



### B137 Drug Trends in Correctional Facilities: An Assessment of Forensic Drug Chemistry Casework

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**Learning Overview:** After attending this presentation, attendees will be able to discuss drug trends observed in a correctional facility's seized drug casework, with particular focus on the trends of synthetic cannabinoids and other controlled substances in the Mid-Atlantic region.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by increasing awareness among forensic scientists of the trends in controlled substances identified in exhibits received from correctional facilities from September 2015 to June 2018.

Both peer-reviewed literature and media reports have suggested that there is an increasing use of synthetic cannabinoids and other NPS drugs in correctional facilities in several countries. Possible explanations for their popularity are their potency and the ease with which they can be smuggled into these facilities, together with the fact that they will not be detected in routine drug screening procedures. Synthetic cannabinoids are typically powders, but because of their potency, solutions of the drug can be sprayed onto plant-like material or increasingly onto paper for smuggling and ingestion. Use of synthetic cannabinoids in correctional facilities is a serious public health issue, due to the effects of the drug, which can include aggression, agitation and dissociation that can result from the consumption of the drugs along with more serious life-threatening effects of seizure, arrhythmia, and death.

The goal of this project was to determine if there were trends in the type of substances submitted from correctional facility-type locations submitted to our laboratory. Example locations include correctional facilities, prisons, and jails. Another aim of the project was to determine if the observations made were localized to particular facilities or if they were seen across multiple facilities, counties, and states. Data for this project was obtained from the Novel Psychoactive Substances (NPS) program at NMS Labs. The data from the NPS program was compiled from forensic chemistry casework and was extracted from Laboratory Information Management System (LIMS) at NMS Labs. The results obtained for this research came from data obtained using gas chromatography/mass spectrometry (GC/MS).

Compilation of the data resulted in correlating trends in the Mid-Atlantic region. From a state in the Mid-Atlantic region, synthetic cannabinoids were confirmed in 127 out of 3,468 cases (3.7%) submitted to the NMS laboratory. Fifty-five percent (55%) of those cases containing synthetic cannabinoids came from seven correctional facilities. Looking specifically at those correctional facilities, 5-Fluoro ADB, FUB-AMB (AMB-FUBINACA), and ADB-FUBINACA were the top synthetic cannabinoids confirmed. The trend of synthetic cannabinoids observed from correctional facilities in this state correlates to the findings from non-correctional facility submissions in this state as well. Of the non-synthetic cases submitted to the correctional facilities in this state, the other major compounds confirmed were marijuana, THC (Delta-9-tetrahydrocannabinol), hashish, and PCP (Phencyclidine).

Looking at a different state in the Mid-Atlantic region, 92 cases came from one county correctional facility. At this county correctional facility, 5-Fluoro ADB, FUB-AMB (AMB-FUBINACA), and ADB-FUBINACA were also the top synthetic cannabinoids confirmed. Looking at that county as a whole, those same synthetic cannabinoids were the top synthetic cannabinoids observed in the county. Outside of synthetic cannabinoids submitted to this correctional facility, approximately half of the non-synthetic submissions were pharmaceuticals, with buprenorphine and naloxone being the top pharmaceuticals being confirmed. Some of the other non-synthetic compounds that were confirmed included heroin, methamphetamine, alprazolam, fentanyl, and cocaine.

From September 2015 to June 2018, it was observed that 5-Fluoro-ADB was the highest synthetic cannabinoid seen in forensic chemistry drug casework submitted to our laboratory nationally, as well as in the specific correctional facilities investigated in the Mid-Atlantic region. In conclusion, trends in synthetic cannabinoids in correctional facilities have similar trends to the synthetic cannabinoids confirmed in non-correctional facility casework. These trends and observations are not localized to a single facility but seen in multiple facilities across state and county lines. The synthetic cannabinoids confirmed in correctional facility cases correlate to the synthetic cannabinoids seen in forensic drug chemistry casework overall that was submitted.

#### Correctional Facilities, Synthetic Cannabinoids, Controlled Substances