Episode 59: From 2025 to 2026: How the drug landscape is changing

Josh Casey: Hi, I'm Josh Casey. Welcome to *QuidelOrtho Science Bytes*, your trusted source for diagnostic insights and innovations. In 2025, we explored how emergency departments were responding to an increasingly complex overdose crisis. Fentanyl continued to dominate overdose statistics, counterfeit medications were becoming more common, and clinicians were facing increasingly complicated cases involving multiple substances and emerging drug adulterants. Fast forward to 2026, and while some trends are encouraging, the drug landscape continues to evolve. We're seeing changes in overdose mortality, growing concerns about counterfeit medications, continued challenges with polysubstance use and increasing awareness of emerging synthetic opioids. At the same time, a new guidance document from the Association for Diagnostics and Laboratory Medicine, ADLM, is helping laboratories and emergency departments think differently about how toxicology testing can best support patient care.

Joining us for the conversation today is Vonda McAllister, director of global product management for QuidelOrtho. Vonda's diagnostics experience spans R&D, program management and marketing. She has extensive experience supporting toxicology testing and works closely with laboratory and clinical professionals across the healthcare continuum.

Welcome back, Vonda!

Vonda McAllister: Thank you, Josh. It's really great to be able to catch up again with you. And this is such an important topic, just because we're seeing some encouraging progress concerning fentanyl overdose, but the challenges facing emergency departments and laboratories continue to evolve.

Josh Casey: So, to set the stage then, let's start with where we were a year ago. What were the major drug and overdose concerns we were discussing in 2025?

Vonda McAllister: So, in 2025, really much of the focus centered on the continuing opioid crisis, particularly the impact of fentanyl and other highly potent synthetic opioids. And emergency departments were seeing overdoses involving fentanyl, fentanyl analogs and increasingly complex combinations of drug use, and this is referred to as polysubstance use or abuse. We were also discussing adulterants like xylazine, sometimes called “tranq” as well as the growing prevalence of counterfeit medications sold on the street containing fentanyl. And also, I have to say, another concern is the rise in polysubstance abuse, where patients combine opioids, stimulants, benzodiazepines and other substances. And this creates a very complicated clinical presentation. A significant part of the conversation also involved naloxone, if you recall. Naloxone use and the need for continued monitoring after overdose reversal, just because some synthetic opioids can outlast the effects of naloxone.

Josh Casey: And as we sit here today in 2026, what's changed?

Vonda McAllister: Well, one really encouraging development is that we've seen a continued measurable progress in the reduction of overdose deaths nationally. According to CDC data, the U.S. experienced estimated drug overdose deaths of nearly 70,000 in 2025. This is nearly 14% percent lower than 2024 and representing the third consecutive year of decline. This is really important. Deaths involving synthetic opioids, including fentanyl, we're still seeing, you know, some of that. However, you know, you're probably wondering what is causing the decrease? This is great news, but you know, what's going on? And it's very encouraging, and likely it reflects numerous efforts. Harm reduction campaigns, including

expanded naloxone access, awareness and prevention initiatives, and improved access to treatment. However, it's important to remember that emergency departments continue to see a substantial number of substance-related visits. The crisis hasn't really disappeared, but it's becoming more complex.

Josh Casey: That is really encouraging, but I'm wondering if you can unpack that a bit. What do you mean by more complex?

Vonda McAllister: Well, increasingly, clinicians are treating patients exposed to multiple substances rather than a single drug and I just touched on this. Patients may present after using opioids along with methamphetamine, cocaine, benzodiazepines or other substances. And in many cases, they might not even realize that they've consumed multiple drugs because the illicit drug supply is so unpredictable. This makes assessment way more challenging, and patients often display overlapping symptoms rather than a classic toxidrome associated with a single substance. We discussed last year and now the recently published ADLM guidance highlights polysubstance abuse, actually, and many experts now view polydrug abuse and use as one of the defining features of today's overdose crisis because patients are increasingly exposed to multiple substances, either intentionally or really unknowingly.

Josh Casey: I recall we also spent time last year discussing counterfeit pills. Is this still a major concern?

Vonda McAllister: Absolutely. Unfortunately, it's very much so. Counterfeit medications remain one of the most significant threats in today's drug landscape, mainly because many individuals don't know what they're taking. Someone may think they're purchasing a legitimate prescription medication, such as oxycodone, Xanax or Adderall on the street when the product actually contains fentanyl or other very dangerous synthetic substances, such as xylazine or nitazenes, which are novel psychoactive substances, and synthetic opioids with a very high risk of overdose and death. DEA data illustrates the scale of the problem. In 2025 alone, I think the DEA seized more than 47 million fentanyl-laced counterfeit pills. Those seizures represented hundreds of millions of potential lethal overdoses of fentanyl, or lethal doses actually of fentanyl. As a result, healthcare providers really can no longer assume the patients know what they've in ingested when they get to the emergency department.

Josh Casey: So, fentanyl clearly continues to dominate the headlines, but can you talk a little more about some of the other substances that are beginning to attract attention?

Vonda McAllister: Yes, an area receiving increased attention is nitazenes, as I mentioned earlier. These are a class of synthetic opioids that can equal or even exceed fentanyl's potency. You know, while xylazine remain far less prevalent than fentanyl, public health agencies, toxicologists and law enforcement organizations continue to identify them in counterfeit tablets and mixed drug supplies. The DEA has described nitazenes as an emerging threat, simply because users generally have no way of knowing they're present. And more importantly, Josh, because these novel substances are structurally different from more common opioids, they're not detected on drug screen assays and really need to be identified by highly complex testing such as LC-MS/MS in a lab. So really, a normal drug screen in the emergency department at point of care or even an immunoassay run on an analyzer in the lab won't be able to detect these drugs at all. Their appearance reminds us that the illicit drug supply is constantly evolving. The substances driving clinical concern today may look very different from those creating concern a year or two from now.

Josh Casey: So, last year, we talked about xylazine, or tranq, as you mentioned. How much is that still part of the problem?

Vonda McAllister: Yeah, it's definitely part of the problem. You know, and as I as I mentioned before, xylazine isn't receiving quite the same level of media attention it did in 2025, but it still remains an important concern because it's still being identified alongside fentanyl in many regions of the country. Xylazine is a non-opioid animal tranquilizer. It's extremely potent and what makes xylazine especially challenging, is that naloxone doesn't reverse its effects because it doesn't interact with the opioid receptors but does present as an opioid overdose. So, it can get very confusing and very serious. Naloxone should still be administered, though, because opioids are frequently involved. And also, it's that polysubstance use again, right? And providers must recognize that additional supportive care and monitoring may be necessary for these kinds of overdoses and exposure. You know, xylazine can also contribute to unique clinical complications beyond overdose itself.

Josh Casey: As laboratories and emergency departments adapt to these changing trends, what are some of the most important lessons we can take from the new ADLM guidance?

Vonda McAllister: That's a great segue, Josh. And I did want to give a bit more insight into this new guidance document. So, very long title here, but the "ADLM Guidance Document on Laboratory Testing for Drugs of Misuse to Support the Emergency Department" was published this past January. And it really provides a go-to resource for both laboratory and ED staff because it addresses some of the complexities involved around drugs testing. For instance, result interpretation, cutoff differences among different manufacturers and tests, and assay cross-reactivity, and how all of these aspects can really vary between different manufacturers.

I would say probably the key takeaway from this document is that the authors emphasize the importance of laboratories and the emergency department collaborating really to ensure toxicology testing supports patient care and also reflects current drug use patterns within their communities. A testing menu that was appropriate years ago may no longer reflect today's realities in that community. And also, very importantly, you know, the guidance also recommends that emergency departments have access to testing for key substances and drug classes, including fentanyl, amphetamines, benzodiazepines, cocaine, opiates and oxycodone. And this is spelled out in that document. The authors also emphasized the term drugs of misuse rather than abuse to intentionally destigmatize the issue and to capture the range of clinically relevant scenarios involving these compounds. For instance, pain management or accidental exposure. It's not always an abuse sort of situation, and this is important to remember.

Josh Casey: That's really interesting and really comprehensive. The recommendation around fentanyl testing seems particularly important.

Vonda McAllister: Yeah, you're right. It really is. One point emphasized in the guidance is that traditional opiate assays generally don't detect fentanyl. Given fentanyl's role in overdose deaths over the past decade, ADLM strongly encourages laboratories supporting emergency departments to incorporate fentanyl testing whenever possible. And this aligns with what many laboratorians and clinicians have already experienced firsthand. You know, as the new synthetic opioids emerge, laboratories may increasingly rely on high-complexity methodologies, including mass spectrometry. This is in order to identify substances that can be missed by traditional screening approaches.

Josh Casey: You mentioned earlier that the guidance seems to focus a lot on results

interpretation. Can you tell us why that is such a priority?

Vonda McAllister: Yeah, definitely, because drug testing is rarely as straightforward as positive or negative. One of the most important reminders in the document is that a positive urine drug test indicates exposure, but not necessarily impairment. So many substances remain detectable long after their clinical effects have ended. The guidance also discusses the limitations of commonly used screening methods. Some immunoassays may produce false positives. You know, while others may miss drugs that providers expect to detect. So it gets very complicated. That's why results should always be interpreted in the context of patient history, physical findings and the overall clinical presentation. It is also helpful to be familiar with the analytical information provided in that product package insert.

Josh Casey: So the laboratory is really becoming more of a consultative partner in patient care?

Vonda McAllister: Exactly. And this is actually; this is really good news. Instead of being, you know, separate entities and more siloed, one of the strongest themes throughout the ADLM guidance is collaboration. Laboratories are encouraged to work closely with emergency physicians, medical toxicologists and poison control experts to ensure testing remains relevant, useful and appropriately interpreted. As we discussed, there's so many different drugs that people are being exposed to, either intentionally or unintentionally. It's just a very complicated presentation. Also, to ensure that results are clinically actionable within a window of less than an hour, that's also extremely important, not only for patient treatment, you know, but also for the crowded emergency department. As so many of these cases will show up there. As the drug landscape becomes increasingly complicated, laboratory professionals play a critical role in helping these clinicians understand what tests detect, what they may miss and how results should be applied to patient care decisions. This includes supporting testing at the point of care.

Josh Casey: Okay, if you were to summarize the biggest difference between the conversation we were having in 2025 and the one we're having now, what would it be?

Vonda McAllister: Wow. In 2025, much of the focus was on responding to a worsening overdose epidemic driven by fentanyl, emerging adulterants and increasing drug potency. In 2026, we're beginning to see some progress in overdose mortality, but we're also recognizing that the challenge has become broader and more complex. We're really talking about counterfeit medications, polysubstance use, emerging compounds like nitazenes and the need for toxicology testing, and clinician and laboratory education that keep pace with rapidly changing trends. Ultimately, I would say success depends on awareness, education, collaboration and ensuring clinicians have the right information at the right time to make informed decisions for their patients.

Josh Casey: The drug landscape has changed significantly from 2025 to 2026. While fentanyl remains a major concern, healthcare providers are increasingly challenged by counterfeit medications, polysubstance use and emerging synthetic opioids. At the same time, new guidance is helping laboratories and clinicians work together to ensure toxicology testing remains relevant and clinically meaningful for patients.

That's all the time we have for today. Thank you, Vonda, for joining us and sharing your insights. I hope everyone enjoyed the conversation.

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Until next time, take care everyone.

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