

# Innovative testing program detects emerging drugs

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Emerging drugs of abuse in communities can be rapidly identified by an innovative urine testing system, according to the results of a recently released pilot study conducted by the Center for Substance Abuse Research (CESAR) at the University of Maryland and funded by the White House Office of National Drug Control Policy (ONDCP).

The Community Drug Early Warning System (CDEWS) is designed to detect emerging drugs by re-testing urine specimens collected by traditional criminal justice system (CJS) [drug testing](#) programs, and examining them for additional drugs of abuse. These include synthetic cannabinoids, man-made chemicals that are applied (often sprayed) onto plant material and marketed as a "legal" high. Users claim that synthetic cannabinoids mimic  $\Delta^9$ -tetrahydrocannabinol (THC), the primary psychoactive active ingredient in marijuana. These products, commonly known as "synthetic marijuana," "K2" or "Spice", are often sold in legal retail outlets as "herbal incense" or "potpourri".

There is an increasingly expanding array of synthetic drugs available. More than 50 synthetic cannabinoids were identified in 2012, compared to just two in 2009.

The CDEWS model is based on the premise that emerging drugs of abuse, such as synthetic cannabinoids, often show up in high-risk CJS populations before others in the community. In the pilot study, 1,064 anonymous specimens from five different CJS groups in the District of Columbia, Maryland, and Virginia region were sent to an independent laboratory for an expanded CDEWS panel that tests for more than 30 prescription and illicit drugs. Approximately one-half of the sample was also tested for 12 synthetic cannabinoid metabolites.

Synthetic cannabinoids were detected in the specimens from all participating sites. All of the specimens that tested positively included one or two recently identified and federally-prohibited synthetic cannabinoid metabolites.

The pilot study also found that synthetic cannabinoids were as likely to be present in specimens from individuals who had failed the limited CJS screening panel as in individuals who passed. In other words, current drug testing screens that do not include synthetic cannabinoids are likely

missing significant drug use (and users) in the populations being monitored. The study's results suggest that individuals expecting drug tests may be using synthetic cannabinoids because they know it will not be included in the screening panel.

The results demonstrate that CDEWS could be successfully implemented in diverse [criminal justice](#) populations, including arrestees, probationers and parolees, and drug court participants and proved its unique ability to uncover emerging drug trends. The findings from this pilot study suggest that CJS [drug](#) testing programs should weigh the value of adding synthetic cannabinoid metabolites to their testing protocols and adopting an annual CDEWS type of process for reviewing and updating the drugs included in their testing protocols. Hospital, physician, military, and workplace testing programs should also consider expanded testing of urine [specimens](#) to accurately identify drugs recently used.

Finally, the high level of synthetic cannabinoid use detected suggests that local public health systems should implement targeted prevention campaigns to educate the public, especially youth and young adults, about the rapidly changing ingredients in products sold as synthetic [cannabinoids](#) and the potential harm that can result from their use. "People who take these drugs are really playing a form of Russian roulette," said Dr. Eric Wish, the Principal Investigator of the study. Plans are currently being developed to expand CDEWS to additional sites.

The Center for Substance Abuse Research (CESAR), at the University of Maryland at College Park, is a multi-disciplinary research center dedicated to addressing the problems [substance abuse](#) creates for individuals, families, and communities. Housed in the College of Behavioral and Social Sciences, CESAR conducts policy-relevant research and evaluation studies, disseminates statistical and other information, assists in training students in substance abuse research

methods and policy analysis, and provides technical assistance to agencies and organizations working in substance abuse related fields.

To view the CESAR FAX Synthetic Cannabinoid Series, visit:  
[ter.ps/SCSeries](https://ter.ps/SCSeries)

Provided by University of Maryland

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