

LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



Syvertsen, JL; Ohaga, S; Agot, K; Dimova, M; Guise, A; Rhodes, T; Wagner, KD (2016) An ethnographic exploration of drug markets in Kisumu, Kenya. *The International journal on drug policy*, 30. pp. 82-90. ISSN 0955-3959 DOI: <https://doi.org/10.1016/j.drugpo.2016.01.001>

Downloaded from: <http://researchonline.lshtm.ac.uk/2531004/>

DOI: [10.1016/j.drugpo.2016.01.001](https://doi.org/10.1016/j.drugpo.2016.01.001)

#### Usage Guidelines

Please refer to usage guidelines at <http://researchonline.lshtm.ac.uk/policies.html> or alternatively contact [researchonline@lshtm.ac.uk](mailto:researchonline@lshtm.ac.uk).

Available under license: <http://creativecommons.org/licenses/by-nc-nd/2.5/>



Published in final edited form as:

*Int J Drug Policy*. 2016 April ; 30: 82–90. doi:10.1016/j.drugpo.2016.01.001.

## An ethnographic exploration of drug markets in Kisumu, Kenya

Jennifer L. Syvertsen<sup>a,\*</sup>, Spala Ohaga<sup>b</sup>, Kawango Agot<sup>b</sup>, Margarita Dimova<sup>c</sup>, Andy Guise<sup>d,e</sup>, Tim Rhodes<sup>e</sup>, and Karla D. Wagner<sup>f</sup>

<sup>a</sup>Department of Anthropology, The Ohio State University, 4046 Smith Laboratory, 174 W. 18th Ave. Columbus, OH 43210-1106 USA

<sup>b</sup>Impact Research and Development Organization, P.O. Box 9171-40141, Kisumu, Kenya

<sup>c</sup>Department of Politics and International Studies, SOAS, Thornhaugh Street, Russell Square, London, England WC1H 0XG; marg.dimova@soas.ac.uk

<sup>d,e</sup>Division of Global Public Health, University of California, San Diego, Central Research Services Facility (CRSF), La Jolla, CA, 92093-0507, USA; agoise@ucsd.edu

<sup>e</sup>London School of Hygiene & Tropical Medicine, Keppel Street, London, England, WC1E 7HT; tim.rhodes@lshtm.ac.uk

<sup>f</sup>School of Community Health Sciences, University of Nevada, Reno, 1664 N. Virginia St. MS 0274, Reno, NV 89557 USA; karlawagner@unr.edu

### Abstract

**Background**—Illegal drug markets are shaped by multiple forces, including local actors and broader economic, political, social, and criminal justice systems that intertwine to impact health and social wellbeing. Ethnographic analyses that interrogate multiple dimensions of drug markets may offer both applied and theoretical insights into drug use, particularly in developing nations where new markets and local patterns of use traditionally have not been well understood. This paper explores the emergent drug market in Kisumu, western Kenya, where our research team recently documented evidence of injection drug use.

**Methods**—Our exploratory study of injection drug use was conducted in Kisumu from 2013-2014. We draw on 151 surveys, 29 in-depth interviews, and 8 months of ethnographic fieldwork to describe the drug market from the perspective of injectors, focusing on their perceptions of the market and reports of drug use therein.

**Results**—Injectors described a dynamic market in which the availability of drugs and proliferation of injection drug use have taken on growing importance in Kisumu. In addition to reports of white and brown forms of heroin and concerns about drug adulteration in the market, we

---

\*Corresponding author: Jennifer Syvertsen, PhD, MPH, Department of Anthropology, The Ohio State University, 4046 Smith Laboratory, 174 W. 18th Ave. Columbus, OH 43210-1106 USA, phone: +1 614-247-6815, fax: +1 614-292-4155, Syvertsen.1@osu.edu.  
spaoha@yahoo.com, mamagifto@yahoo.com

**Publisher's Disclaimer:** This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

unexpectedly documented widespread perceptions of cocaine availability and injection in Kisumu. Examining price data and socio-pharmacological experiences of cocaine injection left us with unconfirmed evidence of its existence, but opened further possibilities about how the chaos of new drug markets and diffusion of injection-related beliefs and practices may lend insight into the sociopolitical context of western Kenya.

**Conclusions**—We suggest a need for expanded drug surveillance, education and programming responsive to local conditions, and further ethnographic inquiry into the social meanings of emergent drug markets in Kenya and across sub-Saharan Africa.

### Keywords

drug markets; drug trafficking; heroin; cocaine; sub-Saharan Africa; Kenya

---

Illegal drug markets are shaped by multiple forces, including local actors and broader economic, political, social, and criminal justice systems that intertwine to impact health and social wellbeing (Hoffer, Bobashev, & Morris, 2009). While the material dimensions of drug markets including drug availability, formulation, price, and purity create risk for health harms such as HIV, Hepatitis C, and fatal overdose (Ciccarone, 2005; Ciccarone & Bourgois, 2003; Koester, Glanz, & Barón, 2005), the social dimensions of drug markets also shape and reflect the broader cultural and sociopolitical contexts in which these markets operate (Fitzgerald, 2005). Ethnographic analyses that interrogate multiple dimensions of drug markets may offer both applied and theoretical insights into drug use, particularly in developing nations where emergent markets and local patterns of use traditionally have not been well understood.

Across sub-Saharan Africa, the legal trade of commodities has long flourished on well-established trade routes (Carrier & Klantschnig, 2012). In the 1970s and 1980s, economic crisis and structural adjustment programs negatively impacted livelihoods across the continent, and small scale drug trade began to open up as an alternative or in addition to the legal trade along these routes (Carrier & Klantschnig, 2012). International airport and sea links, weak law enforcement, corruption, expansion of telecommunication and global financing, and increased connectivity in global commerce networks have strengthened drug trafficking across sub-Saharan Africa over time (Needle, Kroeger, Belani, & Hegle, 2006). Since the 1980s and 1990s, trafficking of South American cocaine through West Africa and Asian heroin through East Africa has intensified to meet demand in European markets (Adelekan, 1996; Mbwambo et al., 2012). While early research pointed to such increasing trafficking patterns and indications of heroin and cocaine availability across the region, data have historically been limited on the extent and modes of local drug consumption (Adelekan, 1998; Adelekan & Stimson, 1997).

In East Africa, the recent proliferation of heroin markets represent an extension of historical economic and cultural ties between countries bordering the Indian Ocean (Beckerleg, Telfer, & Hundt, 2005). In major hub cities in Tanzania and Kenya, factors such as theft, courier payment in drugs, demand from tourists in coastal resort areas, and other forms of drug “spillover” have reportedly fomented local heroin markets (Beckerleg & Hundt, 2004; Beckerleg et al., 2005; McCurdy, Ross, Kilonzo, Leshabari, & Williams, 2006). In Kenya,

“brown sugar” heroin emerged on the coast in the 1980s, reportedly supplied first through the Golden Triangle and later Pakistan (Beckerleg et al., 2005). In general, coarse brown heroin has good heat stability but is not water soluble unless acid is added, which complicates its preparation for injection (Ciccarone, 2009). As such, “brown sugar” was typically sniffed or chased (heated on foil and its vapors inhaled) or smoked in joints with marijuana as a “cocktail” (Beckerleg, 1995) and sometimes mixed with caffeine or mandrax, a barbiturate (Beckerleg, Telfer, & Sizi, 1996). However, the drug market shifted in the late 1990s when “brown sugar” heroin was replaced by “white crest” heroin, which users in Kenya believed to be from Thailand (Beckerleg et al., 2005). However, this new form of white powdered heroin originated in Afghanistan, and was so pure that it precipitated a shift to injecting in Kenya and Tanzanian markets because it did not require complicated preparation or heating processes (Beckerleg et al., 2005; McCurdy & Maruyama, 2013; McCurdy et al., 2006; McCurdy, Williams, Kilonzo, Ross, & Leshabari, 2005). Indicators suggest that availability of heroin has remained unabated in the region: since 2009, seizures of heroin in East Africa increased almost 10-fold, potentially rendering this the largest trafficking hub for heroin in Africa (International Narcotics Control Board, 2014; UNODC, 2013a, 2013b). Although it is difficult to quantify, nearly 22 tons of heroin is reportedly smuggled through East Africa annually, including the estimated 2.5 tons of heroin currently consumed in local markets, worth \$160 million (International Narcotics Control Board, 2014).

Indeed, a growing body of scholarship has documented that heroin injection is a significant health and social concern in East Africa (Beckerleg et al., 2005; Brodish et al., 2011; Deveau, Levine, & Beckerleg, 2006; Dewing, Pluddemann, Myers, & Parry, 2006; Guise, Dimova, Ndimbii, Clark, & Rhodes, 2015; Kurth et al., 2015; Matiko et al., 2014; McCurdy et al., 2006; McCurdy et al., 2005; Rhodes et al., 2015b; Strathdee et al., 2010; Tun et al., 2015). Recognition of the high HIV prevalence among heroin injectors underscored efforts to launch East Africa’s first harm reduction programs (Nyandindi et al., 2014), including establishing methadone clinics in Tanzania in 2010 (Lambdin et al., 2013; McCurdy, Kilonzo, Williams, & Kaaya, 2007). Starting in 2013, Nairobi and coastal locations in Kenya followed suit, gradually introducing needle exchange and methadone as part of a new public health approach to combat addiction (Guise, Tim, Ndimbii, & Ayon, 2015; NASCOP, 2013; Rhodes et al., 2015a).

Within this context, in 2013 we partnered with Impact Research & Development Organization (IRDO), a Kenyan non-governmental organization (NGO), to conduct the first study of injection drug use in the western Nyanza region of Kenya. Little research has been undertaken outside larger cities and transport hubs in the region, despite indications that drug markets may be expanding into rural and developing areas (NASCOP, 2013). Nyanza’s main city of Kisumu (population ~400,000) is currently undergoing rapid investment in infrastructure and new construction. Kisumu largely lacks the tourism economy found elsewhere in Kenya, but is better known for its large presence of foreign donors, NGOs, and health programs (Prince, 2013) and as a site of seminal HIV clinical trials (Baeten et al., 2012; Bailey et al., 2007). The Nyanza region has the highest HIV prevalence in Kenya, with prevalence in Kisumu County reaching 18.7% (NASCOP, 2014). Drug use in western Kenya is hidden, criminalized, and stigmatized, if acknowledged at all. There is only one drug

treatment facility in Nyanza, located two hours from Kisumu and financially out of reach for much of the population.

When the current research began, IRDO had recently launched the first program in Kisumu for people who inject drugs, which uses peer educators to identify and recruit injectors for HIV testing and drug counseling. Our research partnership was designed to collect quantitative and qualitative data on injection drug use patterns and identify related health concerns in order to inform service provision. Although we approached this work anticipating to document the heroin injection that dominates public health discourse, our inductive research approach led us down an alternative path. The first day that the PI (JLS) set out with the NGO's peer educators to conduct street outreach, one told her about how injectors sometimes "take a nap after injecting cocaine." Both the mention of cocaine injection and its symptomology were a surprise, and further conversations in the field around cocaine were then systematically studied by the research team using a survey and in-depth qualitative interviews that asked about the drug market and multiple categories of injected drugs in Kisumu. Thus, our ethnographic study design enabled us to take a broad perspective of a heretofore unstudied drug market in sub-Saharan Africa.

This paper provides a descriptive analysis of Kisumu's drug market from the perspective of people who inject drugs, focusing on their perceptions of the market and reports of drug use therein. Specifically, we explore market characteristics, locally shared socio-pharmacological experiences of drug injection, and the motivations and social contexts of use that drive demand within a newly emerging market. While we suggest the possibility that drugs beyond heroin may be circulating in Kenya, a broader goal of our analysis is to theorize how the chaos of new drug markets might lend deeper insight into the sociopolitical context of western Kenya and similarly developing regions across the continent.

## Methods

Data collection for our study occurred between July 2013 and July 2014. During this period, the PI undertook nearly 8 months of ethnographic fieldwork in Kisumu, including participant observation in daily NGO activities, visiting fieldsites with the peer educators, and holding informal interviews and conversations with injectors, which were recorded as daily fieldnotes. With the help of two Kenyan Research Assistants (one female and one male), the research team worked with peer educators to use targeted and snowball sampling to recruit study participants for surveys and in-depth qualitative interviews. Eligibility criteria included being at least 18 years old, reporting injecting drugs at least once in the prior month, and having physical evidence of injection. Eligible participants provided written consent for surveys and qualitative interviews conducted in English, Swahili, or Luo, based on participants' preference, and were reimbursed 300 Kenyan shillings (~U.S. \$4) per interview. Protocols were approved by the Institutional Review Boards of the University of California, San Diego, the Kenya Medical Research Institute, and the Ohio State University.

We conducted interview-administered surveys on laptops using REDCap software with 151 injectors. Surveys were conducted in the office or the field and lasted about one hour. Surveys covered socio-demographics, sexual behaviors, alcohol and drug use, and injection

risk behaviors. We used purposive sampling (Johnson, 1990) based on gender and reported drug use (e.g., heroin and cocaine) to recruit a sub-sample of 29 participants for qualitative interviews to gain further insight into local patterns of injection drug use, including perceptions of the drug market in Kisumu. These qualitative interviews, lasting one to two hours, were conducted in a private office space and were recorded, transcribed, and translated according to a structured protocol (McLellan, MacQueen, & Neidig, 2003). In 29 interviews, we identified consistent patterns pertaining to our primary topics of interest and determined that we had reached saturation, or empirical confidence that the sample size was sufficient to cover themes of interest (Guest, Bunce, & Johnson, 2006). In general, interviewers were gender-matched with participants; the PI also conducted surveys and qualitative interviews with English speaking participants when possible.

We employed a collaborative approach to an inductive data analysis process that included constructing a codebook that the PI and a Research Assistant used to code all transcripts; the PI additionally coded her fieldnotes for themes related to the drug market. The current analysis uses a mixed methods, explanatory design that primarily draws from the richness of the 29 semi-structured interviews and PI's fieldnotes to expand and contextualize survey findings related to the local drug market and patterns of injection drugs use. Representative quotes illustrating major themes are presented below. All names are pseudonyms to protect confidentiality.

### **Participant characteristics**

The 151 survey participants were young (mean age 28.8; sd 6.2) and 84% male (n=127). The majority reported injecting cocaine (76.2%, n=115), followed by brown sugar heroin (16.6%, n=25), and white crest heroin (12.6%, n=19). The 29 participants in the qualitative component reflect the demographics of our broader survey sample, with the exception that we oversampled women due to their heightened health and social vulnerabilities. The qualitative sample was 55% male (n=16), the mean age was 26.7 years, and 55% had a high school education. The majority reported past month injection of cocaine (66%, n=19), followed by brown sugar heroin (31%, n=9) and white crest heroin (10%, n=3). A descriptive epidemiological analysis of our sample has been published elsewhere (Syvertsen, et al 2015).

### **Emerging drug markets in Kisumu**

We documented a dynamic and chaotic drug market in Kisumu, reflective of the fluid and adaptive characteristics typical of new drug markets (Hoffer et al., 2009). While Kisumu's market shares some common features with drug markets elsewhere in the world, other dimensions are unique and were unanticipated by the research team. The following ethnographic tale first examines the material dimensions of Kisumu's drug market, including perceived availability of heroin and cocaine, questions around drug purity, and reported pharmacological effects, before transitioning into a theoretical discussion considering how these factors shape and reflect broader social phenomena.

In conversations on the street and in qualitative interviews, participants named bhang (marijuana), brown and white powdered forms of heroin, cocaine, and a variety of pharmaceuticals as available in the Nyanza drug market. In contrast to more established markets in Mombasa and Nairobi where there is “money and sex” and markets are perceived as “out in the open,” the drug market in Kisumu is regarded as comparatively hidden, erratic, and expensive. Logistically, this growing but still largely disorganized market is operated by small time connections between friends and associates who are “sent” elsewhere in Kenya to bring drugs into Kisumu, meaning the supply is sometimes unreliable and the price can shift with transportation costs. Prices in Kisumu also depend on the peddler, as many are willing to sell smaller amounts at reduced cost, especially if the buyer is a known customer. Moreover, several male participants reported trafficking cocaine and heroin from Mombasa and Nairobi to Kisumu and even into Uganda, which increased their access to drugs for themselves and close associates. Hamza, 31, who first injected heroin in Mombasa and has trafficked bhang (marijuana) into Uganda, said the price can fluctuate depending on availability, but he can occasionally access it for free when supplying it on behalf of another peddler. Injectors also held a common perception that some of the cocaine in western Kenya was trafficked through rural southern Nyanza from Tanzania, though no one we spoke with claimed direct involvement in these routes.

Nevertheless, with multiple drug trafficking networks broadening their reach, injectors described how the availability of drugs in Kisumu has increased over the past several years and that substance use has become an issue of growing local importance. According to Franny, a 31-year-old woman born in Kisumu:

“When I was growing up, I never used to see people having a ‘blackout’ on the road, a lot of drinking sprees. Everywhere there is a wine and spirit place. Young kids are sniffing glue. People [are] injecting drugs. It is hard to believe.”

Moses, 26, offered an explanation for the recent proliferation of the drug market in Kisumu, suggesting that sociopolitical factors such as the “county thing” -- Kenya’s recent move to decentralize government operations and grant each county with greater local governance -- facilitates the movement of drugs and new forms of practice (e.g., injection) into outlying markets like Kisumu:

“In Kisumu, the injection drug thing is growing. Way back, it was not a lot. For now, the way Kisumu is developing, it is kind of growing... The more Kisumu grows, many people come from Nairobi. There is this county thing. People go back to their county to develop their county. So, it is happening now. Like Nairobi, it [injection drug use] started way back. In Kisumu, it is something that is growing.”

A focus on urban and mostly coastal locations even in well studied countries like the U.S. has often ignored injection drug use in smaller and rural communities (Young & Havens, 2012; Young, Havens, & Leukefeld, 2012), yet increased globalization, development, migration, and geographically dispersed social connections are important factors shaping drug markets and propelling drug use into new areas (Ojeda et al., 2012; Rhodes et al., 1999; Rhodes & Bivol, 2012). In Kisumu, many injectors attribute the growing drug market to internal migration and socioeconomic development in the region, suggesting that a similar phenomenon could be underway elsewhere across sub-Saharan Africa where the social



landscape is rapidly changing. Indeed, the small scale operations we documented reflect broader regional trends that the majority of drug trafficking is comprised of small, local smuggling networks (Carrier & Klantschnig, 2012).

However, we contend that these smaller, newer markets may differ in important ways from major trafficking hubs. In contrast to other research in East Africa on white powdered heroin markets (Beckerleg & Gillian Lewando Hundt, 2004; Guise et al., 2015; Kurth et al., 2015; McCurdy et al., 2006; McCurdy et al., 2005; Rhodes et al., 2015a; Tun et al., 2015; Williams et al., 2007), injectors in Kisumu primarily described access to brown heroin. The “brown” was typically described as a brown powder, granular, or semi-solid form resembling “jaggery,” a concentrated form of sugar cane syrup. More frequent reports of brown sugar compared to white heroin may indicate that regional heroin sources are dynamic and shifting (Dimova, 2014), bearing direct implications for drug preparation processes and HIV transmissibility (Ciccarone, 2005; Koester, Glanz, & Baron, 2005). Indeed, all drug markets are dynamic and purity and price shift constantly due to an array of interrelated factors (Rosenblum et al., 2014; Werb et al., 2013).

The prevalence of brown sugar heroin in Kisumu could also be explained by adulteration, which could change the color and texture of white powder (Dimova 2014). Jabril, 25, said that some peddlers have different preparations of brown sugar for sale:

He [the peddler] mixes [it] with another drug; for example, he sells us brown but this brown he has soaked it in something you see... a peddler can say this one I have already mixed with tap tap [a prescription drug] another one can say this one I have mixed with petrol, so the one for this one is not the same as for the other one. They [each] have their cocktail that they use.

In all drug markets, dealers typically “cut” drugs with adulterants to further their supply and increase profit margins, which often leaves consumers unable to assess drug quality (Harris, Forseth, & Rhodes, 2015; Soukup-Baljak, Greer, Amlani, Sampson, & Buxton, 2015). In Kisumu, injectors frequently discussed their misgivings about the drugs that reached the local market, including their mistrust of peddlers, peddlers who “boost” their products with adulterants, and rumors of “fake” drugs in Kisumu. Jackton, 25, said accessing the drugs in Kisumu can be a “problem” because of this uncertainty:

You can get it [the drugs] mixed with other things. You must therefore be keen on the people that you are approaching. You must have a trusted peddler. You can give him money so as to earn his trust. We just survive. You know people must be conning as well.

Likewise, Franny noted difficulties in gaining access to trusted sources for drugs: You also know that barons are tricky. They will give you anything provided that you remain high. You are not supposed to ask about it.

The “barons” – those in higher level positions in the market – as well as peddlers and local users themselves are embroiled in sourcing drugs from numerous contacts, creating multiple opportunities for adulteration along the supply chain toward Kisumu. As our research progressed, we investigated these possibilities by following up with participants who



claimed to work in the market. Over the course of several ethnographic interviews with one injector who transported heroin from Mombasa to Kisumu, we learned that he delivers “the special,” or larger, more expensive sealed bags of product to wealthier consumers, while “the local” consisted of smaller amounts of leftover drugs sold at lower cost. Several other interviewees and injectors with whom we spoke in the field admitted they knew peddlers who adulterated their products to boost profits, but declined to share specifics. Importantly, the lack of information on the street about the cut can result in overdose deaths and other adverse health outcomes, as evidenced in some U.S. heroin markets (Denton, Donoghue, McReynolds, & Kalelkar, 2008; Mars et al., 2015). Low-level users who inject adulterated, lower quality, and therefore more dangerous drugs often have less access to public health services to contend with the health consequences.

Adulterants may create varied physical effects, and could also help explain an unanticipated theme we documented around the duration of injectors’ highs. Qualitative interviews and informal conversations with both heroin and cocaine injectors revealed that injectors commonly experienced highs lasting from several days to up to one week, thereby obviating the need for more frequent injection. When asked about his heroin use, John, 24, explained that he was not a daily heroin injector: “No you can’t handle that, you just inject once and it is in your system for a whole week, you can just take hot water to increase its effect... you can also take a little alcohol, that’s how you go about it.”

The majority of injectors shared this belief that ingesting any hot liquid or food “reactivates” or “awakens” one’s high, even days after injecting. According to Baraka: “... when cocaine is in the blood system, you don’t need to go and look for it again, you can just drink a hot tea or water and you just start feeling high.”

At this point, it remains unclear if participants’ reports of using hot liquids to “reactivate” intoxicative effects signal shared cultural expectations of drug use (Becker, 1953) or may be an actual physiological reaction to the drugs. One potential explanation is that these drugs are boosted with caffeine or potentially other stronger stimulants (Dimova 2014). While reports on diversion of pre-cursor chemicals and evidence of methamphetamine manufacturing, trafficking, arrests, and seizures in Kenya support this possibility (International Narcotics Control Board, 2014; Nation Reporter, 2014; UNODC, 2013a), further surveillance and research incorporating chemical testing is needed for confirmation.

## Cocaine markets in Kisumu?

Following themes of market chaos, adulteration, and unusual intoxicative experiences, we now turn to the most unexpected finding in our study: widespread reports of cocaine injection in Kisumu. The majority of participants in the survey (76.1%) and qualitative interviews reported to inject cocaine. Outreach activities on the street and other informal conversations indicated that a popular discourse on cocaine circulated in Kisumu, though injectors had different ideas about its centrality in the local market. Several men and women insisted that “only” cocaine was available in the market, while others said it was available, but often difficult to access because it is for “rich people.” Baraka, 31, first reported being exposed to cocaine in Mombasa, but noted a difference in availability between the markets:

“Cocaine is very expensive, brown sugar [heroin] is found locally even in Kisumu, but this cocaine is not found in Kisumu. We have to send someone to bring it for us.” Wilson, 29, who claims to transit cocaine from Mombasa to Uganda, said that cocaine is difficult for most people in Kisumu to afford: “People would wish to use cocaine but I think heroin is much cheaper... It is just that there are people who cannot afford cocaine.”

To explore the possibility of cocaine in Kisumu’s market, we looked to our data on drug prices for further clues. We anticipated that prices for cocaine would be higher than for heroin, but because our survey questions were informed by our formative work identifying flexibility in drug selling and the importance of pooling resources to purchase drugs, we asked, “On average, when you buy or contribute money to get [specific drugs], how much money do you spend?” Survey data indicated participants paid an average of 300 Kenyan shillings (range, 200-800) for cocaine, 280 (range, 150-750) for brown sugar heroin, and 250 (range, 100-500) for white crest heroin (US exchange rates range from 85-100 shillings to the dollar). In the qualitative interviews, participants described pooling money to purchase drugs at 200-400 Kenyan shillings (US \$2-\$3) per fingernail (a standard way injectors spoke of measuring drugs) or larger amounts for 2,500-4,000 shillings (US \$26-43) for either heroin or cocaine. Unfortunately, these data do not provide standardized information on pricing. However, findings indicate that in the context of poverty, pooling resources enabled more people to access drugs, which has been similarly documented in other social contexts (Stephen Koester et al., 2005). Ruby, 28, said her group members contribute whatever they can for cocaine: “*You don’t buy it alone. Everyone wants to use it.*”

As our price differentials failed to help explain market differences in availability, we also examined the ways in which injectors described their intoxication and found that several common pharmacological modes of experience emerged from cocaine injection. Among one group, the reported effects of cocaine were akin to heroin, including drowsiness, calmness, and feeling sick when going without it. Ruby recounted that she was with a group of four women in a rural area for a funeral when they decided to ask male friends to try the cocaine they brought with them:

Q: How did you feel when you injected the cocaine?

A: I was weak and tired for the next three days. I couldn’t move an inch. They told me to take another dose. They also provided it for free. I couldn’t move for the next three days and they gave me another dose. I started purchasing it after some time.

Ruby has continued to inject over the past two years and developed a physical dependence to it: “I normally feel awful before injecting it... I will feel good after injecting. I however cannot even move my head in case I fail to inject.” Similarly, Norma, 25, was introduced to cocaine in Kisumu in 2007 by male friends and has continued using it ever since: “it calms me down very much, sometimes I feel very sick if have stayed for long without using it.”

Equally as common as the above symptomology, however, others described cocaine as engendering heightened energy, sexual arousal, and a propensity for violence. Kennedy, 23, said he often feels “rowdy” and gains a sense of invincibility after injecting cocaine: “You can even carry a big bus with your one hand. You can just carry it! (Laughter).”

Other cocaine injectors described heightened sexual arousal as a primary effect. Leticia, 35, was exposed to cocaine by male friends who one day introduced something stronger than the usual bhang the group smoked:

Q: Tell me about the first time when you used cocaine. How did they convince you?

A: They told me that they have bought something different from bhang. I asked what it was and that is when they disclosed the name as cocaine. They called it powder. I was shocked but they told me to wait and experience how the powder can be used. That was after I had contributed [money]. They boiled some water. We withdrew with a syringe and injected ourselves. It is also dangerous. The challenge is on the price. One of you cannot afford it.

Q: What do you mean when you say it is dangerous?

A: I mean it will always force you into sex. You will just want to have sex. It increases your libido.

Wilson, 29, who claimed to transit cocaine from Mombasa to Uganda, agreed that “obviously you will feel that you need sex after injecting drugs.” He also described other indications of hyperactivity and violence associated with cocaine:

I became so talkative. There is that feeling of being so violent. You feel that you can talk. You have a point in each and everything that you say. You feel sweet. When you over use it, you will think and meditate a lot. What you keep thinking of is illusions. What you think of has to happen. It is not easy when I use it. Sometimes I don't sleep. I have a sleeping problem. It makes me active. I will find something to read. You will see that I like reading. That is what happens.

Violence was listed by (mostly) male cocaine users as a side effect, including Ricky, 35, who said after he injected cocaine, “I felt offended with the slightest provocation or jokes, felt like injuring anybody that provoked me slightly.” King, 26, started using cocaine in Nairobi in 2009 when he acted as a supplier on behalf of his cousin. In the course of telling several stories from his time there of violence, stealing merchandise, and getting shot, he related how cocaine accentuated his actions:

Cocaine is like a morale booster - you take it when planning something big. If I take cocaine, beating, killing, or raping you will not be a problem to me. I will do it with ease even if five people try to counter me, I know they will feel my strength...

Pharmacologically, none of these reported experiences of intoxication match the classic short term rush that cocaine typically engenders, leaving unanswered questions about cocaine's availability in the region. Clearly, some of our findings might be explained as a misunderstanding. In new drug markets where services and educational resources are limited, injectors may lack reliable information about the drugs they are injecting. Women in particular may be vulnerable due to an inability to control the circumstances of their injection initiation or access to drug preparation and injection processes (Wagner, Jackson Bloom, Hathazi, Sanders, & Lankenau, 2013). Again, another possibility is that the reported cocaine is actually adulterated heroin (Dimova 2014).

This would not be the first instance of disagreement over availability of white powdered drugs in East Africa, however: when brown heroin shifted to white powdered heroin in the 1990s, some users and police in Malindi suggested that the new form of heroin was a synthetic substance manufactured by university students in Nairobi (Beckerleg & Hundt, 2004). Others called it cocaine, which created confusion about the availability of cocaine in the East African market (Beckerleg & Hundt, 2004; McCurdy & Maruyama, 2013). Reflecting these perceptions, global drug surveillance reports documented cocaine use in East Africa as early as the 1990s. For example, in 1999, a United Nations Office for Drug Control and Crime Prevention report documented that 4.5% of youths (ages 12-18) in Kenya had tried cocaine in their lifetime, third only to the Bahamas (6.4%) and USA (6.0%), with overall lifetime prevalence among adults reported at 0.1% (UNODCCP, 1999). Such statistics are suspect, but speak to a historical sense of chaos and limited understanding of drug availability and local use in sub-Saharan Africa (Adelekan & Stimson, 1997). In the current study, participants who were interviewed in Swahili and Luo often referred to the drug as “cocaine” in English, and sometimes it was simply called powder (*unga*). It may be that cocaine was introduced to Kisumu as a generic term for drugs parallel to other cultural contexts where the word “dope” can reference anything from marijuana to heroin. As such, some of our findings may reflect local naming conventions rather than accurately describe the chemical composition of locally consumed drugs.

Although it is unlikely that cocaine is currently available to the extent that participants in Kisumu claim, our findings should not imply its total absence in the Kenyan market. Regional prevalence of cocaine use is thought to be relatively limited (UNODC, 2013b) but a number of recent seizures suggest that air cargo and shipping containers of cocaine transit from South America to Europe via East Africa to take advantage of regional corruption and frail law enforcement (International Narcotics Control Board, 2014; UNODC, 2013a). A record seizure of 701 kg of cocaine off the Kenyan coast in 2004 (UNODC, 2013a) and other recent media reports (Kariuki, 2013; Mwaniki & Angira, 2013) corroborate reports from injectors in our study, who referenced cocaine originating from Colombia as available on the coast and Nairobi, some of which moves onward toward Kisumu. Participants also perceived cocaine to be circulating northbound from western Tanzania, and reported seizures of cocaine in Tanzania (UNODC, 2013a) open the possibility to support these perceptions. In particular, wealthy Kenyans may have access to cocaine and purer forms of white heroin, which we heard unsubstantiated rumors of in certain communities in Kisumu.

Although we are unable to offer concrete evidence of cocaine in Kisumu, our point is that its possibility exists and that the uncertainty and tensions in these accounts raise further issues of social and policy significance. In terms of policy, we should try to understand more about what people think and believe about their drug use, as programs and information campaigns targeted towards “heroin” users will miss an important group of people who say that they inject “cocaine.” We further suggest that a broader reading of such market trends lends insight into the social significance of drugs in society, as explored below.

## The social imagination of injection drug use

Regardless of its actual availability, the idea of cocaine has already imprinted into the sociological imagination of East Africa. Rather than dismiss reports of cocaine injection entirely, we assert that the chaos of Kisumu's drug market and widespread beliefs around cocaine may tell us something else important about Kenya's sociopolitical position in the world. As Agar and Reislinger (2002) highlight in their development of "trend theory," drug markets are contingent historical processes shaped by both material and affective dimensions. They suggest that markets develop alongside a concomitant mix of "hope and despair" reflective of widening gaps between individuals' increasing expectations of standards of living with the structural violence that prevents achievements of such goals (Agar & Reislinger, 2001). This gap is embodied as frustration, anger, pain, and other affective responses that drive drug market demand (Bourgois, 2003; Singer, 2001). Global scholarship has documented how structural violence engenders substance use and disproportionately configures its harms among disadvantaged groups (Bourgois & Schonberg, 2009; Rhodes, Singer, Bourgois, Friedman, & Strathdee, 2005). Beckerleg borrowed ideas from structural violence and trend theory to analyze the early heroin crisis in coastal Kenya; she questioned the "prosperity" of a tourist economy that created inequalities and fueled a local drug trade that has devastated mostly poor, socially marginalized users (Beckerleg & Hundt 2004b).

In Kisumu, we heard similar stories about the initiation of drug injection – whether they believed it to be cocaine or heroin – as reflective of feelings of alienation from broader processes of development and modernization. Participants commonly described injection as a way to alleviate stress, boredom, and "idleness." Drugs filled a void when participants were unable to find a job or fit into Kisumu's growing economic sector or population of youth pursuing higher education. Jabril, for example, said that injecting made him forget his problems:

The life that I am living, the problems, there is a way if I use it, I don't have a problem but if I become sober, I have a lot of problems so I want to remain high. If am high, I am handsome, friendly, and rich, if am sober I remember problems... It's like I am covering my eyes. I mean there are bigger problems exceeding the drug.

Such linkages between individual decisions to use drugs and the broader social context came across in multiple interviews and were common concerns expressed in conducting street outreach. Hamza, 31, described his heroin use in the following way:

You will think of so many things after injecting. You will think that you are now in town and jobless. I try looking for a job but end up with nothing. I cannot go to [my home] village because I lack money. Those guys whom you went to school with are enjoying. But you will let it be - 'sulu bin sulu' - after injecting the drug. The days will move.

In Swahili, the meaning of *sulu bin sulu* depends on the context. Here, it refers to numbing oneself from circumstances of want or scarcity. Injection makes the days "move" along, perhaps for days at a time according to shared cultural understandings around long-lasting

highs maintained through ingesting alcohol or hot liquids. In this context, perhaps drug injection represents an extended “time out” from such daily struggles.

Although Kenya has been hailed as one of the fastest growing economies in sub-Saharan Africa, it continues to face a number of challenges including poverty, high unemployment, gender inequality, and security concerns (Odero, Reeves, & Kipyego, 2015). Furthermore, the western Nyanza region has historically remained marginalized from political power, less economically developed, and unable to shirk stereotypes as cultural outsiders within Kenya (Carotenuto & Luongo, 2009; Smith, 2006). Within this broader framework of exclusion, the regional HIV epidemic has continued unabated (18.7% prevalence in Kisumu County) and enabled a drug market to emerge amidst the “hope and despair” of a new generation whose unfulfilled ambitions are numbed with injection.

However, as Fitzgerald points out (2005), analyses of drug markets in contexts outside of Western nations tend to take this pathological focus rather than nuanced cultural interpretation. Drawing on Taussig’s ideas linking the “magic” of cocaine consumption with capitalist desires and new identity formations (Taussig, 2009), Fitzgerald (2005) challenges scholars to rethink non-Western drug markets in ways that acknowledge the hopes, dreams, and pleasures that drug initiates pursue. Drugs become “magic” or “fetishized” by acquiring social meaning beyond their chemical composition (Taussig, 2009).

Indeed, we also identified motivations for drug injection that extended beyond pathology. Anthony, 38, tried injecting because “*experience is the best teacher*” and many other participants followed suit, initiating because of a desire to belong to a larger social phenomenon. Even if users had little knowledge of these drugs before they were introduced, participants were curious and unafraid to try injecting. Robbie, 24, said: “Some friends convinced us to inject the drug because it is normally good and makes you high. [They said] ‘You will be fine when you inject cocaine.’ I used it and it worked.” Similarly, several participants described injection as a “morale booster,” or something that made them feel positive about themselves and their living situation.

Winnie, 24, told the story of her first time injecting cocaine; one night after getting drunk with several male friends, she went home with them, “hoping for more drinks,” but instead was introduced to injecting cocaine:

They [the men] signaled each other and then [a friend] told me that I am about to get what will keep me drunk 24/7. I inquired to know what exactly that was, though I had already gotten an idea of what it was, having watched several movies. According to [a friend], what I was being offered was ideal for the kind of stress I was undergoing.

While Winnie’s story reflects the common theme of stress as an influence in drug use, her introduction to cocaine also invokes hope and excitement attached to a new experience that will keep her intoxicated for an extended period of time. Beyond her immediate peer group, her expectations were also shaped by depictions of drug use in movies. Similarly, Seth, 24, aspired to initiate heroin injection because of friends, but his sentiment hints at broader aspirations:



Some of these friends who injected ... belonged to the new generation. I was sure that I would be like them once I started injecting their drugs.

Recent studies have described emergent drug markets in transitioning economies as a “double edge” of escape from dashed hopes of democracy and a symbol of progress (Rhodes & Bivol, 2012). Others have considered how emergent drug markets in post-dictatorships have been greeted by an “an explosive mix of naiveté and curiosity” by ambitious youths looking for fun and danger (Zoccatelli, 2014). In Kisumu, which is experiencing rapid urbanization, expanding educational opportunities, and potential for upward social mobility in the context of persistent socioeconomic inequalities, the diffusion of drug injection should be understood as part of a similarly paradoxical process. Beyond pathology or misinformation, we suggest that widespread reports of “cocaine” injection in particular may have additional social meaning attached to it.

Following Taussig (2009), we suggest that in Kisumu, the “magic” of cocaine was conjured in a drug-naïve context where it has captured the collective imagination of youth with new aspirations. We contend that the construction of cocaine in East Africa first originated during a particular juncture in history when these still relatively young drug markets shifted toward white powdered heroin in the region in the 1990s. Beliefs that this powder was cocaine secured East Africa’s connectivity to Western markets and Kenya’s status as a drug consuming economy when “cocaine” use was reported in global drug surveillance documents (UNODCCP 1999). In the West, cocaine has long been associated with wealth and prestige, and in all types of drug markets, drug consumption parallels other forms of consumer behavior and expresses specific kinds of taste and lifestyle (Fazio, Hunt, & Moloney, 2011; Fitzgerald, 2005). In Kisumu, cocaine is viewed by injectors as something for “rich people” that “people wish to use” that has even “shocked” eager new initiates, as we detailed in the accounts above. Cocaine has also been referenced in recent Kenyan movies as proof that “everything” is available in a modern African city like Nairobi (Gritonga, 2012) and such media references may shape local consumers’ ideas about drugs. To this end, do the actual chemical compounds and psychotropic effects of this cocaine matter? Perhaps cocaine’s symbolism of modernity in the context of Kenya’s growing integration into global economy (Miguel, 2008) is something for future ethnographic work on regional drug markets to further explore.

## IMPLICATIONS FOR RESEARCH AND PRACTICE

Our analysis must be interpreted within the context of our study’s limitations and strengths. Our research is relatively new in the region; long-term ethnographic engagement is needed to continue building trust and engender a more complete understanding of drug markets and patterns of injection drug use in Kisumu. It is hoped that our interim analysis, albeit incomplete and ongoing, will ignite discussion among researchers and health policy makers on drug markets across sub-Saharan Africa. As a limitation, we do not offer a definitive pharmacological answer about the drugs circulating in Kisumu, as we were unprepared to test drug samples or conduct urinalysis screening, features which could be built into future studies. As a strength, our study offers an ethnographic analysis of the health and social



dimensions of an emergent drug market in a rapidly urbanizing region of sub-Saharan Africa where drug research is limited.

Lessons from Kenya's dynamic drug market have implications for research and practice. First, we suggest a need for enhanced regional drug surveillance and more attention to the diversity of drugs that may be emerging in Kenya and beyond. We have few comparative data on drug use from newly developing drug markets in sub-Saharan Africa, where similarly chaotic situations may be emerging in parallel to Kisumu's. Given that the global burden of HIV infection remains concentrated in sub-Saharan Africa, we join further calls for research to characterize and respond to the contribution of injection drug use to an already serious HIV epidemic (Guise et al., 2015; Guise et al., 2015; Mbwambo et al., 2012; McCurdy et al., 2007).

Evidence-based drug education in new markets like Kisumu is also needed, including reliable information on a variety of drugs and their health effects. The availability – and perceptions of availability – of drugs in local markets could also be considered in developing appropriate drug treatment programs. Kenya's recent launch of harm reduction programs including needle and syringe exchange and methadone are laudable, particularly given the underdevelopment of harm reduction programming in much of sub-Saharan Africa. However, offering methadone may hold little promise for injectors who do not believe they are using heroin, for those whose symptoms cast doubt on what they are injecting, or for those whose poly-drug and alcohol use could increase risk for methadone-related overdose death (Rhodes et al., 2015a). If cocaine, methamphetamine, or other synthetic stimulants are indeed injected in Kenya, alternative prevention and treatment approaches should be considered.

Finally, attention to the broader context, including political economic and social conditions, contexts of “hope and despair,” and desires for modernity could be addressed through social reforms that reduce inequality, improve standards of living, and address the underlying conditions amenable to drug use in the first place. In the process, analyses sensitive to the historical and sociocultural context could also help us understand how injectors construct and experience drug markets in ways that extend beyond the pathologies projected by the West (Fitzgerald, 2005). Indeed, long standing questions about local trafficking routes and drug injection practices in sub-Saharan Africa remain in newly emerging markets, but may provide key insight into this particular juncture in history.

## Acknowledgements

Research reported in this publication was supported by NIH Research Training Grant # R25 TW009343 funded by the Fogarty International Center, Office of Behavioral and Social Sciences Research, Office of Research on Women's Health, Office of AIDS Research, National Institute of Mental Health, and National Institute on Drug Abuse, as well as the University of California Global Health Institute. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health or the University of California Global Health Institute.

## References

Adelekan ML. West African Subregion: An overview of substance abuse problems. *Drugs: Education, Prevention, and Policy*. 1996; 3(3):231–237.

- Adelekan ML. Substance use, HIV infection and the harm reduction approach in sub-Saharan Africa. *International Journal of Drug Policy*. 1998; 9(5):315–323.
- Adelekan ML, Stimson GV. Problems and prospects of implementing harm reduction for HIV and injecting drug use in high risk sub-Saharan African countries. *Journal of Drug Issues*. 1997; 27(1): 97.
- Agar M, Reisinger HS. Using trend theory to explain heroin use trends. *Journal of Psychoactive Drugs*. 2001; 33(3):203–211. [PubMed: 11718313]
- Baeten JM, Donnell D, Ndase P, Mugo NR, Campbell JD, Wangisi J, Celum C. Antiretroviral Prophylaxis for HIV Prevention in Heterosexual Men and Women. *New England Journal of Medicine*. 2012; 367(5):399–410. [PubMed: 22784037]
- Bailey RC, Moses S, Parker CB, Agot K, Maclean I, Krieger JN, Ndinya-Achola JO. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. *The Lancet*. 2007; 369(9562):643–656.
- Becker HS. Becoming a marihuana user. *American journal of Sociology*. 1953:235–242.
- Beckerleg S. ‘Brown Sugar’ or Friday Prayers: Youth Choices and Community Building in Coastal Kenya. *African Affairs*. 1995; 94(374):23–38.
- Beckerleg S, Hundt GL. The characteristics and recent growth of heroin injecting in a Kenyan coastal town. *Addiction Research & Theory*. 2004; 12(1):41–53.
- Beckerleg S, Hundt GL. Structural violence in a tourist ‘paradise’. *Development*. 2004; 47(1):109–114.
- Beckerleg S, Telfer M, Hundt GL. The rise of injecting drug use in east Africa: a case study from Kenya. *Harm Reduction Journal*. 2005; 2(1):12. [PubMed: 16122382]
- Beckerleg S, Telfer M, Sizi AK. Private struggles, public support: rehabilitating heroin users in Kenya. *Drugs: Education, Prevention, and Policy*. 1996; 3(2):159–169.
- Bourgois P. Crack and the political economy of social suffering. *Addiction Research and Theory*. 2003; 11:31–37.
- Bourgois, P.; Schonberg, J. *Righteous Dopefiend*. University of California Press; 2009.
- Brodish P, Singh K, Rinyuri A, Njeru C, Kingola N, Mureithi P, Weir S. Evidence of high-risk sexual behaviors among injection drug users in the Kenya PLACE study. *Drug and alcohol dependence*. 2011; 119(1):138–141. [PubMed: 21700402]
- Carotenuto M, Luongo K. Dala or diaspora? Obama and the Luo community of Kenya. *African Affairs*. 2009; 108(431):197–219.
- Carrier, N.; Klantschnig, G. *Africa and the War on Drugs*. Zed Books; London: 2012.
- Ciccarone D. The political economy of heroin: Regional markets, practices and consequences. *International Journal of Drug Policy*. 2005; 16(5):289–290.
- Ciccarone D. Heroin in brown, black and white: Structural factors and medical consequences in the US heroin market. *International Journal of Drug Policy*. 2009; 20(3):277–282. [PubMed: 18945606]
- Ciccarone D, Bourgois P. Explaining the geographical variation of HIV among injection drug users in the United States. *Substance Use & Misuse*. 2003; 38(14):2049–2063. [PubMed: 14677781]
- Denton JS, Donoghue ER, McReynolds J, Kalelkar MB. An epidemic of illicit fentanyl deaths in Cook County, Illinois: September 2005 through April 2007. *Journal of forensic sciences*. 2008; 53(2): 452–454. [PubMed: 18366578]
- Deveau C, Levine B, Beckerleg S. Heroin use in Kenya and findings from a community based outreach programme to reduce the spread of HIV/AIDS. *African Journal of Drug & Alcohol Studies*. 2006; 5(2):95–107.
- Dewing S, Pluddemann A, Myers BJ, Parry CDH. Review of injection drug use in six African countries: Egypt, Kenya, Mauritius, Nigeria, South Africa and Tanzania. *Drugs: Education, Prevention & Policy*. 2006; 13(2):121–137.
- Dimova, M. *A New Agenda for Policing: Understanding the Heroin Trade in Eastern Africa*. London: 2014.
- Fazio A, Hunt G, Moloney M. “It’s One of the Better Drugs to Use”: Perceptions of Cocaine Use Among Gay and Bisexual Asian American Men. *Qualitative health research*. 2011; 21(5):625–641. [PubMed: 20952603]

- Fitzgerald J. Illegal drug markets in transitional economies. *Addiction Research & Theory*. 2005; 13(6):563–577.
- Gritonga, D. *Nairobi Half Life*. One Fine Day Films; Nairobi: 2012. (Writer)
- Guest G, Bunce A, Johnson L. How many interviews are enough? *Field Methods*. 2006; 18(1):59–82.
- Guise A, Dimova M, Ndimbii J, Clark P, Rhodes T. A qualitative analysis of transitions to heroin injection in Kenya: implications for HIV prevention and harm reduction. *Harm reduction journal*. 2015; 12(1):27. [PubMed: 26337729]
- Guise A, Tim R, Ndimbii J, Ayon S. The need for structural and community interventions to support HIV care and harm reduction for people who inject drugs in Kenya. *Annals of Global Health*. 2015; 1(81):6.
- Harris M, Forseth K, Rhodes T. “It’s Russian roulette”: Adulteration, adverse effects and drug use transitions during the 2010/2011 United Kingdom heroin shortage. *International Journal of Drug Policy*. 2015; 26(1):51–58. [PubMed: 25444768]
- Hoffer LD, Bobashev G, Morris RJ. Researching a local heroin market as a complex adaptive system. *American journal of community psychology*. 2009; 44(3-4):273–286. [PubMed: 19838792]
- International Narcotics Control Board. Report of the International Narcotics Control Board for 2013. United Nations: International Narcotics Control Board; New York: 2014.
- Johnson, JC. *Selecting ethnographic informants*. Sage; Newbury Park, CA: 1990.
- Kariuki J. Traders on Sh35.1m cocaine haul charge. *The Standard*. May 18.2013 2013.
- Koester S, Glanz J, Baron A. Drug sharing among heroin networks: implications for HIV and hepatitis B and C prevention. *AIDS and Behavior*. 2005; 9(1):27–39. [PubMed: 15812611]
- Koester S, Glanz J, Barón A. Drug Sharing Among Heroin Networks: Implications for HIV and Hepatitis B and C Prevention. *AIDS and Behavior*. 2005; 9(1):27–39. [PubMed: 15812611]
- Kurth AE, Cleland CM, Des Jarlais DC, Musyoki H, Lizcano JA, Chhun N, Cherutich P. HIV prevalence, estimated incidence, and risk behaviors among people who inject drugs in Kenya. *JAIDS Journal of Acquired Immune Deficiency Syndromes*. 2015 *Publish Ahead of Print*. doi: 10.1097/qai.0000000000000769.
- Lambdin BH, Bruce RD, Chang O, Nyandindi C, Sabuni N, Zamudio-Haas S, Msami A. Identifying programmatic gaps: inequities in harm reduction service utilization among male and female drug users in Dar es Salaam, Tanzania. *PloS one*. 2013; 8(6)
- Mars SG, Fessel JN, Bourgeois P, Montero F, Karandinos G, Ciccarone D. Heroin-related overdose: The unexplored influences of markets, marketing and source-types in the United States. *Social Science & Medicine*. 2015; 140:44–53. [PubMed: 26202771]
- Matiko E, Khatib A, Khalid F, Welty S, Said C, Ali A, Kim E. HIV prevalence and risk behaviors among people who inject drugs in two serial cross-sectional respondent-driven sampling surveys, Zanzibar 2007 and 2012. *AIDS and Behavior*. 2014; 19(1):36–45.
- Mbwambo J, McCurdy SA, Myers B, Lambdin B, Kilonzo GP, Kaduri P. Drug trafficking, use, and HIV risk: The need for comprehensive interventions. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*. 2012; 9(3):154–159. [PubMed: 23237070]
- McCurdy S, Kilonzo GP, Williams M, Kaaya S. Harm reduction in Tanzania: An urgent need for multisectoral intervention. *International Journal of Drug Policy*. 2007; 18(3):155–159. [PubMed: 17689361]
- McCurdy, S.; Maruyama, H. Heroin Use, Trafficking, and Intervention Approaches in Local and Global Contexts. In: Giles-Vernick, T.; Webb, JL., Jr, editors. *Global health in Africa: historical perspectives on disease control*. Ohio University Press; Athens: 2013. p. 211-234.
- McCurdy SA, Ross MW, Kilonzo GP, Leshabari MT, Williams ML. HIV/AIDS and injection drug use in the neighborhoods of Dar es Salaam, Tanzania. *Drug and Alcohol Dependence*. 2006; 82(Suppl 1):S23–S27. [PubMed: 16769441]
- McCurdy SA, Williams ML, Kilonzo GP, Ross MW, Leshabari MT. Tanzania: Youth hangouts, mageto and injecting practices. *AIDS care*. 2005; 17(Suppl 1):65–76.
- McLellan E, MacQueen KM, Neidig JL. Beyond the qualitative interview: data preparation and transcription. *Field Methods*. 2003; 15(1):63–84.
- Miguel T. Is It Africa’s Turn? Progress in the World’s Poorest Region. *Boston Review*. 2008:7–12.

- Mwaniki M, Angira Z. Sh206m airport drugs haul goes up in flames. *The Nation*. May 1.2013 2013.
- NASCOP. MARPS Newsletter: Kenya set to begin a new treatment for drug users. National AIDS & STIs Control Program (NASCOP); Nairobi: 2013.
- NASCOP. Kenya AIDS response progress Report 2014. National AIDS Control Council of Kenya; Nairobi: 2014.
- Nation Reporter. Scare for parents as the youth turn to new deadly drugs. *The Nation*. Aug 22.2014
- Needle RH, Kroeger K, Belani H, Hegle J. Substance abuse and HIV in sub-Saharan Africa: Introduction to the Special Issue. *African Journal of Drug & Alcohol Studies*. 2006; 5(2):83.
- Nyandindi C, Mbwambo J, McCurdy S, Lambdin B, Copenhaver M, Bruce R. Prevalence of HIV, hepatitis C and depression among people who inject drugs in the Kinondoni Municipality in Dar es Salaam, Tanzania. *Drug and Alcohol Dependence*. 2014; (140):e164.
- Odero, WO.; Reeves, WA.; Kipyego, N. African Economic Outlook: Kenya 2015. AfDB, OECD, UNDP; 2015.
- Ojeda VD, Burgos JL, Hiller SP, Lozada R, Rangel G, Vera A, Magis-Rodriguez C. Circular migration by Mexican female sex workers who are injection drug users: implications for HIV in Mexican sending communities. *Journal of Immigrant and Minority Health*. 2012; 14(1):107–115. [PubMed: 21833727]
- Prince RJ. ‘Tarmacking’ in the millennium city: Spatial and temporal trajectories of empowerment and development in Kisumu, Kenya. *Africa*. 2013; 83(04):582–605. [PubMed: 26321763]
- Rhodes T, Ball A, Stimson GV, Fitch C, Pokrovsky V, Burrows D, Andrushchak L. HIV infection associated with drug injecting in the newly independent states, eastern Europe: the social and economic context of epidemics. *Addiction*. 1999; 94(9):1323–1336. [PubMed: 10615718]
- Rhodes T, Bivol S. “Back then” and “nowadays”: Social transition narratives in accounts of injecting drug use in an East European setting. *Social Science & Medicine*. 2012; 74(3):425–433. [PubMed: 22209593]
- Rhodes T, Guise A, Ndimbii J, Strathdee S, Ngugi E, Platt L, Vickerman P. Is the promise of methadone Kenya’s solution to managing HIV and addiction? A mixed-method mathematical modelling and qualitative study. *BMJ open*. 2015a; 5(3):e007198.
- Rhodes T, Guise A, Ndimbii J, Strathdee S, Ngugi E, Platt L, Vickerman P. Is the promise of methadone Kenya’s solution to managing HIV and addiction? A mixed-method mathematical modelling and qualitative study. *BMJ Open*. 2015b; 5(3) doi:10.1136/bmjopen-2014-007198.
- Rhodes T, Singer M, Bourgois P, Friedman S, Strathdee SA. The Social Structural Production of HIV risk among injecting drug users. *Social Science and Medicine*. 2005; 61(5):1026–1044. [PubMed: 15955404]
- Rosenblum D, Castrillo FM, Bourgois P, Mars S, Karandinos G, Unick GJ, Ciccarone D. Urban segregation and the US heroin market: A quantitative model of anthropological hypotheses from an inner-city drug market. *International Journal of Drug Policy*. 2014; 25(3):543–555. [PubMed: 24445118]
- Singer M. Toward a bio-cultural and political economic integration of alcohol, tobacco and drug studies in the coming century. *Social Science and Medicine*. 2001; 53:199–213. [PubMed: 11414387]
- Smith JH. Snake-driven development Culture, nature and religious conflict in neoliberal Kenya. *Ethnography*. 2006; 7(4):423–459.
- Soukup-Baljak Y, Greer AM, Amlani A, Sampson O, Buxton JA. Drug quality assessment practices and communication of drug alerts among people who use drugs. *International Journal of Drug Policy*. 2015
- Strathdee SA, Hallett TB, Bobrova N, Rhodes T, Booth R, Abdool R, Hankins CA. HIV and risk environment for injecting drug users: the past, present, and future. *The lancet*. 2010; 376(9737): 268–284.
- Taussig, M. *My cocaine museum*. University of Chicago Press; Chicago: 2009.
- Tun W, Sheehy M, Broz D, Okal J, Muraguri N, Raymond HF, Geibel S. HIV and STI Prevalence and Injection Behaviors Among People Who Inject Drugs in Nairobi: Results from a 2011 Bio-behavioral Study Using Respondent-Driven Sampling. *AIDS and Behavior*. 2015; 19(1):24–35.

- UNODC. Transnational Organized Crime in Eastern Africa: A Threat Assessment. United Nations Office on Drugs and Crime; Vienna: 2013a.
- UNODC. World Drug Report. United Nations Office on Drugs and Crime; Vienna: 2013b.
- UNODCCP. Global Illicit Drug Trends 1999. United Nations Office for Drug Control and Crime Prevention; New York: 1999.
- Wagner KD, Jackson Bloom J, Hathazi SD, Sanders B, Lankenau SE. Control over drug acquisition, preparation, and injection: Implications for HIV and HCV risk among young female injection drug users. *ISRN Addiction*. 2013; 2013(289012):1–9.
- Werb D, Kerr T, Nosyk B, Strathdee S, Montaner J, Wood E. The temporal relationship between drug supply indicators: an audit of international government surveillance systems. *BMJ open*. 2013; 3(9):e003077.
- Williams ML, McCurdy Sheryl A, Atkinson John S, Kilonzo Gad P, Leshabari MT, Ross Michael W. Differences in HIV Risk Behaviors by Gender in a Sample of Tanzanian Injection Drug Users. *AIDS and Behavior*. 2007; 11(137-144)
- Young AM, Havens JR. Transition from first illicit drug use to first injection drug use among rural Appalachian drug users: a cross-sectional comparison and retrospective survival analysis. *Addiction*. 2012; 107(3):587–596. [PubMed: 21883604]
- Young AM, Havens JR, Leukefeld CG. A comparison of rural and urban nonmedical prescription opioid users' lifetime and recent drug use. *The American journal of drug and alcohol abuse*. 2012; 38(3):220–227. [PubMed: 22211586]
- Zoccatelli G. “It was fun, it was dangerous”: Heroin, young urbanities and opening reforms in China's borderlands. *International Journal of Drug Policy*. 2014; 25(4):762–768. [PubMed: 25087916]

### Highlights

- Drug markets are expanding throughout sub-Saharan Africa
- Emergent drug markets in Kisumu, Kenya, are dynamic and fueling injection drug use
- Injectors report availability of heroin and cocaine in Kisumu
- Availability of cocaine is pharmacologically unconfirmed, but opens up questions about the social meanings of drug markets
- Drug surveillance, education, and further ethnographic inquiry are needed in emergent drug markets in sub-Saharan Africa