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## Public Health Seattle & King County



# 2010 Annual Report

### DEDICATION

We recognize that each case in this report represents the death of a person whose absence is grieved by friends and relatives. These deaths also represent a loss to our community. As representatives of our community responsible for investigating these deaths, we dedicate this report to the memory of those lost and to those who have suffered the loss of a friend or relative.

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The King County Medical Examiner's Office serves the community by investigating sudden, unexpected, violent, suspicious, and unnatural deaths. Medical Examiner staff recognize the tragedy surrounding an untimely death and perform investigations, in part, to assist the grieving family. A complete investigation provides for the quick settling of estates and insurance claims, as well as for implementing civil and criminal actions. Questions that seem irrelevant in the initial hours after death can become significant in the following months. The surviving family, friends, and general public can have the assurance that the Medical Examiner conducted a comprehensive investigation.

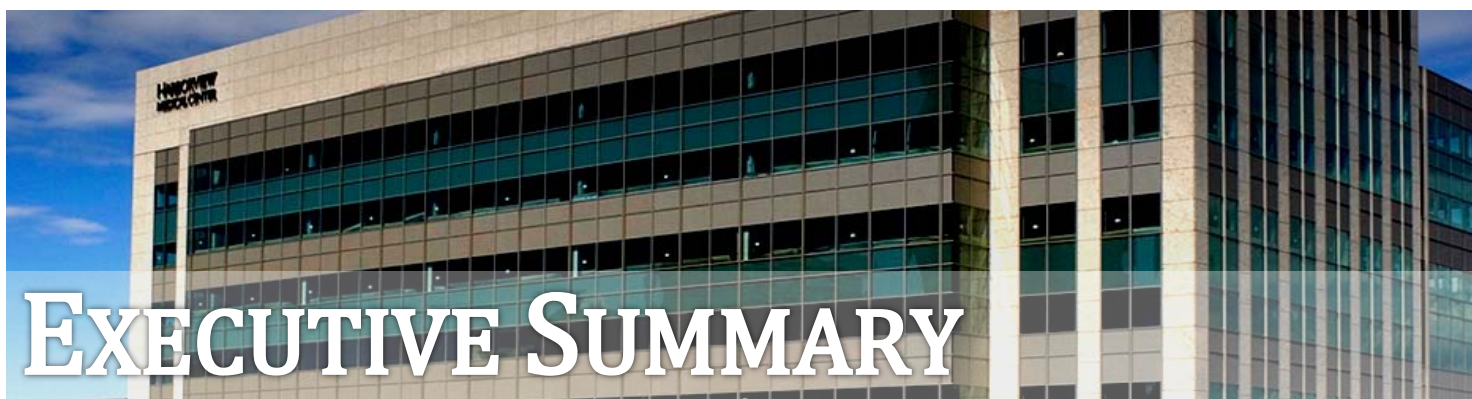
When a death occurs on the job or is work-related, the King County Medical Examiner's Office immediately forwards the results of its investigation to the Washington State Department of Labor and Industries so that the family can gain the full benefit of the findings. Private insurance companies also routinely use the findings to settle claims. Whenever a consumer product is implicated in a death, the King County Medical Examiner's Office notifies the Consumer Product Safety Commission to ensure that the product is studied and the necessary steps are taken to protect the public.

The public health role of the Medical Examiner is to isolate and identify the causes of sudden, unexpected death that might affect more than one person. When an infectious agent or toxin is implicated in a death, the Medical Examiner's Office

notifies the family and contacts of the deceased so they may receive any needed medical treatment. Trends in injury and violence are monitored. In this era of concern about emergency response and bioterrorism, the Medical Examiner provides an important level of preparedness and surveillance.

Civil or criminal judicial proceedings frequently require the medical investigation of violent death. Thus, the King County Medical Examiner's Office conducts a prompt medical investigation to provide the criminal justice system with medical information and evidence required for adjudication. Although criminal death investigations constitute a small portion of deaths investigated by the Medical Examiner, these deaths are studied in great detail because of the issues and legal consequences involved. The King County Medical Examiner's Office provides the criminal justice system the best support that medical science can provide.

In summary, the King County Medical Examiner's Office provides expert medical evaluation and extensive services related to the investigation of deaths that are of concern to the health, safety, and welfare of the community.



The Medical Examiner's Office 2010 Annual Report reflects the activities in investigating jurisdictional deaths in King County. The mission of the King County Medical Examiner's Office (KCMEO) is to investigate sudden, unexpected and unnatural deaths in King County with the highest level of professionalism, compassion and efficiency, and to provide a resource for improving the health and safety of the community.

A few selected findings are as follows:

- In 2010, there were an estimated 12,959 deaths in King County. Of those deaths, 10,066 (78%) were reported to the Medical Examiner's Office. The Medical Examiner's Office assumed jurisdiction over 2,163 deaths; the number of applicable cases used in this report is 2,060 deaths once non-human remains and contract anthropology cases for other jurisdictions are removed.
- The Medical Examiner's Office performed autopsies in 58% of those jurisdictional deaths (1,199/2,060). In 2010, those jurisdictional deaths included: 59 homicides, 232 suicides, 150 traffic deaths, 593 accidental deaths, 953 natural deaths and 73 deaths due to undetermined causes.
- Of the 31 natural deaths of children and youth investigated by the Medical Examiner, 77% (24/31) were of infants less than one year of age. Of those 24 infants who died of natural causes, 18 were due to Sudden Infant Death Syndrome (SIDS).
- Several factors appear repeatedly in unnatural deaths. Of all traffic fatalities in which tests were performed, 30% tested positive for the presence of alcohol in the blood. Firearms were the most frequent instrument of death in homicides (66%) and suicides (40%).
- Males comprised 68% (40/59) and women 32% (19/59) of the homicide victims in 2010. The majority of victims, 51% (30/59), were between the ages of 20 and 49 years. Young people, 19 years old and under, comprised 25% (15/59) of the homicide victims. For comparison, this younger age group represented 8% (5/63) in the year 2009. Eighty-eight percent (52/59) of the victims were tested for the presence of alcohol. Of those tested 35% (18/52) showed alcohol present at the time of death.
- In 2010, of the 39 firearm homicide victims, 28% (11/39) were 19 years old and younger - an increase from 2009 when 10% of firearm homicide victims were 19 years old and younger. In 2010, there was a disproportionate number of firearm homicide victims that were African American (26%, 10/39) when compared to the percentage of African Americans in King County's population (6.2%) (see discussions on pages 8 and 44.) Of the 10 African American firearm homicide victims, 20% (2/10) were males 19 years old

and younger and 30% (3/10) were males between 20 and 29 years of age. In comparison, 49% (19/39) of the homicide firearm victims were White. Of the 19 White homicide victims, 16% (3/19) were males between 20 and 29 years old.

This annual report presents detailed analyses of the different manners of deaths, as well as trends in homicides, traffic fatalities, and drug overdose deaths. While the report tends to depict the more violent types of deaths, it is worth noting that 46% of Medical Examiner cases were classified as natural deaths.



# Description and purpose

**In 1969, the King County Home Rule Charter abolished the King County Office of the Coroner, which was replaced with the King County Medical Examiner's Office. The Medical Examiner's Office is a part of the Prevention Division of Public Health – Seattle & King County. The King County Medical Examiner's Office is funded by King County and operates under the direction of the King County Executive.**

The Chief Medical Examiner is a physician trained and certified in Forensic Pathology - the branch of medicine devoted to the scientific investigation of sudden, unexpected, violent, suspicious, or unnatural deaths. There are four sections under the Chief Medical Examiner's direction: Forensic Pathology, Scene Investigation, Autopsy Support and Administrative Support. The duties of these four sections include the performance of autopsies when indicated, certification of death, field investigation of scene and circumstances of death, identification of the deceased, notification of next-of-kin, and control and disposition of the deceased's personal property.

Deaths that come under the jurisdiction of the Medical Examiner are defined by state statute (RCW 68.50) and include, but are not limited to, the following circumstances:

1. *Persons who die suddenly when in apparent good health and without medical attendance within thirty-six hours preceding death.* This category is reserved for the following situations: (1) Sudden death of an individual with no known natural cause for the death. (2) Death during an acute or unexplained rapidly fatal illness, for which a reasonable natural cause has not been established. (3) Death of an individual who was not under the care of a physician. (4) Death of a person in a nursing home or care facility where medical treatment is not provided by a licensed physician.
2. *Circumstances which indicate death was caused in part or entirely by unnatural or unlawful means.* This category includes but is not limited to: (1) Drowning, suffocation, smothering, burns, electrocution, lightning, radiation, chemical or thermal injury, starvation, environmental exposure, or neglect. (2) Unexpected death during, associated with, or as a result of diagnostic or therapeutic procedures. (3) All deaths in the operating room whether due to surgical or anesthetic procedures. (4) Narcotics or other drugs including alcohol or toxic agents, or toxic exposure. (5) Death of the mother caused by known or suspected abortion. (6) Death from apparent natural causes during the course of a criminal act, e.g., a victim collapses during a robbery. (7) Death that occurs within one year following an accident, even if the accident is not thought to have contributed to the cause of death. (8) Death following all injury-producing accidents, if recovery was considered incomplete or if the accident is thought to have contributed to the cause of death (regardless of the interval between the accident and death).
3. *Suspicious circumstances.* This category includes, but is not limited to, deaths under the following circumstances: (1) Deaths resulting from apparent homicide or suicide. (2) Hanging, gunshot wounds, stabs, cuts, strangulation, etc. (3) Alleged rape, carnal knowledge, or sodomy. (4) Death during the course of, or precipitated by, a criminal act. (5) Death that occurs while in a jail or prison, or while in custody of law enforcement or other non-medical public institutions.
4. *Unknown or obscure causes.* This category includes: (1) Bodies that are found dead. (2) Death during or following an unexplained coma.

5. *Deaths caused by any violence whatsoever, when the injury was the primary cause or a contributory factor in the death.* This category includes, but is not limited to: (1) Injury of any type, including falls. (2) Any death due to or contributed to by any type of physical trauma.
6. *Contagious disease.* This category includes only those deaths wherein the diagnosis is undetermined and the suspected cause of death is a contagious disease which may be a public health hazard.
7. *Unclaimed bodies. This category is limited to deaths where no next of kin or other legally responsible representatives can be identified for disposition of the body.*
8. *Premature and stillborn infants. This category includes only those stillborn or premature infants whose birth was precipitated by maternal injury or drug use, criminal or medical negligence, or abortion under unlawful circumstances.*

# Mission Statement

**The mission of the King County Medical Examiner's Office (KCMEO) is to investigate sudden, unexpected and unnatural deaths in King County with the highest level of professionalism, compassion and efficiency and to provide a resource for improving the health and safety of the community consistent with the general mission of Public Health.**

To achieve this mission, the KCMEO will:

- Coordinate investigative efforts with law enforcement, hospitals, and other agencies in a professional and courteous manner.
- Treat decedents and their effects with dignity and respect, and without discrimination.
- Conduct investigations and autopsies professionally, scientifically, and conscientiously; and complete reports expeditiously with regard for the concerns of family members, criminal justice, and public health and safety.
- Provide compassion, courtesy, and honest information to family members and, with sensitivity for cultural differences, make appropriate efforts in assisting with their grief, medical and legal questions, disposition of decedents and effects, and other settlements.
- Collect, compile, and disseminate information regarding deaths in a manner consistent with the laws of Washington state and consistent with the mission of Public Health.
- Provide medical and scientific testimony in court and in deposition as well as medicolegal consultation for prosecuting attorneys, defense attorneys, and attorneys representing surviving family members.
- Promote and advance, through education and research, the sciences and practices of death investigation, pathology, and anthropology within KCMEO and in collaboration with educational institutions.
- Promote and maintain an emotionally and physically healthy and safe working environment for KCMEO employees, following Public Health policies for standards of conduct, management, and support for employee diversity, training, and development.
- Expand communication throughout Public Health and the community at large regarding the roles, responsibilities, and objectives of KCMEO.



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# Explanation of data

The Medical Examiner serves the geographic area that includes all 2,130 square miles of King County, bounded by Pierce County to the south, Snohomish County to the north, Kittitas and Chelan Counties to the east, and Puget Sound to the west. In 2010, the King County population was estimated to be 1,933,400.<sup>1</sup> Included within King County are 39 cities and towns including Seattle, the state's largest city. Mercer Island, Vashon Island, two major airports and several colleges and universities are all in the geographic area served by the Medical Examiner's Office. In King County more than 20 hospitals and a major trauma center serve the entire Pacific Northwest region.

The KCMEO assumes jurisdiction on deaths occurring in King County that include both King County residents and non-residents. King County residents who die in other counties do not fall under KCMEO jurisdiction. For data on deaths of King County residents, along with other health indicators, please see Public Health–Seattle & King County Community Health Indicators online at: [www.kingcounty.gov/healthservices/health/data/chi](http://www.kingcounty.gov/healthservices/health/data/chi).

This report summarizes demographics from individual cases in which the Medical Examiner assumed jurisdiction and presents them in aggregate form. Table 1-8 (Nearest Incorporated City to the Fatal Incident) on pages 21 and 22 represents the location of the incident to the nearest city, not the residential address of the individual. Each manner (category) of death is subdivided into the various sub-groupings (methods) appropriate to that manner, which together form a more detailed description of the cause and manner of death.

The variables displayed in the tables such as race, sex, age, etc., have been selected as those most likely to assist and interest individuals using this data in assembling a profile of statistics on deaths examined by the Medical Examiner's Office for 2010. The Washington State Office of Financial Management estimates the racial distribution of King County to be 74.7% White, 6.3% African American, 3.6% Two or More Races, 14.4% Asian/Pacific Islander (including Hawaiian and other Pacific Islanders), and 1% American Indian/Alaska Native.<sup>2</sup> Information on Hispanic ethnicity of the decedent is not available for every case, and will not be presented in this report.

Medical Examiner figures cannot be directly compared to the racial distribution of King County residents. This is because as mentioned above and emphasized in Table 1-9 on page 23, in 17% of the Medical Examiner cases the incident leading to death occurred outside of King County and the decedent likely was not a resident of King County. However, as a rough estimate, the only manner of death that varies from the racial distribution of the county by a large percentage is Homicide (see discussion on page 44).

<sup>1</sup>State of Washington, Office of Financial Management, 2010 estimate.

<sup>2</sup>2010 estimate.

Age groups are divided into youth and adult. The youth groups are infants (newborn to 11 months), toddlers (1-5 years), grade school (6-12 years), junior high (13-15 years), and high school (16-19 years). Adult age groups are in corresponding decades with the last being 90 years old or older.

Blood alcohol (ethanol) data included here represent the blood level at the time of death. Alcohol is metabolized at a rate of 0.015 to 0.018 grams percent per hour. Thus, if there is a significant survival interval, the blood alcohol at the time of death will be lower than at the time of incident. Consequently, blood alcohol tests are not performed in cases where death occurs more than 24 hours after the fatal injury. For these reasons, an unknown number of cases not tested or showing no blood alcohol may actually have had a measurable alcohol concentration at the time of the incident.

Three sections are included that review specific issues. Data are presented which highlights deaths due to drugs, firearms, and among children and youth. The firearm data pertain to the victim because data relating to the shooter are not included in the Medical Examiner's investigation. On deaths among children and youth, the analysis focuses on violent, non-natural causes of death.

Data on natural deaths is included. However, these deaths due to natural causes are not representative of all natural deaths in King County. Natural deaths that the Medical Examiner investigates are those that occur suddenly and unexpectedly with no physician in attendance, or under suspicious circumstances. Such natural deaths comprised 46% (953/2,060) of all deaths that the Medical Examiner's Office investigated in 2010.

The "undetermined" category includes deaths in which the manner could not be clearly determined. In some cases, serious doubt existed as to whether the injury occurred with intent or as a result of an accident. In others, lack of witnesses or prolonged time between death and discovery precluded the accurate determination of the circumstances surrounding death. Moreover, it may be difficult to assess street drug or medication overdose deaths as showing enough features to reasonably determine the manner of death. Also included in the undetermined category are fetal deaths, which, according to the State of Washington death certification guidelines, are not assigned a manner of death.

Those interested in obtaining more specific information and data from the King County Medical Examiner's Office should contact (206) 731-3232, extension 1.

# Medical Examiner cases in 2010

The following provides a summary of the raw data from the Medical Examiner's cases for the year 2010. Ten-year trends are shown beginning on page 25.

In 2010, there were an estimated 12,959 deaths that occurred in King County (0.67% of a 2010 population estimate of 1,933,400)<sup>3</sup>. Of these deaths, 10,066 (78%, 10,066/12,959) were reported to the Medical Examiner's Office by medical and law enforcement personnel. Based on analysis of the scene and circumstances of death and the decedent's medical history gathered by the forensic medicolegal investigators, the Medical Examiner's Office assumed jurisdiction in 2,163 of these reported deaths, of which 103 were either ultimately found to be non-human remains or contract cases (i.e. cases in which autopsy and/or anthropology cases are examined for other counties or agencies). Throughout the following discussion of data, except where stated, the non-human, anthropology, and contract cases are excluded. The number of applicable cases used in this report is 2,060 deaths.

In about 80% (8,006/10,066) of these deaths, the Medical Examiner did not assume jurisdiction and perform an investigation; instead a "No Jurisdiction Assumed" (NJA) number was assigned. In such instances a physician with knowledge and awareness of the decedent's state of health certified the death. These are primarily natural deaths, with a predominance of individuals in nursing homes with a known fatal disease process. Thus, the Medical Examiner assumed jurisdiction in 16% (2,060/12,959) of deaths that occurred in King County in 2010.<sup>4</sup>

Of note is the fact that the Medical Examiner declined jurisdiction in 8,128 of the deaths that were reported. The Medical Examiner's Office applies a strict interpretation of its governing legislative language "persons who die suddenly when in apparent good health and without medical attendance within thirty-six hours preceding death" (RCW 68.50). The Medical Examiner assumes jurisdiction only if both conditions (lack of medical care and apparent good health) apply, and there is no attending outside physician with sufficient knowledge of the individual's natural disease condition to certify the death.

The Medical Examiner's Office performed autopsies in 58% (1,199/2,060) of the cases in which jurisdiction was assumed. Autopsies by a Medical Examiner pathologist were not performed in deaths where scene, circumstances, medical history, and external examination of the body provided sufficient information for death certification. In 2010, there were 393 such deaths, accounting for 19% (393/2,060) of the total deaths. In addition, there were 460 deaths (22%) (460/2,060) certified by attending private physicians after review by and consultation with the Medical Examiner.

Several factors appear repeatedly in the unnatural deaths. Of all traffic fatalities in which tests were performed, 30% (33/111) tested positive for presence of alcohol (ethanol) in the blood. In recognition of the importance of

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<sup>3</sup>Death certificates filed in King County, Vital Statistics, Public Health - Seattle & King County, July, 2010.

<sup>4</sup>Does not include non-human remains or anthropology/contract cases.

safety devices in traffic accidents, Medical Examiner data indicate that of the 96 vehicle occupants who died, 60% (58/96) were wearing seatbelt restraints.

In the 24 deaths involving motorcyclists, 20 (83%) were wearing helmets.

Firearms were the most frequent instrument of death in homicides and suicides, accounting for 66% (39/59) of the homicides and 40% (92/232) of the suicides.

While the discussion here tends to depict the more violent types of death, the reader should be reminded that 46% (953/2,060) of Medical Examiner cases involve natural deaths. Specific discussion and presentation of relevant tables regarding 2010 cases follow this brief summary.

**Table 1-1 Deaths Occurring in King County / Medical Examiner Cases / 2010**

CASES BY MANNER OF DEATH <sup>5</sup>			NUMBER OF KCME DEATHS	PERCENT OF KCME DEATHS
Accident Other	(A)		593	29%
Accident Traffic	(T)		150	7%
Homicide	(H)		59	3%
Natural	(N)		953	46%
Suicide	(S)		232	11%
Undetermined <sup>6</sup>	(U)		73	4%
Total KCME general cases			2,060	100%
Non-applicable cases where jurisdiction was assumed <sup>7</sup>			103	
Total KCME jurisdiction cases			2,163	
Total KCME general cases <sup>8</sup>			2,060	
Deaths reported to KCME but no jurisdiction was assumed (NJA)			8,006	
All other deaths in King County not reported to KCME			2,893	
ALL KING COUNTY DEATHS <sup>9</sup>			12,959	

<sup>5</sup>The letters following each manner of death will be used in most tables throughout this report.

<sup>6</sup>Includes two fetal deaths, which according to Washington State death certification procedures, are not assigned a manner of death.

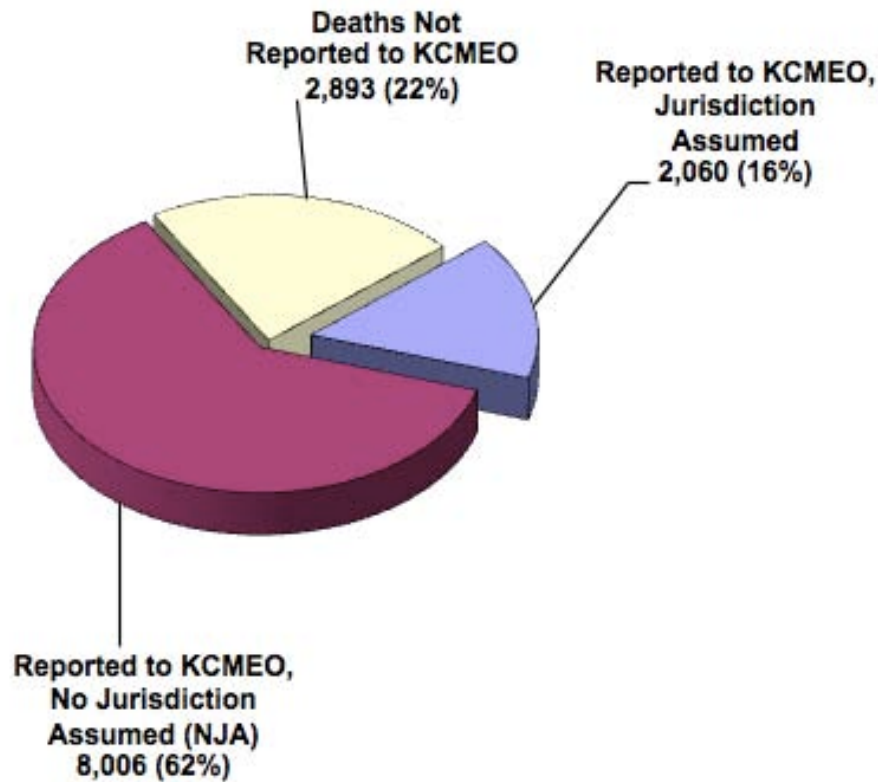
<sup>7</sup>Non-applicable includes 35 non-human bones/tissue, and 68 anthropology/contract cases.

<sup>8</sup>This is the total number of cases that will be referred to throughout this report unless otherwise noted.

<sup>9</sup>Death certificates filed in King County, Vital Statistics, Public Health - Seattle & King County, July, 2011.

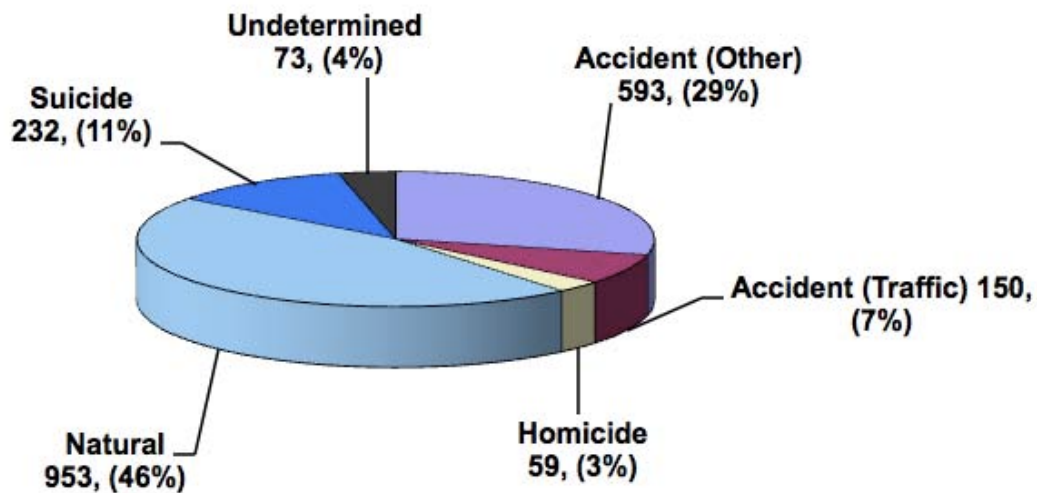
**Graph 1-1 All King County Deaths with Medical Examiner Jurisdiction Shown / 2010**

There were 12,959 deaths in King County in 2010.



**Graph 1-2 Manner of Death for All Medical Examiner Jurisdiction Cases / 2010**

Jurisdiction assumed in 2,060 cases<sup>10</sup>.

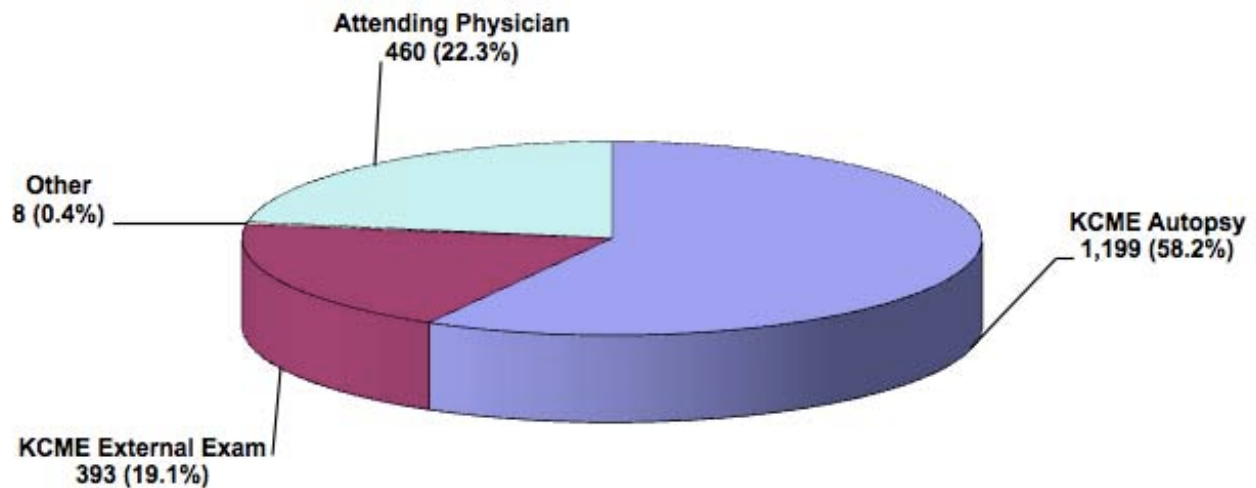


<sup>10</sup>This number does not include 103 non-applicable cases (non-human tissue/bones and anthropology/contract cases).



**Table 1-2 Method of Certification / Manner of Death / KCME / 2010**

CERTIFICATION	MANNER OF DEATH						TOTAL	%
	A	T	H	N	S	U		
KCME Autopsies	310	103	57	463	197	69	1199	58.2%
KCME External Exams	174	44	0	138	35	2	393	19.1%
KCME Other	3	1	0	2	0	2	8	0.4%
Attending Physician	106	2	2	350	0	0	460	22.3%
<b>Totals</b>	<b>593</b>	<b>150</b>	<b>59</b>	<b>953</b>	<b>232</b>	<b>73</b>	<b>2,060</b>	<b>100%</b>

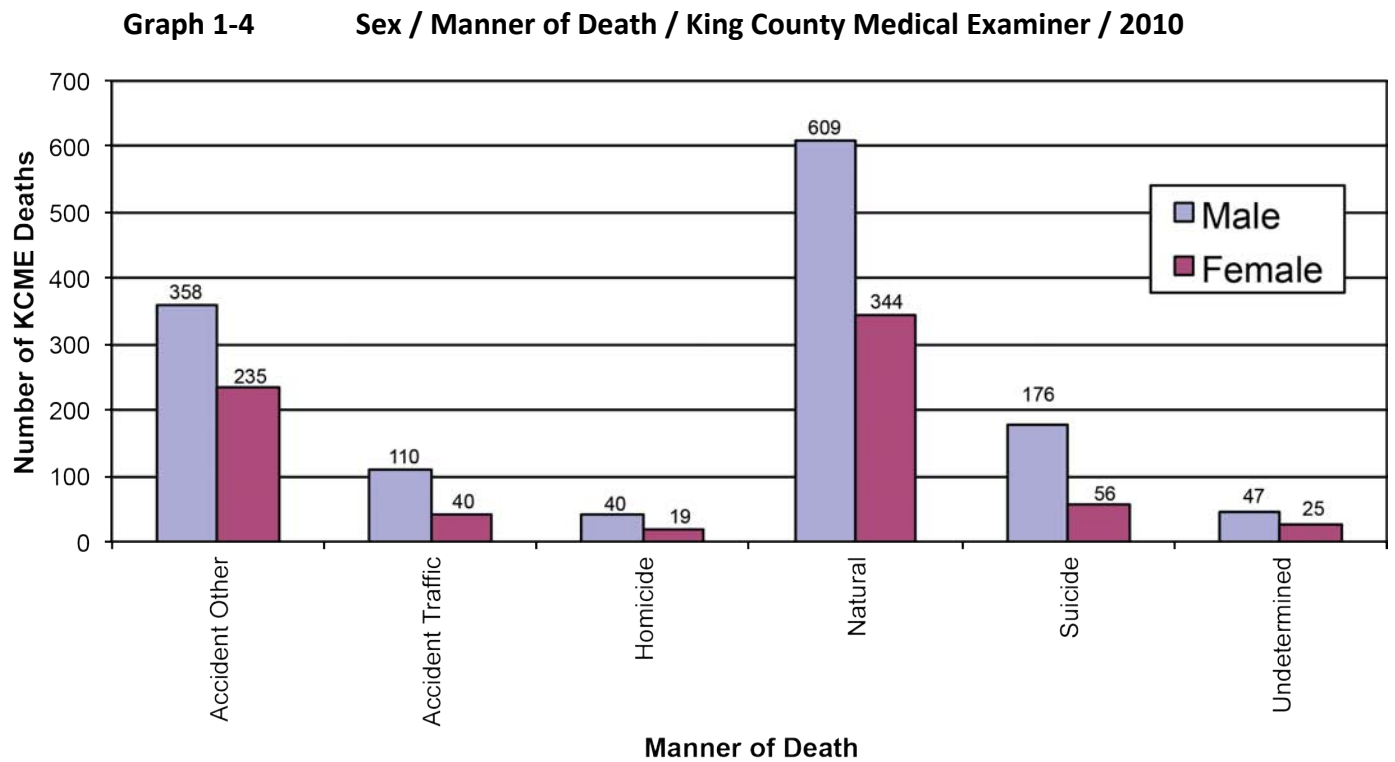
**Graph 1-3 Method of Certification for all King County Medical Examiner Jurisdiction Cases / 2010**

## Manner of Death in 2010

### King County Medical Examiner General Cases

**Table 1-3 Sex / Manner of Death / King County Medical Examiner / 2010**

SEX	MANNER OF DEATH						TOTAL	%
	A	T	H	N	S	U		
Male	358	110	40	609	176	47	1340	65%
Female	235	40	19	344	56	25	719	35%
<b>Totals</b>	<b>593</b>	<b>150</b>	<b>59</b>	<b>953</b>	<b>232</b>	<b>73<sup>11</sup></b>	<b>2,060<sup>12</sup></b>	100%



<sup>11</sup>Total includes one case of undetermined sex.

<sup>12</sup>Total includes one case of undetermined sex.

**Table 1-4 Age / Sex / Manner of Death / King County Medical Examiner / 2010**

AGE / SEX	MANNER OF DEATH						Sub-Total	TOTAL	%
	A	T	H	N	S	U			
Under 1 year	1	0	3	24	0	16		44	2.1%
Male	0	0	0	14	0	8	22		
Female	1	0	3	10	0	7	21		
Unknown	0	0	0	0	0	1	1		
1 - 5 years	4	2	1	4	0	1		12	0.6%
Male	4	1	0	2	0	0	7		
Female	0	1	1	2	0	1	5		
6- 12 years	3	0	1	1	0	1		6	0.3%
Male	3	0	1	0	0	1	5		
Female	0	0	0	1	0	0	1		
13-15 years	2	0	3	0	2	0		7	0.3%
Male	2	0	1	0	1	0	4		
Female	0	0	2	0	1	0	3		
16-19 years	7	12	7	2	7	3		38	1.8%
Male	7	11	5	2	6	3	34		
Female	0	1	2	0	1	0	4		
20- 29 years	50	33	12	25	46	4		170	8.3%
Male	36	26	9	17	37	3	128		
Female	14	7	3	8	9	1	42		
30- 39 years	42	13	11	40	35	11		152	7.4%
Male	27	11	9	24	29	6	106		
Female	15	2	2	16	6	5	46		
40- 49 years	80	13	7	107	52	15		274	13.3%
Male	47	11	6	72	38	10	184		
Female	33	2	1	35	14	5	90		
50- 59 years	90	25	5	216	43	6		385	18.7%
Male	65	19	5	162	31	4	289		
Female	25	6	0	54	12	2	99		
60 - 69 years	59	20	4	212	26	9		330	16.0%
Male	40	17	3	150	18	6	234		
Female	19	3	1	62	8	3	96		
70 - 79 years	50	11	2	121	11	3		198	9.6%
Male	32	6	1	75	9	2	125		
Female	18	5	1	46	2	1	73		
80 - 89 years	132	14	3	148	9	3		309	15.0%
Male	77	5	0	69	7	3	161		
Female	55	9	3	79	2	0	148		
90+ years	73	7	0	54	1	1		135	6.6%
Male	21	3	0	24	0	0	51		
Female	52	4	0	29	1	1	87		
<b>Totals</b>	<b>593</b>	<b>150</b>	<b>59</b>	<b>953</b>	<b>232</b>	<b>73</b>	<b>2,060</b>		<b>100%</b>

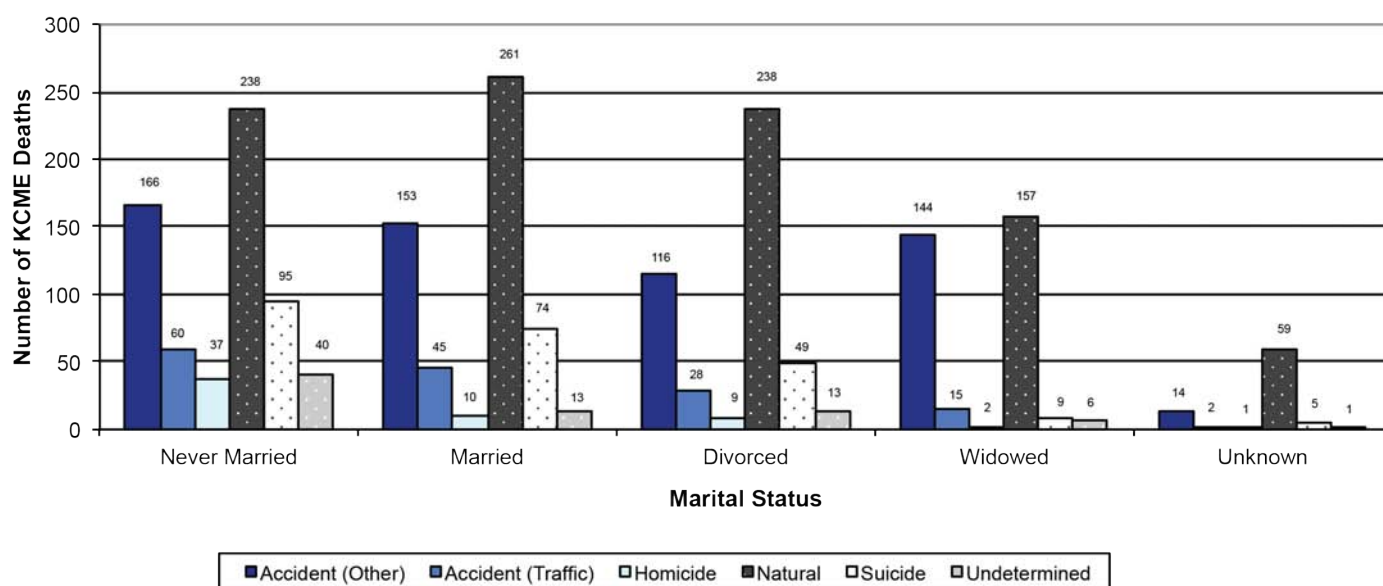
**Table 1-5 Race / Sex / Manner of Death / King County Medical Examiner / 2010<sup>13</sup>**

RACE / SEX	MANNER OF DEATH						Sub-Total	TOTAL	%
	A	T	H	N	S	U			
White	510	123	35	797	203	60		1,728	84%
<i>Male</i>	306	92	22	503	155	39	1117		
<i>Female</i>	204	31	13	294	48	21	611		
African American	42	6	11	83	15	6 <sup>14</sup>		163	7.9%
<i>Male</i>	28	4	9	55	11	4	111		
<i>Female</i>	14	2	2	28	4	1	51		
Asian/Pacific Is.	28	13	9	49	9	4		112	5.4%
<i>Male</i>	16	6	5	35	6	3	71		
<i>Female</i>	12	7	4	14	3	1	41		
Amer Ind/AK Native	11	5	4	15	3	2		40	1.9%
<i>Male</i>	6	5	4	8	2	0	25		
<i>Female</i>	5	0	0	7	1	2	15		
Other	2	3	0	9	2	1		17	0.8%
<i>Male</i>	2	3	0	8	2	1	16		
<i>Female</i>	0	0	0	1	0	0	1		
<b>Totals</b>	<b>593</b>	<b>150</b>	<b>59</b>	<b>953</b>	<b>232</b>	<b>73<sup>15</sup></b>		<b>2,060</b>	<b>100%</b>

<sup>13</sup>A = Accident (Non-Traffic), T = Traffic, H = Homicide, N = Natural, S = Suicide, U = Undetermined.<sup>14</sup>Total includes one case of undetermined sex.<sup>15</sup>Total includes one case of undetermined sex.

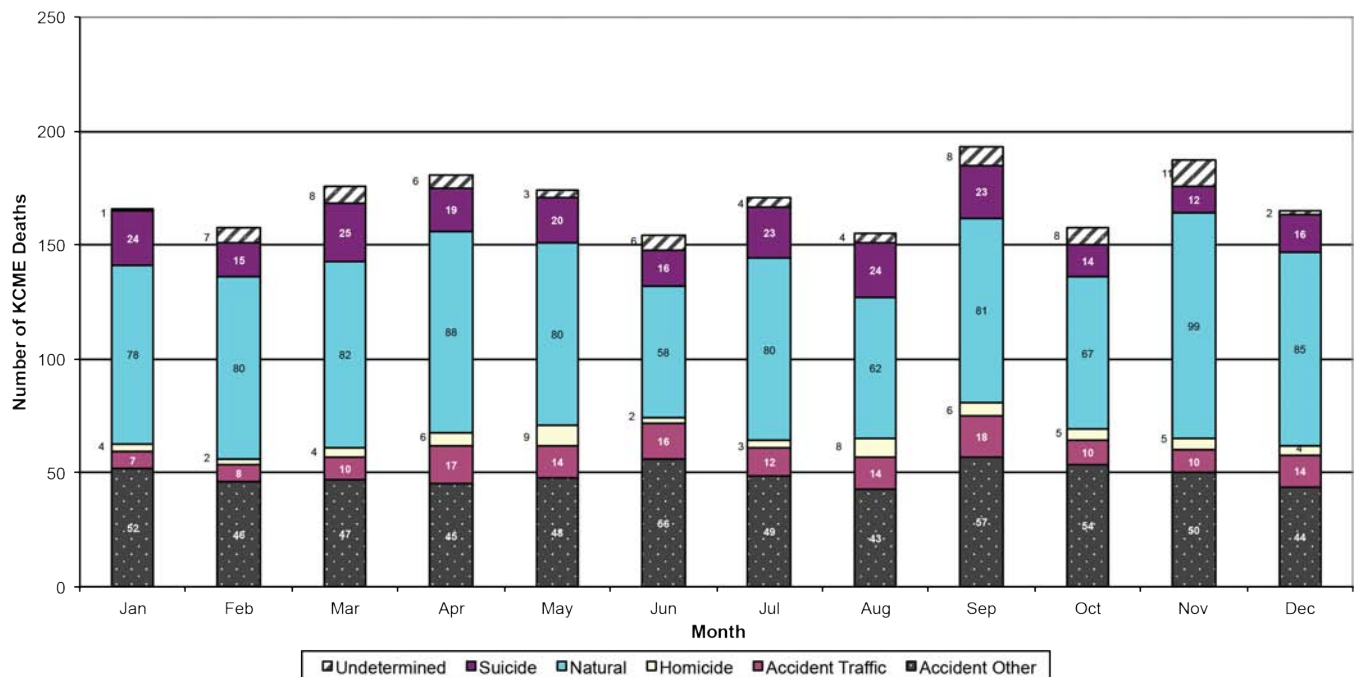
**Table 1-6 Marital Status / Sex / Manner of Death / King County Medical Examiner / 2010<sup>16</sup>**

MARITAL STATUS / SEX	MANNER OF DEATH						Sub-Total	TOTAL	%
	A	T	H	N	S	U			
Never Married	166	60	37	238	95	40		636	31%
Male	126	48	26	177	78	27	482		
Female	40	12	11	61	17	12	153		
Unknown	0	0	0	0	0	1	1		
Married	153	45	10	261	74	13		556	27%
Male	106	38	6	187	58	8	403		
Female	47	7	4	74	16	5	153		
Divorced	116	28	9	238	49	13		453	22%
Male	65	19	7	147	30	8	276		
Female	51	9	2	91	19	5	177		
Widowed	144	15	2	157	9	6		333	16%
Male	52	4	0	53	6	3	118		
Female	92	11	2	104	3	3	215		
Unknown	14	2	1	59	5	1		82	4%
Male	9	1	1	45	4	1	61		
Female	5	1	0	14	1	0	21		
<b>Totals</b>	<b>593</b>	<b>150</b>	<b>59</b>	<b>953</b>	<b>232</b>	<b>73</b>	<b>2,060</b>		<b>100%</b>

**Graph 1-5 Marital Status / Manner of Death / King County Medical Examiner / 2010**<sup>16</sup>A = Accident (Non-Traffic), T = Traffic, H = Homicide, N = Natural, S = Suicide, U = Undetermined.

**Table 1-7 Month / Manner of Death / King County Medical Examiner / 2010<sup>17</sup>**

MONTH	MANNER OF DEATH						Total	%
	A	T	H	N	S	U		
Prior to 2009	0	0	1	0	0	1	2	0.10%
2009	2	0	0	13	1	4	20	1.0%
January	52	7	4	78	24	1	166	8.0%
February	46	8	2	80	14	7	158	7.7%
March	47	10	4	82	25	8	176	8.5%
April	45	17	6	88	19	6	181	8.8%
May	48	14	9	80	20	3	174	8.4%
June	56	16	2	58	16	6	154	7.5%
July	49	15	3	80	23	4	171	8.3%
August	43	17	8	62	24	4	155	7.5%
September	57	10	6	81	23	8	193	9.4%
October	54	10	5	67	14	8	158	7.7%
November	50	10	5	99	12	11	187	9.1%
December	44	14	4	85	16	2	165	8.0%
<b>Totals</b>	<b>593</b>	<b>150</b>	<b>59</b>	<b>953</b>	<b>232</b>	<b>73</b>	<b>2,060</b>	<b>100%</b>

**Graph 1-6 Month / Manner of Death / King County Medical Examiner / 2010**

<sup>17</sup>A = Accident (Non-Traffic), T = Traffic, H = Homicide, N = Natural, S = Suicide, U = Undetermined.



**Table 1-8      Nearest Incorporated City to the Fatal Incident / KCME / 2010<sup>18</sup>**

CITY	MANNER OF DEATH					TOTAL	%
	A	T	H	S	U		
Algona	0	0	0	0	0	0	0%
Auburn	24	6	4	14	7	55	4.97%
Beaux Arts	0	0	0	0	0	0	0%
Bellevue	30	1	0	17	3	51	4.61%
Black Diamond	2	0	1	1	0	4	0.36%
Bothell	6	0	0	3	0	9	0.81%
Burien	8	0	1	5	3	17	1.54%
Carnation	2	0	0	1	0	3	0.27%
Clyde Hill	0	0	0	0	0	0	0%
Covington	0	0	0	0	1	1	0.09%
Des Moines	5	1	1	3	1	11	0.99%
Duvall	3	0	0	0	0	3	0.27%
Enumclaw	7	5	0	4	2	18	1.63%
Federal Way	16	4	7	9	3	39	3.52%
Hunts Point	0	0	0	0	0	0	0%
Issaquah	12	3	2	1	1	19	1.72%
Kenmore	7	0	0	1	0	8	0.72%
Kent	18	15	3	11	4	51	4.61%
Kirkland	20	1	0	9	3	33	2.98%
Lake Forest Park	2	0	0	2	0	4	0.36%
Maple Valley	1	1	0	4	1	7	0.63%
Medina	0	0	0	0	0	0	0%
Mercer Island	5	0	0	1	1	7	0.63%
Milton	0	0	0	0	0	0	0%
Newcastle	1	0	0	2	0	3	0.27%
Normandy Park	0	0	0	2	0	2	0.18%
North Bend	0	3	0	2	1	6	0.54%
Pacific	0	0	0	0	0	0	0%

<sup>18</sup>Table does not include cases where manner of death is classified "Natural". A = Accident (Non-Traffic), T = Traffic, H = Homicide, S = Suicide, U = Undetermined.

**Table 1-8      Nearest Incorporated City to the Fatal Incident / KCME / 2010<sup>19</sup> (continued)**

CITY	MANNER OF DEATH					Total	%
	A	T	H	S	U		
Redmond	12	1	0	6	0	19	1.72%
Renton	29	4	0	13	6	52	4.69%
Sammamish	4	0	0	0	0	4	0.36%
SeaTac	5	3	2	5	1	16	1.45%
Seattle	240	39	27	90	22	418	37.76%
Shoreline	10	2	1	9	1	23	2.08%
Skykomish	1	0	0	1	0	2	0.18%
Snoqualmie	3	5	0	1	1	10	0.90%
Tukwila	6	2	0	4	0	12	1.08%
Woodinville	5	1	0	1	0	7	0.63%
Yarrow Point	0	0	0	0	0	0	0%
Unincorporated King County							
Fall City	0	0	1	1	0	2	0.18%
Ravensdale	1	0	0	0	0	1	0.09%
Vashon Island	2	0	0	0	0	2	0.18%
Outside of King County	104	53	8	9	9	183	16.53%
Unknown Location	2	0	1	0	2	5	0.45%
<b>Totals</b>	<b>593</b>	<b>150</b>	<b>59</b>	<b>232</b>	<b>73</b>	<b>1,107</b>	<b>100%</b>

<sup>19</sup>A = Accident (Non-Traffic), T = Traffic, H = Homicide, S = Suicide, U = Undetermined.

## Out of County Cases 2010

King County is home to many hospitals and a major trauma center that serve the entire Pacific Northwest and the western United States. Consequently, there are numerous deaths each year where the incident leading to death occurred outside of King County. However, because the death occurred within King County, it comes under the jurisdiction of the King County Medical Examiner. In 2010, there were 187 deaths (17%, 187/1,107) where the incident (excluding deaths classified as "Natural") occurred out of county. Table 1-9 displays these deaths by incident location and manner.

**Table 1-9 Fatal Incident Occurred Outside of King County / KCME / 2010<sup>20</sup>**

INCIDENT LOCATION	MANNER OF DEATH					TOTAL
	A	T	H	S	U	
Alaska	3	2	1	0	0	6
Montana	0	2	1	0	0	3
Washington						
<i>Island County</i>	1	1	0	0	1	3
<i>Kitsap County</i>	5	2	0	2	0	9
<i>Pierce County</i>	16	4	1	2	0	23
<i>Skagit County</i>	12	4	0	0	0	16
<i>Snohomish County</i>	32	9	0	1	3	45
<i>Thurston County</i>	2	2	1	2	0	7
<i>Other WA Counties</i>	30	27	3	2	4	66
Washington Sub-Total	<b>98</b>	<b>49</b>	<b>5</b>	<b>9</b>	<b>8</b>	<b>169</b>
Out of Country	3	0	1	0	1	5
Unknown	2	0	0	0	2	4
<b>Totals</b>	<b>106</b>	<b>53</b>	<b>8</b>	<b>9</b>	<b>11</b>	<b>187</b>

<sup>20</sup>Table does not include cases where manner of death is classified as "Natural." A = Accident (Non-Traffic), T = Traffic, H = Homicide, S = Suicide, U = Undetermined.



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# Ten-year perspective

This section provides a ten-year perspective on deaths that the Medical Examiner investigated and variation in data from year to year.

The tables on the following pages attempt to give a perspective on the types of deaths that the Medical Examiner investigates. The tables display data by category and year and provide trends over time. More detailed analysis of 2010 data is provided in separate sections for each manner of death (Accident, Homicide, Natural, Suicide, Traffic, and Undetermined).

**Table 2-1**  
**Comparison of Manners of Death / KCME / 2001 - 2010**

MANNER OF DEATH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Accident (Other)	417	472	485	542	602	721	687	739	632	593
Accident (Traffic)	220	203	179	192	226	211	170	163	141	150
Homicide	74	93	93	76	80	91	76	85	63	59
Natural	619	661	770	765	763	752	863	871	989	953
Suicide	185	200	217	229	233	227	223	210	253	232
Undetermined	63	55	71	62	41	53	53	53	59	73
<b>Totals</b>	<b>1,578</b>	<b>1,684</b>	<b>1,815</b>	<b>1,866</b>	<b>1,945</b>	<b>2,055</b>	<b>2,072</b>	<b>2,121</b>	<b>2,137</b>	<b>2,060</b>

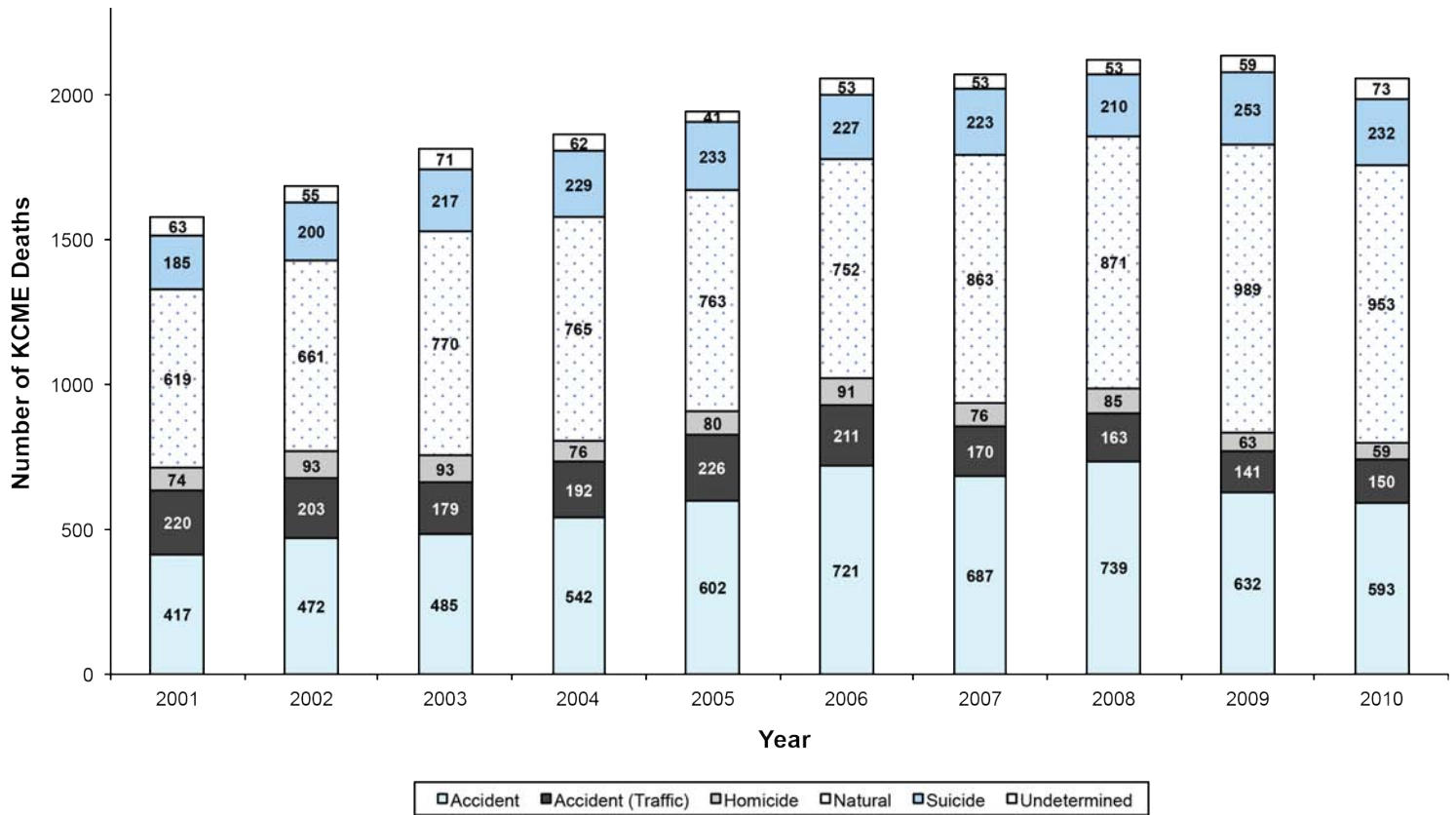
**Table 2-2**  
**Comparison of Manners of Death as Percentage of Total Annual Medical Examiner Cases / KCME / 2001 - 2010**

MANNER OF DEATH	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	%	%	%	%	%	%	%	%	%	%
Accident (Other)	26.5	28.0	26.8	29.0	31.0	35.1	33.1	34.8	29.6	28.8
Accident (Traffic)	13.9	12.1	9.9	10.3	11.6	10.3	8.2	7.7	6.6	7.3
Homicide	4.7	5.5	5.1	4.1	4.1	4.4	3.7	4.0	2.9	2.9
Natural	39.2	39.3	42.4	41.0	39.2	36.6	41.7	41.1	46.3	46.3
Suicide	11.7	11.9	11.9	12.3	12.0	11.0	10.8	9.9	11.8	11.2
Undetermined	4.0	3.2	3.9	3.3	2.1	2.6	2.5	2.5	2.8	3.5
<b>Totals</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



Graph 2-1

Comparison of Manners of Death / King County Medical Examiner / 2001 - 2010



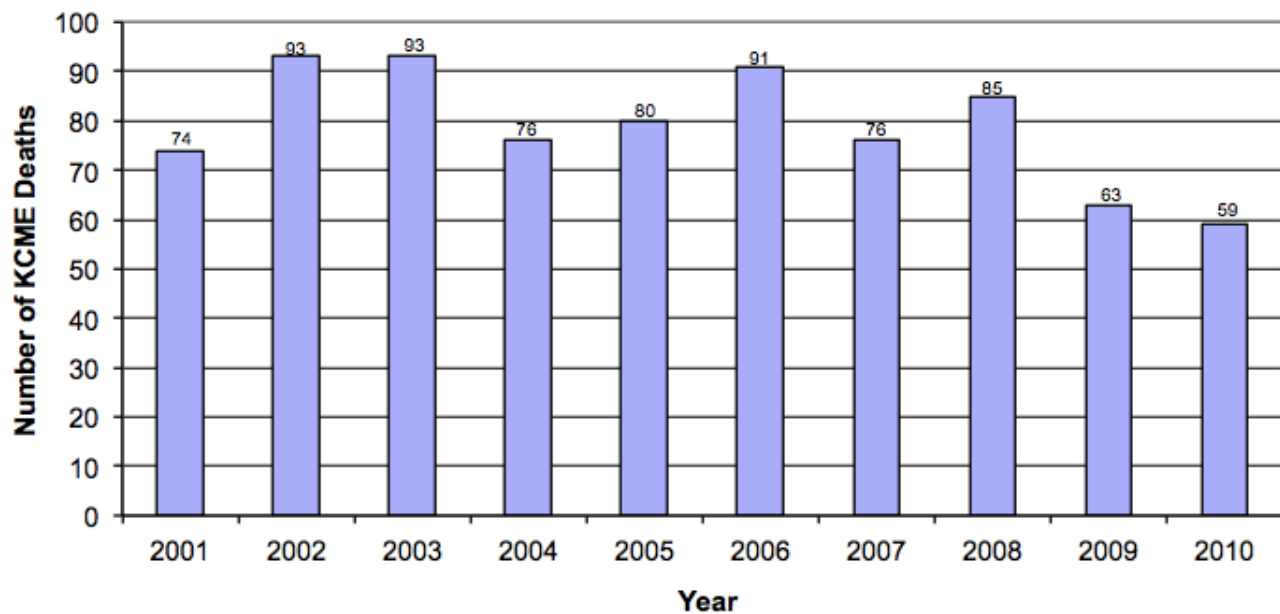
**Table 2-3**

Ten-Year Perspective of Homicidal Methods / KCME / 2001 - 2010

METHOD USED	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Blunt Force (#)	14	14	14	10	12	16	9	16	5	11
Blunt Force (%)	19%	15%	15%	13%	15%	18%	12%	19%	8%	18%
Firearms (#)	43	53	52	46	47	52	55	45	41	39
Firearms (%)	58%	57%	56%	61%	59%	57%	72%	53%	65%	66%
Hom. Violence (#)	0	2	3	3	2	0	0	0	0	1
Hom. Violence (%)	0%	2%	3%	4%	3%	0%	0%	0%	0%	2%
Stabbing (#)	8	17	16	10	14	14	12	12	11	2
Stabbing (%)	11%	18%	17%	13%	17%	15%	16%	14%	17%	4%
Strangulation (#)	3	3	5	1	4	1	0	4	3	1
Strangulation (%)	4%	3%	6%	1%	5%	1%	0%	5%	5%	2%
Other (#)	6	4	3	6	1	8	0	8	3	5
Other (%)	8%	5%	3%	8%	1%	9%	0%	9%	5%	8%
<b>Totals</b>	<b>74</b>	<b>93</b>	<b>93</b>	<b>76</b>	<b>80</b>	<b>91</b>	<b>76</b>	<b>85</b>	<b>63</b>	<b>59</b>

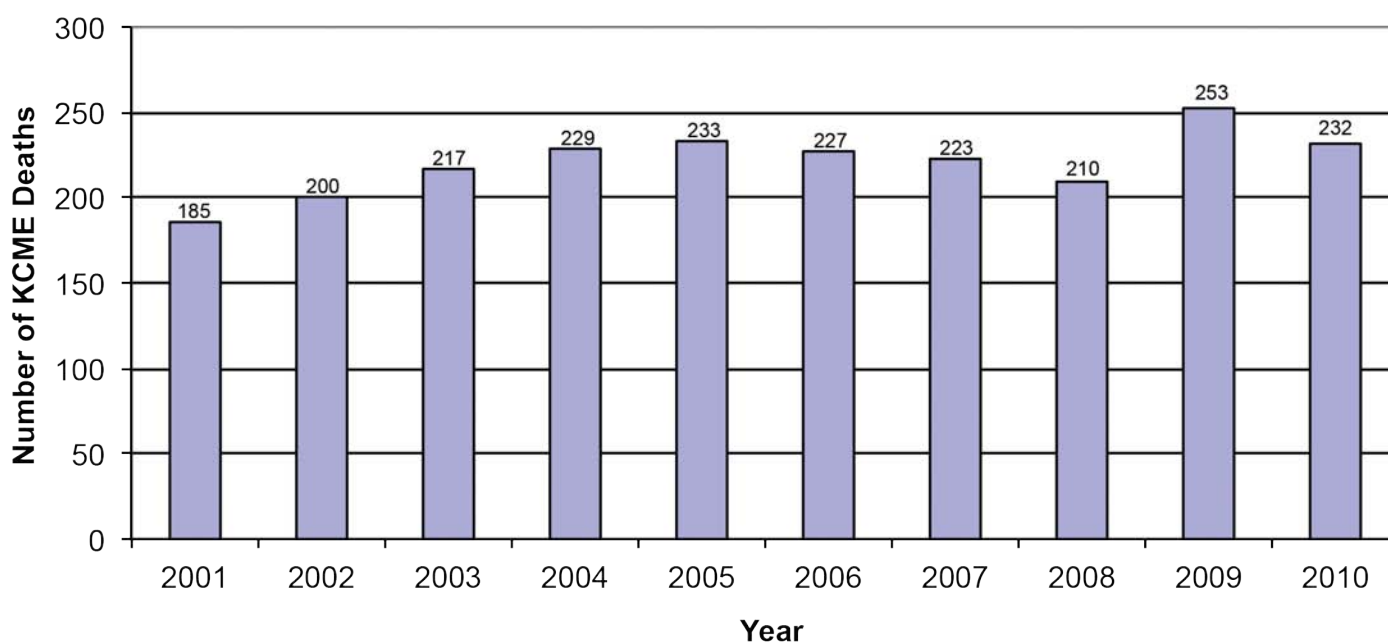
**Graph 2-2**

Homicide Deaths / King County Medical Examiner / 2001 - 2010



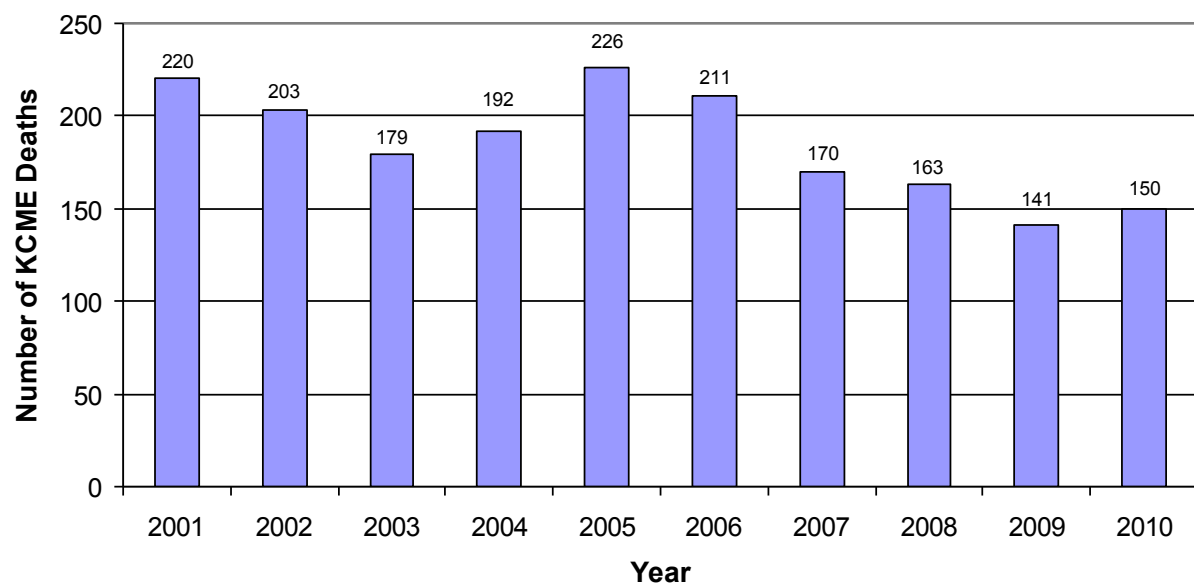
**Table 2-4 Ten Year Perspective of Suicidal Injury Modes / KCME / 2001 - 2010**

INJURY MODE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Asphyxia / Plastic Bag</b>	9	5	8	7	5	11	3	8	8	13
<b>Burns / Fire</b>	1	2	1	1	3	3	1	3	2	2
Carbon Monoxide	9	17	12	8	13	11	17	4	14	4
<b>Drowning</b>	1	2	4	5	0	1	3	3	7	3
Drugs / Poisons	21	23	35	41	39	36	36	29	29	43
<b>Firearms</b>	85	98	101	95	96	98	93	93	100	92
Hanging	38	32	36	44	42	31	43	48	60	44
<b>Incised Wounds / Stabbing</b>	9	4	6	8	9	5	4	5	8	7
Jumped	11	14	11	15	22	26	22	13	20	21
<b>Other</b>	1	3	3	5	4	5	1	4	5	3
<b>Totals</b>	<b>185</b>	<b>200</b>	<b>217</b>	<b>229</b>	<b>233</b>	<b>227</b>	<b>223</b>	<b>210</b>	<b>253</b>	<b>232</b>

**Graph 2-3 Suicide Deaths / King County Medical Examiner / 2001 – 2010**

**Table 2-5 Traffic Fatality Circumstances / KCME / 2001 - 2010**

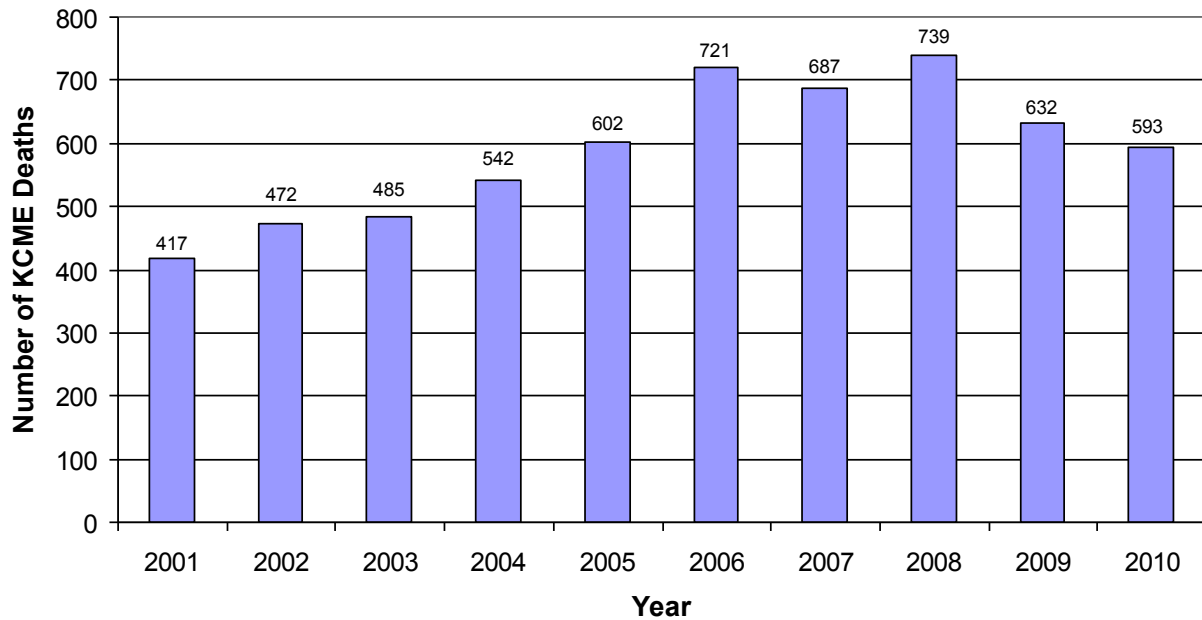
CIRCUMSTANCES	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Vehicle Driver	93	99	75	78	99	92	71	71	51	69
Vehicle Passenger	56	46	36	54	47	44	29	24	28	27
Vehicle Unknown Position	2	1	2	1	1	5	1	4	0	0
Bicyclist	7	3	3	5	6	8	7	4	12	3
Motorcycle Driver	21	17	21	23	33	27	26	28	18	24
Motorcycle Passenger	0	0	3	0	3	1	2	1	1	0
Pedestrian	40	34	38	30	36	33	31	26	29	27
Other	1	3	1	1	1	1	3	5	2	0
<b>Totals</b>	<b>220</b>	<b>203</b>	<b>179</b>	<b>192</b>	<b>226</b>	<b>211</b>	<b>170</b>	<b>163</b>	<b>141</b>	<b>150</b>

**Graph 2-4 Traffic Fatalities / King County Medical Examiner / 2001 – 2010**


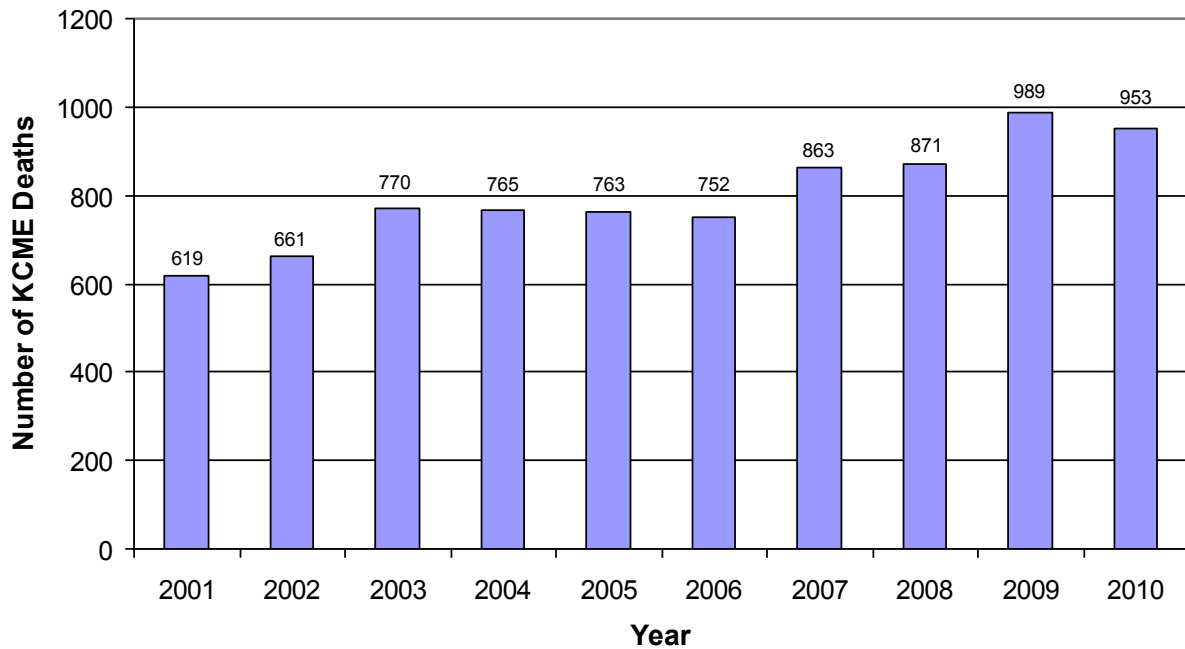
**Table 2-6** Ten Year Perspective of Non-Traffic Accidental Death  
Circumstances / KCME / 2001 - 2010

CIRCUMSTANCES	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Aircraft	1	0	0	2	3	3	11	1	0	0
Asphyxia	10	7	4	2	9	12	11	14	10	5
Aspiration	5	5	9	8	10	9	5	10	7	6
Blunt Force / Crushing	7	12	9	8	10	4	10	10	6	5
Burns / Fire	29	22	19	24	26	23	23	13	15	29
Carbon Monoxide	5	0	1	3	4	8	3	4	4	2
Drowning	35	32	27	17	19	30	23	23	17	11
Drugs / Poisons	122	173	160	211	216	262	247	232	233	214
Electrocution	1	2	0	2	1	2	1	1	2	2
Explosion	1	0	0	4	1	1	2	0	0	3
Fall	157	171	207	213	230	308	292	323	309	291
Firearms	0	0	1	1	2	0	1	1	1	1
Hanging	0	1	0	2	2	0	0	1	1	1
Hypothermia	8	6	2	2	4	4	3	4	7	4
Struck by Object	5	2	8	7	1	8	5	2	4	4
Struck by Train	3	2	0	3	1	0	1	3	2	0
Vehicular Non-Traffic	6	8	14	10	8	9	7	10	5	2
Other	5	5	2	5	10	7	2	6	9	13
<b>Totals</b>	<b>417</b>	<b>472</b>	<b>485</b>	<b>542</b>	<b>602</b>	<b>721</b>	<b>687</b>	<b>739</b>	<b>632</b>	<b>593</b>

Graph 2-5 Accidental Deaths / King County Medical Examiner / 2001 – 2010

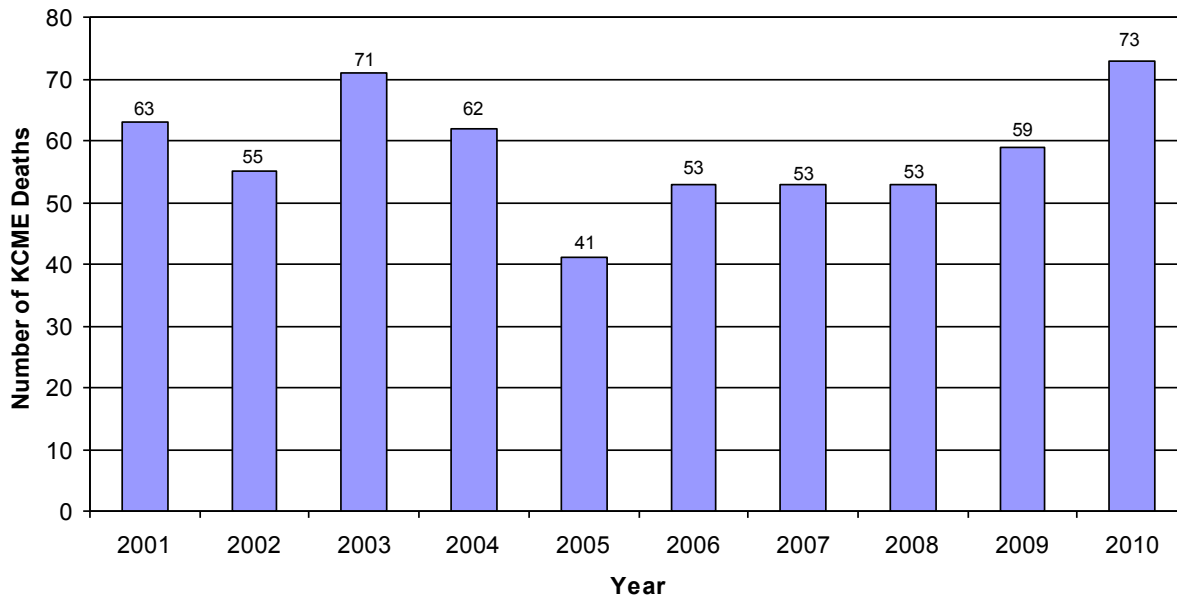


Graph 2-6 Natural Deaths / King County Medical Examiner / 2001 – 2010





**Graph 2-7 Deaths of Undetermined Manner / King County Medical Examiner / 2001 – 2010**





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# Manner of death: Accident

The Medical Examiner certified 593 deaths as non-traffic accidents for the calendar year 2010. The largest group of accidental deaths was those who died as a result of a fall, 49% (291/593). Of the 291 deaths attributed to injury sustained in falls, 81% (235/291) occurred in the age group 70 years and over. A large percentage were ground-level falls in elderly individuals, which resulted in fractures leading to complications such as pneumonia.

The second largest group of non-traffic accidental deaths was individuals who died as a result of accidental overdoses of drugs and/or poisons, representing 36% (214/593). By age, the largest percentage of these accidental drug deaths, 30% (64/214), occurred among adults between 40-49 years. The second largest group, 28% (59/214), included adults between the ages of 50-59. Fifteen percent (32/214) were adults between 30-39 years of age. There were six accidental drug deaths of children between the ages of 16-19 years, and there were no accidental drug deaths of children 13-15. There was one death of a child less than 12 years of age.

The 2010 drug rate number (214) represents a less than 1% decrease compared to the 233 accidental drug deaths in 2009. A more detailed discussion of these deaths is presented in the section "Death Due to Drugs and Poisons" on pages 89 and 90. Note that the number of accidental drug-related deaths included in the Accidental category does not include three deaths (one drowning death and two hypothermia deaths) that are included in the Death Due to Drugs and Poisons Chapter. They are included in the drug-related deaths because drug intoxication was listed as a cause of death on the death certificate in addition to the drowning and hypothermia. In this chapter, these three deaths are listed under the categories "Drowning" and "Hypothermia."

In 2010, 29 deaths resulted from fire or thermal injury, an increase from 2009 when there were 15. Of the 29 fire-related deaths, 52% (15/29) were the result of accidents that occurred outside of King County. The injured were transported to Harborview Medical Center's Burn Intensive Care Unit where they died.

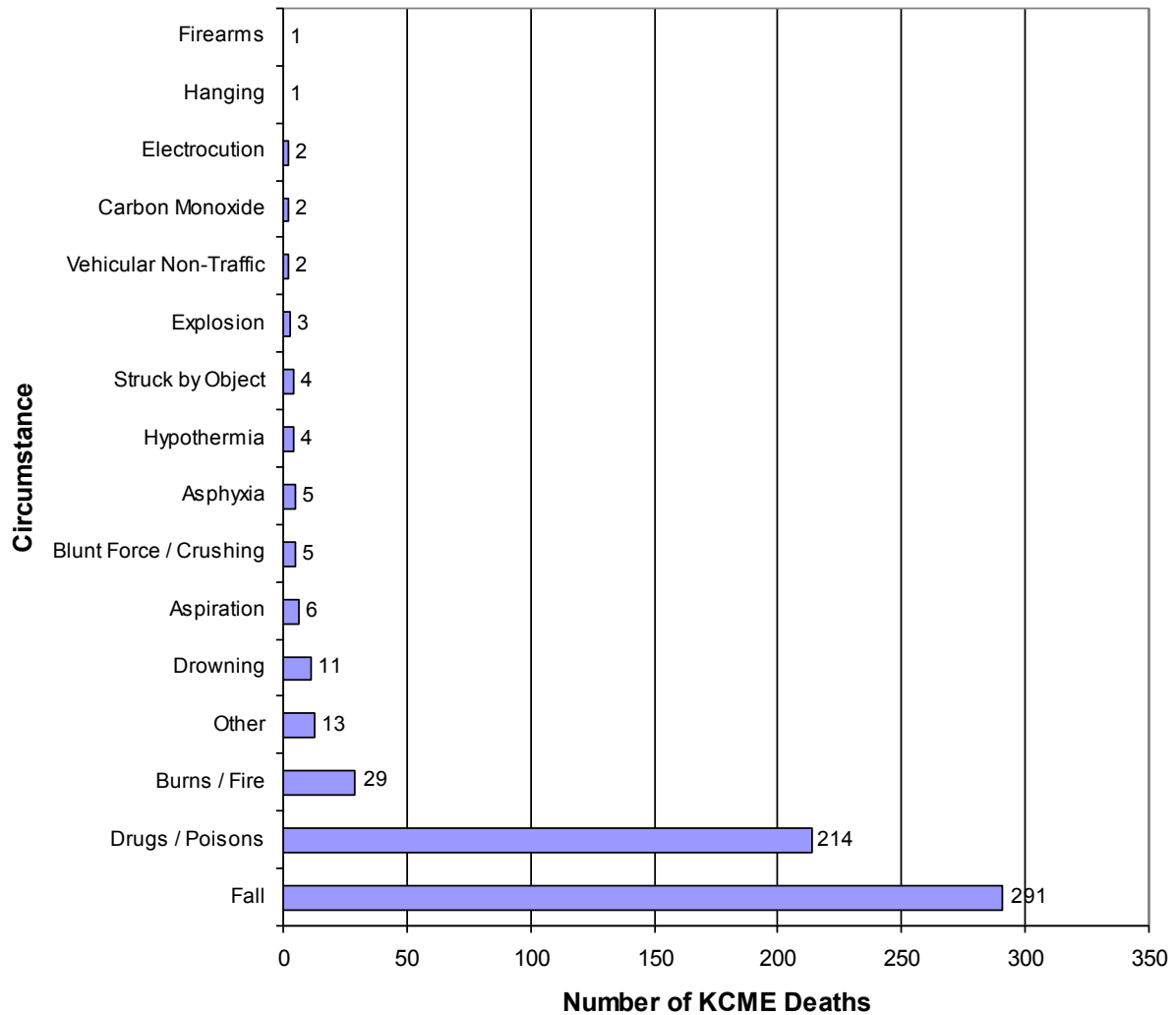
Another category of accidental deaths worthy of comment is death resulting from drowning. There were 11 drowning deaths in 2010, as compared to 17 in 2009.

Aspiration is a type of death that results from a person choking on a foreign object, often a bolus of food while eating. In 2010, there were six deaths due to aspiration of a foreign body, compared to seven in 2009. All of the aspiration deaths in 2010 were in adults over 50 years of age.

Of the 593 accidental deaths in 2010, 18% (106/593) were the result of incidents which occurred outside of King County, but the death took place within King County. These deaths were the result of the injured being transported from outside King County to medical facilities within King County where they died. Since these deaths occurred in King County, they fall under King County Medical Examiner jurisdiction.

Fifty-seven percent (337/593) of the victims were tested for the presence of alcohol. Of those tested, 39% (132/337), showed alcohol present at the time of death.

Graph 3-1 Circumstances of Accidental Death / King County Medical Examiner / 2010



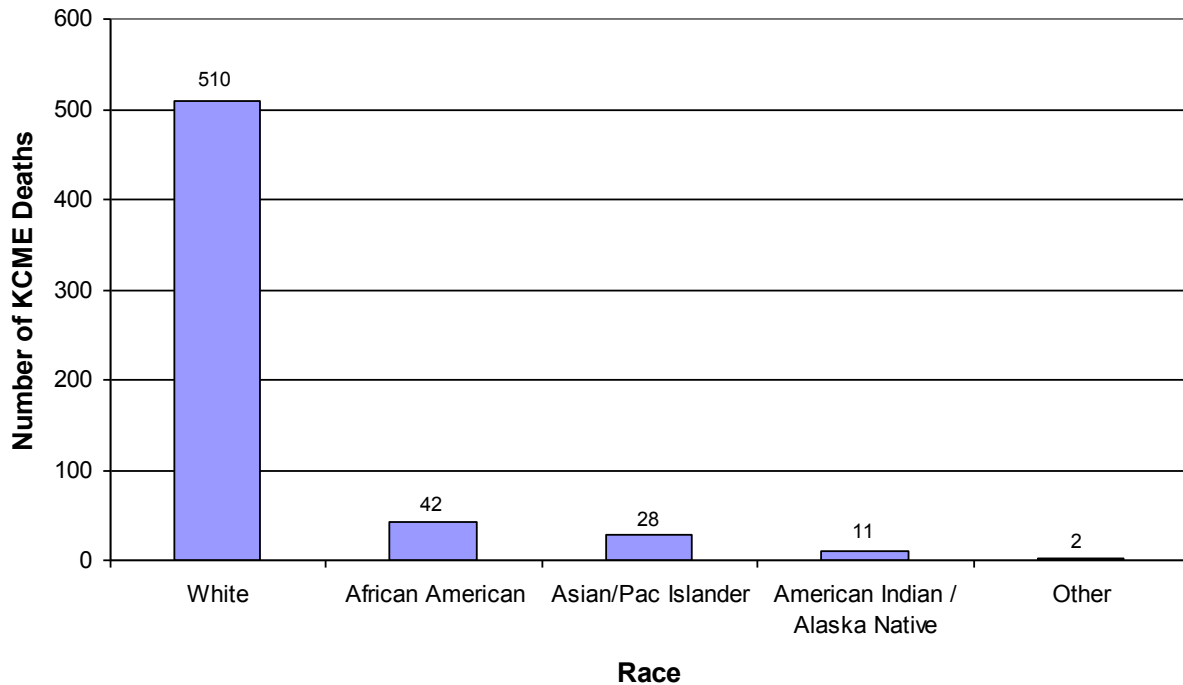
**Table 3-1 Circumstances of Accidental Death / Race / Sex / KCME / 2010**

CIRCUMSTANCES / SEX	RACE					SUB TOTAL	TOTAL
	WHITE	AFRICAN AMER	ASIAN/ PAC IS	AM INDIAN / AK NATIVE	OTHER		
Asphyxia: compressional / positional / mechanical	4	0	1	0	0		5
Male	4	0	1	0	0	5	
Female	0	0	0	0	0	0	
Aspiration	6	0	0	0	0		6
Male	4	0	0	0	0	4	
Female	2	0	0	0	0	2	
Blunt Force / Crushing	5	0	0	0	0		5
Male	5	0	0	0	0	5	
Female	0	0	0	0	0	0	
Burns / Fire	22	6	1	0	0		29
Male	12	3	1	0	0	16	
Female	10	3	0	0	0	13	
Carbon Monoxide	2	0	0	0	0		2
Male	1	0	0	0	0	1	
Female	1	0	0	0	0	1	
Drowning	8	0	2	1	0		11
Male	3	0	1	0	0	4	
Female	5	0	1	1	0	7	
Drugs / Poisons	174	30	4	6	0		214
Male	114	21	1	4	0	140	
Female	60	9	3	2	0	74	
Electrocution	2	0	0	0	0		2
Male	2	0	0	0	0	2	
Female	0	0	0	0	0	0	
Explosion	3	0	0	0	0		3
Male	3	0	0	0	0	3	
Female	0	0	0	0	0	0	
Fall	263	3	20	3	2		291
Male	144	1	12	1	2	160	
Female	119	2	8	2	0	131	

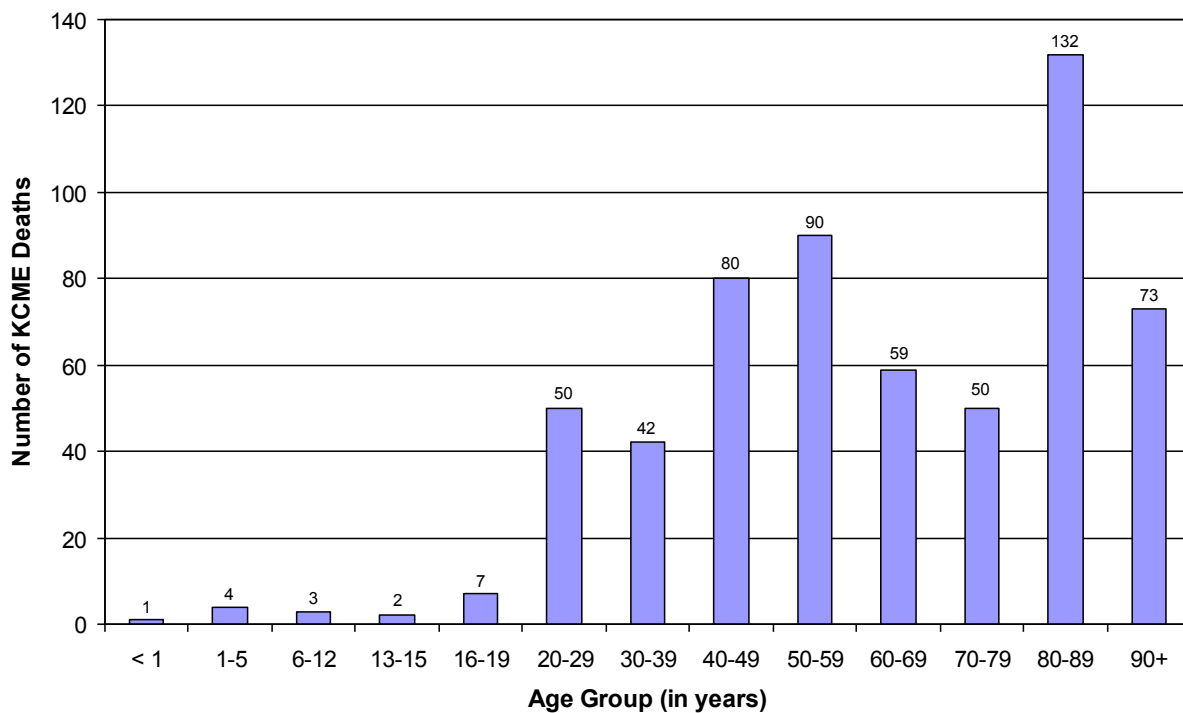
**Table 3-1      Circumstances of Accidental Death / Race / Sex / KCME / 2010** (continued)

CIRCUMSTANCES / SEX	RACE					SUB TOTAL	TOTAL
	WHITE	AFRICAN AMER	ASIAN/ PAC IS	AM INDIAN /AK NATIVE	OTHER		
Firearms	1	0	0	0	0		1
<i>Male</i>	1	0	0	0	0	1	
<i>Female</i>	0	0	0	0	0	0	
Hanging	1	0	0	0	0		1
<i>Male</i>	1	0	0	0	0	1	
<i>Female</i>	0	0	0	0	0	0	
Hypothermia	3	0	0	1	0		4
<i>Male</i>	3	0	0	1	0	4	
<i>Female</i>	0	0	0	0	0	0	
Struck by Object	4	0	0	0	0		4
<i>Male</i>	3	0	0	0	0	3	
<i>Female</i>	1	0	0	0	0	1	
Non-Traffic Vehicular	2	0	0	0	0		2
<i>Male</i>	1	0	0	0	0	1	
<i>Female</i>	1	0	0	0	0	1	
Other	10	3	0	0	0		13
<i>Male</i>	5	3	0	0	0	8	
<i>Female</i>	5	0	0	0	0	5	
<b>Totals</b>	<b>510</b>	<b>42</b>	<b>28</b>	<b>11</b>	<b>2</b>		<b>593</b>
Percent	86%	7%	4.7%	2%	0.3%		100%

**Graph 3-2 Accidental Deaths / Race / King County Medical Examiner / 2010**



**Graph 3-3 Accidental Deaths / Age Group / King County Medical Examiner / 2010**



**Table 3-2      Circumstances of Accidental Death / Age / Sex / KCME / 2010**

CIRCUMSTANCES / SEX	AGE GROUP (YEARS)														SUB TOTAL TOTAL	
	<	1	6	13	16	20	30	40	50	60	70	80	90			
Asphyxia compressional / positional / mechanical	0	0	0	0	0	0	1	0	3	0	1	0	0		5	
Male	0	0	0	0	0	0	1	0	3	0	1	0	0		5	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
Aspiration	0	0	0	0	0	0	0	0	1	1	1	2	1		6	
Male	0	0	0	0	0	0	0	0	1	0	1	1	1		4	
Female	0	0	0	0	0	0	0	0	0	1	0	1	0		2	
Blunt Force / Crushing	0	1	0	0	0	1	0	0	1	2	0	0	0		5	
Male	0	1	0	0	0	1	0	0	1	2	0	0	0		5	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
Burns / Fire	0	1	2	1	1	2	5	5	3	4	1	3	1		29	
Male	0	1	0	1	1	0	4	3	2	3	1	0	0		16	
Female	0	0	2	0	0	2	1	2	1	1	0	3	1		13	
Carbon Monoxide	0	0	0	0	0	0	0	0	1	1	0	0	0		2	
Male	0	0	0	0	0	0	0	0	1	0	0	0	0		1	
Female	0	0	0	0	0	0	0	0	0	1	0	0	0		1	
Drowning	0	0	0	0	0	3	0	3	1	0	2	1	1		11	
Male	0	0	0	0	0	2	0	0	1	0	1	0	0		4	
Female	0	0	0	0	0	1	0	3	0	0	1	1	1		7	
Drugs / Poisons	0	1	0	0	6	34	32	64	59	18	0	0	0		214	
Male	0	1	0	0	6	25	20	38	39	11	0	0	0		140	
Female	0	0	0	0	0	9	12	26	20	7	0	0	0		74	
Electrocution	0	0	0	0	0	1	0	1	0	0	0	0	0		2	
Male	0	0	0	0	0	1	0	1	0	0	0	0	0		2	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
Explosion	0	0	0	0	0	1	0	0	0	1	1	0	0		3	
Male	0	0	0	0	0	1	0	0	0	1	1	0	0		3	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
Fall	0	0	1	0	0	5	2	4	14	30	42	123	70		291	
Male	0	0	0	0	0	4	1	2	12	21	25	75	20		160	
Female	0	0	1	0	0	1	1	2	2	9	17	48	50		131	



**Table 3-3      Circumstances of Accidental Death / Sex / KCME / 2010**

CIRCUMSTANCES	SEX		TOTAL
	MALE	FEMALE	
Asphyxia (compressional / positional / mechanical)	5	0	5
Aspiration	4	2	6
Blunt Force / Crushing	5	0	5
Burns / Fire	16	13	29
Carbon Monoxide	1	1	2
Drowning	4	7	11
Drugs / Poisons	140	74	214
Electrocution	2	0	2
Explosion	3	0	3
Fall	160	131	291
Firearms	1	0	1
Hanging	1	0	1
Hypothermia	4	0	4
Struck by Object	3	1	4
Vehicular Non-Traffic	1	1	2
Other	8	5	13
<b>Totals</b>	<b>358</b>	<b>235</b>	<b>593</b>
Percent	60%	40%	100%

**Table 3-4 Circumstances of Accidental Death / Blood Alcohol Results / KCME / 2010**

CIRCUMSTANCES	TESTED		NOT TESTED	TOTAL
	TESTED POSITIVE	TESTED NEGATIVE		
Asphyxia (compressional/ positional / mechanical)	2	3	0	5
Aspiration	0	2	4	6
Blunt Force / Crushing	1	3	1	5
Burns / Fire	1	19	9	29
Carbon Monoxide	1	1	0	2
Drowning	3	7	1	11
Drugs / Poisons	68	142	4	214
Electrocution	0	1	1	2
Explosion	0	2	1	3
Fall	51	13	227	291
Firearms	0	0	1	1
Hanging	1	0	0	1
Hypothermia	3	1	0	4
Struck by Object	0	4	0	4
Vehicular Non-Traffic	0	1	1	2
Other	1	6	6	13
<b>Totals</b>	<b>132</b>	<b>205</b>	<b>256</b>	<b>593</b>
Percent	22%	35%	43%	100%



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# Manner of death: Homicide

The Medical Examiner classifies a death as a homicide when the death results from injuries inflicted by another person. In this context, the word homicide does not necessarily imply the existence of criminal intent behind the action of the other person. This is reflected in the fact that the prosecuting attorney may either charge the person responsible for the injuries with murder or manslaughter, or decline to file charges. In 2010, the Medical Examiner classified 59 deaths as homicide. This number represents 3% (59/2,060) of the Medical Examiner death investigations for the calendar year 2010. Of these 59 homicides, 51 (86%, 51/59) were the result of incidents that occurred within King County. For comparison, there were 63 homicides investigated in 2009, of which 51 (81%, 51/63) were incidents in King County.

The data reflect the weapons or mechanisms responsible for the homicidal deaths in 2010. Firearms were responsible for 66% (39/59), compared to 2009, when 65% (41/63) were due to firearms. Stabbing by a knife or other sharp-edged instrument caused 3% (2/59) of deaths of homicide victims. Blunt force injuries were responsible for 19% (11/59) of the 2010 homicide deaths. There was one death due to strangulation/asphyxia, one death due to homicidal violence and five deaths due to other means. The term "homicidal violence" is used when circumstances indicate that death was due to homicide but the exact cause of death is not determined, for example, in a decomposed body.

In 2010, there were four homicide victims under five years of age. There were four homicide victims between 6 - 15 years of age. Seven homicide victims were between the ages of 16 and 19 years.

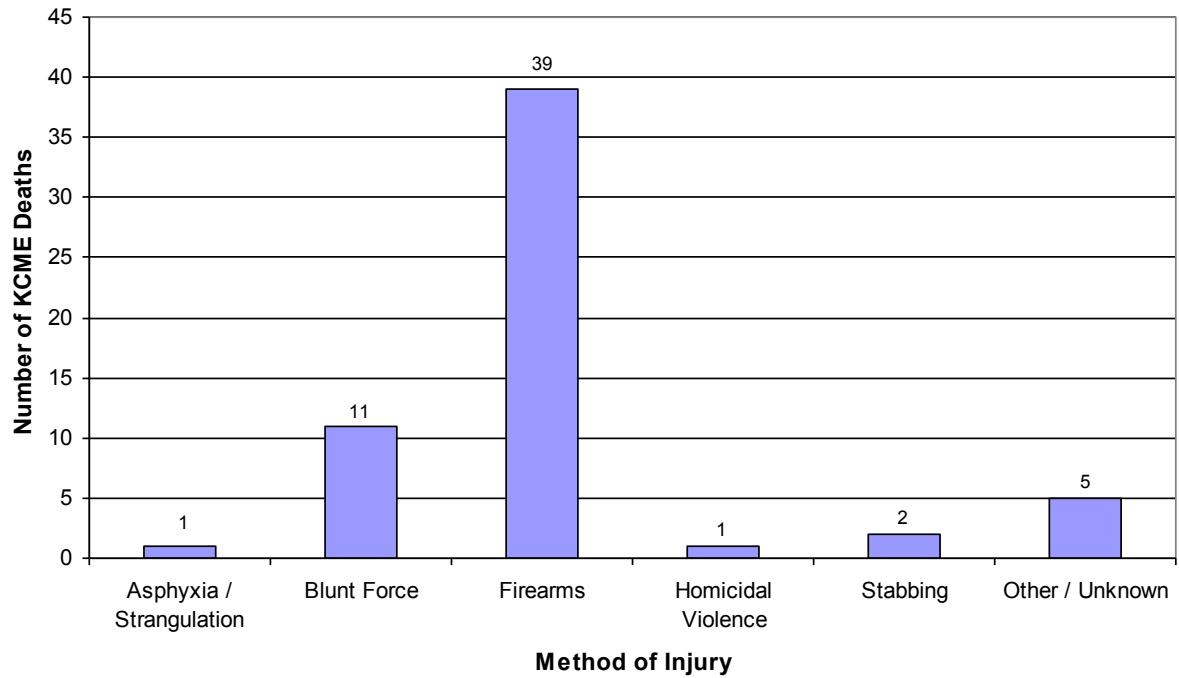
Examining the racial distribution of victims of homicide, 19% (11/59) of the victims were African American, compared to 2009, when 24% (15/63) of the victims were African American. Whites, while representing 75% of the population, made up 59% (35/59) of the homicide victims. The remaining 22% of homicide victims (13/59) included Asian/Pacific Islanders and American Indian or Alaska Native. As indicated on pages 9 and 23, in 17% of the Medical Examiner cases the incident leading to death occurred outside of King County and the decedent was likely not a resident of King County. Therefore, Medical Examiner figures cannot be directly compared to the racial distribution of King County residents (refer to Table 1-9 on page 23.)

Males comprised 68% (40/59) and women 32% (19/59) of the homicide victims in 2010. The majority of victims, 51% (30/59), were between the ages of 20 and 49 years. Young people, 19 years old and under, comprised 25% (15/59) of the homicide victims. For comparison, this younger age group represented 8% (5/63) in the year 2009. Eighty-eight percent (52/59) of the victims were tested for the presence of alcohol. Of those tested 35% (18/52) showed alcohol present at the time of death.

Of the 59 homicidal deaths in 2010, 51 (86% 51/59) of the fatal incidents occurred within King County, and of these deaths, 27 (53%, 27/51) occurred within the city limits of Seattle. In 8 of the 59 homicidal deaths, the incident occurred outside of King County, but death occurred within King County.

The relationship of victim to assailant was not tabulated as part of this report. In order to investigate such associations, additional review of police records would be necessary.

**Graph 4-1 Homicide Injury Methods / King County Medical Examiner / 2010**



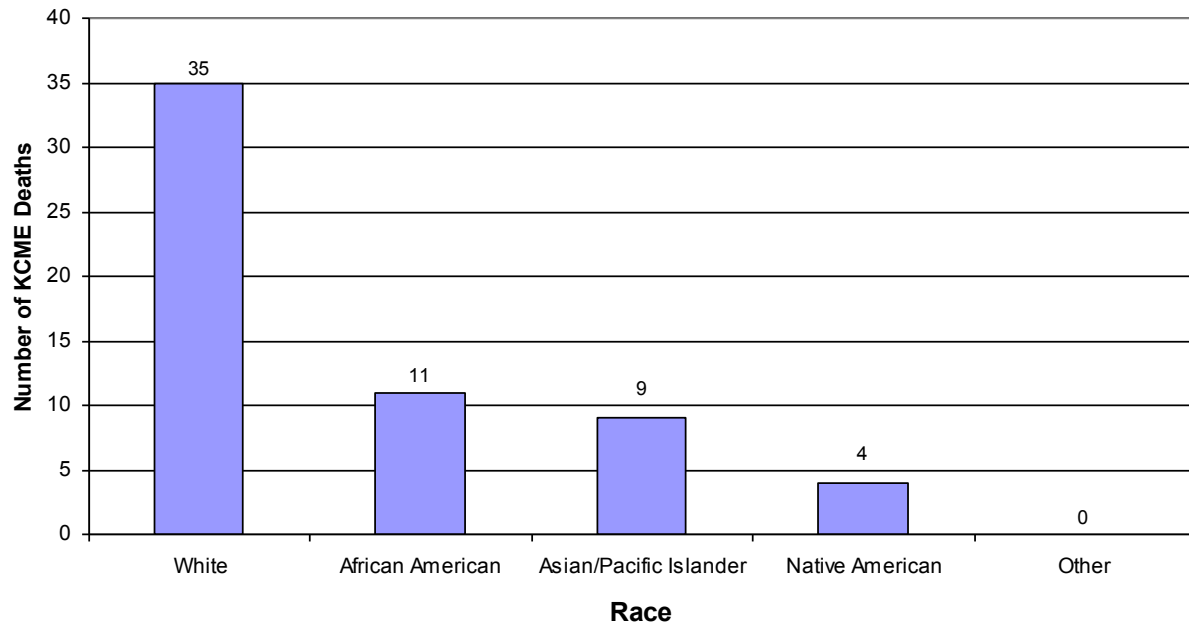
**Table 4-1 Homicide Methods / Race / Sex / King County Medical Examiner / 2010**

CIRCUMSTANCES / SEX	RACE					SUB TOTAL	TOTAL
	WHITE	AFRICAN AMER	ASIAN/ PAC IS	AM INDIAN /AK NATIVE	OTHER		
Asphyxia / Strangulation	1	0	0	0	0		1
<i>Male</i>	1	0	0	0	0	1	
<i>Female</i>	0	0	0	0	0	0	
Blunt Force	7	1	1	2	0		11
<i>Male</i>	4	0	0	2	0	6	
<i>Female</i>	3	1	1	0	0	5	
Firearms	19	10	8	2	0		39
<i>Male</i>	13	9	5	2	0	29	
<i>Female</i>	6	1	3	0	0	10	
Homicidal Violence	1	0	0	0	0		1
<i>Male</i>	0	0	0	0	0	0	
<i>Female</i>	1	0	0	0	0	1	
Stabbing	2	0	0	0	0		2
<i>Male</i>	2	0	0	0	0	2	
<i>Female</i>	0	0	0	0	0	0	
Other / Unknown	5	0	0	0	0		5
<i>Male</i>	2	0	0	0	0	2	
<i>Female</i>	3	0	0	0	0	3	
<b>Totals</b>	<b>35</b>	<b>11</b>	<b>9</b>	<b>4</b>	<b>0</b>		<b>59</b>
Percent	59%	19%	15%	7%	0%		100%

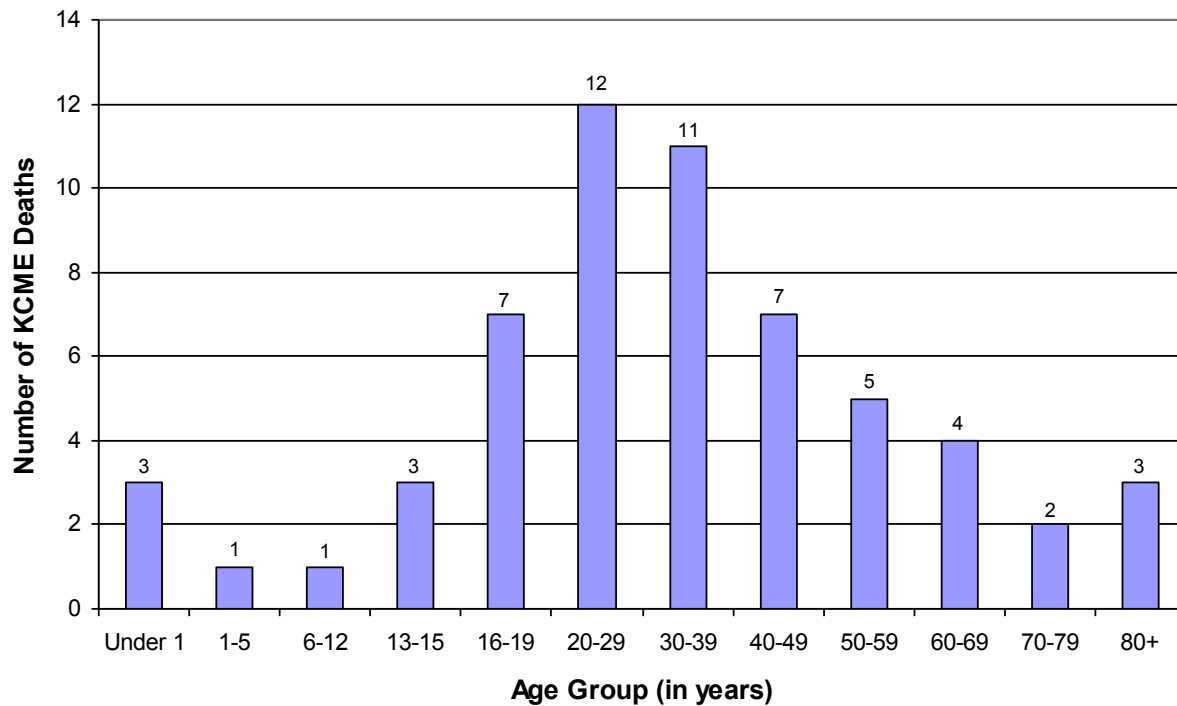
**Table 4-2 Homicide Methods / Age / Sex / King County Medical Examiner / 2010**

METHOD / SEX	AGE GROUP (YEARS)													SUB TOTAL	TOTAL
	< 1	1 to 5	6 to 12	13 to 15	16 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 +		
Asphyxia / Strangulation	0	0	0	0	0	1	0	0	0	0	0	0	0		1
<i>Male</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
<i>Female</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Blunt Force	3	1	0	0	0	0	3	1	1	1	1	0	0		11
<i>Male</i>	0	0	0	0	0	0	3	1	1	1	0	0	0	6	
<i>Female</i>	3	1	0	0	0	0	0	0	0	0	1	0	0	5	
Firearms	0	0	1	3	7	9	8	4	3	2	0	2	0		39
<i>Male</i>	0	0	1	1	5	8	6	4	3	1	0	0	0	29	
<i>Female</i>	0	0	0	2	2	1	2	0	0	1	0	2	0	10	
Homicidal Violence	0	0	0	0	0	1	0	0	0	0	0	0	0		1
<i>Male</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Female</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
Stabbing	0	0	0	0	0	0	0	1	0	0	1	0	0		2
<i>Male</i>	0	0	0	0	0	0	0	1	0	0	1	0	0	2	
<i>Female</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other / Unknown	0	0	0	0	0	1	0	1	1	1	0	1	0		5
<i>Male</i>	0	0	0	0	0	0	0	0	1	1	0	0	0	2	
<i>Female</i>	0	0	0	0	0	1	0	1	0	0	0	1	0	3	
<b>Totals</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>12</b>	<b>11</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>0</b>		<b>59</b>
Percent	5%	2%	2%	5%	12%	20%	19%	12%	8%	7%	3%	5%	0%		100%

**Graph 4-2 Homicide Deaths / Race / King County Medical Examiner / 2010**



**Graph 4-3 Homicide Deaths / Age Group / King County Medical Examiner / 2010**





**Table 4-3 Homicide Deaths / Age / Race / Sex / King County Medical Examiner / 2010**

METHOD		AGE						SUB TOTAL	TOTAL
		< 16	16	20	30	40	50+		
			19	29	39	49			
Asphyxia/ Strangulation	White	0	0	1	0	0	0	1	1
	Male	0	0	1	0	0	0		
	Female	0	0	0	0	0	0		
Blunt Force	White	3	0	0	3	0	1	4	7
	Male	0	0	0	3	0	1		
	Female	3	0	0	0	0	0		
	African Am.	1	0	0	0	0	0	0	1
	Male	0	0	0	0	0	0		
	Female	1	0	0	0	0	0		
	Asian/Pac Is.	0	0	0	0	0	1	0	1
	Male	0	0	0	0	0	0		
	Female	0	0	0	0	0	1		
	Native Am.	0	0	0	0	1	1	2	2
	White	0	0	0	0	1	1		
	Male	0	0	0	0	0	0		
Firearms	White	1	4	3	4	2	5	13	19
	Male	1	3	3	2	2	2		
	Female	0	1	0	2	0	3		
	African Am.	2	1	3	2	1	1	9	10
	Male	1	1	3	2	1	1		
	Female	1	0	0	0	0	0		
	Asian/Pac Is.	1	2	2	2	1	0	5	8
	Male	0	1	1	2	1	0		
	Female	1	1	1	0	0	0		
	Native Am.	0	0	1	0	0	1	2	2
	White	0	0	1	0	0	1		
	Male	0	0	0	0	0	0		
Homicidal Violence	White	0	0	1	0	0	0	0	1
	Male	0	0	0	0	0	0		
	Female	0	0	1	0	0	0		
Stabbing	White	0	0	0	0	1	1	2	2
	Male	0	0	0	0	1	1		
	Female	0	0	0	0	0	0		
Other/ Unintentional	White	0	0	1	0	1	3	3	5
	Male	0	0	0	0	1	2		
	Female	0	0	1	0	0	1		
Totals		8	7	12	11	7	14	59	

**Table 4-4 Homicide Methods / Sex / King County Medical Examiner / 2010**

METHOD	SEX		TOTAL
	MALE	FEMALE	
Asphyxia / Strangulation	1	0	1
Blunt Force	6	5	11
Firearms	29	10	39
Homicidal Violence	0	1	1
Stabbing	2	0	2
Other / Unknown	2	3	5
<b>Totals</b>	<b>40</b>	<b>19</b>	<b>59</b>
Percent	68%	32%	100%

**Table 4-5 Homicide Methods / Blood Alcohol Results / KCME / 2010**

METHOD	TESTED		NOT TESTED	TOTAL
	POSITIVE	NEGATIVE		
Asphyxia / Strangulation	1	0	0	1
Blunt Force	3	6	2	11
Firearms	13	23	3	39
Homicidal Violence	0	0	1	1
Stabbing	0	2	0	2
Other / Unknown	1	3	1	5
<b>Totals</b>	<b>18</b>	<b>34</b>	<b>7</b>	<b>59</b>
Percent	30%	58%	12%	100%

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# Manner of death: Natural

The Medical Examiner assumes jurisdiction over deaths that are classified as natural due to the sudden and unexpected nature of the death in an apparently healthy individual, when there is no physician who has knowledge or awareness of the decedent's condition, when there is no next of kin to make disposition, or when there are suspicious circumstances surrounding the death. In these situations, the Medical Examiner becomes responsible for certification of death. It should be stressed that the natural deaths the Medical Examiner investigates may not be representative of all natural deaths in the general population, due to the possibility that jurisdictional considerations introduce significant bias.

In 2010, the King County Medical Examiner's Office assumed jurisdiction over 953 deaths attributed to natural causes, representing 46% (953/2,060) of the cases investigated. The King County Medical Examiner certified 63% (604/953) of these deaths; attending physicians who had knowledge of the decedent's medical condition certified 37% (349/953). It should be noted that when a death is initially reported, there may be no evidence of an attending physician. A thorough scene investigation often reveals that the deceased did, in fact, have a physician with knowledge of the decedent's medical condition. In that case, this physician would then be contacted to certify the death. The King County Medical Examiner performed autopsies in 77% (463/604) of the deaths certified as natural, which included autopsies performed in 100% (18/18) of deaths classified as Sudden Infant Death Syndrome (SIDS). In this context, it is important to recognize that there are changes occurring in the classification of sudden infant deaths. The term "Sudden Unexplained Infant Death" (SUID) is used by some as an alternative to SIDS. Whatever the designation, it is important to recognize that an autopsy is performed on all sudden infant deaths.

The data presented in this section are derived from the 953 natural deaths in which the King County Medical Examiner assumed jurisdiction in 2010. Cardiovascular disease accounted for the greatest proportion of natural deaths. Most deaths in which an autopsy was not performed were certified as due to "probable arteriosclerotic cardiovascular disease".

A special subset of deaths designated "Complication of Therapy" has been incorporated in the statistical analyses of natural deaths. Previously, these deaths were classified separately and included in the Accident chapter. Complication of Therapy is not an official manner of death recognized by state or federal standards of death certification. It is, however, a useful category that includes deaths resulting from medical therapy or surgical procedures that are not easily classified as either natural or accidental deaths. As such, this category of deaths warrants special mention because of an apparent upward trend in incidence and increased public interest. A Complication of Therapy is defined as a death that arises as a predictable consequence of appropriate medical therapy. Deaths that are excluded from this category include falls and mechanical injuries in hospitals, inadvertent misadministration of drugs, wrong-sided surgeries, and wholly unexpected procedure-related injuries, all of which are more appropriately classified as manner Accident.

As an example, a patient who dies after an operation for colon cancer in whom there is an infection complicating the colectomy, the manner of death would be classified as Complication of Therapy, manner Natural. Contrast this example with the case of a hospital patient for whom a proper prescription for a heart medication is written but is given an unintentional overdose of the medication. In this second case, the manner of death would be Accident, not Complication of Therapy.

It is important to note that the classification of a death as a Complication of Therapy is a non-judgmental means by which the inherent risk of medical therapies can be recognized and tracked. By no means is Complication of Therapy synonymous with malpractice or negligence.

Complication of Therapy deaths have increased in the previous ten years, from 16 in 2000 to 129 in 2010 and can be divided into three general categories: drug-related, consequence of medical procedure, and consequence of surgery. Drug-related includes anaphylactic/allergic reaction, hemorrhagic complications of anticoagulants, anesthesia related events, and other adverse drug reactions. Consequence of medical procedure refers to complications from procedures that are therapeutic or diagnostic, but do not meet the criteria for surgery, such as placement of catheters, penetration of body cavities by needles, or manipulation of body regions, etc. Consequence of surgery refers to direct anatomic damage during a procedure and usually involves a diseased organ system, such as perforation of a viscus or vessel or hemorrhagic complications of surgery.

In 2010, 129 deaths were classified as Complication of Therapy. Graph 5-4 shows the Complication of Therapy deaths by general category and Graph 5-5 further divides the general category of surgical injury into "type of surgery" and "comorbidity." (Comorbidity is defined as the coexistence of natural disease serious enough to be listed on the death certificate as a contributing condition.)

There may be multiple reasons for this apparent upward trend in the incidence of Complication of Therapy over the last ten years, but one of the most important factors is probably the rate at which non-natural deaths are reported to the KCMEO. The Medical Examiner is dependent on clinical providers to report deaths that may have been a consequence of medical therapy. Another important factor for the increase in cases from 2007 to 2010 is the inclusion of *Clostridium difficile* colitis as a complication of antibiotic therapy.

Recognition of the importance of identifying and reporting these deaths by the medical community has surged since the Institute of Medicine of the National Academy of Sciences published a report in 1999 that estimated that up to 98,000 preventable deaths may occur each year in the United States due to medical errors. The subsequent public interest and efforts by the healthcare system to address issues of patient safety may contribute to a greater percentage of these cases being reported to the Medical Examiner.

**Table 5-1 Disease Processes Causing Natural Deaths / KCME / 2010**

NUMBER OF DEATHS	DISEASE DESCRIPTION
<b>CARDIOVASCULAR</b>	
6	Aortic aneurysm
9	Aortic dissection
227	Arteriosclerotic cardiovascular disease (ASCVD)
3	Bacterial endocarditis
6	Cardiac dysrhythmia
27	Cardiomyopathy
1	Congenital heart disease
32	Hypertensive ASCVD / Hypertensive heart disease
2	Myocarditis
121	Probable arteriosclerotic cardiovascular disease
9	Valvular heart disease
9	Other
<b>452</b>	<b>TOTAL CARDIOVASCULAR</b>
<b>CENTRAL NERVOUS SYSTEM</b>	
10	Epilepsy (idiopathic & other non-traumatic etiologies)
5	Infarct
3	Meningitis
13	Spontaneous intracerebral hemorrhage
9	Spontaneous rupture of aneurysm
11	Other
<b>51</b>	<b>TOTAL CENTRAL NERVOUS SYSTEM</b>
<b>COMPLICATION OF THERAPY (COT)</b>	
58	C. Difficile Colitis COT
2	Cardiothoracic Surgery COT
28	Drug Related COT
18	General Surgery COT
3	Neurosurgery COT
0	Orthopedic Surgery COT
20	Procedure Related COT
<b>129</b>	<b>TOTAL COMPLICATION OF THERAPY</b>
<b>ENDOCRINE</b>	
4	Diabetic ketoacidosis
20	Diabetes mellitus
0	Pancreatitis
0	Other
<b>24</b>	<b>TOTAL ENDOCRINE</b>

**Table 5-1 Disease Processes Causing Natural Deaths / KCME / 2010 (continued)**

DISEASE DESCRIPTION

**OTHER PROCESSES**

Chronic ethanolism (alcoholism)  
 Chronic renal disease  
 HIV / AIDS  
 Infection  
 Labor / Delivery / Prematurity  
 Necrotizing fasciitis  
 No anatomic or toxicological cause of death  
 Sepsis  
 Other

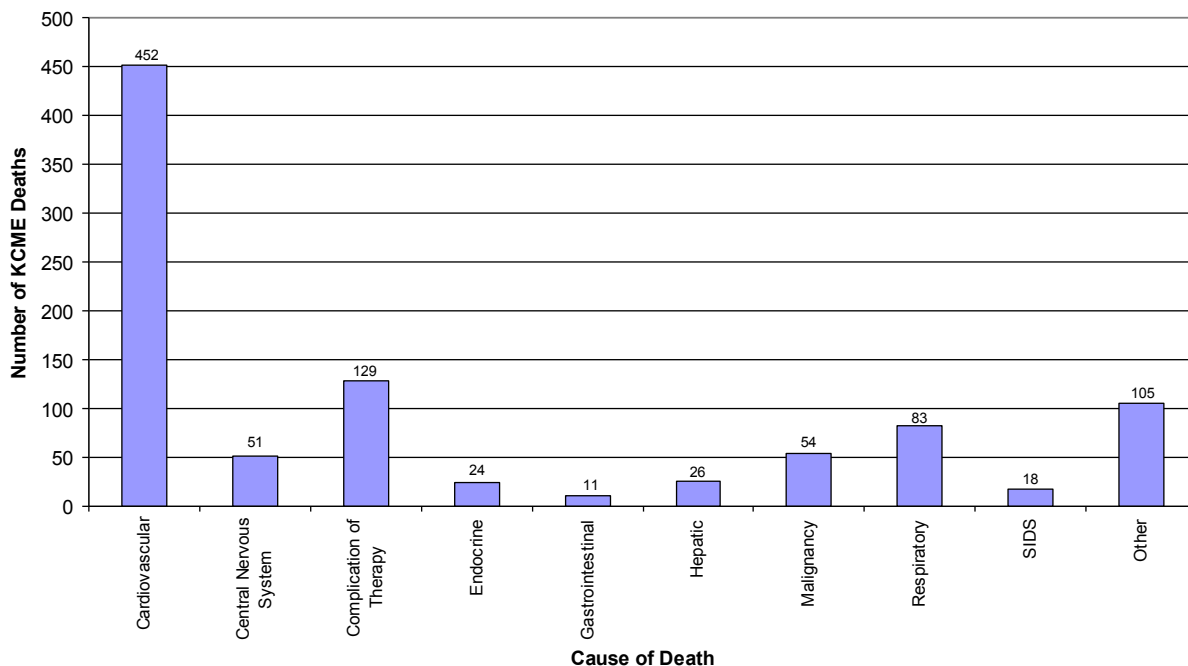
TOTAL OTHER PROCESSES

TOTAL Non-Cardiovascular Cause of Death

TOTAL Cardiovascular Cause of Death

**Total NATURAL DEATHS under KCME Jurisdiction, 2010**

**Graph 5-1 Deaths due to Natural Causes / King County Medical Examiner / 2010**

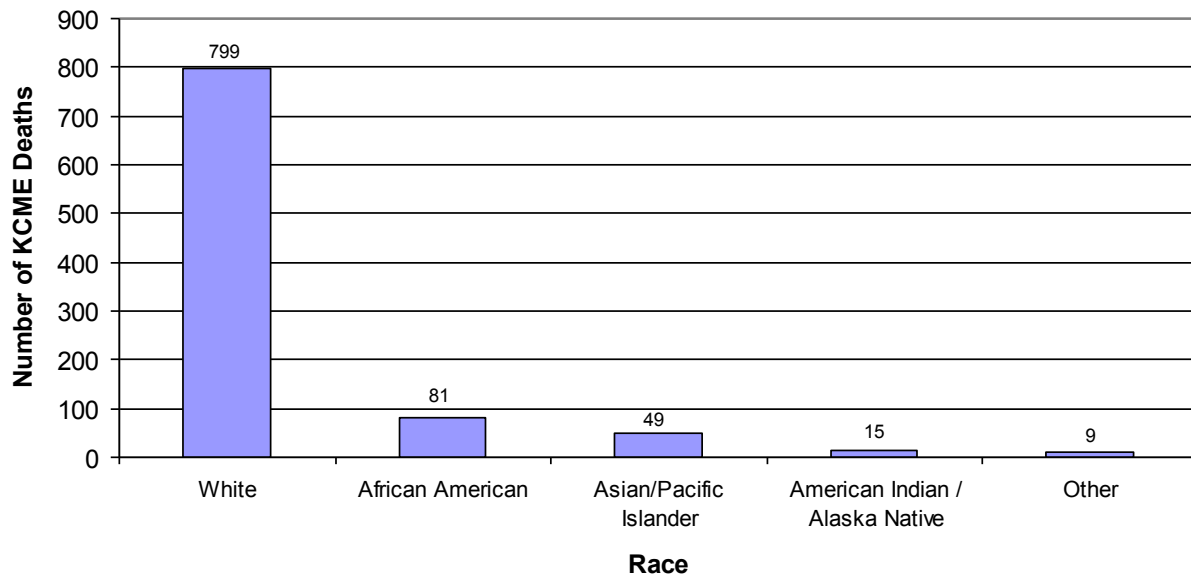


**Table 5-2 Natural Deaths / Race / Sex / King County Medical Examiner / 2010**

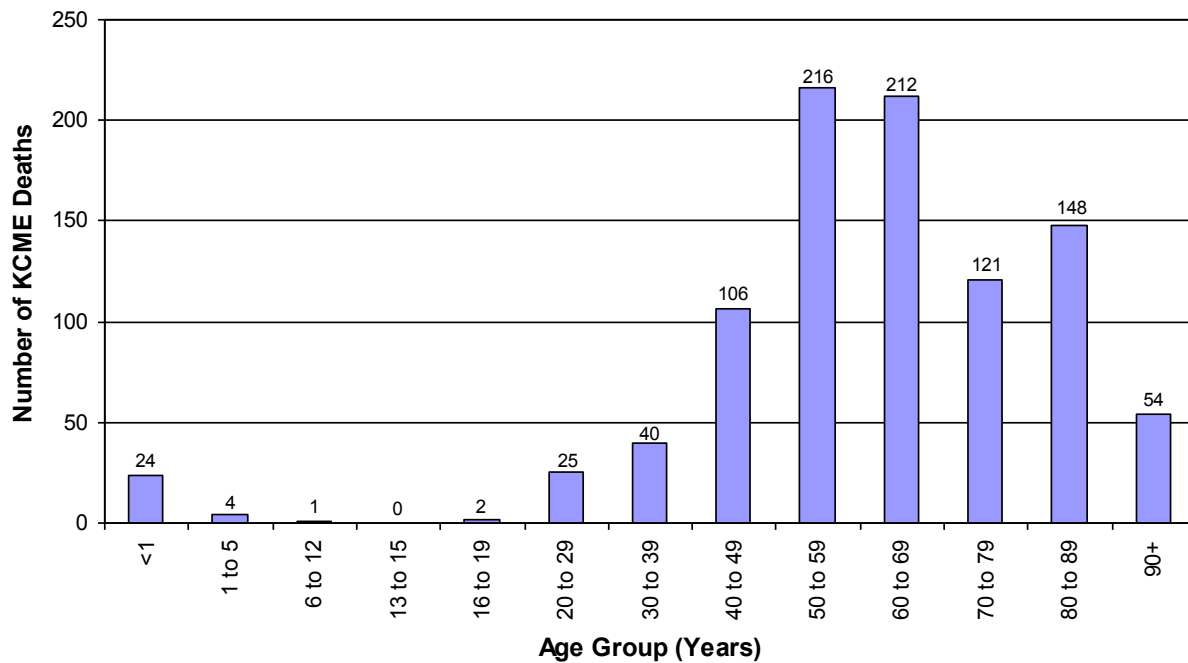
DISEASE	PROCESS / SEX	RACE					SUB TOTAL	TOTAL
		WHITE	AFRIC AMER	ASIAN/ PAC IS	AM INDIAN /AK NATIVE	OTHER		
Cardiovascular		380	37	27	4	4		452
	Male	263	25	22	4	4	318	
	Female	117	12	5	0	0	134	
Central Nervous		40	7	4	0	0		51
	Male	18	4	1	0	0	23	
	Female	22	3	3	0	0	28	
Complication of Therapy		113	4	9	1	2		129
	Male	61	1	5	0	1	68	
	Female	52	3	4	1	1	61	
Endocrine		16	7	0	1	0		24
	Male	11	5	0	0	0	16	
	Female	5	2	0	1	0	8	
Gastrointestinal		9	0	2	0	0		11
	Male	6	0	2	0	0	8	
	Female	3	0	0	0	0	3	
Hepatic		24	0	0	1	1		26
	Male	19	0	0	1	1	19	
	Female	5	0	0	0	0	7	
Malignancy		50	2	0	1	1		54
	Male	32	2	0	1	1	36	
	Female	18	0	0	0	0	18	
Respiratory		68	8	3	3	1		83
	Male	35	7	3	0	1	46	
	Female	33	1	0	3	0	37	
SIDS		13	5	0	0	0		18
	Male	7	4	0	0	0	11	
	Female	6	1	0	0	0	7	
Other		86	11	4	4	0		105
	Male	53	7	2	2	0	64	
	Female	33	4	2	2	0	41	
<b>Totals</b>		<b>799</b>	<b>81</b>	<b>49</b>	<b>15</b>	<b>9</b>		<b>953</b>
Percent		83.80%	8.50%	5.10%	1.60%	1%		100%



**Graph 5-2 Natural Deaths / Race / King County Medical Examiner / 2010**



**Graph 5-3 Natural Deaths / Age Group / King County Medical Examiner / 2010**



**Table 5-3 Natural Deaths / Age / Sex / King County Medical Examiner / 2010**

DISEASE PROCESS/ SEX	AGE GROUP (YEARS)													SUB TOTAL	TOTAL
	< 1	1 to 5	6 to 12	13 to 15	16 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 +		
Cardiovascular	1	1	0	0	0	10	14	52	105	117	61	68	23		452
Male	1	1	0	0	0	5	10	39	83	89	44	33	13	318	
Female	0	0	0	0	0	5	4	13	22	28	17	35	10	134	
Central Nervous	0	0	1	0	1	4	3	7	6	9	3	11	6		51
Male	0	0	0	0	0	3	2	4	3	4	2	4	1	23	
Female	0	0	1	0	1	1	1	3	3	5	1	7	5	28	
Complication of Therapy	1	0	0	0	0	1	1	7	17	19	29	40	14		129
Male	1	0	0	0	0	1	1	4	12	11	12	20	6	68	
Female	0	0	0	0	0	0	0	3	5	8	17	20	8	61	
Endocrine	0	0	0	0	0	1	4	3	10	5	1	0	0		24
Male	0	0	0	0	0	0	4	2	7	3	0	0	0	16	
Female	0	0	0	0	0	1	0	1	3	2	1	0	0	8	
Gastrointestinal	0	0	0	0	0	0	0	0	5	2	0	4	0		11
Male	0	0	0	0	0	0	0	0	5	1	0	2	0	8	
Female	0	0	0	0	0	0	0	0	0	1	0	2	0	3	
Hepatic	0	0	0	0	0	0	3	1	13	8	1	0	0		26
Male	0	0	0	0	0	0	1	1	10	6	1	0	0	19	
Female	0	0	0	0	0	0	2	0	3	2	0	0	0	7	
Malignancy	0	0	0	0	0	0	0	4	9	18	15	7	1		54
Male	0	0	0	0	0	0	0	1	6	14	9	6	0	36	
Female	0	0	0	0	0	0	0	3	3	4	6	1	1	18	
Respiratory	0	2	0	0	1	5	5	14	19	18	8	8	3		83
Male	0	1	0	0	0	4	0	7	14	11	6	3	0	46	
Female	0	1	0	0	1	1	5	7	5	7	2	5	3	37	
SIDS	18	0	0	0	0	0	0	0	0	0	0	0	0		18
Male	11	0	0	0	0	0	0	0	0	0	0	0	0	11	
Female	7	0	0	0	0	0	0	0	0	0	0	0	0	7	
Other	4	1	0	0	0	4	10	18	32	16	3	10	7		105
Male	1	0	0	0	0	4	6	13	22	11	1	1	5	64	
Female	3	1	0	0	0	0	4	5	10	5	2	9	2	41	
<b>Totals</b>	<b>24</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>25</b>	<b>40</b>	<b>106</b>	<b>216</b>	<b>212</b>	<b>121</b>	<b>148</b>	<b>54</b>		<b>953</b>
Percent	2.50 %	0.40 %	0.10 %	0%	0.20 %	2.60 %	4.20 %	11.10 %	22.80 %	22.20 %	12.70 %	15.50 %	5.70 %		<b>100 %</b>

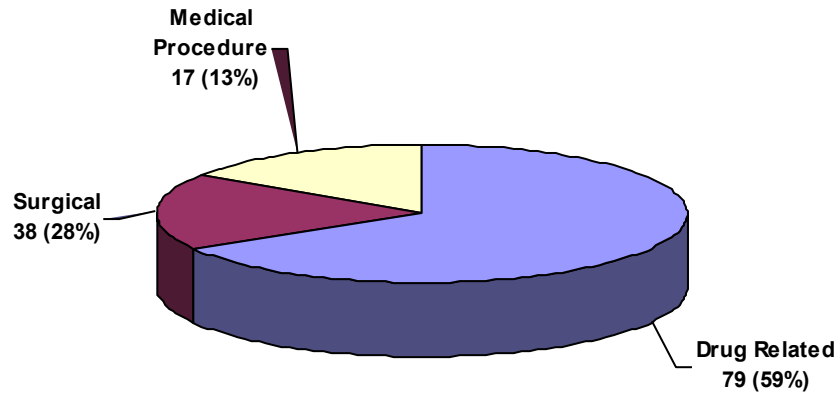
**Table 5-4 Natural Deaths / Sex / King County Medical Examiner / 2010**

CIRCUMSTANCES	SEX		TOTAL
	MALE	FEMALE	
Cardiovascular	318	134	452
Central Nervous	23	28	51
Complication of Therapy	68	61	129
Endocrine	16	8	24
Gastrointestinal	8	3	11
Hepatic	19	7	26
Malignancy	36	18	54
Respiratory	46	37	83
SIDS	11	7	18
Other	64	41	105
<b>Totals</b>	<b>609</b>	<b>344</b>	<b>953</b>
Percent	64%	36%	100%

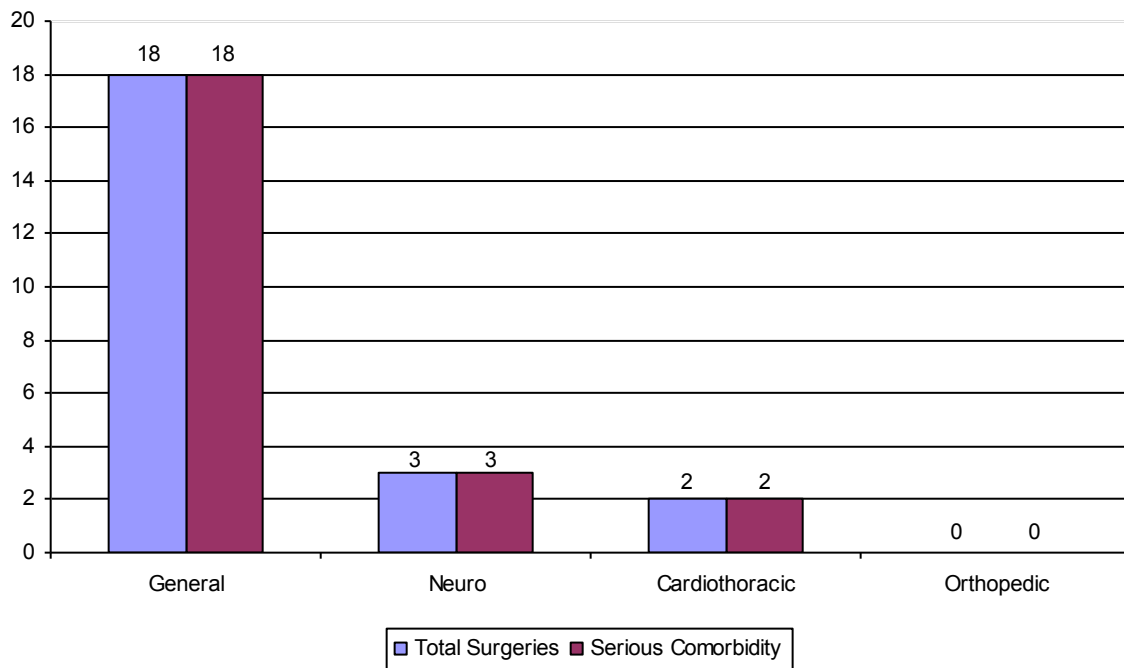
**Table 5-5 Natural Deaths / Blood Alcohol / King County Medical Examiner / 2010**

METHOD	TESTED		NOT	TOTAL
	POSITIVE	NEGATIVE	TESTED	
Cardiovascular	60	239	153	452
Central Nervous System	3	21	27	51
Complication of Therapy	1	11	117	129
Endocrine	3	9	12	24
Gastrointestinal	0	7	4	11
Hepatic	7	5	14	26
Malignancy	2	5	47	54
Respiratory	7	39	37	83
SIDS	0	17	1	18
Other	20	42	43	105
<b>Totals</b>	<b>103</b>	<b>395</b>	<b>455</b>	<b>953</b>
Percent	11%	41%	48%	100%

Graph 5-4 Complication of Therapy / General Categories / KCME / 2010



Graph 5-5 Complication of Therapy<sup>21</sup> / Surgical Injuries / KCME / 2010



<sup>21</sup>Serious comorbidity indicates coexisting natural disease serious enough to contribute to death.



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# Manner of death: Suicide

Suicides are deaths caused by self-inflicted injuries with evidence of intent to end one's life. Evidence of intent includes an explicit expression, such as a suicide note or verbal threat, or an act constituting implicit intent, such as deliberately placing a gun to one's head or rigging a vehicle's exhaust. In 2010, there were 232 suicides, accounting for 11% (232/2,060) of the deaths that the King County Medical Examiner's Office investigated.

Firearms were responsible for forty percent (92/232) of the 2010 suicide deaths. The number of gunshot suicides (92/232) in 2010 is eight less than in 2009 when there were 100. Hanging accounted for 19% (44/232) of suicidal deaths, while jumping from a height accounted for 9% (21/232). Drugs and poisons accounted for 19% (43/232) of all suicides, while carbon monoxide caused death in 2% (4/232) of the cases. More information regarding drug caused deaths is presented in the section "Deaths Due to Drugs & Poisons" beginning on page 89.

Blood alcohol tests were performed in 97% (224/232) of suicidal deaths and were positive in 32% (72/224) of cases tested.

In 2010, there were nine suicides among persons 19 years and younger (3.9% of all suicides, 9/232), which is unchanged from 2009 when there were also nine suicides in this age group. Suicides in the age group 60 years and older represented 20% (47/232) of all suicides in 2010.

Firearms were the primary method of committing suicide for all age groups over the age of 60 as well as the age groups 20-49. However, in the 50-59 age group drug/poisons were the primary method equaling 40% (17/43). In the 19 years and younger age group, firearms represented 33% (3/9) of the deaths while hanging represented 44% (4/9) of the deaths.

In 2010, there were seven deaths due to drugs and/or poisons by adults 60 years of age and over. In 2010, there were two suicides attributed to drugs and/or poisons among youths 19 years and younger. In 2009, there was one death from drug and/or poisons in this age group.

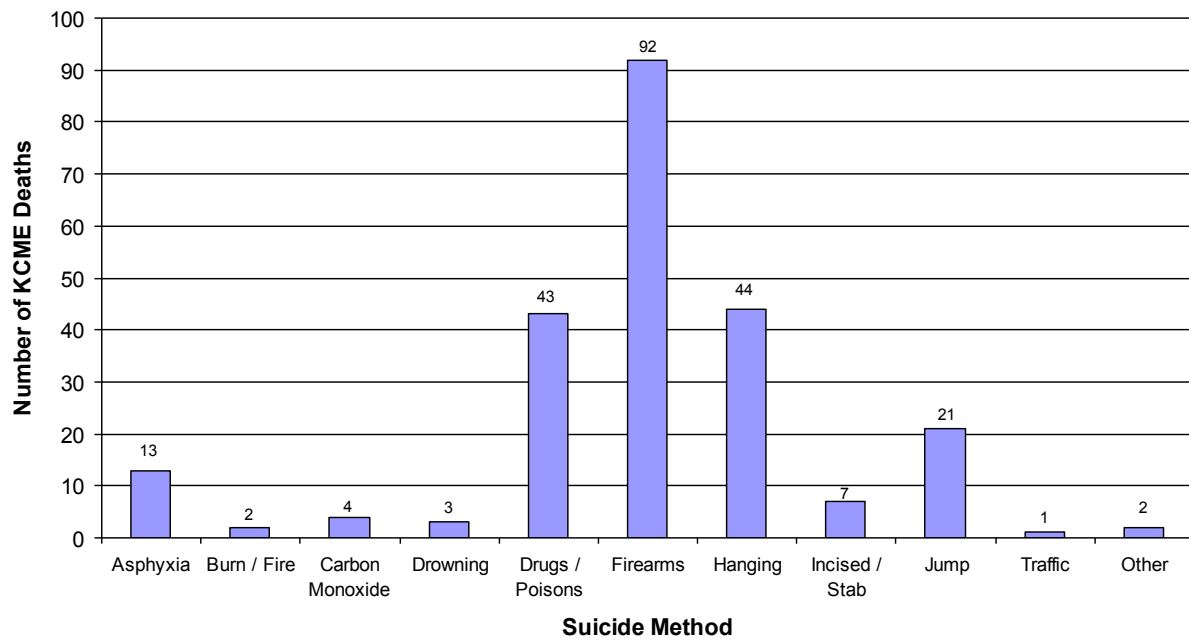
The **Washington Death with Dignity Act, Initiative 1000**, codified as **RCW 70.245**, passed on November 4, 2008 and took effect on March 5, 2010. This act allows terminally ill adults seeking to end their life to request lethal doses of medication from medical and osteopathic physicians. These terminally ill patients must be Washington state residents who have less than six months to live.<sup>22</sup>

As provided in the act, "the patient's death certificate...shall list the underlying terminal disease as the cause of death." The act also states that, "Actions taken in accordance with this chapter do not, for any purpose, constitute suicide, assisted suicide, mercy killing, or homicide, under the law." Given these instructions, the King County Medical Examiner's Office has no involvement in these cases and collects no statistics on the number of deaths where an individual has utilized their rights under the provisions of this act. Statistics are kept and released annually by the Washington State Department of Health.

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<sup>22</sup>Washington State Department of Health website: <http://www.doh.wa.gov/dwda>

**Graph 6-1 Suicide Injury Methods / King County Medical Examiner / 2010**

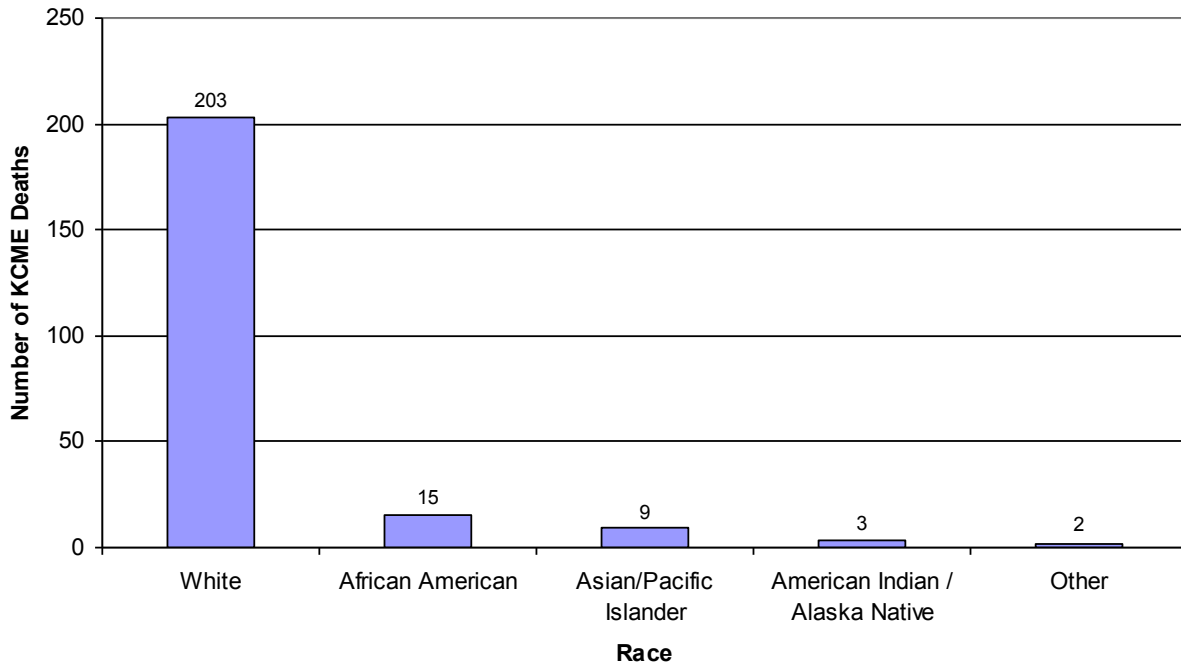


**Table 6-1 Suicide Injury Methods / Race / Sex / King County Medical Examiner / 2010**

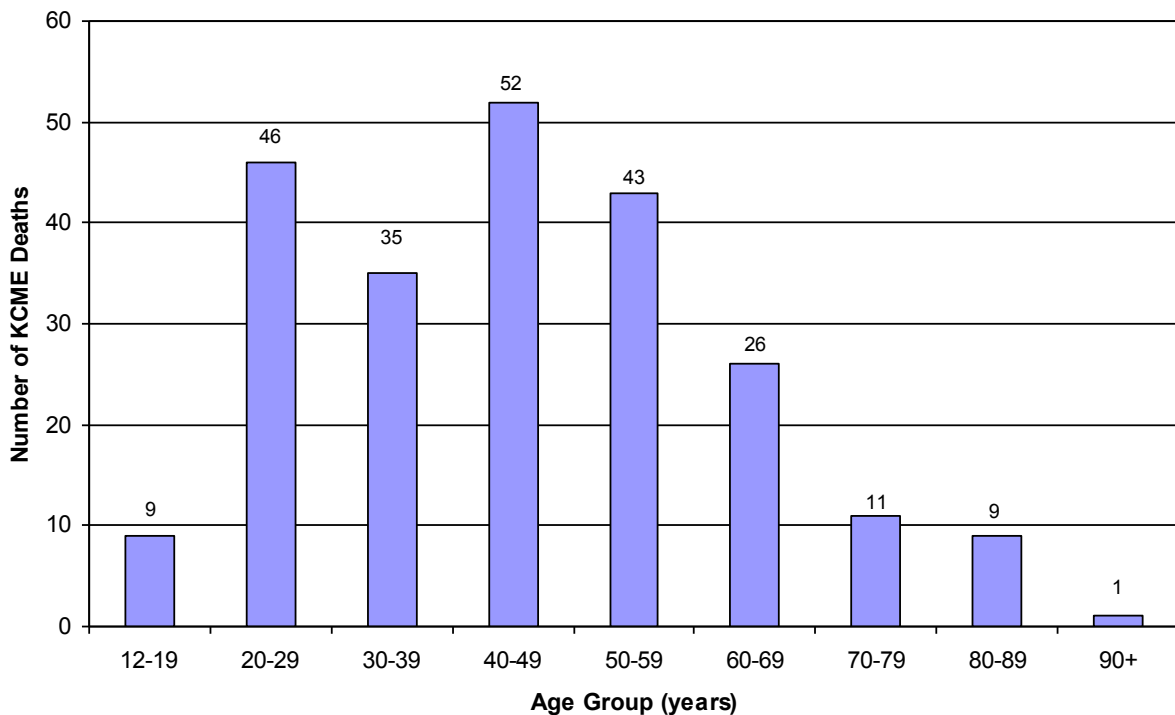
CIRCUMSTANCES / SEX	RACE					SUB TOTAL	TOTAL
	WHITE	AFRIC AMER	ASIAN/ PAC IS	AM INDIAN /AK NATIVE	OTHER		
Asphyxia	12	0	0	0	1		13
Male	9	0	0	0	1	10	
Female	3	0	0	0	0	3	
Burns/ Fire	2	0	0	0	0		2
Male	1	0	0	0	0	1	
Female	1	0	0	0	0	1	
Carbon Monoxide	4	0	0	0	0		4
Male	3	0	0	0	0	3	
Female	1	0	0	0	0	1	
Drowning	3	0	0	0	0		3
Male	3	0	0	0	0	3	
Female	0	0	0	0	0	0	
Drugs / Poisons	38	2	2	1	0		43
Male	21	2	1	0	0	24	
Female	17	0	1	1	0	19	
Firearms	83	6	2	1	0		92
Male	69	4	1	1	0	75	
Female	14	2	1	0	0	17	
Hanging	38	3	3	0	0		44
Male	31	1	2	0	0	34	
Female	7	2	1	0	0	10	
Incised / Stab Wound(s)	6	0	0	0	1		7
Male	4	0	0	0	1	5	
Female	2	0	0	0	0	2	
Jumping	15	3	2	1	0		21
Male	12	3	2	1	0	18	
Female	3	0	0	0	0	3	
Other	1	0	0	0	0		1
Male	1	0	0	0	0	1	
Female	0	0	0	0	0	0	
Traffic	1	1	0	0	0	0	2
Male	1	1	0	0	0	2	
Female	0	0	0	0	0	0	
<b>Totals</b>	<b>203</b>	<b>15</b>	<b>9</b>	<b>3</b>	<b>2</b>		<b>232</b>
Percent	88%	6%	4%	1%	1%		100%



**Graph 6-2 Suicide Deaths / Race / King County Medical Examiner / 2010**



**Graph 6-3 Suicide Deaths / Age Group / King County Medical Examiner / 2010**



**Table 6-2 Suicide Injury Methods / Age / Sex / King County Medical Examiner / 2010**

INJURY METHOD/ SEX	AGE GROUP (YEARS)									SUB TOTAL	TOTAL
	12 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 +		
Asphyxia	0	1	5	4	2	0	0	0	1		13
Male	0	0	4	4	2	0	0	0	0	10	
Female	0	1	1	0	0	0	0	0	1	3	
Burns/ Fire	0	0	0	2	0	0	0	0	0		2
Male	0	0	0	1	0	0	0	0	0	1	
Female	0	0	0	1	0	0	0	0	0	1	
Carbon Monoxide	0	1	0	0	2	0	0	1	0		4
Male	0	0	0	0	2	0	0	1	0	3	
Female	0	1	0	0	0	0	0	0	0	1	
Drowning	0	1	0	1	1	0	0	0	0		3
Male	0	1	0	1	1	0	0	0	0	3	
Female	0	0	0	0	0	0	0	0	0	0	
Drugs / Poisons	2	2	5	10	17	5	1	1	0		43
Male	1	2	3	6	10	2	0	0	0	24	
Female	1	0	2	4	7	3	1	1	0	19	
Firearms	3	19	11	21	13	11	7	7	0		92
Male	3	15	10	16	9	9	7	6	0	75	
Female	0	4	1	5	4	2	0	1	0	17	
Hanging	4	14	7	8	5	4	2	0	0		44
Male	3	11	5	6	5	3	1	0	0	34	
Female	1	3	2	2	0	1	1	0	0	10	
Incised / Stab Wound(s)	0	0	1	2	1	3	0	0	0		7
Male	0	0	1	1	1	2	0	0	0	5	
Female	0	0	0	1	0	1	0	0	0	2	
Jumping	0	7	4	4	2	3	1	0	0		21
Male	0	7	4	3	1	2	1	0	0	18	
Female	0	0	0	1	1	1	0	0	0	3	
Other	0	0	1	0	0	0	0	0	0		1
Male	0	0	1	0	0	0	0	0	0	1	
Female	0	0	0	0	0	0	0	0	0	0	
Traffic	0	1	1	0	0	0	0	0	0		2
Male	0	1	1	0	0	0	0	0	0	2	
Female	0	0	0	0	0	0	0	0	0	0	
<b>Totals</b>	<b>9</b>	<b>46</b>	<b>35</b>	<b>52</b>	<b>43</b>	<b>26</b>	<b>11</b>	<b>9</b>	<b>1</b>		<b>232</b>
Percent	4%	20%	15%	22%	18%	11%	5%	4%	1%		100%

**Table 6-3 Suicide Injury Methods / Sex / King County Medical Examiner / 2010**

INJURY METHOD	SEX		TOTAL
	MALE	FEMALE	
Asphyxia	10	3	13
Burns/ Fire	1	1	2
Carbon Monoxide	3	1	4
Drowning	3	0	3
Drugs / Poisons	24	19	43
Firearms	75	17	92
Hanging	34	10	44
Incised / Stab Wound(s)	5	2	7
Jumping	18	3	21
Other	1	0	1
Traffic	2	0	2
<b>Totals</b>	<b>176</b>	<b>56</b>	<b>232</b>
Percent	76%	24%	100%

**Table 6-4 Suicide Injury Methods / Marital Status / Sex / KCME / 2010**

CIRCUMSTANCES / SEX	MARITAL STATUS					Sub Total	Total
	Never Married	Married	Divorced	Widowed	Unknown		
Asphyxia	6	5	1	1	0		13
<i>Male</i>	4	5	1	0	0	10	
<i>Female</i>	2	0	0	1	0	3	
Burns/ Fire	1	1	0	0	0		2
<i>Male</i>	1	1	0	0	0	2	
<i>Female</i>	0	0	0	0	0	0	
Carbon Monoxide	1	2	0	1	0		4
<i>Male</i>	0	2	0	1	0	3	
<i>Female</i>	1	0	0	0	0	1	
Drowning	1	1	1	0	0		3
<i>Male</i>	1	1	1	0	0	3	
<i>Female</i>	0	0	0	0	0	0	
Drugs / Poisons	15	14	13	0	1		43
<i>Male</i>	10	7	6	0	1	24	
<i>Female</i>	5	7	7	0	0	19	
Firearms	32	34	20	6	0		92
<i>Male</i>	28	29	13	5	0	75	
<i>Female</i>	4	5	7	1	0	17	
Hanging	21	12	8	1	2		44
<i>Male</i>	18	9	5	0	2	34	
<i>Female</i>	3	3	3	1	0	10	
Incised / Stab Wound(s)	1	2	4	0	0		7
<i>Male</i>	1	2	2	0	0	5	
<i>Female</i>	0	0	2	0	0	2	
Jumping	14	3	2	0	2		21
<i>Male</i>	12	3	2	0	1	18	
<i>Female</i>	2	0	0	0	1	3	
Other	1	0	0	0	0		1
<i>Male</i>	1	0	0	0	0	1	
<i>Female</i>	0	0	0	0	0	0	
Traffic	2	0	0	0	0		2
<i>Male</i>	2	0	0	0	0	2	
<i>Female</i>	0	0	0	0	0	0	
<b>Totals</b>	<b>95</b>	<b>74</b>	<b>49</b>	<b>9</b>	<b>5</b>		<b>232</b>
Percent	41%	32%	21%	4%	2%		100%

Table 6-5

## Suicide Injury Methods / Blood Alcohol / KCME / 2010

METHOD	TESTED		NOT TESTED	TOTAL
	POSITIVE	NEGATIVE		
Asphyxia	4	9	0	13
Burns/ Fire	2	0	0	2
Carbon Monoxide	2	2	0	4
Drowning	2	1	0	3
Drugs / Poisons	10	30	3	43
Firearms	32	56	4	92
Hanging	14	30	0	44
Incised / Stab Wound(s)	0	6	1	7
Jumping	4	17	0	21
Other	0	1	0	1
Traffic	2	0	0	2
<b>Totals</b>	<b>72</b>	<b>152</b>	<b>8</b>	<b>232</b>
Percent	31%	66%	3%	100%



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# Traffic deaths

During the calendar year 2010, the Medical Examiner's Office participated in the investigation of 150 traffic fatalities. In 65% (97/150) of the traffic deaths in 2010, the collision occurred in King County, compared to 64% (90/141) of the collisions in 2009. In 2010, 35% (53/150) of the traffic deaths that the Medical Examiner investigated were the result of collisions that occurred outside of King County, with the injured transported to hospitals in King County, primarily Harborview Medical Center. Because the death occurred in King County, it falls under the jurisdiction of the King County Medical Examiner. Although these deaths are classified "Accident" for death certification purposes, the more accurate term is "motor vehicle collision."

In 2010, 46% (69/150) of the traffic fatalities were motor vehicle drivers. Teenage drivers (16-19 years of age) were 7% (5/69) of the driver deaths in 2010 compared to 10% (5/51) in 2009. By age, 23% percent of vehicle driver deaths (16/69) were people between the ages of 20 and 29. Ten percent of driver deaths (7/69) were adults between the ages of 30 and 39. Seven percent (5/69) were adults between the ages of 40 and 49. Male drivers represented 75% (52/69) of driver deaths and female drivers represented 25% of driver deaths (17/69).

Of the 150 traffic fatalities in 2010, 27 were motor vehicle passengers, representing 18% of the total (27/150). In 2010, teenagers (13-19 years old) accounted for six motor vehicle passenger deaths. There were no passenger deaths of infants (less than one year of age), one death of a child between the ages of 1-5 years, and no deaths of children between the ages of 6-12 years.

Blood ethanol (alcohol) statistics are presented to describe the role of alcohol in traffic deaths. However, it should be noted that in many cases someone other than the person who died was under the influence of alcohol and directly responsible for the accident. The Medical Examiner determines the blood alcohol levels of persons who die, not of everyone involved in the incident. In addition, blood alcohol is not tested in persons who die after surviving more than 24 hours, because in those deaths the alcohol has had time to metabolize.<sup>23</sup> Therefore, blood alcohol figures presented in this report are not a total description of the role of alcohol in traffic collisions. In 33% (17/51) of drivers tested, blood ethanol was present. In 18 vehicle driver deaths, no alcohol determination was performed. Passenger fatalities showed the presence of alcohol in 18% (4/22) of victims tested.

Of cases in which seatbelt restraint status was known, 35% (23/65) of drivers in vehicle deaths were not restrained. The figures for drivers not wearing seatbelts for the previous three years are: 32% (15/47) in 2009, 31% (20/65) in 2008, and 41% (26/63) in 2007. Of the vehicle drivers who died at the scene of the collision and who tested positive for blood alcohol, 50% (7/14) were unrestrained.

Motorcycle riders accounted for 16% (24/150) of traffic fatalities. In 2010, there were 24 motorcycle driver fatalities and no motorcycle passenger fatalities. Twenty-three of the motorcycle driver deaths were male and one was female. Of the 24 motorcycle fatalities, 83% (20/24) of the motorcyclists were wearing a helmet; in four

<sup>23</sup>See "Explanation of Data" for criteria for blood alcohol testing, page 6.

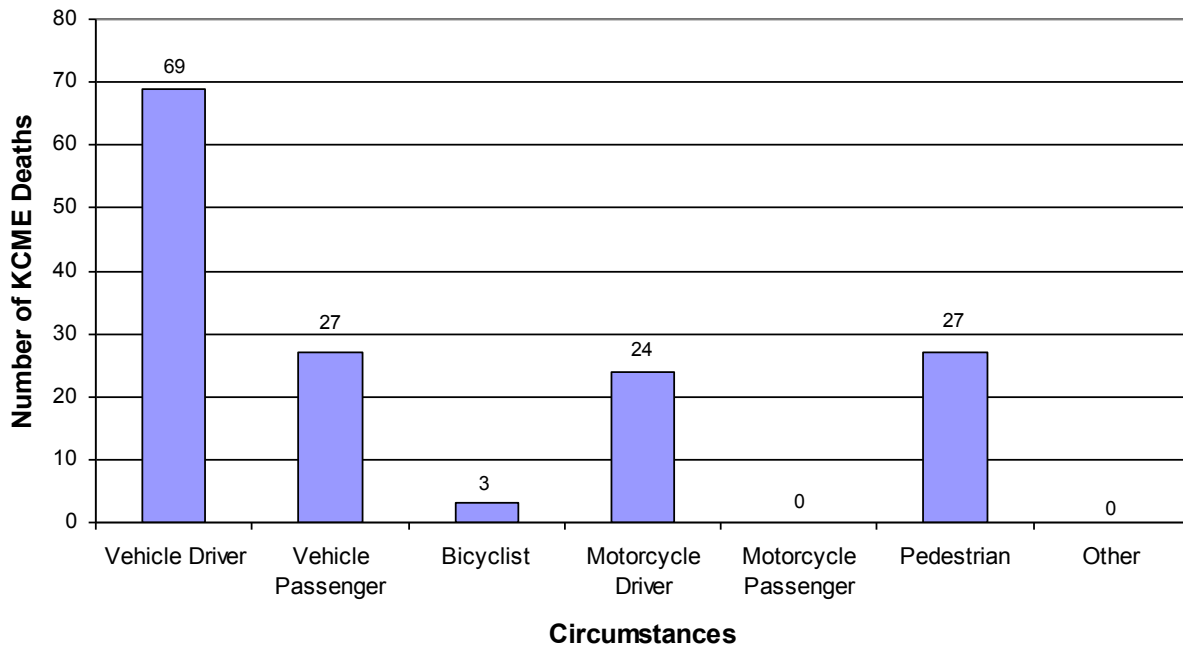
cases, the motorcycle driver was not wearing a helmet. Seventeen of the motorcyclist fatalities were tested for the presence of blood alcohol. Three, or 18% (3/17), had a detectable amount of alcohol at the time of autopsy.

Pedestrians constituted 18% (27/150) of traffic fatalities. The majority of pedestrian deaths, 59% (16/27), were male. Of the pedestrian fatalities that were tested, 40% (8/20) had detectable amounts of alcohol present in their blood at the time of death.

There were three bicyclist deaths in 2010; one rider was wearing a helmet and two were not wearing helmets. Of the bicyclist fatalities that were tested, one had a detectable amount of alcohol present in his/her blood at the time of death.



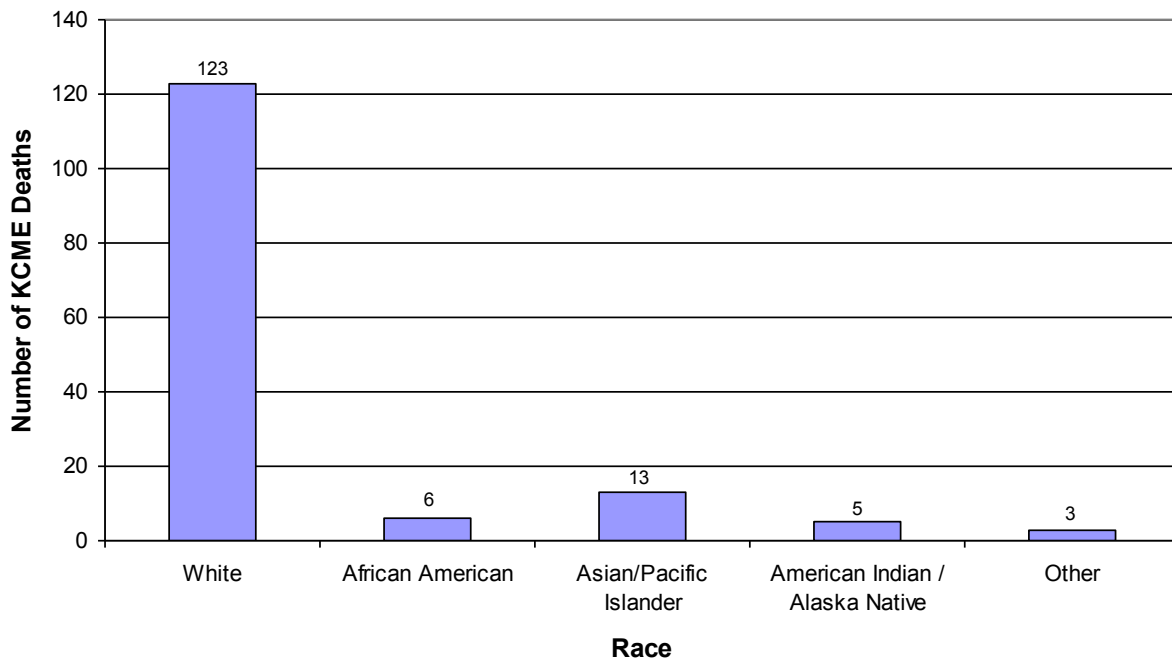
**Graph 7-1 Traffic Fatality Circumstances / King County Medical Examiner / 2010**



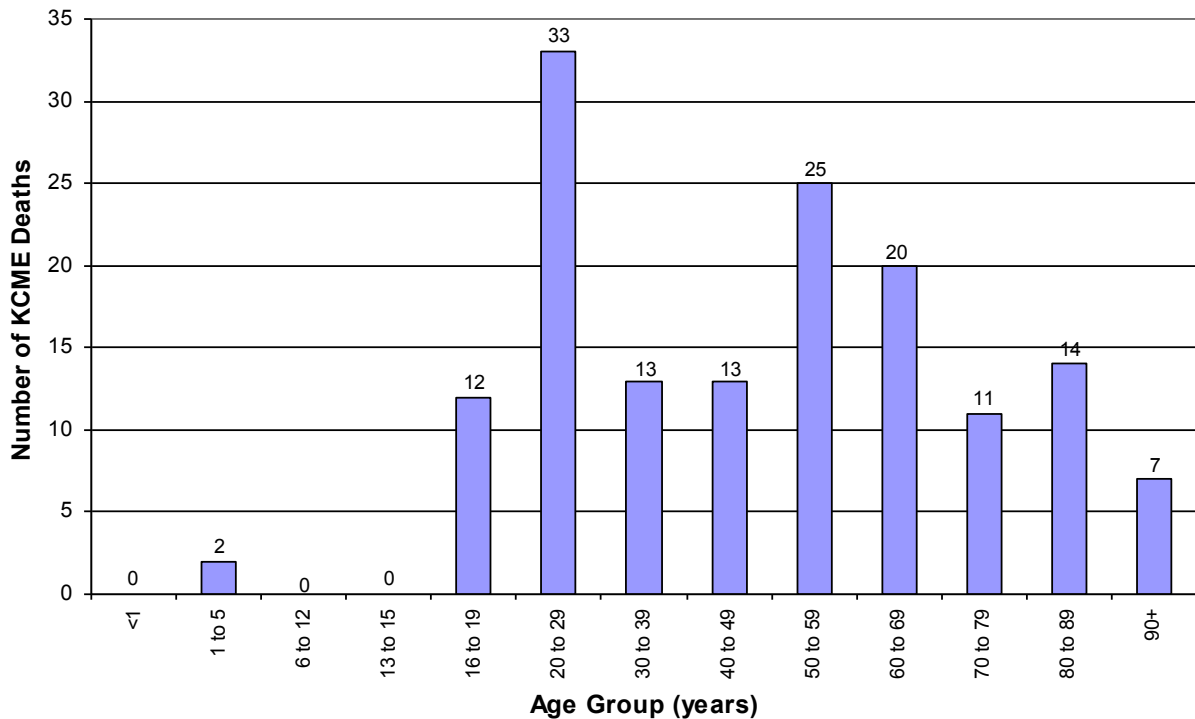
**Table 7-1 Traffic Fatality Circumstances / Race / Sex / KCME / 2010**

CIRCUMSTANCES / SEX	RACE					SUB TOTAL	TOTAL
	WHITE	AFRICAN AMER	ASIAN/ PAC IS	AM INDIAN /AK NATIVE	OTHER		
Vehicle Driver	61	0	5	1	2		69
<i>Male</i>	45	0	4	1	2	52	
<i>Female</i>	16	0	1	0	0	17	
Vehicle Passenger	20	5	1	1	0		27
<i>Male</i>	11	4	0	1	0	16	
<i>Female</i>	9	1	1	0	0	11	
Bicycle	3	0	0	0	0		3
<i>Male</i>	3	0	0	0	0	3	
<i>Female</i>	0	0	0	0	0	0	
Motorcycle Driver	23	0	1	0	0		24
<i>Male</i>	22	0	1	0	0	23	
<i>Female</i>	1	0	0	0	0	1	
Motorcycle Passenger	0	0	0	0	0		0
<i>Male</i>	0	0	0	0	0	0	
<i>Female</i>	0	0	0	0	0	0	
Pedestrian	16	1	6	3	1		27
<i>Male</i>	11	0	1	3	1	16	
<i>Female</i>	5	1	5	0	0	11	
Other	0	0	0	0	0		0
<i>Male</i>	0	0	0	0	0	0	
<i>Female</i>	0	0	0	0	0	0	
<b>Totals</b>	<b>123</b>	<b>6</b>	<b>13</b>	<b>5</b>	<b>3</b>		
Percent	82%	4%	9%	3%	2%		100%

**Graph 7-2 Traffic Fatalities / Race / King County Medical Examiner / 2010**



**Graph 7-3 Traffic Fatalities / Age / King County Medical Examiner / 2010**



**Table 7-2 Traffic Fatality Circumstances / Age / Sex / KCME / 2010**

Circumstances/Sex	AGE GROUP (YEARS)													SUB TOTAL	TOTAL
	< 1	1 to 5	6 to 12	13 to 15	16 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 +		
Vehicle Driver	0	0	0	0	5	16	7	5	7	10	7	8	4		69
Male	0	0	0	0	5	14	5	4	5	8	5	4	2	52	
Female	0	0	0	0	0	2	2	1	2	2	2	4	2	17	
Vehicle Passenger	0	1	0	0	6	11	1	0	2	0	1	5	0		27
Male	0	1	0	0	5	7	1	0	1	0	0	1	0	16	
Female	0	0	0	0	1	4	0	0	1	0	1	4	0	11	
Bicyclist	0	0	0	0	0	1	1	0	0	1	0	0	0		3
Male	0	0	0	0	0	1	1	0	0	1	0	0	0	3	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Motorcycle Driver	0	0	0	0	0	2	3	3	9	6	1	0	0		24
Male	0	0	0	0	0	2	3	3	8	6	1	0	0	23	
Female	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
Motorcycle Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0		0
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrian	0	1	0	0	1	3	1	5	7	3	2	1	3		27
Male	0	0	0	0	1	2	1	4	5	2	0	0	1	16	
Female	0	1	0	0	0	1	0	1	2	1	2	1	2	11	
Other	0	0	0	0	0	0	0	0	0	0	0	0	0		0
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Totals</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>33</b>	<b>13</b>	<b>13</b>	<b>25</b>	<b>20</b>	<b>11</b>	<b>14</b>	<b>7</b>		<b>150</b>
Percent	0%	1%	0%	0%	8%	22%	9%	9%	17%	13%	7%	9%	5%		100%

**Table 7-3 Traffic Fatality Circumstances / Sex / King County Medical Examiner / 2010**

CIRCUMSTANCES	SEX		TOTAL
	MALE	FEMALE	
Vehicle Driver	52	17	69
Vehicle Passenger	16	11	27
Bicyclist	3	0	3
Motorcycle Driver	23	1	24
Motorcycle Passenger	0	0	0
Pedestrian	16	11	27
Other Mode	0	0	0
<b>Totals</b>	<b>110</b>	<b>40</b>	<b>150</b>
Percent	73%	27%	100%

**Table 7-4 Traffic Fatality Circumstances / Use of Restraint / Helmet / KCME / 2010<sup>2</sup>**

CIRCUMSTANCES	Used Safety Device	No Safety Device Used	Unknown	TOTAL
Vehicle Driver	42	23	4	69
Vehicle Passenger	16	11	0	27
Bicyclist	1	2	0	3
Motorcycle Driver	20	4	0	24
Motorcycle Passenger	0	0	0	0
<b>Totals</b>	<b>79</b>	<b>40</b>	<b>4</b>	
Percent	64%	33%	3%	100%

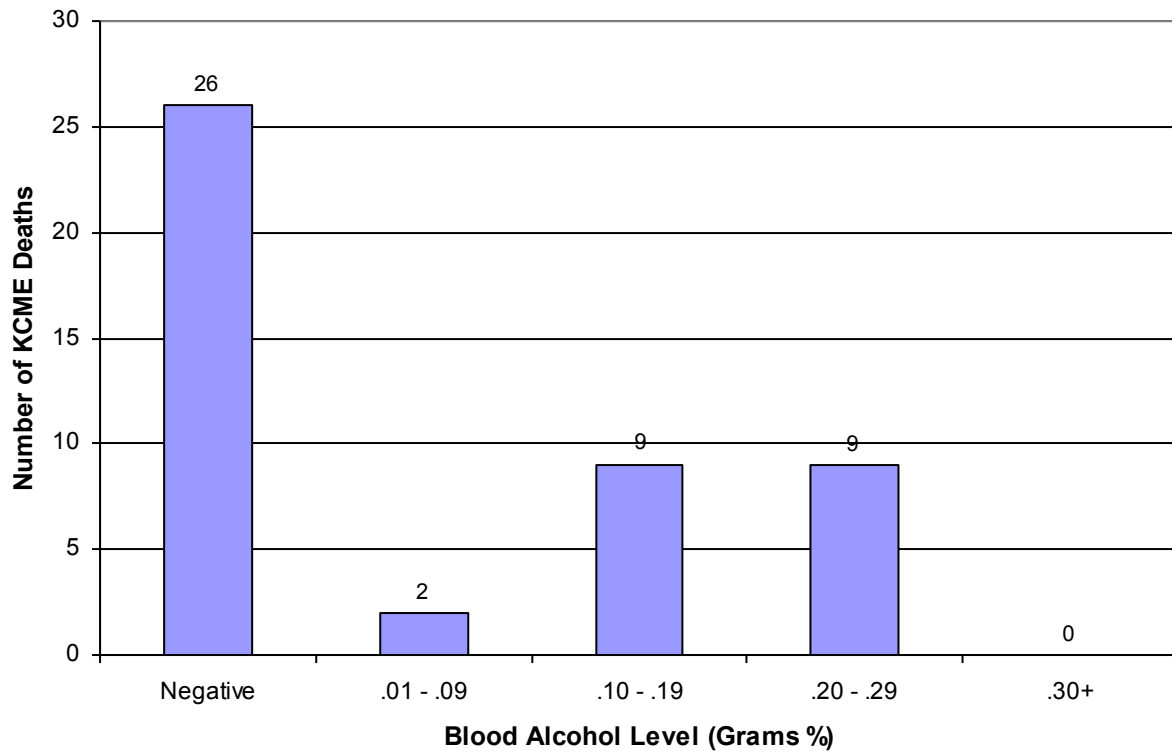
<sup>2</sup>Does not include pedestrian or other traffic modes of deaths.

**Table 7-5 Traffic Fatality Circumstances / Blood Alcohol / KCME / 2010**

CIRCUMSTANCES	TESTED		NOT TESTED	TOTAL
	POSITIVE	NEGATIVE		
Vehicle Driver	17	34	18	69
Vehicle Passenger	4	18	5	27
Bicyclist	1	0	2	3
Motorcycle Driver	3	14	7	24
Motorcycle Passenger	0	0	0	0
Pedestrian	8	12	7	27
Other Mode	0	0	0	0
<b>Totals</b>	<b>33</b>	<b>78</b>	<b>39</b>	<b>150</b>
Percent	22%	52%	26%	100%

**Table 7-6 Blood Alcohol Levels of Traffic Fatalities who Died at the Scene of the Collision / King County Medical Examiner / 2010**

CIRCUMSTANCES	BLOOD ALCOHOL LEVEL (g/100mL)					TOTAL
	NONE	.01-.09	.10-.19	.20-.29	.30+	
Vehicle Driver	14	1	6	5	0	26
Vehicle Passenger	5	1	1	0	0	7
Bicyclist	0	0	0	1	0	1
Motorcycle Driver	4	0	0	1	0	5
Pedestrian	3	0	2	2	0	7
<b>Totals</b>	<b>26</b>	<b>2</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>46</b>
Percent	56.50%	4.30%	19.60%	19.60%	0%	100%

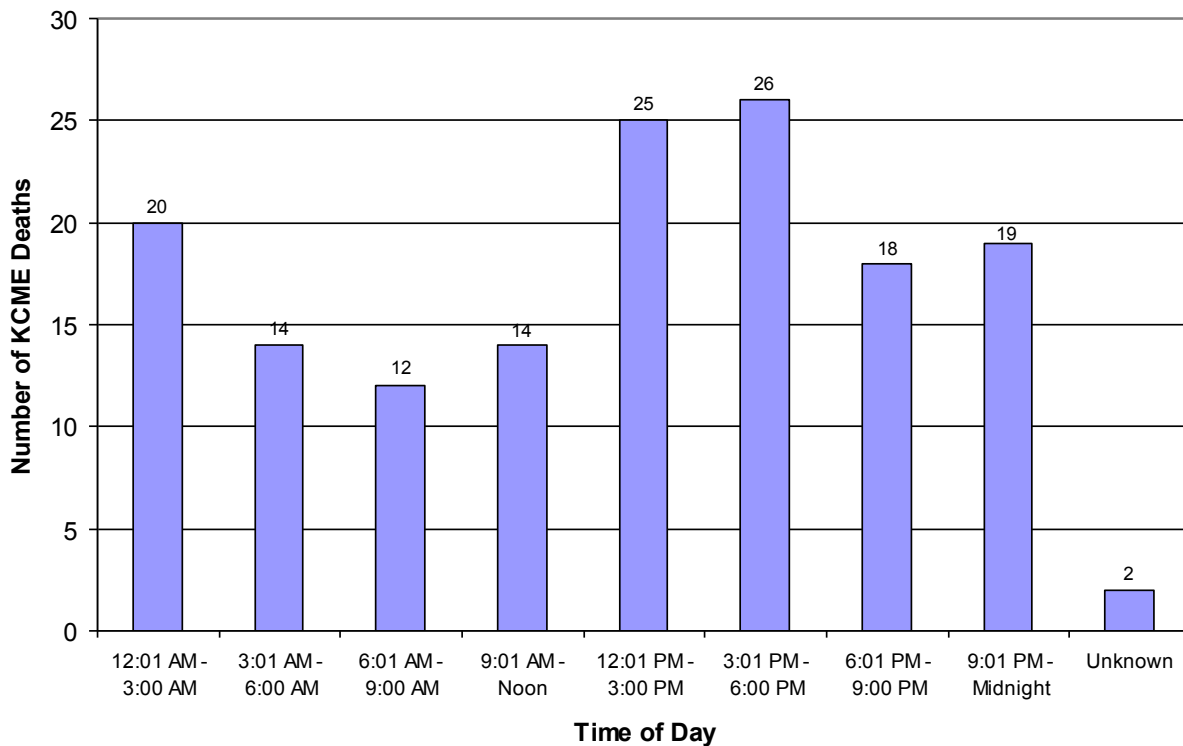
**Graph 7-4 Blood Alcohol Levels of Traffic Fatalities who Died at the Scene**



**Table 7-7 Time of Fatal Traffic Collision / King County Medical Examiner / 2010**

TIME OF DAY	TOTAL	PERCENT
12:01 AM - 3:00 AM	20	13.40%
3:01 AM - 6:00 AM	14	9.30%
6:01 AM - 9:00 AM	12	8.00%
9:01 AM - Noon	14	9.30%
12:01 PM - 3:00 PM	25	16.70%
3:01 PM - 6:00 PM	26	17.30%
6:01 PM - 9:00 PM	18	12.00%
9:01 PM - Midnight	19	12.70%
Unknown	2	1.30%
<b>TOTALS</b>	<b>150</b>	<b>100%</b>

**Graph 7-5 Time of Fatal Traffic Collision / King County Medical Examiner / 2010**







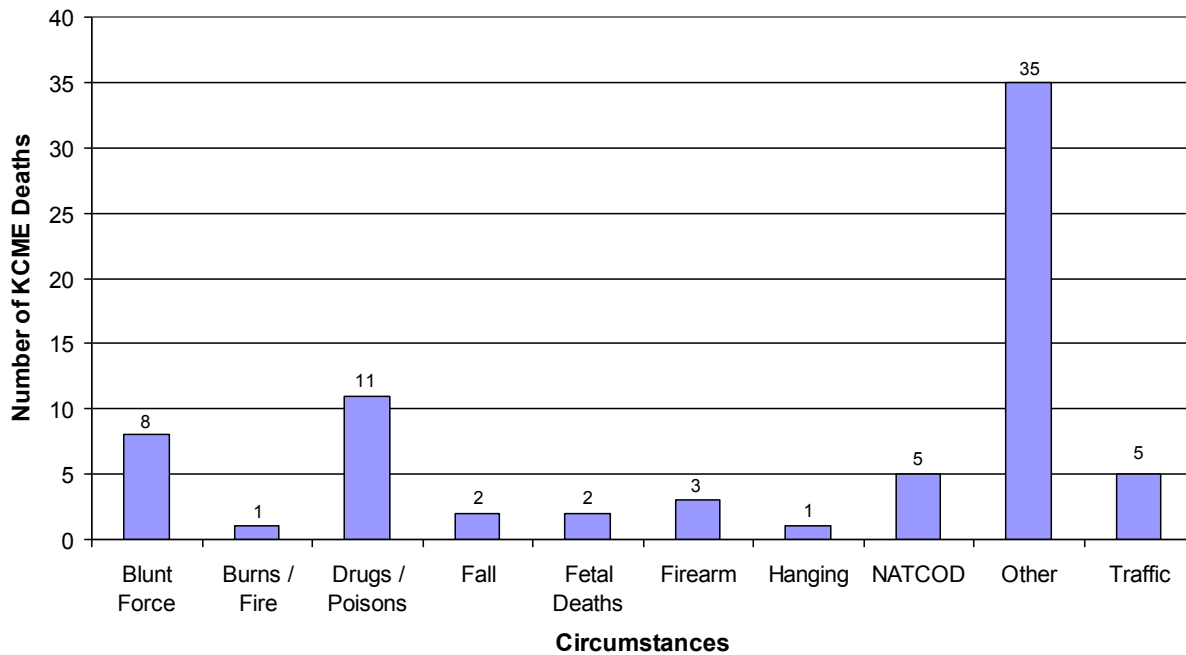
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# Manner of death: Undetermined

The King County Medical Examiner's Office certifies a manner of death as undetermined when available information regarding the circumstances of death is insufficient to classify the death into one of the specific manners of natural or unnatural (Accident, Homicide or Suicide) death. In some cases, serious doubt exists as to whether an injury occurred with intent or as a result of an accident. Information concerning the circumstances may be lacking due to the absence of background information or witnesses, or because of a lengthy delay between death and discovery of the body. Moreover, it may be difficult to assess street drug or medication overdose deaths as showing enough features to reasonably determine the manner of death. If an extensive investigation and autopsy cannot clarify the circumstances, the death is classified undetermined.

The King County Medical Examiner's Office certified 73 deaths with manner undetermined, accounting for 4% (73/2,060) of the deaths investigated for the calendar year 2010. Drugs and poisons caused 15% (11/73) of the deaths classified as undetermined. For a more detailed review of drug-caused deaths in 2010, see the discussion in the section on Drugs and Poisons on pages 89 and 90.

The 73 deaths that were classified as undetermined for 2010 included two fetal deaths, which, in accordance with the Washington State Department of Health - Center for Health Statistics Fetal Death Certification Guidelines, are not assigned a manner of death. Fetal death certificates must be issued for every fetus of 20 weeks or more gestation. Of the two fetal deaths in 2010, one was related to maternal drug abuse.

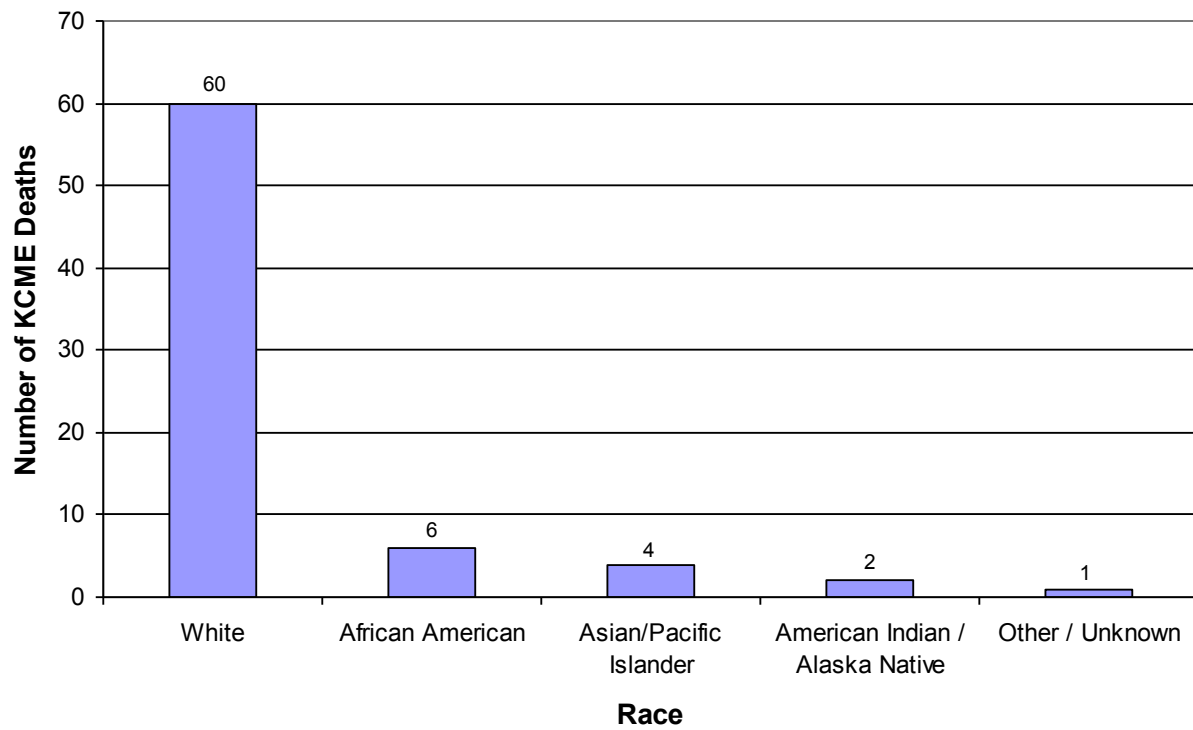
**Graph 8-1      Undetermined Manner of Death<sup>24</sup> / King County Medical Examiner / 2010**

<sup>24</sup>NATCOD is an abbreviation for “no anatomic or toxicological cause of death,” and refers to deaths in which full autopsies and toxicological analyses (if relevant) fail to identify an adequate cause of death.

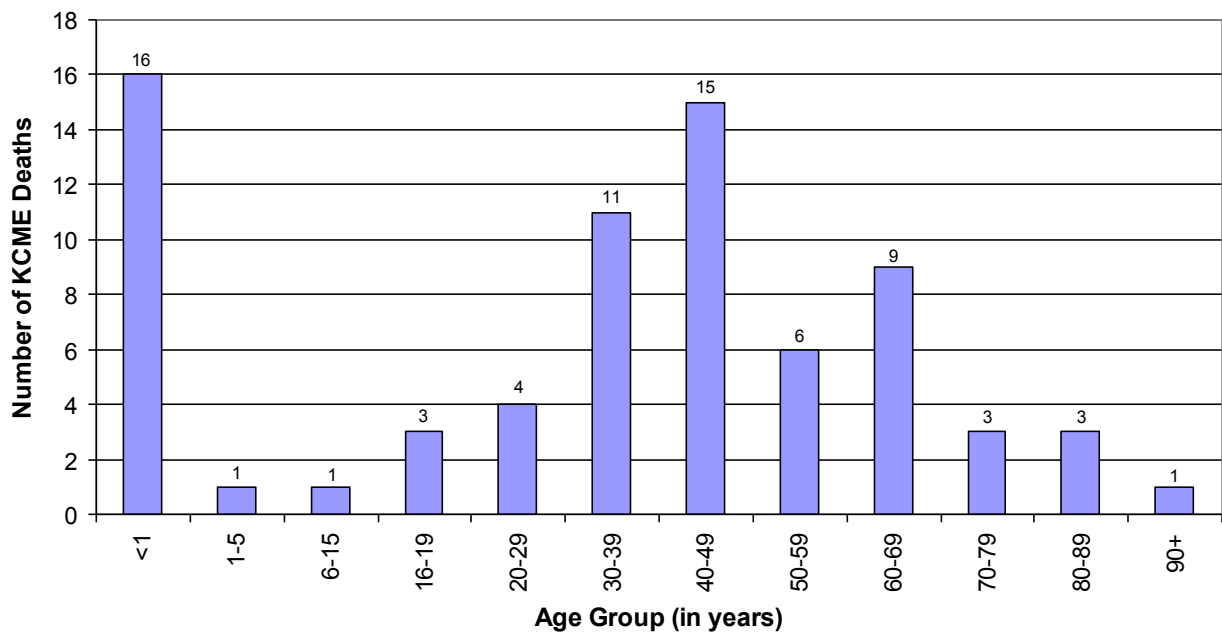
**Table 8-1 Undetermined Manner of Death / Race / Sex / KCME / 2010**

CIRCUMSTANCES / SEX	RACE					SUB TOTAL	TOTAL
	WHITE	AFRIC AMER	ASIAN / PAC IS	AM INDIAN / AK NATIVE	OTHER / UNK		
Blunt Force	8	0	0	0	0		8
<i>Male</i>	5	0	0	0	0	5	
<i>Female</i>	3	0	0	0	0	3	
Burns / Fire	1	0	0	0	0		1
<i>Male</i>	1	0	0	0	0	1	
<i>Female</i>	0	0	0	0	0	0	
Drugs / Poisons	8	2	1	0	0		11
<i>Male</i>	4	1	1	0	0	6	
<i>Female</i>	4	1	0	0	0	5	
Fall	2	0	0	0	0		2
<i>Male</i>	1	0	0	0	0	1	
<i>Female</i>	1	0	0	0	0	1	
Fetal Deaths	1	1	0	0	0		2
<i>Male</i>	0	0	0	0	0	0	
<i>Female</i>	1	0	0	0	0	1	
<i>Unknown</i>	0	1	0	0	0	1	
Firearms	3	0	0	0	0		3
<i>Male</i>	3	0	0	0	0	3	
<i>Female</i>	0	0	0	0	0	0	
Hanging	1	0	0	0	0		1
<i>Male</i>	1	0	0	0	0	1	
<i>Female</i>	0	0	0	0	0	0	
No Anatomic or Toxicological Cause of Death	4	0	0	1	0		5
<i>Male</i>	1	0	0	0	0	1	
<i>Female</i>	3	0	0	1		4	
Other	29	2	3	0	1		35
<i>Male</i>	21	2	2	0	0	25	
<i>Female</i>	8	0	1	0	1	10	
Traffic	3	1	0	1	0		5
<i>Male</i>	2	1	0	0	0	3	
<i>Female</i>	1	0	0	1	0	2	
<b>Totals</b>	<b>60</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>1</b>		<b>73</b>
Percent	82%	8%	6%	3%	1%		100%

**Graph 8-2 Undetermined Manner / Race / King County Medical Examiner / 2010**



**Graph 8-3 Undetermined Manner / Age Group / King County Medical Examiner / 2010**



**Table 8-2 Undetermined Circumstances / Age / Sex / KCME / 2010**

INJURY METHOD / SEX	AGE GROUP (YEARS)												SUB TOTAL	TOTAL
	<1	1 to 5	6 to 15	16 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 +		
Blunt Force	0	0	0	1	0	0	2	1	3	1	0	0		8
Male	0	0	0	1	0	0	1	1	2	0	0	0	5	
Female	0	0	0	0	0	0	1	0	1	1	0	0	3	
Burns / Fire	0	0	0	0	0	0	0	1	0	0	0	0		1
Male	0	0	0	0	0	0	0	1	0	0	0	0	1	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	
Drugs / Poisons	1	0	0	1	0	2	7	0	0	0	0	0		11
Male	0	0	0	1	0	1	4	0	0	0	0	0	6	
Female	1	0	0	0	0	1	3	0	0	0	0	0	5	
Fall	0	0	0	0	0	1	0	0	0	1	0	0		2
Male	0	0	0	0	0	0	0	0	0	1	0	0	1	
Female	0	0	0	0	0	1	0	0	0	0	0	0	1	
Fetal Deaths	2	0	0	0	0	0	0	0	0	0	0	0		2
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	
Female	1	0	0	0	0	0	0	0	0	0	0	0	1	
Unknown	1	0	0	0	0	0	0	0	0	0	0	0	1	
Firearms	0	0	1	0	0	0	0	0	0	0	2	0		3
Male	0	0	1	0	0	0	0	0	0	0	2	0	3	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hanging	0	0	0	0	1	0	0	0	0	0	0	0		1
Male	0	0	0	0	1	0	0	0	0	0	0	0	1	
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	
No anatomic or toxicological cause of death	0	0	0	0	0	2	0	1	1	1	0	0		5
Male	0	0	0	0	0	0	0	0	0	1	0	0	1	
Female	0	0	0	0	0	2	0	1	1	0	0	0	4	
Other	13	1	0	1	1	4	6	2	5	0	1	1		35
Male	8	0	0	1	1	4	5	1	4	0	1	0	25	
Female	5	1	0	0	0	0	1	1	1	0	0	1	10	
Traffic	0	0	0	0	2	2	0	1	0	0	0	0		5
Male	0	0	0	0	1	1	0	1	0	0	0	0	3	
Female	0	0	0	0	1	1	0	0	0	0	0	0	2	
<b>Totals</b>	<b>16</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>11</b>	<b>15</b>	<b>6</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>1</b>		<b>73</b>
Percent	22%	1%	1%	4%	6%	15%	21%	8%	13%	4%	4%	1%		100%

**Table 8-3 Undetermined Manner / Sex / King County Medical Examiner / 2010**

INJURY METHOD	SEX		TOTAL
	MALE	FEMALE	
Blunt Force	6	2	8
Burns / Fire	1	0	1
Drugs / Poisons	6	5	11
Fall	1	1	2
Fetal Deaths <sup>25</sup>	0	1	2
Firearms	3	0	3
Hanging	1	0	1
No Anatomic or Toxicologic Cause of	1	4	5
Other	28	12	40
<b>Totals<sup>26</sup></b>	<b>47</b>	<b>25</b>	<b>73</b>
Percent	64%	36%	100%

**Table 8-4 Undetermined Manner / Blood Alcohol / King County Medical Examiner / 2010**

METHOD	TESTED		NOT TESTED	TOTAL
	POSITIVE	NEGATIVE		
Blunt Force	2	6	0	8
Burns / Fire	0	1	0	1
Drugs / Poisons	2	10	0	12
Fall	1	1	0	2
Fetal Deaths	0	0	1	1
Firearms	0	3	0	3
Hanging	0	1	0	1
No Anatomic or Toxicologic Cause	2	3	0	5
Other	10	26	4	40
<b>Totals</b>	<b>17</b>	<b>51</b>	<b>5</b>	<b>73</b>
Percent	23%	70%	7%	100%

<sup>25</sup>Total includes one decedent of undetermined sex.<sup>26</sup>Total includes one decedent of undetermined sex



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# Deaths due to drugs and poisons

In 2010, drugs and poisons caused 271 deaths (with an additional 7 deaths due to carbon monoxide), approximately 13% of all deaths investigated (271/2,060). The total number of drug-caused deaths remained the same as in 2009 when there were also 271 drug deaths. In 2010, deaths due to drugs and poisons comprised 30% (271/898) of all suicidal, accidental and undetermined deaths combined.

For the purpose of this section, the term “overdose” is used to describe a death caused by a single drug or multiple drugs in combination. Multiple drug intoxication continued to cause the majority of drug deaths in 2010. Of the drug/poison deaths in 2010, a single drug or poison caused 32% of the deaths (86/271), and drugs or poisons in combination caused 68% (185/271) of the deaths. Multiple drug intoxication caused 77% of the drug/poison deaths in 2009. Table 9-3 displays the specific drugs that caused death in 2010. Because of their prevalence, ethanol, cocaine (a stimulant), and opiates<sup>27</sup> (a narcotic) are identified as separate drug categories. Data on deaths involving methadone, oxycodone, and methamphetamine are also shown in detail.

Deaths due to drugs and poisons are represented in the manners of accident, suicide, and undetermined. There were no deaths classified as homicide in 2010 in which drugs or poisons were the primary cause of the death, although the victim may have been under the influence of drugs at the time of the fatal incident.

The classification of undetermined manner is used when the circumstances surrounding the drug death does not allow clarification of whether the fatal intoxication was intentional, unintentional ("recreational"), or involved another person's actions. In the year 2010, drugs and poisons caused 11 deaths of undetermined manner, compared to nine in 2009. Of the eleven undetermined drug related deaths in 2010, one was a fetal death attributed to maternal methamphetamine use.

In 2010, drugs/poisons caused 43 suicides, as compared to 29 in 2009.

Drugs/poisons caused 217 accidental overdoses in 2010 compared to 233 in 2009. In 2010, accidental drug deaths comprised 37% (217/593) of all accidental deaths.

Ethanol (alcohol) is also a drug to be critically examined for its contribution to the circumstances surrounding death. In 2010, nine accidental deaths were attributed to acute ethanol intoxication where ethanol was the single substance used. Fifty-six (56) people died in 2010 where ethanol, in combination with other drugs, was the

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<sup>27</sup>When the term “opiate” is used in this section, the drug detected by analysis is a derivative of opium, usually morphine, the source of which is either pharmaceutical morphine or, much more likely, heroin.

cause of death. Blood alcohol (ethanol) tests were performed in 72% (792/1,107) of non-natural deaths. Blood alcohol tests are only performed when death occurs within 24 hours of the initial injury/event, or, in hospital deaths, when an admission blood sample is available for testing. Positive blood alcohol levels were detected in 30% (234/792) of non-natural deaths where tests were performed.

**Table 9-1 Blood Alcohol Testing / Manner / King County Medical Examiner / 2010**

Test Results	ACCIDENT	TRAFFIC	HOMICIDE	NATURAL	SUICIDE	UNDETERMINED	TOTAL
Tested	337	111	52	498	224	68	1290
<i>Positive</i>	94	33	18	103	72	17	337
<i>Negative</i>	243	78	34	395	152	51	953
Not Tested	256	39	7	455	8	5	770
<b>Totals</b>	<b>593</b>	<b>150</b>	<b>59</b>	<b>953</b>	<b>232</b>	<b>73</b>	<b>2,060</b>

**Table 9-2 Blood Alcohol Testing / Percentage / Manner / KCME / 2010**

Test Results	ACCIDENT	TRAFFIC	HOMICIDE	NATURAL	SUICIDE	UNDETERMINED	TOTAL
Tested	57%	74%	88%	52%	97%	93%	63%
<i>Positive</i>	28%	30%	35%	21%	32%	25%	26%
<i>Negative</i>	72%	70%	65%	79%	68%	75%	74%
Not Tested	43%	26%	12%	48%	3%	7%	37%
<b>Totals</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table 9-3 2010 Drug & Poison Caused Deaths<sup>1</sup>**

Drug Name	Total deaths out of 2,060 cases in which drug was present	Overdose Deaths (264) – Drug Present						Overdose Deaths (264) – Drug Causing					
		In which drug was present	Single drug OD in which drug was present	Multiple drug OD in which drug was present	Accident	Suicide	Undetermined	In which drug caused death	OD in which a single drug caused death	OD in which multiple drugs caused death	Accident	Suicide	Undetermined
Acetaminophen	17	13	1	12	8	5	0	12	3	9	5	7	0
Alprazolam	41	27	2	25	21	4	2	24	1	23	19	3	2
Amitriptyline	13	9	0	9	7	2	0	8	0	8	7	1	0
Amphetamine	5	2	0	2	2	0	0	0	0	0	0	0	0
Antipyrine	1	1	0	1	0	1	0	0	0	0	0	0	0
Benzotropine	1	0	0	0	0	0	0	0	0	0	0	0	0
Bupivacaine	1	0	0	0	0	0	0	0	0	0	0	0	0
Buprenorphine	1	0	0	0	0	0	0	0	0	0	0	0	0
Bupropion	7	4	2	2	1	3	0	3	1	2	0	3	0
Butalbital	2	1	0	1	0	1	0	1	0	1	0	1	0
Caffeine	2	1	0	1	0	1	0	1	0	1	0	1	0
Cannabinoids / THC <sup>2</sup>	182	61	21	40	51	8	2	0	0	0	0	0	0
Carbamazepine	4	2	0	2	2	0	0	2	0	2	2	0	0
Carbon Monoxide <sup>3</sup>	17	7	6	1	2	4	1	7	6	1	2	4	1
Carisoprodol	4	0	0	0	0	0	0	5	0	5	3	2	0
Chlordiazepoxide	8	0	0	0	0	0	0	5	0	5	4	1	0
Citalopram	64	0	0	0	0	0	0	27	0	27	25	2	0
Clomipramine	1	0	0	0	0	0	0	1	0	1	1	0	0
Clonazepam	6	0	0	0	0	0	0	3	0	3	2	1	0
Cocaine <sup>4</sup>	60	43	10	33	40	0	3	48	13	35	45	0	3
Codeine <sup>5</sup>	22	17	3	14	14	3	0	5	0	5	2	3	0
Colchicine	1	0	0	0	0	0	0	1	1	0	1	0	0
Desipramine	1	1	0	1	1	0	0	1	0	1	1	0	0
Dextromethorphan	8	6	0	6	6	0	0	7	0	7	7	0	0
Diazepam	67	22	3	19	16	6	0	25	0	25	19	6	0

Table 9-3 2010 Drug &amp; Poison Caused Deaths, page 2

Drug Name	Total deaths out of 2,060 cases in which drug was present	Overdose Deaths (264) – Drug Present						Overdose Deaths (264) – Drug Causing					
		In which drug was present	Single drug OD in which drug was present	Multiple drug OD in which drug was present	Accident	Suicide	Undetermined	In which drug caused death	OD in which a single drug caused death	OD in which multiple drugs caused death	Accident	Suicide	Undetermined
Diltiazem	1	0	0	0	0	0	0	0	0	0	0	0	0
Diphenhydramine	30	16	3	13	8	8	0	14	2	12	6	8	0
Doxepin	3	0	0	0	0	0	0	0	0	0	0	0	0
Doxylamine	6	0	0	0	0	0	0	4	0	4	2	2	0
Ethanol (Ethyl Alcohol)	311	75	10	65	63	10	2	65	9	56	56	7	2
Ethylene Glycol	4	3	3	0	1	2	0	3	3	0	1	2	0
Fentanyl	12	10	2	8	10	0	0	8	1	7	8	0	0
Fluoxetine	20	12	2	10	10	2	0	10	0	10	8	2	0
Guaifenesin	1	1	0	1	1	0	0	1	0	1	1	0	0
Hydrocodone	29	11	1	10	6	5	0	11	0	11	7	4	0
Hydromorphone	35	21	1	20	16	3	2	21	0	21	16	3	2
Hydroxyzine	5	3	1	2	3	0	0	2	0	2	2	0	0
Ibuprofen	3	2	1	1	1	1	0	1	1	0	1	0	0
Imipramine	3	2	0	2	1	1	0	2	0	2	1	1	0
Isopropanol	28	2	0	2	0	1	1	1	0	1	0	1	0
Ketamine	1	1	1	0	0	1	0	0	0	0	0	0	0
Lamotrigine	5	1	0	1	0	0	1	1	0	1	0	0	1
Lidocaine	1	0	0	0	0	0	0	0	0	0	0	0	0
Lithium	1	0	0	0	0	0	0	0	0	0	0	0	0
Lorazepam	30	13	2	11	10	3	0	17	0	17	12	5	0
MDMA	3	1	0	1	1	0	0	2	1	1	2	0	0
Meperidine	2	2	1	1	2	0	0	1	0	1	1	0	0
Meprobamate	6	6	0	6	4	2	0	3	0	3	2	1	0
Methadone	77	64	14	50	59	1	4	67	13	54	63	1	3
Methamphetamine	29	15	7	8	11	0	4	19	8	11	15	0	4

Table 9-3 2010 Drug &amp; Poison Caused Deaths, page 3

Drug Name	Total deaths out of 2,060 cases in which drug was present	Overdose Deaths (264) – Drug Present						Overdose Deaths (264) – Drug Causing					
		In which drug was present	Single drug OD in which drug was present	Multiple drug OD in which drug was present	Accident	Suicide	Undetermined	In which drug caused death	OD in which a single drug caused death	OD in which multiple drugs caused death	Accident	Suicide	Undetermined
Methanol	2	0	0	0	0	0	0	0	0	0	0	0	0
Methocarbamol	1	0	0	0	0	0	0	1	0	1	1	0	0
Methylphenidate	1	1	0	1	0	1	0	0	0	0	0	0	0
Metoclopramide	1	1	0	1	1	0	0	1	0	1	1	0	0
Midazolam	19	1	1	0	1	0	0	0	0	0	0	0	0
Monoacetylmorphine <sup>6</sup>	18	17	3	14	15	0	2	43	13	30	41	0	2
Morphine <sup>7</sup>	115	69	16	53	64	2	3	72	17	55	67	2	3
Nortriptyline <sup>8</sup>	19	14	0	14	11	3	0	4	0	4	3	1	0
Olanzapine	2	2	0	2	2	0	0	3	0	3	3	0	0
Oxazepam	20	15	2	13	11	4	0	10	0	10	8	2	0
Oxycodone	65	34	6	28	28	5	1	35	4	31	29	5	1
Papverine	1	0	0	0	0	0	0	0	0	0	0	0	0
Paroxetine	3	2	0	2	1	1	0	2	0	2	1	1	0
Phencyclidine	1	0	0	0	0	0	0	1	0	1	0	0	1
Phenobarbital	2	0	0	0	0	0	0	0	0	0	0	0	0
Phenytoin	3	0	0	0	0	0	0	0	0	0	0	0	0
Promethazine	1	1	0	1	0	1	0	1	0	1	0	1	0
Propoxyphene	4	3	0	3	3	0	0	4	0	4	3	0	1
Quetiapine	15	10	1	9	6	4	0	10	1	9	6	4	0
Sertraline	13	3	0	3	2	1	0	3	0	3	2	1	0
Tapentadol	1	1	0	1	1	0	0	1	0	1	1	0	0
Temazepam	20	13	2	11	10	3	0	9	0	9	7	2	0
Topiramate	4	0	0	0	0	0	0	0	0	0	0	0	0
Tramadol	9	5	1	4	4	1	0	5	1	4	4	1	0
Trazodone	23	8	0	8	5	2	1	7	0	7	4	2	1

**Table 9-3 2010 Drug & Poison Caused Deaths, page 4**

Drug Name	Total deaths out of 2,060 cases in which drug was present	Overdose Deaths (264) – Drug Present						Overdose Deaths (264) – Drug Causing					
		In which drug was present	Single drug OD in which drug was present	Multiple drug OD in which drug was present	Accident	Suicide	Undetermined	In which drug caused death	OD in which a single drug caused death	OD in which multiple drugs caused death	Accident	Suicide	Undetermined
Triazolam	1	1	0	1	0	1	0	1	0	1	0	1	0
Trichloroethanol	1	1	0	1	0	1	0	0	0	0	0	0	0
Venlafaxine	15	7	0	7	4	2	1	7	0	7	4	2	1
Ziprasidone	1	0	0	0	0	0	0	0	0	0	0	0	0
Zolpidem	20	12	0	12	7	5	0	13	0	13	7	5	1

<sup>1</sup>Table 9-3 is constructed on the basis of finding each of the listed drugs by laboratory analysis of the decedent's blood. The first column represents the total number of cases in which the specific drug was detected, regardless of cause and manner of death. The rest of the columns represent only drug overdose deaths and are divided into two parts. The part that lists "Drug Present" represents the number of cases in drug overdose deaths in which the drug was present in quantifiable amounts. The other part that lists "Drug Causing" represents the number of drug overdose deaths in which the specific drug caused or contributed to death in the opinion of the certifying Medical Examiner, i.e., the drug was included on the death certificate. In many cases, the numbers in the first part are more than those in the second part because the drug, although present, was not considered to contribute significantly to death, i.e., the drug was not listed on the death certificate even though it was detected in the decedent. In a few cases, the column that lists "In which drug caused death" is greater than the column that lists "In which drug was present," because the drug was detected but not in quantifiable levels, and the certifying Medical Examiner considered the drug to have contributed to death. Furthermore, there were ten additional cases of drug overdose deaths in which no sample was available for analysis. All of these cases represent deaths due to anoxic brain injury that occurred in a hospital after the admission blood sample had been discarded, precluding a confirmatory laboratory analysis. These cases were certified on the basis of the medical records rather than laboratory analysis. These cases included delayed overdose deaths of the following drugs: (1) oxycodone, hydrocodone and lorazepam; (2) insulin; (3) insulin, opiate, benzodiazepine and barbiturate; (4) MDMA; (5) acetaminophen and ethanol; (6) acetaminophen and other unspecified drugs; (7) opiate, oxycodone, and benzodiazepine.

<sup>2</sup>Cannabinoids are listed if they were found at any level in blood or urine, not necessarily in quantified levels. Cannabinoids in levels typically found are not considered lethal agents and, therefore, there are no instances of single drug overdose deaths involving cannabinoids or THC. Although cannabinoids/THC were not considered contributory to death, they were detected in overdose deaths as listed.

<sup>3</sup>Carbon monoxide fatalities are listed in the first column (Total deaths out of 2,060 cases in which drug was present) if the level of carboxyhemoglobin was 10% or greater. The rest of the columns represent only drug overdose deaths and are divided into two parts, "Drug Present" and "Drug Causing". Suicides due to intentional inhalation of carbon monoxide accounted for four of the carbon monoxide deaths. In three of the four carbon monoxide suicides, other drugs may have been present, but they did not contribute to the death; in one of the four carbon monoxide suicides, other drugs were present (hydrocodone, hydromorphone, meprobamate and carisoprodol) and contributed to death. Accidental deaths due to inhalation of carbon monoxide accounted for two of the carbon monoxide overdose deaths. One of the accidental carbon monoxide overdose deaths was attributed solely to inhalation of carbon

monoxide and the other accidental carbon monoxide overdose death involved ethanol, cocaine, and zolpidem in addition to the carbon monoxide. There was one undetermined death due solely to inhalation of carbon monoxide. Other sources of carbon monoxide included in this table are 10 accidental residential fire fatalities. There were no homicidal deaths due to carbon monoxide in 2010.

<sup>4</sup>Includes benzoylecgonine.

<sup>5</sup>Out of the 17 overdose deaths involving codeine, in 12 cases, the source of the drug was likely small quantities of codeine present in heroin used by illicit drug users. In five cases the source of the drug was pharmaceutical codeine.

<sup>6</sup>Monoacetylmorphine (MAM), otherwise known as diacetylmorphine, is the first breakdown product of heroin. The presence of MAM, therefore, proves the source of opiate to be heroin. However, the absence of MAM does not imply that the source of the opiate was not heroin.

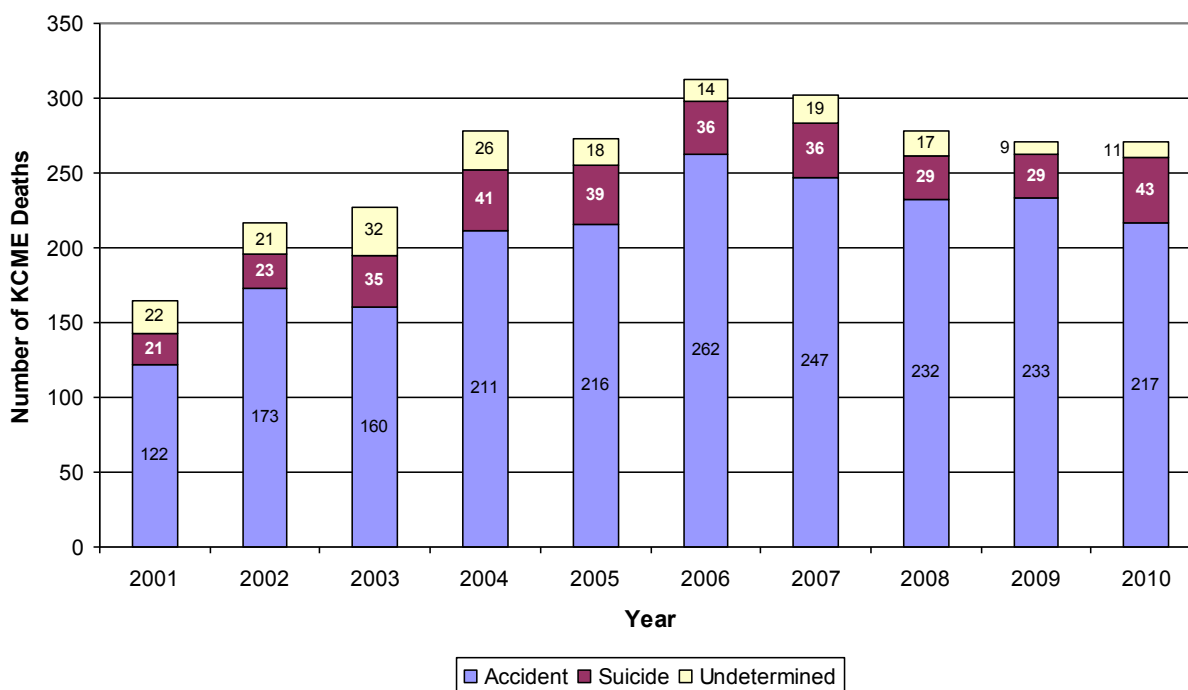
<sup>7</sup>There were 74 overdose deaths involving morphine. In 43 of these cases, the source of the drug was likely the morphine derived from heroin preparations used by illicit drug users. In 20 of these cases the source of the morphine was likely pharmaceutical morphine, and in nine of these cases the source of the morphine was not known.

<sup>8</sup>In four of the 14 total cases, nortriptyline was present without the presence of amitriptyline, indicating that the source of the drug was, in fact, nortriptyline. In the other 10 cases, amitriptyline was also present, indicating that the nortriptyline was present due to the breakdown of amitriptyline. There were a total of four nortriptyline overdose deaths; three accidental multiple drug overdoses and one multiple drug overdose suicide.



**Table 9-4 Total Overdose Deaths / Accident, Suicide, Undetermined / 2001 – 2010<sup>9</sup>**

Overdose Deaths	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Accident	122	173	160	211	216	262	247	232	233	217
Suicide	21	23	35	41	39	36	36	29	29	43
Undetermined	22	21	32	26	18	14	19	17	9	11
<b>Totals</b>	<b>165</b>	<b>217</b>	<b>227</b>	<b>278</b>	<b>273</b>	<b>312</b>	<b>302</b>	<b>278</b>	<b>271</b>	<b>271</b>

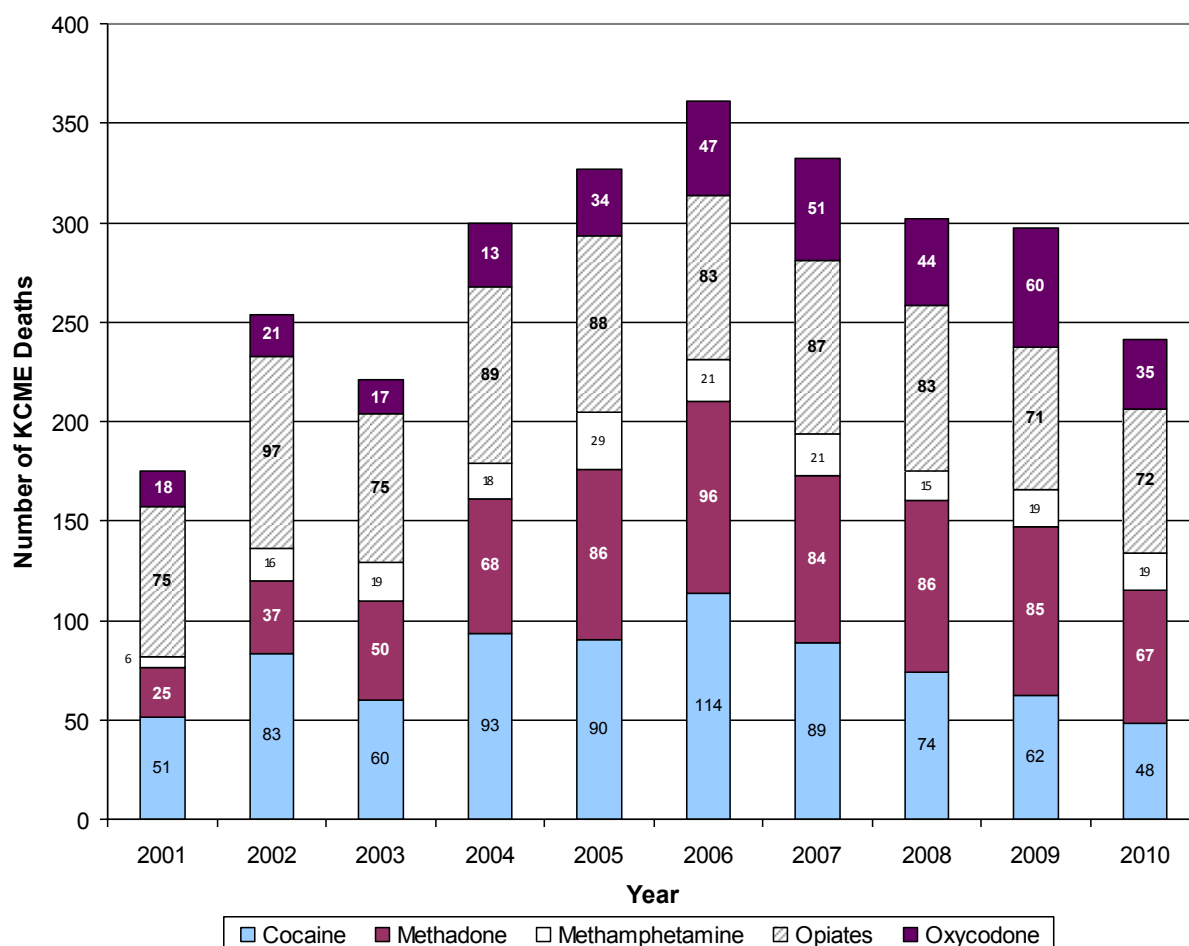
**Graph 9-1 Drug & Poison Caused Deaths / Accident, Suicide, Undetermined / King County Medical Examiner / 2001 - 2010**

<sup>9</sup> Includes all deaths classified as overdose, regardless of whether lab samples were available for analysis.

**Table 9-5 Overdose Deaths Caused by Cocaine, Methadone, Opiates, Methamphetamine, or Oxycodone<sup>10</sup> / KCME / 2001 - 2010**

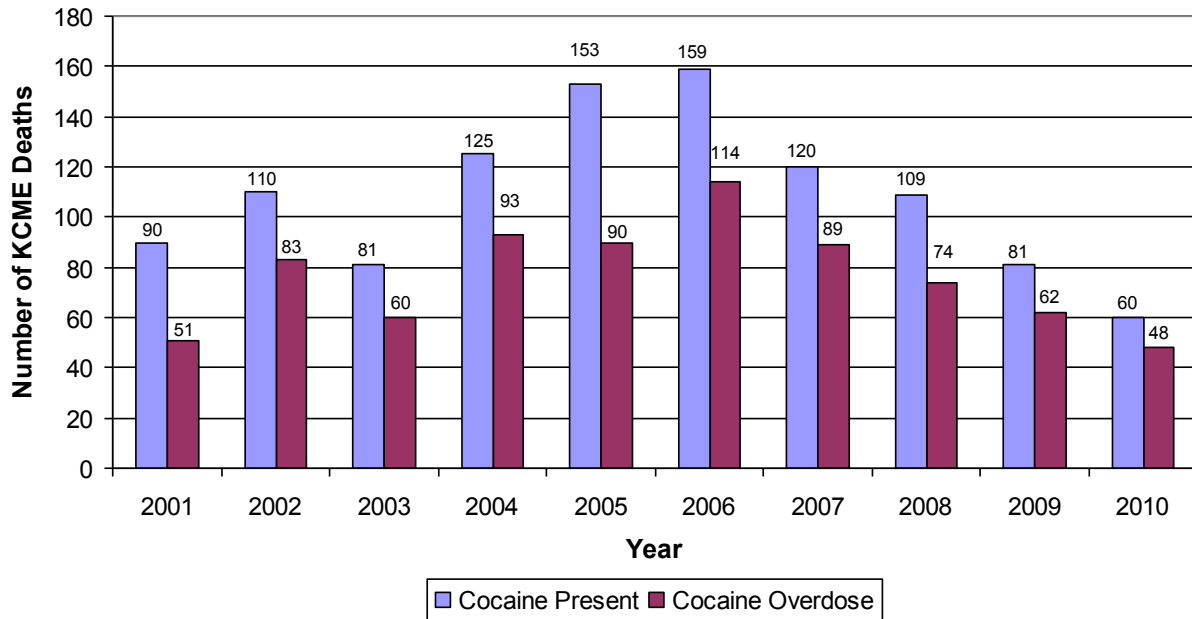
DRUG	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cocaine	51	83	60	93	90	114	89	74	62	48
Methadone	25	37	51	68	86	96	84	86	85	67
Methamphetamine	6	16	19	18	29	21	21	15	19	19
Opiates	75	97	75	89	88	83	87	83	71	72
Oxycodone	18	21	17	32	34	47	51	44	60	35

**Graph 9-2 Overdose Deaths Caused by Cocaine, Methadone, Opiates, Methamphetamine, or Oxycodone / KCME / 2001 – 2010**

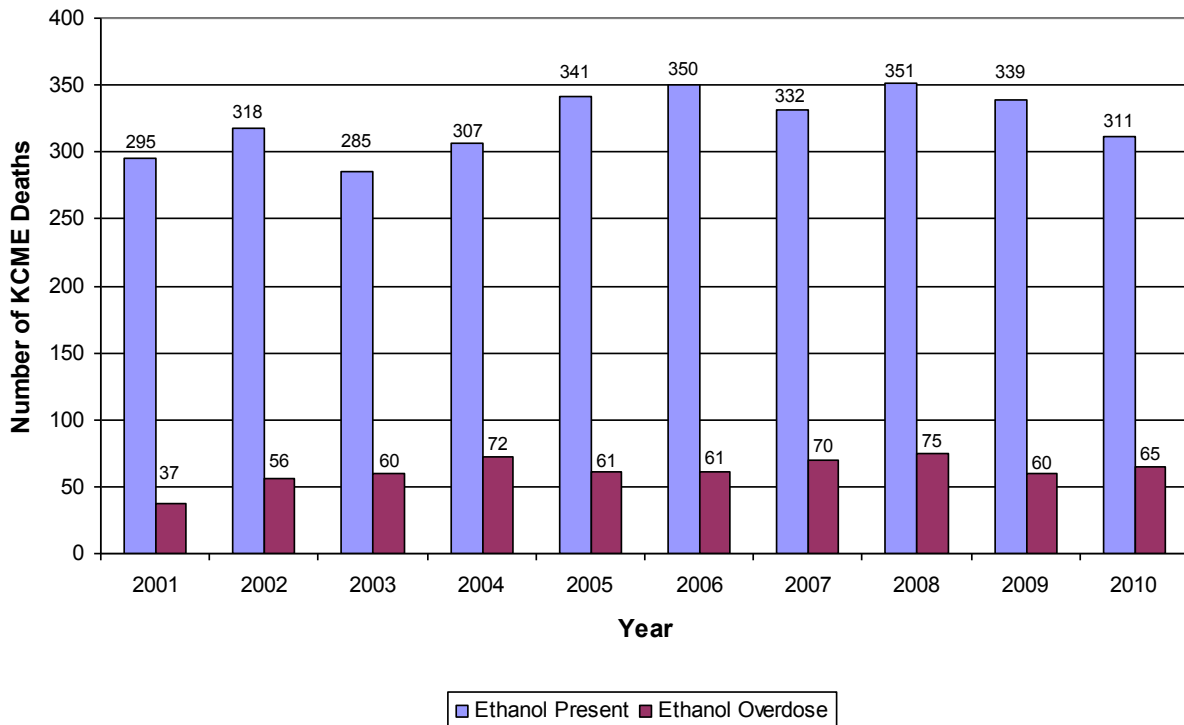


<sup>10</sup>In this context, "caused by" refers to single or multiple drug overdoses in which the drug was listed on the death certificate.

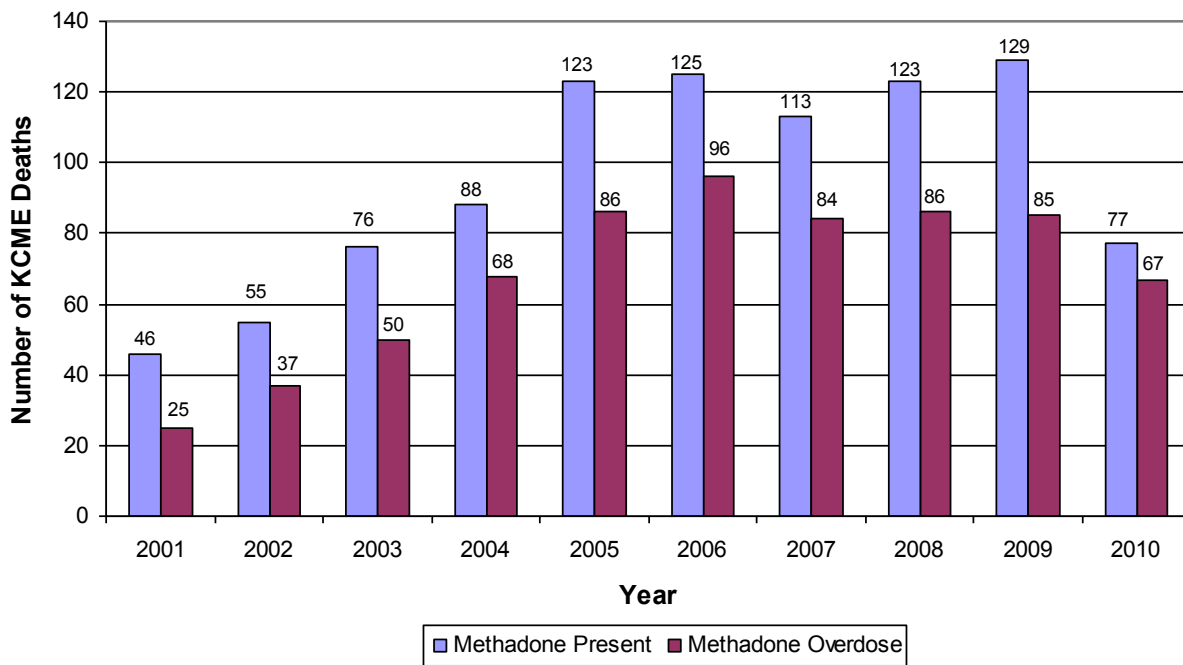
**Graph 9-3 Cocaine Involved Deaths<sup>11</sup> / King County Medical Examiner / 2001 – 2010**



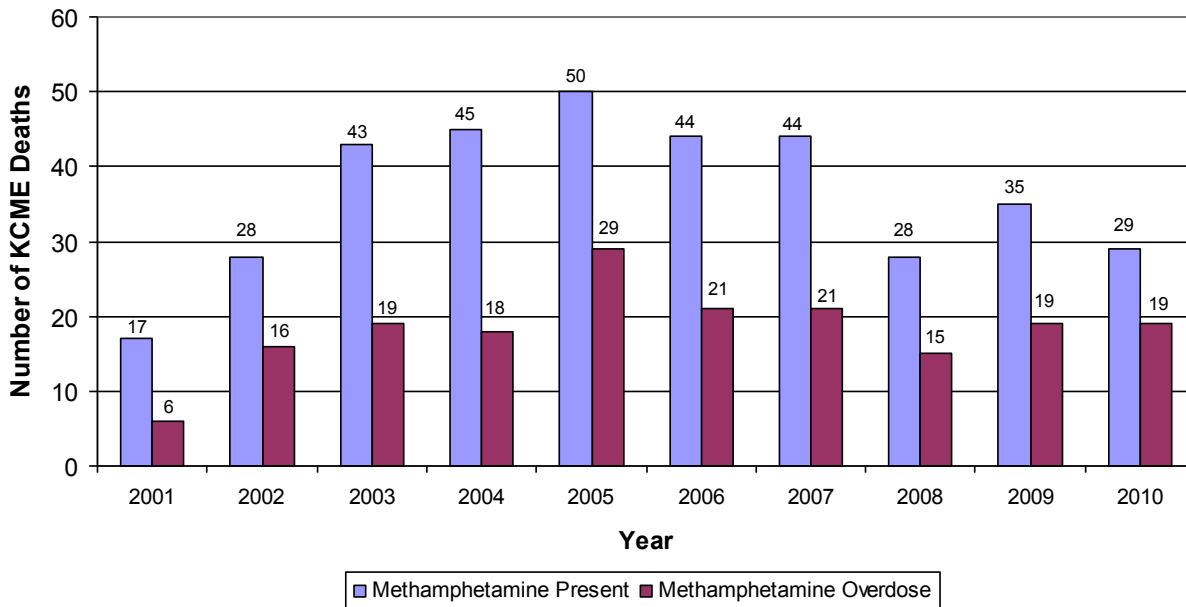
**Graph 9-4 Ethanol Involved Deaths / King County Medical Examiner / 2001 - 2010**



**Graph 9-5 Methadone Involved Deaths / King County Medical Examiner / 2001 - 2010**

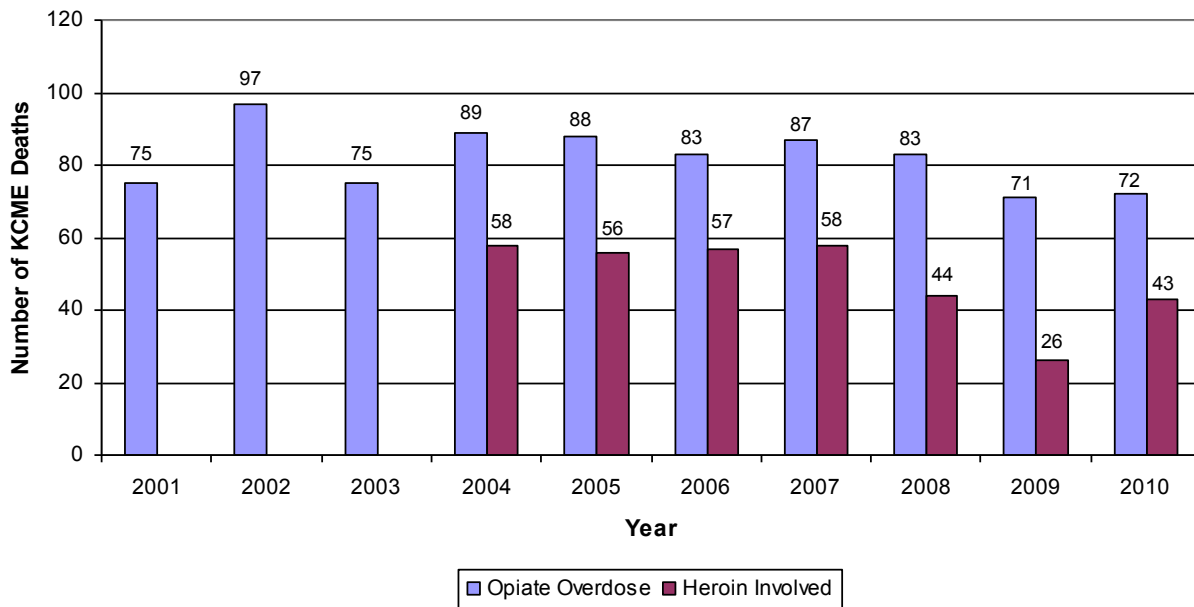


**Graph 9-6 Methamphetamine Involved Deaths / KCME / 2001 – 2010**

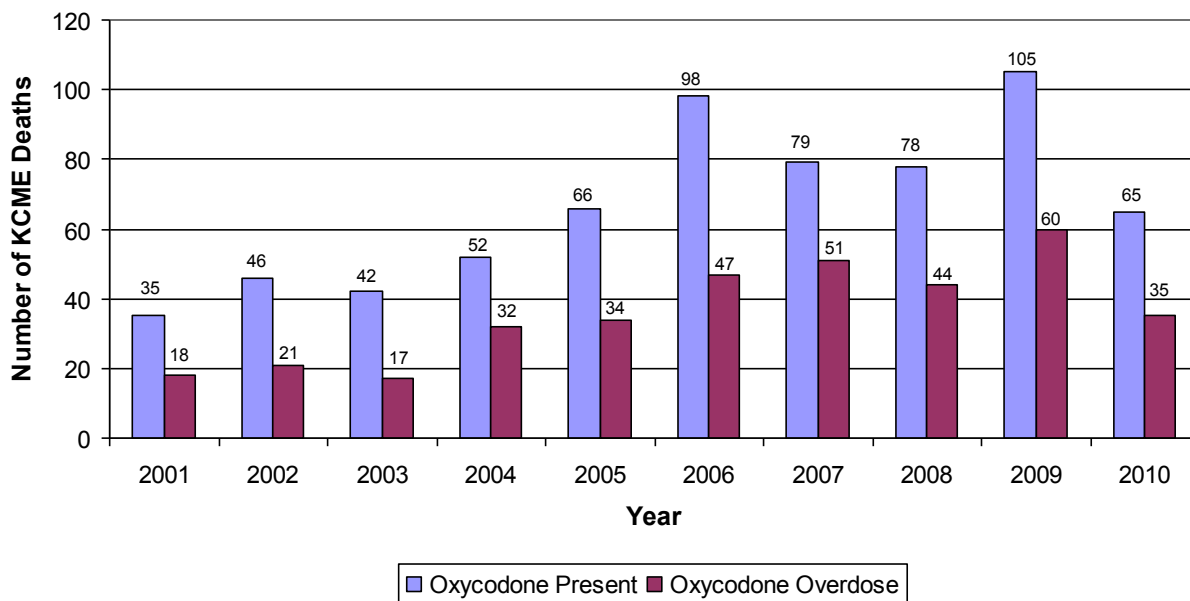


<sup>11</sup>In Graphs 9-3, 9-4, 9-5 and 9-6, "overdose" refers to deaths due to the listed drug or ethanol in single or multiple drug overdose deaths where the listed drug or ethanol was listed on the death certificate.

**Graph 9-7 Opiate Overdose Deaths & Heroin-Related Deaths / KCME / 2001 - 2010<sup>12</sup>**

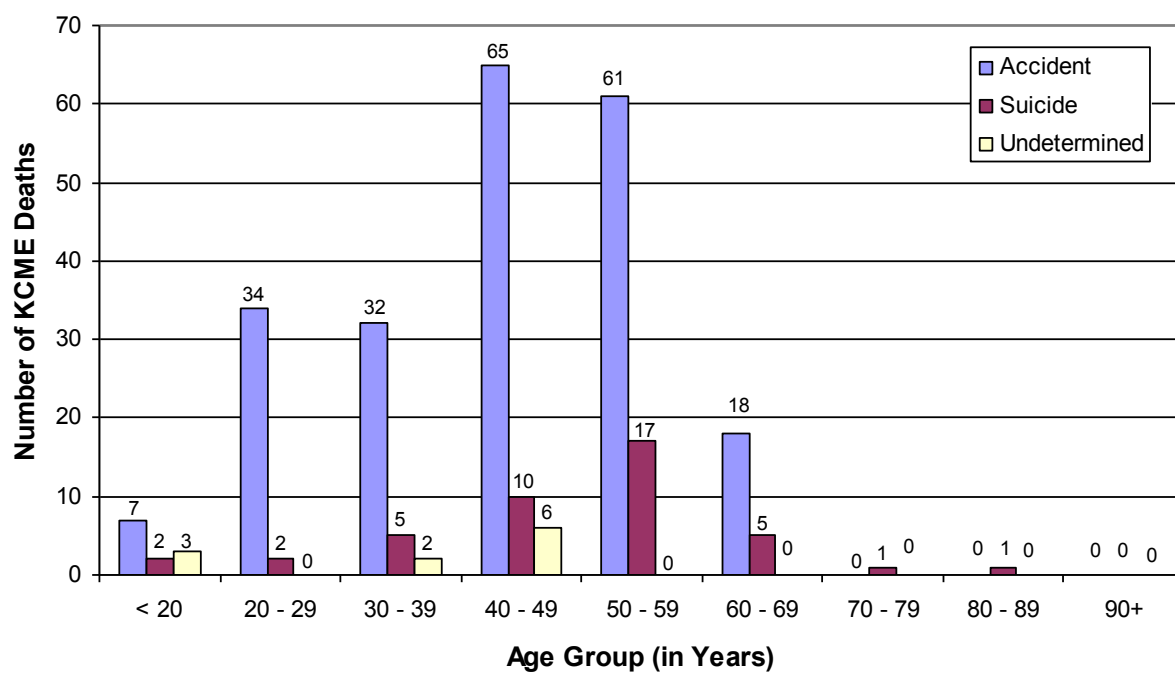


**Graph 9-8 Oxycodone Involved Deaths / King County Medical Examiner / 2001 - 2010**



<sup>12</sup>In 2004, the King County Medical Examiner's Office began collecting data on probable heroin overdoses based on a combination of scene, circumstances, and toxicology results.

**Graph 9-9 Drug / Poison Deaths / Age / King County Medical Examiner / 2001 – 2010**



**Table 9-6 Drug / Poison Deaths / Age / King County Medical Examiner / 2010**

AGE GROUP		MANNER OF DEATH			SUB-TOTAL	TOTAL
(YEARS) / SEX		ACCIDENT	SUICIDE	UNDETERMINED		
<20		7	2	3		12
Male		7	1	1	9	
Female		0	1	2	3	
20-29		34	2	0		36
Male		25	2	0	27	
Female		9	0	0	9	
30-39		32	5	2		39
Male		20	3	1	24	
Female		12	2	1	15	
40-49		65	10	6		81
Male		38	6	4	48	
Female		27	4	2	33	
50-59		61	17	0		78
Male		41	10	0	51	
Female		20	7	0	27	
60-69		18	5	0		23
Male		11	2	0	13	
Female		7	3	0	10	
70-79		0	1	0		1
Male		0	0	0	0	
Female		0	1	0	1	
80-89		0	1	0		1
Male		0	0	0	0	
Female		0	1	0	1	
90+		0	0	0		0
Male		0	0	0	0	
Female		0	0	0	0	
<b>Totals</b>		<b>217</b>	<b>43</b>	<b>11</b>		<b>271</b>



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# Deaths due to firearms

The Medical Examiner is responsible for investigating all deaths due to firearms that occur in King County. Medical Examiner data relate primarily to the victim because information regarding the weapon and the shooter is often unknown. The following data are specific to the victims of firearm deaths.

In 2010, the Medical Examiner investigated 135 firearm deaths. In 2009, firearms caused 146 deaths. Of the 135 firearm deaths in 2010, 39 (29%) were homicides and 92 (68%) were suicides. One firearm death was classified accident in 2010. In 2009, there was also one firearm death classified accident. In 2010, there were three firearms deaths that were classified as undetermined; there were four in 2009.

In 2010, gunshot wounds were the leading cause of death for homicides and suicides. Firearm deaths comprised 66% (39/59) of homicides, compared to 65% (41/63) in 2009. In 2010, suicides by firearms represented 40% (92/232) of suicide deaths compared to 40% (100/253) in 2009.

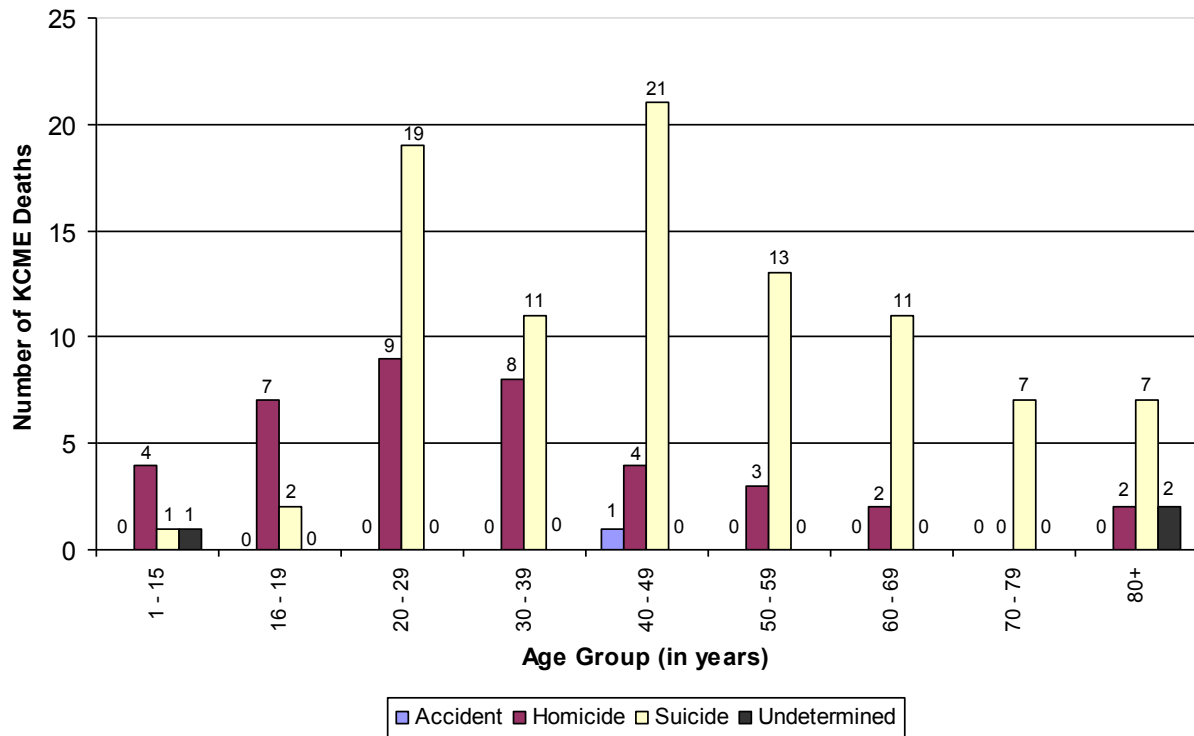
In 2010, of the 39 firearm homicide victims, 28% (11/39) were 19 years old and younger - an increase from 2009 when 10% of firearm homicide victims were 19 years old and younger. In 2010, it is estimated that a disproportionate number of firearm homicide victims were African American (26%, 10/39) compared to the percentage of African Americans in the general population (see discussions on pages 8 and 44). Of the 10 African American firearm homicide victims, 20% (2/10) were males 19 years old and younger and 30% (3/10) were males between 20 and 29 years of age. In comparison, 49% (19/39) of the homicide firearm victims were White. Of the 19 White homicide victims, 16% (3/19) were males between 20 and 29 years old.

Of the 92 firearm suicide victims in 2010, 90% (83/92) were White and 82% (75/92) were males. One of the firearm suicide victims was 19 years old and under (1%, 1/92). Thirty (33%, 30/92) of the gunshot suicide victims were between the ages of 20 and 39 years of age, 34 (37%, 34/92) were between 40 and 59 years, and 25 (27%, 25/92) were 60 years and older.

**Table 10-1 Firearm Deaths / Manner / Age / Sex / King County Medical Examiner / 2010**

AGE GROUP / SEX	MANNER OF DEATH				SUB TOTAL	TOTAL
	A	H	S	U		
<13 years	0	1	0	1		2
Male	0	1	0	1	2	
Female	0	0	0	0	0	
13-15 years	0	3	1	0		4
Male	0	1	1	0	2	
Female	0	2	0	0	2	
16-19 years	0	7	2	0		9
Male	0	5	2	0	7	
Female	0	2	0	0	2	
20-29 years	0	9	19	0		28
Male	0	8	15	0	23	
Female	0	1	4	0	5	
30-39 years	0	8	11	0		19
Male	0	6	10	0	16	
Female	0	2	1	0	3	
40-49 years	1	4	21	0		26
Male	1	4	16	0	21	
Female	0	0	5	0	5	
50-59 years	0	3	13	0		16
Male	0	3	9	0	12	
Female	0	0	4	0	4	
60-69 years	0	2	11	0		13
Male	0	1	9	0	10	
Female	0	1	2	0	3	
70-79 years	0	0	7	0		7
Male	0	0	7	0	7	
Female	0	0	0	0	0	
80-89 years	0	2	7	2		11
Male	0	0	6	2	8	
Female	0	2	1	0	3	
90+	0	0	0	0		0
Male	0	0	0	0	0	
Female	0	0	0	0	0	
<b>Totals</b>	<b>1</b>	<b>39</b>	<b>92</b>	<b>3</b>		<b>135</b>
Percent	1%	29%	68%	2%		100%

Graph 10-1 Firearm Deaths / Manner / Age Group / King County Medical Examiner / 2010



**Table 10-2 Firearm Deaths / Manner / Race / Sex / KCME / 2010**

RACE / SEX	MANNER OF DEATH				SUB-TOTAL	TOTAL
	A	H	S	U		
Asian/Pacific Islander	0	8	2	0		10
<i>Male</i>	0	5	1	0	6	
<i>Female</i>	0	3	1	0	4	
African American	0	10	6	0		16
<i>Male</i>	0	9	4	0	13	
<i>Female</i>	0	1	2	0	3	
Am Indian / AK Native	0	2	1	0		3
<i>Male</i>	0	2	1	0	3	
<i>Female</i>	0	0	0	0	0	
White	1	19	83	3		106
<i>Male</i>	1	13	69	3	86	
<i>Female</i>	0	6	14	0	20	
Other	0	0	0	0		0
<i>Male</i>	0	0	0	0	0	
<i>Female</i>	0	0	0	0	0	
<b>Totals</b>	<b>1</b>	<b>39</b>	<b>92</b>	<b>3</b>		<b>135</b>



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# Causes of death in children and youth

In 2010, the King County Medical Examiner's Office investigated 107 deaths of children and youth ages 19 years or younger, which represented 5% (107/2,060) of the total deaths investigated. Of these deaths, 29% (31/107) were natural, 16% (17/107) were accidental (non-traffic), 14% (15/107) were homicides, 13% (14/107) were traffic-related, 8% (9/107) were suicides, and 20% (21/107) were classified as manner undetermined. In addition to investigating childhood deaths, the King County Medical Examiner participates in Child Death Review, a process which discusses these deaths in detail and formulates prevention strategies.

Of the 31 natural deaths of children and youth investigated by the Medical Examiner, 77% (24/31) were of infants less than one year of age. Of these 24 infants who died of natural causes, 18 were due to Sudden Infant Death Syndrome (SIDS). In addition, ten infant deaths were classified as "Sudden Unexplained Infant Death" (SUID), manner undetermined, due to the inability to exclude if external factors contributed to death.

There were 15 homicides among children and youth. Of these 15 homicide victims, 10 were teenagers (13 - 19 years of age), two were children (one to 12 years of age), and three were infants less than one year of age. Seventy-three percent (11/15) of the children and youth homicide victims died by firearms.

There were nine youth suicides, all between the ages of 13 and 19 years. Males comprised 78% (7/9) of the victims. Regarding the methods used to commit suicide by youth, three were by firearm, four were by hanging, and two were drug related.

Fourteen children and youth (19 years and under) died in traffic-related accidents, of whom 12 (86%) were teenagers 13 – 19 years of age. There were five motor vehicle driver deaths, six motor vehicle passenger deaths, and one teenage pedestrian death. Of the 11 children and youth who died in motor vehicles, eight were known to be restrained and three were unrestrained.

The following tables list the causes of death among children and youth for all manners in three age groups: less than one year, one -12 years and 13-19 years.

Graph 11-1 Causes of Death in Children &amp; Youth / King County Medical Examiner / 2010

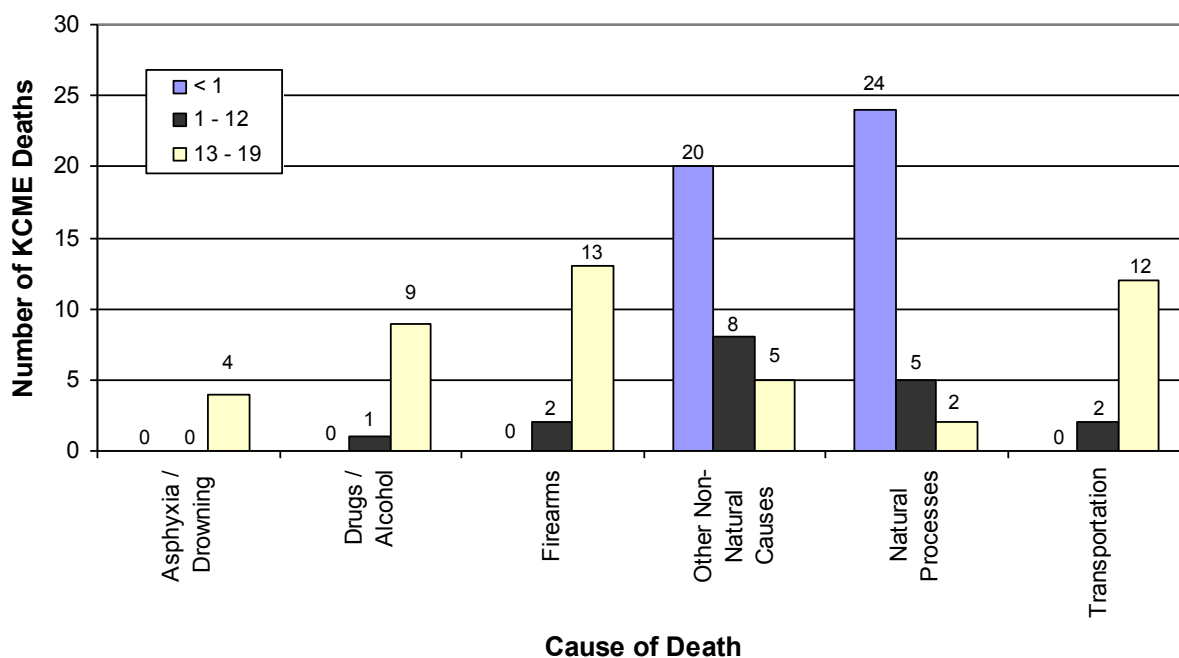


Table 11-1 Causes of Death: Children Under 1 Year of Age / KCME / 2010

CIRCUMSTANCES	MANNER OF DEATH						SUB-TOTAL	TOTAL
	A	H	S	T	U	N		
Miscellaneous								38
Blunt Force	0	3	0	0	0	0	3	
Complication of Therapy	1	0	0	0	1	0	2	
Drugs/Poisons	0	0	0	0	0	0	0	
Other	0	0	0	0	15 <sup>1</sup>	0	15	
SIDS	0	0	0	0	0	18	18	
Other Natural Disease	-	-	-	-	-	6		
<b>Totals</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>24</b>		<b>44</b>

<sup>1</sup>Includes 10 cases classified as Sudden Unexplained Infant Death with the possibility of bed sharing listed as a significant condition contributing to the cause of death.

**Table 11-2 Causes of Death: Children 1 to 12 Years of Age / KCME / 2010**

CIRCUMSTANCES	MANNER OF DEATH						SUB-TOTAL	TOTAL
	A	H	S	T	U	N		
Asphyxia	0	0	0	0	0	0		0
<i>Carbon Monoxide</i>	0	0	0	0	0	0	0	
<i>Drowning</i>	0	0	0	0	0	0	0	
<i>Hanging</i>	0	0	0	0	0	0	0	
<i>Mechanical</i>	0	0	0	0	0	0	0	
<i>Other</i>	0	0	0	0	0	0	0	
<i>Positional</i>	0	0	0	0	0	0	0	
Miscellaneous	3	0	0	0	1	0		4
<i>Complication of Therapy</i>	0	0	0	0	0	0	0	
<i>Drugs / Poisons</i>	1	0	0	0	0	0	1	
<i>Fall</i>	1	0	0	0	0	0	1	
<i>Fire / Explosion</i>	0	0	0	0	0	0	0	
<i>Hyperthermia</i>	0	0	0	0	0	0	0	
<i>Jump</i>	0	0	0	0	0	0	0	
<i>Non Traffic -Vehicle</i>	1	0	0	0	0	0	1	
<i>Other</i>	0	0	0	0	1	0	1	
Physical Trauma	4	2	0	0	1	0		7
<i>Abuse</i>	0	0	0	0	0	0	0	
<i>Blunt Force / Crushing</i>	1	1	0	0	0	0	2	
<i>Burns / Fire</i>	3	0	0	0	0	0	3	
<i>Firearms</i>	0	1	0	0	1	0	2	
<i>Incised / Stab Wound(s)</i>	0	0	0	0	0	0	0	
<i>Other</i>	0	0	0	0	0	0	0	
Transportation Related	0	0	0	2	0	0		2
<i>Bicycle</i>	0	0	0	0	0	0	0	
<i>Motor Vehicle Passenger</i>	0	0	0	1	0	0	1	
<i>Motorcycle</i>	0	0	0	0	0	0	0	
<i>Pedestrian</i>	0	0	0	1	0	0	1	
Natural Disease	-	-	-	-	-	5		5
<b>Totals</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>5</b>		<b>18</b>



**Table 11-3 Causes of Death: Children 13 to 19 Years of Age / KCME / 2010**

CIRCUMSTANCES	MANNER OF DEATH						SUB-	
	A	H	S	T	U	N	TOTAL	TOTAL
Asphyxia	0	0	4	0	0	0		4
<i>Carbon Monoxide</i>	0	0	0	0	0	0	0	
<i>Drowning</i>	0	0	0	0	0	0	0	
<i>Hanging</i>	0	0	4	0	0	0	4	
<i>Smothering</i>	0	0	0	0	0	0	0	
<i>Positional</i>	0	0	0	0	0	0	0	
<i>Other</i>	0	0	0	0	0	0	0	
Drugs / Alcohol	6	0	2	0	1	0		9
Miscellaneous	1	0	0	0	1	0		2
<i>Complication of Therapy</i>	0	0	0	0	0	0	0	
<i>Fall</i>	0	0	0	0	0	0	0	
<i>Jump</i>	0	0	0	0	0	0	0	
<i>Non-Traffic Vehicular</i>	0	0	0	0	0	0	0	
<i>Other</i>	1	0	0	0	1	0	2	
Physical Trauma	2	10	3	0	1	0		16
<i>Blunt Force / Crushing</i>	2	0	0	0	0	0	2	
<i>Burns / Fire</i>	0	0	0	0	1	0	1	
<i>Firearms</i>	0	10	3	0	0	0	13	
<i>Homicidal Violence</i>	0	0	0	0	0	0	0	
<i>Incised / Stab Wound(s)</i>	0	0	0	0	0	0	0	
<i>Strangulation</i>	0	0	0	0	0	0	0	
Transportation Related	0	0	0	12	0	0		12
<i>Bicycle</i>	0	0	0	0	0	0	0	
<i>Motor Vehicle Driver</i>	0	0	0	5	0	0	5	
<i>Motor Vehicle Passenger</i>	0	0	0	6	0	0	6	
<i>Motorcycle</i>	0	0	0	0	0	0	0	
<i>Pedestrian</i>	0	0	0	1	0	0	1	
<i>Other</i>	0	0	0	0	0	0	0	
Natural Disease	-	-	-	-	-	2		2
<b>Totals</b>	<b>9</b>	<b>10</b>	<b>9</b>	<b>12</b>	<b>3</b>	<b>2</b>		<b>45</b>



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# Organ donation

Although the King County Medical Examiner's Office does not approach families for donation of organs and tissue from decedents, we realize the tremendous need for this life-saving activity and cooperate fully with organ and tissue procurement agencies for this purpose. It is the philosophy of the King County Medical Examiner's Office that all requests for organ and/or tissue donation be given high priority for approval. In practice, the procurement agency contacts the KCMEO with information regarding a potential donor and the specific organs or tissue requested. The Medical Examiner then evaluates the request to determine if the donation would significantly affect the postmortem examination. In the great majority of cases, examinations can be conducted so that donations do not interfere with certification of death or collection of evidence. In this way, the King County Medical Examiner's Office works to maximize the donation of organs and tissue that go directly to save lives.

In 2010, the King County Medical Examiner's Office was notified of 47 deaths that were eligible for organ donation in King County. The KCMEO gave release on all 47 of these deaths. Altogether, there were 156 organs transplanted from King County Medical Examiner cases. The number of specific organs transplanted in 2010 is shown in Table 12-1. In addition to the living organs listed in Table 12-1 that were donated in 2010, the KCMEO approved the donation of skin, bone, cartilage, heart valves, corneas and other tissues through the tissue procurement agency, Northwest Tissue Services. Altogether, there were 77 donors who, on average, were each able to provide between 25 -50 donations each (1925-3850) to tissue transplant recipients.

<b>Table 12-1                      Organs Transplanted / KCME / 2010</b>	
<b>ORGAN</b>	<b># Transplanted</b>
Heart	12
Intestine	0
Kidney	79
Liver	25
Lung	31
Pancreas	9
<b>Total</b>	<b>156</b>



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# Cremation review

All deaths covered under RCW 68.50.010 are required by law to be reported to the Medical Examiner, however in the past these deaths have not always been reported in a timely manner. For some of these deaths, a complete investigation is not possible because the body was cremated prior to the death being reported to the Medical Examiner.

Beginning January 1, 2008, the King County Council authorized the Medical Examiner's Office to review the death certificates of all decedents to be cremated in order to rule out the need for additional investigation and ensure the proper determination of cause and manner of death.

In 2010, the Medical Examiner's Office handled 9,500 cremation review requests. In 144 cases the Medical Examiner took jurisdiction to investigate further and determine correct cause and manner of death. Without this cremation review, these cases would not have been seen and the correct determination of death missed. Table 13-1 shows the 144 cases that were initiated by the Medical Examiner's Office from cremation reviews.

**Table 13-1****Cremation Reviews / KCME / 2010**

MANNER	SUBTYPE	# CASES	%
Accident	Aspiration	1	0.70%
Accident	Complication of Therapy	2	1.40%
Accident	Drugs / Poisons	1	0.70%
Accident	Fall	34	23.60%
Accident	Other	2	1.40%
Accident	Traffic	4	2.80%
Fetal Death	Drugs / Poisons	1	0.70%
Homicide	Gunshot Wound(s)	1	0.70%
Homicide	Other	1	0.70%
Suicide	Drugs / Poisons	1	0.7%
Natural		93	64.50%
Undetermined		3	2.10%
<b>Totals</b>		<b>144</b>	<b>100%</b>



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# Medical Examiner activity

The staff members of the Medical Examiner's Office are involved in a wide variety of activities commensurate with the mission of the office including responding to and investigating the scene of death, performing postmortem examinations, certifying the cause and manner of death, and providing information and assistance to families. Investigators, who are familiar with the emotional trauma of an unexpected death, communicate directly with the family as do the Medical Examiner pathologists, who review their findings with the families in order to clarify the many questions that accompany a sudden loss of life. The office also provides referrals to grief support services.

In all cases investigated by the Medical Examiner, it is essential that the decedent's identity is established and the next-of-kin is located and notified regarding the death. In addition, property belonging to the decedent must be controlled and released according to legal requirements. In most cases these issues are resolved expeditiously. In certain cases, identification requires additional effort in locating dental, medical or police records. Some individuals may have died leaving no next-of-kin or next-of-kin far removed. Ensuring that all leads have been exhausted in pursuit of next-of-kin can be a very time consuming but ultimately rewarding effort.

The postmortem examination on each decedent includes the preservation of various body fluids and tissues for microscopic and toxicologic analysis. Photographs are taken of the external and internal portions of the examination, which are available for review at a later date if needed. Photographic documentation is also an essential item in those cases where the pathologist must provide court testimony. Forensic Anthropology is another important activity necessary to resolve skeletal cases and difficult identification issues.

Medical Examiner pathologists and investigators provide testimony in court and at depositions. Staff participates in meetings with police, medical professionals, and attorneys. A recent addition to the duties of the Chief Medical Examiner is expert medical consultation and testimony in cases involving nonfatal domestic violence assaults.

Autopsy reports and related data from individual investigations are provided to law enforcement agencies, prosecuting attorneys and many other agencies including Labor and Industries, the Drug Enforcement Administration, and the Consumer Product Safety Commission. Drug deaths are reported to the Drug Abuse Warning Network (DAWN).

In 2003, the Medical Examiner's Office created a student internship program that provides educational opportunities for students interested in forensic autopsy and death investigation. Through this program, numerous interns have obtained full-time careers in death investigation, both at the KCMEO and in other area medical examiner's offices.

Medical Examiner investigations require frequent contact between the Medical Examiner's Office and various media personnel. Staff members are skilled in responding to the media inquiries that occur daily. The Medical Examiner pathologists and other staff participate in a variety of medical conferences, and provide information on a regular basis to law enforcement and to medical personnel on various aspects regarding the role and function of the Medical Examiner's Office.

The data collected and presented in this and other Medical Examiner annual reports also provide baseline information for further analysis. Medical Examiner staff analyzes data to study relevant death investigation topics that have applications in such fields as law enforcement, medicine, law, social sciences, and injury prevention. Examples include infant mortality, teenage suicide, child abuse, law enforcement restraint, investigation of vehicular traffic accidents, and investigation of therapeutic complication deaths. In addition, the office participates in teaching medical students, pathology residents, emergency medical service, and law enforcement personnel.

In 2010, staff participated as speakers at universities, conferences, and training seminars for law enforcement, medical, legal, and social service personnel in the following presentations and lectures:

## **Richard C. Harruff, MD, PhD**

### ***Academic Appointment***

- Clinical Associate Professor, Department of Pathology, University of Washington School of Medicine

### ***Preceptorships & Faculty Positions***

- Director of Forensic Pathology Fellowship Training Program, King County Medical Examiner's Office
- University of Washington School of Medicine, medical students, pathology residents, and physician assistant (MEDEX) students
- University of Washington School of Nursing, graduate students in Forensic Nursing
- Course Director and Faculty, "Problems in Forensic Pathology", King County Medical Examiner's Office, accredited by the University of Washington Office for Continuing Medical Education
- Faculty, Certificate Program in Forensics, University of Washington Extension

### ***Professional Organizations***

- American Medical Association
- American Academy of Forensic Sciences
- National Association of Medical Examiners
- Disaster Mortuary Operations Response Team, Region 10



### ***Scientific Publications***

- Elderly Deaths Due to Ground Level Falls (2010). Chisholm KM, Harruff RC. American Journal of Forensic Medicine and Pathology 31, 350-4.

### ***Scientific Presentations***

- Accidental Carbon Monoxide Poisoning: A review of environmental and cultural risk factors of fatal cases in King County.  
Kristinza R. Woodard and Richard C. Harruff  
Proceedings of the American Academy of Forensic Sciences 16 – Annual Scientific Meeting – Seattle, WA – February 22-27
- Analysis of Female Homicides in King County, Washington 2000-2007  
Janaki Warushahennadi and Richard C. Harruff  
Proceedings of the American Academy of Forensic Sciences 16 – Annual Scientific Meeting – Seattle, WA – February 22-27
- Dangerous Consequences: Agranulocytosis associated with cocaine use – Washington 2009  
Ta M., Wood R., Duchin J., Harruff R., VanEenwyk J.  
Center for Disease Control and Prevention (Poster)

### ***Educational Presentations***

- Firearm Injuries  
Annual Paramedic Training – Harborview Medical Center – Seattle, WA – February 2
- Role of the Medical Examiner in Homicide Investigation  
University of Washington Law School and Washington Death Penalty Assistance Center – Seattle, WA – February 6
- Infant Death Investigations  
University of Washington Continuing Education Extension – Seattle, WA – February 10
- Investigation of Traffic Fatalities  
University of Washington Continuing Education Extension – Seattle, WA – February 10
- Basic Death Investigations and Postmortem Changes  
University of Washington Department of Pathology Residency Program – Seattle, WA – April 6
- Medicolegal Death Investigation  
Washington Medicolegal Death Investigator Training – Kelso, WA – April 13

- Pattern Injuries and Strangulation  
Harborview Center for Sexual Assault and Traumatic Stress Training for Sexual Assault Nurse Examiners – Tukwila, WA – April 21
- Gunshot Wounds  
University of Washington Department of Pathology Residency Program – Seattle, WA – April 27
- Investigation of Deaths in Infant and Young Children  
18<sup>th</sup> Annual Children's Justice Conference – Seattle, WA – May 10
- Legal and Medical Perspectives of Vulnerable Adult Deaths  
Forensic Nursing 2010: Expertise in Action – Caring for Vulnerable Populations through Forensic Nursing – University of Washington School of Nursing – Seattle, WA – May 18
- Pathobiology of Toxic Environmental Exposures  
Environmental Health – A Learning Organization: 2010 Environmental Health Division Staff Conference – Seattle, WA – May 26
- Forensic Aspects of Firearm Wounds  
WAMI Trauma Conference – Harborview and University of Washington Medical Centers - Seattle, WA – June 1
- Introduction to Death Investigation  
Snohomish County Public Defenders Association – Everett, WA – July 13
- Basic Death Investigation  
Washington Defender Association – Seattle, WA – September 24
- Pattern Injuries and Strangulation  
Harborview Center for Sexual Assault and Traumatic Stress Training for Sexual Assault Nurse Examiners – Tukwila, WA – October 5
- Suicide Terrorism: Evolution of a 21<sup>st</sup> Century Weapon  
Grand Rounds, Office of the Medical Examiner – New York, NY – October 7
- Mechanics of Injury: Investigation of Traffic Fatalities  
Washington State Patrol Collision Investigation Course – Shelton, WA – October 21
- Elder Abuse Investigation  
Overcoming Barriers: Washington State's 7<sup>th</sup> Annual Vulnerable Adult Abuse Conference – Burien, WA – October 28
- Infant Death Investigation  
Northwest Infant Survival Alliance – Redmond, WA – November 2
- Death Scene Investigation  
Violent Crimes Investigation Conference – Criminal Justice Training Center – Burien, WA – November 3

## Aldo Fusaro, DO, Associate Medical Examiner

### ***Academic Appointment***

- Clinical Assistant Professor, Department of Pathology, University of Washington School of Medicine

### ***Preceptorships***

- University of Washington School of Medicine, medical students and pathology residents
- King County Medical Examiner's Office, forensic pathology fellow trainer

### ***Associations, Committees and Boards***

- Member, American Medical Association
- Member, Washington Association of Coroners and Medical Examiners
- Member, Washington State Medical Association
- Member, National Association of Medical Examiners
  - Membership Committee
- Fellow, College of American Pathologists
- Fellow, American College of Clinical Pathologists
- Advisory Committee, King County Medical Examiner's Office
- Child Death Review Committee, King County Medical Examiner's Office
- Elder Death Review Committee, King County Medical Examiner's Office
- Quality Improvement Subcommittee, King County Medical Examiner's Office
- Multiple Fatality Incident Preparedness Team, Public Health – Seattle & King County

### ***Professional Meetings, Trainings and Certifications***

- Forensic Investigations Council Meetings  
January, February, April, September, October & November
- Annual Blood Borne Pathogens Training, Public Health - Seattle & King County  
September
- Health Information Privacy and Security Training, Public Health - Seattle & King County  
December

### ***Educational Presentation***

- Natural Deaths. Introduction to the Forensic Sciences  
University of Washington Continuing Education – Seattle, WA - March
- RISE Examination Review Lectures  
University of Washington Department of Pathology – Seattle, WA - April

### **Medical Examiner activity**

- Basic Homicide Investigation  
Washington State Attorney General's Office -Regional Justice Center Training Center - Burien, WA – June

## **Katherine Taylor, PhD, Forensic Anthropologist**

### ***Academic Affiliation***

- University of Washington Department of Anthropology: Affiliate Faculty
- Seattle University Department of Criminal Justice: Adjunct Faculty

### ***Associations, Committees and Boards***

- Member, Family and Friends of Violent Crimes Victims
- Member, Seattle University Criminal Justice Advisory Board
- Member, Society of Forensic Anthropologist
- Fellow, American Academy of Forensic Sciences

### ***Educational Presentations***

- Interfacing with the Medical Examiner  
International Association of Police Chaplains – Cannon Beach, OR – January 12
- Demystifying SIDS: Co-presented with Deborah Robinson  
King County Child Protective Services and Child Welfare Case Workers – Seattle, WA – January 21
- Forensic Anthropology and Homicide Investigation  
Basic Homicide Investigation Class – Bellingham, WA – April 28
- Demystifying SIDS: Co-presented with Deborah Robinson  
Children's Justice Conference – Seattle, WA – May 11
- Planning for a Mass Fatality Event: Presented with Onora Lien  
Washington Association of Coroner's and Medical Examiner's Annual Training – Pasco, WA – June 24
- Discovery and Recovery of Human Remains  
Law Enforcement Workshop – Ravensdale, WA – August 9-12
- Forensic Anthropology and Homicide Investigation  
Basic Homicide Investigation Class – Cheney, WA – September 14

- Forensic Anthropology and Homicide Investigation  
Basic Homicide Investigation Class – Burien, WA – October 27

## **Greg Hewett, Mdiv, Administrator**

### ***Associations, Committees & Boards***

- Member, Seattle University Advisory Committee, Criminal Justice Program
- Member, Washington Association of Coroners and Medical Examiners
- Washington State Registered Counselor

### ***Educational Presentation***

- The Role & Responsibility of the Medical Examiner's Office  
Seattle University – KCMEO – Seattle, WA – January 21  
Seattle University – KCMEO – Seattle, WA – January 27  
Seattle University – KCMEO – Seattle, WA – February 03
- Goals and Services  
Public Health Reserve Corps Training – KCMEO - Seattle, WA – March 24
- Investigating Deaths  
Public Health Reserve Corps Training – KCMEO - Seattle, WA – May 12
- Investigating Deaths Part II  
Public Health Reserve Corps Training – KCMEO - Seattle, WA – June 30
- Training on Cremation Reviews and Three Years of Data  
Public Health Reserve Corps Training – KCMEO - Seattle, WA – August 1
- Investigating Deaths Part III  
Public Health Reserve Corps Training – KCMEO - Seattle, WA – August 4
- Investigating Deaths Part V  
Public Health Reserve Corps Training – KCMEO - Seattle, WA – October 6

## **R. Colin Jones, BA, Program Manager III**

### ***Associations***

- Member, Washington Association of Coroners and Medical Examiners
- Notary Public, State of Washington
- King County Child Death Review Committee

### ***Educational Presentations***

- Volunteer Roles in a Multiple Fatality Incident  
Public Health Reserve Corps Training – KCMEO – March 24
- Understanding Manner of Death Classification  
Public Health Reserve Corps Training – KCMEO – May 12
- Requirements for Death Reporting in Washington State: The Funeral Director's Role  
King County Funeral Director's Meeting – KCMEO – September 1
- Working With the Medical Examiner's Office -Attorney CSI: Using Criminal Forensic Methods to Win Civil Cases (Continuing Legal Education)  
The Seminar Group – Seattle, WA – December 10

## **Joe Frisino, D-ABMDI, Medicolegal Death Investigator III, Office Coordinator**

### ***Associations***

- Diplomate, American Board of Medicolegal Death Investigators
- Board Member, American Board of Medicolegal Death Investigators
- Member, Washington Associations of Coroners & Medical Examiners
- Advisory Committee Member Seattle University Criminal Justice Department

### ***Educational Presentations***

- The Role & Responsibility of the Medical Examiner's Office  
Seattle University – KCMEO – Seattle, WA – January 21  
Seattle University – KCMEO – Seattle, WA – January 27  
Seattle University – KCMEO – Seattle, WA – February 03  
Seattle University – KCMEO – Seattle, WA – February 18  
Seattle University – KCMEO – Seattle, WA – March 25  
Seattle University – KCMEO – Seattle, WA – July 15
- The Role & Responsibility of the Medical Examiner's Office  
Seattle Police Chaplains – KCMEO – Seattle, WA March 25
- Medicolegal Death Investigator Training  
WACCME – Longview, WA – April 13
- The Role & Responsibility of the Medical Examiner's Office  
Harborview Social Work Department – KCMEO – Seattle, WA July 15

### ***Activities***

- American Board of Medicolegal Death Investigators Board Meeting  
Seattle, WA – February 18
- American Board of Medicolegal Death Investigators Advisory Council Meeting  
Seattle, WA – February 19-21
- National Institute of Justice's Forensic Death Investigation Symposium  
Scottsdale, AZ – June 7-9

## **Nathan Geerdes, BA, D-ABMDI, Medicolegal Investigator I**

### ***Association***

- Diplomate, American Board of Medicolegal Death Investigators

### ***Local Educational Presentations***

- Role and Responsibility of the Medical Examiner's Office  
Seattle University – KCMEO – Seattle, WA – February 3  
Seattle University – KCMEO – Seattle, WA – August 26

## **William Barbour, BS, D-ABMDI, Medicolegal Investigator I**

### ***Association***

- Diplomate, American Board of Medicolegal Death Investigators
- Member, Washington Associations of Coroners & Medical Examiners

### ***Educational Presentation***

- Processing Natural Death Scenes  
Public Health Reserve Corps Training – KCMEO – Seattle, WA – October 6
- Role and Responsibility of the Medical Examiner's Office  
Northwest Justice Project – Jefferson Community Center – Seattle, WA – November 18

## **Tawn Midkiff BA, D-ABMDI, Medicolegal Investigator I**

### ***Association***

- Diplomate, American Board of Medicolegal Death Investigators

### ***Educational Presentations***

- Natural Death Scenes  
Public Health Reserve Corps Training – KCMEO – Seattle, WA – October 6

## **James Sosik, Jr, BS, D-ABMDI, Medicolegal Investigator I**

### ***Association***

- Diplomate, American Board of Medicolegal Death Investigators
- Member, Washington Associations of Coroners & Medical Examiners

### ***Educational Presentation***

- Overview: Five Manners of Death  
Public Health Reserve Corps Training – KCMEO – Seattle, WA - May 12
- Scene Photography  
Public Health Reserve Corps Training – KCMEO – Seattle, WA – October 6

## **Stephen LaBellarte – BS: Spec. Forensic Psychology, BA Humanities – Intern**

- KCMEO Body Releasing Procedures  
Public Health Reserve Corps Training - KCMEO – Seattle, WA – June 30
- KCMEO Body Processing Procedures  
Public Health Reserve Corps Training – KCMEO - Seattle, WA – August 4
- KCMEO Evidence/Property Processing  
Public Health Reserve Corps Training – KCMEO - Seattle, WA – September 7

### ***Educational Presentation***



## **Kyle J. Schwab – BS: Spec. Forensic Psychology, Medicolegal Death Investigator Intern**

### ***Educational Presentation***

- Medicolegal Death Investigation
  - Seattle University – Seattle, WA – March 3
  - East Anchorage High School – Anchorage, AK – April 9
  - Seattle University Undergraduate Research Association – Seattle, WA – May 28
- KCMEO Body Releasing Procedures
  - Public Health Reserve Corps Training - KCMEO – Seattle, WA – June 30
- KCMEO Body Processing Procedures
  - Public Health Reserve Corps Training – KCMEO - Seattle, WA – August 4

## **Barbara Ulvog BS: Biology, Forensic Autopsy Technician**

### ***Educational Presentation***

- Autopsy Procedures
  - Public Health Reserve Corps Training – KCMEO – Seattle, WA – November 11

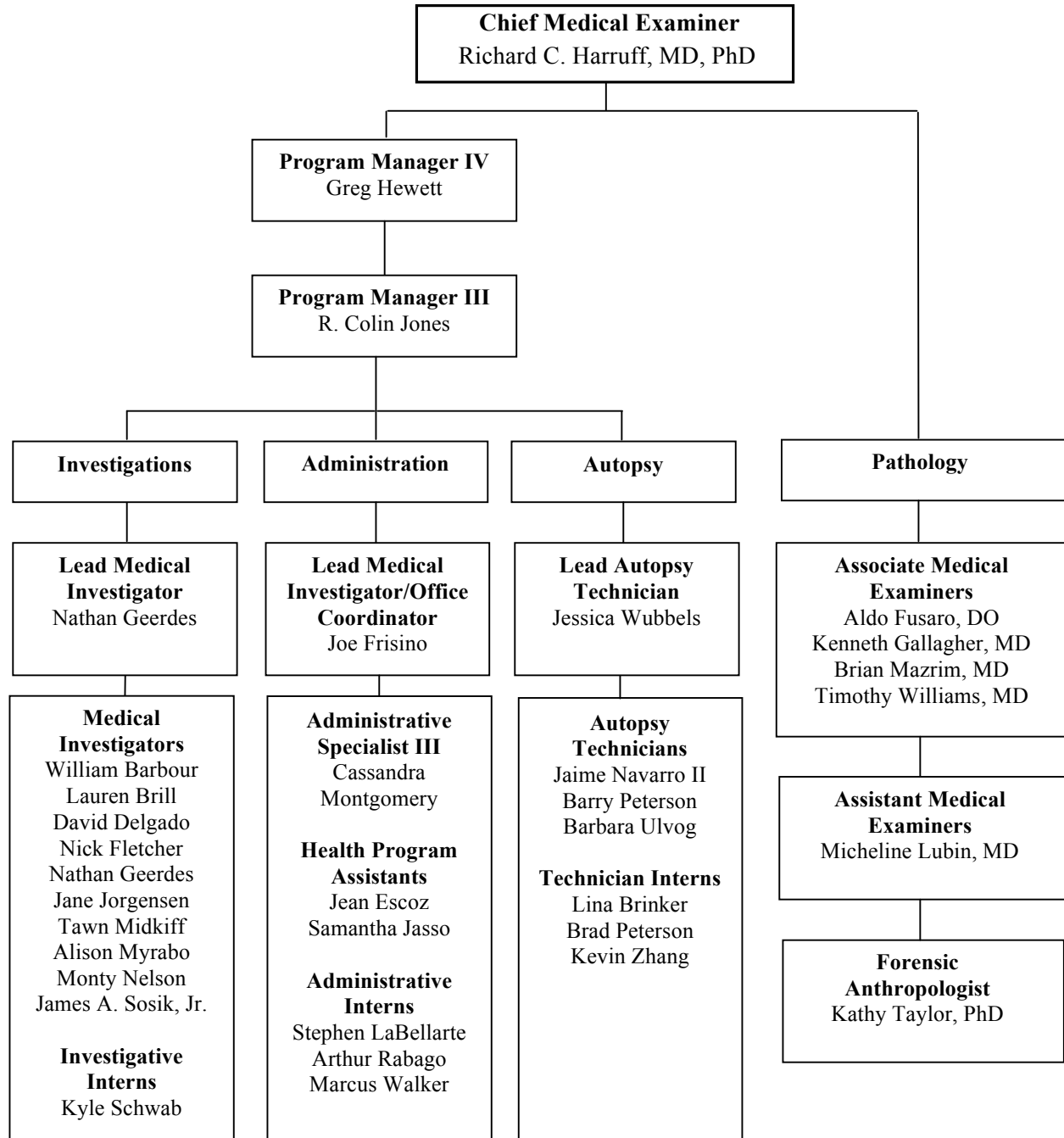
**Table 14-1 Weekly Variation of Deaths Investigated by the King County Medical Examiner's Office**

	TOTAL
Number of weeks studied	52
Mean number of ME jurisdiction cases per week	40
Maximum ME jurisdiction cases in any one week	52
Minimum ME jurisdiction cases in any one week	22

**Table 14-1 Weekly Variation of Autopsies Investigated by the King County Medical Examiner's Office**

	TOTAL
Number of weeks studied	52
Mean number of autopsies performed per week	23
Maximum # autopsies performed in any one week	32
Minimum # autopsies performed in any one week	14

## Organization of the King County Medical Examiner's Office 2010





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# 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 level while driving.

## **Cause of Death:**

Any injury or disease that produces a physiological derangement in the body that results in the death of an individual.<sup>1</sup>

## **Drug:**

Therapeutic drug: A substance, other than food, used in the prevention, diagnosis, alleviation, treatment, or cure of disease.

Recreational drug: A drug used non-medically for personal stimulation/depression/euphoria.

## **Drug-caused death:**

Death directly caused by a drug or drugs in combination with each other or with alcohol.

## **Jurisdiction:**

The jurisdiction of the Medical Examiner extends to all reportable deaths occurring within the boundaries of King County, whether or not the incident leading to the death (such as an accident) occurred within the county. Reportable deaths are defined by RCW 68.50, as explained in the "Description and Purpose" section of this report. Not all natural deaths reported fall within the jurisdiction of the Medical Examiner.

<sup>1</sup>DiMaio, Vincent J. & DiMaio, Dominick. Forensic Pathology, Second Edition. CRC Press, 2001.

### **Manner of Death:**

A classification of the way in which the events preceding death were causal factors in the death. The manner of death as determined by the forensic pathologist is an opinion based on the known facts concerning the circumstances leading up to and surrounding the death, in conjunction with autopsy findings and laboratory tests.<sup>2</sup>

#### **Manner: Accident**

Death other than natural, where there is no evidence of intent, i.e., unintentional. In this report, traffic accidents are classified separately.

#### **Manner: Homicide**

Death resulting from intentional harm (explicit or implicit) of one person by another, including actions of grossly reckless behavior.

#### **Manner: Natural**

Death caused solely by disease. If natural death is hastened by injury (such as a fall or drowning in a bathtub), the manner of death is classified other than natural. The Natural category includes complication of therapy deaths.

#### **Manner: Suicide**

Death as a result of a purposeful action with intent (explicit or implicit) to end one's own life.

#### **Manner: Traffic**

Unintentional deaths of drivers, passengers, and pedestrians involving motor vehicles on public roadways. Accidents involving motor vehicles on private property (such as driveways) are not included in this category and are classified non-traffic, vehicular accidents.

#### **Manner: Undetermined**

Manner assigned when there is insufficient evidence or information, especially about intent, to assign a specific manner.

<sup>2</sup>Ibid, p. 3.

**Opiate:**

Any preparation or derivative of opium, including heroin, morphine or codeine. In this report “opiate deaths” most likely refer to heroin caused deaths.

**Poison:**

Any substance, either taken internally or applied externally, that is injurious to health or dangerous to life, and with no medicinal benefit.

**Fetal Death:**

Category of deaths that occur within the uterus. The Medical Examiner assumes jurisdiction over fetal deaths that meet the criteria specified in RCW 68.50. See pages 2 - 3 of this report for details.

**Race:**

The racial categories used in this report are: White, African American, American Indian/Alaska Native, Asian/Pacific Islander, and Other.