

December 1, 2021



Center for Substance Abuse Research

University of Utah Hospital

Drug Test Results from the Hospital's Electronic Health Records, January 2016-May 2021

University of Utah Hospital (Salt Lake City, Utah) submitted drug test results for 1,884 specimens tested for at least one of five drugs by the hospital laboratory for the period of January 1, 2016 through May 20, 2021 that met the study eligibility criteria. De-identified data were obtained for patients 18 years or older presenting to the emergency department 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 a drug test conducted with valid drug test results available. Not all specimens were 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.

Highlights from Table 1 and Figures 1 and 2

- In the April-May 2021 partial quarter, benzodiazepines (9%) were near their 6-year low of 8% (Table 1).
- Stimulant amines (20%) were the most prevalent drug in the April-May 2021 partial quarter (Figure 1).
- Benzodiazepines and barbiturates are near/at the bottom of their 6-year ranges (Figure 2).

Figures 3, 4, and 5 analyze combined data from January 2016-May 2021

- Patients positive for benzodiazepines and opiates had the highest median ages (37 and 37, respectively, Figure 3).
- Cocaine and opiate positive specimens contained the largest number of drugs (mean=2.01 and 1.78 respectively, Figure 4).
- 43% of cocaine positive specimens also contained stimulant amines and 43% contained opiates. 42% of opiate positive specimens also tested positive for stimulant amines (Figure 5).

The Emergency Department Drug Surveillance (EDDS) project is funded by the Executive Office of the President, Office of National Drug Control Policy (ONDCP), Cooperative Agreement #G2099ONDCP09A awarded to Center for Substance Abuse Research (CESAR) at University of Maryland, College Park. The information and opinions expressed herein are the views of the authors and do not necessarily represent the views of ONDCP or any other agency of the Federal Government. For additional data: <https://cesar.umd.edu/landing/EDDS>.

**Table 1: Drugs Detected in Specimens from University of Utah
Emergency Department (ED) Drug Overdose Patients, By Quarter**

(Specimens collected from January 2016 through May 2021)^a

Quarter (Range of number of specimens tested ^a)	Stimulant Amines ^{a,b} %	Opiates ^a %	Benzodiazepines ^a %	Cocaine ^a %	Barbiturates ^a %
January-March 2016 (93-110)	21	17	8 L	12	0
April-June 2016 (92-94)	24	23	22	3	1
July-September 2016 (64-77)	21	22	17	9	0
October-December 2016 (73-82)	27	23	22	4	0
January-March 2017 (73-86)	16 L	15	14	4	0
April-June 2017 (79-97)	23	17	22	7	1
July-September 2017 (71-85)	29	17	13	13 H	0
October-December 2017 (88-100)	24	15	13	7	2
January-March 2018 (60-71)	22	23 H	23 H	6	5
April-June 2018 (52-68)	23	8	15	6	6 H
July-September 2018 (93-114)	21	13	15	2	1
October-December 2018 (49-63)	21	14	11	5	0
January-March 2019 (60-81)	20	9	14	3	2
April-June 2019 (66-74)	23	10	14	7	2
July-September 2019 (81-100)	19	9	14	9	1
October-December 2019 (60-75)	23	10	11	4	2
January-March 2020 (74-86)	23	14	12	5	0
April-June 2020 (54-70)	29 H	8 L	14	5	2
July-September 2020 (61-76)	27	20	12	7	5
October-December 2020 (53-69)	26	16	9	8	2
January-March 2021 (45-68)	24	20	18	2 L	4
April-May 2021 ^c (23-34)	20	13	9	7	0 L

Notes: H: Highest %. L: Lowest %. If there are multiple highs or lows, the most recent quarter is selected as the high/low.

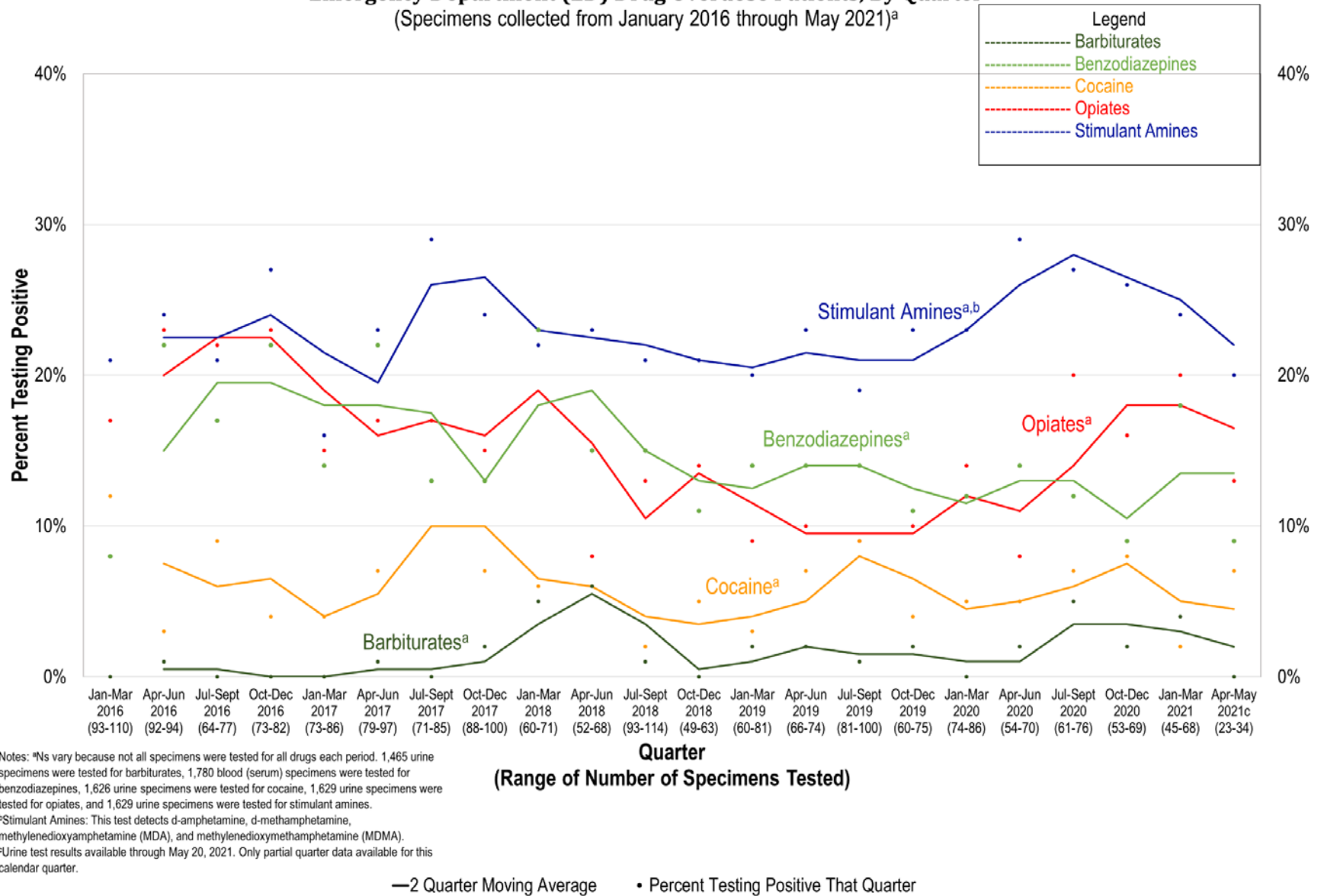
^aNs vary because not all specimens were tested for all drugs each period. 1,465 urine specimens were tested for barbiturates, 1,780 blood (serum) specimens were tested for benzodiazepines, 1,626 urine specimens were tested for cocaine, 1,629 urine specimens were tested for opiates, and 1,629 urine specimens were tested for stimulant amines.

^bStimulant Amines: This test detects d-amphetamine, d-methamphetamine, methylenedioxymethamphetamine (MDA), and methylenedioxymethamphetamine (MDMA).

^cUrine test results available through May 20, 2021. Only partial quarter data available for this calendar quarter.

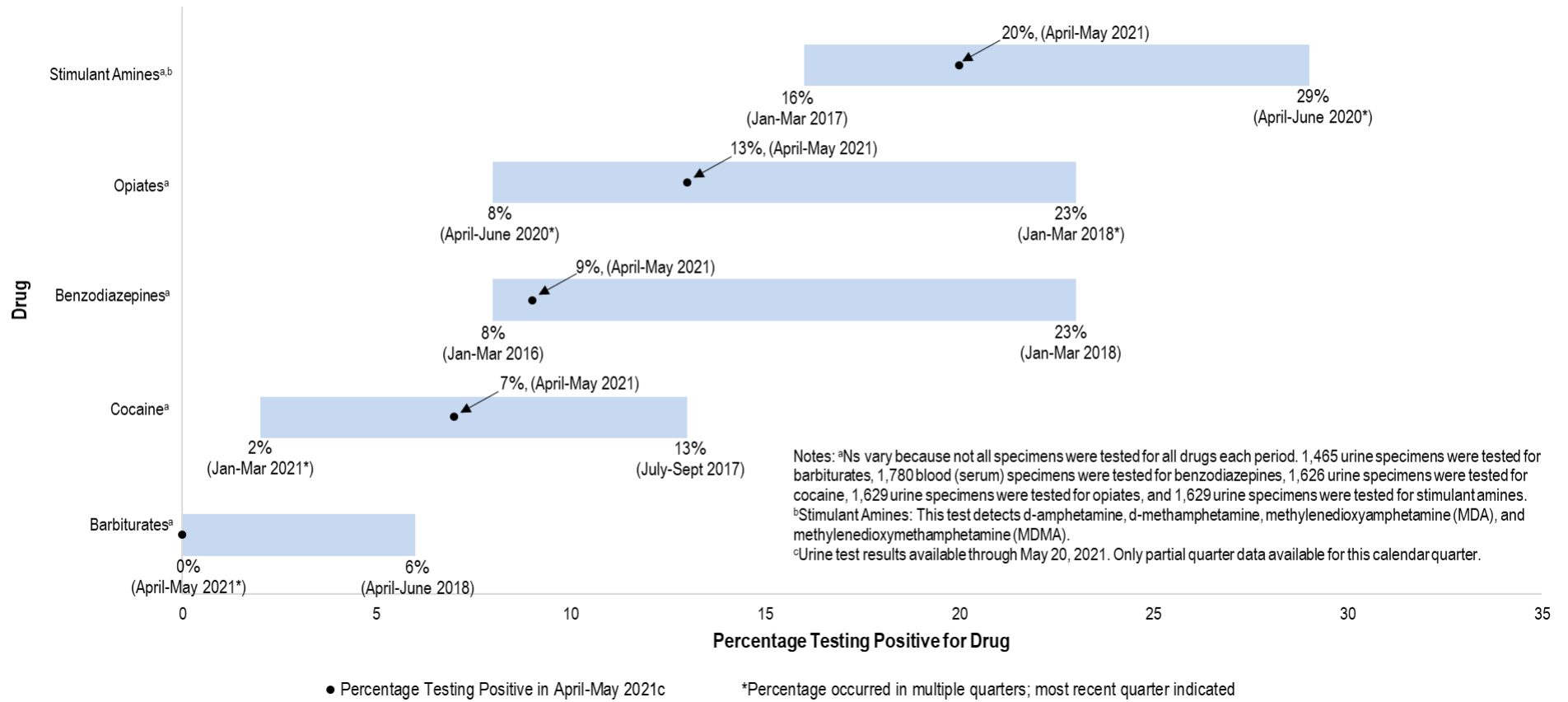
In the April-May 2021 partial quarter, benzodiazepines (9%) were near their 6 year low of 8%.

Figure 1: Drugs Detected in Specimens from University of Utah Emergency Department (ED) Drug Overdose Patients, By Quarter
(Specimens collected from January 2016 through May 2021)^a



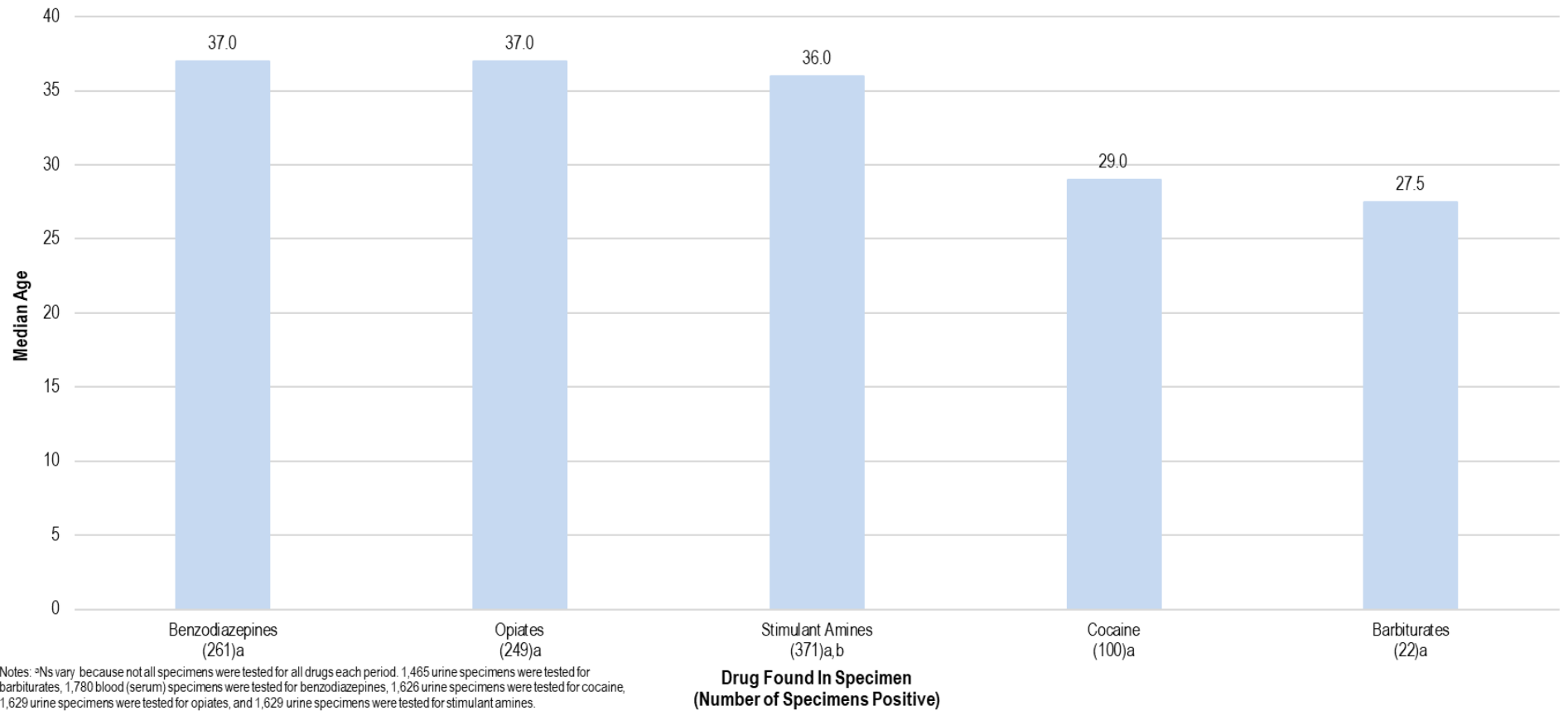
Stimulant amines (20%) were the most prevalent drug in the April-May 2021 partial quarter.

Figure 2: Range of the High and Low of Quarterly Percentages Testing Positive for Each Drug at the University of Utah Emergency Department (ED), January 2016-May 2021
(Specimens collected from drug overdose patients)^a



Benzodiazepines and barbiturates are near/at the bottom of their 6-year ranges.

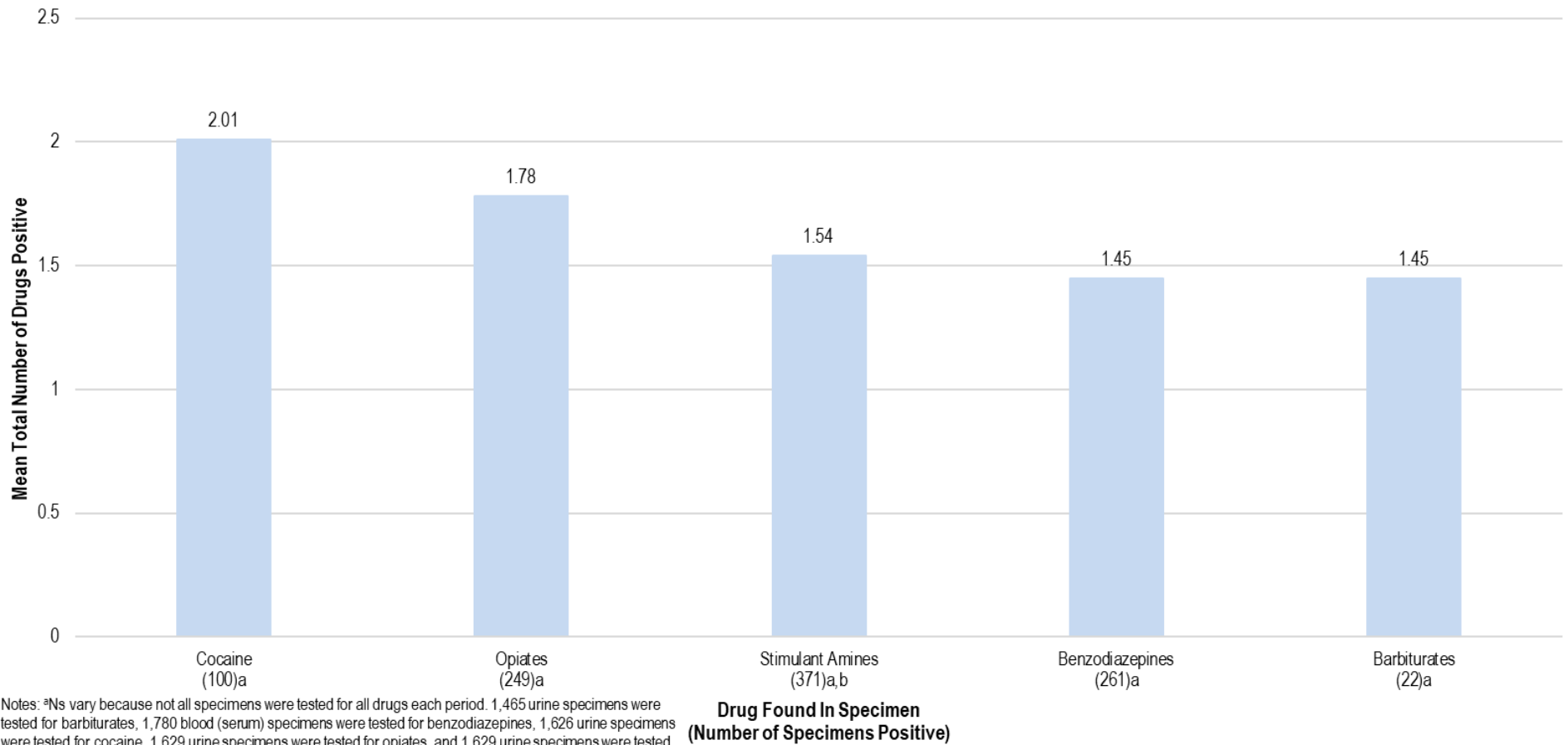
**Figure 3: Median Patient Age, By Drug Positive in Specimens from University of Utah
Emergency Department (ED) Drug Overdose Patients**
(Specimens from January 2016 through May 2021 combined)^{a,c}



Notes: ^aNs vary because not all specimens were tested for all drugs each period. 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.
^bStimulant Amines: This test detects d-amphetamine, d-methamphetamine, methylenedioxyamphetamine (MDA), and methylenedioxymethamphetamine (MDMA).
^cUrine test results only available through May 20, 2021.

Patients positive for benzodiazepines and opiates had the highest median ages (37 and 37, respectively).

**Figure 4: Mean Total Number of Drugs Positive, By Drug Positive in Specimens from University of Utah
Emergency Department (ED) Drug Overdose Patients**
(Specimens from January 2016 through May 2021 combined)^{a,c}



Notes: ^aNs vary because not all specimens were tested for all drugs each period. 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.

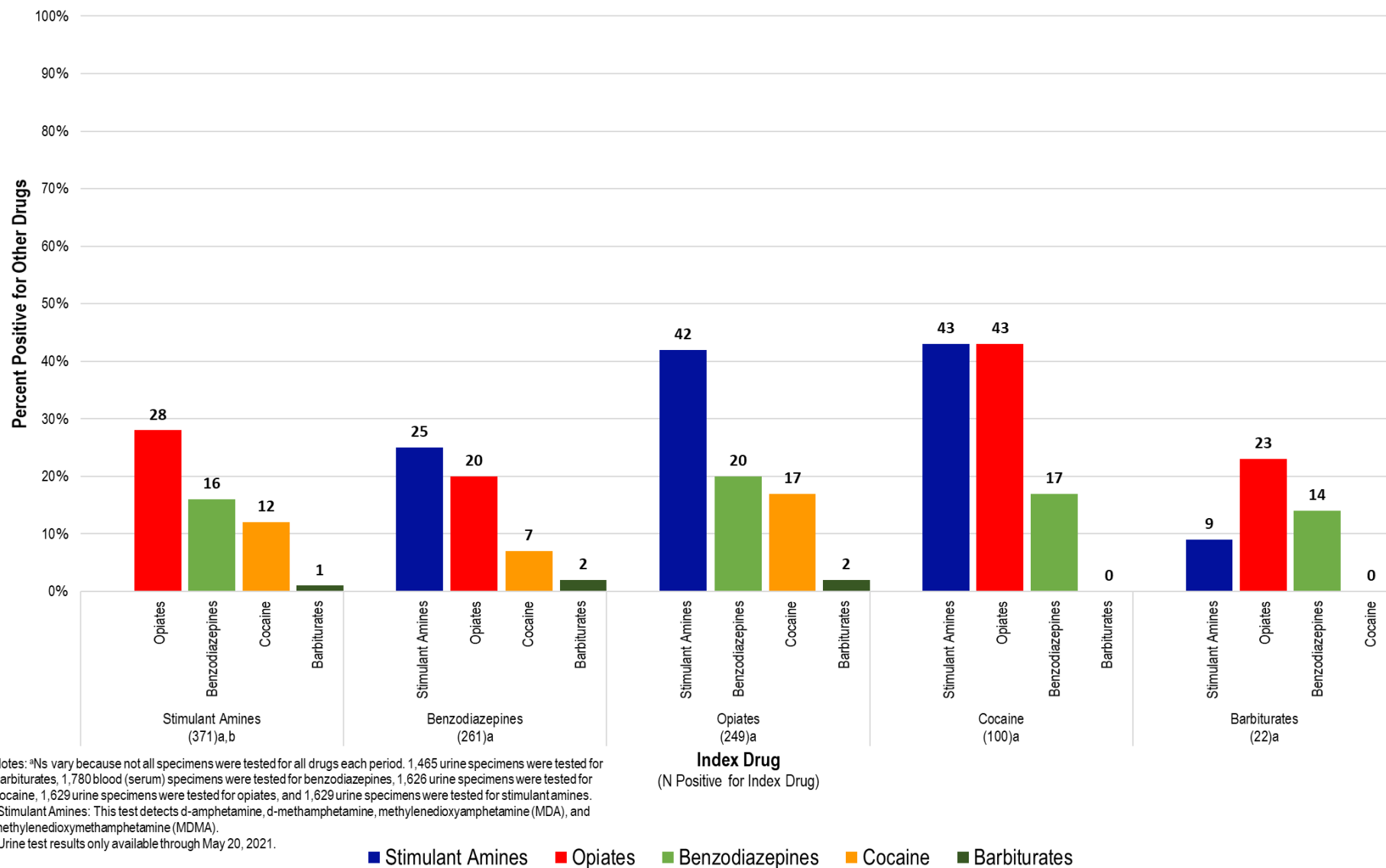
^bStimulant Amines: This test detects d-amphetamine, d-methamphetamine, methylenedioxyamphetamine (MDA), and methylenedioxymethamphetamine (MDMA).

^cUrine test results only available through May 20, 2021.

Cocaine and opiate positive specimens contained the largest number of drugs (mean=2.01 and 1.78, respectively).

Figure 5: Other Drugs Found in Specimens Positive for an Index Drug

(Specimens from University of Utah from January 2016 through May 2021 combined)^{a,c}



43% of cocaine positive specimens also contained stimulant amines and 43% contained opiates. 42% of opiate positive specimens also tested positive for stimulant amines.