

Synth-Opioids Real-Time Communication Network (Synth-Opioids)

2021 ANNUAL REPORT

About

The National Forensic Laboratory Information System (NFLIS) Drug Enforcement Administration (DEA) Synth-Opioids Real-Time Communication Network is a practitioner-driven, real-time communication platform focused on emerging drugs. The NFLIS DEA Synth-Opioids Real-Time Communication Network (Synth-Opioids) creates opportunities for swift information exchange and permanent, searchable storage of discussions between the forensic science community and relevant stakeholders.

With over 500 members from 11 countries including 48 U.S. States and the District of Columbia, Synth-Opioids brings together Federal, State, local, and private sectors and facilitates communication among the areas of forensic chemistry, toxicology, pathology, jurisprudence, research, public health, and law enforcement.

Summary of Forum Interactions

- Members assisted each other in attempting to identify 11 unknown substances.
- Six laboratory posts about new psychoactive substance (NPS) identifications or tentative identifications (outside of agency reports) were shared on the forum.
- Members created four posts about analytical challenges or recommendations that include analytical parameters for specific substances and requests for reference spectra.
- Thirty-three agency reports, including public alerts from NFLIS, the Center for Forensic Science Research & Education, and the DEA Toxicology Program, as well as DEA Emerging Threat Reports, were disseminated on the forum.
- Three formal Synth-Opioids announcements focusing on *ortho*-chlorofentanyl; 3-,4-methylenedioxy-PV8; and 2-naphthyl U-47700 were circulated based on user identifications of initially unknown compounds.
- The Synth-Opioids 2020 Annual Report was posted on the forum.

Figure 1. New Topics on Synth-Opioids

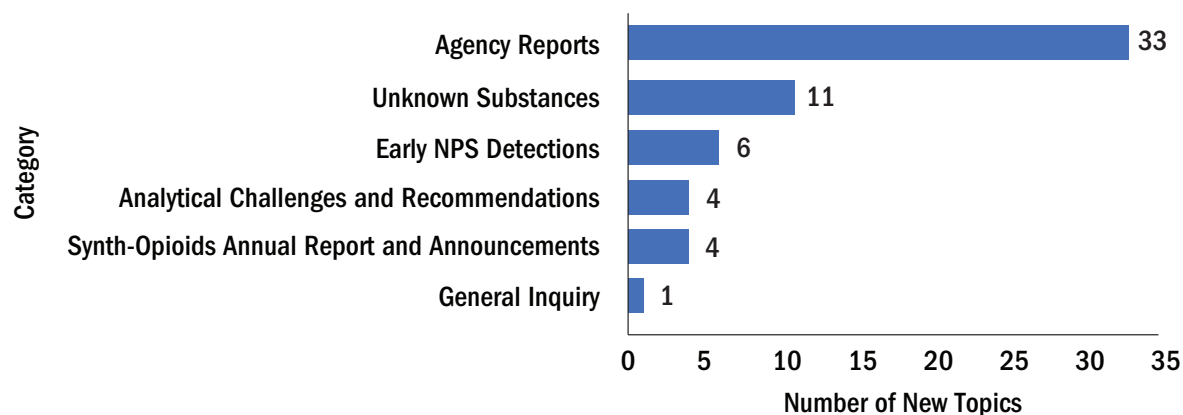


Figure 2. 2021 Synth-Opioids Participation

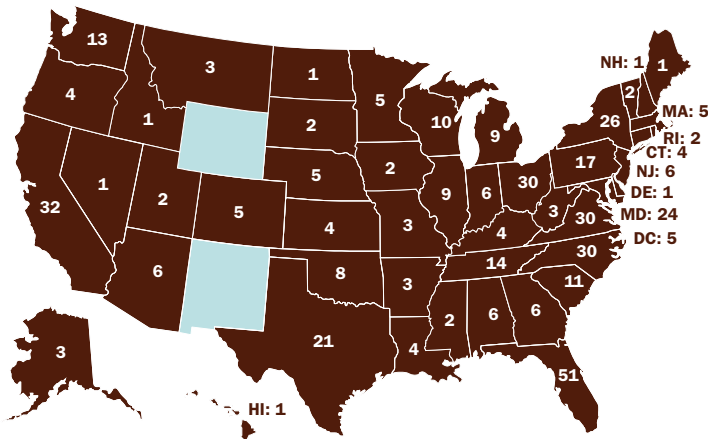


Table 1. Participation Metrics

540	Total Members
307	New Members in 2021
14	New U.S. States in 2021
11	Total Countries
3	New Countries in 2021



Figure 3. Participation by Affiliation

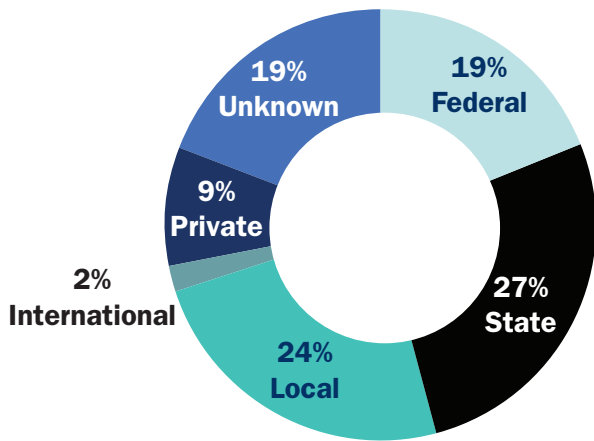


Table 2. Participation by Discipline

Number	Discipline
187	Chemistry
58	Toxicology
32	Law Enforcement
27	Public Health or Epidemiology
17	Research or Academics
8	Pathology
4	Statistics
3	Psychiatry or Behavioral Science
2	Jurisprudence
33	Other
169	Unknown

Webpage Metrics

After moving from an e-mail-based system in 2020, Synth-Opioids is now a fully functional web-based communication network. Webpage metrics show that the top search terms in 2021 were Captagon, 4F-MDMB-BUTICA, Florida, unknown, 4F-MDMB-BICA, isotonitazene, and fluorofentanyl.

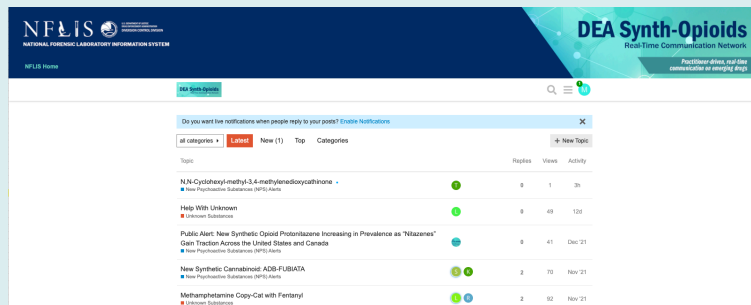


Table 3. Webpage Metrics

33,969	Consolidated Page Views
2,765	User Visits
841	Daily Engaged Users
59	New Topics in 2021

2021 IMPACT STORY

In May 2021, a forensic chemist from the Illicit Drug group of Queensland Health Forensic and Scientific Services (QHSS) saw a post on Synth-Opioids from the Ohio Attorney General's Bureau of Investigation about detection of a new synthetic opioid, 2-naphthyl U-47700, appearing in their case samples. Detections of this compound in Australia had been verified by nuclear magnetic resonance at the National Measurement Institute (NMI), and NMI was preparing to submit a case study for publication. By referencing the Synth-Opioids post in the case study, NMI also reported that there had been detections of 2-naphthyl U-47700 in conjunction with heroin internationally. In a follow-up post, QHSS provided a link to the publication and alerted the Synth-Opioids community that this compound had been seen with etizolam and/or methylsulfonylmethane and is known as beta-U10.

2021 Forum Discussion Highlights

During 2021, members discussed 11 unknown substances. The following are examples of these discussions:

- Unknown substance observed with base peak (BP) m/z 229 from confiscated paper. Potentially ADB-HEXINACA.
- Unknown substance observed in powder and tablets, with BP m/z 176 and potential molecular weight of 233 g/mol. No color reaction observed with the Marquis color test. Potentially hydroxetamine.
- Unknown substance with BP m/z 276 that eluted prior to fentanyl. Other compounds identified in samples were tramadol, xylazine, and chloro-phencyclidine. Potentially *N*-propionyl xylazine.
- Unknown substance with BP m/z 257 observed in clandestine alprazolam tablets: "R039." ADB-BUTINACA identified in sample.
- White powder containing sugar, 1-propionyl-4-anilinopiperidine, trace cocaine, possible *N*-tert-butyl or *N*-propionyl norfentanyl, 4-ANPP, and fentanyl.
- Potential 5F-MDA-19 (5F-BZO-POXIZID) seen in central Florida along with ADB-BUTINACA.

Other discussion topics included the following:

- Request for spectra of EDMB-PINACA, fluoro-valeryl fentanyl, and AEP-PINACA.

- Request for analytical information on 2,3-methylenedioxy-alpha-ethylaminobutophenone, *N*-methylethylone, and 3,4-methylenedioxy-alpha-methylamino-isovalerophenone.
- Request for information on isotonitazene deaths in the United States.
- 2-naphthyl U-47700 identified in cases in Ohio.
- ADB-FUBIATA (FUB-ACADB, AD-18) identified in yellow granular material on paper.
- Identified 3,4-methylenedioxy-PV8 in a brown, rock-like substance. Caffeine was the main component, and cocaine was a minor component.
- Several posts on the increase of *para*-fluorofentanyl or an isomer from DEA Southeast Laboratory (seized drug), Miami-Dade Medical Examiner Toxicology Laboratory (toxicology), and Solano County District Attorney Bureau of Forensic Services (seized drug). Most were observed with fentanyl. Other substances that have been identified in combination with *para*-fluorofentanyl or an isomer were heroin, tramadol, cocaine, alprazolam, 6-AM, xylazine, methamphetamine, oxycodone, eutylone, MDMA, and mitragynine.
- Tentative identification of *ortho*-fluorofentanyl in north Florida. Confirmed in cases in Ohio.
- Di-chlorinated methaqualone derivative, SL-164, in capsule pill form identified in an emergency department patient sample from San Diego, California.

For More Information

Questions about this information are welcome and can be directed to synth-opioids@dea.gov or Agnes Winokur at 305-597-3304.

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How To Join the Discussion

DEA is pleased to continue to work with our partners in the forensic community to address the challenges associated with the rapid evolution of the illicit drug market. Those interested in being a member of the Synth-Opioids community can visit the Synth-Opioids website at <https://synthopioids.nflis.deadiversion.usdoj.gov/> and request an account. Potential members will be asked to share their forensic discipline, affiliation, and a curriculum vitae (CV) or résumé.