

**COUNTY OF SPOKANE
STATE OF WASHINGTON**



2009 Annual Report
Spokane County Medical Examiner

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2009 ANNUAL REPORT

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Section 1: Overview

Mission Statement

“A regional forensic medicine center striving for continued excellence in providing scientific, compassionate, and professional services in the investigation of unexpected death.”

Introduction

The Spokane County Medical Examiner's Office has been in existence since January 1, 1999, when the Coroner's Office was replaced. In April of 2004, the office received full accreditation from the National Association of Medical Examiners (NAME). The office was re-inspected and re-accredited in May, 2009. Roughly 60 Medical Examiner/Coroner Offices in the United States are accredited. The office has been the recipient of four Federal Paul Coverdell Forensic Science Improvement grants, totaling approximately \$ 200,000.00. The office employs two forensic pathologists, an office manager, three full time investigators, two administrative staff, one chief autopsy assistant, one half time autopsy assistant, as well as 9 extra help employees. For more information about the Medical Examiner's Office, visit our web site at www.spokanecounty.org/medexaminer.

Foreword

Information presented in this annual report has been compiled from deaths that were reported to the Spokane County Medical Examiner's Office in 2009. This summarized report presents data in a variety of formats with the objective of providing useful information to diverse groups in the community.

Referral Caseload: Currently the Spokane County Medical Examiner's Office performs autopsies for 11 "outside" counties in Eastern Washington and the Idaho panhandle. In 2009 a total of 157 autopsies were performed for the following referral counties, Asotin, Benewah, Bonner, Boundary, Ferry, Kootenai, Lincoln, Nez Perce, Pend Oreille, Shoshone and Stevens. This is a mutually beneficial arrangement. The surrounding counties utilize forensic expertise and an excellent accredited forensic pathology facility, without the necessity of having larger staffs employing Forensic Pathologists, and maintaining an autopsy facility. Spokane County receives payment from outside counties for these services, revenues for autopsies totaled \$243,350 in 2009.

OUTSIDE COUNTY AUTOPSIES

2009	157
2008	162
2007	138
2006	146
2005	144
2004	168
2003	151
2002	145

SPOKANE COUNTY AUTOPSIES

2009	394
2008	462
2007	430
2006	423
2005	426
2004	436
2003	418
2002	442

Outside County Autopsies per County

	2009	2008	2007	2006	2005	2004	2003	2002
Adams	0	0	1	0	4	4	5	2
Asotin	3	5	0	3	5	2	N/A	N/A
Benewah	2	4	2	1	1	3	0	4
Bonner	19	20	11	11	20	13	14	11
Boundary	4	3	8	4	9	8	5	6
Ferry	4	8	7	5	4	2	10	5
Garfield	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kootenai	54	62	48	38	52	65	40	54
Lincoln	8	7	5	8	2	6	5	3
Nez Perce	14	5	4	10	8	3	2	0
Pend Oreille	6	6	7	12	6	13	10	7
Shoshone	9	6	14	11	6	11	5	9
Stevens	34	36	31	43	27	38	55	44

The Spokane County Medical Examiner's Office began service to Garfield County in late 2009.

Acknowledgment...

The Medical Examiner's Office wishes to express, once again, their sincere appreciation to Eileen Egeland, Systems Analyst of the Spokane County Information Systems Department, for her assistance and support in the development of this statistical report.

Criteria for Reportable Deaths

1. Persons who die suddenly when in apparent good health and without medical attendance within 36 hours preceding death.
2. Circumstances that indicate death was caused in part or entirely by unnatural or unlawful means.
3. Suspicious circumstances.
4. Unknown or obscure causes.
5. Deaths caused by any injury whatsoever, whether the primary cause or contributing cause.
6. Rapidly fatal contagious disease, with public health risk.
7. Unclaimed bodies.
8. Premature and stillborn infants where suspicious circumstances exist.
9. All deaths in children.

Function of the Medical Examiner's Office

The Medical Examiner's Office serves the living, by investigating deaths that are unnatural and / or unexpected. This task begins with careful investigation at the scene of death, supplemented when appropriate, by autopsy examination, toxicology and other testing. The Medical Examiner's Office helps the community by determining the cause and manner of death, recognizing and collecting evidence needed for adjudication, defining public health and product safety risks and providing compassionate services to families including direction of efforts to notify next of kin.

Standard Annual Reports Data as Identified by the National Association of Medical Examiners (N.A.M.E.)

The Spokane County Medical Examiner's Office achieved the distinction of Accreditation by the National Association of Medical Examiners in April, 2004. In March 2009 the Spokane County Medical Examiner's Office underwent another inspection and was again accredited by the National Association of Medical Examiners. The National Association of Medical Examiners (NAME) is the national professional organization of forensic pathologists, physician medical examiners, medical death investigators, death investigation system administrators, and consultants who perform the official duties of medicolegal investigation of deaths of public interest in the United States. Most members work as Medical Examiners or Coroners. Accreditation is a rigorous process, and requires a lengthy inspection by an independent Medical Examiner appointed by the organization. The accreditation requirements are 30 pages long, and include more than 300 items covering diverse points of quality, such as how specimens are labeled, and the qualifications of staff members. The Spokane County Medical Examiner's Office is accredited for a 5 year period, until May 2014. Please refer to the following chart for some of the data required by the National Association of Medical Examiners.

2009 Data

Deaths in Spokane County	4458
Deaths Reported to the Medical Examiner's Office	3568
Deaths Investigated by the Medical Examiner's Office	587
Scenes Investigated by the Medical Examiner Office	263
Bodies transported by order of the office via Contract Body Transport	394
**Total bodies transported to the Forensic Institute	612
Total External Autopsies	24
Total Partial Autopsies	4
Total Complete Autopsies	523
Hospital Autopsies Retained Under Medical Examiner Jurisdiction	0
Microscopic Studies Performed	520
Neuropathologic Studies Performed	1
Cardiac Pathologic Studies Performed	7
Autopsies Performed for Outside Jurisdictions	157
Bodies Unidentified after Examination	0
Organ Donations	18
Corneal Donations	55
Bone Donations	25
Connective Tissue Donations	3
Heart Valve Donations	2
Skin Donation	19
Unclaimed bodies	10
Exhumations	0

** Some decedents are not transported via contract transport; these include deaths that occur at Holy Family Hospital, where the Forensic Institute is housed; as well as deaths that occur in a referral county.

The statistical information which follows includes information regarding Spokane County Deaths only. Please see the link to the National Association of Medical Examiners accreditation report. [NAME Inspection Report](#)

Spokane County Medical Examiner Cases in 2009

In 2009, there were 4,458 deaths in Spokane County (based on the latest census of 465,000, this represents 1% of the population). Of these deaths, 3,568 (of all deaths) were reported to the Medical Examiner by medical and law enforcement personnel. Based on analysis of the scene and circumstances of death, and the decedent's medical history, the Medical Examiner assumed jurisdiction in 587 (16%) of these reported deaths, or in 13% of all deaths in the county. These reporting figures and autopsy percentages are similar to other Medical Examiner jurisdictions nationally.

There were deaths reported to the Medical Examiner in which jurisdiction was released after investigation. The number of deaths reported to the Medical Examiner's Office is significantly greater each year than reported during the years as a coroner's system (before January 1, 1999). The number has also steadily increased during the Medical Examiners years (1999 to present), reflecting efforts by the Medical Examiner's Office to educate reporting agencies and encourage appropriate reporting of deaths to the Medical Examiner. All nursing home and adult care facilities deaths are reported to the Medical Examiner's Office allowing for appropriate agency analysis. This progressive Spokane County Medical Examiner Policy has been adopted recently by other Medical Examiner and coroner systems around the state.

Forensic Unit

The Forensic Unit works in the Sheriff's department and provides crime scene documentation, fingerprint comparison and photo documentation at the direction of the Medical Examiners and the Law Enforcement Agency with jurisdiction. The Medical Examiner's office often partners with this group in the collection and preservation of evidence.

Chaplaincy Services

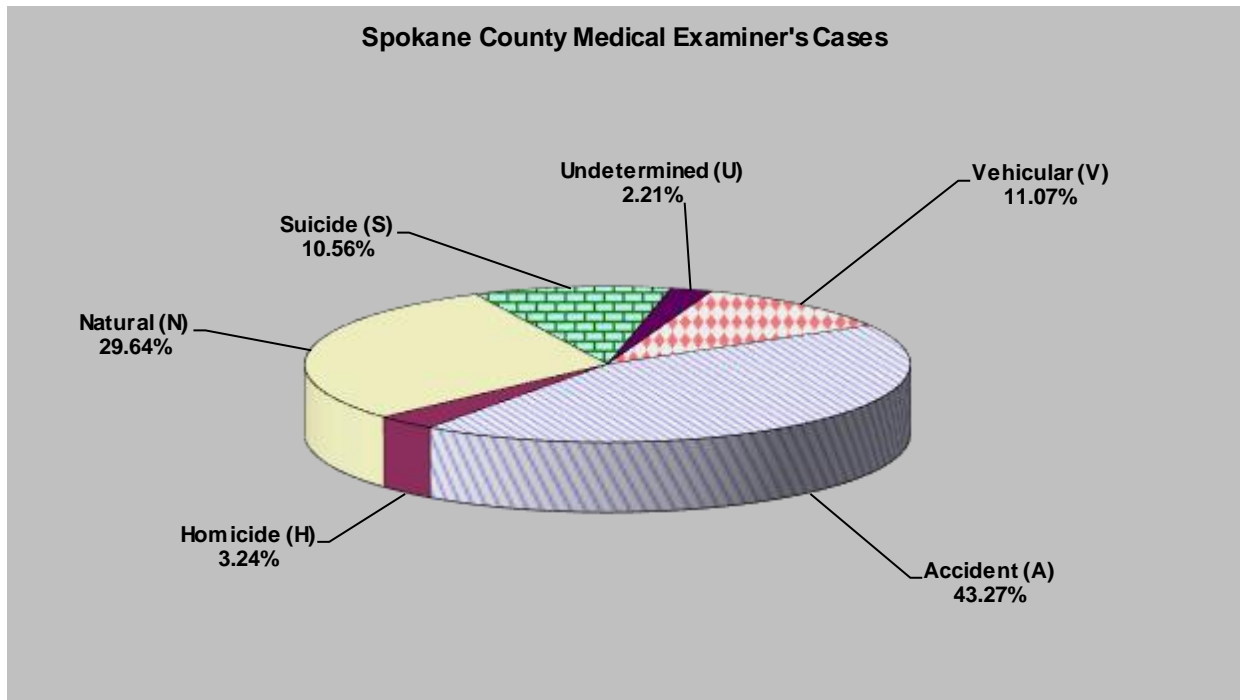
While there are no Washington State laws which require the Medical Examiner to identify and locate next-of-kin, by convention and practice in Spokane County, the Medical Examiner has been depended upon for identifying next-of-kin and for facilitating the locating and notifying of next-of-kin. The Medical Examiner's Office is fortunate to have the assistance of the Chaplains from the Spokane County Sheriff's Office and the Spokane Police Department in notifying family members. The staff of the Medical Examiner's Office recognizes that the Chaplains have considerable experience and professional training to help in this difficult and emotional endeavor.

Section 2: Total Cases

Total Cases for 2009

Cases By Manner Of Death	Number Of Deaths	Percent Of Total
Accident (A)	254	43.27%
Homicide (H)	19	3.24%
Natural (N)	174	29.64%
Suicide (S)	62	10.56%
Undetermined (U)	13	2.21%
Vehicular (V)	65	11.07%

Total Spokane County Population	465,000
Total Deaths in Spokane County	4,458
Total Deaths Reported to the Medical Examiner 2009	3,568
Total Jurisdiction Released after Investigation	2,981
Total Spokane County Medical Examiner Cases	3,568
Total Spokane County Autopsies Performed	394



	Jurisdiction Released Cases	Outside Agency Deaths Reported (Adult Care Facilities, Nursing Homes, Hospice, etc)	Spokane County Autopsies Completed	Referral County Autopsies Completed
January	88	181	29	12
February	75	167	29	11
March	90	182	33	9
April	89	155	24	14
May	68	157	32	18
June	83	167	32	11
July	82	135	32	16
August	89	132	33	18
September	91	162	33	14
October	106	163	44	13
November	106	155	31	10
December	105	153	42	11
Total	1072	1909	394	157

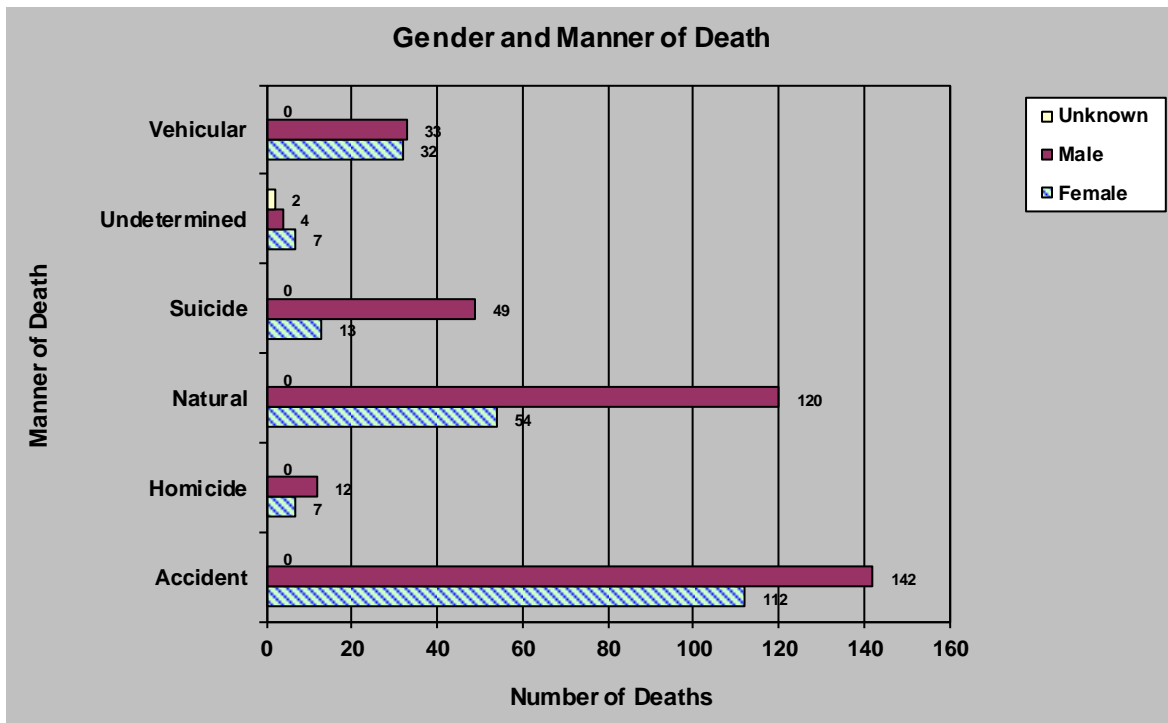
In addition to the Spokane County autopsies, the Medical Examiners performed 157 autopsies for neighboring referral counties.

Total Cases by Gender and Manner of Death

Gender and Manner Of Death

Sex	A	H	N	S	U	V	Total	Percent
Female	112	7	54	13	7	32	225	38.33%
Male	142	12	120	49	4	33	360	61.33%
Unknown	0	0	0	0	2	0	2	0.34%
Total	254	19	174	62	13	65	587	

Unknown – includes deaths such as partial skeletal remains wherein the materials examined are so limited that sex cannot be determined.



Predominance of male gender in all categories of death coming under the jurisdiction of the Medical Examiners Office reflects the experience of most death investigation systems. In most death investigation systems, this male predominance begins in infancy and extends to near the end of life spans.

Total Cases by Race and Manner of Death

Race and Manner of Death

Race	A	H	N	S	U	V	Total
Asian	0	0	1	1	0	0	2
Black	2	0	2	1	0	1	6
Caucasian	236	13	163	56	9	58	535
Hispanic	2	1	0	2	0	1	6
Native American	3	2	3	2	1	1	12
Other	1	1	0	0	1	0	3
Unknown	10	2	5	0	2	4	23
Total	254	19	174	62	13	65	587

These reflect the demographics of Spokane County, where the Caucasian race predominates statistically.

Total Cases by Age Group and Manner of Death

Age and Manner of Death							
Age Group (Years)		A	H	N	S	U	V
0 to 9	21	2	2	13	0	0	4
10 to 19	19	5	1	1	4	1	7
20 to 29	46	17	8	4	9	0	8
30 to 39	36	15	2	8	4	1	6
40 to 49	95	34	3	28	12	6	12
50 to 59	117	33	1	48	17	2	16
60 to 69	72	19	0	41	7	0	5
70 to 79	54	24	2	16	7	0	5
80 to 89	79	62	0	13	1	1	2
90 to 99	44	41	0	2	1	0	0
100 to 109	2	2	0	0	0	0	0
Total	585	254	19	174	62	11	65

Accidental deaths predominate in almost all age groups, except the very young and the 60-69 group where natural deaths are more frequent. This is at least partly a result of selection bias in this Medical Examiner's office, as we select for unnatural deaths in assuming jurisdiction.

There are two deaths which involve skeletal remains, wherein the materials examined are so limited that age could not be determined.

Total Cases by Age Group and Gender

Gender and Age Group				
Age Group (Years)		Female	Male	Unknown
0 to 9	21	13	8	0
10 to 19	19	9	10	0
20 to 29	46	12	34	0
30 to 39	36	13	23	0
40 to 49	95	30	65	0
50 to 59	117	32	85	0
60 to 69	72	25	47	0
70 to 79	54	18	36	0
80 to 89	79	44	35	0
90 to 99	44	28	16	0
100 to 109	2	1	1	0
Total	585	225	360	0

Males exceed females in each age group excluding 0 to 9 and 80 to 109. The female predominance at 0 to 9 and 80 to 109 in 2009 is not typical in Spokane County and may be a single year statistical aberration (only 3 deaths in the 100 to 109 age group were included.) (Only 21 deaths – mostly Sudden Infant Death Syndrome (SIDS) deaths were from the 0-9 age and only 2 were over 100). The male predominance is typical of the experience of most Medical Examiner offices.

Out of Area Incidents Leading to Death in Spokane County

In 2009 there were a total of 55 cases in which an event occurred outside of Spokane County that led to eventual death in Spokane County. The majority of these cases were transfers from out of county or out of state hospitals to one of the Spokane County hospitals. The manners of death in these cases are broken down as follows: 27 accidents, 17 motor vehicle accidents, 5 natural, 3 homicides, 2 suicides and 1 undetermined. Please see the link to the data below.

[Out of area incidents leading to death in Spokane County](#)

Section 3: Multi-Year Comparison

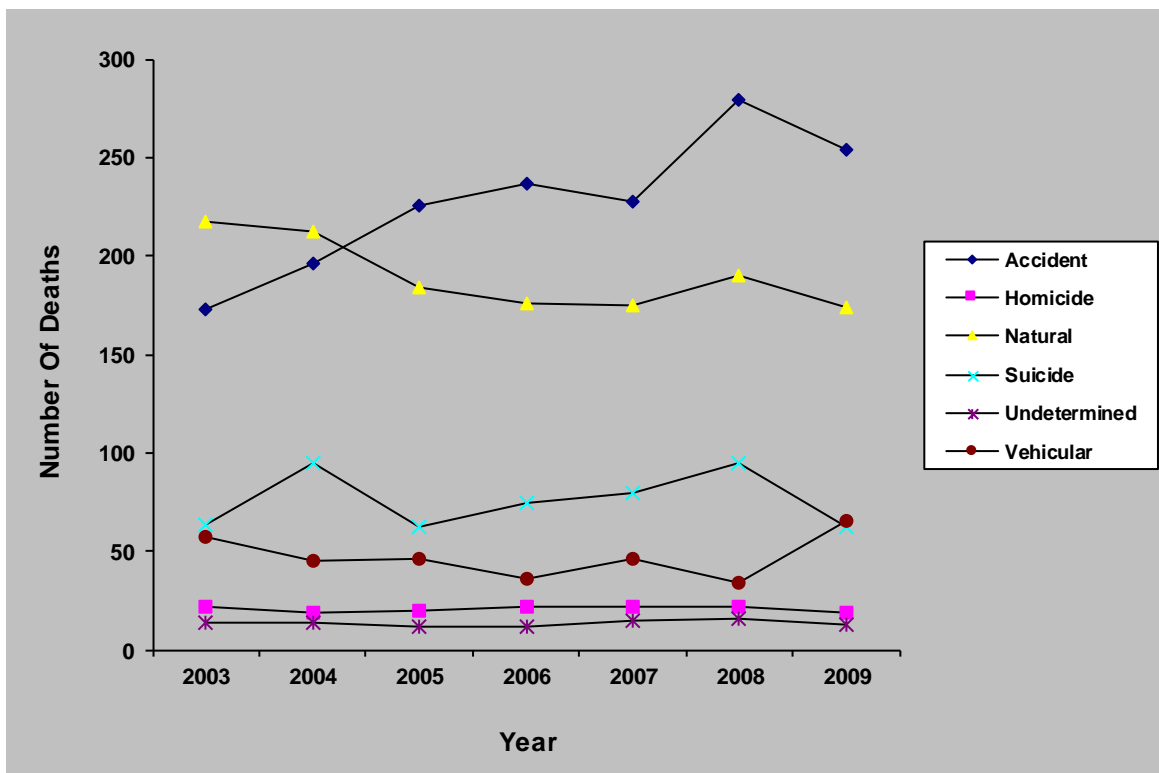
The Medical Examiner's Office replaced the coroner's system on January 1, 1999. From 1999 to present, the Spokane County deaths which have fallen under the jurisdiction of the Medical Examiner System have ranged from a low of 550 to a high of 635, with the number of autopsies performed typically under 450.

As seen in the comparison chart on the following page, the Medical Examiner System has assumed jurisdiction in an increasing number of accident cases. This increase may be attributed to improved reporting techniques, full investigation of fracture related deaths in the elderly and to an increase in the number of deaths attributed to "overdose". The federal government data classifies overdose deaths as "unintentional poisoning deaths". Federal data indicates that poisoning deaths have increased significantly in the last 5 years. Most of the poisoning death increases have resulted from prescription drug deaths. The number of natural deaths identified by the Medical Examiner System has increased (compared to the Coroner System). Deaths classified as homicides, suicides and undetermined have remained relatively constant. Accidents have increased in number and proportion, and fewer total numbers of deaths are certified as natural.

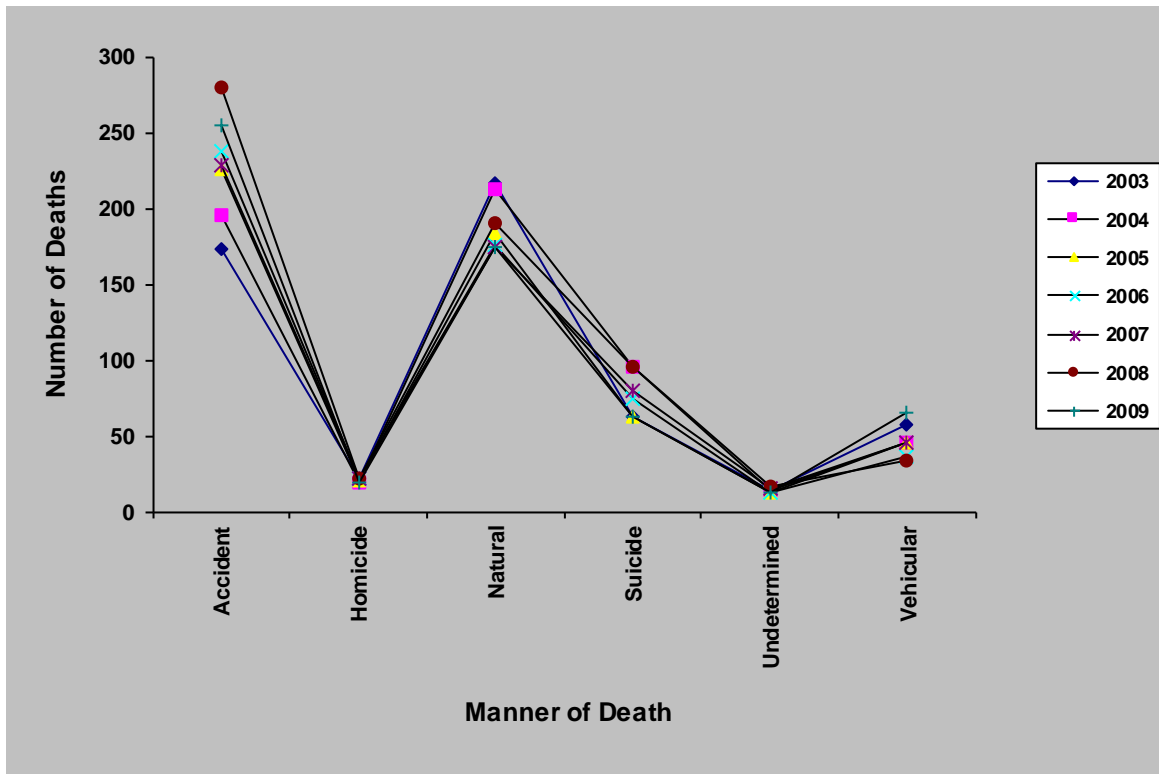
Manner Of Deaths Comparison

Comparison of Manners of Death 2003 - 2009

Manner of Death	2003	2004	2005	2006	2007	2008	2009
Accident	173	196	226	237	228	279	254
Homicide	22	19	20	22	22	22	19
Natural	217	212	184	176	175	190	174
Suicide	63	95	62	74	80	95	62
Undetermined	14	14	12	12	15	16	13
Vehicular	57	45	46	36	46	34	65
Total	546	581	550	557	566	636	587



Medical Examiner Homicide numbers may not mirror the Police Department reports of homicide deaths, because the Medical Examiner certification of homicide is broader in some situations and more narrow in others. The Medical Examiner is using these classifications for the purposes of statistical analysis based on death certificate classification.



Comparison of Manners of Death as Percentage of Total Annual Medical Examiner's Cases 2003 - 2009

Manner of Death	2003	2004	2005	2006	2007	2008	2009
Accident	31.68%	33.73%	41.09%	42.55%	40.28%	43.87%	43.27%
Homicide	4.03%	3.27%	3.64%	3.95%	3.89%	3.46%	3.24%
Natural	39.74%	36.49%	33.45%	31.60%	30.92%	29.87%	29.64%
Suicide	11.54%	16.35%	11.27%	13.29%	14.13%	14.94%	10.56%
Undetermined	2.56%	2.41%	2.18%	2.15%	2.65%	2.52%	2.21%
Vehicular	10.44%	7.75%	8.36%	6.46%	8.13%	5.35%	11.07%

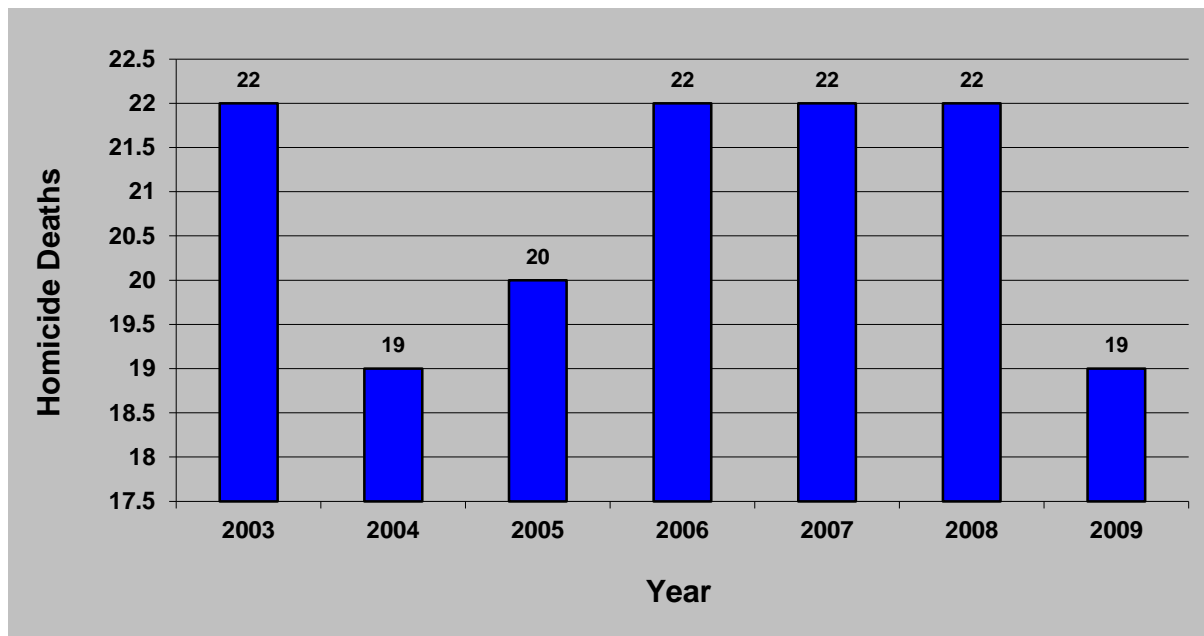
Ideally, a Medical Examiner System strives to keep the percentage of “undetermined” manner of death cases to less than five percent. This requires thorough investigation and autopsy. In the Spokane County Medical Examiner’s Office, every “undetermined” manner case is reviewed as part of the office Performance Improvement Program.

Homicidal Methods Comparison

Comparison of Homicidal Methods 2003 - 2009

Method Used	2003	2004	2005	2006	2007	2008	2009
Asphyxia	2	0	0	1	0	0	0
Blunt Impact	0	3	2	2	3	0	0
Child Abuse	3	1	2	2	3	2	2
Firearms	7	7	7	5	9	9	7
Homicidal Violence	5	3	4	2	1	1	3
Other	1	2	2	4	4	0	1
Stabbing	4	2	3	4	2	8	6
Strangulation	0	1	0	1	0	2	0
Unknown	0	0	0	1	0	0	0
Total	22	19	20	22	22	22	19

Homicides 2003 - 2009

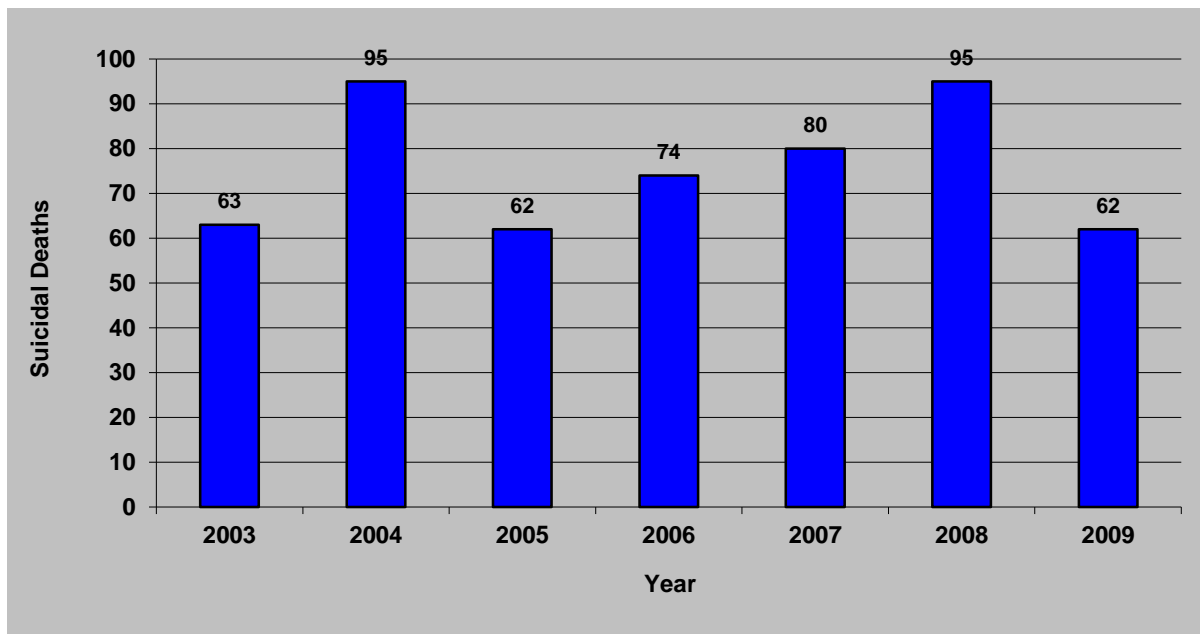


Suicidal Methods Comparison

Comparison of Suicidal Methods 2003 - 2009

Method Used	2003	2004	2005	2006	2007	2008	2009
Carbon Monoxide	4	3	5	4	7	5	1
Drowning	1	1	0	4	0	0	0
Drugs/Poisons	16	24	20	19	19	19	7
Firearms	24	50	21	37	32	51	37
Hanging	10	15	14	8	17	17	15
Jumping	6	0	0	1	3	1	1
Other	1	2	0	1	2	0	1
Plastic Bag	1	0	0	0	0	1	0
Stab/incised wound	0	0	2	0	0	1	0
Total	63	95	62	74	80	95	62

Suicides 2003 - 2009



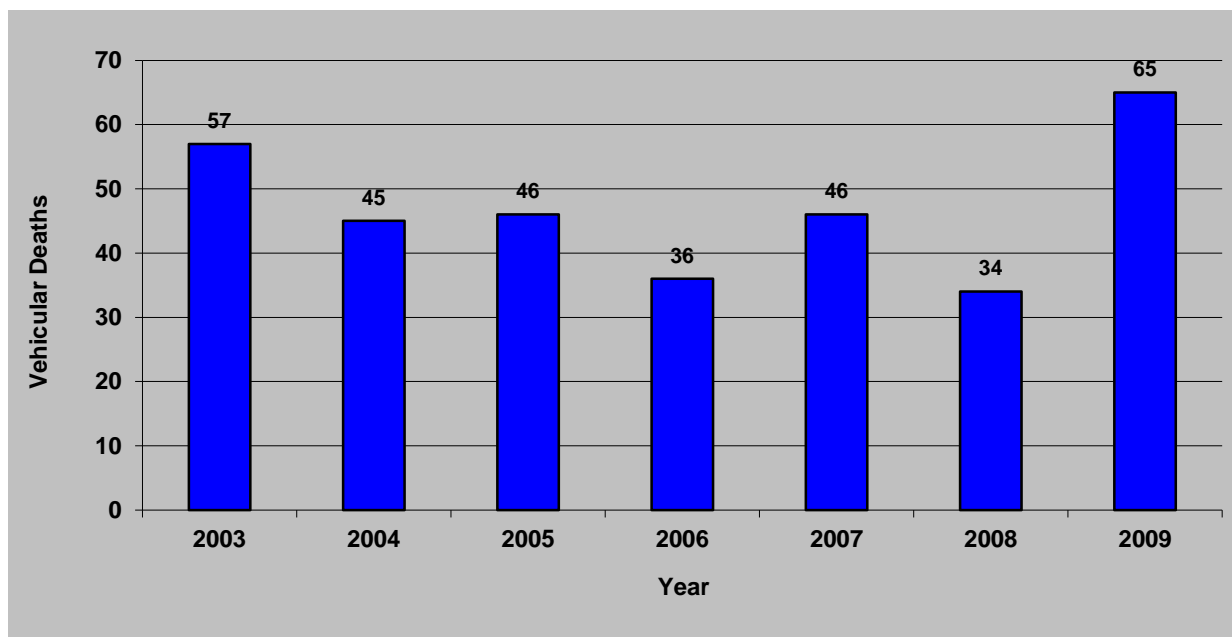
Vehicular Deaths Comparison

Vehicular-related fatalities are separated from other accidents because some community groups have special needs in examining vehicular-related deaths.

Comparison of Vehicular Deaths 2003 - 2009

Vehicle Circumstances	2003	2004	2005	2006	2007	2008	2009
Automobile Driver	23	20	17	18	14	22	29
Automobile Passenger	12	7	15	8	12	6	10
Bicyclist	2	0	3	2	1	0	1
Motorcycle Driver	11	10	5	6	5	6	6
Motorcycle Passenger	2	3	0	0	1	0	3
Other	1	0	0	1	2	0	1
Pedestrian	6	4	5	1	9	0	14
Unknown	0	1	1	0	2	0	1
Total	57	45	46	36	46	34	65

Vehicular Deaths 2003 - 2009



Accidental Deaths Comparison

Comparison of Accidental Deaths 2003 - 2009

Accident Circumstances	2003	2004	2005	2006	2007	2008	2009
Aircraft	1	1	0	0	0	0	0
Alcohol Abuse	2	1	2	2	1	1	5
Asphyxiation	3	4	7	8	5	3	1
Aspiration	0	0	3	3	3	3	3
Bicycle Fall	1	0	0	1	0	1	0
Boating	0	0	0	0	0	1	0
Choking	0	2	0	2	1	0	2
Dog Bite	0	1	0	0	0	0	0
Drowning	7	7	4	12	3	6	2
Drugs (Illicit)	56	70	48	47	38	48	41
Prescribed Drugs	0	0	35	50	61	61	36
Electrocution	1	1	0	1	0	2	0
Fall	85	93	102	97	101	131	143
Farm	1	0	0	0	1	0	1
Fire/burns	0	3	3	0	1	3	5
Firearms	0	0	0	1	1	1	2
Hyperthermia	0	0	0	2	1	1	0
Hypothermia	3	2	5	2	4	5	3
Industrial Accident	3	2	3	2	2	2	1
Other	7	6	13	4	2	9	9
Struck by Object	1	1	0	0	0	0	0
Surgical Procedure	1	1	1	0	0	0	0
Therapy Complication	1	1	0	3	3	1	0
Total	173	196	226	237	228	279	254

Toxicology may show numerous combinations of medications and illicit drugs, but such deaths are categorized in the chart above as “Drugs”.

Drug Overdose Data Summary 2009

Overview

A total of 97 deaths were attributed to (prescription and/or illicit) drug overdoses in 2009. Of these 83 were classified as accidents and would be comparable to United States Centers for Disease Control Data that uses the term “unintentional poisoning deaths”. Of the 83 accidental overdose deaths in Spokane County 32 (39%) were females and 51 (61%) were males. These 83 deaths represent a decline in accidental overdose deaths from 2007, in that year there were 110 such deaths. The number of accidental overdose deaths in 2009 is comparable to the 2005 number of deaths (81).

The overdose data for 2009 includes 7 suicides, in addition to the 83 accidental deaths. Seven (7) deaths were categorized as undetermined, and in those deaths it generally could not be determined if the overdose was intentional (suicide) or accidental.

Types and Combinations of Drugs

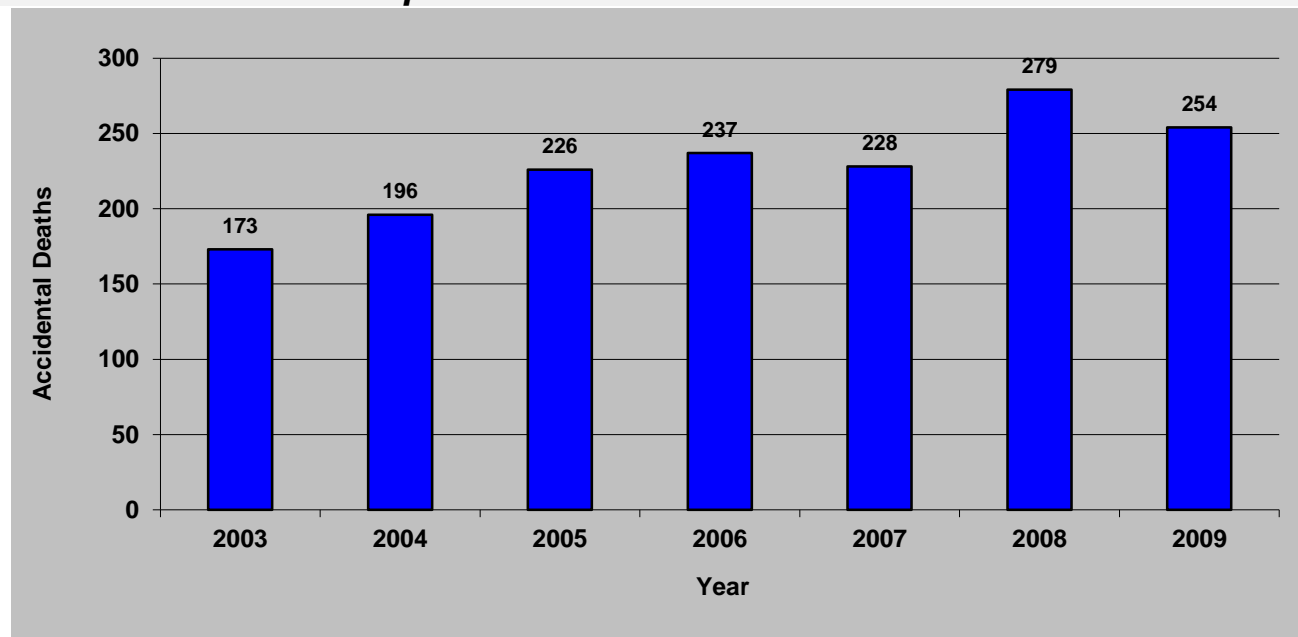
The vast majority of overdose deaths involved prescription drugs and prescription drugs in combination with alcohol or illicit drugs. Ten (10) deaths resulted from illicit drugs only. As has been typical of large studies involving prescription drug deaths, it was often difficult in Spokane County deaths to determine the source of the prescription medication. In only 10 of the 83 deaths, all the medications found in toxicology testing could be verified as being prescribed to the decedent. In 5 deaths at least one medication identified in toxicology results was diverted, coming from a family member or acquaintance. Most of the remaining 83 deaths involved at least one medication for which the origin of the medication could not be determined.

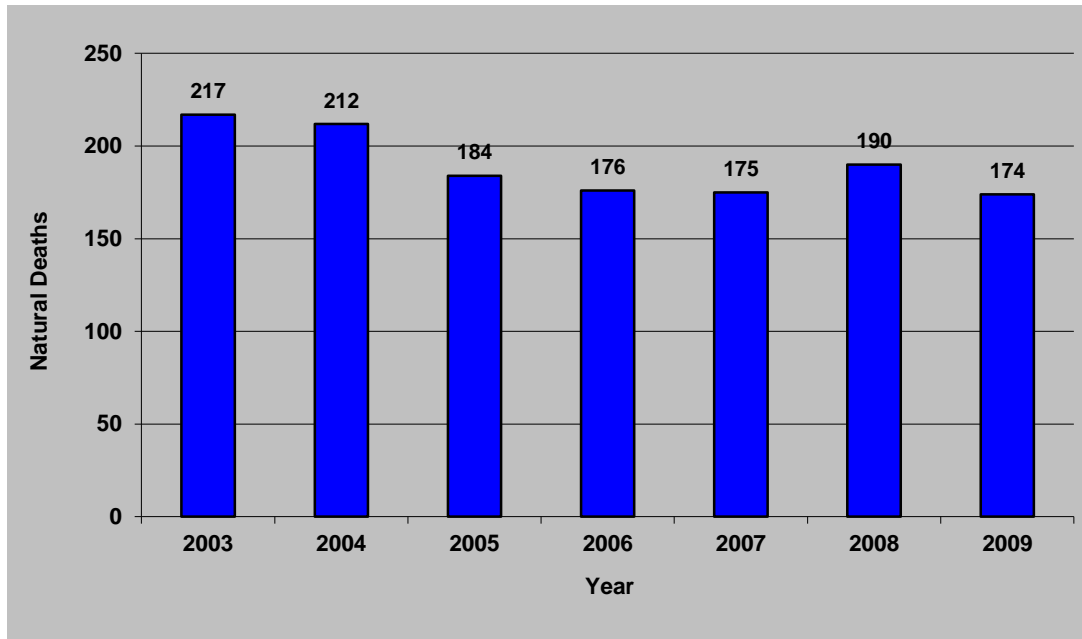
Most Common Medications

The four most common drugs/medications in Spokane County decedents, identified by the Washington State Toxicology Laboratory in 2009 were (in descending order by number of listings on toxicology reports): ethanol (26 listings), methadone (26), morphine (22), and cannabinoids (marijuana 21). Morphine does not infer the use of only the prescription drug morphine, as morphine is often the only measurable form of heroin. The next four most often identified medications were: acetaminophen (tylenol 18), hydrocodone (18), oxycodone (11), and various benzodiazepines, such as diazepam (11).

Please see the following link to overdose data: [2009 Overdose Data](#)

Accidental Deaths Comparison

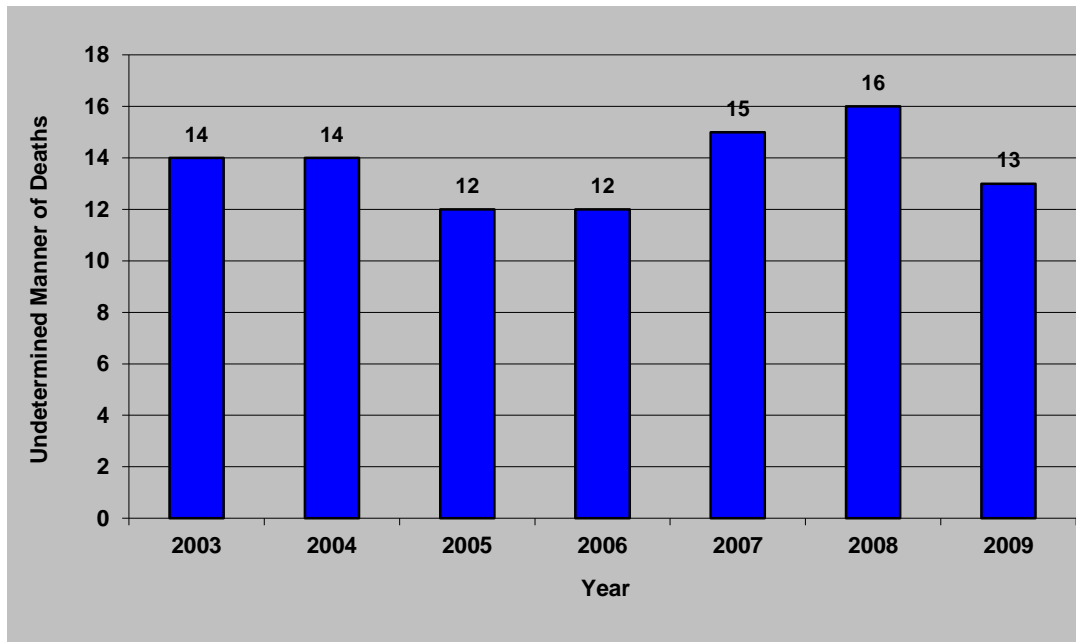


Natural Deaths Comparison**Natural Deaths 2003 - 2009**

The focus of the Medical Examiner's Office has shifted somewhat from the investigation of natural, but unexpected deaths to accidental deaths in the last six years. This shift is partly because of an increase in prescription drug deaths, considered "accidents" and partly due to an increased reporting of falls in elderly citizens which sometimes result in death.

Undetermined Deaths Comparison

Deaths of Undetermined Manner 2003 - 2009

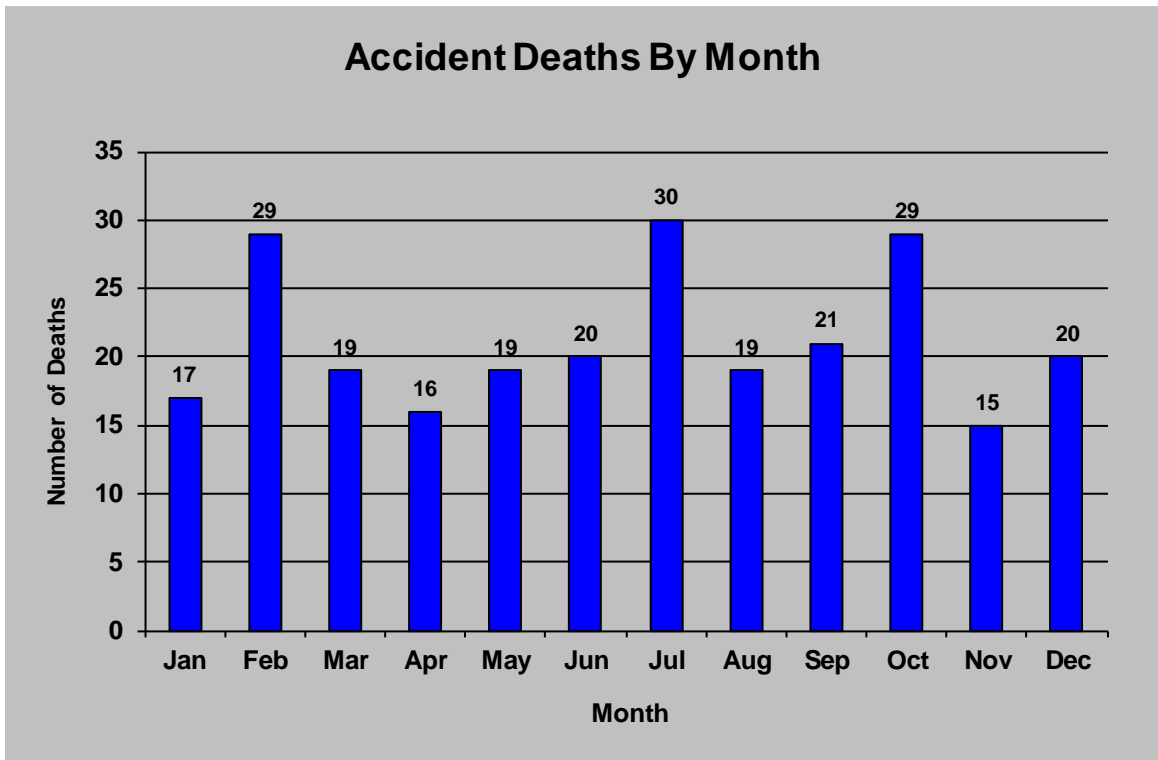


Ideally the Medical Examiner Systems use the undetermined manner of death category in less than five percent of cases. This reflects fullest utilization of available investigative and autopsy tools. In 2009, the undetermined classification was used in 2.21% of Spokane Medical Examiner cases.

Section 4: Manner of Death

ACCIDENT

Accident Deaths by Month



*Accident Mode by Gender***Accident Mode By Gender**

Accident Mode	Female	Male	Total
Alcohol Abuse	1	4	5
Asphyxiation	0	1	1
Aspiration	2	1	3
Choking	1	1	2
Drowning	2	0	2
Drugs	13	28	41
Fall	71	72	143
Farm	0	1	1
Fire/burns	3	2	5
Firearms	0	2	2
Hypothermia	0	3	3
Industrial Accident	0	1	1
Other	2	7	9
Prescribed Drugs	17	19	36
Total	112	142	254

Accident Mode by Gender and Age Group

Accident Mode, Gender and Age Group

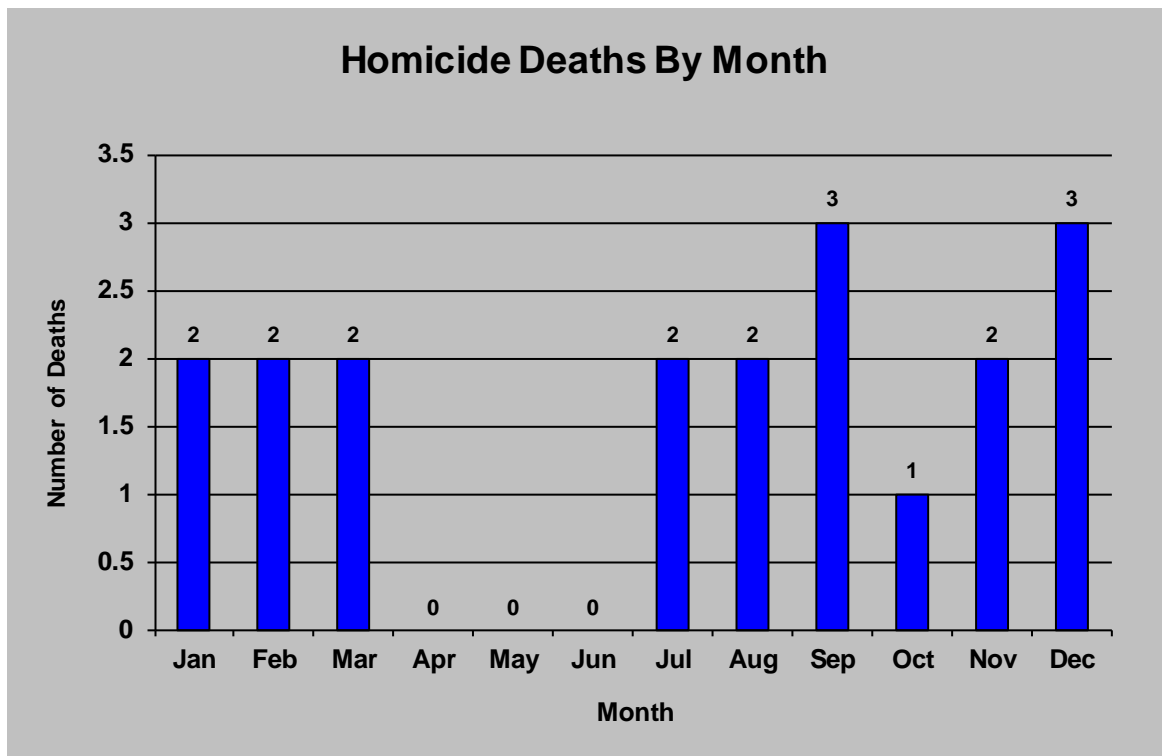
Accident Mode	Sex	<1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	>=100	Total
Alcohol Abuse	Female	0	0	0	0	0	0	0	0	1	0	0	0	1
Alcohol Abuse	Male	0	0	0	0	1	2	0	1	0	0	0	0	4
Alcohol Abuse Total														5
Asphyxiation	Male	0	0	1	0	0	0	0	0	0	0	0	0	1
Asphyxiation Total														1
Aspiration	Female	0	0	0	0	0	1	0	1	0	0	0	0	2
Aspiration	Male	0	0	0	0	0	0	1	0	0	0	0	0	1
Aspiration Total														3
Choking	Female	0	0	0	0	0	0	0	1	0	0	0	0	1
Choking	Male	0	0	0	0	0	0	0	1	0	0	0	0	1
Choking Total														2
Drowning	Female	0	0	0	1	0	1	0	0	0	0	0	0	2
Drowning Total														2
Drugs (Illicit)	Female	0	0	1	2	1	5	3	0	0	0	1	0	13
Drugs (Illicit)	Male	0	0	0	5	6	11	6	0	0	0	0	0	28
Drugs Total														41
Fall	Female	0	0	0	0	0	0	2	2	6	34	26	1	71
Fall	Male	0	0	0	0	1	1	7	7	14	27	14	1	72
Fall Total														143
Farm	Male	0	0	0	0	0	0	0	1	0	0	0	0	1
Farm Total														1
Fire/burns	Female	0	0	0	0	0	0	0	2	1	0	0	0	3
Fire/burns	Male	0	0	0	0	0	0	0	0	2	0	0	0	2
Fire/burns Total														5
Firearms	Male	0	0	0	1	0	0	1	0	0	0	0	0	2
Firearms Total														2
Hypothermia	Male	0	0	0	0	0	1	2	0	0	0	0	0	3
Hypothermia Total														3
Industrial Accident	Male	0	0	0	0	1	0	0	0	0	0	0	0	1
Industrial Accident Total														1
Other	Female	0	0	1	0	0	0	0	0	0	1	0	0	2
Other	Male	1	1	2	0	1	0	1	1	0	0	0	0	7
Other Total														9
Prescribed Drugs	Female	0	0	0	4	1	5	6	1	0	0	0	0	17
Prescribed Drugs	Male	0	0	0	4	3	7	4	1	0	0	0	0	19
Prescribed Drugs Total														36
Grand Total		1	1	5	17	15	34	33	19	24	62	41	2	254

Falls that result in mortality are significantly correlated with increasing age. Illicit drug deaths peak in middle ages. In 2009, prescription drug deaths also were most common in middle age.

HOMICIDE

In 2009 the recorded 19 homicides represents a decrease by 3 from the previous year. Firearms accounted for the single largest method of homicide. Firearms also accounted for the largest number of deaths by suicide. The most frequent age group of homicide victims in 2009 was 20-29 years.

Homicide Deaths by Month



Homicide Deaths by Method, Gender, and Age Group

Homicide Mode, Gender and Age Group

Homicide Method Sex	<1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	>=100	Total
Child Abuse Female	0	1	0	0	0	0	0	0	0	0	0	0	1
Child Abuse Male	1	0	0	0	0	0	0	0	0	0	0	0	1
Child Abuse Total													2
Firearms Female	0	0	0	0	0	0	0	0	1	0	0	0	1
Firearms Male	0	0	0	4	0	2	0	0	0	0	0	0	6
Firearms Total													7
Homicidal Violence Female	0	0	0	1	1	0	0	0	0	0	0	0	2
Homicidal Violence Male	0	0	0	0	0	0	1	0	0	0	0	0	1
Homicidal Violence Total													3
Other Female	0	0	0	0	0	0	0	0	1	0	0	0	1
Other Total													1
Stabbing Female	0	0	0	0	1	1	0	0	0	0	0	0	2
Stabbing Male	0	0	1	3	0	0	0	0	0	0	0	0	4
Stabbing Total													6
Grand Total	1	1	1	8	2	3	1	0	2	0	0	0	19

Homicide Deaths by Age Group



This graph is limited statistically by the small number of total deaths it represents.

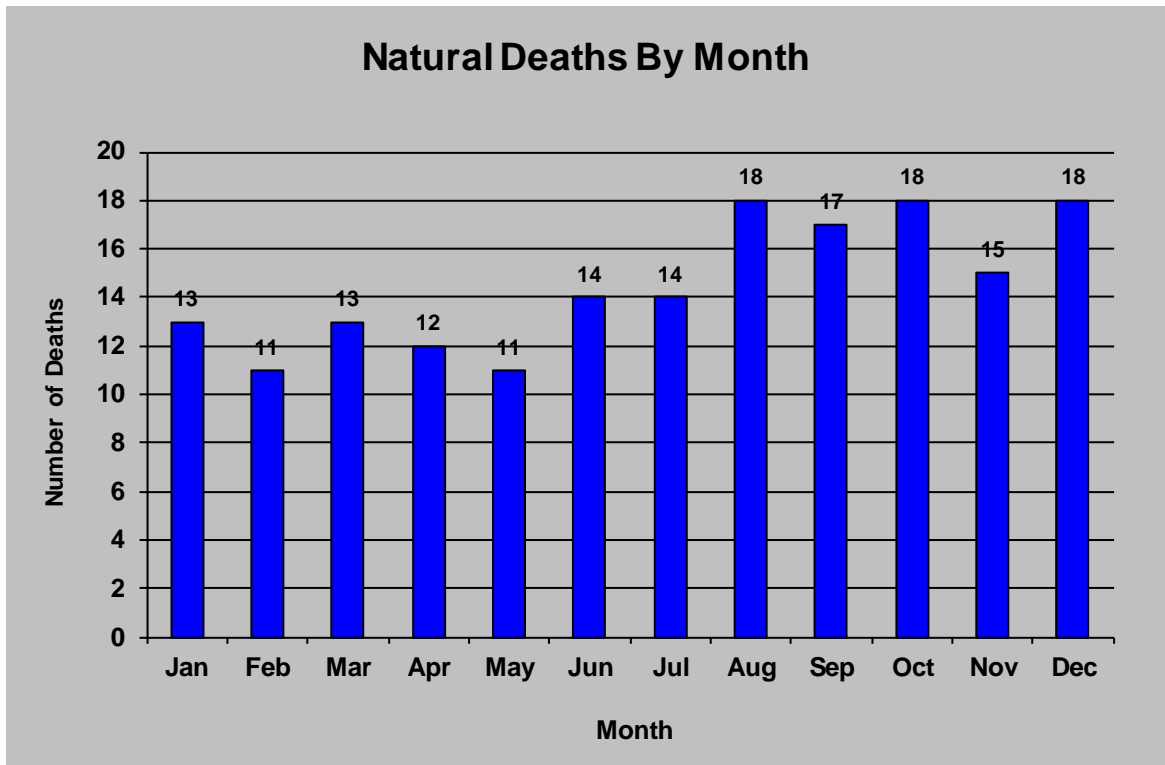
Homicide Deaths by Method



NATURAL

Typically, the Medical Examiner’s Office assumes jurisdiction in cases of natural death when the death occurs in a young age group without medical history and is therefore unexpected.

Natural Deaths by Month



Natural Deaths by Disease Process

Natural Deaths by Disease Process

AA= Alcohol Abuse O= Other
 C= Cardiovascular R= Respiratory
 CNV= Central Nervous System S= Seizure Disorder
 M= Malignancy U= Undetermined
 OF= Organ Failure

(Total # of Natural Deaths including those not examined by full autopsy.)

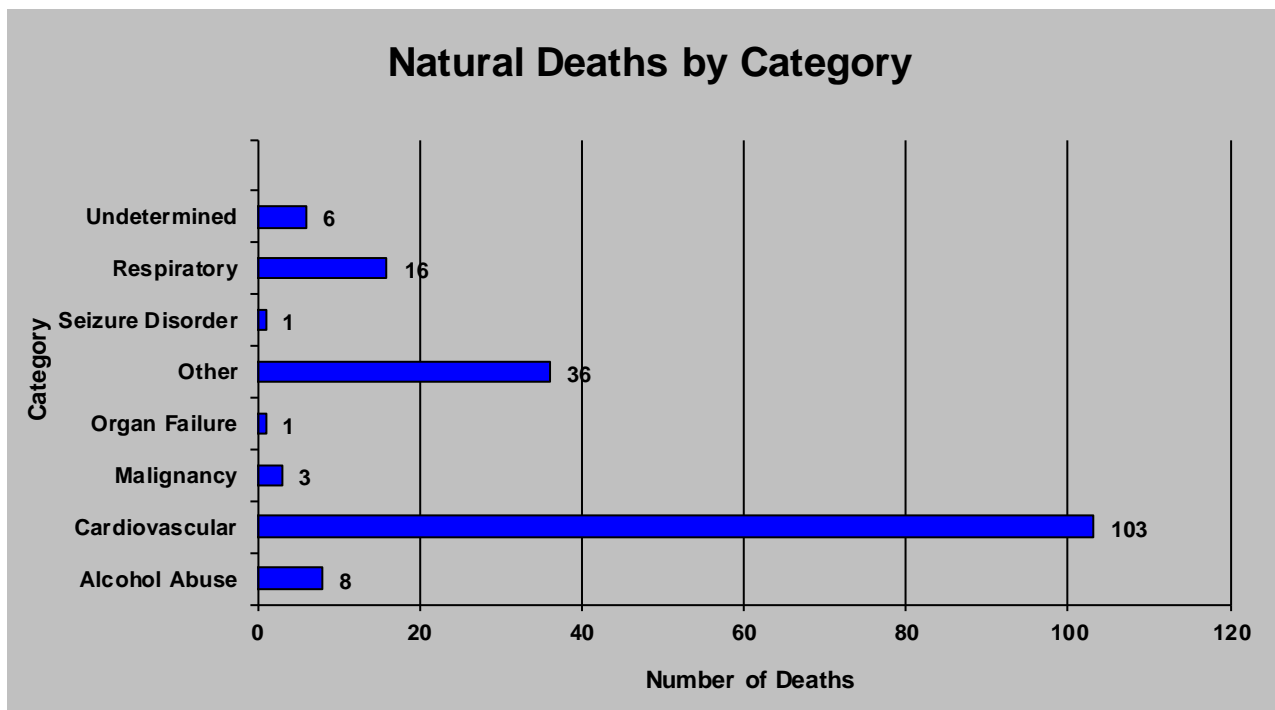
	AA	C	M	OF	O	S	R	U	TOTAL
Aspiration of Gastric Contents					1				1
Asthma							1		1
Atherosclerotic Cardiovascular Disease		68							68
Bleeding Esophageal Varices	1								1
Cardiac Dysrhythmia		4							4
Cardiac Tamponade		2							2
Cardiomyopathy		18							18
Cerebral Hemorrhage					2				2
Chronic Alcoholism	2								2
Chronic Obstructive Pulmonary Disease		1					3		4
Cirrhosis of the Liver	5								5
Congenital Heart Defect		1							1
Coronary Thrombosis		1							1
Diabetes Mellitus					6				6
Dissecting Aneurysm		1							1
Emphysema							1		1
Gastrointestinal Bleed					3				3
Hypertensive heart disease		1							1
Influenza					1				1
Lung Cancer			1						1
Myocardial Infarction		2							2
Other		2		1	10		2		15
Pancreatitis					3				3
Peritonitis					1				1
Pneumonia							7		7
Prostate Cancer			2						2
Pulmonary embolism							2		2
Ruptured Abdominal Aneurysm		1							1
Seizure Disorder						1			1
SIDS					9				9
undetermined								6	6
Ventricular Fibrillation		1							1
Total	8	103	3	1	36	1	16	6	174

“Undetermined Natural Cause” is sometimes assigned to a death in a very elderly person, without evidence of injury, with little or no medical history, when an autopsy is not performed.

Natural Deaths by Category

The high proportion of deaths related to the cardiovascular system is typical of national statistics defining the categories of natural deaths. By convention, in most Coroner and Medical Examiner systems, alcohol abuse is considered “natural”. The cancer deaths are usually not diagnosed until autopsy or are investigated for mitigating circumstances such as concern of overdose.

Cause of Natural Deaths by Category



Natural Deaths by Disease Process and Gender

Disease Process By Gender

Disease Process	Female	Male	Unknown	Total
Alcohol Abuse	3	5	0	8
Cardiovascular	27	76	0	103
Malignancy	0	3	0	3
Organ Failure	1	0	0	1
Other	16	21	0	37
Respiratory	6	10	0	16
Undetermined	1	5	0	6
Total	54	120	0	174

Natural Deaths by Gender and Age Group

Natural Death Gender and Age Group

Disease Process	Sex	<1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	>=100	Total
Alcohol Abuse	F	0	0	0	0	0	2	0	1	0	0	0	0	3
Alcohol Abuse	M	0	0	0	0	0	1	3	1	0	0	0	0	5
Alcohol Abuse Total														8
Cardiovascular	F	0	0	0	1	1	4	7	9	2	3	0	0	27
Cardiovascular	M	1	0	0	2	2	11	27	21	8	3	1	0	76
Cardiovascular Total														103
Malignancy	M	0	0	0	0	0	0	1	0	0	2	0	0	3
Malignancy Total														3
Organ Failure	F	0	0	0	0	1	0	0	0	0	0	0	0	1
Organ Failure Total														1
Other	F	8	0	0	0	1	1	2	1	1	2	0	0	16
Other	M	2	0	1	1	0	6	5	2	2	2	0	0	21
Other Total														37
Respiratory	F	1	0	0	0	1	0	1	2	0	1	0	0	6
Respiratory	M	1	0	0	0	2	3	2	2	0	0	0	0	10
Respiratory Total														16
Undetermined	F	0	0	0	0	0	0	0	0	0	0	1	0	1
Undetermined	M	0	0	0	0	0	0	0	2	3	0	0	0	5
Undetermined Total														6
Grand Total		13	0	1	4	8	28	48	41	16	13	2	0	174

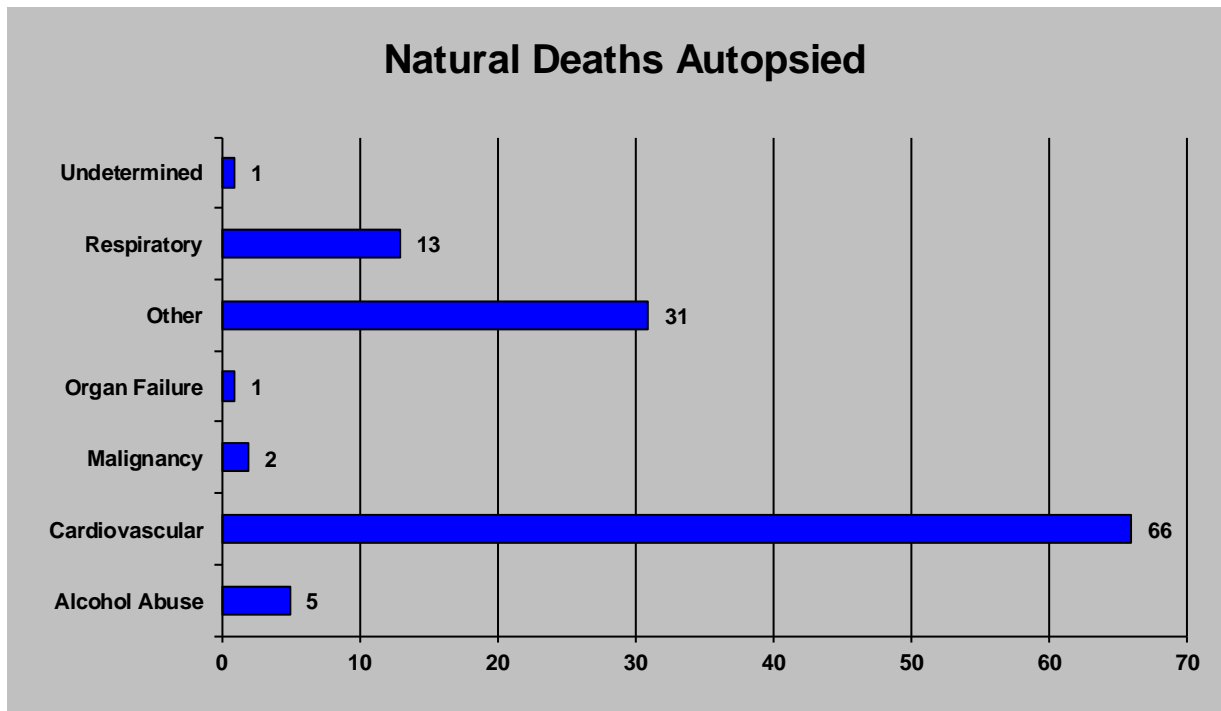
Nine of the deaths listed as “other” are attributed to Sudden Unexplained Infant Death. **Sudden unexplained infant death (SUID)** applies to the death of an infant less than one year of age, in which investigation, autopsy, medical history review, and appropriate laboratory testing fails to identify a specific cause of death. SUID includes cases that meet the definition of Sudden Infant Death Syndrome.

Natural Deaths by Disease Process (Autopsied)

Disease Process in Autopsied Deaths

AA= Alcohol Abuse OF= Organ Failure
 C= Cardiovascular O= Other
 CNV= Central Nervous System R= Respiratory
 M= Malignancy SD= Seizure Disorder
 U= Undetermined

	AA	C	M	OF	O	R	U	Total
Aspiration of Gastric Contents	0	0	0	0	1	0	0	1
Asthma	0	0	0	0	0	1	0	1
Atherosclerotic Cardiovascular Disease	0	36	0	0	0	0	0	36
Bleeding Esophageal Varices	1	0	0	0	0	0	0	1
Cardiac Dysrhythmia	0	3	0	0	0	0	0	3
Cardiac Tamponade	0	2	0	0	0	0	0	2
Cardiomyopathy	0	17	0	0	0	0	0	17
Cerebral Hemorrhage	0	0	0	0	2	0	0	2
Chronic Alcoholism	1	0	0	0	0	0	0	1
Chronic Obstructive Pulmonary Disease	0	1	0	0	0	0	0	1
Cirrhosis of the Liver	3	0	0	0	0	0	0	3
Congenital Heart Defect	0	1	0	0	0	0	0	1
Coronary Thrombosis	0	1	0	0	0	0	0	1
Diabetes Mellitus	0	0	0	0	4	0	0	4
Dissecting Aneurysm	0	1	0	0	0	0	0	1
Emphysema	0	0	0	0	0	1	0	1
Gastrointestinal Bleed	0	0	0	0	3	0	0	3
Hypertensive heart disease	0	1	0	0	0	0	0	1
Influenza	0	0	0	0	1	0	0	1
Myocardial Infarction	0	2	0	0	0	0	0	2
Other	0	1	0	1	6	2	0	10
Pancreatitis	0	0	0	0	3	0	0	3
Peritonitis	0	0	0	0	1	0	0	1
Pneumonia	0	0	0	0	0	7	0	7
Prostate Cancer	0	0	2	0	0	0	0	2
Pulmonary embolism	0	0	0	0	0	2	0	2
Seizure Disorder	0	0	0	0	1	0	0	1
SIDS	0	0	0	0	9	0	0	9
undetermined	0	0	0	0	0	0	1	1
Total	5	66	2	1	31	13	1	119

Natural Deaths Autopsied

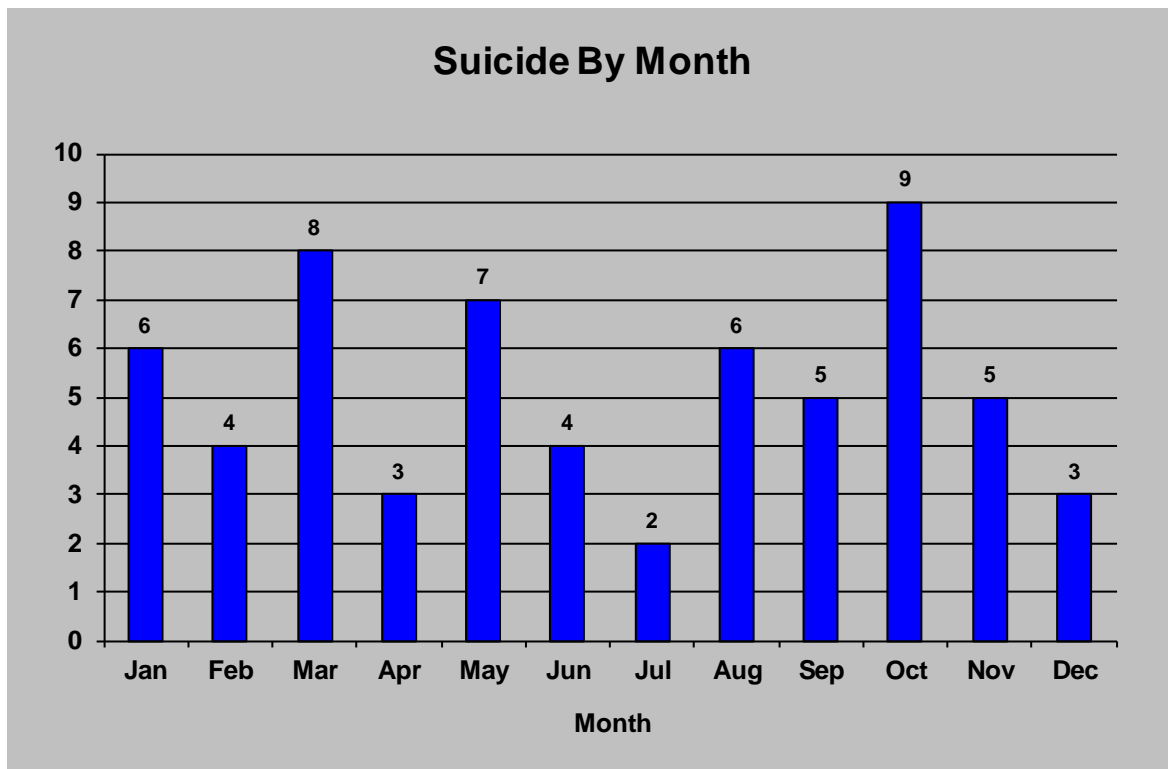
The numbers of cardiovascular deaths reflect the fact that the first symptom of significant heart disease is often a fatal heart attack. The natural manners of death with “undetermined” cause, are deaths in which the scene investigation was highly suggestive of a natural death. However complete autopsies, including microscopic examination of biopsies and toxicology testing did not show cause of death. Some of these deaths might be a result of “chemical” failures of systems at a submicroscopic level.

SUICIDE

Suicides are those deaths caused by intentional, self-inflicted injuries. In Spokane County there were (62) suicides in 2009, down (33) from 2008.

The highest number (42/62) of suicides fell within the 20-59 age groups. However, looking at suicides in persons (50) years and older, in 2009 these age groups represented 53% (33/62) of all suicides occurring in Spokane County. Nationally, suicide deaths in older Americans are associated statistically with financial concerns, illness and declining health. Four suicides occurred in teenagers, and 9 in the 20-29 age group.

Suicide Deaths by Month



Suicide Method by Gender and Age Group

Suicide Method Gender and Age Group

Suicide Method	Sex	<1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	>100	Total
Carbon Monoxide	M	0	0	0	0	0	0	1	0	0	0	0	0	1
Carbon Monoxide Total														1
Drugs/Poisons	F	0	0	0	0	1	0	3	1	0	0	0	0	5
Drugs/Poisons	M	0	0	0	2	0	0	0	0	0	0	0	0	2
Drugs/Poisons Total														7
Firearms	F	0	0	1	1	1	1	0	2	1	0	0	0	7
Firearms	M	0	0	0	3	1	8	8	2	6	1	1	0	30
Firearms Total														37
Hanging	F	0	0	0	0	0	0	1	0	0	0	0	0	1
Hanging	M	0	0	3	3	1	3	2	2	0	0	0	0	14
Hanging Total														15
Jumping	M	0	0	0	0	0	0	1	0	0	0	0	0	1
Jumping Total														1
Other	M	0	0	0	0	0	0	1	0	0	0	0	0	1
Other Total														1
Grand Total		0	0	4	9	4	12	17	7	7	1	1	0	62

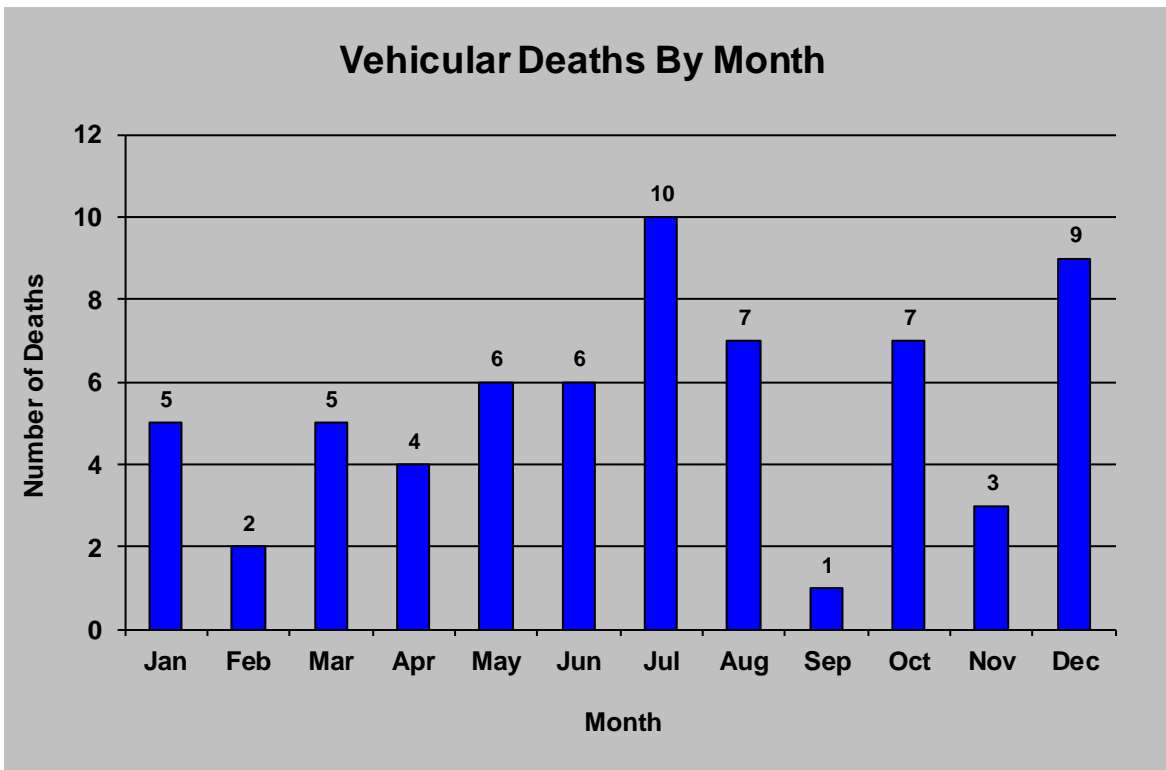
As has been the case in many Medical Examiner years, gunshot wounds remain the most frequent suicide method partly because of the inherent lethality of firearm injuries. Gunshot wounds are followed by suicidal hanging, then intentional overdoses.

VEHICULAR

During the calendar year of 2009, the Medical Examiner’s Office participated in the investigation of (65) deaths categorized as vehicular. This represents more than a 91% increase over 2008.

In vehicle collisions there were 39 deaths, 29 drivers and 10 passengers. In addition there were 6 deaths among motorcycle drivers.

Vehicular Deaths by Month



Vehicular Deaths by Method, Gender, and Age Group

Vehicular Method Gender and Age Group

Vehicular Method	Sex	<1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	>=100	Total
Automobile Driver	F	0	0	2	2	0	3	3	1	2	1	0	0	14
Automobile Driver	M	0	0	2	3	3	1	4	1	1	0	0	0	15
Automobile Driver Total														29
Automobile Passenger	F	0	2	0	0	0	1	1	0	1	1	0	0	6
Automobile Passenger	M	0	0	0	1	0	2	0	1	0	0	0	0	4
Automobile Passenger Total														10
Bicyclist	M	0	0	0	1	0	0	0	0	0	0	0	0	1
Bicyclist Total														1
Motorcycle Driver	M	0	0	0	1	0	1	4	0	0	0	0	0	6
Motorcycle Driver Total														6
Motorcycle Passenger	F	0	1	0	0	1	1	0	0	0	0	0	0	3
Motorcycle Passenger Total														3
Other	M	0	1	0	0	0	0	0	0	0	0	0	0	1
Other Total														1
Pedestrian	F	0	0	3	0	1	2	1	1	1	0	0	0	9
Pedestrian	M	0	0	0	0	1	1	2	1	0	0	0	0	5
Pedestrian Total														14
Unknown	M	0	0	0	0	0	0	1	0	0	0	0	0	1
Unknown Total														1
Grand Total		0	4	7	8	6	12	16	5	5	2	0	0	65

Traffic Fatalities and Use of Restraint

Traffic Fatalities and Use of Restraint

Circumstances	Restrained	Unrestrained	Unknown	Total
Automobile Driver	15	10	4	29
Automobile Passenger	6	3	1	10
Total	21	13	5	39

UNDETERMINED

“Undetermined” manner is used to designate that a death does not exactly fit the categories natural, suicide, homicide, accident, or overlaps between two categories. An example is a death due to medication overdose. In some such deaths the determination between accident and suicide cannot be made as the decedent’s intent is not clear. Information concerning the circumstances may be lacking because of the absence of background information, or because of a delay between death and discovery of the body. If an extensive investigation and autopsy cannot clarify the circumstances, the death is placed in this category. There were (13) undetermined deaths in Spokane County in 2009.

Although the cause of death was established in more than half of these deaths, the manner still could not be established. Again, the reason for undetermined manner is lack of information or conflicting information.

Undetermined Deaths

Manner-Undetermined Deaths 2009

Number	Cause of Death	Month	Sex	Age	Race
1	hanging by ligature	Apr	F	11	Other
2	hypoxic encephalopathy; dt- cardiopulmonary arrest; dt- combined drug toxicity: methadone and venlafaxine	Apr	F	39	Caucasian
3	combined drug toxicity; dt- simultaneous use of paroxetine, nortriptyline, oxycodone, morphine, and lorazepam	May	F	52	Caucasian
4	combined drug toxicity d/t simultaneous use of ethanol, quetiapine, clonazepam, fluoxetine	Jun	M	44	Caucasian
5	combined drug toxicity; d/t simultaneous use of morphine, temazepam, and carisoprodol	Jul	M	48	Caucasian
6	undetermined	Aug	NULL	NULL	Unknown
7	undetermined (skeletal remains)	Aug	NULL	NULL	Unknown
8	inhalation of carbon monoxide (car exhaust)	Sep	F	53	Caucasian
9	combined drug toxicity; d/t simultaneous use of ethanol and clomipramine	Sep	M	46	Caucasian
10	herniation of the brain; d/t left subdural hemorrhage; d/t blunt impact to head	Nov	F	41	Native American
11	Combined drug toxicity d/t simultaneous use of quetiapine, hydrocodone, dextromethorphan and other medications	Nov	M	49	Caucasian
12	combined drug toxicity; d/t simultaneous use of nortriptyline, citalopram, clonazepam, and hydromorphone	Dec	F	43	Caucasian
13	lobar pneumonia; d/t reduced mobility; d/t pelvic fracture	Dec	F	81	Caucasian

In general, in the carbon monoxide and overdose deaths listed above, it could not be determined if the decedent had suicidal intent.

Glossary of Terms

Blood Alcohol Level	The concentration of ethanol (alcohol) found in blood following ingestion. Measured in grams per 100 ml of blood or grams % In the State of Washington, 0.08 grams % is considered the legally intoxicated concentration while driving.
Prescription Drug	Therapeutic drug or Medicine: A substance, other than food, used in the prevention, diagnosis, alleviation, treatment, or cure of disease.
Illicit drug	A drug used non-medically for personal stimulation/depression/euphoria, use or abuse.
Drug Caused Death	Death directly caused by a drug or drugs in combination with each other, including psychiatric drugs or therapeutic drugs for conditions such as asthma or epilepsy
Jurisdiction	The jurisdiction of the Medical Examiner's Office extends to all reportable deaths occurring within the boundaries of Spokane County, whether or not the incident leading to the death (such as an accident) occurred within the county. Also included are people who are transferred to Spokane area hospitals from surrounding Counties/States, who then expire in Spokane.
Manner	A statistical classification of the way in which the cause of death came about (accident, homicide, suicide, natural, or undetermined).
Manner: Accident	Death other than natural, where there is no evidence of intent, i.e., unintentional. In this report, vehicle accidents are identified separately.
Manner: Homicide	Death due to the acts of another.
Manner: Natural	Death caused solely by organic disease. If natural death is hastened by injury (such as a fall), the manner of death will not be considered natural.
Manner: Suicide	Death as a result of a purposeful action, with intent (explicit or implicit) to end one's life.
Manner: Traffic	Unintentional deaths of drivers (automobile, bicycle or motorcycle), passengers, and pedestrians involving motor vehicles on public roadways. By convention, and at the direction of state vital records, accidents involving motor vehicles on private property (such as driveways) are not included in this category.
Manner: Undetermined	Manner assigned when there is insufficient evidence or information to assign to accident, homicide, suicide, or natural categories, or when two plausible manners are equally likely.

Opiate	A broad class of drugs including morphine, heroin, and synthetic medicine such as methadone.
Poison	Any substance, either taken internally or applied externally, that is injurious to health or dangerous to life.
Fetal Death/Perinatal	Category of deaths that occur within the uterus (fetal) or shortly before, during, or shortly after birth (perinatal).
Race	The racial categories used in this report are: Asian, Black, Caucasian, Hispanic, Native American, Other and Unknown.
Sudden Infant Death Syndrome (SIDS)	Sudden Infant Death Syndrome is defined as the sudden death of an infant less than one year of age that cannot be explained after a thorough investigation is conducted, including complete autopsy, examination of the death scene, and review of clinical history.
Sudden Unexplained Infant Death (SUID)	Applies to the death of an infant less than one year of age, in which (<i>SUID</i>) investigation, autopsy, medical history review, and appropriate laboratory testing fails to identify a specific cause of death. SUID includes cases that meet the definition of Sudden Infant Death Syndrome.

Organizational Chart

Spokane County Medical Examiner's Office

