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Stages of Drug Market Change During Disaster: Hurricane Katrina and Reformulation of the New Orleans Drug Market

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Abstract

In recent years, numerous weather disasters have crippled many cities and towns across the United States of America. Such disasters present a unique opportunity for analyses of the disintegration and reformulation of drug markets. Disasters present new facts which cannot be “explained” by existing theories. Recent and continuing disasters present a radically different picture from that of police crack downs where market disruptions are carried out on a limited basis (both use and sales). Generally, users and sellers move to other locations and business continues as usual. The Katrina Disaster in 2005 offered a larger opportunity to understand the functioning and processes by which drug markets may or may not survive. This manuscript presents a paradigm which uses *stages* as a testable concept to scientifically examine the disintegration and reformulation of drug markets during disaster or crisis situations. It describes the specific processes – referred to as *stages* – which drug markets must go through in order to function and survive during and after a natural disaster. Prior to Hurricane Katrina, there had never before been a situation in which a drug market was struck by a disaster that forced its disintegration and reformulation.¹

Keywords

Hurricane Katrina; Drug Markets; Qualitative Research; Disaster

INTRODUCTION

The *stages* paradigm was formulated using original data from a study carried out from 2006 to 2010 in New Orleans, Louisiana and Houston, Texas, where most of the New Orleans evacuees (NOEs) were relocated. New Orleans and the surrounding areas were hit particularly hard by Hurricane Katrina and suffered damage from both the initial hurricane

¹The *stages* paradigm is currently being tested in Galveston, Texas, where Hurricane Ike left Galveston in a similar situation as that of Hurricane Katrina in New Orleans. After two years of research, the *stages* paradigm is holding up well and being improved upon using this new data.

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and the levee breaks that flooded most of the eastern side of the city. New Orleans was nearly destroyed by the storm and its aftermath. As a result, the relatively vibrant and active illicit drug market in New Orleans came to a complete standstill.

The study findings demonstrate that drug markets go through a series of *stages* in their response to a major disaster. These *stages* are characterized by specific changes in distribution and acquisition practices. The *stages* are organized around four critical time frames: before the disaster, during the disaster, after the disaster, and reformulation. The market disintegrated when they all were evacuated. The market began to reformulate as people returned. Our findings detail the *stages* of drug market reformulation and bring to light the way drug markets continually change and adapt in order to survive and flourish. The *stages* identified herein provide a model by which other markets may be evaluated, especially during disasters and large scale crisis. Data from this investigation indicate that the present way in which drug use and sales are handled by public health and law enforcement authorities is not effective because the *stages* drug markets go through are not well understood.

The *stages* are as follows: Stage 0: Market Before Disaster; Stage 1: During the Disaster; Stage 2: Immediately Following the Disaster, 2A: In the Disaster Zone, 2B: In the Host Community; Stage 3: Early Market Reconstitution, 3A: Market Restoration Activity in the Disaster Community, 3B: NOE Market Involvement in the Host Community, 3C: Host Community Drug Market Accommodation Stage 4: Reformulation of the Drug Market 4A: Disaster Community Market Changes 4B: Host Community Market Integration.

LITERATURE

Much disaster literature looks at the impact of disaster on: psychological states of individuals and traumatic experiences (Ishikawa et al. 2012; King et al 2012; George Bonanno et al 2006, 2007); PTSD symptoms and increased substance use, including increased consumption of cigarettes, alcohol and marijuana; (Telles, Singh, Joshi 2009; Ducrocq F, G. Vaiva, O. Cottencin, S. Molenda, D. Bailly. 2001; Nandi, A. et al. 2005; Vetter et al 2008; Vahov et al 2004; Adams et al 2006; Nandi et al 2005); health care (Rudowitz et al 2006; Bloodworth et al 2007; Nufer and Wilson-Ramirez 2004; Baker ND, Feldman MS, Lowerson V. 2012); and health services, mental and behavioral health treatment, and health hazards (Rutkow et al. 2012; Pfefferbaum, et. al 2012; den Ouden et al 2007; Wada et al 2012). Recently, limited literature has appeared on drug use and sales during disasters (Cepeda, et al., 2010; Vlahov, et el. 2004; Movaghar, et el. 2005) but there is still much to be discovered about the impact of disasters on drug markets.

The limited research that has focused on the disruption of drug markets has focused almost exclusively on drug market disruption resulting from criminal justice interventions such as police crackdowns (Johnson, Golub, & Dunlap, 2000; Wood et al., 2004; Hoffer, 2006; Brownstein & Taylor, 2007; Johnson, 2003; Taylor & Brownstein, 2003; Curtis & Wendel, 2007). Researchers have also examined shortage of drug supply resulting from war, political realignment, or shifts in domestic and international supply (Degenhardt, et al. 2005; Degenhardt, et al. 2006; Kuzmarov, 2009; Courtwright, 2001; MacCoun & Reuter, 2001; Musto, 1973; Breecher, 1972).

METHODOLOGY

This project was designed to provide improved scientific understanding about what happens to illegal drug use and drug sales during and immediately after a major disaster and in the ensuing time period. Project staff collected data for this study through a series of interviews, focus groups, and field observations. The research was formulated to reveal New Orleans

drug use and market behavior before the hurricane, in the storm period before evacuation from New Orleans, during the initial periods following the evacuation, and during the recovery process.

The research methods employed were intended to obtain thick description (Geertz 1973) of the illicit drug markets from active participants at the sites of interest. The three major data collection activities employed were: ethnographic observations with accompanying field notes; qualitative in-depth, open-ended interviews; and focus groups. The ethnographers on the team carefully observed and recorded every day, street-level drug market behavior throughout the duration of the study.

This ethnographic work was supplemented by open-ended interviews (n=267) that were digitally recorded and transcribed. The transcripts provide details about how individuals' involvement with drug use and distribution changed as a result of varying community contexts. These interviews provided very rich descriptions and insights based on actual New Orleans personal experiences. We assembled this sample through a procedure of contact and referral. During field work and individual and focus group recruitment, ethnographers began by selecting a few persons who seemed to be particularly knowledgeable and articulate about the illicit drug market(s). The staff located these prime contacts through preexisting professional relationships, and field presence at locations likely to produce drug users and dealers (e.g., local parks and apartment complex commons areas). These prime contacts, included both dealers and users, were invited to participate in personal interviews. The staff asked the prime contacts if they could help us locate other respondents safely and confidentially. Accordingly, the staff accumulated a snowball sample (Henry 1990). Approximately 80% of respondents approached actually participated in the study. Ethnographers were well known in the street/drug subculture, had participated in numerous other research projects over the years and had therefore acquired trust among drug users and sellers. All respondents provided their full informed consent and chose their own code names before participating in a 60-minute recorded interview.

The focus groups (n=171) were carefully assembled from these and additional respondents who met for approximately two hours each. Groups were composed of five to seven respondents each, and were assembled according to two criteria: drug of primary choice/use and seller versus consumer. The focus groups met in secure locations, including community centers and private apartments, and were digitally recorded. The purpose of the focus groups was to generate conversations about drug markets among those who share common interest in the market (see Greenbaum 1988). Several focus group participants were also involved in the individual interviews, and all respondents were financially remunerated. Respondents represented a range of ages, races and ethnicities and included both men and women.

Three forms of qualitative data are available in this research: field notes, transcripts of qualitative interviews, and transcripts of focus groups. The recorded data were transcribed by well-trained transcribers and made available to the ethnographer and other staff persons who reviewed it for accuracy. The transcripts of each focus group and interview were handled as separate documents and were stored for future analysis. Each of these narratives was entered into a major data base program (FileMaker Pro) for electronic storage, coding, and data analysis (Johnson, Dunlap & Benoit 2009). These ethnographic interviews, observations, and focus group transcripts provided extensive information for analysis.

The analysis of data that follows was formulated according to the logic of grounded theory. Grounded theory is employed where emergent ideas are explored, typologies are elaborated, and connections with other themes and experiences are identified (Charmaz 2000; Glaser & Strauss 1967). This inductive procedure involves reading, coding and rereading the

extensive collection of transcripts and observations to achieve insight into the forces and processes that underlie the lived experiences of New Orleaners who participate in illicit drug markets. Since the individual and focus group interviews consisted largely of open-ended and conversational questions, grounded theory functions well to direct discovery in data analysis. The guiding factors are the questions being asked and the responses and observations generated.

FINDINGS

From this data, it became clear that illicit drug markets go through several stages in the wake of a natural disaster as they reformulate. The process by which the drug market adjusts to a crisis situation is documented in the *stages* paradigm.

Stage 0: Market Before Disaster

In order to look at the stages of change, assessment began with an examination of what the market looked like and how it functioned before the disaster. This section examines the New Orleans drug market before the hurricane. Attention is given to the actions and continuous operations of the drug market (i.e. what goes on in the market) through focusing on: available drugs, suppliers, dealers, participants, distribution sites, and profit. This systematic approach focuses attention upon the processes by which the market maintains its ability to meet demand and supply requirements.

Available Drugs—Prior to Hurricane Katrina, the drug of choice in New Orleans was crack (Dunlap, Johnson and Morse 2007). However, the market also included a wide variety of other drugs as evidenced by Flip (white, male, 25, heroin user), who explained: “Drugs available, I would say, let’s see; heroin, cocaine, ecstasy, acid, mushrooms, weed; any kind of pill, as far as methadone, Oxycontin, Vicodin, Lorcet, Percocet, Xanax, Valium; as well as guys I know sold other stuff. They sold tanks of nitrous oxide. I knew guys that sold tanks of Freon.... Cocaine, crack.” Similarly, Mr. X (black, male, 26) said: “Weed is found in basically any neighborhood. I don’t care if it’s white, black, upscale, small scale.... Now, you can find coke and heroin... basically in any project.”

Suppliers—According to respondents, these drugs came primarily from upper-level suppliers who provided large quantities of drugs to dealers. The transactions between suppliers and dealers, unlike the transactions between dealers and drug purchasers, rarely took place outside. Generally dealers were expected to make a visit to the supplier’s home or business. In addition, the supplier’s neighborhood was not typically one in which large quantities of drugs could be purchased outside on a corner. For instance, Mr. X (black, male, 26, dealer) reported: “Now, when I’m buying, I either had it delivered to me or we’ll meet at a McDonalds or somewhere and go in the bathroom. You know, I’ll slide him my bag; he’ll slide me his bag. You know my bag of my money that’s counted. And you know we’ll sit there and he’ll count his money and I’ll make sure I got all my product. So that’s the way it went down.”

Dealers and Sellers—Generally, dealers do not stand on corners; they have sellers who work for them. Usually a specific amount of drugs are given to an individual (seller) to sell and a portion of what s/he sells is what s/he earns. Sellers can also be paid in drugs. Dealers purchase large quantities, which are broken down into packages to be sold. The drug market in New Orleans prior to Hurricane Katrina was run primarily by older individuals. Although young people were still active in the market, older dealers controlled the market. For instance, Hammer (black, Male, 40, marijuana dealer) indicated that he worked for an older man in his neighborhood, saying, “pre-Katrina, I didn’t have to buy my drugs. My

neighborhood, they had a house and uh, an old man lived there and I ran the house.... This old man couldn't walk. He trusted me to run the house and I did that for at least 8 months.... So, I didn't have to purchase any drugs, I got my drugs for free.”

Respondents' frequent discussion of the role of older family members in providing them with drugs is also an indication that older dealers dominated the pre-Katrina drug market in New Orleans. For example, Rasta (black, male, 20, crack user) admitted that his father acted as his drug dealer. Similarly, Number Five's uncle and father introduced him to the drug market through their dealing habits: “Before the storm, snorting heroin since I was 14. My family does it; you know what I'm saying? My uncle sell it, my dad's selling it. My daddy is a big doctor shopper, so drugs ain't never a problem.” Likewise, for Number Eight, his mother and an older female friend that were dealing pills introduced him to the market. We also found that older dealers provided a specific level of stability to the drug market. They chose younger persons to teach the dealing trade through working for them and gaining trust, as Hammer related above (Johnson, Dunlap and Tourigny, 2000; Johnson, Dunlap and Maher 1998). Not only did they make sure there were trained younger persons to deal drugs but they also maintained at least two to three suppliers so that if one supplier did not have drugs, there was always another that could be contacted. Sometimes they would move up to supplier status when they had trained a few sellers to work for them.

Participants—Before the disaster, a diverse group of individuals participated in the drug market as suppliers, dealers, sellers and users. Elroy (black, male, 41, heroin seller and user) paints a picture of the diversity of market participation: “Well, I've bought from blacks. I've bought from Latinos. I've bought from Mexicans. I've bought from whites, you know. Downtown in the business district, you know. I've bought from a lawyer, you know, a Caucasian, you know. I've bought from my lawyer [and] he was black.... back in the early '80s, you know.... a lot of blacks wasn't messin' with that, like you talkin' about. So I had a lot of white customers that was from my job that I used to sell to.... You know, blacks couldn't afford that at one time, you know.” Number Five paints a similar picture, explaining: “So, before the storm, drugs... everybody had it, you know. I know where to get it all the time; I get it uptown in the nicest neighborhoods uptown. I can go uptown, nicest neighborhoods, right in the garden district. You know, right off of Chester (pseudo name) right off of Bryant (pseudo name). Or I can go, I could go out in Metairie, you know in nice neighborhoods, I go with a Puerto Rican cat.”

Distribution Sites—Prior to Hurricane Katrina, the New Orleans drug market was both vibrant and highly visible (or public). As Darrell (African American, male, 47, heroin user) explains, the majority of drug purchase and distribution occurred out in the open in the housing projects scattered throughout the city: “Just like a project, every cut, corner, gap, they comin' through all sides. They come in all ways, through all corners, and buyin' it all, you know, and the projects are covered with dealers.... they gonna make you see it. They don't care who you are; they gonna holler at you. Whassup? What you want? And it's all here.” In fact, many respondents indicated that people only went to the housing projects if they lived there or if they needed drugs.

Profitability—Notably, this vibrant and public pre-Katrina drug market -- made up of several levels including suppliers, dealers, sellers and users, and including a variety of different types of drugs -- was extremely profitable. As Elroy explains, “Before Katrina, way before Katrina.... Like I say, if you bought a ounce of heroin, it would cost nine thousand dollars, you know. You'd make forty-five thousand dollars off a ounce.” Similarly, Number Five indicated that he could buy drugs cheaply from the suppliers and then turn around and sell them for a profit, explaining: “Um, before the storm, I could go outside and get me a kilo of cocaine, cheap too. Probably \$11,000.00 that's it. I'd go get me a whole pound of

heroin if I want to. I could get me 4 ½ fronted to me for \$14,000.00 you know, and um, I just, they really ain't nothing." He went on, saying, "When you sell heroin, you always make 3 times your money, always. And that's if you do a lot of it.... I mean, if you were selling drugs and you wasn't making any money, something's wrong with you because it's just almost too much demand you know to even keep up with it."

Summary—Before Katrina, New Orleans had a vibrant drug market that offered a variety of different types of drugs including crack, cocaine, heroin, marijuana and pills, although methamphetamine was difficult to obtain. The pre-Katrina drug market in New Orleans was an equal opportunity market in the sense that all races and classes participated. At the top of the market were the suppliers. These people were not known by everyone. Only the dealers -- who were primarily older individuals imbedded in various communities -- knew them and they guarded their sources well. Street sales however were open, vibrant, and active and took place both day and night primarily in public spaces in and around the housing projects throughout the city. As a result, the market was prosperous and dealers were able to easily make a profit by selling drugs. The market was organized around three major dimensions: 1) *practices*—types and regularity of drug(s) used/purchased/sold; 2) *prices*—and quality of retail/wholesale units typically available, and 3) *mechanisms*—of distribution and purchase (via street sellers, indoor sellers, delivery, or storefronts).

Stage 1: During the Disaster

Stage 1 examines the market during and shortly after the disaster. Here we focus on whether drugs were available and if users consumed and/or purchased drugs, emphasizing both prices and mechanisms of sales and purchase, in an effort to capture the process by which the drug market coped with the disaster at the outset.

Preparedness—The first indication of the resiliency of the drug market is the fact that both users and dealers prepared for the storm. In fact, according to respondents, both demand and supply were high even though people were being warned about a strong incoming storm. For instance, Mr. X (African American, male, 26, marijuana/cocaine/crack) explains: "I went in the project to find them [drugs]. In the project, you know, and got what I needed. I got what I had to get, you know, and went on about my business. It was like, you know, everybody... Down there, man, it was another world. People act like they didn't even know the storm was comin'." Even more poignantly, Law Street (black, male, 45, marijuana/crack/cocaine/heroin user) said, "I was getting loaded [before the storm]. I was worried about getting myself loaded. I mean if I would have got away I know I could have swam or whatever. I wasn't tripping over that. I was worrying about getting myself loaded and getting some money.... I was a little nervous, though, because I mean I wondered where my dope was at...where the man that have the dope? I'm trying to get away but I want to know if I'm gonna get my high."

Continued Use and Sales—New Orleans residents continued to both deal and use during and immediately after the storm while coping with the disaster. The process is demonstrated by the actions of the users and dealers under extreme conditions. For instance, Scanless (African American, male, 27, marijuana/heroin user) related, "Lotta hard wind and you see the water risin'. And there were cars goin' underwater and all the alarms goin' off on the cars while they gettin' flooded out. And the water just steady gettin' higher. It looked like a tsunami... [but] everybody was stealing drugs, goin' in people's houses and stuff." And Reaon (African American, male, 33, marijuana) said, "Shoot, they had people, during the disaster where we were stayin' at, um, like in an abandoned hotel, they selling, using, a variety of drugs. X pills, smokin' weed. Shoot, it was like the storm wasn't even really wasn't stoppin' nothin'. It's just that we ain't had no electricity or nothing." And James

(black, male, 45, crack user) explained: “That day of the storm, the day the storm hit, and this girl woke me up.... and asked me to go around there and get some crack from this girl. So I got up, right. And I was goin’ around there and the water was like right up here. It was starting to get high. That’s when the wind was blowing. And I’m so crazy. I was in the storm tryin’ to go get somethin’.”

Facing Evacuation—The only time the market stopped operating was when nearly all New Orleans residents were forced to evacuate entirely. However, many users and dealers also prepared for this eventuality by continuing to sell and purchase drugs right up until they were forced to leave. For example, Elroy said, “When the storm hit... I was in the Coldhorn (pseudo name) project. Um, I arrived there about eleven o’clock that morning. And I stayed there four or five days approximately after the storm was there. And during that time I was there, I helped rescue some people. But my main purpose was to get my choice of drug, so it could hold me, because I knew I had to leave sooner or later because they was demandin’ that we evacuate.... It was approximately six or seven people there with me. It wasn’t so much that they was worried about the flood. We all was panickin’ on tryin’ to get our drugs before we [were put] out of the city. You know, that’s what I was mainly focused on.”

Pricing—During the disaster, many dealers raised their prices because they knew that users would have difficulty finding their drug of choice. They understood the basics of supply and demand and were thus aware that they could charge higher prices and still sell their products to eager buyers who were unable to obtain drugs elsewhere. In many cases, prices doubled and tripled indicating that dealers were trying to make as much as possible before exhausting their supply and/or being forced to leave the city. For example, Magnolia (African American, male, 31, heroin) explains, “[The dealers] tryin’ to make all the money they can make before everybody leave.... Tryin’ to sell drugs by bein’ they was the only ones had it and they know people wanted it. They’ll charge you, like instead of you’ll pay a regular price, you’ll be payin’ twenty dollars for a dime [a dime is ten dollars] or somethin’ like that there.” These fluctuations in pricing are clear indications, much like the preparedness of users and dealers and their continued use and sales of drugs, of the processes of the drug market, making it evident that the market remained functional even in the midst of severe disruption.

The Superdome: A Miniature Drug Market—Many of those who were unable to evacuate because they did not have transportation sought shelter in places that were perceived as safe. The Superdome was one of the places in which a number of people gathered for shelter against the coming hurricane. Because of the large number of people congregating in the Superdome, a drug market emerged within this microcosm of the city. Fatigue (black, female, 36, crack dealer/user) describes it like this: “With the drugs, they were smokin’ weed all in the Superdome. You could smell it all up in there. They were smokin’ crack in the Superdome. Um, um, people who had their drugs at home had it on them. You know, people was tryin’ to steal it from them. It was a lot of things goin’ on. And then at one point they just started givin’ it away, you know, because it was nothin’ they could do with it. You know, it was just a whole bunch of people in one big place tryin’ to survive.” And Governor (black, male, 60, marijuana user) said, “Well, I, they had people up in there using drugs; but I wasn’t participating. And the ones that did have it, they was to themselves with it. They wasn’t really, you know, dealin’ with people they didn’t know. And the majority of people up in there that had it, I didn’t really know them. But there was a lot of times that I could smell the marijuana, you know, that was bein’ smoked. But I didn’t have access to none, me, myself.” Interestingly, these two accounts show that the miniature drug market in the Superdome was similar to the drug market outside the Superdome in the sense that individuals prepared for the storm by bringing their drugs to the Superdome and

continued to use, and that the market was eventually thrown into chaos by criminal activity. This mini-market also differed from the larger market in the sense that people began to share their drugs, they were facing eventual evacuation, and prices were not inflated.

Summary—In sum, although the drug market was in a state of chaos during the storm, transactions and use did not cease until the city was totally evacuated. Respondents' reports indicate that drug use and sales did not cease before, during, or after the storm despite inflated prices; people continued to look for drugs, to purchase drugs, and to sell drugs with varying levels of success. We see the process as continuous market operation which took place in a definite manner. Additionally, a miniature drug market emerged within the Superdome that paralleled the larger market in many ways but also differed in important ways.

Stage 2: Immediately Following the Disaster

Stage 2 chronicles what happened in the days and weeks following the disaster. Here we profile two different locations: the disaster zone and the host cities.

In the Disaster Zone—Those who remained in New Orleans during the storm often took their drugs with them to the places in which they sought shelter (such as the Superdome, see above). Sam (female, white, 33, marijuana) for example, went to a friend's house during the hurricane and took drugs with her. She reported that she felt safer at her friend's house because it had a second floor. When asked what she took with her, Sam said, "I took five nickel bags [of marijuana] and the clothes on my back."

Immediately after the storm people emerged out of their homes and the shelters in which they had sought safety to find that their city was devastated. Most were told that they had to leave the area immediately and could not return to their homes because of the massive damage caused by the storm and the levee breaks that followed, but not everyone obeyed these orders. In fact, many respondents reported seeking their drug of choice in New Orleans immediately after the storm. Elroy, for example, went to the home of a known dealer: "I, myself, once, um, went into a drug dealer home, you know, that I knew of that kept drugs in his apartment. And that's how I was able to function from day to day." Many other drug-using New Orleans residents that remained in the disaster zone had to steal in order to obtain their drugs. For example, many respondents like Fleetwood (African American, male, 46, crack user), reported seeing people steal from one another: "This one project had about a hundred people lookin' to score, at this one house. People was gettin', if you was weak and you happened to be in front of the line and you come out, somebody gonna get you. The women was gettin' taken a lot. They snatch it out the women hands. Women usually carry their drugs in their hand. Men'll throw it in their mouth.... it was chaotic.... But it was somethin' like people was gettin' gold or somethin'.... And no police action. Wasn't no police. At all." Similarly, Fatigue reported: "I know one incident that somebody was robbed for their drugs, you know. And, and he got his drugs back because he beat 'em down and he took his drugs back. But there was a lot of things goin' on.... people was tryin' to steal it from them."

In the disaster zone, the market had weakened; there was a prevalence of crime mostly carried out to obtain drugs. Many dealers and users, however, had left during and immediately after the storm. The market continued to operate, but in a greatly diminished state with tremendously high prices. Fleetwood described it like this: "It was a project down by, Longhorn (pseudonym) Street that still had crack. But the prices had skyrocketed. I couldn't afford it. Like I'd buy a dime, a dime down there that day was forty dollars. That was the Tuesday after Katrina."

In the Host Community—Evacuees were sent to many different cities before returning to New Orleans. June (African American, male, 61 crack), for example, went from the Superdome to Atlanta, Georgia to Eaton, Georgia and then from Eaton to LaPlace, Louisiana. Toya (African American, female, 22, crack) went from the Saver Center where she sought shelter, to a bridge where she slept for a day, to a bus which took her to Texas, and from Texas to California. However, despite the mobility of those who evacuated, they continued to engage in drug use and sales, often with many of the same people as they had in New Orleans since so many residents evacuated to other locations. For example, Fire (African American, male, 46, crack user) explains, “Well, it was like New Orleans was in Baton Rouge, you know, with the same people, some people you know, you know, doin’ the same thing. You know, sellin’ drugs. You know, using drugs. You know, it was like we just moved from one city to another city, you know, and the party kept goin’ on.”

Additionally, a number of users talked about arriving in Houston and encountering dealers who “showed them love.” Specifically, dealers (both from New Orleans and Houston) found places in which NOE users were located and made themselves and their drugs available (Dunlap et al. 2009). Other respondents talked about ways to find drugs in the host community, a place that was unfamiliar to them. These strategies included visiting local housing projects and neighborhoods that looked “ghetto” (i.e. people hanging out on the corner, trash in the street, etc.) and asking people who exhibited signs of drug use themselves (Dunlap et al. 2009). In most instances NOEs were able to find their drug of choice within the host communities they inhabited either through existing connections with other displaced New Orleans residents or by making new connections in the host community.

Summary—In summary, immediately following the disaster, many NOEs who stayed in the disaster zone continued to sell and use drugs. Some NOEs took drugs with them to their New Orleans-based shelters; others sought out their drug of choice in the aftermath of the storm either by stealing it or by purchasing it. Those who purchased their drugs indicated that the drug market was greatly diminished in the immediate aftermath of Katrina and that, as a result, prices were extremely high. NOEs who left the city and stayed at various evacuation sites also participated in the drug market. Despite their high mobility, many NOEs reported engaging in drug use and sales in similar ways and with similar people because they were surrounded by so many other NOEs at the evacuation sites in their host communities. In addition, NOEs sought drugs in the host community where the evacuation site was located by looking for people who also seemed to be drug users or by visiting certain neighborhoods. Ultimately, then, as we saw in Stage 1, the evidence suggests that the drug market functioned as a continuous, though diminished, operation in the midst of a series of changes brought by the storm.

Stage 3: Early Market Reformulation

Stage 3 began when the home community started to rebuild following the disaster and many who had temporarily evacuated began to return home. This stage demonstrates the processes involved in the early market restoration activity in the disaster community (New Orleans).

Market Restoration Activity in the Disaster Community—Many respondents described how quickly the market was restored in the disaster community following the storm. From the very earliest days following their return to the city, dealers were making their presence known and proudly displayed their new supplies upon returning from evacuation sites in host communities. Shorty (white, female, 34, heroin dealer) described this phenomenon, explaining, “The present drug market is high. Drugs is very easy to get to...very, very easy...anywhere you go. Not easier but just as easy because less people are

back in the city but there's still enough people here that, you know, you can get what you need." Along similar lines, LisaLisa (black, female, 46, marijuana user) said, "It's still busy as hell and even here I see them hemmed up every now and then and somebody's on the corner and all you gotta do is go outside and sometimes the people that get loaded they are just all night long, walking down the street like crazy."

As soon as the city opened up, the new connections dealers made in their host communities during their evacuation not only gave them an ample supply of drugs (so much, in fact, that they were giving it away to lure in clientele), but also allowed them to provide more potent drugs than the drugs available in New Orleans before Katrina. Jake (black, male, 30, heroin user) described the new heroin available in New Orleans after the storm: "It's black tar heroin. It's called Batman. It's black and sticky and it looks like tar.... They took out seven young guys.... OD'd off it." The opening of the city and return of the population revealed that dealers were providing larger quantities of drugs for lower prices than had been available prior to the storm. Bargain (black, male, 40, heroin dealer) described it like this: "Ten dollars. Sometimes you get it cheaper like five dollars. They just give it away now. It's not, not literally, but you know, they got so much of it, you can come around over by our house and get like I got 15 for like \$700.00, so you know, it's just abundant on both sides." Similarly, Magnolia said, "Now, the quantities of it, it's a lot cheaper.... Well, not as hard as tryin' to, to try to like get a lot of it for much of nothin'. You can get as much, you know, much of it for a little somethin'-somethin'." Essentially, people got more for their money from the dealers. Returning dealers had found better, cheaper suppliers and now had a limited number of buyers available since not all drug users returned to New Orleans when the city first opened up.

Summary—In summary, the market reformulated itself rather quickly in New Orleans. After NOEs were permitted to return home and many began doing so, dealers began to make themselves known right away. Dealers returning from evacuation sites came home with more potent drugs that they sold for less money and often even gave away in an attempt to obtain clients. Additionally, as many NOE dealers returned to the city, turf wars became commonplace as dealers vied for specific sections with new incoming dealers.

Stage 4: Reformulation of the Drug Market

This period started approximately six months after the storm as the market began to evolve and stabilize. Although one might assume that Stage 4 would resemble Stage 0 (the market before the disaster), our results indicate that the drug markets in both the disaster community (New Orleans) and the primary host community (Houston) changed dramatically in important ways as a result of the disaster. Additionally, the two markets also began an apparent merge as a result of the disaster (see Kotarba et al. 2010 for details).

Disaster Community Market Changes—In New Orleans, current evidence points to an evolved drug market in the disaster community that has changed substantially from Stage 0. For instance, illicit drug markets – especially heroin and crack – returned to New Orleans in mid-2006 (approximately one year after the storm) and remain highly volatile. Drug users report being able to choose from several dealers at reasonable prices. Outside of the French Quarter, street sellers and competition for sales territory were very common, largely because much of the customer base in these areas has not returned. In fact, NOE users and sellers who returned both report that they do not see "old faces" in "regular locations" (before Katrina). Rather, New Orleans sellers are now younger, more dangerous, and their selling locations have changed. New ethnic groups (Latinos) have entered the city and become participants in the drug market as both users and sellers. Additionally, with guns widely available, competition has generated numerous killings, including at least eight people who

participated in this research project in 2006–07. Reports suggest that these participants were killed for reasons related to their drug market participation (but not related to their participation in this research). For instance, focus group participant Little C proclaimed three times during the course of the focus group, “I’m from Nine [ward in New Orleans], and don’t mind dyin.” He was subsequently shot in the leg (as a warning), but persisted in selling, and was killed a month later.

Currently and for the foreseeable future, drug markets in New Orleans are still being reformulated as a result of conflicts between the large number of sellers who have returned to New Orleans and the substantially decreased drug-using population there.

Impact of NOE dealers on Host City (Houston)—The older Houston dealers were wary of the NOE sellers because of their age. Largely as a result of their age, Houston dealers – like Dusty (black, male, 70, heroin dealer) – often described New Orleans sellers as immature and selfish. Houston dealers were also surprised that New Orleans sellers, as they had at home in New Orleans, dealt drugs out in the open. The general feeling among Houston dealers was NOE sellers displayed disregard for both the police and the outcome of their actions, and they did not go unnoticed by Houston law enforcement. Many respondents reported that a number of NOE users and sellers were arrested.

The arrival of the NOEs in cities like Houston did not leave the host community market unchanged. The host communities’ drug markets were forced to accommodate the influx of NOE users, sellers and dealers. Prior to Katrina, Houston’s drug market was controlled largely by a network of older men who knew each other, claimed no territory, and operated under the rule of “respect.” When NOEs arrived in Houston, Houston dealers perceived NOE sellers as completely out of control for several reasons including their failure to assess the drug market before setting up shop, their youthfulness and inexperience, and their extremely public style of dealing. As a result, Houston dealers felt great opposition toward New Orleans sellers. Eventually the tension was reduced when a large proportion of NOE sellers left the market as a result of being arrested, getting killed, or returning home. The tension eased even further when an uneasy peace took over between the groups and Houston dealers started to accommodate and work with New Orleans dealers as long as the NOE sellers showed the Houston dealers respect.

Summary—In summary, the parallel drug markets described above have changed considerably over the past few years. Importantly, the drug market reformulation in both New Orleans and Houston is ongoing and the end result remains to be seen. However, current evidence suggests that, in many ways, the markets have melded together (see Kotarba et al. 2010 for details). In the beginning, NOE sellers were very violent and their selling style was an affront to Houston dealers. Eventually, however, Houston Dealers accepted the NOE sellers on the condition that they showed respect.

CONCLUSION

A drug market’s ability to function and survive during and after disasters is a result of the specific *stages* we have documented in this manuscript. In each stage, the process by which the drug market disintegrates and reformulates is seen in the actions of the users, sellers, dealers, and suppliers.

Prior to the disaster (Stage 0), the market functions normally. Right before the disaster occurs (if it is known to be coming as in the case of a hurricane) and during the disaster (Stage 1), drug market processes include the way that users and sellers prepare for the disaster and continue their usage and sales during the disaster. However, the drug market is

disrupted during this stage: prices go up and there is chaos in the form of rampant criminal activity. Immediately following the disaster (Stage 2), the drug market is divided and plays out in two locations: within the disaster zone and within the host communities. Within the disaster zone, Stage 2 resembles Stage 1 in the sense that the market remains viable, but continues exhibiting signs of chaos and continues operating with much higher prices. Within the host communities immediately following the disaster, many people go about drug use and sales as normal because, despite their high mobility, they are often surrounded by people from their home community who have also evacuated. However, other users are forced to adapt and to attempt to buy drugs from unknown individuals at the evacuation site locations. In these instances, individuals use a variety of techniques to obtain their drug of choice (Dunlap et al. 2009).

By Stage 3, disaster zone evacuees are permitted to return to the disaster zone and the market begins to reformulate itself. Within the disaster-stricken community, the market begins to build up in parts but may change the form and organization rather quickly with dealers making themselves known right away. The abundance of dealers in the aftermath of the disaster is not balanced out by the return of drug users, which leads to increased violence due to turf wars. The drug users and sellers who do not return to their home community following the disaster often remain at the evacuation site and begin participating in the drug market at the receiving site (as seen in Houston). Their presence impact and change the drug market at the host community. Sellers often express an interest in dealing to drug users from their community (e.g. other evacuees). As a result, the sellers from the disaster community band together like a family in an effort to survive economically.

Evacuated dealers are also likely to find that the new supply mechanisms in the evacuation site communities allow them to obtain drugs more cheaply and thus make a larger profit. The dealers in the host communities also have to cope with the changes wrought on their everyday circumstances as a result of the influx of disaster evacuee users and sellers. In particular, in the host community dealers and sellers may resent sellers from the disaster community if their selling styles differ greatly unless there is a pre-existing relationship among the dealers from the two communities. However, this tension between the two groups of dealers diminishes with time. In the final stage (Stage 4), the drug market in the disaster community begins to fully reformulate and change to adapt to the new conditions spurred by the disaster. This process continues for many years after the disaster. The ongoing research is beginning to document and to understand these new, evolved – and potentially somewhat merged -- drug markets.

Ultimately, our work constitutes the beginning of the formulation of a paradigm of the *stages* of drug market breakdown and reformulation before, during, and after crises. Understanding these *stages*, and being aware of the process by which drug markets continually change and adapt in order to survive and flourish, will better prepare policy makers to pinpoint specific drug market processes in their efforts to curtail the full reformulation of drug markets after disasters, will aid law enforcement and treatment authorities in their attempts to control drug use and sales (during normal and extreme circumstances), and will improve overall understanding of the persistence and continued operation of drug markets more generally.

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