

In Support of Community Drug Checking Programs: Position Statement of the Association for Multidisciplinary Education, Research, Substance use and Addictions (AMERSA)

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Executive Summary

The unregulated drug supply in the United States evolves constantly, leaving those who use drugs potentially unaware of new adulterants in their drugs. This can leave people vulnerable to serious adverse events such as fatal overdoses, wounds, and more. Without real-time data on the composition of drugs available in a community, healthcare providers and public health practitioners are left with insufficient data, making it increasingly difficult to know how to best serve people who use drugs. In this context, community-based drug checking has become recognized as an important harm reduction strategy with the potential to provide those who use drugs with more information about their supply. Thus, it is imperative to expand funding and increase access to drug checking programs in communities across the US. Key policy changes, such as those related to decriminalizing drug and drug paraphernalia possession, could improve utilization of such drug checking programs as well.

Background

In the US, the increasing rate of drug overdose deaths has been primarily driven by the presence of synthetic opioids – namely, fentanyl and fentanyl analogues – in the drug supply.¹ Beyond fentanyl, there are other substances in the US drug supply that are of growing concern. To start, nitazenes (i.e., benzimidazole-opioids) have been linked to a growing number of fatalities since 2019.^{2,3} Additionally, xylazine, a veterinary tranquilizer often referred to as “tranq dope,” is an emerging adulterant which increases one's risk of serious adverse effects such as fatal overdose and necrotic wounds.⁴ Benzodiazepines, commonly used to treat anxiety disorder, are an increasingly common non-opioid appearing in overdose toxicology reports.^{5,6} Lastly, cutting agents (e.g., levamisole in cocaine, diphenhydramine in heroin, etc.), can cause adverse events that complicate treatment for mixed drug intoxications.⁷⁻⁹

As new substances, adulterants, and cutting agents enter the drug supply, it is imperative that people who use drugs (PWUD) know what they are consuming in order to have an opportunity to modify their use behaviors, should they choose.¹⁰ For instance, PWUD may choose to use the drugs at a slower rate, with a smaller amount, with other people around, or not use at all.¹¹ Moreso, the inconsistent and potentially fatal US drug supply creates uncertainty for both healthcare providers and public health practitioners, interfering with effective intervention design and healthcare provision for PWUD.

Unfortunately, the majority of knowledge of the drug supply is currently based on insufficient and biased data.^{12,13} The primary data sources currently utilized, including post-mortem toxicology reports and analysis of drug seizures by law enforcement, are laden with selection bias and often result in misleading information, fear-mongering, and stigma.^{10,14} For instance, in a drug seizure, only certain specimens are examined that are likely not representative of the entire drug supply in a community.¹³⁻¹⁵ Moreover, such methods inherently take time – from data collection to dissemination – creating a temporal delay that interferes with the provision of timely information to PWUD and their formal and informal caregivers, as well as healthcare providers and researchers.¹⁵

To address these issues, there is an effort to establish community-based drug checking programs or programs that allow PWUD to bring their pre-obtained substances for analysis and determine its chemical components – for personal and community education. Though there are many technologies that can be utilized for drug chemical analysis, three of the most common methods will be reviewed below: (a) single-use immunoassay testing strips (ITS), (b) Fourier-transform infrared (FTIR) spectroscopy, and (c) gas chromatography–mass spectrometry (GC-MS).

At the most basic level, single-use immunoassays are becoming increasingly common as a drug checking method, as these tests are intended to be low cost, client friendly, and highly sensitive and specific.¹⁶⁻²⁰ For instance, PWUD can utilize fentanyl test strips (FTS) or xylazine test strips

to rapidly detect these substances in their drugs, providing a result before the tested substance is used. However, these strips are only able to provide a qualitative positive or negative test result indicating the presence or absence of the specific substance they are designed to detect, leaving PWUD with little information about the concentration or potency of this specific substance in their sample nor the potential presence of adulterants in their sample. Limitations of this type of testing are highlighted in communities where most drug samples contain the substance the ITS is designed to detect (e.g., high fentanyl prevalence), as PWUD need more than just a binary result to understand what drugs, what quantity, and at what rate they are about to use them. In addition, when there are high concentrations of certain drug adulterants (e.g., methamphetamine), false positive results could occur.⁷

As a more intermediate drug checking method, FTIR spectroscopy provides accurate, specific, and sensitive information on a substance's chemical composition within about 10 to 20 minutes – moving beyond the presence of a substance to also provide the relative amount of a substance in a drug sample.^{15,18,21} To use an FTIR machine, people who are engaging in drug checking must bring in a small sample that is visible to the eye (approximately the size of half a grain of rice, such as leftover residue in a bag) for analysis.²² This sample is loaded into the FTIR machine and the chemical composition signatures are checked against known libraries of substances to generate a report. The data from this report can subsequently be used to refine the substance library to improve future drug checking.²³ Unfortunately, unlike ITS, FTIR devices are expensive (around \$40,000) and require highly trained personnel for sample preparation and operation of the technology.^{18, 23} PWUD must bring a sample of their drugs to a location with an FTIR spectrometer in order to have their drugs checked, creating potential barriers to access and acceptability.²⁴

Lastly, the current gold standard of drug checking involves the use of gas chromatography–mass spectrometry (GC-MS) for the most complete understanding and confirmation of drug composition and quantification.¹⁹ Given the expense to own and operate a GC-MS and the expertise required to analyze results, GC-MS testing typically occurs in laboratories that require drug samples to be mailed-in.¹⁸ This process creates a significant time-delay, meaning PWUD are unable to use this technology for real-time information on the composition of their drugs. Currently, GC-MS samples can take up to 4 weeks to process and return results. However, similar to the FTIR method, GC-MS has the advantage of building a robust database, enhanced with each new sample.²⁵

Drug checking initiatives have become an important and necessary harm reduction strategy. These programs have the potential to benefit (a) clients, (b) the larger community, (c) healthcare providers, (d) community-based programs, and (e) public health practitioners and researchers. At the client-level, drug checking services allow PWUD to have greater information about their supply, further empowering them to make informed decisions about their use such as whether to

use with others, use a smaller dosage, or use with naloxone on hand.^{16,17,26} Some existing qualitative and quantitative studies among PWUD have found that participants had an interest in using drug checking services, especially around substances such as fentanyl and xylazine.^{26–28} For PWUD who are using pressed pills, benzodiazepines, or stimulants, and are opioid-naïve, FTS detecting fentanyl could be life-saving. Additionally, the use of drug checking services creates additional opportunities for people to receive harm reduction services (e.g., naloxone, syringe services, referrals for wound care, etc.) and education at the point of care.²⁹

At the community level, aggregate data from drug checking initiatives can provide information about the local drug supply, creating opportunities for real-time monitoring and community-wide communication about the changing drug supply.¹⁰ In this way, up-to-date information can reach PWUD who may not be actively using the services themselves, thereby extending the potential benefits of drug checking programs beyond their direct clients.

Finally, drug checking initiatives enable healthcare providers and public health practitioners to be more agile in their responses to the overdose crisis, tailoring their interventions to the changing drug supply and patients' immediate needs. After a Maryland-based drug checking program detected a high prevalence of xylazine, for example, the Maryland Department of Health Center for Harm Reduction Services was able to invest in increased wound care training and update their overdose response training to include education about xylazine.³⁰

However, there are some potential limitations to effective implementation of drug checking programs which should be addressed proactively to improve outcomes for PWUD. Clinicians and public health practitioners should be wary of (a) selection bias resulting from only some PWUD bringing samples in (e.g., survival bias), and (b) information bias resulting from variability in things such as technology calibration or technician training and expertise. Further, comparing drug supply testing results across communities may be impacted by spatial and temporal variation in drug checking programs.

Barriers and Policy Options

In June 2023, leaders from the National Institutes of Health and the Food and Drug Administration called for increased research and support for the implementation of drug checking initiatives, noting, however, that legal and policy barriers currently exist.^{31,32} The criminalization and federal prohibition of unregulated drug possession in the US creates legal and logistical barriers that may preclude PWUD from utilizing drug checking services.²⁹ However, decriminalization of illicit drug possession is possible – as evidenced by Oregon's Drug Addiction Treatment and Recovery Act (Measure 110) which passed in late 2020.^{33,34}

Additionally, US Code Title 21 Section 863 makes it federally unlawful to possess drug paraphernalia.³⁵ Unfortunately, such criminalization can hinder PWUD's ability to acquire drug

testing technology (i.e., FTS), unless these materials are explicitly sanctioned or exempt from such laws. Ultimately, state laws regarding the classification of testing equipment as paraphernalia vary widely.³⁶ This spatial variation creates difficulties in standardizing best practices across the US.

Moreover, drug checking programs may be more successful when created without law enforcement involvement as previous studies have found that such involvement could be a significant barrier to engagement.^{23,24,29} This is especially relevant for Black PWUD as the history of violent policing and drug policy in the US are entrenched in racist ideology, creating significant harm in communities of color.^{37,38} Provided this historical context and the current political landscape, it is perhaps unsurprising that drug checking programs might be primarily utilized by White PWUD.¹⁵ Thus, drug checking programs must make every effort to break down barriers communities of color may experience when trying to utilize services. Ultimately, community-based drug checking will only be successful for PWUD if people are empowered to access drug checking services and feel safe from criminal legal involvement. This includes informing PWUD where they can bring their samples, being transparent about how their samples will be used, and developing appropriate and actionable communication strategies for the delivery of results.³⁹

AMERSA's Position

With the changing drug supply, it's crucial that we support and expand drug checking initiatives. To do so, we must increase access to and funding for all forms of drug checking technologies (i.e., ITS, FDIR, GC-MS). Moreover, it is imperative that we support the thoughtful and sustainable implementation of robust drug checking programs. This will involve the creation of services that are tailored to and driven by local community needs. Additionally, it will involve the adoption of identified best practices such as the integration of drug checking services into trusted harm reduction organizations and the provision of real-time results for widespread community dissemination. When doing so, organizations must ensure that this communication and dissemination doesn't engage in fear mongering around specific substances or drug use behaviors. Principles of equity and anti-racism must be at the forefront of implementation plans to ensure that drug checking initiatives do not repeat inequities created by the War on Drugs or increased police surveillance in communities of color. Finally, we must advocate for laws and policies that ensure that drug checking materials (e.g., FTS) are not criminalized as paraphernalia and, ultimately, seek to establish a safe supply.

Recommendations

Leverage the position of AMERSA as interdisciplinary leaders in substance use education, research, care, and policy to:

- Advocate for the funding and implementation of community-based drug checking programs. This position statement can be sent to key stakeholders in support of policies that work to decriminalize currently illicit substances and drug paraphernalia.
- Mobilize AMERSA members to ensure antiracism tenets are at the forefront of the creation and implementation of community-based drug checking initiatives.
- Create opportunities for AMERSA members to discuss and disseminate operational best practices for drug checking programs in their communities. These discussions can surround the development of implementation strategies, community dissemination plans, and conversation-based interventions to deliver drug checking results back to clients. Ultimately, these best practices can be designed into educational resources (i.e., toolkits) that are accessible on the AMERSA website.

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