

Congress of the United States
Washington, DC 20515

June 30, 2020

The Honorable James Carroll
Director
Office of National Drug Control Policy
1800 G Street, NW
Washington, DC 20006

Re: Criteria for Designation of Emerging Drug Threats in the United States, Docket No. ONDCP-2020-0001

Dear Director Carroll,

Thank you for the opportunity to provide comments on this proposed rule. As members of the Freshmen Working Group on Addiction, we are committed to addressing the high prevalence of substance use disorder from a multi-pronged approach. This comment will focus on recommendations for an alternative approach for monitoring and identifying emerging drug threats in the United States - wastewater testing for drugs and drug metabolites.

Recent Trends in Drug Use and Limitations of Current Monitoring Systems

While there is still much to be done, significant progress has been made to reduce morbidity and mortality from substance use disorder. Fatal overdoses from opioids generally, prescription opioids, and heroin decreased from 2017 to 2018.¹ However, progress on this front has been undermined by significant increases in fatal overdoses from synthetic opioids, particularly illicit fentanyl.² Data from the Drug Enforcement Administration shows a sharp increase in drugs containing fentanyl, spiking from fewer than 2,000 in 2013 to almost 14,000 in 2015.³ Fatal overdoses from cocaine had been in decline since 2006, but the death rate tripled from 2012 to 2018.⁴ The rate of fatal drug overdoses from psychostimulants with abuse potential, a category that includes methamphetamine, was fairly steady from 1999 to 2007, before it began increasing.⁴ Fatal overdoses from these drugs jumped 30% a year from 2012 to 2018.⁴

Rates of fatal overdose by drug have varied both over time and by region. Overall, fatal overdose deaths from all opioids fell from 2017 to 2018, but rates increased in the northeast and western United States.¹ While some states saw fatal drug overdoses from synthetic opioids decrease from 2017 to 2018, overdoses significantly increased in 10 states, ranging from a 9% increase in Massachusetts to a 93%

¹ Wilson N, Kariisa M, Seth P, Smith H IV, Davis NL. “Drug and Opioid-Involved Overdose Deaths — United States, 2017–2018.” <http://dx.doi.org/10.15585/mmwr.mm6911a4>

² Centers for Disease Control and Prevention [CDC]. “Synthetic Opioid Overdose Data.” <https://www.cdc.gov/drugoverdose/data/fentanyl.html>

³ CDC. “Reported Law Enforcement Encounters Testing Positive for Fentanyl Increase Across US.” <https://www.cdc.gov/drugoverdose/data/fentanyl-le-reports.html>

⁴ Hedegaard H, Miniño A, Warner M. “Drug Overdose Deaths in the United States, 1999–2018.” <https://www.cdc.gov/nchs/data/databriefs/db356-h.pdf>

increase in Arizona.² Rates of methamphetamine use in the past year vary significantly depending on urbanization level, from 5.2 adults per 1,000 in large metropolitan areas to 9.5 adults per 1,000 in nonmetropolitan areas.⁵ Similarly, nonfatal overdoses seen in the emergency department for opioids, heroin, and cocaine vary greatly by region and urbanization level.⁶

It is imperative to detect changes in drug use quickly and to use that data on a local level to inform public health responses and subsequently prevent morbidity and mortality. Unfortunately, the historic response to drug use in the United States has not been sufficiently responsive to changing drug trends and regional variations.^{7,8,9} Further, emerging drugs, such as new psychoactive substances, will pose additional challenges to prevention, surveillance, and response.^{10,11}

Federal agencies currently employ a variety of strategies to monitor drug use and associated outcomes, including mortality data, hospitalization and treatment admissions, drug seizures, prescription drug monitoring program (PDMP) data, and surveys of self-reported drug use. However, most of these strategies do not track drug use until either significant morbidity or mortality has occurred, or law enforcement has apprehended either consumers of drugs or the drugs themselves. In addition to issues with sample and reporting bias, data from population surveys is typically not published until two years after collection, eliminating the possibility of responding to trends in a timely manner.¹² Further, mortality data is not always a reliable indicator of drug use,⁷ nor do treatment admissions reflect the number of individuals with substance use disorder.¹³ As the United States' approach to substance use disorder rightfully shifts from a focus on criminal justice to public health, new strategies should be used to allow for quicker detection and focused interventions to prevent serious health outcomes.

Wastewater Testing for Drug Monitoring and Detection

Testing municipal wastewater for drugs and drug metabolites can allow public health departments and agencies to track population drug use over time in a specific region, both by type of drug and quantity used; allow for early detection of emerging drugs; and measure in real time the impact of policy changes and public health interventions.

⁵ Jones CM, Compton WM, Mustaquim D. "Patterns and Characteristics of Methamphetamine Use Among Adults — United States, 2015–2018." <http://dx.doi.org/10.15585/mmwr.mm6912a1>

⁶ Vivolo-Kantor AM, Hoots BE, Scholl L, et al. "Nonfatal Drug Overdoses Treated in Emergency Departments — United States, 2016–2017." <http://dx.doi.org/10.15585/mmwr.mm6913a3>

⁷ Dembosky A. "Meth Vs. Opioids: America Has Two Drug Epidemics, But Focuses On One." <https://khn.org/news/meth-vs-opioids-america-has-two-drug-epidemics-but-focuses-on-one/>

⁸ Kilmer B, Midgette G. "Mixed messages: Is cocaine consumption in the U.S. going up or down?" <https://www.brookings.edu/opinions/mixed-messages-is-cocaine-consumption-in-the-u-s-going-up-or-down/>

⁹ Pardo B, Taylor J, Caulkins J, Kilmer B, Reuter P, Stein B. "Understanding America's Surge in Fentanyl and Other Synthetic Opioids." https://www.rand.org/pubs/research_briefs/RB10091.html

¹⁰ United Nations Office on Drugs and Crime. "What are NPS?" <https://www.unodc.org/LSS/Page/NPS>

¹¹ Peacock A, Bruno R, Gisev N, et al. "New psychoactive substances: challenges for drug surveillance, control, and public health responses." [https://doi.org/10.1016/S0140-6736\(19\)32231-7](https://doi.org/10.1016/S0140-6736(19)32231-7)

¹² Keshaviah A (ed.). "The Potential of Wastewater Testing for Public Health and Safety." <https://www.mathematica.org/our-publications-and-findings/publications/the-potential-of-wastewater-testing-for-public-health-and-safety-special-report>

¹³ National Institutes of Health. "10 percent of US adults have drug use disorder at some point in their lives." <https://www.nih.gov/news-events/news-releases/10-percent-us-adults-have-drug-use-disorder-some-point-their-lives>

Wastewater can be tested for certain drugs in their original form and other drugs by their metabolites. After being consumed, drugs are generally metabolized by the body; resulting compounds are secreted as waste. Wastewater is tested for these metabolites at the entrance of wastewater treatment plants.¹² The concentration of biomarkers is analyzed, and then back-calculated to estimate the overall amount of drugs as well as an approximate number of doses being consumed. Treatment plants already collect samples throughout the day; they would simply need the resources to add testing for drugs to their existing testing protocols.¹² Testing at these sites preserves individuals' privacy while collecting data on a defined geographic region.¹² This quick and objective monitoring method can indicate use trends by day of the week, seasonally, and over multiple years.¹² In addition to tracking trends and overall drug consumption, this method can help detect new drugs in an area.¹²

Researchers have used wastewater testing to track Tamiflu compliance during flu outbreaks, tobacco use, and stress biomarkers.¹² Wastewater testing is used by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and Australian National Wastewater Drug Monitoring Program.¹² The Sewage Analysis CORE group Europe (SCORE) coordinates research on this approach and collects measurements in Europe, Asia, and Australia.¹² EMCDDA uses wastewater testing to track trends in drug use across Europe well before they would be detected by traditional drug surveillance systems.¹² Testing is sensitive enough to record increased amounts of amphetamine and MDMA on the weekend compared to the weekday, indicating recreational use.¹⁴ Strategies and best practices from these groups could be adapted for use in the United States.

While wastewater testing can be conducted on a smaller scale than municipal treatment facilities, such as neighborhoods, workplaces, or prisons, its use should be restricted to treatment facilities in order to maintain the anonymity of the individuals being tested and prevent a particular group from being stigmatized. The authorities responsible for obtaining and analyzing this data should carefully consider with which departments or agencies the information should be shared. It is imperative that this data not be used punitively. While data from wastewater testing would indicate what illicit drugs are likely being purchased and consumed in a region, we believe community support and trust is critical, so this information should only be used for monitoring and public health interventions.

Wastewater testing has some limitations. Drugs or metabolites must appear in a sufficient quantity to be detected by testing, so limited use of certain drugs in a region is unlikely to be detected.¹² Additionally, not all drugs and metabolites are reliably detected in wastewater. Cannabis, for example, is more challenging to detect than cocaine or methamphetamine.¹² Testing municipal water omits the homes of the 20% of Americans with septic systems, but it does capture data from other locations these individuals would frequent that are connected to the sewers, such as schools and workplaces.¹²

Wastewater testing should not replace other methods of monitoring drug use. Data from PDMPs, national surveys, hospital records, and law enforcement help convey patterns of drug use and related health outcomes. They also provide information that wastewater testing cannot, like what quantity of a drug an

¹⁴ European Monitoring Centre for Drugs and Drug Addiction. "Wastewater analysis and drugs: a European multi-city study." https://www.emcdda.europa.eu/system/files/publications/2757/POD_Wastewater%20analysis_update2020.pdf

individual is consuming, the purity of the drug, or how the drug is being consumed. However, incorporating wastewater testing as a complementary strategy would significantly improve drug monitoring by providing data faster, at a more local level, and at a frequency to rapidly identify trends in use. Once a new drug or its metabolite has been identified, wastewater treatment plants can incorporate that into their testing protocol to quickly locate where it is being used. Most importantly, wastewater testing allows public health departments to tailor interventions specific to the drug use occurring in their communities. Hopefully this data could also be used to respond to emerging drug threats before they result in significant morbidity or mortality. Wastewater testing has the potential to shift our country's approach to drug monitoring and response from delayed reaction to proactive.

Thank you for your consideration and the opportunity to comment. Please contact Amanda Guiliano with Representative Trone's office with any questions.

Sincerely,



David Trone
Member of Congress



Mary Gay Scanlon
Member of Congress



Madeleine Dean
Member of Congress



Ben McAdams
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TJ Cox
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