Maryland Violent Death Reporting System
2009
Surveillance Report

Maryland Department of Health & Mental Hygiene

**Maryland Resident Homicides, Suicides, and Deaths
of Undetermined Manner**

July 2012

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Introduction

Deaths attributed to violence in the United States are a major public health concern. As part of a public health campaign to address the burden of these potentially preventable deaths, a National Violent Death Reporting System (NVDRS) is creating opportunities to study and monitor the violent deaths occurring in our country. In 2000, Congress approved funding for the creation of NVDRS to be administered by the Centers for Disease Control and Prevention (CDC). The CDC is responsible for providing directives and guidance for states participating in the surveillance system.

Based on the World Health Organization's (WHO) definition, a violent death is "*a death resulting from the intentional use of physical force or power against oneself, another person, or against a group or community. The person using the force or power need only have intended to use force or power; they need not have intended to produce the consequence that actually occurred. "Physical force" should be interpreted broadly to include the use of poisons or drugs. The word "power" includes acts of neglect or omission by one person who has control over another*".[1] The NVDRS collects information on when, where, and how these violent deaths happen, and attempts to gather additional information that may provide population-level insight into "why" these deaths occur. These findings will aid in the design and implementation of prevention/intervention efforts as well as the promotion of comprehensive and effectual policy solutions.

Currently, the CDC is funding 18 states to implement the NVDRS. The Maryland Department of Health and Mental Hygiene, Center for Health Promotion, was awarded funding for the implementation of the Maryland Violent Death Reporting System (MVDRS) in 2002. The first year of data collected for the MVDRS was 2003.

This is a descriptive report on Maryland occurrent violent deaths during 2009, inclusive of only Maryland residents. The report presents the information in four categories: all violent deaths, homicides, suicides, and undetermined deaths.

Methods

The NVDRS implements uniform definitions and project-specific software to create state-level databases that can be used to monitor and track trends of violent deaths. The database is structured to create separate observations for each individual death, aggregated within violent death incidents. Each incident has data that has been collected from a variety of sources, including death certificates, autopsy and scene inspection reports, and police reports. Under this arrangement, a single violent death incident must describe at least one violent death, but may associate multiple violent death victims.

The types of violent death described in this report include three categories specified by the NVDRS: Homicide, Suicide, and deaths of Undetermined Manner. The functional definitions for the following categories have been taken directly from the NVDRS Coding Manual version 3 (*http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/Fullmanual.pdf*).

> **Homicide:**
> *Homicide is defined as 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.*

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[1] Center for Disease Control and Prevention, National Violent Death Reporting System Coding Manual, (Atlanta, GA 2004)

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.

Undetermined Manner of Death:
A death resulting from the use of force or power against oneself or another person for which the evidence indicating one manner of death is no more compelling than the evidence indicating another manner of death.

Legal Intervention:
A death when the decedent was killed by a police officer or other peace officer (persons with specified legal authority to use deadly force), including military police, acting in the line of duty.

The data for the MVDRS were obtained from the medical examiner's records, death certificates, police reports, and some supplemental homicide reports. Data collection began with the electronic import of death certificates from the Maryland Vital Statistics Administration whose International Classification of Disease, Tenth Revision (ICD-10) code cause of death was consistent with the definition of violent death set forth by the CDC. A similar query was provided by the Office of the Chief Medical Examiner (OCME), based on the OCME-determined manner of death. These lists were reconciled, employing the CDC-prescribed functional definition of violent death whenever necessary. The information was then gathered from the documents in accordance with the CDC's National project.

For those incidents that did not have a police report available in the OCME file, the individual police agencies were contacted and the needed reports sought. An abstractor reviewed these reports in the same fashion as the OCME files were reviewed. Once all obtainable information was entered for each incident and internal quality control exercises were completed to ensure the integrity of the database, the data were determined ready for interpretation.

Data for this publication were taken from one or a combination of these sources depending on which source had been given primacy for a particular variable. Whenever conflicting or missing documentation was present between sources, a system of document authoritative primacy allowed the analyst to choose the document source for a particular item of information in a disciplined, orderly fashion. Using this method to retrieve data allowed analysis of the most complete information available from the database. The order of primacy is different for each variable. The directive for primacy is found in the NVDRS Coding Manual.

MVDRS data collection is unique in its ability to capture circumstances surrounding a violent death from reports by the OCME and / or the police report. Each of the circumstances captured by MVDRS have been defined by the CDC and these definitions can be found in the NVDRS Coding Manual version 3 (*http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/Fullmanual.pdf*). The **Appendix** contains the CDC definitions for some of the more common precipitating circumstances found in this report.

Case assignment for this analysis was based on the manner of death reported by the abstractor assigned death type. For this reason, frequency numbers for cases may differ slightly from those found in violent death figures published by the Vital Statistics Administration or in other MVDRS reports which use the ICD-10 code definition. The statistical software for analysis was SAS version 9.2. Rates for 2003 – 2009 were calculated using the population data from the Maryland Annual Vital Statistics Report.[2]

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[2] http://www.dhmh.state.md.us/vsa/SitePages/Home.aspx

Section 1: Overview of Maryland Resident Violent Deaths, 2009

In 2009, MVDRS reported a total of 1,637 violent deaths amongst Maryland residents. Figure 1 displays the trend in violent death rates over the past seven years, by manner of death. The Maryland crude violent death rate was 1.5 times that of the other NVDRS states combined rate (28.7 per 100,000 vs. 19.4 per 100,000, respectively).[3] Of all violent deaths among Maryland residents in 2009, deaths of undetermined manner accounted for 41.1% of deaths, followed by suicides (32.4%), homicides (25.1%) and deaths by legal intervention (1.3%) [Table 1].

Violent deaths of undetermined manner (n=673) accounted for the highest crude death rate at 11.8 per 100,000 population, followed by suicides (n=531) at 9.3 per 100,000 population and homicides (n=411) at 7.2 per 100,000 population [Table 1].

The 25–29 age group had the highest age-specific death rate (49.0 per 100,000) followed by the 20-24 age group (43.7 per 100,000) [Table 1]. Although over half of all violent deaths occurred amongst whites (59.7%), the death rate among blacks was 1.3 times higher than whites (35.6 vs. 26.9 per 100,000 population, respectively) [Table 1]. Males had a violent death rate 3.8 times that of females (46.2 vs. 12.3 per 100,000 population, respectively) [Table 1]. Males in the 20-24 age group had a violent death rate 6.4 times that of females (44.0 vs. 6.9 per 100,000 population, respectively) [Figure 2]. Baltimore City had the highest crude death rate at 74.1 per 100,000 population which was 6.1 times that of Montgomery County, which had the lowest rate (12.1 per 100,000 population) [Figure 3]. The most common method of injury was poisoning (42.9%), followed by firearms (34.0%). 10.5% of the deaths were by Hanging/strangulation/suffocation.

Males accounted for all the legal intervention deaths (n = 21) of which 67% were black. Close to twenty percent of all the legal intervention deaths occurred in the 10-24 age group (19.1%).

Figure 1: Trends in Violent Death Rates among Maryland Residents, by Manner of Death, 2003 – 2009

[3] http://wisqars.cdc.gov:8080/nvdrs/nvdrsDisplay.jsp
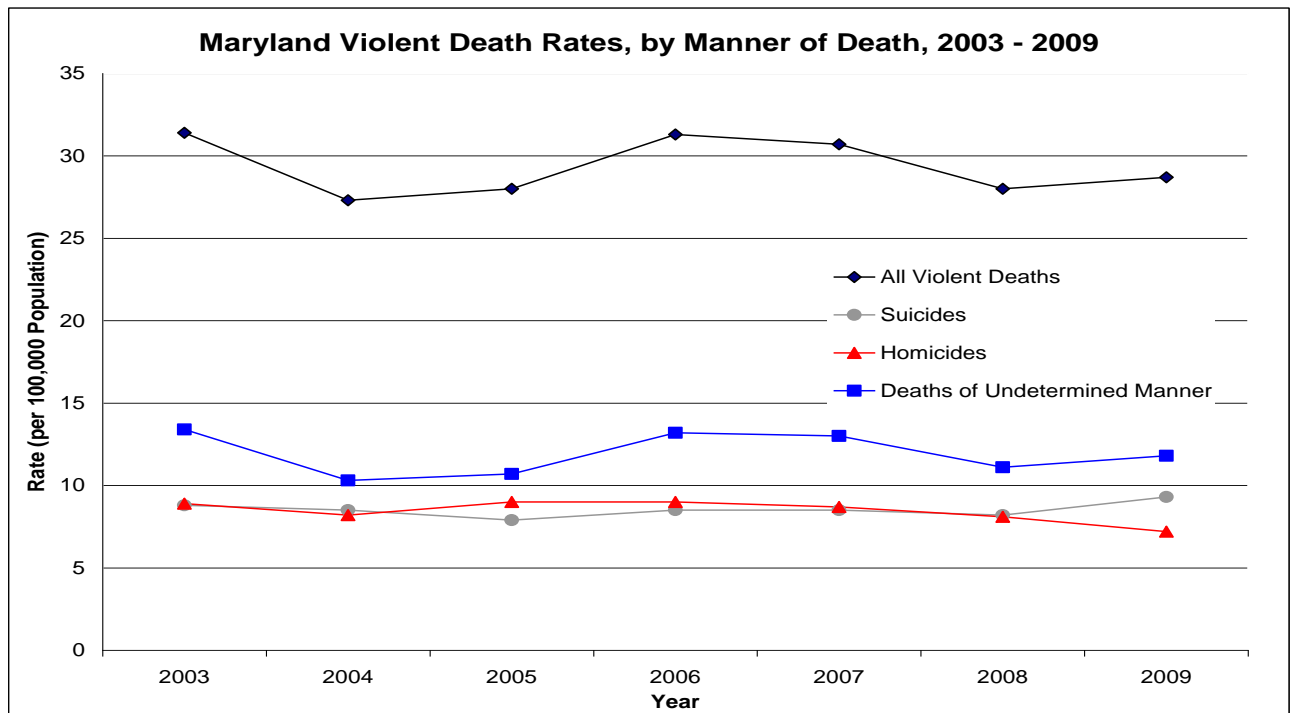
Table 1: Maryland Resident Violent Deaths (Demographics), 2009

	Number	Percent	Population	Rate per 100,000
All Violent Deaths	1,637	100	5,699,478	28.7
Intent				
Homicides	411	25.1	5,699,478	7.2
Suicides	531	32.4	5,699,478	9.3
Deaths of Undetermined Manner	673	41.1	5,699,478	11.8
Unintentional Self-inflicted	*	0.1	5,699,478	**
Legal Intervention	21	1.3	5,699,478	0.4
Sex				
Male	1,276	78.0	2,763,806	46.2
Female	361	22.1	2,935,672	12.3
Age Group (years)				
00-09	16	1.0	750,898	**
10-14	10	0.6	364,967	**
15-19	90	5.5	401,581	22.4
20-24	167	10.2	382,027	43.7
25-29	193	11.8	393,623	49.0
30-34	141	8.6	363,339	38.8
35-44	313	19.1	800,123	39.1
45-54	399	24.4	886,604	45.0
55-64	197	12.0	661,520	29.8
65-74	52	3.2	379,917	13.7
75-84	38	2.3	225,607	16.8
>=85	21	1.3	89,272	23.5
Race				
White	977	59.7	3,630,268	26.9
Black	614	37.5	1,726,477	35.6
Other	44	2.7	342,733	12.8
Unknown	*	0.1	---	---
Ethnicity				
Hispanic	56	3.4	411,133	13.6
Unknown	5	0.3	---	---

*Counts less than 6 are not reported.

**Rates are not calculated for counts < 20 because they are considered unstable.

Figure 2: Maryland Violent Death Rates by Age Group and Sex, 2009

Maryland Violent Death Rates by Age Group and Sex, 2009
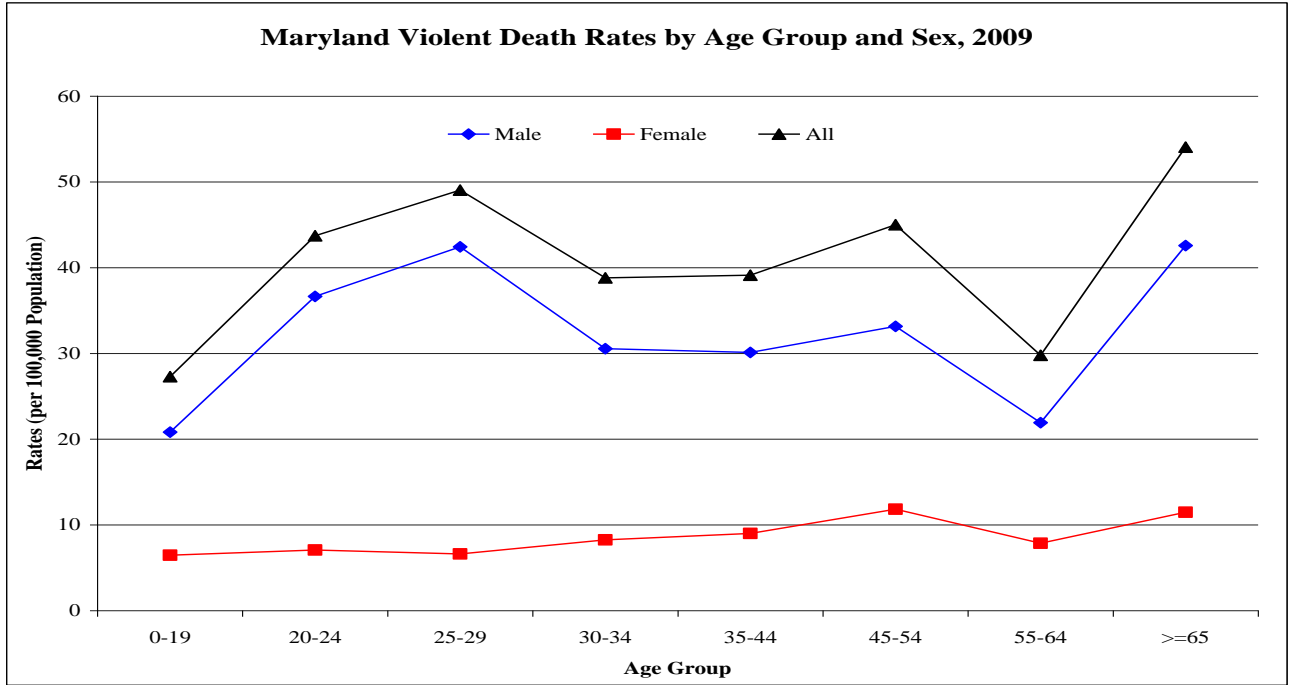
Figure 3: Violent Death Rates among Maryland Residents by County of Residence, 2009
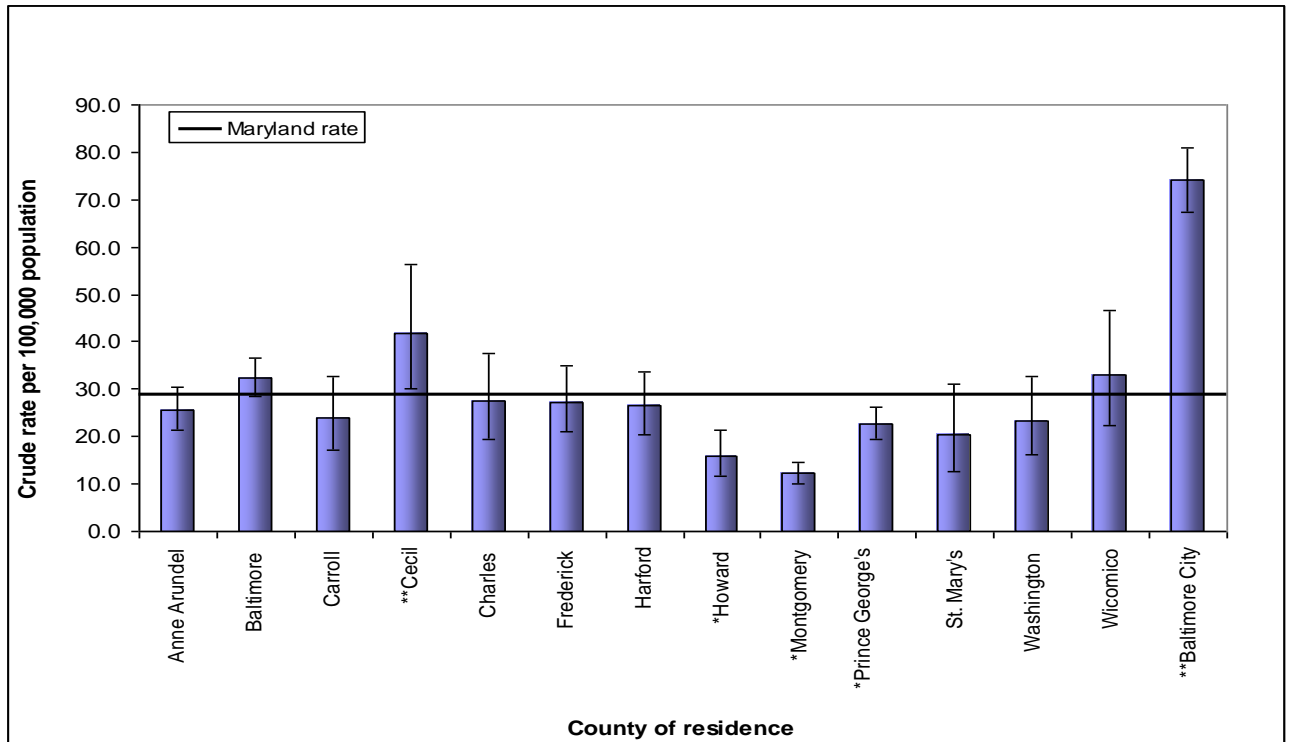
*Counties with violent death rates statistically significantly lower than the Maryland rate.

** Counties with violent death rates statistically significantly higher than the Maryland rate.

I Error bars indicate 95% confidence intervals. These indicate the level of uncertainty about each value on the graph. Longer intervals mean more uncertainty.

Note: Rates with counts <20 are not calculated because they are considered unstable. Therefore, the following county rates were not calculated: Allegany, Calvert,Caroline, Dorchester, Garrett, Kent, Queen Anne's, Somerset, Talbot, Worcester.

Section 2: Homicides among Maryland Residents, 2009

Highlighted Findings

● In 2009, MVDRS reported 411 homicides among Maryland residents of which more than half were among Baltimore City residents (52.3%). [Table 2 & Figure 4]

● The homicide rate for males was 6.4 times that for females (12.7 and 2.0 per 100,000 population, respectively). [Table 2]

● Blacks accounted for the majority of homicide deaths (75.9%) and the homicide rate for blacks was 7.5 times that for whites (18.1and 2.4 per 100,000 population, respectively). [Table 2]

● Baltimore City had the highest homicide rate at 33.7 per 100,000 population followed by Prince George's County residents at 9.1 per 100,000 population. [Figure 4]

● Over two thirds of all the homicides occurred in the house / apartment (38.0%) and the street / road, sidewalk / alley (35.5%). [Figure 5]

● The most common method of injury for all homicides were firearms (70.1%). [Table 3]

Table 2: Homicides among Maryland Residents (Demographics), 2009

	Number	Percent	Population	Rate per 100,000
All Homicide Deaths	411	100	5,699,478	7.2
Sex				
Male	352	85.6	2,763,806	12.7
Female	59	14.4	2,935,672	2.0
Age Group (years)				
00-09	14	3.4	750,898	**
10-14	*	1.2	364,967	**
15-19	46	11.2	401,581	11.5
20-24	80	19.5	382,027	20.9
25-29	71	17.3	393,623	18.0
30-34	42	10.2	363,339	11.6
35-44	73	17.8	800,123	9.1
45-54	48	11.7	886,604	5.4
55-64	20	4.9	661,520	3.0
65-74	6	1.5	379,917	**
75-84	*	1.00	225,607	**
>=85	*	0.4	89,272	**
Race				
White	86	20.9	3,630,268	2.4
Black	312	75.9	1,726,477	18.1
Other	12	2.9	342,733	**
Unknown	*	0.2	---	
Ethnicity				
Hispanic	29	7.1	411,133	7.1
Education				
<=8 years	35	8.5	--	--
9-12 years	306	74.5	--	--
13-16 years	58	14.1	--	--
>=17 years	6	1.5	--	--
Unknown	6	1.5	--	--

*Counts less than 6 are not reported

**Rates are not calculated for counts < 20 because they are considered unstable.

Figure 4: Homicide Death Rates among Maryland Residents by County of Residence, 2009
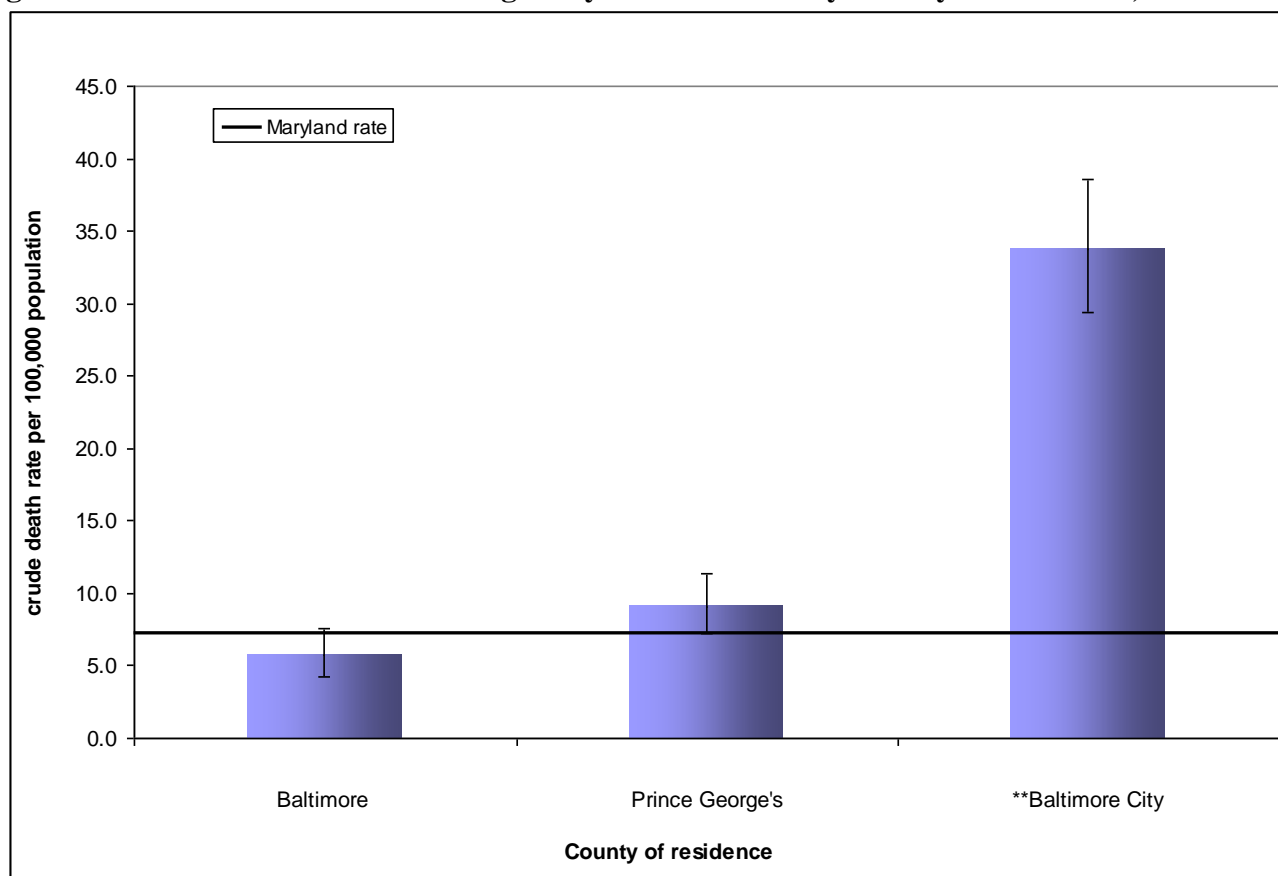
** Counties with violent death rates statistically significantly higher than the Maryland rate.
I Error bars indicate 95% confidence intervals. These indicate the level of uncertainty about each value on the graph. Longer intervals mean more uncertainty.
Note: Rates with counts <20 are not calculated because they are considered unstable. Therefore, the following county rates were not calculated: Allegany, Anne Arundel, Calvert, Caroline, Carroll, Cecil, Charles, Dorchester, Frederick, Garrett, Harford, Howard, Kent, Montgomery, Queen Anne's, St. Mary's, Somerset, Talbot, Washington, Wicomico, Worcester.

Figure 5. Top Five Locations of Maryland Homicides, 2009
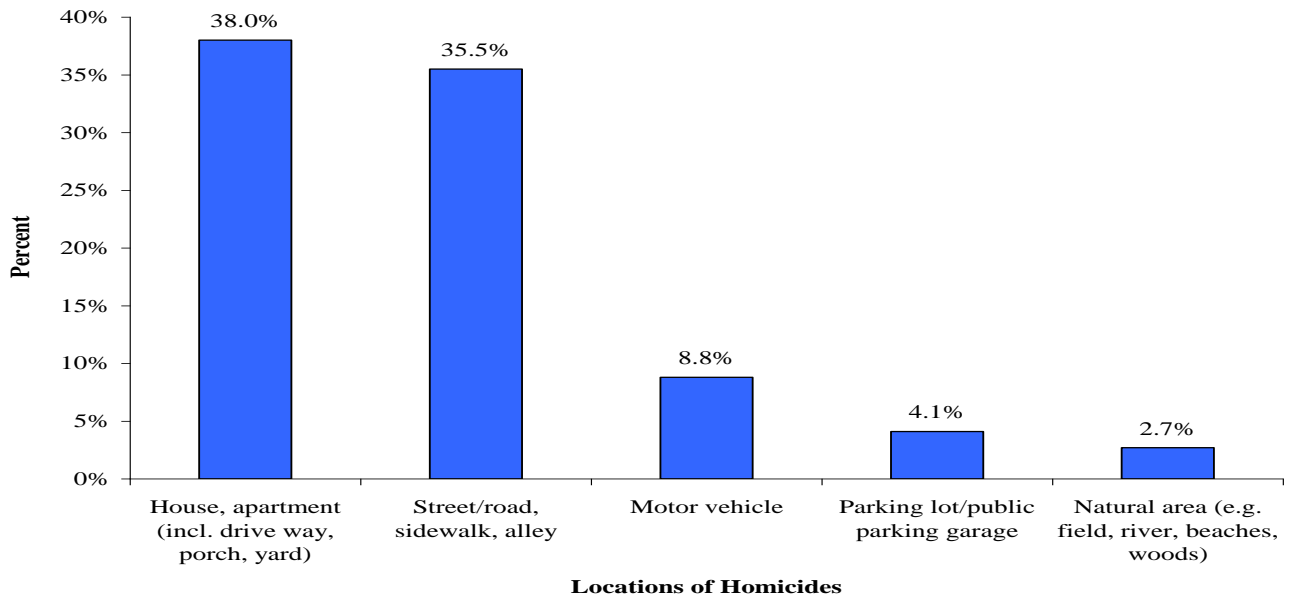
Table 3. Top Five Methods of Maryland Homicides, 2009

Top Five Methods of Injury	Number	Percent
Firearm	288	70.1
Sharp Instrument	60	14.6
Blunt Instrument	20	4.9
Other Combination of methods	14	3.4
Hanging/Strangulation/Suffocation	9	2.2

Table 6. Distribution of Top Methods of Maryland Homicides, by Gender, 2009
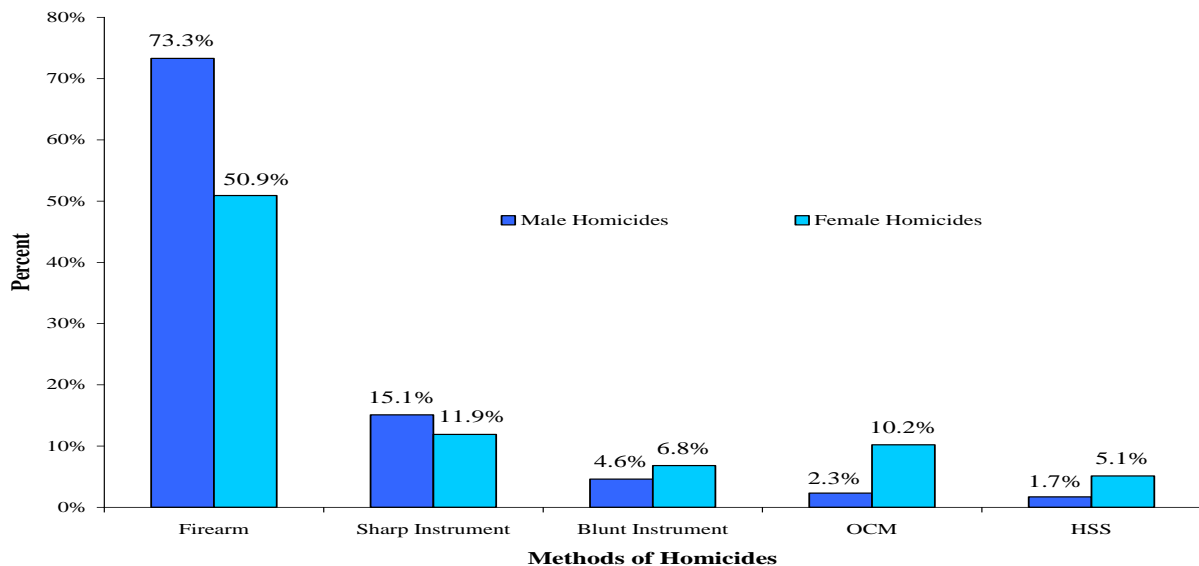
OCM = Other Combination of Methods; HSS = Hanging / Strangulation / Suffocation

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Table 4: Homicide Characteristics among Maryland Residents, 2009

	Total Number	Percent	Male Number	Percent	Female Number	Percent
All Homicide Deaths	411	100	352	100	59	100
EMS at the Scene						
Yes	374	91.0	325	92.3	49	83.1
Homeless						
Yes	4	1.0	3	0.9	1	1.7
Veteran Status						
Yes	25	6.1	23	6.5	2	3.4
Victim in Custody when Injured						
Yes, in jail or prison	6	1.5	6	1.7	0	0
Month of Injury						
January	41	10.0	32	9.1	9	15.3
February	33	8.0	28	8.0	5	8.5
March	30	7.3	25	7.1	5	8.5
April	32	7.8	27	7.7	5	8.5
May	33	8.0	29	8.2	4	6.8
June	34	8.3	28	8.0	6	10.2
July	35	8.5	29	8.2	6	10.2
August	34	8.3	30	8.5	4	6.8
September	42	10.2	33	9.4	9	15.3
October	26	6.3	26	7.4	0	0
November	36	8.8	34	9.7	2	3.4
December	35	8.5	31	8.8	4	6.8
Weekday of Injury						
Monday	62	15.1	57	16.2	5	8.5
Tuesday	40	9.7	32	9.1	8	13.6
Wednesday	52	12.7	43	12.2	9	15.3
Thursday	48	11.7	44	12.5	4	6.8
Friday	41	10.0	37	10.5	4	6.8
Saturday	42	10.2	40	10.5	4	6.8
Sunday	67	16.3	61	17.3	6	10.2
Unknown	59	14.4	38	10.8	21	35.6
Time of Injury						
Night (18:00 – 5:59)	187	45.5	175	49.7	12	20.3
Daytime (6:00 – 17:59)	77	18.7	70	19.9	7	11.9
Unknown	147	35.8	107	30.4	40	67.8

Table 5: Number and Percent of Homicide Victims tested for Alcohol and Drugs among Maryland Residents, 2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Homicide Deaths	411	100	352	100	59	100
Alcohol Testing						
Tested for Alcohol	397	96.6	343	97.4	54	91.5
Of those tested, positive for Alcohol	138	34.8	122	35.6	16	29.6
Of those positive for the presence of alcohol, BAC (mg/dL) levels						
>0-<0.08	66	16.6	55	16.0	11	20.4
0.08 - < 0.16	38	9.6	33	9.6	5	9.3
0.16 - < 0.24	24	6.1	24	7.0	0	0
>= 0.24	10	2.5	10	2.9	0	0
Drug Test Results Amphetamine Testing						
Tested for Amphetamines	400	97.3	342	97.2	58	98.3
Of those tested, positive for Amphetamines	16	4.0	15	4.4	1	1.7
Antidepressant Testing						
Tested for Antidepressants	400	97.3	342	97.2	58	98.3
Of those tested, positive for Antidepressants	13	3.3	9	2.6	4	6.9
Cocaine Testing						
Tested for Cocaine	400	97.3	342	97.2	58	98.3
Of those tested, positive for Cocaine	33	8.3	28	8.2	5	8.6
Opiate Testing						
Tested for Opiates	400	97.3	342	97.2	58	98.3
Of those tested, positive for Opiates	40	10.0	34	9.9	6	10.3
Testing for Other Drug(s)						
Tested for other drug(s)	399	97.1	341	96.9	58	98.3
Of those tested, positive for other drug(s)	103	25.8	86	25.2	17	29.3

Table 6: Associated Circumstances surrounding Homicides among Maryland Residents, 2009

	Total		Male		Female	
	N	Percent	N	Percent	N	Percent
All Homicide Deaths	411	100	352	100	59	100
Unknown	201	48.9	174	49.4	27	45.8
Known*:	210	51.1	178	50.6	32	54.2
Crime-related						
Precipitated by another crime	58	27.6	49	27.5	9	28.1
Crime in progress	38	18.1	35	19.7	3	9.4
Drug involvement	29	13.8	28	15.7	1	3.1
Gang related	8	3.8	8	4.5	0	0
Hate Crime	2	1.0	2	1.1	0	0
Brawl	6	2.9	6	3.4	0	0
Victim was a bystander	3	1.4	1	0.6	2	6.3
Drive-by shooting	9	4.3	8	4.5	1	3.1
Relationship Problem						
Intimate partner problem	15	7.1	7	3.9	8	25.0
Other relationship problem	2	1.0	1	0.6	1	0.6
Arguments and Conflicts						
Argument over money or property	16	7.6	11	6.2	5	15.6
Jealousy	9	4.3	8	4.5	1	3.1
Intimate partner violence related	24	11.4	11	6.2	13	40.6
Other argument, abuse or conflict	77	36.7	73	41.0	4	12.5
Perpetrator of interpersonal violence in the past month	5	2.4	5	2.8	0	0
Victim of interpersonal violence in the past month	2	1.0	2	1.1	0	0
Other						
Justifiable self-defense / law enforcement	5	2.4	5	2.8	0	0
Victim used weapon	9	4.3	9	5.1	0	0

*Total percentages might exceed 100% because one incident might have multiple circumstances.

Highlighted Findings of the Associated Circumstances

There were known circumstances in 51.1% of the homicides. Of these known circumstances:

- 27.6% of the homicides were precipitated by another crime and 36.7% were related to other arguments, conflicts or abuse.
- 15.7% of the male homicides had some drug involvement, compared to 3.1% of the female homicides.
- 25% of the female homicides had reported intimate partner problems compared to 3.9% of the male homicides.
- 40.6% of the female homicides were intimate partner violence related compared to 6.2% of the male homicides.

Section 3: Suicides among Maryland Residents, 2009

Highlighted Findings

● In 2009, MVDRS reported 531 suicides among Maryland residents (rate of 9.3 per 100,000). [Table 7]

● Male suicide rates were 4.3 times that of female rates (15.3 and 3.6 per 100,000 population, respectively). [Table 7]

● Age-specific suicide rates were highest among persons aged 45-54 (14.7 per 100,000 population) and followed by the 75-84 age group (14.2 per 100,000 population). [Table 7]

● The suicide rate among whites was 2.3 times that of blacks (11.5 vs. 5.0 per 100,000, respectively). [Table 7]

● The suicide rate was highest among residents of Cecil County (19.8 per 100,000) followed by Frederick County residents (14.0 per 100,000 population). [Figure 7]

● Three-fourths of all the suicides occurred in the House, apartment (incl. drive way, porch, yard). [Figure 8]

● Firearms were used in the majority of suicide deaths (46.5%) followed by hanging /strangulation /suffocation (30.7%) and poisoning (11.3%). [Table 8] Of the victims of poisoning, a total of 118 poisons were listed as causes of death, of which 64.2% were prescription drugs.*

● Amongst all the male suicides, 21.7% were veterans. [Table 9]

* Some victims had multiple prescription drugs listed as causes of death.

Table 7: Suicides among Maryland Residents (Demographics), 2009

	Number	Percent	Population	Rate per 100,000
All Suicide Deaths	531	100	5,699,478	9.3
Sex				
Male	424	79.9	2,763,806	15.3
Female	107	20.2	2,935,672	3.6
Age Group (years)				
00-09	*	0.2	750,898	**
10-14	*	0.9	364,967	**
15-19	26	4.9	401,581	6.5
20-24	38	7.2	382,027	10.0
25-29	48	9.0	393,623	12.2
30-34	41	7.7	363,339	11.3
35-44	82	15.4	800,123	10.3
45-54	130	24.5	886,604	14.7
55-64	74	13.9	661,520	11.2
65-74	37	7.0	379,917	9.7
75-84	32	6.0	225,607	14.2
>=85	17	3.2	89,272	**
Race				
White	417	78.5	3,630,268	11.5
Black	87	16.4	1,726,477	5.0
Other	27	5.1	342,733	7.9
Ethnicity			---	
Hispanic	14	2.6	411,133	**
Education				
<=8 years	28	5.3	--	--
9-12 years	289	54.4	--	--
13-16 years	157	29.6	--	--
>=17 years	52	9.8	--	--
Unknown	5	0.9	--	--

*Counts less than 6 are not reported.
**Rates are not calculated for counts < 20 because they are considered unstable.

Figure 7: Suicide Death Rates among Maryland Residents by County of Residence, 2009
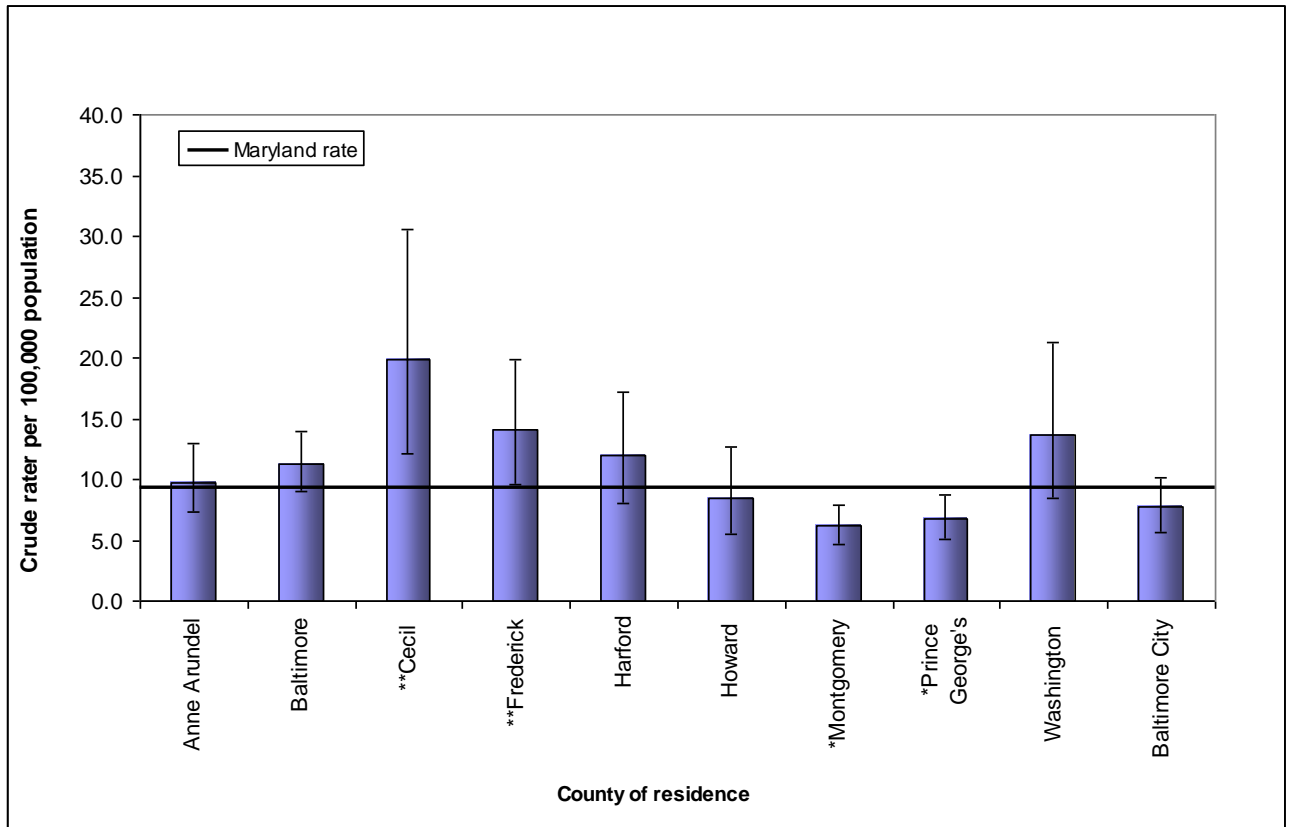
*Counties with violent death rates statistically significantly lower than the Maryland rate.
** Counties with violent death rates statistically significantly higher than the Maryland rate.
I Error bars indicate 95% confidence intervals. These indicate the level of uncertainty about each value on the graph. Longer intervals mean more uncertainty.
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Allegany, Calvert, Caroline, Carroll, Charles, Dorchester, Garrett, Kent, Queen Anne's, St. Mary's, Somerset, Talbot, Wicomico, Worcester.

Figure 8: Top Five Locations of Maryland Suicides, 2009

Bar chart with y-axis labeled "Percent" (0% to 80%) and x-axis labeled "Locations of Suicides":
- House, apartment (incl. drive way, porch, yard): 75.7%
- Motor vehicle: 5.8%
- Natural area (e.g. field, river, beaches, woods): 4.7%
- Jail, prison, detention facility: 3.6%
- Hotel/motel: 1.5%
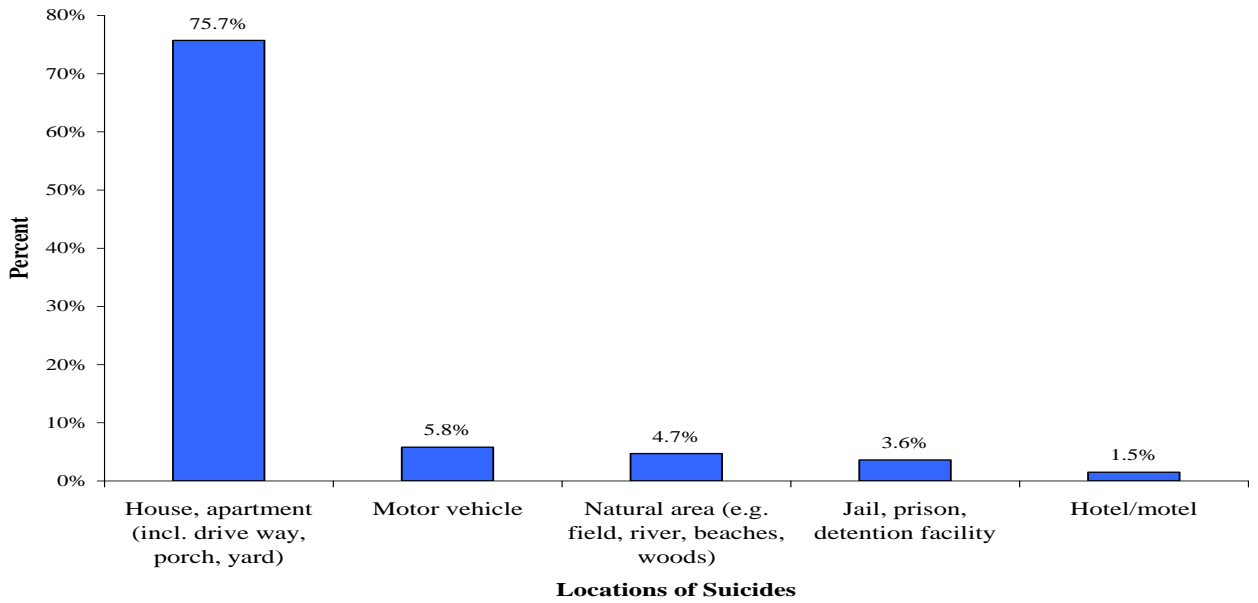
Table 8: Top Five Methods of Maryland Suicides, 2009

Top Five Methods of Injury	Number	Percent
Firearm	247	46.5
Hanging/Strangulation/Suffocation	163	30.7
Poisoning	60	11.3
Fall	18	3.4
Sharp Instrument	11	2.1
Poisoning and other method type	11	2.1

Figure 9: Distribution of Top Methods of Maryland Suicides, by Gender, 2009

Bar chart with y-axis labeled "Percent" (0% to 60%) and x-axis labeled "Methods of Suicides", comparing Male Suicides and Female Suicides:
- Firearm: Male 50.5%, Female 30.8%
- HSS: Male 30.9%, Female 29.9%
- Poisoning: Male 8.3%, Female 23.4%
- Sharp Instrument: Male 2.6%, Female 0.0%
- Fall: Male 2.4%, Female 7.5%
- Drowning: Male 0.5%, Female 4.7%

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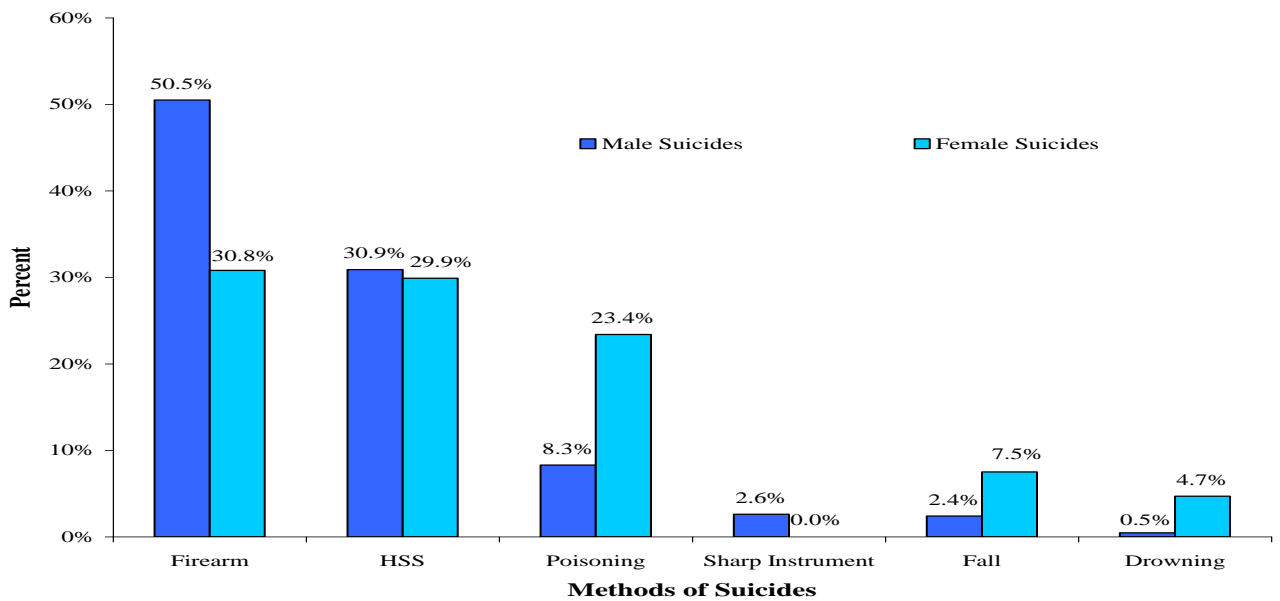
Table 9: Suicide Characteristics among Maryland Residents, 2009

	Total Number	Percent	Male Number	Percent	Female Number	Percent
All Suicide Deaths	531	100	424	100	107	100
EMS at the Scene						
Yes	434	81.7	343	80.9	91	85.1
Homeless						
Yes	8	1.5	7	1.7	1	0.9
Veteran Status						
Yes	95	17.9	92	21.7	3	2.8
Victim in Custody when Injured						
Yes, in jail or prison	18	3.4	15	3.5	3	2.8
Month of Injury						
January	40	7.5	30	7.1	10	9.4
February	38	7.2	29	6.8	9	8.4
March	40	7.5	32	7.6	8	7.5
April	61	11.5	52	12.3	9	8.4
May	48	9.0	36	8.5	12	11.2
June	49	9.2	41	9.7	8	7.5
July	36	6.8	29	6.8	7	6.5
August	46	8.7	37	8.7	9	8.4
September	47	8.9	36	8.5	11	10.3
October	41	7.7	37	8.7	4	3.7
November	43	8.1	34	8.0	9	8.4
December	42	7.9	31	7.3	11	10.3
Weekday of Injury						
Monday	56	10.6	40	9.4	16	15.0
Tuesday	41	7.7	37	8.7	4	3.7
Wednesday	63	11.9	50	11.8	13	12.2
Thursday	54	10.2	43	10.1	11	10.3
Friday	57	10.7	43	10.1	14	13.1
Saturday	45	8.5	39	9.2	6	5.6
Sunday	50	9.4	41	9.7	9	8.4
Unknown	165	31.1	131	30.9	34	31.8
Time of Injury						
Night (18:00 – 5:59)	68	12.8	56	13.2	12	11.2
Daytime (6:00 – 17:59)	84	15.8	65	15.3	19	17.8
Unknown	379	71.4	303	71.5	76	71.0

Table 10: Number and Percent of Suicide Victims tested for Alcohol and Drugs, Maryland Residents, 2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Suicide Deaths	531	100	424	100	107	100
Alcohol Testing						
Tested for Alcohol	485	91.3	393	92.7	92	86.0
Of those tested, positive for Alcohol	166	34.2	135	34.4	31	33.7
Of those positive for the presence of alcohol, BAC (mg/dL) levels						
>0-<0.08	62	12.9	50	12.9	12	13.0
0.08 - < 0.16	45	9.4	37	9.5	8	8.7
0.16 - < 0.24	38	7.9	32	8.2	6	6.5
>= 0.24	21	4.4	16	4.1	5	5.4
Drug Test Results Amphetamine Testing						
Tested for Amphetamines	389	73.3	310	73.1	79	73.8
Of those tested, positive for Amphetamines	4	1.0	0	0	4	5.1
Antidepressant Testing						
Tested for Antidepressants	390	73.5	310	73.1	80	74.8
Of those tested, positive for Antidepressants	75	19.2	51	16.5	24	30.0
Cocaine Testing						
Tested for Cocaine	389	73.3	310	73.1	79	73.8
Of those tested, positive for Cocaine	20	5.1	15	4.8	5	6.3
Opiate Testing						
Tested for Opiates	388	73.1	308	72.6	80	74.8
Of those tested, positive for Opiates	71	18.3	57	18.5	14	17.5
Testing for Other Drug(s)						
Tested for other drug(s)	391	73.6	309	72.9	82	76.6
Of those tested, positive for other drug(s)	179	45.8	125	40.5	54	65.9

Table 11: Associated Circumstances surrounding Suicides among Maryland Residents, 2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Suicide Deaths	531	100	424	100	107	100
Unknown	22	4.1	21	5.0	1	0.9
Known*:	509	95.9	403	95.1	106	99.1
Mental health and substance abuse						
Current depressed mood	212	41.7	171	42.4	41	38.7
Current mental health problem	260	51.1	191	47.4	69	65.1
Current mental health treatment	132	25.9	91	22.6	41	38.7
History of mental health treatment	241	47.4	175	43.4	66	62.3
Alcohol problem	111	21.8	93	23.1	18	17.0
Other substance abuse problem	97	19.1	84	20.8	13	12.3
Interpersonal						
Intimate partner problem	135	26.5	109	27.1	26	24.5
Other relationship problem	25	4.9	18	4.5	7	6.6
Suicide of friend or family in past 5 years	6	1.2	5	1.2	1	1.0
Other death of friend or family	33	6.5	27	6.0	9	8.5
Family stressor(s)	24	4.7	20	5.0	4	3.8
Perpetrator of interpersonal violence past month	11	2.2	10	2.5	1	0.9
Suicide markers						
Left a suicide note	190	37.3	151	37.5	39	36.8
Disclosed intent to commit suicide	181	35.6	145	36.0	36	34.0
History of suicide attempt(s)	111	21.8	75	18.6	36	34.0
Life stressors						
Crisis during previous two weeks	50	9.8	42	10.4	8	7.6
Physical health problem	106	20.8	82	20.4	24	22.6
Job problem	84	16.5	70	17.4	14	13.2
School problem	8	1.6	5	1.2	3	2.8
Financial problem	76	14.9	63	15.6	13	12.3
Recent criminal legal problem	53	10.4	45	11.2	8	7.6
Other legal problems	17	3.3	15	3.7	2	1.9
Eviction/loss of home	27	5.3	24	6.0	3	2.8

*Total percentages might exceed 100% because one incident might have multiple circumstances.

Highlighted Findings of the Associated Circumstances

There were known circumstances in 95.9% of the suicides. Of these known circumstances;

- 260 (51.1%) victims had a current mental health problem, with only 132 (25.9%) having been currently treated for their mental health problem.
- Close to half (47.4%) of the victims had a history of mental health treatment.
- Even though 65.1% of the females had a current mental health problem, only 38.7% received mental health treatment currently.
- 34% of the females had history of suicide attempt(s) compared to 18.6% of the males.

Section 4: Deaths of Undetermined Manner among Maryland Residents, 2009

Highlighted Findings

● In 2009, MVDRS reported 673 undetermined deaths in Maryland (rate of 11.8 per 100,000). [Table 12]

● The rate of undetermined deaths for males was 2.6 times the rate for females (17.3 and 6.6 per 100,000 population, respectively). [Table 12]

● Age-specific undetermined death rates were highest among those aged 45-54 years (24.4 per 100,000) followed by 35-44 age group (18.9 per 100,000). [Table 12]

● Whites accounted for 69.5% of undetermined deaths, and the rates were highest among whites (12.9 per 100,000 population) compared to blacks (11.6 per 100,000 population). [Table 12]

● Baltimore City residents had the highest rate of undetermined deaths followed by Cecil County residents (30.9 vs. 19.8 per 100,000 population, respectively). [Figure 10]

● 82.2% of all the undetermined deaths occurred in the house, apartment (including a driveway, porch, and yard). [Figure 11]

● Of the known methods of undetermined deaths, the most common method was poisoning, 95.5%. [Table 13] Of the victims of poisoning, a total of 1,071 poisons were listed as causes of death, of which 52.4% were prescription drugs.*

Table 12: Deaths of Undetermined Manner among Maryland Residents (Demographics), 2009

	Number	Percent	Population	Rate per 100,000
All Deaths of Undetermined Manner	673	100	5,699,478	11.8
Sex				
Male	478	71.0	2,763,806	17.3
Female	195	29.0	2,935,672	6.6
Age Group (years)				
00-09	*	0.2	750,898	**
10-14	0	0	364,967	0
15-19	17	2.5	401,581	**
20-24	46	6.8	382,027	12.0
25-29	74	11.0	393,623	18.8
30-34	54	8.0	363,339	14.9
35-44	151	22.4	800,123	18.9
45-54	216	32.1	886,604	24.4
55-64	101	15.0	661,520	15.3
65-74	9	1.3	379,917	**
75-84	*	0.3	225,607	**
>=85	*	0.3	89,272	**
Race				
White	468	69.5	3,630,268	12.9
Black	200	29.7	1,726,477	11.6
Other	*	0.6	342,733	**
Ethnicity			---	
Hispanic	11	1.6	411,133	**
Education				
<=8 years	29	4.3	--	--
9-12 years	465	69.1	--	--
13-16 years	145	21.6	--	--
>=17 years	17	2.5	--	--
Unknown	17	2.5	--	--

*Counts less than 6 are not reported.
**Rates are not calculated for counts < 20 because they are considered unstable.

Figure 10: Death Rates of Undetermined Manner among Maryland Residents by County of Residence, 2009
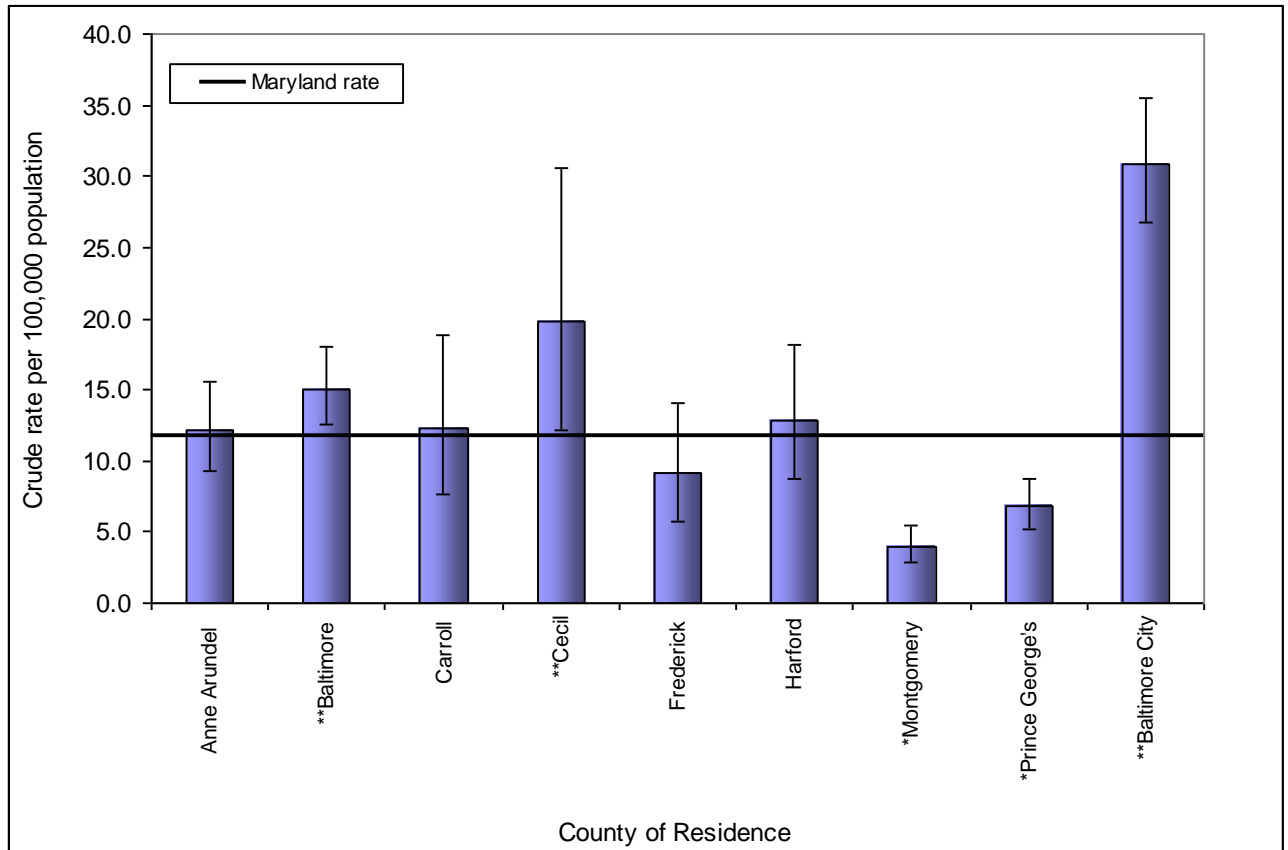
*Counties with violent death rates statistically significantly lower than the Maryland rate.
** Counties with violent death rates statistically significantly higher than the Maryland rate.
I Error bars indicate 95% confidence intervals. These indicate the level of uncertainty about each value on the graph. Longer intervals mean more uncertainty.
Note: Rates with counts <20 are not calculated because they are considered unstable. Therefore, the following county rates were not calculated: Allegany, Calvert, Caroline, Charles, Dorchester, Garrett, Howard, Kent, Queen Anne's, St Mary's, Somerset, Talbot, Washington, Wicomico, Worcester.

Figure 11: Top Five Locations of Deaths of Undetermined Manner among Maryland Residents, 2009

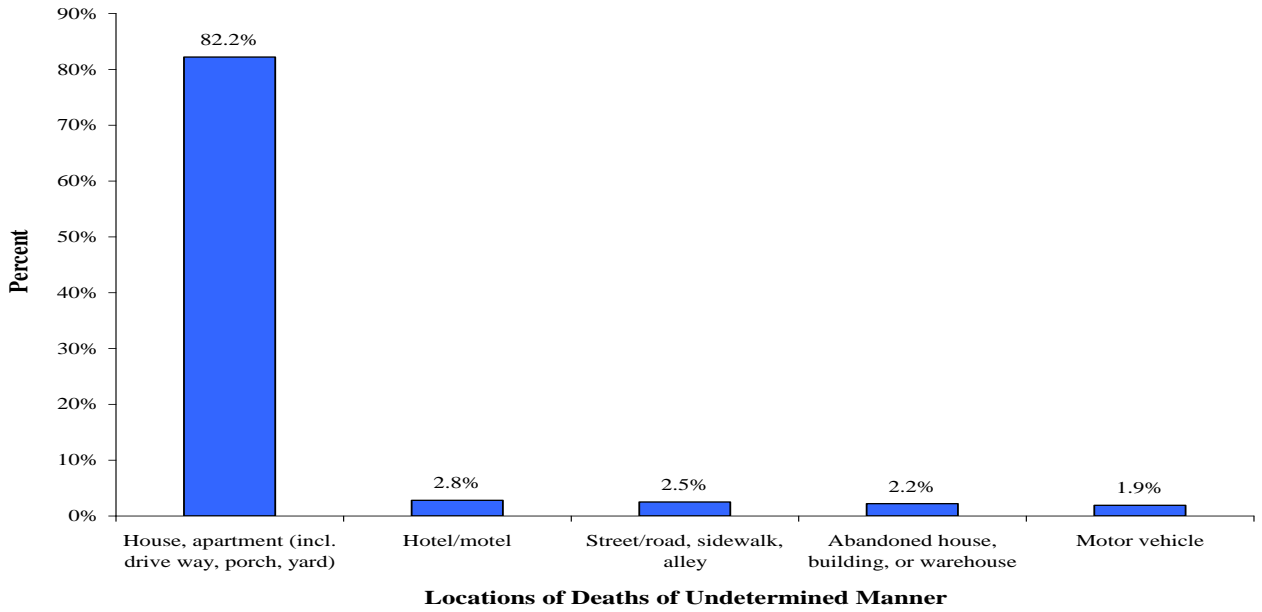**Table 13: Top Three Methods of Deaths of Undetermined Manner among Maryland Residents, 2009**

Top Three Methods of Injury	Number	Percent
Poisoning	643	95.5
Poisoning and other method type	11	1.6
Fall	4	0.6

Figure 12: Distribution of Top Methods of Maryland Deaths of Undetermined Manner, by Gender, 2009
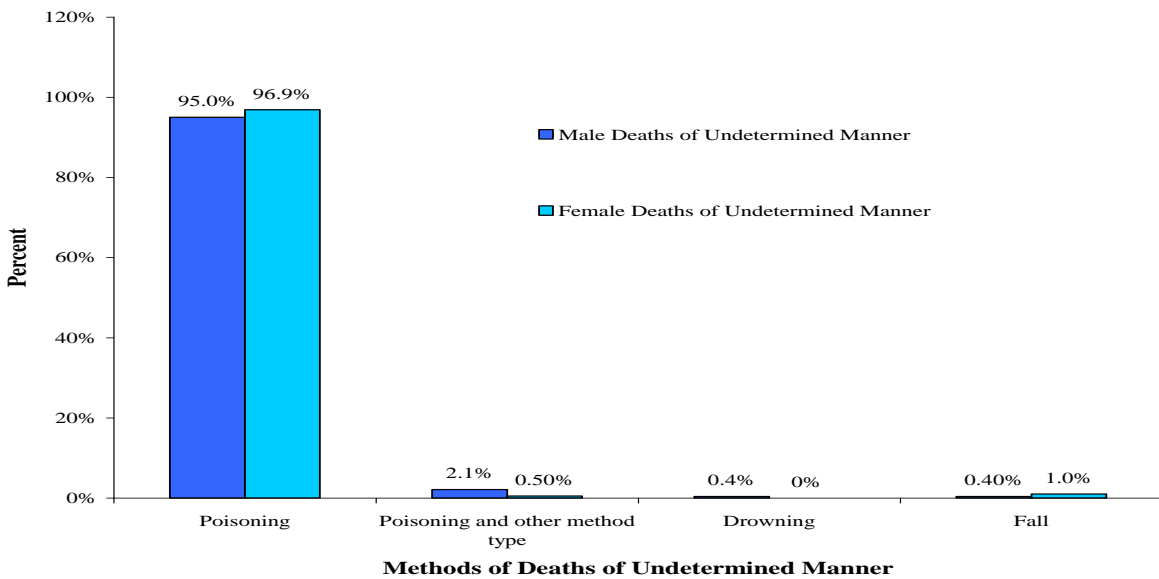

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Table 14: Characteristics of Deaths of Undetermined Manner among Maryland Residents, 2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Deaths of Undetermined Manner	673	100	478	100	195	100
EMS at the Scene						
Yes	610	90.6	432	90.4	178	91.3
Homeless						
Yes	31	4.6	24	5.0	7	3.6
Veteran Status						
Yes	59	8.8	55	11.5	4	2.1
Victim in Custody when Injured						
Yes, in jail or prison	6	0.9	6	1.3	0	0
Month of Injury						
January	53	7.9	40	8.4	13	6.7
February	41	6.1	26	5.4	15	7.7
March	48	7.1	30	6.3	18	9.2
April	58	8.6	42	8.8	16	8.2
May	50	7.4	37	7.7	13	6.7
June	59	8.8	39	8.2	20	10.3
July	61	9.1	44	9.2	17	8.7
August	59	8.8	45	9.4	14	7.2
September	49	7.3	32	6.7	17	8.7
October	67	10.0	46	9.6	21	10.8
November	64	9.5	50	10.5	14	7.2
December	64	9.5	47	9.8	17	8.7
Weekday of Injury						
Monday	69	10.3	50	10.5	19	9.7
Tuesday	56	8.3	35	7.3	21	10.8
Wednesday	45	6.7	34	7.1	11	5.6
Thursday	50	7.4	37	7.7	13	6.7
Friday	49	7.3	37	7.7	12	6.2
Saturday	64	9.5	40	8.4	24	12.3
Sunday	58	8.6	45	9.4	13	6.7
Unknown	282	41.9	200	41.8	82	42.1
Time of Injury						
Night (18:00 – 5:59)	28	4.2	22	4.6	6	3.1
Daytime (6:00 – 17:59)	31	4.6	27	5.7	4	2.1
Unknown	614	91.2	429	89.8	185	94.9

Table 15: Number and Percent of Undetermined Manner of Death Victims tested for Alcohol and Drugs among Maryland Residents, 2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Deaths of Undetermined Manner	673	100	478	100	195	100
Alcohol Testing						
Tested for Alcohol	648	96.3	460	96.2	188	96.4
Of those tested, positive for Alcohol	237	36.6	185	40.2	52	27.7
Of those positive for the presence of alcohol, BAC (mg/dL) levels						
>0-<0.08	100	15.5	78	17.1	22	11.8
0.08 - < 0.16	50	7.8	35	7.7	15	8.0
0.16 - < 0.24	35	5.4	30	6.6	5	2.7
>= 0.24	52	8.1	42	9.2	10	5.4
Drug Test Results Amphetamine Testing						
Tested for Amphetamines	662	98.4	470	98.3	192	98.5
Of those tested, positive for Amphetamines	9	1.4	7	1.5	2	1.0
Antidepressant Testing						
Tested for Antidepressants	662	98.4	470	98.3	192	98.5
Of those tested, positive for Antidepressants	173	26.1	97	20.6	76	39.6
Cocaine Testing						
Tested for Cocaine	662	98.4	471	98.5	191	98.0
Of those tested, positive for Cocaine	202	30.5	149	31.6	53	27.8
Opiate Testing						
Tested for Opiates	665	98.8	473	99.0	192	98.5
Of those tested, positive for Opiates	539	81.1	395	83.5	144	75.0
Testing for Other Drug(s)						
Tested for other drug(s)	663	98.5	470	98.3	193	99.0
Of those tested, positive for other drug(s)	403	60.8	270	57.5	133	68.9

Table 16: Associated Circumstances surrounding Deaths of Undetermined Manner among Maryland Residents, 2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Deaths of Undetermined Manner	673	100	478	100	195	100
Unknown	62	9.2	53	11.1	9	4.6
Known*:	611	90.8	425	88.9	186	95.4
Mental health and substance abuse						
Current depressed mood	48	7.9	34	8.0	14	7.5
Current mental health problem	202	33.1	118	27.8	84	45.2
Current mental health treatment	99	16.2	52	12.2	47	25.3
History of mental health treatment	196	32.1	118	27.8	78	41.9
Alcohol problem	244	39.9	179	42.1	65	35.0
Other substance abuse problem	491	80.4	345	81.2	146	78.5
Interpersonal						
Intimate partner problem	30	4.9	22	5.2	8	4.3
Other relationship problem	4	0.7	3	0.7	1	0.5
Other death of friend or family	12	2.0	6	1.4	6	3.2
Suicide markers						
Left a suicide note	2	0.3	0	0	2	1.1
Disclosed intent to commit suicide	31	5.1	17	4.0	14	7.5
History of suicide attempt(s)	44	7.2	16	3.8	28	15.1
Life stressors						
Crisis during previous two weeks	17	2.8	12	2.8	5	2.7
Physical health problem	159	26.0	102	24.0	57	30.7
Job problem	21	3.4	17	4.0	4	2.2
Financial problem	13	2.1	7	1.7	6	3.2
Recent criminal legal problem	13	2.1	10	2.4	3	1.6
Other legal problems	4	0.7	3	0.7	1	0.5
Eviction/loss of home	7	1.2	5	1.2	2	1.1

*Total percentages might exceed 100% because one incident might have multiple circumstances.

Highlighted Findings of the Associated Circumstances

There were known circumstances in 90.8% of the undetermined deaths. Of these known circumstances:

- 244 (39.9%) victims had alcohol problems and 491 (80.4%) had other substance abuse problems.

- 28 (15.1%) of females had a history of suicide attempt(s) compared to 3.8% of the males.

- 159 (26%) victims had some physical health problem.

Appendix: Centers for Disease Control and Prevention (CDC) Definitions for some Common Precipitating Circumstances

Alcohol problem - Person has alcohol dependence or alcohol problem. Code a victim as "Yes" if the victim was perceived by self or others to have a problem with, or to be addicted to, alcohol. There does not need to be any indication that the alcohol problem directly contributed to the death. A victim who is noted as participating in a alcohol rehabilitation program or treatment — including self-help groups and 12-step programs — should be coded as "Yes" even if the victim was noted as being currently sober. A problem from the past (i.e., five years or more ago) that has resolved and no longer appears to apply should not be coded. Do not code as "Yes" if victim was using alcohol in the hours preceding the incident and there is no evidence of dependence or a problem (these cases should be coded "Yes").

Crime in progress - The precipitative crime was in progress at the time of the incident. An "in-progress crime" is a serious or felony-related crime, as discussed under "Precipitated by another crime," that is being committed or attempted at the time of the incident.

Current depressed mood - Code this variable as "Yes" if the victim was perceived by self or others to be depressed at the time of the injury. There does not need to be any indication that the depression directly contributed to the death. Other words that can trigger coding this variable besides "depressed" are sad, despondent, down, blue, low, unhappy, etc. Words that should not trigger coding this variable are agitated, angry, mad, anxious, overwrought, etc. If the victim has a known clinical history of depression, but no depressive symptoms at the time of the incident, this variable should NOT be selected. Depressed mood should not be inferred by the coder based on the circumstances; rather it must be noted in the record.

Current mental health problem - Code a victim as "Yes" if he or she has been identified as currently having a mental health problem. There does not need to be any indication that the mental health condition directly contributed to the death. Mental health problems include those disorders and syndromes listed in the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, Fourth Revision) with the exception of alcohol and other substance dependence (as these are captured in separate variables). Examples of disorders qualifying as mental health problems include not only diagnoses such as major depression, schizophrenia, and generalized anxiety disorder, but developmental disorders (such as mental retardation, autism, attention-deficit hyperactivity disorder), eating disorders, personality disorders, and organic mental disorders such as Alzheimer's and other dementias. Also indicate "Yes" if it is mentioned in the source document that the victim was being treated for a mental health problem, even if the nature of the problem is unclear (e.g., "was being treated for various psychiatric problems"). It is acceptable to endorse this variable on the basis of past treatment of a mental health problem, unless it is specifically noted that the past problem has been resolved.

Disclosed intent to commit suicide - Victim disclosed to another person the intention to commit Suicide. Code as "Yes" if the victim had previously expressed suicidal feelings to another person, whether explicitly (e.g., "I'm considering killing myself") or indirectly (e.g., "I know how to put a permanent end to this pain"). Include in the incident narrative any available details about who the intent was disclosed to, how long before the death the intent was disclosed, and what was said during the disclosure.

History of suicide attempt(s) - Victim has a history of attempting suicide. Code as "Yes" if the victim was known to have made previous suicide attempts, regardless of the severity of those attempts or whether any resulted in injury. Evidence of a history of suicide attempts includes self-report and report or documentation from others including family, friends, and health professionals. For purposes of this data element, a suicide "attempt" should include the commission of an act that could lead to a fatal injury. If a person decides not to go through with an act after it has begun or is prevented from carrying out the action, this circumstance should not be endorsed.

Intimate partner problem - Problems with a current or former intimate partner appear to have contributed to the death. Code as "Yes" if at the time of the incident the victim was experiencing problems with a current or former intimate partner, such as a divorce, break-up, argument, jealousy, conflict, or discord, and this appears to have contributed to the death. The specific situation may also call for coding "Jealousy," "Other argument/abuse/conflict," "Victim of interpersonal violence in past month," etc. The burden of caring for an ill spouse or partner should not be coded as an intimate partner problem unless there is also evidence of relationship problems. Phrases such as "victim was having relationship problems" can be assumed to indicate intimate partner problems. If a victim kills or attacks his or her current or former intimate partner, code as "Yes" (this will also call for coding "Intimate partner violence related"). The only exception to this rule is if the death was clearly a consensual act, as in a mercy killing followed by suicide. Extreme caution should be used when identifying a case as a mercy killing; see discussion of the variable Mercy (mercy killing) in Section 8 of the NVDRS Coding Manual version 3 *(http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/Fullmanual.pdf)* .

Intimate partner violence related (IPV) - identifies cases in which a death is related to conflict between current or former intimate partners. An intimate partner is defined as a current or former girlfriend/boyfriend, date, or spouse. If other people are also killed (a child, friend of the victim, a bystander), and even if the intimate partner is not (e.g., the child of the intimate partner is the victim), code "Yes" for those victims as well. It will be apparent in the Victim-Suspect Relationship variable whether the victim and suspect were intimate partners. The definition of intimate partner includes first dates.

Jealousy Identifies cases in which jealousy or distress over an intimate partner's relationship or suspected relationship with another person led to the incident.

Other argument, abuse or conflict An argument or other interpersonal conflict such as abuse, insult, grudge, or personal revenge that precipitated the incident. Excludes arguments over money/property (Argue), intimate partner violence (IPV), and jealousy between intimate partners (Jealous). Cases that appear to involve child abuse, elder abuse, and abuse by a caretaker should be coded "Yes".

Other substance problem - Person has drug abuse problem. Code a victim as "Yes" if the victim was perceived by self or others to have a problem with, or to be addicted to drugs other than alcohol. There does not need to be any indication that the addiction directly contributed to the death. Code as "Yes" if a victim was noted as using illegal drugs (such as heroin or cocaine), abusing prescription medications (such as pain relievers or Valium), or regularly using inhalants (e.g., sniffing gas).

Precipitated by another crime - The death was precipitated by another serious crime (e.g., drug dealing, robbery). Code a victim as "Yes" if the incident occurred as the result of another serious crime. Note that the crime must occur *prior* to the violent injury, and not after it.