



K64 Fentanyl Epidemic on the West Coast: Accidental Overdose Death Trends in San Francisco From 2008 to 2019

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Learning Overview: After attending this presentation, attendees will understand how fentanyl has become an alarming epidemic on the West Coast, as well as what the trends within the drug use and deaths are. Additionally, this presentation will highlight how the fentanyl epidemic impacts local communities, medical examiner offices, and public health as a whole.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by offering insight to trends among sole fentanyl consumption, as well as co-consumption with other drugs, such as medicinal opioids, heroin, methamphetamine, and cocaine. These trends may shed light onto how agencies can better address the epidemic in local communities, including the implementation of preventative strategies. Importantly, this data highlights how forensic laboratories can better observe the issue through an efficient and systematic toxicological approach. Furthermore, this presentation may highlight the need for more uniformity across and within forensic labs in terms of medical death definitions (both cause and manner of death classifications) and methods and regime of toxicological analyses.

Fentanyl is most widely known for its medical uses, but there has been a trend, both locally and nationwide, that illicit drugs are being laced with fentanyl, and agencies are more often detecting fentanyl with other illicit drugs. The addition of fentanyl and fentanyl analogs into, or consumed with, other drug products can produce potentially dangerous consequences, even to opioid-tolerant individuals who may be unaware of such additions.

It was the goal of this research to uncover the trend of fentanyl-related deaths in the City and County of San Francisco from 2008 to 2019. Since 2014, there has been a sharp increase in fatal overdoses involving fentanyl in San Francisco, which surpassed fatal overdoses involving heroin and/or opioids by 2016. In 2015, 2016, 2017, and 2018, there were approximately 18, 23, 43, and 104 deaths involving fentanyl, respectively, with almost all of those deaths being classified as accidental overdoses.

Opioid-like overdose symptoms in stimulant users led to the discovery of fentanyl-laced cocaine and methamphetamine, where many users were hospitalized and/or died as a consequence. From 2016 onward, the presence of fentanyl in methamphetamine- and cocaine-related deaths has also increased significantly.

Outbreaks of fentanyl analogs have also been observed since late 2015 when the ingestion of furanyl fentanyl by a young male in 2017 led to his death. Fentanyl analog inclusion was typically seen in counterfeit medication or recreational pills. Like methamphetamine and cocaine users, victims seemingly had no indication of previous fentanyl or fentanyl analog use, highlighting that tolerance to such potent fentanyl and fentanyl analogs plays a factor in opioid-naïve users.

The results have shown that there indeed is an upward trend of the detection of fentanyl in death cases, both in accidental overdoses and non-accidental overdoses. These trends must first be detected, then considered, and continually captured for the interests of law enforcement agencies, forensic laboratories, and, importantly, given to public health agencies for drug harm reeducation measures.

Fentanyl Epidemic, Forensic Toxicology, Opioids