

201& Coroner's Office Annual Report



ARAPAHOE COUNTY
COLORADO'S FIRST

Office of the County Coroner

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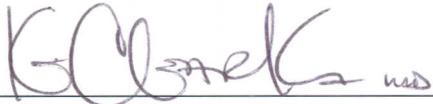
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DEDICATION

It is recognized that each case in this report represents the death of a person whose absence is grieved by relatives and friends. To those individuals of Arapahoe County who have suffered the loss of a relative or friend, this report is dedicated.



Michael J. Dobersen, M.D., Ph.D.
Coroner



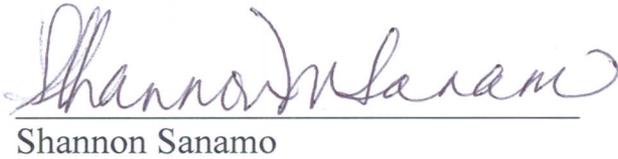
Kelly C. Lear-Kaul, M.D.



Lisa Avendano



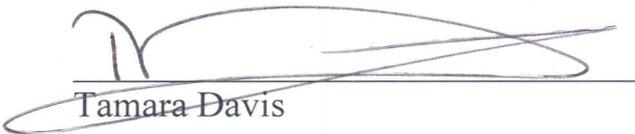
Cherry Goodman



Shannon Sanamo



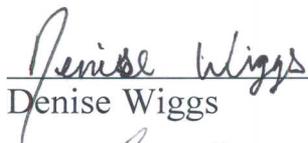
Sarah Saile



Tamara Davis



Elizabeth Ortiz



Denise Wiggs



Andrea Pope



Ivor Hansen



Matt Lunn



Candace Catterall

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Introduction

The Coroner's Office serves the living by investigating sudden and unexpected deaths and, in particular, those that occur under violent or suspicious circumstances. The Coroner's Office is tasked by statute with investigating all reportable deaths occurring within the county to subsequently determine the cause and manner of death in such cases, and to provide formal death certification.

The Coroner's staff recognizes the tragedy surrounding an untimely death and performs its investigations, in part, to assist the grieving family. A complete investigation also provides information for implementing criminal and civil litigation and may be used for the expeditious settling of insurance claims and estates. Questions which seem irrelevant in the initial hours after death can become significant in the following months. The surviving family, friends, and general public should have the assurance that a complete investigation was conducted.

When a death occurs on the job or is work related, the results of our investigation are immediately forwarded to the Occupational Safety and Health Administration so that the job site can be thoroughly examined. Private insurance companies also routinely use these findings to settle claims. Whenever a consumer product is implicated in a death, the Consumer Product Safety Commission is notified to ensure that the product is studied and the necessary steps are taken to protect the public. The public health dimension of the Coroner's function is designed to isolate and identify infectious agents or poisons that cause sudden, unexpected death, and when an agent is implicated, the family and persons recently in physical contact with the deceased are notified in order that they might receive any needed medical treatment.

The medical investigation of violent death is frequently required in criminal adjudication. Thus, a prompt medical investigation is conducted to provide the criminal justice system with information and evidence. Although criminal death investigations constitute a small portion of deaths investigated by the Coroner, these deaths are studied in great detail because of the legal consequences involved.

Overview

Description and Purpose of the Coroner's Office

The Coroner's Office is a separate and independent division of the Arapahoe County Government and is funded through the Arapahoe County Commissioners by the citizens of Arapahoe County.

The Coroner is an elected position, voted into office by the citizens of Arapahoe County; the elected Coroner, Dr. Michael Dobersen, is a physician trained and board certified in Anatomic and Clinical Pathology and Forensic Pathology, which is the branch of medicine concerned with the medical determination of cause of death, particularly in sudden and unexpected, violent, or suspicious deaths. Under the Coroner's direction are Medicolegal Death Investigations, Autopsy Support, and Administrative Support; these sections are responsible for field investigation of scenes and circumstances of death, identification of the deceased, certification of death, notification of next-of-kin, performance of autopsies where indicated, control and disposition of personal property of the deceased, and archiving of related documentation.

Reportable deaths

Those deaths that occur within the county borders that are to be reported to the Coroner's Office are defined by statute (CRS 30-10-606) and include, but are not limited to, the following:

- Any death that occurs suddenly and unexpectedly, when the person has not been under medical care by a physician for significant natural disease.
- Any death suspected to be due to violence (suicidal, accidental, or homicidal injury) regardless of when or where the injury occurred.
- Any death suspected to be due to alcohol, illicit drug, or prescription drug intoxication or exposure.
- Any death related to exposure to toxic agents, environmental extremes (heat or cold), or thermal, chemical or radiation injury.
- Any death of a person in the custody of law enforcement officers or housed in a county or state institution.
- Any death of a person in a nursing home, assisted living, or other skilled care facility.
- Any death that occurs unexpectedly during or as a result of diagnostic, therapeutic, surgical or anesthetic procedures.
- Any death related to a person's occupation or occurring at the workplace.
- Any maternal death to include death of a woman during pregnancy or following delivery.
- Any stillbirth of 20 or more weeks' gestation when unattended by a physician.
- Any death suspected to be due to infectious or contagious disease that may constitute a threat to the health of the general public.
- Any death occurring under suspicious circumstances.

Any death in which there is doubt as to whether or not it is a Coroner's case should be reported.

Deaths meeting the above criteria will be investigated by Coroner's Office personnel; jurisdiction may or may not be assumed in individual cases and autopsies will be performed as determined necessary by the Coroner and/or Forensic Pathologist.

Explanation of Data

The information presented in this report was compiled on deaths which were reported to the Arapahoe County Coroner's Office and occurred during the 2012 calendar year. The report will present routinely collected data in a manner that attempts to answer questions regarding mortality and public health; the role of alcohol, drug of abuse, and firearm use in violent deaths is emphasized. If the quality of life in Arapahoe County is to be improved, perhaps this report can serve as an instigator for change. The data included represents only a subset of total mortality figures, representing findings on cases that come to the attention of the Coroner's Office. Complete mortality figures for the county to include deaths not under the jurisdiction of the Coroner's Office can be obtained through the Tri-County Health Department.

The geographic area served by the Coroner's Office includes the entire 810 square miles of Arapahoe County, encompassing the southeastern portion of the Denver metropolitan area. Information from the 2010 census from the U.S. Census Bureau lists Arapahoe County as having a 2010 population of 572,003, ranking it as the third most populous county in Colorado. The county contains all or parts of the following cities and towns: Aurora, Bennett, Bow-Mar, Byers, Centennial, Cherry Hills Village, Columbine Valley, Deer Trail, Englewood, Foxfield, Glendale, Greenwood Village, Littleton, Sheridan, and Strasburg.

Demographics in this report are summarized from individual cases under the jurisdiction of the Coroner, and presented here in aggregate form. Each manner of death is addressed individually with appropriate data displayed relating to each category; the variables displayed such as race, gender, age, etc. have been selected as those most likely to assist and interest individuals utilizing this report.

Blood alcohol data included here represents the blood concentrations at the time of death or injury/hospitalization, when available. Alcohol is metabolized at a rate of 0.015 to 0.018 grams per deciliter per hour. Thus, if there is a significant interval between injury and death, there will be discrepancies between blood concentrations at the time of injury and the time of death. Tables will reflect blood alcohol at the time of injury whenever testing was performed on appropriate samples. When representative samples from the time of injury are not available (due to prolonged hospitalization or other circumstance), blood alcohol testing may not be performed on autopsy samples or if performed, may show a significantly decreased blood alcohol level not reflective of that present at the time of the actual incident.

Total Cases/Reportable Deaths

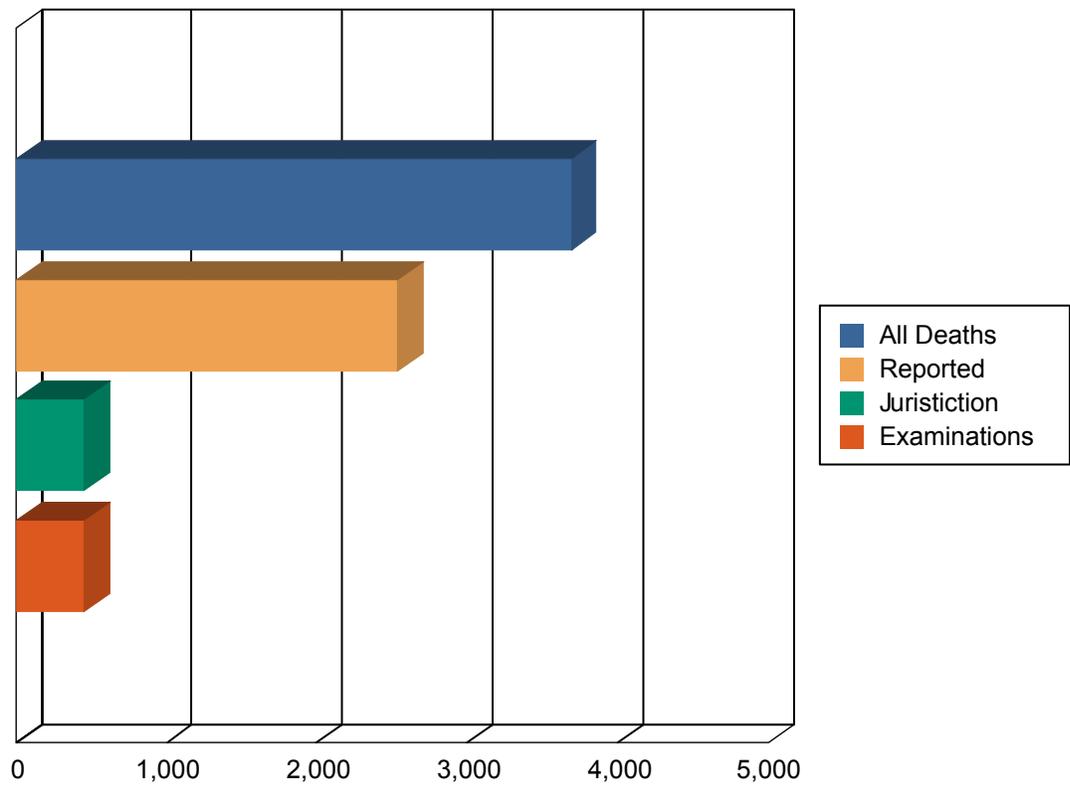
In 2012, there were a total of 3688 deaths in Arapahoe County. Of these deaths, 2535 were reported to the Arapahoe Coroner's Office by medical and law enforcement personnel and the Office provided various degrees of investigative services for each of these deaths. In 2012, scene visits were performed by medicolegal death investigators representing the Coroner's Office in 580 of the reported deaths; 472 bodies were transported to the Coroner's Office. Based on an analysis of the scene, circumstances surrounding the death, and the deceased's medical history as gathered by the medical investigators, the Coroner assumed jurisdiction in 454 (18%) of reported deaths. Examinations were carried out in 98.5% (447/454) of the cases. Autopsies are not performed in deaths where the scene, circumstances, medical history, and external examination of the body provide sufficient information for death certification. In cases where jurisdiction was relinquished by the Arapahoe Coroner, a local physician certified the death based on knowledge of the deceased's state of health and medical conditions. Deaths certified by local physicians primarily encompass natural deaths in individuals with a known disease process, and include deaths within nursing homes and assisted care facilities. In addition, jurisdiction was transferred to a different County Coroner's Office in 211 deaths that were initially reported to Arapahoe County. Other unusual circumstances requiring Coroner involvement may include examinations of exhumed bodies (none in 2012), autopsies performed by a hospital pathologist where the Coroner's Office retains jurisdiction (one in 2011, a perinatal death in a term infant after home delivery), and unidentified and/or unclaimed bodies (none in 2011).

The following tables and figures summarize the manner of death in all cases reported to the Coroner's Office. Of the cases that fell under the Coroner's jurisdiction, a majority (36.8%) were under the accidental category, followed by natural deaths (30.6%). Homicidal deaths, while comprising only 7.7% of the cases, usually garner a disproportionate amount of attention and effort by the Office.

STATISTIC TOTALS

Figure 1

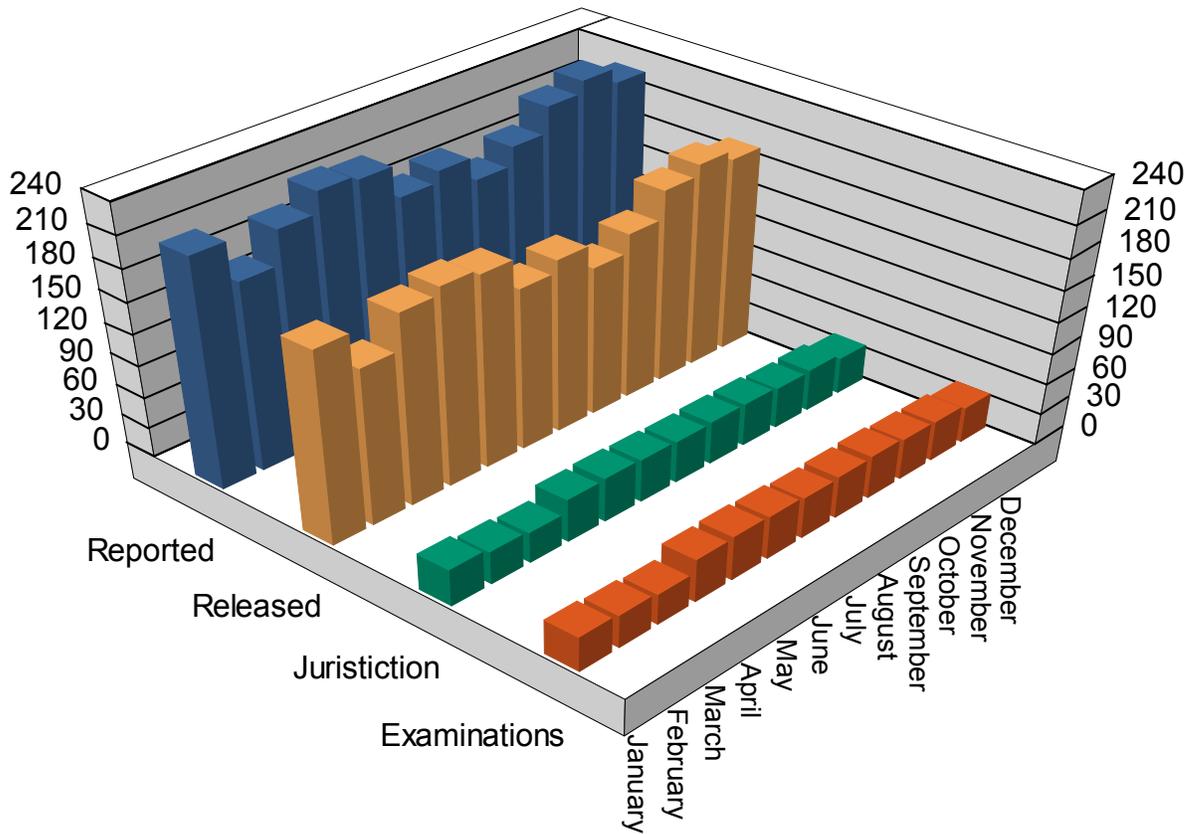
All Arapahoe County Deaths	3,688
Reported to Arapahoe County Coroner	2,535
Jurisdiction Assumed by County Coroner	455
Examinations by Arapahoe County Coroner	448



STATISTICS BY MONTH

Figure 2

<u>Month</u>	<u>Total Cases</u>	<u>Released Cases</u>	<u>Jurisdiction Assumed</u>	<u>Coroner Examinations</u>
January	218	183	35	33
February	180	149	31	31
March	211	182	29	29
April	230	189	41	41
May	226	184	42	42
June	196	155	41	41
July	206	166	40	39
August	184	143	41	40
September	201	160	41	41
October	225	186	39	39
November	236	196	40	38
December	222	187	35	34
Total	2,535	2,080	455	448



TOTAL CASES AUTOPSY STATUS

Figure 3

<u>Type of Case</u>	<u>Manner of Death</u>	<u>Examination</u>		<u>Percent Autopsied</u>	<u>Total</u>	
		<u>Yes-Autopsy</u>	<u>Yes-External</u>			<u>No</u>
<u>Coroner Jurisdiction</u>						
	Natural	102	36	2	73%	140
	Accident	133	30	4	80%	167
	Suicide	48	47	1	50%	96
	Homicide	35	0	0	100%	35
	Undetermined	16	1	0	94%	17
	Fetal Demise	0	0	0	0%	0
	Total	334	114	7	73%	455
<u>Jurisdiction Terminated</u>						
	Coroner OK			1,285		
	Non Reportable			584		
	Total			1,869		1,869
<u>Jurisdiction Transferred</u>						
	Natural			48		48
	Accident			32		32
	Suicide			3		3
	Homicide			3		3
	Not Given			125		125
	Total			211		211
Reported Deaths		334	114	2,087		2,535

TOTAL CASES: CASE DISTRIBUTION

Figure 4

Cases by Manner of Death by Age

Gender	Age	Age at Death						Total	
		Natural	Accident		Suicide	Homicide	Fetus		Undetermined
FEMALE			MVC*	Non-MVC					
	<1	2	0	1	0	0	0	0	3
	1-4	0	0	1	0	0	0	1	2
	5-9	1	0	0	0	1	0	0	2
	10-14	0	0	0	1	0	0	0	1
	15-19	0	0	1	0	0	0	1	2
	20-24	0	1	1	3	2	0	1	8
	25-34	2	3	8	4	2	0	1	20
	35-44	4	0	8	2	0	0	4	18
	45-54	17	0	9	10	2	0	1	39
	55-64	9	2	6	5	1	0	0	23
	65-74	8	0	5	0	1	0	0	14
	75-84	2	0	5	2	0	0	0	9
	85-94	1	2	2	0	2	0	0	7
	Subtotals	46	8	47	27	11	0	9	148
MALE									
	<1	2	0	2	0	0	0	3	7
	1-4	1	1	1	0	0	0	0	3
	15-19	0	1	0	1	2	0	0	4
	20-24	0	2	6	3	4	0	0	15
	25-34	5	7	8	14	8	0	1	43
	35-44	23	8	12	14	4	0	1	62
	45-54	29	4	19	16	3	0	1	72
	55-64	19	6	19	16	1	0	1	62
	65-74	10	0	3	2	2	0	1	18
	75-84	4	3	7	2	0	0	0	16
	85-94	1	0	3	1	0	0	0	5
	Subtotals	94	32	80	69	24	0	8	307
TOTALS		140	40	127	96	35	0	17	455

*MVC=Motor Vehicle Crash

Ten-Year Perspective

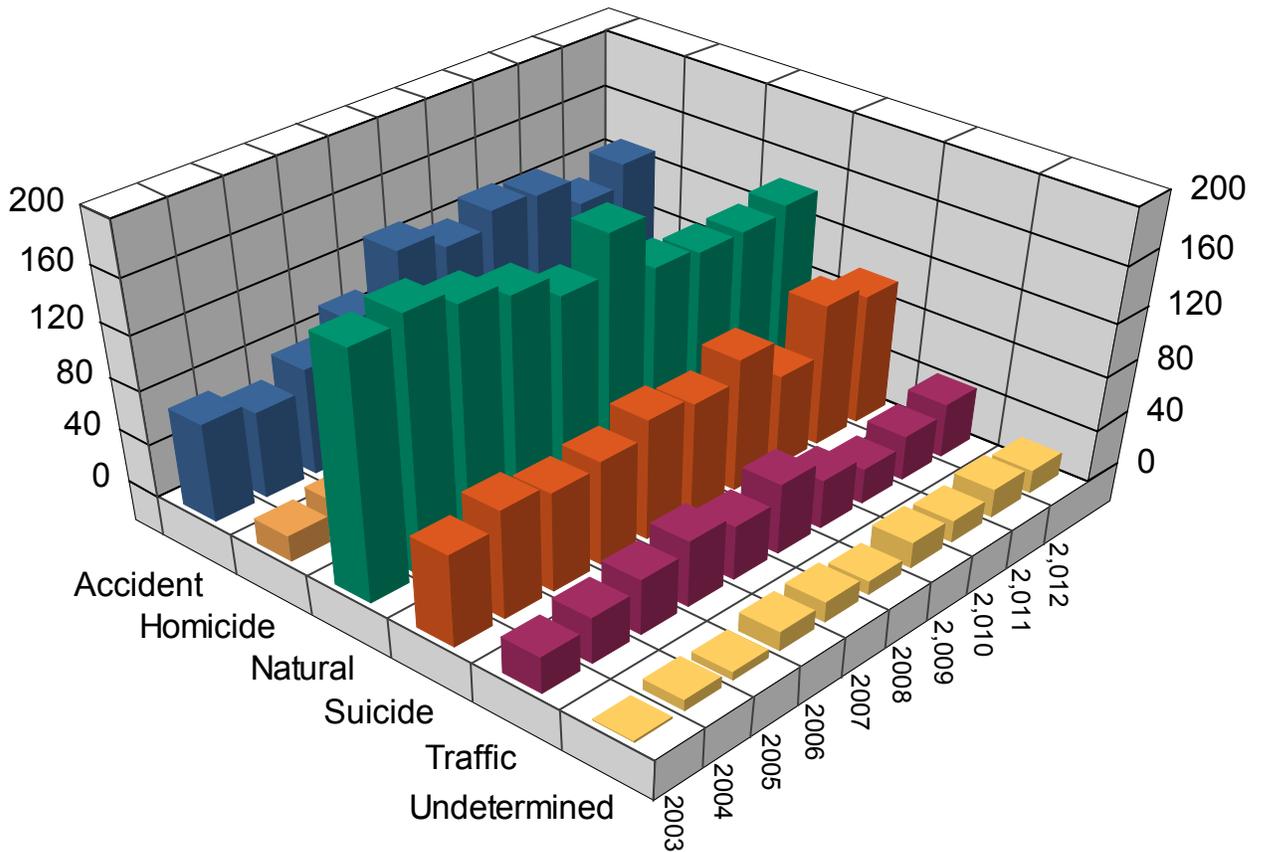
A ten-year perspective on deaths investigated by the Coroner is presented, illustrating data variation from year to year to provide trends over time. The total number of deaths for 2012 in which jurisdiction was retained represents a 6% increase from the 2011 total, and is similar to total numbers from 2007 through 2009.

CORONER'S JURISDICTION CUMULATIVE DATA (PAST 10 YEARS)

Figure 5

* Exclusive of traffic fatalities

Year	Natural	Accident *	Traffic	Suicide	Homicide	Undetermined	Total
2012	140	127	40	96	35	17	455
2011	135	111	33	105	22	21	428
2010	135	131	26	69	21	16	398
2009	139	134	36	98	19	19	445
2008	178	122	52	83	17	10	462
2007	150	134	40	89	17	15	445
2006	166	99	49	77	22	14	427
2005	176	79	41	73	22	6	397
2004	186	64	34	80	24	8	396
2003	180	73	27	68	19	1	368
Total	2,423	1,395	614	1,207	343	167	6,150



Accident

167 deaths were certified as accidental during the 2012 calendar year, including traffic fatalities which are further subdivided in the following pages. Drug overdoses, including alcohol toxicity, accounted for the largest single group of accidental fatalities (41%, 69/167); the next largest groups included those who died due to motor vehicle crashes (24%, 40/167) and in accidental falls (20%, 34/167).

ACCIDENTAL FATALITIES - BY METHOD

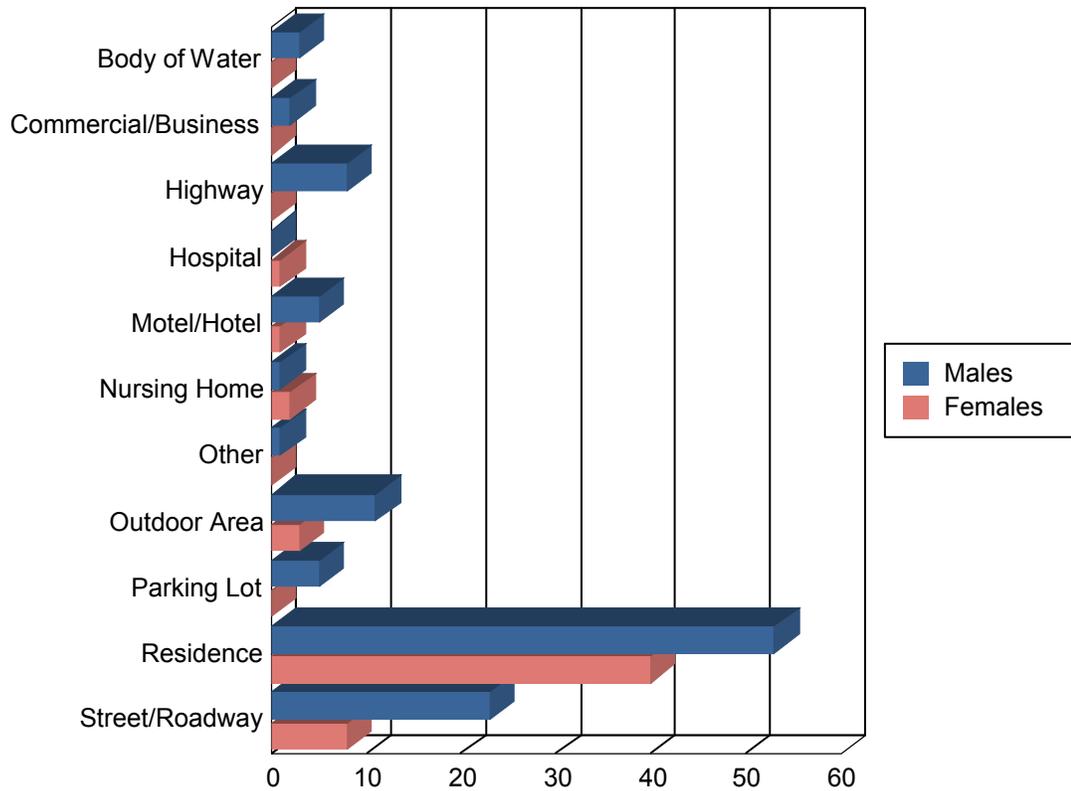
Figure 6

Cause	Males	Females	Total
Acute alcohol toxicity	2	0	2
Choking	1	1	2
Drowning	5	2	7
Drug overdose	39	28	67
Fall down stairs	6	1	7
Fall from short distance height	15	10	25
Fall from significant height	2	0	2
Gunshot wound of extremity	1	0	1
Gunshot wound of head	1	0	1
Hypothermia	3	1	4
Inhalation of products of combustion	0	1	1
Mechanical/positional asphyxia	4	1	5
Pulmonary embolism	1	1	2
Strangulation/Asphyxia	0	1	1
Traffic-multivehicle crash	7	3	10
Traffic-pedestrian struck by vehicle	10	2	12
Traffic-single vehicle crash	14	3	17
Traffic-unknown circumstances	1	0	1
Total	112	55	167

ACCIDENT FATALITIES - BY LOCATION

Figure 7

Setting	Males	Females	Total
Body of Water	3	0	3
Commercial/Business	2	0	2
Highway	8	0	8
Hospital	0	1	1
Motel/Hotel	5	1	6
Nursing Home	1	2	3
Other	1	0	1
Outdoor Area	11	3	14
Parking Lot	5	0	5
Residence	53	40	93
Street/Roadway	23	8	31
Total	112	55	167



Accident (Motor Vehicle Crashes)

During 2012, the Coroner's Office participated in the investigation of 40 traffic fatalities that were certified as accidental in nature. This excludes any deaths where a motor vehicle was used in a suicidal or homicidal manner. Deaths due to motor vehicle crashes have fluctuated over the past five years, ranging from 26 to 52 per year. The information in the following tables and graphs shows the age and sex distribution of traffic fatalities; the peak age was in the 51 to 60 group, however this number was not statistically significantly different than seen in the 10-year age groups from 21 to 50. Traffic deaths in male drivers were approximately four times as frequent as female drivers.

Operators of motor vehicles accounted for 60 percent (24/40) of the traffic fatalities during 2012, including motorcycle operators. Pedestrians made up 30% (12/40) of traffic-related fatalities.

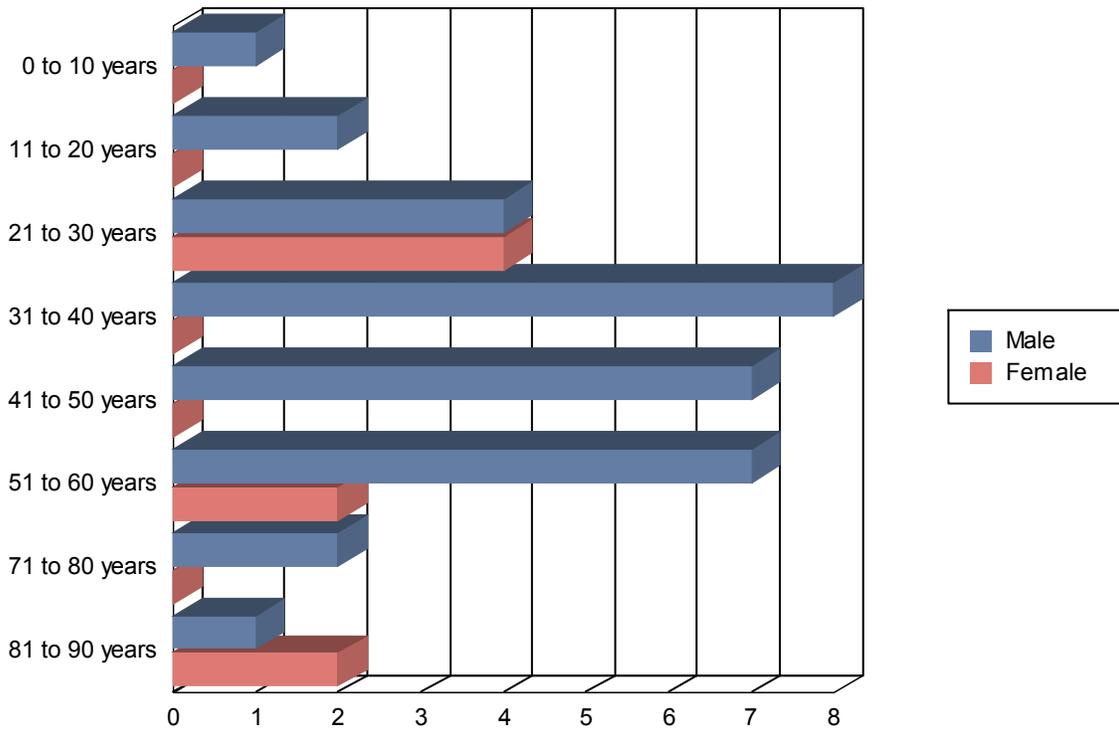
Seat belts were not used in 64% (9/14) of the fatalities in which belt usage was known; this number excludes pedestrians and motorcycle-related deaths. The use of seat belts was unknown in six cases.

Blood alcohol concentrations of all traffic fatalities are depicted in Figure 12. When passengers and pedestrians are excluded, of the 24 deaths occurring in operators of vehicles, there were detectable blood alcohol levels in 57% (12/21; alcohol testing was not performed in three cases); the blood alcohol concentration was greater than 80 mg/dl in nine of these cases and greater than 160 mg/dl in five of the cases. Marijuana metabolite screen was positive in three drivers; illicit drugs in drivers included cocaine metabolite detected in one case and one case with 3,4-methylenedioxymethamphetamine (MDMA or "Ecstasy") detected. Blood alcohol levels of surviving drivers involved in motor vehicle crashes in which passengers or pedestrians are killed are not tracked within this report.

TRAFFIC FATALITIES - BY AGE

Figure 8

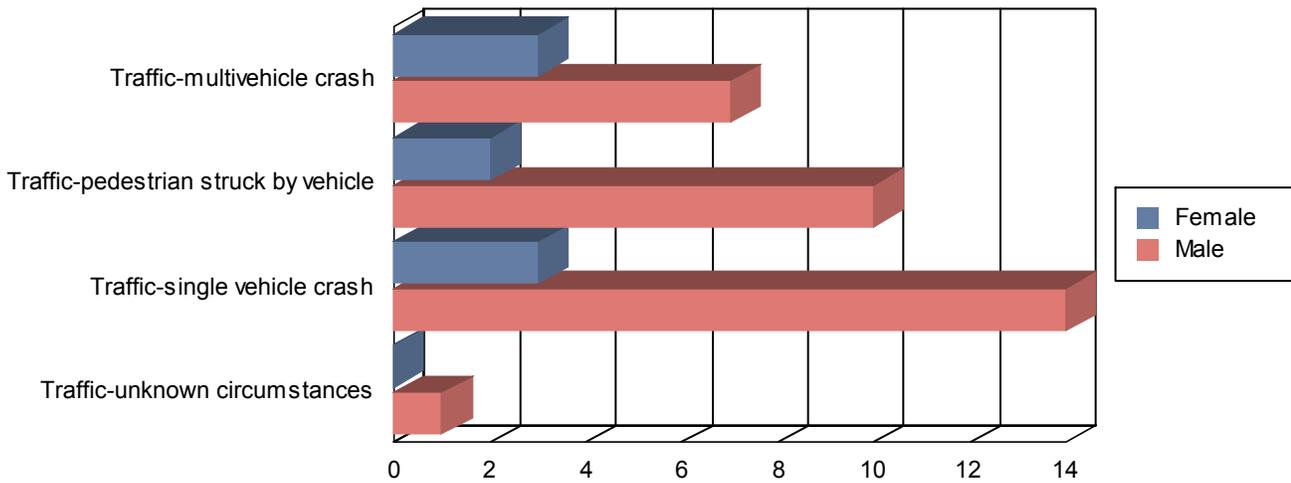
Age	Males	Females	Total
0 to 10 years	1	0	1
11 to 20 years	2	0	2
21 to 30 years	4	4	8
31 to 40 years	8	0	8
41 to 50 years	7	0	7
51 to 60 years	7	2	9
71 to 80 years	2	0	2
81 to 90 years	1	2	3
Total	32	8	40



TRAFFIC FATALITIES - BY CRASH MECHANISM

Figure 9

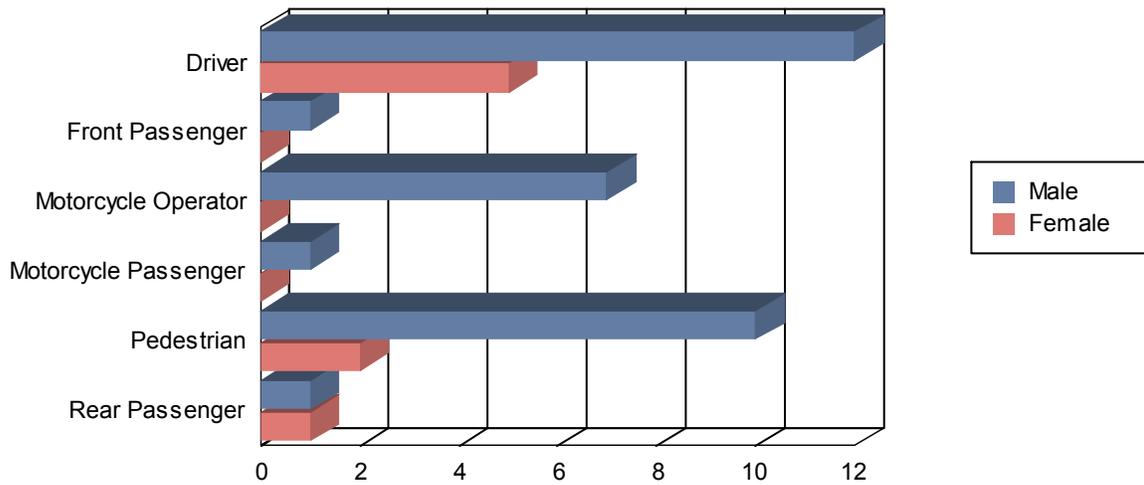
Type of Accident	Males	Females	Total
Traffic-multivehicle crash	7	3	10
Traffic-pedestrian struck by vehicle	10	2	12
Traffic-single vehicle crash	14	3	17
Traffic-unknown circumstances	1	0	1
Total	32	8	40



TRAFFIC FATALITIES -- BY POSITION IN VEHICLE

Figure 10

Location	Males	Females	Total
Driver	12	5	17
Front Passenger	1	0	1
Motorcycle Operator	7	0	7
Motorcycle Passenger	1	0	1
Pedestrian	10	2	12
Rear Passenger	1	1	2
Total	32	8	40

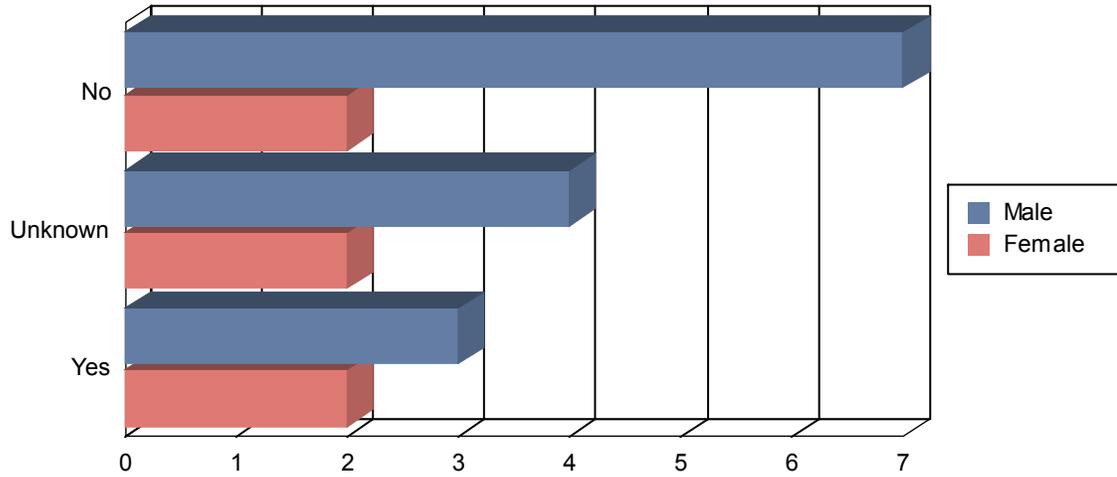


TRAFFIC FATALITIES - BY SEATBELT USAGE

Figure 11

Seatbelt Used	Males	Females	Total
No	7	2	9
Unknown	4	2	6
Yes	3	2	5
Total	14	6	20

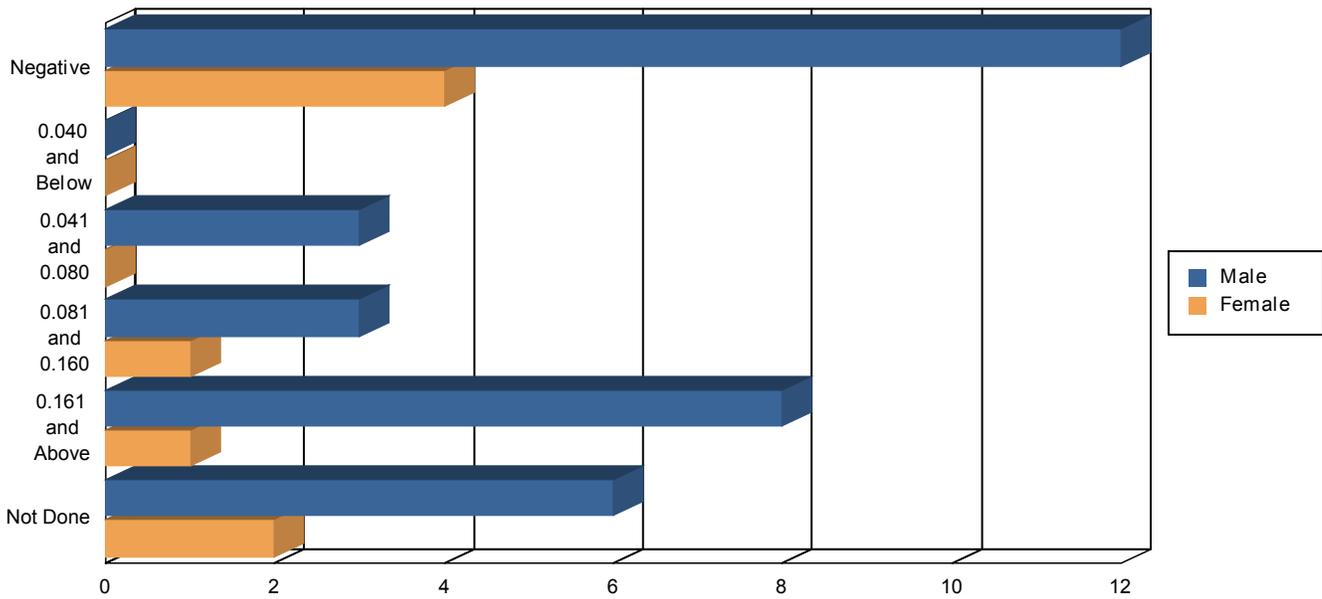
*** Not applicable to motorcycle and pedestrian fatalities**



TRAFFIC FATALITIES - BY BLOOD ALCOHOL CONCENTRATION

Figure 12

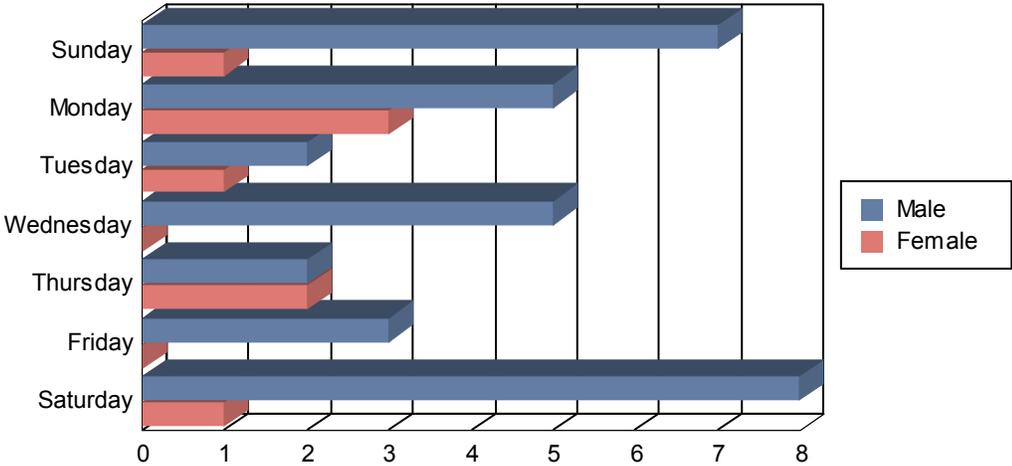
Blood Ethanol (%)	Males	Females	Total
Negative	12	4	16
0.040 and Below	0	0	0
0.041 and 0.080	3	0	3
0.081 and 0.160	3	1	4
0.161 and Above	8	1	9
Not Done	6	2	8
Total	32	8	40



TRAFFIC FATALITIES -- BY DAY OF WEEK

Figure 13

Day Of Week	Males	Females	Total
Sunday	7	1	8
Monday	5	3	8
Tuesday	2	1	3
Wednesday	5	0	5
Thursday	2	2	4
Friday	3	0	3
Saturday	8	1	9
Total	32	8	40



Homicide

A death is classified as homicide when it results from injuries inflicted by another person. The designation of homicide by the Coroner's Office does not reflect specific charges that may or may not subsequently be filed by prosecuting attorneys or the District Attorney's Office. In 2012, 35 deaths were classified as homicide, totaling approximately 7.7% of the death investigations for the year.

Over the past ten years, the Arapahoe Coroner's Office has seen slight variation in the number of homicide deaths from year to year (typically between 17 and 24); the 35 homicide deaths in 2012 represent a significant increase (59%) over the number seen in 2011 (22). This increase is directly attributable to the events on July 20, 2012, where 12 people were killed in the Aurora theater shooting.

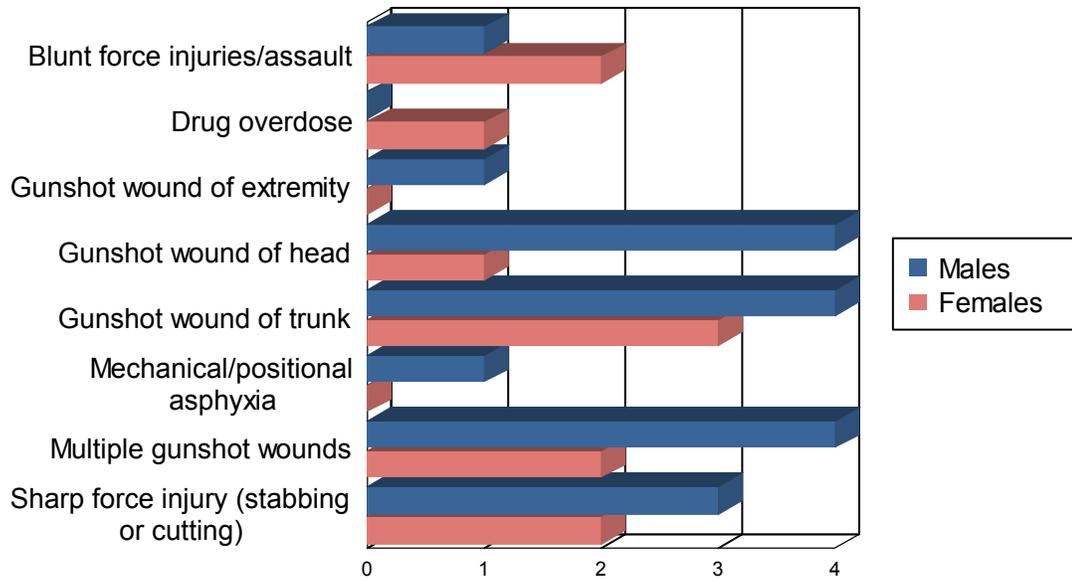
Firearm deaths made up a majority (71%, 25/35) of all homicides within the county in 2012. The remaining decedents were victims of a variety of types of violence including sharp or blunt force injuries, asphyxia, and poisoning.

As typically seen in yearly trends for the county and nationwide, male homicide victims (24) outnumbered female victims (11). As with most years, the largest single group was the 21 to 30 age group with 43% of victims.

HOMICIDES - BY METHOD

Figure 14

Cause	Males	Females	Total
Blunt force injuries/assault	1	2	3
Drug overdose	0	1	1
Gunshot wound of extremity	1	0	1
Gunshot wound of head	5	1	6
Gunshot wound of trunk	7	3	10
Mechanical/positional asphyxia	1	0	1
Multiple gunshot wounds	6	2	8
Sharp force injury (stabbing or cutting)	3	2	5
Total	24	11	35



HOMICIDES - BY METHOD & MONTH

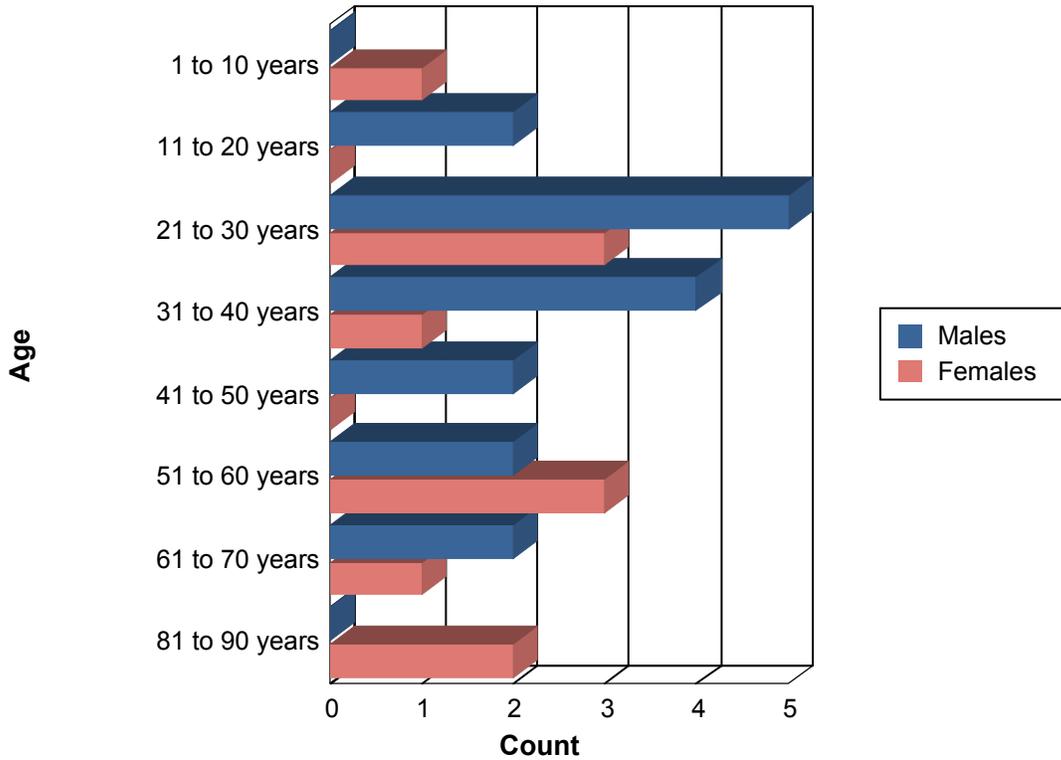
Figure 15

Cause	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Blunt force injuries/assault													
Males	0	0	0	0	0	0	0	1	0	0	0	0	1
Females	0	0	0	0	0	1	0	0	0	0	1	0	2
Drug overdose													
Males	0	0	0	0	0	0	0	0	0	0	0	0	0
Females	0	0	0	0	0	0	0	0	0	1	0	0	1
Gunshot wound of extremity													
Males	0	0	0	0	0	0	0	0	0	1	0	0	1
Females	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunshot wound of head													
Males	0	0	0	0	0	1	3	0	0	1	0	0	5
Females	0	0	0	0	0	0	1	1	0	0	0	0	1
Gunshot wound of trunk													
Males	1	0	0	0	2	1	2	0	0	0	1	0	7
Females	0	0	0	0	0	0	2	2	0	0	0	1	3
Mechanical/positional asphyxia													
Males	0	0	0	0	0	0	0	1	0	0	0	0	1
Females	0	0	0	0	0	0	0	0	0	0	0	0	0
Multiple gunshot wounds													
Males	0	1	0	1	0	0	4	0	0	0	0	0	6
Females	0	0	0	1	0	0	1	1	0	0	0	0	2
Sharp force injury (stabbing or cutting)													
Males	1	0	0	0	1	0	0	0	0	1	0	0	3
Females	0	0	1	0	1	1	0	0	0	0	0	0	2
Total	2	1	1	2	4	4	13	6	0	4	2	1	35

HOMICIDES - BY AGE

Figure 16

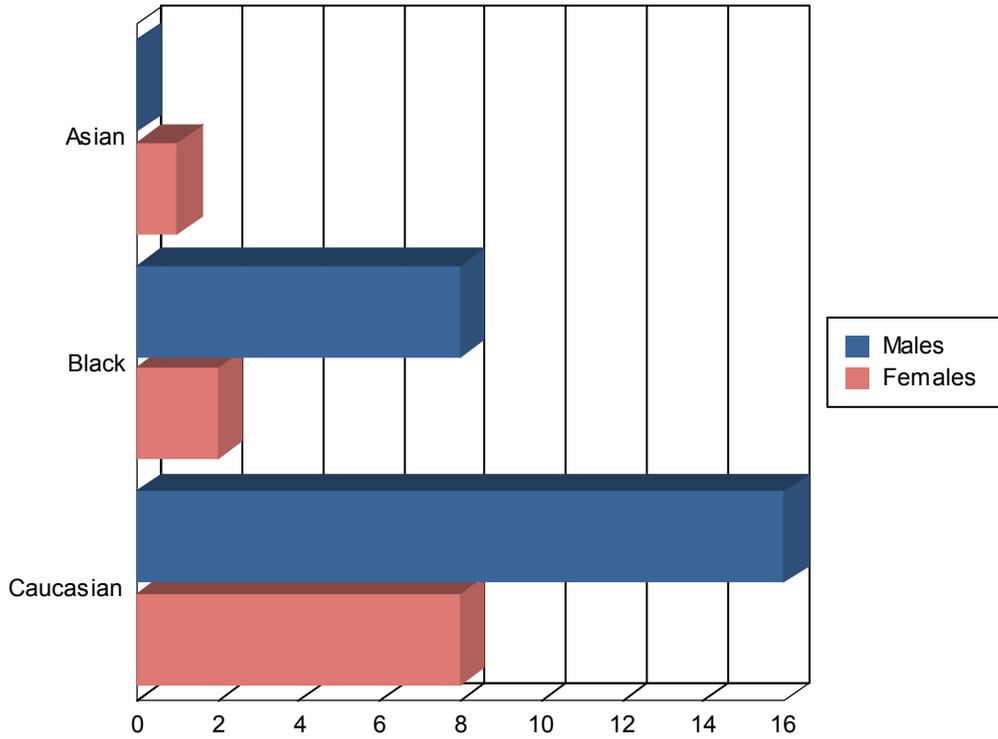
Age	Males	Females	Total
1 to 10 years	0	1	1
11 to 20 years	2	0	2
21 to 30 years	12	3	15
31 to 40 years	4	1	5
41 to 50 years	2	0	2
51 to 60 years	2	3	5
61 to 70 years	2	1	3
81 to 90 years	0	2	2
Total	24	11	35



HOMICIDES - BY RACE

Figure 17

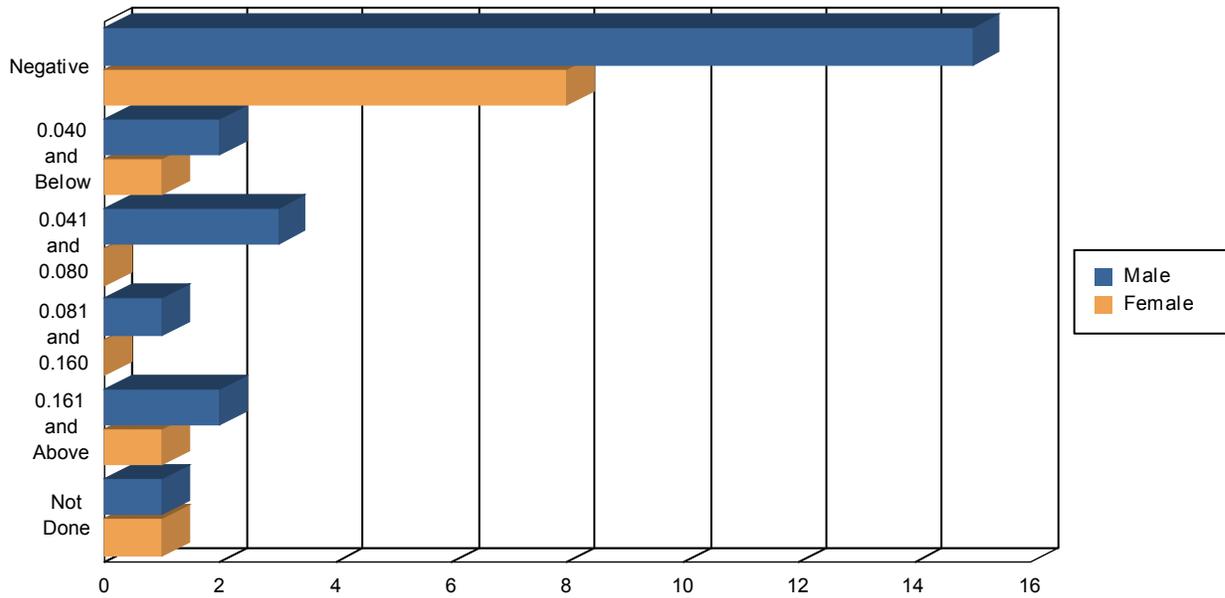
Race	Males	Females	Total
Asian	0	1	1
Black	8	2	10
Caucasian	16	8	24
Total	24	11	35



HOMICIDES - BY BLOOD ALCOHOL CONCENTRATION

Figure 18

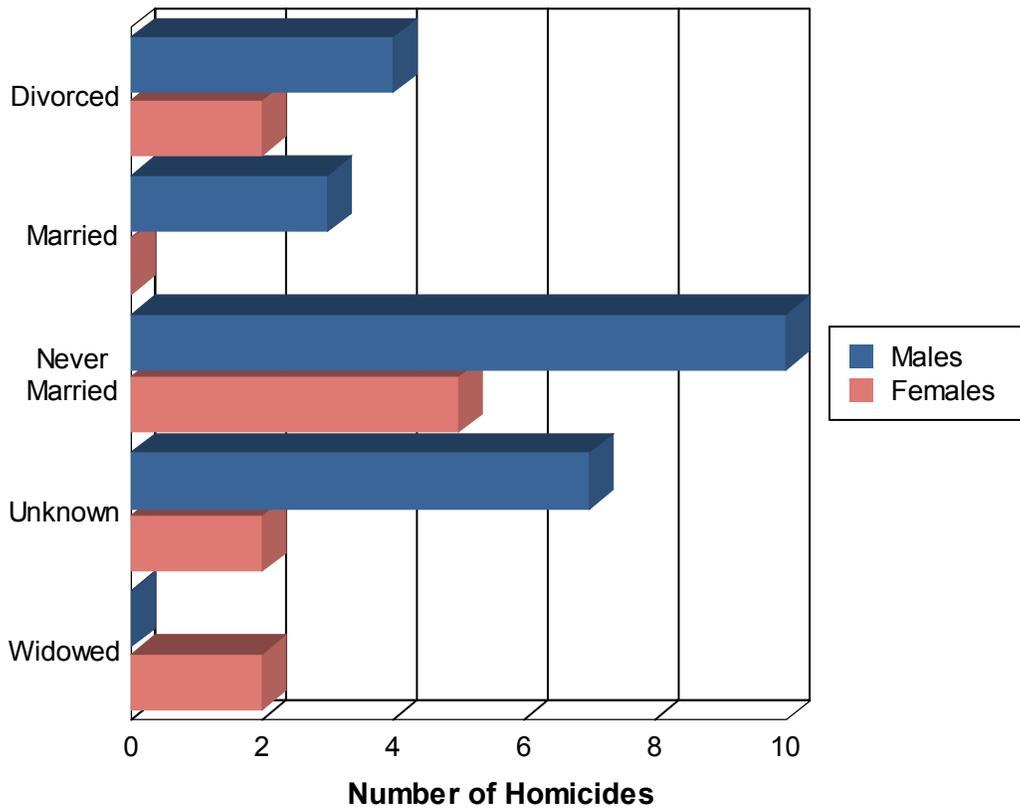
Blood Ethanol (%)	Males	Females	Total
Negative	15	8	23
0.040 and Below	2	1	3
0.041 and 0.080	3	0	3
0.081 and 0.160	1	0	1
0.161 and Above	2	1	3
Not Done	1	1	2
Total	24	11	35



HOMICIDES - BY MARITAL STATUS

Figure 19

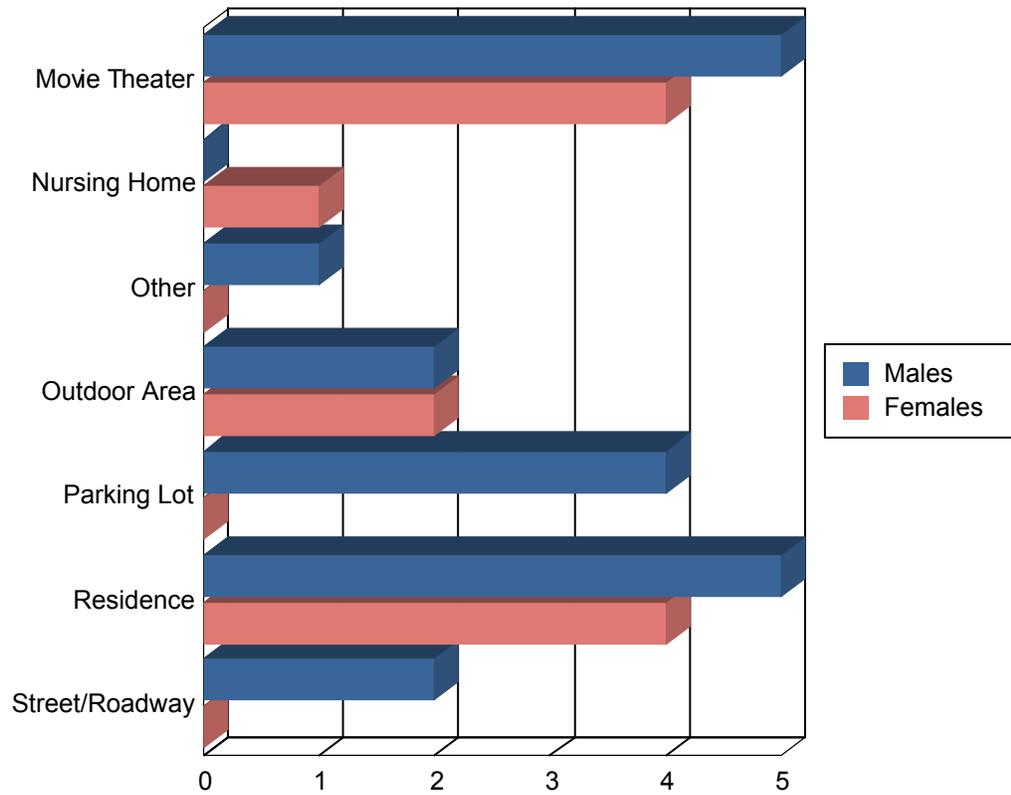
Marital Status	Males	Females	Total
Divorced	4	2	6
Married	3	0	3
Never Married	10	5	15
Unknown	7	2	9
Widowed	0	2	2
Total	24	11	35



HOMICIDES - BY LOCATION

Figure 20

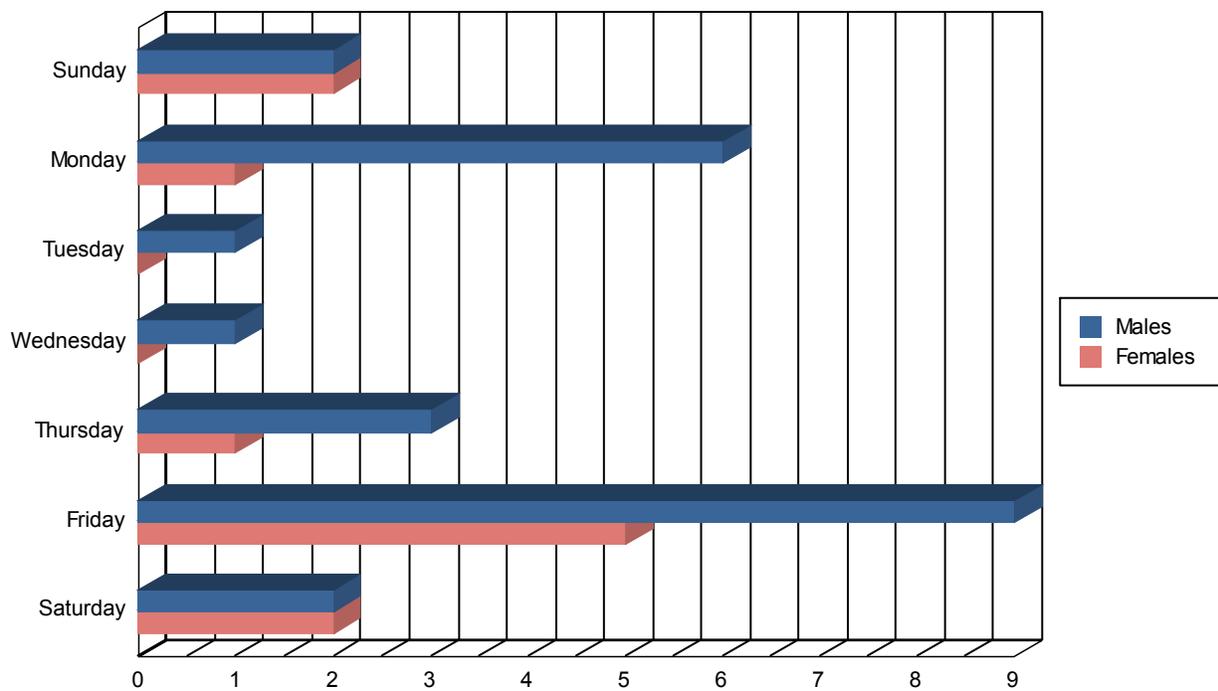
Setting	Males	Females	Total
Movie Theater	8	4	12
Nursing Home	0	1	1
Other	1	0	1
Outdoor Area	2	2	4
Parking Lot	4	0	4
Residence	7	4	11
Street/Roadway	2	0	2
Total	24	11	35



HOMICIDES - BY DAY OF WEEK

Figure 21

Day of Week	Males	Females	Total
Sunday	2	2	4
Monday	6	1	7
Tuesday	1	0	1
Wednesday	1	0	1
Thursday	3	1	4
Friday	9	5	14
Saturday	2	2	4
Total	24	11	35



Suicide

Suicides are those deaths caused by self-inflicted injuries. During 2012, there were 96 suicidal deaths in Arapahoe County, accounting for 21% of deaths under the Coroner's jurisdiction. Notes indicating suicidal intent were discovered in 42% (40/96) of the cases. A vast majority (80%) of suicides occurred at a residence (77/96).

In 2012, 47% of all suicides within the county involved firearms (45/96), specifically gunshot wounds of the head (37/96); hanging was the second-most common method used to commit suicide (26%, 25/96). The remaining decedents utilized various methods including but not limited to drug overdoses (14%), inert gas and plastic bag asphyxiation, sharp force injuries, and thermal injuries.

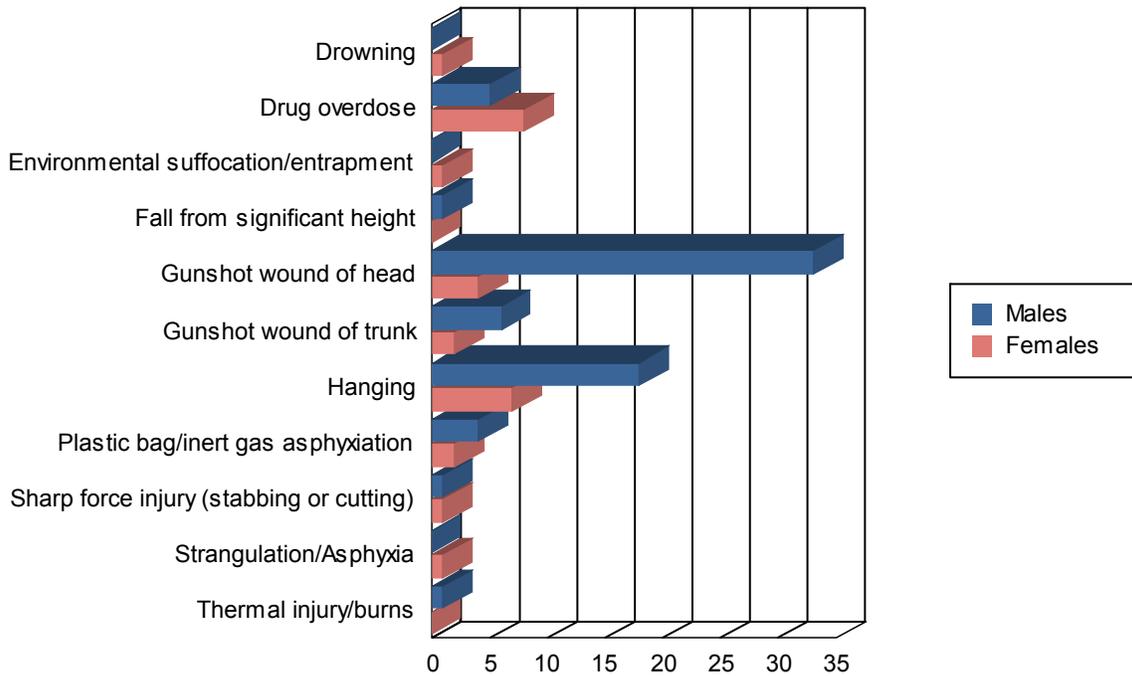
Consistent with nationwide figures, men commit suicide at a higher rate, comprising 72% of the cases within the county. Almost one-third (29%) of victims were between the ages of 51 and 60.

Blood alcohol concentrations of suicides are depicted in Figure 27; however toxicology testing was only performed in approximately one-third of the cases. For those cases that utilized drug overdose as a method, the drugs used are listed in Figure 24; ethanol was the most commonly detected substance in this subset of suicide cases, with a wide variety of prescription medications used.

SUICIDES - BY METHOD

Figure 22

Cause	Males	Females	Total
Drowning	0	1	1
Drug overdose	5	8	13
Environmental suffocation/entrapment	0	1	1
Fall from significant height	1	0	1
Gunshot wound of head	33	4	37
Gunshot wound of trunk	6	2	8
Hanging	18	7	25
Plastic bag/inert gas asphyxiation	4	2	6
Sharp force injury (stabbing or cutting)	1	1	2
Strangulation/Asphyxia	0	1	1
Thermal injury/burns	1	0	1
Total	69	27	96



SUICIDES - BY METHOD & MONTH

Figure 23

Cause		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Drowning														
	Males	0	0	0	0	0	0	0	0	0	0	0	0	0
	Females	0	0	0	0	0	0	0	0	0	0	1	0	1
Drug overdose														
	Males	0	0	0	0	1	1	1	0	1	1	0	0	5
	Females	1	0	1	0	1	1	2	2	0	1	1	1	8
Environmental suffocation/entrapment														
	Males	0	0	0	0	0	0	0	0	0	0	0	0	0
	Females	0	0	0	1	0	0	0	0	0	0	0	0	1
Fall from significant height														
	Males	0	0	0	0	0	0	1	0	0	0	0	0	1
	Females	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunshot wound of head														
	Males	4	3	1	5	2	3	0	4	5	1	2	3	33
	Females	0	0	0	0	0	0	1	1	0	0	1	0	4
Gunshot wound of trunk														
	Males	0	0	1	2	1	0	0	0	2	0	0	0	6
	Females	1	0	0	0	0	0	1	1	0	0	0	0	2
Hanging														
	Males	1	0	0	2	2	2	1	2	1	1	5	1	18
	Females	1	0	0	0	0	0	1	1	1	0	2	1	7
Plastic bag/inert gas asphyxiation														
	Males	0	0	1	0	1	0	1	0	0	0	1	0	4
	Females	0	0	0	1	0	0	0	0	0	0	0	0	2
Sharp force injury (stabbing or cutting)														
	Males	0	0	0	0	0	0	0	1	0	0	0	0	1
	Females	0	0	0	0	0	0	1	1	0	0	0	0	1
Strangulation/Asphyxia														
	Males	0	0	0	0	0	0	0	0	0	0	0	0	0
	Females	0	0	0	0	0	0	0	0	0	0	0	0	1
Thermal injury/burns														
	Males	0	0	0	0	0	0	1	0	0	0	0	0	1
	Females	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		8	3	4	11	8	7	11	13	10	5	12	6	96

SUICIDES - DRUG OVERDOSES BY DRUG OR POISON

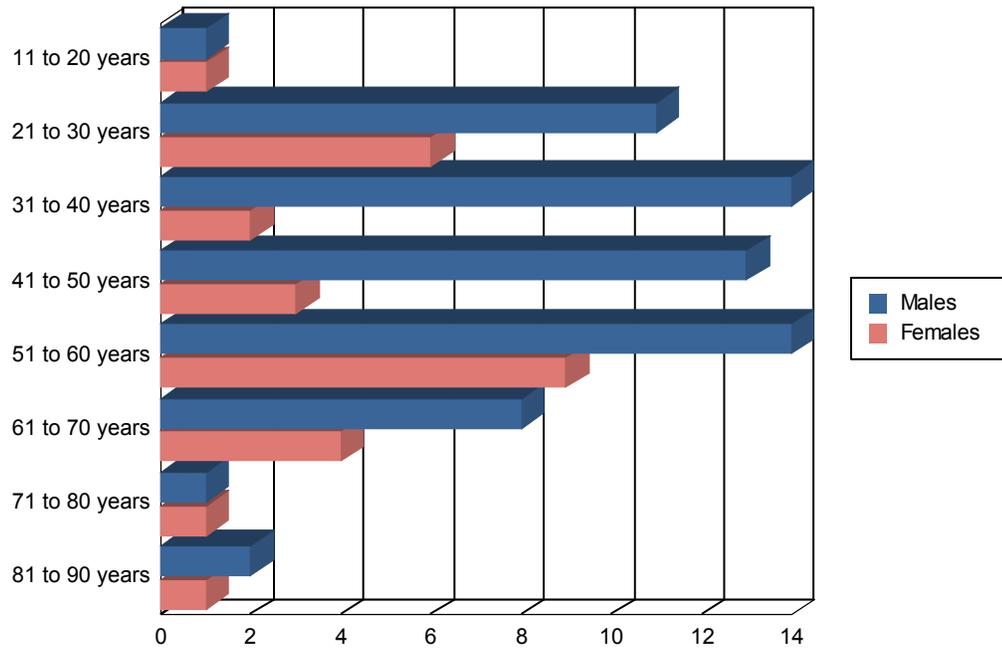
Figure 24

Drug/Poison	Males	Females	Total
Citalopram	0	2	2
Codeine (Non-conjugated)	1	1	2
Cyclobenzaprine	1	0	1
Diazepam	0	1	1
Diphenhydramine	0	3	3
Ethanol	7	6	13
Fentanyl	0	1	1
Fluoxetine	0	1	1
Hydrocodone	2	3	5
Lamotrigine	1	0	1
Lorazepam	0	2	2
Metaxalone	1	0	1
Mirtazepine	1	0	1
Nordiazepam	1	1	2
Oxycodone	1	0	1
Oxymorphone	0	1	1
Quetiapine	3	0	3
Sertraline	0	2	2
THC	0	2	2
Tramadol	2	2	4
Trazodone	1	0	1
Venlafaxine	0	1	1
Zolpidem	1	2	3
Total	23	31	54

SUICIDES - BY AGE

Figure 25

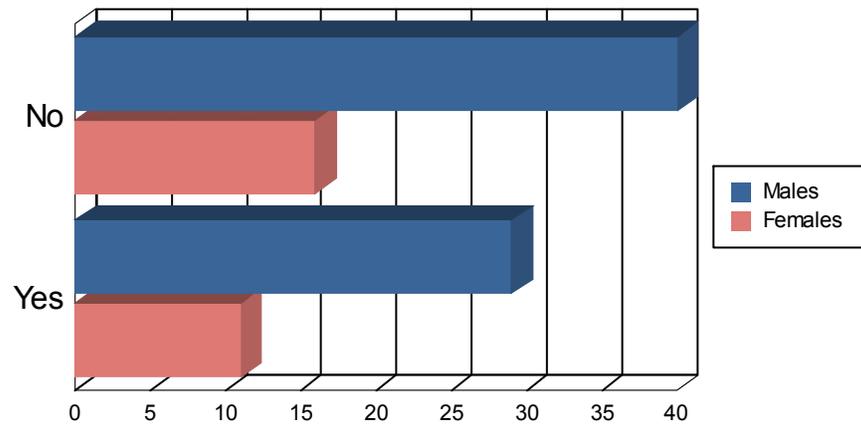
Age	Males	Females	Total
11 to 20 years	1	1	2
21 to 30 years	11	6	17
31 to 40 years	14	2	16
41 to 50 years	13	3	16
51 to 60 years	19	9	28
61 to 70 years	8	4	12
71 to 80 years	1	1	2
81 to 90 years	2	1	3
Total	69	27	96



SUICIDES - BY SUICIDE NOTE

Figure 26

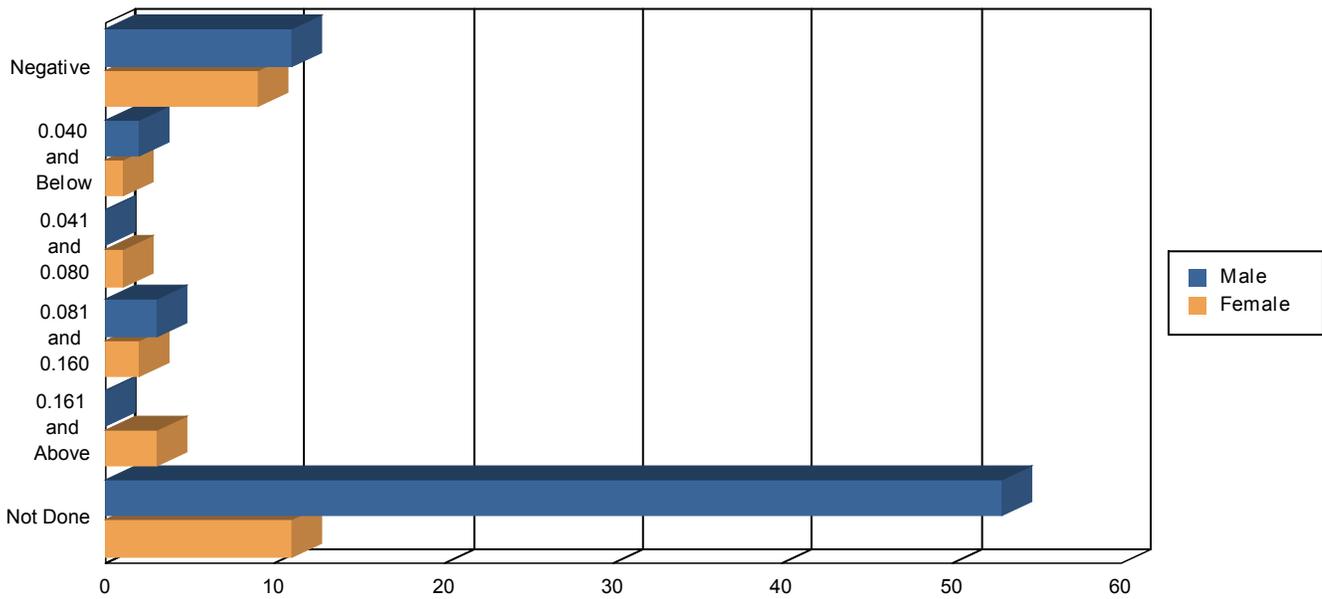
Note	Males	Females	Total
No	40	16	56
Yes	29	11	40
Total	69	27	96



SUICIDES - BY BLOOD ALCOHOL CONCENTRATION

Figure 27

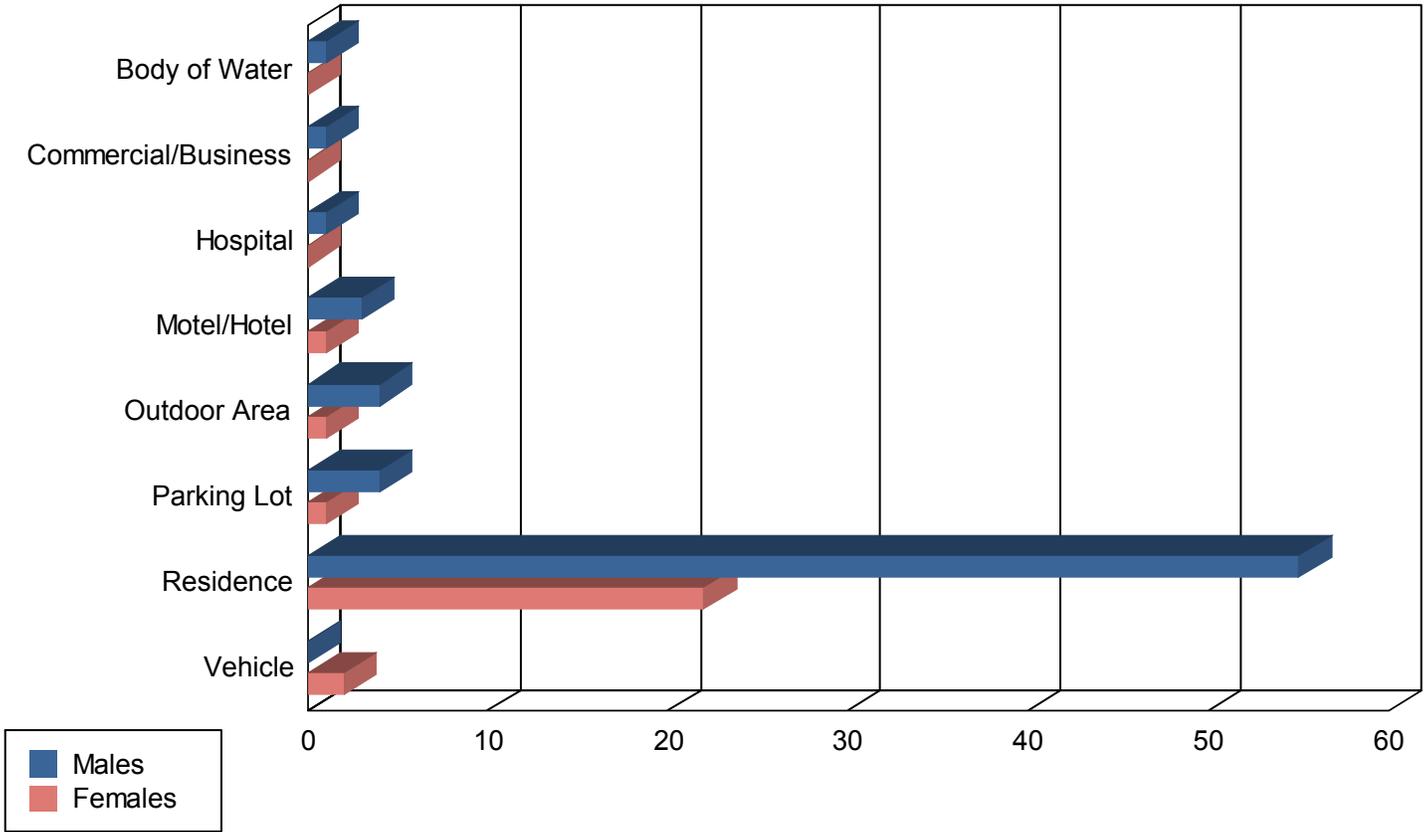
Blood Ethanol (%)	Males	Females	Total
Negative	11	9	20
0.040 and Below	2	1	3
0.041 and 0.080	0	1	1
0.081 and 0.160	3	2	5
0.161 and Above	0	3	3
Not Done	53	11	64
Total	69	27	96



SUICIDES - BY LOCATION

Figure 28

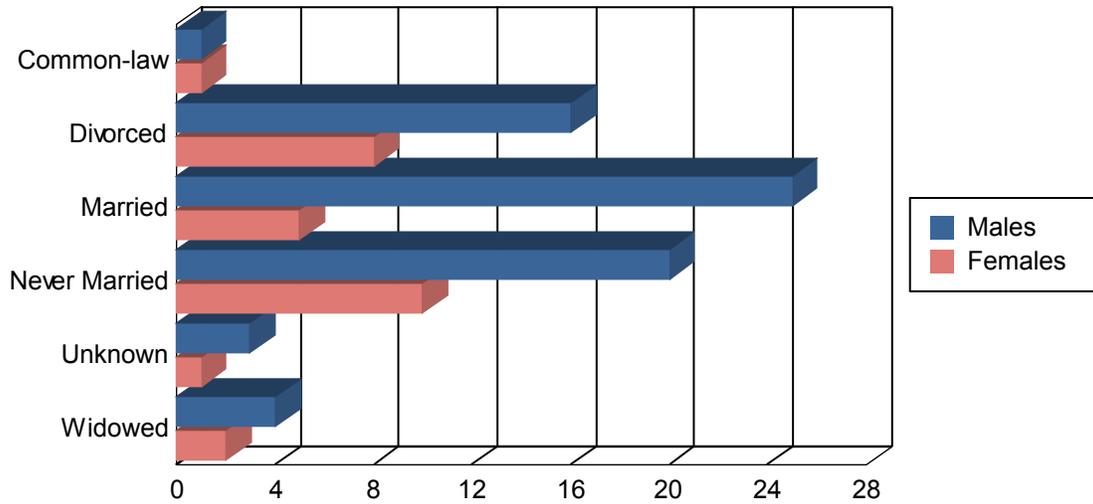
Setting	Males	Females	Total
Body of Water	1	0	1
Commercial/Business	1	0	1
Hospital	1	0	1
Motel/Hotel	3	1	4
Outdoor Area	4	1	5
Parking Lot	4	1	5
Residence	55	22	77
Vehicle	0	2	2
Total	69	27	96



SUICIDES - BY MARITAL STATUS

Figure 29

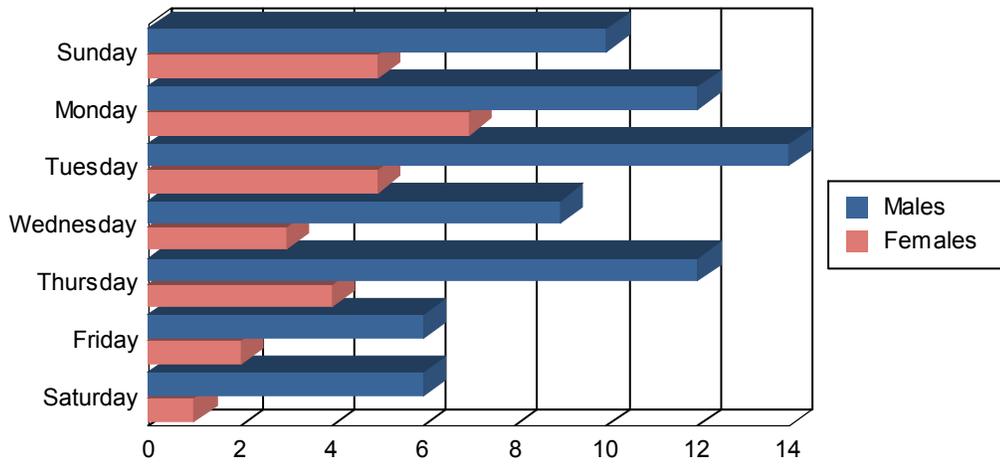
Marital Status	Males	Females	Total
Common-law	1	1	2
Divorced	16	8	24
Married	25	5	30
Never Married	20	10	30
Unknown	3	1	4
Widowed	4	2	6
Total	69	27	96



SUICIDES - BY DAY OF WEEK

Figure 30

Day of Week	Males	Females	Total
Sunday	10	5	15
Monday	12	7	19
Tuesday	14	5	19
Wednesday	9	3	12
Thursday	12	4	16
Friday	6	2	8
Saturday	6	1	7
Total	69	27	96



Natural

Most natural deaths occurring in Arapahoe County do not fall under the jurisdiction of the Coroner's Office; many natural deaths are reported to the Office however jurisdiction is waived based on medical history and the presence of a local physician familiar with the decedent. These cases are therefore not represented in this report, creating a significant sampling bias when comparing statistics to the general population.

Natural deaths that are sudden and unexpected in nature are the primary concern of the Coroner's Office; deaths of a natural manner represent the one of the largest categories of deaths investigated by the Office (30.6%). Cardiovascular disease continues to account for the greatest proportion of natural deaths (52%, 72/139) and is grouped under "atherosclerotic and/or hypertensive cardiovascular disease" in the following figure, which would include causes of death such as coronary artery disease, hypertension, and myocardial infarct.

NATURAL DEATHS

Figure 31

Cause	Males	Females	Total
Acute or chronic kidney disease	0	1	1
Aortic dissection	5	0	5
Atherosclerotic and/or hypertensive cardiovascular disease	56	17	73
Bowel obstruction	0	1	1
Chronic alcohol abuse	8	7	15
Chronic obstructive pulmonary disease (COPD)	0	1	1
Cirrhosis	1	0	1
Complications of genetic disorder, not otherwise specified	1	0	1
Complications of malignancy	2	0	2
Complications of psychiatric disorder	0	1	1
Congenital heart disease	2	2	4
Diabetes mellitus complications	6	1	7
Electrolyte disturbance	1	0	1
Gastrointestinal hemorrhage	1	1	2
Infection (local or systemic excluding pneumonia)	2	1	3
Intracranial hemorrhage	0	1	1
Neurologic disorder	0	2	2
Obesity	0	2	2
Pneumonia	0	1	1
Pulmonary embolism	5	5	10
Seizure disorder	4	1	5
Sickle cell disease	0	1	1
Total	94	46	140

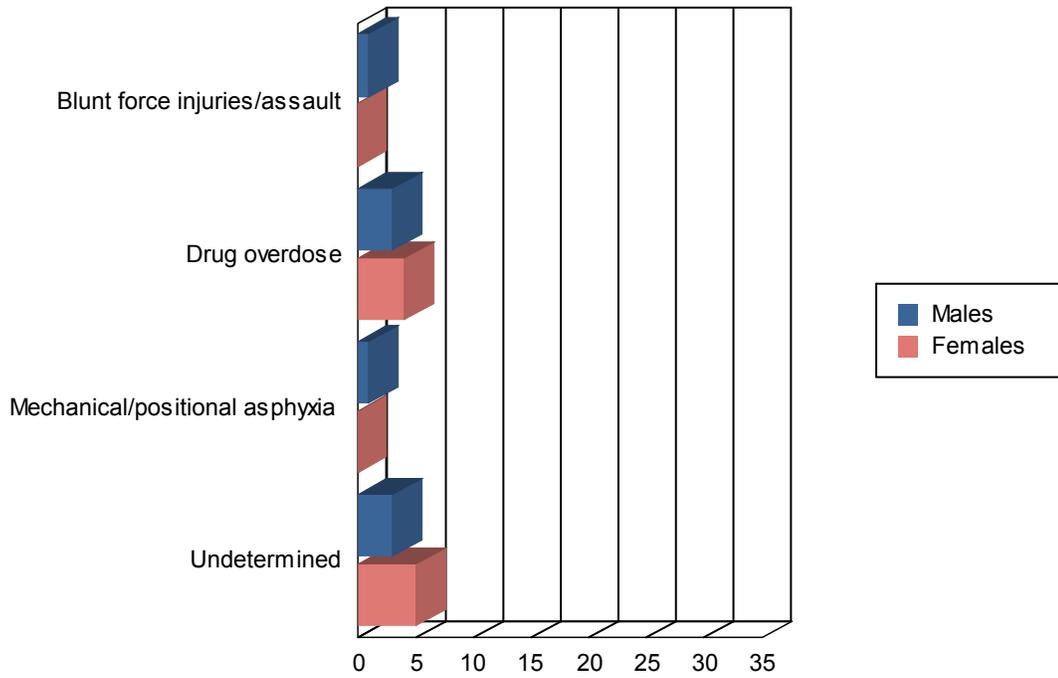
Undetermined

All possible efforts are made to determine both a manner and cause of death for all deaths investigated by the Coroner's Office. In a small percentage of the total cases (3.7%), the manner of death was unable to be classified, even with a complete autopsy, scene investigation, and toxicology testing. In some of these cases, a cause of death was able to be determined, however there exists continued doubt as to how the death came about (manner of death); these deaths include primarily drug overdoses where there is insufficient evidence to rule the death as either a suicidal or an accidental intoxication. Infant deaths also make up a large proportion of the undetermined deaths; some of these deaths may have been previously termed "SIDS" under death certification practices prior to 2009.

Undetermined - BY METHOD

Figure 32

Cause	Males	Females	Total
Blunt force injuries/assault	1	0	1
Drug overdose	3	4	7
Mechanical/positional asphyxia	1	0	1
Undetermined	3	5	8
Total	8	9	17



Coroner Activity

The staff of the Coroner's Office is involved in a wide variety of activities commensurate with the mission of the office; this includes responding to and investigating the scene of death, performing postmortem examinations, certifying the cause and manner of death, and providing information and assistance to families. Members of the Coroner's staff are versed in working with families suffering the emotional trauma of an unexpected death; staff members alert these families to coroner procedure, review the investigative or examination findings with the families, and clarify the many questions that accompany the sudden loss of life.

Many cases brought to the Coroner's Office are dealt with in a customary manner, because the identity of the deceased is known and next-of-kin can be readily contacted to decide on final arrangements and assist in disposition of the personal property of the deceased. However, there are frequent cases which are more difficult to resolve. In certain deaths, the identification of the deceased may not be established or next-of-kin information is not available. These cases require positive identification to be made using dental, fingerprint, medical or DNA records, or for extensive searches to be performed in pursuit of next-of-kin; these efforts can be very time-consuming but are ultimately rewarding. In 2012, the Coroner's Office had no cases which remained unidentified.

The autopsy examination on each decedent involves a thorough external and internal medical exam, and includes the preservation of various tissues and body fluids for microscopic and toxicologic analyses. Toxicology is completed in a majority of cases (69% of 2012 cases, 314/454); however may not be performed when representative samples from the time of injury are not available or when the results of toxicology testing will not influence further investigation or determination of cause and manner of death. Photographs are taken during portions of the examination for documentation, which is also an essential item in those cases where the pathologist must provide court testimony.

The Coroner and Forensic Pathologist both provide testimony in court and at depositions. Staff participate in meetings with law enforcement and attorneys (both prosecuting and defending), in a variety of criminal and civil cases. Autopsy reports and related data from individual investigations are provided to appropriate agencies, including law enforcement, attorneys, Labor & Industries (OSHA), the Drug Enforcement Administration, and the Consumer Product Safety Commission. Case information on all child deaths (under 18 years old) is provided to the statewide Child Fatality Prevention Review Team. The Coroner's Office also works in a cooperative effort with regional organ procurement agencies to facilitate organ and tissue donation for transplantation; again in 2012, the Arapahoe County Coroner's Office was the leading coroner's office statewide for direct referrals to Donor Alliance, with referrals on 49 decedents for organ or tissue donation, facilitating 18 completed recoveries (numbers exclusive of coroner cases referred through hospital systems).

Death investigations require frequent contact between the Coroner's Office and various media personnel; staff members are skilled in responding to media inquiries. The entire staff participates in a variety of teaching opportunities and conferences, and provides information and education on a regular basis to law enforcement and medical personnel on various aspects of the role and function of the Coroner's Office. The Coroner and Forensic Pathologist both regularly teach at local police academies, first-responder associations, and continuing education conferences of various local and national agencies and organizations. They both hold clinical faculty appointments in the Department of Pathology at the University of Colorado School of Medicine and regularly participate in teaching medical students and residents.

The data collected and presented in this and other Coroner reports also provides baseline information for further analysis. Coroner staff analyzes data to study relevant death investigation topics which have applications in such fields as law enforcement, medicine, law, social sciences, epidemiology, and injury prevention.

Glossary of terms

Autopsy – A detailed postmortem external and internal examination of a body to determine cause of death.

Cause of Death – The agent of effect that results in a physiological derangement or biochemical disturbance that is incompatible with life. The results of postmortem examination, including autopsy and toxicological findings, combined with information about the medical history of the decedent serves to establish the cause of death. The cause of death can result from different circumstances and manner of death. For example, the same cause of death, drowning, can result from the accidental submersion of a child in a swimming pool or from the homicidal immersion of a child in a bathtub.

Children – Individuals 17 years of age or younger.

Circumstances of Death – The situation, setting, or condition present at the time of injury or death.

County of Injury – The county where the injury leading to death occurred.

Medical Investigator – An investigator appointed by the Coroner to assist in the investigation of deaths in the jurisdiction of the Arapahoe County Coroner's Office.

External – A detailed postmortem external examination of a body.

Drug Toxicity – A death caused by a drug or combination of drugs. Deaths caused by poisons and volatile substances are excluded.

Ethanol – An alcohol, which is the principal intoxicant in liquor, beer and wine. A person with an alcohol concentration in blood of 0.08 grams percent (0.08 g%) is legally intoxicated in Colorado.

Ethanol Present – Deaths in which toxicological tests reveal a reportable level of ethanol (0.005% or greater) at the time of death.

Jurisdiction – The extent of the Coroner's authority over deaths. The Coroner's authority covers reportable deaths that occur in Arapahoe County, except for those occurring on federal (military) properties. Colorado Revised Statute 30-10-606 defines reportable deaths. Not all natural deaths are reportable deaths within the jurisdiction of the Coroner.

Investigation – An exploration conducted at the scene to determine circumstances surrounding a death, to include a general external examination of the body and the surroundings.

Manner of Death – The general category of the condition, circumstances or event, which causes the death. The categories are natural, accident, homicide, suicide and undetermined.

Manner: Accident – The manner of death used when, in other than natural deaths, there is no evidence of intent. This category includes motor vehicle crashes which are deemed unintentional in nature.

Manner: Homicide – The manner of death in which death results from the intentional harm (explicit or implicit) of one person by another.

Manner: Natural – The manner of death used when a disease is the sole cause of death. If death is hastened by an injury (such as incurred in a fall), the manner of death is not considered natural.

Manner: Fetal – The designation used for certificates in fetal death which do not receive an actual manner designation (Certificates of Fetal Demise).

Manner: Suicide – The manner of death in which death results from the intentional harm (explicit or implicit) of one's self.

Manner: Undetermined – The manner of death for deaths in which there is insufficient information to assign another manner.

Method of Death – The method of death describes the physical means leading to a cause of death. For example, the cause of death in a case is asphyxia, but an accidental hanging brought on the asphyxia and would be the method of death.

Motor Vehicle Crash Related Deaths – An accidental death involving a motor vehicle. Motor vehicles include automobiles, vans, motorcycles, trucks and all terrain vehicles. Excluded are bicycles, tricycles, and aircraft. The decedent is usually a driver of, a passenger in, or a pedestrian struck by a motor vehicle. The death of a bicyclist struck by a motor vehicle is considered to be a motor vehicle crash related death.

Opiate – A class of drugs, including morphine, codeine and heroin, derived from the opium poppy plant (*Papaver somniferum*).

Place of Injury – The location where the injury leading to a death occurred. In this report, several categories are used:

Residence – Includes areas in and around dwellings, but excludes long-term care facilities and institutions.

Street/Roadway – Includes all streets and public areas designed for automotive transportation, to include alleyways.

Highway – Includes all designated highways and interstates.

Railroad or Airport – Includes all public areas designed for mass transit and motorized transportation via train, light rail, or airplane.

Body of Water – Included naturally occurring and man-made bodies of water such as lakes, rivers, ocean, streams, and swimming pools; but excludes small containers holding water, such as bathtubs, pails and toilets.

Jail/Prison – Any establishment used to house inmates; other institutions are excluded.

Motel/Hotel – Includes any place of lodging rentable by various lengths of time; excludes rooms rented and used as long-term residences.

Parking Lot – Includes all areas designed for parking surrounding a place of business, residence, or other area.

Vehicle – Includes any automobile, truck, or SUV, regardless of location of vehicle or whether parked or in motion.

Commercial/Business – Includes buildings, commercial property and other places of commerce.

Institution – Includes hospitals, long-term care facilities, and group homes, but excludes private residences; may be broken down into separate categories including Hospitals and Nursing Homes.

Outdoor Area – Includes areas around buildings or structures such as courtyards, and developed outdoor areas such as city parks, golf courses, ski areas, or urban outdoor areas under construction, but excludes undeveloped outdoor areas such as fields or ranches.

Farm/Ranch – Includes undeveloped outdoor areas such as farm or ranch fields, or other rural land.

Unknown – Insufficient information is available surrounding where an injury occurred.

Stimulant – A class of drugs, including cocaine and oral and indictable amphetamines, whose principal action is the stimulation of the central nervous system. Cocaine is an alkaloid derived from the leaves of *Erythroxylon coca*, a shrub which grows in the Andes Mountains 1000 to 3000 meters (3000 – 9000 feet) above sea level, and can be taken orally, intravenously or by inhalation.

Organizational chart

