
DEATHS DUE TO DRUGS & POISONS: 2004

In 2004, there were 278 deaths due to drugs and poisons (excluding 11 deaths due to carbon monoxide). This comprised approximately 15% of all deaths investigated (278/1,863). The total number of drug caused deaths has increased compared to 2003 figures when there were 220 drug deaths. In 2002, there were 216 drug caused deaths, and in 2001, there were 165. In 2004, deaths due to drugs and poisons comprised 34% (278/830) of all suicides, accidents, and undetermined deaths combined.

Of the drug/poison deaths in 2004, 29% (80/278) were due to a single drug or poison, and 71% (198/278) were the result of drugs or poisons in combination. The year 2004 continued the trend of the majority of drug deaths being the result of multiple drug intoxication (71% in 2004, 72% in 2003, 65% in 2002, and 65% in 2001). Table 9-3 displays the specific drugs that caused death in 2004. Because of their prevalence, ethanol, cocaine (a stimulant), and opiates⁸ (a narcotic) are identified as separate drug categories. New for 2004, data on deaths involving methadone, oxycodone, and methamphetamine are also shown in detail.

The manners of “accident,” “suicide,” and “undetermined” are represented in the deaths due to drugs and poisons. In 2004, as in the past five years, there were no homicidal deaths 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 2004 there were 26 deaths of undetermined manner attributed to drugs and poisons compared to 32 in 2003, 20 in 2002, and 21 in 2001.

In 2004, there were 41 suicides attributed to drugs/poisons as compared to 29 in 2003, 23 in 2002, and 20 in 2001.

There were 211 accidental overdoses of drugs/poisons in 2004 compared to 159 in 2003, 173 in 2002, and 124 in 2001. In 2004, accidental drug deaths comprised 40% (211/524) of all accidental deaths.

Ethanol (alcohol) is also a drug to be critically examined for its contribution to the circumstances surrounding death. In 2004, 10 accidental deaths were attributed to acute ethanol intoxication where ethanol was the single substance used. There were 62 deaths where ethanol, in

⁸ 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.

combination with other drugs, was the cause of death. Blood alcohol (ethanol) tests were performed in 73% (800/1098) 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% (239/800) of non-natural deaths where tests were performed.

Blood alcohol tests are performed on most persons who die within 24 hours of the incident. It should be noted that in many cases of traffic and homicide deaths, persons responsible for the death other than the decedent were under the influence of alcohol. The blood alcohol data is presented to show the levels of alcohol among those that died, but does not reflect the presence of alcohol among all parties involved.

Table 9-1 Blood Alcohol Testing / Manner / King County Medical Examiner / 2004

Test Results	ACCIDENT	TRAFFIC	HOMICIDE	NATURAL	SUICIDE	UNDETERMINED	TOTAL
Tested	326	144	69	392	210	51	1192
<i>Positive</i>	101	52	25	68	53	8	307
<i>Negative</i>	225	92	44	324	157	43	885
Not Tested	216	48	7	373	19	8	671
Totals	542	192	76	765	229	59	1863

Table 9-2 Blood Alcohol Testing / Percentage / Manner / KCME / 2004

Test Results	ACCIDENT	TRAFFIC	HOMICIDE	NATURAL	SUICIDE	UNDETERMINED	TOTAL
Tested	60%	75%	91%	51%	92%	86%	64%
<i>Positive</i>	31%	36%	36%	17%	25%	16%	26%
<i>Negative</i>	69%	64%	64%	83%	75%	84%	74%
Not Tested	40%	25%	9%	49%	8%	14%	36%
Totals	100%	100%	100%	100%	100%	100%	100%

Table 9-3

2004 Drug & Poison Caused Deaths¹

Drug Name	Total Deaths out of 1,863 Cases in which Drug was Present	Overdose Deaths (271) – Drug Present						Overdose Deaths (271) – Drug Causing					
		In which Listed Drug was Present	Single Drug OD in which Drug was Present	Multiple Drug OD in which Drug was Present	Accident	Suicide	Undetermined	In which Listed Drug Caused Death	In which a Single Drug Caused Death	In which Multiple Drugs Caused Death	Accident	Suicide	Undetermined
Acetaminophen	88	44	10	34	31	10	3	16	7	9	4	8	4
Alprazolam	16	14	1	13	12	1	1	9	0	9	8	0	1
Amantadine	3	3	0	3	1	0	2	3	0	3	1	0	2
Amitriptyline	34	22	1	21	13	7	2	21	1	20	13	6	2
Amphetamine	28	9	2	7	8	0	1	1	0	1	0	0	1
Atomoxetine	1	1	0	1	0	1	0	1	0	1	0	1	0
Bupivacaine	6	1	0	1	1	0	0	1	0	1	1	0	0
Bupropion	22	13	2	11	7	6	0	12	1	11	6	6	0
Buspirone	1	1	0	1	0	1	0	1	0	1	0	1	0
Butalbital	3	2	1	1	1	0	1	1	0	1	1	0	0
Cannabinoids / THC ²	148	44	13	31	39	3	2	0	0	0	0	0	0
Carbamazepine	7	0	0	0	0	0	0	0	0	0	0	0	0
Carbon Monoxide ³	11	11	11	0	3	8	0	11	11	0	3	8	0
Carisoprodol	8	5	0	5	4	1	0	3	0	3	3	0	0
Chlordiazepoxide	7	4	0	4	4	0	0	4	0	4	4	0	0
Chlorpheniramine	7	2	0	2	2	0	0	1	0	1	1	0	0
Chlorpromazine	3	2	0	2	1	0	1	2	0	2	1	0	1
Citalopram	39	20	1	19	12	7	1	19	0	19	11	7	1
Clonazepam	1	1	0	1	0	1	0	2	0	2	1	1	0
Clozapine	1	0	0	0	0	0	0	0	0	0	0	0	0
Cocaine ⁴	125	91	20	71	82	3	6	93	20	73	84	3	6
Codeine ⁵	67	53	9	44	45	2	6	3	0	3	1	1	1
Cyclobenzaprine	13	8	0	8	5	1	2	7	0	7	4	1	2
Dextromethorphan	17	8	1	7	6	1	1	5	0	5	3	1	1
Diazepam	76	25	1	24	17	4	4	25	0	25	18	3	4

Table 9-3

2004 Drug & Poison Caused Deaths, page 2

Drug Name	Total Deaths out of 1,863 Cases in which Drug was Present	Overdose Deaths (271)						Overdose Deaths (271)					
		In which Listed Drug was Present	Single Drug OD in which Drug was Present	Multiple Drug OD in which Drug was Present	Accident	Suicide	Undetermined	In which Listed Drug Caused Death	In which a Single Drug Caused Death	In which Multiple Drugs Caused Death	Accident	Suicide	Undetermined
Diltiazem	9	3	0	3	0	2	1	2	0	2	0	1	1
Diphenhydramine	70	39	4	35	24	10	5	31	0	31	19	8	4
Doxepin	12	8	0	8	6	2	0	7	0	7	5	2	0
Doxylamine	13	8	0	8	4	3	1	6	0	6	2	3	1
Ethanol (Ethyl Alcohol)	307	84	14	70	71	10	3	72	10	62	62	7	3
Ethylene Glycol	2	2	2	0	0	2	0	2	2	0	0	2	0
Fentanyl	6	4	2	2	4	0	0	5	1	4	5	0	0
Fluoxetine	16	4	0	4	3	1	0	4	0	4	3	1	0
Gabapentin	18	14	0	14	8	3	3	14	0	14	8	3	3
GHB	1	1	1	0	1	0	0	0	0	0	0	0	0
Guaifenesin	2	1	0	1	0	1	0	1	0	1	0	1	0
Hydrocodone	33	14	2	12	11	1	2	14	1	13	11	1	2
Hydroxyzine	2	2	0	2	1	1	0	2	0	2	1	1	0
Ibuprofen	11	6	2	4	5	1	0	1	0	1	0	1	0
Isopropanol	38	2	0	2	2	0	0	0	0	0	0	0	0
Ketamine	2	1	0	1	1	0	0	1	0	1	1	0	0
Lamotrigene	5	3	0	3	2	1	0	2	0	2	1	1	0
Laudanosine	1	0	0	0	0	0	0	0	0	0	0	0	0
Levetriacetam	1	1	0	1	1	0	0	0	0	0	0	0	0
Lidocaine	5	1	0	1	1	0	0	0	0	0	0	0	0
Lorazepam	15	6	0	6	4	2	0	6	0	6	4	2	0
MDA	2	1	0	1	1	0	0	1	0	1	1	0	0
MDMA	4	2	0	2	2	0	0	2	0	2	2	0	0
Meperidine	7	1	0	1	1	0	0	1	0	1	1	0	0
Mepivacaine	1	1	0	1	1	0	0	1	0	1	1	0	0

DRUGS AND POISONS

Table 9-3

2004 Drug & Poison Caused Deaths, page 3

Drug Name	Total Deaths out of 1,863 Cases in which Drug was Present	Overdose Deaths (271)						Overdose Deaths (271)					
		In which Listed Drug was Present	Single Drug OD in which Drug was Present	Multiple Drug OD in which Drug was Present	Accident	Suicide	Undetermined	In which Listed Drug Caused Death	In which a Single Drug Caused Death	In which Multiple Drugs Caused Death	Accident	Suicide	Undetermined
Meprobamate	15	11	0	11	7	2	2	9	0	9	5	2	2
Methadone	88	66	6	60	58	2	6	66	6	60	58	2	6
Methamphetamine	45	18	7	11	17	0	1	18	7	11	17	0	1
Methanol	1	0	0	0	0	0	0	0	0	0	0	0	0
Metoclopramide	12	5	0	5	4	1	0	5	0	5	4	1	0
Methylphenidate	3	3	0	3	3	0	0	3	0	3	3	0	0
Midazolam	11	3	1	2	2	0	1	1	0	1	0	0	1
Mirtazepine	15	11	0	11	7	3	1	10	0	10	7	2	1
Morphine ⁶	157	85	15	70	72	4	9	80	11	69	71	2	7
Monoacetylmorphine ⁷	26	26	4	22	25	1	0	26	4	22	25	1	0
Naproxen	3	0	0	0	0	0	0	0	0	0	0	0	0
Nortriptyline ⁸	39	23	1	22	15	6	2	4	0	4	4	0	0
Olanzapine	2	2	0	2	2	0	0	2	0	2	2	0	0
Orphenadrine	1	1	0	1	0	0	1	1	0	1	0	0	1
Oxacarbazepine	1	1	0	1	1	0	0	1	0	1	1	0	0
Oxazepam	4	3	0	3	2	1	0	1	0	1	1	0	0
Oxycodone	52	35	3	32	26	7	2	32	2	30	24	7	1
Paroxetine	17	12	1	11	8	3	1	8	0	8	6	2	0
Pentazocine	1	1	0	1	0	0	1	1	0	1	0	0	1
Pentobarbital	1	1	1	0	1	0	0	0	0	0	0	0	0
Phencyclidine (PCP)	2	2	1	1	2	0	0	2	1	1	2	0	0
Phenobarbital	10	3	1	2	2	1	0	3	1	2	2	1	0
Phentermine	1	1	0	1	1	0	0	1	0	1	1	0	0
Phenytoin	20	1	0	1	1	0	0	1	0	1	1	0	0
Procyclidine	1	1	0	1	1	0	0	1	0	1	1	0	0

Table 9-3 2004 Drug & Poison Caused Deaths, page 4

Drug Name	Total Deaths out of 1,863 Cases in which Drug was Present	Overdose Deaths (271)						Overdose Deaths (271)					
		In which Listed Drug was Present	Single Drug OD in which Drug was Present	Multiple Drug OD in which Drug was Present	Accident	Suicide	Undetermined	In which Listed Drug Caused Death	In which a Single Drug Caused Death	In which Multiple Drugs Caused Death	Accident	Suicide	Undetermined
Promazine	1	1	0	1	1	0	0	0	0	0	0	0	0
Promethazine	22	12	2	10	8	1	3	12	0	12	8	1	3
Propoxyphene	10	7	0	7	5	0	2	8	0	8	6	0	2
Pseudoephedrine	4	1	0	1	0	0	1	1	0	1	0	0	1
Quetiapine	3	3	0	3	1	1	1	3	0	3	1	1	1
Quinine / Quinidine	1	1	0	1	0	0	1	1	0	1	0	0	1
Salicylates	51	18	5	13	10	6	2	6	2	4	0	5	1
Sertraline	19	9	1	8	8	0	1	8	1	7	7	0	1
Temazepam	10	6	0	6	2	4	0	4	0	4	0	4	0
Topiramate	2	2	0	2	1	1	0	1	0	1	1	0	0
Tramadol	5	2	0	2	2	0	0	3	0	3	3	0	0
Trazodone	27	15	0	15	13	2	0	13	0	13	12	1	0
Valproic Acid	5	3	0	3	1	1	1	1	0	1	0	1	0
Venlafaxine	24	14	1	13	10	3	1	13	0	13	10	2	1
Verapamil	2	0	0	0	0	0	0	0	0	0	0	0	0
Zolpidem	13	6	0	6	1	4	1	6	0	6	1	4	1
Zonisamide	2	0	0	0	0	0	0	0	0	0	0	0	0

¹ 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. 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. In a few cases, the column that lists "In which Listed Drug Caused Death" is greater than the column that lists "In which Listed 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 7 additional cases of drug overdose deaths in which no sample was available for analysis. These cases primarily represent hospital 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 include one death certified as a probable narcotic overdose and six delayed overdose deaths of the following drugs: (1) disulfiram; (2) bupropion and methadone; (3) acetaminophen; (4) heroin; (5) opiate, cocaine and methadone; (6) opiate and ethanol.

² 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.

³ Carbon monoxide fatalities are listed if the level of carboxyhemoglobin was 10% or greater. Suicides due to intentional inhalation of carbon monoxide accounted for 11 of the carbon monoxide deaths. Of these 11, other drugs may have been present, but they did not contribute to the death. Other sources of carbon monoxide besides intentional inhalation involved fire fatalities.

⁴ Includes benzoylecgonine.

⁵ Out of the 53 overdose deaths involving codeine, in 50 cases, the source of the drug was likely small quantities of codeine present in heroin used by illicit drug users. In only 3 cases the source of the drug was pharmaceutical codeine.

⁶ There were 85 overdose deaths involving morphine. In 58 of these cases, the source of the drug was likely the morphine derived from heroin preparations used by illicit drug users. In 17 of these cases the source of the morphine was likely pharmaceutical morphine, and in 10 of these cases the source of the morphine was not known.

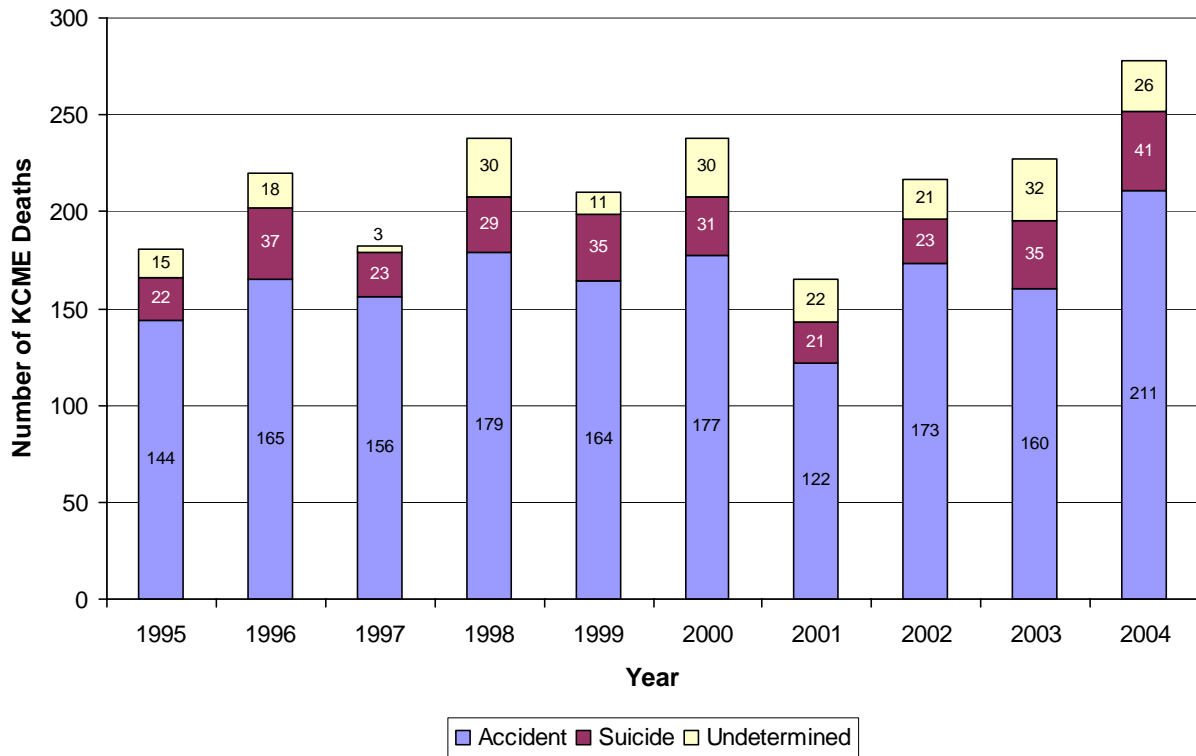
⁷ Monoacetylmorphine (MAM) is the first breakdown product of heroin, otherwise known as diacetylmorphine. The presence of MAM, therefore, proves the source of opiate to be heroin. However, the absence of MAM does not imply that the source of the opiate was not heroin.

⁸ In 11 of the 39 total cases, nortriptyline was present without the presence of amitriptyline, indicating that the source of the drug was, in fact, nortriptyline. In the other 28 cases, amitriptyline was also present, indicating that the nortriptyline was present due to the breakdown of amitriptyline. There were four nortriptyline overdose deaths, all accidental multiple drug overdoses.

Table 9-4 Total Overdose Deaths / Accident / Suicide / Undetermined / King County Medical Examiner / 1995 - 2004¹

OVERDOSE DEATHS	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Totals	180	219	182	231	210	235	165	216	226	278

Graph 9-1 Drug & Poison Caused Deaths / Accident / Suicide / Undetermined / King County Medical Examiner / 1995 - 2004

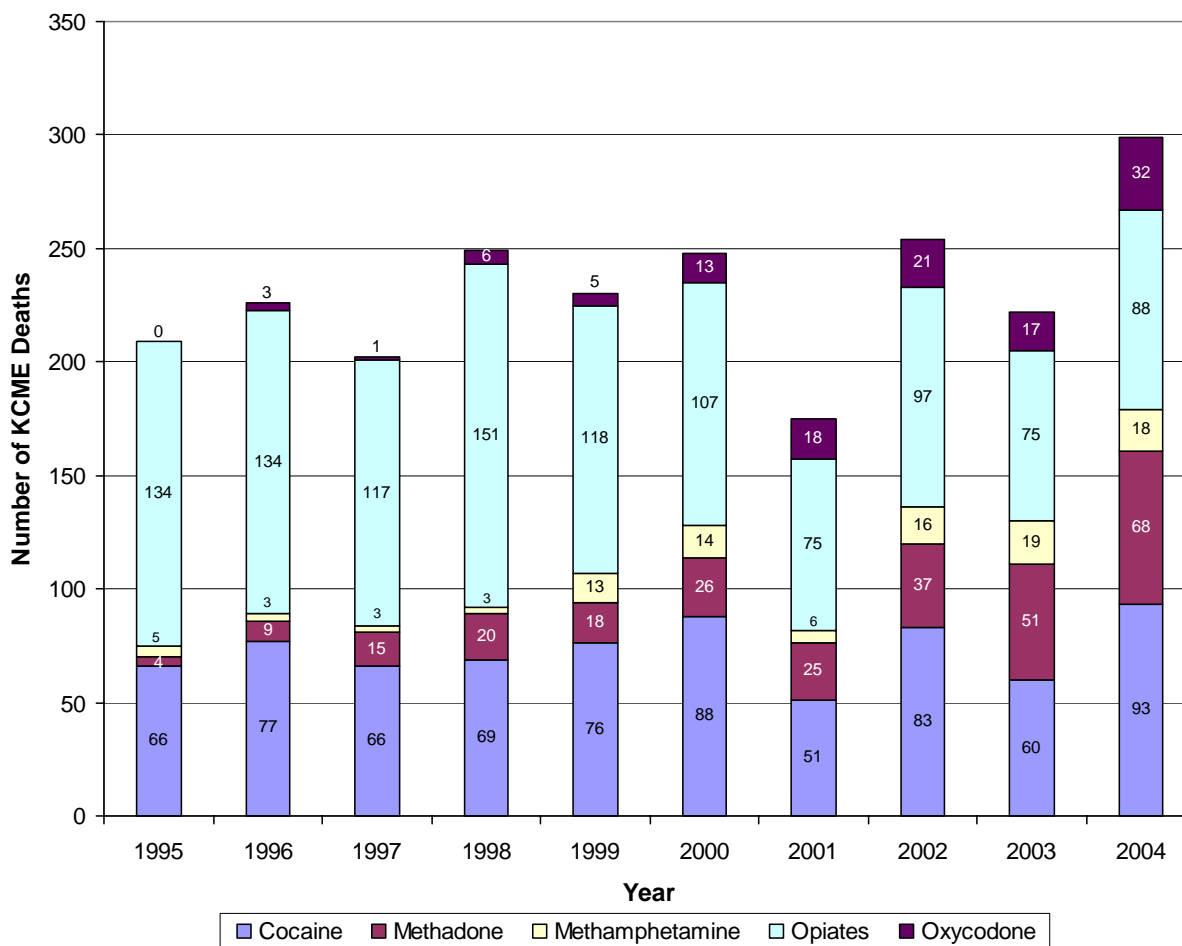


¹ Includes all deaths classified as overdose, regardless of whether lab samples were available for analysis.

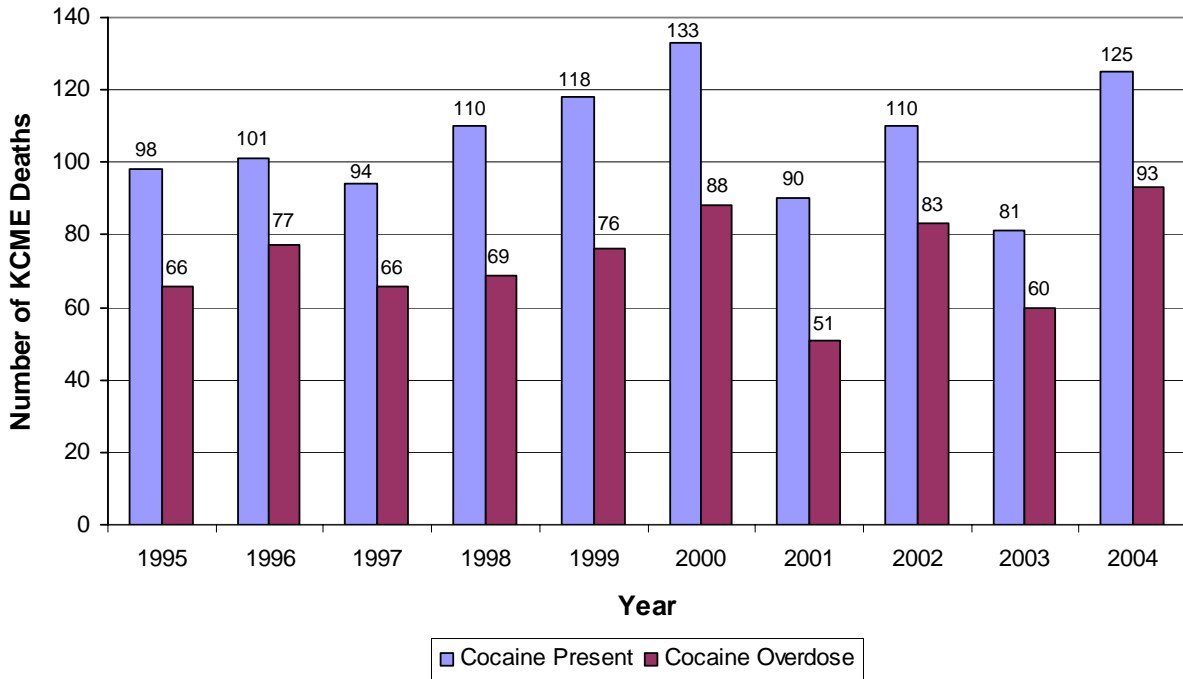
Table 9-5 Overdose Deaths Involving Cocaine, Methadone, Opiates, Methamphetamine, or Oxycodone / KCME / 1995 - 2004

DRUG	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Cocaine	66	77	66	69	76	88	51	83	60	93
Methadone	4	9	15	20	18	26	25	37	51	68
Methamphetamine	5	3	3	3	13	14	6	16	19	18
Opiates	134	134	117	151	118	107	75	97	75	88
Oxycodone	0	3	1	6	5	13	18	21	17	32

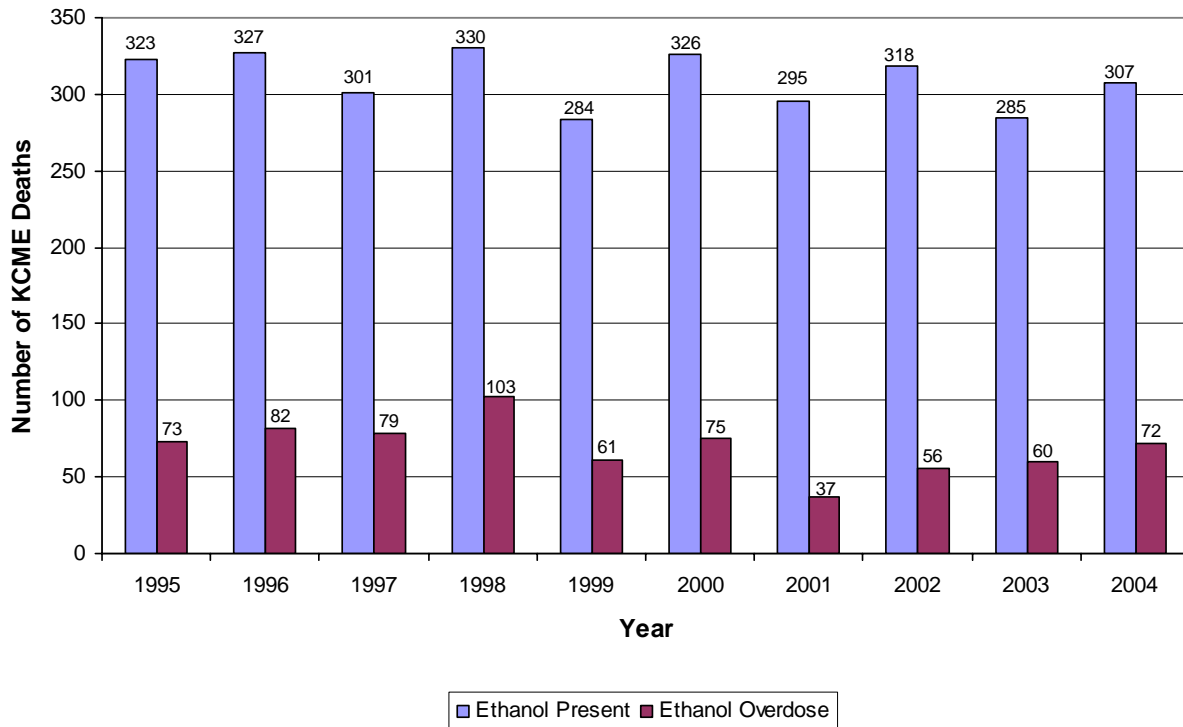
Graph 9-2 Overdose Deaths Involving Cocaine, Methadone, Opiates, Methamphetamine, or Oxycodone / KCME / 1995 – 2004



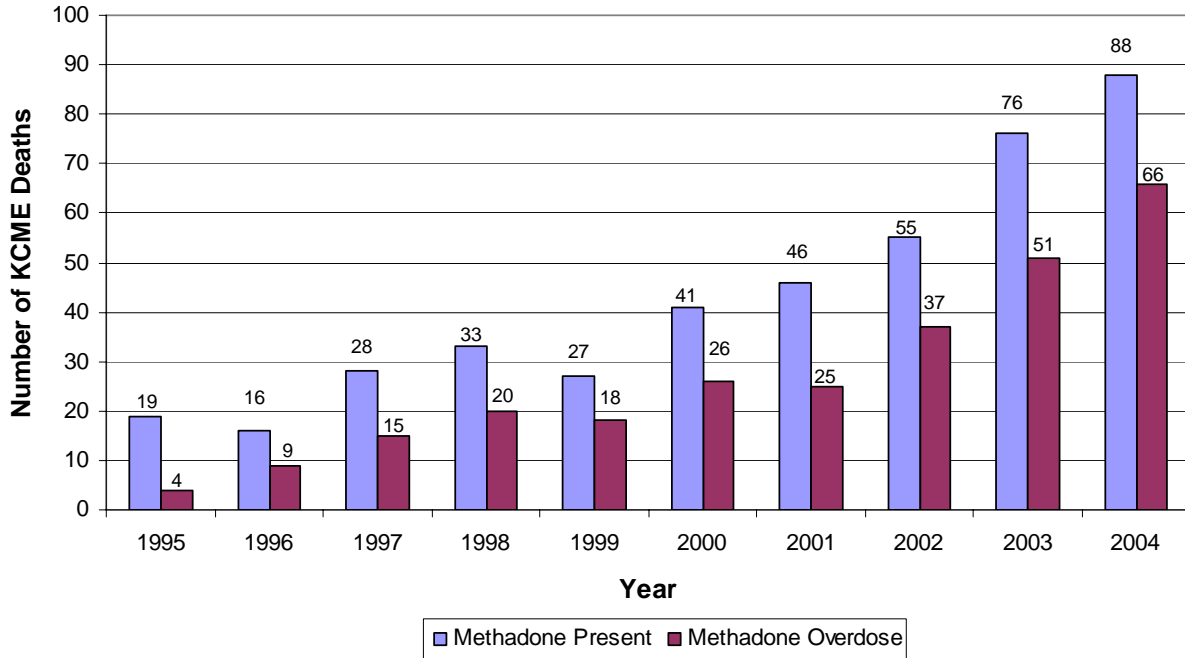
Graph 9-3 Cocaine Involved Deaths / King County Medical Examiner / 1995 - 2004



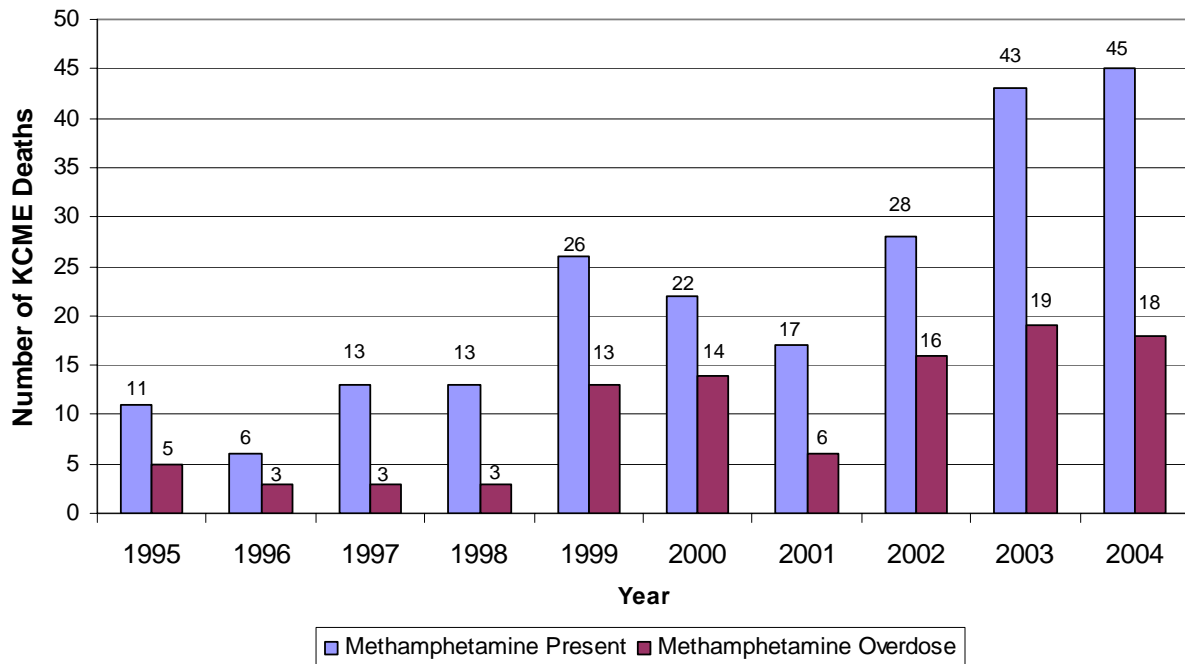
Graph 9-4 Ethanol Involved Deaths / King County Medical Examiner / 1995 - 2004



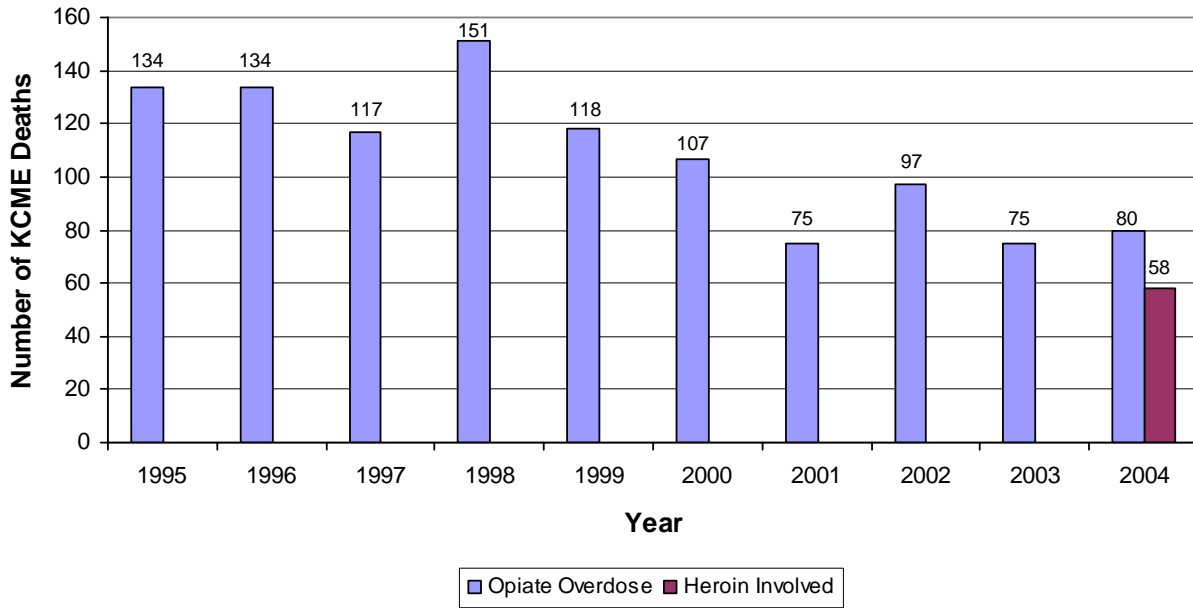
Graph 9-5 Methadone Involved Deaths / King County Medical Examiner / 1995 - 2004



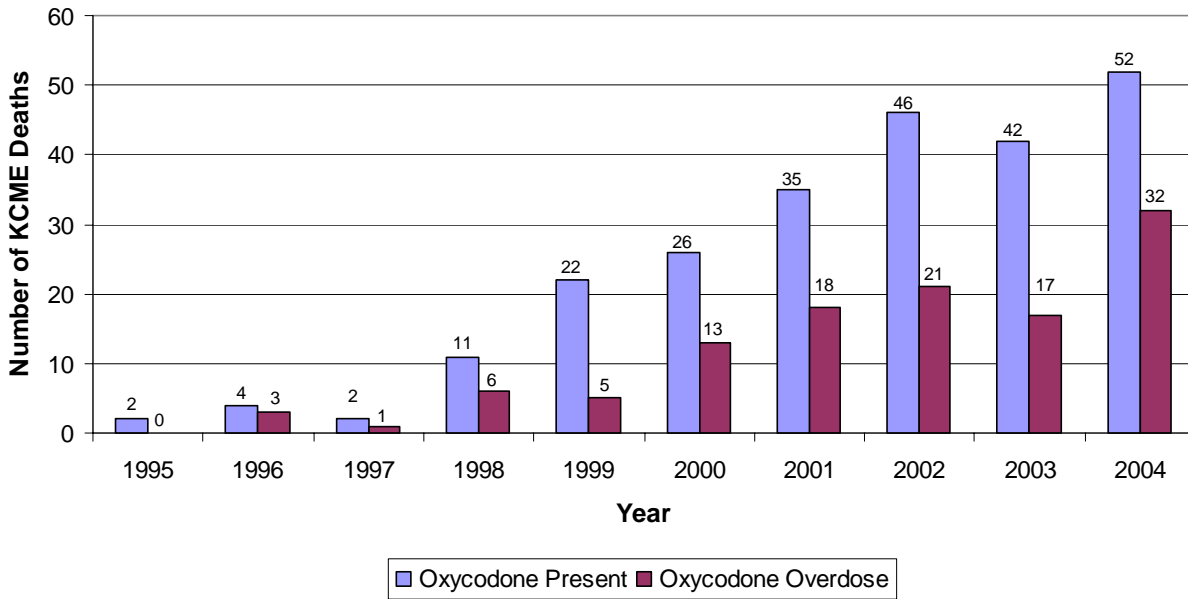
Graph 9-6 Methamphetamine Involved Deaths / KCME / 1995 – 2004



Graph 9-7 Opiate Overdose Deaths & Heroin-Related Deaths / KCME / 1995 - 2004⁹



Graph 9-8 Oxycodone Involved Deaths / King County Medical Examiner / 1995 - 2004



⁹ 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 / 1995 – 2004

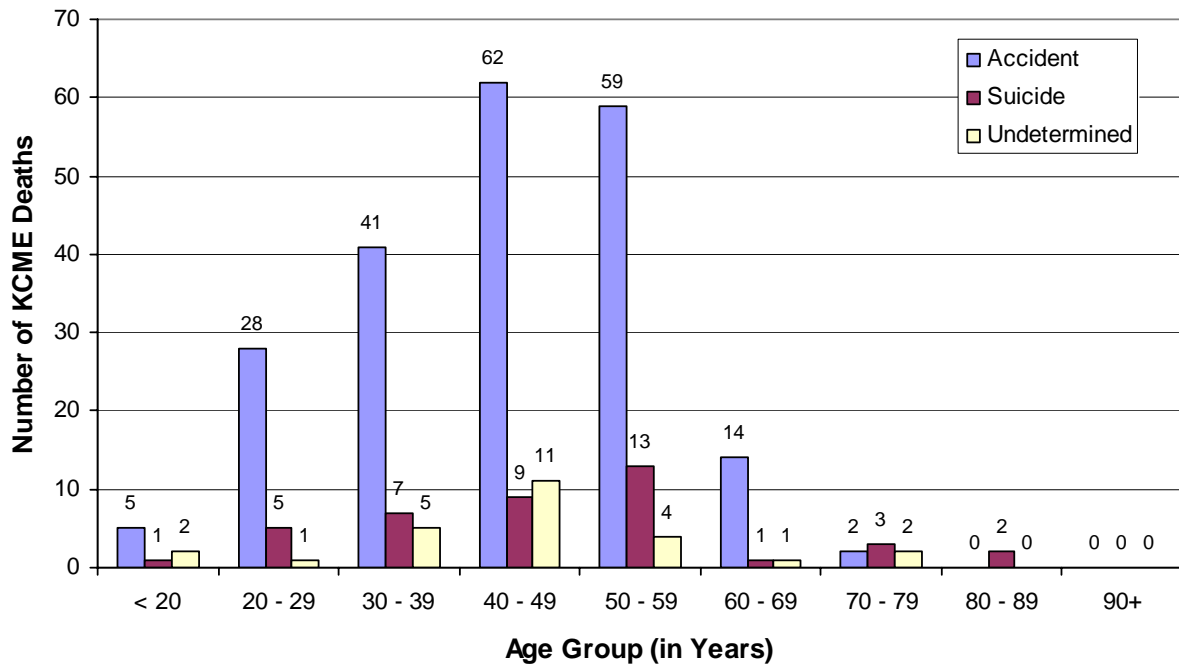


Table 9-6 Drug / Poison Deaths / Age / King County Medical Examiner / 2004

AGE GROUP (YEARS) / SEX	MANNER OF DEATH			SUB	
	ACCIDENT	SUICIDE	UNDETERMINE D	TOTAL	TOTAL
<20	5	1	2		8
<i>Male</i>	5	0	0	5	
<i>Female</i>	0	1	2	3	
20-29	28	5	1		34
<i>Male</i>	24	4	0	28	
<i>Female</i>	4	1	1	6	
30-39	41	7	5		53
<i>Male</i>	30	5	1	36	
<i>Female</i>	11	2	4	17	
40-49	62	9	11		82
<i>Male</i>	42	4	6	52	
<i>Female</i>	20	5	5	30	
50-59	59	13	4		76
<i>Male</i>	40	6	2	48	
<i>Female</i>	19	7	2	28	
60-69	14	1	1		16
<i>Male</i>	10	0	0	10	
<i>Female</i>	4	1	1	6	
70-79	2	3	2		7
<i>Male</i>	1	1	2	4	
<i>Female</i>	1	2	0	3	
80-89	0	2	0		2
<i>Male</i>	0	2	0	2	
<i>Female</i>	0	0	0	0	
90+	0	0	0		0
<i>Male</i>	0	0	0	0	
<i>Female</i>	0	0	0	0	
Totals	211	41	26		278

