

Trends in Homicide Among Youth in Richmond, Virginia, 2003-2017

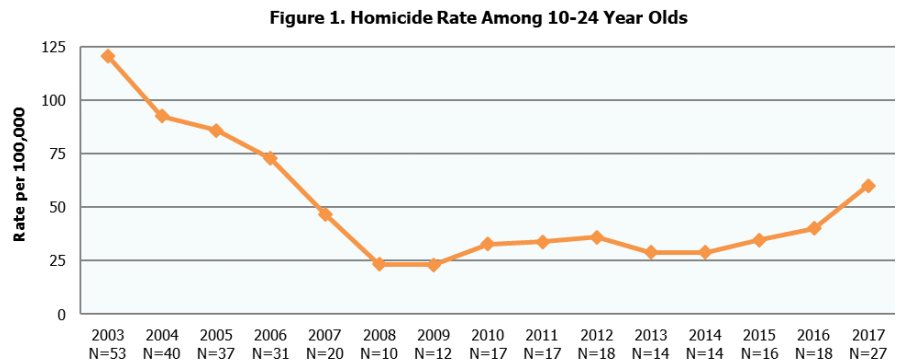
Background

This factsheet examines trends in homicide and suicide deaths using the Virginia Violent Death Reporting System (VVDRS). The VVDRS is a surveillance system that continuously collects data on violence related deaths. The Virginia Department of Health’s (VDH) Office of the Chief Medical Examiner (OCME) conducts the VVDRS as part of the National Violent Death Reporting System (NVDRS), which is funded by the Centers for Disease Control and Prevention.

This report summarizes data from the VVDRS, inclusive of calendar years 2003 through 2017. Data includes 10-24 year-olds who resided or were injured in Richmond City. Overall sex- and race-specific rates per 100,000 were calculated using the 5-year population estimates from the American Community Survey that corresponded to the years of death (2003-2017). Victim residence and injury location were geocoded to the U.S. Census block group and mapping was conducted using ArcGIS software.

Rates of Homicide

There were 344 deaths attributed to homicide between 2003 and 2017 among 10-24 year olds. The majority (95%) occurred in Richmond city and were Richmond city residents (79%). While the rate of homicide declined significantly from 120.7 per 100,000 in 2003 to 23.2 per 100,000 in 2009, the rate increased overall to 60.1 per 100,000 between 2010 and 2017 (Figure 1).



Demographic Characteristics

The majority of homicide victims were male, black, non-Hispanic and most were employed or students (Table 2). The average age ranged between 19.2 years and 21.7 years.

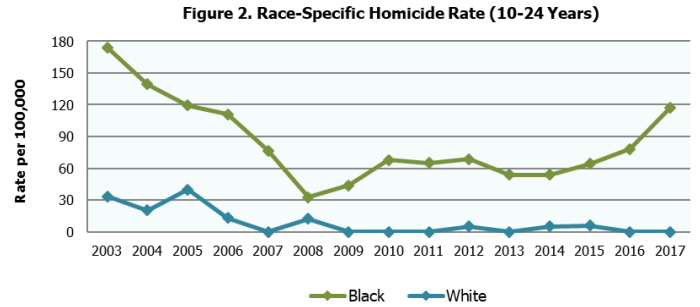
Table 2. Characteristics of Homicide Victims aged 10-24 Years

	Sex		Race			Ethnicity	Age	< High school Education ¹	Employed /Student
	Male	Female	Black	White	Other	Hispanic	Mean (range)		
2003	91%	9%	89%	9%	2%	6%	20.2 (15-24)	55%	68%
2004	98%	2%	93%	7%	0%	5%	20.7 (14-24)	50%	75%
2005	92%	8%	84%	16%	0%	8%	20.8 (13-24)	59%	81%
2006	94%	6%	90%	7%	3%	3%	20.1 (15-24)	70%	65%
2007	100%	0%	95%	0%	5%	5%	20.4 (15-24)	65%	60%
2008	80%	20%	80%	20%	0%	0%	19.2 (14-23)	40%	90%
2009	100%	0%	92%	0%	8%	0%	21.1 (17-24)	25%	83%
2010	88%	11%	100%	0%	0%	0%	21.7 (18-24)	35%	53%
2011	100%	0%	94%	0%	6%	6%	20.8 (18-24)	19%	53%
2012	89%	11%	94%	6%	0%	0%	20.9 (17-24)	61%	50%
2013	100%	0%	93%	0%	7%	0%	20.9 (18-24)	29%	71%
2014	71%	29%	93%	7%	0%	0%	20.4 (15-24)	43%	64%
2015	88%	12%	94%	6%	0%	0%	20.2 (12-24)	44%	77%
2016	89%	11%	100%	0%	0%	0%	21.3 (17-24)	24%	89%
2017	85%	15%	100%	0%	0%	4%	20.6 (15-24)	41%	59%
Overall	91%	9%	92%	6%	2%	4%	20.6 (12-24)	48%	69%

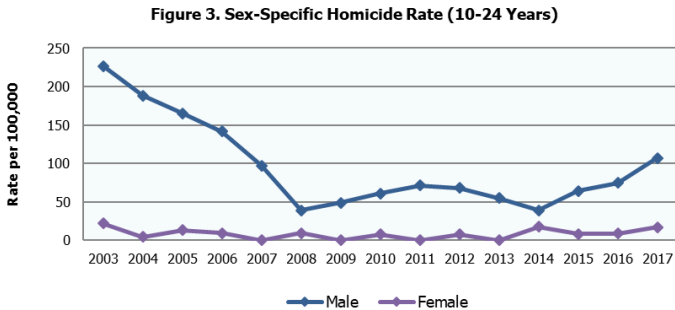
¹ < High School = Less than 12 years of education

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Figure 2 shows the trend in homicide rates by race. The rate of homicide among black youths declined significantly between 2003 and 2008 from 174.20 to 32.58 per 100,000, respectively. Gradual increases followed in 2009 (43.75 per 100,000) and 2010 (67.62 per 100,000) with a subsequent stabilization from 2011 to 2015 (range: 53.62 - 68.55 per 100,000) and increases in 2016 and 2017 up to 117.22 per 100,000.



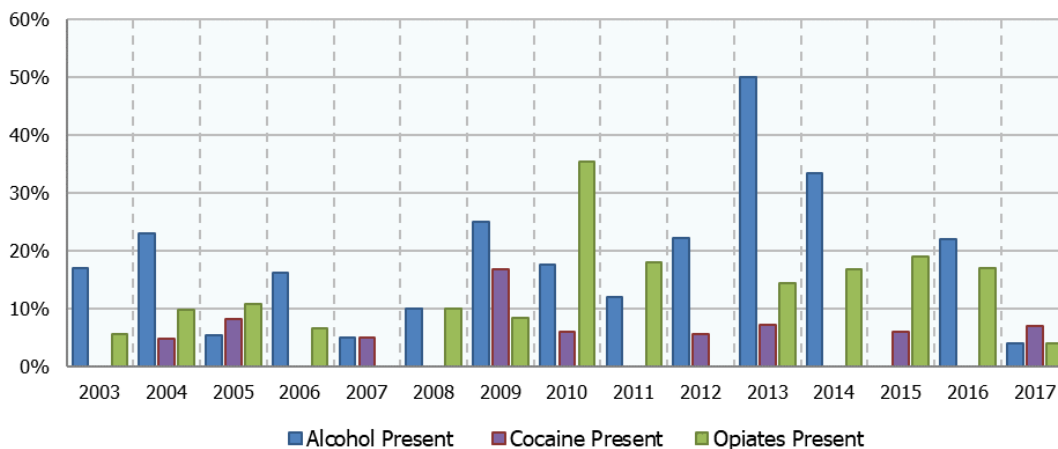
Rates of homicide remained generally stable in females, however, males compose the majority of homicide victims. As shown in Figure 3, similar to the overall rate, a decline in homicide rates among males was observed between 2003 and 2008 (226.8 to 38.7 per 100,000, respectively). The rate then gradually increased between 2009 (48.6 per 100,000) and 2011 (71.16 per 100,000), declined through 2014 (38.97 per 100,000), and was followed by increases between 2015 and 2017 to 106.84 per 100,000.



Alcohol and Drugs

The majority of victims were tested post-mortem for evidence of alcohol (Blood Alcohol Concentration >0.08) or drugs (legal and illicit). As shown in Figure 4, there was yearly variation in the type of substances that tested positive. In 2013 and 2014, the highest proportions of positive alcohol results were observed, among 50% and 33% of victims, respectively. By comparison, in the other years during this time period, the proportion of positive alcohol results ranged from none in 2015 to one-fourth of victims in 2009. The presence of cocaine was observed most frequently in 2009, among 17% of homicide victims; otherwise, the proportion was 7% or less in a year. The proportion of victims testing positive for opiates ranged from none to 11% between 2003 and 2009 and then peaked in 2010 with 35% of homicide victims having opiates detected post-mortem. Between 2011 and 2017, there were yearly fluctuations that tended to be slightly higher than previous years, with proportions of positive detections ranging from none to 19%.

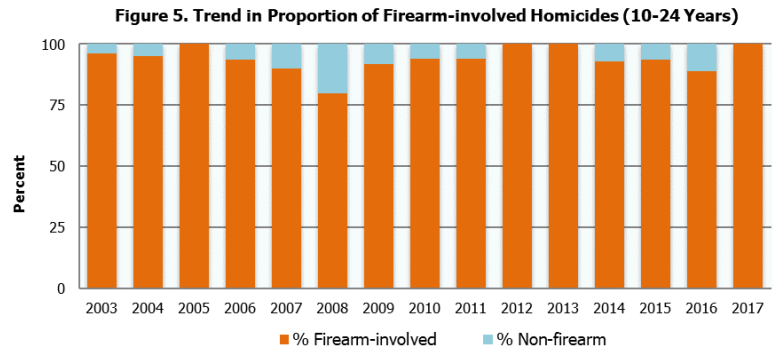
Figure 4. Trend in Alcohol & Drugs Detected in Homicide Victims (10-24 Years)



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Injury Characteristics

The majority of homicide deaths between 2003 and 2017 involved firearms. As shown in Figure 5, the proportion of firearm-involved homicides gradually declined from all homicide deaths in 2005 to 80% of deaths in 2008. This decline was then followed by increases between 2009 (92%) and 2013 (100%) and then another relatively small decline to 89% in 2016 and subsequent increase to all homicides in 2017.

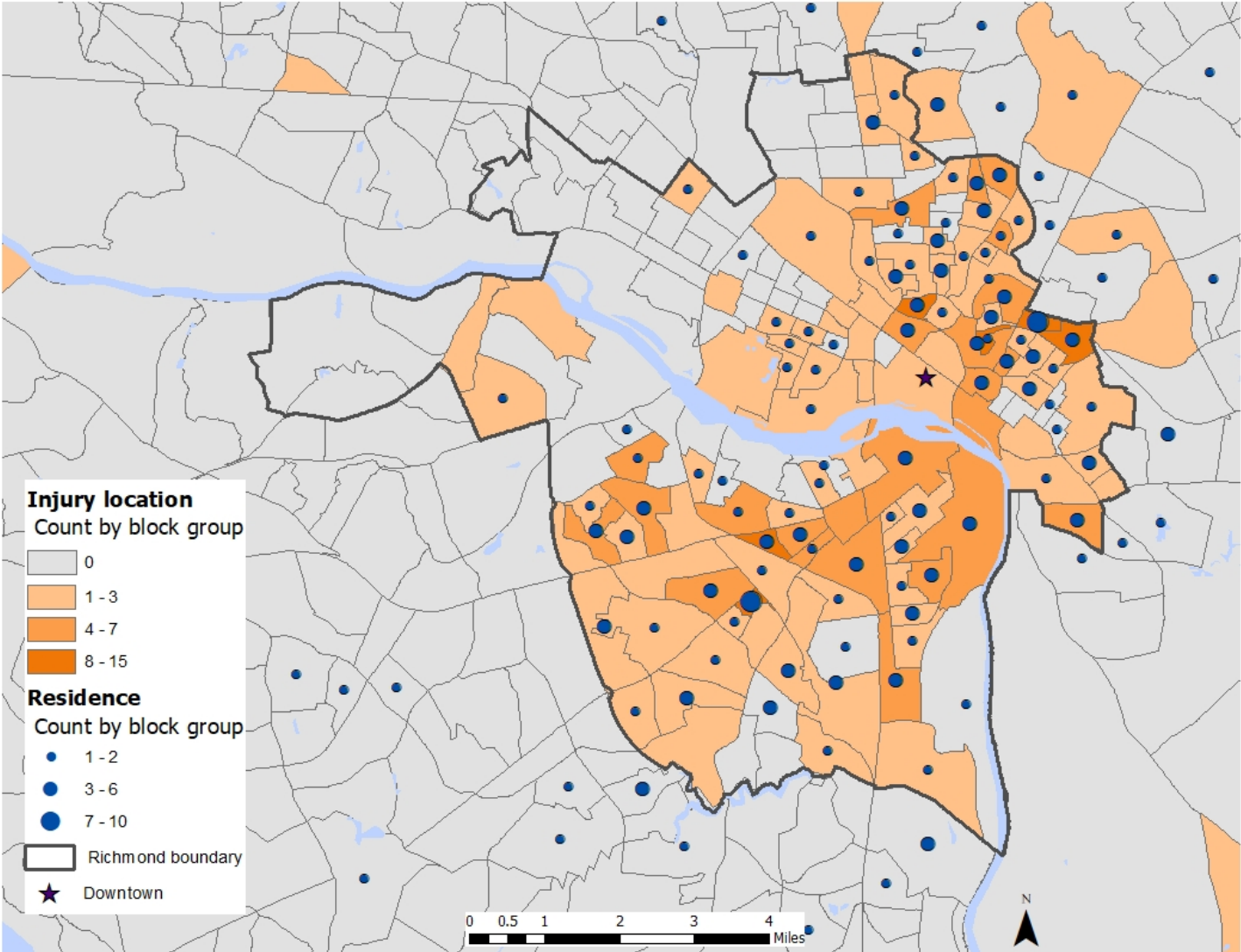


Geographic Distribution

A relatively small proportion of homicides (14%) occurred at the victim's residence. The four most common locations of injuries were on a street/road (41%), in a house/apartment other than their residence (34%), inside a motor vehicle (12%) or in a parking lot/garage (6%). Figure 6 is a map showing the distribution of homicides between 2003 and 2017 as well as the victims' residence by census block group; blue circles represent the count of homicide victim residences within block groups. Most injuries that resulted in homicide (i.e., orange shaded block groups) occurred in the north, northeast, eastern, southcentral and southeastern parts of the city. The highest concentrations of injuries were located in four block groups located directly north and northeast of downtown and in one block group in the southcentral area. About one-fifth of victims (21%) resided outside of Richmond city, but the injuries that resulted in homicide occurred within the city's boundaries (Figure 6).

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Figure 6. Homicide Injury Location and Residence of Victim by Census Block Group Among 10-24 Year Olds, 2003-2017

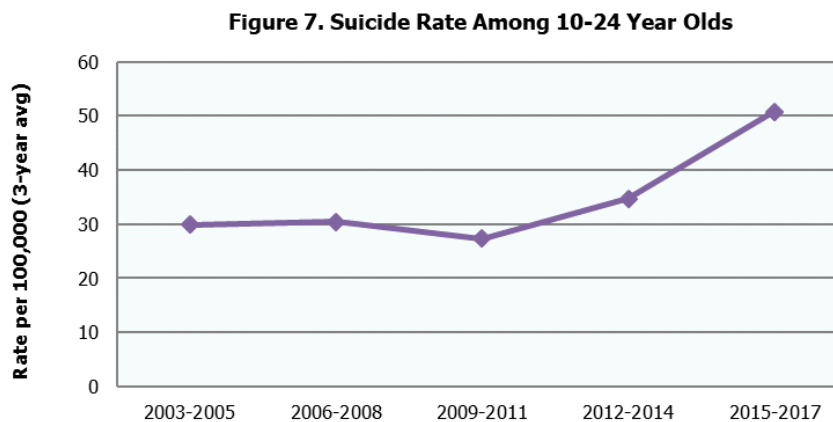


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Suicide Deaths

Between 2003 and 2017, there were 84 deaths attributed to suicide among 10-24 year olds. Most of these deaths (93%) occurred in Richmond city and three-quarters were among Richmond city residents. The 3-year rates of suicide were stable during 2003-05, 2006-08, and 2009-11 at 29.9, 30.4, and 29.9 per 100,000, respectively. Increases in the rates of suicide were then observed; 34.7 per 100,000 in 2012-14 and 50.8 per 100,000 in 2015-17 (Figure 7).

The majority of suicide victims were male (80%). Overall, 61% of suicide victims were white, 31% were black, and 8% were of other races; 8% were of Hispanic origin. On average, victims were 20.8 years of age (median 21.0). The majority (79%) suicide victims had 12 or more years of education and were employed or a student (81%). Nearly half (48%) of suicides were gun-related.



Acknowledgment: The source of the data is the Virginia Violent Death Reporting System, Office of the Chief Medical Examiner, Virginia Department of Health.

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The VCU Clark-Hill Institute for Positive Youth Development is a National Academic Center of Excellence for Youth Violence Prevention and is funded by the Centers for Disease Control and Prevention (CDC). For more information contact: Derek Chapman, PhD at derek.chapman@vcuhealth.org or Diane Bishop, MPH at diane.bishop@vcuhealth.org