

Utah Health Status Update:

Increase in Poisoning Deaths Caused by Non-Illicit Drugs – 1991-2003

March 2005

Utah Department of Health

Between 1991 and 2003, the number of Utah residents dying from drug poisoning increased nearly fivefold, from 79 deaths in 1991 to 391 in 2003. The increase was mainly due to an increase in poisoning deaths of unintentional or undetermined intent caused by drugs that can be legally prescribed (non-illicit drugs).

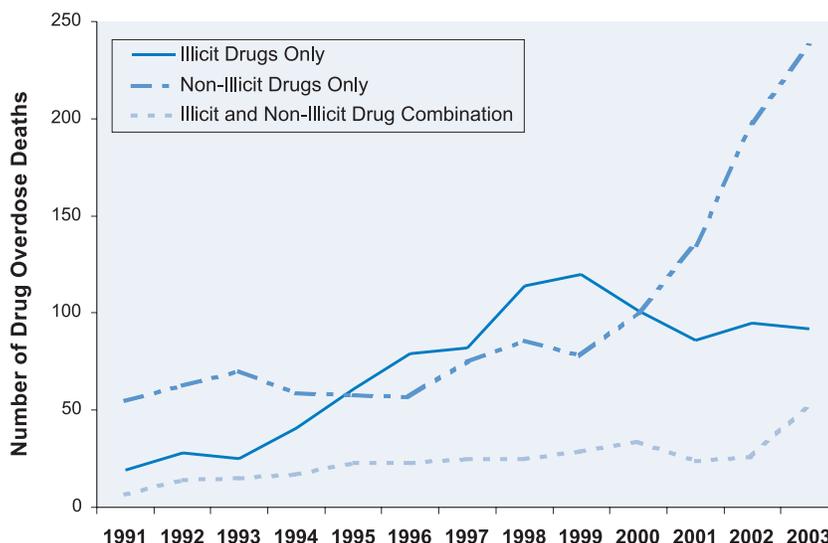
From 1991 through 2003, a total of 2,396 drug poisoning deaths were identified, 947 due to illicit drugs only, 1,277 to non-illicit drugs only, and 172 to a combination of illicit and non-illicit drugs (Figure 1). Illicit drug poisoning deaths increased each year until 1999 and then decreased slightly to approximately 100 deaths per year. Among deaths due to non-illicit drugs, the numbers of deaths classified as unintentional or undetermined intent increased substantially, while deaths classified as intentional (primarily suicide) changed little (Figure 2). Further analyses focused on unintentional or undetermined intent deaths that involved non-illicit drugs only (n=733) to identify characteristics of the decedents or associated drugs that might explain the increased numbers of deaths.

Unintentional or undetermined intent deaths involving non-illicit drugs were examined for two time periods: 1991-1998, before the observed increase in deaths, and 1999-2003, after the substantial increase. Death rates varied by age group and were highest for adults age 25-54; the greatest absolute increase in number of deaths occurred for adults age 45-54 (Table 1). Death rates were higher for men than women in both time periods but the increase in rates was greater for women (men: 163% increase; women: 261% increase). Urban areas had higher numbers of deaths during both time periods, but rural areas had a greater increase in death rates (urban, 171% increase; rural, 317% increase). Rates were higher for persons who were overweight or obese, but substantial increases occurred in each BMI category (Table 1).

The observed increases in unintentional or undetermined intent, non-illicit drug poisoning

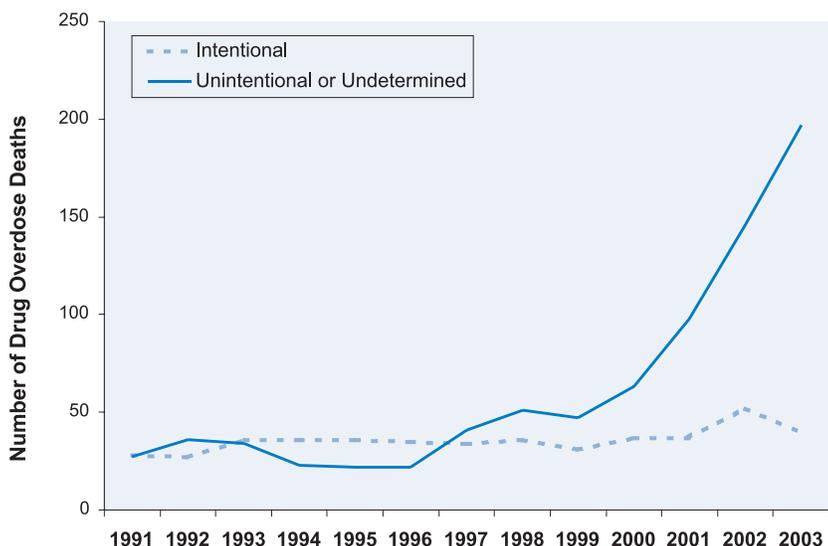
Drug Poisoning Deaths by Drug Category

Figure 1. Number of drug poisoning deaths by drug category and year, Utah 1991-2003



Non-illicit Drug Poisoning Deaths by Manner

Figure 2. Number of non-illicit drug poisoning deaths by manner and year, Utah 1991-2003



deaths were primarily due to increases in deaths attributable to methadone and other prescription narcotics. Comparing the two time periods, deaths attributable to methadone increased from 2 to 33 per year, and deaths attributable to other prescription narcotics increased from 10 to 48 per year (Table 2). The proportions of deaths that involved alcohol or antidepressants decreased from 1991-1998 to 1999-2003.

Deaths attributed to drug poisoning have increased in Utah for more than a decade, but the pattern of increase has changed. From 1993 to 1999, an increase occurred in illicit drug deaths. From 1999 to 2003, a larger increase occurred due to legally prescribable (non-illicit) drugs. In 2003, the typical drug poisoning decedent in Utah was a young to middle-aged, overweight adult, who died from the effects of non-illicit drugs. In contrast to illicit drug poisonings, this newer problem has affected urban and rural areas and both men and women similarly. The specific drugs contributing to most deaths were methadone and other prescription narcotics, especially oxycodone and hydrocodone.

These results indicate a large increase in deaths in Utah due to poisoning with specific drugs. This problem needs further characterization, but the large increase in deaths attributed to drugs often prescribed to treat pain, such as methadone, hydrocodone, and oxycodone, suggests that steps to assure safe use of these medications be undertaken while more information is collected. Such steps might include increased patient and provider education on appropriate use of these medications.

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Portions of this information were recently published in the MMWR: EM Caravati, T Grey, B Nangle, RT Rolfs, CA Peterson-Porucznik. Increase in Poisoning Deaths Caused by Non-Illicit Drugs—Utah, 1991-2003. MMWR 2005 54(2);33-6.

Non-Illicit Drug Deaths by Demographics

Table 1. Numbers and rates of death from non-illicit drug poisoning of unintentional or undetermined intent according to decedent demographic characteristics, Utah, 1991-2003 (N = 733)

Demographic Characteristic	# Deaths			Death Rate (per 100,000)		
	1991-1998 n (%)	1999-2003 n (%)	Difference	1991-1998	1999-2003	Difference
Total Deaths	231	502	271	1.47	4.40	200%
Median Annual Deaths	30	87	74			
Range of Annual Deaths	19-41	45-181				
Mean Age (Years)	40.9	40.3	0.6			
Age at Death (Years)						
<25	12 (5)	45 (9)	33	0.16	0.86	438%
25 to 34	61 (26)	109 (22)	48	2.53	6.35	151%
35 to 44	86 (37)	159 (32)	73	3.90	10.51	170%
45 to 54	42 (18)	142 (28)	100	2.91	11.41	292%
55 to 64	14 (6)	39 (8)	25	1.49	5.21	250%
65+	16 (7)	7 (1)	-9	1.18	0.73	-38%
Female	85 (37)	222 (44)	137	1.08	3.90	261%
Male	146 (63)	280 (56)	134	1.86	4.90	163%
Urban Resident	186 (80)	362 (72)	176	1.53	4.15	171%
Rural Resident	45 (19)	140 (28)	95	1.25	5.21	317%
BMI †						
Normal (BMI < 25)	65 (31)	130 (27)	65	1.17	3.61	208%
Overweight (BMI 25-29)	65 (31)	143 (30)	78	1.90	5.26	177%
Obese (BMI ≥ 30)	81 (38)	207 (43)	126	6.06	14.25	135%

† BMI = Body Mass Index (kg/m²)

Drugs Contributing to Non-Illicit Drug Deaths

Table 2. Number and percentage of specific drugs and drug categories contributing to non-illicit drug poisoning deaths of unintentional or undetermined intent, Utah, 1991-2003 (N = 733)

Drug Category	1991-1998			1999-2003			Absolute Difference	% Change in Mean Deaths/Year
	# Deaths (n=231)*	Deaths/Year	%†	# Deaths (n=502)*	Deaths/Year	%†		
Alcohol Involved	76	9.5	32.9	100	29.9	19.9	11	111%
Methadone	18	2.3	7.8	164	32.7	32.7	31	1358%
Antidepressants	34	4.3	14.7	33	6.6	6.6	2	55%
Prescription Narcotics Other Than Methadone (Combined)	79	9.9	34.2	239	47.6	47.6	38	384%
Specific Prescription Narcotics (subset of row above)								
Propoxyphene	23	2.9	10.0	13	2.6	2.6	0	-10%
Hydrocodone	31	3.9	13.4	83	16.5	16.6	13	328%
Oxycodone	10	1.3	4.3	111	22.1	22.2	21	1676%
Codeine	15	1.9	6.5	21	4.2	4.2	2	124%
Fentanyl	2	0.3	0.9	27	5.4	5.4	5	2060%

*More than one drug could be listed as contributing to each death, so the sum of deaths attributed to specific drugs exceeds the total number of non-illicit drug poisoning deaths of unintentional or undetermined intent.

† Percentage of all non-illicit drug poisoning deaths of unintentional or undetermined intent attributed to the specific drug.