Substance Use and Violence: Clues from Homicide Victims in Virginia, 2003-2006

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Overview

Homicides result from the intentional use of force against another person. There were 1,717 homicides in Virginia between 2003 and 2006. Virginia's annual population over this four-year period averaged 7,514,127. The majority (88%) of Virginia cities and counties had at least one homicide occur within their borders in this time period.

This paper associates homicide victims with their post-mortem toxicology findings.[1] Post-mortem toxicology is the analysis of bodily fluids (e.g., blood, urine) and other human material (e.g., liver, bone) to test for the presence of specific substances as part of medicolegal death investigation. Analysis for this paper was limited to homicide victims ages 15 and older (1,608 persons).

Figure 1 shows the percentage of victims who were tested for selected substances. Three substances - alcohol, cocaine, and opiates - were tested for the majority of victims.[2]

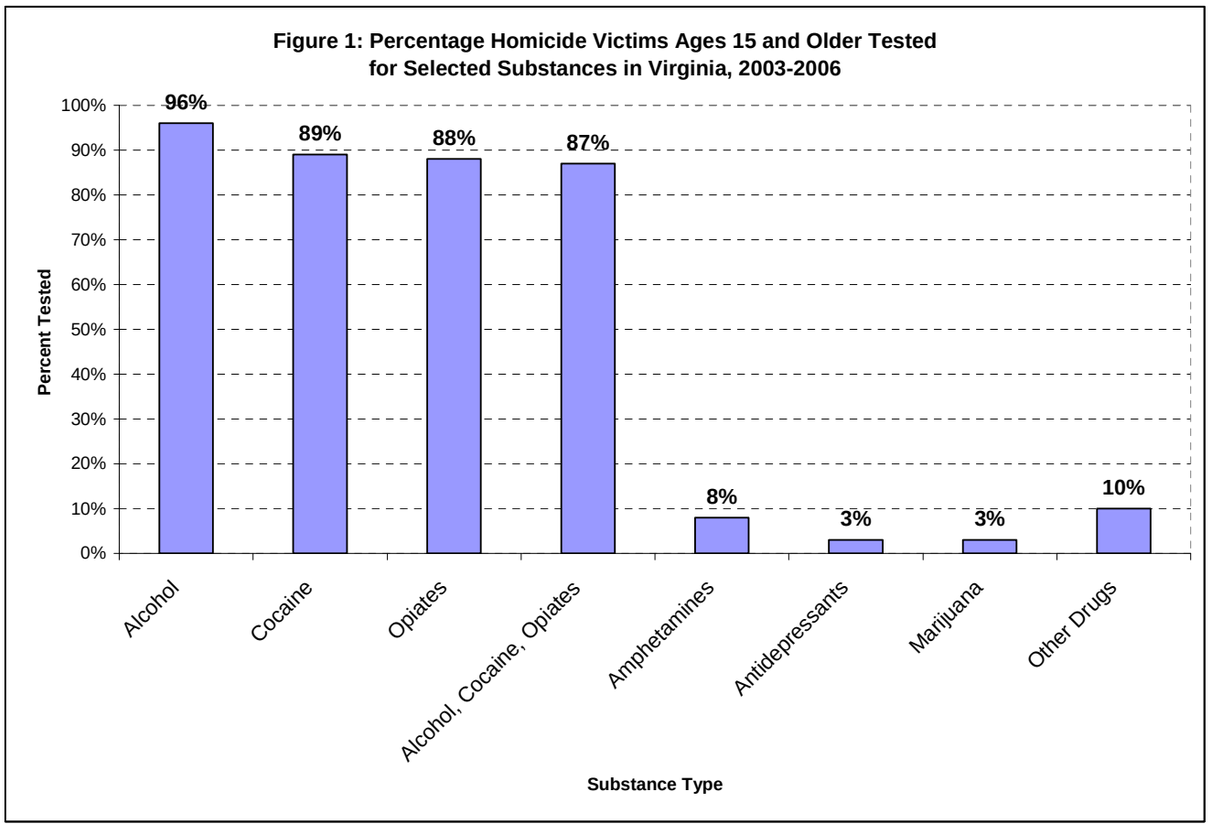


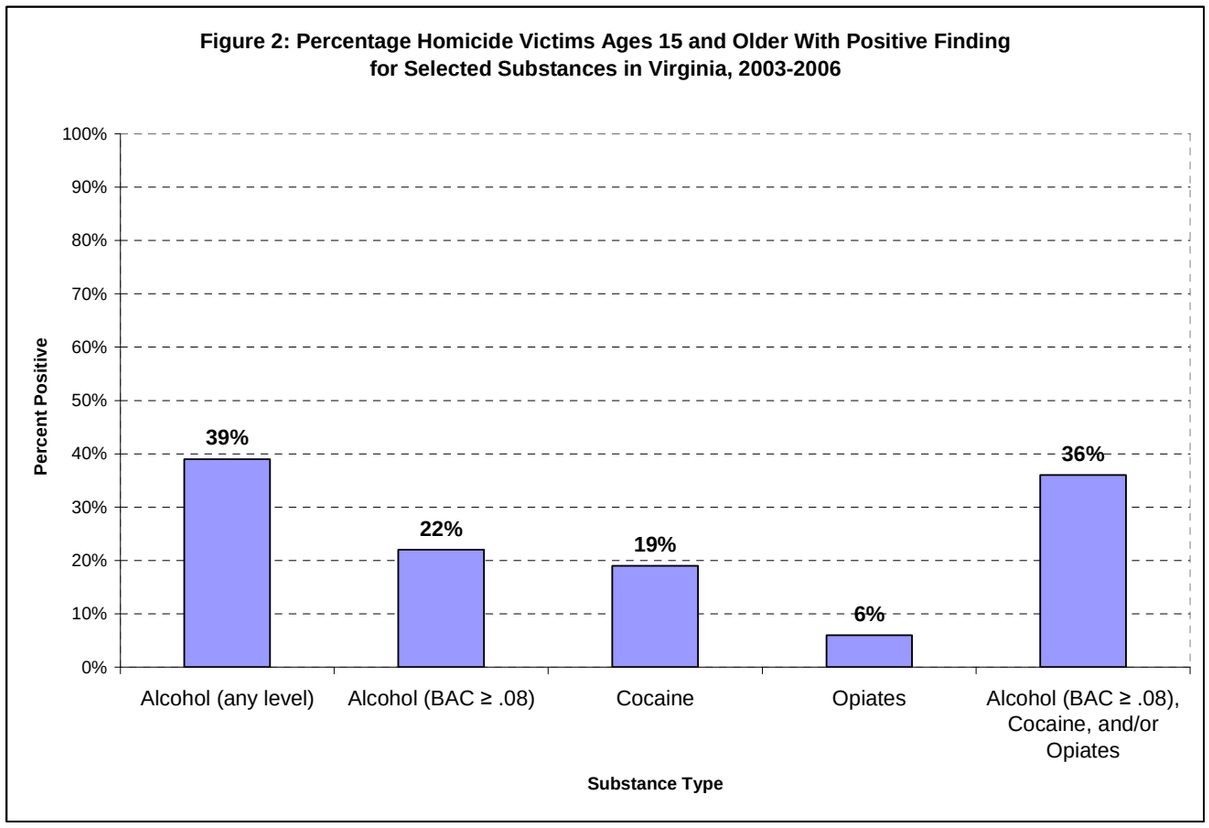
Figure 2 shows the proportion of victims with positive findings for these substances,[3] including persons who were positive for alcohol at any concentration and those with a Blood Alcohol Concentration (BAC) of .08 or greater.[4] Overall, 36% of these victims had positive findings for a BAC ≥ .08, cocaine, and/or opiates.

[1] All data in this paper comes from the National Violent Death Reporting System (NVDRS). The Virginia Violent Death Reporting System (VVDRS) is the operating and reporting system of the NVDRS in Virginia, and uses the methodology, definitions, coding schema, and software of the NVDRS.

[2] The VVDRS records alcohol and alcohol content on blood toxicology only. Opiates (e.g., Hydrocodone, Oxycodone) may have been obtained by prescription or illicit means. Other Drugs are substances that do not fit into the listed categories (e.g., Diazepam, Phencyclidine).

[3] Percentages are based upon the number of victims tested for each substance.

[4] Toxicology findings for alcohol are expressed in two forms: as being present at any Blood Alcohol Concentration (BAC) and as being present at a BAC ≥ .08. This BAC is the legal standard for intoxication (for adults) while driving in Virginia.

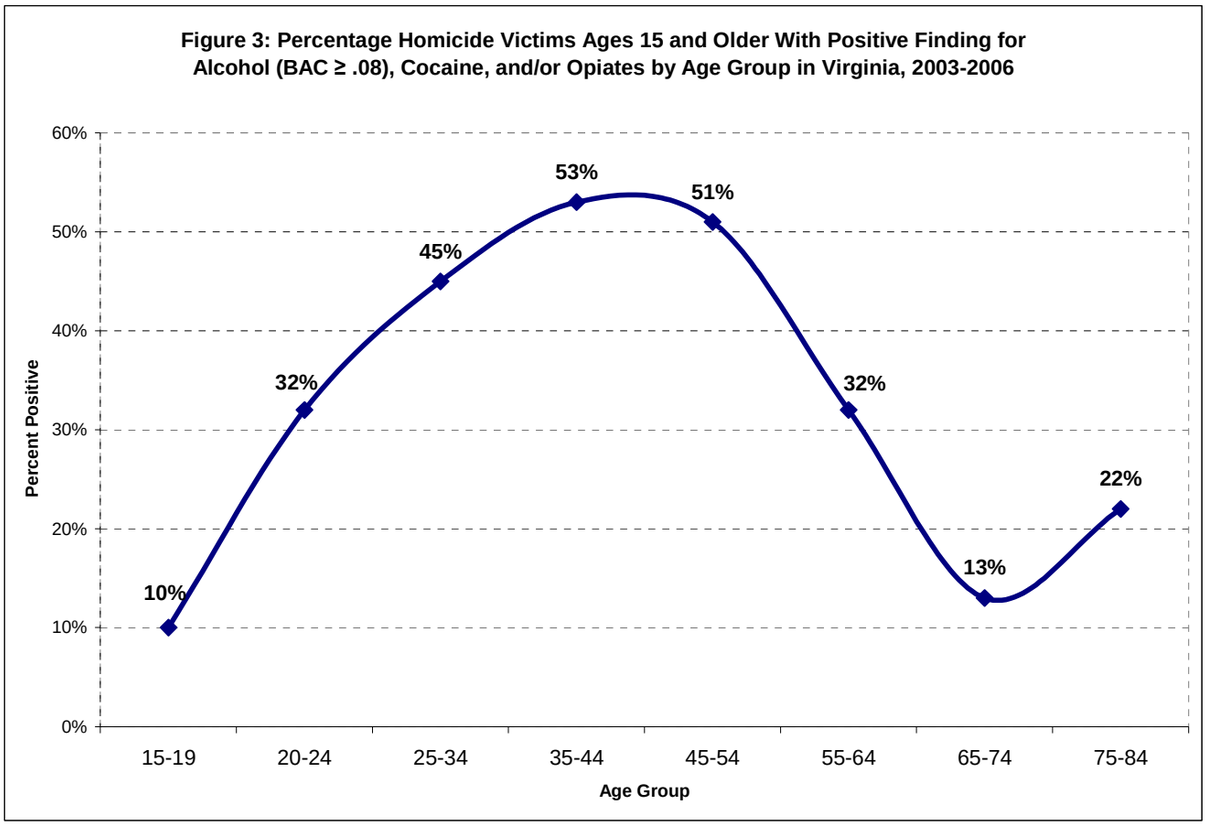


Alcohol
Alcohol was present in 39% of homicide victims. A BAC ≥ .08 was found in 22% of homicide victims. This was most common among White males, Hispanic males, persons 35-44 years of age, and persons fatally injured by non-firearm methods (e.g., sharp instruments). One-third (33%) of White males and 54% of Hispanic males ages 35-44 had a BAC ≥ .08.

Cocaine
A positive finding for cocaine was found in 19% of victims. Cocaine was more common among Blacks (both males and females) and persons ages 35-44. Black males and Black females ages 35-44 had higher than average positive findings for cocaine (44% and 47%, respectively). Black females were more than twice as likely to be positive for cocaine as for a BAC ≥ .08.

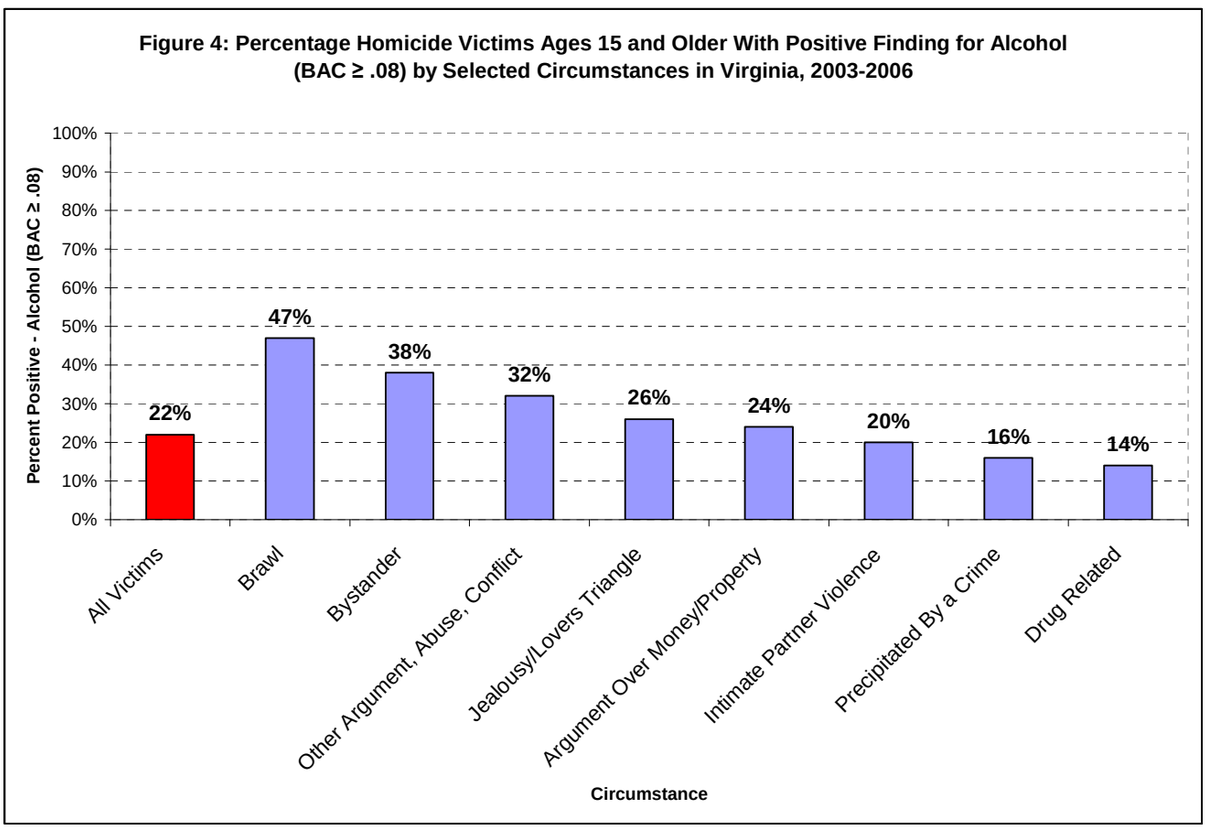
Opiates
Opiates were present in 6% of victims. They were most common in Black males and persons ages 25-34 and 75-84. Ten percent of Black males ages 25-34 had positive findings for opiates.

Alcohol (BAC ≥ .08), Cocaine, and Opiates
Most homicide victims ages 15 and older (1,403 or 87%) were tested for alcohol, cocaine, *and* opiates. Among these victims, 62% had negative findings for a BAC ≥ .08, cocaine, and opiates (62%). The next most common results were positive findings for a BAC ≥ .08 only (17%) and for cocaine only (11%). At least one positive finding was most common among people ages 35-44 (53%) and ages 45-54 (51%). Figure 3 shows the percentage of each age group with at least one positive finding.



Circumstances

Homicide circumstances - the events or characteristics that lead to or define a homicide - were described for 1,173 (73%) victims. In general, positive toxicology findings occur more frequently in homicides related to physical fights and arguments between non-intimate partners than in homicides related to intimate partner violence. Homicide victims who were killed after being involved in a brawl (a mutual physical fight with three or more persons) had the highest frequency of BAC ≥ .08. Figures 4-7 display positive toxicology findings for selected circumstances.[5]



[5] For complete descriptions of these circumstances, see Section 8 of the NVDRS Coding Manual at: http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/VS2/NVDRS%20Coding%20Manual%20Full.pdf.

Figure 5: Percentage Homicide Victims Ages 15 and Older With Positive Finding for Cocaine by Selected Circumstances in Virginia, 2003-2006

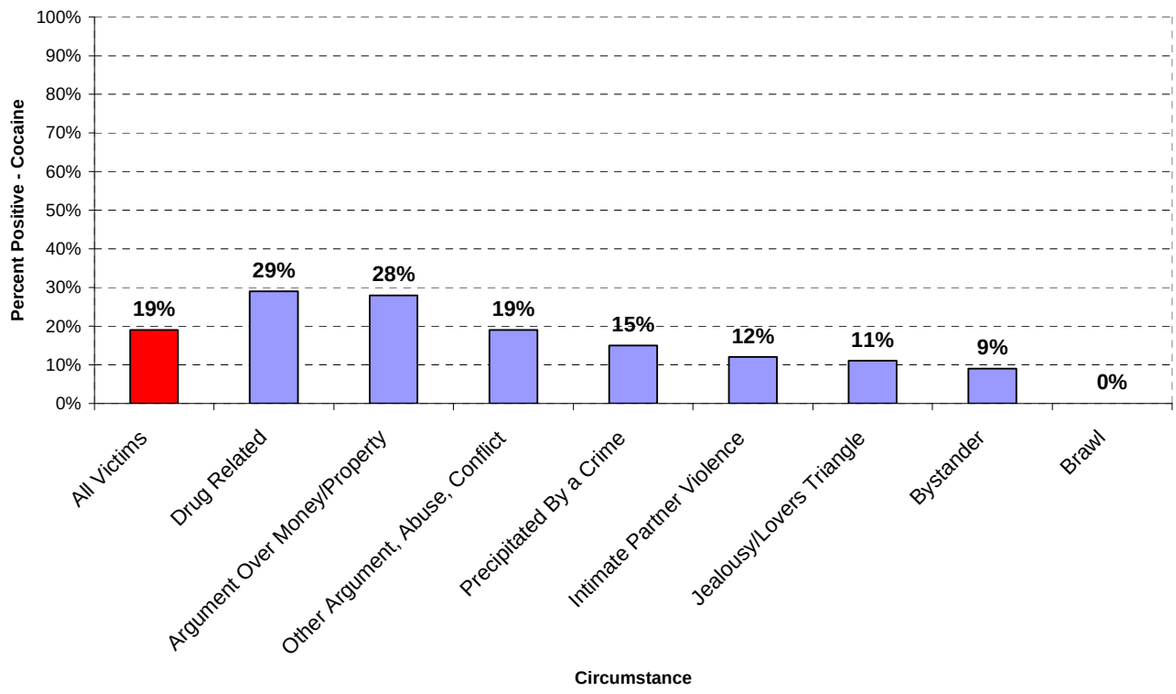


Figure 6: Percentage Homicide Victims Ages 15 and Older With Positive Finding for Opiates by Selected Circumstances in Virginia, 2003-2006

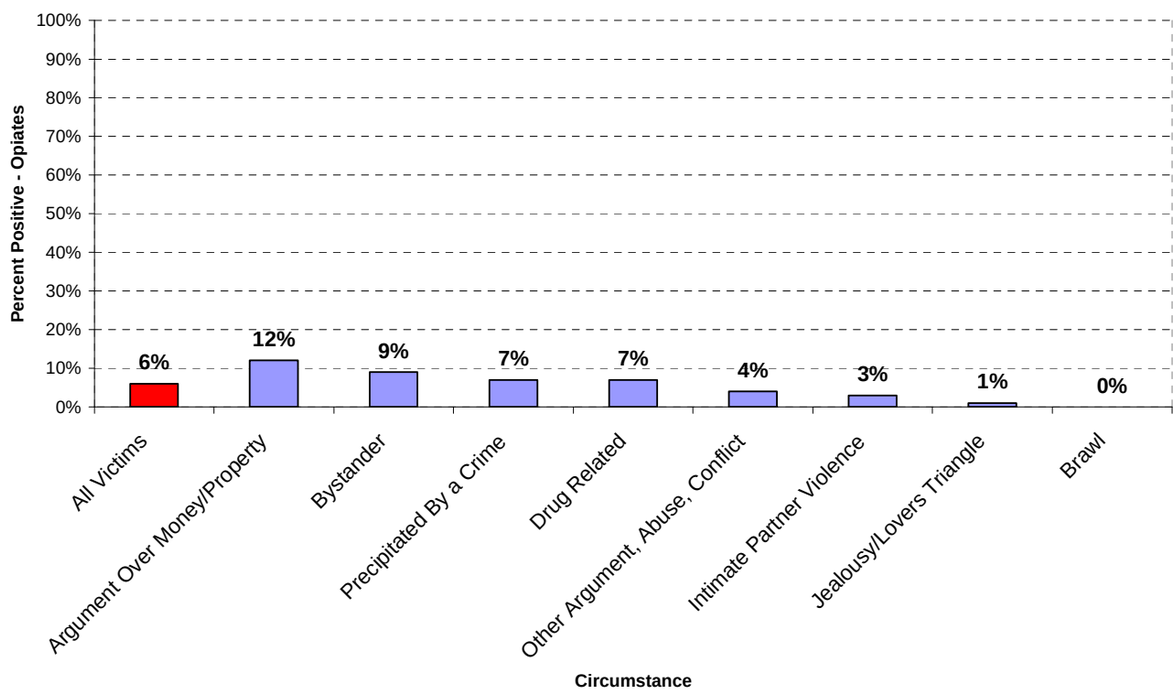
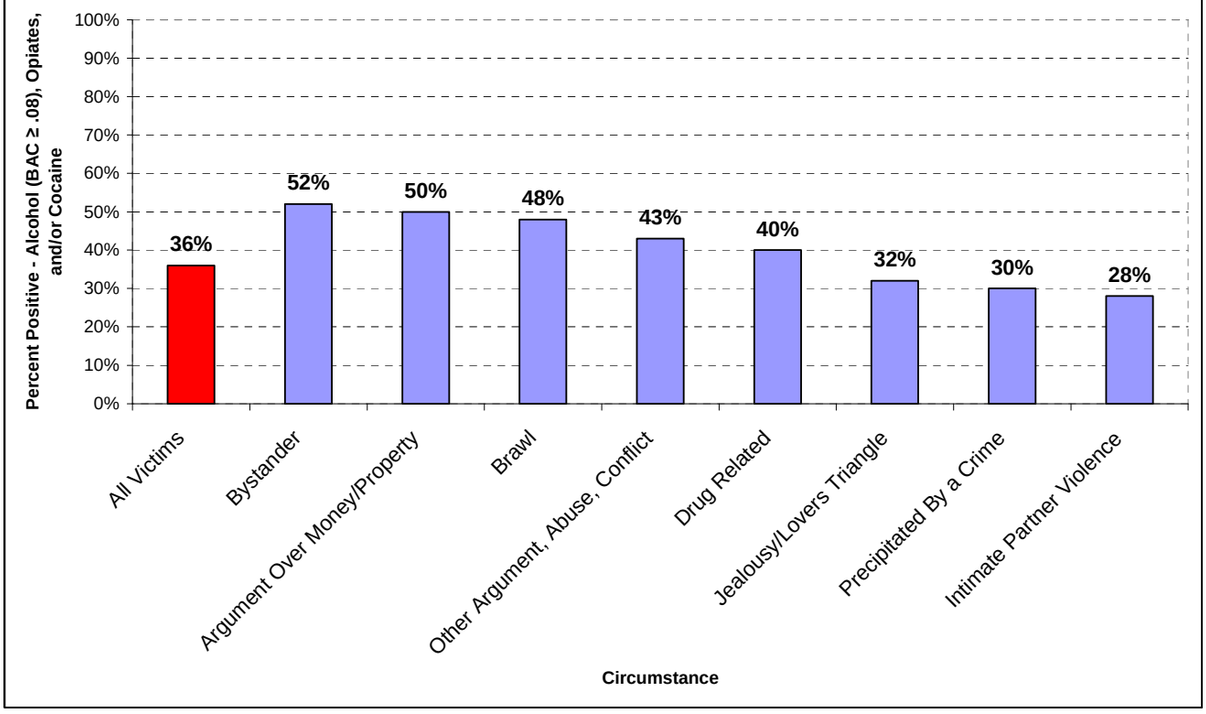


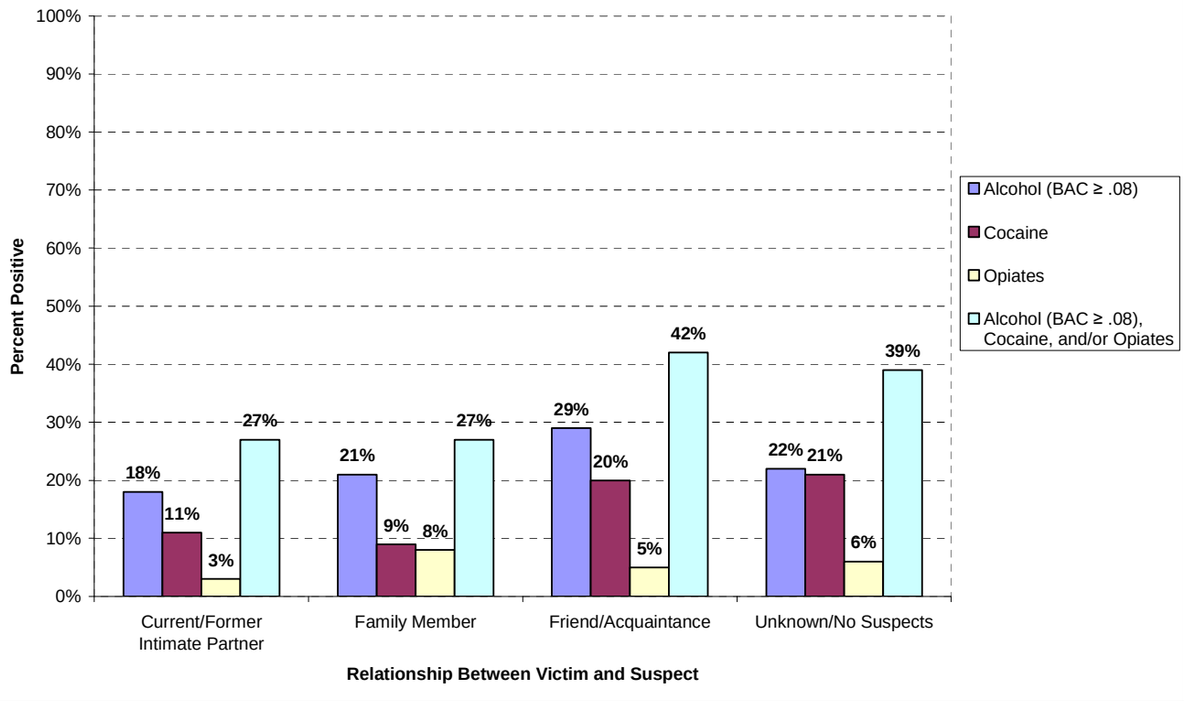
Figure 7: Percentage Homicide Victims Ages 15 and Older With Positive Finding for Alcohol (BAC ≥ .08), Cocaine, and/or Opiates by Selected Circumstances in Virginia, 2003-2006



Victim's Relationship to the Suspect

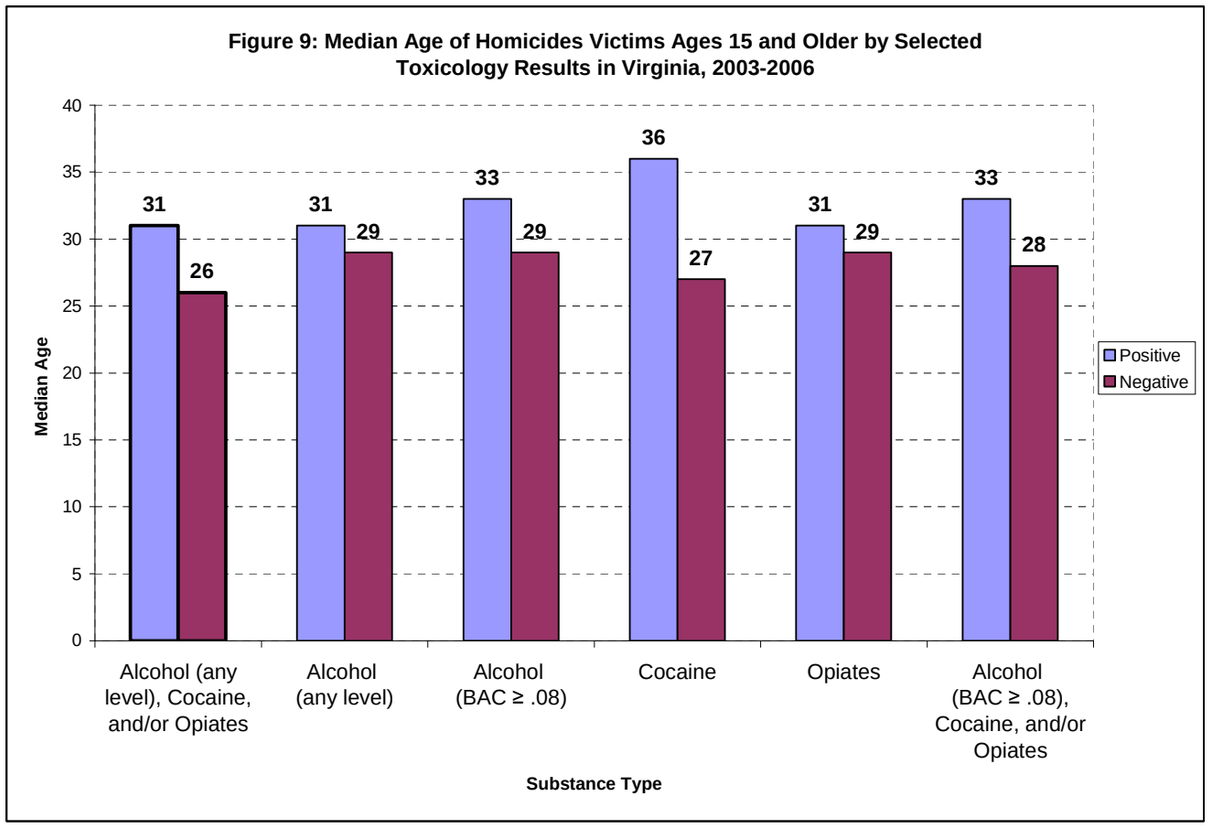
Victim-suspect relationship describes the nature of the relationship between the victim and homicide suspect(s). In general, victims killed by a current or former intimate partner or family member less often have positive findings for a BAC ≥ .08, cocaine, or opiates. Cocaine was found in approximately twice as many victims killed by a friend or acquaintance (20%) or unknown persons (21%) than in persons killed by a current or former intimate partner (11%) or a family member (9%). Figure 8 shows positive findings for selected victim-suspect relationships.

Figure 8: Percentage Homicide Victims Ages 15 and Older With Positive Finding for Selected Substances by Victim-Suspect Relationship in Virginia, 2003-2006



Age

One factor related to positive toxicology findings is age. Figure 9 shows the median age for different substances. The median age of homicide victims with negative findings for a BAC ≥ .08, cocaine, or opiates (28) is lower than among those with positive findings for one or more of these substances (33) and the overall median age (30). Persons with a positive finding for cocaine are, on average, nine years older than those with a negative finding for this drug.



Conclusion

Toxicology results can help fill information gaps for the 36% of homicide victims ages 15 and older with positive findings for a BAC ≥ .08, cocaine, and/or opiates. Toxicology findings - shaped by race, sex, age, and homicide type - can help identify groups at risk for lethal violence. Over half of homicide victims ages 35-44 and 45-54 were positive for a BAC ≥ .08, cocaine, and/or opiates. Homicides stemming from arguments and conflicts *not* related to family or intimate partners are linked to the presence of alcohol and other drugs. The proportion of victims using cocaine indicates groups in need of treatment and other services. By addressing alcohol and substance abuse problems, public health agencies may simultaneously address the problem of fatal violence in certain subpopulations.

Source:

Virginia Violent Death Reporting System, Virginia Department of Health, Office of the Chief Medical Examiner: http://www.vdh.virginia.gov/medExam/NVDRS.htm

Further information:

National Violent Death Reporting System: http://www.cdc.gov/ncipc/profiles/nvdrs/default.htm
Division of Injury and Violence Prevention, Virginia Department of Health, Alcohol and Injury Report: http://www.vahealth.org/civp/AlcoholinjuryReport.pdf

Resources:

Office of National Drug Control Policy: http://www.whitehousedrugpolicy.gov/
National Institute on Drug Abuse: http://www.nida.nih.gov/
Virginia Alcoholic Beverage Control: http://www.abc.state.va.us/education.html
Substance Abuse and Mental Health Services Administration; Substance Abuse Services: http://www.samhsa.gov/treatment/index.aspx