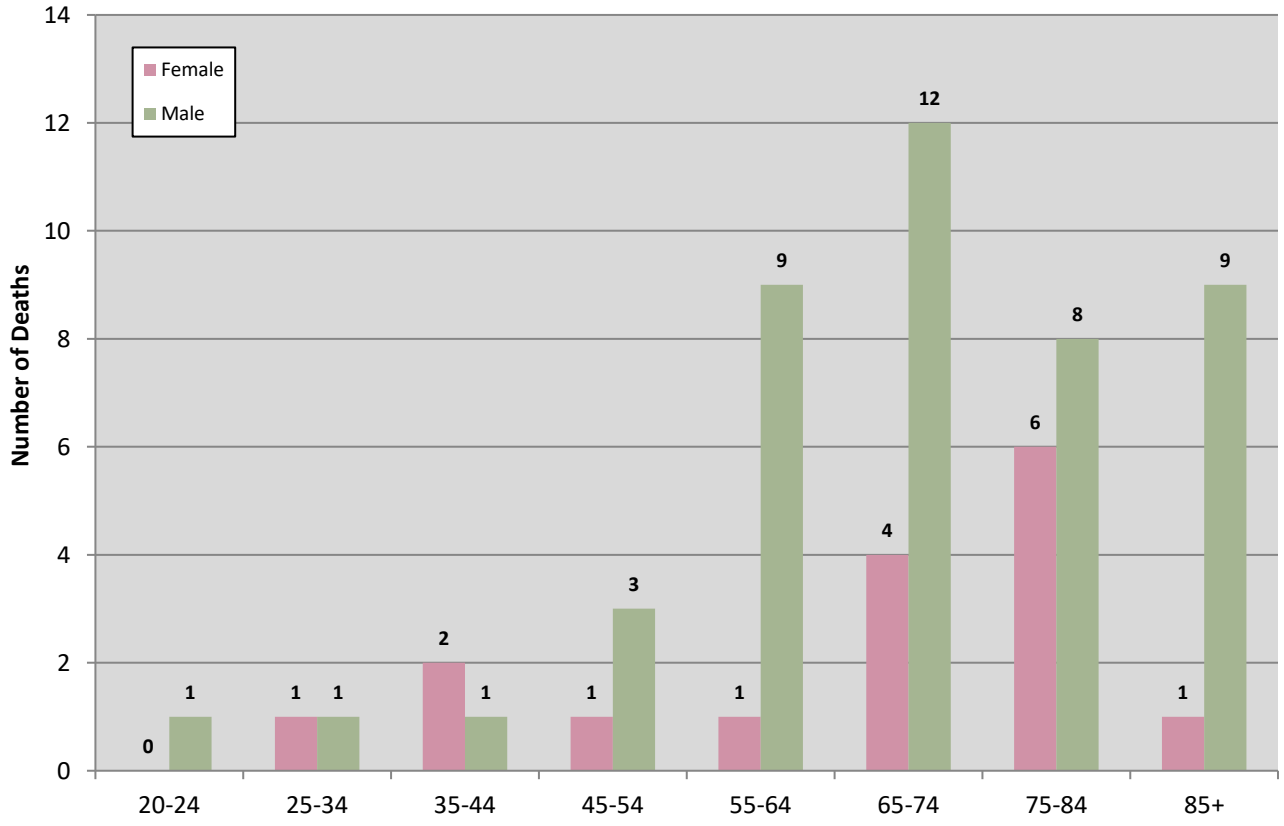


Figure 8.4 Percentage of State Mental Health Deaths Race/Ethnicity, 2017

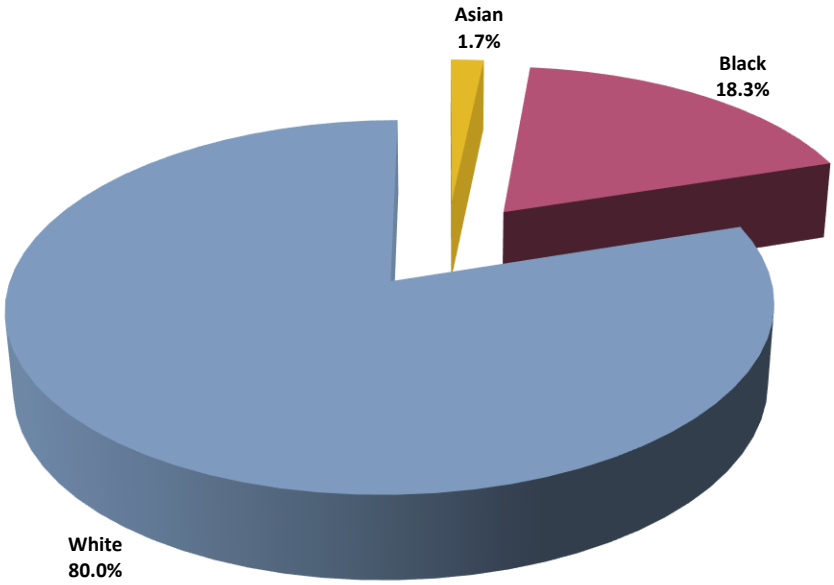


Table 8.1 Number of State Mental Health Deaths by Cause and Method of Death, 2017

Natural Deaths	Autopsied	Total Cases
Cardiovascular Diseases/Disorders		
Atherosclerosis and hypertension	11	13
Cardiomyopathy unspecified	1	2
Hypertension	1	2
Other cardiac disease/disorder	1	1
Central Nervous System Diseases/Disorders		
Degenerative disease	4	8
Seizure disorder	2	3
Vascular disease	1	2
Other central nervous system disease/disorder	0	2
Gastrointestinal Diseases/Disorders		
Cirrhosis	1	1
GI hemorrhage	1	2
GI malignancy	0	1
Other GI disease/disorder	1	2
Genitourinal Diseases/Disorders		
Other genitourinal disease/disorder	0	1
Pulmonary Disease/Disorders		
COPD	0	2
Emboli	2	2
Pneumonia	6	9
Pulmonary malignancy	1	2
Systemic Disease/Disorders		
Sepsis	0	1
Natural Death Subtotal	**33**	**56**
Unnatural Deaths	**Autopsied**	**Total Cases**
Asphyxia		
Choked (foreign object)	1	1
Fall/Jump		
Fall/Jump	2	3
Unnatural Death Subtotal	**3**	**4**
TOTAL OCME DEATHS	**36**	**60**

SECTION 9: RETROSPECTIVE CASES (N=134)

Retrospective cases are deaths that are unreported to the OCME at the time of death, but are discovered upon later review and are therefore investigated by the OCME retrospectively. At times, medical care providers or death reporters misunderstand what type of case falls under the jurisdiction of the OCME and do not refer a case to the OCME. The OCME typically learns about these cases from VDH's Division of Vital Records, funeral homes, or local medical examiners.

Some of these 134 retrospective deaths may have been deaths that occurred in prior years, but the OCME investigation began in 2017.

- The majority of the OCME's retrospective deaths were accidents (85.8%)
- Falls were the most common unreported type of death (59.0%), nearly all occuring among elder persons

Figure 9.1 Percentage of Retrospective Deaths by Manner of Death, 2017

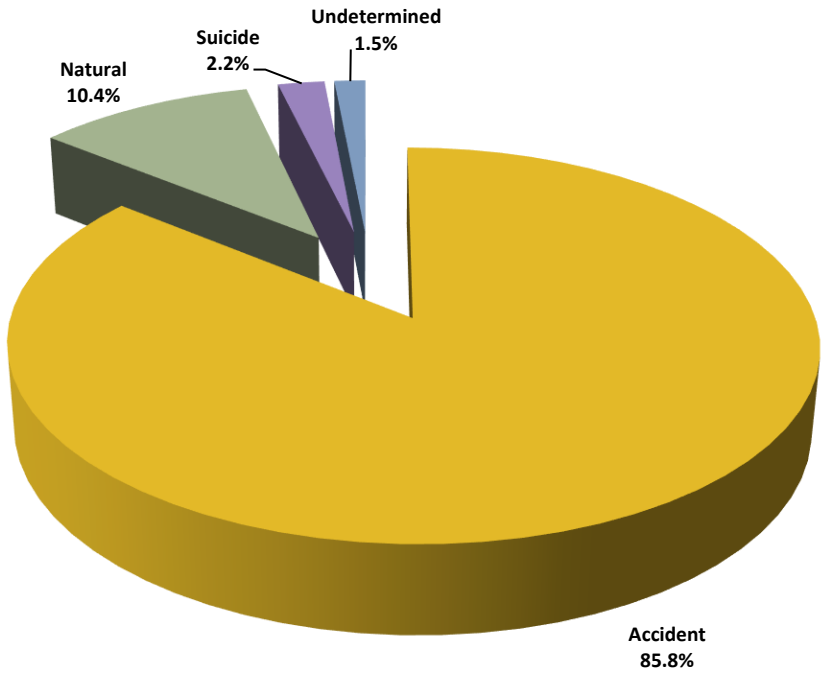


Table 9.1 Number and Percentage of Retrospective Deaths by OCME District, 2017

OCME District	Number	Percent
Central	35	26.1%
Northern	27	20.1%
Tidewater	19	14.2%
Western	53	39.6%
Total	**134**	**100.0%**

Figure 9.2 Percentage of Retrospective Deaths by Race/Ethnicity, 2017

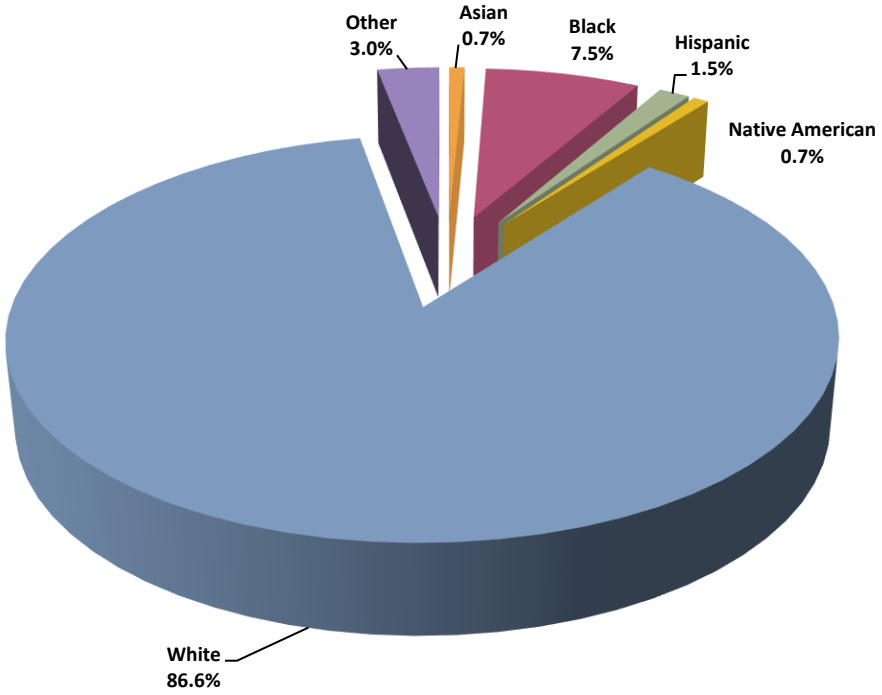


Figure 9.3 Number of Retrospective Deaths by Age Group and Gender, 2017

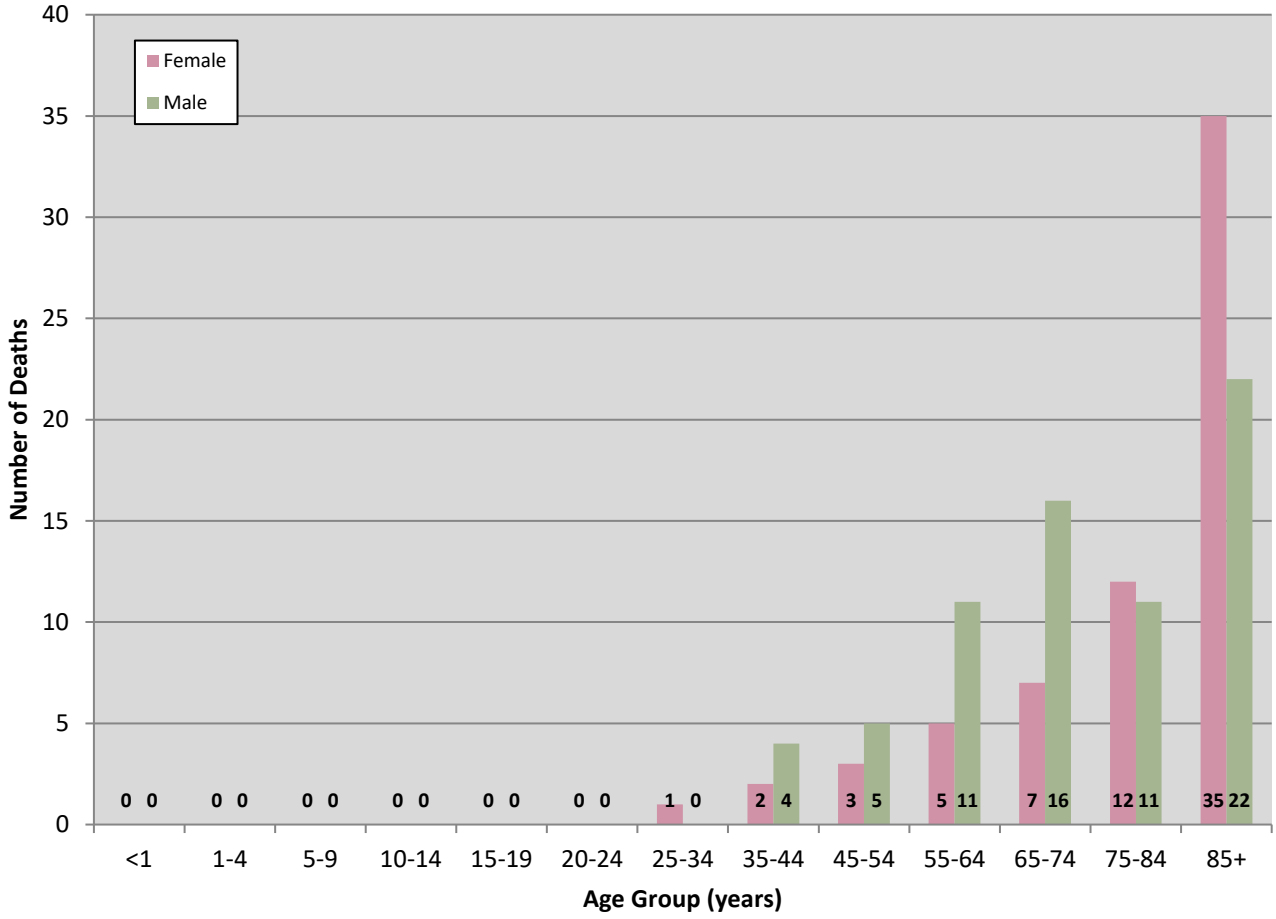


Table 9.2 Number of Retrospective Deaths by Cause and Method of Death, 2017

Natural Deaths	Total Cases
Cardiovascular Diseases/Disorders	
Acute coronary insufficiency	1
Atherosclerosis	3
Atherosclerosis and hypertension	4
Hypertension	4
Central Nervous System Diseases/Disorders	
Degenerative disease	2
Malignancy	1
Other CNS disease/disorder	1
Pulmonary Diseases/Disorders	
COPD	1
Emboli	1
Pulmonary malignancy	1
Systemic Diseases/Disorders	
Chronic alcoholism	1
Sepsis	1
Natural Death Subtotal	**21**
Undetermined Deaths	**Total Cases**
Undetermined Deaths After Autopsy and/or Investigation	
Other Undetermined	2
Undetermined Death Subtotal	**2**
Unnatural Deaths	**Total Cases**
Asphyxia	
Choked (aspiration food or foreign object)	5
Hanged	1
Environmental Exposure	
Hypothermia	1
Fall	
Fall from standing	79
Motor Vehicle	
Motor vehicle collision	13
Substance Abuse	
Ingested and/or injected ethanol, illicit, prescription, and/or other type of drug	9
Other Trauma	
Trauma from animal attack	1
Other trauma	2
Unnatural Death Subtotal	**111**
TOTAL OCME DEATHS	**134**

Note: the OCME cannot perform an autopsy on retrospective cases because the remains have already been processed and the final disposition has already been completed

GLOSSARY

Accident – The *manner of death* used when there is no evidence of intent; an unintentional, sudden, and unexpected death.

Assistant Chief Medical Examiner – A forensic pathologist who has the duty of performing autopsies and investigating deaths that fall under the *jurisdiction* of the *Office of the Chief Medical Examiner*, and determining *cause* and *manner of death*.

Autopsy – A detailed postmortem external and internal examination of a body to determine cause and manner of death, collect evidence, and determine the presence or absence of injury.

Cause of Death – The disease, injury, or poison that results in a physiological derangement or biochemical disturbance that is incompatible with life. The result of post-mortem examination, including autopsy and toxicological findings, combined with information about the medical history of the decedent, serves to establish the *cause of death*.

Chief Medical Examiner – The head of the *Office of the Chief Medical Examiner*. The Chief Medical Examiner must be a forensic pathologist licensed to practice medicine in Virginia and may appoint *Assistant Chief Medical Examiners* who are forensic pathologists, and *Local Medical Examiners*.

Children – Individuals 17 years of age and younger.

Drug Caused Death – A death caused by a drug or combination of drugs.

Ethanol – An alcohol, which is the principal intoxicant in beer, liquor, and wine. A person with an alcohol concentration in blood of 0.08 percent by weight by volume (0.08%) is legally intoxicated in Virginia.

Ethanol Present – Deaths in which toxicological tests reveal a reportable level of *ethanol* (0.01% W/V or greater) at the time of death.

Homicide – The *manner of death* in which death results from the intentional harm of one person by another.

Jurisdiction – Pursuant to the Code of Virginia § 32.1-283, the code details the extent of the Office of the Chief Medical Examiner's authority over deaths:

> '*Upon the death of any person from trauma, injury, violence, poisoning, accident, suicide or homicide, or suddenly when in apparent good health, or when unattended by a physician, or in jail, prison, other correctional institution or in police custody, or who is an individual receiving services in a state hospital or training center operated by the Department of Behavioral Health and Developmental Services, or suddenly as an apparent result of fire, or in any suspicious, unusual or unnatural manner, or the sudden death of any infant less than 18 months of age whose death is suspected to be attributable to Sudden*

Infant Death Syndrome (SIDS), the medical examiner of the county or city in which death occurs shall be notified by the physician in attendance, hospital, law-enforcement officer, funeral director or any other person having knowledge of such death.'

Local Medical Examiner – A physician, nurse practitioner, or physician assistant appointed by the *Chief Medical Examiner* for a city or county to assist in the investigation of deaths and determine *jurisdiction* and disposition of cases reported; additionally, to perform external examinations when required. There is a local medical examiner in most counties in Virginia.

Locality of Death – The county/city where the death occurred. The county/city where the decedent legally resided, the county/city where the decedent was fatally injured, and the county/city where the decedent died may be the same or different.

Locality of Event – The county/city where a person sustained the injury result eventually resulting in death.

Locality of Residence – The county/city where a person legally resides. If not a resident of Virginia, the decedent is listed as "out of state"

Manner of Death – The general category of the circumstances of the event which causes the death. The categories are *accident, homicide, natural, suicide,* and *undetermined*.

Method of Death – The means, fatal agency or item causing death, present at the time of injury or death.

Motor Vehicle Collision Related Death – A death involving a motor vehicle. Motor vehicles include automobiles, vans, motorcycles, trucks, aircraft, and trains. The decedent is usually a driver of, a passenger in, or a pedestrian who is struck by a motor vehicle. The death of a bicyclist that is struck by a motor vehicle is considered to be a motor vehicle related death.

Natural – The *manner of death* used when a disease alone causes death. If death is hastened by an injury, the *manner of death* is not considered natural.

Office of the Chief Medical Examiner – The Office of the Chief Medical Examiner (OCME) lies within the Virginia Department of Health and is responsible for the investigation of sudden, violent, or unexpected death.

Opiate – A class of drugs derived from the opium poppy plant (*Papaver somniferum*). "Opioid" is often used interchangeably with opiates, and describes chemical/pharmaceutical narcotics that bind to the opiate receptors of the brain and work very similarly to opiates.

Stimulant – A class of drugs, including cocaine and oral amphetamines, whose principal action is the stimulation of the central nervous system.

Sudden and Unexpected Infant Death – A diagnosis designated for infants (children under the age of 1 year). Sudden and Unexpected Infant Death (SUID) is a diagnosis made in cases in which autopsy does not reveal a definitive medical or traumatic cause of death and the circumstances surrounding the death suggest that there is an associated risk factor for dying, such as unsafe bedding or co-sleep, or some other external factor, but the contribution of this factor cannot be determined with certainty. The diagnosis may also be used in the situation where a medical disease is identified, but it is uncertain that this disease caused death.

Sudden Infant Death Syndrome –Sudden Infant Death Syndrome (SIDS) is defined as the sudden death of an infant that cannot be explained after a thorough investigation is conducted, including a complete autopsy, examination of the death scene which includes no external risk factors, and review of the clinical history.

Suicide – The *manner of death* in which death results from the purposeful attempt to end one's life.

Undetermined – The *manner of death* for deaths in which there is insufficient information to assign another manner. An undetermined death may have an undetermined cause of death and an unknown manner, an undetermined cause of death and a known manner, or a determined cause of death and an unknown manner.

View- A detailed postmortem external examination of the decedent's body, clothing, and injuries that may have caused or contributed to their death

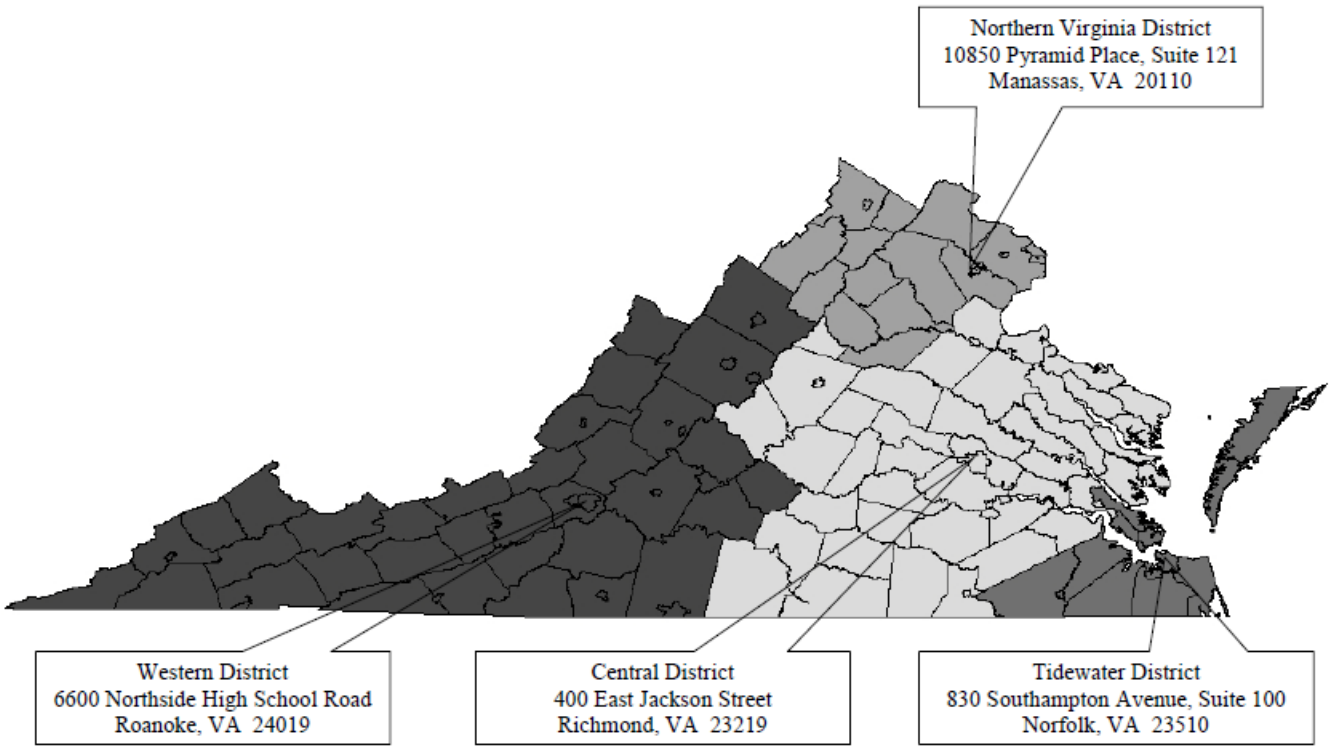
MEDICAL EXAMINER DISTRICTS

CENTRAL *Counties* of Albemarle, Amelia, Brunswick, Buckingham, Caroline, Charles City, Charlotte, Chesterfield, Cumberland, Dinwiddie, Essex, Fluvanna, Gloucester, Goochland, Greene, Greensville, Halifax, Hanover, Henrico, James City, King and Queen, King George, King William, Lancaster, Louisa, Lunenburg, Mathews, Mecklenburg, Middlesex, Nelson, New Kent, Northumberland, Nottoway, Powhatan, Prince Edward, Prince George, Spotsylvania, Stafford, Surry, Sussex, Richmond, and Westmoreland. *Cities* of Charlottesville, Colonial Heights, Emporia, Fredericksburg, Hopewell, Petersburg, Richmond, and Williamsburg.

NORTHERN *Counties* of Arlington, Clarke, Culpeper, Fairfax, Fauquier, Frederick, Loudoun, Madison, Orange, Page, Prince William, Rappahannock, Shenandoah, and Warren. *Cities* of Alexandria, Fairfax, Falls Church, Manassas, Manassas Park, and Winchester.

TIDEWATER *Counties* of Accomack, Isle of Wight, Northampton, Southampton, and York. *Cities* of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, and Virginia Beach.

WESTERN *Counties* of Alleghany, Amherst, Appomattox, Augusta, Bath, Bedford, Bland, Botetourt, Buchanan, Campbell, Carroll, Craig, Dickenson, Floyd, Franklin, Giles, Grayson, Henry, Highland, Lee, Montgomery, Patrick, Pittsylvania, Pulaski, Roanoke, Rockbridge, Rockingham, Russell, Scott, Smyth, Tazewell, Washington, Wise, and Wythe. *Cities* of Bristol, Buena Vista, Covington, Danville, Galax, Harrisonburg, Lexington, Lynchburg, Martinsville, Norton, Radford, Roanoke, Salem, Staunton, and Waynesboro.



OCME Annual Reports from 2004 to 2016 are available online at:

http://www.vdh.virginia.gov/medical-examiner/annual-reports/

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