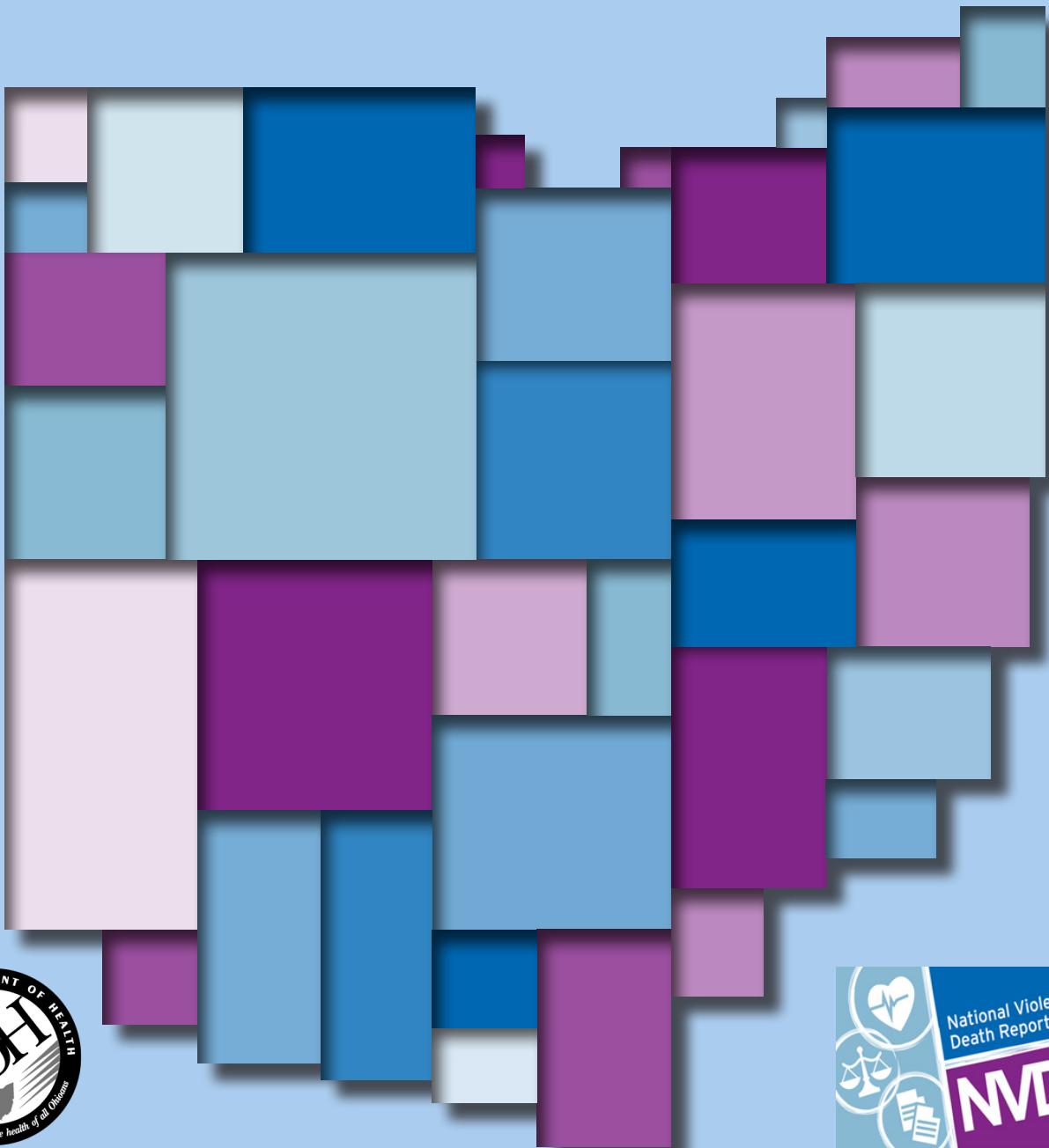


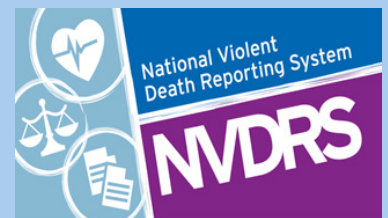
OHIO VIOLENT DEATH REPORTING SYSTEM

Annual Report

2015



Violence and Injury
Prevention Program



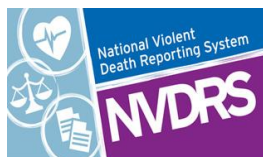
OHIO

Ohio Violent Death Reporting System

2015 Annual Report

The Ohio Violent Death Reporting System collects detailed information on deaths that occur in Ohio resulting from homicide, suicide, unintentional firearm deaths, legal intervention and deaths for which intent could not be determined. Based on information from multiple sources including death certificates, medical examiner reports, and law enforcement reports, these data are a comprehensive review of violent deaths in Ohio. This report presents data from 2015 that researchers, legislators, community leaders and others may use to guide prevention efforts.

Visit the Ohio Public Health Data Warehouse for the most recent public health data:
<http://publicapps.odh.ohio.gov/EDW/DataCatalog>



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Thank you to the following individuals for organizing and implementing the Ohio Violent Death Reporting System:

*Luke Werhan, MPA, Program Manager, Ohio Violent Death Reporting System
Kelli Redd, Lead Abstractor, Ohio Violent Death Reporting System
Steven Dunn, Abstractor, Ohio Violent Death Reporting System
Stacy Ell, Abstractor, Ohio Violent Death Reporting System
Margaret Frankenberg, Abstractor, Ohio Violent Death Reporting System
Leah Goldstein, Abstractor, Ohio Violent Death Reporting System
Danielle Saunders, MPH, MSW, Abstractor, Ohio Violent Death Reporting System
Trina Thompson, Abstractor, Ohio Violent Death Reporting System
Katelyn Yoder, Abstractor, Ohio Violent Death Reporting System
Jolene DeFiore-Hyrmer, MPH, Program Administrator, Ohio Violence and Injury Prevention Section*

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Executive Summary

The Ohio Violent Death Reporting System collects detailed information on deaths that occur in Ohio resulting from suicide, homicide, unintentional firearm deaths, legal intervention, and deaths of undetermined intent in which the cause of death may have been the result of violence. Based on information from multiple sources these data create a comprehensive review of violent deaths in Ohio. This report presents data from 2015 that researchers, legislators, community leaders and others may use to guide prevention efforts.

Violent Deaths

In 2015, 2,483 violent deaths occurred among Ohio residents, an increase of nearly 12 percent compared to 2014. The most common manner of death was suicide (65 percent) followed by homicide (26 percent). In addition, there were 36 deaths due to legal intervention (1 percent), 14 deaths due to unintentional firearm injuries (1 percent) and 186 deaths of undetermined intent (8 percent of total).

The age-adjusted rate of violent death in 2015 for males (33.6 per 100,000) was 3.5 times the rate for females (9.7 per 100,000). And the age-adjusted rate of violent death in 2015 for blacks (36.3 per 100,000) was nearly twice the rate for whites (19.2 per 100,000). Nearly all this racial disparity, however, was among males: the age-adjusted rate of violent death in 2015 for black males (62.9 per 100,000) was more than twice the rate for white males (29.5 per 100,000) while rates for black and white females were similar (11.7 per 100,000 and 9.4 per 100,000, respectively).

Rates of violent death also varied markedly by age, ranging from 2.3 per 100,000 among 5 to 14-year-olds to 32.0 per 100,000 among 25 to 34-year-olds.

Suicide

There were 1,604 suicide deaths among Ohio residents in 2015, representing an age-adjusted rate of 13.5 per 100,000. This figure increased about 10 percent from the 1,455 suicide deaths recorded in 2014.

In 2015, the age-adjusted suicide rate for males (22.0 per 100,000) was 4 times the rate for females (5.5 per 100,000), and the age-adjusted rate for whites (14.9 per 100,000) was more than twice the rate for blacks (7.0 per 100,000). The age-adjusted suicide rate in 2015 for Hispanics (4.9 per 100,000) was lower than for whites and blacks.

Rates of suicide varied by age, from 1.0 per 100,000 among those younger than 15 years old to 20.8 per 100,000 among 45 to 54-year-olds (Table 2.4). The rates for suicide victims 85+ years old was 41.4 per 100,000 for males versus 5.5 per 100,000 for females.

Of the 17 states that have NVDRS data available, suicide rates for whites and Hispanics were lower in Ohio than in other states. However, Ohio's rates were higher among blacks compared to the other states.

Homicide

There were 644 homicides among Ohio residents in 2015, representing an age-adjusted rate of 5.8 per 100,000. This figure increased nearly 16 percent from the 556 homicides reported in 2014.

In 2015, the age-adjusted homicide rate for males (9.0 per 100,000) was 3.5 times the rate for females (2.6 per 100,000), and the rate for blacks (25.3 per 100,000) was 10 times the rate for whites (2.5 per 100,000). This racial disparity was particularly pronounced among males, as the age-adjusted rate for black males (44.9 per 100,000) was more than 14 times the rate for white males (3.1 per 100,000). The 2015 age-adjusted homicide rate for Hispanics (4.5 per 100,000) was higher than that for whites, but lower than that for blacks.

In 2015, homicide rates varied by age, ranging from 1.0 per 100,000 among 5 to 14-year-olds to 16.6 per 100,000 among those that are younger than 1 year old (Table 3.3). Black males aged 25-34 had the highest rate of any age group (115.5 per 100,000).

Ohio had the highest homicide rate among black males of the 17 states that participate in NVDRS.

Deaths of undetermined intent

In Ohio in 2015, there were 185 violent deaths for which the manner of death could not be determined. This represents an age-adjusted rate of 1.6 per 100,000.

Compared to victims of violent deaths where the manner was determined (e.g., suicide, homicide), victims of undetermined deaths were more likely to be white and female.

For undetermined deaths, the most common method was “unknown” (40 percent) although poisoning was also common (35 percent). In comparison, for violent deaths with a determined manner, less than 1 percent used unknown methods and only 10 percent involved poisoning.

Legal intervention deaths

In Ohio in 2015, there were 36 deaths due to legal intervention (e.g., by law enforcement) 25 of which involved individuals between 15 and 44 years of age. Combining data from 2013, 2014 and 2015, analyses found that 49 percent of deaths from legal intervention were white males and another 43 percent were black males. Also, 69 percent of these deaths occurred among residents of metropolitan counties.

Firearm-related violent deaths

Firearms were used in more than half of the violent deaths in Ohio. In suicides, firearms are more common among victims who are white, male, older than 65 years of age, and live in rural Appalachian counties. In homicides, firearms are more common among victims who are black, male, 15 to 34 years old and live in metropolitan counties.

The 14 unintentional firearm deaths in 2015 included 11 white males. Also, 8 victims were younger than 25 years of age and 5 were residents of metropolitan counties.

Introduction

Injury and violence-related deaths are a significant public health concern in the United States, and are among the leading causes of death for individuals aged 1 to 39 years. In 2015, there were 2,483 violent deaths among Ohio residents.

Recognizing the need for an active, centralized, population-based surveillance system for violent deaths, Congress authorized the Centers for Disease Control and Prevention (CDC) to create the National Violent Death Reporting System (NVDRS). NVDRS data collection began in 2003 with six participating states and has since expanded to 40 states, the District of Columbia, and Puerto Rico. Ohio became a participating state in 2010. From 2012-2014, data were available from 17 participating states, including Alaska, Colorado, Georgia, Kentucky, Maryland, Massachusetts, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, Rhode Island, South Carolina, Utah, Virginia, and Wisconsin. The data from these states accounted for 31 percent of all suicides and 28 percent of all homicides in the United States in 2014. Although NVDRS data are not representative of the entire nation, comparing Ohio data to other NVDRS states can help highlight patterns that may be distinctive for our state.

A violent death is defined as a death that results from the intentional use of physical force, or power against oneself, another person, or against a group or community. Following standard NVDRS definitions, this report focuses on suicides, homicides, legal intervention and unintentional firearm deaths. It also includes deaths of undetermined intent in which the cause of death may have been the result of violence.

NVDRS data collection relies on abstraction from three primary sources: death certificates, coroner/medical examiner (CME) records and law enforcement reports. Currently, though these records may be available, they are often in different forms and locations. Death certificate data lack sufficient detail on the nature and circumstances surrounding the violent death. By linking coroner and law enforcement records with death certificates, the use of the data can be expanded, allowing researchers to explore violent incidents, risk factors and underlying circumstances surrounding the death.

The purpose of OH-VDRS is multifold; it not only provides information related to counts of violent deaths in Ohio, it also provides detailed descriptions of the characteristics and circumstances associated with these violent deaths. It can detect specific types of violent deaths, examine the circumstances associated with incidents involving multiple victims and identify risk factors associated with types of violent deaths. This data informs legislators, public health officials, law enforcement and violence prevention groups in effective ways to reduce and prevent future violent deaths in Ohio. Understanding the patterns and trends in violent deaths can help policy-makers develop policies and programs that save lives. The results presented in this report provide valuable and comprehensive data on the characteristics and circumstances associated with violent deaths in Ohio in 2015.

Methods

Case Definition

Violent deaths were defined as suicides, homicides, legal interventions, unintentional firearm deaths, terrorism-related deaths or deaths of undetermined intent. OH-VDRS cases were identified based on manner of death and/or cause of death codes, specifically the International Classification of Diseases codes, version 10 (ICD-10). The manner of death was obtained primarily from death certificates; abstractors assigned the OH-VDRS manner of death based on the manner of death provided on the death certificate and the corresponding ICD-10 cause of death codes.

ICD-10 Codes for Manners of Death Meeting the NVDRS Case Definition

Manner of death	Death < 1 year after injury	Death 1+ year after injury
Intentional Self-harm (Suicide)	X60-X84	Y87.0
Assault (Homicide)	X85-X99, Y00-Y09	Y87.1
Undetermined Intent	Y10-Y34	Y87.2, Y89.9
Unintentional Firearm	W32-W34	Y86 (guns)
Legal Intervention	Y35.0-Y35.7	Y89.0
Terrorism	U01, U03	U02

Legal executions were excluded from the case definition, as were unintentional injury deaths not caused by a firearm, such as motor vehicle collisions (classified as "vehicular homicides"). Please refer to the glossary for more information on case definition.

Data collection for OH-VDRS relies on the abstraction of three primary sources: death certificates, coroner/medical examiner (CME) records and law enforcement reports. Death certificates were provided electronically by the Bureau of Vital Statistics at the Ohio Department of Health (ODH). Electronic records and hardcopies of CME reports were obtained from county-specific offices. Reports from law enforcement agencies were provided to abstractors either electronically or via hard copy. Since 2012, death certificate, coroner and law enforcement data encompassed all 88 counties in Ohio.

Analysis

The analysis¹ for this surveillance report includes descriptive statistics, namely counts and percentages of violent death types and their characteristics. Rates for homicides, suicides, and deaths of undetermined intent are reported at the county level as well as across various demographic groupings. Demographic groupings include age, sex, race, ethnicity, and educational attainment. Rates were calculated by dividing the number of group-specific deaths by the total group-specific population. Population estimates were obtained from bridged Ohio population data from the National Center for Health Statistics. Rates were expressed per 100,000 persons. Crude rates are reported, unless otherwise specified. Some percentages may not sum to 100.0 due to rounding.

Rates, both crude and age-adjusted, are prevalence measures that are used to quantify the burden of disease in a population. Unlike percentages and counts, rates are relative to the total population of the group of interest (e.g. age, race, sex, etc.) in a given time period. Rates also allow for comparisons between different populations such as men and women, Hispanics and non-Hispanics, and urban and rural regions. Crude rates are calculated by dividing the count of events by the total population of interest and multiplying it by 100,000. Rates are typically given as estimates per 100,000 persons. Age-adjusted rates are calculated in

¹ Data for this analysis was accessed on December 21, 2017

lieu of crude rates to adjust for differences in age distributions in the population of interest. In order to do so, crude rates are first calculated for age-specific groups. Each of these age-specific crude rates was then multiplied by a population weight, obtained from a reference population. The reference population distribution used in this report was the U.S. standard million for 2000. Once each age-specific crude rate was multiplied by its corresponding weight, these products were then summed to yield an overall age-adjusted rate for the population of interest.

County Types

Because many individual counties report too few violent deaths to calculate a stable rate, we grouped counties into four types: METROPOLITAN: Allen, Butler, Cuyahoga, Franklin, Hamilton, Lorain, Lucas, Mahoning, Montgomery, Richland, Stark, Summit. SUBURBAN: Auglaize, Clark, Delaware, Fairfield, Fulton, Geauga, Greene, Lake, Licking, Madison, Medina, Miami, Pickaway, Portage, Union, Wood. APPALACHIAN: Adams, Ashtabula, Athens, Belmont, Brown, Carroll, Clermont, Columbiana, Coshocton, Gallia, Guernsey, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Lawrence, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Pike, Ross, Scioto, Trumbull, Tuscarawas, Vinton, Washington. RURAL NON-APPALACHIAN: Ashland, Champaign, Clinton, Crawford, Darke, Defiance, Erie, Fayette, Hancock, Hardin, Henry, Huron, Knox, Logan, Marion, Mercer, Morrow, Ottawa, Paulding, Preble, Putnam, Sandusky, Seneca, Shelby, Van Wert, Warren, Wayne, Williams, Wyandot. (See Appendix A for a map of county types).

Data Restrictions

The calculation of rates was limited to instances where death counts were sufficiently large. Small numbers of events can vary considerably over time and could also pose concerns with respect to confidentiality and identifiable data. Several rules of thumb apply for what constitutes as sufficiently large counts. Typically rate calculations require a count of at least 10 to 20 events and a denominator of at least 100. In the rate calculations generated for this report, denominators were sufficiently large. Counts, however, varied considerably and could decrease substantially once parsed into specific demographic or geographic groupings. Mortality rates were calculated for counts of 10 or more, but in instances with fewer events, mortality rates were suppressed. Data were captured for all occurrent deaths in Ohio, however for these analyses, violent death data were restricted to Ohio residents at the time of their death.

1. Violent Deaths

Overall 2,483 violent deaths occurred in Ohio in 2015 representing an age-adjusted rate of 21.3 per 100,000. As presented in Table 1.1, this figure includes 1,604 suicides (65 percent of the total), 644 homicides (26 percent), 185 deaths of undetermined intent (8 percent), 36 deaths due to legal intervention (1 percent) and 14 deaths from unintentional firearm injuries (1 percent). No deaths were attributable to terrorist attack.

Table 1.1: Types of violent deaths and number of victims, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Suicide	1,277	66.4	327	58.5	1,604	64.6
Homicide	499	25.9	145	25.9	644	25.9
Legal intervention	33	1.7	3	0.5	36	1.4
Unintentional firearm injury	13	0.7	1	0.2	14	0.6
Undetermined	102	5.3	83	14.9	185	7.5
Total	1,924	100.0	559	100.0	2,483	100.0

Sources: ODH and OH-VDRS

Most incidents resulted in only one violent death, although some incidents resulted in multiple violent deaths (Table 1.2). For instance, there were 3 incidents with multiple suicides, 27 incidents with multiple homicides and 27 incidents with one or more homicides followed by a suicide. The 2,483 deaths in 2015 resulted from 2,414 incidents.

Table 1.2: Number of incidents resulting in a violent death by type of incident, Ohio, 2015

Incident type	Count	Percent
Single suicide	1,570	65.0
Multiple suicide	3	0.1
Single homicide	589	24.4
Multiple homicide	27	1.1
Homicide(s) followed by suicide	27	1.1
Undetermined intent	184	7.6
Unintentional firearm injury	14	0.6
Total	2,414	100.0

“Single Homicide”, “Multiple Homicide” and “Homicide(s) followed by suicide” may include Legal Intervention Deaths

Sources: ODH, OH-VDRS and Vital Statistics

Demographic characteristics

Counts and rates of violent deaths varied by racial/ethnic group and by sex (Table 1.3). The age-adjusted rate of violent death in 2015 for males (33.6 per 100,000) was 3.5 times the rate for females (9.7 per 100,000). In addition, the age-adjusted rate of violent death in 2015 for blacks (36.3 per 100,000) was nearly twice the rate for whites (19.2 per 100,000). The racial disparity, however, was primarily among males: the age-adjusted rate of violent death in 2015 for black males (62.9 per 100,000) was more than twice the rate for white males (29.5 per 100,000) while rates were similar for white females (9.4 per 100,000) and black females (11.7 per 100,000). The age-adjusted rate of violent death in 2015 for Hispanics was lower than for other racial/ethnic groups (10.8 per 100,000).

Table 1.3: Counts and rates (per 100,000) of violent deaths by race/ethnicity and sex, Ohio, 2015

	Male			Female			Total		
	Count	Crude Rate	Age-Adjusted Rate	Count	Crude Rate	Age-Adjusted Rate	Count	Crude Rate	Age-Adjusted Rate
White, non-Hispanic	1,404	30.6	29.5	443	9.3	9.4	1,847	19.8	19.2
Black, non-Hispanic	462	63.0	62.9	91	11.4	11.7	553	36.1	36.3
Hispanic	31	14.6	13.6	16	8.0	7.7	47	11.4	10.8
Other/Unknown	27	*--	*--	9	*--	*--	36	*--	*--
Total	1,924	33.8	33.6	559	9.5	9.7	2,483	21.4	21.3

Rates based on <10 cases are omitted to avoid unstable estimates. Rates for whites and blacks exclude victims of Hispanic ethnicity. Rates for Hispanics include those of any race. Rates are omitted for "other" and "unknown" racial/ethnic groups because of no population denominator. Sources: ODH, OH-VDRS and Vital Statistics

Most violent death victims had a high school or GED equivalent (46 percent) or less (24 percent). Table 1.4 presents the number of violent deaths for each education level.

Table 1.4: Violent deaths by level of education, Ohio 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
<High school	455	23.6	129	23.1	584	23.5
High school graduate	935	48.6	200	35.8	1,135	45.7
Some college	310	16.1	141	25.2	451	18.2
4-year college graduate	135	7.0	54	9.7	189	7.6
Graduate degree	66	3.4	27	4.8	93	3.7
Other/Unknown	23	1.2	8	1.4	31	1.2
Total	1,924	100.0	559	100.0	2,483	100.0

"Some college" include victims with an Associate's Degree and those who attended, but did not graduate from a 4-year college.

Sources: ODH, OH-VDRS and Vital Statistics

Age

Rates of violent death also varied markedly by age, ranging from 2.3 per 100,000 among 5 to 14-year-olds to 32.0 per 100,000 among 25 to 34-year-olds (Table 1.5). Males are at a greater risk of violent death compared to females. Differences between males and females were especially striking among 15 to 34-year-olds and those older than age 65 (Table 1.5). Pronounced differences by race/ethnicity were also observed. Rates for black males were much higher than rates for white males; black males aged 25-34 peaked at 143 per 100,000. Among seniors, however, rates of violent death were higher for white males than for black males. Age group differences among white and black females were less striking.

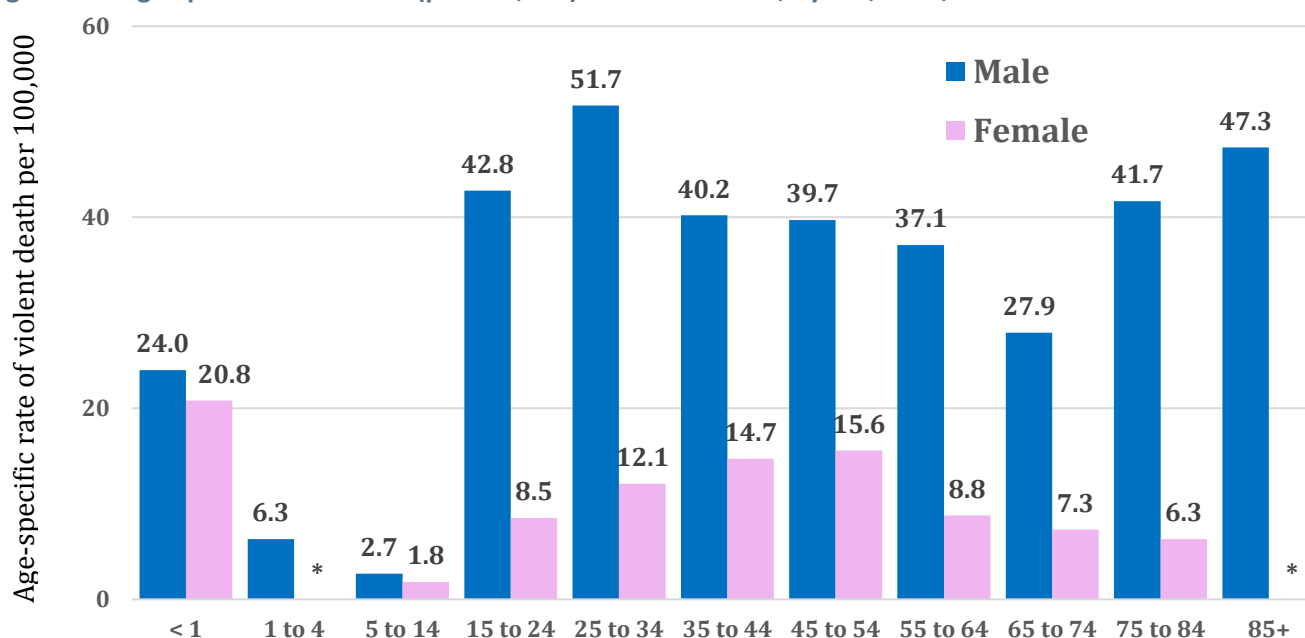
Table 1.5: Age-specific crude rates (per 100,000) of violent deaths by race and sex, Ohio, 2015

Age group	White, non-Hispanic			Black, non-Hispanic			Total (including all race/ethnic groups)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
< 1	23.2	*--	17.9	*--	*--	44.5	24.0	20.8	22.4
1 to 4	5.3	*--	3.7	*--	*--	10.8	6.3	*--	4.8
5 to 14	2.3	*--	1.8	*--	*--	*--	2.7	1.8	2.3
15 to 24	29.0	7.1	18.2	114.3	13.7	64.9	42.8	8.5	26.0
25 to 34	38.9	11.5	25.3	143.1	17.3	77.7	51.7	12.1	32.0
35 to 44	35.6	14.9	25.2	87.7	19.0	51.7	40.2	14.7	27.3
45 to 54	41.2	16.6	28.8	39.3	10.4	24.1	39.7	15.6	27.5
55 to 64	36.9	8.7	22.4	41.7	*--	24.4	37.1	8.8	22.5
65 to 74	28.9	7.8	17.7	*--	*--	11.6	27.9	7.3	16.9
75 to 84	44.6	7.2	23.1	*--	*--	*--	41.7	6.3	21.3
85+	49.5	*--	20.6	*--	*--	*--	47.3	*--	19.4

Rates based on <10 cases are omitted to avoid unstable estimates. Rates for whites and blacks exclude victims of Hispanic ethnicity.

Sources: ODH, OH-VDRS and Vital Statistics

Figure 1.1: Age-specific crude rates (per 100,000) of violent death, by sex, Ohio, 2015



*Rates based on <10 cases are omitted to avoid unstable estimates.

Sources: ODH, OH-VDRS and Vital Statistics

Locality

Locality refers to the victim's county of residence, not necessarily where the fatal injury occurred. Rates of violent death in 2015 were higher for residents of metropolitan and rural Appalachian counties compared to suburban and rural non-Appalachian counties (Table 1.6).

Table 1.6: Counts and rates (per 100,000) of violent deaths by county type, Ohio, 2015

County type	Count	Percent	Crude Rate	Age-Adjusted Rate
Metropolitan	1,534	61.8	24.2	24.0
Suburban	332	13.4	17.0	17.1
Rural Appalachian	355	14.3	20.0	19.7
Rural non-Appalachian	262	10.6	17.0	17.1
Total	2,483	100.0	21.4	21.3

County type refers to the victim's county of residence. See p. 5 for a list and Appendix A for a map of counties of each type. Omits one victim with unknown residence.

Sources: ODH, OH-VDRS and Vital Statistics

In 2015, there were at least 10 violent deaths among residents of 51 Ohio counties – a number large enough to calculate a rate. Table 1.7 presents the counts and rates for these counties. The accompanying figure combines data from 2013, 2014 and 2015 to present similar information in a map.

Among the counties with adequate data, the highest age-adjusted rates of violent death in 2015 occurred in Pike (37.6 per 100,000), Clark (33.5), and Champaign (33.0) counties. The lowest rates occurred in Delaware (8.8 per 100,000), Clermont (10.7), and Fairfield (11.1) counties. Among Ohio's six largest metropolitan counties, Montgomery (26.5 per 100,000) had the highest age-adjusted rate of violent death, while Butler County (17.4) had the lowest.

Metropolitan counties and those in the Southeast and Northeast part of the state tend to have higher rates of violent death (Table 1.6 and Figure 1.2).

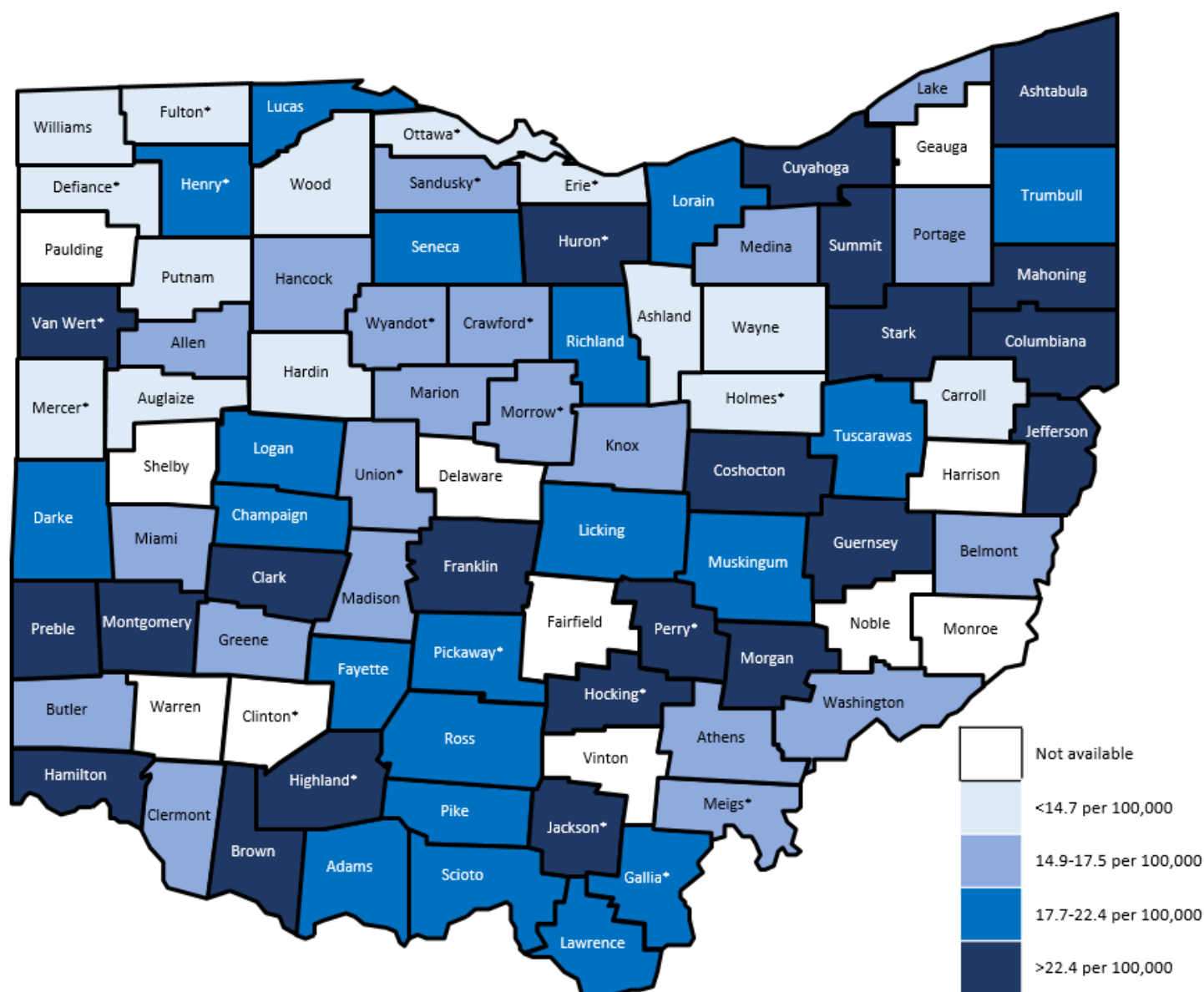
Table 1.7: Counts and rates (per 100,000) of violent deaths by county, Ohio, 2015

County	Count	Crude Rate	Age-Adjusted Rate	County	Count	Crude Rate	Age-Adjusted Rate
Adams	4	*--	*--	Licking	36	21.1	21.1
Allen	23	22.1	24.1	Logan	15	33.1	32.1
Ashland	4	*--	*--	Lorain	59	19.3	18.2
Ashtabula	22	22.3	23.5	Lucas	84	19.4	20.1
Athens	10	15.2	17.7	Madison	11	24.9	24.3
Auglaize	4	*--	*--	Mahoning	61	26.3	26.8
Belmont	12	17.4	16.3	Marion	17	26.1	25.0
Brown	10	22.8	25.6	Medina	39	22.1	21.6
Butler	64	17.0	17.4	Meigs	5	*--	*--
Carroll	3	*--	*--	Mercer	6	*--	*--
Champaign	12	30.8	33.0	Miami	18	17.3	19.8
Clark	44	32.4	33.5	Monroe	4	*--	*--
Clermont	23	11.4	10.7	Montgomery	134	25.2	26.5
Clinton	7	*--	*--	Morgan	2	*--	*--
Columbiana	20	19.1	17.6	Morrow	6	*--	*--
Coshocton	4	*--	*--	Muskingum	19	22.0	22.1
Crawford	8	*--	*--	Noble	2	*--	*--
Cuyahoga	324	25.8	25.7	Ottawa	5	*--	*--
Darke	14	26.9	25.1	Paulding	1	*--	*--
Defiance	5	*--	*--	Perry	8	*--	*--
Delaware	17	8.8	8.8	Pickaway	7	*--	*--
Erie	7	*--	*--	Pike	11	39.0	37.6
Fairfield	17	11.2	11.1	Portage	28	17.3	18.1
Fayette	4	*--	*--	Preble	10	24.2	27.0
Franklin	307	24.6	24.0	Putnam	4	*--	*--
Fulton	6	*--	*--	Richland	38	31.3	30.5
Gallia	8	*--	*--	Ross	21	27.2	27.3
Geauga	12	12.8	13.1	Sandusky	9	*--	*--
Greene	32	19.5	19.6	Scioto	11	14.3	14.2
Guernsey	12	30.6	30.4	Seneca	11	19.8	19.1
Hamilton	194	24.0	24.0	Shelby	12	24.5	24.7
Hancock	13	17.2	16.1	Stark	89	23.7	23.2
Hardin	2	*--	*--	Summit	157	29.0	27.8
Harrison	1	*--	*--	Trumbull	50	24.6	26.5
Henry	7	*--	*--	Tuscarawas	24	25.9	23.9
Highland	8	*--	*--	Union	8	*--	*--
Hocking	7	*--	*--	Van Wert	8	*--	*--
Holmes	5	*--	*--	Vinton	2	*--	*--
Huron	8	*--	*--	Warren	32	14.3	14.7
Jackson	9	*--	*--	Washington	10	16.4	17.2
Jefferson	15	22.3	21.9	Wayne	17	14.6	14.6
Knox	12	19.7	18.6	Williams	1	*--	*--
Lake	36	15.7	15.4	Wood	18	13.9	14.0
Lawrence	13	21.3	17.3	Wyandot	5	*--	*--

*Rates are not calculated for counties with <10 cases to avoid unstable estimates.

Sources: ODH, OH-VDRS and Vital Statistics

Figure 1.2: Age-adjusted rates (per 100,000) of violent deaths by county quartile, Ohio, 2013-2015



Rates are not calculated for counties with <5 cases to avoid unstable estimates.

*Rates based on <10 cases should be interpreted with caution.

Sources: ODH, OH-VDRS and Vital Statistics

Method of death

As presented in Table 1.8, firearms (55 percent) were the most common mechanism used in violent deaths, followed by hanging/strangulation (18 percent) and poisoning (12 percent).

Table 1.8: Count of violent deaths by method, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Firearm	1,178	61.2	193	34.5	1,371	55.2
Hanging/Strangulation	359	18.7	92	16.5	451	18.2
Poisoning	145	7.5	148	26.5	293	11.8
Sharp instrument	61	3.2	28	5.0	89	3.6
Other/Unknown	181	9.4	98	17.5	279	11.2
Total	1,924	100.0	559	100.0	2,483	100.0

Sources: ODH and OH-VDRS

These proportions varied greatly by sex. Violent deaths among males were much more likely than among females to involve a firearm (61 percent vs. 35 percent). Poisoning was more common among females (27 percent) compared to males (8 percent). Such differences, however, may be largely attributed to the fact that different mechanisms were used in different manners of violent death. Poisoning, for instance, was common in suicide, but rare in homicide. Please refer to subsequent sections for more information.

Trends in violent deaths, 2013-2015

Comparing OH-VDRS data from 2013, 2014 and 2015 helps illustrate how patterns of violent death may change over time. During this period, the number of violent deaths increased overall and for most of the demographic groups (Table 1.9).

Table 1.9: Number of violent deaths by demographic groups and by year, Ohio, 2013-2015

	2013	2014	2015	Percent change, 2013-2014	Percent change, 2014-2015
Total	2,333	2,224	2,483	-4.7	11.6
Sex					
Male	1,787	1,732	1,924	-3.1	11.1
Female	546	492	559	-9.9	13.6
Race/Ethnicity					
White, non-Hispanic	1,736	1,644	1,847	-5.3	12.3
Black, non-Hispanic	527	482	553	-8.5	14.7
Hispanic	31	54	47	74.2	-13.0
Other/Unknown	39	44	36	12.8	-18.2
Age					
<15	77	83	91	7.8	9.6
15-24	376	340	403	-9.6	18.5
25-34	427	402	476	-5.9	18.4
35-44	380	369	381	-2.9	3.3
45-54	439	408	432	-7.1	5.9
55-64	320	306	358	-4.4	17.0
65+	314	316	342	0.6	8.2

Sources: ODH and OH-VDRS

2. Suicide

There were 1,604 suicide deaths in Ohio in 2015, representing an age-adjusted rate of 13.5 per 100,000.

Demographic characteristics

Rates of suicide varied by racial/ethnic group and by sex (Table 2.1). In 2015, the age-adjusted suicide rate for males (22.0 per 100,000) was 4 times the rate for females (5.5 per 100,000), and the age-adjusted rate for whites (14.9 per 100,000) was more than twice the rate for blacks (7.0 per 100,000). The age-adjusted suicide rate in 2015 for Hispanics (4.9 per 100,000) was lower than for both whites and blacks.

Table 2.1: Counts and rates (per 100,000) of suicide deaths by race/ethnicity and sex, Ohio, 2015

	Male			Female			Total		
	Count	Crude Rate	Age-Adjusted Rate	Count	Crude Rate	Age-Adjusted Rate	Count	Crude Rate	Age-Adjusted Rate
White, non-Hispanic	1,160	25.3	24.2	295	6.2	6.1	1,455	15.6	14.9
Black, non-Hispanic	85	11.4	12.4	18	2.3	2.3	103	6.7	7.0
Hispanic	13	6.1	5.7	8	*--	*--	21	5.1	4.9
Other	19	*--	*--	6	*--	*--	25	*--	*--
Total	1,277	22.4	22.0	327	5.5	5.5	1,604	13.8	13.5

Rates are not calculated for <10 cases to avoid unstable estimates. Rates for whites and blacks exclude victims of Hispanic ethnicity. Rates for Hispanics include those for any race. Rates are omitted for "other" racial/ethnic groups because of no population denominator.

Sources: ODH and OH-VDRS

Most suicide victims were not graduates of four-year colleges. About 17 percent of suicide decedents had less than a high school education, 47 percent were high school graduates and 20 percent had some college education (Table 2.2).

Table 2.2: Suicide deaths by level of education, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
<High school	210	16.4	56	17.1	266	16.6
High school graduate	640	50.1	114	34.9	754	47.0
Some college	232	18.2	90	27.5	322	20.1
4-year college graduate	121	9.5	41	12.5	162	10.1
Graduate degree	64	5.0	23	7.0	87	5.4
Other/Unknown	10	0.8	3	0.9	13	0.8
Total	1,277	100.0	327	100.0	1,604	100.0

"Some college" include victims with an Associate's Degree and those who attended, but did not graduate from a 4-year college.

Sources: ODH, OH-VDRS and Vital Statistics

Overall, 267 (17 percent) suicide victims were known to be active duty military or veterans. This total includes 263 male victims and 67 victims younger than 45 years old.

Table 2.3: Suicide deaths by other demographic variables, Ohio, 2015

	Male			Female			Total		
	Count	Percent	Age-Adjusted Rate	Count	Percent	Age-Adjusted Rate	Count	Percent	Age-Adjusted Rate
Total	1,277	100.0	22.0	327	100.0	5.5	1,604	100.0	13.5
Homeless	17	1.3	0.3	1	0.3	*--	18	1.1	0.2
Current/Former Military Status	263	20.6	4.5	4	1.2	*--	267	16.6	2.1
Marital Status									
Married/Civil Union/Domestic	396	31.0	6.5	101	30.9	1.6	497	31.0	3.9
Never married	501	39.2	9.0	100	30.6	1.9	601	37.5	5.4
Widowed	75	5.9	1.3	26	8.0	0.3	101	6.3	0.7
Divorced	260	20.4	4.4	82	25.1	1.4	342	21.3	2.8
Married, but separated	41	3.2	0.8	16	4.9	0.3	57	3.6	0.5
Other/Unknown	4	0.3	*--	2	0.6	*--	6	0.3	*--

Rates are not calculated for <10 cases to avoid unstable estimates.

Sources: ODH and OH-VDRS

Age

In 2015, rates of suicide varied by age, from 1.0 per 100,000 among those under 15 years of age to 20.8 per 100,000 among 45 to 54-year-olds (Table 2.4). Male/Female differences were most pronounced among older adults. The rates for suicide victims 85+ years old was 41.4 per 100,000 for males versus 3.6 per 100,000 for females.

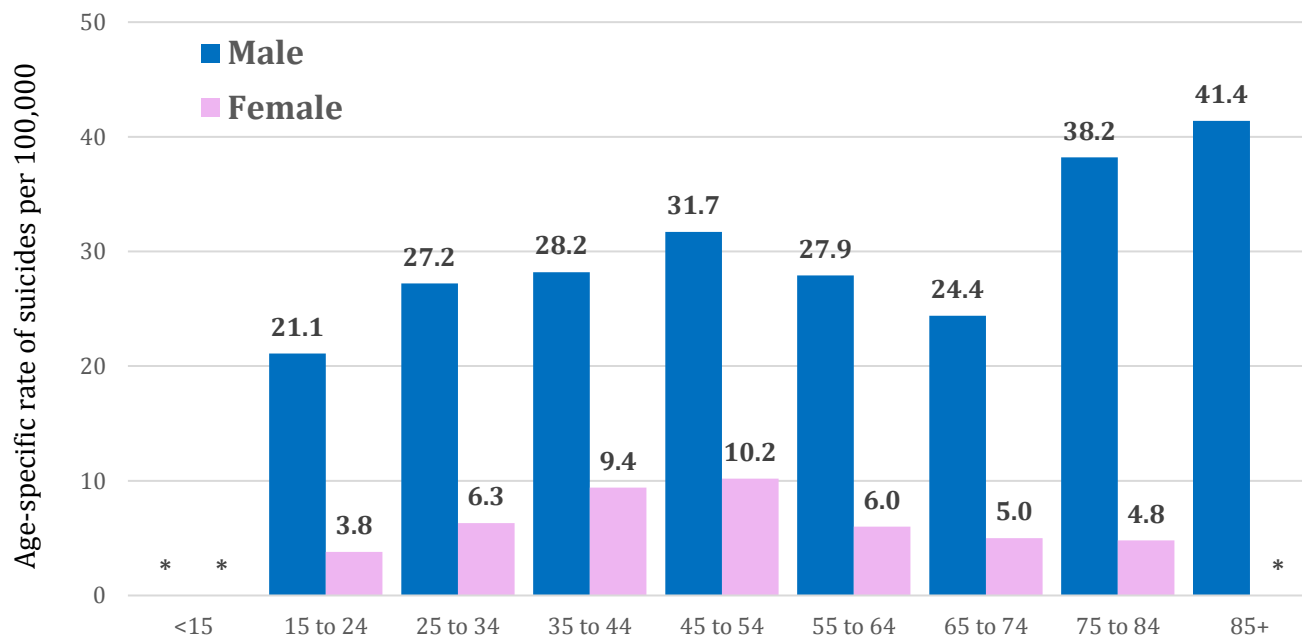
Table 2.4: Age-specific crude rates (per 100,000) of suicide deaths by race and sex, Ohio, 2015

Age group	White, non-Hispanic			Black, non-Hispanic			Total (including all race/ethnic groups)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
<15	*--	*--	1.0	*--	*--	*--	*--	*--	1.0
15 to 24	22.4	3.8	13.3	17.9	*--	10.7	21.1	3.8	12.6
25 to 34	30.2	7.2	18.8	18.8	*--	10.4	27.2	6.3	16.8
35 to 44	31.4	11.0	21.2	23.4	*--	13.3	28.2	9.4	18.7
45 to 54	35.8	11.2	23.4	*--	*--	6.6	31.7	10.2	20.8
55 to 64	30.7	6.4	18.3	*--	*--	*--	27.9	6.0	16.6
65 to 74	25.9	5.5	15.3	*--	*--	*--	24.4	5.0	14.1
75 to 84	41.7	5.4	20.8	*--	*--	*--	38.2	4.8	18.9
85+	43.0	*--	17.1	*--	*--	*--	41.4	*--	16.2
Total	25.2	6.2	15.6	11.4	2.3	6.7	22.4	5.5	13.8

Rates are not calculated for <10 cases to avoid unstable estimates. Rates for whites and blacks exclude victims of Hispanic ethnicity.

Sources: ODH, OH-VDRS and Vital Statistics

Figure 2.1: Age-specific crude rates (per 100,000) of suicides, by sex, Ohio, 2015



*Rates based on <10 cases are omitted to avoid unstable estimates.

Sources: ODH, OH-VDRS and Vital Statistics

Locality

Locality refers to the victim's county of residence, not necessarily where the suicide occurred. Rates of suicide in 2015 were higher for residents of rural Appalachian counties compared to other counties (Table 2.5). In addition, 40 counties had at least 10 residents who were victims of suicide in 2015 – a number large enough to calculate a rate. Table 2.6 presents the counts and rates for these counties.

Table 2.5: Counts and rates (per 100,000) of suicide by county type, Ohio, 2015

County type	Count	Percent	Crude Rate	Age-Adjusted Rate
Metropolitan	867	54.1	13.7	13.3
Suburban	268	16.7	13.7	13.6
Rural Appalachian	263	16.4	14.8	14.3
Rural non-Appalachian	206	12.8	13.3	13.3
Total	1,604	100.0	13.8	13.5

County type refers to the victim's county of residence. See p. 5 for a list and Appendix A for a map of counties of each type.

Sources: ODH, OH-VDRS and Vital Statistics

Table 2.6: Counts and rates (per 100,000) of suicide deaths by county, Ohio, 2015

County	Count	Crude Rate	Age-Adjusted Rate
Adams	4	*--	*--
Allen	18	17.3	18.7
Ashland	3	*--	*--
Ashtabula	18	18.3	19.5
Athens	9	*--	*--
Auglaize	4	*--	*--
Belmont	9	*--	*--
Brown	5	*--	*--
Butler	42	11.2	11.2
Carroll	3	*--	*--
Champaign	10	25.6	27.1
Clark	22	16.2	15.3
Clermont	17	8.4	7.9
Clinton	5	*--	*--
Columbiana	19	18.2	16.5
Coshocton	2	*--	*--
Crawford	7	*--	*--
Cuyahoga	148	11.8	11.4
Darke	13	25.0	23.2
Defiance	4	*--	*--
Delaware	14	7.3	7.4
Erie	5	*--	*--
Fairfield	13	8.6	8.6
Fayette	4	*--	*--
Franklin	157	12.6	12.3
Fulton	5	*--	*--
Gallia	7	*--	*--
Geauga	12	12.8	13.1
Greene	30	18.3	18.0
Guernsey	11	28.0	27.4
Hamilton	90	11.1	11.0
Hancock	9	*--	*--
Hardin	2	*--	*--
Harrison	1	*--	*--
Henry	5	*--	*--
Highland	5	*--	*--
Hocking	4	*--	*--
Holmes	3	*--	*--
Huron	7	*--	*--
Jackson	6	*--	*--
Jefferson	9	*--	*--
Knox	8	*--	*--
Lake	32	14.0	14.1
Lawrence	10	16.4	13.4

County	Count	Crude Rate	Age-Adjusted Rate
Licking	32	18.7	19.0
Logan	11	24.3	22.0
Lorain	46	15.1	14.3
Lucas	52	12.0	12.6
Madison	10	22.7	22.0
Mahoning	36	15.5	15.2
Marion	14	21.5	20.7
Medina	27	15.3	14.4
Meigs	5	*--	*--
Mercer	5	*--	*--
Miami	18	17.3	19.8
Monroe	1	*--	*--
Montgomery	80	15.0	15.7
Morgan	2	*--	*--
Morrow	6	*--	*--
Muskingum	16	18.5	18.1
Noble	1	*--	*--
Ottawa	4	*--	*--
Paulding	1	*--	*--
Perry	5	*--	*--
Pickaway	5	*--	*--
Pike	9	*--	*--
Portage	21	13.0	12.2
Preble	4	*--	*--
Putnam	4	*--	*--
Richland	27	22.2	21.8
Ross	13	16.8	16.2
Sandusky	8	*--	*--
Scioto	9	*--	*--
Seneca	11	19.8	19.1
Shelby	9	*--	*--
Stark	66	17.6	16.1
Summit	105	19.4	17.9
Trumbull	38	18.7	19.9
Tuscarawas	15	16.2	15.1
Union	6	*--	*--
Van Wert	8	*--	*--
Vinton	0	*--	*--
Warren	22	9.8	10.1
Washington	7	*--	*--
Wayne	12	10.3	9.9
Williams	1	*--	*--
Wood	17	13.1	13.1
Wyandot	4	*--	*--

*Rates are not calculated for counties with <10 cases to avoid unstable estimates.

Sources: ODH, OH-VDRS and Vital Statistics

Combining data from multiple years provides additional data that permits calculating rates for more counties. Figure 2.1 presents age-adjusted annual rates of suicide for the period 2013 to 2015. Many rural Appalachian counties had higher age-adjusted rates during this period.

Legend:

- Not available
- <11.4 per 100,000
- 11.4-13.3 per 100,000
- 13.4-15.2 per 100,000
- >15.2 per 100,000

Counties labeled on the map include: Williams, Fulton*, Lucas, Ottawa, Sandusky*, Erie*, Lorain, Cuyahoga, Lake, Ashtabula, Defiance, Henry*, Wood, Putnam, Hancock*, Seneca, Huron*, Medina, Summit, Portage, Trumbull, Paulding, Van Wert*, Allen, Mercer*, Auglaize, Hardin, Wyandot, Crawford*, Richland, Ashland, Wayne, Stark, Mahoning, Columbus, Mercer*, Shelby*, Logan, Union*, Delaware, Knox*, Holmes, Tuscarawas, Carroll, Jefferson*, Darke, Miami, Champaign, Madison, Franklin, Licking, Coshocton, Muskingum, Guernsey, Belmont*, Preble, Montgomery, Clark, Greene, Fayette, Pickaway*, Fairfield, Perry*, Noble, Monroe, Butler, Warren, Clinton*, Ross, Hocking, Vinton, Athens*, Washington*, Morgan, Hamilton, Clermont, Brown*, Adams, Pike*, Scioto*, Jackson*, Gallia*, Lawrence, Meigs*, Highland*, Adams, and Lawrence.

*Rates based on <10 cases should be interpreted with caution.

18 Violence and Injury Prevention Program

Method of death

In 2015, firearms were the most common mechanism used in suicide (53 percent of all suicide deaths), followed by hanging/strangulation (27 percent) and poisoning (14 percent). These proportions varied greatly by sex (Table 2.7). Suicide deaths among males were more likely to involve a firearm (58 percent) compared to females (33 percent); whereas poisoning was a more common method among females (34 percent) compared to males (9 percent).

Table 2.7: Suicides by method of death, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
Firearm	738	57.8	107	32.7	845	52.7
Hanging/Strangulation	350	27.4	81	24.8	431	26.9
Poisoning	115	9.0	111	33.9	226	14.1
Sharp instrument	24	1.9	7	2.1	31	1.9
Other/Unknown	50	3.9	21	6.4	71	4.4
Total	1,277	100.0	327	100.0	1,604	100.0

Sources: ODH and OH-VDRS

Circumstances

For most suicides, OH-VDRS provides information on the circumstances, such as the type of location where the suicide occurred, toxicology results, mental health issues, life stressors and relationship circumstances.

Type of location

As presented in Table 2.8, most suicide deaths in Ohio in 2015 occurred in a house or apartment (77 percent). Other locations included a motor vehicle (7 percent) and public areas like a park or playground (2 percent). There were 26 suicide deaths that occurred in Ohio prisons during 2015, compared to 19 in 2014.

Table 2.8: Locations where suicide deaths occurred by sex, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
House/Apartment	966	75.6	274	83.8	1,240	77.4
Motor Vehicle	94	7.4	20	6.1	114	7.1
Natural Area	45	3.5	5	1.5	50	3.1
Public Area (e.g., Park, Playground)	34	2.7	1	0.3	35	2.2
Prison/Jail	26	2.0	0	0.0	26	1.6
Street/Road/Sidewalk/Alley	17	1.3	3	0.9	20	1.2
Hotel/Motel	14	1.1	5	1.5	19	1.2
Parking Lot/Parking Structure	11	0.9	1	0.3	12	0.8
Bar/Nightclub	1	0.1	1	0.3	2	0.1
Other	69	5.4	15	4.6	84	5.2
Unknown	0	0.0	2	0.6	2	0.1

Sources: ODH and OH-VDRS

Toxicology results

Table 2.9 presents the number and percent of suicide decedents testing positive for various substances.

Table. 2.9: Percent of suicide victims testing positive for various substances, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Alcohol	277	28.7	72	24.8	349	27.8
Benzodiazepines	136	14.1	102	35.2	238	18.9
Opiates	143	14.8	82	28.3	225	17.9
Antidepressants	112	11.6	83	28.6	195	15.5
Marijuana	143	14.8	33	11.4	176	14.0
Cocaine	62	6.4	15	5.2	77	6.1
Anticonvulsants	44	4.6	29	10.0	73	5.8
Amphetamines	38	3.9	16	5.5	54	4.3
Antipsychotics	16	1.7	16	5.5	32	2.6
Muscle Relaxants	14	1.4	18	6.2	32	2.5
Barbiturates	11	1.1	7	2.4	18	1.4
One or more of the above substances	599	62.2	215	74.1	814	65.0
Negative for all substances	365	37.9	75	25.9	440	35.1

Percent is based on a denominator of suicide deaths (n=1,254) with available toxicology results. There were 964 male suicide victims and 290 female suicide victims with available toxicology results.

Alcohol (28 percent) was the most common substance found in toxicology results. Blood alcohol concentration for victims testing positive appear in Table 2.10. Other common substances were benzodiazepines (19 percent), opiates (18 percent), antidepressants (16 percent) and marijuana (14 percent). About two thirds (65 percent) of suicide victims screened positive for at least one substance.

Female suicide victims were more likely than male victims to screen positive for substance use (74 percent vs. 62 percent). Differences by sex were most pronounced for benzodiazepines, opiates, and antidepressants.

Table. 2.10: Blood alcohol concentration results for suicide victims testing positive for alcohol, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Less than 0.040	40	14.4	12	16.7	52	14.9
0.040-0.079	43	15.5	10	13.9	53	15.2
0.080-0.119	37	13.4	6	8.3	43	12.3
0.120-0.159	38	13.7	14	19.4	52	14.9
0.160-0.199	34	12.3	9	12.5	43	12.3
0.200 and above	85	30.7	21	29.2	106	30.4

A total of 349 suicide victims tested positive for alcohol. There were 277 male suicide victims and 72 female suicide victims who tested positive for alcohol.

Sources: ODH and OH-VDRS

Mental health

Mental health concerns were common among many suicide decedents. Among the 96 percent of suicide victims with available data on circumstances, more than half (56 percent) had a current mental health problem, 40 percent had been treated previously for mental illness, and in 27 percent of cases the victim was perceived by self or others to be depressed at the time of the injury (Table 2.11).

Table 2.11: Mental health circumstances of suicide victims, by sex, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
Current diagnosed mental health problem	604	49.5	252	78.5	856	55.5
History of mental health treatment	397	32.5	211	65.7	608	39.5
Currently received mental health treatment	311	25.5	185	57.6	496	32.2
Current depressed mood	334	27.4	84	26.2	418	27.1
Other substance abuse	209	17.1	61	19.0	270	17.5
Alcohol problem	190	15.6	28	8.7	218	14.1

The denominator used for calculating percentage of specific circumstances is based on the number of suicides with at least one circumstance identified in either the coroner/medical examiner (CME) or law enforcement report. Suicide victims may report more than one circumstance. More than 96 percent of suicide victims had circumstances available (n=1,541). There were 1,220 male suicide victims and 321 female suicide victims with available circumstances.

Sources: ODH and OH-VDRS

Other circumstances

Many suicide deaths were also associated with different personal issues (Table 2.12), including physical health (16 percent), job (9 percent) and financial (7 percent) problems. School problems were less common.

Table 2.12: Life stressors of suicide victims, by sex, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
Physical health problem	195	16.0	57	17.8	252	16.4
Job problem	122	10.0	16	5.0	138	9.0
Recent criminal legal problem	124	10.2	9	2.8	133	8.6
Financial problem	79	6.5	21	6.5	100	6.5
Non-criminal legal problem	59	4.8	13	4.0	72	4.7
School problem	12	1.0	5	1.6	17	1.1

The denominator used for calculating percentage of specific circumstances is based on the number of suicides with at least one circumstance identified in either the coroner/medical examiner (CME) or law enforcement report. Suicide victims may report more than one circumstance. More than 96 percent of suicide victims had circumstances available (n=1,541). There were 1,220 male suicide victims and 321 female suicide victims with available circumstances.

Sources: ODH and OH-VDRS

Relationship circumstances also were associated with many suicide deaths (Table 2.13). Nearly 17 percent of suicide deaths were preceded by an argument or conflict and 29 percent were related to a problem with an intimate partner.

Table 2.13: Relationship circumstances of suicide victims, by sex, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
Intimate partner problem	364	29.8	81	25.2	445	28.9
Argument or conflict led to death	209	17.1	59	18.4	268	17.4
Other death of family member	84	6.9	31	9.7	115	7.5
Family relationship problem	65	5.3	40	12.5	105	6.8
Suicide death of family member	27	2.2	10	3.1	37	2.4
Other relationship problem	12	1.0	8	2.5	20	1.3

The denominator used for calculating percentage of specific circumstances is based on the number of suicides with at least one circumstance identified in either the coroner/medical examiner (CME) or law enforcement report. Suicide victims may report more than one circumstance. More than 96 percent of suicide victims had circumstances available (n=1,541). There were 1,220 male suicide victims and 321 female suicide victims with available circumstances. "Other relationship problem" refers to relationship problem other than those with a family member or intimate partner.

Sources: ODH and OH-VDRS

Approximately 19 percent of suicide victims were known to have made a previous suicide attempt, 24 percent had recently disclosed their suicidal intent, 38 percent left a suicide note, and 45 percent had a history of suicidal thoughts or plans (Table 2.14).

Table 2.14: Other suicide circumstances, differences by sex, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
History of suicidal thoughts/plans	535	43.9	157	48.0	692	45.0
Left suicide note	449	36.8	141	43.1	590	38.3
Recently disclosed suicidal intent	298	24.4	76	23.2	374	24.3
History of previous suicide attempt	182	14.9	116	35.5	298	19.3

The denominator used for calculating percentage of specific circumstances is based on the number of suicides with at least one circumstance identified in either the coroner/medical examiner (CME) or law enforcement report. Suicide victims may report more than one circumstance. More than 96 percent of suicide victims had circumstances available (n=1,541). There were 1,220 male suicide victims and 321 female suicide victims with available circumstances.

Sources: ODH and OH-VDRS

While most suicide victims from 2015 had no evidence of recently being released from an institution (93 percent), approximately 3 percent had evidence of having been recently released from a hospital and 2 percent had been recently released from a psychiatric hospital.

Table 2.15: Recent release from institution of suicide victims, by sex, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
No evidence of recent release	1,198	93.8	297	90.8	1,495	93.2
Jail, prison, or a detention facility	14	1.1	1	0.3	15	0.9
Hospital	30	2.3	14	4.3	44	2.7
Inpatient Psychiatric Facility	32	2.5	13	4.0	45	2.8
Other/Unknown Type of Institution	3	0.2	2	0.6	5	0.3
Total	1,277	100.0	327	100.0	1,604	100.0

Recent release is defined as a victim that was released from or admitted to an institutional setting within a month of the victim's death. In addition, a victim must be noted as staying one or more nights in the institution prior to release. Victims who were arrested and not held overnight, or arrive at the emergency department without being admitted for an overnight stay do not fall under this definition.

Sources: ODH and OH-VDRS

Comparisons with other states

Although NVDRS data are not representative of the entire nation, comparing Ohio data to other NVDRS states can help highlight patterns that may be distinctive for our state. Combining data from 2012 through 2014 (the most recent years available), Table 2.16 presents age-adjusted rates for suicides by race/ethnicity and sex in 17 states (there were too few cases among other groups for comparison).

Table 2.16: Age-adjusted rates (per 100,000) of suicide, by race/ethnicity and sex, 17 states, 2012-2014

	Male			Female			Total
	White	Black	Hispanic	White	Black	Hispanic	
Alaska	30.8	24.7	--*	8.0	--*	--*	21.9
Utah	35.0	14.8	12.5	10.5	--*	3.4	20.8
New Mexico	37.5	16.2	22.4	12.5	--*	6.2	19.8
Colorado	33.0	12.12	16.2	10.0	4.5	4.9	18.7
Oklahoma	30.7	11.7	11.6	8.6	3.5	3.3	17.4
Oregon	30.0	9.6	11.6	8.7	--*	2.6	17.2
Kentucky	24.6	10.2	6.8	5.9	2.3	--*	14.3
S. Carolina	26.5	8.3	9.6	8.1	1.2	--*	13.5
Wisconsin	22.4	8.3	7.4	5.7	1.8	3.3	12.8
Ohio	21.5	10.4	9.0	6.0	2.3	1.8	12.5
N. Carolina	24.0	7.6	4.4	8.2	1.9	1.2	12.2
Virginia	24.7	9.5	6.4	7.3	1.9	0.9	12.2
Georgia	24.7	7.8	4.6	7.4	1.5	--*	11.7
Rhode Island	--*	--*	5.7	5.4	--*	--*	10
Maryland	18.4	7.3	3.7	4.6	1.5	--*	8.8
Massachusetts	14.2	6.2	7.5	4.5	1.5	1.7	8.1
New Jersey	16.0	6.5	6.8	4.4	2.3	1.9	7.7
Total	23.7	--*	--*	6.9	1.9	2.6	12.6

When the number of deaths was < 10, rates are not calculated to avoid unstable estimates. Figures for whites and blacks exclude Hispanics; Hispanics may be of any race. Figures for Ohio may differ very slightly from those reported elsewhere in this report because of the different years involved, the lag time in recording cases and different population estimates.

Sources: ODH, NVDRS and Vital Statistics

Across the NVDRS states, males had higher rates of suicide compared to females, and whites (both males and females) had higher rates compared to blacks and Hispanics. This same pattern of findings was observed for Ohio.

Suicide rates for whites and Hispanics were somewhat lower in Ohio than in other states. Among blacks, however, Ohio's rates were somewhat higher than those in other states.

Trends in suicide, 2013-2015

Comparing OH-VDRS data from 2013, 2014 and 2015 helps illustrate how patterns of suicide may change over time. During this period, the overall number of suicides increased and were more pronounced for males compared to females (Table 2.17).

Table 2.17: Number of suicides by demographic groups and by year, Ohio, 2013-2015

	2013	2014	2015	Percent change, 2013-2014	Percent change, 2014-2015
Total	1,504	1,455	1,604	-3.3	10.2
Sex					
Male	1,168	1,134	1,277	-2.9	12.6
Female	336	321	327	-4.5	1.9
Race/Ethnicity					
White, non-Hispanic	1,358	1,303	1,455	-4.1	11.7
Black, non-Hispanic	106	98	103	-7.5	5.1
Hispanic	18	21	21	16.7	0.0
Other/Unknown	22	33	25	50.0	-24.2
Age					
<15	15	25	14	66.7	-44.0
15-24	158	170	197	7.6	15.9
25-34	242	211	250	-12.8	18.5
35-44	254	249	261	-2.0	4.8
45-54	315	292	327	-7.3	12.0
55-64	255	239	264	-6.3	10.5
65+	265	269	291	1.5	8.2
Homeless	3	8	18	166.7	125.0
Current/Former Military Status	258	258	267	0.0	3.5
Marital Status					
Married/Civil Union/Domestic	495	464	497	-6.3	7.1
Never married	517	505	601	-2.3	19.0
Widowed	115	86	101	-25.2	17.4
Divorced	319	329	342	3.1	4.0
Married, but separated	54	65	57	20.4	-12.3
Other/Unknown	4	6	6	50.0	0.0

Sources: ODH and OH-VDRS

3. Homicide

There were 644 homicides in Ohio in 2015, representing an age-adjusted rate of 5.8 per 100,000. This figure increased nearly 16 percent from the 556 homicides reported in 2014.

Demographic characteristics

Rates of homicide varied markedly by racial/ethnic group and by sex (Table 3.1). In 2015, the age-adjusted homicide rate for males (9.0 per 100,000) was 3.5 times the rate for females (2.6 per 100,000). And the age-adjusted rate for blacks (25.3 per 100,000) was 10.1 times the rate for whites (2.5 per 100,000). This racial disparity was particularly pronounced among males, as the age-adjusted rate for black males (44.9 per 100,000) was nearly 14.5 times the rate for white males (3.1 per 100,000). The 2015 age-adjusted homicide rate for Hispanics (4.5 per 100,000) was higher than that for whites, but lower than that for blacks.

Table 3.1: Counts and rates (per 100,000) of homicide deaths by race/ethnicity and sex, Ohio, 2015

	Male			Female			Total		
	Count	Crude Rate	Age-Adjusted Rate	Count	Crude Rate	Age-Adjusted Rate	Count	Crude Rate	Age-Adjusted Rate
White, non-Hispanic	142	3.1	3.1	84	1.8	1.8	226	2.4	2.5
Black, non-Hispanic	338	46.0	44.9	54	6.8	6.9	392	25.6	25.3
Hispanic	15	7.1	6.6	5	*--	*--	20	4.8	4.5
Other/Unknown	4	*--	*--	2	*--	*--	6	*--	*--
Total	499	8.8	9.0	145	2.4	2.6	644	5.5	5.8

Rates are not calculated for <10 cases to avoid unstable estimates. Rates for whites and blacks exclude victims of Hispanic ethnicity. Rates for Hispanics include those of any race. Rates are omitted for "other" and "unknown" racial/ethnic groups because of no population denominator.

Sources: ODH, OH-VDRS and Vital Statistics

For the plurality of homicide victims, their highest level of education was high school graduate (44 percent). However, more than one third (39 percent) had less than a high school education and slightly more than 3 percent of homicide victims had graduated college (Table 3.2).

Table 3.2: Number of homicide deaths by education level, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
<High school	201	40.3	47	32.4	248	38.5
High school graduate	226	45.3	57	39.3	283	43.9
Some college	52	10.4	28	19.3	80	12.4
4-year college graduate	9	1.8	8	5.5	17	2.6
Graduate degree	1	0.2	2	1.4	3	0.5
Other/Unknown	10	2.0	3	2.1	13	2.0
Total	499	100.0	145	100.0	644	100.0

"Some college" include victims with an Associate's Degree and those who attended, but did not graduate from a 4-year college.

Sources: ODH, OH-VDRS and Vital Statistics

There were 28 (4 percent) homicide victims known to be active duty military or veterans during 2015. Nearly 72 percent of homicide victims were never married. Only eight homicide victims were known to be homeless in 2015. Two female homicide victims were pregnant at the time of death during 2015, compared to three in 2014.

Table 3.3: Homicide deaths by other demographic variables, Ohio, 2015

	Male			Female			Total		
	Count	Percent	Age-Adjusted Rate	Count	Percent	Age-Adjusted Rate	Count	Percent	Age-Adjusted Rate
Total	499	100.0	9.0	145	100.0	2.6	644	100.0	5.8
Homeless	7	1.4	*--	1	0.7	*--	8	1.2	*--
Current/Former Military Status	27	5.4	0.4	1	0.7	*--	28	4.3	0.2
Marital Status									
Married/Civil Union/Domestic	59	11.8	1.1	30	20.7	0.5	89	13.8	0.8
Never married	383	76.8	7.0	79	54.5	1.5	462	71.7	4.3
Widowed	9	1.8	*--	3	2.1	*--	12	1.9	0.1
Divorced	37	7.4	0.6	29	20.0	0.5	66	10.2	0.5
Married, but separated	8	1.6	*--	4	2.8	*--	12	1.9	0.1
Other/Unknown	3	0.6	*--	0	0.0	0	3	0.5	*--

Rates are not calculated for <10 cases to avoid unstable estimates.

Sources: ODH and OH-VDRS

Age

In 2015, homicide rates varied by age, ranging from 1.0 per 100,000 among 5 to 14-year-olds to 16.6 per 100,000 among those under 1 year old (Table 3.4). Age differences were especially striking for black males. Combining data from 2013, 2014 and 2015 provides more stable estimates across a wider range of age groups by race and sex. During this period, homicide rates among black males exceed rates for white males at every age, with disparities being especially pronounced among 15 to 34-year-olds (Figure 3.1).

Table 3.4: Age-specific counts and crude homicide rates (per 100,000) by race and sex, Ohio, 2015

	Male				Female				TOTAL	
	White		Black		White		Black		(all sexes, races)	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
<1 year	7	*--	3	*--	5	*--	6	*--	23	16.6
1 to 4 years	9	*--	4	*--	3	*--	3	*--	19	3.4
5 to 14	5	*--	4	*--	1	*--	2	*--	14	1.0
15 to 24	20	3.3	114	88.6	14	2.4	10	8.1	167	10.8
25 to 34	30	5.1	117	115.5	14	2.4	12	10.9	177	11.9
35 to 44	14	2.5	50	58.5	12	2.2	12	12.7	92	6.6
45 to 54	22	3.4	20	23.1	14	2.1	2	*--	60	3.8
55 to 64	23	3.4	23	29.1	10	1.4	5	*--	64	4.0
65 to 74	7	*--	2	*--	5	*--	2	*--	16	1.5
75 to 84	3	*--	1	*--	5	*--	0	*--	9	*--
85+	2	*--	0	*--	1	*--	0	*--	3	*--
Total	142	3.1	338	46.0	84	1.8	54	6.8	644	5.5

Rates are not calculated for <10 cases to avoid unstable estimates. Rates for whites and blacks exclude victims of Hispanic ethnicity. There were too few cases among other racial/ethnic group to generate reliable rates.

Sources: ODH, OH-VDRS and Vital Statistics

Figure 3.1: Age-specific annual crude rates of homicide (per 100,000) among white and black males, Ohio, 2013-2015

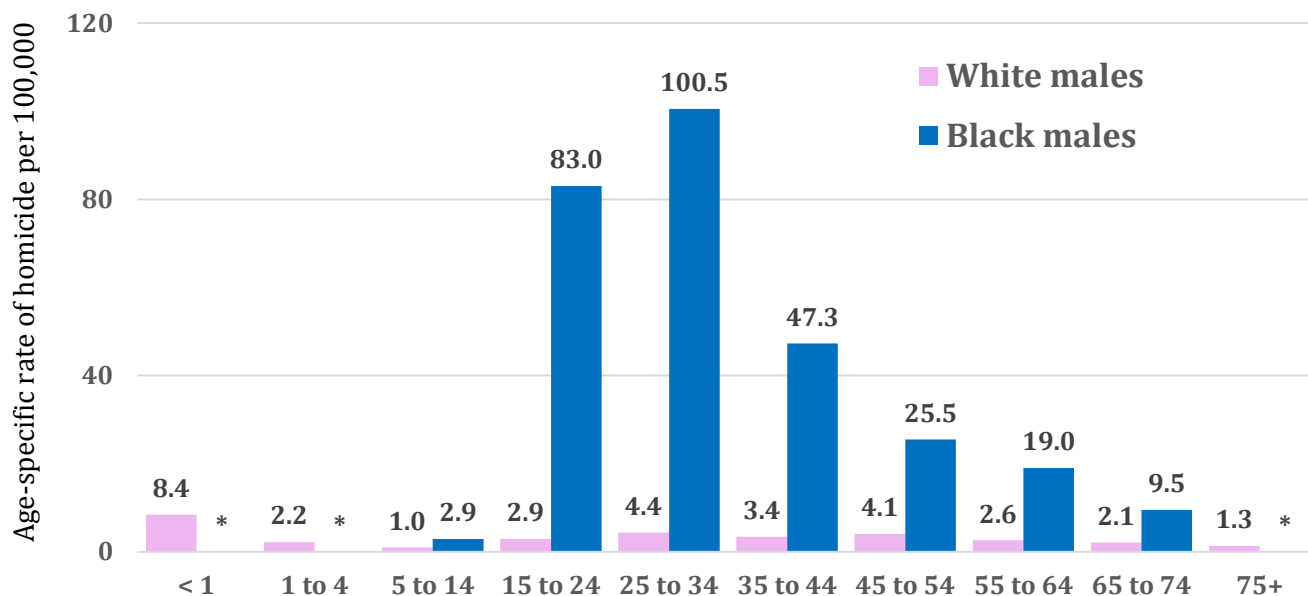


Figure excludes victims of Hispanic ethnicity. *Rates based on <10 cases are omitted to avoid unstable estimates.

Sources: ODH, OH-VDRS and Vital Statistics

Locality

Locality refers to the victim's county of residence, not necessarily where the homicide occurred. Over 80 percent of homicides in 2015 occurred among residents of metropolitan counties. Age-adjusted rates were much higher for residents of metropolitan counties compared to other counties (Table 3.5). In addition, 11 counties had at least 10 residents who were homicide victims in 2015 – a number large enough to calculate a rate. Table 3.6 presents the counts and crude rates for these counties.

Table 3.5: Counts and rates (per 100,000) of homicide by county type, Ohio, 2015

County type	Count	Percent	Crude Rate	Age-Adjusted Rate
Metropolitan	529	82.1	8.4	8.5
Suburban	36	5.6	1.8	2.0
Rural Appalachian	54	8.4	3.0	3.3
Rural non-Appalachian	25	3.9	1.6	1.7
Total	644	100.0	5.5	5.8

County type refers to the victim's county of residence. See p. 5 for a list and Appendix A for a map of counties of each type.

Sources: ODH, OH-VDRS and Vital Statistics

Table 3.6: Counts and rates (per 100,000) of homicides by county, Ohio, 2015

County	Count	Crude Rate	Age-Adjusted Rate
Adams	0	*--	*--
Allen	4	*--	*--
Ashland	0	*--	*--
Ashtabula	3	*--	*--
Athens	1	*--	*--
Auglaize	0	*--	*--
Belmont	2	*--	*--
Brown	3	*--	*--
Butler	14	3.7	4.0
Carroll	0	*--	*--
Champaign	1	*--	*--
Clark	13	9.6	10.8
Clermont	0	*--	*--
Clinton	0	*--	*--
Columbiana	1	*--	*--
Coshocton	1	*--	*--
Crawford	1	*--	*--
Cuyahoga	149	11.9	12.2
Darke	1	*--	*--
Defiance	0	*--	*--
Delaware	1	*--	*--
Erie	0	*--	*--
Fairfield	2	*--	*--
Fayette	0	*--	*--
Franklin	110	8.8	8.7
Fulton	1	*--	*--
Gallia	0	*--	*--
Geauga	0	*--	*--
Greene	2	*--	*--
Guernsey	1	*--	*--
Hamilton	83	10.3	10.2
Hancock	1	*--	*--
Hardin	0	*--	*--
Harrison	0	*--	*--
Henry	1	*--	*--
Highland	1	*--	*--
Hocking	2	*--	*--
Holmes	0	*--	*--
Huron	1	*--	*--
Jackson	3	*--	*--
Jefferson	5	*--	*--
Knox	2	*--	*--
Lake	2	*--	*--
Lawrence	2	*--	*--

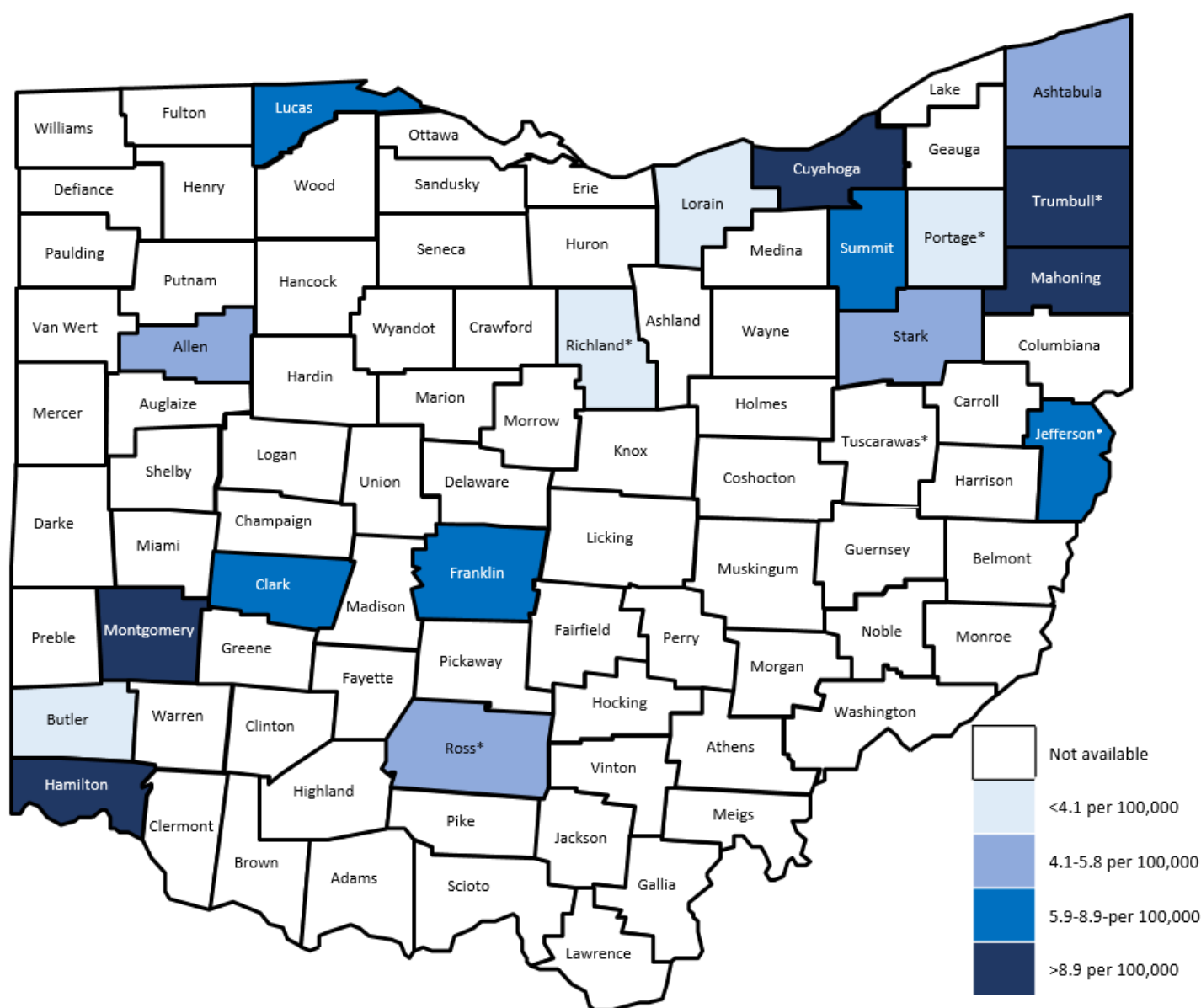
County	Count	Crude Rate	Age-Adjusted Rate
Licking	2	*--	*--
Logan	4	*--	*--
Lorain	11	3.6	3.3
Lucas	26	6.0	6.0
Madison	1	*--	*--
Mahoning	25	10.8	11.7
Marion	0	*--	*--
Medina	3	*--	*--
Meigs	0	*--	*--
Mercer	0	*--	*--
Miami	0	*--	*--
Monroe	2	*--	*--
Montgomery	44	8.3	8.9
Morgan	0	*--	*--
Morrow	0	*--	*--
Muskingum	1	*--	*--
Noble	0	*--	*--
Ottawa	1	*--	*--
Paulding	0	*--	*--
Perry	3	*--	*--
Pickaway	2	*--	*--
Pike	1	*--	*--
Portage	5	*--	*--
Preble	3	*--	*--
Putnam	0	*--	*--
Richland	7	*--	*--
Ross	8	*--	*--
Sandusky	1	*--	*--
Scioto	1	*--	*--
Seneca	0	*--	*--
Shelby	2	*--	*--
Stark	19	5.1	5.8
Summit	37	6.8	7.1
Trumbull	6	*--	*--
Tuscarawas	5	*--	*--
Union	1	*--	*--
Van Wert	0	*--	*--
Vinton	0	*--	*--
Warren	4	*--	*--
Washington	2	*--	*--
Wayne	2	*--	*--
Williams	0	*--	*--
Wood	1	*--	*--
Wyandot	0	*--	*--

*Rates are not calculated for counties with <10 cases to avoid unstable estimates.

Sources: ODH, OH-VDRS and Vital Statistics

Combining data from multiple years provides additional data that permits calculating rates for more counties. Figure 3.2 presents age-adjusted annual rates of homicide for the period 2013 to 2015. The six major metropolitan counties in the state had higher age-adjusted rates during this period, as did selected rural Appalachian counties.

Figure 3.2: Age-adjusted annual rates of homicide, by county quartile, Ohio, 2013-2015



Rates are not calculated for counties with <5 cases to avoid unstable estimates.

*Rates based on <10 cases should be interpreted with caution.

Sources: ODH, OH-VDRS and Vital Statistics

Method of death

Firearms were used in 73 percent of homicides in Ohio in 2015. The proportion varied greatly by sex, however, with male victims being killed by a firearm in 77 percent of homicides, compared to 56 percent for females (Table 3.7). Compared to males, female victims were more likely to be killed by a sharp instrument (15 percent) and with personal weapons (10 percent).

Table 3.7: Homicides by method of death, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
Firearm	386	77.4	81	55.9	467	72.5
Sharp instrument	35	7.0	21	14.5	56	8.7
Personal weapons	24	4.8	14	9.7	38	5.9
Hanging/Strangulation/Suffocation	6	1.2	8	5.5	14	2.2
Poisoning	1	0.2	1	0.7	2	0.3
Other/Unknown	47	9.4	20	13.8	67	10.4
Total	499	100.0	145	100.0	644	100.0

“Personal weapons” include fists, feet, and hands in actions such as punching, kicking or hitting.

Sources: ODH and OH-VDRS.

Number of Wounds

For nearly 50 percent of homicide deaths in Ohio in 2015, the victim suffered from three or more penetrating wounds. As presented in Table 3.8, 48 percent of males suffered three or more penetrating wounds, compared to 54 percent of females.

Table 3.8: Homicides by number of wounds, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
1-2	195	46.3	36	35.2	231	44.2
3+	201	47.7	55	54.0	256	49.0
Unknown	25	6.0	11	10.8	36	6.8
Total	421	100.0	102	100.0	523	100.0

The denominator used for calculating percentage of specific wound counts includes all methods of deaths with at least one penetrating from a firearm or sharp instrument wounds (n=523). Includes both entry and exit wounds.

Sources: ODH and OH-VDRS.

The proportion varied strikingly by sex for intimate partner violence-related homicides, with nearly 60 percent of female victims suffering three or more penetrating wounds, compared to 41 percent of males. Although female homicide victims were more likely than males to experience “overkill” in general, regardless of context, female victims with an intimate partner violence-related context had over six percent higher incidence of three or more wounds than those without (Figure 3.3).

Table 3.9: Intimate partner violence-related homicides by number of wounds, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
1-2	13	59.0	14	36.8	27	45.0
3+	9	41.0	22	58.0	31	51.7
Unknown	0	0	2	5.2	2	3.3
Total	22	100.0	38	100.0	60	100.0

Percent is based on a denominator of intimate partner violence-related homicide deaths with at least one penetrating wound from a firearm or sharp instrument wounds (n=60). Includes both entry and exit wounds.

Sources: ODH and OH-VDRS.

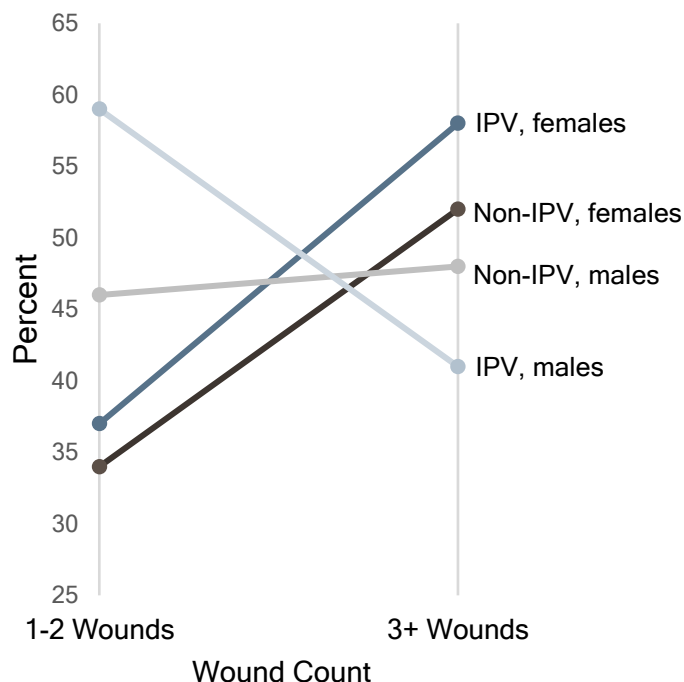
Table 3.10: Non-intimate partner violence-related homicides by number of wounds, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
1-2	182	45.6	22	34.4	204	44.1
3+	192	48.1	33	51.6	225	48.6
Unknown	25	6.3	9	14.0	34	7.3
Total	399	100.0	64	100.0	463	100.0

Percent is based on a denominator of non-intimate partner violence-related homicide deaths with at least one penetrating wound from a firearm or sharp instrument wounds (n=463). Includes both entry and exit wounds.

Sources: ODH and OH-VDRS.

Figure 3.3: Sex Differences in Wound Count for IPV and Non-IPV Homicide Deaths, Ohio, 2015



Percent is based on a denominator of intimate partner violence-related homicide deaths with at least one penetrating wound from a firearm or sharp instrument (n=60). Percent of non-IPV homicide deaths is based on a denominator of deaths with at least one penetrating wound from a firearm or sharp instrument (n=523). Includes both entry and exit wounds. Deaths with an unknown wound count were not included.

Sources: ODH and OH-VDRS.

Circumstances

For most homicides, OH-VDRS provides information on the circumstances surrounding death. Toxicology results, for example, were available for 590 (92 percent) of the 644 homicides in Ohio in 2015.

Type of location

As presented in Table 3.11, 55 percent of homicides in Ohio in 2015 occurred in a house or apartment. Other locations included public areas like a street (18 percent), parking lot (5 percent), or a private motor vehicle (11 percent). There were no homicides in Ohio prisons during 2015, compared to two in 2014. Female homicide victims were more likely to be fatally injured in a residence (70 percent) compared to male homicide victims (50 percent) (Figure 3.4).

Table 3.11: Locations where homicide deaths occurred by sex, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
House/Apartment	249	49.9	102	70.3	351	54.5
Street/Road/Sidewalk/Alley	108	21.6	6	4.1	114	17.7
Private motor vehicle	50	10.0	19	13.1	69	10.7
Parking lot/Parking structure	28	5.6	4	2.8	32	5.0
Bar/Nightclub	21	4.2	1	0.7	22	3.4
Park/Playground/Public use area	7	1.4	1	0.7	8	1.2
Natural area	5	1.0	1	0.7	6	0.9
Other	27	5.4	9	6.2	36	5.6
Unknown	4	0.8	2	1.4	6	0.9
Total	499	100.0	145	100.0	644	100.0

Sources: ODH and OH-VDRS

3.4 Location of Injury for Homicide deaths by Sex, Ohio, 2015



Sources: ODH and OH-VDRS

Toxicology results

Table 3.12 presents the number and percent of homicide victims testing positive for various substances.

Table 3.12: Percent of homicide deaths testing positive for various substances, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Marijuana	181	39.3	27	20.8	208	35.3
Alcohol	140	30.7	26	20.0	166	28.3
Opiates	55	12.0	13	10.0	68	11.5
Cocaine	48	10.4	13	10.0	61	10.3
Benzodiazepines	39	8.5	10	7.7	49	8.3
Antidepressants	8	1.7	7	5.4	15	2.5
Amphetamines	12	2.6	7	5.4	19	3.2
Anticonvulsants	6	1.3	5	3.8	11	1.9
Barbiturates	2	0.4	1	0.8	3	0.5
Muscle Relaxants	3	0.7	3	2.3	6	1.0
Antipsychotics	0	0.0	1	0.8	1	0.2
One or more of the above substances	316	69.3	65	50.0	381	65.0
Negative for all substances	140	30.7	65	50.0	205	35.0

Percent is based on a denominator of homicide deaths (n=586 with available toxicology results). There were 456 male homicide victims and 130 female homicide victims with available toxicology results.

Sources: ODH and OH-VDRS

Marijuana (35 percent) was the most common substance found in toxicology results, followed by alcohol (28 percent), opiates (12 percent) and cocaine (10 percent). Male victims were more likely than female victims to screen positive for one or more substances (69 percent vs. 50 percent). Sex differences were particularly pronounced for marijuana and alcohol. For the 165 homicide victims screening positive for alcohol of a known quantity, blood alcohol concentration results appear in Table 3.13.

Table 3.13: Blood alcohol concentration results for homicide victims testing positive for alcohol, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Less than 0.040	33	23.6	6	23.1	39	23.5
0.040-0.079	18	12.9	4	15.4	22	13.3
0.080-0.119	20	14.3	8	30.8	28	16.9
0.120-0.159	18	12.9	2	7.7	20	12.0
0.160-0.199	20	14.3	1	3.9	21	12.7
0.200 and above	31	22.1	5	19.2	36	21.7

A total of 166 homicide victims tested positive for alcohol of a known quantity. There were 140 male homicide victims and 26 female homicide victims that tested positive for alcohol of a known quantity.

Sources: ODH and OH-VDRS

Victim-suspect relationship

For 39 percent (252/644) of homicide victims, data were available to describe their relationship with the suspect. The victim-suspect relationship was available from both law enforcement reports and coroner/medical examiner (CME) records.

Among homicide victims with available data, nearly all were killed by someone they knew; only 10 percent were killed by a stranger (Table 3.14). There were, however, significant differences by sex: females were much more likely than males to be killed by a current or former intimate partner, whereas males were more likely to be killed by an acquaintance or friend. Also, male homicide victims were much more likely than female victims to lack information on their relationship to the suspect (55 percent for males vs. 31 percent for females).

Table 3.14: Relationship between homicide suspect and victim, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Person known to victim	70	41.7	13	15.5	83	32.9
Current Intimate Partner	10	6.0	30**	35.7	40**	15.9
Former Intimate Partner	2	1.2	11	13.1	13	5.2
Child of suspect's boyfriend/girlfriend	4	2.4	6	7.1	10	4.0
Intimate partner of suspect's parent	1	0.6	0	0.0	1	0.4
Parent	7	4.2	8	9.5	15	6.0
Child	16	9.5	5	6.0	21	8.3
Other family member	16	9.5	5	6.0	21	8.3
Friend	19	11.3	2	2.4	21	8.3
Stranger	22	13.1	4	4.8	26	10.3
Victim was law enforcement officer injured in line of duty	1	0.6	0	0.0	1	0.4
Total	168	100.0	84	100.0	252	100.0

Data are for the primary victim-suspect relationship only, and omit the few incidents where multiple suspects were associated with a homicide. The victim-suspect relationship is the description of the relationship of the victim to the suspect, for example, when a parent (suspect) kills a child (victim), the relationship is described as child, not parent. The denominator is the 252 homicide victims with a known relationship to the suspect. **Number reflects one individual that did not specify whether they were a current or former intimate partner.

Sources: ODH and OH-VDRS

Other circumstances

Many homicides occurred in the context of other crimes, especially among males (Table 3.15). Among cases with circumstance data, 13 percent of homicides were precipitated by drug dealing or drug use, and 25 percent were precipitated by another crime. Different types of arguments and conflicts were also common (Table 3.16). Seventy homicides in 2015 were associated with intimate partner violence. For more information and OH-VDRS data on this important topic, please refer to the 2014 fact sheet prepared by the Ohio Department of Health.²

² Violence and Injury Prevention Program, Ohio Department of Health. *Intimate Partner Violence and Homicide in Ohio*. Columbus, OH: Violence and Injury Prevention Program, Ohio Department of Health; 2016.

Table 3.15: Crime-Related circumstances of homicide victims, by sex, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Drug dealing/trade/use precipitated homicide	72	16.2	9	6.8	81	14.0
Another crime precipitated homicide	121	27.2	37	27.8	158	27.3
A crime was in progress at the time of the incident	102	22.9	29	21.8	131	22.7
Gang-related	26	5.8	4	3.0	30	5.2
Drive-by shooting	19	4.3	2	1.5	21	3.6
Hate crime	0	0.0	0	0.0	0	0.0
Victim was a bystander, not the intended target	9	2.0	6	4.5	15	2.6
Victim used a weapon during the incident	41	9.2	1	0.8	42	7.3
Victim killed in legitimate act of self-defense	10	2.2	0	0.0	10	1.7

The denominator used for calculating percentage of specific circumstances is based on the number of homicides with at least one circumstance identified in either the CME or law enforcement report (n=578). There were 445 male victims and 133 female victims that had a known circumstance. Homicide victims may report more than one circumstance.

Sources: ODH and OH-VDRS

Table 3.16: Arguments and conflicts circumstances of homicide victims, by sex, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Argument or conflict led to homicide	112	25.2	34	25.6	146	25.3
Homicide was preceded by fight between 2 persons	63	14.2	11	8.3	74	12.8
Homicide was preceded by fight among 3+ persons	5	1.1	1	0.8	6	1.0
Intimate partner violence	25	5.6	45	33.8	70	12.1
Jealousy	7	1.6	5	3.8	12	2.1
Victim had a (non- alcohol) substance abuse problem	83	18.7	23	17.3	106	18.3
Alcohol use suspected before incident	78	17.5	15	11.3	93	16.1

The denominator used for calculating percentage of specific circumstances is based on the number of homicides with at least one circumstance identified in either the CME or law enforcement report (n=578). There were 445 male victims and 133 female victims that had a known circumstance. Homicide victims may report more than one circumstance.

Sources: ODH and OH-VDRS

Comparisons with other states

Although NVDRS data are not representative of the entire nation, comparing Ohio data to other NVDRS states can help highlight patterns that may be distinctive for our state. Combining data from 2012 through 2014 (the most recent years available), Table 3.17 presents age-adjusted rates for homicides by race/ethnicity and sex in 17 states (there were too few cases among other groups for comparison).

Table 3.17: Age-adjusted rates (per 100,000) of homicide, by race/ethnicity and sex, 17 states, 2012-2014

	Male			Female			Total
	White	Black	Hispanic	White	Black	Hispanic	
S. Carolina	4.7	26.8	2.0	2.7	4.8	--*	7.2
New Mexico	5.9	24.7	11.0	1.9	--*	3.1	6.6
Oklahoma	5.8	37.4	7.0	3.2	7.6	3.6	6.4
Georgia	3.4	21.7	3.6	1.8	4.4	1.0	6.3
Maryland	1.9	27.3	2.7	1.2	3.5	1.6	6.2
Ohio	3.0	38.9	5.3	1.7	5.5	2.7	5.5
N. Carolina	3.7	24.0	6.7	1.8	3.7	1.7	5.5
Alaska	3.6	--*	--*	2.8	--*	0.0	4.9
New Jersey	1.3	36.6	6.5	0.9	4.7	1.3	4.6
Kentucky	4.0	24.4	5.7	1.9	5.9	--*	4.2
Virginia	2.2	19.0	3.3	1.3	3.9	1.3	4.0
Colorado	2.4	17.8	8.0	1.9	3.4	2.1	3.3
Wisconsin	1.1	37.3	6.4	1.0	5.0	--*	2.9
Rhode Island	1.3	17.5	10.6	0.8	--*	--*	2.5
Oregon	2.6	15.8	3.3	1.7	--*	1.9	2.4
Massachusetts	1.1	17.5	6.8	0.6	2.7	1.7	2.1
Utah	1.6	17.9	5.6	1.3	--*	--*	2.0
Total	2.7	--*	--*	1.6	4.4	1.8	4.7

When the number of deaths was < 10, rates are not calculated to avoid unstable estimates. Figures for whites and blacks exclude Hispanics; Hispanics may be of any race. Figures for Ohio may differ very slightly from those reported elsewhere in this report because of the different years involved, the lag time in recording cases and different population estimates.

Sources: ODH, NVDRS and Vital Statistics

Across the NVDRS states, males had higher rates of homicide compared to females, and blacks had higher rates of homicide compared to whites or Hispanics. This same pattern of findings was observed for Ohio.

Homicide rates for white males and females in Ohio were similar to the 17-state-total rates, however, the homicide rates for black males and females was markedly higher. In fact, Ohio had the highest rate of homicide among black males of any NVDRS state (38.9 per 100,000). For black females, Ohio had the third-highest rate of any NVDRS state (5.5 per 100,000).

Trends in homicide, 2013-2015

Comparing OH-VDRS data from 2013, 2014 and 2015 helps illustrate how patterns of homicide may change over time. During this period, the overall number of homicides increased, with proportional increases being most pronounced for males and for victims younger than 15 years old. (Table 3.18).

Table 3.18: Number of homicides by demographic groups and by year, Ohio, 2013 – 2015

	2013	2014	2015	Percent change, 2013-2014	Percent change, 2014-2015
Total	621	556	644	-10.5	15.8
Sex					
Male	478	452	499	-5.4	10.4
Female	143	104	145	-27.3	39.4
Race/Ethnicity					
White, non-Hispanic	213	186	226	-12.7	21.5
Black, non-Hispanic	382	340	392	-11.0	15.3
Hispanic	12	20	20	66.7	0.0
Other/Unknown	14	10	6	-28.6	-40.0
Age					
<15	43	34	56	-20.9	64.7
15-24	188	148	167	-21.3	12.8
25-34	156	154	177	-1.3	14.9
35-44	94	82	92	-12.8	12.2
45-54	75	73	60	-2.7	-17.8
55-64	34	36	64	5.9	77.8
65+	31	29	28	-6.5	-3.4
Homeless	5	8	8	60.0	0.0
Current/Former Military	28	25	28	-10.7	12.0
Marital Status					
Married/Civil Union/Domestic	71	66	89	-7.0	34.8
Never Married	444	397	462	-10.6	16.4
Widowed	18	13	12	-27.8	-7.7
Divorced	77	68	66	-11.7	-2.9
Married, but separated	9	8	12	-11.1	50.0
Other/Unknown	2	4	3	100.0	-25.0

Sources: ODH and OH-VDRS

4. Deaths of Undetermined Intent

In Ohio in 2015, there were 185 violent deaths for which the manner of death could not be determined. This represents an age-adjusted rate of 1.6 per 100,000.

Demographic characteristics

Compared to victims of violent deaths where the manner was determined (e.g., suicide, homicide), victims of undetermined deaths were more likely to be white (135/185=73 percent vs. 1,712/2,298=75 percent) and female (83/185=45 percent vs. 476/2,298=21 percent).

Most deaths of undetermined intent were among white victims (Table 4.1). There were no noteworthy differences by sex across racial/ethnic groups.

Table 4.1: Deaths of undetermined intent, by race and sex, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
White, non-Hispanic	73	71.6	62	75.0	135	73.0
Black, non-Hispanic	24	23.6	18	21.7	42	22.7
Hispanic	3	2.9	2	2.4	5	2.7
Other/Unknown	2	2.0	1	1.2	3	1.6
Total	102	100.0	83	100.0	185	100.0

Sources: ODH and OH-VDRS

Most deaths of undetermined intent were among victims who did not graduate from four-year colleges. About 29 percent of decedents had less than a high school education, 42 percent were high school graduates and 22 percent had some college education (Table 4.2).

Table 4.2: Number of deaths of undetermined intent by education level, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
<High school	29	28.4	24	28.9	53	28.6
High school graduate	49	48.0	28	33.7	77	41.6
Some college	17	16.7	23	27.7	40	21.6
4-year college graduate	4	3.9	5	6.0	9	4.9
Graduate degree	0	0.0	2	2.4	2	1.1
Unknown	3	2.9	1	1.2	4	2.2
Total	102	100.0	83	100.0	185	100.0

“Some college” include victims with an Associate’s Degree and those who attended, but did not graduate from a 4-year college.

Sources: ODH, OH-VDRS and Vital Statistics

Age

Nearly two-thirds of deaths of undetermined intent in 2015 were among adults 25 to 64 years old (Table 4.3).

Table 4.3: Deaths of undetermined intent, by age group, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
<1 year	6	5.9	2	2.4	8	4.3
1 to 4	3	2.9	3	3.6	6	3.2
5 to 14	1	1.0	3	3.6	4	2.2
15 to 24	16	15.7	7	8.4	23	12.4
25 to 34	17	16.7	14	16.9	31	16.8
35 to 44	12	11.8	12	14.5	24	13.0
45 to 54	15	14.7	27	32.5	42	22.7
55 to 64	19	18.6	7	8.4	26	14.1
65 to 74	8	7.8	6	7.2	14	7.6
75 to 84	2	2.0	0	0.0	2	1.1
85+	3	2.9	2	2.4	5	2.7
Total	102	100.0	83	100.0	185	100.0

Sources: ODH and OH-VDRS

Locality

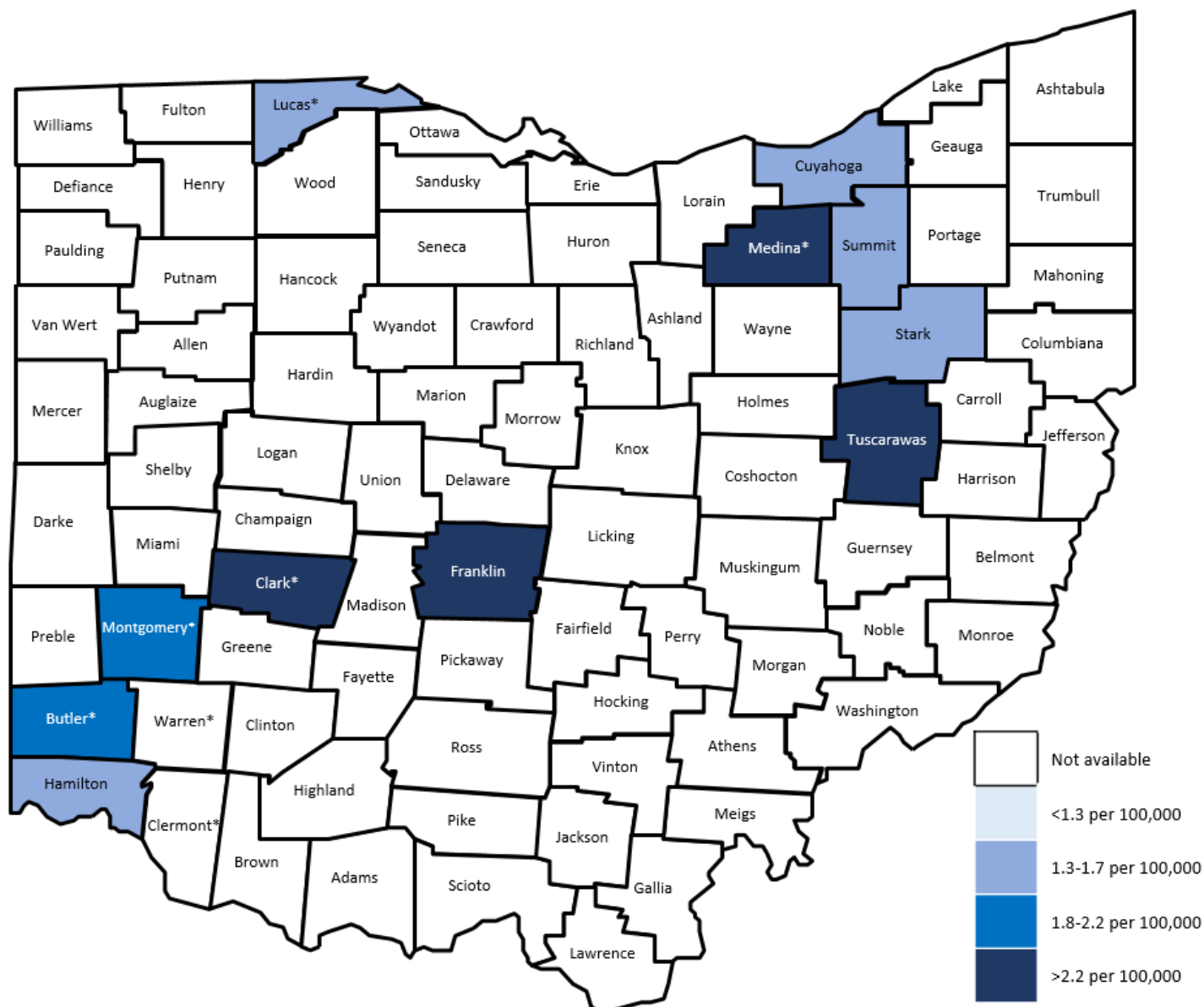
Locality refers to the victim's county of residence, not necessarily where the death with an undetermined manner occurred. Residents of 48 counties had a violent death of undetermined intent in 2015 (Table 4.4). Nearly all of these counties had 10 undetermined violent deaths or less during 2015. The only exceptions were Cuyahoga (19 deaths), Franklin (32 deaths), and Hamilton (16 deaths).

Table 4.4: Deaths of undetermined intent, by county, Ohio, 2015

County	Count	County	Count	County	Count	County	Count
Adams	0	Fairfield	2	Licking	2	Portage	2
Allen	1	Fayette	0	Logan	0	Preble	3
Ashland	1	Franklin	32	Lorain	2	Putnam	0
Ashtabula	1	Fulton	0	Lucas	5	Richland	3
Athens	0	Gallia	1	Madison	0	Ross	0
Auglaize	0	Geauga	0	Mahoning	0	Sandusky	0
Belmont	0	Greene	0	Marion	3	Scioto	0
Brown	2	Guernsey	0	Medina	8	Seneca	0
Butler	7	Hamilton	16	Meigs	0	Shelby	1
Carroll	0	Hancock	1	Mercer	0	Stark	4
Champaign	1	Hardin	0	Miami	0	Summit	10
Clark	6	Harrison	0	Monroe	1	Trumbull	3
Clermont	6	Henry	1	Montgomery	9	Tuscarawas	3
Clinton	2	Highland	2	Morgan	0	Union	1
Columbiana	0	Hocking	1	Morrow	0	Van Wert	0
Coshocton	1	Holmes	2	Muskingum	1	Vinton	2
Crawford	0	Huron	0	Noble	1	Warren	6
Cuyahoga	19	Jackson	0	Ottawa	0	Washington	0
Darke	0	Jefferson	1	Paulding	0	Wayne	1
Defiance	1	Knox	1	Perry	0	Williams	0
Delaware	2	Lake	2	Pickaway	0	Wood	0
Erie	2	Lawrence	1	Pike	0	Wyandot	0

Sources: ODH and OH-VDRS

Figure 4.1: Age-adjusted annual rates of undetermined deaths, by county quartile, Ohio, 2013-2015



Rates are not calculated for counties with <5 cases to avoid unstable estimates.

*Rates based on <10 cases should be interpreted with caution.

Sources: ODH, OH-VDRS and Vital Statistics

Method of death

For undetermined deaths, the most common method was “unknown” (40 percent) although poisoning was also common (35 percent). In comparison, for violent deaths with a determined manner, less than 1 percent used unknown methods and only 10 percent involved poisoning (Table 4.5). Poisoning as a method of death for undetermined cases may reflect overdose deaths in which it was unclear whether the injury was intentional, self-inflicted or intentionally caused by another person.

Table 4.5: Method used in determined vs. undetermined violent deaths, by sex, Ohio, 2015

	Undetermined						Determined	
	Male		Female		Total		Total	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Poisoning	29	28.4	36	43.4	65	35.1	228	9.9
Firearm	14	13.7	4	4.8	18	9.7	1,353	58.9
Hanging, Strangulation	3	2.9	3	3.6	6	3.2	445	19.4
Sharp instrument	2	2.0	0	0.0	2	1.1	87	3.8
Other	14	13.7	6	7.2	20	10.8	179	7.8
Unknown	40	39.2	34	41.0	74	40.0	6	0.3
Total	102	100.0	103	100.0	185	100.0	2,298	100.0

Sources: ODH and OH-VDRS

Circumstances

For most deaths of undetermined intent, OH-VDRS provides information on circumstances, such as the type of location where the death occurred, toxicology results, mental health issues and relationship circumstances. In 150 of the 185 cases (81 percent), reports included at least one type of circumstance.

Type of location

As presented in Table 4.6, 79 percent of deaths of undetermined intent in Ohio in 2015 occurred in a house or apartment. In another 4 percent of cases the location was unknown.

Table 4.6: Locations where undetermined intent deaths occurred by sex, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
House/Apartment	76	74.5	70	84.3	146	78.9
Motor Vehicle	5	4.9	2	2.4	7	3.8
Natural Area	3	2.9	3	3.6	6	3.2
Park/Playground/Public Use Area	0	0.0	1	1.2	1	0.5
Hotel/Motel	3	2.9	1	1.2	4	2.2
Prison/Jail	2	2.0	0	0.0	2	1.1
Other	10	9.8	3	3.6	12	6.5
Unknown	3	2.9	4	4.8	7	3.8
Total	102	100.0	83	100.0	185	100.0

Sources: ODH and OH-VDRS

Toxicology results

Of the 185 victims of an undetermined violent death who had an available toxicology report, 75 percent (n=126) tested positive for some type of substance use (Table 4.7). In comparison, 65 percent of the 1,882 other types of violent death (i.e., where the manner was determined) with an available toxicology screening tested positive for substance use. For victims of an undetermined violent death, the most common type of substance with a positive screen was opiates (40 percent), followed by benzodiazepines (27 percent).

Table 4.7: Percent of deaths of undetermined intent testing positive for various substances, by sex, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Opiates	33	35.9	35	45.5	68	40.2
Benzodiazepines	18	19.6	28	36.4	46	27.2
Alcohol	19	20.7	13	16.9	32	18.9
Antidepressants	10	10.9	22	28.6	32	18.9
Marijuana	15	16.3	7	9.1	22	13.0
Anticonvulsants	9	9.8	11	14.3	20	11.8
Amphetamines	6	6.5	1	1.3	7	4.1
Cocaine	5	5.4	5	6.5	10	5.9
Antipsychotics	4	4.3	5	6.5	9	5.3
Barbiturates	0	0.0	2	2.6	2	1.2
Muscle Relaxants	5	5.4	4	5.2	9	5.3
One or more of the above substances	67	72.8	59	76.6	126	74.6
Negative for all substances	25	27.2	18	23.4	43	25.4

Percent is based on a denominator of deaths of undetermined intent (n=169) with available toxicology results. There were 92 male victims and 77 female victims that had available toxicology results.

Sources: ODH and OH-VDRS

For the 32 victims with an undetermined manner of death who tested positive, blood alcohol concentration results appear in Table 4.8.

Table 4.8: Blood alcohol concentration results for victims with an undetermined manner of death who tested positive for alcohol, Ohio, 2015

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Less than 0.040	5	26.3	3	23.1	8	25.0
0.040-0.079	3	15.8	5	38.5	8	25.0
0.080-0.119	1	5.3	1	7.7	2	6.3
0.120-0.159	2	10.5	1	7.7	3	9.4
0.160-0.199	1	5.3	0	0.0	1	3.1
0.200 and above	7	36.8	3	23.1	10	31.3

A total of 32 victims of an undetermined manner of death tested positive for alcohol. A total of 19 male undetermined victims and 13 female undetermined victims tested positive for alcohol.

Sources: ODH and OH-VDRS

Mental health circumstances were associated with many victims with an undetermined manner of death (Table 4.9). Compared to suicide victims (see Table 2.10), those with an undetermined manner of death were more likely to report to have had an alcohol problem (15 percent vs. 14 percent) or a substance abuse problem other than alcohol (43 percent vs. 18 percent). Suicide victims were more likely to have other of the mental health circumstances listed below.

Table 4.9: Mental health circumstances of victims with a death of undetermined intent, by sex, Ohio, 2015

	Males		Females		Total	
	Count	Percent	Count	Percent	Count	Percent
Alcohol problem	14	15.9	8	11.1	22	13.8
Other substance abuse	38	43.2	31	43.1	69	43.1
Current depressed mood	7	8.0	6	8.3	13	8.1
Current diagnosed mental health problem	36	40.9	40	55.6	76	47.5
Currently received mental health treatment	22	25.0	29	40.3	51	31.9
History of mental health treatment	24	27.3	32	44.4	56	35.0

The denominator used for calculating percentage of specific circumstances is based on the number of with an undetermined manner of death who had at least one circumstance identified in either the coroner/medical examiner (CME) or law enforcement report. Victims may report more than one circumstance. About 86 percent of victims had circumstances available (n=160). There were 88 male victims and 72 female victims that had available toxicology results.

Sources: ODH and OH-VDRS

5. Legal intervention

In Ohio, there were 36 deaths due to legal intervention in 2015 – that is, deaths caused by law enforcement and other persons with legal authority to use deadly force (excluding legal executions). This figure represents an age-adjusted rate of 0.3 per 100,000.

Given the limited number of cases, detailed tables of demographics and other characteristics were inadvisable and would compromise confidentiality. However, a few patterns were noteworthy and involved at least 10 deaths. Of the 36 deaths due to legal intervention, 33 involved males, 14 involved blacks and 17 occurred in the state's metropolitan counties. Also, 29 of the cases involved individuals between 15 and 44 years of age and in 28 of the deaths a firearm was the weapon used.

Combining data from 2013, 2014 and 2015, 92 deaths due to legal intervention occurred in Ohio, 85 (92 percent) of which were among males and 7 (8 percent) were among females. Overall, 48 victims (52 percent) were white and another 42 victims (46 percent) were black. Sixty-four deaths (70 percent) occurred among residents of metropolitan counties. Deaths due to legal intervention were most common among 15-44-year-olds, and rates were higher for black victims compared to white victims (Table 5.1).

Table 5.1: Age-specific counts and annual crude rates (per 100,000) of deaths due to legal intervention, by race, Ohio, 2013-2015

	White		Black	
	Count	Rate	Count	Rate
<15	0	*--	1	*--
15 to 24	11	0.3	13	1.7
25 to 34	14	0.4	12	1.9
35 to 44	12	0.3	10	1.8
>44	11	0.1	6	*--
Total	48	0.2	42	0.9

Rates are not calculated for counts with <10 cases to avoid unstable estimates.

Sources: ODH, OH-VDRS and Vital Statistics

6. Firearm-Related Violent Deaths

Firearms account for the majority of violent deaths in Ohio. Combining data from 2013, 2014 and 2015, Table 6.1 presents the percentage of each manner of death that were firearm-related. From 2013 to 2015, firearms were involved in 3,832 violent deaths in Ohio, including 2,355 suicides, 1,304 homicides, 77 deaths due to legal intervention, 63 unintentional firearm fatalities and 33 deaths of undetermined intent.

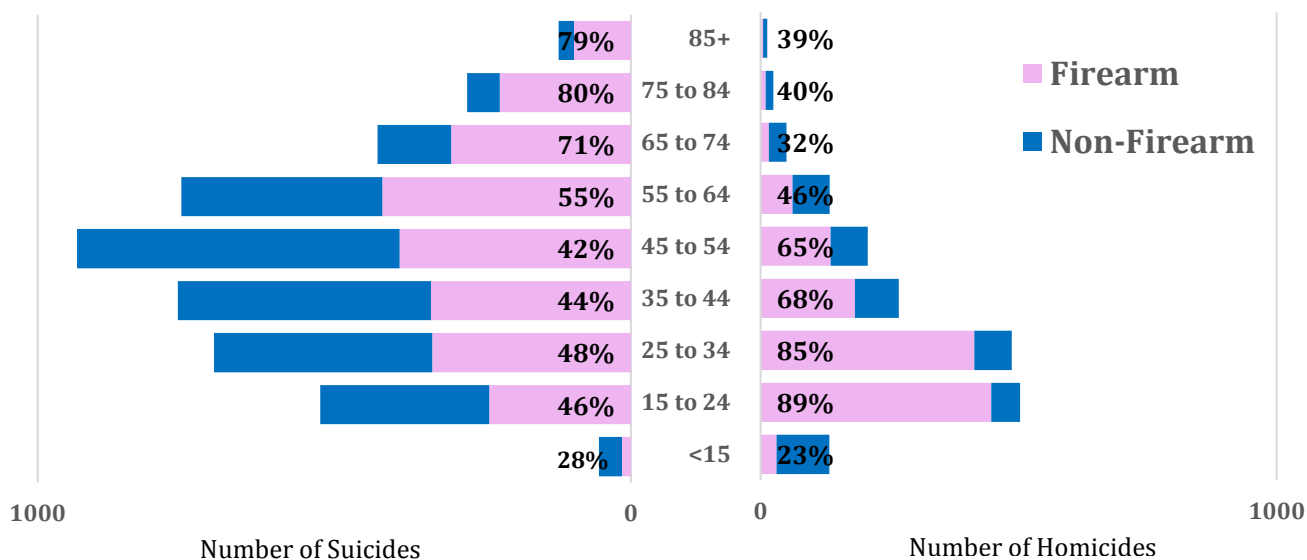
Table 6.1: Number and percent of manners of violent death that involved a firearm, Ohio, 2013 – 2015

	Firearm-related		Other/Unknown		Total	
	Count	Percent	Count	Percent	Count	Percent
Suicide	2,355	51.6	2,208	48.4	4,563	100.0
Homicide	1,304	71.6	517	28.4	1,821	100.0
Legal intervention	77	83.7	15	16.3	92	100.0
Unintentional firearm	63	100.0	0	0.0	63	100.0
Undetermined intent	33	6.6	468	93.4	501	100.0
All violent deaths	3,832	54.4	3,208	45.6	7,040	100.0

Sources: ODH, OH-VDRS

This section describes some of the populations and circumstances where firearms are particularly common as a method for suicide and homicide – the most common types of violent death. To generate more reliable estimates, the data in this section (unless otherwise noted) combine results for the years 2013 through 2015.

Figure 6.1: Percent of suicides and homicides that involved a firearm, by age group, Ohio, 2013-2015



See Table 6.2 for the number of suicides in each age group. See Table 6.4 for the number of homicides.

Sources: ODH and OH-VDRS

Suicide

From 2013 to 2015, 2,355 (52 percent) of the 4,563 suicides in Ohio involved a firearm. This proportion, however, varied across demographic groups (Table 6.2). Among male victims, 57 percent of suicides involved a firearm compared to 31 percent for females. White victims (52 percent) were just as likely to use a firearm compared to black (52 percent) and more likely than Hispanic (30 percent) victims. Older victims were especially likely to use a firearm. More than 79 percent of suicide victims older than 74 years old used a firearm (Figure 6.1).

Table 6.2: Number and percent of suicides that involved a firearm, by demographic groups, Ohio, 2013-2015

	Firearm		Other/Unknown Method		Total	
	Count	Percent	Count	Percent	Count	Percent
Total	2,355	51.6	2,208	48.4	4,563	100.0
Sex						
Male	2,051	57.3	1,528	42.7	3,579	100.0
Female	304	30.9	680	69.1	984	100.0
Race/Ethnicity						
White, non-Hispanic	2,151	52.3	1,965	47.7	4,116	100.0
Black, non-Hispanic	158	51.5	149	48.5	307	100.0
Hispanic	18	30.0	42	70.0	60	100.0
Other/Unknown	28	35.0	52	65.0	80	100.0
Age						
<15	15	27.8	39	72.2	54	100.0
15-24	239	45.5	286	54.5	525	100.0
25-34	335	47.7	368	52.3	703	100.0
35-44	337	44.1	427	55.9	764	100.0
45-54	390	41.8	544	58.2	934	100.0
55-64	419	55.3	339	44.7	758	100.0
65-74	303	71.0	124	29.0	427	100.0
75-84	221	80.1	55	19.9	276	100.0
85+	96	78.7	26	21.3	122	100.0

Sources: ODH and OH-VDRS

Firearms were most common among suicide victims residing in rural Appalachian counties (Table 6.3). Even after adjusting for the different age distribution in each type of county, the age-adjusted rate of firearm suicide was higher in metropolitan counties (6.8 per 100,000) compared to other types of counties. In contrast, there were relatively modest differences by county type in rates of non-firearm suicide.

Table 6.3: Counts, percent and rates (per 100,000) of firearm and non-firearm suicides by county type, Ohio, 2013-2015

County type	Firearm				Other/Unknown Method			
	Count	Percent	Crude Rate	Age-Adjusted Rate	Count	Percent	Crude Rate	Age-Adjusted Rate
Metropolitan	1,176	49.9	6.1	5.8	1,286	58.2	6.9	6.8
Suburban	382	16.2	6.5	6.3	354	16.0	6.1	6.2
Rural Appalachian	503	21.4	9.3	8.7	294	13.3	5.6	5.7
Rural non-Appalachian	294	12.5	6.3	5.9	274	12.4	6.0	6.2
Total	2,355	100.0	6.7	6.4	2,208	100.0	6.4	6.4

County type refers to the victim's county of residence. See p. 5 for a list and Appendix A for a map of counties of each type.

Sources: ODH, OH-VDRS and Vital Statistics

Homicide

From 2013 to 2015, 1,304 (72 percent) of the 1,821 homicides in Ohio involved a firearm. This proportion, however, varied across demographic groups (Table 6.4). Among male victims, 77 percent of homicides involved a firearm compared to 52 percent for females. Black victims (83 percent) were more likely to be killed by a firearm compared to white (51 percent) or Hispanic (64 percent) victims. Homicide victims 15 to 34 years old were most likely to be killed by a firearm, whereas firearms were uncommon for victims ages 65 to 84 years old and for those younger than 15 years old (Figure 6.2).

Table 6.4: Number and percent of homicides that involved a firearm, by demographic groups, Ohio, 2013-2015

	Firearm		Other/Unknown Method		Total	
	Count	Percent	Count	Percent	Count	Percent
Total	1,304	71.6	517	28.4	1,821	100.0
Sex						
Male	1,102	77.1	327	22.9	1,429	100.0
Female	202	51.5	190	48.5	392	100.0
Race/Ethnicity						
White, non-Hispanic	319	51.0	306	49.0	625	100.0
Black, non-Hispanic	929	83.4	185	16.6	1,114	100.0
Hispanic	33	63.5	19	36.5	52	100.0
Other/Unknown	23	76.7	7	23.3	30	100.0
Age						
<15	31	23.3	102	76.7	133	100.0
15-24	447	88.9	56	11.1	503	100.0
25-34	414	85.0	73	15.0	487	100.0
35-44	183	68.3	85	31.7	268	100.0
45-54	136	65.4	72	34.6	208	100.0
55-64	62	46.3	72	53.7	134	100.0
65-74	16	32.0	34	68.0	50	100.0
75-84	10	40.0	15	60.0	25	100.0
85+	5	38.5	8	61.5	13	100.0

Sources: ODH and OH-VDRS

Firearms were most common among homicide victims residing in metropolitan counties (Table 6.5). Even after adjusting for the different age distribution in each type of county, the age-adjusted rate of firearm suicide was much higher in metropolitan counties (5.7 per 100,000) compared to other types of counties. In contrast, there were more modest differences by county type in rates of non-firearm homicide.

Table 6.5: Counts, percent and rates (per 100,000) of firearm and non-firearm homicides, by county type, Ohio, 2012-14

County type	Firearm				Other/Unknown Method			
	Count	Percent	Crude Rate	Age-Adjusted Rate	Count	Percent	Crude Rate	Age-Adjusted Rate
Metropolitan	1,109	85.0	5.5	5.7	348	67.3	2.2	2.2
Suburban	62	4.8	0.9	1.0	45	8.7	0.1	0.1
Rural Appalachian	98	7.5	1.7	1.8	77	14.9	1.6	1.7
Rural non-Appalachian	35	2.7	0.7	0.7	47	9.1	1.1	1.1
Total	1,304	100.0	3.5	3.7	517	100.0	1.7	1.8

County type refers to the victim's county of residence. See p. 5 for a list and Appendix A for a map of counties of each type.

Sources: ODH, OH-VDRS and Vital Statistics

Unintentional firearm deaths

In Ohio, there were 14 deaths due to unintentional firearm injury in 2015, whether self-inflicted or inflicted unintentionally by someone else. This figure represents an age-adjusted rate of 0.1 per 100,000.

Given the limited number of cases, detailed tables of demographics and other characteristics were inadvisable and would compromise confidentiality. However, a few patterns were noteworthy and involved at least 10 deaths. Of the 14 deaths due to unintentional firearm injury, 11 involved white males, 7 involved individuals younger than 25 years of age and 5 deaths occurred among residents of the state's metropolitan counties.

Combining data from 2013, 2014 and 2015, 63 deaths due to unintentional firearm injury occurred in Ohio, 56 (89 percent) of which were among males. Twenty-seven deaths (43 percent) occurred among residents of metropolitan counties and 20 (32 percent) occurred among residents of rural Appalachian counties. Deaths due to unintentional firearm injury were most common among 15-24-year-olds (Table 6.6).

Table 6.6: Age-specific counts and crude rates (per 100,000) of fatal unintentional firearm injury, by race and sex, Ohio, 2013-2015

	Male				Female				Total	
	White		Black		White		Black		Count	Rate
	Count	Rate	Count	Rate	Count	Rate	Count	Rate		
<15	8	*--	2	*--	0	*--	3	*--	13	0.2
15 to 24	15	0.8	6	*--	0	*--	0	*--	21	0.5
25 to 34	7	*--	2	*--	2	*--	0	*--	11	0.3
35 to 44	0	*--	0	*--	1	*--	0	*--	1	*--
>44	13	0.2	1	*--	0	*--	1	*--	15	0.1
Total	43	0.3	11	0.5	3	*--	4	*--	61	0.2

Rates based on <10 cases are omitted to avoid unstable estimates.

Sources: ODH, OH-VDRS and Vital Statistics

Partners

Law enforcement agencies

Ada Police Department	Brooklyn Police Department	Cuyahoga Falls Police Department
Adams County Sheriff's Office	Brookville Police Department	Cuyahoga Valley National Park
Akron University Police Department	Brown County Sheriff's Office	Police Department
Allen County Sheriff's Office	Brunswick Hills Police Department	Dalton Police Department
Alliance Police Department	Brunswick Police Department	Danbury Twp. Police Department
Amelia Police Department	Bryan Police Department	Darke County Sheriff's Office
Andover Police Department	Buckeye Lake Police Department	Deer Park Police Department
Archbold Police Department	Bucyrus Police Department	Defiance County Sheriff's Office
Arlington Heights Police Department	Butler County Sheriff's Office	Defiance Police Department
Ashland County Sheriff's Office	Butler Police Department	Delaware County Sheriff's Office
Ashland Police Department	Cambridge Police Department	Delaware Police Department
Ashtabula County Sheriff's Office	Canal Fulton Police Department	Delphos Police Department
Ashtabula Police Department	Canton Police Department	Dennison Police Department
Ashville Police Department	Cardington Police Department	Dover Police Department
Athens County Sheriff's Office	Carey Police Department	Dublin Police Department
Athens Police Department	Carleton Police Department, MI	East Liverpool Police Department
Auglaize County Sheriff's Office	Carroll County Sheriff's Office	East Palestine Police Department
Aurora Police Department	Carroll Twp. Police Department	Eastlake Police Department
Austintown Police Department	Carrollton Police Department	Eaton Police Department
Barberton Police Department	Catawba Island Police Department	Elyria Police Department
Barnesville Police Department	Celina Police Department	Englewood Police Department
Batavia Police Department	Centerville Police Department	Enon Police Department
Bath Twp. Police Department	Champaign County Sheriff's Office	Erie County Sheriff's Office
Bazetta Twp. Police Department	Chester Police Department, WV	Erlanger Police Department
Beachwood Police Department	Chester Twp. Police Department	Euclid Police Department
Beavercreek Police Department	Chillicothe Police Department	Fairborn Police Department
Bedford Heights Police Department	Cincinnati Police Department	Fairfax Police Department
Bedford Police Department	Clark County Sheriff's Office	Fairfield County Sheriff's Office
Bellbrook Police Department	Clay Twp. Police Department	Fairfield Police Department
Bellefontaine Police Department	Clayton Police Department	Fairfield Twp. Police Department
Bellevue Police Department	Clearcreek Twp. Police Department	Fairview Park Police Department
Belmont County Sheriff's Office	Clermont County Sheriff's Office	Fayette County Sheriff's Office
Belpre Police Department	Cleveland Heights Police Department	Fayette Police Department
Berea Police Department	Cleveland Metroparks	Felicity Police Department
Blendon Twp. Police Department	Cleves Police Department	Findlay Police Department
Blue Ash Police Department	Clinton County Sheriff's Office	Five Rivers Metroparks
Bluffton Police Department	Clyde Police Department	Florence Police Department, KY
Boardman Police Department	Colerain Twp. Police Department	Forest Park Police Department
Boston Heights Police Department	Columbiana County Sheriff's Office	Fort Mitchell Police Department
Bowling Green Police Department	Columbiana Police Department	Fostoria Police Department
Bracken County Sheriff's Office, KY	Columbus Grove Police Department	Franklin County Sheriff's Office
Bratenahl Village Police Department	Columbus Police Department	Franklin Police Department
Brecksville Police Department	Conneaut Police Department	Fremont Police Department
Bridgeport Police Department	Copley Police Department	Fulton County Sheriff's Office
Brimfield Police Department	Coshocton County Sheriff's Office	Gahanna Police Department
Brimfield Twp. Police Department	Covington Police Department, KY	Galion Police Department
Broadview Heights Police Department	Crawford County Sheriff's Office	Gallia County Sheriff's Office
Brooklyn Heights Police Department	Cuyahoga County Sheriff's Office	Garfield Heights Police Department

Geauga County Sheriff's Office
 Geauga Park District Rangers
 Geneva Police Department
 Genoa Police Department
 Georgetown Police Department
 German Twp. Police Department
 Glouster Police Department
 Goshen Twp. Police Department
 Granville Police Department
 Green Twp. Police Department
 Greene County Sheriff's Office
 Greenhills Police Department
 Greenville Police Department
 Guernsey County Sheriff's Office
 Hamilton County Sheriff's Office
 Hamilton Police Department
 Hamilton Twp. Police Department
 Hancock County Sheriff's Office
 Hardin County Sheriff's Office
 Harrison County Sheriff's Office
 Harrison Police Department
 Harrison Twp. Police Department
 Heath Police Department
 Henry County Sheriff's Office
 Highland County Sheriff's Office
 Highland Heights Police Department
 Hillsboro Police Department
 Hinckley Twp. Police Department
 Hiram Police Department
 Hocking County Sheriff's Office
 Holland Police Department
 Holmes County Sheriff's Office
 Howland Twp. Police Department
 Hubbard Police Department
 Huber Heights Police Department
 Hudson Police Department
 Huron County Sheriff's Office
 Huron Police Department
 Indiana State Police
 Ironton Police Department
 Jackson County Sheriff's Office
 Jackson Police Department
 Jackson Police Department, MI
 Jackson Twp. Police Department
 Jamestown Police Department
 Jefferson County Sheriff's Office
 Johnstown Police Department
 Kanawha County Sheriff's Office, WV
 Kent Police Department
 Kenton Police Department
 Kettering Police Department
 Kirtland Police Department
 Knox County Sheriff's Office

Lake County Sheriff's Office
 Lake Twp. Police Department
 Lakewood Police Department
 Lancaster Police Department
 Lawrence County Sheriff's Office
 Lebanon Police Department
 Leesburg Police Department
 Leetonia Police Department
 Lewisburg Police Department
 Lexington Police Department
 Liberty Twp. Police Department
 Licking County Sheriff's Office
 Lima Police Department
 Lisbon Police Department
 Lockland Police Department
 Lodi Police Department
 Logan County Sheriff's Office
 Logan Police Department
 London Police Department
 Lorain County Sheriff's Office
 Lorain Police Department
 Lordstown Police Department
 Louisville Police Department
 Loveland Police Department
 Lucas County Sheriff's Office
 Lyndhurst Police Department
 Macedonia Police Department
 Madeira Police Department
 Madison County Sheriff's Office
 Madison Twp. Police Department
 Magnolia Police Department
 Mahoning County Sheriff's Office
 Mansfield Police Department
 Maple Heights Police Department
 Marietta Police Department
 Marion County Sheriff's Office
 Marion Police Department
 Marlboro Twp. Police Department
 Martins Ferry Police Department
 Marysville Police Department
 Mason Police Department
 Massillon Police Department
 Maumee Police Department
 Mayfield Heights Police Department
 McDonald Village Police Department
 Mechanicsburg Police Department
 Medina County Sheriff's Office
 Medina Police Department
 Medina Twp. Police Department
 Meigs County Sheriff's Office
 Mentor Police Department
 Mentor-on-the-Lake Police Department
 Mercer County Sheriff's Office

Miami County Sheriff's Office
 Miami Twp. Police Department
 Miami University Police
 Miamisburg Police Department
 Middleburg Heights Police Department
 Middletown Police Department
 Milan Police Department
 Milford Police Department
 Millersburg Police Department
 Mingo Junction Police Department
 Monroe County Sheriff's Office
 Montgomery County Sheriff's Office
 Montgomery Police Department
 Montville Twp. Police Department
 Moraine Police Department
 Moreland Hills Police Department
 Morenci Police Department
 Morgan County Sheriff's Office
 Morrow County Sheriff's Office
 Mount Gilead Police Department
 Mount Vernon Police Department
 Mt. Orab Police Department
 Munroe Falls Police Department
 Muskingum County Sheriff's Office
 Napoleon Police Department
 Nelsonville Police Department
 New Albany Police Department
 New Concord Police Department
 New Franklin Police Department
 New London Police Department
 New Paris Police Department
 New Philadelphia Police Department
 Newburgh Heights Police Department
 Newcomerstown Police Department
 Newport Police Department
 Newtown Police Department
 Noble County Sheriff's Office
 North Canton Police Department
 North College Hill Police Department
 North Olmsted Police Department
 North Randall Police Department
 North Ridgeville Police Department
 North Royalton Police Department
 Northwood Police Department
 Norton Police Department
 Norwalk Police Department
 Norwood Police Department
 Oak Harbor Police Department
 Ohio Bureau of Criminal Investigation
 Ohio Department of Natural Resources
 Ohio Division of Wildlife
 Ohio State Highway Patrol
 Ohio University Police Department

Olmsted Twp. Police Department
 Ontario Police Department
 Oregon Police Department
 Ottawa County Sheriff's Office
 Ottawa Hills Police Department
 Oxford Police Department
 Oxford Twp. Police Department
 Painesville Police Department
 Parma Police Department
 Pataskala Police Department
 Paulding County Sheriff's Office
 Pepper Pike Police Department
 Perkins Twp. Police Department
 Perry County Sheriff's Office
 Perry Twp. Police Department
 Perrysburg Police Department
 Perrysburg Twp. Police Department
 Pickaway County Sheriff's Office
 Pickerington Police Department
 Pike County Sheriff's Office
 Piqua Police Department
 Poland Twp. Police Department
 Port Clinton Police Department
 Portage County Sheriff's Office
 Portsmouth Police Department
 Powell Police Department
 Preble County Sheriff's Office
 Put-In-Bay Police Department
 Putnam County Sheriff's Office
 Ravenna Police Department
 Reading Police Department
 Reynoldsburg Police Department
 Richland County Sheriff's Office
 Richmond Heights Police Department
 Ripley Police Department
 Rittman Police Department
 Riverside Police Department
 Rocky River Police Department
 Ross County Sheriff's Office
 Rossford Police Department
 Russell's Point Police Department
 Sagamore Hills Police Department
 Salem Police Department
 Sandusky County Sheriff's Office
 Sandusky Police Department
 Sardinia Police Department
 Scioto County Sheriff's Office
 Seneca County Sheriff's Office
 Seven Hills Police Department

Seville Police Department
 Shaker Heights Police Department
 Sharonville Police Department
 Shawnee Hills Police Department
 Shawnee Twp. Police Department
 Shelby County Sheriff's Office
 Shelby Police Department
 Sidney Police Department
 Solon Police Department
 South Euclid Police Department
 South Russell Police Department
 Springboro Police Department
 Springfield Police Department
 Springfield Twp. Police Department
 St. Bernard Police Department
 St. Clair Twp. Police Department
 St. Mary's Police Department
 St. Paris Police Department
 Stark County Sheriff's Office
 Steubenville Police Department
 Stow Police Department
 Streetsboro Police Department
 Strongsville Police Department
 Struthers Police Department
 Summit County Metro Park Rangers
 Summit County Sheriff's Office
 Sunbury Police Department
 Swanton Police Department
 Sylvania Police Department
 Sylvania Twp. Police Department
 Tallmadge Police Department
 Tiffin Police Department
 Tipp City Police Department
 Toronto Police Department
 Trenton Police Department
 Trotwood Police Department
 Troy Police Department
 Trumbull County Sheriff's Office
 Tuscarawas County Sheriff's Office
 Twinsburg Police Department
 Uhrichsville Police Department
 Union County Sheriff's Office
 Union Police Department
 Union Twp. Police Department
 University Heights Police Department
 University of Akron Police Department
 Upper Arlington Police Department
 Upper Sandusky Police Department
 Urbana Police Department

Utica Police Department
 Van Wert County Sheriff's Office
 Van Wert Police Department
 Vandalia Police Department
 Vermilion Police Department
 Villa Hills Police Department
 Village of Walbridge
 Police Department
 Vinton County Sheriff's Office
 Wadsworth Police Department
 Walton Hills Police Department
 Wapakoneta Police Department
 Warren County Sheriff's Office
 Warren Police Department
 Warren Twp. Police Department
 Warrensville Heights
 Police Department
 Washington County Sheriff's Office
 Washington Twp. Police Department
 Wauseon County Police Department
 Waverly Police Department
 Wayne County Sheriff's Office
 Waynesburg Police Department
 Waynesville Police Department
 Wellston Police Department
 Wellsville Police Department
 West Carrollton Police Department
 West Chester Police Department
 West Lafayette Police Department
 West Milton Police Department
 West Union Police Department
 Westerville Police Department
 Westlake Police Department
 Wickliffe Police Department
 Willard Police Department
 Williams County Sheriff's Office
 Willoughby Hills Police Department
 Willoughby Police Department
 Willowick Police Department
 Wilmington Police Department
 Wintersville Police Department
 Wood County Sheriff's Office
 Woodsfield Police Department
 Wooster Police Department
 Wyandot County Sheriff's Office
 Xenia Police Department
 Yellow Springs Police Department
 Youngstown Police Department
 Zanesville Police Department

Coroner's / Medical Examiner's Offices

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Athens County Coroner's Office
Auglaize County Coroner's Office
Belmont County Coroner's Office
Brown County Coroner's Office
Butler County Coroner's Office
Carroll County Coroner's Office
Champaign County Coroner's Office
Clark County Coroner's Office
Clermont County Coroner's Office
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Crawford County Coroner's Office
Cuyahoga County Medical Examiner's Office
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Fairfield County Coroner's Office
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Franklin County Coroner's Office
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Gallia County Coroner's Office
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Licking County Coroner's Office
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Morrow County Coroner's Office
Muskingum County Coroner's Office
Noble County Coroner's Office
Ottawa County Coroner's Office
Paulding County Coroner's Office
Perry County Coroner's Office
Pickaway County Coroner's Office
Pike County Coroner's Office
Portage County Coroner's Office
Preble County Coroner's Office
Putnam County Coroner's Office
Richland County Coroner's Office
Ross County Coroner's Office
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Union County Coroner's Office
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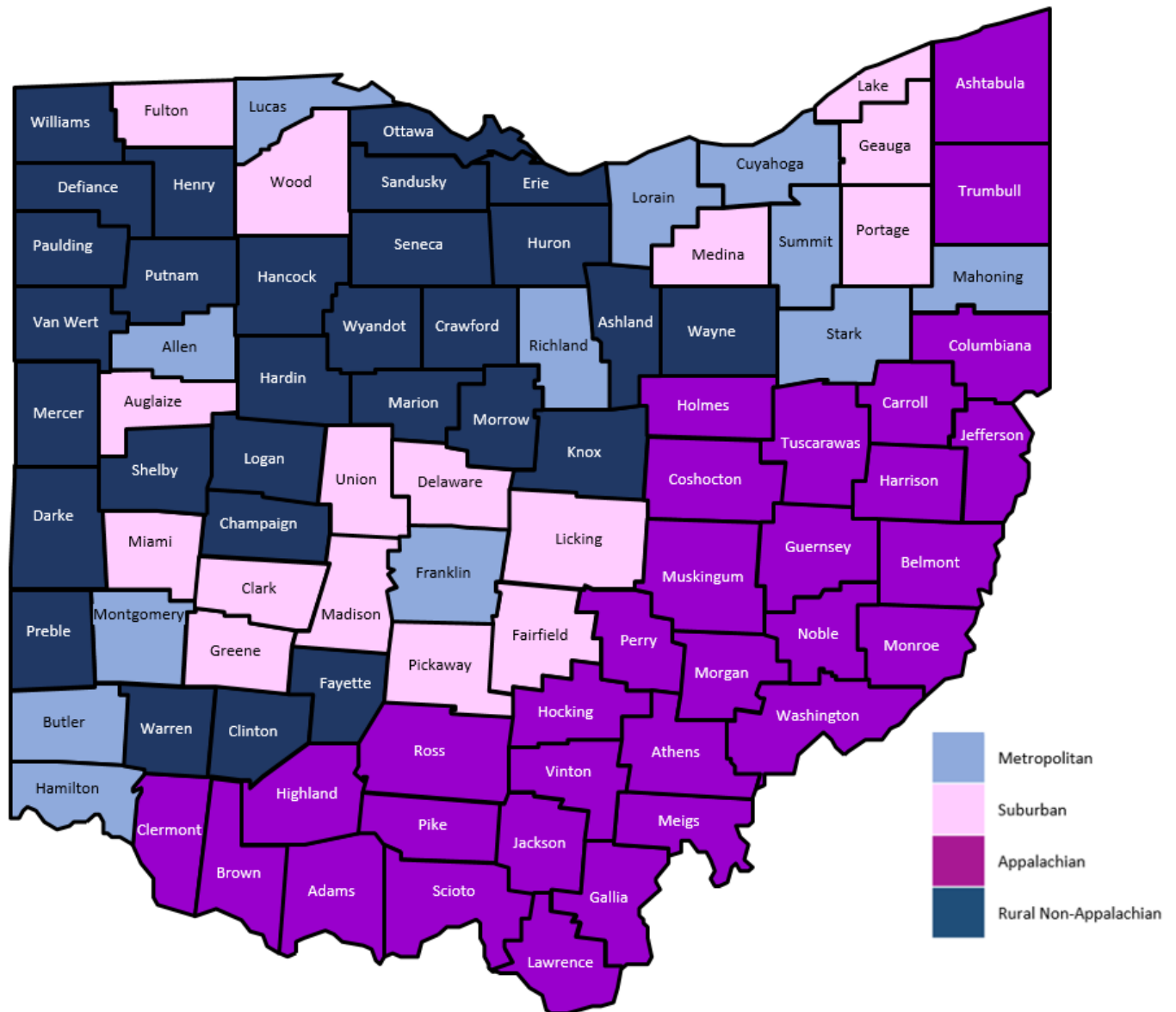
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Ohio Domestic Violence Network

R. Thomas Sherba, PhD, MPH
*Ohio Department of Mental Health
and Addiction Services*

Valerie Connolly-Leach, LCDCI, OCPSI
*Ohio Department of Mental Health
and Addiction Services*

Vicki Fleming
Stark County Coroner's Office

Appendix A: County Types



Glossary

Violent death - A death due to the intentional use of physical force against oneself, another person, or against a community or group.

Incident - The national reporting system is incident-based rather than victim-based. Incidents include a single violent death, two or more suicides, two or more homicides, homicides followed by suicides, or an unintentional firearm death combined with one or more suicides. The inclusion of two or more deaths in a single incident is based on the timing of the injuries rather than the timing of the deaths and the establishment of a clear link between victims. To be considered the same incident, the fatal injuries must have been inflicted within a 24-hour period.

Manner of death - The way in which the death was caused. This could be due to a suicide, homicide, unintentional or undetermined death.

Method of death - The weapon or instrument employed to administer the fatal injury.

Suicide - A death resulting from the intentional use of force against oneself. A preponderance of evidence should indicate that the use of force was intentional. Only persons ages 10 or older can have the violent death classified as a suicide.

Homicide - A death resulting from the intentional use of force or power, threatened or actual, against another person, group or community. A preponderance of evidence must indicate that the use of force was intentional.

Blunt instruments - Clubs, bats, rocks or other similar objects used to inflict the injury.

Criminal legal problem - The victim had recent criminal problems such as an arrest or police pursuit that appeared to contribute to the death.

Depressed mood - The victim had been perceived by self or others as having recent depression symptoms at the time of the injury.

Drug involvement - Drug dealing or illegal drug use is suspected to have played a role in precipitating the incident.

Financial problem - The victim was experiencing financial problems such as bankruptcy, overwhelming debt, or a home or business foreclosure at the time of the incident and these problems contributed to their death.

Gang-related - Gang rivalry or gang activities are suspected to have played a role in precipitating the incident.

Mental health problem - The victim had been identified as having a current mental health problem.

Mental health treatment - The victim had been currently receiving mental health treatment. Treatment can include seeing a psychiatrist for a mental health problem or receiving a prescription for psychiatric drugs.

Physical health problem - The victim was experiencing physical health problems that appeared to have contributed to the death. Physical health problems could include a debilitating disease, chronic pain or a terminal disease.

Other relationship problem - The victim had problems with a family member, friend or associate (other than intimate partner) that appeared to have contributed to the death.

Substance use problem - The victim was perceived to have a problem with drugs other than alcohol.

Crisis - The victim experienced a crisis within two weeks of the incident or a crisis was imminent within two weeks of the incident.

Intimate partner violence - The death is related to physical violence, sexual violence, stalking and/or psychological aggression (including coercive acts) by a current or former intimate partner

Personal weapons - Include fists, feet, and hands in actions such as punching, kicking or hitting. Manual strangulation is not categorized as personal weapons, but rather as strangulation.

Undetermined intent - A death resulting from the use of force or power against oneself or another person for which the evidence indicating manner of death is insufficient to determine intent.

Unintentional firearm death- A death resulting from a penetrating injury or gunshot wound from a weapon that uses a powder charge to fire a projectile and for which a preponderance of evidence indicates that the shooting was not directed intentionally at the victim.