

# Utah Drug Overdose Mortality



**FINDINGS FROM INTERVIEWS WITH FAMILY AND FRIENDS  
OF UTAH RESIDENTS AGED 13 AND OLDER WHO  
DIED OF A DRUG OVERDOSE BETWEEN  
OCTOBER 26, 2008 AND OCTOBER 25, 2009**

# Contributing Agencies and Programs



- Prescription Pain Medication Program, Utah Department of Health
- Office of Medical Examiner, Utah Department of Health
- Utah Department of Human Services, Division of Substance Abuse and Mental Health
- Weber Human Services
- Salt Lake County Division of Substance Abuse
- Davis Behavioral Health
- Utah County Division of Substance Abuse
- Valley Mental Health- Tooele Office

# Summary and Highlights



Prescription-related drug overdose death has been a growing problem in the United States and in Utah. Since this is a relatively new epidemic, little is known about the factors that may predispose someone using a prescription opioid to have a fatal overdose. In order to identify characteristics related to unintentional (including accidental and undetermined intent) drug overdose deaths in Utah, an investigation was conducted of all drug overdose deaths under the jurisdiction of the Utah Medical Examiner by interviewing the relative or friend most knowledgeable about the decedent's life. Interviews were conducted for Utah residents ages 12 and older who died between October 26, 2008-October 25, 2009.

Of the 2086 cases seen by the Medical Examiner in this timeframe, 432 were drug overdose deaths. The majority (64- N=278) of these involved at least one opioid (240 included an opioid with no illicit drugs and 38 included an opioid with at least one illicit). Of the 432 drug-related overdose deaths in the study period, interviews were completed on 385 cases, resulting in a 90% response rate. Overdose deaths involving only illicit drugs were most common from ages 18 to 44 . Overdose deaths involving nonillicit drugs were most common from ages 25 to 54.

Of the 240 opioid-related, nonillicit drug overdose deaths. We found that 51% of decedents were male and 78% were ages 25-54. Oxycodone was the drug most frequently mentioned as a contributing cause of death, followed by methadone, hydrocodone and alprazolam. The respondents reported that 83% of decedents suffered from chronic or ongoing pain.

The results illuminated three characteristics that appear to be strongly correlated to overdose deaths: financial problems, past history of substance abuse, and mental illness.

#### Financial problems:

- 63% of decedents were unemployed during the last two months of life.
- 59% of respondents reported that the decedent had a financial problem during the two months prior to death.
- 27% of individuals were uninsured at the time of death. This is higher than the statewide rate of uninsured of 14% in 2008.

#### Past history of substance abuse:

- When asked if the decedent experienced a substance abuse problem during the two months prior to death, 40% responded 'yes'.
- Specific drugs that the decedent had ever used during their lifetime included high rates of marijuana (48) cocaine (25), methamphetamine (23) and heroin (17).
- Twelve percent of decedents were reported to have used prescription pain medication for reasons other than pain in the year prior to death. This is higher than the 5.2% who reported using pain relievers nonmedically during 2006-2007, the most current year that the data are available (NSDUH).
- 49% of decedents had ever received treatment for substance abuse.

#### Mental stability:

- 49% were reported to have been diagnosed with a mental illness by a healthcare provider.
- 24% of decedents had been hospitalized for psychiatric reasons.

There are many characteristics that could be used by providers in order to screen for patients who have more of a propensity for having a fatal overdose on prescription opioid medications. Unemployment, past history of substance abuse, and mental illness are characteristics that merit further investigation in order to better understand how they may be related to unintentional, opioid-related overdose deaths.

# Methods



## *Questionnaire development*

Interview questions were developed based on research team hypotheses to: 1) identify risk factors related to prescription opioid overdose death; 2) guide efforts aimed at reducing unintentional deaths from prescription opioid overdose and suicide. The questionnaire was developed over the course of several months through meetings with the research team. Where standard questions already existed in validated studies, these questions were used. Feedback was obtained from professionals in the fields of medicine, pain management and public health. The data collection instrument (questionnaire) was developed for use as a phone-based survey to be administered by a trained interviewer (Appendix A).

Prior to data collection, the research team met weekly for a period of one month to train interviewers, practice questionnaire administration, and refine questionnaire format. The questionnaire was also pre-tested to establish face validity with a small sample (n=7) of volunteers who had experienced the death of a family member due to drug overdose or suicide.

Changes were made to the questionnaire approximately 1.5 months after data collection began to help clarify questions that were difficult for respondents to understand and to obtain more complete data on certain topics (Appendix B). Data gathered using the original version of the questionnaire were tracked and recorded.

## *Case selection*

Cases were selected from deaths occurring in Utah between October 26, 2008 and October 25, 2009, which fell under the jurisdiction of the Office of the Medical Examiner (OME)(Appendix C). All suspected or possible drug overdose OME cases during this time period, as determined by OME personnel, were initially selected for the study (Appendix D). OME personnel updated and maintained a list of potential study candidates.

This resulted in an over-selection of cases; some cases with an initial/suspected cause of death of drug overdose did not meet the study criteria upon final determination of the cause and manner of death. At the end of the year a complete audit was done of all cases seen by the Medical Examiner during the study period to determine which cases fit the inclusion criteria (Appendix E). Once a final list of cases was created, we hand-coded the cases based on the substances listed by the medical examiner as being involved in a case. The hand-coding allowed us to further distinguish cases by drug category: illicit, nonillicit, combination, as well as determine presence of opioids. A list of substances included to create each category can be found in Appendix J. For cases that listed drugs that were not otherwise specified, independent case files were examined at the Medical Examiner's Office for further information. This was also done for cases that listed morphine, but did not specify if it was prescription morphine or heroin (which metabolizes to morphine over time).

## *Data Sources*

Demographic information was extracted from the Medical Examiner's System – Utah (MESU) database. MESU data were also used to determine BMI and to obtain manner and cause of death. All other information in this report came from the completed questionnaires from next of kin responses.

# Methods (Cont.)



## *Interview administration*

Between 11/26/09 and 2/18/10, interviewers attempted telephone interviews with persons identified as either next-of-kin or “best person to contact” by OME death-scene investigators. In many cases, contact information was either erroneous or not initially available. Members of the research team followed up with law enforcement agencies and/or funeral service organizations involved in the case to seek additional contact information. Interviewers made multiple attempts to contact each participant, if necessary, including after-hours and weekend calls. Each attempt was logged on the cover sheet of the interview.

Interviews were conducted between 1-15 months from the date of death, and lasted between 10 minutes to two hours depending upon responses of the interviewee. The average duration of each interview was approximately 30-40 minutes.

Interviewers followed scripts for introducing the questionnaire, leaving telephone messages, and responding to participants’ questions (Appendix F,G). Interviewers provided participants with instructions on obtaining the Medical Examiner’s report, and provided scripted answers to study-related questions, however, interviewers referred all participants’ case-specific questions to the assigned OME physician.

## *Data Management*

Epi Info™ Version 3.5.1 (Epi Info) was used for data entry (Appendix H) and to facilitate creation of the survey database in Microsoft Access 2007 (Access).

In cases where more than one interview was completed for the same case, the answers from the multiple interviews were merged into one set of answers for the case based on a pre-determined logic established for deciding, in the case of conflicting answers, which response was to be assigned to the case for data entry (Appendix I). The logic was designed to accept the answer that provided the greater amount of information. In cases where the two answers contradicted each other, answers were counted as “conflicting” and neither answer was included in analysis. Cases with multiple interviews were tracked, and the number of questions with conflicting answers among the multiple interviews was recorded and entered into the survey database.

Double-entry was done for all questionnaires. The two databases were compared and all discrepancies were reviewed for accuracy. Changes were made manually into the master database.

## *Analysis*

Survey data was linked to MESU data by the OME assigned case number, and were subsequently analyzed using SAS 9.2.

# Breakdown of Cases Seen by Medical Examiner During Study Period

Oct 26, 2008-Oct 25, 2009 Cases seen by Utah  
Medical Examiner  
(2086)

Excluded based on Manner of Death  
(1097)  
Homicide: 51  
Natural: 593  
Suicide: 440  
Pending (on 2/2/2010): 13

Included based on Manner of Death  
(989)  
Accident: 652  
Undetermined: 337

**432 cases in study**

Interviews Completed: 385  
Refused: 10  
Unable to contact: 34  
Language barrier: 3

Excluded as not  
drug related  
(538)

Drug related  
(451)

Excluded  
(19)  
<12 years old:1  
\*non-Utah resident:  
6  
Drugs not primary  
COD: 12

Included in study  
(432)  
Undetermined: 227  
Accident: 205

Nonillicit only <sup>2</sup>  
(267)

Illicit only<sup>1</sup>  
(109)

Combination of  
Nonillicit and Illicit<sup>4</sup>  
(45)

Opioid present<sup>3</sup>  
(240)

Combination Illicit  
and Opioid<sup>5</sup>  
(38)

**Key:**

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Special Considerations: Tramadol



- Tramadol is a narcotic that is used to treat pain. It is considered an “atypical opioid” because it has been found to cause less problems with respiratory depression as other opioids. It is not currently a controlled substance in Utah.
- Tramadol was mentioned in 31 drug overdose death cases. It was grouped as an opioid for the purposes of this study.
- In most drug overdose deaths where Tramadol was found, there was at least one other opioid that contributed to the cause of death. In 10 cases, Tramadol was the only opioid.
  - Tramadol was the only opioid involved in 7 of the “nonillicit with opioid cases”
  - Tramadol was the only opioid involved in 3 of the “combination illicit with opioid” cases

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Overall Findings for All Drug Categories



**DIVIDED INTO FIVE CATEGORIES:  
ILLICIT, NONILLICIT, NONILLICIT WITH OPIOID (A  
SUBSET OF THE NONILLICIT CATEGORY), COMBINATION  
ILLICIT AND NONILLICIT, AND COMBINATION ILLICIT  
AND OPIOID (A SUBSET OF THE COMBINATION  
CATEGORY)**

# Overdose Deaths by Sex and Age



	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	(n=109 )		(n=267 )		(n=240 )		(n=45)		(n=38)	
	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)
<b>Sex</b>										
Female	24	22.2%(14.4-30.1)	132	49.4%(43.4-55.4)	117	48.8%(42.4-55.1)	16	35.6%(21.6-49.5)	14	36.8%(21.5-52.2)
Male	84	77.8%(69.9-85.6)	135	50.6%(44.6-56.6)	123	51.3%(44.9-57.6)	29	64.4%(50.5-78.4)	24	63.2%(47.8-78.5)
<b>Age</b>										
18-24	22	20.2%(12.7-27.7)	22	8.2%(4.9-11.5)	20	8.3%(4.8-11.8)	4	8.9%(0.6-17.2)	3	7.9%(0-16.5)
25-34	30	27.5%(19.1-35.9)	67	25.1%(19.9-30.3)	64	26.7%(21.1-32.3)	13	28.9%(15.7-42.1)	11	29%(14.5-43.4)
35-44	29	26.6%(18.3-34.9)	61	22.9%(17.8-27.9)	52	21.7%(16.5-26.9)	15	33.3%(19.6-47.1)	13	34.2%(19.1-49.3)
45-54	16	14.7%(8-21.3)	81	30.3%(24.8-35.9)	72	30%(24.2-35.8)	10	22.2%(10.1-34.4)	9	23.7%(10.2-37.2)
55-64	9	8.3%(3.1-13.4)	30	11.2%(7.5-15)	27	11.3%(7.3-15.3)	3	6.7%(0-14)	2	5.3%(0-12.4)
65 & older	3	2.8%(0-5.8)	6	2.3%(0.5-4)	5	2.1%(0.3-3.9)	0	0	0	0

<sup>1</sup>at least one illicit substance with no nonillicit substances

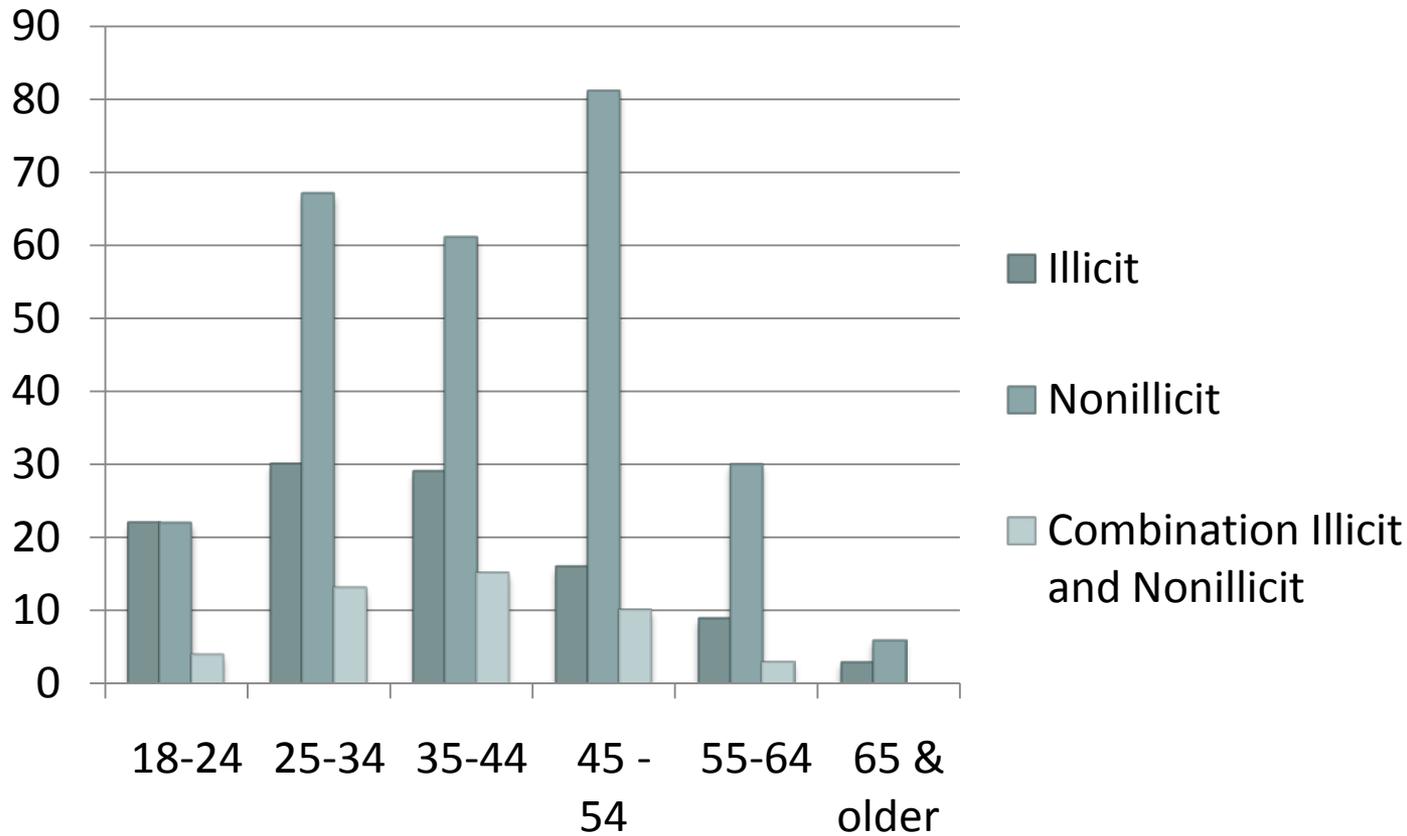
<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Number of Accidental and Undetermined Overdose Decedents by Category: Utah Oct 2008-Oct 2009



# Overdose Deaths by Race and Ethnicity



Race (MESU data)	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	(n=109 )		(n=267 )		(n=240 )*		(n=45)		(n=38)**	
	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)
White (Caucasian)	103	95.4%(91.4-99.3)	264	98.9%(97.6-100)	238	99.2%(98-100)	43	95.6%(89.5-100)	36	94.7%(87.6-100)
Black	2	1.9%(0-4.4)	0	0	0	0	1	2.2%(0-6.5)	1	2.6%(0-7.7)
Pacific Islander	0	0	0	0	0	0	0	0	0	0
Native American	2	1.9%(0-4.4)	3	1.1%(0-2.4)	2	0.8%(0-2)	0	0	0	0
Unknown	0	0	0	0	0	0	1	2.2%(0-6.5)	1	2.6%(0-7.7)
Other	1	0.9%(0-2.7)	0	0	0	0	0	0	0	0

## Ethnicity

- 7.4% (N=32) of the 432 drug overdose deaths were Hispanic.
- 4.7% (N=11) of “Nonillicit with Opioid” cases were Hispanic
- In 2008, 12% of the population in Utah were Hispanic/Latino (Source: U.S. Census)

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

Note: Proportion estimate and CI exclude missing values unless specified

# Overdose Deaths by County



County (where death occurred)	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	(n=109 )		(n=267 )		(n=240 )		(n=45)		(n=38)	
	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)
Box Elder	0	0	<5	NA	<5	NA	0	0	0	0
Cache	<5	NA	7	2.6%(0.7-4.5)	6	2.5%(0.5-4.5)	<5	NA	<5	NA
Carbon	0	0	5	1.9%(0.3-3.5)	<5	NA	<5	NA	<5	NA
Duchesne	0	0	<5	NA	<5	NA	0	0	0	0
Davis	7	6.4%(1.8-11)	30	11.2%(7.5-15)	27	11.3%(7.3-15.3)	<5	NA	<5	NA
Emery	0	0	<5	NA	<5	NA	0	0	0	0
Iron	<5	NA	<5	NA	<5	NA	0	0	0	0
Juab	<5	NA	<5	NA	<5	NA	0	0	0	0
Kane	0	0	6	2.3%(0.5-4)	6	2.5%(0.5-4.5)	0	0	0	0
Millard	<5	NA	0	0	0	0	0	0	0	0
San Juan	0	0	<5	NA	0	0	0	0	0	0
Salt Lake	60	55.1%(45.7-64.4)	107	40.1%(34.2-46)	96	40%(33.8-46.2)	25	55.6%(41-70.1)	19	50%(34.1-65.9)
Sanpete	0	0	<5	NA	<5	NA	0	0	0	0
Summit	<5	NA	<5	NA	<5	NA	0	0	0	0
Sevier	0	0	<5	NA	<5	NA	0	0	0	0
Tooele	<5	NA	5	1.9%(0.3-3.5)	5	2.1%(0.3-3.9)	0	0	0	0
Uintah	<5	NA	<5	NA	<5	NA	0	0	0	0
Utah	15	13.8%(7.3-20.2)	40	15%(10.7-19.3)	36	15%(10.5-19.5)	6	13.3%(3.4-23.3)	5	13.2%(2.4-23.9)
Weber	16	14.7%(8-21.3)	31	11.6%(7.8-15.5)	26	10.8%(6.9-14.8)	5	11.1%(1.9-20.3)	5	13.2%(2.4-23.9)
Washington	<5	NA	11	4.1%(1.7-6.5)	11	4.6%(1.9-7.2)	<5	NA	<5	NA
Wasatch	0	0	5	1.9%(0.3-3.5)	5	2.1%(0.3-3.9)	0	0	0	0

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Overdose Deaths by Religion



What religion did (decedent) consider himself/herself?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)
Protestant	3	3.3%(0-7)	8	3.4%(1.1-5.6)	8	3.7%(1.2-6.2)	0	0	0	0
Catholic	11	12.2%(5.5-19)	17	7.1%(3.9-10.4)	16	7.4%(3.9-10.9)	1	2.6%(0-7.7)	1	3%(0-8.9)
Jewish	0	0	0	0	0	0	1	2.6%(0-7.7)	1	3%(0-8.9)
LDS (Latter-Day Saint/Mormon)	35	38.9%(28.8-49)	128	53.6%(47.2-59.9)	113	52.1%(45.4-58.7)	20	52.6%(36.8-68.5)	18	54.6%(37.6-71.5)
Other	15	16.7%(9-24.4)	38	15.9%(11.3-20.5)	33	15.2%(10.4-20)	9	23.7%(10.2-37.2)	8	24.2%(9.6-38.9)
No religion	18	20%(11.7-28.3)	40	16.7%(12-21.5)	39	18%(12.9-23.1)	6	15.8%(4.2-27.4)	4	12.1%(1-23.3)
Don't Know	8	8.9%(3-14.8)	6	2.5%(0.5-4.5)	6	2.8%(0.6-5)	1	2.6%(0-7.7)	1	3%(0-8.9)
Refused	0	0	2	0.8%(0-2)	2	0.9%(0-2.2)	0	0	0	0

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Overdose Deaths by Religious Activity



How frequently in the past year did (decedent) attend religious services?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
Among decedents who considered themselves Catholic										
Active*	0	0	1	5.9%(0-17.1)	1	6.3%(0-18.1)	0	0	0	0
Inactive**	10	90.9%(73.9-100)	16	94.1%(82.9-100)	15	93.8%(81.9-100)	1	100%(100-100)	1	100%(100-100)
Don't Know	1	9.1%(0-26.1)	0	0	0	0	0	0	0	0
Among decedents who considered themselves LDS (Latter-Day Saint/Mormon)										
Active*	5	14.3%(2.7-25.9)	32	25.2%(17.7-32.8)	27	24.1%(16.2-32)	1	5%(0-14.6)	1	5.6%(0-16.1)
Inactive**	28	80%(66.8-93.3)	86	67.7%(59.6-75.9)	78	69.6%(61.1-78.2)	19	95%(85.5-100)	17	94.4%(83.9-100)
Don't Know	2	5.7%(0-13.4)	9	7.1%(2.6-11.6)	7	6.3%(1.8-10.7)	0	0	0	0

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

\*Active: decedent was reported to have attended church services once a week

\*\*Inactive: decedent was reported to have attended church services less often than once a week

# Problems during last two months of life



Regarding any time during the last two months, did ( <i>name of decedent</i> ) experience any of the following:	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)
Romantic relationship problem	39	42.4%(32.3-52.5)	59	24.4%(19-29.8)	55	25.1%(19.4-30.9)	12	31.6%(16.8-46.4)	10	30.3%(14.6-46)
Financial Problem	61	66.3%(56.7-76)	137	56.6%(50.4-62.9)	129	58.9%(52.4-65.4)	23	60.5%(45-76.1)	20	60.6%(43.9-77.3)
Work problem (if employed)*	14	26.4%(14.6-38.3)	28	32.6%(22.7-42.5)	26	33.3%(22.9-43.8)	5	31.3%(8.5-54)	4	30.8%(5.7-55.9)
School problem (if in school)*	0	0	1	8.3%(0-24)	1	11.1%(0-31.6)	1	25%(0-67.4)	1	33.3%(0-86.7)
Substance Abuse problem/Relapse	59	64.1%(54.3-73.9)	98	40.7%(34.5-46.9)	87	39.9%(33.4-46.4)	20	52.6%(36.8-68.5)	17	51.5%(34.5-68.6)
Inadequate pain relief	18	19.8%(11.6-28)	90	37.3%(31.2-43.5)	81	37.2%(30.7-43.6)	9	23.7%(10.2-37.2)	9	27.3%(12.1-42.5)
Death of a friend or family member	9	9.8%(3.7-15.9)	36	14.9%(10.4-19.4)	33	15.1%(10.4-19.9)	5	13.2%(2.4-23.9)	4	12.1%(1-23.3)
Attempted suicide of friend or family member	1	1.1%(0-3.2)	4	1.7%(0.1-3.3)	3	1.4%(0-2.9)	0	0	0	0

\*Not all individuals were asked this question based on skip patterns.

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Use of Pain Medications for Other Reasons



In the year prior to (decedent)'s death, did he/she use prescription pain medication for reasons other than to treat pain?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)
All ages	21	22.8%(14.3-31.4)	63	25.9%(20.4-31.4)	57	25.9%(20.1-31.7)	7	18.4%(6.1-30.8)	7	21.2%(7.3-35.2)
18-24	6	28.6%(9.3-47.9)	11	17.5%(8.1-26.8)	10	17.5%(7.7-27.4)	1	14.3%(0-40.2)	1	14.3%(0-40.2)
25-34	9	42.9%(21.7-64)	20	31.8%(20.3-43.2)	20	35.1%(22.7-47.5)	3	42.9%(6.2-79.5)	3	42.9%(6.2-79.5)
35-44	5	23.8%(5.6-42)	10	15.9%(6.9-24.9)	8	14%(5-23.1)	1	14.3%(0-40.2)	1	14.3%(0-40.2)
45 -54	1	4.8%(0-13.9)	16	25.4%(14.7-36.2)	13	22.8%(11.9-33.7)	2	28.6%(0-62)	2	28.6%(0-62)
55-64	0	12.5%(2.3-22.8)	6	9.5%(2.3-16.8)	6	10.5%(2.6-18.5)	0	4%(0-11.7)	0	4%(0-11.7)
65 & older	0	7.5%(0-15.7)	0	1.9%(0.1-3.7)	0	2%(0.1-4)	0	0	0	0
Male	15	71.4%(52.1-90.8)	34	54%(41.7-66.3)	32	56.1%(43.3-69)	2	28.6%(0-62)	2	28.6%(0-62)
Female	6	28.6%(9.3-47.9)	29	46%(33.7-58.3)	25	43.9%(31-56.7)	5	71.4%(38-100)	5	71.4%(38-100)

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# History of Substance Use



Did (decedent) ever use any of the following?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)
Alcohol	88	95.7%(91.5-99.8)	208	86.7%(82.4-91)	189	86.7%(82.2-91.2)	37	97.4%(92.3-100)	32	97%(91.1-100)
Tobacco	73	80.2%(72-88.4)	181	75.7%(70.3-81.2)	165	76%(70.4-81.7)	35	92.1%(83.5-100)	30	90.9%(81.1-100)
Marijuana	67	73.6%(64.6-82.7)	116	48.3%(42-54.7)	105	48.2%(41.5-54.8)	25	65.8%(50.7-80.9)	22	66.7%(50.6-82.8)
Heroin	61	67%(57.4-76.7)	42	17.5%(12.7-22.3)	37	17%(12-22)	17	44.7%(28.9-60.6)	15	45.5%(28.5-62.4)
Cocaine	53	58.2%(48.1-68.4)	59	24.6%(19.1-30)	55	25.2%(19.5-31)	26	68.4%(53.6-83.2)	22	66.7%(50.6-82.8)
Hallucinogens	21	23.1%(14.4-31.7)	27	11.3%(7.3-15.3)	23	10.6%(6.5-14.6)	16	42.1%(26.4-57.8)	13	39.4%(22.7-56.1)
Methamphetamine	43	47.3%(37-57.5)	55	22.9%(17.6-28.2)	51	23.4%(17.8-29)	18	47.4%(31.5-63.2)	16	48.5%(31.4-65.5)
Prescription medication (used for reasons other than to treat pain)	21	22.8%(14.3-31.4)	63	25.9%(20.4-31.4)	57	25.9%(20.1-31.7)	7	18.4%(6.1-30.8)	7	21.2%(7.3-35.2)

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Alcohol Consumption



	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)
Used in last 2 months of life	44	47.8%(37.6-58)	82	34.2%(28.2-40.2)	72	33%(26.8-39.3)	14	36.8%(21.5-52.2)	11	33.3%(17.3-49.4)
If in last 2 months, how often?*										
Daily	11	25.6%(12.5-38.6)	28	34.2%(23.9-44.4)	25	34.7%(23.7-45.7)	5	35.7%(10.6-60.8)	3	27.3%(1-53.6)
Few times/week	15	34.9%(20.6-49.1)	11	13.4%(6-20.8)	10	13.9%(5.9-21.9)	3	21.4%(0-42.9)	3	27.3%(1-53.6)
Weekly	6	14%(3.6-24.3)	11	13.4%(6-20.8)	11	15.3%(7-23.6)	1	7.1%(0-20.6)	0	0
Monthly	2	4.7%(0-11)	4	4.9%(0.2-9.5)	4	5.6%(0.3-10.9)	2	14.3%(0-32.6)	2	18.2%(0-41)
Don't Know	5	11.6%(2.1-21.2)	8	9.8%(3.3-16.2)	8	11.1%(3.9-18.4)	1	7.1%(0-20.6)	1	9.1%(0-26.1)
Sporadic	2	4.7%(0-11)	13	15.9%(8-23.8)	10	13.9%(5.9-21.9)	1	7.1%(0-20.6)	1	9.1%(0-26.1)
Other	2	4.7%(0-11)	7	8.5%(2.5-14.6)	4	5.6%(0.3-10.9)	1	7.1%(0-20.6)	1	9.1%(0-26.1)
Did he/she drink enough to be intoxicated?*	53	63.9%(53.5-74.2)	107	59.8%(52.6-67)	99	61.5%(54-69)	24	70.6%(55.3-85.9)	22	73.3%(57.5-89.2)
If in last 2 months, how often?*										
Daily	4	9.3%(0.6-18)	14	19.7%(10.5-29)	14	21.5%(11.5-31.5)	3	20%(0-40.2)	2	15.4%(0-35)
Few times/week	6	14%(3.6-24.3)	7	9.9%(2.9-16.8)	6	9.2%(2.2-16.3)	2	13.3%(0-30.5)	1	7.7%(0-22.2)
Weekly	2	4.7%(0-11)	5	7%(1.1-13)	5	7.7%(1.2-14.2)	1	6.7%(0-19.3)	1	7.7%(0-22.2)
Monthly	6	14%(3.6-24.3)	3	4.2%(0-8.9)	3	4.6%(0-9.7)	0	0	0	0
Don't Know	13	30.2%(16.5-44)	17	23.9%(14-33.9)	15	23.1%(12.8-33.3)	4	26.7%(4.3-49.1)	4	30.8%(5.7-55.9)
Sporadic	8	18.6%(7-30.2)	14	19.7%(10.5-29)	12	18.5%(9-27.9)	2	13.3%(0-30.5)	2	15.4%(0-35)
Other	4	9.3%(0.6-18)	11	15.5%(7.1-23.9)	10	15.4%(6.6-24.2)	3	20%(0-40.2)	3	23.1%(0.2-46)
In the past two months, did drinking interfere with his/her daily ability to function?*										
Yes	14	20%(10.6-29.4)	24	18.9%(12.1-25.7)	23	20%(12.7-27.3)	3	11.5%(0-23.8)	3	13.6%(0-28)
No	47	67.1%(56.1-78.2)	94	74%(66.4-81.6)	84	73%(64.9-81.2)	21	80.8%(65.6-95.9)	17	77.3%(59.8-94.8)
Don't Know	9	12.9%(5-20.7)	9	7.1%(2.6-11.6)	8	7%(2.3-11.6)	2	7.7%(0-17.9)	2	9.1%(0-21.1)

Note: Proportion estimate and CI exclude missing values unless specified

\*Not all individuals were asked this question based on skip patterns.

# Tobacco Use



Ever used Tobacco?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
Yes	73	80.2%(72-88.4)	181	75.7%(70.3-81.2)	165	76%(70.4-81.7)	35	92.1%(83.5-100)	30	90.9%(81.1-100)
No	17	18.7%(10.7-26.7)	57	23.9%(18.5-29.3)	51	23.5%(17.9-29.1)	3	7.9%(0-16.5)	3	9.1%(0-18.9)
Don't Know	1	1.1%(0-3.2)	1	0.4%(0-1.2)	1	0.5%(0-1.4)	0	0	0	0
If YES, in the two months prior to death did (decedent) use tobacco products of any kind?*										
Yes	60	84.5%(76.1-92.9)	143	79.9%(74-85.8)	131	80.4%(74.3-86.5)	30	85.7%(74.1-97.3)	25	83.3%(70-96.7)
No	8	11.3%(3.9-18.6)	29	16.2%(10.8-21.6)	25	15.3%(9.8-20.9)	3	8.6%(0-17.9)	3	10%(0-20.7)
Don't know	3	4.2%(0-8.9)	6	3.4%(0.7-6)	6	3.7%(0.8-6.6)	2	5.7%(0-13.4)	2	6.7%(0-15.6)
If YES, How often?*										
Daily	50	84.8%(75.6-93.9)	129	90.9%(86.1-95.6)	119	91.5%(86.8-96.3)	27	90%(79.3-100)	22	88%(75.3-100)
Few times/week	0	0	1	0.7%(0-2.1)	1	0.8%(0-2.3)	0	0	0	0
Weekly	0	0	1	0.7%(0-2.1)	1	0.8%(0-2.3)	0	0	0	0
Monthly	0	0	0	0	0	0	0	0	0	0
Don't Know	6	10.2%(2.5-17.9)	8	5.6%(1.8-9.4)	7	5.4%(1.5-9.3)	2	6.7%(0-15.6)	2	8%(0-18.6)
Sporadic	3	5.1%(0-10.7)	2	1.4%(0-3.4)	1	0.8%(0-2.3)	1	3.3%(0-9.8)	1	4%(0-11.7)
Other	0	0	1	0.7%(0-2.1)	1	0.8%(0-2.3)	0	0	0	0

\*Not all individuals were asked this question based on skip patterns.

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Marijuana Use



Ever used Marijuana?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
Yes	67	73.6%(64.6-82.7)	116	48.3%(42-54.7)	105	48.2%(41.5-54.8)	25	65.8%(50.7-80.9)	22	66.7%(50.6-82.8)
No	99	9.9%(3.8-16)	108	45%(38.7-51.3)	99	45.4%(38.8-52)	8	21.1%(8.1-34)	6	18.2%(5-31.3)
Don't Know	15	16.5%(8.9-24.1)	16	6.7%(3.5-9.8)	14	6.4%(3.2-9.7)	5	13.2%(2.4-23.9)	5	15.2%(2.9-27.4)
Used in last 2 months of life *	88	8.8%(3-14.6)	15	6.3%(3.2-9.3)	13	6%(2.8-9.1)	3	7.9%(0-16.5)	3	9.1%(0-18.9)
If in last 2 months, how often?*										
Daily	0	0	6	40%(15.2-64.8)	6	46.2%(19.1-73.3)	1	50%(0-100)	1	50%(0-100)
Few times/week	2	25%(0-55)	3	20%(0-40.2)	3	23.1%(0.2-46)	0	0	0	0
Weekly	0	0	0	0	0	0	0	0	0	0
Monthly	0	0	0	0	0	0	0	0	0	0
Don't Know	3	37.5%(4-71.1)	3	20%(0-40.2)	1	7.7%(0-22.2)	1	50%(0-100)	1	50%(0-100)
Sporadic	2	25%(0-55)	1	6.7%(0-19.3)	1	7.7%(0-22.2)	0	0	0	0
Other	1	12.5%(0-35.4)	2	13.3%(0-30.5)	2	15.4%(0-35)	0	0	0	0

\*Not all individuals were asked this question based on skip patterns.

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Heroin Use



Ever used Heroin?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
Yes	61	67%(57.4-76.7)	42	17.5%(12.7-22.3)	37	17%(12-22)	17	44.7%(28.9-60.6)	15	45.5%(28.5-62.4)
No	15	16.5%(8.9-24.1)	178	74.2%(68.6-79.7)	162	74.3%(68.5-80.1)	17	44.7%(28.9-60.6)	14	42.4%(25.6-59.3)
Don't Know	15	16.5%(8.9-24.1)	20	8.3%(4.8-11.8)	19	8.7%(5-12.5)	4	10.5%(0.8-20.3)	4	12.1%(1-23.3)
Used in last 2 months of life*	36	39.6%(29.5-49.6)	3	1.3%(0-2.7)	3	1.4%(0-2.9)	7	18.4%(6.1-30.8)	5	15.2%(2.9-27.4)
If in last 2 months, how often?*										
Daily	5	14.3%(2.7-25.9)	2	66.7%(13.3-100)	2	66.7%(13.3-100)	2	28.6%(0-62)	2	40%(0-82.9)
Few times/week	0	0	0	0	0	0	0	0	0	0
Weekly	1	2.9%(0-8.4)	0	0	0	0	0	0	0	0
Monthly	1	2.9%(0-8.4)	0	0	0	0	0	0	0	0
Don't Know	15	42.9%(26.5-59.3)	0	0	0	0	4	57.1%(20.5-93.8)	2	40%(0-82.9)
Sporadic	1	2.9%(0-8.4)	0	0	0	0	0	0	0	0
Other	12	34.3%(18.6-50)	1	33.3%(0-86.7)	1	33.3%(0-86.7)	1	14.3%(0-40.2)	1	20%(0-55.1)

\*Not all individuals were asked this question based on skip patterns.

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Cocaine Use



Ever used Cocaine, Powder, Freebase, Crack?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
Yes	53	58.2%(48.1-68.4)	59	24.6%(19.1-30)	55	25.2%(19.5-31)	26	68.4%(53.6-83.2)	22	66.7%(50.6-82.8)
No	17	18.7%(10.7-26.7)	154	64.2%(58.1-70.2)	138	63.3%(56.9-69.7)	8	21.1%(8.1-34)	7	21.2%(7.3-35.2)
Don't Know	21	23.1%(14.4-31.7)	27	11.3%(7.3-15.3)	25	11.5%(7.2-15.7)	4	10.5%(0.8-20.3)	4	12.1%(1-23.3)
Used in last 2 months of life *	20	22%(13.5-30.5)	3	1.3%(0-2.7)	3	1.4%(0-2.9)	8	21.1%(8.1-34)	7	21.2%(7.3-35.2)
If in last 2 months, how often? *										
Daily	2	10.5%(0-24.3)	2	66.7%(13.3-100)	2	66.7%(13.3-100)	2	25%(0-55)	2	28.6%(0-62)
Few times/week	1	5.3%(0-15.3)	0	0	0	0	0	0	0	0
Weekly	0	0	0	0	0	0	0	0	0	0
Monthly	1	5.3%(0-15.3)	0	0	0	0	0	0	0	0
Don't Know	9	47.4%(24.9-69.8)	0	0	0	0	3	37.5%(4-71.1)	3	42.9%(6.2-79.5)
Sporadic	1	5.3%(0-15.3)	0	0	0	0	1	12.5%(0-35.4)	0	0
Other	5	26.3%(6.5-46.1)	1	33.3%(0-86.7)	1	33.3%(0-86.7)	2	25%(0-55)	2	28.6%(0-62)

\*Not all individuals were asked this question based on skip patterns.

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Hallucinogen Use



Ever used Hallucinogens (LSD, mushrooms, ecstasy) ?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
Yes	21	23.1%(14.4-31.7)	27	11.3%(7.3-15.3)	23	10.6%(6.5-14.6)	16	42.1%(26.4-57.8)	13	39.4%(22.7-56.1)
No	44	48.4%(38.1-58.6)	182	75.8%(70.4-81.3)	168	77.1%(71.5-82.7)	16	42.1%(26.4-57.8)	14	42.4%(25.6-59.3)
Don't Know	26	28.6%(19.3-37.9)	31	12.9%(8.7-17.2)	27	12.4%(8-16.8)	6	15.8%(4.2-27.4)	6	18.2%(5-31.3)
Used in last 2 months of life*	1	1.1%(0-3.2)	0	0	0	0	1	2.6%(0-7.7)	1	3%(0-8.9)
If in last 2 months, how often?*										
Daily	0	0	0	0	0	0	0	0	0	0
Few times/week	0	0	0	0	0	0	0	0	0	0
Weekly	0	0	0	0	0	0	0	0	0	0
Monthly	0	0	0	0	0	0	1	100%(100-100)	1	100%(100-100)
Don't Know	0	0	0	0	0	0	0	0	0	0
Sporadic	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0

\*Not all individuals were asked this question based on skip patterns.

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Methamphetamine Use



Ever used Methamphetamine?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
Yes	43	47.3%(37-57.5)	55	22.9%(17.6-28.2)	51	23.4%(17.8-29)	18	47.4%(31.5-63.2)	16	48.5%(31.4-65.5)
No	27	29.7%(20.3-39.1)	162	67.5%(61.6-73.4)	146	67%(60.7-73.2)	14	36.8%(21.5-52.2)	11	33.3%(17.3-49.4)
Don't Know	21	23.1%(14.4-31.7)	23	9.6%(5.9-13.3)	21	9.6%(5.7-13.6)	6	15.8%(4.2-27.4)	6	18.2%(5-31.3)
Used in last 2 months of life*	8	8.8%(3-14.6)	4	1.7%(0.1-3.3)	4	1.8%(0.1-3.6)	3	7.9%(0-16.5)	3	9.1%(0-18.9)
If in last 2 months, how often?*										
Daily	2	2.6%(0-62)	1	2.5%(0-67.4)	1	2.5%(0-67.4)	0	0	0	0
Few times/week	0	0	0	0	0	0	0	0	0	0
Weekly	0	0	0	0	0	0	0	0	0	0
Monthly	0	0	0	0	0	0	0	0	0	0
Don't Know	3	4.9%(6.2-79.5)	0	0	0	0	2	100%(100-100)	2	100%(100-100)
Sporadic	0	0	1	2.5%(0-67.4)	1	2.5%(0-67.4)	0	0	0	0
Other	2	2.6%(0-62)	2	5.0%(1-99)	2	5.0%(1-99)	0	0	0	0

\*Not all individuals were asked this question based on skip patterns.

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Pain



	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
<b>Did (decedent) suffer from pain?</b>										
Yes	44	47.8%(37.6-58)	219	89.8%(86-93.6)	198	89.6%(85.6-93.6)	29	76.3%(62.8-89.8)	26	78.8%(64.8-92.7)
Chronic/Ongoing*	32	72.7%(59.6-85.9)	200	91.3%(87.6-95.1)	182	91.9%(88.1-95.7)	25	86.2%(73.7-98.8)	22	84.6%(70.8-98.5)
Not chronic*	10	22.7%(10.3-35.1)	14	6.4%(3.2-9.6)	11	5.6%(2.4-8.8)	4	13.8%(1.2-26.3)	4	15.4%(1.5-29.3)
No	43	46.7%(36.5-56.9)	23	9.4%(5.8-13.1)	21	9.5%(5.6-13.4)	8	21.1%(8.1-34)	6	18.2%(5-31.3)
Don't Know	5	5.4%(0.8-10.1)	2	0.8%(0-2)	2	0.9%(0-2.2)	1	2.6%(0-7.7)	1	3%(0-8.9)
<b>Did (decedent) take prescription medications for pain during the year before his/her death?</b>										
All ages	40	48.2%(37.4-58.9)	215	88.1%(84.1-92.2)	197	89.1%(85-93.2)	25	67.6%(52.5-82.7)	25	78.1%(63.8-92.5)
18-24	7	17.5%(5.7-29.3)	11	5.1%(2.2-8.1)	10	5.1%(2-8.1)	2	8%(0-18.6)	2	8%(0-18.6)
25-34	12	30%(15.8-44.2)	54	25.1%(19.3-30.9)	52	26.4%(20.2-32.6)	7	28%(10.4-45.6)	7	28%(10.4-45.6)
35-44	10	25%(11.6-38.4)	50	23.3%(17.6-28.9)	43	21.8%(16.1-27.6)	9	36%(17.2-54.8)	9	36%(17.2-54.8)
45-54	3	7.5%(0-15.7)	72	33.5%(27.2-39.8)	65	33%(26.4-39.6)	6	24%(7.3-40.7)	6	24%(7.3-40.7)
55-64	5	12.5%(2.3-22.8)	24	11.2%(7-15.4)	23	11.7%(7.2-16.2)	1	4%(0-11.7)	1	4%(0-11.7)
65 & older	3	7.5%(0-15.7)	4	1.9%(0.1-3.7)	4	2%(0.1-4)	0	0	0	0
Male	33	82.5%(70.7-94.3)	104	48.4%(41.7-55.1)	96	48.7%(41.8-55.7)	15	60%(40.8-79.2)	15	60%(40.8-79.2)
Female	7	17.5%(5.7-29.3)	111	51.6%(45-58.3)	101	51.3%(44.3-58.3)	10	40%(20.8-59.2)	10	40%(20.8-59.2)

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

\*Not all individuals were asked this question based on skip patterns.

# Sleep Apnea



	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)
<b>Number of sleep apnea indicators *reported</b>										
1	20	35.7%(23.2-48.3)	50	25.9%(19.7-32.1)	46	26.3%(19.8-32.8)	6	22.2%(6.5-37.9)	6	25%(7.7-42.3)
2	16	28.6%(16.7-40.4)	51	26.4%(20.2-32.7)	46	26.3%(19.8-32.8)	8	29.6%(12.4-46.9)	8	33.3%(14.5-52.2)
3	12	21.4%(10.7-32.2)	42	21.8%(15.9-27.6)	36	20.6%(14.6-26.6)	5	18.5%(3.9-33.2)	3	12.5%(0-25.7)
4	1	1.8%(0-5.3)	26	13.5%(8.7-18.3)	24	13.7%(8.6-18.8)	5	18.5%(3.9-33.2)	5	20.8%(4.6-37.1)
5	4	7.1%(0.4-13.9)	17	8.8%(4.8-12.8)	17	9.7%(5.3-14.1)	3	11.1%(0-23)	2	8.3%(0-19.4)
6	3	5.4%(0-11.3)	7	3.6%(1-6.3)	6	3.4%(0.7-6.1)	0	0	0	0
<b>Did (decedent) suffer from sleep apnea?</b>										
Yes	9	10%(3.8-16.2)	41	17.2%(12.4-22)	36	16.6%(11.6-21.5)	9	23.7%(10.2-37.2)	9	27.3%(12.1-42.5)
No	68	75.6%(66.7-84.4)	152	63.9%(57.8-70)	141	65%(58.6-71.3)	23	60.5%(45-76.1)	20	60.6%(43.9-77.3)
Don't Know	13	14.4%(7.2-21.7)	45	18.9%(13.9-23.9)	40	18.4%(13.3-23.6)	6	15.8%(4.2-27.4)	4	12.1%(1-23.3)
<b>If 'Yes', did they have a CPAP machine?*</b>	4	44.4%(12-76.9)	15	33.3%(19.6-47.1)	12	30%(15.8-44.2)	3	30%(1.6-58.4)	3	30%(1.6-58.4)

\* Indicators include: excessive daytime sleepiness, awakening un-refreshed, snoring unusually loud, sounding like he/she was having trouble breathing while he/she slept, stop breathing for a period while asleep

\*Not all individuals were asked this question based on skip patterns.

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

Note: Proportion estimate and CI exclude missing values unless specified

# Lived with at Time of Death



Who did ( <i>decedent</i> ) live with at the time of his/her death?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)	N	%(95%CI)
Alone	15	16.3%(8.8-23.9)	57	23.4%(18.1-28.7)	53	24%(18.4-29.6)	10	26.3%(12.3-40.3)	9	27.3%(12.1-42.5)
Friend/Roommate	14	15.2%(7.9-22.6)	22	9%(5.4-12.6)	19	8.6%(4.9-12.3)	7	18.4%(6.1-30.8)	7	21.2%(7.3-35.2)
Parent/Sibling	32	34.8%(25.1-44.5)	54	22.1%(16.9-27.3)	48	21.7%(16.3-27.2)	9	23.7%(10.2-37.2)	6	18.2%(5-31.3)
Spouse	9	9.8%(3.7-15.9)	66	27.1%(21.5-32.6)	57	25.8%(20-31.6)	4	10.5%(0.8-20.3)	4	12.1%(1-23.3)
Significant Other	10	10.9%(4.5-17.2)	23	9.4%(5.8-13.1)	23	10.4%(6.4-14.4)	5	13.2%(2.4-23.9)	5	15.2%(2.9-27.4)
Children	11	12%(5.3-18.6)	66	27.1%(21.5-32.6)	57	25.8%(20-31.6)	5	13.2%(2.4-23.9)	5	15.2%(2.9-27.4)
Relative	3	3.3%(0-6.9)	8	3.3%(1-5.5)	8	3.6%(1.2-6.1)	1	2.6%(0-7.7)	1	3%(0-8.9)
Other	16	17.4%(9.7-25.1)	37	15.2%(10.7-19.7)	32	14.5%(9.8-19.1)	3	7.9%(0-16.5)	2	6.1%(0-14.2)

Of the Nonillicit with Opioid interviewed cases, 77 were married at time of death and 58 had never been married (Death Certificate Data).

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

Note: Proportion estimate and CI exclude missing values unless specified

# Drug Overdose by BMI



Calculated BMI (MESU Data)	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
Ideal	38	45.2%(34.6-55.9)	70	29.9%(24.1-35.8)	65	30.5%(24.3-36.7)	8	22.9%(9-36.8)	7	22.6%(7.9-37.3)
Overweight	27	32.1%(22.2-42.1)	64	27.4%(21.6-33.1)	59	27.7%(21.7-33.7)	11	31.4%(16.1-46.8)	9	29%(13.1-45)
Obese	17	20.2%(11.7-28.8)	91	38.9%(32.6-45.1)	82	38.5%(32-45)	16	45.7%(29.2-62.2)	15	48.4%(30.8-66)
Underweight	2	2.4%(0-5.6)	9	3.9%(1.4-6.3)	7	3.3%(0.9-5.7)	0	0	0	0

In 2008, 24.2% (22.6, 25.5) of Utah adults 18+ were obese and 36.11% (34.46, 37.78) were overweight. (95% CI) (Source: BRFSS)

\*Missing values are, in part, due to deaths where a designated representative signs off on behalf of the Office of the Medical Examiner and BMI is not entered into MESU.

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Chronic Conditions and Sleep Medications



	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
<b>Did (decedent) suffer from:</b>										
Seizures	7	7.7%(2.2-13.2)	37	15.2%(10.7-19.7)	33	14.9%(10.2-19.6)	8	21.1%(8.1-34)	7	21.2%(7.3-35.2)
Diabetes	6	6.5%(1.5-11.6)	24	9.8%(6.1-13.6)	23	10.4%(6.4-14.4)	6	15.8%(4.2-27.4)	6	18.2%(5-31.3)
Obesity	13	14.1%(7-21.3)	63	25.8%(20.3-31.3)	59	26.7%(20.9-32.5)	11	29%(14.5-43.4)	10	30.3%(14.6-46)
Cancer	2	2.2%(0-5.2)	23	9.4%(5.8-13.1)	21	9.5%(5.6-13.4)	4	10.5%(0.8-20.3)	4	12.1%(1-23.3)
Mental Illness	40	43.5%(33.4-53.6)	123	50.4%(44.1-56.7)	111	50.2%(43.6-56.8)	22	57.9%(42.2-73.6)	20	60.6%(43.9-77.3)
Physical Disability	17	18.5%(10.6-26.4)	116	47.7%(41.5-54)	108	49.1%(42.5-55.7)	13	34.2%(19.1-49.3)	12	36.4%(20-52.8)
Traumatic Brain Injury	3	3.3%(0-6.9)	32	13.1%(8.9-17.4)	28	12.7%(8.3-17.1)	5	13.2%(2.4-23.9)	3	9.1%(0-18.9)
<b>Did (decedent) ever use medications to help him/her sleep?</b>	32	34.8%(25.1-44.5)	179	74.9%(69.4-80.4)	160	73.7%(67.9-79.6)	27	71.1%(56.6-85.5)	24	72.7%(57.5-87.9)

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

# Health Care Coverage at Time of Death



At the time of death, did (decedent) have any kind of health care coverage*?	Illicit Only <sup>1</sup>		Nonillicit Only <sup>2</sup>		Nonillicit with Opioid <sup>3</sup>		Combination Illicit and Nonillicit <sup>4</sup>		Combination Illicit and Opioid <sup>5</sup>	
	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)	N	% (95%CI)
Yes	43	47.3%(37-57.5)	167	69.9%(64.1-75.7)	150	69.1%(63-75.3)	23	60.5%(45-76.1)	22	66.7%(50.6-82.8)
No	39	42.9%(32.7-53)	65	27.2%(21.6-32.8)	60	27.7%(21.7-33.6)	14	36.8%(21.5-52.2)	11	33.3%(17.3-49.4)
Don't Know/ Not Sure	9	9.9%(3.8-16)	7	2.9%(0.8-5.1)	7	3.2%(0.9-5.6)	1	2.6%(0-7.7)	0	0

In 2008, the percent of uninsured in Utah was 14.7%. (Source: BRFSS)

<sup>1</sup>at least one illicit substance with no nonillicit substances

<sup>2</sup>at least one nonillicit substance with no illicit substances

<sup>3</sup>at least one opioid with no illicit substances

<sup>4</sup>at least one illicit substance and at least one nonillicit substance

<sup>5</sup>at least one illicit substance and at least one opioid

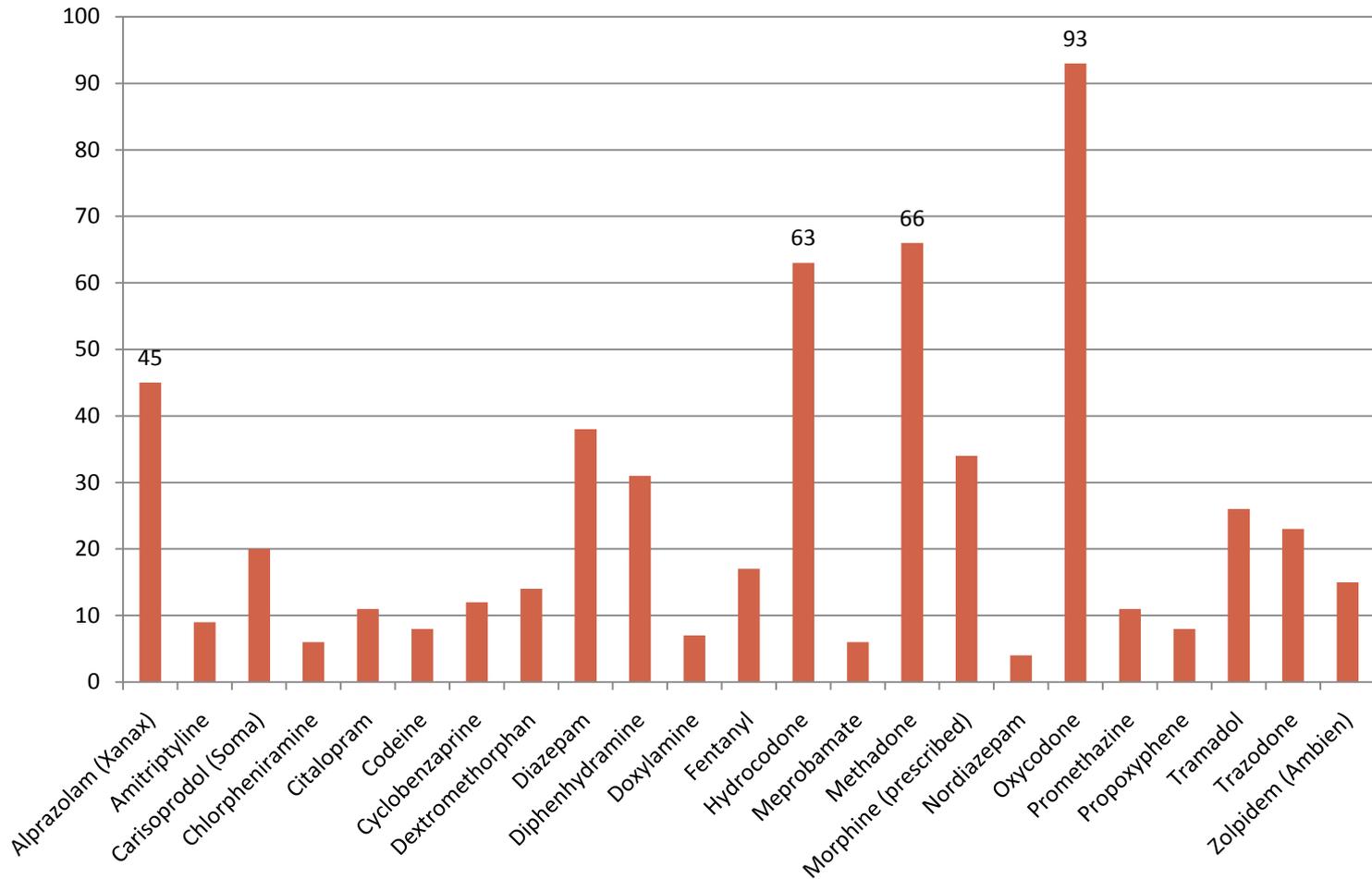
Note: Proportion estimate and CI exclude missing values unless specified

\*includes health insurance, prepaid plans such as HMOs, or government plans such as Medicare

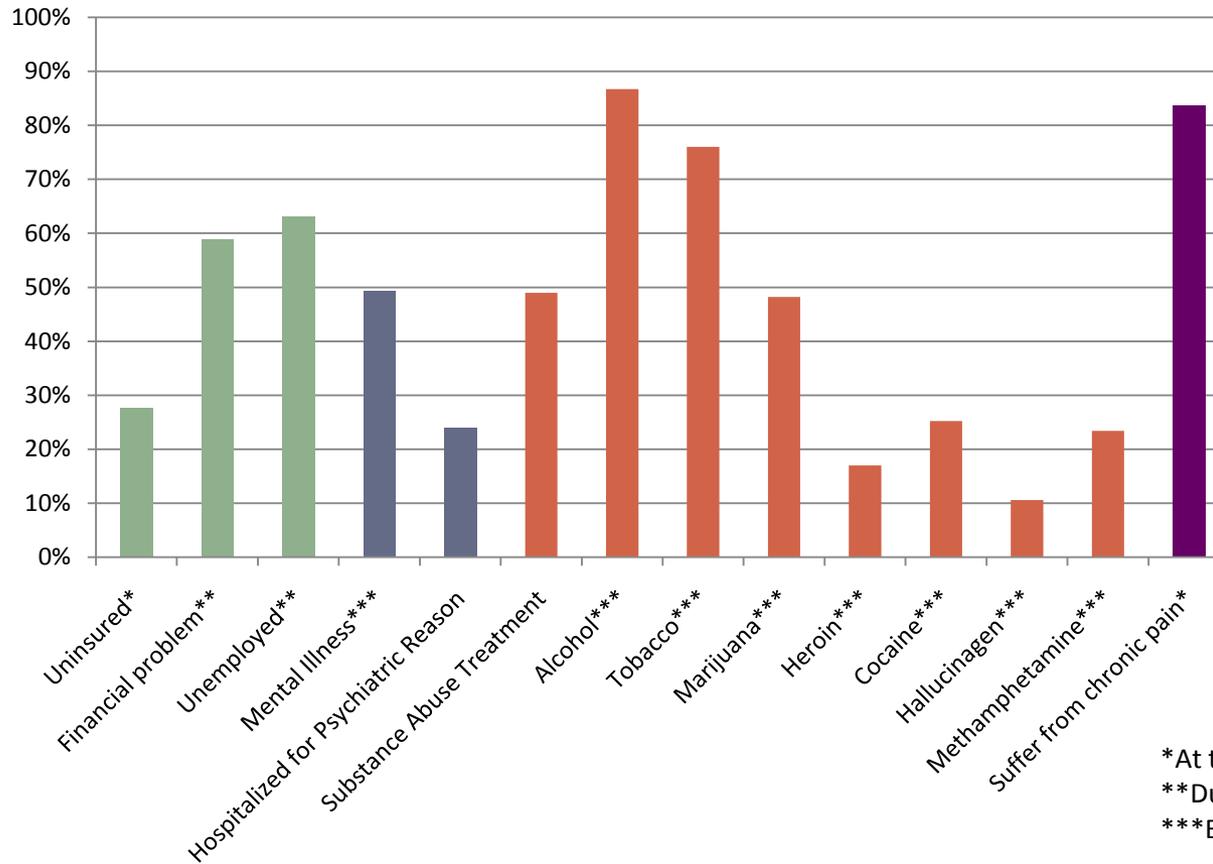
# Nonillicit Cases with At Least One Opioid



# Frequency of Drugs Listed by Medical Examiner as Contributing to Cause of Death for Nonillicit Overdose Deaths that Include at Least One Opioid (Accidental and Undetermined Deaths): Utah Oct 2008-Oct 2009



# Interview Responses by Next of Kin Regarding Nonillicit Overdose Decedents with at Least One Opioid (Accidental and Undetermined Manner of Death)



# Mental Illness



Item	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
Was (decedent) ever diagnosed with a mental illness by a healthcare provider? **	108	49.3%	95	43.4%	15	6.8%	219	100%	21	8.8%
Excluding treatment for substance abuse, was (name of decedent) ever hospitalized for a psychiatric reason? *	52	41.3%	66	52.4%	8	6.3%	126	100%	114	47.5%
Did (name of decedent) ever see a therapist for individual therapy? *	90	69.2%	38	29.2%	2	1.5%	130	100%	110	45.8%
Did (name of decedent) ever receive any psychiatric medication?	131	60.4%	72	33.2%	14	6.5%	217	100%	23	9.6%
Did (name of decedent) ever participate in self-harming behavior?	31	14.4%	183	84.7%	2	0.9%	216	100%	24	10%
Did (name of decedent) ever attempt suicide?	47	21.8%	159	73.6%	10	4.6%	216	100%	24	10%

\*Not all individuals were asked this question based on skip patterns.

\*\*The values in missing plus total may equal less than expected due to a N/A response option.

Cases are accidental and undetermined drug overdose deaths with at least one opioid and no illicit substances

Note: Proportion estimate and CI exclude missing values unless specified

# Diagnosed Mental Illness



- 49% of decedents were reported to have been diagnosed with a mental illness by a healthcare provider.
- A follow-up question asked what the disorder was. Multiple disorders could be listed.
  - 32% were reported to have been diagnosed with depression
  - 15% were reported to have been diagnosed with bipolar
  - 14% were reported to have been diagnosed with an anxiety disorder
  - Other disorders that were reported include schizophrenia (2) and ADHD (3).

# Insurance



Item	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
At the time of death, did (decedent) have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?	150	69.1%	60	27.6%	7	3.2%	217	100%	23	9.6%

Cases are accidental and undetermined drug overdose deaths with at least one opioid and no illicit substances

Note: Proportion estimate and CI exclude missing values unless specified

# Marital Status



- Never married: 58
- Married: 77
- Widowed: 7
- Divorced: 68
- Married/separated: 3
- Unknown: 1

Cases are accidental and undetermined drug overdose deaths with at least one opioid and no illicit substances

Note: Proportion estimate and CI exclude missing values unless specified

Numbers represent marital status among interviewed decedents only.  
Source: Death Certificate Data

# History of Substance Use



	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
<b>Did decedent ever use any of the following?</b>										
<b>Alcohol</b>	189	86.7%	28	12.8%	1	0.5%	218	100%	22	9.2%
<b>Did he/she drink enough to be intoxicated?*</b>	99	61.5%	47	29.2%	15	9.3%	161	100%	79	32.9%
<b>In the past two months, did drinking interfere with his/her daily ability to function?*</b>	23	20%	84	73%	8	7%	115	100%	125	52.1%
<b>Tobacco</b>	165	76%	51	23.5%	1	0.5%	217	100%	23	9.6%
<b>If YES, In the two months prior to death did (decedent) use tobacco products of any kind?*</b>	131	79.9%	26	15.9%	6	3.7%	164	100%	76	31.7%
<b>Marijuana</b>	105	48.2%	99	45.4%	14	6.4%	218	100%	22	9.2%
<b>Heroin</b>	37	17%	162	74.3%	19	8.7%	218	100%	22	9.2%
<b>Cocaine</b>	55	25.2%	138	63.3%	25	11.5%	218	100%	22	9.2%
<b>Hallucinogens</b>	23	10.6%	168	77.1%	27	12.4%	218	100%	22	9.2%
<b>Methamphetamine</b>	51	23.4%	146	67%	21	9.6%	218	100%	22	9.2%
<b>Other Substance (includes Prescription medication )</b>	107	49.3%	91	41.9%	19	8.8%	217	100%	23	9.6%
<b>Did (decedent) ever receive specific treatment for substance abuse?</b>	106	48.6%	105	48.2%	7	3.2%	218	100%	22	9.2%
<b>Regarding any time in the past two months, did (decedent) have a substance abuse problem or relapse?</b>	87	39.9%	117	53.7%	14	6.4%	218	100%	22	9.2%

Cases are accidental and undetermined drug overdose deaths with at least one opioid and no illicit substances

Note: Proportion estimate and CI exclude missing values unless specified

\*Not all individuals were asked this question based on skip patterns.

# Sleep



	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
<b>Regarding sleep, in the past two months did (name of decedent) experience any of the following?</b>										
<b>Excessive daytime sleepiness</b>	109	50.2%	90	41.5%	18	8.3%	217	100%	23	9.6%
<b>Awakening un-refreshed</b>	105	48.4%	63	29%	49	22.6%	217	100%	23	9.6%
<b>Snoring unusually loud</b>	69	31.8%	95	43.8%	53	24.4%	217	100%	23	9.6%
<b>Stop breathing for a period of time while asleep</b>	77	35.5%	97	44.7%	43	19.8%	217	100%	23	9.6%
<b>Any other issues related to sleep that you observed?</b>	68	31.3%	142	65.4%	7	3.2%	217	100%	23	9.6%
<b>To your knowledge, did (name of decedent) suffer from sleep apnea?</b>	36	16.6%	141	65%	40	18.4%	217	100%	23	9.6%
<b>Did he/she have a CPAP breathing machine for sleep apnea? *</b>	12	30%	27	67.5%	1	2.5%	40	100%	200	83.3%
<b>Did he/she use it (CPAP machine) regularly? *</b>	2	13.3%	12	80%	1	6.7%	15	100%	225	93.8%

\*Not all individuals were asked this question based on skip patterns.

Cases are accidental and undetermined drug overdose deaths with at least one opioid and no illicit substances

Note: Proportion estimate and CI exclude missing values unless specified

# Use of Medications



	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
Did (decedent) suffer from pain?	198	89.6%	21	9.5%	2	0.9%	221	100%	19	7.9%
Did (decedent) suffer from chronic (or ongoing) pain?*	182	91.5%	12	6%	5	2.5%	199	100%	41	17.1%
Did (decedent) take prescription medications for pain during the year before his/her death?	197	89.1%	18	8.1%	6	2.7%	221	100%	19	7.9%
Did (decedent) take prescription medications for pain in the last month of life?*	179	90.4%	5	2.5%	14	7.1%	198	100%	42	17.5%
In the year prior to (decedent)'s death, did he/she use prescription pain medication for reasons other than to treat pain?	57	25.9%	133	60.5%	30	13.6%	220	100%	20	8.3%
Did (decedent) suffer from any of the following chronic medical conditions? (Seizures, diabetes, obesity, cancer, mental illness, physical disability, traumatic brain injury, other**)	199	90%	17	7.7%	5	2.3%	221	100%	19	7.9%
Did (decedent) ever use medications to help him/her to SLEEP?	160	73.7%	37	17.1%	20	9.2%	217	100%	23	9.6%
Did (decedent) ever use medications to RELIEVE STRESS OR ANXIETY?	158	77.5%	35	17.2%	11	5.4%	204	100%	36	15%

\*Not all individuals were asked this question based on skip patterns.

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# Concerned About Pain Medication\*



	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
Did (name of decedent) ever complain that a provider wasn't prescribing enough pain medication?	41	20.9%	150	76.5%	5	2.6%	196	100%	44	18.3%
Did a healthcare provider ever raise concerns about his/her use of pain medications?	59	29.9%	117	59.4%	21	10.7%	197	100%	43	17.9%
Was anyone else concerned with his/her use of prescription pain medication?	149	75.6%	44	22.3%	4	2%	197	100%	43	17.9%

## What did healthcare provider recommend?\*

- Limit prescriptions/take less/wean off (N=34)
- Terminate care (N=10)
- Prescription contract/Only receive opioids from one doc (N=9)
- Other: recommended addiction treatment and other forms of help (4), changing to other meds or methods (4), confronted about the problem (4)

## What concerns did others have?\*

- Noticed a behavior or personality change (N=79).
  - Includes extreme sleepiness (20), withdrawn, slurred speech, forgetful, aggressive, drunken behavior, confused, and many more.
- Concerned that decedent was using too much medication (N=77)
- Mentioned they were worried that the decedent was addicted or dependent on meds (N=16)

\*Open ended question. Responses were coded and categorized.  
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\*Only respondents who indicated that the decedent had used pain meds during the year before his/her death were asked these questions.

# Source of Pain Meds\*



	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
Regarding the pain medication taken in the last year of life, did (decedent) obtain any of these medications by a prescription from a healthcare provider?	177	91.2%	8	4.1%	9	4.6%	194	100%	46	19.2%
Did (name of decedent) ever get prescription pain medications...										
a) For free from friend or relative	46	23.6%	116	59.5%	33	16.9%	195	100%	45	18.8%
b) From owner of medications without person's knowledge	35	17.9%	132	67.7%	28	14.4%	195	100%	45	18.8%
c) By purchasing them from friend, relative, or acquaintance (not a dealer)	32	16.4%	124	63.6%	39	20%	195	100%	45	18.8%
d) By purchasing them from a dealer (not a legal pharmacy or provider)	18	9.3%	132	68%	44	22.7%	194	100%	46	19.2%
e) By purchasing them on-line	6	3.1%	161	82.6%	28	14.4%	195	100%	45	18.8%
f) From any other source _____	7	3.6%	166	86%	20	10.4%	193	100%	47	19.6%
Did he/she ever visit more than one doctor to get more prescription pain medication?	53	28.2%	117	62.2%	18	9.6%	188	100%	52	21.7%

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\*Only respondents who indicated that the decedent had used pain meds during the year before his/her death were asked these questions.

Note: Proportion estimate and CI exclude missing values unless specified

# Problems in the Two Months Prior to Death



Regarding any time during the last two months, did (name of decedent) experience any of the following:	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
	<b>Romantic relationship problem</b>	55	25.1%	159	72.6%	5	2.3%	219	100%	21
<b>Financial Problem</b>	129	58.9%	88	40.2%	2	0.9%	219	100%	21	8.8%
<b>Legal Problem</b>	67	30.9%	141	65%	9	4.1%	217	100%	23	9.6%
<b>Was he/she employed during the last two months?</b>	80	36.5%	138	63%	1	0.5%	219	100%	21	8.8%
<b>Work problem*</b>	26	33.3%	50	64.1%	2	2.6%	78	100%	162	67.5%
<b>Was he/she enrolled in school during the last two months?</b>	9	4.1%	207	95%	2	0.9%	218	100%	22	9.2%
<b>School problem *</b>	1	11.1%	7	77.8%	1	11.1%	9	100%	231	96.3%
<b>Substance Abuse problem/Relapse</b>	87	39.9%	117	53.7%	14	6.4%	218	100%	22	9.2%
<b>Inadequate pain relief</b>	81	37.2%	91	41.7%	46	21.1%	218	100%	22	9.2%
<b>Death of a friend</b>	10	4.6%	203	93.1%	5	2.3%	218	100%	22	9.2%
<b>Attempted suicide of friend</b>	1	0.5%	212	97.2%	5	2.3%	218	100%	22	9.2%
<b>Death of a family member</b>	24	11%	192	88.1%	2	0.9%	218	100%	22	9.2%
<b>Attempted suicide of a family member</b>	2	0.9%	214	98.2%	2	0.9%	218	100%	22	9.2%
<b>anything else?</b>	54	25%	160	74.1%	2	0.9%	216	100%	24	10%
<b>Did (name of decedent) seek professional help for any of the crises you mentioned? *</b>	86	56.6%	61	40.1%	5	3.3%	152	100%	88	36.7%

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Note: Proportion estimate and CI exclude missing values unless specified

\*Not all individuals were asked this question based on skip patterns.

# Treatment for Substance Abuse



- 49% of decedents had ever received treatment for substance abuse. Individuals who responded 'yes' were then asked which of the following types of treatment the decedent received. Individuals could select as many treatment types as applied:
  - 23% attended some type of residential treatment
  - 22% reported that the decedent had attended Alcoholics Anonymous or Narcotics Anonymous.
  - 22% had been treated at the Emergency Room
  - 20% had been hospitalized
  - 19% had attended a day program
  - 7% had been treated at a methadone clinic

# Combination Illicit and Opioid



# Mental Illness



Item	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
Was (decedent) ever diagnosed with a mental illness by a healthcare provider?	19	57.6%	12	36.4%	2	6.1%	33	100%	5	13.2%
Excluding treatment for substance abuse, was (name of decedent) ever hospitalized for a psychiatric reason? *	10	47.6%	11	52.4%	0	0.0%	21	100%	17	44.7%
Did (name of decedent) ever see a therapist for individual therapy?*	14	66.7%	6	28.6%	1	4.8%	21	100%	17	44.7%
Did (name of decedent) ever receive any psychiatric medication?	21	63.6%	11	33.3%	1	3%	33	100%	5	13.2%
Did (name of decedent) ever participate in self-harming behavior?	3	9.1%	30	90.9%	0	0.0%	33	100%	5	13.2%
Did (name of decedent) ever attempt suicide?	9	28.1%	22	68.8%	1	3.1%	32	100%	6	15.8%

\*Not all individuals were asked this question based on skip patterns

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Note: Proportion estimate and CI exclude missing values unless specified

# Insurance



Item	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
At the time of death, did (decedent) have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?	22	66.7%	11	33.3%	0	0.0%	33	100%	5	13.2%

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Note: Proportion estimate and CI exclude missing values unless specified

# History of Substance Use

Did decedent ever use any of the following?	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
Alcohol	32	97%	1	3%	0	0.0%	33	100%	5	13.2%
Did he/she drink enough to be intoxicated?*	22	73.3%	6	20%	2	6.7%	30	100%	8	21.1%
In the past two months, did drinking interfere with his/her daily ability to function? *	3	13.6%	17	77.3%	2	9.1%	22	100%	16	42.1%
Tobacco	30	90.9%	3	9.1%	0	0.0%	33	100%	5	13.2%
If YES, In the two months prior to death did (decedent) use tobacco products of any kind?*	25	83.3%	3	10%	2	6.7%	30	100%	8	21.1%
Marijuana	22	66.7%	6	18.2%	5	15.2%	33	100%	5	13.2%
Heroin	15	45.5%	14	42.4%	4	12.1%	33	100%	5	13.2%
Cocaine	22	66.7%	7	21.2%	4	12.1%	33	100%	5	13.2%
Hallucinogens	13	39.4%	14	42.4%	6	18.2%	33	100%	5	13.2%
Methamphetamine	16	48.5%	11	33.3%	6	18.2%	33	100%	5	13.2%
Other Substance (includes Prescription medication )	20	62.5%	7	21.9%	5	15.6%	32	100%	6	15.8%
Did (decedent) ever receive specific treatment for substance abuse?	23	69.7%	9	27.3%	1	3%	33	100%	5	13.2%
Regarding any time in the past two months, did (decedent) have a substance abuse problem or relapse?	17	51.5%	11	33.3%	5	15.2%	33	100%	5	13.2%

\*Not all individuals were asked this question based on skip patterns.

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Note: Proportion estimate and CI exclude missing values unless specified

# Sleep



Regarding sleep, in the past two months did <i>(name of decedent)</i> experience any of the following?	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
Excessive daytime sleepiness	13	39.4%	14	42.4%	6	18.2%	33	100%	5	13.2%
Awakening un-refreshed	15	45.5%	6	18.2%	12	36.4%	33	100%	5	13.2%
Snoring unusually loud	8	24.2%	17	51.5%	8	24.2%	33	100%	5	13.2%
Stop breathing for a period of time while asleep	10	30.3%	11	33.3%	12	36.4%	33	100%	5	13.2%
Any other issues related to sleep that you observed?	10	30.3%	20	60.6%	3	9.1%	33	100%	5	13.2%
To your knowledge, did <i>(name of decedent)</i> suffer from sleep apnea?	9	27.3%	20	60.6%	4	12.1%	33	100%	5	13.2%
Did he/she have a CPAP breathing machine for sleep apnea? *	3	30%	6	60%	1	10%	10	100%	28	73.7%
Did he/she use it (CPAP machine) regularly? *	2	66.7%	0	0	1	33.3%	3	100%	35	92.1%

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Note: Proportion estimate and CI exclude missing values unless specified

\*Not all individuals were asked this question based on skip patterns.

# Use of Medications



	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
Did (decedent) suffer from pain?	26	78.8%	6	18.2%	1	3%	33	100%	5	13.2%
Did (decedent) suffer from chronic (or ongoing) pain?*	22	84.6%	4	15.4%	0	0.0%	26	100%	12	31.6%
Did (decedent) take prescription medications for pain during the year before his/her death?	25	78.1%	2	6.3%	5	15.6%	32	100%	6	15.8%
Did (decedent) take prescription medications for pain in the last month of life?*	20	71.4%	5	17.9%	3	10.7%	28	100%	10	26.3%
Did (name of decedent) ever complain that a provider wasn't prescribing enough pain medication? *	5	18.5%	22	81.5%	0	0.0%	27	100%	11	28.9%
Did a healthcare provider ever raise concerns about his/her use of pain medications? *	7	25.9%	20	74.1%	0	0.0%	27	100%	11	28.9%
Was anyone else concerned with his/her use of prescription pain medication? *	17	63%	10	37%	0	0.0%	27	100%	11	28.9%
In the year prior to (decedent)'s death, did he/she use prescription pain medication for reasons other than to treat pain?	7	21.2%	18	54.5%	8	24.2%	33	100%	5	13.2%
Did (decedent) suffer from any of the following chronic medical conditions? (Seizures, diabetes, obesity, cancer, mental illness, physical disability, traumatic brain injury, other)	28	84.8%	4	12.1%	1	3%	33	100%	5	13.2%
Did (decedent) ever use medications to help him/her to SLEEP?	24	72.7%	6	18.2%	3	9.1%	33	100%	5	13.2%
Did (decedent) ever use medications to RELIEVE STRESS OR ANXIETY?	23	76.7%	6	20%	1	3.3%	30	100%	8	21.1%

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\*Not all individuals were asked this question based on skip patterns.

# Source of Pain Meds



Did (name of decedent) ever get prescription pain medications...*	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
a) For free from friend or relative	8	29.6%	10	37%	9	33.3%	27	100%	11	28.9%
b) From owner of medications without person's knowledge	6	22.2%	12	44.4%	9	33.3%	27	100%	11	28.9%
c) By purchasing them from friend, relative, or acquaintance (not a dealer)	5	18.5%	14	51.9%	8	29.6%	27	100%	11	28.9%
d) By purchasing them from a dealer (not a legal pharmacy or provider)	8	29.6%	12	44.4%	7	25.9%	27	100%	11	28.9%
e) By purchasing them on-line	1	3.7%	20	74.1%	6	22.2%	27	100%	11	28.9%
f) From any other source	2	7.4%	21	77.8%	4	14.8%	27	100%	11	28.9%

\*Not all individuals were asked this question based on skip patterns.

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Note: Proportion estimate and CI exclude missing values unless specified

# Problems in the Two Months Prior to Death



Regarding any time during the last two months, did (name of decedent) experience any of the following:	Yes		No		I Don't Know		Total		Missing/Blank	
	N	%	N	%	N	%	N	%	N	%
	Romantic relationship problem	10	30.3%	22	66.7%	1	3%	33	100%	5
Financial Problem	20	60.6%	12	36.4%	1	3%	33	100%	5	13.2%
Legal Problem	11	33.3%	20	60.6%	2	6.1%	33	100%	5	13.2%
Was he/she employed during the last two months?	12	36.4%	20	60.6%	1	3%	33	100%	5	13.2%
Work problem*	4	30.8%	9	69.2%	0	0.0%	13	100%	25	65.8%
Was he/she enrolled in school during the last two months?	3	9.1%	29	87.9%	1	3%	33	100%	5	13.2%
School problem*	1	33.3%	2	66.7%	0	0.0%	3	100%	35	92.1%
Substance Abuse problem/Relapse	17	51.5%	11	33.3%	5	15.2%	33	100%	5	13.2%
Inadequate pain relief	9	27.3%	17	51.5%	7	21.2%	33	100%	5	13.2%
Death of a friend	1	3%	30	90.9%	2	6.1%	33	100%	5	13.2%
Attempted suicide of friend	0	0.0%	29	90.6%	3	9.4%	32	100%	6	15.8%
Death of a family member	4	12.1%	28	84.8%	1	3%	33	100%	5	13.2%
Attempted suicide of a family member	0	0.0%	31	96.9%	1	3.1%	32	100%	6	15.8%
anything else?	12	36.4%	20	60.6%	1	3%	33	100%	5	13.2%
Did (name of decedent) seek professional help for any of the crises you mentioned?	15	57.7%	11	42.3%	0	0.0%	26	100%	12	31.6%

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\*Not all individuals were asked this question based on skip patterns.

Note: Proportion estimate and CI exclude missing values unless specified