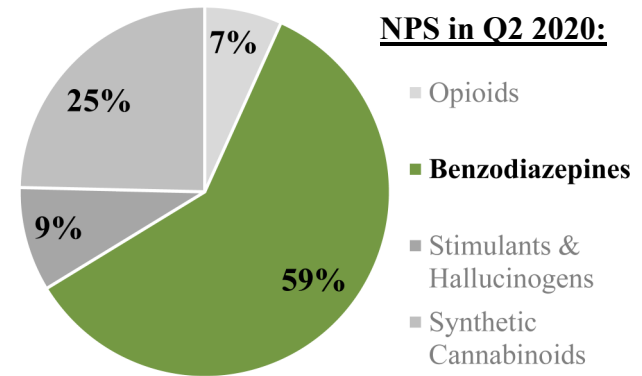


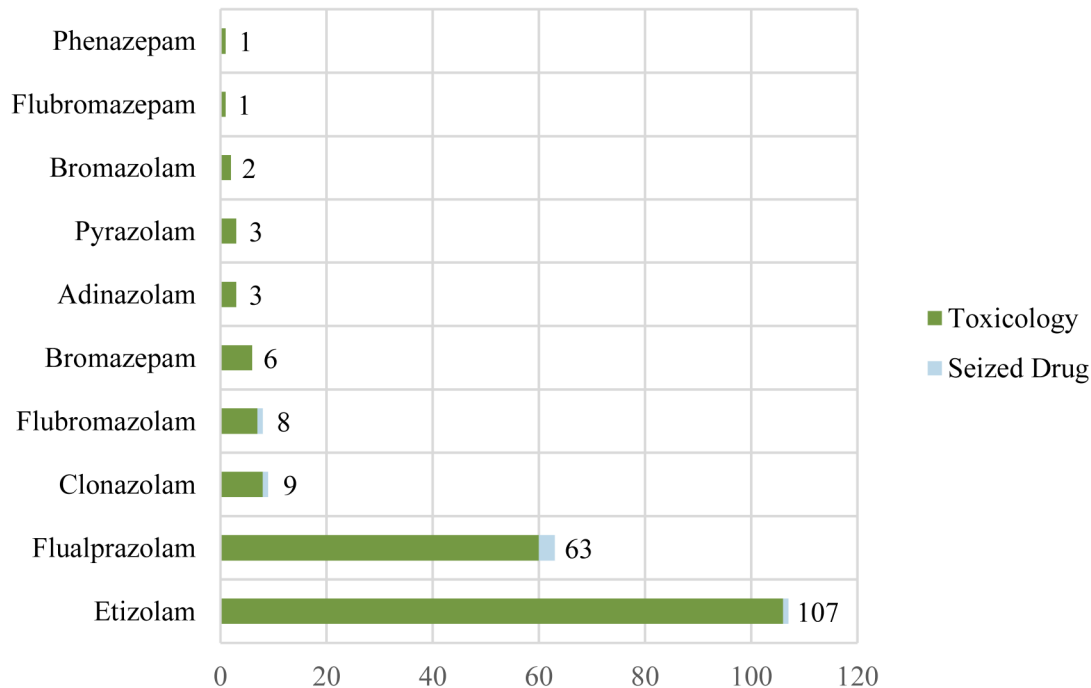
Purpose: This report provides up-to-date information regarding the status of NPS benzodiazepine prevalence and positivity within the United States.

Overview: Novel psychoactive substances (NPS), including NPS benzodiazepines, continue to pose great challenges for forensic scientists, clinicians, and public health and safety personnel. NPS benzodiazepines have been implicated in an increasing number of adverse health events, marked by emergency room admissions and death investigations, especially when ingested in combination with opioids. Maintaining a current scope of analysis can be challenging, requiring comprehensive analytical methodologies and reference materials for identifications.

Objective: Our laboratory employs novel approaches for the analysis of drugs in biological samples and seized materials using comprehensive non-targeted data acquisition by gas chromatography mass spectrometry (GC-MS) and liquid chromatography quadrupole time-of-flight mass spectrometry (LC-QTOF-MS). The scope of analysis contains more than 800 drugs, including a vast majority of NPS and their metabolites. This approach allows for real-time identification of new benzodiazepines and further data analysis of important trends. This project was conducted in collaboration with the toxicology and criminalistics laboratories of NMS Labs. Forensic case types linked to these results include illicit drug investigations, medicolegal death investigations, and/or driving under the influence of drugs (DUID) investigations. The results in this report represent the total number of NPS identifications at CFSRE during this quarter, including those from sample-mining, data-mining, and/or esoteric testing.

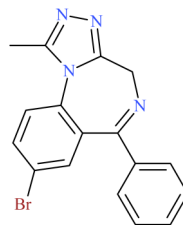


NPS Benzodiazepine Positivity



**New Discovery
in Q2 2020:**

Bromazolam →



Retrospective data-mining has uncovered 15 positive identifications for **Bromazolam** in toxicology samples since September 2019.

NPS Benzodiazepine Combinations

Combination	Frequency
Etizolam + Fentanyl	53
Etizolam + Stimulant (Cocaine or Methamphetamine)	51
Flualprazolam + Fentanyl	24
Etizolam + Traditional Benzodiazepine (Alprazolam or Diazepam)	24
Etizolam + Mitragynine	14

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