

**NDEWS HotSpot Report
Fentanyl: User Beliefs & Practices
Cleveland, Ohio**

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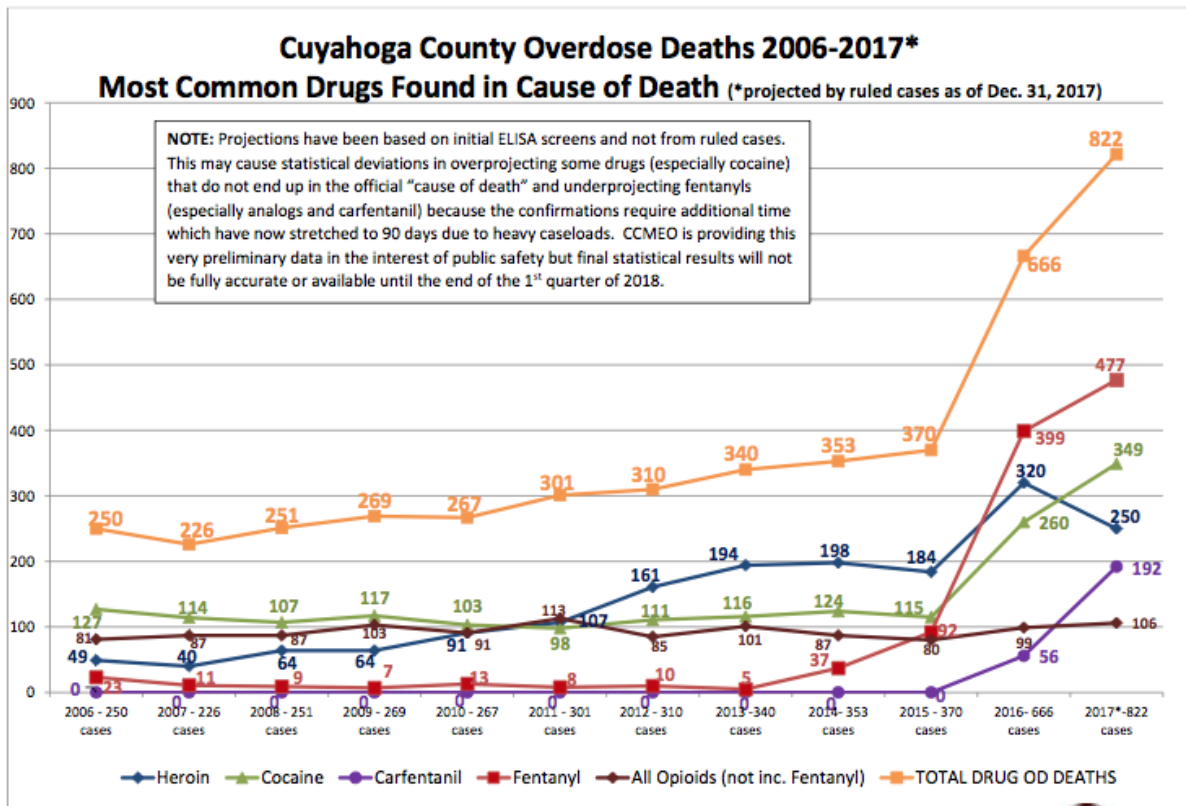
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INTRODUCTION

Despite ongoing intervention efforts, deaths associated with the opioid epidemic remain a major challenge for the state of Ohio. From 2000 to 2012, drug overdose deaths increased 366% in the state (Massatti et al., 2014). Between 2007 and 2012, the average, age-adjusted unintentional overdose death rate was 13.0 per 100,000 (ODH, 2014). Statewide data indicate that much of this increase was a result of the use of fentanyl and carfentanil (synthetic opioids), which entered the southern and central parts of the state as early as 2012.

Recent trends in drug overdose deaths in Cuyahoga County (which includes Cleveland) are equally alarming, increasing from 666 in 2016 to 822 in 2017 (Gilson, 2018). Furthermore, in 2017, there were 477 fentanyl-related overdose deaths compared with 299 in 2016 (Gilson, 2018). In 2017, there were 192 deaths attributed to carfentanil compared with 56 in 2016 (Gilson, 2018). In 2016, heroin-related overdose deaths decreased from 320 deaths to 250 and cocaine-related overdose deaths increased from 260 to 349 (Gilson, 2018). Additionally, the availability of methamphetamines, benzodiazepines, and gabapentin, which are reportedly being used with opioids, has increased in Cuyahoga County (ODH, 2017a, 2017b, 2017d).



Source: Cuyahoga County Medical Examiner's Office revised 1-25-18



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Knowledge about fentanyl:

1. Availability of Fentanyl
2. Popularity of Fentanyl
3. Fentanyl Sold in Combination With Other Illegal Drugs
4. Patterns of Fentanyl Use
5. The Local Market (Fentanyl)
6. Other Emergent Themes

Cleveland, OH, Site

Unlike cities and towns in South and Central Ohio where fentanyl had been popular since 2013, indicators of fentanyl use in Cleveland (NE Ohio) did not emerge until 2015. At that time, reports on its use were mixed. By 2016, anecdotal and media reports suggested fentanyl use was rapidly escalating and coroner data confirmed this trend with sharp increases in fentanyl-related overdose deaths. Cocaine overdose was also escalating, which was linked to the increase in fentanyl use as it was reported that dealers were mixing fentanyl and cocaine and selling it as cocaine. Yet self-report survey data collected from people injecting heroin by this research team in 2016 did not confirm the popularity of fentanyl. Evidence did not clearly indicate a major shift toward fentanyl, and positive tests for fentanyl, in self-administered fentanyl strip testing, were inconsistent.¹ Fentanyl use was increasing, however, which implied either local heroin users were unaware of the presence of the drug in the local market or it was being mixed with heroin and its existence was less apparent. Alternatively, local fentanyl use may have been compartmentalized and only occurring among a subset of opioid/heroin users. In other words, a lot was unknown about the use of heroin, fentanyl, and heroin/fentanyl mixing.

NDEWS Urinalysis Results Used to Plan Cleveland HotSpot Study

To help plan the Ohio HotSpot study, NDEWS staff arranged to collect de-identified urine specimens from high risk populations around Cleveland in order to identify local drug patterns. Specimens were collected from persons appearing at two sites, the Lutheran Metropolitan Ministry, Men's Homeless Shelter (LMM, n=34) and at emergency department and inpatient detox programs at St. Vincent Charity Medical Center (SVC MC, n=140). The samples of SVC MC specimens were stratified to ensure having sufficient numbers from persons who had tested positive or negative for any of the drugs in these programs' local drug test panels. All specimens were sent to the NDEWS collaborating laboratory and tested for approximately 240 drugs. The specimens were collected throughout 2017-2018.

¹ These preliminary findings come from a) survey research conducted by the PI in 2016 and b) a 2018 analysis of client (survey) data provided by Cleveland's syringe exchange program (SEP) and conducted by Case Western Reserve University's Department of Epidemiology and Biostatistics. In these data, of the most recent 1,305 visits to the SEP, only 1.1% of user's self-reported using fentanyl.

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The 34 specimens from LMM homeless men were most likely to contain the individual drugs, cocaine (21%), gabapentin (24%) and/or THC (18%). The detox program drug positive patients at SVCMC were most likely to test positive for fentanyl or its analogs (84%), cocaine (80%), diphenhydramine (76%), THC (59%), amphetamine/methamphetamine (25%), and/or gabapentin (20%). Most dramatic was the co-occurrence of fentanyl with diphenhydramine and/or cocaine. Depending on the type of program (detox or ED) approximately 80% of the specimens that contained fentanyl also contained cocaine or diphenhydramine.

These results assisted in developing the interview guide. Specifically, interviews questions were developed to focus on the use of other drugs (e.g. cocaine, methamphetamine, diphenhydramine) by persons who were using fentanyl or heroin.

HOT-SPOT STUDY OBJECTIVES

The primary objective of this NDEWS hot-spot study was to *assess fentanyl use in Cuyahoga County* and to resolve the discontinuities and uneven history noted earlier. Specifically, in this study, the perceived prevalence of fentanyl among people who inject opioids; how they identify the drug; how fentanyl is being distributed; and the relationship between heroin and fentanyl are assessed. Because of unsubstantiated reports of dealers selling cocaine that is adulterated with fentanyl, part of this study also was aimed at investigating various fentanyl drug combinations. The research team focused on evaluating the prevalence of fentanyl in the local drug market and on how it changed the heroin scene in the greater Cleveland area.

This substudy was conducted by an experienced research team familiar with the illegal drug scene in Cleveland. Importantly, the research team had previously conducted studies of opioid injectors in Cleveland (2008–2012 and 2009–2016) and took advantage of this previous knowledge, as well as of resources already in place for doing rapid qualitative research with active opioid users.

Research Questions

The overarching research aim was to examine perceived trends in heroin, fentanyl, and poly-drug use (in combination with these drugs) in a sample of African American, Hispanic, and White opioid users (injectors)² in Cuyahoga County, Ohio. Specifically, the research team asked the following questions:

1. How do opioid users understand local patterns in a) fentanyl, b) heroin + fentanyl, and c) fentanyl + cocaine or other drug use? How do users identify fentanyl? (See Ciccarone et al., 2017.)
2. What are the local dynamics associated with fentanyl use? Are heroin users seeking fentanyl?

² Heroin is almost exclusively injected in Cleveland. Only in rare instances has the research team encountered users with experience snorting or smoking the drug.

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- A. Is fentanyl being marketed (distributed) independently as fentanyl?
 - B. Is fentanyl being disguised and mixed with heroin (or other drugs, e.g., cocaine)?
 - C. If both a and b are true, how are heroin users responding?
3. How do opioid users characterize the presence of fentanyl in the local illegal drug market (i.e., is the drug popular, gaining popularity, or only used among a select group of users)?
 - A. Are encounters with the drug intended and consistent or unintended and sporadic?
 4. How does fentanyl access, availability, and distribution operate within the broader context of the local illegal drug market?

METHOD

For this hot-spot study, a rapid assessment process (Beebe, 2001) was employed in which a small team of medical anthropologists collected and analyzed open-ended interview data from 30 active injection drug users in Cuyahoga County. Data collection occurred between February 1 and March 22, 2019.

Participants were recruited from the Circle Health Services Syringe Exchange Program (SEP) in Cleveland, Ohio. Circle Health Services has operated this SEP since 1994, and it operates in two sites: a mobile exchange on Cleveland's westside and a clinic-based exchange program on the eastside. For this study, participants were recruited from the eastside SEP.

All participants in this study were 1) clients of the SEP, 2) older than 18 years of age, 3) not currently in residential or inpatient treatment, and 4) had injected at least five times in the last 30 days. Participants were recruited with the assistance of SEP staff, who informed SEP clients of the opportunity to participate in the study after they had completed their SEP visit.

If clients expressed interest in participating, a researcher discussed the project with the potential participant and verified they had not been previously interviewed for the study. Researchers administered a verbal consent process for study participation. All interviews were conducted in private rooms at the SEP and lasted approximately 45–60 minutes.

Drs. Hoffer and Schlosser developed an open-ended, semistructured interview guide for this study that included questions on drug use history, patterns of use, attitudes about and experiences using heroin and fentanyl, drug combinations, the distribution of drugs, and local trends in drug use. At the end of the fentanyl-focused portion of the interview, participants were asked to respond to a series of open- and closed-ended questions about overdose and naloxone use.

Each participant was interviewed one time only, and no identifying or personal information was collected. After establishing eligibility using the participant's SEP identification (ID) number, participants were assigned a random study ID number for data collection and management. Participants received \$20 for their participation in this study. All data collection processes and

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procedures for this study were approved by the Case Western Reserve University Institutional Review Board. There were no protocol deviations.

Data Analysis

Conducted in a compressed timeframe, the research team had to leverage the data collection and analytic procedures of the rapid assessment process (Beebe, 2001). Three researchers conducted interviews (Dr. Hoffer, Dr. Schlosser, and Kayla Buckelew). After each interview, the researcher took notes on the themes and topics of the interview. Because of the focused nature of this study, use of the semistructured interview guide produced a rapid saturation in participant responses. Researchers then relistened to interviews to verify themes and generated a “themes document” outlining central findings on the topics of interest. After each researcher developed independent themes, the research team compared and contrasted themes to identify those most salient across all the interviews. All the major themes are presented in the “Summary of Findings” section, and a selection of representative quotes from interviews are included.

DEMOGRAPHICS (N= 30)

Male: 76%
White, non-Hispanic: 83%
African American: 10%
Hispanic: 2%
Age range: 20–60 years
Mean age: 39 years
Used fentanyl: 90%

SUMMARY OF FINDINGS

Findings from this hot-spot study are organized into the six general categories (provided in the Introduction) aligned with study objectives, research questions, and the interview guide. Many of these topics, however, overlap and interact.

1. Availability of Fentanyl (e.g., ease of accessibility and marketing by dealers)

The findings in this section highlight the perceptions of participants on the availability of fentanyl and issues related to its sales, marketing, and general access to the drug.

A. Within the last 3–4 years in Cleveland, the sales of fentanyl seem to have crowded out heroin. Participants reported much more fentanyl being sold than heroin. Because the two drugs are mixed by some dealers and sold as “dope,” users often are unaware of the contents of the drug they were sold:

— “[Heroin is] not impossible to find but it’s like, if you got like 10 dope dealers, maybe 2 of them will have heroin and 8 will have fentanyl.” [8673]

— “Fentanyl is in everything you buy. It’s all fentanyl now.” [7207]

— “You can’t avoid it [fentanyl]. It’s part of what you’re getting and you can’t stop it. Nobody has pure heroin anymore. Not that it was ever *pure*—it was heroin with a cutting agent—but now it’s where I think it’s in everything.” [4305]

— “It’s been so long since I have seen real heroin.” [0643]

B. Fentanyl is widely available in Cleveland and comes in different forms (rock or powder):

— Fentanyl was sometimes identified by its color. A brown-colored drug was primarily considered heroin; a pink-, purple-, yellow-, tan-, or white-colored drug was often considered fentanyl. Some participants noted, however, that color is an inconsistent indication of drug composition.

— Fentanyl was reported to be slightly less expensive than heroin (e.g., \$80

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per gram vs. \$100 per gram for heroin), although not all participants concurred on this point.

C. Participants were generally confident that the majority of “heroin” they purchased in Cleveland had at least some fentanyl in it. Most participants believed all, or almost all, of what is usually sold as “heroin” is mixed with fentanyl:

- “That’s why people OD, because they don’t say it’s fentanyl, they say it’s heroin.” [1814]

— Most participants believed that dealers intentionally mixed fentanyl with heroin because of the cheaper cost of fentanyl and the strong rush associated with the drug. Some participants indicated that dealers were trying different mixing recipes:

- “I think they do [mix fent into their heroin supply] to make it a little strong. ‘Cause it’s all like competition--it’s like Walmart, Kmart, you know, it’s who’s got the better deals. So if this dude’s stuff is better than this dude’s, and it’s the same price, you’re gonna go to this dude because this deal is a little bit better. So yeah, they mix it in. Have I ever heard a dealer say, ‘This is 100 percent straight fentanyl, buy it.’ No, I aint never heard that, and I probably never will [Laughs].” [7752]

- “You never know *when* you’re getting it [fentanyl], but you’re getting it in everything.” [4305]

— Other participants thought dealers simply did not know what they were selling or mixed multiple drugs to create hybrid products:

- “Now they even have this stuff it’s called “black magic,” you can buy it off the internet. Like I don’t know if it’s fentanyl or what, that’s what my dealer does now. It’s like a synthetic dope, heroin, I don’t know what, synthetic fentanyl, but I seen a big bag of it, and he (dealer) takes that and mixes it with some fentanyl and some heroin, he mixes it with the fentanyl to give it the big rush feeling, and he mixes with the heroin to get the legs, so you don’t get as sick as longer.” [8673]

D. Some participants also noted that carfentanil was occasionally sold and is present in the current opioid market, although not as common:

— “Bought drug the other day, it was purple, dealer said “dose lightly, dose lightly.” Heard that so many times, but I did, and the drug did not do anything, so I used more. There were two days that we don’t remember anything. The whole house was torn up. (...) Called the dealer back and

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he said, “yeah there was a little bit of carfentanil in it. I don’t want anything with carfentanil in it! That’s something that’s gonna will kill you, 9 times out of 10 it’s gonna kill you, eventually, weather it’s not that first batch one of the batches will have too much.” [0643]

E. Although fentanyl is sold independently of heroin, when sold mixed with “heroin,” users report identifying it by the feeling (after injection), by visual inspection, and occasionally by taste:

— Participants noted that heroin/fentanyl mixes sold as heroin present a high level of risk when using because of the unknown fentanyl:

○ “I can’t look at it and be like...that’s fentanyl, you don’t know.” [4013]

○ [You can tell it is fentanyl because] “you can do 1 bag and you’re high as a kite.” [7202]

○ “Once you start seeing like a little spec of blue or purple in it, it’s like, what the hell’s this?” [1236]

○ Fentanyl is bad “not because people know that it’s in there...it’s bad because they’re putting it in everything and nobody knows it’s in there.” [1236]

F. Only a small subset of participants reported having consistent access to authentic heroin (i.e., drug not mixed with fentanyl). These participants reported buying consistently from a small number of older dealers (often just one or two). Some used fentanyl test strips before injecting (available at the SEP) to test their drug:

— “Usually when you switch, switch, uh, switch, uh, suppliers then you can take a chance, you taken a chance on gettin fentanyl.” [6094]

2. Popularity of Fentanyl (e.g., users intentionally seeking fentanyl)

The findings in this section highlight how users describe and frame the current popularity of fentanyl. Here users discuss their own perceptions, as well as how they understood other users' perceptions of the drug.

A. Most participants in this study did not want to buy/use fentanyl, and many actively sought to avoid it. Most participants reported a preference for heroin over fentanyl:

— Despite this, many participants also reported that they had used fentanyl and fentanyl mixed with heroin to get high or avoid getting sick, and would do so in the future:

○ “Sometimes you don’t have a choice.” [4664]

— Multiple reasons were reported for the preference for heroin and avoiding fentanyl, including fentanyl not lasting as long as heroin or not producing

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as “good” a “high” as heroin, the random and variable risk associated with fentanyl potency, and cost (heroin was believed to be cheaper in the long-term as a result of its longer effect):

- “[Fentanyl is] *very* common. I hate fentanyl. I *hate* it. I hate the way it feels, I hate its short duration, I won’t use it. I hate fentanyl. I know people who love fentanyl. [I: Why do people love it?] I think because it hits ya hard. And they like that feeling of bein’ kind of whacked out—spaced out, ya know? Kinda like, some people like to smoke crack. I hate smokin’ crack. I hate fentanyl, I hate the feeling that it gives ya. I just. I hate it. Ya know, I *love* opiates—I love heroin—I hate fentanyl. So I go out of my way to *never* do fentanyl—but here’s the thing now, I’ll give somebody really good dope—pure dope—without fentanyl it in. Very high quality, and they won’t like it because there’s no fentanyl in it. I mean people actually like fentanyl. They like fentanyl, and I think it’s crazy—how do you like fentanyl? It’s gross—to me it’s gross. I hate it. I’d say a majority of people like fentanyl—they’d rather do fentanyl than real heroin, which... is... I can’t explain it.” [7336]

B. Almost all participants reported that managing an opioid habit with fentanyl was more time consuming and costly when compared with heroin. Because the effect of fentanyl was reported to be shorter than heroin, it needed to be injected at twice the rate of heroin. This made a fentanyl habit twice as expensive. There was also the matter of risk; unlike heroin, the overdose risk associated with fentanyl was considered less predictable:

- “It [fentanyl] makes me angry because I would like to do as least as possible, you know, like especially if I have a job I want it to last my 8 hours or whatever, I gotta work... sometimes, for me, I feel like it’s a waste of money.” [4013]
- “At first, I didn’t really know about it [fentanyl], but everyone was talking about it and hearing about it, stuff like that. (...) And I was pissed because I had to spend double the money and it’s hard to come by that. I use to be able to buy \$50 worth of heroin a day and it would last the whole day and have a shot in the morning. I didn’t have to do a shot every four hours, you know.” [8673]
- “[Fentanyl is] good if you wanna get high, but I think it’s messing with fire—it’s very dangerous.” [7207]

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- C. Searching for the “killer dope.” Several participants reported that other drug users seek out fentanyl for a more intense “high.” Seeking fentanyl was attributed by some participants to its stronger effect. Some participants attributed fentanyl-seeking to its longer duration when mixed with heroin. Yet some participants also reported that fentanyl is seen as “taboo” and most people try to avoid it “if they can” [6094]. Thus, there was contradiction in participant reports on this theme:
- “Some people are, ‘oh God I don’t want fentanyl,’ and they’re kind of in denial because it’s in everything, and other people are lookin’ for it because they know that if you get a heavy amount of it, it will really really get you high.” [4305]
 - “Everybody that I’ve met, they don’t ask for heroin no more, they say, ‘You got fentanyl?’” [1091]
 - “I think most people, as far as I’ve seen, would prefer the fentanyl. ... Um, maybe until they’ve had a friend die or they’ve overdosed or somethin’ they might go, ‘Ok...’ You know what I mean? I would say for *users*... because also if you get something that strong for the same price it’s just gonna last ya longer too then... so I think until somebody has a massive overdose or sees a friend die from it or something, I don’t think they view it—fentanyl—as a bad thing really.” [7005].
 - Some participants described a subgroup of users who seek fentanyl when buying drugs. Participants had differing thoughts on the types of users that seek fentanyl, but typically they described them as either newer and/or younger users. Less often participants described them as older and/or longtime users:
 - “Maybe these newer addicts [seek out fentanyl] ...right, cause it’s all they’ve done.” [4013]
 - “When I was a new user, I was just happy to get whatever.... it’s like that young mentality of like [mocking tone], ‘Oh I’m getting high so you know, like whatever.’” [6921]
 - Some participants reported that before fentanyl became prevalent in the local drug market, they searched for potent heroin (i.e., that causes overdose among other users). They noted, however, that this heroin was still not as potent as fentanyl and that it typically would not lead to overdose:
 - “Now it’s something completely different, you know, where that was not as dangerous as it is now. (...) When it was heroin, don’t get me wrong, if I heard someone fell out from some good heroin,

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they overdid it, I knew my tolerance so that didn't happen with me. I never once overdosed from it. But with this stuff, it can kill anybody." [0643]

D. Several participants described a decline in the quality of heroin that has not been adulterated with fentanyl:

— "Dope [heroin] in Cleveland really sucks." [4664]

— People seek fentanyl "only because they can't find good dope [heroin]." [6921]

3. Fentanyl Sold and Used in Combination With Other Illegal Drugs (e.g., cocaine and methamphetamine)

This section highlights users' knowledge of fentanyl being mixed and/or used with other drugs.

A. Participants reported an awareness of narratives from media (e.g., local TV news) and drug-using peers about fentanyl being mixed with other drugs. None, however, had personal experiences with these mixes:

— Drugs reported being mixed with fentanyl included marijuana, cocaine, and methamphetamine.

— There was a belief among some participants that when people overdosed from using an "upper" (e.g., cocaine or methamphetamine), it was because those drugs were cut with fentanyl:

○ "I've never heard of people overdosing on uppers." [4013]

B. A small number of participants reported fentanyl being pressed into pills and being sold fraudulently as Rx pain medications (e.g., Percocet[®]). As noted earlier, however, these reports were secondhand.

4. Patterns of Fentanyl Use

This section presents the patterns of use associated with fentanyl use (e.g., mode of administration, schedule of use, or relationship to other drug use). In most cases, this assessment is set in contrast to general heroin use patterns.

A. Participants reported that injecting fentanyl has a fast and intense onset. Many reported this as distinct from heroin and that they were able to tell whether the "heroin" they purchased was mixed with fentanyl from this experience.

B. Participants reported that the onset of withdrawal symptoms occurs around 2–4 hours with fentanyl use, compared with 8–12 hours with heroin use. As a result of this withdrawal timeline, participants reported the need to inject more frequently when using fentanyl or heroin adulterated with fentanyl:

— "I used to be really good at like, getting whatever I needed and like getting

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home, but like, now-a-days, you're so sick, so quick, it's whatever's available, you know what I mean, public restrooms, stuff like that [...] [Before fentanyl] it was like possible to have a habit and maintain, like, a life but with fentanyl it's just, it's not at all." [3132]

- C. Risk awareness: Participants understood that “heroin” use is riskier in the context of the high prevalence of fentanyl in the drug market, and they reported a general fear of fentanyl, which motivates them to be more cautious with their use:

- “It’s very, very dangerous.” [3132]
- “It’s not a drug anymore, it’s like you’re buying a casket.” [6921]
- “I’m definitely more cautious about it [using fentanyl] just because it does scare me.” [3807]

- D. Risk reduction efforts: When participants inject fentanyl or suspect that heroin might be adulterated with fentanyl (because of the appearance, taste, etc. or because it is from a new dealer), they engage in a variety of risk-reduction behaviors motivated by fear of overdose (e.g., injecting smaller amounts of drug first to test potency, avoiding use alone, and ensuring they have naloxone nearby):

- “I think there are boundaries that should be set and if you’re gonna use fentanyl, then you just don’t go gun-ho and do it. You know what I mean? But that’s the difference between me and other people—people go for that high—they want that high—and I want to get high, but I don’t want to get so high that I die. You know?” [6110]

- E. Long-term use is unsustainable: Participants reported the belief that the presence of fentanyl in the local drug supply made it impossible for users (themselves included) to maintain a long-term habit. This motivated several participants and others they know to make plans for stopping their opioid use with or without formal treatment:

- [Opioid users are responding to fentanyl by] “just dying.” [3132]
- (In reference to long time users who sought out fentanyl so they could “get right” for less money) “I did know people like that but they’re dead now.” [1236]
- “This whole thing is about survival...you wanna keep it going, that’s the junkie’s job, is to like, keep it going. Um, with fentanyl, that interrupts that.” [6921]

5. The Local Market

During the last 2–3 years, illicit fentanyl has changed the market for high-potency injectable opioids in Cleveland in several notable ways.

- A. The potency of illicit fentanyl is highly variable. This variability is both challenging

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for users in maintaining use (managing an opioid habit) and dangerous because of the seemingly random overdose risk. This variation in potency is greater than the variation in heroin potency present in the past, and it has required users to make adjustments, including using less drug, testing the drug before using, and being more cautious with dosing (e.g., carefully spacing out their use).

- B. The batch-to-batch and inter-batch variation of illicit fentanyl mixtures is significant and greater than with heroin in the past. With heroin, just a couple of years ago, there was very little variation in potency and many users reported that heroin potency was low. Now, the potency of “heroin,” which is almost always adulterated with fentanyl, is highly variable:

— “[In the past] you could trust that, when I do this, it’s gonna make me feel like this... once the fentanyl came, it changed the whole game...you couldn’t trust your drugs anymore.” [6921]

— “You can...do like a shot like out of the bag that you get and it like do nothing and not even get you well and then like the next one can like, put you out, even doing the same amount or less. (...) It’s like baking a batch of chocolate chip cookies, you know, you put like all the chocolate chips in the batch, but like, some cookies might have 10 some might have 2...that’s pretty much what you’re dealing with.” [3132]

— “My bag and your bag might come from the same batch but they’re not scientists, like I said, so their mixing stuff, and one bag might just have a little speck more of carfentanil, mine might not get the drop of carfentanil, and that’s gonna kill you. I know that, so, I don’t go after that necessarily. But some people do, some people I know like to find shit with carfentanil in it.” [0643]

- C. Participants were unanimous that people selling fentanyl did not use the drug. Dealers “test” their batches with users, often giving them free “samples” to do so:

— This presents challenges. One participant, for example, was a drug “tester” and reported that she would tell the dealer she tests for that the drug was less potent than it really was to get more potent drugs.

— This contrasts with the past when there appear to be more drug dealers who also used their heroin supply.

- D. Participants frequently noted that dealers were buying their supplies of illicit fentanyl/carfentanil from the Dark Web/Internet. They also noted that a small investment in fentanyl/carfentanil could generate large supplies of drug to sell:

— “Seem like everybody is selling fentanyl...there getting it off the Dark Web... He (dealer) orders carfentanil, a gram for \$2200, cuts it into 200

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grams, said he died six times mixing it because it is so dangerous, you need hazmat suit... he gets 200 grams, 200 grams at \$100 apiece, you do the math, it's \$200K... it's all cut with a little bit of carfentanil, but that's all you need." [0643]

6. Other Emergent Themes

This section outlines themes that emerged from the interviews that were not part of topics 1–5. These themes were focused on specific, as well as on general, topics of interest.

A. *Methamphetamine use (smoking and injecting)*. Only a few participants were using or had used methamphetamine. Some reported that methamphetamine use was increasing in Cleveland, but most were unaware of trends in methamphetamine use. Reports of increased methamphetamine use is a notable and recent trend (within 1–2 years). In previous studies, methamphetamine use was not reported by drug injectors in Cleveland:

- “I call it tweakers vs junkies. Lot of meth-heads, there's lots of people doing meth, just doing meth, and that's a lot more than I have ever seen... that's like exploded. And then there's junkies, and that's like me. (...) Cops are on the meth hunt. They aren't on the heroin hunt, so to speak. They are looking for the meth guy.” [6921A]
- There were mixed reports about sellers offering both heroin and methamphetamines for sale. Users who reported there was more methamphetamine use occurring in the city also noted the drug was becoming cheaper.
- Participants did not report much overlap between heroin/fentanyl users and methamphetamine users, although some participants reported that opioid users use methamphetamine to take a “break” from opioid use and because the risk of overdose associated with methamphetamine is perceived to be lower and therefore it is safer to use.
- Reports were mixed on the local production of methamphetamines being sold in Cleveland. Akron, OH, is a 30-minute drive south of Cleveland and was considered the methamphetamine capital of the state in the late 1990s. Some participants reported Akron as the source of Cleveland methamphetamines, while others suggested the drug was being produced and imported by out-of-state Drug Trafficking Organizations (“Mexican [methamphetamine is], not very potent, so you have to do a lot.” [6921A])

B. *Cocaine use (smoking and injecting)*. Some participants reported that cocaine was making a “come-back” in Cleveland. Evidence for this assertion, however, was uneven as reporting was mixed:

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- No participants reported cocaine and fentanyl being mixed by dealers.
- Participants reported using “speedballs,” mixing a stimulant such as cocaine or methamphetamines with the opioid they typically use, which is often heroin adulterated with fentanyl.

CAVEATS AND LIMITATIONS

Although the authors are confident that the findings reported in this report capture the majority of participant responses, this study has limitations. First, there were few African American or Hispanic opioid users recruited for this study. Trends and attitudes might be different in this population. Second, this study did not involve fieldwork observation. It is important to observe how people who use drugs behave in their everyday lives as this adds depth and context to interview data and may uncover its limitations. Third, the small sample size makes it difficult to generalize the findings reported to an entire population of people actively injecting drugs in Cleveland.

CONCLUSION

The historical context of this hot-spot study is important. As the introduction of illicit fentanyl occurred within the last 2–3 years, it was important to assess the general patterns of heroin and fentanyl use in Cuyahoga County. To examine the introduction of this more potent opioid, this study was aimed at exploring how people injecting heroin responded to this new drug supply; user attitudes toward fentanyl; how users understand risks associated with fentanyl; and how the new drug has been incorporated into the local patterns of heroin use and sales. Several major findings emerged from this study:

1. *Illicit fentanyl use and sales dominates the opioid market in Cleveland.* When fentanyl entered the market (2015–2016), sellers initially incorporated the new product by mixing and selling it as heroin. It took users some time to learn about fentanyl. Sellers still sell the drug mixed with heroin, which is often sold as “dope” with the understanding among users that this is a mixture of heroin and fentanyl.
2. *Illicit fentanyl is more potent than the heroin previously sold in Cleveland.* Local sellers are mixing fentanyl batches (with cut and other drugs) with drug(s) they obtain over the Internet. Local mixing makes the potency of fentanyl highly variable from batch to batch. Such wide potency variation was rare in the heroin previously sold. To some extent, users have made adjustments in their use patterns to mitigate the overdose risks associated with the presence of fentanyl in the local drug market.

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3. *Carfentanil is intermittently present in the opioid market in Cleveland.* With carfentanil, the potency and variability in potency observed in fentanyl mixing is much more extreme and likely generates more fatalities.
4. *Most users prefer heroin to illicit fentanyl.* Participants in this study generally prefer heroin. This attitude, however, was inconsistent as users at times seek more powerful opioids to get “high.” Users also have to use illicit fentanyl more frequently than heroin to maintain their drug habit, and the variability in the potency of the drug is problematic to users.
5. *Users are generally fatalistic about overdosing from fentanyl.* This outlook was a product of the high rates of fatal and nonfatal overdose. All the participants in this study know users who have died from fentanyl/carfentanil overdoses, and most have themselves overdosed from these drugs. This fatalistic attitude is different from their attitude in the past when using heroin. Users are aware of and have responded to the increased risks of overdose associated with fentanyl.
6. *Methamphetamine use may be increasing in Cleveland.* Some increase in methamphetamine use seems connected to the opioid epidemic. Based on a lower perceived (and actual) risk of overdose, some opioid users have switched to using methamphetamines. It will be important to track this local trend in methamphetamine use.

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Cuyahoga County Opioid HotSpot Study

Interview GUIDE (Opioid Users)

Introduction: (READ) In this interview I will be asking you questions about YOUR past use of illegal drugs. These will include your history of drug use, your opioid use, your experiences with opioid overdose, and your treatment experiences. We hope to use this information to improve services for people who use opioids.

There are no right or wrong answers and you can refuse to answer any question by saying “pass.” I will not share any of your personal information with anyone outside our research team. If we discuss what you tell us with anyone we will not use your name.

Background & Demographics

1. How old are you?
2. What race/ethnicity do you identify with?
3. What is your gender identity?
4. What is the highest level of education you completed?
5. Are you from Cuyahoga County?

(If yes) How long have you lived in the area?

Can you tell me about the neighborhood you grew up in?

6. Can you tell me about your current living situation?

How long have you lived there?

Who lives there with you?

7. Did you have a (legal) temporary, part-time or full-time job?

(If yes) What do you do? How long have you done this type of work?

(If no) When was the last time you worked? What did you do?

Do you work “under-the-table”? What do you do?

8. Are you married or do you have a significant other?

9. Do you have children?

How many? How old are they?

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Drug Use History

1. Can you tell me about how you started using opioids (i.e., heroin, black tar, fentanyl, Opana, morphine, codeine, Percocet, OxyContin, methadone, or buprenorphine/Suboxone)?

When did you start using? How old were you?

What types opioids did you start using?

Who did you start using with?

Do you consider yourself “addicted” to opioids? When did you realize you were addicted?

2. Have you ever used methamphetamine?

(If yes) When do you use it? How do you use it?

[Probe for past and current use, social contexts of use, mode of administration, pattern of use (binge, consistent), use in combination with other drugs]

3. How has the types of drugs you use shifted over time?

[Probe for changes in opioids used, changes in other drug use, and contexts of changes]

4. How would you describe your current opioid “habit”?

How often do you use? Did you have a consistent schedule?

How much do you usually use at one time?

How long have you used like this?

Do you get “high” when you use?

5. Did you usually use by yourself or with others?

Who do you usually use with (relationships not names)?

How did you meet the people you use with?

How would you describe your relationship with the people you use with?

6. Where do you usually use? (Public/private locations)

Fentanyl Patterns and Trends

1. How common is fentanyl use in the area?

Is fentanyl a popular drug among users?

[Probe for changes in popularity over time, popularity among certain groups of users]

How do users identify fentanyl?

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How available is fentanyl? [Probe for consistent or sporadic access]

Is fentanyl being marketed (distributed) specifically as fentanyl?

Is fentanyl being disguised and mixed with heroin (or other drugs, e.g. cocaine) without user knowledge?

(If yes) How are heroin users responding?

2. How do people use fentanyl?

[Probe for: 1) mode of administration; 2) by itself or combined with other drugs; 3) intentionally or accidentally]

3. Do you ever seek out fentanyl when you buy drugs?

Have you ever intentionally used fentanyl?

What effect does fentanyl have on you?

Have you ever overdosed when you used fentanyl? [*Probe for circumstances and outcome*]

Proposed Revised Naloxone Addendum

October 23, 2018

Knowledge about Naloxone

1. Have you heard of Narcan or naloxone opioid overdose antidote? (existing Q Y/N)

(If yes) How did you first learn about it?

How have your beliefs about it changed over time?

2. Do you currently have narcan/naloxone?_(existing Q Y/N)

(If yes) Where did you get it? [*Probe for DAWN, pharmacy, another opioid user*] (existing Q Y/N)

Can you walk me through the process of getting a kit? What is in the kit?

Do you carry the kit with you? [*Probe for where they carry the kit, how often they carry it on them?*]

Access to Naloxone

3. Do you think that naloxone is available and easy to get? Why? (existing Q)

4. How has the availability of naloxone has changed how opioid users think about their drug use? (existing Q Y/N)

[*Probe for changes in how users think about “good” (i.e., potent) drugs, the idea of “killer dope”*]

5. What do you think prevents people from obtaining naloxone kits? (new Q)

6. What can you tell me about Good Samaritan laws? (new Q)

[*Probe for knowledge of state Good Samaritan law. What is the law? How does it work?*]

7. How can programs that distribute Naloxone improve their services to meet the needs of users? (new Q)

Experience with Naloxone

8. Have you ever received training about how to administer naloxone? If yes, From whom?

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9. Have you ever seen someone else being given naloxone to reverse an overdose? (existing Q Y/N)

(If yes) How many times?

When was the last time you saw this?

Can you walk me through what happened the last time you saw someone else given naloxone? [Probe for what drug(s) they used, who they were with, how they were treated (formal/informal care), etc.]

10. Have you ever overdosed from using opioids? (existing Q Y/N)

(If yes) How many times?

When was the last time you overdosed?

Can you walk me through what happened the last time you overdosed? [Probe for what drug(s) they used, who they were with, how they were treated (formal/informal care), etc.]

Has someone ever administered naloxone to you to revive you from an overdose? (**existing Q Y/N**)

(If yes) How many times? ___ ___ ___ (**existing Q**)

Who administered it? (focus on last time OD'd)

How did you respond? [Probe for physical and emotional responses.]

How did others around you respond? (e.g., the person who administered it, people you were using with)

Did someone call 911?

(If Yes) Who responded to the call? EMS, Police, Fire?

What happened? [Probe for interactions with emergency responders, how they were treated, and the outcome.]

How did the experience change the way you think about opioid use or addiction?

How did the experience change the way you use opioids or other drugs? [Probe for changes in level of opioid use, schedule of use, precautions taken to prevent future OD, sense of safety provided by naloxone, etc.]

How did the experience change the way you think about entering a treatment program?

11. Have you ever administered naloxone to someone else to reverse their overdose? (existing Q Y/N)

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(If yes) Can you walk me through what happened?

Did you call 911?

(If Yes) Did you stay to wait for a first responder? [Probe for reasons to stay or not stay: knowledge of Good Samaritan laws, fear of repercussions, outstanding warrants, stories from friends about calling 911, etc.]

Who responded to the scene? Police, EMS, or Fire?

What happened? [Probe for interactions with EMS, Police, or Fire, how they were treated, what the outcome was]

(If No 911 call) Why did you choose not to call 911? [Probe for reasons to stay or not stay: knowledge of Good Samaritan laws, fear of repercussions, outstanding warrants, stories from friends about calling 911, etc.]

12. Have you ever administered narkan/naloxone to yourself? (existing Q Y/N)

[Probe for if they know others who have done this, if they think it is possible]

13. Have you ever had a friend or family member die from an opioid overdose? (existing Q Y/N)

[Probe for relationship to the person, how the death influenced their life in general and drug use and desire for treatment specifically]

Perceptions and Attitudes of Drug Users about Naloxone

14. How do people who use opioids think about naloxone? (existing Q)

15. Has Naloxone changed how opioid users think about overdose? If yes, how? (new Q)

How has it changed how users think about the chances they will die from an overdose?

How has it changed how users think about the need for treatment?

How do users think about what it means to “die” and be brought back to life with Naloxone?

16. How are people who have been revived with Naloxone thought of by other users? (new Q)

Are people who have been revived with Naloxone thought of any differently by other users?

[Probe for social stigma, loss of relationships, unwillingness of dealers to sell to them, lack of access to services and other resources.]

17. How do dealers think about Naloxone? (new Q)

[Probe for how dealers might draw on Naloxone in their sales such as using it to promote opioid sales (e.g., as a selling point).]

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18. What prevents people from using it to revive someone? (new Q)

TO BE FILLED OUT FOR ALL PARTICIPANTS

SUBJECT ID# _____

Influence of the Availability of Naloxone on Drug Use Behaviors

1. Please indicate how much you agree with the following statements on a scale of 1 to 5 with 1 being “Don’t Agree at All” and 5 being “Strongly Agree”

Don’t
Agree

Stron
gly

	1	2	3	4	5
People who have naloxone kits are more likely to take opioids (for example: oxycodone, codeine, Roxicet, Percocet, methadone, buprenorphine, heroin)					
People who have naloxone kits are more likely to take bigger doses of opioids than they would if they didn't have the kit					
People who have naloxone kits are less likely to take bigger doses of opioids than they would if they didn't have the kit.					
People who have naloxone kits are more likely to use opioids safely without risking overdose.					
If I know that there is a naloxone kit nearby, I feel safer when I use opioids.					
When I have naloxone available, I am more likely to use opioids.					
When I have naloxone available, I am more likely to take bigger doses of opioids.					
When I use opioids alone and have naloxone, I feel more confident about my safety.					
If I used too much opioids, I would be able to administer naloxone on myself before I lost consciousness.					

Closing

1. Is there anything that you’d like to add before we finish? Anything else about your experiences that you’d like to share? Anything that you think is important that we didn’t talk about? (new Q)

VERBAL CONSENT INFORMATION SHEET

Cuyahoga County Opioid Use HotSpot Study

You are invited to take part in a research study conducted by Dr. Hoffer and colleagues at Case Western Reserve University. Please ask for an explanation of any words you do not understand.

This study is about illegal drug use. You have been selected as a possible participant in this research because you have identified to us that you currently inject heroin or other opioid drugs.

Background Information

Why is this study being done? Dr. Hoffer and his research team are conducting this study to understand opioid use in Cuyahoga County. A total of 30 people will be invited to participate.

What am I being asked to do? You are being asked to participate in one confidential interview lasting up to 60 minutes. This interview is about your personal experiences using opioid drugs.

Procedures

- 1. Before your interview:** If after reviewing this information sheet you would like to participate, you will be assigned a unique random identification number. This number will not be linked to any of your personal information. We will not collect any of your personal information such as your real name, address, or phone number.
- 2. The interview:** You will participate in an interview that will last approximately 60 minutes. You will be asked questions about your past and current drug use and your knowledge of local drug use beliefs and practices.

It is important to understand two things about the interview: 1) we are not interested in, and will not ask for, the names of any specific people, and 2) **YOUR NAME WILL NEVER BE ASSOCIATED WITH ANYTHING YOU SAY DURING ANY INTERVIEW.**

How long will I be in the study? You will be participating in one interview that will last approximately 60 minutes.

Risks and Benefits to Being in the Study

- 1. Risks:** There are risks associated with participating in this study, but they are rare. You may find some of the topics of the interviews make you uncomfortable because of their personal nature, because they may bring to mind unpleasant memories, or because they ask you about illegal behaviors you have participated in. You may refuse to discuss any topic or refuse to answer any individual question that makes you uncomfortable.

The risk that confidentiality could be broken is a serious concern, but very unlikely to occur. To

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protect confidentiality, you will be given a number to identify your data in this study. Additionally, we will not collect any personal, identifying information from you, and there will be no paper record of your participation in the study. We also request that you refrain from mentioning names of dealers, associates, friends, etc.

- 2. Benefits:** There are no direct benefits to you for participating in this study. You will have the opportunity to participate in a research project, which may lead to improvements in delivering intervention and prevention programs to opioid users. You also may feel personal satisfaction from having the opportunity to discuss your experiences with the researcher interviewing you for this study. Our intent is to make your participation in this study comfortable and non-threatening.

Compensation

There are no costs for you to participate in this study. You will be paid \$20 cash if you complete the interview to compensate you for your time and effort.

Confidentiality

The research team will only use and share your information as talked about in this form. The research team will also make sure information cannot be linked to you (de-identified). De-identified information may be used and shared for other purposes not discussed in this consent form.

This study is sponsored by a research grant from the National Institutes of Health. Representatives of the sponsor will have access to your research records for monitoring the study. The research team also will send study results to the sponsor. Information sent to the sponsor will be de-identified. The sponsor will protect the confidentiality of your information and will only use data to complete federal responsibilities for audit or evaluation of this study.

Voluntary Nature of the Study

Taking part in this research is completely voluntary. You may choose not to take part in this research study or you may withdraw your consent at any time. If you choose not to participate, it will not affect your current or future relations with Case Western Reserve University or Circle Health Services. There is no penalty or loss of benefits for not participating or for discontinuing your participation. However, you will only be paid if you complete the interview.

Contacts and Questions

The researchers conducting this study are Dr. Lee Hoffer and his research team. You may ask any questions you have now. If you have any additional questions, concerns or complaints about the study, you may contact Dr. Hoffer directly at (216) 368-2631.

If the researchers cannot be reached, or if you would like to talk to someone other than the researchers about (1) questions, concerns or complaints regarding this study; (2) research participant rights; (3) research-related injuries; or (4) other human subjects issues, please contact Case Western Reserve University's Institutional Review Board at (216) 368-6925 or write: Case Western Reserve University, Institutional Review Board, 10900 Euclid Ave., Cleveland, OH 44106-7230.