

Inaugural Issue:

Overview of the Drug Outbreak Testing Service Pilot Study

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The Drug Outbreak Testing Service (DOTS) is a pilot study of the National Drug Early Warning System (NDEWS). This inaugural issue of the *DOTS Bulletin* provides a brief overview of this pilot study. Future *DOTS Bulletins* will present highlights of the findings from selected sites.

Background

The Drug Use Forecasting (DUF) and Arrestee Drug Abuse Monitoring (ADAM) programs demonstrated that urine samples collected on site from arrestees by research staff can serve as an indicator of emerging drugs in the larger community.¹ The Community Drug Early Warning System (CDEWS) project has more recently shown that similar information may be obtained by accessing urine specimens that have already been collected by an existing drug testing program after they are tested for a small number of drugs and are ready to be discarded. Typically, 100–200 de-identified specimens are shipped to the CDEWS collaborating laboratory and re-tested for an expanded panel of drugs, including opioid analogs and other new psychoactive substances (NPS) used by the study population.^{2,3} The CDEWS results have proven useful for identifying drugs not capable of being detected by the program's more limited test panels.

Purpose

Drug treatment programs, medical examiners, and hospitals often do not have the means to test their urine specimens for the latest NPS and emerging drugs. Media reports often resort to describing the suspected drug involved in an incident because state-of-the-art testing is not accessible or affordable. The DOTS pilot study tests the feasibility of making one-time comprehensive drug testing of a limited number of urine specimens available to public health organizations to identify the drugs recently used by the populations they serve. The DOTS test results are appropriate for epidemiologic purposes to describe local drug use. The results are not intended for use in clinical or legal proceedings. The one-year DOTS pilot study is exploring the best ways to recruit sites and to make the test results most useful to the submitting sites.

Methods

The DOTS project procedures have been reviewed and approved by the University of Maryland Institutional Review Board (IRB) for the protection of human subjects and by local IRBs, as appropriate.

Site recruitment. Among the techniques to recruit DOTS sites are reviewing the NDEWS national news scans to find media reports of drug incidents, contacting organizations that NDEWS staff learn may be experiencing a drug-related incident, and advertising DOTS through the NDEWS Network (network.ndews.org), the NDEWS website (ndews.org), and other social media.

SUBMIT SPECIMENS TO DOTS

To enquire about participating as a DOTS site or for more information, please contact:

ndewsdots@umd.edu

Site eligibility. Potential DOTS sites must meet the following criteria:

- 1) Can submit up to 20 de-identified urine specimens that have already been collected as part of existing protocols
- 2) Are experiencing a drug-related incident or want to understand inconsistent or inconclusive drug test results
- 3) Can provide specific information on how urine specimens will be selected and some brief descriptive demographic information about the persons from whom the urine specimens came
- 4) Are willing to discuss the implications of the DOTS test results with NDEWS staff and to review drafts of their site's *DOTS Bulletin*

Specimens sent to DOTS/NDEWS collaborating laboratory. The de-identified urine specimens are shipped to the Division of Forensic Toxicology at the Armed Forces Medical Examiner System (AFMES) for testing at no cost to the submitting site. AFMES uses LC/MS/MS to test for a frequently updated list of more than 240 drugs or drug metabolites, including synthetic cannabinoids, fentanyl and fentanyl analogs, and other NPS, illicit, and prescription drugs.

Report preparation. NDEWS staff prepare a statistical table of the test results and send it to the submitting site along with a draft of the *DOTS Bulletin*. Within one week, NDEWS staff contact the site to discuss the test results and their implications for them. A revised draft of the *DOTS Bulletin* is then prepared by NDEWS staff and sent to the site for final review.

Dissemination

Future *DOTS Bulletins* and other reports will be disseminated by a variety of means, including the NDEWS Network (network.ndews.org), the NDEWS website (ndews.org), and Twitter (@NDEWSNews).

Limitations

DOTS uses convenience samples of urine specimens selected by each site that may not be representative of the entire submitting population or program and should not be used to produce prevalence estimates. The results are intended to be used for epidemiologic and descriptive purposes and are not for clinical or legal use. It is impossible to determine whether licit drugs detected were prescribed or taken under a doctor's supervision. It is possible that some of the drugs detected were used without the knowledge of the person, as a result of the manufacturing process and/or byproducts of unintended contamination. The urinalysis results sometimes take several months to process, which may result in the degradation of some drug metabolites and in their under-detection.

References

1. DuPont, R.L., & Wish, E.D. (1992). Operation tripwire revisited. *Annals of the American Academy of Political and Social Science*, 521, 91–111.
2. Center for Substance Abuse Research. (2017). Inaugural issue: Overview of the Community Drug Early Warning System. *CDEWS News, Issue 1*. University of Maryland, College Park.
3. Wish, E.D., Billing, A.S., Artigiani, E.E., Dezman, Z., Schwartz, B., & Pueschel, J. (forthcoming). *Drug early warning from re-testing biological samples: Maryland hospital study*. Office of National Drug Control Policy. Washington, DC: Executive Office of the President.

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