

COUNTY OF SPOKANE
STATE OF WASHINGTON

**OFFICE OF THE MEDICAL
EXAMINER**

2017 Annual Report

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Nationally Accredited Office



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Section 1: Overview

Mission Statement

“A regional center dedicated to excellence in public service by providing professional, scientific, and compassionate forensic death investigation.”

Introduction

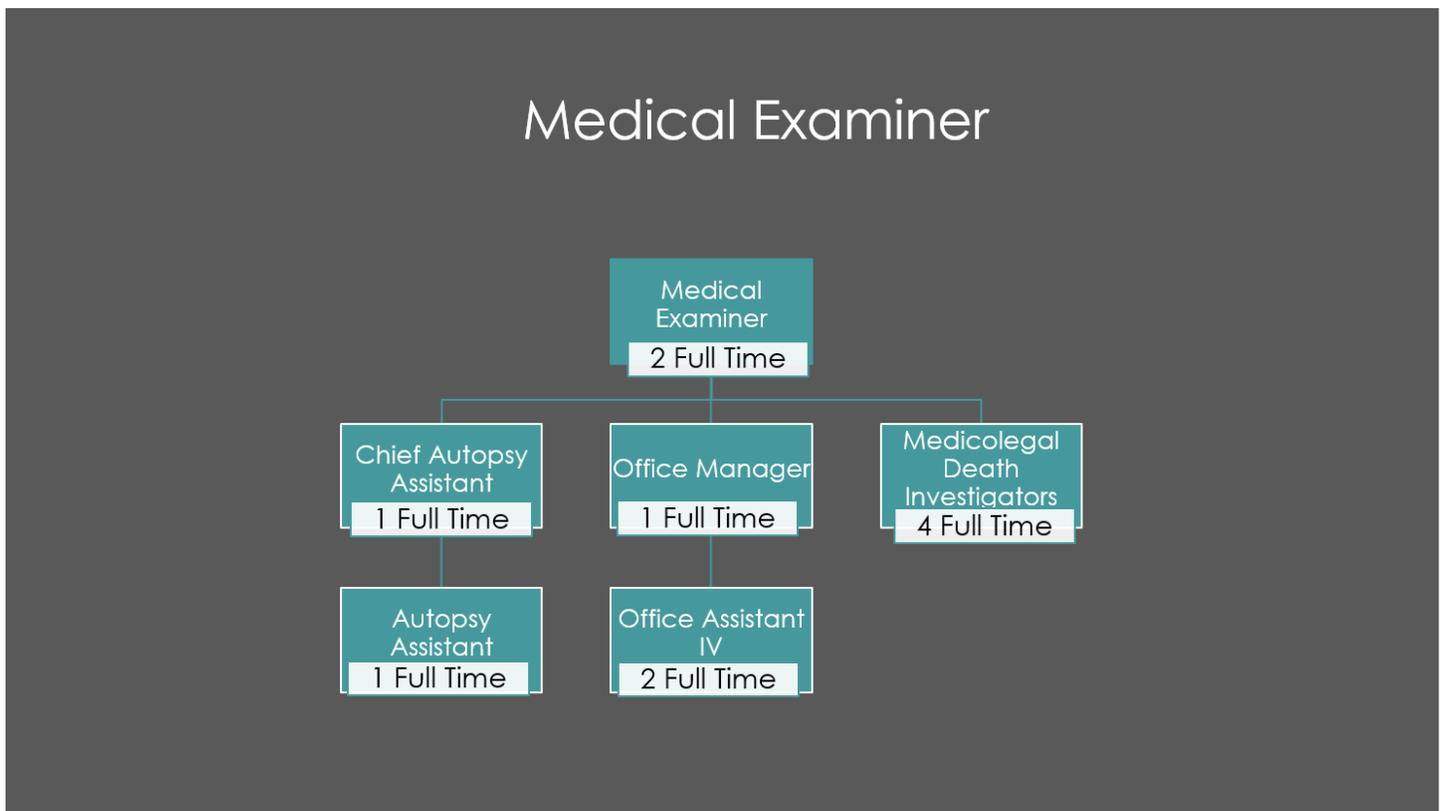
*The Spokane County Medical Examiner’s Office has been in existence since January 1, 1999, when the Coroner’s Office was replaced. In April of 2004, the office received full accreditation from the National Association of Medical Examiners (NAME). The office was re-inspected and re-accredited in May, 2009. Another inspection was completed in April 2014 and re-accreditation was obtained a third time. **The National Commission on Forensic Sciences (through the Department of Justice) recommends that all investigation systems whether coroner or Medical Examiner obtain accreditation by 2020. Only 88 Medical Examiner/Coroners systems in the United States are currently accredited. There are 1923 Medical Examiner jurisdictions in the United States.***

The Spokane County Medical Examiner’s Office is a separate department in Spokane County, and not under the supervision or direction of the Spokane Police Department, the Washington State Patrol, or the Spokane County Sheriff’s Office. The Medical Examiner’s Office is an independent entity.

*The determination of manner of death (natural, homicide, suicide, accident, or undetermined) is for purposes of the death certificate, only. The Medical Examiner criteria for manner of death is not the same as the prosecutor’s legal determination. For example, most motor vehicle deaths are classified as “accident” by the Medical Examiner. The prosecutor may pursue a legal charge of “vehicular homicide”, if the legal definition is met. Medical Examiner manner of death certification is for generation of public health data. **Any determination by the Medical Examiner of suicide, accident or homicide in no way limits the ability of law enforcement to investigate to whatever extent they deem appropriate or necessary. No law enforcement agency is bound or limited by the manner of death on a death certificate.***

The office employs two forensic pathologists, an office manager, four full time investigators, two full time administrative staff, one chief autopsy assistant, one full time autopsy assistant, as well as 2 extra help employees who work as investigators on a call-out basis. For more information about the Medical Examiner’s Office, visit our web site at <http://www.spokanecounty.org/807/Medical-Examiner> .

The office has been the recipient of six federal Paul Coverdell Forensic Science Improvement grants, totaling approximately \$ 300,000.00. The latest grant was awarded in March 2016. The last two Coverdell grants provided updated dental x-ray capabilities and new sample storage freezers and refrigerators.

Medical Examiner Organizational Chart

The Spokane County Medical Examiner is responsible for death investigation in all of Spokane County to include Federal, State, County and City lands.

Foreword

Information presented in this annual report has been compiled from deaths that were reported to the Spokane County Medical Examiner's Office in 2017. This summarized report presents data in a variety of formats with the objective of providing useful information to diverse groups in the community. The 2017 report was delayed for several months because of the backlog in the Washington State Toxicology laboratory.

Referral Caseload: In addition to assuming statutory responsibility for unexpected deaths in Spokane County, the Spokane County Medical Examiner's Office performs autopsies for 12 "outside" counties in Eastern Washington and the Idaho panhandle. In 2017 a total of 157 autopsies were performed for the following referral counties, Asotin, Benewah, Bonner, Boundary, Clearwater, Garfield, Kootenai, Lincoln, Nez Perce, Pend Oreille, Shoshone and Stevens. The referral relationship is established by memorandums of agreement. The surrounding counties utilize forensic expertise and an 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 \$244,292.00 in 2017.

OUTSIDE COUNTY AUTOPSIES

2017	157
2016	126
2015	130
2014	139
2013	125
2012	136
2011	186
2010	132

SPOKANE COUNTY AUTOPSIES

2017	432
2016	415
2015	430
2014	354
2013	408
2012	373
2011	359
2010	410

- Note 15 of the Spokane County Cases were external body examinations and not complete autopsies and 1 was a partial examination

Outside County Autopsies per County

	2017	2016	2015	2014	2013	2012	2011	2010
Asotin	3	4	7	2	1	4	3	6
Benewah	2	2	2	2	1	1	2	2
Bonner	15	7	19	12	9	14	15	8
Boundary	4	0	4	6	3	6	4	2
Clearwater	4	5	0	0	0	0	0	0
FBI	0	0	0	0	0	0	1	N/A
Garfield	2	0	0	1	0	2	1	1
Kootenai	53	46	50	57	49	47	84	69
Lewis	N/A	N/A	0	0	0	1	1	N/A
Lincoln	4	6	4	7	6	5	3	1
Nez Perce	15	11	4	9	10	10	16	10
Pend Oreille	6	10	10	8	8	7	12	5
Shoshone	19	9	3	7	8	10	9	6
Stevens	30	26	24	28	30	29	35	22

In 2016 Spokane County began service to the Clearwater County Coroner. Service to Lewis County was discontinued in 2013.

The Spokane County Medical Examiner only periodically performs autopsies at the request of the FBI.

Other counties have asked to begin a referral autopsy agreement with Spokane County, but the office is at capacity.

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, such deaths have implications to the greater community. 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 (SCMEO) 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 was inspected again and re-accredited by the National Association of Medical Examiners. Re-accreditation was obtained for another 5-year period in April 2014. 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 trained and 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 2019. Please refer to the following chart for some of the data required for continuing accreditation by the National Association of Medical Examiners.

2017 N.A.M.E. Data

Deaths in Spokane County	4884
Deaths Reported to the Medical Examiner's Office	4337
Deaths Investigated by the Medical Examiner's Office (JA)	695
Scenes Investigated by the Medical Examiner Office	363
Bodies transported by order of the office via Contract Body Transport	465
○ Total bodies transported to the Forensic Institute	774
Total External Body Examinations	15
Total Partial Autopsies	1
➤ Total Complete Autopsies	573
Hospital Autopsies Retained Under Medical Examiner Jurisdiction	0
Microscopic Studies Performed	573
Neuropathologic Studies Performed	6
Cardiac Pathologic Studies Performed	2
Autopsies Performed for Outside Jurisdictions	157
Bodies Unidentified after Examination	0
▪ Organ Donors	11
Corneal Donors	29
Bone Donors	17
Connective Tissue Donors	19
Heart Valve Donors	5
Skin Donors	13
Unclaimed bodies	27
Exhumations	0

- Some decedents are not transported via contract transport; these include deaths that occur at Holy Family Hospital (152), where the Forensic Institute is housed; as well as deaths that occur in a referral county (157).
- Total complete autopsies includes both Spokane County cases and Referral County Cases.
 - Organ and tissue donation agencies must seek permission from the Medical Examiner's office before proceeding with donation procedures.

The remaining data includes information regarding Spokane County Deaths only.

Spokane County Medical Examiner Cases in 2017

In 2017, there were 4,884 deaths in Spokane County. Based on the latest United States Census Bureau data the estimated population of Spokane County is 506,152. The 4,884 deaths thus represent approximately 1% of the population. Of these deaths, 4,337 or 89% of the deaths were reported to the Medical Examiner. Based upon analysis of the scene and circumstances of death, and the decedent's medical history, the Medical Examiner assumed jurisdiction in 695 (16%) of these reported deaths, or in 14% 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 (termed “jurisdiction released”). The number of deaths reported to the Medical Examiner’s Office is significantly greater each year than reported during the years Spokane County had an elected lay Coroner for death investigations (before January 1, 1999). The number of cases which were reported to the Medical Examiner but released after investigation (jurisdiction released) has also generally 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 and also partly due to population growth. 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 by other Medical Examiner and coroner systems around the state.



Next of Kin Notification

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 office always coordinates next-of-kin notification and typically takes responsibility for notifying next-of-kin of the death.

Forensic Unit

The Forensic Unit is part of the Sheriff’s department and provides crime scene documentation, fingerprint comparison and scene photo documentation at the direction of the Law Enforcement Agency with jurisdiction. The Medical Examiner’s office often partners with this group in the collection and preservation of evidence. The unit also assists the Medical Examiner’s Office in providing fingerprint (friction ridge) comparison expertise.

Section 2: Total Cases

Total Cases for 2017

Total Spokane County Population	506,152
Total Deaths in Spokane County	4,884
Total Deaths Reports to the Medical Examiner in 2017	4,337
Total Jurisdiction Released after Investigation	3641
Total Spokane County Jurisdiction Assumed Cases	695
Total Spokane County Autopsies Performed	416
Total Spokane County External Examinations Performed	15
Total Spokane County Partial Examinations Performed	1

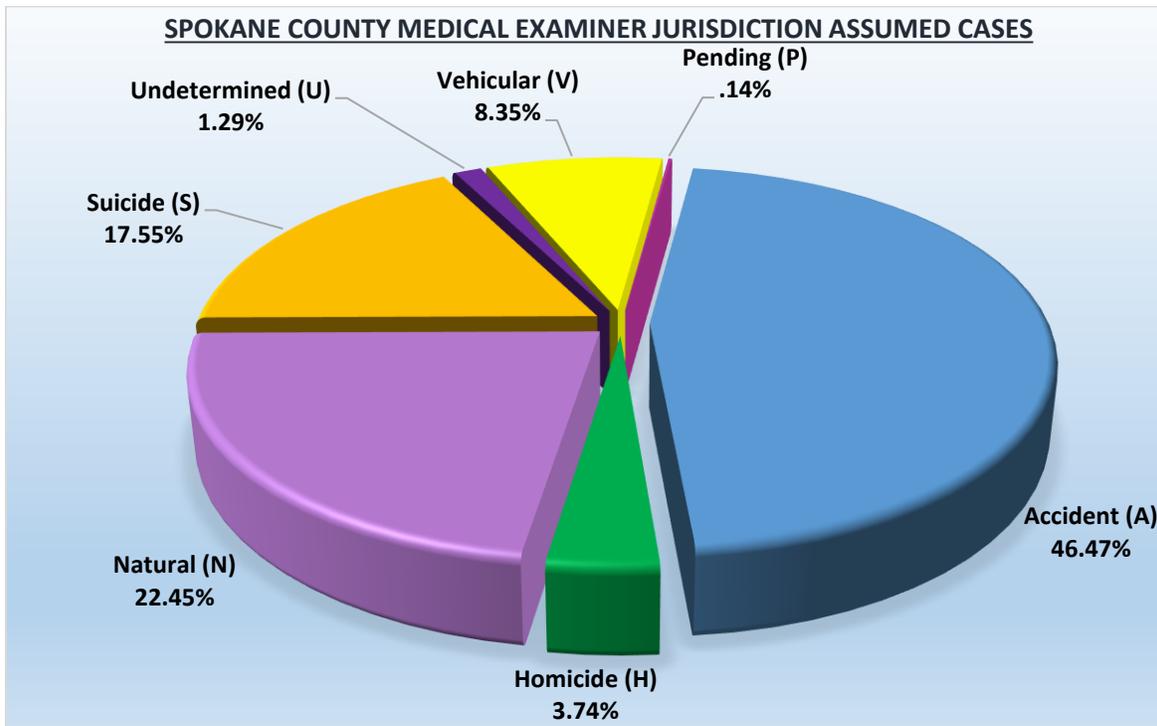
Manner of Death and Death Certification

The death certificate is a Washington State Health Department document, not a medical examiner or coroner document. The death certification process includes classification of the manner of death (Natural, Accident, Suicide, Homicide, or Undetermined), intended to describe the action associated with a death, if any, for public health department vital statistics purposes. In the vast majority of deaths, Washington State law directs the physician last in attendance to certify the death. The Medical Examiners assist the community and the Health Department with death certifications in some of the deaths reported to the Office of the Medical Examiner, most often in cases of unnatural death. The manner of death as used by the Office of the Medical Examiner does not address presence or absence of intent, culpability or justification of any action associated with a death. Manner of death classification was added to the death certificate by public health officials in 1910 to help clarify the circumstances of death and how an injury causing death occurred, assisting nosologists who code and classify cause-of-death information for statistical purposes.

*The Medical Examiner criteria for manner of death is not the same as the prosecutor's legal determination. For example, most motor vehicle deaths are classified as "accident" by the Medical Examiner. The prosecutor may pursue a legal charge of "vehicular homicide", if the legal definition is met. Medical Examiner manner of death certification is for generation of public health data. **Any determination by the Medical Examiner of suicide, accident or homicide in no way limits the ability of law enforcement to investigate to whatever extent they deem appropriate or necessary. No law enforcement agency is bound or limited by the manner of death on a death certificate.***

Jurisdiction Assumed Cases by Manner of Death 2017	Number of Deaths	Percent of Total
Accident (A)	324	46.47%
Homicide (H)	26	3.74%
Natural (N)	156	22.45%
Suicide (S)	122	17.55%
Undetermined (U)	9	1.29%
Vehicular (V)	58	8.35%
Pending (P)	1	0.14%
Total	695	

For death certificate purposes, vehicular deaths are classified as accident.



One death is still considered pending. This pending case is skeletal remains which have not been identified but were found in the vicinity of skeletal remains which have been identified. This pending case has been sent to the Washington State Anthropologist for further review.

	Jurisdiction Released Cases	Outside Agency Deaths Reported (Adult Care Facilities, Nursing Homes, Hospice, etc)	❖ Spokane County Autopsies Completed	Referral County Autopsies Completed
January	117	234	43	6
February	102	194	26	17
March	116	201	28	12
April	83	210	22	16
May	99	179	35	10
June	84	191	39	9
July	108	192	43	16
August	107	190	43	11
September	82	197	42	13
October	106	187	44	19
November	125	192	37	17
December	128	217	30	11
Total	1257	2384	432	157

❖ Includes 416 Spokane County complete autopsies, 15 external only examinations and 1 partial examinations. In addition to the Spokane County autopsies, the Medical Examiner’s Office performed 157 complete autopsies for neighboring referral counties, for a total of 573 complete autopsies performed by Spokane County Medical Examiners.

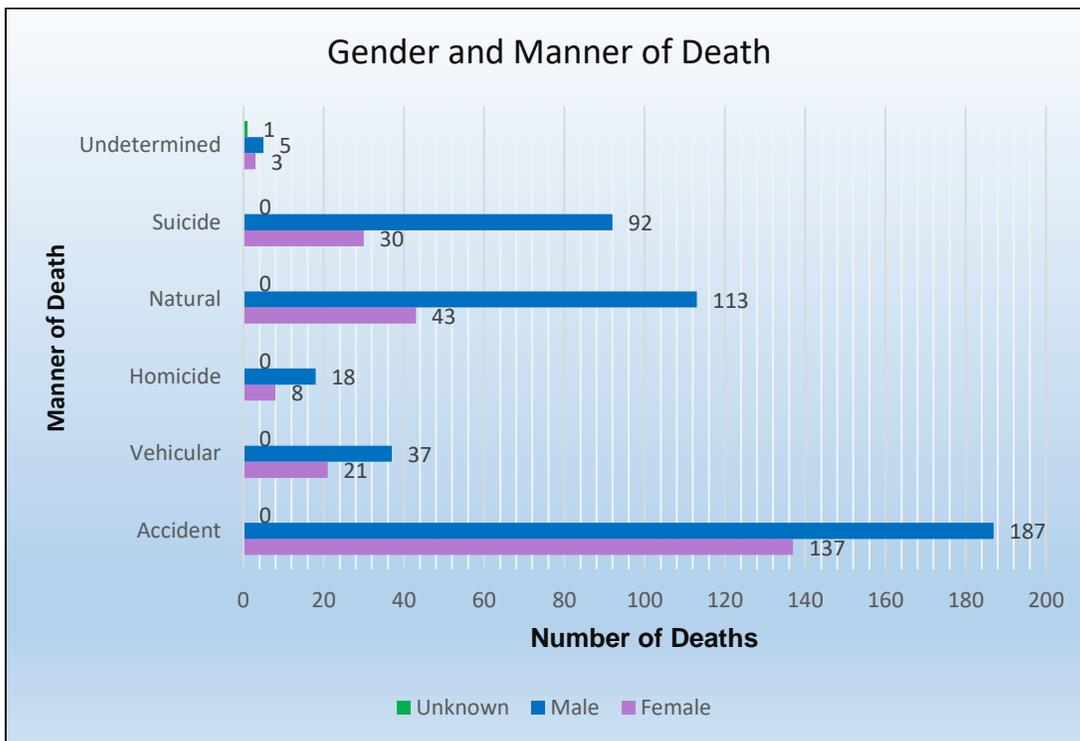
Total Cases by Gender and Manner of Death

- A – Accident
- V – Vehicular
- H – Homicide
- N – Natural
- S – Suicide
- U – Undetermined
- P – Pending

Gender and Manner of Death

Sex	A	V	H	N	S	U	Total	Percent
Female	137	21	8	43	30	3	242	34.82%
Male	187	37	18	113	92	5	452	65.04%
Unknown	0	0	0	0	0	1	1	0.14%
Total							695	

The preponderance of males (65% of all autopsies) has been the historical norm in Spokane County, and is similar to the experience/practice of nearly all other medical examiner systems.



Predominance of male gender in all categories of death coming under the jurisdiction of the Medical Examiner’s Office reflects the experience of most death investigation systems. This male predominance begins in infancy and extends to near the end of life spans. While females statistically attempt suicide more often than males, males more often succeed.

Total Jurisdiction Assumed (JA) Cases by Race and Manner of Death

	Race and Manner of Death								Total	% of 4884 Spokane County Deaths
	A	H	N	S	U	V	P	NC		
Asian	2	0	1	5	1	0	0	0	9	0.18%
Black	6	4	0	3	0	3	0	0	16	0.33%
Caucasian	302	20	138	104	3	53	0	0	620	12.69%
Hispanic	3	0	6	2	0	0	0	0	11	0.23%
Native American	8	2	4	3	2	1	0	0	20	0.41%
Other	1	0	5	3	0	0	0	0	9	0.18%
Unknown	2	0	2	2	3	1	0	0	10	0.20%
	324	26	156	122	9	58	0	0	695	

These data reflect the demographics of Spokane County, where the Caucasian race predominates statistically. Race determination is required on the death certificate.

Total Jurisdiction Assumed (JA) Cases by Age Group and Manner of Death

In Jurisdiction Assumed (JA) cases, the Medical Examiner assumes responsibility for signing the death certificate. In 416 cases a complete autopsy was performed, in 15 cases an external body examination was performed, in 1 case a partial autopsy was performed. In 263 cases the death certificate was signed based on death investigation and/or medical records.

In the 0-9 age group, sudden unexplained infant deaths (SIDS or SUID) are classified as natural in this jurisdiction. In older Spokane County deaths (age 70 plus) accidents predominate, and most result from falls with fractures or head injuries leading to death.

Age and Manner of Death							
Age Group (Years)	A	H	N	S	U	V	Total
Unknown Age	0	0	0	0	1	0	1
0-9	4	3	8	0	3	0	18
10-19	0	1	2	11	0	4	18
20-29	18	1	5	26	2	7	59
30-39	20	8	10	21	0	10	69
40-49	24	5	26	17	2	10	84
50-59	43	4	35	20	2	6	110
60-69	26	4	46	13	0	9	98
70-79	48	0	16	8	0	7	79
80-89	73	0	4	5	0	4	86
90-99	64	0	4	1	0	0	69
100-109	4	0	0	0	0	0	4
	324	26	156	122	10	57	695

Total Jurisdiction Assumed (JA) Cases by Age Group and Gender

Age Group (Years)		Female	Male	Unknown Gender
Unknown Age	1	0	0	1
0 to 9	18	12	6	0
10 to 19	18	1	17	0
20 to 29	59	49	10	0
30 to 39	69	49	20	0
40 to 49	84	30	54	0
50 to 59	110	30	80	0
60 to 69	98	25	73	0
70 to 79	79	25	54	0
80 to 89	86	39	47	0
90 to 99	69	52	17	0
10 to 109	4	4	0	0
Total	695	316	378	1

Out of Area Incidents Leading to Death in Spokane County

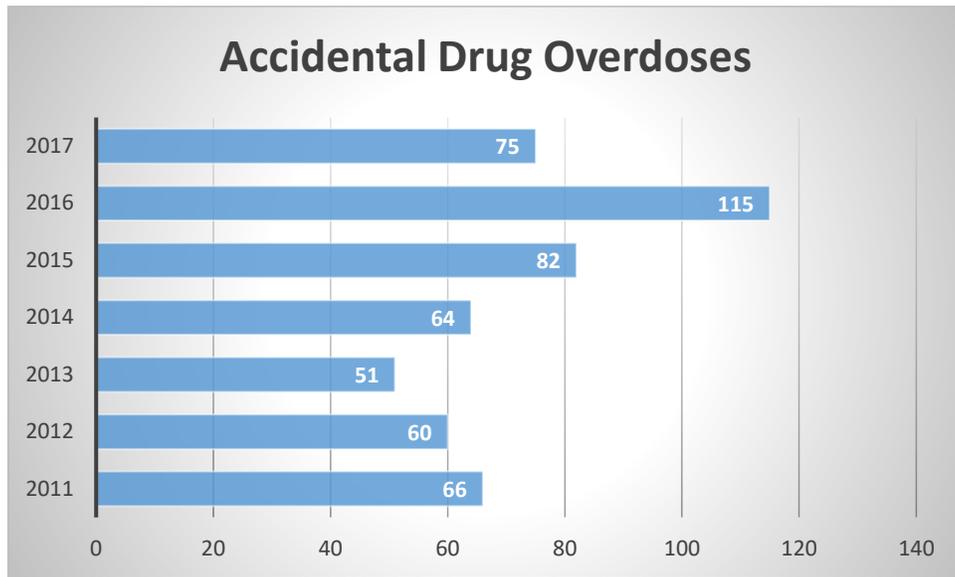
In 2017 there were a total of 48 cases in which an event occurred outside of Spokane County that led to the eventual death in Spokane County. According to Washington State law, Medical Examiner and Coroner jurisdiction is based upon where the death occurs. The majority of these cases were transfers from out of county or out of state hospitals to one of the Spokane County hospitals. The manners of death in these cases are: 27 Accidents, 2 homicides, 11 motor vehicle accidents, 2 natural, 5 suicide 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 number of Spokane County deaths which have fallen under the jurisdiction of the Medical Examiner System has ranged from a low of 550 to a high of 680, with the number of Spokane County autopsies performed typically under 450.

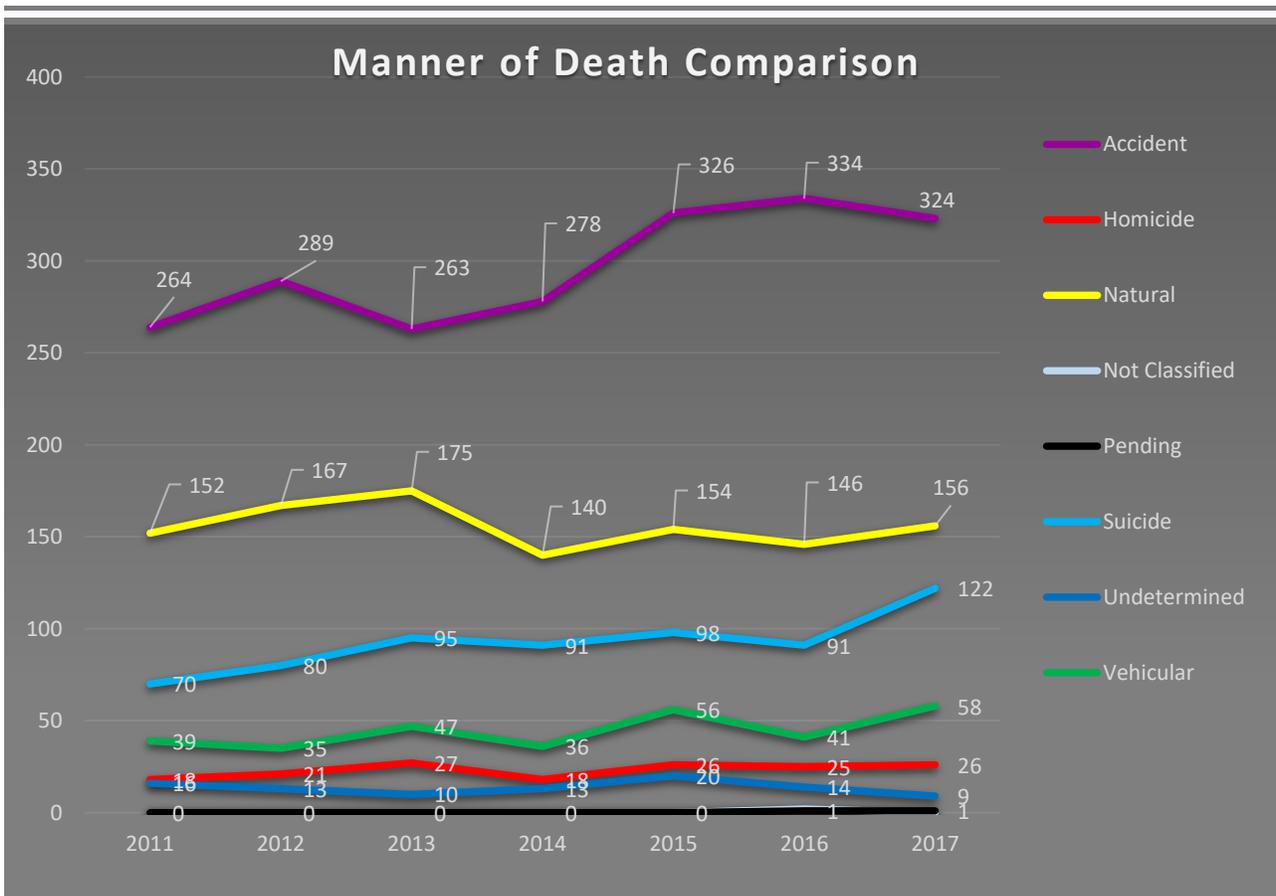
Overdose deaths may be classified as "accidents". The federal government data categorizes overdose deaths as "unintentional poisoning deaths". Federal data indicates that poisoning deaths have increased significantly in the last decade. Most of the poisoning death increases have resulted from prescription medications or a combination of illicit and prescription drugs. Data below shows accidental drug overdose deaths in Spokane County, in which prescription and/or illicit drugs were demonstrated in toxicology.



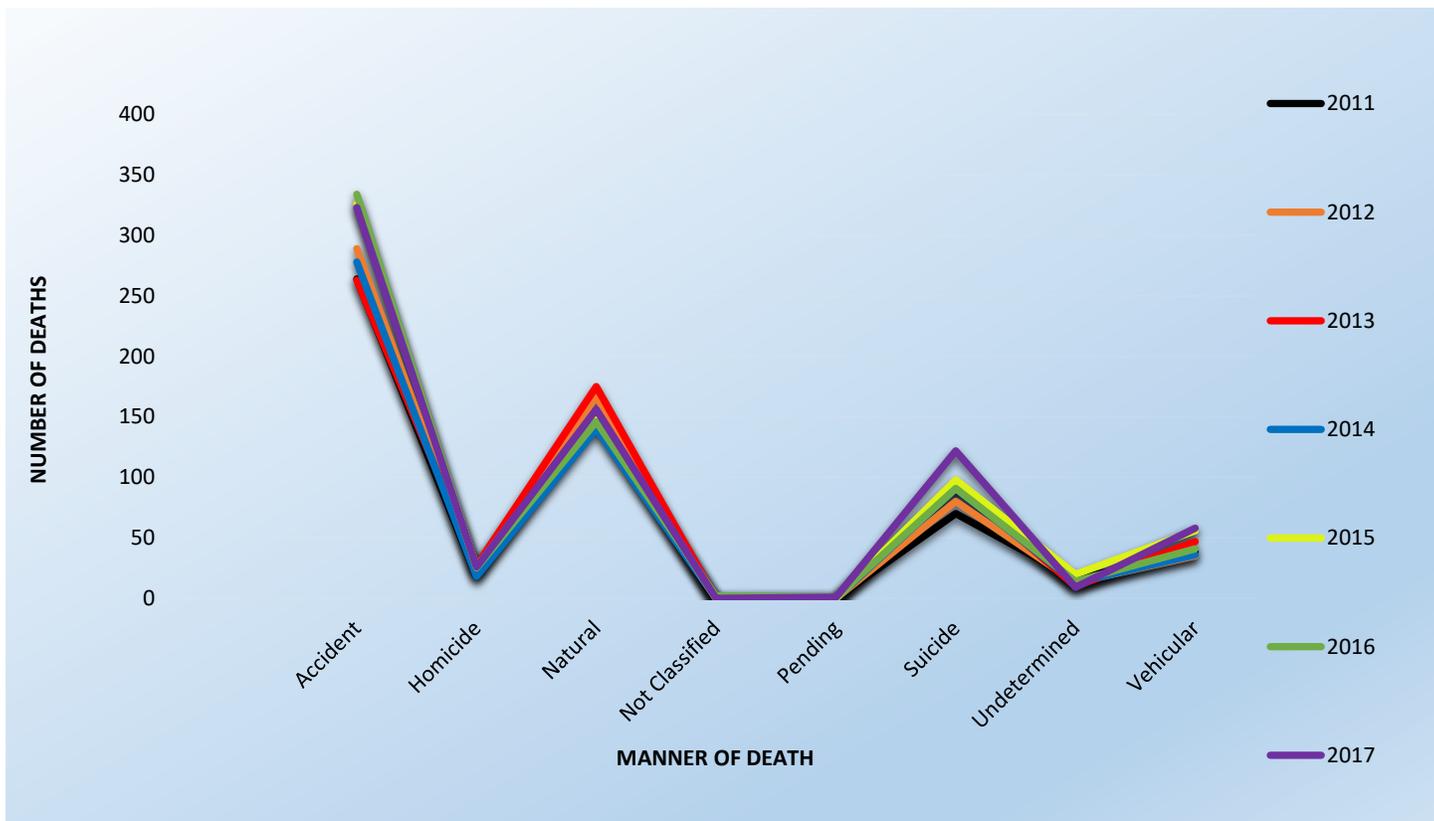
Manner of Deaths Comparison (Jurisdiction Assumed – JA Deaths)

Comparison of Manners of Death 2011-2017

Manner of Death	2011	2012	2013	2014	2015	2016	2017
Accident	264	289	263	278	326	334	324
Homicide	18	21	27	18	26	25	26
Natural	152	167	175	140	154	146	156
Not Classified	0	0	0	0	0	2	0
Pending	0	0	0	0	0	1	1
Suicide	70	80	95	91	98	91	122
Undetermined	16	13	10	13	20	14	9
Vehicular	39	35	47	36	56	41	58
Total	559	605	617	576	680	654	695



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. The increase in accidents over time is the result of the diligence of the Medical Examiner’s Office in investigating deaths such as hip fractures in the elderly and prescription overdose deaths. The increase in suicides reflects national trends. The office has been releasing jurisdiction more in natural deaths, but assumes jurisdiction for more accidents.



The proportions of the manners of death have remained remarkably similar through the years, but suicides spiked in 2017.

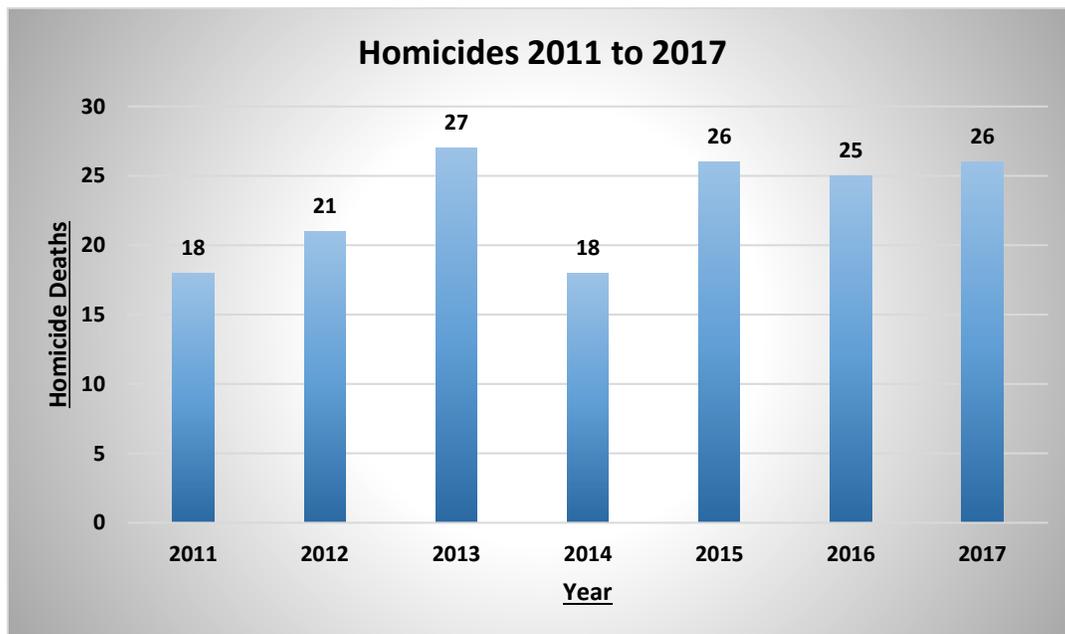
Manner of Death	2011	2012	2013	2014	2015	2016	2017
Accident	47.23%	47.77%	42.63%	48.26%	47.94%	51.07%	46.47%
Homicide	3.22%	3.47%	4.38%	3.13%	3.82%	3.82%	3.74%
Natural	27.19%	27.60%	28.36%	24.31%	22.65%	22.32%	22.45%
Not Classified	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.00%
Pending	0.00%	0.00%	0.00%	0.00%	0.00%	0.15%	0.14%
Suicide	12.52%	13.22%	15.40%	15.80%	14.41%	13.91%	17.55%
Undetermined	2.86%	2.15%	1.62%	2.26%	2.94%	2.14%	1.29%
Vehicular	6.98%	5.79%	7.62%	6.25%	8.24%	6.27%	8.35%

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 by multiple staff members as part of the office Quality Improvement Program.

Homicide Methods Comparison

Method Used	2011	2012	2013	2014	2015	2016	2017
Asphyxia	0	0	0	0	1	1	0
Blunt Impact	1	0	1	0	0	1	0
Child Abuse	1	1	1	0	2	3	3
Firearms	9	11	19	12	12	12	17
Homicidal Violence	2	1	1	2	0	4	3
Other	4	0	3	0	6	1	0
Stabbing	0	3	0	3	3	3	2
Strangulation	1	5	2	1	2	0	1
Total	18	21	27	18	26	25	26

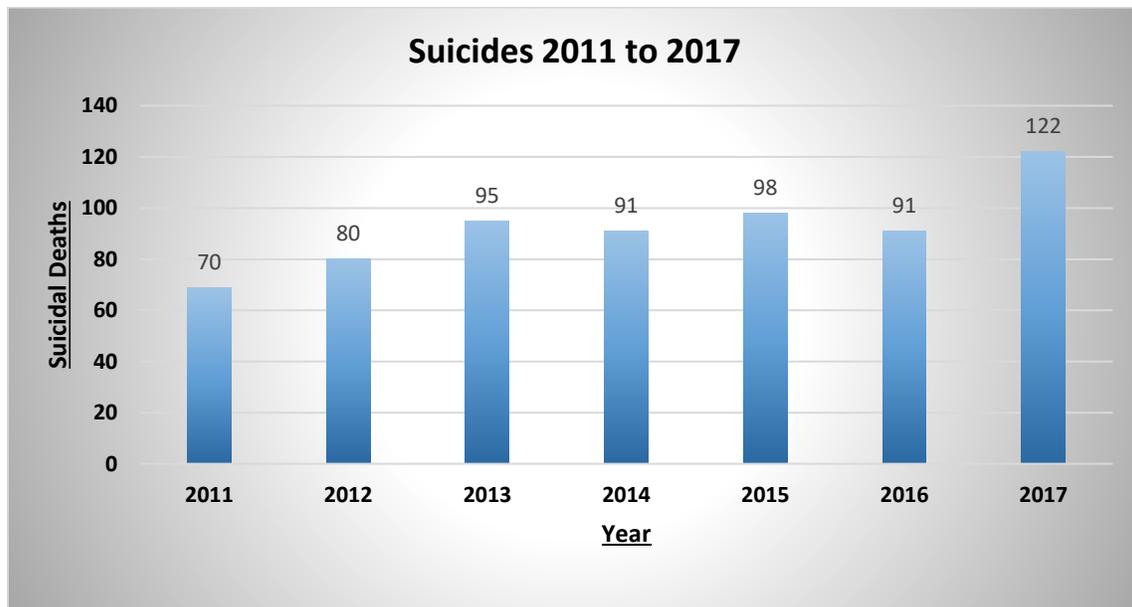
The number of homicides in Spokane County is small enough that collected data cannot be extensively interpreted.



Suicide Methods Comparison

Comparison of Suicidal Deaths

Method Used	2011	2012	2013	2014	2015	2016	2017
Carbon Monoxide	3	1	4	2	0	6	2
Drowning	0	3	0	5	1	0	0
Drugs/Poisons	13	11	15	7	19	9	13
Firearms	39	42	44	54	46	44	59
Hanging	7	15	23	16	23	19	37
Jumping	3	4	2	1	2	7	5
Other	2	0	3	1	3	3	2
Plastic Bag	2	3	2	3	3	2	4
Stab/incised wound	1	1	2	2	1	1	0
Total	70	80	95	91	98	91	122

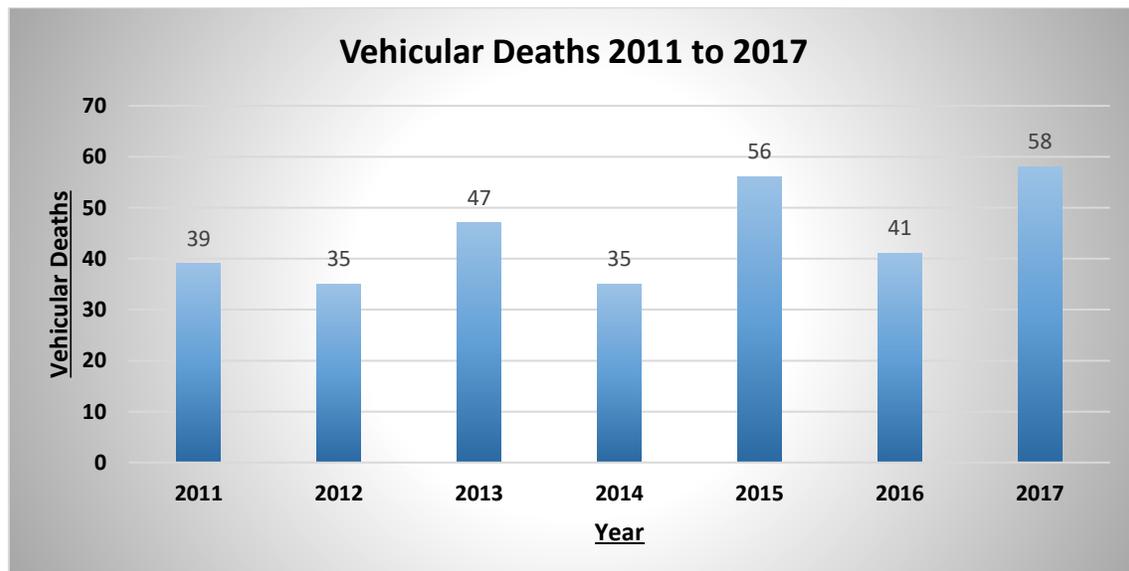


Vehicular Deaths Comparison

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

Comparison of Vehicular Deaths 2011 to 2017

Vehicle Circumstances	2011	2012	2013	2014	2015	2016	2017
Automobile Driver	20	12	19	20	22	17	25
Automobile Passenger	4	3	14	2	11	6	5
Bicyclist	1	1	0	1	1	2	3
Motorcycle Driver	8	6	8	5	6	5	9
Motorcycle Passenger	0	0	0	1	0	0	0
Pedestrian	0	1	0	1	2	3	2
Other	6	9	5	5	11	5	14
Unknown	0	3	1	0	3	3	0
Total	39	35	47	35	56	41	58



Accidental Deaths Comparison**Comparison of Accidental Deaths 2011 to 2017**

Accident Circumstances	2011	2012	2013	2014	2015	2016	2017
Aircraft	0	0	0	0	4	0	0
Alcohol Abuse	1	1	8	2	5	1	3
Anaphylaxis	0	0	1	0	0	1	0
Asphyxiation	1	4	3	6	3	5	3
Aspiration	0	4	0	1	2	0	0
Bicycle Fall	1	1	0	2	1	0	1
Choking	5	6	1	7	6	4	12
Drowning	7	8	7	5	7	5	3
Drugs	36	30	33	30	66	81	67
Prescribed Drugs	30	43	24	32	16	34	8
Electrocution	1	0	0	0	0	0	0
Fall	167	172	156	176	179	181	192
Farm	0	0	0	0	1	0	1
Fire/burns	6	3	3	3	5	5	7
Firearms	0	1	3	0	1	3	1
Hyperthermia	0	0	0	1	4	3	1
Hypothermia	2	2	8	3	15	3	10
Industrial Accident	0	1	2	3	1	1	4
Motorcycle Driver (race track)	1	0	0	0	0	0	0
Other	6	13	13	7	9	6	7
Struck by Object	0	0	0	0	0	1	3
Surgical Procedure	0	0	1	0	0	0	0
Therapy Complication	0	0	0	1	1	0	1
Total	264	289	263	279	326	334	324

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

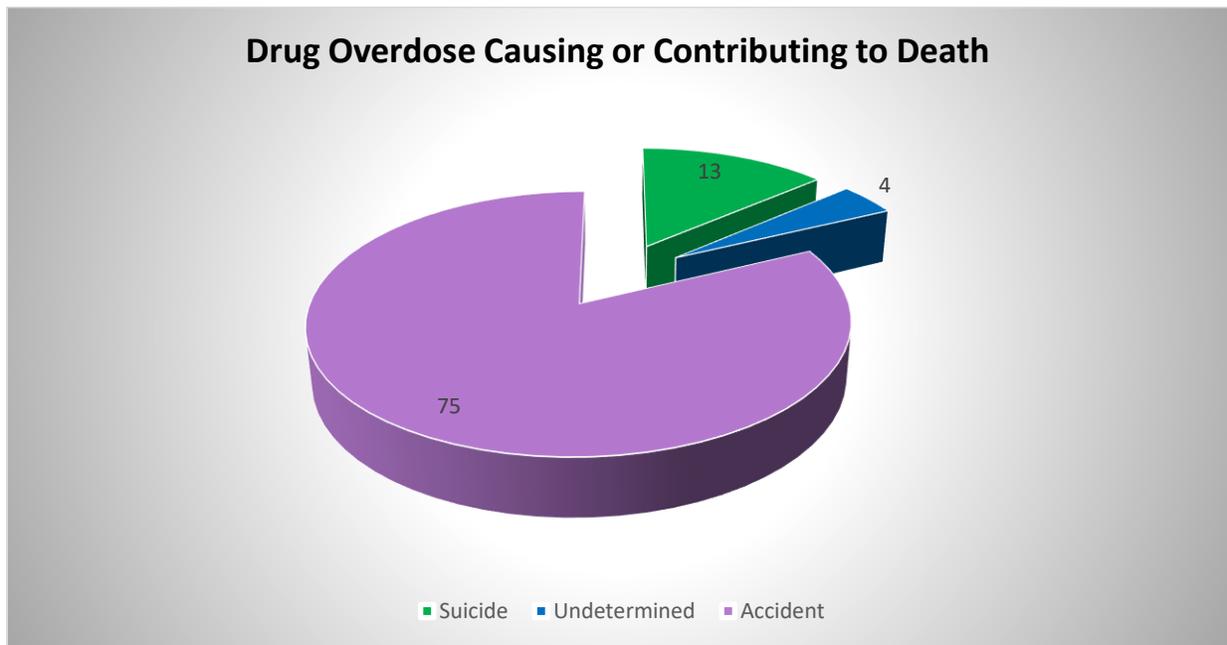
While there are 75 deaths attributed to drugs or prescription drugs, there are an additional 3 accidental deaths - 1 drowning death in which methamphetamine and heroin contributed to death, 1 hyperthermia death where methamphetamine contributed to the death and 1 hypothermia death where methamphetamine contributed to death.

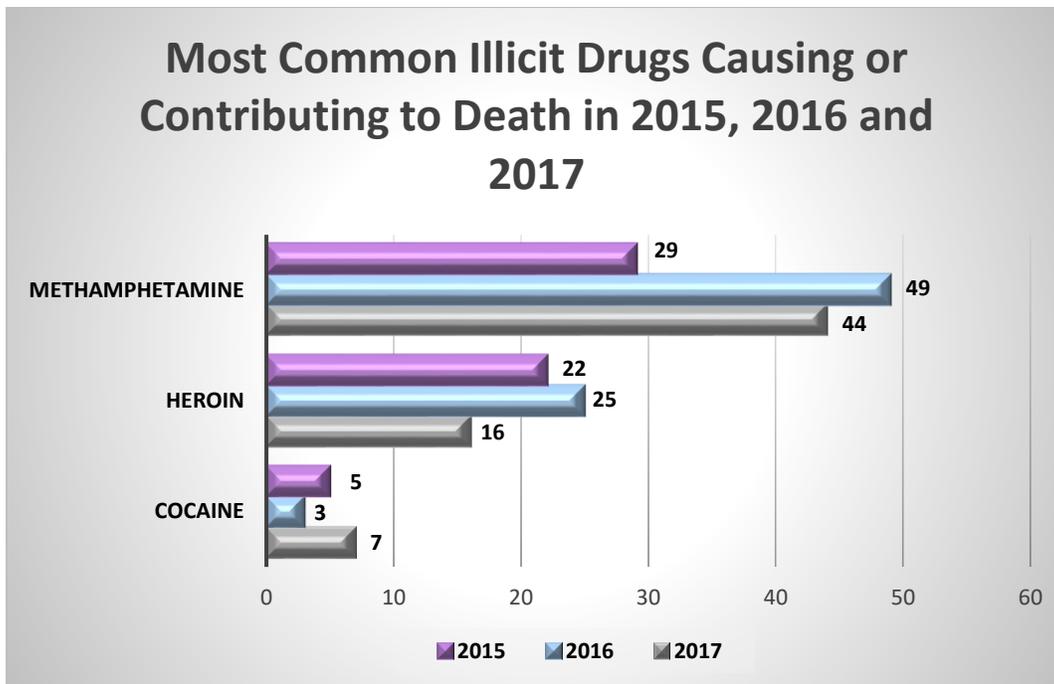
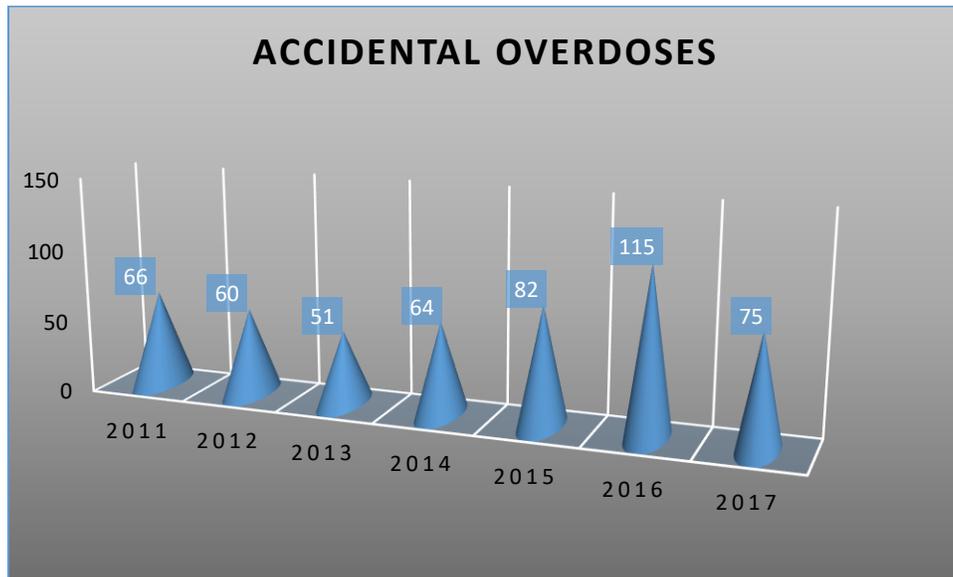
Drug Overdose Data Summary 2017

In 2017 a total of 75 accidental deaths had prescription / and or illicit drugs listed on the death certificate as causing or contributing to death. Of the 75 deaths 72 had drugs listed in the primary cause of death, in the others the drugs contributed to death.

Drug Overdoses causing or contributing to 92 deaths:

- 13 deaths Suicide
- 4 deaths Undetermined (accident vs. suicide)
- 75 deaths Accident





The above chart represents the most common illicit drugs found in Accidental Deaths in Spokane County in 2015, 2016 and 2017. These are listed either as the primary cause of death or as contributing to death on the death certificate.

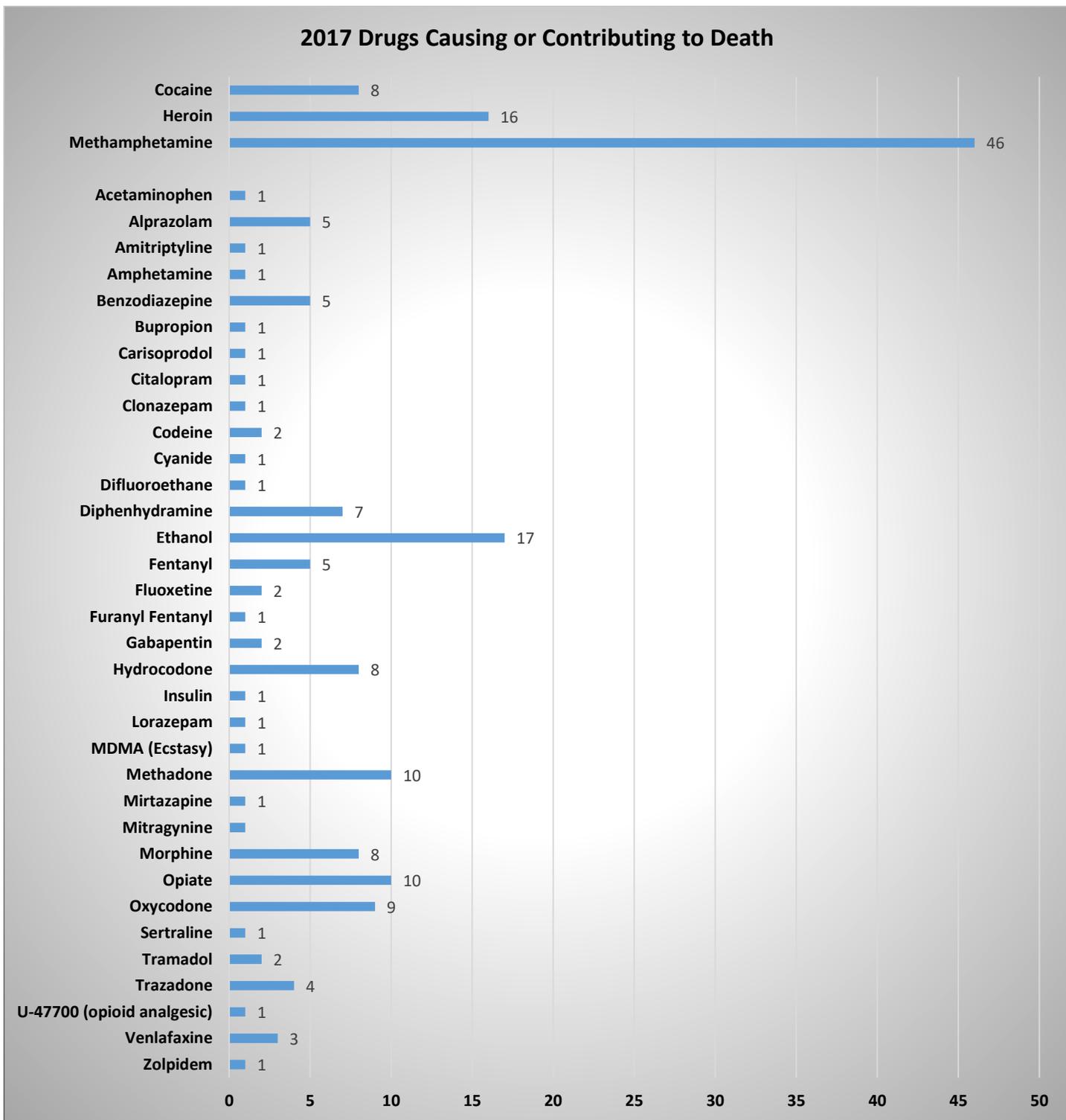
2017 Most Common Opioids (plus Benzodiazepines) Listed as Causing or Contributing to Accidental Death

Opioid (plusbenzodiazepine)**

Heroin	16
Opiate	10 ** (see note on page 27)
Oxycodone	7
Morphine	7
Methadone	8
Hydrocodone	6
**Benzodiazepines	10

The above table represents the most common opioids found in Accidental Deaths in Spokane County in 2017. These are listed in either the primary cause of death section or as a contributing factor on the death certificate.

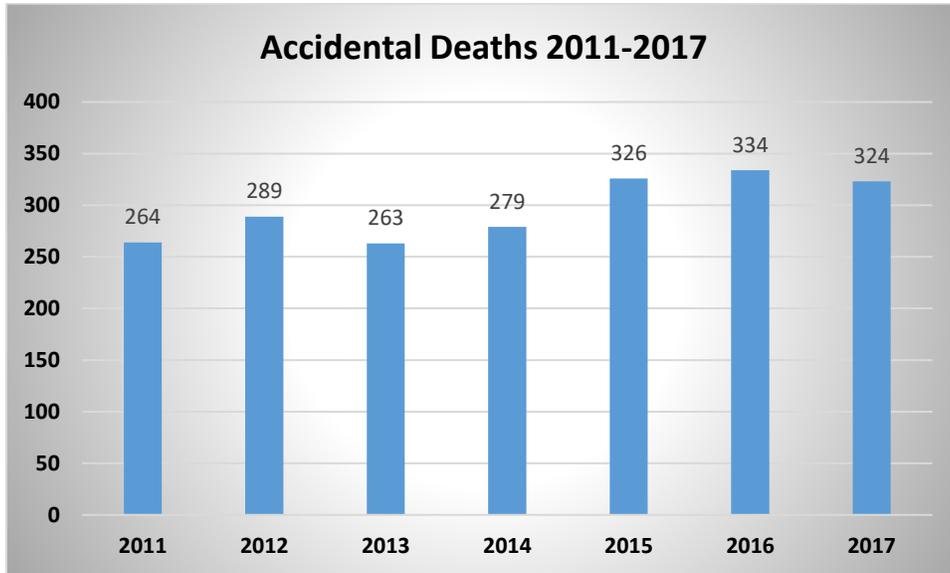
** Though benzodiazepines are not opioids they are included with the opioids as national data which indicates that benzodiazepines are often seen in combination with opioids in prescription medication deaths.



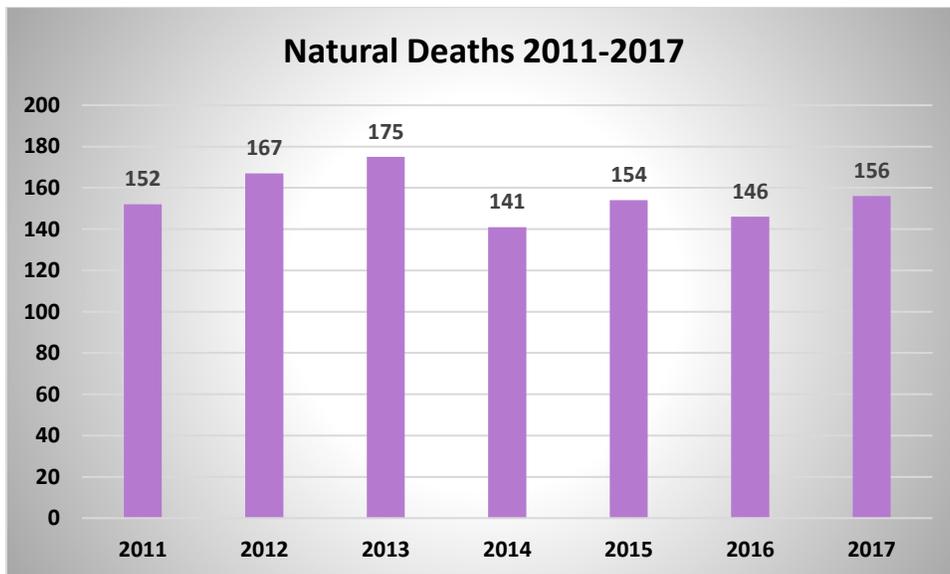
** The 10 cases listed as opioid include two individuals who died after prolonged hospitalizations. Neither had appropriate blood samples left for testing, and the death certificates were signed based on non-specific hospital urine drug screens. The other eight tested positive for morphine with or without codeine. These could represent use of prescriptions drugs such as morphine or codeine, but could be indicative of an illicit drug such as heroin.

Fentanyl analog deaths are increasing nationally. In Spokane County, only one fentanyl analog death occurred in 2017 (furanyl fentanyl).

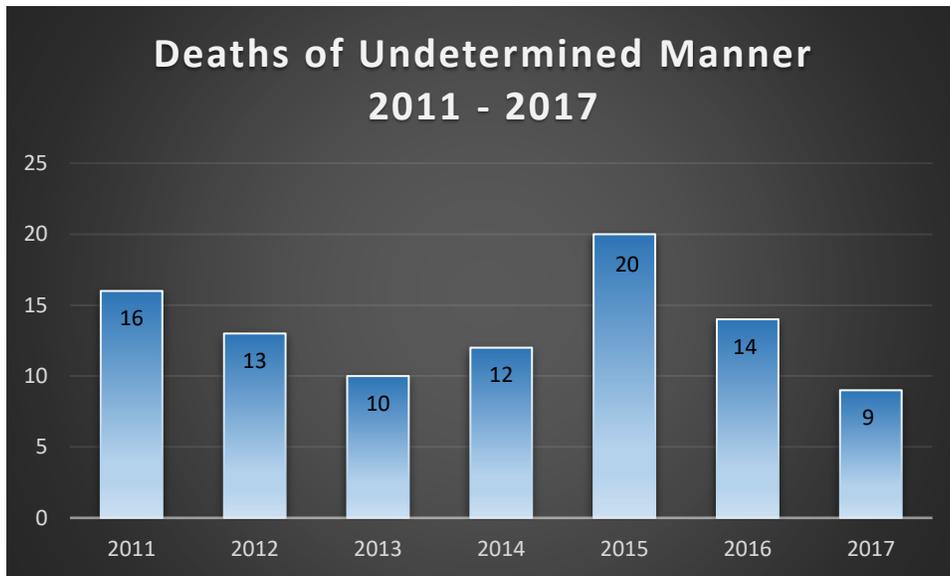
Accidental Deaths Comparison (Jurisdiction Assumed – JA Deaths)



Natural Deaths Comparison (Jurisdiction Assumed – JA Deaths)



Undetermined Deaths Comparison (Jurisdiction Assumed – JA Deaths)

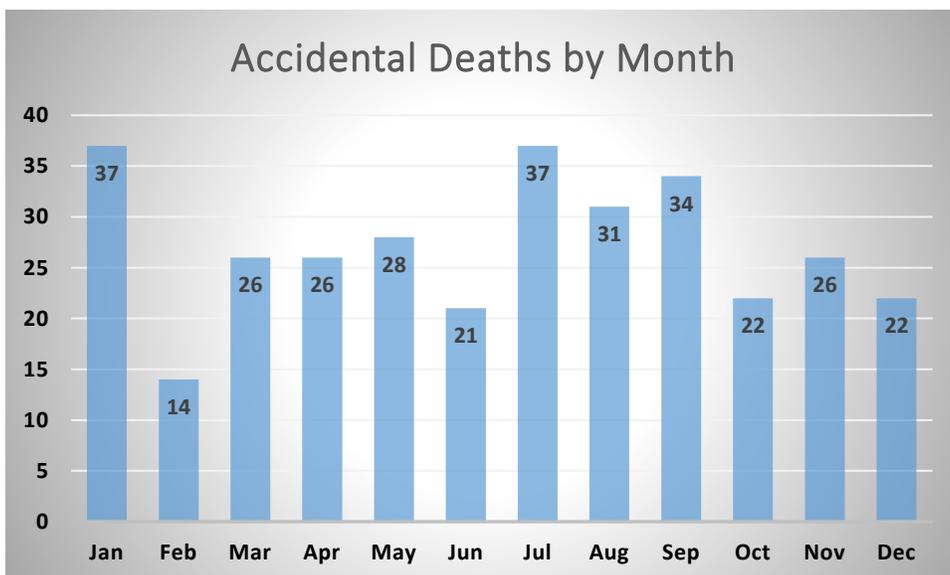


Ideally Medical Examiner Systems use the undetermined manner of death category in less than five percent of cases. This reflects fullest utilization of investigation and decedent autopsy. In 2017, the undetermined classification was used in 1.3% of Spokane Medical Examiner cases.

Undetermined manner is used in a wide array of circumstance. An example is an “overdose” death, wherein the intent is unknown despite investigation, making the determination of accident versus suicide unclear.

Accident

Accidental Deaths in Jurisdiction Assumed (JA) Cases by Month



As noted elsewhere in this report, the majority of deaths investigated by the Medical Examiner are in males (About 2/3 of Medical Examiner Jurisdiction Assumed deaths). Falls resulting in death become more common in women in their 80's and 90's. An example is a fall leading to hip fracture, and resulting death from related complications.

Please see data from the Centers for Disease Control (CDC) in the link from the CDC Morbidity and Mortality Weekly Report Volume 67 Number 18 ([MMWR Weekly / Vol. 67 / No. 18](#)).

Accident Mode	Female	Male	Total
Alcohol Abuse	0	3	3
Asphyxiation	0	3	3
Bicycle Fall	0	1	1
Choking	5	7	12
Drowning	1	2	3
Drugs	16	51	67
Prescribed Drugs	4	4	8
Fall	103	89	192
Farm	0	1	1
Fire/burns	4	3	7
Firearms	0	1	1
Hyperthermia	0	1	1
Hypothermia	3	7	10
Industrial Accident	0	4	4
Other	1	6	7
Struck by Object	0	3	3
Therapy Complication	0	1	1
Total	137	187	324

Accident Mode by 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	100-109	Total
Alcohol Abuse	Male	0	0	0	0	0	0	1	2	0	0	0	0	3
														3
Asphyxiation	Male	0	0	0	0	0	1	1	0	0	1	0	0	3
														3
Bicycle Fall	Male	0	0	0	0	0	0	0	0	1	0	0	0	1
														1
Choking	Female	0	0	0	0	0	0	0	0	2	0	3	0	5
Choking	Male	0	0	0	1	0	1	0	1	2	1	1	0	7
														12
Drowning	Female	0	0	0	0	0	1	0	0	0	0	0	0	1
Drowning	Male	0	1	0	0	0	0	1	0	0	0	0	0	2
														3
Drugs	Female	0	0	0	1	2	7	5	1	0	0	0	0	16
Drugs	Male	0	0	0	11	14	9	12	5	0	0	0	0	51
														67
Prescribed Drugs	Female	0	0	0	0	0	0	0	3	0	1	0	0	4
Prescribed Drugs	Male	0	0	0	0	1	1	1	0	1	0	0	0	4
														8
Fall	Female	0	0	0	0	1	1	2	2	10	36	47	4	103
Fall	Male	0	0	0	0	0	2	7	9	29	30	12	0	89
														192
Farm	Male	0	0	0	0	0	0	0	0	0	1	0	0	1
														1
Fire/burns	Female	0	1	0	1	0	0	1	1	0	0	0	0	4
Fire/burns	Male	0	0	0	0	0	0	0	1	1	0	1	0	3
														7
Firearms	Male	0	0	0	1	0	0	0	0	0	0	0	0	1
														1
Hyperthermia	Male	0	0	0	0	0	0	1	0	0	0	0	0	1
														1
Hypothermia	Female	0	0	0	0	0	0	2	1	0	0	0	0	3
Hypothermia	Male	0	0	0	1	0	0	4	1	0	1	0	0	7
														10
Industrial Accident	Male	0	0	0	2	0	0	1	1	0	0	0	0	4
														4
Other	Female	0	0	0	0	0	0	1	0	0	0	0	0	1
Other	Male	1	1	0	0	1	1	1	0	0	1	0	0	6
														7
Struck by Object	Male	0	0	0	0	0	1	0	0	1	1	0	0	3
														3
Therapy Complication	Male	0	0	0	0	0	0	0	0	0	1	0	0	1
														1
Grand Total		1	3	0	18	19	25	41	28	47	74	64	4	324

Falls that result in mortality are significantly correlated with increasing age. Illicit and prescription drug deaths peak in middle ages in Spokane County.

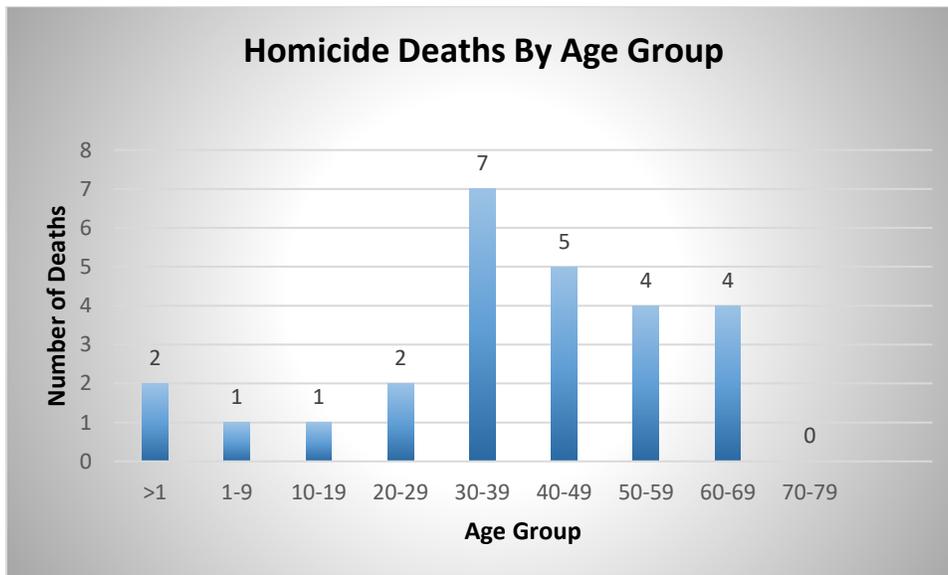
Homicide

In 2017 there were 26 recorded homicides, this is an increase of 1 from the previous year. Firearms accounted for the single largest method of homicide (12 of 25). Firearms also accounted for the largest number of deaths by suicide.



Homicide Deaths by Method, Gender, and Age Group

Homicide Method	Sex	>1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	Total
Child Abuse	Female	1	1	0	0	0	0	0	0	0	2
Child Abuse	Male	1	0	0	0	0	0	0	0	0	1
											3
Firearms	Female	0	0	0	0	0	0	1	1	0	2
Firearms	Male	0	0	1	1	6	4	2	1	0	15
											17
Homicidal Violence	Female	0	0	0	0	1	0	0	0	0	1
Homicidal Violence	Male	0	0	0	0	0	0	1	1	0	2
											3
Stabbing	Female	0	0	0	1	0	0	0	1	0	2
											2
Strangulation	Female	0	0	0	0	0	1	0	0	0	1
											1
Grand Total		2	1	1	2	7	5	4	4	0	26



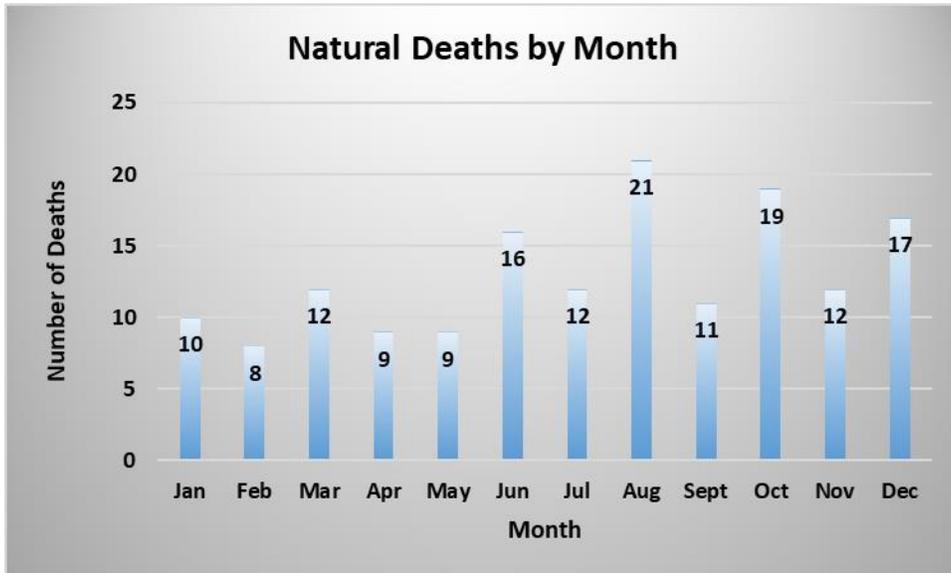
This graph is limited statistically by the small number of total deaths it represents.



Natural

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

Natural Deaths by Month (Jurisdiction Assumed – JA Deaths)



Natural Deaths by Disease Process

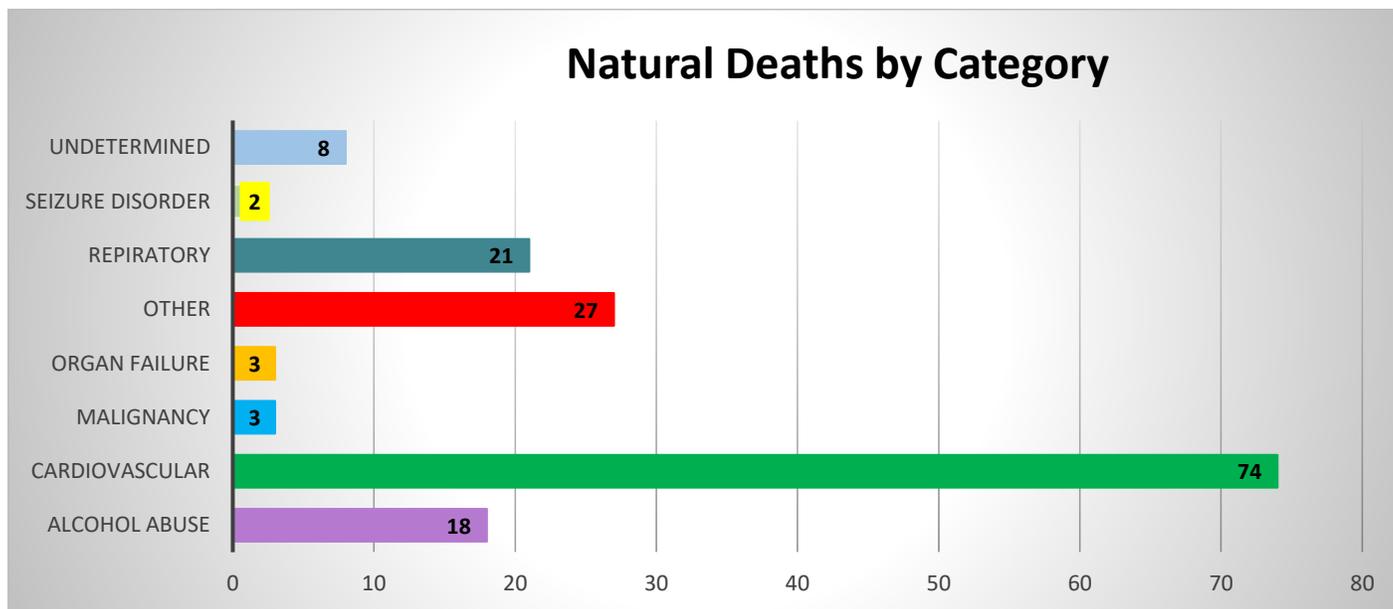
Natural Disease By Process	Alcohol Abuse	Cardiovascular	Malignancy	Organ Failure	Other	Respiratory	Seizure Disorder	Undetermined	Total
Arrhythmia	0	1	0	0	0	0	0	0	1
Atherosclerotic Cardiovascular Disease	0	44	0	0	0	0	0	0	44
Breast Cancer	0	0	1	0	0	0	0	0	1
Cardiac Dysrhythmia	0	1	0	0	0	0	0	0	1
Cardiomyopathy	0	15	0	0	0	0	0	0	15
Chronic Alcoholism	12	0	0	0	0	0	0	0	12
Chronic Obstructive Pulmonary Disease	0	0	0	0	0	9	0	0	9
Cirrhosis of the Liver	3	0	0	1	0	0	0	0	4
Coronary Thrombosis	0	1	0	0	0	0	0	0	1
Diabetes	0	0	0	1	0	0	0	0	1
Diabetes Mellitus	0	0	0	0	1	0	0	0	1
Emphysema	0	0	0	0	0	5	0	0	5
End Stage Renal Disease	0	0	0	1	0	0	0	0	1
Epilepsy	0	0	0	0	0	0	2	0	2
Gastrointestinal Bleed	3	0	0	0	4	0	0	0	7
Gastrointestinal Cancer	0	0	1	0	0	0	0	0	1
Hypertensive heart disease	0	6	0	0	0	0	0	0	6
Influenza	0	0	0	0	1	0	0	0	1
Myocardial Infarction	0	3	0	0	0	0	0	0	3
Other	0	2	1	0	16	1	0	0	20
Peritonitis	0	0	0	0	1	0	0	0	1
Phlebothrombosis	0	0	0	0	0	1	0	0	1
Pneumonia	0	0	0	0	0	1	0	0	1
Pulmonary Embolism	0	0	0	0	0	4	0	0	4
SIDS	0	0	0	0	4	0	0	0	4
Undetermined **	0	0	0	0	0	0	0	8	8
Valvular Heart Disease	0	1	0	0	0	0	0	0	1
Total	18	74	3	3	27	21	2	8	156

** Undetermined in this chart means that the exact natural cause of death is unknown (an autopsy may not have been performed), but investigation overwhelmingly indicates a natural manner of death.

Natural Deaths by Category (Jurisdiction Assumed – JA Deaths)

The high proportion of deaths related to the cardiovascular system is typical of national statistics describing natural deaths. By convention, in most Medical Examiner and Coroner’s offices, long term (chronic) 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.



Natural Deaths by Disease Process and Gender

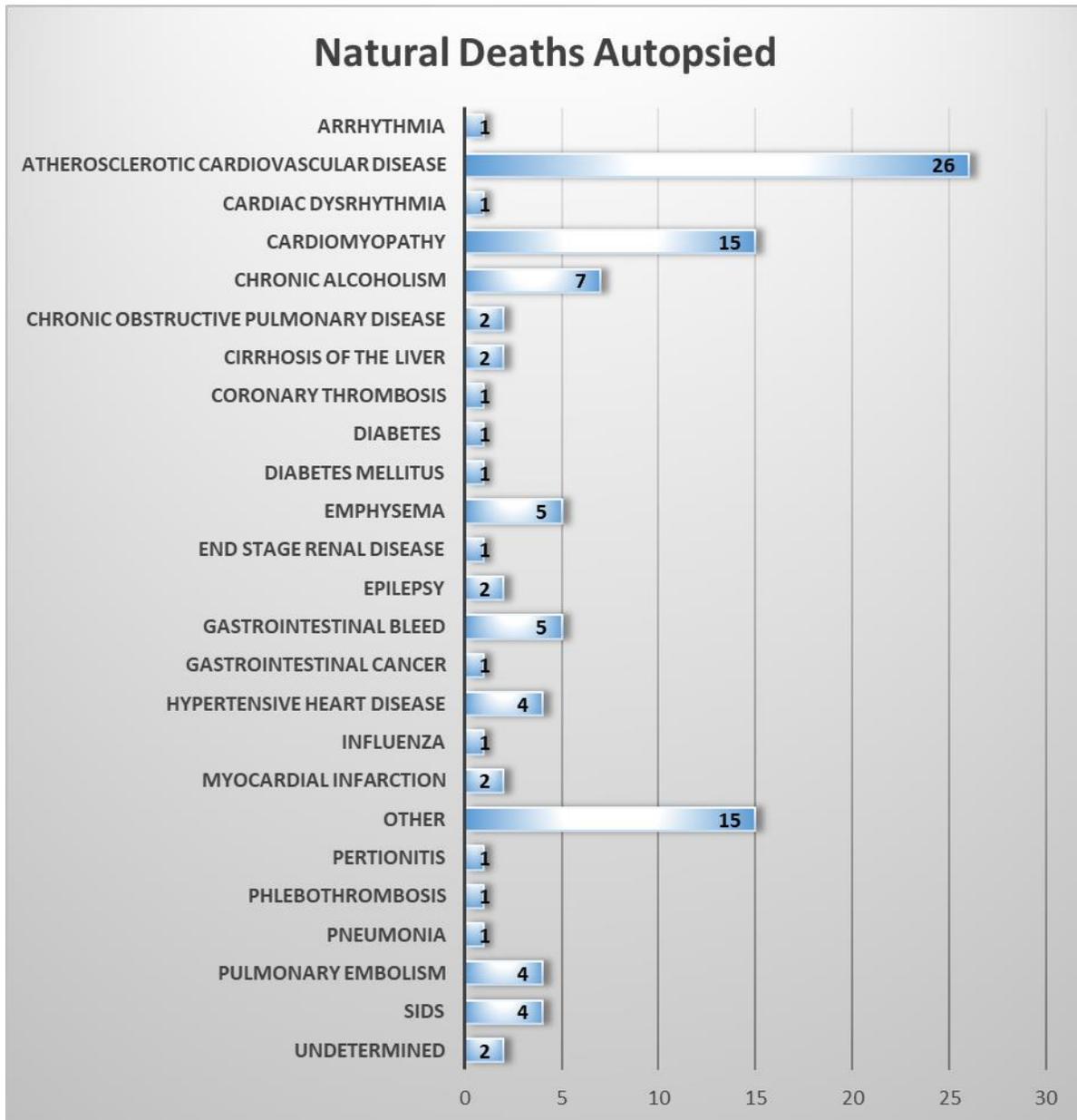
Disease Process	Female	Male	Total
Alcohol Abuse	4	14	18
Cardiovascular	20	54	74
Malignancy	2	1	3
Organ Failure	2	1	3
Other	7	20	27
Respiratory	5	16	21
Seizure Disorder	1	1	2
Undetermined	2	6	8
Total	43	113	156

Undetermined in the above charts means that the exact natural cause of death is unknown (an autopsy may not have been performed), but investigation overwhelmingly indicates a natural manner of death.

Natural Deaths by 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	100-109	Total
Alcohol Abuse	Female	0	0	0	0	0	2	1	1	0	0	0	0	4
Alcohol Abuse	Male	0	0	0	1	1	4	6	2	0	0	0	0	14
Alcohol Abuse Total														18
Cardiovascular	Female	0	0	0	1	3	3	3	4	5	0	1	0	20
Cardiovascular	Male	0	0	0	1	4	4	15	21	5	2	2	0	54
Cardiovascular Total														74
Malignancy	Female	0	0	0	0	0	0	0	1	0	1	0	0	2
Malignancy	Male	0	0	0	0	0	0	0	1	0	0	0	0	1
Malignancy Total														3
Organ Failure	Female	0	0	0	1	0	1	0	0	0	0	0	0	2
Organ Failure	Male	0	0	0	0	0	0	1	0	0	0	0	0	1
Organ Failure Total														3
Other	Female	1	1	0	0	0	1	0	3	0	0	1	0	7
Other	Male	5	1	0	0	0	5	2	3	3	1	0	0	20
Other Total														27
Respiratory	Female	0	0	0	0	0	1	1	2	1	0	0	0	5
Respiratory	Male	0	0	0	1	2	2	5	5	1	0	0	0	16
Respiratory Total														21
Seizure Disorder	Female	0	0	0	0	0	0	1	0	0	0	0	0	1
Seizure Disorder	Male	0	0	1	0	0	0	0	0	0	0	0	0	1
Seizure Disorder Total														2
Undetermined	Female	0	0	0	0	0	1	0	1	0	0	0	0	2
Undetermined	Male	0	0	0	0	0	1	1	2	2	0	0	0	6
Undetermined Total														8
Grand Total		6	2	1	5	10	25	36	46	17	4	4	0	156

Three of the deaths listed as “other” in the <1 age group are attributed to **Sudden Unexplained Infant Death (SUID)**. Sudden unexplained infant death is 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.

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.

Suicide

Suicides are those deaths caused by intentional, self-inflicted injuries. In Spokane County there were (122) suicides in 2017, an increase of 31 from 2016 (91).

The highest number (84/122) of suicides fell within the 20-59 age range. In Spokane County, suicide numbers were highest in the 20-39 age group. Nationally suicide deaths in older Americans are associated statistically with depression, relationship difficulties, drug and alcohol abuse, and serious physical health problems. Eleven suicides occurred in teenagers in Spokane County and 26 in the 20-29 age group.



Suicide Method by Gender and Age Group

Suicide Method	Sex	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	Total
Carbon Monoxide	Female	0	0	0	0	0	1	1	0	0	2
											2
Drugs/Poisons	Female	0	1	1	2	2	0	1	1	0	8
Drugs/Poisons	Male	0	0	1	2	1	1	0	0	0	5
											13
Firearms	Female	0	0	4	1	2	1	0	0	0	8
Firearms	Male	5	15	4	6	7	4	6	3	1	51
											59
Hanging	Female	0	2	3	1	1	0	0	0	0	7
Hanging	Male	6	6	6	4	5	2	0	1	0	30
											37
Jumping **	Female	0	0	0	0	0	2	0	0	0	2
Jumping **	Male	0	2	0	1	0	0	0	0	0	3
											5
Other	Male	0	0	2	0	0	0	0	0	0	2
											2
Plastic Bag	Female	0	0	0	0	1	2	0	0	0	3
Plastic Bag	Male	0	0	0	0	1	0	0	0	0	1
											4
Total		11	26	21	17	20	13	8	5	1	122

** Jumping in 2017 primarily was jumping from buildings or bridges to the ground. See link to accumulated data about those who jump from bridges into water.

[Facts-about-Bridge-Jumpers](#)

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 (59 total). Gunshot wounds are followed by 37 suicidal hanging and 13 intentional overdoses.

The Centers for Disease Control (CDC) report a rise in the U.S. suicide rate, key findings below are quoted from the CDC:

- From 1999 through 2014, the age-adjusted suicide rate in the United States increased 24%, from 10.5 to 13.0 per 100,000 population, with the pace of increase greater after 2006.
- Suicide rates increased from 1999 through 2014 for both males and females and for all ages 10–74.
- The percent increase in suicide rates for females was greatest for those aged 10–14, and for males, those aged 45–64.
- The most frequent suicide method in 2014 for males involved the use of firearms (55.4%), while poisoning was the most frequent method for females (34.1%).

- Percentages of suicides attributable to suffocation increased for both sexes between 1999 and 2014.

Link to the original CDC National Center for Health Statistics (NCHS) report:

<https://www.cdc.gov/nchs/data/databriefs/db241.pdf>.

The suicide rate in Spokane County 18.5 / 100,000 residents Spokane County is a medium metro area according to the Centers for Disease Control (CDC). The CDC control graph [CDC MMWR Suicides per 100,000](#) shows Spokane County suicide rate is higher than other medium metro areas (about 16/100,000 in 2015).

Deaths by suicide per 100,000 resident population in the United State 1950-2015 from Statista <https://www.statista.com/statistics/187478/death-rate-from-suicide-in-the-us-by-gender-since-1950/>

Data Center Report from the Spokane Regional Health District regarding Suicide in Washington's East Region ([Suicide in WA E Region](#)).

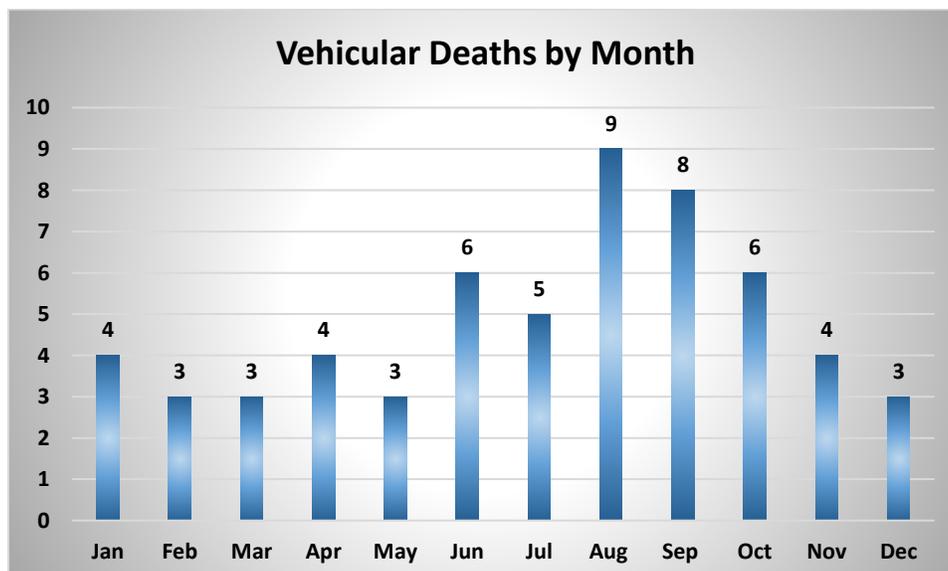
Trends in state suicide rates from the Centers for Disease Control [CDC-MMWR-Weekly-Vol-67-No-22](#)

Vehicular

During the calendar year of 2017, The Medical Examiner's Office participated in the investigation of (58) deaths categorized as vehicular. This is an increase of 17 from 2016 during which (41) deaths were categorized as vehicular.

In vehicle collisions there were 30 deaths, 25 drivers and 5 passengers.

In addition there were 9 deaths among motorcycle operators and 14 pedestrians. There are 2 deaths listed as "other" one was a fetal death after the mother had been involved in an accident and one death was the result of an all terrain vehicle (ATV) accident. Finally there were 3 deaths involving bicyclists.



Vehicular Deaths by 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	Total
Automobile Driver	Female	0	0	1	1	1	3	2	0	2	1	11
Automobile Driver	Male	0	0	1	1	2	1	1	4	2	2	14
												25
Automobile Passenger	Female	0	0	0	1	0	0	0	0	1	0	2
Automobile Passenger	Male	0	0	1	1	1	0	0	0	0	0	3
												5
Bicyclist	Male	0	0	0	0	0	1	1	1	0	0	3
												3
Motorcycle Driver	Female	0	0	0	0	2	0	0	0	0	0	2
Motorcycle Driver	Male	0	0	1	2	2	1	0	1	0	0	7
												9
Other	Male	1	0	0	0	0	0	0	1	0	0	2
												2
Pedestrian	Female	0	0	0	0	0	3	2	0	1	0	6
Pedestrian	Male	0	0	0	1	2	1	0	2	1	1	8
												14
Total		1	0	4	7	10	10	6	9	7	4	58

Traffic Fatalities and Use of Restraint

Circumstances	Restrained	Unknown	Unrestrained	Total
Automobile Driver	6	15	2	23
Automobile Passenger	2	5	0	7
Total	8	20	2	30

When traffic victims are flown / transported to Spokane for advanced medical care, it becomes more difficult to collect use of restraint information.

Undetermined

“Undetermined” manner is used to designate a death that 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 the discovery of the body. If an extensive investigation and autopsy cannot clarify the circumstances, the death is placed in this category. There were (9) undetermined manner deaths in Spokane County in 2017.

Although the cause of death was established in almost all of these deaths, the manner still could not be established. Again, the reason for undetermined manner is lack of information or conflicting information. Cases 8 and 9 are deaths wherein the cause of death could not be determined after a complete autopsy and related laboratory tests.

Undetermined Deaths

Number	Cause of Death	Month	Sex	Age Yrs	Age Mos	Age Days	Race
1	intrauterine death with stillbirth due to abruption of placenta	April	M	0	0	0	Unknown
2	gunshot wound of the head	May	M	28	6	18	Asian
3	Human Skull - cause of death undetermined - this case is considered to be of historical concern rather than forensic	May					
4	Sudden unexpected death in epilepsy (SUDEP)	May	M	50	10	19	Caucasian
5	Combined drug toxicity due to simultaneous use of methadone, methamphetamine, tramadol, and venlafaxine	July	F	45	3	20	Native American
6	diphenhydramine toxicity	August	M	40	7	25	Caucasian
7	combined drug toxicity due to simultaneous use of methadone and fluoxetine	August	M	51	0	6	Caucasian
8	Undetermined after complete autopsy	September	F	29	9	29	Native American
9	Undetermined after complete autopsy	October	F	0	9	7	Caucasian

Glossary of Terms

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 on the death certificate 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 or Vehicular	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 exist.
Opioid Drug	A broad class of drugs including morphine, heroin, and synthetic medicines such as methadone.
Poison	Any substance, either taken internally or applied externally, that is injurious to health or dangerous to life.
Race	The racial categories used in this report are: Asian, Black, Caucasian, Hispanic, Native American, Other and Unknown. For public Health purposes, race is included in the Washington State death certificate.

**Sudden Unexplained
Infant Death (SUID)**

Applies to the death of an infant less than one year of age, in which (*SUID*) 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.