OBJECTIVE: A partnership between the American College of Medical Toxicology (ACMT) and the Center for Forensic Science Research and Education (CFSRE) was established to comprehensively assess the role and prevalence of synthetic opioids and other drugs among suspected overdose events in the U.S.

SAMPLE SOURCE: Patients presented to EDs within ACMT’s Toxicology Investigators Consortium (ToxIC) experiencing a suspected opioid overdose. Residual, discarded biological samples were obtained for testing against an expansive library of drugs and other substances. Our findings provide a near real-time assessment of the drug market and allude to resulting implications on clinical institutions.

TOXICOLOGY TESTING: Analysis was performed via liquid chromatography quadrupole time-of-flight mass spectrometry (LC-QTOF-MS). The scope of testing targeted more than 1,200 drugs, including a vast majority of NPS and metabolites. Drug classes included opioids, benzodiazepines, cannabinoids, stimulants, and hallucinogens, among other drugs.

ACKNOWLEDGEMENTS: The report was prepared by Alex Marrin, Sara Walton, Alex Krotulski, Paul Howe, Jeffrey Beert, Kim Alys, Rachael Calabrese, Sharon Campanian, Alyssa Falaris, Joseph Carpenter, Alexandra Amsallem, Jeremie Buchanan, Ryan Judge, Michael Leone, Evan Schwarz, Diane Calello, Christopher Weesner, Sativa Busman, Robert Hendrickson, Aderinike Hughes, Brandon Stastny, Alyssa Weyn, and Barry Logan. The authors acknowledge ACMT personnel, ToxIC investigators, and CFSRE staff for their contributions. Funding was received from the National Institute on Drug Abuse (NIDA) of the National Institutes of Health (NIH), Award Number: 1U01DA048009-01. No commercial relationships are known to exist among the authors and the firms/organizations for which they are employed. Statements made in this report do not necessarily reflect those of NIDA, NIH, CDC, or other agencies. For more information, contact www.npsdiscovery.org or visit www.acmt.org.

SUGGESTED CITATION: Marrin et al. (2023) Toxicology Study Group — Quarterly NPS Report Q4 2023, American College of Medical Toxicology, United States.