

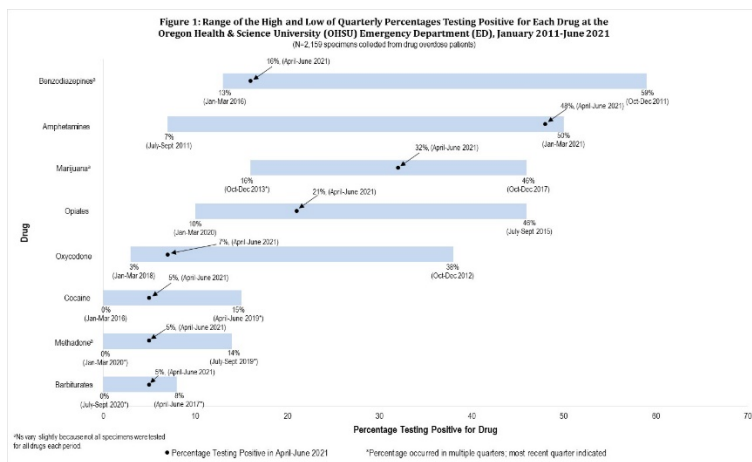
Electronic Health Records from the Oregon Health & Science University (OHSU) Hospital Reveal that Amphetamine Positives are near the Top of their 11-year Range and Opiates have Receded, but Miss Fentanyl

Method

Oregon Health and Science University Hospital (OHSU), located in Portland, OR, submitted electronic health records (EHRs) containing urinalysis results for 2,159 specimens tested between January 2011 and June 2021 that met the study eligibility criteria. The hospital routinely screens specimens for 8 drugs: amphetamines, barbiturates, benzodiazepines, cocaine, marijuana, methadone, opiates, and oxycodone. De-identified EHRs were obtained for patients 18 years or older presenting to the ED with a complaint of “overdose” 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 urine drug test results available. EHRs were also obtained from untested eligible patients but are not discussed in this bulletin. See the EDDS website for additional information about the EDDS methods.

EHR Quarterly Results¹

Figure 1 shows that amphetamine positives, at 48% in the most recent quarter, are near their highest level reached since their low in January, 2011. In contrast, opiate positives peaked at 46% in July-September 2015 and in April-June 2021 were at 21%



Benzodiazepines and oxycodone were near their lowest levels in the current quarter. Analyses of all results combined from the past 11 years showed that patients testing positive for oxycodone (median age=46.0), barbiturates (44.5), and methadone (43.5) were the oldest. Patients positive for cocaine (35.0), amphetamines (33.0) or marijuana (31.0) were the youngest. Specimens positive for methadone were most likely (90%) to contain other drugs, while marijuana positive specimens were least likely (66%) to contain other drugs. Opiates were also detected in specimens positive for cocaine (37%), benzodiazepines (36%) and amphetamines (41%). In addition, 60% of oxycodone-positive specimens also tested positive for opiates, a result that may reflect some cross-reactivity between the screens for these drugs.

Implications

These first EDDS EHR results show that in the quarter April-June 2021, amphetamine positives came close to their 11-year high. For the last two quarters about one half of the ED overdose patients tested positive for amphetamines. Furthermore, almost half of

EDDS Expanded Re-testing Results

The EDDS laboratory received from the hospital 128 specimens that had tested positive for any drug in their 8-drug screen (hospital positives) and 47 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 between April and July 2021. * Notable results from the expanded re-testing include:**

- Fentanyl, a drug not included in the hospital’s screen, was detected in both hospital positive (18%) and hospital negative (9%) specimens.
- Approximately two-thirds of the hospital positive specimens tested positive for marijuana (66%) and/or amphetamines (62%).
- 32% of the hospital negative specimens tested positive for benzodiazepines, primarily lorazepam (28%).
- Gabapentin was found in both hospital positive (19%) and hospital negative (13%) specimens.
- Among hospital positives, patients ages 31 to 50 were more likely to test positive for morphine; but marijuana was detected similarly in all age groups.
- 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.

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

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these persons, with a median age of 33, also tested positive for opiates. These analyses confirm the pattern of poly-substance positives found in other EDDS research. However, drugs can be adulterated by dealers, so testing positive for several drugs does not necessarily mean that a person knowingly ingested all of them. Marijuana was the drug least likely to be found along with other drugs, and was detected in all age groups. However, marijuana may have been used days or weeks prior to the ED visit. Patients testing positive for marijuana merit further study to determine how the drug may have contributed to their adverse health events. EDDS re-testing yielded similar findings with many patients testing positive for amphetamines and/or marijuana. Fentanyl was detected in 18% of the hospital positive specimens and 9% of the hospital negative specimens. The hospital should consider whether it would be useful to add fentanyl to their routine testing panel. It is not possible to conclude from the EDDS urinalysis results whether any prescribed drugs detected (such as benzodiazepines and/or gabapentin) were taken under a doctor's supervision.

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>.