

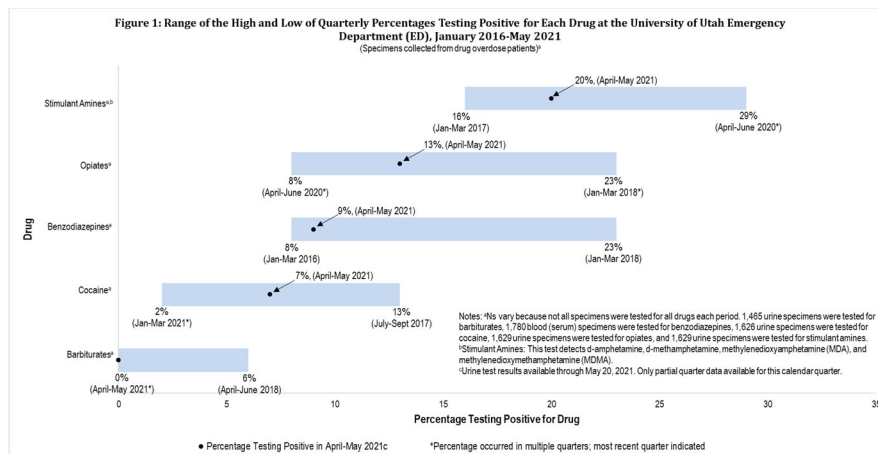
## First Results from University of Utah Hospital Show Stimulants Most Common Drug Detected by Hospital; Fentanyl Rare

### Method

University of Utah Hospital, located in Salt Lake City, UT, submitted electronic health records (EHRs) containing urinalysis results for 1,884 specimens tested between January 2016 and May 2021 that met the study eligibility criteria. The hospital typically screens specimens separately for five drugs: barbiturates, benzodiazepines, cocaine, opiates, and stimulant amines. The stimulant amines test detects amphetamine, methamphetamine, methylenedioxyamphetamine (MDA), and methylenedioxymethamphetamine (MDMA). The barbiturates, cocaine, opiates, and stimulant amines screens are conducted using urine and the benzodiazepines screen is conducted using blood (serum). Not all specimens are tested for all drugs. Therefore 1,465 urine specimens were tested for barbiturates, 1,780 blood (serum) specimens were tested for benzodiazepines, 1,626 urine specimens were tested for cocaine, 1,629 urine specimens were tested for opiates, and 1,629 urine specimens were tested for stimulant amines. De-identified EHRs were obtained for patients 18 years or older presenting to the ED with a complaint of “overdose” or “naloxone” and/or any ICD 10-CM T36-T50 initial encounter diagnosis code of overdose with accidental (unintentional), intentional self-harm, or undetermined intent that had drug test results available. EHRs were also obtained from untested patients meeting the study eligibility criteria but these patients are not included in the analyses presented in this bulletin. See the EDDS website for additional information about EDDS methods.

### EHR Quarterly Results<sup>1</sup>

Figure 1 shows that in the partial quarter of April-May 2021, positives for benzodiazepines (9%) and barbiturates (0%) were near/at their lowest levels



since January 2016. Stimulant amines peaked at 29% in April-June 2020, and have been decreasing since then, with 20% positive in April-May 2021, approaching their lowest levels. Combined test results from all patient EHRs submitted between January 2016-May 2021 showed that patients testing positive for benzodiazepines or opiates were oldest (median ages of 37 and 37, respectively) and those positive for cocaine (29) or barbiturates (27.5) were youngest. Specimens positive for cocaine contained the greatest number of total drugs (mean=2.01), while specimens positive for barbiturates contained the least number of total drugs (mean=1.45). Over the 6-year period, 43% of specimens positive for cocaine also contained stimulant amines and 43% also contained opiates. 42% of opiate positive specimens also contained stimulant amines. The opiate screen does not detect fentanyl.

### EDDS Expanded Re-testing Results

The EDDS laboratory received from the hospital 95 specimens that had tested positive for any drug in their 7-drug screen (hospital positives) and 49 specimens that had tested negative for all drugs (hospital negatives). EDDS re-tested them for approximately 500 drugs. The specimens were sampled from consecutive patients seen in July-September 2021.\* Notable results from the expanded re-testing include:

- The hospital positive specimens were most likely to contain amphetamine (73%) and/or marijuana (36%); morphine (26%) and fentanyl (1%) were less common.
- Hospital negative specimens contained few drugs, primarily marijuana (33%) or lorazepam (10%).\*\*
- Gabapentin was found in 32% of the hospital positive specimens and 18% of the hospital negative specimens.
- Among hospital positives, marijuana and cocaine were more likely to be found in patients 30 years or younger; persons 51 or older were least likely to test positive for amphetamine.
- Some detected drugs may have been taken under medical supervision.

\*These specimens were not selected according to the eligibility criteria for selecting the EHRs and represent a smaller time period. These results are therefore not directly comparable to those from the hospital’s EHRs.

\*\*The EDDS cutoff levels were more sensitive than those used by the hospital’s laboratory and may have contributed to EDDS detecting more drugs.

<sup>1</sup>All tables and figures are available online at: <https://cesar.umd.edu/landingtopic/edds-hospitals-data>

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## Implications

Consistent with data from other agencies across Utah, stimulants are involved in a significant proportion of overdoses in ED patients. In Utah, methamphetamine overdose deaths are just as common as deaths from prescription opioids, heroin, and fentanyl.<sup>2</sup> While the opioid epidemic has rightly received significant attention, methamphetamine use and overdose is a major public health issue in desperate need of additional research, funding, and treatment options. Additionally, opioid and methamphetamine use should not be seen as isolated or separate issues, rather many patients use both types of drugs. This is underscored by our finding that almost half (42%) of the opiate positive specimens also tested positive for stimulant amines. Polydrug positives have been consistently detected in all hospitals studied by EDDS.

Synthetic cannabinoids (also known as “spice”) were detected by EDDS in a small number (7%) of the hospital positive re-tested specimens, but healthcare providers should be aware that these drugs are not detected by routine clinical screens.

Gabapentin was also commonly detected by the EDDS re-testing. It is often used in combination with other drugs to potentiate euphoric effects or for its sedating properties. Use of gabapentin with other sedating drugs puts patients at increased risk of overdose. As it is not detected by routine screens, healthcare providers should also ask patients about gabapentin use along with other substances. It is not possible to determine from the EDDS results whether the presence of any prescribed drugs were due to illicit use, unintentional exposure, or administration by a physician.

## EDDS Overview

EDDS provides the nation with a new tool to display near real-time trends in a hospital’s urine drug test results and to discover emerging drugs that may not be included in a hospital’s routine urinalysis screens. This information is vital to ensuring that hospitals and localities are better prepared to understand the local drug problems they and their patients face. EDDS obtains quarterly exports of de-identified test results from emergency department patients’ electronic health records (EHRs) and annually re-tests 150 de-identified urine specimens for almost 500 drugs. This model was pilot tested in seven Maryland hospitals and is now being launched in other states. An *EDDS Bulletin* will be published to announce the release of each hospital’s detailed findings.

Go here for all EDDS publications and current data: <https://cesar.umd.edu/landing/EDDS>.

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<sup>2</sup>Utah Drug Monitoring Initiative. (2020). *2019 Annual Report*. Unpublished.