



OVERDOSE RESPONSE STRATEGY

PUBLIC HEALTH | PUBLIC SAFETY | PARTNERSHIP



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Emerging Threat Bulletin

Arkansas Sees First Carfentanil Overdose Death Amid US Spike

Overview

(U) In November 2024, law enforcement responded to the scene of an overdose death where carfentanil was involved. This is the first known overdose in Arkansas where carfentanil was found in the decedent's system. On December 5th, 2024, the CDC issued an alert over a concerning spike in carfentanil overdose deaths in the United States.¹ Carfentanil is a synthetic opioid which is 100 times more potent than Fentanyl.

A Worrisome Spike in Carfentanil Overdose

Deaths

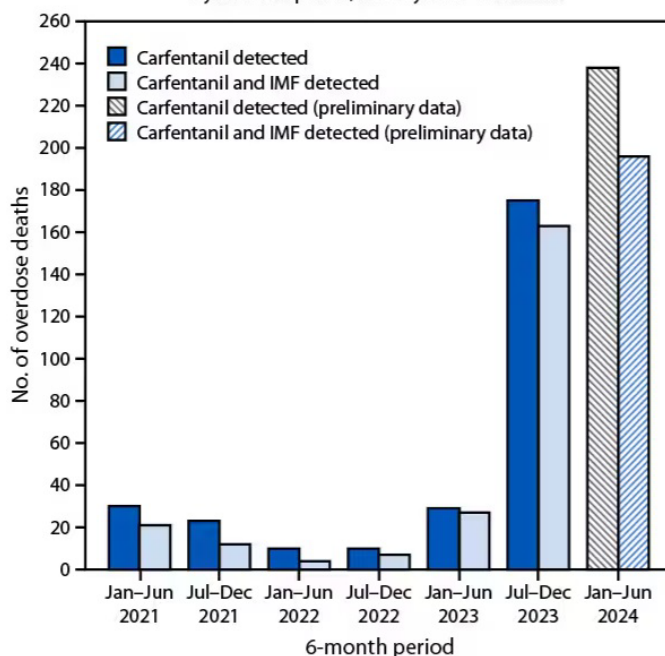
(U) Deaths in the United States from carfentanil rose by more than 720% in an 18-month period spanning from January 2023 to June 2024. This increase represents an average of 34.4 deaths per month. In comparison, from January 2021 to June 2023 where the average number of overdose deaths attributed to carfentanil was 3.3 deaths per month.

(U) Carfentanil caused a significant spike in synthetic opioid overdose deaths in 2016 and 2017, however, detections of carfentanil dropped significantly around 2020.^{2,3,4} The current spike in overdose deaths differs from the 2016-2017 spike in two key ways.

(U) The 2016 spike was mostly localized to a handful of states with Ohio and Florida reporting the highest numbers of carfentanil-linked overdoses.^{5,6} In this current surge in carfentanil-related deaths, carfentanil was detected in at least one overdose death in 37 states and at least 20 deaths in eight states.⁷

(U) During the 2016 spike, less than 25% of the deaths had fentanyl co-detected with the carfentanil.⁷ However, from July 2023-June 2024, 86.9% of the cases where carfentanil was present, fentanyl or another analog of fentanyl was also present.⁵ The toxicology from the recent Arkansas overdose death showed that

A. Number of overdose deaths with carfentanil detected (n = 513), by 6-month period, January 2021–June 2024



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decedent had a mixture of methamphetamine, fentanyl, and carfentanil present in their system. The mixing of carfentanil into fentanyl or other drugs as an adulterant could suggest that some users may be unaware of the presence of carfentanil in much the same way that users were unaware of fentanyl being mixed into heroin when fentanyl first began appearing in the US illicit drug markets.⁵

Public Health Risks

(U) Carfentanil is used as a tranquilizer for large animals such as elephants. With a potency 10,000 times that of morphine and 100 times that of fentanyl, this drug will lead to increases in both fatal and non-fatal overdoses.⁸ A lethal dose of carfentanil is uncertain and would vary depending on the route of administration and other factors, however, a lethal dose of fentanyl for most people would be around 2 mg which would make the lethal dose of carfentanil much smaller.⁸



2 mg of Fentanyl, a lethal dose. A lethal dose of carfentanil would be significantly smaller

Stronger Drugs Smaller Packages

(U) Over the last 12-15 years, the US has seen a never-ending shift towards more potent drugs. A shift towards ultra-potent opioids typically entails the need to smuggle smaller quantities of the substance across borders. Consequently, the higher the potency, the smaller the amount that needs to be transported, thereby reducing the risk of seizures for drug traffickers. As a result, it is logical for drug traffickers to favor the local manufacturing and global distribution of highly potent substances. This phenomenon aligns with the concept known as the “Iron Law of Prohibition”, wherein efforts to disrupt and suppress the illicit drug trade drive the adoption of increasingly concentrated substitutes.⁹

Outlook, Implications, and Challenges

(U) Although carfentanil deaths are still relatively rare when compared to fentanyl deaths, the sharp increase in deaths is of notable concern if this is an indicator that carfentanil is beginning to infiltrate the U.S. illicit drug supply at higher rates than in the past. The shift toward greater potency likely indicates the direction of future illicit drug markets. In the last ten years, fentanyl has replaced heroin as the primary street opioid in North America.¹⁰ Now, Nitazenes and fentanyl analogs, some of which are far stronger than fentanyl, are increasingly being identified in toxicological screenings and hold the potential to replace fentanyl in the future.

For questions or to provide additional information please contact arorsa@gchidta.org.

Feedback can be provided at: <https://www.nhac.org/SurveySite/SurveyPage.aspx?LMSID=64babdce-6117-4b71-84b0-b4c0152b90c5>

This report was prepared based on information received from:

¹ [Detection of Illegally Manufactured Fentanyls and Carfentanil in Drug Overdose Deaths — United States, 2021–2024 | MMWR](#)

² <https://www.supplychaindive.com/news/operations-ports-coronavirus-who-trade/571484/>



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³ <https://www.randoxtoxicology.com/detection-of-carfentanil-increases-3400-from-2022-to-2023/>

⁴ <https://www.latimes.com/world-nation/story/2020-04-24/wuhan-china-coronavirus-fentanyl-global-drug-trade>

⁵ [Notes from the Field: Overdose Deaths with Carfentanil and Other Fentanyl Analogs Detected — 10 States, July 2016–June 2017 | MMWR](#)

⁶ [Carfentanil Outbreak — Florida, 2016–2017 | MMWR](#)

⁷ [Detection of Illegally Manufactured Fentanyls and Carfentanil in Drug Overdose Deaths — United States, 2021–2024 | MMWR](#)

⁸ [Officer Safety Alert](#)

⁹ <https://pubmed.ncbi.nlm.nih.gov/28735773/#:~:text=Under%20the%20Iron%20Law%20of,favouring%20ever%2Dmore%20compact%20substitutes.>

¹⁰ <https://ijmhs.biomedcentral.com/articles/10.1186/s13033-021-00512-9>



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