

Violent Deaths in Utah 2005



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This publication was supported by Grant # U17/CCU824127 from the U.S. Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC.

Suggested Citation:

Violence and Injury Prevention Program. Violent Deaths in Utah 2005. Salt Lake City, UT: Utah Department of Health 2008.

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December 2008

Violence and Injury Prevention Program

Utah Violent Death Reporting System

Utah Department of Health



Acknowledgments

The Utah Department of Health Violence and Injury Prevention Program would like to thank Anna Fondario for organizing, compiling, and writing this report. We also extend thanks to the following individuals for writing, reviewing, or editing sections of this report:

Cyndi Bemis
Teresa Brechlin
Renee Calanan
Michael Friedrichs
Jenny Johnson
Trisha Keller
Johnelle Lamarque

Katie McMinn
Barry Nangle
Kim Neerings
Amy Nelson
Cristy Sneddon
Randy Tanner

We would like to extend our appreciation to the Intermountain Injury Control and Research Center who were instrumental in implementing the Utah Violent Death Reporting System (UTVDRS). In addition, special thanks to the UTVDRS Technical Advisory Committee and the UTVDRS staff.

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Utah Department of Public Safety

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Utah Local Association of Community Health Education Specialists (ULACHES)

Terry Smith
Leslie Abraham

Utah Office of Crime Victim Reparations

Joanne Huber

Utah Poison Control Center

Marty Malheiro

Weber County Sheriff's Office

Lt. Phillip Howell

Acknowledgments

Assistance with data collection was provided by the Utah Department of Health, Office of Vital Records and Statistics and Office of the Medical Examiner, the Utah Department of Safety, Bureau of Criminal Identification and Forensic Services, and the following law enforcement agencies.

Alpine/Highland City Police Department
American Fork Police Department
Beaver County Sheriff's Office
Blanding Police Department
Bountiful Police Department
Box Elder County Sheriff's Office
Brigham City Police Department
Bureau of Indian Affairs
Cache County Sheriff's Office
Carbon County Sheriff's Office
Cedar City Police Department
Centerville Police Department
Clearfield City Police Department
Clinton Police Department
Davis County Sheriff's Office
Draper City Police Department
Duchesne County Sheriff's Office
Emery County Sheriff's Office
Ephraim Police Department
Federal Bureau of Investigation
Grand County Sheriff's Office
Grantsville Police Department
Gunnison Police Department
Harrisville Police Department
Heber City Police Department
Helper Police Department
Hurricane Police Department
Iron County Sheriff's Office
Kaysville Police Department
LaVerkin City Police Department
Layton City Police Department
Lehi Police Department
Lindon City Police Department
Logan City Police Department
Mapleton Police Department
Midvale City Police Department
Millard County Sheriff's Office
Moab Police Department
Murray City Police Department
North Ogden Police Department
North Park Police Department
North Salt Lake Police Department

Ogden City Police Department
Orem Department of Public Safety
Payson Police Department
Perry City Police Department
Pleasant Grove City Police Department
Pleasant View Police Department
Price City Police Department
Provo City Police Department
Roosevelt Police Department
Roy City Police Department
Salem City Police Department
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Salt Lake County Sheriff's Office
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Springville Police Department
St. George Police Department
Summit County Sheriff's Office
Syracuse Police Department
Taylorsville City Police Department
Tooele County Sheriff's Office
Tooele Police Department
U.S. Air Force Office of Special Investigations
Utah County Attorney's Office
Utah County Sheriff's Office
Utah Highway Patrol
Vernal Police Department
Wasatch County Sheriff's Office
Washington County Sheriff's Office
Weber County Sheriff's Office
West Jordan City Police Department
West Valley City Police Department
Woods Cross Police Department

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EXECUTIVE SUMMARY

Violent deaths in Utah represent a significant public health problem. In direct response to this concern, Utah became one of 17 states to participate in the National Violent Death Reporting System (NVDRS) in 2004. The Utah Department of Health Violence and Injury Prevention Program was awarded funding for the system by the U.S. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control (CDC/NCIPC).

Homicides, suicides, deaths of undetermined intent, unintentional firearm-related deaths, and deaths due to legal intervention are all considered violent deaths in the NVDRS. A legal intervention includes fatal injuries inflicted by the police or other law-enforcement agents. The Utah Violent Death Reporting System (UTVDRS) is a surveillance system that collects detailed information from death certificates, medical examiner records, police reports, crime lab records, and supplemental homicide reports on all violent deaths in Utah. Abstracted data are entered into a standardized database system. De-identified data are then “pushed” daily to the national database which is maintained and supported by the CDC. Utah began collecting data in 2005. This report is a summary of findings from 2005.

In 2005, there were 789 violent deaths in Utah. Of these, 768 were Utah residents. The remaining 21 were residents of other states and, for the purposes of this report, are not included in the findings. Major findings are highlighted below.

All Violent Deaths, 2005

- Two people died violently every day in Utah. The numbers totaled more than deaths from motor vehicle crashes.
- Deaths of undetermined intent accounted for 47.3 percent of violent deaths, followed by victims who died from suicide (44.5 percent) and homicide (7.8 percent). Deaths due to legal intervention accounted for the remaining fatalities (0.4 percent).
- Males were twice as likely to die violently than females (OR = 2.3) and had a significantly higher violent death rate than females in every age group except 0-14 and 55-64 years of age.
- Poisoning was the primary mechanism of injury for Utah violent deaths (51.0 percent), due primarily to poisonings in deaths of undetermined intent.
- Males were five times as likely to be fatally injured by a firearm than females (OR = 5.1).

Homicide, 2005

- One homicide occurred in Utah every 6 days.
- Utah’s age-adjusted homicide rate (2.2 per 100,000 persons) was significantly lower than the U.S. age-adjusted homicide rate (6.1 per 100,000 persons).
- Firearms were the primary mechanism of injury among Utah homicides (44.6 percent).
- Females were ten times as likely to have intimate partner violence as a homicide circumstance than males (OR = 9.7).
- Seven (8.9 percent) of the homicide suspects committed suicide after the homicide.

Suicide, 2005

- One suicide occurred in Utah nearly every day.
- Utah's age-adjusted suicide rate (14.0 per 100,000 persons) was significantly higher than the U.S. age-adjusted suicide rate (10.9 per 100,000 persons).
- Males (22.0 per 100,000 persons) were three times as likely to die from suicide than other violent deaths compared to females (4.8 per 100,000 persons) (OR = 3.2).
- Persons aged 85 years and older had the highest suicide rate of all age groups (32.9 per 100,000 persons); this was significantly higher than persons aged 10-19 who had the lowest rate at 5.1 per 100,000 persons.
- Firearms were the primary mechanism of injury used for male suicides (60.3 percent).
- Of the victims who died from suicide by poisoning, 65.8 percent used prescription medication to overdose. Hydrocodone was the most common prescription drug used (10.0 percent).
- A current mental illness, most often depression, was noted as a mental and behavioral health circumstance in 50.1 percent of the suicides.
- Nearly half the victims who died from suicide told someone of their intent to commit suicide (43.9 percent).
- Intimate partner problem was the most common precipitating circumstance of Utah suicides (41.2 percent).

Deaths of Undetermined Intent, 2005

- One death from injuries of undetermined intent occurred in Utah every day.
- Utah's age-adjusted undetermined intent death rate (14.7 per 100,000 persons) was significantly higher than the U.S. age-adjusted undetermined death rate (1.6 per 100,000 persons). This may be due to Utah being one of only a few states that classify poisoning death of unclear intent as "could not be determined" as opposed to "accident."
- Poisonings were the primary mechanism of injury among victims who died from injuries of undetermined intent (89.3 percent). More than half of these poisonings were prescription medications (64.4 percent).
- Prescription methadone (12.3 percent) was the most common drug used by victims who died from injuries of undetermined intent.
- Males aged 15-24 years had a significantly higher undetermined death rate than females aged 15-24 (16.8 and 3.5 per 100,000 persons, respectively).
- Persons aged 45-54 had the highest undetermined death rate at 35.2 per 100,000 persons. This was significantly higher than all other age groups except persons aged 35-44. Persons aged 0-14 had a significantly lower undetermined death rate at 2.5 per 100,000 persons than all age groups.
- Physical health problem was the most common precipitating circumstance of Utah deaths of undetermined intent (35.9 percent).



SECTION I: VIOLENT DEATHS

Violent Death Overview

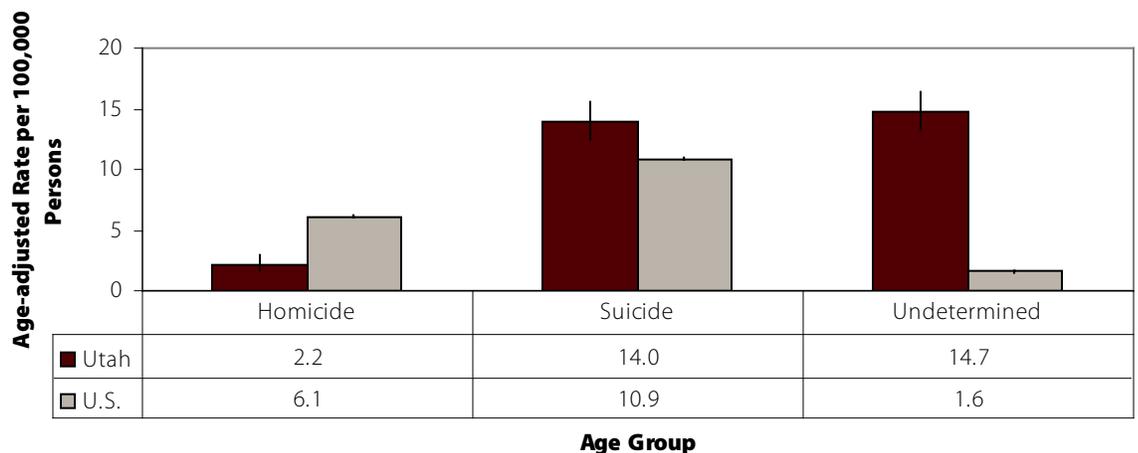
In 2005, 768 Utah residents died from violence. More people died from violence than from motor vehicle crashes.¹ The Utah age-adjusted violent death rate was 31.1 per 100,000 persons.

There was at least one homicide per week in 2005. Utah's age-adjusted homicide rate was 2.2 per 100,000 persons, which was significantly lower than the U.S. age-adjusted rate of 6.1 per 100,000 persons (Figure 1.1).²

Six people died from suicide for every one victim of homicide. On average, there was one suicide death per day. Utah's age-adjusted suicide rate was 14.0 per 100,000 persons, which was significantly higher than the U.S. age-adjusted rate of 10.9 per 100,000 persons (Figure 1.1).²

Victims who died from injuries of undetermined intent account for almost half of the victims who died from violence (47.3 percent). At an average of 30 deaths of undetermined intent per month or one a day, Utah's age-adjusted undetermined death rate was 14.7 per 100,000 persons. This was significantly higher than the U.S. age-adjusted rate of 1.6 per 100,000 persons (Figure 1.1).² However, Utah is one of the few states where the policy of the state medical examiner is to classify poisoning deaths of unclear intent as "could not be determined" as opposed to "accident." The majority of the victims who died from injuries of undetermined intent (89.3 percent) died as a result of illicit and non-illicit drug overdoses (data not shown).

Figure 1.1: Number of victims who died from violence per 100,000 persons by incident type, Utah and U.S., 2005*²



* Legal interventions are excluded and there were no unintentional firearm-related deaths.

It is important to note that a small number of victims died from legal intervention (See Definition of Terms). These victims are included in the total number who died from violence, but are not discussed in a separate category because there were too few to report with any statistical meaning.

In addition to violent deaths among Utah residents, there were 21 victims who died from violence who were residents of other states. These persons were residents of Arizona, California, Colorado, Florida, Idaho, Michigan, Nevada, New Mexico, North Carolina, and Wyoming. This report only represents victims who were Utah residents at the time of death.

Violent Death Demographics

Overall, persons aged 0-14 and 65-74 had a significantly lower violent death rate at 4.2 and 13.8 per 100,000 persons, respectively, than the state rate (30.1 per 100,000 persons). Persons aged 25-34, 35-44, and 45-54 (43.4, 53.5, and 59.1 per 100,000 persons, respectively) had a significantly higher violent death rate than the state rate (Table 1.1). The mean age of victims who died from violence in Utah was 38.

Table 1.1: Number, percent, and crude rate of victims who died from violence by demographics, Utah, 2005

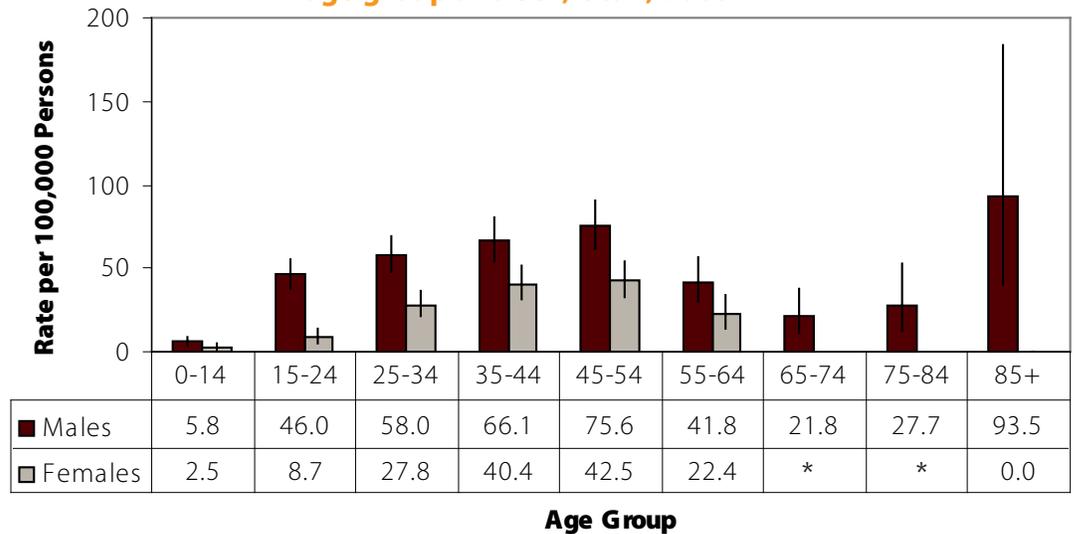
Demographics	Percent of Population ³	Number	Percent of Violent Deaths	Crude Rate per 100,000 Persons (95% CI*)
Sex[†]				
Female	49.8	236	30.7	18.6 (16.3-21.1)
Male	50.2	532	69.3	41.6 (38.1-45.3)
Race/Ethnicity[†]				
American Indian, non-Hispanic [†]	1.1	7	0.9	24.6 (9.9-50.6)
Asian/Pacific Islander, non-Hispanic [†]	2.6	8	1.0	12.5 (5.4-24.7)
Black, non-Hispanic [†]	0.9	8	1.0	36.7 (15.8-72.2)
Hispanic	10.7	70	9.1	26.0 (20.3-32.9)
Other Race, non-Hispanic	1.3	26	3.4	79.7 (52.1-116.8)
White, non-Hispanic	83.4	649	84.5	31.1 (28.7-33.5)
Age Group				
0-14	26.3	28	3.6	4.2 (2.8-6.0)
15-24	17.9	124	16.1	27.2 (22.6-32.5)
25-34	16.0	177	23.0	43.4 (37.2-50.3)
35-44	12.3	168	21.9	53.5 (45.7-62.3)
45-54	11.5	173	22.5	59.1 (50.6-68.6)
55-64	7.6	62	8.1	32.0 (24.5-41.0)
65-74 [†]	4.5	16	2.1	13.8 (7.9-22.4)
75-84 [†]	2.9	12	1.6	16.2 (8.4-28.3)
85+ [†]	1.0	8	1.0	32.9 (14.2-64.8)
Geographic Location of Occurrence^{‡ †}				
Frontier	4.8	40	5.2	32.7 (23.4-44.5)
Rural	19.6	127	16.6	25.5 (21.2-30.3)
Urban	75.6	598	78.2	31.0 (28.6-33.6)
Total	100.0	768	100.0	30.1 (28.1-32.4)

*Confidence Interval. [†]Age-adjusted rates were not calculated due to small numbers. Caution should be used when comparing crude rates. [‡]Use caution when interpreting the results as the estimate may be unreliable. ^{††} Three victims had unknown geographic injury locations.



Males were two times as likely to be victims of a violent death than females (OR = 2.3) and had a significantly higher violent death rate than females in every age group except persons aged 0-14 and 55-64 (Figure 1.2).

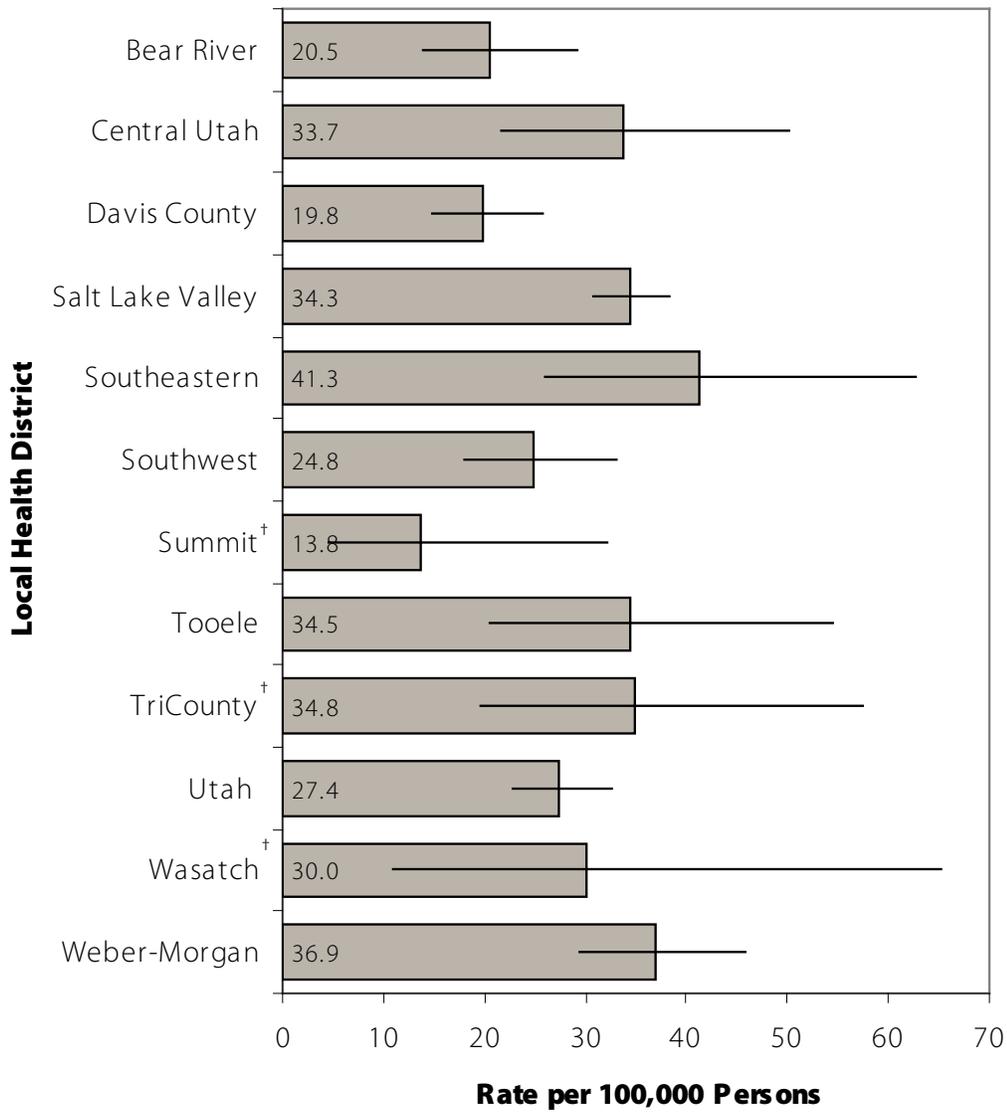
Figure 1.2: Number of victims who died from violence per 100,000 persons by age group and sex, Utah, 2005



* The estimate has a relative standard error of 50% or more and is therefore unreliable.

Utah consists of 29 counties that are grouped into urban, rural or frontier counties (See Definition of Terms). The majority of Utah violent deaths occurred in urban counties (78.2 percent) (Table 1.1). Utah is also divided into 12 local health districts (See Definition of Terms). Among the 12 local health districts, Southeastern local health district had the highest violent death rate at 41.3 per 100,000 persons. Summit local health district had the lowest violent death rate at 13.8 per 100,000 persons (Figure 1.3). Most fatal injuries, 81.3 percent, regardless of the manner of death, were inflicted on private property such as a house or apartment (data not shown).

Figure 1.3: Number of victims who died from violence per 100,000 persons by local health district of occurrence, Utah, 2005* †



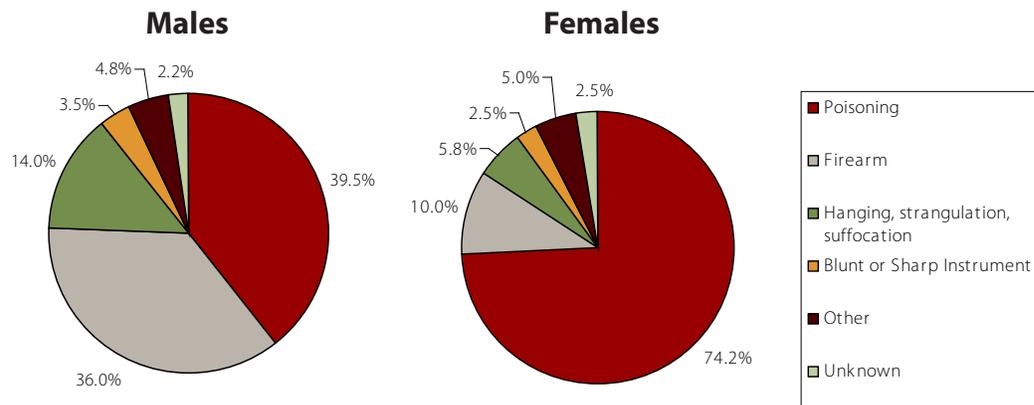
*Three victims had unknown injury locations. †Age-adjusted rates were not calculated due to small numbers. Caution should be used when comparing crude rates. † Use caution when interpreting the results, as the estimate may be unreliable.



Violent Death Mechanisms of Injury

Half of the victims who died from violence died as a result of poisonings. The most common mechanism of injury used among female victims who died from violence were poisonings (74.2 percent). However, among male victims who died from violence, poisonings were closely followed by firearms as the mechanism of injury (39.5 percent and 36.0 percent, respectively). Males were five times as likely to be injured by a firearm than females (OR = 5.1)(Figure 1.4).

Figure 1.4: Percentage distribution of mechanism of injury among violent death victims by sex, Utah, 2005*



*Some deaths resulted from the use of multiple mechanisms.

Violent Death Toxicology

Different patterns of toxicology testing and results emerged amongst victims of violent death. Of those who were screened, amphetamines were the most commonly found drug among homicide victims. Other substances, such as over the counter medications, were the most commonly found drug among suicide victims. Opiates were the most commonly found drug among victims who died from injuries of undetermined intent.

Table 1.2: Summary of toxicology tests and results in victims who died from violence by incident type, Utah 2005*

Toxicology	Homicide			Suicide			Undetermined		
	Screened	Present	%	Screened	Present	%	Screened	Present	%
Alcohol	58	12	20.7	309	90	29.1	356	52	14.6
Amphetamines	51	18	35.3	204	32	15.7	309	60	19.4
Antidepressants	58	4	6.9	311	95	30.5	358	157	43.9
Cocaine	52	7	13.5	205	19	9.3	308	79	25.6
Marijuana	51	13	25.5	203	14	6.9	308	43	14.0
Opiates	58	8	13.8	245	69	28.2	353	287	81.3
Other substances	58	12	20.7	310	149	48.1	359	253	70.5

* Legal interventions are excluded.

SECTION II: HOMICIDES

Homicide Demographics

In 2005, there were 60 homicides which accounted for 7.8 percent of Utah residents who died from violence. Utah has a crude homicide rate of 2.4 per 100,000 persons. There was not a significant difference between male and female victims who died from homicides in Utah (Table 2.1).

Although Other, non-Hispanic persons and Hispanic persons only accounted for 16.6 percent of Utah's population, they were victims in half of all homicides in Utah (Table 2.1).

There was not a significant difference in victims who died from homicide by age group. Persons aged 25-34 had the highest homicide rate at 4.2 per 100,000 persons and persons aged 45 and older had the lowest rate at 1.1 per 100,000 persons (Table 2.1). The majority (56.6 percent) of homicide victims were between the ages of 15-34.

Table 2.1: Number, percent, and crude rate of victims who died from homicide by demographics, Utah, 2005

Demographics	Percent of Population ³	Number	Percent of Homicides	Crude Rate per 100,000 Persons (95% CI*)
Sex †				
Female	49.8	22	36.7	1.7 (1.1-2.6)
Male	50.2	38	63.3	3.0 (2.1-4.1)
Race/Ethnicity †				
Hispanic	10.7	20	33.3	7.4 (4.5-11.5)
Other, non-Hispanic†	5.9	10	16.7	6.8 (3.3-12.5)
White, non-Hispanic	83.4	30	50.0	1.4 (1.0-2.0)
Age Group				
0-14†	26.3	8	13.3	1.2 (0.5-2.4)
15-24	17.9	17	28.3	3.7 (2.2-6.0)
25-34	16.0	17	28.3	4.2 (2.4-6.7)
35-44†	12.3	10	16.7	3.2 (1.5-5.9)
45+†	27.5	8	13.3	1.1 (0.5-2.2)
Geographic Location of Occurrence † ‡				
Frontier	4.8	**	**	**
Rural†	19.6	10	16.9	2.0 (1.0-3.7)
Urban	75.6	47	79.7	2.4 (1.8-3.2)
Total	100.0	60	100.0	2.4 (1.8-3.0)

* Confidence Interval. †Age-adjusted rates were not calculated due to small numbers. Caution should be used when comparing crude rates. ‡Use caution when interpreting the results as the estimate may be unreliable. †One victim had an unknown geographic injury location. ** The count, percent, or rate, has been suppressed because the observed number of events is <5 or the estimate is unreliable.

Most homicides (79.7 percent) occurred in the urban counties of Davis, Salt Lake, Utah, and Weber with the rate of 2.4 per 100,000 persons. Rural counties had a homicide rate of 2.0 per 100,000 persons. The rate for frontier counties is not shown because the estimate is unreliable (Table 2.1).

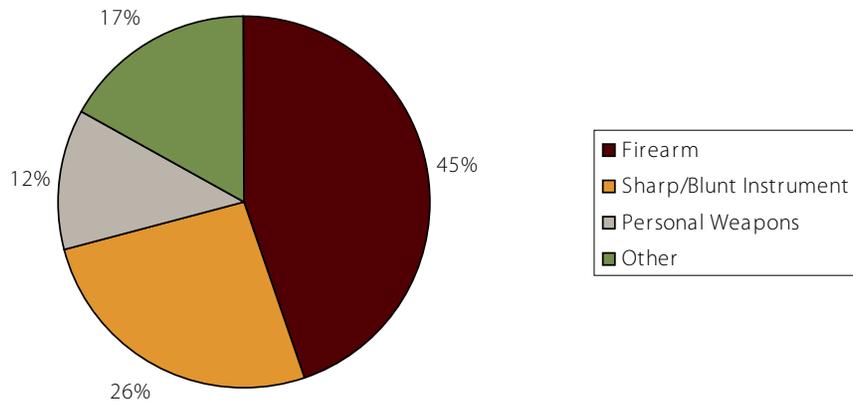
Of the homicide victims whose educational attainment was known 37.9 percent had less than 12 years of education, 36.2 percent had a high school diploma or GED, and 25.9 percent had more than a high school education (data not shown).

Homicide Mechanisms of Injury

Firearms accounted for 44.6 percent of the mechanism of injury among homicide victims and were the primary mechanisms of injury for both males and females (46.3 percent and 41.7 percent respectively). Sharp or blunt instruments followed with 26.2 percent of the overall mechanism of injury. Personal weapons, such as fists, feet, or hands, accounted for 12.3 percent of the mechanism of injury among homicide victims. The other category includes weapons such as fire/burns, motor vehicle, strangulation/suffocation, and poisoning (Figure 2.1).

According to the 2005 Youth Risk Behavior Survey, 12.6 percent of Utah male high school students carried a gun on one or more occasions in the past 30 days prior to completing the survey. Although this is up from 8.8 percent in 2003, it is not statistically significant.⁴

Figure 2.1: Percentage distribution of mechanism of injury among homicide victims, Utah, 2005*

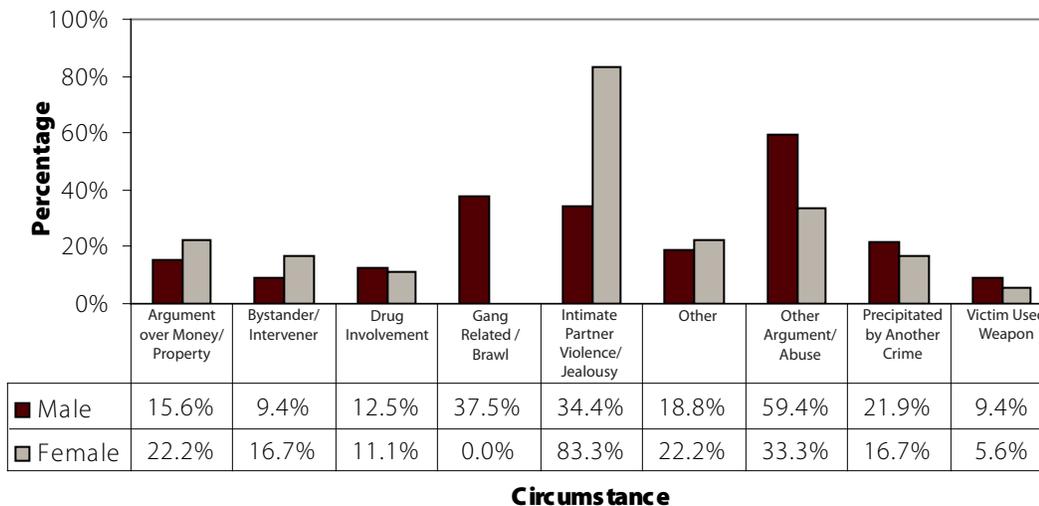


*Some deaths resulted from the use of multiple mechanisms.

Homicide Circumstances

Circumstances were known in 83.3 percent of the homicide incidents. Overall, the most common precipitating event in all homicides was intimate partner violence or jealousy at 52.0 percent. For males, the most common precipitating event was other argument or abuse (59.4 percent) followed by gang related or brawl (37.5 percent). All of the incidents with gang related or brawl endorsed as a precipitating circumstance involved male victims. For female homicide incidents, the most common precipitating event was intimate partner violence or jealousy (83.3 percent) followed by other argument or abuse (33.3 percent) (Figure 2.2). Females were ten times as likely to have intimate partner violence as a homicide circumstance than males (OR=9.7). The Utah Domestic Violence Fatality Review Committee reported that in 2005 there was a history of abuse in 19.0 percent of domestic violence-related homicides.⁵

Figure 2.2: Percentage of victims who died from homicide by precipitating circumstances and sex, Utah, 2005*



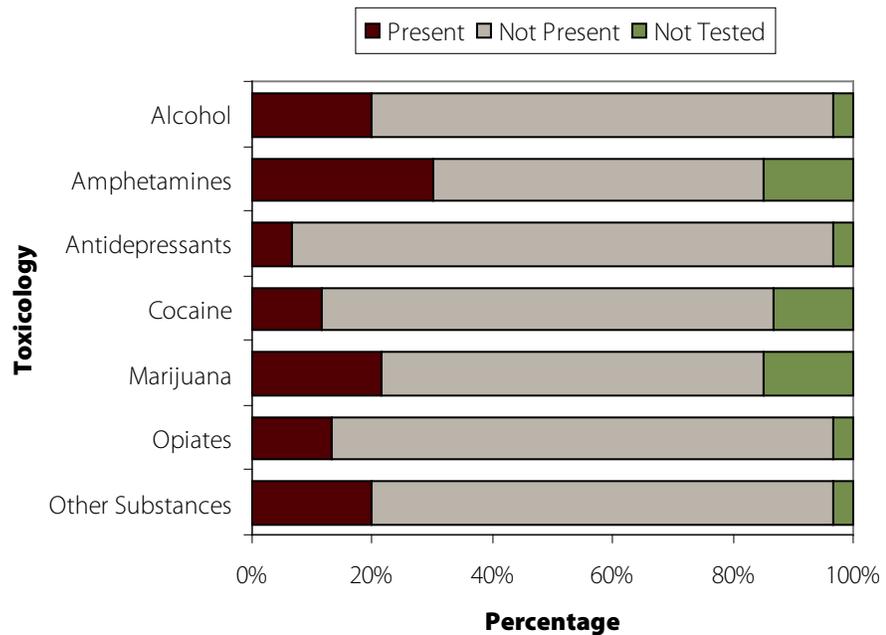
*Victims may have multiple circumstances noted so percent totals will not sum to 100%.

** Definitions of Terms can be found at the end of the report.

Homicide Toxicology

Tests for alcohol, antidepressants, opiates, and other substances were conducted for 96.7 percent of homicide victims. Tests for cocaine were conducted for 86.7 percent and tests for amphetamines and marijuana were conducted for 85.0 percent of the victims. The most common drug found in homicide victims was amphetamines; the least common was antidepressants (Figure 2.3).

Figure 2.3: Percentage of victims who died from homicide by toxicology tests and results, Utah, 2005



Homicide Suspects

According to available suspect information, there were 79 suspects for the 60 homicide victims. Of those whose sex was known, 90.3 percent of the suspects were male. Of the suspects whose age was known, 43.9 percent were between the ages of 15-24 years. Seven of the homicide suspects committed suicide after the homicide; six of these were domestic violence-related incidents. In 14 of the incidents, there were multiple homicide suspects (data not shown).

SECTION III: SUICIDES

Suicide Demographics

In 2005, there were 342 suicides, which accounted for 44.5 percent of the Utah residents who died from violence. Utah had a crude suicide rate of 13.4 per 100,000 persons (Table 3.1). Non-Hispanic persons accounted for 93.0 percent of the victims who died from suicide (Table 3.1).

Persons 85 years and older had the highest suicide rate at 32.9 per 100,000 persons. This was significantly higher than persons aged 10-19, who had the lowest rate at 5.1 per 100,000 persons (Table 3.1). The average age of victims who died from suicide was 41.

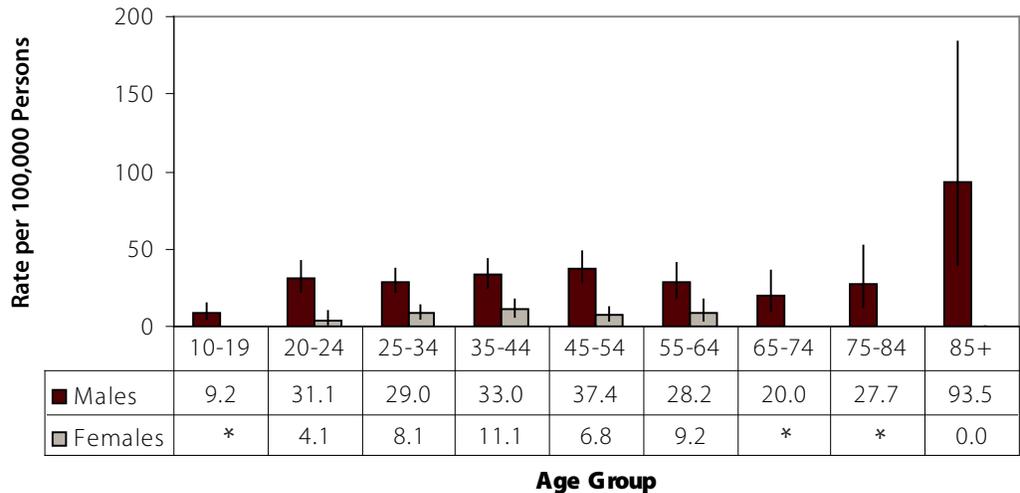
Table 3.1: Number, percent, and crude rate of victims who died from suicide by demographics, Utah, 2005

Demographics	Percent of Population ³	Number	Percent of Suicides	Crude Rate per 100,000 Persons (95% CI*)
Sex †				
Female	49.8	61	17.8	4.8 (3.7-6.2)
Male	50.2	281	82.2	22.0 (19.5-24.7)
Race/Ethnicity †				
Hispanic	10.7	24	7.0	8.9 (5.7-13.3)
Other, non-Hispanic	5.9	23	6.7	15.7 (9.9-23.5)
White, non-Hispanic	83.4	295	86.3	14.1 (12.6-15.8)
Age Group				
10-19	16.1	21	6.1	5.1 (3.2-7.8)
20-24	9.6	43	12.6	17.5 (12.7-23.6)
25-34	16.0	77	22.5	18.9 (14.9-23.6)
35-44	12.3	70	20.5	22.3 (17.4-28.2)
45-54	11.5	65	19.0	22.2 (17.1-28.3)
55-64	7.6	36	10.5	18.6 (13.0-25.7)
65-74	4.5	12	3.5	10.4 (5.4-18.1)
75-84 †	2.9	10	2.9	13.5 (6.5-24.8)
85+ †	1.0	8	2.3	32.9 (14.2-64.8)
Geographic Location of Occurrence[‡]				
Frontier	4.8	24	7.0	19.6 (12.6-29.2)
Rural	19.6	62	18.1	12.4 (9.5-15.9)
Urban	75.6	256	74.9	13.3 (11.7-15.0)
Total	100.0	342	100.0	13.4 (12.0-14.9)

* Confidence Interval. †Age-adjusted rates were not calculated due to small numbers. Caution should be used when comparing crude rates. ‡Use caution when interpreting the results as the estimate may be unreliable.

Males (22.0 per 100,000 persons) were three times as likely to die from suicide than from other violent deaths compared to females (4.8 per 100,000 persons)(OR = 3.2)(Table 3.1). Males aged 10-19 (9.2 per 100,000 persons) had a significantly lower suicide rate than all other male age groups except males aged 65-74 and 75-84 (20.0 and 27.7 per 100,000 persons, respectively). Males 85 years and older had highest suicide rate at 93.5 per 100,000 persons, although it was not significant. There was not a significant difference between the age groups of females who died from suicide (Figure 3.1).

Figure 3.1: Number of victims who died from suicide per 100,000 persons by age group and sex, Utah, 2005



* The estimate has a relative standard error of 50% or more and is therefore unreliable.

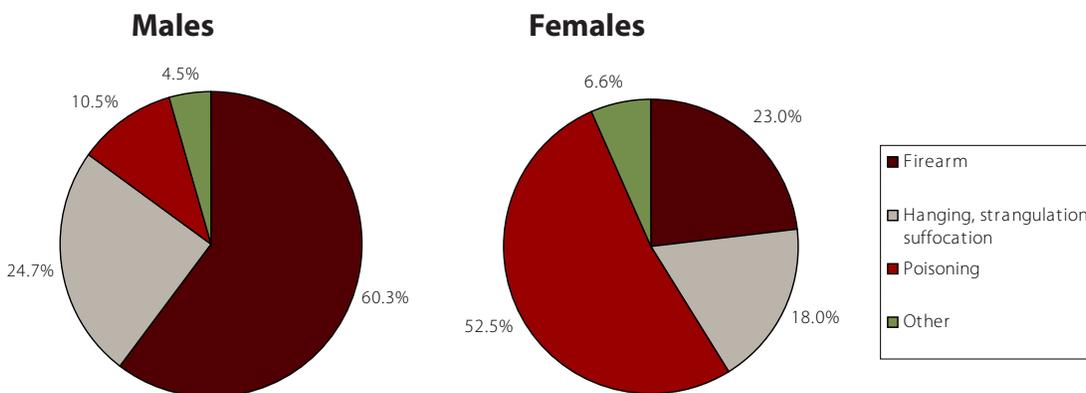
Most suicide incidents (74.9 percent) occurred in the urban counties of Davis, Salt Lake, Utah, and Weber, with a rate of 13.3 per 100,000 persons. Frontier counties had a suicide rate of 19.6 per 100,000 persons, while the rate in rural counties was 12.4 per 100,000 persons.

Of the victims whose educational attainment was known, 18.5 percent had less than 12 years of education, 40.3 percent had a high school diploma or GED, and 41.2 percent had more than a high school education (data not shown).

Suicide Mechanisms of Injury

Firearms accounted for 53.7 percent of the mechanism of injury among suicide victims and were the primary mechanism of injury for males (60.3 percent) followed by hanging, strangulation, or suffocation (24.7 percent). The primary mechanism of suicide for females was poisoning (52.5 percent) followed by firearms (23.0 percent) (Figure 3.2). In the U.S., guns are used in approximately 67.0 percent of all suicides.⁶ Of the total victims who died from suicide by poisoning, 65.8 percent were due to prescription medications. Hydrocodone (10.0 percent) was the most common prescription medication used in suicide poisonings and 41.1 percent of suicide poisonings consisted of multiple drugs (data not shown).

Figure 3.2: Percentage distribution of mechanism of injury among suicide victims by sex, Utah, 2005*



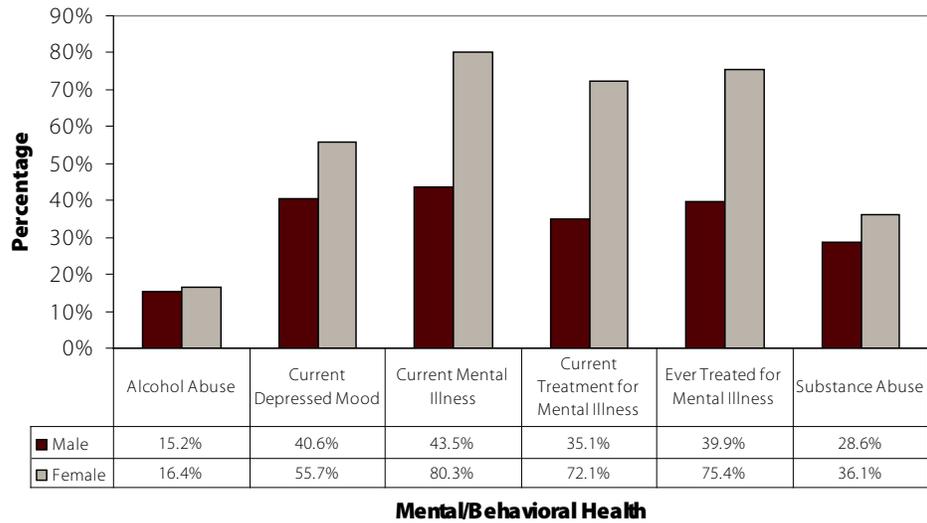
*Some deaths resulted from the use of multiple mechanisms.

Suicide Circumstances

Circumstances were known in 98.5 percent of the suicide incidents. Several factors can put an individual at risk for committing suicide. These risk factors include mental illness, substance abuse, history of suicide attempts, family history of suicide or violence, easy access to firearms, and unwillingness to seek help because of stigma attached to mental and substance abuse disorders.^{7,8}

There were differences in mental and behavioral health circumstances surrounding male and female suicides. The most common mental and behavioral health circumstance for both males and females was a current mental illness (50.1 percent); however, females were five times as likely to be diagnosed with a current mental illness as males (80.3 percent and 43.5 percent respectively) (OR = 5.3). Females were also five times as likely to have ever been treated for mental illness (75.4 percent) compared to males (39.9 percent) (OR = 4.6) and twice as likely to have a current depressed mood (55.7 percent and 40.6 percent respectively) (OR = 1.9) (Figure 3.3). The most common diagnosed mental illness for both males (27.5 percent) and females (54.1 percent) was depression (data not shown). Research has shown that depression plays a major role in suicide and is thought to be involved in approximately 65 to 90 percent of all suicides with a history of mental illness. The U.S. prevalence for mental comorbidity was 7.2 percent for males and 10.0 percent for females.⁹

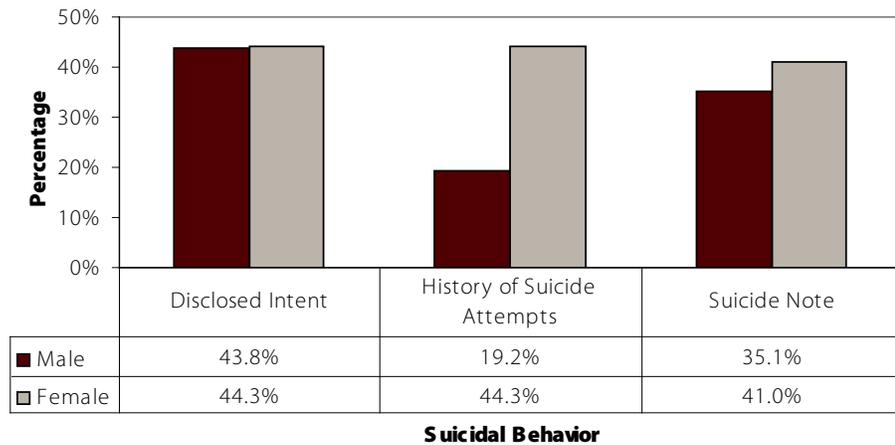
Figure 3.3: Percentage of victims who died from suicide by mental and behavioral health circumstances and sex, Utah, 2005*



*Victims may have multiple circumstances noted so percent total will not sum to 100%.
 **Definitions of Terms can be found at the end of the report.

Forty-one percent of females left a suicide note compared to 35.1 percent of males. Nearly half of all suicide victims disclosed their intent to commit suicide (43.9 percent). Females were three times as likely to have a history of suicide attempts than males (44.3 percent and 19.2 percent respectively)(OR = 3.4)(Figure 3.4).

Figure 3.4: Percentage of victims who died from suicide by suicidal behavior and sex, Utah, 2005*

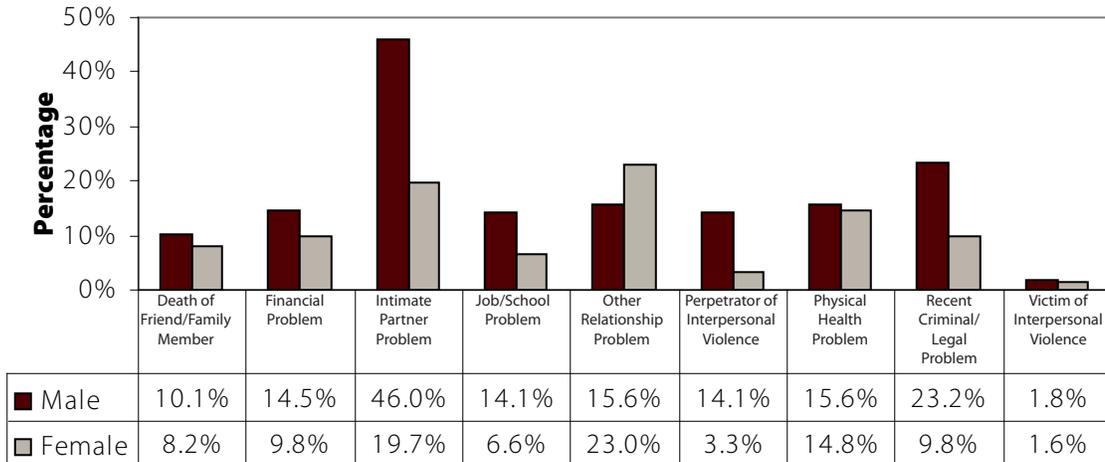


*Victims may have multiple behaviors noted so percent total will not sum to 100%.
 **Definitions of Terms can be found at the end of the report.

The most common precipitating circumstance relating to victims who died from suicide was intimate partner problem at 41.2 percent. For males, intimate partner problem was the most common precipitating circumstance at 46.0 percent. For females it was other relationship problem (23.0 percent) (Figure 3.5). Males were three times as likely to have a crisis, such as one of the precipitating circumstances, prior to committing suicide than females (63.8 percent and 32.8 percent respectively)(OR = 3.6)(data not shown).

Section III: Suicides

Figure 3.5: Percentage of victims who died from suicide by precipitating circumstances and sex, Utah, 2005*



Precipitating Circumstances

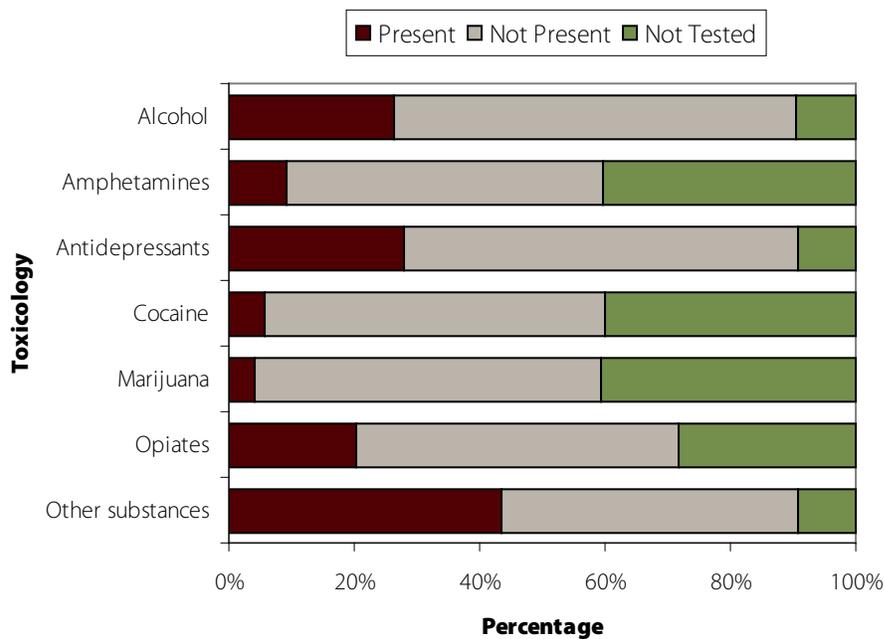
*Victims may have multiple circumstances noted so percent total will not sum to 100%.

**Definitions of Terms can be found at the end of the report.

Suicide Toxicology

Tests for alcohol, antidepressants, and other substances were conducted for approximately 90.6 percent of the suicide victims. Tests for amphetamines, cocaine, and marijuana were conducted for 59.6 percent and tests for opiates were done for 71.6 percent of the victims. The most common drug found in suicide victims was other substances such as over-the-counter medications and the least common was marijuana (Figure 3.6).

Figure 3.6: Percentage of victims who died from suicide by toxicology tests and results, Utah, 2005



SECTION IV: DEATHS OF UNDETERMINED INTENT



Undetermined Death Demographics

In 2005, there were 363 deaths of undetermined intent, which accounted for 47.3 percent of the Utah residents who died from violence. Utah has a crude undetermined death rate of 14.2 per 100,000 persons (Table 4.1). However, Utah is one of only a few states that classify poisoning death of unclear intent as “could not be determined” as opposed to “accident.”

Non-Hispanic persons accounted for 93.1 percent of the victims who died from injuries of undetermined intent, but make up 89.3 percent of the population (Table 4.1).

Overall, males had a significantly higher undetermined death rate at 16.4 per 100,000 persons compared to females at 12.1 per 100,000 persons in Utah (Table 4.1). Persons aged 45-54 had the highest undetermined death rate at 35.2 per 100,000 persons. This was significantly higher than all other age groups except persons aged 35-44. Persons aged 0-14 had a significantly lower undetermined death rate at 2.5 per 100,000 persons than the other age groups (Table 4.1). The average age of victims who died from injuries of undetermined intent was 37.

Table 4.1: Number, percent, and crude rate of victims who died from injuries of undetermined intent by demographics, Utah, 2005

Demographics	Percent of Population ³	Count	Percent of Undetermined Deaths	Crude Rate per 100,000 Persons (95% CI*)
Sex[†]				
Female	49.8	153	42.1	12.1 (10.2-14.1)
Male	50.2	210	57.9	16.4 (14.3-18.8)
Race/Ethnicity[†]				
Hispanic	10.7	25	6.9	9.3 (6.0-13.7)
Other, non-Hispanic [†]	5.9	15	4.1	10.2 (5.7-16.8)
White, non-Hispanic	83.4	323	89.0	15.5 (13.8-17.2)
Age Group				
0-14	26.3	17	4.7	2.5 (1.5-4.1)
15-24	17.9	46	12.7	10.1 (7.1-13.5)
25-34	16.0	83	22.9	20.3 (16.2-25.2)
35-44	12.3	86	23.7	27.4 (21.9-33.8)
45-54	11.5	103	28.4	35.2 (28.7-42.7)
55+	16.0	28	7.7	6.9 (4.6-9.9)
Geographic Location of Occurrence^{†‡}				
Frontier	4.8	14	3.9	11.4 (6.3-19.2)
Rural	19.6	55	15.2	11.0 (8.3-14.4)
Urban	75.6	292	80.9	15.2 (13.5-17.0)
Total	100.0	363	100.0	14.2 (12.8-15.8)

* Confidence Interval. [†]Use caution when interpreting the results, as the estimate may be unreliable. [‡]Age-adjusted rates were not calculated due to small numbers. Caution should be used when comparing crude rates. [¶] Two victims had unknown geographic injury locations.

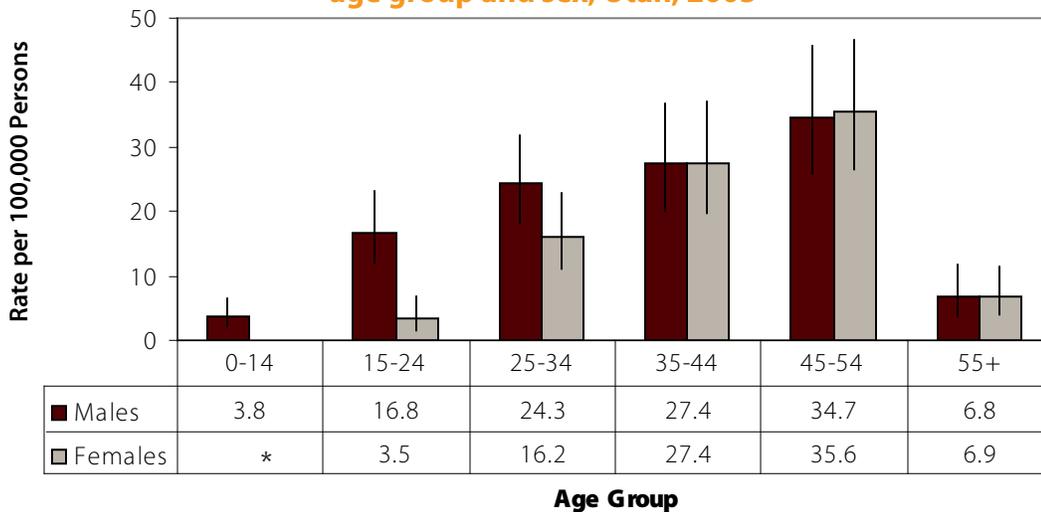


Males aged 15-24 had a significantly higher undetermined death rate than females of the same age group (16.8 and 3.5 per 100,000 persons respectively). There was not a significant difference by sex in the other age groups (Figure 4.1).

Most injuries of undetermined intent (80.9%) occurred in urban counties with a rate of 15.2 per 100,000 persons. Frontier counties had a rate of 11.4 per 100,000 persons. Rural counties had a rate of 11.0 per 100,000 persons (Table 4.1).

Of the victims whose educational attainment was known, 38.6 percent had a high school diploma or GED, 40.3 percent had more than a high school education, and 21.1 percent had less than 12 years of education (data not shown).

Figure 4.1: Number of victims who died from injuries of undetermined intent by age group and sex, Utah, 2005



* The estimate has a relative standard error of 50% or more and is therefore unreliable.

Section IV: Deaths of Undetermined Intent



Undetermined Death Mechanisms of Injury

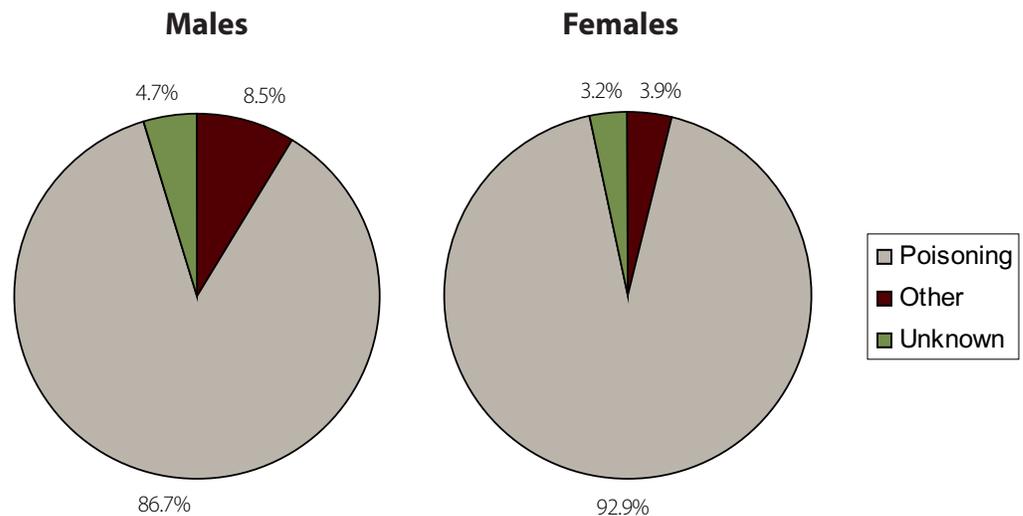
In 2005, poisonings accounted for 89.3 percent of the mechanism of injury among victims who died from injuries of undetermined intent in Utah.

From 1991-2003, the number of Utah residents who died from all drug poisonings increased nearly fivefold, from 79 deaths in 1991 (4.4 per 100,000 persons) to 391 deaths in 2003 (16.6 per 100,000 persons)¹⁰. This increase was largely the result of a tripling of the rate in poisoning deaths of unintentional or undetermined intent caused by prescription medications.

Poisonings, which include prescription and illicit drugs, were the primary mechanism of injury in undetermined deaths for both males and females (86.7% and 92.9%, respectively) (Figure 4.2). Of these deaths, prescription medications accounted for 64.4 percent of the total poisons used by victims who died from injuries of undetermined intent. Illicit drugs were used in 25.8 percent of the total poisons. The top three poisons used by victims who died from injuries of undetermined intent were methadone (12.3%), cocaine (10.4%), and oxycodone (10.0%)(data not shown).

Research has shown that in Utah, all deaths attributable to methadone increased more than 14-fold. Deaths attributable to other prescription narcotics (principally oxycodone and hydrocodone) increased five-fold during the same time period. From 1997 to 2002, Drug Enforcement Administration records show that the amount of methadone distributed in Utah, excluding that by methadone clinics, increased only by a factor of six and the amount of oxycodone increased by a factor of five.¹⁰ The number of deaths attributed to methadone is disproportionately higher to the amount distributed in Utah.

Figure 4.2: Percentage distribution of mechanism of injury among victims who died from injuries of undetermined intent by sex, Utah, 2005*

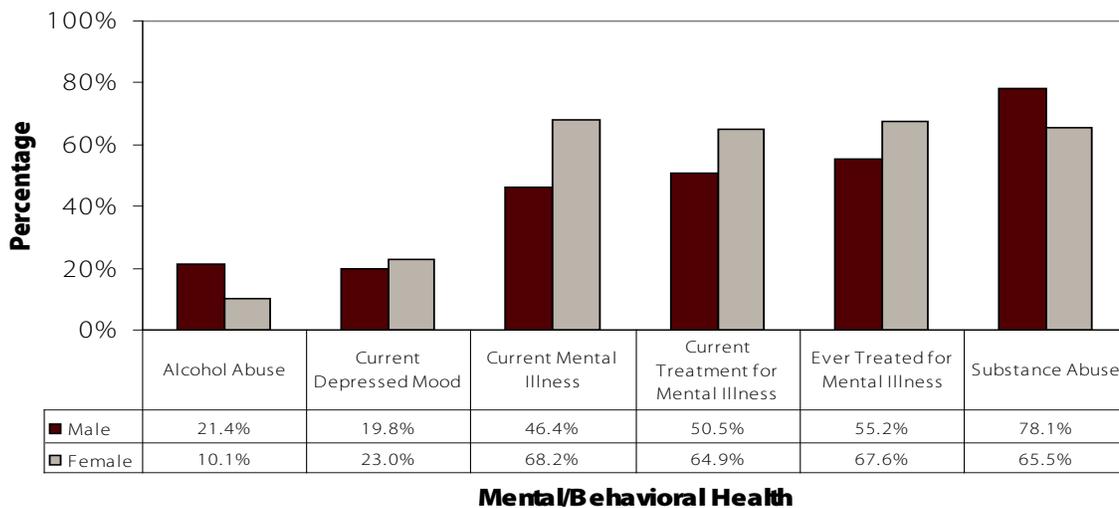


*Some deaths resulted from the use of multiple mechanisms.

Undetermined Death Circumstances

Circumstances were known in 93.7 percent of the undetermined death incidents. Females were more likely to have had a current mental illness and treatment than males, while males were more likely to have alcohol or substance abuse problems (Figure 4.3). Overall, the most common precipitating circumstance, (35.9 percent), relating to victims who died from injuries of undetermined intent was having a physical health problem, such as chronic pain or a terminal illness. It was also the most common precipitating circumstance for males and females at 27.6 percent and 46.6 percent, respectively (Figure 4.4).

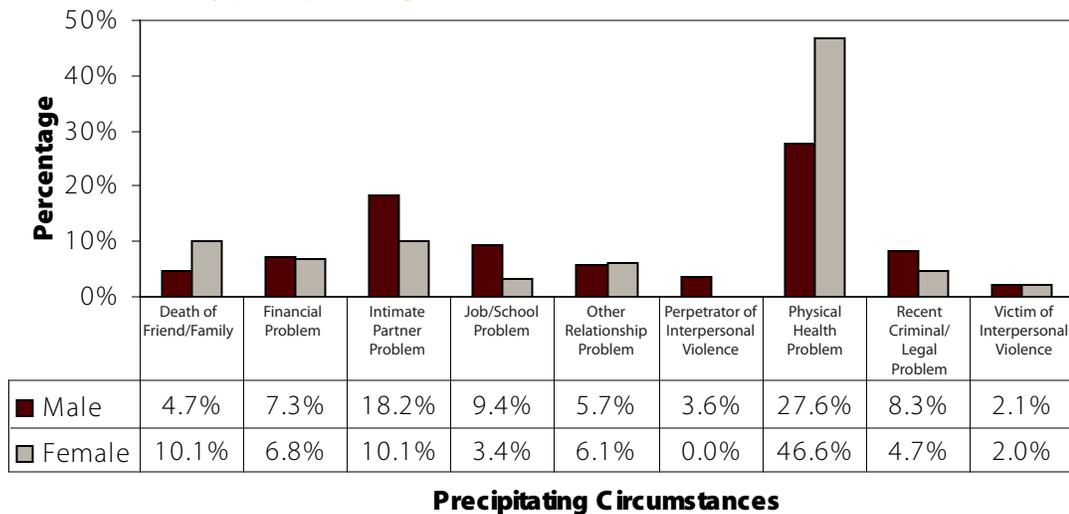
Figure 4.3: Percentage of victims who died from injuries of undetermined intent by mental and behavioral health circumstances and sex, Utah, 2005*



*Victims may have multiple circumstances noted so percent total will not sum to 100%.

** Definitions of Terms can be found at the end of the report.

Figure 4.4: Percentage of victims who died from injuries of undetermined intent by precipitating circumstances and sex, Utah, 2005*



*Victims may have multiple circumstances noted so percent total will not sum to 100%.

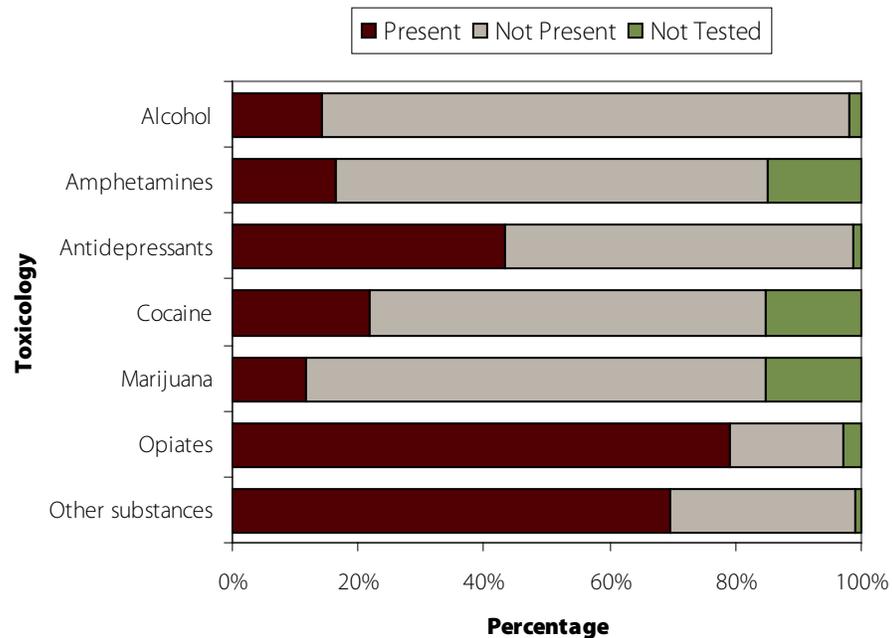
** Definitions of Terms can be found at the end of the report.

Section IV: Deaths of Undetermined Intent

Undetermined Death Toxicology

Tests for alcohol, antidepressants, opiates, and other substances were conducted for approximately 98.2 percent of the victims who died from injuries of undetermined intent. Tests for amphetamines, cocaine, and marijuana were conducted for 84.9 percent of the victims. The most common drug found in victims who died from injuries of undetermined intent was opiates; the least common was marijuana (Figure 4.5).

Figure 4.5: The percentage of victims who died from injuries of undetermined intent by toxicology tests and results, Utah, 2005





Over the past decade in Utah, there has been an increase in the rate of violent death, which is attributed primarily to drug overdoses. Clearly, effective prevention programming is needed to curtail this public health crisis. Findings from the Utah Violent Death Reporting System (UTVDRS) are ideal to inform prevention specialists, law enforcement, community leaders, and others about violent death trends occurring within our communities. These data are critical to better understanding the problem and taking steps to reduce and prevent these deaths.

UTVDRS data can be used to track the occurrence of violence-related fatal injuries and assist public health authorities in developing, implementing, and evaluating programs and policies that reduce and prevent violent deaths and injuries in Utah. It is critical to maintain and expand partnerships between public health agencies, law enforcement agencies, and other community-based organizations in order to properly address and prevent violent death in Utah.



TECHNICAL NOTES



The Utah Violent Death Reporting System (UTVDRS) collects uniform statewide incident-based information regarding violent deaths for the National Violent Death Reporting System (NVDRS). Data on violent deaths is collected from multiple sources and data elements are linked according to the uniform data elements developed by the CDC. More detail on NVDRS definitions and concepts can be found in the NVDRS Coding Manual which is available at <http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/vsz/default.htm>.

Case Definition

A violent death is defined as “the intentional use of physical force or power against oneself, another person, or against a group or community.” This case definition includes suicides, homicides, deaths from legal intervention (a subtype of homicide), deaths from undetermined intent, and unintentional firearm fatalities of Utah residents who died in Utah.

Case Ascertainment

Violent death cases were ascertained through the Utah Department of Health Office of the Medical Examiner. Violent deaths were identified using death certificates and medical examiner reports. Additional information on each incident was made available through police and supplementary homicide reports.

Cases were identified by:

- 1) The Office of the Medical Examiner manner of death designations of homicide, suicide, undetermined and accident (firearms only), and
- 2) ICD-10 External Causes of Death Codes for Manners of Death Meeting the NVDRS Case Definition:

Cause of death	ICD-10 code
Suicide	X60-X84, Y87.0
Homicide	X85-Y09, Y87.1
Legal intervention	Y35.0-Y35.4, Y35.6-Y35.7, Y89.0
Terrorism	U01-U03
Undetermined intent	Y10-Y34, Y87.2
Unintentional firearm	W32-W34, Y86*, Y89.9*

*Where firearm and/or violence is determined to be the cause of injury

Rates

The violent death rate per year is the number of resident violent deaths divided by the resident population of the jurisdiction and multiplied by 100,000 for a rate per 100,000 persons.

The resident population of Utah was obtained from the Utah Governor’s Office of Planning and Budget, 2008 Baseline Economic and Demographic Projections (Revised on 7-23-2008). Race and ethnicity populations were obtained from the Population Estimates Program, U.S. Bureau of the Census.



Confidence Intervals (CI)

A 95 percent confidence interval was calculated for all rates using the inverse gamma function with the SAS statistical package. A 95 percent confidence interval indicates that we are “95 percent confident” that the interval covering the “true” rate falls between the two designated confidence limits.

Odds Ratio (OR)

Odds ratios were calculated by dividing the probability that an event will occur by the probability that it will not occur.

Data Suppression

Suppression rules were applied to the data by determining the coefficient of variation. If the coefficient of variation was greater than or equal to .50, the data was not shown. The coefficient of variation was obtained by taking the square root of 100,000 divided by the population times the rate.

Primacy among Data Sources

Data sources have been ranked in terms of their likely accuracy for each data element in the NVDRS software. The term used for the ranking is “primacy.” The source with first primacy is considered the most reliable for a given variable and will be the source of choice. Lower primacy sources are the most reliable after first primacy and can be used when a higher-primacy source is not available. Data used in this report was obtained using the primacy ranking built into the software.



DEFINITION OF TERMS



Alcohol abuse: Self-admitted or observed by others to have an alcohol problem.

Amphetamines: Central nervous system stimulant class drug. They can be illicit drugs such as methamphetamines or prescription drugs used to treat neurological or psychological disorders like Attention-Deficit/Hyperactivity Disorder (ADHD).

Argument over money/property: Specifically involving conflicts over money, property, or drugs.

Blunt instrument: Weapon such as clubs and bats.

Brawl: Three or more persons involved in a mutual, physical fight.

Bystander: The victim was not directly involved in the incident. For example, the bystander was walking past a gang fight when killed.

Crisis: Acute precipitating events which appear to have contributed to the incident. These events can be two weeks before or after the incident.

Current depressed mood: Identifies if the victim was observed to be depressed or had made statements as to being depressed. This is not a clinical diagnosis.

Current diagnosed mental illness: The person has been “diagnosed” by a health care or mental health professional and is currently seeking treatment and/or taking medication.

Death of friend/family: The death of a friend or family member within the past five years.

Disclosed intent: The victim has expressed suicidal feelings to another person. This code is used only if there was opportunity to intervene between the time the person disclosed intent and the injury event.

Drug involvement: Any activity related to the illegal trafficking of drugs such as a drug deal gone bad, or theft of drugs or drug money.

Ever treated for mental illness: Noted as ever having been treated for mental illness whether it be by therapy or medication.

Financial problems: Specific problems related to financial situations such as overwhelming debt or bankruptcy.

Frontier counties:¹¹ Frontier counties include Beaver, Daggett, Duchesne, Emery, Garfield, Grand, Juab, Kane, Millard, Piute, Rich, San Juan, Uintah, and Wayne. Frontier is defined as having six or fewer persons per square mile.

Gang-related: Specifically related to gang rivalry or gang activity.

Hispanic: Ethnicity of the victim or suspect of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

History of suicide attempts: The victim has previously attempted suicide regardless of the severity of those attempts.

Homicide: Death resulting from the intentional use of force or power, threatened or actual, against one person, group, or community.

Injuries of undetermined intent: 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.

Intervener: The victim was not directly involved in the incident. For example, a person tried to break up a heated argument and was attacked.



Intimate partner problem: Friction or conflict between current or former intimate partners.

Intimate partner violence: Violence between current or former partners.

Jealousy: Characterizes violence between intimate partners and sexual rivals.

Job/school problem: The victim was experiencing problems at work or at school which seemed to contribute to the event.

Legal problem: Legal problems of a civil nature such as custody disputes or lawsuits.

Legal intervention: Death when the decedent was killed by a police officer or other peace officer acting in the line of duty.

Local health district: Utah counties are divided into 12 local health districts. Following are the counties in each local health district:

Local Health District	County
Bear River	Box Elder, Cache, Rich
Central Utah	Juab, Millard, Piute, Sanpete, Sevier, Wayne
Davis	Davis
Salt Lake Valley	Salt Lake
Southeastern	Carbon, Emery, Grand, San Juan
Southwest	Beaver, Garfield, Iron, Kane, Washington
Summit	Summit
Tooele	Tooele
TriCounty	Daggett, Duchesne, Uintah
Utah	Utah
Wasatch	Wasatch
Weber-Morgan	Morgan, Weber

Opiates: Narcotic type drugs such as codeine, morphine, hydrocodone, and heroin.

Other argument/abuse: Arguments or conflicts that cannot be identified by any other means.

Other relationship problem: Friction or conflict between friends or family members.

Other substances: Drugs not specifically classified by guidelines like “anti-depressants” or “opiates”. These drugs can be prescription or over-the-counter.

Other, non-Hispanic: Person who is not Hispanic and has origins among any of the black racial groups of Africa, original peoples of the Far East, Southeast Asia, or the Indian subcontinent, original peoples of the Pacific Islands, and original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition, and persons who identify with more than one racial category.

Perpetrator of interpersonal violence: The victim was the perpetrator of interpersonal violence during the past month or has had a restraining order filed against him or her within the past month.

Personal weapons: Weapon using the body such as fists, feet, or hands.

Physical health problem: Problems relevant to the event such as a terminal illness or debilitating conditions like chronic pain.



Poisoning: Weapon including drugs (prescription, street, or alcohol), toxins, chemical substances, or gas (carbon monoxide).

Recent criminal problem: The victim was facing criminal legal problems like impending arrest, police pursuit, or court dates for criminal sentencing.

Rural counties:¹¹ Rural counties include Box Elder, Cache, Carbon, Iron, Morgan, Sanpete, Sevier, Summit, Tooele, Wasatch and Washington. Rural counties are more than six but less than 100 persons per square mile.

Sharp instrument: Weapons such as knives, razors, chisels, or broken glass.

Substance abuse: Self-admitted or observed by others to have a prescription drug problem with any illicit drug except marijuana.

Suicide: Death resulting from the intentional use of force against oneself; a preponderance of evidence should indicate that the use of force was intentional.

Suicide note: A note left stating intent of injury. This can be in any form, from paper to text message.

Undetermined Death: See “Injuries of undetermined intent.”

Urban counties:¹¹ Urban counties include Davis, Salt Lake, Utah, and Weber. Urban counties are one hundred or more persons per square mile.

Victim of interpersonal problem: The victim was a victim of interpersonal violence within the past month.

Victim used weapon: The victim was armed with a weapon and used or threatened to use it during the incident.

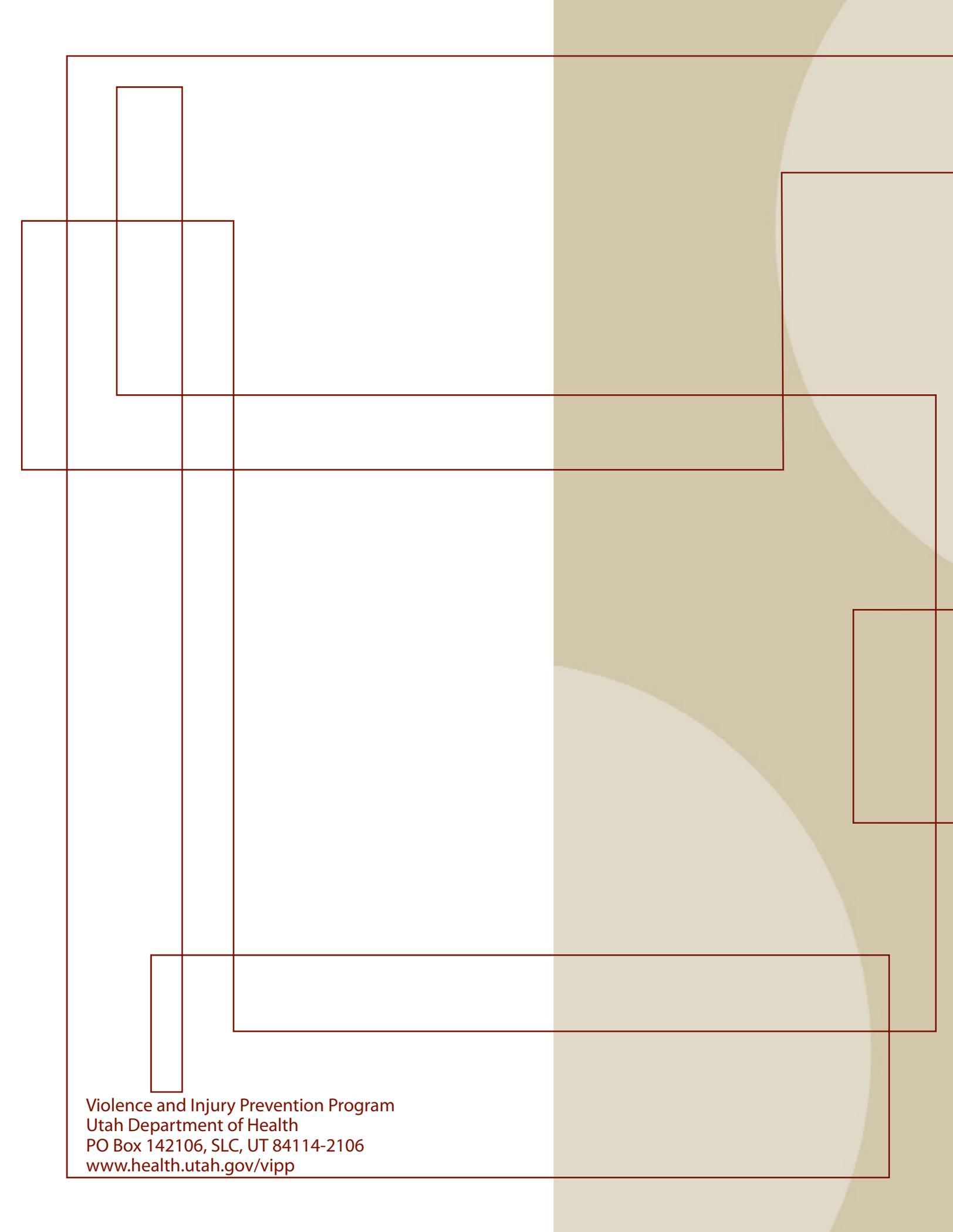
Violent death: A death that results from the intentional use of physical force or power, threatened or actual, against oneself, another person, or a group or community. The person using the force or power need only have intended to use force or power; they need not have intended to produce the consequences 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. In addition, NVDRS captures unintentional firearm deaths.

White, non-Hispanic: Person who is not Hispanic and has origins among any of the original peoples of Europe, North Africa, or the Middle East.



1. Utah Department of Health (UDOH). Utah's Indicator-Based Information System for Public Health (IBIS) [Online]. (2008). Office of Public Health Assessment, UDOH (producer). [cited 2008 Aug 4]. Available from: URL: <http://ibis.health.utah.gov>.
2. U.S. Centers for Disease Control and Prevention (CDC). Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2008). National Center for Injury Prevention and Control, CDC (producer). [cited 2008 Aug 4]. Available from: URL: www.cdc.gov/ncipc/wisqars.
3. Utah Population Estimates Committee (UPEC) and the Governor's Office of Planning and Budget (GOPB), 2008 Baseline Economic and Demographic Projections (Revised on 7-23-2008). For Race and Ethnicity, source is from Population Estimates Program, U.S. Bureau of the Census.
4. U.S. Centers for Disease Control and Prevention (CDC). Youth Risk Behavior Surveillance System (Youth Online) [Online]. (2008). National Center for Chronic Disease Prevention and Health Promotion, CDC (producer). [cited 2008 Aug 4]. Available from: URL: <http://apps.nccd.cdc.gov/yrbss/>.
5. Violence and Injury Prevention Program. Domestic Violence Fatalities: 2005 Utah Domestic Violence Homicide and Suicide Fact Sheet. Salt Lake City, UT: Utah Department of Health 2006.
6. National Injury Mortality Reports, 1987-1998. Atlanta, GA, Centers for Disease Control and Prevention, 2000.
7. U.S. Public Health Service. Surgeon General's Call to Action to Prevent Suicide. Washington, DC: 1999.
8. Blumenthal SJ. Suicide: a guide to risk factors, assessment, and treatment of suicidal patients. Medical Clinics of North America, 1988, 72:937-971.
9. Rockett RH, Wang S, Lian Y, Stack S. Suicide-associated comorbidity among US males and females: a multiple cause-of-death analysis. *Inj Prev* 2007 13: 311-315.
10. U.S. Centers for Disease Control and Prevention. Increase in Poisoning Deaths Caused by Non-Illicit Drugs---Utah, 1991--2003. *MMWR* 2005 / 54(02); 33-36.
11. Office on Vital Records and Statistics. Utah's Vital Statistics: Births and Deaths, 2005. Utah Department of Health.





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