Alaska Facts and Figures

2019 Drug Overdose Mortality Update

Background

In 2018, Alaska had a 28% decrease in overdose mortality rates from the high in 2017 (19.3 to 13.9 deaths per 100,000).[i] The 2019 Drug Overdose Mortality Update, which identifies the status, trends, and types of drugs involved in overdose deaths in Alaska, shows an increase overdose mortality rates from 2018 to 2019. 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, examples, and street names are provided in the *Definition Guide*. Drug categories for reporting drug overdoses in this data brief were based on C. J. Ruhm's article, "Drug involvement in fatal overdoses."[ii] 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 (the deaths 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[iii] as the denominator and were age-adjusted by year 2000 standard population ratios.[iv] Differences between values were not tested for statistical significance.

Results

Overdose Overview

- There were 629 deaths due to drug overdose in Alaska during the 5 years, 2015-2019. In addition, 145 deaths were due to acute alcohol poisoning in Alaska from 2015-2019 [‡]
- Age-Adjusted (AA) drug overdose death rates increased from 14.0 per 100,000 in 2018 to 18.1 per 100,000 in 2019 (Table 1). Drug overdose deaths increased in most drug categories.
- In 2019, 133 drug overdose deaths occurred in Alaska (Table 1).
    - Of those, 88 (66%) involved narcotics, 26 (20%) involved sedatives, and 74 (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, 80% involved methamphetamines
    - Among sedative-related overdoses, 69% involved benzodiazepines.
- Males had a higher AA drug overdose death rate than females in 2019 (24.5 and 11.3 deaths per 100,000, respectively). From 2015 to 2019, the AA rate increased by 26.9% for males and decreased 8.1% for females.[‡]
- From 2015 to 2019 Alaska Native people had a higher AA drug overdose death rate compared to white individuals. In some years, black individuals appear to have the highest rate by race group; however, the AA rates were considered statistically unreliable due to the small number of deaths.[‡]
    - In 2019, the AA rates in white and Alaska Native people were 15.4 and 34.8 per 100,000, respectively.

[‡] Data not shown.

- o AA rates increased by 68.1% among Alaska Native people from 2018 to 2019.[‡]
  - o Asian/pacific islander individuals had 5 or fewer overdoses per year. Therefore, statistically reliable rates could not be calculated from 2015 to 2019.[‡]
- In general, the AA drug overdose death rates were highest in young and middle-aged adults from 2015 to 2019. In 2019, AA rates were highest in those age 25-34 years (41.1 per 100,000), followed by 35-44 year olds (35.1 per 100,000) and 45-54 year olds (22.2* per 100,000).[‡]
  - o AA rates increased in people aged 25 to 44 from 2018 to 2019.
- In 2019, the Anchorage Public Health Region had the highest AA drug overdose death rate (19.3 per 100,000), the rate increased 16% during 2018–2019. The Gulf Coast Public Health Region had the second highest AA drug overdose mortality rate in 2019 (18.8* per 100,000). [‡]
  - o Rates also increased in the Interior region (by 81%).
  - o The lowest AA rates were in the Southeast and Mat-Su Public Health Regions (15.4* and 15.0* per 100,000, respectively), however both regions had an increase from 2018-2019. Reliable AA rates for the Northern and Southwest Public Health Region could not be calculated since there were less than 6 drug overdose deaths in most years.

Table 1: Drug Overdose Mortality by Year, Alaska Occurrence (2015 - 2019)

Cause of Death (ICD-10 Codes)	2015		2016		2017		2018		2019	
	Deaths	AA Rate	Deaths	AA Rate	Deaths	AA Rate	Deaths	AA Rate	Deaths	AA Rate
Total Drug Overdoses (X40-X44, X60-X64, X85, Y10-Y14)	121	16.0	129	17.2	141	19.3	105	14.0	133	18.1
Narcotics (T400-T409)	92	12.1	100	13.4	107	14.4	72	9.3	88	11.7
Opioid Analgesic/Pain Reliever (T402-T404)	68	9.0	59	8.0	75	10.0	46	5.9	60	7.9
Fentanyl (T404 w/ Fentanyl or Fentanyl analogue cited)	12	1.5*	5	**	28	3.6	9	1.1*	15	2.2*
Heroin (T401)	36	4.7	49	6.5	36	4.9	28	3.7	45	6.0
Cocaine (T405)	8	1.1*	15	1.8*	18	2.3*	10	1.3*	7	0.9*
Other Narcotics (T400, T406-T409)	21	2.9	26	3.5	24	3.4	23	3.1	24	3.1
Sedatives (T420-T428)[1]	25	3.4	29	4.1	39	5.4	26	3.6	26	3.7
Benzodiazepines (T434)	20	2.5	25	3.5	32	4.5	24	3.2	18	2.6*
Psychotropics (T430-T439)	34	4.6	67	8.7	78	10.9	59	8.3	74	10.0
Antidepressants (T430-T432)	6	0.8*	12	1.6*	13	1.8*	11	1.7*	11	1.6*
Antipsychotics (T433-T435)	7	1.0*	7	0.9*	7	0.9*	5	**	2	**
Psychostimulants (T436)	25	3.3	53	6.8	64	9.0	49	6.7	64	8.6
Methamphetamines (T436 w/ Methamphetamine cited)	23	3.1	51	6.6	60	8.4	44	6.0	59	7.8

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

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[‡] Data not shown.

- At 18.1 per 100,000 in 2019, Alaska's AA overdose death rate was at it second highest level since 2010 (Figure 1).
- The AA rate of drug overdose deaths involving narcotics generally trended upward between 2013 and 2017 but decreased from 2017 to 2018 and increased again in 2019 (25% from 2018 to 2019, Figure 1).
- AA overdose death rates involving sedatives increased 59% between 2015 and 2017, then decreased slightly in 2018, and remaining approximately steady in 2019 (Figure 1).
  - AA rates involving benzodiazepines increased 82% between 2015 and 2017 and decreased from 2017 to 2019 (Table 1).
- AA overdose death rates involving psychotropics have increased 137% between 2015 and 2017, decreased in 2018, and increased again in 2019 (20% from 2018 to 2019, Figure 1).
  - AA rates involving methamphetamines show the same pattern as psychotropics overall with an increase of 172% between 2015 and 2017, a small decrease in 2018, and a 31% increase from 2018 to 2019 (Table 1).

Figure 1: Drug Overdose Mortality by Year, Alaska Occurrence (2010 – 2019)
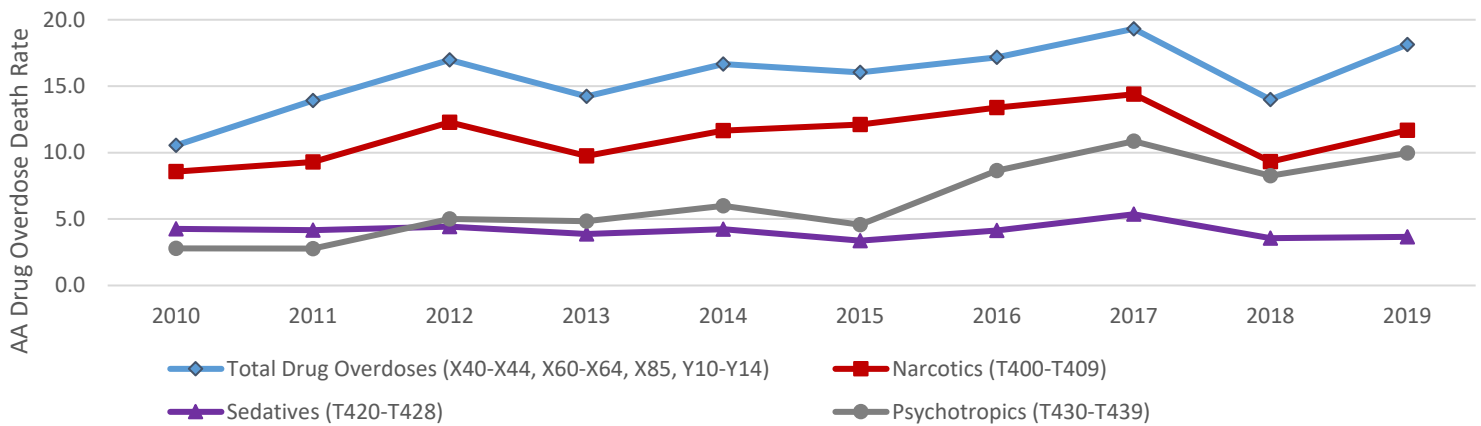
Note: Drug categories are not mutually exclusive since drug overdoses often involve more than one drug substance. More information on how drug poisoning categories are defined can be found in the Definition Guide section following the discussion.

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).*
- Heroin and psychostimulants were the most common combination involved in multidrug overdoses, resulting in 17% (107 out of the 629 total) overdose deaths during 2015 to 2019 (Table 2).
- Opioid analgesics/pain relievers were involved in 5 of the top 10 most common combinations seen in overdose deaths from 2015 to 2019 (Table 2).
- Alcohol was involved in 21% of drug overdose deaths from 2015 to 2019 (133 out of 629 deaths).[Ŧ] This number does not include acute alcohol poisonings. The *Definition Guide* defines alcohol involved drug overdose deaths.

[Ŧ] Data not shown

Table 2: Top Ten Overdose Combinations by Deaths, Alaska Occurrence (2015 - 2019)

Rank	Drug A (ICD-10 Codes)	Drug B (ICD-10 Codes)	Deaths	Percent of All Overdoses (N=629)
1	Heroin (T401)	Psychostimulants (T436)	107	17.0%
2	Opioid Analgesic/Pain Reliever (T402-T404)	Psychostimulants (T436)	97	15.4%
3	Opioid Analgesic/Pain Reliever (T402-T404)	Sedatives (T420-T428)	95	15.1%
4	Opioid Analgesic/Pain Reliever (T402-T404)	Heroin (T401)	84	13.4%
5	Heroin (T401)	Other Narcotics (T400, T406-T409)	76	12.1%
6	Opioid Analgesic/Pain Reliever (T402-T404)	Other Narcotics (T400, T406-T409)	66	10.5%
7	Other Narcotics (T400, T406-T409)	Psychostimulants (T436)	59	9.4%
8	Antidepressants (T430-T432)	Sedatives (T420-T428)	35	5.6%
9	Opioid Analgesic/Pain Reliever (T402-T404)	Antidepressants (T430-T432)	30	4.8%
10	Sedatives (T420-T428)	Psychostimulants (T436)	26	4.1%

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

In this 2019 Drug Overdose Mortality Update, Alaska had the highest drug overdose death rate since 2017, and second highest since 2011. In 2019, drug overdose death rates increased for most drug categories examined in this data brief, resulting in a 29% increase in the overall drug overdose death rate. Of the narcotics-related deaths evaluated in Table 1, the largest increase (61%) was seen in heroin-involved overdose deaths. Overall, the largest decline (20%) was in benzodiazepine-involved overdose deaths. In 2019, individuals at comparative higher risk of dying from drug overdose included those identifying as male, Alaska Native people, young adults, and those residing in the Anchorage 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 629 total overdose deaths that occurred during 2015–2019, 89% included substances from more than one drug category and 58% included substances from three or more drug categories.

These data are consistent with recent national findings of most overdose deaths involving more than one substance.[v] 2019 data across 24 states and Washington DC revealed that 83% of drug overdose deaths involve more than one drug and young and middle age adults were most likely to die from opioid involved overdoses (25-44 years old).[vi] However, Alaska's numbers do differ from the comparison of the 24 states in the following ways: while just under half of the overdose deaths involved opioids in the 24 states, 78 percent of the overdose deaths in Alaska involved opioids; and while in those 24 states, overdose deaths mostly involve non-Hispanic whites, in Alaska, Alaska Native people are twice as likely as white individuals to die from drug overdose. Additionally, just 2.2 percent of the drug overdose deaths involved fentanyl in Alaska; while in the other 24 states, 61% involved fentanyl.[vii]

In Alaska, the number of overdose deaths involving methamphetamines increased by 34% in 2019. The significant amount of deaths involving psychostimulants warrants an increase in available and accessible stimulant use disorder treatment, and further analysis into risk and protective factors associated with stimulant misuse and addiction. Psychostimulants were involved in the top two overdose drug combinations (with opioid analgesics and heroin being the other substances) across 629 overdose deaths in five years. This suggests that harm reduction strategies should be integrated across multiple venues that include Narcan distribution to those who use stimulants, and polysubstance use education on the lethality of combining these substances.

More than a dozen of State of Alaska's (SOA) departments continuously respond to Alaska's overdose epidemic with prevention, treatment, and recovery strategies to prevent overdose morbidity and mortality. Since 2017, SOA Department of Health and Social Services (DHSS) Office of Substance Misuse and Addiction Prevention, through Project HOPE, has distributed over 42,000 kits of naloxone to community members, a medication that has been demonstrated worldwide to reduce fatal overdose, with 300 lives documented to have been saved in Alaska.[vii,viii] Additional projects have included incorporating fentanyl test strip distribution, and distribution of a PSA on knowing the signs and symptoms of an overdose. SOA DHSS and SOA Department of Labor and Workforce Development established, with tribal and academic partners, a variety of provider education trainings, and tools including Project ECHO, a collaborative model of education that makes specialty knowledge more accessible to rural

healthcare providers. Improving awareness among providers of their existing prescribing practices is important to support the increase in training opportunities. The Alaska Medicaid Drug Utilization Program continues to promote evidence-based opioid prescribing activities and has resulted in a decrease in overall opioid prescribing within the Alaska Medicaid population. The SOA Department of Commerce, Community, and Economic Development facilitates the Prescription Drug Monitoring Program (PDMP)[ix] a system that requires all providers to report prescriptions of opioids and benzodiazepines as well as other substances. The system has seen a 6 fold increase in the number of registered users since 2013 and a 25% decrease in the total number of opioid prescriptions between 2016 and 2019.[x] The SOA DHSS has scaled up screening, referral, linkage to care, and treatment funding and intervention through the implementation of the 1115 waiver[xi], Alaska Prenatal Screening Program,[xii] Medication Assisted Treatment training,[xiii] and granting funding to organizations for the Hub and Spoke model (a comprehensive model support substance use disorder treatment linkage to care).[xiv] Studies indicate that mortality risk is lowered when people access methadone or buprenorphine treatment.[xv]

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 2020, SOA and its partners have and will work upstream addressing social determinants of health[xvi] and Adverse Childhood Experiences,[xvii] availability of medication assisted treatment, and the demographic disparities in overdose mortality.

Prepared by the Health Analytics and Vital Records Section and the Office of Substance Misuse and Addition 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]	*See Heroin, Cocaine, Opioid Analgesic/Pain Reliever, Fentanyl, and Other Narcotics*
T401	Heroin	A semi-synthetic opiate synthesized from morphine. It is broken down into morphine.[17]	**Heroin**: *Brand names* – None; *Street names* –China white, Black tar, Thunder, Chiva
T405	Cocaine	"An intense, euphoria-producing stimulant drug with strong addictive potential."[18]	**Cocaine:** *Brand names* –None; *Street names* – Blow, Coke **Crack cocaine:** *Brand names* – None; *Street names*-Candy, Apple Jacks, Rox
T400, T406-T409	Other Narcotics	*NA*	**Cannabis derivatives**: *Brand names* –Marinol, Cesamet; *Street names* –Mary Mack, Spice; **Hallucinogens** (Peyote, DMT): *Brand names* None; *Street names* –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**: *Brand Names* –Percocet, Oxycontin; *Street Names:* Oxy, Percs; **Hydrocodone** *Brand names* –Vicodin, Norco; *Street Names* –Hillbilly heroin, 357s; **Methadone:** *Brand names* –Methadose, Dolophine; *Street names:* Fizzies; **Meperidine**: *Brand names* –Demerol; *Street names*: Demmies; **Tramadol:** *Brand names*-Ultram, ConZip; *Street names*: Chill pills; **Hydromorphone**: *Brand names* –Diluadid, Exalgo; *Street names* – 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:** *Brand names* – Duragesic, Lazanda, Oralet, Actiq, Innovar; *Street names* –TNT, Apache, China Town, China Girl
T420-T428	Sedatives	Drugs that induce sleep, relieves anxiety and muscle spasms, and prevents seizures.	**Barbiturates**: *Brand names* –Amytal, Butisol, Seconal *Street names* –Reds, Downer**; Ketamine**: *Brand names* – Ketelar; *Street names* –Special K;
T424	Benzodiazepines	A class of drugs commonly prescribed to treat anxiety, insomnia, epilepsy, and alcohol dependence	**Benzodiazepines**: *Brand names* –Xanax, Klonopin, Valium, Restoril; *Street names* –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:** *Brand names* –Celexa; **Escitalopram**: *Brand names* - Lexapro, **Fluoxtine:** *Brand names* - Prozac; **Sertraline**: *Brand names* - Zoloft
T433-T435	Antipsychotics	Also known as neuroleptics and major tranquilizers, these drugs are primarily used to improve psychotic states of mind.[17]	**Clozapine**: *Brand name* –Clozaril, FazaClo; **Haloperidol** – *Brand name* –Haldol; **Quetiapine**: *Brand name* –Seroquel; *Street names* – Susie-Q, Q-bal"
T436	Psychostimulants	Any agent that activates, enhances, or increases neural activity.[17]	**D-Amphetamine**: *Brand name* –Adderall; *Street name* – Speed, Uppers; **MDMA:** *Brand name* – None; *Street name*-Ecstasy, E, Molly
T436 with Meth-amphetamine cited	Methamphetamines	A synthetic or semisynthetic compound that stimulates the central nervous system.[16]	**Methamphetamine:** *Brand name* - Dexoyn, Ritalin; *Street name* – 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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[vii] Chimbar, L., & Moleta, Y. (2018). "Naloxone effectiveness: a systematic review." *Journal of Addictions Nursing, 29*(3): 161-171.

[viii] B. Hanson (personal communication, November 10, 2020)

[ix] https://www.commerce.alaska.gov/web/cbpl/ProfessionalLicensing/PrescriptionDrugMonitoringProgram.aspx

[x] Alaska Prescription Drug Monitoring Program. (2020). "Alaska Prescription Drug Monitoring Program report to the 31st Alaska State Legislature (2020)." *Prepared for the 31st Alaska Legislature on February 26, 2020 (Adopted 2/28/2020).* Retrieved from: https://www.commerce.alaska.gov/web/portals/5/pub/PHA_PDMP_2020_LegislativeReport.pdf

[xi] http://dhss.alaska.gov/dbh/Pages/1115/default.aspx

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[xiii] https://aws.state.ak.us/OnlinePublicNotices/Notices/View.aspx?id=192562

[xiv] Brooklyn, J. & Sigmon, S. (2017). "Vermont Hub-and-Spoke Model of Care for Opioid Use Disorder: development, implementation, and impact." *Journal of Addiction Medicine, 11*(4): 286-292.

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[xvi] Healthypeople.gov. (2019). "Substance Abuse." Retrieved 16 Sept 2019 from: https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Substance-Abuse/determinants

[xvii] Hughes, K., Bellis, M., Hardcastle, K., Sethi, D., Butchart, A., … Dunne, M. (2017). "The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis." *The Lancet, Public Health, 2*(8): ee356-e366.