



### **B158 An Investigation into Darknet Markets: Their Use in Predicting Emerging Drug Trends and the Correlation With Discussion on Surface Web Drug Forums**

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After attending this presentation, attendees will understand the information that darknet drug markets and surface web drug forums can provide in predicting ever-changing trends in drug use.

This presentation will impact the forensic science community by highlighting the role vendors, buyers, and forum users on darknet markets and drug forums play in driving developing drug trends. This research seeks to bring to light the changes in drug trends over time through the discussions found on both drug forums and darknet markets.

Darknet markets, also known as cryptomarkets, are online marketplaces that are hidden from normal web browsing and can only be accessed through the use of privacy software such as The Onion Router (Tor). Surface web drug forums are found through normal search engines and are communities in which drug users and enthusiasts can discuss their drug habits as well as their experiences with various illicit substances. Both locations offer their members a place to openly converse on the new substances they are ingesting to create a euphoric effect; however, darknet markets allow for the open selling of the illicit substances, while the drug forums are restricted to discussion only. Despite the added anonymity Tor software provides, most darknet market drug forum discussions are focused on vendor reviews rather than discussion of the euphoric experiences.

The correlation between the drug trends and the discussion contained within the forums and markets was analyzed via different means. The information contained on the surface web forums was collected using a forum crawler, while statistics were generated for the drug listings on the darknet markets. In addition to total listings for the major drug classifications, vendor and buyer information was browsed to look for location-based differences in drug popularity. An open source forum crawler was modified for this research to collect the data found on popular drug forums. The data was then analyzed using data mining techniques to search for popular keywords that were previously unknown. A lexical repository was created to store the information found.

Due to the constant flux of popular drug use and the increased law enforcement activity targeting darknet markets, the up-to-date results will be reported during the presentation. Multiple darknet markets have been investigated throughout the course of this research to provide a broader collection of the illegal drug trade. The well-established prevalent opioid use on the East Coast flowing in from European vendors and the fact that the West Coast suffers from a high influx of amphetamine derivatives supplied by Asian vendors was verified through this research, allowing for the validation of the methodology.

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#### **Darknet Markets, Drug Forum, Drug Trends**