

Methamphetamine, Opioids, Cocaine, and Multiple Drugs Were Most Common in Specimens from Seattle/King County Area Decedents

Submitting Site: King County Medical Examiner's Office (Washington)

Contacts: Dr. Julia Hood, julia.hood@kingcounty.gov
Dr. Eric D. Wish (NDEWS, UMCP), ewish@umd.edu

Method

Urines from 20 persons who had died from opioid overdoses between October 2016 and November 2017 who had tested positive for fentanyl, fentanyl analogs, or who had inconclusive or discordant local toxicology results were submitted to DOTS. See *DOTS Bulletin*, Issue 1, for a detailed description of the DOTS pilot study methodology (<https://go.umd.edu/ndews-dots>).

Sample Characteristics

The 20 specimens came from persons between the ages of 17 and 60 years old, with half older than 30, and from mostly White males (65%). The drugs most often reported as a cause of death in these samples were fentanyl/fentanyl analogs (n=12), nonfentanyl opioids (8), methamphetamine (6), and alprazolam (5).

DOTS Drug Test Results

Table 1 shows that the DOTS/NDEWS collaborating laboratory most frequently detected methamphetamine (n=15), fentanyl or its analogs (14), morphine/codeine/heroin (12), and cocaine (11). Of note is that 9 of the 20 specimens contained 10 or more substances.

Implications

According to Dr. Hood, "Results from the expanded toxicology testing through the DOTS pilot program will be compared with the results yielded by the state toxicology laboratory. Discrepancies between the two sets of results will be thoroughly reviewed in order to inform future operations."

THE DRUG OUTBREAK TESTING SERVICE (DOTS) PILOT STUDY

DOTS tests up to 20 urine specimens for 240 drugs, without cost to the submitting site, to help identify emerging drugs for epidemiologic purposes.

To become a DOTS site or for more information:
ndewsdots@umd.edu

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The *DOTS Bulletin* is available at: <https://go.umd.edu/ndews-dots>

Table 1: Drugs or Drug Metabolites Detected by DOTS/NDEWS Collaborating Laboratory Urinalyses
 (N = 20 Urine specimens submitted to DOTS by the King County Medical Examiner’s Office, Washington)

Specimen	Common Drugs				Nonfentanyl Opioids							Fentanyl		Pharmaceutical Nonopioid Drugs										Other Psychoactive Substances							Total Detected															
	Amphetamines				Morphine	Codeine	6-Acetylmorphine (heroin)	Hydromorphone	Oxycodone	Oxymorphone	Hydrocodone	Noscipine	Methadone/EDDP	Norbuprenorphine	Fentanyl/Norfentanyl	4-ANPP (Despropionyl fentanyl)	Acetylfentanyl/Acetyl NorFentanyl	Methoxyacetyl fentanyl	Furanylfentanyl (Fu-F)	Antihistamines				Benzodiazepines				Anti-depressants		Gabapentin		Pseudoephedrine	Dextromethorphan	Cyclobenzaprine	Bupropion	3,4,5-trimethoxycoaine	Cathinone	Ketamine	mCPP†	α-PVP	Miltiragnine/7-Hydroxy-Miltiragnine	U-47700				
	Methamphetamine	Amphetamine	MDMA	Benzoyllecgonine (cocaine)																THC (marijuana)	Diphenhydramine	Promethazine	Cetirizine	Hydroxyzine	Alprazolam/α-Hydroxyalprazolam	Oxazepam	Temazepam	Nordiazepam	7-Aminoclonazepam														α-Hydroxymidazolam	Trazodone†	Citalopram	Sertraline
1	✓			✓		✓	✓		✓			✓		✓	✓	✓	✓		✓	✓		✓	✓				✓														16					
2	✓			✓		✓		✓				✓							✓	✓	✓	✓		✓	✓			✓													15					
3		✓							✓	✓				✓	✓	✓	✓		✓							✓		✓						✓	✓						14					
4	✓	✓	✓	✓	✓	✓	✓							✓					✓	✓																					13					
5	✓	✓		✓	✓	✓					✓		✓	✓		✓			✓									✓													12					
6	✓	✓				✓	✓	✓	✓				✓		✓				✓									✓													11					
7	✓	✓		✓		✓		✓	✓					✓					✓	✓								✓													10					
8	*	✓	*	✓	*	✓					*	✓	*	*	*	*	*	*										✓	*						*	*	*	*	*	*	*	10				
9	✓				*	✓		✓	✓	✓				✓					✓								✓		✓												10					
10	✓			✓		✓	✓							✓		✓											✓										✓				8					
11	✓	✓		✓	✓									✓														✓													7					
12	✓			✓	✓									✓													✓														7					
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19	✓				✓									✓																											3					
20	✓													✓																											2					
Total Positive:	15	9	1	11	6	12	6	3	5	5	5	1	1	3	2	11	5	4	3	2	7	4	3	1	6	4	4	4	3	2	1	2	1	1	4	4	3	1	3	2	1	1	1	1	1	

†Trazodone is an antidepressant whose major active metabolite is mCPP. It is not possible to definitively determine whether the presence of mCPP was due to Trazodone use or whether mCPP was taken on its own.
 *Specimen could not be tested for this drug/drug category because of insufficient urine quantity.

Source: Drug Outbreak Testing Service (DOTS), National Drug Early Warning System (NDEWS) Coordinating Center, Center for Substance Abuse Research, University of Maryland, College Park, May 2018.