

Marijuana and Opioids Detected in a Sample of Specimens from Gunshot Wound Victims

Submitting Site: University of Maryland Prince George's Hospital Center (UM PGHC)

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Background

The aim of this investigation was to identify the drugs being used by patients admitted to the Department of Trauma Services for a gunshot wound at UM PGHC.

Methods

Urine specimens are collected as part of the patient's regular care, and screened for nine drugs: amphetamine, barbiturates, benzodiazepines, cannabinoids, cocaine, fentanyl (on request), methadone, opiates, and PCP. UM PGHC submitted 10 urine specimens collected between June 2019 and September 2019 from patients admitted for a gunshot wound. See *DOTS Bulletin*, Issue 1, for a detailed description of the DOTS pilot study methodology and limitations (<https://go.umd.edu/ndews-dots>).

Sample Characteristics

The 10 specimens came from patients between the ages of 18 and 69 years old, with 60% aged 19 years or younger. Ninety percent of the specimens came from males and all patients identified as Black/African American.

DOTS Drug Test Results

The most common drugs detected were marijuana and opioids (see Table on page 2). THC (marijuana) was found in 8 specimens. Hydromorphone was detected in 6 specimens and fentanyl/norfentanyl was detected in 5 specimens. However, it should be noted that opioids, including morphine, hydromorphone, and/or fentanyl, were medically administered in all of these cases, although it is unknown whether the submitted urines were collected before or after the administration of these drugs. Benzodiazepines were also medically administered in several of these cases. Multiple drugs were detected in most of the specimens. Multiple drugs in a specimen could indicate adulteration of illicit drugs and not necessarily intentional use.

Implications

While there was a substantial amount of fentanyl/norfentanyl detected, it is unclear if this was administered for analgesia in the emergency department (ED) or ingested as part of recreational use prior to arrival to the ED. Fentanyl testing is not routinely performed in the ED and typically escapes most hospital drug use screens. As clouded sensorium and bad judgment may have played a role in some of these violent events, additional screening for fentanyl is needed. An additional benefit of fentanyl screening includes linkage and intervention with ED peer recovery coaches for substance use. A substantial number of patients seen in this cohort were found to be positive for THC, as well as 3 patients that tested positive for cocaine. The high frequency of marijuana use may reflect higher use of marijuana in the local community.

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.

For more information:
ndewsdots@umd.edu

DOTS Bulletins are available at: <https://go.umd.edu/ndews-dots>

Drugs or Drug Metabolites Detected by DOTS Laboratory Urinalyses
 (N = 10 urine specimens submitted to DOTS by University of Maryland Prince George's Hospital Center)

Specimen	Common Drugs		Fent-anyl	Nonfentanyl Opioids				Pharmaceutical Nonopioid Drugs			Other Drugs						
	THC (marijuana)	Benzoyllecgonine (cocaine)	Fentanyl/Norfentanyl	Morphine	Codeine	Hydromorphone	Oxycodone/Oxymorphone	Anti-hist.†	Benzo-diazepines		Eutylone	α-PBP	Dibutylone/Butylone	Escaline	Ethylone	Ketamine/Norketamine	Phentermine
1	*		✓				✓	✓	✓				✓				✓
2	QNS	✓								✓		✓	✓	✓	✓	✓	
3	*	✓	✓		✓	✓	✓										
4	*			✓	✓	✓	✓										
5	*		✓			✓			✓		✓						
6	*	✓		✓		✓					✓						
7	*		✓				✓		✓								
8	*			✓		✓											
9	*		✓														
10	*					✓											
Total Positive:	8	3	5	3	2	6	4	1	3	1	1	2	1	1	1	1	1

†Anti-hist.: Antihistamine.

*To protect the identity of patients who submitted specimens, results are not provided for drugs where a high percentage of specimens tested positive.

QNS: Specimen could not be tested for this drug/drug category because of insufficient urine quantity.

Note: Specimens were collected between June 2019 and September 2019 from patients admitted to the Department of Trauma Services for a gunshot wound.

Source: Drug Outbreak Testing Service (DOTS), National Drug Early Warning System (NDEWS) Coordinating Center, Center for Substance Abuse Research, University of Maryland, College Park, December 2019.