

541 Words

The dynamic landscape of illicit drugs and its role in overdoses continue to be at the forefront of community efforts in maintaining public safety. However, there are topics that need more discussion to obtain better clarity on their influence on drug related deaths. This workshop is geared to raise awareness of these emerging drug threats that deserve more attention and focus (e.g., electronic cigarettes and their use with drugs, the role of polydrug in overdoses and the challenges they present in emergency rooms, drug concealment techniques, online sites, fentanyl supervised consumption sites).

We will be discussing how electronic cigarettes are being adopted by recreational drug consumers for their culture acceptability and concealability. E-liquids contain chemicals considered safe for oral consumption, creating an aura of safety for consumers. While the EVALI epidemic exposed the toxic nature of vaping, the e-cig industry has facilitated the public consumption of recreational drugs. While traditional analytical techniques have been used to characterize the chemical composition of e-liquid formulations and their resulting aerosols, a more rapid screening technique is highly desired. We will discuss the use of direct analysis in real time mass spectrometry (DART-MS) system and method for coupling directly with commercial electronic cigarettes without sample preparation.

In addition, we will discuss the complications of polydrug in toxicology testing and the challenges they present in death determination. We will present interesting postmortem case studies, involving polydrug overdoses and instances where an unexpected analyte was detected after the initial information told a different story. We will also explore the treatment of emergency department patients (with illicit drug overdose symptoms) and the possible unknown co-exposures that create challenges in treatment.

While mortality data, based on death certificates, are the traditional means of tracking the opioid/drug overdose crisis for law enforcement and public health, other innovative ways to obtain and evaluate data are being explored. We will be discussing how real time fatal overdose surveillance uses investigation, in-house drug and paraphernalia testing, rapid toxicology, and family interviews to detect emerging threats and more quickly certify overdose deaths. Another example is the use of online resources to provide insights into next generation threats, especially those related to drug use and emerging synthetic drugs. Online web market sites detail in real-time the newest drugs being sold, most of which are produced to evade national and international regulations. As drugs appear on these sites, discussions on drug use forums (e.g., Reddit) often follow and may be accompanied by anecdotal information about drug activity and adverse effects. We will discuss how monitoring these data streams has proven useful for predicting the next wave of drug threats and better preparing forensic laboratories.

Another area often overlooked is the complex concealment techniques used by drug traffickers to circumvent law enforcement. With constantly changing drug trends, varying supply routes, and a wide variety of concealment methods, intercepting narcotics coming into the country is never a straightforward endeavor. An overview of some of the more unique concealment methods utilized by drug traffickers will be presented, as well as some of the sampling and extraction methods used to prepare these submissions for analyses.

In conclusion, the material presented in this workshop will be geared to bring more clarity to some of the unseen threats affecting drug related deaths.