Post-Mortem Presence of Drugs and Method of Completed Suicide in Colorado*

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ABSTRACT

Suicide is a serious public health challenge. Although much previous work has explored the causes of suicide, comparatively little has analyzed which factors predict the specific method of suicide. We employ multinomial models to examine the method of suicide as reported in the Colorado Violent Death Reporting System. We find that drug use is strongly predictive of the method of completed suicide. Specifically, we find that decedents on antidepressants were significantly more likely to use methods besides firearms. Decedents on amphetamines were more likely to use gas, self-poisoning and methods other than firearms. Those on marijuana were generally more likely to use firearms than other methods, whereas those on opiates were most likely to overdose. Drug use has stronger associations with suicide method than other important demographic characteristics. These results indicate that in addition to population-level factors, suicide prevention strategies should focus specifically on drug users.

Introduction

Suicide is a serious public health priority.[1-3] From 2000 to 2010 suicide rates increased by 15%, making suicide the leading cause of external death in the United States[4]. In 2009 an American committed suicide every 16 minutes--totaling almost 37,000 suicides for the year.[2] Beyond their tragic consequences for surviving colleagues, friends, and family members, suicides cost the U.S. economy an estimated $5 to $13 billion annually in lost earnings and medical costs.[5] Due to its public health importance, the causes and risks of suicide have been studied thoroughly. One of the strongest predictors of suicide is substance use and abuse. However, little is known about the relationship between substance use and method of completed suicide. Therefore we contribute to the literature by examining the associations between post-mortem presence of alcohol, licit, and illicit drugs and specific method of suicide. We find significant differences in the method of suicide depending on the presence of alcohol, legal, and illegal drugs. These differences may help elucidate the etiology of suicide and lead to broad and specific suicide deterrent policies.

There have been countless investigations into the determinants and risks of suicide, since Durkheim's groundbreaking study.[6-8] But despite extensive research on global,[9] national,[10] individual,[11] gender,[7] and status[12-14] predictors of suicide, comparatively less is known about which factors help determine the *methods* of suicide. What drives someone to take her life with a firearm rather than overdose with pills, or to jump off a high building rather than hang herself? Does substance use play a role in choosing which method to use? We endeavor to address these questions.

There is significant reason to believe that drug use would be associated with determining a method of suicide. For decades research has shown that illegal drug use and abuse is associated with higher levels of suicide ideation, attempts, and ultimately death[15]. Indeed, substance use

is so important in predicting suicide that the Center of Disease Control asserts it is only behind major depression as a risk factor for suicide[16]. However, illegal drug use is prone to misreporting on surveys[17], meaning the relationship between drug use and suicide may be dramatically underestimated[17] and potentially even more so around the time of death. In other words, even if a respondent gives accurate responses on a survey, drug use around the time of death may be substantially different. Previous research which has used focused only on drug users and addicts alone may also underestimate drug use among the general public near the time of death[18]. Our data allow us to explore toxicology reports of drug use around the time of death for the all suicide decedents' population in a US state over the course of five years. This allows us to examine which drugs are associated with which method of suicide, overcoming misreporting of drug use on surveys.

A greater understanding of method choice is critical in developing prevention strategies and, if different methods are associated with different social and contextual factors, may also elucidate the broader etiology of suicide. Therefore, this investigation aims to analyze how the presence of alcohol, legal, and illegal drugs are associated with the method of completed suicide.

Drug Use and Suicide

Substance abuse is one of the strongest predictors of suicide. Although substance abuse may be a particularly strong predictor of suicide among adolescents[19], it has also been illustrated to lead to higher rates of suicide among adults[20]. A focus on general substance abuse may lose the unique relationships between specific drugs use and suicide risk. So researchers are increasingly turning to examine the effects of individual drugs. Kung and colleges found that, compared to adults who died from other natural causes, males and females who used marijuana were 2.28 and 4.82 times more likely to commit suicide respectively[20].

Similarly, heroin users were estimated to be 14 times more likely to commit suicide than their non-drug using peers[21]. Indeed, opiate addicts in general face an elevated risk of suicide compared to the general public[22]. Alcohol abuse has also been connected to elevated levels of attempts and completion of suicide in young and middle aged men[23]. Antidepressants are correlated with decreased suicide risk around the globe in general[24] and in the United States in particular.[25, 26] Obviously, however, antidepressants have not entirely ended the risk of suicide.[27] There is some evidence, although not indisputable confirmation, that adolescents on antidepressants may be at a higher risk for suicide,[28] but this link is still debated.[29, 30] Importantly, those on antidepressants are a highly select, at-risk population:[31, 32] they may even specifically seek antidepressants to prevent suicide. Previous research has also stressed the importance of use of multiple drugs for an increased risk for suicide. However, this line of inquiry has been explored less[21]. We are aware of no research, which has explored the role of amphetamines in suicide.

While a substantial body of research has emerged connecting substance use and abuse to suicide, much scholarship less has focused on how drug use near the time of death is associated with determining the *method* of suicide. There are some notable exceptions. Darke and Ross concluded that heroin users were surprisingly *less* likely to overdose than using other methods[23]. Using suicide decedent data from New York City in 1985, Marzuk et al. concluded that decedents were twice as likely to use firearms than any other method[33]. Rather than focusing specifically on drug users or relying on survey reporting of drug use, we build on previous research by including *all* of the suicide decedents in Colorado's toxicology exams of drug use that are associated with suicide method from 2004-2009. This permits an examination of much larger samples than previous work. In addition, we explore how individual drugs are

associated with specific methods of suicide and include all drug use in a multivariate framework rather than a descriptive one. We also explore how antidepressants (a legal drug) and alcohol differ compared to illegal drug use in predicting suicide method. Finally, to the best of our knowledge, we are the first study to examine how amphetamines may lead to unique methods of suicide. If those found to be using specific substances commit suicide in a manner different than those not on the substances, the suicides could be due to different causes, circumstances, or personality traits (or a mixture of all).

Determinants of Suicide Method

The method used to commit suicide is one of the most personal decisions one can make, yet research has indicated that the choice of method is strongly influenced by broad social and contextual factors, one of the most important being what is available.[34] For example, self-poisoning with pesticides has recently become the most common method in rural developing countries,[35] whereas jumping off tall buildings is the most frequent strategy in small urban countries such as Hong Kong and Singapore.[34] In Scotland, systematic rural/urban differences in method seem also to be largely based on accessibility.[36] Women in rural settings and small towns were respectively over ten and fifteen times respectively more likely to use guns or explosives than were women in cities; rural men showed a similar, albeit weaker pattern. In Australia, when the accessibility of firearms decreased, hanging increased.[37]

Methods of suicide vary considerably in a country as heterogeneous as the United States where the availability of methods is diverse.[34] Nonetheless, access to a lethal method remains important for American suicide decedents.[38] In the U.S. more attention has been paid to individual factors such as age, gender, race, and personal dispositions, compared to accessibility. Abrams and colleagues found that the elderly in New York City were more likely to commit

suicide by jumping off a building, whereas younger adults were more likely to use firearms or engage in hanging or self-poisoning.[39] Similarly, other work has stressed age differences in determining a suicide method, finding that older decedents were more likely to use “nonviolent” methods of suicide while younger decedents were more likely to use “violent” methods.[40] Previous work has also illustrated differences between black and white suicides in Georgia, as black decedents were more likely to be male and young, and had shown fewer signs of depression than whites.[41]

While some have shown access to method and demographic characteristics are important, others have argued that personality traits may be more important in determining suicide method. Researchers in this tradition have shown that women use "less violent" methods, such as an overdose, whereas men use "more violent" methods, such as shooting or hanging.[42] The difference may arise from “differences in socialization (i.e., women place a greater emphasis on appearance, avoiding disfiguring wounds), access (i.e., men’s greater familiarity with and access to firearms), and neurobiological factors (e.g., lower brain serotonin levels in men).”[42] Motivation has also been demonstrated to be an important determinant of suicide method, as the more motivated someone is to die, the more lethal the method is generally selected[38].

The present analysis focuses on completed suicides as they differ dramatically in motivation, intent, and method from suicide attempts or “para-suicides.” [38] Other researchers have concluded that a history of lifetime aggressive behavior and impulsivity are significantly associated with violent methods of suicide whereas more passive personalities used “less violent” methods.[40] Because illegal drug use may be associated with aggressive or impulsive behaviors, we hypothesize that illegal drugs are associated with “violent” methods of suicide whereas legal drugs are associated with “less violent” methods.

Data

The data for this analysis come from the Colorado Violent Death Reporting System (COVDRS). COVDRS is Colorado's portion of the National Violent Death Reporting System (NVDRS), which was created through a Congressional mandate to better track, account for, and abate the distressingly high levels of violent death in the United States.[43] Colorado is currently one of eighteen states that have employed NVDRS. COVDRS includes all homicide and suicide victims in the state and contains detailed information regarding the context of the death, toxicological reports, police reports, geographic location, and, most importantly for this investigation, International Classification of Disease (ICD 10) Codes, which have a specific code for every type of death, including method of suicide.[43] We use data from 2004–2009. After excluding all homicide victims and individuals under the age of 18, our sample contains 4,788 suicide decedents. Colorado currently has the sixth highest age-adjusted suicide rate in the United States and is situated in the "suicide belt," a cluster of mountain west states with the highest suicide rates in the country: New Mexico (ranked 2nd), Wyoming (ranked 3rd), Montana (ranked 4th), Nevada (ranked 5th), Colorado (ranked 6th).[44] Compared to other states, Colorado also has higher levels of substance use.[45]

Measures

We code our dependent variable, method of suicide, into five categories based on ICD-10 codes: suicide due to (1) firearms (ICD Ten Codes X72-X74), (2) hanging/self-strangulation (ICD Ten Code X70), (3) self-poisoning by liquids or solids (ICD Ten Codes X60-66, X68, X69), (4) self-poisoning by gas (ICD 10 Codes X66 & X67), and (5) any other method. Although there is a fair amount of heterogeneity in "other methods," as they range from jumping off a building to self-cutting, the small cell sizes prevent further stratification. In accord with past

research, firearm suicide was the most common method (~50% of decedents used firearms), although this could be due to its much higher likelihood of fatality.[38] Given its highest prevalence, firearm suicide serves as the base category for comparison.

Six drugs are included for analysis: antidepressants, alcohol, amphetamines, cocaine, marijuana and opiates. These drugs were the most common for all violent death decedents as measured by toxicology reports. We represent each drug with use with two dummy variables, the first indicating whether they are found to be present as measured by a toxicology test (coded "1" if present, "0" if not) and the second indicating whether a test was done at all or if the results were missing (coded "1" if a test was not conducted or the result was missing, "0" if not).

To analyze the association between drug use and suicide method we also control for variables that have previously been associated with the selection of suicide method. We operationalize education as five dummy variables: (1) less than high school graduate, (2) high school graduate (referent), (3) some college but no degree, (4) college degree or greater, and (5) missing. We also control for racial/ethnic group: (1) non-Hispanic white (referent), (2) non-Hispanic black, (3) Asian, (4) Hispanic, and (5) other race ethnic group. Age is included as continuous years before death. Finally, for gender, we code men "1" and women "0."

Methods

We run four sets of multinomial logistic models, allowing us to compare the predictors of the most prevalent method of suicide (firearm death) relative to the other methods. In Table 2 we present two models. In the first model we include each individual drug effect and control for age, race/ethnic group affiliation, gender, and educational attainment. In the second model we include all of the drugs in a combined model to analyze how the presence of all the drugs influences each other. In Table 3 we attempt to avoid tautology in two ways. In the first model

we exclude decedents who died from the specific drug included in the model (based on ICD-10 codes). For example, if someone overdosed on antidepressants they are removed from individual drug model where antidepressants are the drug of interest. This allows us to see if they may be a contributing but not causal factor in death. In the second model we exclude all decedents who died due to substance use. Both models in Table 3 have the same control variables as the models in Table 2.

Results

Table 1 displays drug presence differences among suicide decedents by method of suicide. We list the percent tested for the substance, and then of the percentage tested the percent who tested positive. Overall, the testing rate was relatively similar but did vary slightly by method and drug. The implications of these testing discrepancies are discussed in the discussion section. Decedents have who tested positive for antidepressants had the highest rates of self-poison with liquids or solids (47.6%) and the lowest rates of firearms use (8.1%). Alcohol was found in just over 40% of all decedents, but had the lowest percentage among those who died by self-poison with liquids or solids (36.9%). Amphetamines had the highest percentage of positive tests among decedents who used other methods (9.3%) and the lowest among those who self-poisoned with liquids or solids (4.6 %). Marijuana had the highest rates of positive tests among hanging victims (11.5%) and the lowest among self-poison by gas (5.4%). Finally, among those who overdosed by self-poison of liquids or solids almost (49.8%) half tested positive for opiates. By method, roughly half of the decedents died due to self-inflicted gunshot wounds, 21.6% due to hanging, 16.5% due to self-poison with liquids or solids, 6.4% due to self-poison by gas, and 6.3% due to all other methods combined.

Table 1 about here

Turning to the multivariate results, Model 1 in Table 2 indicates strong and significant associations between post-mortem presence of drugs and method of completed suicide. All of the models control for gender, race/ethnic group, and educational attainment. Those who tested positive for antidepressants were less likely to use firearms compared to *any* other method. Indeed, those who tested positive for antidepressants are over eightfold more likely to commit suicide by self-poisoning with a solid or liquid than by using a firearm, even net of all the individual controls. Although the association is much weaker, those who tested positive for antidepressants had almost twice the odds of using self-poison by gas as using a firearm. When other drugs are controlled the associations between antidepressants and each cause of death are tempered but remain significant. While antidepressants had strong associations with every causes of death compared to firearms, in the individual and combined models alcohol was not statistically significantly associated with any method of suicide. Those with amphetamines in their system had 74% higher odds of self-poison by gas and had 103% higher odds of using other methods compared to firearms. Cocaine was significantly associated with self-poison with liquids and solids, as those who tested positive for cocaine had 63% higher odds of overdosing than use firearms. Additionally, when all of the drugs are included in a model those on cocaine had 36% higher odds of using hanging compared to using a firearm. Decedents who tested positive for marijuana had 45% lower odds of using self-poison by gas than firearms in the combined drug model. Moreover, decedents who tested positive for marijuana were less likely to test positive for gas self-poison than using firearms. Like antidepressants, opiates had a significant association with every method of suicide compared to firearms. Decedents who tested positive for opiates had 45% lower odds of hanging themselves compared to using firearms, however when all drugs are controlled for this association becomes non-significant.

Conversely, decedents on opiates had almost 10 fold times the odds of self-poisoning with liquids or solids than using firearms. When other drugs are included in the model the odds of those on opiates self-poisoning with liquids or solids decline by 134%, but remains statistically significant. Those who tested positive for opiates were also 47% more likely to use self-poison by gas than fire arms and 62% more likely to use other methods than firearms. In the combined model the association between opiates and self-poison by gas becomes non-significant and the association with other method becomes weaker and only significant at the .1 level.

Table 2 about here

In Table 3 we attempted to deal with issues of tautology in two ways. First, and more conservatively, in Model 1 we excluded all decedents that died from *any* liquid or solid substances. Second, in Model 2 we excluded any decedents who died from the *specific* drug based on cause of cause of death codes. Despite the exclusion of cases and varying samples we find overwhelmingly congruent results. Those on antidepressants had statistically significantly higher odds of using *any* method other than firearms. While tempered, when those who died from specifically from antidepressants were removed, those found with antidepressants in their system at the time of death were still seven-fold more likely to overdose than to use a firearm. The association between amphetamines and self-poison by gas and other methods remains relatively unchanged compared to the models in Table 2 as those on amphetamines still have higher odds of using self-poison by gas and other methods compared to firearms. Cocaine users still had 50% higher odds of overdose using other liquids or solids compared to using a firearm. Also similar to Table 2 decedents who tested positive for marijuana were had lower odds of self-poisoning with liquids and solids and self-poison with gas than firearms. Finally, those who tested positive for opiates had lower odds of hanging themselves than use firearms. Even after

dropping decedents who died specifically from opiates those who tested positive for opiates were still almost eight times more likely to overdose than use firearms. Although much weaker than self-poison by liquids or solids compared to firearms those who tested positive for opiates had 45% and 42% higher odds of using self-poison by gas and 62% higher odds of using other methods compared to firearms.

Table 3 about here

Discussion

While previous research has firmly established substance abuse as a major risk factor for suicide, we show substance use is also associated with the method used in completed suicides, even of non-substance related suicides. Our results depict substantial differences between associations in the method of suicide and presence of drugs at the time of death. Indeed, the presence of drugs at the time of death associates with the method of suicide more consistently and strongly than does age, racial/ethnic affiliation, education, or, in some cases, gender (results not shown but available on request). Importantly the associations remain even after we removed decedents who died from the specific drug in question or all overdoses in general.

These results show that relative to those who died due to firearms we find that those who tested positive for antidepressants, cocaine, and opiates were more likely to self-poison with liquids or solids, whereas those who tested positive for antidepressants and amphetamines were more likely to use gas self-poison. The decedents who tested positive for antidepressants, amphetamines and opiates were more likely to use methods other than firearms. We also found that those on opiates were more likely to use firearms than hang themselves, and those who tested positive for marijuana were more likely to use firearms than use gas-self poison.

Previous research has illustrated the importance of contextual factors, availability of fatal method, demographic factors, and personality traits in determining the method of suicide. We show that drug use at time of death is also important. We can only speculate about the causes of the associations. Drug use may not necessarily cause someone to select a specific method. However, drugs may alter behavior or cognitions potentially making the decedent more susceptible to a specific method. Additionally, those who self-select into using drugs near death may also be more likely to use specific methods. We recommend that future researchers analyze why substance use may be associated with specific method of suicide. This area of inquiry may be particularly well suited to longitudinal and prospective studies.

We show that method of suicide is associated with drug use before death. While we can only speculate whether the prescription drugs were taken legally, those on antidepressants and opiates were much more likely to use self-poisoning by liquids or solids compared to firearms. These decedents may have been more used to relying on pills to address problems making them more likely to use specific substances for death[46]. Conversely, those who tested positive for marijuana were more likely to use firearms than either form of overdose. Our results also indicate that firearms and self-strangulation are for the most part comparable in terms of drug use, thereby validating previous research that has collapsed them together into a "violent" category.[40, 42]

Even with the implementation of population-based suicide prevention policies, suicide rates increased dramatically in the past decade[2]. Therefore, we argue that specific intervention policies focused on drug users may help to mitigate the distressingly high rates of suicide. In addition, physicians should be particularly vigilant when prescribing drugs that may lead to overdose for anyone who has documented suicidal tendencies and has also been prescribed

antidepressants. Because overdose is a somewhat ineffective method of suicide compared to firearms,[38] closer scrutiny of medications could decrease these suicides.

There are important limitations to this investigation. First, toxicologists did not test every suicide decedent for drug use. We conducted additional analyses that illustrated that coroners were statistically significantly less likely to perform toxicological tests on suicide decedents who died from gunshots than hanging or overdose. We attempted to account for the selective testing through listwise deletion. Alison argues that listwise deletion is "quite robust" to non-random missing data[47]. When we run models where we listwise delete observations, the substantive results remain unchanged, in some cases the associations are strengthened, except for marijuana, whose association with *any* form of suicide becomes no longer significant. Also despite the selective testing with potential national and state budget cuts to coroners, this may be the most complete set of drug testing of decedents. Second, toxicology tests have some inherent flaws, such as the time between death and testing; over time substances may dissipate, leading to a false negative (for a detailed overview of the limitations of toxicological testing please see).[48] The dissipation of substances may cause us to *underestimate* the association between drug use and method of suicide particularly among those who go long periods of time without detection. Because a loud gunshot draws attention, it is unlikely that firearm decedents would be systematically more prone to delay-related chemical dissipation leading to false negatives than would decedents who used other methods. Testing criteria and cutoffs may also differ from state to state and country to country and so our results may be only generalizable to Colorado decedents. Most importantly, while we have detailed information for an entire population of decedents, we have no information regarding the population at risk. Despite these limitations,

this is the first investigation of its kind to use an entire population of suicide decedents over a five-year period to investigate how drug use is associated with method of suicide.

To further elucidate the etiology of suicide, we suggest that future researchers investigate how contextual circumstances and drug use interact with the selected method. The NVDRS would allow such analysis. In addition, it is important to analyze how different populations (for example racial/ethnic groups and people with differing levels of education) differ in risk of specific method of suicide. A greater focus on the method of suicide could allow policymakers to develop more specific policies to mitigate America's distressingly high suicide rates.

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Table 1. Descriptive Statistics of Suicide Decedents by Method of Suicide, Colorado, 2004-2009

	Method of Suicide					
	Firearm	Hanging/ Strangulation	Self-Poison Liquid or Solid	Self Poison Gas	Other Methods	All Methods
Antidepressants						
Percent Tested	63.5%	66.5%	71.3%	67.2%	57.8%	65.3%
Percent Positive	8.1%	9.6%	47.6%	15.0%	19.5%	16.6%
Alcohol						
Percent Tested	72.5%	76.9%	76.8%	73.7%	68.1%	74.0%
Percent Positive	41.2%	41.8%	36.9%	42.7%	40.5%	40.6%
Amphetamines						
Percent Tested	66.0%	71.1%	71.3%	67.2%	60.8%	67.7%
Percent Positive	5.0%	6.9%	4.6%	8.2%	9.3%	8.5%
Cocaine						
Percent Tested	68.4%	73.8%	72.3%	71.1%	64.1%	70.1%
Percent Positive	5.0%	8.9%	7.0%	5.0%	5.2%	6.2%
Marijuana						
Percent Tested	64.9%	68.3%	69.5%	66.6%	59.1%	66.1%
Percent Positive	9.1%	11.5%	6.0%	5.4%	10.1%	8.9%
Opiates						
Percent Tested	68.5%	73.1%	75.7%	79.0%	63.8%	70.6%
Percent Positive	8.7%	4.5%	49.8%	12.2%	13.0%	15.5%
N	2,355	1,034	790	308	301	4,788

Source: Colorado Violent Death Reporting System, 2004-2009

Table 2. Drug Use and Relative Risk of Suicide Method in Suicide Decedents, Colorado, 2004-2009

	Compared to Firearms:							
	Strangulation		Liquid or Solid Self-Poisor		Gas Self-Poison		Other Method	
	Model 1[a]	Model 3[b]	Model 1[a]	Model 2[b]	Model 1[a]	Model 2[b]	Model 1[a]	Model 2[b]
Antidepressants	1.32 †	1.38 *	8.38 ***	7.27 ***	1.89 **	1.75 *	2.69 ***	2.59 ***
Alcohol	0.88	0.88	0.90	0.93	1.06	1.09	0.93	0.92
Amphetamines	1.12	1.10	0.87	0.75	1.74 *	1.91 *	2.03 *	1.97 *
Cocaine	1.34	1.36 †	1.63 *	1.62 *	1.04	1.08	0.95	0.83
Marijuana	0.98	1.01	0.75	0.55 *	0.57 †	0.54 †	1.01	0.95
Opiates	0.55 **	0.54	9.94 ***	8.60 ***	1.47 †	1.35	1.62 *	1.54 †

† p < 0.1 * p <0.05 ** p <0.01 *** p < 0.001

[a] Model adjusted for age, educational attainment, race/ethnic group, gender, and only includes individual drug effects.

[b] Model adjusted for age, race/ethnic group, educational attainment, gender and includes all drug effects.

Source: Colorado Violent Death Reporting System, 2004-2009

Table 3. Drug Use and Relative Risk of Suicide Method in Non-Substance Suicide Decedents, Colorado, 2004-2009

	Strangulation		Liquid or Solid Self-Poison		Gas Self-Poison		Other Method	
	Model 1[a]	Model 2[b]	Model 1[a]	Model 2[b]	Model 1[a]	Model 2[b]	Model 1[a]	Model 2[b]
Antidepressants	1.40 *	1.32 †	-	7.37 ***	1.87 **	1.88 **	2.75 ***	2.69 ***
Alcohol	0.88	0.88	-	0.89	1.06	1.06	0.92	0.93
Amphetamines	1.10	1.12	-	0.93	1.80 *	1.76 *	2.04 **	2.04 **
Cocaine	1.33	1.33	-	1.50 †	1.04	1.04	0.92	0.92
Marijuana	0.99	0.98	-	0.64 †	0.58 †	0.57 †	1.03	1.01
Opiates	0.54 **	0.55 **	-	7.58 ***	1.45 †	1.43 †	1.62 *	1.62 *

† p < 0.1 * p <0.05 ** p <0.01 *** p < 0.001

[a] Model adjusted for age, educational attainment, race/ethnic group, gender, and only includes individual drug effects. Only includes decdents who died from non-substance causes.

[b] Model adjusted for age, educational attainment, race/ethnic group, gender, and only includes individual drug effects. Models exclude decedents who died specifically from the respective drug based on ICD-10 Codes: antidepressants & amphetamines: X61, alcohol: X65, cocaine, marijuana, & opiates: X62.

Source: Colorado Violent Death Reporting System, 2004-2009