



Health Analytics and Vital Records

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Alaska Facts and Figures

2018 Drug Overdose Mortality Update

Background

In 2018, in the United States, the drug overdose death (mortality) rate exceeded the motor vehicle crash mortality rate for the first time, and peak mortalities of homicides, and HIV/AIDS.ⁱ In 2017, Alaska had the highest rate of death resulting from overdose recorded in the last ten years (19.3 deaths per 100,000).ⁱⁱ The 2018 Drug Overdose Mortality Update, which identifies the status, trends, and types of drugs involved in overdose deaths in Alaska, shows a 28% decrease in overdose mortality rates from 2017 to 2018. Multidrug overdose deaths continue to make up a large percentage of all drug overdoses.

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.”ⁱⁱⁱ 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. Drug overdose can involve multiple substances, therefore deaths may be included in multiple categories (they are not mutually exclusive). This analysis included all overdose deaths in Alaska, regardless of decedents’ residence. Mortality rates were calculated using Alaska Department of Labor and Workforce Development Research and Analysis Section population estimates^{iv} as the denominator, and were age-adjusted by year 2000 standard population ratios.^v Differences between values were not tested for statistical significance.

Results

Overdose Overview

- There were 619 deaths due to drug overdose in Alaska during the 5 years, 2014-2018. In addition, 143 deaths were due to acute alcohol poisoning in Alaska from 2014-2018[‡]
- Age-Adjusted (AA) drug overdose death rates decreased from 19.3 per 100,000 in 2017 to 13.9 per 100,000 in 2018 (Table 1). Drug overdose deaths decreased in most drug categories.
- In 2018, 105 drug overdose deaths occurred in Alaska (Table 1).
 - Of those, 72 (69%) involved narcotics, 26 (25%) involved sedatives, and 59 (56%) involved psychotropics as a contributing cause of death (Table 1). These percentages do not add up to 100% since drug overdoses often involve more than one type of drug; therefore, deaths may be included in multiple categories.
 - Of psychotropic-related overdoses, 75% involved methamphetamines
 - Among sedative-related overdoses, 92% involved benzodiazepines.
- Males had a higher AA drug overdose death rate than females in 2018 (15.1 and 12.6 deaths per 100,000, respectively). From 2014 to 2018, the AA rate decreased by 17.9% for males and 14.9% for females.[‡]
- From 2014 to 2018 Alaska Native people had a higher AA drug overdose death rate compared to all other racial groups, except in 2018. Black individuals appear to have a higher rate in 2018; however, the AA rate was considered statistically unreliable due to the small number of deaths (n=8).[‡]
 - In 2018, the AA rates in white and Alaska Native people were 13.3 and 20.8 per 100,000, respectively.[‡]

[‡] Data not shown.

- AA rates decreased by 32.2% among Alaska Native people from 2017 to 2018.[‡]
- Asian/pacific islander and black individuals had fewer than 10 overdoses per year. Therefore, statistically reliable rates could not be calculated from 2014 to 2018.[‡]
- In general, the AA drug overdose death rates were highest in young and middle aged adults from 2014 to 2018. In 2018, AA rates were highest in those age 45-54 years (25.1 per 100,000), followed by 35-44 year olds (24.6 per 100,000) and 55-64 year olds (24.2 per 100,000).[‡]
 - AA rates decreased in most age groups from 2017 to 2018. The largest decrease was in individuals aged 45-54 (36.1%).
- In 2018, the Gulf Coast Public Health Region had the highest AA drug overdose death rate (17.6* per 100,000), the rate increased 33% during 2017–2018; followed by the Anchorage Public Health Region (16.3 per 100,000).[‡]
 - Rates decreased in the Southeast and Anchorage regions (by 56% and 41%, respectively) while rates in the Matanuska-Susitna region remained stable (12.5 per 100,000 persons in 2017 and 12.3 per 100,000 persons in 2018).
 - The lowest AA rate was in the Southeast Public Health Region (9.0* per 100,000). AA rates for the Northern and Southwest Public Health Region could not be calculated since there were less than 6 drug overdose deaths.

Table 1: Drug Overdose Mortality by Year, Alaska Occurrence (2014 - 2018)

Cause of Death (ICD 10 Codes)	2014		2015		2016		2017		2018	
	Deaths	AA Rate								
Total Drug Overdoses (X40-X44, X60-X64, X85, Y10-Y14)	123	16.6	121	16.0	129	17.2	141	19.3	105	13.9
Narcotics (T400-T409)	84	11.7	92	12.1	100	13.4	107	14.4	72	9.2
Opioid Analgesic/Pain Reliever (T402-T404)	51	7.2	68	9.0	59	8.0	75	10.0	46	5.8
Fentanyl (T404 w/ Fentanyl or Fentanyl analogue cited)	10	1.4*	12	1.5*	5	**	28	3.6	9	1.1*
Heroin (T401)	26	3.5	36	4.7	49	6.5	36	4.9	28	3.7
Cocaine (T405)	12	1.6*	8	1.1*	15	1.8*	18	2.3*	10	1.3*
Other Narcotics (T400, T406-T409)	15	2.1*	21	2.9	26	3.5	24	3.4	23	3.1
Sedatives (T420-T428) ¹	30	4.2	25	3.4	29	4.1	39	5.4	26	3.6
Benzodiazepines (T434)	26	3.7	20	2.5	25	3.5	32	4.5	24	3.2
Psychotropics (T430-T439)	44	6.0	34	4.6	67	8.7	78	10.9	59	8.2
Antidepressants (T430-T432)	11	1.5*	6	0.8*	12	1.6*	13	1.8*	11	1.7*
Antipsychotics (T433-T435)	9	1.2*	7	1.0*	7	0.9*	7	0.9*	5	**
Psychostimulants (T436)	30	4.1	25	3.3	53	6.8	64	9.0	49	6.7
Methamphetamines (T436 w/ Methamphetamine cited)	28	3.8	23	3.1	51	6.6	60	8.4	44	6.0

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.

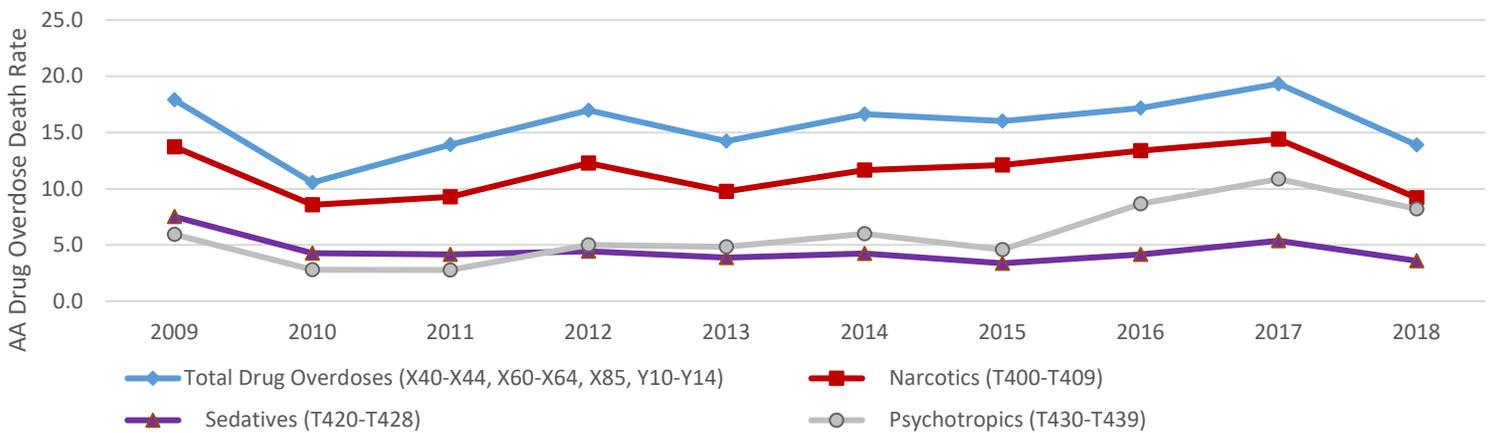
1. Also includes anti-Parkinson and anti-epileptic medications

[‡] Data not shown.

Trends

- At 13.9 per 100,000 in 2018, Alaska’s AA overdose death rate was at its lowest level since 2011 (Figure 1).
- The AA rate of drug overdose deaths involving narcotics generally trended upward between 2013 and 2017 but decreased 36.1% from 2017 to 2018 (Figure 1).
- AA overdose death rates involving sedatives increased 59% between 2015 and 2017, then decreased slightly in 2018 (33.3%; Figure 1).
 - AA rates involving benzodiazepines increased 80% between 2015 and 2017 and showed a slight decrease in 2018 (28.9%; Table 1).
- AA overdose death rates involving psychotropics have increased 137% between 2015 and 2017 and have started to decrease in 2018 (24.8% between 2017 and 2018; Figure 1).
 - AA rates involving methamphetamines have increased 171% between 2015 and 2017 and showed a small decrease in 2018 (28.6%; Table 1).

Figure 1: Drug Overdose Mortality by Year, Alaska Occurrence (2009 - 2018)



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.

Multidrug Overdoses

- The drug combinations shown in Table 2 are not mutually exclusive, which means a drug overdose may include more than the 2 drug categories listed. Additionally, each drug category may include more than one substance (see *Definition Guide*).
- Opioid analgesics/pain relievers and sedatives were the most common combination involved in multidrug overdoses, resulting in 15.7% (97 out of the 619 total) overdose deaths during 2014 to 2018 (Table 2).
- Opioid analgesics/pain relievers were involved in 5 of the top 10 most common combinations seen in overdose deaths from 2014 to 2018 (Table 2).
- Alcohol was involved in nearly one quarter of drug overdose deaths from 2014 to 2018 (142 out of 619 deaths).[‡] This number does not include acute alcohol poisonings. The *Definition Guide* defines alcohol involved drug overdose deaths.

[‡] Data not shown

Table 2: Top Ten Overdose Combinations by Deaths, Alaska Occurrence (2014 - 2018)

Rank	Drug A (ICD 10 Codes)	Drug B (ICD 10 Codes)	Deaths	Percent of All Overdoses (N 619)
1	Opioid Analgesic/Pain Reliever (T402-T404)	Sedatives (T420-T428)	97	15.7%
2	Heroin (T401)	Psychostimulants (T436)	83	13.4%
3	Opioid Analgesic/Pain Reliever (T402-T404)	Psychostimulants (T436)	78	12.6%
4	Opioid Analgesic/Pain Reliever (T402-T404)	Heroin (T401)	67	10.8%
5	Heroin (T401)	Other Narcotics (T400, T406-T409)	65	10.5%
6	Opioid Analgesic/Pain Reliever (T402-T404)	Other Narcotics (T400, T406-T409)	50	8.1%
7	Other Narcotics (T400, T406-T409)	Psychostimulants (T436)	46	7.4%
8	Antidepressants (T430-T432)	Sedatives (T420-T428)	36	5.8%
9	Opioid Analgesic/Pain Reliever (T402-T404)	Antidepressants (T430-T432)	32	5.2%
10	Sedatives (T420-T428)	Other Narcotics (T400, T406-T409)	28	4.5%

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.

Discussion

This data brief is an update to the 2017 Drug Overdose Mortality Update, which reported a 36% increase from 2013 to 2017 in overdose mortality (2017 = 19.3 deaths per 100,000). However in 2018, Alaska had the lowest drug overdose death rate since 2011. During 2017–2018, drug overdose death rates decreased for all drug categories examined in this data brief, resulting in a 28% decrease in the overall drug overdose death rate. This decline comes after seven years of increasing drug overdose death rates. Of the narcotics-related deaths evaluated in Table 1, the largest drop (69%) was seen in fentanyl-involved overdose deaths, and the lowest decline (24%), in heroin-involved overdose deaths. The number of overdose deaths involving methamphetamines decreased by 29%. In 2018, demographics of people at comparative higher risk of dying from drug overdose included identifying as male, Alaska Native, middle aged, and being from the Gulf Coast Public Health Region.

Polysubstance use can be a significant driver of overdose mortality due to the physiological effects on the cardiovascular and respiratory systems when mixing categories of substances. Of the 619 total overdose deaths that occurred during 2014–2018, 84% included substances from more than one drug category and 46% included substances from three or more drug category. One quarter of the drug overdose deaths also involved alcohol. Approximately 16% (97) involved a combination of opioid analgesics and sedatives (mostly benzodiazepines), which is a combination of substances that can fatally suppress breathing.^{vi} Eighty five of these 97 deaths specifically involved natural and semi-synthetic opioids such as hydrocodone (i.e. Vicodin) and oxycodone (i.e. Oxycontin) (excluding synthetic opioids like fentanyl and tramadol). Heroin and psychostimulants (mostly methamphetamine) were the second most common combination, and opioid analgesics and psychostimulants ranked as the third highest combination, involved in approximately 13% of overdose deaths. Combining opioids and psychostimulants can cause organ damage, brain damage, or death.^{vii} It is important to note however, that other substances could have been involved in these overdose events besides the listed drug combinations. These data are consistent with recent national findings of most overdose deaths involving more than one substance.^{viii} The implications of these results involve recognizing the significant importance of supporting substance consumers better understand the consequences of mixing these substances. Reducing stigma of substance reporting, enhancing provider screening of all substances being used, and conducting media campaigns around polysubstance use can play a role in curtailing overall overdose mortality.

The decrease in overdose mortality in Alaska from 2017 to 2018 may have been due to a number of factors. Since February 2017, the State of Alaska (SOA) Department of Health and Social Services (DHSS) Office of Substance Misuse and Addiction Prevention (OSMAP), through Project HOPE, has distributed over 18,000 kits of naloxone to community members, a medication that has been demonstrated worldwide to reduce fatal overdose.^{ix} Additionally, between 2017 and 2018, a variety of Alaskan stakeholders, using communication, education, policy/regulation, and community mobilization strategies, potentially contributed to the reduction in overdose deaths seen in this data brief. The SOA DHSS and its partners offered communication tools such as the website opioids.alaska.gov; and TV and radio PSAs. The SOA DHSS established, with tribal and academic partners, a variety of provider education tools including Project ECHO, a collaborative model of education that makes specialty knowledge more accessible to rural healthcare providers. The SOA Department of Education and Early Development and the

SOA DHSS partnered to create and offer *Opioids and the Opioids Epidemic 101*, an interactive educational program for teachers and school system staff. The SOA Department of Commerce, Community, and Economic Development facilitates the Prescription Drug Monitoring Program (PDMP)^x a system that requires all providers to report prescriptions of opioids and benzodiazepines as well as other substances, has seen a 6 fold increase in the number of registered users since 2013 and a 15% decrease in the total number of opioid prescriptions since 2016. Increases in the use of the PDMP may have been due to policies such as 30th Legislature HB 159, which improved use of the PDMP, encouraged judicious opioid prescribing through limiting number of amounts and days of prescriptions, and required minimum provider education in substance misuse and pain management.^{xi} This also reflects national findings that emergency department visit rates were significantly reduced with comprehensive PDMP mandates.^{xii} The SOA DHSS has scaled up screening, referral, treatment funding and intervention through the Alaska Prenatal Screening Program,^{xiii} Medication Assisted Treatment training,^{xiv} and granting funding to organizations for the Hub and Spoke model (a comprehensive model support substance use disorder treatment linkage to care).^{xv} Studies indicate that mortality risk is lowered when people access methadone or buprenorphine treatment.^{xvi}

Aside from these examples of the SOA's efforts, a variety of state, federal, and local organizations have conducted interventions across the spectrum of prevention, treatment, and recovery. To continue to see the impact in 2019, SOA and its partners have and will work upstream addressing social determinants of health^{xvii} and Adverse Childhood Experiences,^{xviii} availability of medication assisted treatment, and the demographic disparities in overdose mortality.

Increasingly, overdose mortality is occurring as a result of mixing substances, particularly opioids.^{xix} This data brief demonstrates a decrease in overdose deaths from 2017 to 2018; however, this does not suggest that drug use in Alaska has also decreased. This information will be used by public health programs in Alaska to bring together stakeholders as they aim to develop communication, education, policy/regulation, and community mobilization strategies to continue to reduce overdose morbidity and mortality. For more information, please visit opioids.alaska.gov.

Prepared by the Health Analytics and Vital Records Section and the Office of Substance Misuse and Addiction Prevention

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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