



Toxicology

Let's Talk Tox

A resource for drugs of abuse testing

The pandemic impacted many aspects of society and business, including the publication of the Let's Talk Tox newsletter; but we are excited to be back to update customers with important post-pandemic news.

Adolescent fentanyl-involved Deaths Reached Never Before Observed Levels Illicit drug supply and synthetic opioids like fentanyls at root cause

It is postulated that social isolation, healthcare service closures and disrupted drug trafficking fueled the increase in overdose deaths in adults and adolescents. The increasing illicit drugs contaminated highly potent synthetics opioids like fentanyl, fentanyl analogs, and tramadol.

- A recent analysis of drug overdose deaths conducted by Friedman et al.⁽¹⁾ noted that prior to the pandemic (2010) there were 518 deaths among adolescents, 2.40 per 100,000. Death rates remaining stable through 2019 with 419 deaths (2.36 per 100,000). During the pandemic overdose deaths increased to 954 (4.57 per 100,000) in 2020 and 1146 (5.49 per 100,000) in 2021. Between 2019 and 2020 overdose mortality increased by more than 94%.
- Among adolescents, when looking at the subcategorization of fentanyl-involved fatalities, the overdose deaths increased from 253 (1.21 per 100,000) in 2019 to 680 (3.26 per 100,000) in 2020 and to 884 (4.23 per 100,000) in 2021. Fentanyls were identified in 77.14% of adolescent overdose deaths, compared with 13.26% for benzodiazepines, 9.77% for methamphetamine, 7.33% for cocaine, 5.76% for prescription opioids, and 2.27% for heroin.
- Although the major driver of overdose deaths is still illicit fentanyls, a 'fourth wave' of high mortality involving stimulant-related deaths appears entwined with the ongoing opioid epidemic. Stimulant-related overdose is also increasing nationwide driven by methamphetamine and cocaine. Polysubstance use, e.g. the use of a stimulant along with an opioid is driving stimulant-related overdose.⁽²⁾

(1) Friedman, et al; JAMA. 2022;327(14):1398-1400. doi:10.1001/jama.2022.2847

(2) Ciccarone, Daniel Current Opinion in Psychiatry: July 2021 - Volume 34 - Issue 4 - p 344-350 doi: 10.1097/YCO.0000000000000717

For **Provisional Drug Overdose Death Counts** by state and class of drug, please refer to the state-specific database **CDC Provisional Data Nov 2021**

On-demand education resources



Curbing the Opioid Crisis: The Role of the Clinical Laboratory for Pain Management

In this webinar you will learn to understand the important advantages of using urine drug-screening technology to eliminate cross-reactivity with other drugs, the benefits of oral fluid testing, and the role of LC-MS for confirmation testing of urine and oral fluids.

Speaker: Alan Wu, Ph.D Professor Laboratory Medicine; Chief, Clinical Chemistry Laboratory, SFGH; Chief, Clinical Pharmacogenomics Laboratory, University of California San Francisco

This webinar was hosted by AACC and sponsored by Thermo Fisher Scientific.



Delta Dawn: The rise of alternatives to Delta 9 THC

Cannabis is one of the most widely used illicit drugs in the world and is associated with a variety of mental health problems, especially in youths. New analogs and commercially sold forms of marijuana are flooding the market, making it challenging to conduct drug screening.

Speaker: Pat Pizzo, Forensic Toxicologist DPB Consultants, Inc.

This webinar was hosted by NADCP and sponsored by Thermo Fisher Scientific.

Did you know?



Thermo Fisher Scientific's DRI Fentanyl II Drugs of Abuse Assay is now FDA-cleared on the Mindray High-volume Chemistry Analyzer and Indiko Plus Chemistry Analyzer. [Learn more](#)

Join us!

Thermo Fisher Scientific drugs of abuse professionals will be at the AACC in Chicago, this summer, July 26-28 at booth # 1413 and at the NADCP in Nashville, July 25-28 at booth # 103-107.

Learn more

Drugs of Abuse Testing matrices; urine, oral fluid, specimen validity and automated drug testing, as well as SAMHSA guidelines. [Find out more](#)

Let's Connect

Our goal is to deliver relevant information to keep you abreast of current trends, current research and publications, educational content, technical tips, and future events. This newsletter is the result of customer feedback, so we cordially invite you to send questions, comments, or suggestions for topics to help us better serve you.

Contact us at LetsTalkTox@thermofisher.com