State of Alaska Epidemiology Bulletin

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# Overview of Recent Synthetic Opioid Overdose Deaths

## Introduction

In 2015, the U.S. Drug Enforcement Agency (DEA) and the Centers for Disease Control and Prevention (CDC) issued alerts concerning an increase in the number of fentanyl-related overdose deaths in multiple states, which was subsequently attributed to illicitly manufactured fentanyl (IMF) or "novel synthetic opioid" analogs.[1] These IMF analogs are commonly mixed with or sold as heroin. Depending on the type and manufacturing, IMFs can be many times more potent than prescription opioids. This *Bulletin* provides updated information about drug overdose deaths in Alaska due to heroin, fentanyl, and other synthetic opioids and presents four recent case reports of synthetic opioid overdoses.

## Methods

The Alaska Violent Death Reporting System (AKVDRS) and the Alaska Bureau of Vital Statistics databases were queried to quantify the number of deaths due to heroin and synthetic opioid poisoning using the International Classification of Disease 10th Revision (ICD-10) Codes for drug poisoning and key words contained in text fields. Drug categories queried by ICD-10 codes included the following: 1) underlying causes for intentional, unintentional, and undetermined drug overdose (X40–44, X60–64, X85, and Y10–14), and 2) contributory causes for illicit drug overdose (T40.1 heroin, and T40.4 fentanyl and other synthetic opioids, other than methadone). Four of the cases were selected to highlight as case reports.

## Results

From January 1, 2014 through September 15, 2016, 122 drug overdose deaths due to heroin and synthetic opioids were entered into the Alaska mortality database. Of the 122 drug overdose decedents, 78 (64%) were White, 15 (12%) were Asian/Pacific Islander, 4 (3%) were Alaska Native, and 4 (3%) were other races. The median age was 33 years (range: 18–73 years) and 71 (59%) were male. Most drug overdose deaths occurred in Anchorage/Mat-Su (61, 50%), followed by the Gulf Coast (19, 16%), and the Southeast (8, 7%).

*Case Reports*

- In November 2015, a young adult male was found unresponsive at his residence in the presence of recreational drug paraphernalia and a baggie of white powder. Initial postmortem toxicology testing was reported as negative. Additional testing indicated the presence of U-47700, a synthetic opioid
- In May 2016, a male in his 30s was found unresponsive at his residence and was transported to emergency department (ED), where he died. Postmortem toxicology indicated the presence of etizolam, an illicit benzodiazepine-like drug, and U-47700.
- In August 2016, three people in a small community were found unresponsive due to apparent drug overdoses; of which, one victim died. Postmortem toxicology testing indicated the presence of heroin and fentanyl.
- In September 2016, a young adult male was found unresponsive at his residence and pronounced dead by EMS. Postmortem toxicology indicated the presence of U-47700.

## Discussion

Three of the confirmed drug overdose death case reports involved U-47700, an opioid analog characterized as a "novel psychoactive substance" (NPS). Numerous overdose deaths nationwide have been caused by U-47700.[2] On September 7, 2016, the Drug Enforcement Administration issued a notice of intent to temporarily schedule U-47700 into schedule I pursuant to the temporary scheduling provisions of the Controlled Substances Act.[3] While popular media outlets have drawn considerable attention to the emerging health threats of synthetic narcotics (e.g., fentanyl), synthetic cannabinoids (e.g., spice), and cathinones (e.g., bath salts), many additional NPS have been developed and are circulating on the black markets, sometimes without the customer's knowledge of what they are buying.[4]

Despite dedicated work to classify new synthetic opioids, many remain uncharacterized. Overdose deaths involving such uncategorized drugs are coded under a generic classification, "other ill-defined and unspecified causes of mortality".[5] When an overdose with an NPS is suspected, clinicians should consult with Alaska Poison Control Center (AKPCC) for the most current clinical information and with their reference laboratory for appropriate specimen collection. The Alaska State Public Health Laboratory (ASPHL) can provide additional analytical support for testing.

**Table. Drug Overdose Deaths due to Heroin and Synthetic Opioids — Alaska, Jan. 1, 2014 through Sept. 15, 2016**

| Drug Overdose Categories | 2014 | 2015 | YTD* 2016 | Total |
|---|---|---|---|---|
| Fentanyl or synthetic opioids other than methadone (with no other drugs) | 1 | 3 | 2 | 6 |
| Fentanyl or synthetic opioids other than methadone (with other drugs, excluding heroin) | 13 | 11 | 4 | 28 |
| Heroin (with no other drugs) | 3 | 5 | 0 | 8 |
| Heroin (with other drugs) | 23 | 32 | 23 | 78 |
| Heroin + fentanyl or synthetic opioids other than methadone (with no other drugs) | 0 | 1 | 1 | 2 |
| Total | 40 | 52 | 30 | 122 |

**YTD = year to date (note: the number of deaths to date for 2016 will likely increase, as several pending cases are still under review)*

## Recommendations

1. Health care providers should keep informed of the new types of synthetic opioids emerging nationally and current guidelines on emergency naloxone administration for overdoses. In some cases, greater than expected or repeated doses of naloxone may be required for reversal.
2. Report opioid poisoning to the AKPCC at 800-222-1222.
3. For more information on heroin and opioids in Alaska, see: http://dhss.alaska.gov/dph/Director/Pages/heroin-opioids/default.aspx

## References

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