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Sold As Heroin: Perceptions and Use of an Evolving Drug in Baltimore, MD

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Abstract

Since 2001, heroin-related overdose deaths in the United States have risen six-fold, a rise unaccounted for by the expanding user population. Has heroin become a more dangerous drug? Reports of fentanyl and its analogs, often concealed in or sold as heroin, have also increased sharply. This paper investigates heroin injectors' perceptions and experiences to changes in the heroin supply in the East Coast city of Baltimore, Maryland, currently experiencing an epidemic in heroin- and fentanyl-related overdose deaths. Unusually, Baltimore's heroin market is divided between two types: 'Raw', believed to be Colombian in origin and relatively pure, and the more adulterated 'Scramble' (Raw heroin traditionally blended with quinine and lactose). Users reported that Scramble heroin, while gaining market share, has become a highly unstable product, varying dramatically in appearance, intensity of onset, duration of action and and effect. Some considered that scramble was no longer 'heroin' but heavily adulterated or even replaced, mentioning fentanyl, benzodiazepines and crushed opioid pills as additives. There was intense awareness of overdose as a present danger in users' lives, which they linked to the recent adulteration of the heroin supply. Responses to this perceived adulteration varied, including information gathering, attraction, avoidance, taking precautions and acceptance.

Keywords

"Scramble"; heroin; United States; overdose; fentanyl; injection drug use

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Introduction

Since 2002 heroin-related overdose deaths have risen six-fold in the United States (U.S.) to almost 13,000 in 2015 (NIDA 2017). Intertwined with the opioid pill epidemic, (Unick et al. 2013, Mars 2014) heroin use rose 63%, from 2002–2013. In 2015 an estimated 833,000 people had used heroin in the last year (CBHSQ 2016) but the magnitude of the increase in heroin use does not account for the even greater rise in overdose deaths. Has heroin become a more dangerous drug?

Four major changes have been documented in the US heroin supply in the last five years: heroin purity has been rising while its price per pure gram is at a long time low (NIDA January 2014, Caulkins and Padman 1993, DEA 2015c, 2016a); heroin is reaching parts of the country previously unfamiliar with its sale (Quinones 2015); heroin 'source-types' have proliferated, (Mars et al. 2016, DEA 2016a) and the supply is being contaminated with fentanyl and other synthetic drugs (DEA 2015b).

Commonly, retail heroin is 'cut,' either with diluents to add weight and stretch the substance, or adulterants, to improve uptake of the heroin, complement its effects or address a side-effect (e.g. diphenhydramine for itching) (Strang, Griffiths, and Gossop 1997). High levels of 'cut' do not necessarily dissuade users from purchasing heroin (Harris, Forseth, and Rhodes 2015), although responses vary: the addition of psychoactive adulterants is appealing to some users while others show hostility (Mars et al. 2016, Harris, Forseth, and Rhodes 2015).

Limited research on preference across heroin products indicates that some users value consistency and swift alleviation of withdrawal symptoms and do not equate purity with potency (Bancroft and Scott Reid 2015). Indeed, the quest for potency has led some to prize the most potent heroin over the purest (Mars et al. 2016) and to seek out heroin implicated in overdoses (Preble 1969, Fernando 1991, Mars 2015). Fluctuation in heroin purity is an independent predictor of fatal overdoses (Darke et al. 1999).

Fentanyl, a synthetic opioid 50–100 times more potent than morphine by weight (CDC 2016), and its analogs, have long been blamed for overdose outbreaks in the US (Hibbs, Perper, and Winek 1991, Wong, Curtis, and Wingert 2008, Schumann et al. 2008, Algren et al. 2013). Powder heroin has been more prone to adulteration than black tar heroin, and its dominance in the eastern states since the 1990s has made it a particular concern east of the Mississippi. (DEA 2015a, Coomber 1999). While toxicological testing for fentanyl has been uneven, an analysis of 27 states showed an increase in fentanyl-related deaths from 392 in 2013 to 1400 deaths in 2014 (Gladden 2016). Fentanyl contamination has been associated with heroin shortages (Mounteney et al. 2015) where suppliers use it to make up overall opioid potency (Hempstead and Yildirim 2014). Although sometimes diverted from pharmaceutical sources, most of the fentanyl tested in recent years has been illicitly manufactured in Mexico and China (DEA 2016b).

Data on toxicology, drug sources and overdose patterns are essential to understand changes in the US heroin supply and resulting harms. However, to comprehend these harms fully, it is helpful to view them within the 'structural risk environment' (Rhodes 2009). It is in this

space that physical, social, economic and policy environments interact at micro and macro levels of influence, producing drug-related harms more complexly than simply from individual behavioral choices. An understanding of users' lived experience both benefits from and contributes to understanding the risk environment. This paper explores the lived experiences and perceptions of heroin users in a particularly hard-hit US city: Baltimore, Maryland.

Background

Heroin has been endemic in Baltimore for over 50 years (Agar and Reisinger 2002) and the city is no stranger to its devastating consequences (Schwartz et al. 2013). Like other industrial cities in the Northeast, Baltimore has suffered economic decline due to deindustrialization. A majority of its population is African American and almost one-quarter live below the federal poverty level (USCB 2015).

Baltimore had some of the lowest purity heroin tested in 2014 (10.8% pure) but also among the lowest price per milligram pure (DEA 2016a). After falling to a low of 76 in 2011, Baltimore's heroin-related overdose deaths climbed to 260 in 2015 (MDHMH 2016), and 454 in 2016. Fentanyl-related deaths rose more steeply, from single digits to 182 in 2015 and 419 in 2016 (MDHMH 2017a).

Unlike most US cities that historically have had only one type of heroin (Ciccarone 2009), Baltimore has two, 'Raw' and 'Scramble'. Agar & Reisinger posited that Raw emerged in Baltimore in mid-1993 when Colombian-sourced powder heroin began entering the U.S. and was distributed through existing crack cocaine networks (Agar and Reisinger 2002). Raw, with its higher purity, was considered more attractive to heroin users who insufflated (snort/sniff/toot) than the lower purity 'traditional' Scramble (Agar and Reisinger 1999, Henderson 2002).

In this paper we focus on Baltimore heroin injectors' use and perceptions of Raw and Scramble heroin. Users' perspectives are often overlooked in accounts of the changing heroin supply and attendant risks. This research aims to address this imbalance by revealing users' subjective experiences, not simply as an issue of social justice but also as one of expertise. Through their daily encounters with heroin over a period of time, inter-group discussion, media reports, medical and harm reduction efforts, receiving the results of toxicological testing as well as other social processes, users come to synthesize their own accounts of changing supply and risk. Our approach views users' understanding as a legitimate source of knowledge. Such an 'epistemology from below' (Renkin and de Beer 2017), allows us to build a multi-faceted picture of changing supply and risk which is placed alongside comparative observations of the ethnographers.

Our ethnographic research is informed by a phenomenological perspective (Desjarlais and Throop 2011), as we aim to describe Baltimore users' interpretations of the sensorial and embodied experience of buying, preparing and injecting heroin and how they are coming to terms with this altered risk environment. An understanding of how those most affected by

the current heroin crisis in Baltimore comprehend their own experiences, we hope, will make any ground-level interventions more likely to succeed.

Methods

The ‘Heroin in Transition’ (HIT) study conducts ‘hotspot’ research where ethnographers are dispatched to locations around the country upon receiving reports of unusual or dangerous heroin. HIT employs ‘rapid assessment’, a form of highly focused ethnography. This enables researchers to gain knowledge about emerging health problems (Harris, Jerome, and Fawcett 1997, Trotter et al. 2001) from the perspective of those most directly affected. The paucity of up-to-date data regarding the fluctuating contents constitutive of street heroin, risks associated with novel heroin forms of unknown purity and modes of use, coupled with an urgent need for knowledge to inform interventions, make rapid assessment appropriate to this time sensitive problem.

With its use of semi-structured interviews, observation in the field and a ‘ground up’ approach to data collection, ethnography is well suited for examining the experiences and phenomena of everyday life and widely used in research among drug users (Raikhel 2013, Bourgois and Schonberg 2009). Rapid Assessment does not allow for the traditional long term immersion in a locality but uses a more directed, condensed approach to collecting ethnographic data with particular questions in mind (Page 2010).

Published and on-the-ground sources were consulted for reports of novel/evolving heroin forms. Following information about fentanyl-laced/substituted heroin in Baltimore alongside high levels of overdose, contact was made with Baltimore City Health Department and approval given for research by its public health review. The study protocol was approved by the University of California, San Francisco’s Institutional Review Board. The data and its collection are protected by a Federal Certificate of Confidentiality issued by the National Institute on Drug Abuse.

Recruitment and data collection

With the cooperation of Baltimore City Needle Exchange, data were collected over two visits in 2015 and 2016. This allowed for reflection on the initial data before returning to the field with further questions. Eligible participants were at least 18 years of age, living in or commuting to Baltimore, and were self-reported current injectors whose primary drug was heroin. Excluded were individuals if intoxicated, incoherent or otherwise unable to give informed consent or reliably answer questions. Researchers approached users attending a mobile needle exchange van at neighborhoods around the city, explained the study to them and obtained their consent. Respondents were assured that no identifiable data would be shared with the harm reduction staff. Pamphlets approved by UCSF IRB explaining the study and respondents’ rights were provided. Names have been changed to protect confidentiality.

Respondents received a small cash sum for their interview (approximately 0.5–1 h). All participants were interviewed once while some provided additional in-depth interviews and neighborhood tours. The ethnographers also filmed five heroin injections; where participants

discussed their experiences during filming, this was then transcribed and analyzed alongside the interviews.

The semi-structured interviews were conducted by the authors immediately upon recruitment at the needle exchange locations and in rental cars. An interview guide provided a general structure, including questions on the respondents' drug use history, a typical day in their life, heroin preferences, perceived changes in the heroin supply, knowledge of fentanyl, methods of use, sensory observations of drugs sold as heroin, and experiences of overdose. The semi-structured interview format allowed interviewees to shape their own responses and reduced the potential for bias resulting from the restriction of categories to those of the interviewer's viewpoint (Renkin and de Beer 2017, Pollio H. R. 2006). The participation of three ethnographers in the interviewing, ethnographic observation and data analysis also mitigated the potential for bias.

All interviews were audio-recorded, transcribed, and verified against the audio recording. Fieldnotes were drafted collaboratively each research day and finalized after the trips, recording the ethnographers' impressions, experiences and reflections.

Sample characteristics

This was a convenience sample comprising 17 men and 6 women currently injecting heroin (23 total); of 21 who stated their ethnicity, 5 identified as white or Caucasian, the remaining 16 as African-American. Experience injecting heroin ranged from under a year to 47 years.

Analysis

Analysis of the data was discussed weekly, thematic categories were developed and analytic memos produced for each interview based on the method utilized by Christopolous and Jaiswal (2015). Memos were cross-checked between JO and SM and findings discussed regularly with DC. We chose the memo method over software-based data coding, keeping the analysis alongside the full transcript, as a way of preserving the integrity of each interview. The analysis gave priority to the ways in which people experience drugs sold as heroin in Baltimore but also included the reflections of the ethnographers on their own experiences observing the drugs and their administration, for instance regarding the unusual nature of the multi-colored 'heroin' reported.

Some degree of subjectivity and contextual influence are present in all data interpretation but the ethnographers maintained an awareness of this, discussing and examining their own positionality and pre-existing ideas at multiple points during the research process. The data analysis was conducted by three multidisciplinary researchers with diverse life experiences, disciplinary backgrounds, age and mixed genders. Where discrepancies in the interpretation of the findings arose, these were discussed until agreement was reached.

Results

Changing 'heroin' in Baltimore

In Baltimore, 'heroin' was described as easy to obtain, with comments like "It's just like buying a pack of cigarettes", but distribution is not uniform. Historically, particular

Baltimore neighborhoods have been known for sales of either Scramble or Raw but interviewees reported that in recent years Scramble had begun to appear in many more areas, with Raw becoming harder to find. Scramble is sold in gelatin capsules while Raw is sold in glass vials typical of crack and powder cocaine. DEA data shows that heroin in Baltimore had the appearance of Colombian-sourced heroin but the samples' low purity prevented classification of its origin (DEA 2016a). Scramble was favored by interviewees for its 'rushing' sensation, described locally as its 'call', and for its low price point, sold for $5, $6 or $10, while Raw cost $20 and upwards.

When asked what Scramble was, the standard answer given was 'heroin' (Raw) with 'quinine' and 'benita.' Uncertainty surrounded both these reputed additives and whether they were diluents or psychoactive adulterants, with some describing benita as a 'baby laxative'. The lone published reference found describes benita as lactose, a sugar found in cow's milk (Richter and Rosenberg 1968). Quinine, once a common antimalarial medication, has been reported in East Coast heroin supplies since the early 1940s and may intensify the 'rush' of heroin (Perry and Ratcliffe 1975) although this remains uncertain.

Users observed that Scramble's makeup had changed in recent years with the addition of psychoactive adulterants and a reduced heroin content. Gary, in his 30s, using for 6 years, gave a typical answer:

Q: What do you think's in the Scramble right now?

A: There's supposed to be benita and quinine, I guess, but they can use various things, Xanax, any kind of benzo, fentanyl, morphine, all types of stuff.

Some even doubted there was *any* heroin in the substance sold under that name. As Tim, using for 25 years, put it, "…it's not heroin anymore! They got it mixed up and I got a habit off a bunch of chemicals now that they are mixing up in the city." He emphasized the immense amount of variability in Scramble's embodied effects:

Q: What does the Scramble feel like now for you compared to the heroin you used to use?

A: Feels weird […] like one day you may feel a rush like cocaine and your body may get hot. It may go in your behind and it get warm. It may burn. Different feelings.

An awareness of unusual contamination of Baltimore's heroin supply was evident in stories circulating, along with some first-hand reports, of heroin injectors who claimed to have only used heroin and yet tested positive for fentanyl and other drugs and sometimes negative for heroin.

Q: Have you been drug tested when you were using heroin?

A: Yeah, the last program I was in I used to drug tested Tuesdays and Thursdays and I was dirty every time. Yeah mostly fentanyl.

Q: Mostly fentanyl? What else was in your urine?

A: Heroin, Percocet's, lidocaine or morphine, all kinds of things. (Tim)

These tests were carried out by treatment services or law enforcement on arrest. Knowledge of the presence of fentanyl in the heroin supply may have also been informed by Baltimore City Health Department's publicity campaign, launched a few months before fieldwork began in 2015, drawing attention to the dangers of fentanyl-laced heroin and the rise in fentanyl-related overdose deaths (dontdie.org 2015, BCHD 2015). Fentanyl was generally believed by users to be found in Scramble rather than Raw.

Appearance

Respondents' descriptions of Scramble's appearance matched no heroin previously seen or heard of by the ethnographers, with an extraordinary diversity of appearance both dry and in solution: most commonly white, including 'brilliant' white powder (Figure 1) it also appeared in brown, tan, beige, grey, yellow or flecked with darker or sparkling colors and occasionally pink, purple, blue and orange. Scramble was described as fluffy or chunky in composition compared to Raw's granular texture. Raw's appearance and perceived effects varied too but less markedly. Typically, in powder form Raw is a variant of brown, although the ethnographers witnessed one sample the greyish color of mortar (Figure 2). As in the early 1990s, Raw was generally perceived as a higher purity "butt naked" heroin in contrast with Scramble's adulteration.

When dissolved in water, Scramble's range of colors varied from 'almost completely clear', 'clear caramel color', 'clearish dark grey', and 'muddy' brown water, blue or black. Samples witnessed by the ethnographic team turned from an off-white powder into a clear colorless solution and from bright white powder to an ice-tea solution. Raw heroin retains the traditional characteristics of Colombian heroin, (Mars et al. 2016) becoming rich brown colors, ice-tea to cola, in solution. Pharmaceutical fentanyl dissolves with water into a clear colorless solution (Daley 2017). Users reported preparing Raw as a 'cold shake' without heat, while Scramble was heated for a few seconds before dissolving.

Perceived adulterants

Users with over 5 years' experience agreed that recent changes in Scramble's composition had brought a lower heroin content and greater adulteration. While it is not new for experienced heroin users to complain about the quality of heroin available compared to when they first started using, perhaps due to unacknowledged tolerance, these Scramble users were reporting something different: the replacement of heroin with other psychoactive substances, which for some produced a more desirable 'rush'. The persistence of an intense rush in the context of long term users' high tolerance suggests the presence of a more potent opioid, such as fentanyl. Accounts like this from Frank, in his 30s, using intermittently for 16 years, aligned with fentanyl's short-acting pharmacodynamics:

I was on the methadone program so it takes a lot. It takes a lot for me to even get well. But I think a lot of [heroin] right now is fentanyl. Because what it is, is you get a really good rush but it doesn't keep you well that long.

However, some interviewees reported perceived fentanyl as having physiological effects lasting longer, (8–12 hours), than traditional heroin:

A: The high is wonderful. It's splendidly wonderful. It's magnified heroin feeling by a great number.

Q: Does it last longer?

A: Oh yeah it lasts real long. It holds you all day long. […] Yeah, and you be happy. I mean you don't be sick, you don't feel no pain. (Tim) Several long-term users contrasted the effects of heroin and perceived fentanyl. Evander gave this description:

A: [Heroin]'s more of a warm feeling, more of a solitude, quiet, confident feeling. […]

Q: And does the fentanyl feel the same or different?

A: No, it's very different. It's a fast downward spiral. And that's not good at all. Because it's going down so fast […] – you don't have no time to react.

Scott, a long-term user in his 40s, described what he thought to be fentanyl as "tingly":

It's like a numb kind of a tingly feeling in your lips you get from it. It's really hard. You can kind of feel it in your face and your shoulders. And the heroin you can pretty much feel it in the rest of your body. […] For heroin it feels like somebody's spilling warm water down the back of your neck. That's kind of how it feels but with fentanyl it's like weird. You feel it in your head and it kind of makes you dizzy.

While fentanyl is heavily implicated in heroin adulteration or replacement in Baltimore, the users we spoke with mentioned other added drugs as well, such as Xanax and opioid pills. Several long term injectors (using for 16–25 years) described feeling occasional stimulant or cocaine-like effects from Scramble.

Users' Responses to Heroin Supply Changes

Given the very high levels of heroin and fentanyl-related overdose in the city, it was not surprising that users we spoke with had lost friends, relatives and acquaintances to overdose. There was intense awareness of overdose as a present danger in their lives, which they linked to recent adulteration of the heroin supply. Users' responses to this perceived adulteration varied, including information gathering, attraction, avoidance, taking precautions and acceptance, with some overlap between categories.

Information-gathering techniques

In the absence of consistent hard data on their drugs' content, users relied on several methods to detect their ingredients prior to use, including powder and solution appearance and word-of-mouth information. Occasionally users mentioned dealers warning them about the strength of their heroin but dealers were generally considered unreliable sources concerning the content of their products. Instead they relied on peers' reports about strength and contamination (Mars 2015). Scott was typically skeptical of the dealers' claims:

A: The street level guys they don't even know what's in it.

They get it from their bosses and they just sell it like they're supposed to. […] They always try to tell you, oh, it's a missile, it's a bomb. And it's like, how would you know? You don't use dope […] [W]e all let each other know what's good and what's not good; what we think of the dope and what we think is in it and stuff. None of us know for sure you know but we'll say this is what it feels like. It feels like fentanyl, it looks like fentanyl. And, this has got a lot of Raw in it. You can see the Raw and it holds you a long time.

Like Scott, several experienced users claimed that they could detect fentanyl in the injected substance from how it felt but opinions differed as to whether appearance was a reliable guide to the ingredients. Some, like James, in his 50s, using for 25 years, believed he could tell the presence of fentanyl by its dry appearance:

"*When I've seen the white powder and I know it's fentanyl. And I see they done cut it with a cutting agent and it's all white, 9 times out of 10 it's just fentanyl. It may have just a little sprinkle of some heroin in it but it's predominantly fentanyl."*

Others reported that the color of the solution was also indicative: 'fentanyl is more of […] a yellowish clearish color, whereas heroin is more brown'. Undissolved residue in the cooker from crushed pills was also mentioned as a sign of adulterants. Some users did not view appearance as reliable at all.

Attraction

While acknowledging the dangers of highly adulterated heroin, some users were attracted by Scramble's intense rush which they linked with its 'cut'. *[…] And then [the adulterant] can be something that benefits the high like them putting and crushing up Xanax and adding that into it, it's going to make the person feel a bigger rush. And that's where they're smart in some ways in doing that because of course I'm going to want the pill [Scramble capsule] that has the Xanax and whatever else is in it that boosts the high. Even if it's not heroin I'm feeling it more than this other guy's stuff that doesn't have anything really added to it. […] But like I said the dangerous part is they could be adding five different things and you don't know what you're putting in you.* (Bill) Asked specifically about fentanyl, users commonly expressed a perception of danger but heightened pleasure. Abraham, using since the 1960s, warned against the dangers of fentanyl while acknowledging its attraction:

Q: What [heroin] have you used most recently? […] How would you describe that type of heroin?

A; It would be Scramble. […] Because Scramble a lot of times the chemical that it's cut with would be, you might have heard of it, it's called fentanyl. And fentanyl is probably the number one cause of overdoses, right? Fentanyl. Now fentanyl, I would tell a person if you don't have experience with this stay far away. Stay far away. Right? Now, see because you're gonna enjoy your experience with it if you survive it […] but there's no guarantee you'll survive.

Avoidance

Other interviewees reported that they tried to avoid fentanyl in their heroin. James explained "*So when you get high you'll know or even other addicts will say, yeah, man I ain't messing with that, man. Man, they got fentanyl in it.*" Montana, a 39 year old woman using for 21 years, also tried to avoid fentanyl: "*I know a couple of people have done died from that, with fentanyl, yeah. […] And I have a lot of associates that are letting me know, don't go to that place because they selling fentanyl."* Whether it is possible to detect and avoid fentanyl in Baltimore based on user reports, however, is unclear.

Taking Precautions

'Tester shots' are a way for injectors to use their embodied experience to prevent overdose. Several of the interviewees described injecting a small amount of drug solution first to assess its strength, as this man in his 60s, using for 47 years, explained:

What I do, okay, if I have a 70 on the syringe I might put like a 40 or a 30 up in me and I wait a second just to see how it feel you know me, myself feels whether or not it's too strong for me or whatever and if I can handle it. And if I'm feeling all right then I wait and put the rest in me, I draw back to make sure that I was on you know and I come out. Similarly, James, who had so far avoided overdosing, explained,

I'm a little more cautious now when using …. I don't what they call slam it and put the whole thing in me. I do it little by little just to see what the effects is and stuff […] there is no pulling it back you know once you push it in you.

Although many had overdosed, never overdosing was also commonly reported, perhaps skewed by the harm reduction setting where people seek ways to protect their health. It may also reflect the strategies users were adopting, such as tester shots. Our sample showed those reporting the use of tester shots tending to report never overdosing, a finding that could be tested epidemiologically. Some users had taken Narcan training and carried Narcan with them but uptake was patchy. Respondents also mentioned using in the company of others who could be relied upon to call emergency services in case of overdose. These proactive approaches to self-protection from overdose suggest that some users are learning to live with the unpredictability of Scramble.

Acceptance

Some, like Paula, a woman with 33 years' experience injecting heroin, did not report taking any particular precautions and were more fatalistic about adulteration and its risks:

Well, really using heroin right now is touch and go. It's like Russian roulette, because they put all sorts of things in the drugs today [chuckles] […] that's how it is doing dope in this city right now.

The phrase 'Russian roulette' echoes the experience of users in London during the 2011/12 United Kingdom heroin shortage when the 'heroin' on sale was adulterated with or replaced

by other psychoactive substance (Harris, Forseth, and Rhodes 2015). In both places was an awareness of an intensely unpredictable risk of death amidst the demands of addiction.

Discussion

For the users of Scramble, ‘heroin’ has become a catchall term for a fluctuating mélange of psychoactive drugs. Its chemical make-up, according to those we spoke with, has changed dramatically in recent years, varying widely by color, intensity of onset, duration of action and embodied effects and users are living with heightened uncertainty as they struggle to control or accept the risks. While adulteration is an established characteristic of street heroin, its degree, to the point of wholesale replacement, appears to have reached an extreme. These reports coincide with increases in overdose deaths from both heroin and fentanyl.

Fentanyl is usually added to heroin without the user’s knowledge; its hidden presence along with higher potency present a particular danger. Fear of overdose was widespread among those we spoke with, prompting some adaptive responses: ‘tester shots’ were commonly mentioned as a way people judged potency and some reported carrying naloxone to reverse overdose in fellow users. Others, however, were more fatalistic, accepting the risk or even intentionally seeking out supplies they believed to contain fentanyl, learning to cope with, even appreciate perceived fentanyl-laced heroin.

As heroin tolerance develops, users seek relief from withdrawal symptoms but often struggle to re-experience the ‘high’ of earlier use. The ‘rush’ experienced by long-term Scramble users suggests that fentanyl or another high potency opioid was present. Reports of 8–12 hour effects for single ‘heroin’ dosing, which may include fentanyl adulteration, require further exploration.

There are several possible explanations for the apparent changes in Baltimore’s heroin supply. If Raw is supplied from Colombia, the drop in that country’s opium production may provide a clue; US seizures from this once dominant source have fallen far behind Mexican-sourced heroin imports (DEA 2016a). Mexican-sourced white powder (MPH) heroin in the supply is another possibility. However, DEA data suggest that Baltimore’s heroin is of low purity while MPH has the highest average purity in the US (DEA 2016a).

A demand-led change of Baltimore’s heroin market, rarely feasible in the illicit drug trade, cannot be ruled out. Unlike many US cities, Baltimore’s heroin users have a choice between two heroin types, although the price differential precludes Raw for some. Part of Scramble’s popularity was attributed to its easy availability, which makes cause and effect difficult to distinguish.

This study is based on a small convenience sample of heroin users in a single city during two brief fieldwork visits. The data provides a snapshot of views and experiences that can generate hypotheses but not conclusive findings. It is undetermined how or whether the shift in Baltimore’s ‘heroin’ is emblematic of the wider US heroin overdose epidemic, or if the city is an outlier with its own peculiar heroin scene. Regardless of its typicality, policy responses need to be informed by users and to share knowledge with them about the drugs

they are using to protect them from overdose. With heroin widely adulterated with fentanyl and other psychoactive substances, it may be harder to prevent or treat overdoses (Çoruh, Tonelli, and Park 2013, Suzuki 2017, Peterson AB 2016).

Evidence-based interventions such as peer distribution of naloxone, supervised injection facilities and opiate substitution therapy preserve lives and engage users in a continuum of care (Kerr et al. 2007, Kerr et al. 2006, Doe-Simkins et al. 2009, Seal et al. 2005, Enteen et al. 2010, Dolan 2000, Schwartz et al. 2013). Baltimore has already instituted naloxone distribution and buprenorphine treatment in addition to methadone and Maryland has developed an innovative hospital-based outreach program aimed at preventing recurrence among survivors of overdose (MDHMH 2017b). The addition of supervised injection facilities would be a welcome further step in managing the unpredictable effects of Baltimore's heroin.

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Figure 1:
Scramble in gelatin capsules and vials of cocaine powder, Baltimore MD

Figure 2:
Vial of gray-colored ‘Raw’ heroin, Baltimore, MD