



Health Analytics and Vital Records

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Alaska Facts and Figures

2017 Drug Overdose Mortality Update

Background

In 2013, the age-adjusted (AA) national drug overdose rate was 13.8 deaths per 100,000; by 2016, the rate had increased 43.5% to 19.8 deaths per 100,000.^{1,2} Alaska's AA drug overdose death rate increased from 14.2 deaths per 100,000 in 2013 to 17.2 deaths per 100,000 in 2016.³ Among all US states in 2016, Alaska ranked 31st for the highest AA drug overdose death rates, down from 22nd highest rate in 2014.⁴ The purpose of this document is to provide an update on drug overdose deaths in Alaska using 2017 mortality (death) data, and describe the types of drugs involved in overdose deaths.

Methods

Mortality data from Alaska Vital Statistics were analyzed to characterize deaths due to drug poisoning (overdose). The underlying cause of death for drug poisonings was defined by International Classification of Disease, 10th Revision (ICD-10) codes as unintentional (X40-X44), intentional self-harm (X60-X64), assault (X85), or undetermined intent (Y10-Y14). The contributory causes of death in drug overdose deaths were then examined to determine the type of drugs involved in the overdose. Since drug categories, for instance "narcotics," can be defined in various ways, definitions and examples are provided in the *Definition Guide*. Drug categories for reporting drug overdoses were based on C. J. Ruhm's article, "Drug involvement in fatal overdoses."⁵ This analysis does not consider acute alcohol poisonings as drug overdose, which are defined by a different set of underlying ICD-10 codes; it does include drug overdoses where alcohol was found along with other drugs. This analysis included in-state Alaska overdose deaths, regardless of decedents' residence. Mortality rates were calculated using Alaska Department of Labor and Workforce Development Research and Analysis Section population estimates⁶ as the denominator, and were age-adjusted by year 2000 standard population ratios.⁷

Results

Overdose Overview

- There were 620 deaths due to drug overdose in Alaska during the 5 years, 2013-2017.
 - Compared to acute alcohol poisoning, there were 133 deaths in Alaska from 2013-2017[‡]
- AA drug overdose death rates increased from 17.2 per 100,000 in 2016 to 19.3 per 100,000 in 2017 (Table 1).
 - Drug overdose deaths increased for each drug category except for heroin and other narcotics.
- In 2017, 141 drug overdose deaths occurred in Alaska (Table 1).
 - Of those, 75 (53%) involved narcotics, 39 (28%) involved sedatives, and 78 (55%) involved psychotropics as a contributing cause of death (Table 1). These percentages add up to more than 100% since drug overdoses often involve more than one of these drug categories.
 - Of psychotropic-related overdoses, 77% involved methamphetamines; among sedative-related overdoses, 82% involved benzodiazepines.
- Males had a higher AA drug overdose death rate than females in 2017 (22.3 per 100,000 and 16.1 per 100,000, respectively); from 2013 to 2017, the AA rate increased by 22.5% for males and 67.7% for females.[‡]
- Each year (2013-2017), Alaska Native people had a higher AA drug overdose death rate compared to all other racial groups.[‡]
 - In 2017, the AA rates in white and Alaska Native people were 17.9 and 30.7 per 100,000, respectively.
 - AA rates increased by 79.5% among Alaska Native people from 2016 to 2017.

[‡] Data not shown

- Asian/pacific islander and black individuals had a small number of overdoses (only 9 deaths combined in 2017); statistically reliable rates could not be calculated for most years from 2013 to 2017.[‡]
- In general, the AA drug overdose death rates were highest in young and middle aged adults from 2013 to 2017. In 2017, AA rates were highest in those age 45-54 years (39.3 per 100,000), followed by 35-44 year olds (34.2 per 100,000) and 25-34 year olds (30.5 per 100,000).[‡]
 - AA rates increased by 38.4% among individuals aged 45-54 years from 2016 to 2017.
- In 2017, the Anchorage Public Health Region had the highest AA drug overdose deaths (27.4 per 100,000), followed by the Southeast Public Health Region (20.5 per 100,000). AA rates increased by 65.1% among individuals in the Anchorage region from 2016 to 2017.[‡]
 - The lowest AA rate was in the Matanuska-Susitna Public Health Region (12.5 per 100,000). However, AA rates for the Northern and Southwest Public Health Region could not be calculated due to small numbers of drug overdose deaths.

Table 1: Drug Overdose Mortality by Year, Alaska Occurrence (2013 - 2017)

Cause of Death (ICD-10 Codes)	2013		2014		2015		2016		2017	
	Deaths	AA Rate								
Total Drug Overdoses (X40-X44, X60-X64, X85, Y10-Y14)	106	14.2	123	16.6	121	16.0	129	17.2	141	19.3
Narcotics (T400-T409)	74	9.8	84	11.7	92	12.1	100	13.4	107	14.4
Opioid Analgesic/Pain Reliever (T402-T404)	51	6.7	51	7.2	68	9.0	59	8.0	75	10.0
Fentanyl (T404 w/ Fentanyl or Fentanyl analogue cited)	4	**	10	1.4*	12	1.5*	5	**	28	3.6
Heroin (T401)	26	3.5	26	3.5	36	4.7	49	6.5	36	4.9
Cocaine (T405)	13	1.6*	12	1.6*	8	1.1*	15	1.8*	18	2.3*
Other Narcotics (T400, T406-T409)	8	1.0*	15	2.1*	21	2.9	26	3.5	24	3.4
Sedatives (T420-T428) ¹	29	3.9	30	4.2	25	3.4	29	4.1	39	5.4
Benzodiazepines (T424)	25	3.3	26	3.7	20	2.5	25	3.5	32	4.5
Psychotropics (T430-T439)	34	4.8	44	6.0	34	4.6	67	8.7	78	10.9
Antidepressants (T430-T432)	10	1.3*	11	1.5*	6	0.8*	12	1.6*	13	1.8*
Antipsychotics (T433-T435)	5	**	9	1.2*	7	1.0*	7	0.9*	7	0.9*
Psychostimulants (T436)	22	3.3	30	4.1	25	3.3	53	6.8	64	9.0
Methamphetamines (T436 w/ Methamphetamine cited)	18	2.7*	28	3.8	23	3.1	51	6.6	60	8.4

Note: Drug categories are not mutually exclusive since drug overdoses often involve more than one substance. More information on how drug poisoning categories are defined can be found in the *Definition Guide* section following the discussion.

AA rate = Age-adjusted overdose death rate

* Rates based on fewer than 20 events are statistically unreliable and should be used with caution.

** Rates based on fewer than 6 events are not reported.

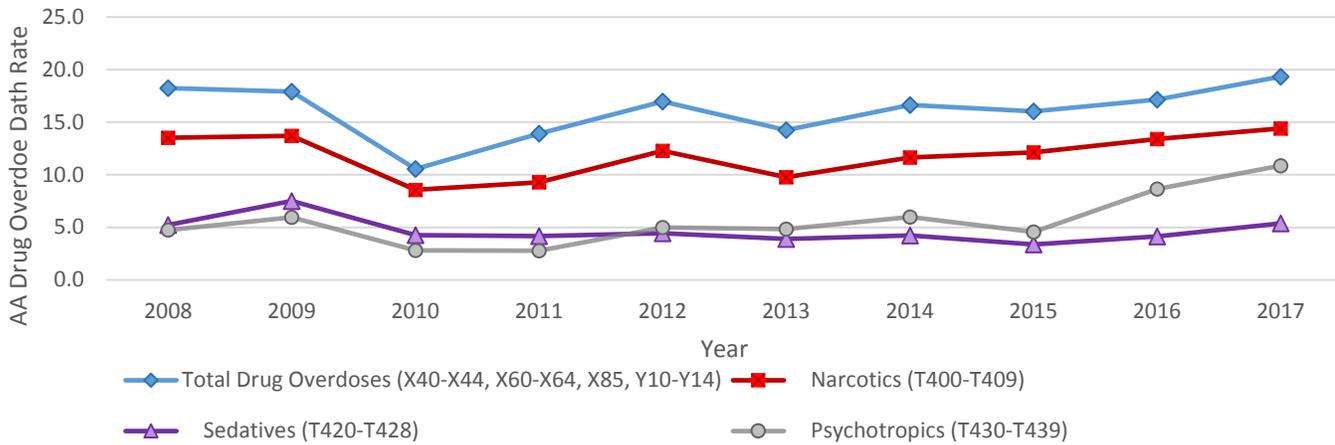
1. Also includes anti-Parkinson and anti-epileptic medications

Trends

- At 19.3 per 100,000 in 2017, Alaska's AA overdose death rate was at its highest level in ten years (Figure 1).
- The AA rate of drug overdose deaths involving narcotics generally trended upward between 2013 and 2017 (Figure 1).
- AA overdose death rates involving sedatives increased 59% between 2015 and 2017 (Figure 1).
 - AA rates involving benzodiazepines increased 80% between 2015 and 2017 (Table 1).
- AA overdose death rates involving psychotropics have increased 127% between 2015 and 2017 (Figure 10).
 - AA rates involving methamphetamines have increased 211% between 2015 and 2017 (Table 1).

[‡] Data not shown

Figure 1: Drug Overdose Mortality by Year, Alaska Occurrence (2008 - 2017)



Multidrug Overdoses

- The drug combinations shown in Table 2 are not mutually exclusive, which means a drug overdose may include more than the 2 categories of drugs listed.
- Opioid analgesics/pain relievers and sedatives were the most common combination involved in multidrug overdoses, resulting in 104 out of the 620 total overdose deaths during 2013 to 2017 (Table 2).
- Opioid analgesics/pain relievers were involved in 5 of the top 10 most common combinations seen in overdose deaths from 2013 to 2017 (Table 2).
- Alcohol was involved in one quarter of drug overdose deaths from 2013 to 2017 (153 out of 620 deaths).[‡] This number does not include acute alcohol poisonings. The Definition Guide defines alcohol involved drug overdose deaths.

Table 2: Top Ten Overdose Combinations by Deaths, Alaska Occurrence (2013 - 2017)

Rank	Drug A (ICD-10 Codes)	Drug B (ICD-10 Codes)	Deaths	Percent of All Overdoses (N=620)
1	Opioid Analgesic/Pain Reliever (T402-T404)	Sedatives (T420-T428)	104	16.8%
2	Opioid Analgesic/Pain Reliever (T402-T404)	Psychostimulants (T436)	71	11.5%
3	Heroin (T401)	Psychostimulants (T436)	68	11.0%
4	Opioid Analgesic/Pain Reliever (T402-T404)	Heroin (T401)	65	10.5%
5	Other Narcotics (T400, T406-T409)	Heroin (T401)	54	8.7%
6	Opioid Analgesic/Pain Reliever (T402-T404)	Other Narcotics (T400, T406-T409)	40	6.5%
7	Antidepressants (T430-T432)	Sedatives (T420-T428)	38	6.1%
8	Antidepressants (T430-T432)	Opioid Analgesic/Pain Reliever (T402-T404)	31	5.0%
	Other Narcotics (T400, T406-T409)	Psychostimulants (T436)	31	5.0%
9	Antipsychotics (T433-T435)	Sedatives (T420-T428)	28	4.5%
10	Sedatives (T420-T428)	Heroin (T401)	25	4.0%

Note: Drug categories are not mutually exclusive since drug overdoses often involve more than one drug substance. More information on how drug poisoning categories are defined can be found in the Definition Guide section following the discussion.

[‡] Data not shown

Discussion

In 2017, the State of Alaska had the highest drug overdose mortality rate in ten years, as a result of an increase of overdose deaths involving methamphetamine, sedatives and opioid analgesic/pain relievers, which includes fentanyl. Alaska's rank among states with the highest drug overdose rates did fall between 2014 and 2016; however, this was due to the sharp increase of overdose death rates in other US states. Notable demographic changes between 2016 and 2017 included higher death rates among American Indian/Alaska Native people (79.5% increase), individuals aged 45-54 years (38.4% increase) and individuals in the Anchorage region (65.1% increase).

Overdose deaths often involve more than one substance. Of the 620 overdose deaths that occurred in the last five years in Alaska, a quarter involved alcohol. About 17 percent (104 out of 620) involved a combination of opioid pain relievers and sedatives, and 11 percent (71 out of 620) involved a combination of opioid pain relievers and psychostimulants. It is important to note, however, that other substances could have been involved in these overdose events besides the listed drug combinations.

These findings reflect a nationwide trend in drug overdoses involving multiple substances.⁵ For example, In March 2018, the National Institute on Drug Abuse (NIDA) reported that more than 30 percent of overdose deaths involved both opioids and benzodiazepines across the nation.⁸ NIDA referenced a compilation of studies that show the dangers of using opioids and benzodiazepines together, which can suppress breathing.

The combination of opioids and psychostimulants, commonly known as "speedballs" (e.g. heroin and methamphetamines),⁹ may enhance the high more than either drug alone.^{10,11} The State of Alaska, Department of Health and Social Services (SOA DHSS) reported opioids were involved in 54 percent of the 193 methamphetamine overdose fatalities between 2008 and 2016.¹² A surge in methamphetamine coming from Mexico increased the access to this substance in Alaska.¹³ The Alaska State Troopers Drug Enforcement Unit reported a dramatic uptick in methamphetamine grams seized from 5,434 in 2016 to 24,909 in 2017.¹⁴ Combining opioids and psychostimulants can cause organ damage, brain damage, or death.⁹

In 2017, reports of fentanyl mortalities substantially increased in Alaska. Fentanyl is 30-50 times more potent than heroin, and 100 times more potent than morphine.¹⁵ This increase could be attributed to improvements in reporting of fentanyl on death certificates in addition to increased use.¹⁶ In 2017, the combined total of fentanyl seized amounted to 24,235 potential lethal fentanyl doses (using Drug Enforcement Administration's 2 milligram dose estimate).¹³ Drugs distributed on the black market, such as heroin, counterfeit prescription opioid, and psychostimulants, have also been laced with fentanyl.¹⁷

The State of Alaska (SOA) has conducted a variety of activities to address the dangers of substance misuse. In February 2017, Governor Bill Walker declared the opioid epidemic a state disaster. Since then, SOA response has been coordinated under an incident command structure. In 2018, Alaska was federally designated as a High Intensity Drug Trafficking Area (H.I.D.T.A), which increases interagency collaboration, promotes the sharing of intelligence and information, and provides specialized training and other resources to participating Alaska law enforcement agencies to reduce drug trafficking and production. The Prescription Drug Monitoring Program (PDMP), a system that requires all providers to report prescriptions (including opioids and benzodiazepines), was established in 2008 and enhanced in 2016 to ensure safe prescribing practices. SOA DHSS is working with tribal and academic partners to augment provider education through Project ECHO, a system that provides information to rural providers. A public information campaign has been launched to call attention to the risk of opioid addiction, and to reduce stigma by increasing the understanding of addiction as a chronic health condition rather than a moral failing. The SOA DHSS Division of Behavioral Health was awarded funding to increase access to treatment across the State and begin a peer certification process for those in recovery. The SOA DHSS Office of Substance Misuse and Addiction Prevention provides medication disposal bags, with over 18,000 bags distributed this past year. Project HOPE has distributed over 15,000 naloxone kits since February 2017. More Alaska-specific information is available at: <http://dhss.alaska.gov/dph/Director/Pages/heroin-opioids/default.aspx>.

Definition Guide

ICD-10	Drug Category	Description	Examples ¹ (drug class, street and commercial/brand names)
X40-44, X60-64, X85, or Y10-14	Drug Poisoning (overdose) deaths	Unintentional or intentional overdose of a drug, being given the wrong drug, taking a drug in error, or taking a drug inadvertently as the underlying cause of death ¹	NA
T400-T409	Narcotics	A drug that in moderate doses dulls the senses, relieves pain, and induces profound sleep but in excessive doses causes stupor, coma, or convulsions; a drug subject to restriction similar to that of addictive narcotics whether physiologically addictive and narcotic or not. ¹⁶	<i>See Heroin, Cocaine, Opioid Analgesic/Pain Reliever, Fentanyl, and Other Narcotics</i>
T401	Heroin	A semi-synthetic opiate synthesized from morphine. It is broken down into morphine. ¹⁷	Heroin: <i>Brand names</i> – None; <i>Street names</i> –China white, Black tar, Thunder, Chiva
T405	Cocaine	"An intense, euphoria-producing stimulant drug with strong addictive potential." ¹⁸	Cocaine: <i>Brand names</i> –None; <i>Street names</i> – Blow, Coke Crack cocaine: <i>Brand names</i> – None; <i>Street names</i> -Candy, Apple Jacks, Rox
T400, T406-T409	Other Narcotics	NA	Cannabis derivatives: <i>Brand names</i> –Marinol, Cesamet; <i>Street names</i> –Mary Mack, Spice; Hallucinogens (Peyote, DMT): <i>Brand names</i> None; <i>Street names</i> –Acid, Shrooms
T402-T404	Opioid Analgesic/Pain Reliever	Natural, synthetic, and semi-synthetic substances (excluding heroin) that bind to specific opioid receptors in the Central Nervous System, producing an agonist action. ¹⁹ They increase the threshold to pain.	Oxycodone: <i>Brand Names</i> –Percocet, Oxycotin; <i>Street Names:</i> Oxy, Percs; Hydrocodone <i>Brand names</i> –Vicodin, Norco; <i>Street Names</i> –Hillbilly heroin, 357s; Methadone: <i>Brand names</i> –Methadose, Dolophine; <i>Street names:</i> Fizzies; Meperidine: <i>Brand names</i> –Demerol; <i>Street names:</i> Demmies; Tramadol: <i>Brand names</i> -Ultram, ConZip; <i>Street names:</i> Chill pills; Hydromorphone: <i>Brand names</i> –Diluadid, Exalgo; <i>Street names</i> – Dillies
T404 with fentanyl (and its analogues) cited	Fentanyl	"A potent synthetic opioid drug approved by the Food and Drug Administration for use as an analgesic and anesthetic." ¹⁸	Fentanyl: <i>Brand names</i> – Duragesic, Lazanda, Oralet, Actiq, Innovar; <i>Street names</i> –TNT, Apache, China Town, China Girl
T420-T428	Sedatives	Drugs that induce sleep, relieves anxiety and muscle spasms, and prevents seizures.	Barbiturates: <i>Brand names</i> –Amytal, Butisol, Seconal <i>Street names</i> –Reds, Downer; Ketamine: <i>Brand names</i> – Ketelar; <i>Street names</i> –Special K;
T424	Benzodiazepines	A class of drugs commonly prescribed to treat anxiety, insomnia, epilepsy, and alcohol dependence	Benzodiazepines: <i>Brand names</i> –Xanax, Klonopin, Valium, Restoril; <i>Street names</i> –Benzos, Sleeping pills, Z bars
T430-T439	Psychotropics	Drugs that affect the mind, emotions, and behavior.	Antidepressants, Antipsychotics, Psychostimulants
T430-T432	Antidepressants	Drugs used to prevent or relieve symptoms of depression, anxiety, and dysthymia. ¹⁸	Citalopram: <i>Brand names</i> –Celexa; Escitalopram: <i>Brand names</i> –Lexapro; Fluoxetine: <i>Brand names</i> – Prozac; Sertraline: <i>Brand names</i> – Zoloft
T433-T435	Antipsychotics	Also known as neuroleptics and major tranquilizers, these drugs are primarily used to improve psychotic states of mind. ¹⁷	Clozapine: <i>Brand name</i> –Clozaril, FazaClo; Haloperidol – <i>Brand name</i> –Haldol; Quetiapine: <i>Brand name</i> –Seroquel; <i>Street names</i> – Susie-Q, Q-bal”
T436	Psychostimulants	Any agent that activates, enhances, or increases neural activity. ¹⁷	D-Amphetamine: <i>Brand name</i> –Adderall; <i>Street name</i> – Speed, Uppers; MDMA: <i>Brand name</i> – None; <i>Street name</i> -Ecstasy, E, Molly
T436 with Methamphetamine cited	Methamphetamines	A synthetic or semisynthetic compound that stimulates the central nervous system. ¹⁶	Methamphetamine: <i>Brand name</i> – Dexoyn, Ritalin; <i>Street name</i> – Meth, Crystal, Ice, Vitamin R, Pineapple
T51	Alcohol involved in drug poisonings	Alcohol included as a contributory cause of death in a drug overdose death.	NA
X45, X65, Y15	Alcohol Poisoning	A condition in which a toxic amount of alcohol has been consumed as the underlying cause of death.	NA

NA = Not applicable

1. Examples given are not a complete account of drug classes, street names and commercial/brand names for each drug category.

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