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Risk Factors And Consequences Of Substance Use Among Youth In Post-Conflict Liberia: A Qualitative Study

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RISK FACTORS AND CONSEQUENCES OF SUBSTANCE USE AMONG YOUTH IN POST-CONFLICT LIBERIA: A QUALITATIVE STUDY

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Abstract

Background: Substance abuse has a significant impact on the health and well-being of post-conflict populations; however, little is known about substance use in Liberia. Available evidence was generated during the immediate post-conflict period or has not focused on the populations at greatest risk. Because patterns of substance use may have shifted 10 years after the end of the conflict, this study aims to outline the current patterns of substance use and the risk factors for and consequences of substance use among high risk groups in Monrovia, Liberia. *Methods*: A qualitative design using in-depth, in-person interviews with current and former substance users (n=20) and key informants (n=21), representing a variety of organizations. Interviews were audio recorded, transcribed, and analyzed by a multidisciplinary team of four, using the constant comparative method. *Results*: Findings characterize the key war-related, economic, social, and individual risk factors for substance use in Liberia. Participants also described the consequences of substance use for individuals (dependence, physical health and social consequences) and for broader communities (crime, violence, and sexual risk). A conceptual model was developed to depict the relationships between risk factors for and consequences of substance use, as described by participants. Finally, this study provides basic information about the substances most commonly used in Liberia captures the terminology employed by substance users in Liberia. *Conclusions*: This study describes the implications of substance use for development, health and safety in post-conflict Liberia. The conflict directly contributed to an increase in substance use; however, there are additional related risk factors present for substance use. Findings provide a contextualized foundation to inform future quantitative research to estimate the magnitude of the problem and test the associations between risk factors and consequences. Given the scope and nature of substance use in this already vulnerable setting, recommendations for substance use-related policies and programs are provided.

Keywords: Substance use; post-conflict; qualitative; Liberia

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I. INTRODUCTION

Substance abuse is a key issue affecting the health and well-being of post-conflict populations (UNHCR & WHO, 2008). Following a fourteen-year civil war in Liberia, substance use is thought to be a key factor contributing to increasing interpersonal violence, sexual risk-taking and other problems in Liberian society (Harris et al., 2011; Cheng, 2009). However, the nature, causes, and consequences of substance use in Liberia are not well understood. Gaps in knowledge related to substance use make it difficult both to conduct comprehensive studies to quantify substance use and to provide services to the substance-using population. Through qualitative interviews with current and former substance users and with key informants representing a variety of organizations and backgrounds, this paper aims to document the perceived risk and protective factors for substance use and the consequences of substance use, both for the substance users themselves and for broader communities.

For the purposes of this paper, the term substance use will refer to the use of marijuana and other illicit drugs, such as cocaine and heroin, as well as the illegal or improper use of pharmaceutical drugs, such as benzodiazepines. Alcohol use is an important related behavior, but because alcohol is legal and less stigmatized, the dynamics contributing to and the consequences of alcohol use are distinct.

II. BACKGROUND AND CONTEXT

a. Global burden of substance use and substance use in post-conflict settings

The United Nations Office on Drugs and Crime (UNODC) estimated that 230 million people, or 5 percent of the world's adult population, used an illicit drug at least once in 2010, and about 27 million, or 0.6 percent of the world's adult population, are classified as problem drug users (UNODC, 2012). Although illicit drug use has largely been stable globally for the past decade, available data suggests that usage rates are rising in some developing countries, including many African nations (UNODC, 2012). Substance use is associated with considerable health and social costs for individuals, as well as economic and social costs for the broader society. Worldwide, alcohol use and illicit drug use are estimated to account for 8% and 2%, respectively, of disability-adjusted life years (DALYs) among youth aged 15-24 (Gore et al., 2011). DALYs are a metric to measure years of life lost due to premature mortality and years of productive life lost due to disability. Throughout the world, illicit drug use is most concentrated among youth, particularly young urban males. Substance use among youth is of particular concern because research has shown that early substance use is more likely to lead to dependence or abuse (Room, Babor, & Rehm, 2005), and that substance use can lead to high-risk sexual behaviors, violence, poor health outcomes, and lower educational achievement (Paglia & Room, 1999).

Research in other post-conflict settings has demonstrated that post-conflict populations are at particularly high-risk for substance use (Ezard et al., 2011; Odenwald et al., 2009). In many cases, drugs and alcohol are used to cope with stress, anxiety and depression related to experiences during conflict. At the same time, conflict-related factors other than one's direct

experiences with conflict and violence may increase substance use. Research in post-conflict settings indicates that poverty and high unemployment, inadequate shelter, incomplete families, alcohol and drug abuse, domestic and street violence are dominant features, and that these problems may lead to further distress which can perpetrate the continuance of a cycle of violence and disease conditions (Pedersen, 2002), including increasing substance use as an indirect consequence of war or conflict. Miller and Rasmussen (2012) propose a model to explain the relationship between exposure to armed conflict and mental health, which is partially mediated by daily stressors that are caused or worsened by the armed conflict, and where mental health is also influenced by daily stressors that are unrelated to the armed conflict. The same model might be used to explain the relationship between exposure to armed conflict and substance use.

b. Liberian Context

Liberia is located in West Africa, bordered by Cote d'Ivoire, Sierra Leone, and Guinea. Its land area is slightly larger than Tennessee and it was home to approximately 3.8 million people as of 2012 (CIA World Factbook, 2013). The population is primarily Christian; and English is the official language, though the English spoken in Liberia is heavily influenced by African languages. The form of English spoken in Liberia is commonly referred to as Liberian English.

Liberia experienced a brutal civil war from 1989-2003, which had devastating effects on the human population and on the economy and infrastructure of Liberia. By the end of the war, 655,000 people were registered as internally displaced persons (IDPs) or refuges in neighboring countries (UN, 2006). The per capita GDP is estimated to have declined 90% from US$1,269 in 1980 to $163 in 2005 (UN, 2006). Also, during the war, there were no functioning public utilities, leaving Liberians without access to electricity, water and basic sanitation facilities, and health care for many years. Approximately 15,000 child soldiers, including girls and boys, fought on all sides of the conflict (HRW, 2004). One study found that almost half of male combatants (44.9%) and 12.3% of female combatants reported the use drugs during the war, and drug use was more likely to have increased towards the end of the war (Johnson, et al., 2008).

In 2011, Liberia ranked 182 out of 187 countries in the UNDP Human Development Index, which is a composite measure representing health, education, and standards of living (UNDP, 2011). Following the civil war, Liberia is transitioning out of a post-conflict, humanitarian crisis stage and beginning to work towards long-term development goals. At the same time, programs and agencies continue to struggle with the legacy left by the war. One way in which this legacy continues is that many of the risk factors associated with substance use in other studies are present in Liberia as a result of the devastation caused by the war. For example, research has suggested that 44% of the population suffers from symptoms consistent with post-traumatic stress disorder (PTSD) and 40% of the population experience symptoms consistent with major depressive disorder (Johnson et al., 2008). School enrollment among secondary school-aged youth was only 28% for females and 40% for males in 2006 (UNDP, 2006), and mean years of schooling among adults was only 3.9 years (UNDP, 2011). Approximately 78% of the population remains in vulnerable employment situations[1] and 7% is either unemployed or

[1] This is defined as the population that does not have an assured salary, sick benefits or job security. Many of these people are informally employed.

underemployed (LISGIS, 2011). Substance use has been cited as one of the key factors contributing to physical and sexual violence and crime in Liberia today (Fuerth, 2011).

c. Existing literature and gaps in research on substance use in Liberia

Although little research exists on substance use in Liberia, several local experts have suggested that substance abuse is one of the key issues affecting the health and well-being of Liberian youth, particularly those who were involved in or directly impacted by the war (Ezard et al., 2011). Substance use is also believed to be contributing to interpersonal violence and sexual risk-taking in Liberia (Cheng, 2009). Two key studies support these findings, but both studies have limitations that constrain the value of the research.

In 2005, the United Nations Refugee Agency (UNHCR) and the World Health Organization (WHO) conducted a rapid assessment of substance use among conflict-affected and displaced populations in Liberia (UNHCR & WHO, 2006). The report following the rapid assessment provides valuable information about the most commonly used drugs and Liberian terminology. This study was conducted as part of a series of rapid assessments in 6 post-conflict countries that led to the development of a field guide of best practices for conducting these types of assessments (UNHCR & WHO, 2008; Ezard, 2011), indicating that at the time this assessment was done, there may have been a lack of expertise on how to conduct such studies. The time period of data collection was limited to three weeks and the study focused on internally-displaced and returning refugee populations and identified risk factors for substance use, such as displacement, dispossession and livelihood restriction due to conflict, which are less likely to be present today. Also, The report notes that time and logistical constrains prevented more meaningful contact with high-risk groups. The study calls for a more in-depth assessment, particularly focusing on the users of illicit substances such as heroin and cocaine.

More recently, a cross-sectional study was conducted among 802 secondary school students in greater and central Monrovia to explore the prevalence of substance use (Harris et al., 2011). The study found that 51% and 9% of students reported using alcohol and marijuana, respectively, and argued that substance use prevention campaigns should target a younger age group in order to prevent initiation. However, this study has a number of limitations. First, this research only captures information about youth that are in school and may be therefore less likely to engage in substance use. Only 44.8% of the secondary-school-aged youth are enrolled in school, so this sample failed to capture a large segment of the population, particularly those youth more at risk for substance use (World Bank, 2011). Also, Harris and colleagues note a number of methodological issues and limitations related to lack of knowledge about drug use. They state that there was no pilot study for the questionnaire and cite concerns about whether the terminology used to refer to drugs in the questionnaire was understood by Liberian youth. They also note that the questionnaire was based on Western definitions of substance misuse, which may not apply in a different cultural context.

In addition to these two studies in Liberia, a number of studies also explore substance use patterns in other West African countries such as Nigeria (Okulate & Jones, 2006; Adamson, Onifade, Ogunwale, 2010; Oshodi, Aina, & Onajole, 2010). While such studies can be useful in

outlining questions and potential issues in Liberia, the history and post-conflict economic conditions and social backdrop make Liberia a unique setting, and research findings from other nations may not apply to Liberia.

III. METHODS

Recently, there has been an increasing appreciation of how qualitative research methods can contribute to knowledge about the patterns of substance use because of their capacity to explore and explain human behavior in a way that can demystify substance use and replace stereotypes and myths with accurate information (Neale, Allen & Coombes, 2005; Rhodes, Stimson, Moore and Bourgois, 2012). Qualitative research methods were used for this research because issues related to substance use are complex and possibly context-specific, requiring an open-ended method of data gathering that allows previously unmeasured variables to emerge. Also, one of the key challenges for quantitative research about substance use has been adapting measurement tools and survey questions to Liberian English (Harris et al., 2011), so qualitative methods are ideal to document the language employed by substance users.

This study was carried out in collaboration with a larger research study, which aims to develop a behavioral intervention for Liberian youth to improve mental health and reduce risky behaviors, such as sexual risk and substance use. This intervention study is a collaboration between Yale University, Mother Patern College of Health Sciences in Monrovia, and the Liberian Ministry of Health and Social Welfare. This qualitative research was approved by the Human Subjects Research Committee at Yale and by the Institutional Review Board at the University of Liberia.

a. Data collection

Data were obtained from 41 in-person, in-depth interviews. Participants were selected with the goal of establishing an information-rich, purposeful sample (Patton, 2002). Twenty interviews were conducted with current and former substance users, aged 18 to 35[2]; and 21 interviews were conducted with key informants, representing a variety of organizations and backgrounds. The adequacy of the sample size was determined using the principle of theoretical saturation. Theoretical saturation refers to the point at which no new concepts emerge from the review of data drawn from a sample that is diverse in pertinent characteristics and experiences (Glaser & Strauss, 1967; Morse, 1995; Napoles-Springer & Stewart, 2006).

Substance users were selected based on their current or former engagement in substance use and with the goal of developing an information-rich, diverse sample. Recruitment was conducted with the assistance of four non-government organizations doing outreach to substance users in Monrovia. Staff from these organizations provided information about the interviews and invited participants to their offices. Some participants had previous relationships with the facilitating organizations and others did not. Interviews were conducted in July and August 2012, either by

[2] The National Youth Policy for Liberia, introduced in 2005, defines youth as people aged 15-35, and this group represents 34% of the population (U.S. Census Bureau, 2012) and 78% of the population is under 35. The rationale for this broad definition of youth is that 14 years of civil war caused interruptions in the normal developmental process and left "over-age youth" that are ill-equipped to cope in a post-war society.

the American principal investigator or by one of two Liberian research assistants trained in qualitative methods.

Interviews were approximately 30-50 minutes in length. During the interviews, participants were asked questions related to the following topics: changes in drug use in Liberia; reasons why people use drugs and protective factors; type of drugs used, and other information about street names for drug and how they are used; consequences and benefits of drug use; community perceptions about drug users; Liberian perceptions on and manifestations of drug abuse/addiction; the relationship of police, drug users, and community members in areas where drugs are common; links between drug use and sexual risk behaviors, including transactional sex; and types of services provided around drug use from the wide variety of organizations working in this area; challenges faced by organization in providing services and by drug users in accessing services. (For the interview guides, see Appendices 2 and 3.) This paper explores findings from the analysis of a subset of data related to terminology, risk factors for and consequences of substance use; future manuscripts will report on issues related to substance use service provision.

b. Data Analysis

Interviews were audio recorded and transcribed, either by the principal investigator or by a research assistant. The principal investigator discussed terminology and linguistic questions with Liberian research staff to ensure accurate understanding and interpretation of the data. The principal investigator also reviewed all transcriptions to ensure accuracy. Transcripts were de-identified during this process to protect the confidentiality of the participants. Transcripts were then coded by a four-person research team, using the constant comparative method to systematically create a code structure derived directly from study participant responses (Miles & Huberman, 1994; Glaser & Strauss, 1967). The research team independently coded transcripts and then codes were compared to ensure consistent coding and interpretation of the data. The coding structure was refined as appropriate until a final, comprehensive coding structure was developed (Bradley, 2007). The final code structure was applied to previously-coded transcripts. Qualitative analysis software (ATLAS.ti 6.0) was used to facilitate data organization and retrieval (MacMillian & Keonig, 2004). After reviewing code reports and associated quotations, overarching themes were identified directly from the data.

IV. RESULTS AND DISCUSSION

a. Study participants

Among the substance users interviewed, 65% were male (n=20). Participants ranged from age 18 to 35, with an average age of 25.7 years (*sd* 5.0 years). They were recruited from and interviewed in the following communities in Monrovia: Central Monrovia, Logantown, Congotown, West Point and Red Light. Participants represented a wide range of experiences, including current and former substance users as well as participants who use or have used a variety of substances. For more information on substance users, see Appendix 1.

The key informants were selected based on their current or previous professional roles or community positions, which situated them to have unique insight into the research questions of interest. Key informants included staff from government, non-governmental organizations, hospitals or health clinics, law enforcement officials, and community members. Among the key informants interviewed, 95% were male (n=21). They were interviewed in the following communities in Monrovia: Central Monrovia, Logantown, Congotown, Paynesville, Red Light, and Sinkor. For more information on key informants, see Appendix 1.

b. Substances used and terminology

This section will briefly provide some background in order to lay a foundation for understanding the findings. Additional information about the cost, methods of use, appearance and impact of the most common substances is provided in Appendix 5.

According to most participants, marijuana is the most common substance used in Liberia. Heroin and crack cocaine use are also common today, and it appears that, in particular, the use of heroin is rising. This was confirmed both by substance users and by law enforcement officials. It is well-documented that West Africa has been used a transit point for cocaine smuggling from Latin America to Europe. Approximately 30 tons of cocaine were trafficked into West Africa in 2011 alone (International Narcotics Control Board, 2012). However, the finding of this study that heroin use is also common was unexpected. Although this sample is not necessarily representative of the overall population of substance users, it is remarkable that 13 of the 20 substance users interviewed said that heroin was the – or one of the – primary substances that they reported to use.

Other substances such as benzodiazepines and amphetamines, which were used during the civil war (UNHCR & WHO, 2006), were reported as not being common today. Based on this research, injection drug use does not appear to be common in Liberia currently. Most substance users were familiar with injection, but few of them had used drugs in this way or seen others doing it. The heroin use described by participants was almost exclusively limited to smoking.

Based on the accounts of participants, the use of multiple substances and the mixing of substances are very common. This may reflect the economic circumstances of participants; for example, a number of participants reported that they preferred to use crack cocaine, but would often "drop down" to heroin if they could not afford to buy crack cocaine. The use of multiple drugs by any one person may be one reason for confusion or lack of understanding about what substances were available and what effects they had on people.

One of the key issues motivating this research was a lack of knowledge around the names used for different drugs by substance users. This information will be of use for programmatic and research purposes in Liberia. (See Table 1).

Table 1. Substances used in Liberia, with Liberian English names

Drug	Street names in Liberia	Street names for unit
Marijuana	Opium, grass, ganja, weed, cannabis, bazoga	Load, parcel
Heroin	Italian white, tie, rolling tie, market, Halloween, brown brown, dugee	Knot, nut
Crack cocaine	Coke, coco, crack, rock	Rock
Benzodiazepines	Diazepam, bubbles, ten ten	Tablet
Amphetamines	*n/a*	*n/a*
Inhalants	Slide, snuff	*n/a*

c. Risk factors for substance use

> "The physical war is over but the aftermath of the physical war still lies within our community." – **Key Informant 109, NGO staff**

Liberia's civil war continues to play a prominent role in shaping lives and conditions in the nation, and participants largely attributed the high levels of substance use among youth to the direct and indirect impact of the war. The impact of the war is directly present in that some youth began using drugs during the war, but also because drug are used as a coping mechanism for the trauma experienced during the war. In addition to the direct impact of the war, the war has created a social and economic landscape that continues to put youth at risk for substance use. In addition to the data provided below, example quotations are provided in Appendix 6 for each thematic area within the risk factors for and consequences of substance use.

i. Risk factors directly related to the civil war

It is a common narrative in Liberia that the war directly contributed to increased substance use because young people who fought in the war were given or forced to use drugs in order to improve their performance in combat.

> "The effect came about by the war. A lot of young people were drugged to be able to go to the front line to fight, it make them brave… A lot of young people got involved at the age of ten, nine, twelve… A lot of young people were forced into what they were doing, they didn't do it willingly." – **Key Informant 111, NGO staff**

> "In Liberia, most of the warlords introduced these children into drug use, telling them that if you take the drugs, no weapons can penetrate through your body. That's what they used to tell them. And so these children begin taking these drugs. Going in, dying, taking in, dying, and they become addicted." – **Key Informant 104, NGO staff**

> "Some people take drugs because during the war they were part of them, they carry it to them to fight. So they part of them, they can't go from within them. They feel it no way can be moved." – **Substance User 204, Male, Age 31**

As the participant above alluded to, substance use was utilized not only to improve performance in conflict, but also as a coping mechanism to deal with the psychological consequences of experiences of violence, mistreatment or other traumatic events during the war.

> "Some people can't sleep; they keep having flash back of different things… If you look at ex-fighter in the ghetto, most of their problems, as I said, is psychological. What they experienced before, most of those things sometimes it comes to them in dreams, flashbacks… People want to self-medicated; they don't want to think about it." **– Key Informant 106, NGO staff**

Finally, during the time of the war, a lack of institutions and law enforcement allowed for the establishment of drug trafficking networks, which many participants believe still continue today.

> "We have the peacekeeper that come from different country and some of these people brought drugs. Our country is a war-torn country so they took advantage of it, it was something they could trade easily. It was something they call a transit point for the sale of drugs, so you saw a lot of drugs on the market and the drugs were going to the wrong people's hands." – **Key Informant 111, NGO staff**

ii. Social factors

Although the aftermath of the war continues to be a key factor in the rate of substance use in Liberia, participants uniformly agreed that substance use is increasing, even as the experience of war becomes more distant. Even though many people attribute substance use to the war as a primary cause, they also tended to report that many of the substance users in Monrovia today are not former combatants, but have been initiated into their current lifestyle by others, some of whom may have been combatants.

> "Some of them are ex-combatants, but some of them are not ex-combatants. But because they join these guys, they adopt the ex-combatant behavior. That is the behavior that all of them carry… violence, use drugs, and other things involving stealing, hijacking." – **Key Informant 117, NGO staff**

A prominent explanation for how young people who are not former combatants become involved substance use and other behavior characteristic of former combatants is that they have been influenced by their peers or that they initiate substance use as a mechanism for solidifying their relationships with others.

> "I have friends that I follow, I want to be them because I love them, I decide to follow them and start to spoil myself." – **Substance User 204, Male, Age 31**

> "I always wanted to be in the crowd with the big boys, breaking all the rules. And that's how I got into drugs… I wanted to be hanging out with all the big boys in the country, all the bad boys… In order to hang around them and to feel good, you know in order to be one of the big boys, you have to smoke." – **Substance User 220, Male, Age 26**

A possible underlying cause for this dynamic is that the separation of families and death of family members have contributed to a breakdown in social support and traditional social networks. In the absence of family or other positive social influences, young people rely on peers and friends in their communities for support and communion. This elevated importance and influence of peers among orphaned or vulnerable children has been well-documented elsewhere (Abhay, Quazi, & Waghmare, 2008; Bal et al., 2010), and is particularly important in the context of Liberia where there are estimated to be 340,000 orphans in a population of 3.8 million people (UNICEF, 2013).

In addition to the increased importance of relationships with peers, stories also emerged about older substance users that "recruit" youth to help them steal and carry out other criminal activities for money. In a similar way, these relationships appear to often develop in the absence of other social supports.

> "They got people in the ghetto who have been using [drugs] for a long period of time but they want to build somebody who is younger than them to use them to do things. So they provide it for them and when they got high they tell them what to do, and they do those things for them to get more money to use drugs. That's how people get involved with using drugs." – **Key Informant 109, NGO staff**

iii. Economic factors

> "Drugs that habit where we put ourself inside because no hand [no money]." – **Substance User 205, Female, Age 19**

While participants described the impact of the separation of families and social networks on social dynamics, they also described the impact of family dispersion on economic conditions. Many of the substance users interviewed had no economic support from their families, even from an early age, which put them at risk for engaging in crime and sex work, failing to complete their education, and living in poor conditions where they were exposed to substance use.

Many participants described a whole generation of youth that has had little to no access to education. Participants, substance users and key informants alike, placed a high value on education and presented basic education as essential for gainful employment.

> "I out education, no support for me to go to school. That's why you see me I'm behind friend them where not supposed to be behind. That's it put me into this type of life that you see me in so." – **Substance User 206, Male, Age 28**

> "Joblessness. Boredom lead people to take drugs. They are bored, they are not doing anything. Frustration, personal problems lead people to drugs." – **Key Informant 102, Government employee**

Even where financial resources are available, it may be difficult for uneducated adults to return to school in adulthood. Some substance users discussed the psychological stress of trying to return to school at an older age and described the feelings of inadequacy and failure as being further drivers of substance use. Given the particularly high rates of unemployment and low education, this has the potential for being a widespread issue.

iv. Individual Risk Factors

In addition to risk factors at the social and economic level, there are also risk factors that operate at the individual level. First, participants described the role of stressful life events such as violence, neglect and family relationship problems. These factors are related to broader social and economic dynamics, but may affect individuals differently, based on their own coping mechanisms.

> "Recently I went [to a slum community] in the night, to talk to one or two children… Out of the ten I talked to, about six of them said they left home because of family pressure and step-parent… Children who can't find attention or what they need in their home, they go outside to find those things from external area like friends… The pressure from home, the ill treatment, the violence against some of those children too causes them, some of them to go on the street and some are with step-parents... No attention, violence against them it cause some them to escape to find the peace they think they can find outside." – **Key Informant 106, NGO staff**

As previously mentioned, the relationship between exposure to armed conflict and poor mental health is thought to be partially mediated by daily stressors that are caused or worsened by the armed conflict (Miller and Rasmussen, 2012). Based on the accounts of participants, it appears that the relationship between armed conflict and substance use may be similarly mediated by daily stressors.

Additionally, mental health issues were described as increasing risk for substance use. As previously noted, war-related mental health issues are widespread in Liberia, with 44% of the population experiencing symptoms consistent with PTSD (Johnson et al., 2008). In addition to PTSD, depression and other severe forms of mental illness, such as schizophrenia, were described as increasing one's risk for becoming involved with substance use. Many people described substance use as a way to "self-medicate" mental health issues.

> "Some people take drugs to move sad from on their mind… Some people take drugs because they are disturbed. Some people take drugs in many ways." – **Substance User 213, Male, Age 22**

It is important to note that mental health issues are heavily stigmatized in Liberia. This stigma and incomplete understanding of the underlying issues may lead people to be less likely or able to seek professional assistance in coping with mental health problems. The following participant describes his own experience with the stigma he faced as a mental health worker.

> "Mental health or people who have this disorder, they have been marginalized. People don't even look at them like they are still useful. For me I actually saw the need that people should still come to their aid and see how they can work along with them and make them useful in the society." **– Key Informant 114, Health clinic staff**

Interestingly, mental health was described as both a cause and a consequence of substance use. For example, Liberian health professionals often referred to "drug-induced psychosis" as one possible consequence of substance use. This is supported by research that suggests that substance use can be linked to psychosis in several ways: substance use can be a causal factor leading to psychosis; substance use can be a moderator that increases one's risk of psychosis given other genetic and environmental risk factors; or substance use can be a mechanism that is employed to cope with existing psychosis (Rounsaville, 2007). Based on conversations with some key informants, it appears that some of the Western mental health terminology has been adopted in Liberia, though additional research is needed to understand whether this terminology is used in Liberia in the same ways as in Western clinical settings.

> "Mainly drugs lead to some mental problems. You know like the psycho- Because if you are over-used drugs it gives you, some of them it gives you psychosis, mental problems." **– Key Informant 118, Health clinic staff**

> "The drugs they use is the one that can leave them in the psychotic state… Some of these drug-induced psychosis patients and they hear voices, they hallucinate a lot… There are some that are aggressive behavior. They are untidiness. You can deduce that they are involved with drugs." – **Key Informant 115, Health clinic staff**

Psychosis has been linked to the use of a long list of drugs, including: LSD (Breakey et al., 1974; Vardy and Kay, 1983), amphetamines (Angrist et al., 1974; Grant et al, 2012), ketamine (Seeman and Tallerico, 2005), PCP (Kapur and Mamo, 2003), heroin (Caton et al, 2005), freebase cocaine (Manschreck et al., 1988) and cannabis (Andreasson et al., 1987; Arseneault et al., 2004). However, among Western mental health clinicians, there remains debate about the appropriate diagnostic protocol for people with comorbid substance use and psychosis. Some clinicians argue for a clear separation of between independent psychotic disorders, such as schizophrenia and bipolar disorder, and substance-induced psychotic symptoms (Rounsaville, 2007). At the same time, others have noted difficulty in distinguishing the primary cause of psychosis (Fennig et al., 1995) and argued for a re-assessment of the distinctions between independent and substance-induced psychotic disorders is needed (Paparelli, et al., 2011).

As this broader clinical debate about the origins of psychosis continues, mental health clinicians and other programmatic staff in Liberia report that large percentages of their client populations

are suffering from drug-induced psychosis. It is not clear, however, if diagnostic criteria for psychosis are being understood or applied in Liberia in a manner similar to Western practice. Further, it is not clear that the general assessment of psychosis and substance use in Liberia adequately differentiates co-occurrence from causal connections. But the frequency with which substance-induced psychosis is suggested in Liberian health care settings, considered alongside the drugs reported to be commonly used by Liberians, does raise the question of over-attribution of substance-induced psychosis. Because distinctions between substance-induced disorders and other psychiatric conditions could have important implications for the focus of treatment efforts (Schuckit, 2006), future research should investigate the root causes of psychosis among these patients in Liberia to confirm whether the diagnosis of drug-induced psychosis is appropriate given the latest research and clinical knowledge.

d. Consequences

> "I observe that our children have been destroyed by drugs. Future generation has been destroyed." **– Key Informant 104, NGO staff**

i. Individual

Perhaps the most obvious or immediate consequences of substance use are the ones that affect the lives of the individuals that engage in substance use. Individual-level consequences, such as addiction, poor physical health, and social consequences, are described here.

Addiction

Substance users described addiction or substance dependence as key consequences that they experienced in their own lives. Many participants described both physical and psychological symptoms of withdrawal. The physiological changes that characterize addiction typically occur after consistent and prolonged use of drugs and represent a severe form of substance abuse (Cami & Farre, 2003). Because sustaining such substance use can be expensive, it would be reasonable to expect that people in Liberia and similar low-income settings would be more likely to demonstrate poly-substance use patterns involving psychological dependence, rather than physiological dependence or addiction. For this reason, it is interesting to note that many participants described physical symptoms of withdrawal, indicating that physiological dependence or addiction may be present. At the same time, psychological distress is sometimes expressed through physical symptoms in West Africa, so it is difficult to classify the withdrawal symptoms reported in Liberia as strictly psychological or physical.

The use of qualitative methods in the current study allows for the development of a Liberian description of addiction symptoms. Other research has identified challenges related to the cross-cultural application of World Health Organization criteria for diagnosing substance use disorders (Room, et al., 1996). One study found that, in Nigeria, some concepts from the diagnostic criteria do not culturally translate. For example, the distinctions between withdrawal and hangover and between desire and compulsion were not always clear. This research provides illustrations of addiction and dependence as they are experienced and described locally.

In this study, the physical symptoms of withdrawal that were described by participants included: nausea, vomiting, stomach ache, diarrhea, loss of bladder and bowel control, running nose, muscle pain, fever, shaking and shivering, loss of appetite, sleeplessness, cold feeling in body and itching. These symptoms were referred to as "june."

> "The drugs people, they can call it June when you not smoke… They can say you're June. When you not smoking, it can start putting that type of cold in you… Your skin can be itching. Even self you go lay down whole day, sleep can never get in your eyeball if you not smoke that drug... I start feeling sick that type of way. Soon morning I can start vomiting all type of green water." – **Substance User 215, Male, Age 18**

Among people who are trying to stop using drugs, they described the need to flush the drugs out of one's system. One participant was using oral rehydration salts to help him cope with withdrawal, and others mentioned taking antibiotics or anti-malarials as strategies for recovering from "june." A strategy that people commonly referred to for coping with "june" was to take a "drip" of intravenous fluids from a clinic or hospital; however this strategy was not often available to substance users because of limited financial and social resources.

> "You can take drip. Leaving the drugs habit, you decide and you can take drip… It clear all the drugs from your body." – **Substance User 205, Female, Age 19**

At the same time, others discussed addiction and withdrawal in terms that are more consistent with psychological dependency. For example, participants reported that substance use causes changes in people, such as not thinking like a "normal person", changes in behavior and not feeling "human". Other participants reported that addiction and withdrawal could be overcome relatively easily, indicating that not all substance users are addicted to drugs at the same level.

> "The drugs thing here, so long two days pass, you not smoke it. That means you already now forget about it. As long as two day pass, it not get in your mouth. Some people can leave it." – **Substance User 214, Female, Age not available**

Physical health

Many substance users had personal experiences with the physical effects of drug use, and all of them were able to tell stories about peers, friends, and acquaintances who had become seriously ill and attributed the illness to substance use. Participants described the general physical effects of substance use with phrases like: "body is turning black", "reduce the body", "drop the body". A number of specific illnesses or conditions were considered to be related to substance use, including tuberculosis, skin disease, poor hygiene, injuries, and chronic disease such as cancer.

Substance users report little access to health care, and often got medication or care by going directly to a pharmacy, describing their symptoms to the pharmacist and buying antibiotics or other medications, without ever seeing a doctor. Several participants described frustrations or embarrassment around feeling judged and discriminated against by healthcare professionals for their substance use.

Social consequences

An important emerging theme in these interviews was the idea that substance users can become increasingly isolated from their families and from their communities as a result of their substance use. Although lack of family support is a key risk factor for the initiation of substance use, other substance users still have family. For this latter group, substance use, and other behaviors associated with it, often lead to families disowning and communities rejecting substance users.

> "If I had a son that is selling drugs, they next thing I would do is throw him out of my house… African families is so much unique in itself. People love their family. No one want to see their family lean on drugs and in the street. But because of the frustration that drug use place on the family members, it cause them to avoid those family members." **– Key Informant 109, NGO staff**

Many participants explained that the social isolation of substance users, can encourage communities of substance users to form stronger bonds with their peers and therefore face increased difficulties in seeking lifestyle change or accessing services.

> "They are kind of ostracized, they have been bullied, they have been labeled different label and because of that they feel not too fine with the community. They tend going to that culture, I mean the ghetto, where they feel safe, free with their peer. And the more you stay there, the more stay around, the more you take and the more your problem increase and stuff like that." **– Key Informant 106, NGO staff**

Substance use can also have significant consequences for community members and the family members of substance users, particularly in the forms of crime, violence and sexual risk, which are discussed below.

ii. Community

Another set of consequences, including crime, violence, and sexual risk, have individual consequences for substance users, but also have very real impacts on broader society.

Crime

Both key informant and substance user participants discussed crime as being the most salient consequence of substance use.

> "The drugs can make you brave to go do evil thing. The drug can make you brave to jerk somebody phone self and start running with it because you not thinking on what the person will do but you only thinking how to just support the drug habit… so long you june, if they tell you to do it, you will. The person will say my man if you want smoke drugs, you got to go steal to come to smoke. You're forced." **– Substance User 207, Male, Age not available**

The various modes of crime included primarily different types of stealing and theft, such as armed robbery (especially breaking into houses), opportunistic theft, stealing from family members, and street scams (selling broken cell phones). The items that substance users steal most often include: cell phones, purses, car batteries and other car parts, clothes from a clothes line, and pots of food from outdoor kitchens. Several participants described the different forms of crime in terms of "shifts", with different shifts representing different types of crime:

> "They have what they call first shift, second shift, third shift. In the ghetto, they will tell you, 'This one is a first shift man.' First shift means that… if you a little bit careless with your wallet, with your purse, with your bag, they carry that… The second shift are those who do armed robbery at night… The third shift is those who just go around pretending like maybe they holding a toothpaste in their hand, and they're selling, and you leave your buckets or clothes outside. They pick them up, take them and they sell it for whatever price they get." – **Key Informant 104, NGO staff**

Substance use was described as both a cause and consequence of crime. On one hand, people may begin using drugs and then engage in criminal activities to get money to continue substance use. On the other hand, people may begin stealing as a result of extreme poverty, and then start to use drugs as a way to "be brave" to commit further crimes. Regardless of which behavior is initiated first, crime and substance use were described as very closely related and each behavior exacerbates the other. This relationship was most often described in relation to crack cocaine.

> "Cocaine really spoils you… You just want to get money, so many criminal activities just to get money to buy cocaine to take in. So the difference is that cocaine really spoil you and make you to take, to steal, make you to carry some criminal activities like armed robbery, stealing, jacking people's phone to get money." **– Substance User 219, Male, Age 19**

Participants emphasized the negative impact that substance-related crime has on society, creating an environment of fear and mistrust.

> "Because sometimes the people in the community are affected too because these young people are taking drugs and then they end up being involved in stealing or robbery in the community. And the community people suffer too." **– Key Informant 111, NGO staff**

> "The criminal rate is at the highest peak in every community. Once there's an area that people are taking drugs, people don't move around freely. Your own car, you're afraid to park it… A lot of people have steel gates to their door. Because of drugs… people in Liberia are living in fear and the government is not doing anything about it. "– **Substance User 220, Male, Age 26**

Violence

> "Most of the violence have been accelerated by drugs. 99.99% of most of the violence… Basically, people killing one another. Chopping off the other man, getting into war." – **Key Informant 104, NGO staff**

Another consequence with broad reaching effects is the level of violence that emanates from substance-related dynamics. Violence was often discussed as being closely related to crime, but this relationship exists at several levels. First, community members have become reluctant to report crime to law enforcement because of a lack of trust in their ability or willingness to respond. Therefore when people – often substance users – are caught stealing, community members resort to violence. Second, the distribution of stolen goods within groups of substance users is often associated with violence, particularly in situations where substance users are under stress from withdrawal symptoms and may be more easily angered.

> "We have problem because sometime we want come from hustling, when we get out money, they not share it. They want take all for thierself. Ourself, we jump into fight. We start fighting." **– Substance User 213, Male, Age 22**

Participants also reported that substance use makes many people feel "vexed" or angry, and that they can easily become involved in fights with others. In particular, among substance users that have a family, other family members are often the victims of violence perpetrated by those under the influence of drugs.

> "Some people smoke drugs, get angry faster and the man can't control his temper because he in drugs. And they can beat on they wife, beat on the children. Get extra mad." **– Substance User 204, Male, Age 31**

Sex work and sexual risk

Whereas men are described as often engaging in stealing and other criminal activity to support their substance use, female substance users are described as earning money through sex work. Women who engage in sex work are known as "short time women", "hobojoes", "street women", and "prostitutes". Although the sample of interview participants is not necessarily representative of all substance users, it is worth noting that 6 out of 7 females interviewed reporting engaging in sex work.

> "Men can go and steal for the money. They take it. But the women can go and do the prostitute work and come smoke." **– Substance User 203, Male, Age 24**

While the negative consequences of sexual risk behaviors and sex work can have a profound impact on individuals, the relationship between substance use and sexual risk also has a broad impact on society because it fuels the spread of HIV and other sexually-transmitted infections (STIs). Most participants described the clients of sex workers as being both substance users from the same community as well as non-substance users who live in other communities and are

unknown to the sex workers. These broad sexual networks create opportunities for STIs, including HIV, to spread beyond substance-using communities.

Like crime, sex work is a behavior that is closely interrelated with substance use, serving as both a risk factor and a consequence. In some cases, women become addicted to drugs, and begin engaging in sex work in order to get money for drugs. In other cases, women begin engaging in sex work because of poverty, unemployment or other financial need. The economic and social motivations for engaging in sex work in Liberia are described by other research (Atwood et al., 2011). The participants in the current study indicate that after becoming involved with sex work, some individuals may subsequently use drugs to cope with the negative and traumatic experiences associated with these behaviors.

> "The girls go and take the drugs because they do not want to feel pain. They want to have that activity, to be strong, to withstand, to be able to go through as many persons." – **Key Informant 102, Government employee**

Participants reported that the standard price charged by a sex worker is LD50-100,[3] but clients are often willing to pay considerably more (LD200-300) to have sex without a condom, incentivizing riskier sex. For most sex workers, but perhaps particularly for those that are engaging in sex work to support substance use, the opportunity to earn additional money may out-weigh the risk associated with unprotected sex.

> "They force me to use condom but sometime I can say, if I know I get plenty money on me, I add the money up, I say no I not want to use condom. Because I feel when I using condom, I will not enjoy myself, so when I get money I add it up. I say how much you want for me to add on the money? I add it up. I use my bare nut." **– Substance User 213, Male Age 22**

> "Some of them they don't use condom because they want higher money… Some of them can do the man and woman business [sex] for sixty, seventy, some of them hundred [Liberian] dollars, with condom. But they get some of them they can't do it with condom because they want for you know, they can say 'flesh to flesh' because they want for the man to enjoy it so the man can give them enough money like maybe two-fifty or three hundred." **– Substance User 215, Male, Age 18**

Aside from contributing to the spread of STIs, sex work was described as putting women at risk for violence. This participant engaged in sex work and described her experiences this way:

> "The boys when they take in drugs, they misbehave on women. For the place I'm at now, yesterday self one other boy jump on me, he beat me… When they take the drugs in, they curse you…They misbehave on you, do things where they not supposed to you." – **Substance User 214, Female, Age not available**

[3] At the time that this report was compiled, 72 Liberian Dollars was equivalent to US$1.

In addition to sex work, sexual risk can be increased by substance use in a number of other ways. Substance use may increase sexual risk by reducing inhibitions and limiting one's ability to take protective action.

> "The drugs, when you taking the drugs, it will make you, you will not even think about whether the person having sickness, you just want to have something to do just because you want the money to go do something what you not supposed to do." **– Substance User 209, Female, Age 33**

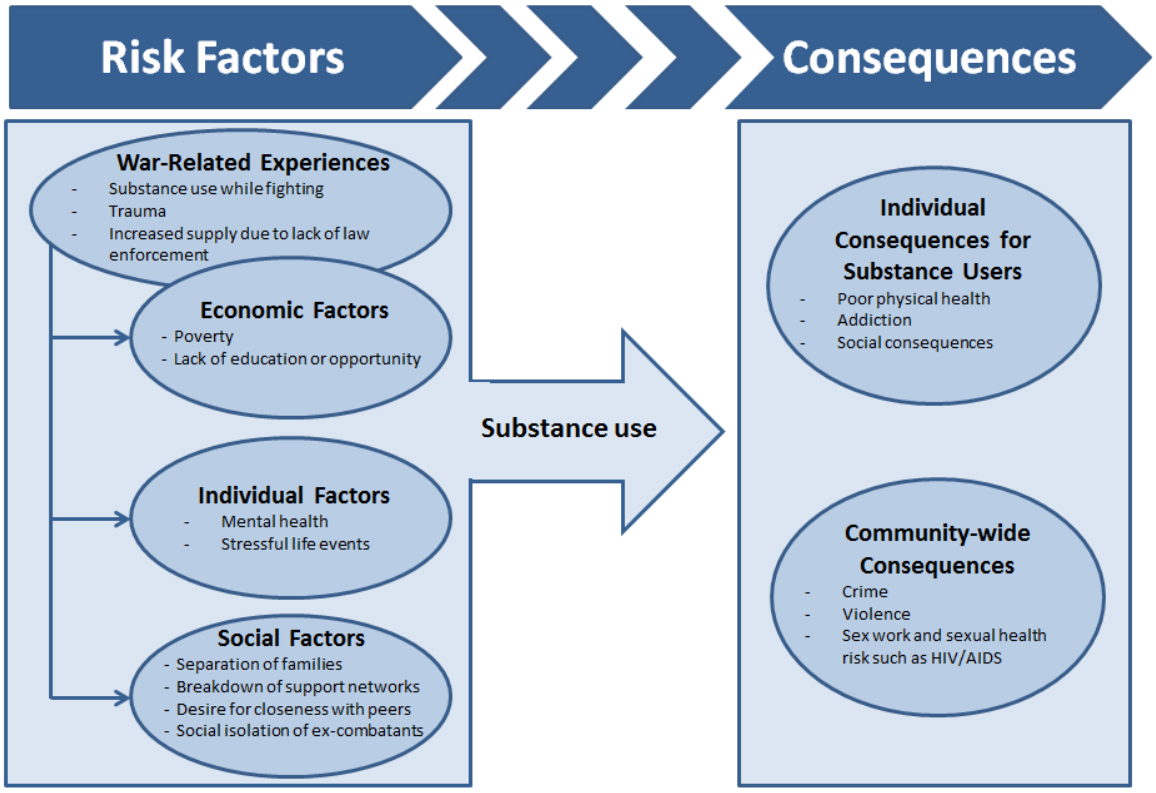
A related concept was the idea that substance use increases one's sexual drive. Interestingly, most research suggests that substance use is more likely associated with sexual dysfunction and decreased sexual drive than with increased sexual drive (Johnson, Phelps & Cottler, 2004); but the belief that substance use is used to increase one's sexual drive was common across interview participants. Increased sexual drive was linked to substance users being less discriminating in selecting their sexual partners.

> "Some also enhances their sexual prowess, their sexual drive. They tend to go for sex for a longer period under the influence. That applies to the women and the men... there are some people as I really said who takes drugs and the drug kind of enhances their sexual drive. If the drug pushes a person into sex, he does not have a sexual partner or sex partner, he goes for sex in some of these motels and whatever. He meets just a strange person, he cares less." **– Key Informant 119, NGO staff**

e. Conceptual model linking risk factors and consequences

Based on the information gathered from participants about the risk factors for and consequences of substance use, the principal investigator has developed a conceptual model that depicts the relationships between the constellations of factors related to substance use (See Figure 1). This model is complex because it represents a broad and contextualized view of substance use in Liberian society. As this model demonstrates, one of the key strengths of qualitative research is that it allows participants to describe the relationships between issues in their lives. Based on this conceptual model, hypotheses can be generated for future quantitative studies that could test the strength and magnitude of the relationships between the variables depicted here.

Figure 1. Conceptual model of risk factors and consequences of substance use in Liberia



f. Protective factors against substance use

Public health practitioners and those aiming to decrease substance use are often interested in identifying the existing protective factors in a society, in addition to the risk factors and consequences. Protective factors may be amplified through programs and policies in order to achieve an overall goal of decreasing substance use. In this study, participants were asked questions related to the factors that prevent some people from ever engaging in substance use and the factors that help some people to reduce or stop substance use after they have started. However, other research in Nigeria has suggested that the concept of protective factors may not be well –understood in African societies (Room, et al., 1996). Similarly, this study found that many participants were unable or unwilling to articulate any factors that might be protective in decreasing substance use. For example, some participants reported that it would be impossible for them to know why some use drugs and others do not. These responses speak to a cultural attitude that should be more closely explored in relation to substance use.

At the same time, some participants were able to suggest a couple of factors that may serve to protect some individuals from initiating or continuing substance use. Some people referenced various types of positive coping mechanisms used to cope with factors that may otherwise increase risk for substance use, like poverty, mental health, and trauma. For example, some

people suggested that drawing on social support from family members was an important coping mechanism.

> "Family support can help with good coping system. You know network, people you talk with after you're in certain situations, can help you cope. Some people just have nobody to talk to" **– Key Informant 109, NGO staff**

However, as the previous quotation describes, family support as a coping mechanism is somewhat problematic because the conflict in Liberia separated many families and many people do not have a family structure that they can draw support from. For example, Liberia is home to an estimated 340,000 orphans under age 17 (UNICEF, 2013), and there are many other youth who do not live with or have access to support from their families. Another positive coping mechanism which could possibly be more broadly available to people is religion.

> "God make me now to leave it, God touch my heart to say yes I leaving it, to bear it the June to move from in me." **– Substance User 207, Male, Age not available**

Others discussed the importance of changing ones risk directly, particularly by seeking education or employment to increase one's opportunities to contribute to society. However, this may also not be available to many Liberians given the high levels of unemployment and low levels of education. This also may be a factor that would operate more effectively to prevent initiation of substance use, rather than to prevent continuation of substance use.

> "I start doing a work or I start going to school or I start learning a trade, my heart not will be thinking about drugs." **– Substance User 213, Male, Age 22**

Participants also reported that an understanding of the negative consequences of substance use, either through personal experience or through observing the circumstances of others, can be critical in one's own decision-making about drug use.

> "That's why I decide to leave the coco aside, because I noticed that the coco always kept me towards danger… Because you know, it's the same friends that I follow are smoking it. If the same friend start going out in the night burglarizing, you think I could follow them because I taking more drugs. But I lookin' at their appearance, lookin' more dull than me. I lookin' at that appearance, and I stop the drugs." – **Substance User 204, Male, Age 31**

Finally, some participants described the role of self-motivation or readiness for change as being central to people's decisions to stop using drugs.

> "Because sometimes your mind alone can tell you to stop doing something and automatically, you can leave it." **– Key Informant 105, NGO staff**

V. CONCLUSIONS

Based on interviews with substance users and key informants, this study has identified key themes in the reported risk factors for and consequences of substance use, and linked this complex constellation of issues together in a conceptual model. The risk factors for substance use described in this study include not only the factors that were directly related to the war in Liberia, but also the social, economic and individual factors that continue to generate increases in substance use today. The consequences of substance use, as described by participants, impact individual substance users as well as broader communities in Liberia. For example, individuals experienced addiction, poor physical health, and social consequences like isolation from their families. In particular, the descriptions of addiction and physical symptoms of withdrawal indicate the severity of the substance use dependence among some people in Liberia, which was not necessarily expected based on the low-income status of the country and the perceived difficulty of affording consistent substance use in such a context. All of the individual consequences described may decrease the likelihood that substance users will be able to stop their substance use. Even those not directly involved with substance use experienced the consequences of this issue through increased crime, violence, sex work, and the spread of HIV/AIDS. Finally, this research identified a number of protective factors, such as religion, family support, knowledge of negative consequences of substance use, and self-motivation. These protective factors may be employed through programs and policies to prevent the initiation or continuation of substance use.

Although this research has a number of strengths, it should be interpreted in light of several limitations. A qualitative method was chosen for this study, and as such, the sampling strategy for this study was meant to ensure that data collection represents a range of experiences and perspectives, but was not necessarily meant to be representative of all substance users in Liberia. As such, the results cannot necessarily be generalized broadly. Additional quantitative research is needed to produce such results. It should also be noted that because of recruitment methods and the difficulties associated with accessing substance users, the sample of substance users primarily includes individuals who were already receiving some type of services or trying to limit their substance use. However, this is not universally true of the sample, and the study team felt that the range of perspectives included in the sample provides a good representation of the breadth of communities engaged in substance use and substance use policing and care. Finally, there is a potential for social desirability bias, particularly in the interviews with substance users. In order to reduce this form of bias, interviews were done in a private room, participants were assured that their responses were confidential and questions were framed in a neutral way.

At the same time, this research has several strengths that support the importance of its conclusions. This study offers a contextualized view of substance use in a post-conflict setting. Whereas many other studies and programs focus vertically on one issue, such as substance use, mental health issues, or sexual risk, the broad scope of this project demonstrates the connections between an array of behaviors and experiences. The use of qualitative methods allowed participants to share perceptions and experiences in their own words and explain the complex relationships between factors in their lives. For example, interview data documents the Liberian description of addiction symptoms. This study was also designed to be useful for practical and programmatic purposes in Liberia and other post-conflict settings. While this report is being

compiled for a scholarly or academic audience, other materials and reports have been produced for program planners and policy makers (Appendix 7).

This research has important implications for policy-makers dealing with Liberia and other post-conflict settings. During the civil war, many of the risk factors for substance use were directly related to the conflict, which may have led some people to believe that substance use would decrease following the conflict. However, this research reveals that a new set of risk factors are generating increasing levels of substance use. The growth of substance use as a problem and the severe consequences of substance use, both for individuals and for broader communities, demands action to address this issue. In order to promote development, safety and well-being, substance use should be addressed through supporting education and family strengthening for younger children and providing treatment and vocational training for older youth.

For program design and implementation, this research highlights the need for practitioners to maintain an awareness of the broad range of factors and experiences that can lead to and characterize substance use. It is also important to be alert to changes in substance use patterns and trends in post-conflict settings, because as the Liberian example shows, the patterns of substance use can change dramatically over a short period of time. In Liberia, the substances used and the risk factors for substance use have changed since the conflict ended in 2003. At the same time, it is important that practitioners to not mistake changes in substance use patterns for an overall decrease in substance use.

One important issue in relation to substance use in Liberia is the apparent overlap of substance use and mental health problems, coupled with the strong community stigma towards mental health problems. The high rate of PTSD and depression following the armed conflict, and the continuation of family and community violence, appear to contribute to substance use. Further, community stigma is a strong barrier preventing substance users from obtaining treatment and core, or leads them to seek questionable alternative forms of care. Further, reports of discrimination against substance users from health care providers, as well as potential inadequate training in mental health and substance use assessment and treatment, suggest barriers to care for substance users exist within the care system as well. Efforts to increase the capacity and quality of the mental health treatment system, as well as efforts to reduce community stigma towards mental health problems, are important for improving access and utilization of treatment services by substance users.

Finally, this study has implications for research about substance use in West Africa and in post-conflict settings. The findings of this study can be used to collect more accurate quantitative data about substance use by including appropriate response options and language in questionnaires. This work also highlights the need for future research in a number of areas. This research focuses only on substance use in Monrovia Liberia, which is the capital and largest city in Liberia. While several participants indicated that substance use is occurring throughout the country, substance use patterns and risk factors may be different in other areas of the country. Research should explore cultural attitudes towards defining protective factors and the differences between factors that protect individuals from initiating versus continuing substance use. Finally, while this study provides a foundation for the development of hypotheses for future research,

quantitative studies are needed to estimate the strength of the association between the risk factors and consequences presented here, and to assess the size of the population of substance users.

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VII. Appendices

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Appendix 1. Participant Information

Key Informants			Substance Users				
ID #	**Informant Type**		**ID #**	**Age**	**Gender**	**Primary substances used**	**Current or former substance user**
101	Government		201	25	Male	Heroin, cocaine	Former
102	Government		202	25	Female	Marijuana	Current
103	Government		203	24	Male	Heroin, cocaine, marijuana	Current
104	NGO		204	31	Male	Heroin, cocaine	Current
105	NGO		205	19	Female	Heroin	Current
106	NGO		206	28	Male	Heroin, marijuana	Current
107	NGO		207	Not available	Male	Heroin, cocaine	Current
108	Community Member		208	29	Female	Heroin, cocaine, marijuana	Former
109	NGO		209	33	Female	Marijuana	Current
110	NGO		210	24	Male	Heroin, cocaine	Current
111	NGO		211	31	Male	Heroin, cocaine, marijuana	Current
112	Law Enforcement		212	35	Female	Marijuana	Current
113	Health Clinic		213	22	Male	Heroin, cocaine, marijuana	Current
114	Health Clinic		214	Not available	Female	Heroin, cocaine, marijuana	Current
115	Health Clinic		215	18	Male	Heroin	Current
116	Health Clinic		216	25	Female	Cocaine	Current
117	NGO		217	29	Male	Marijuana	Current
118	Health Clinic		218	19	Male	Marijuana	Former
119	NGO		219	20	Male	Marijuana, diazepam	Current
120	NGO		220	26	Male	Heroin, cocaine, marijuana	Former
121	Law Enforcement						

Appendix 2. Interview Guide for Substance Users

Personal, background information

- Do you live in Monrovia? How long have you lived here?
- How old are you?
- Do you go to school?
- Do you have a job or a way of getting money?

General substance use info

- Do you know a lot of people of your age that use drugs or alcohol?
- What communities in Monrovia have a lot of drugs?
- Has drug use changed during the time you have lived in this community?

Risks and Protective Factors

- Why do you think people use drugs?
- Why do you think some people choose not to use drugs?

Problems and Benefits

- Are there any problems because of drug use for the community?
- In your community, is drug use one of the major problems, or are there other problems that are more important?
- When people use drugs, how do they act? Are there things that they do that cause problems to others?
- Are there any good in the community that come from drug use?

Services

- What could be done to assist problems linked to drug use? What services should be provided? Who could provide them?

Links with sexual risk

- Do you think there is a relationship between drug use and HIV/AIDS? Do you think drugs are close to HIV? If so, how?
- Do people you know ever do man and woman business when they use drugs?
    - Can you explain?
    - When does this happen?
    - Who do they do man and woman business with (e.g. usual partner, a spouse, the person selling drugs, a stranger, a prostitute, or someone else)?
    - Do they use condoms?
    - Do people you know ever do man and woman business for drugs or for money? (How much money?)

Personal substance use experience

- Can you tell me about what types of drugs you have used? Are there other names for the drug?
    - What does it look like?
    - How do you get those drugs? (from whom, where)
    - How do you use them? (swallow, inject, inhale)
    - How often do you use the drug and how much do you usually use?
    - When you use the drug, how does it make you feel? (physically, mentally)
    - How much does it cost?
    - It is easy for a young person to get that drug?

    - Do you ever use that drug at the same time with other drugs?
- Why do you think you started using those drugs? (Connection with war?)
- Why have you continued using them?

Addiction

- Have you ever tried to stop using drugs and weren't able?
- When you stop using drugs for some time, do your body itch for drugs?
- How often do you think about using drugs? In the morning when you wake up, are drugs the first thing you think about?
- Do you take more drugs every time to feel the same way?

Consequences

- Have you ever had any problems because of your drug use?
    - What about with money? Your lover? School? Friendship with others? Arrested by the police?
- Are there any good things in your life that come from drug use*?*

Specific experience

- Can you describe to me the last time that you used a drug?

Links with sexual risk

- Have you ever done man and woman business when you were using drugs?
    - Can you describe the last time that this happened? When? Where?
    - Was this with a usual partner, a lover, a stranger, a prostitute, or someone else?
    - Did you use a condom?
- Have you ever had an HIV test? Had an STI?

Services

- Have you ever gone to someone for help with drug use? If not, why not?
    - Who or where? What was good and what was not so good about the service?

Appendix 3. Interview Guide for Substance Users

General, background information

- Do you live in Monrovia? How long have you lived here?
- How old are you?
- What is your role in your organization?
- How long have you been working here?
- In your current role, what experiences do you have related to drug use?
- What motivated you to do this kind of work?

Services – their agency (if staff at an agency)

- What kinds of services does your organization provide in general?
- What services does your agency provide to people using substances? (Describe? Why not?)
- What kinds of programs have been most successful? Can you share a success story?

Services – other agencies

- Can you tell me about any other individuals or agencies providing services for youth that use drugs or alcohol?
- What services do you think should be in place for drug users?

Barriers and Challenges

- What barriers are there to providing services for young people using drugs?

Substance Use Information

- Has substance or drug use among youth changed during the time you have been in this community?
- What types of substances or drugs are used by youth in Monrovia?
    - What are those substances called by the people that use them? *Probe by asking about substances not already mentioned.*

  For each drug mentioned above:
    - Who uses these drugs?
    - How are these drugs used?
        - How do they use the drugs (e.g. swallow, chew, inhale, smoke, inject)?
        - Do people usually use drugs alone or with others (specify eg sexual partner or the person providing the substance, always the same or does it change)?
        - How do people using this drug usually behave when they are using?
        - Where it is used (home, bar, public space)?
        - When it is used (time of day, day of the week)?
    - How much do the drugs cost?
    - Where do these drugs come from?
    - What neighborhoods or communities have a lot of drugs?

Consequences and Benefits

- Are there any problems associated with substance/drug use?
    - Is there a link between substance use and HIV transmission? If so, please describe.
- What are some of the other problems faced by youth today?
    - Is substance use more or less important than these problems?
- Do any of these substances have benefits for the community?

Risks and Protective Factors

- Why do you think people use drugs?
- Why do you think some people choose not to use drugs? Do they have anything in common?

Community perceptions

- Is drug use allowed by the community?

Abuse

- How would you know if a young person was abusing drugs?
- What questions would you want to ask them?

Law enforcement

- Are these drugs legal in Liberia?
    - If not, are laws about these drugs enforced?
- What are the relationships like between police and people living in the ghettos?

Appendix 4. Draft Coding Structure for Qualitative Analysis

	Code		Description
1	**Background/Demographics**		Basic background and demographic information about interview participants, including age, location of residence, etc.; can include the motivation of service providers to do their jobs; Only code as 1 if the information doesn't fit into any other code - like 9a or 3.
2	**Information on drugs**		Use when participants discuss changes in levels and types of drugs use in general, when listing a number of commonly used drugs. Can include how the drug is used, cost, used in groups or alone, etc. Use sub-codes where possible, otherwise just use 2. If participant discusses the mixing of more than one drug, double code with two sub-codes. Where participants provide information that does not seem accurate, code based on the drug that you believe they are talking about.
2a		Alcohol	Use when participants discuss alcohol, Godfather, Big Mama. Can include how the drug is used, what is looks like, how it makes people feel, cost, used in groups vs. alone, etc.
2b		Marijuana	Use when participants discuss marijuana, opium, grass, ganja, load. Can include how the drug is used, what is looks like, how it makes people feel, cost, used in groups vs. alone, etc.
2c		Heroin	Use when participants discuss heroin, Italian white, tie, market, dugee, Halloween, rolling tie. Can include how the drug is used, what is looks like, how it makes people feel, cost, used in groups vs. alone, etc.
2d		Cocaine	Use when participants discuss cocaine, coco, coke. Can include how the drug is used, what is looks like, how it makes people feel, cost, used in groups vs. alone, etc.
2e		Diazepam	Use when participants discuss diazepam, 10-10, bubbles, blue boat. Can include how the drug is used, what is looks like, how it makes people feel, cost, used in groups vs. alone, etc.
2f		Inhalants	Use when participants discuss inhalants, slide. Can include how the drug is used, what is looks like, how it makes people feel, cost, used in groups vs. alone, etc.
2g		Other drugs	Use when participants discuss any other drugs with no sub-codes listed above, such as amphetamines, gun powder, etc. Can include how the drug is used, what is looks like, how it makes people feel, cost, used in groups vs. alone, etc.
2h		Injection	Use when participants are asked about or discuss the frequency of drug injection in Liberia, or their own experiences with injection.
2i		Trafficking, production and distribution	Use when participants discuss where drugs come from, how they are produced (marijuana) or how they get into Liberia, and how they are sold on the street (where, by who) (not cost of drugs - see drug-specific codes)
2j		Confusion over drug names	Use when it seems that a participant is providing incorrect information about drug names. Also double-code with the drug that they are talking about.

3	**Risk factors/Reasons why people use drugs**		Use sub-codes under 3 where possible, but use 3 if passage is more general
3a		Peer Pressure	Use when participants discuss the impact of peers, friends, and social environment on choices about the use of drugs and alcohol
3b		War	Use when participants discuss the impact of the war on choices about the use of drugs and alcohol. This refers more specifically to fighting in the war, rather than, for example, losing parents in the war (3c).
3c		Lack of economic and social support	Use when participants discuss the impact of not having a job, training or family support, and how these realities can lead people to drug use
3d		Other risk factors	Use when participants discuss the impact of any other factors on choices about the use of drugs and alcohol. Can also include reasons that people do not or cannot stop using drugs, if these reasons do not fit in 5 or 10c.
4	**Protective factors**		Use sub-codes under 4 where possible
4a		Reasons to stop using drugs	Use when participants discuss the factors and issues that have led them or others to stop using drugs after having been a drug user
4b		Reasons to not start using drugs	Use when participants discuss the factors and issues that may lead a person to never start using drugs
5	**Withdrawal and Addiction Symptoms**		Use when participants discuss the signs and symptoms of addiction, difficulty in trying to quitting, stories from users about trying to stop, relapse, using more drugs to get same feeling.
5a		Assessing for addiction	Use when providers describe the ways that they assess clients for drug addiction. (Only use in provider interviews)
6	**Consequences/Problems**		Use sub-codes under 6 where possible; Use 6 when participants are asked about any benefits in their communities as a result of drug use
6a		Sexual health / risk	Use when participants discuss any sexual risk-related consequences of drug use; include all information on sex work and prostitution in this code. (For information about HIV tests specifically, use 10a since this is a service rather than a risk behavior)
6b		Violence	Use when participants discuss violence and fighting that results from drug use.
6c		Crime	Use when participants discuss crime and stealing that results from drug use.
6d		Other	Use when participants discuss any other issues that result from drug use.
6e		Physical health	Use when participants discuss any physical health issues related to drug use, possibly including TB, skin rashes (due to poor hygiene), etc. Not including physical symptoms of HIV and STIs, which goes in 6a. May also include death as a consequence of drug use.
6f		Social consequences	Use when participants discuss interactions between drug users and non-drug-using members of the community that are not service providers or otherwise acting in an official capacity. Could include family members or neighbors, etc. (This code is the former code 8 - Community/Family Interactions)
7	**Mental Health**		Use when participants discuss mental health issues, specifically drug-induced psychosis. Include references to loss of hope, depression, sadness, trauma, and self-medicating of mental health issues. May be either as a cause or a consequence of substance use (double-code with 3dand 6d, respectively)
8	*Eliminated - see 6f*		

9	**Law enforcement interactions, and legal framework**		Use when participants discuss any interactions with law enforcement, including being arrested, going to jail, or police corruption. (For interviews with police officers may double code 9 with 11)
10	**Services - Substance User Experiences**		*Only use code 10 for interviews with substance users!* Use sub-codes where possible. Does not have to be limited to services related to drug use alone.
10a		Previous experience with services	Use when participants discuss about any interactions with services providers in the past, including through NGOs, government agencies (not police, code 9), churches, bush doctors, hospitals, HIV tests, etc. Can also use this code if participants are asked if they have ever gone to anyone for help and they say that they have not ever gotten help to stop using drugs.
10b		Willingness to seek services	Use when participants discuss their and others' willingness to participate in programs or receive services.
10c		Unmet needs	Use when participants discuss about services that should be available or services that they would like to see in the future. Only use if participant characterizes it as a need, rather than a factual lack of services (8a)
11	**Services - Provider Experiences**		*Only use code 11 for interviews with service providers!* Use sub-codes where possible. (For interviews with police officers may need to double code 9 with 11).
11a		*Eliminated - see 11b*	
11b		Own organization/Services	Use when participants discuss the services provided by their organization, including the service provided by the participant. Also can include the role of the participant within the organization.
11c		Other organizations/Services	Use when participants discuss the services provided by other organizations and their partnerships with other organizations; can include information about who they refer clients to for other services; can also include passages where participants say that no one else is providing X service. (If participants are charactering something as a service that is needed, then code 11f).
11d		Service provision challenges	Use when participants discuss the challenges that they and their organizations face in providing services.
11e		Service provision successes and best practices	Use when participants discuss the best practices and successes that they have had in providing services. May include: Acceptance into communities, Cultural sensitivity, How to properly provide services
11f		Service provision needs	Use when participants discuss about services that should be available or services that they would like to see in the future. Only use if participant characterizes it as a need, rather than a factual lack of services (11c)
12	**Geography of drug use**		Use when participants are asked about which specific neighborhoods or communities in Monrovia where drugs and alcohol are most common. This should only be used for proper nouns or specific locations that you could put on a map.
13	**Profile of drug users and the communities where they live**		Use when participants discuss the age and gender of drug users, social relationships among drug users, and physical conditions in ghettos (types of shelters of houses); maybe also include information about hygiene; If a participant talks about these conditions as being a factor that leads to drug use or as a consequence of drug use, code as 3 or 6.

Appendix 5. Detailed information about substances used in Liberia

It was not within the scope of this research to collect detailed information regarding each of the substances available in Liberia; however, this appendix offers basic information about the cost, availability, methods of use, appearance and impact of the most common substances.

According to most participants, marijuana is the most common substance used in Liberia; however, many people asserted that marijuana is not a drug suggesting that the term "drug" refers to what might be termed as hard drug in the U.S. context. As reflected in this quotation, cocaine and heroin are the most common substances, aside from marijuana. Other drugs, such as benzodiazepines, amphetamines, and inhalants, were mentioned by participants, by were not considered to be as commonly abused.

> "There are two type of drugs. Tie and coco." **– Substance User 203, Male, Age 24**

Marijuana

Marijuana is considered to be very cheap and therefore accessible to almost anyone, including adolescents. In Liberia, marijuana is also known as opium, grass, ganja, weed, cannabis or bazoga. A load, or joint, typically costs between 5 and 50 Liberian dollars[4]. As such, marijuana is often viewed as a gateway drug, leading to subsequent risk taking with other drugs. At the same time, some participants asserted that marijuana is not always the gateway through which youth begin to use other substances:

> "We got some people from the age of twelve, he was using the heroin directly; not started smoking marijuana, started with heroin straight… You can start anywhere." – **Substance User 211, Male, Age 31**

> "When you start opium, you will start taking other big drugs." – **Substance User 201, Male, Age 25**

Compared to heroin and cocaine, marijuana is typically not associated with the severe negative consequences discussed later in this paper, except through its close relationship with these other substances.

> "I am not sitting in ghetto usually. I'm an intelligent marijuana taker. Like for example I go in my room, I take my marijuana, I relax… the drugs and the marijuana, we got big differences, because they got all drugs that make you like dirty… I for me, I'm taking marijuana. I always gotta be neat, be clean, eat, sleep good sleep, concentrate how to get work." –**Substance User 217, Male, Age 29**

Marijuana is most commonly smoked or cooked into food, such as soup or kanyah, which is a snack made from peanuts, sugar and farina. Participants, including law enforcement officials, reported that marijuana is commonly produced domestically, in Bong County and other more rural parts of the country.

> "They got the type of drugs where people take they act accordingly like for the opium, when you smoke opium, you eat. Opium makes you eat. They make you thick. Some people when they smoke opium they laugh, they're happy. They people when they smoke opium they're sad; they can't talk." – **Substance User 201, Male, Age 25**

[4] At the time that this report was compiled, 72 Liberian Dollars was equivalent to US$1.

Heroin

> "Heroin, it's very common, so every corner of Monrovia you go, you will find it everywhere." – **Key Informant 112, Law enforcement officer**

In Liberia, heroin is also known as Italian white, tie, rolling tie, market, Halloween, brown brown or dugee. Some participants indicated that these names can be used interchangeably, but others reported that there is a difference in the quality or content of the different types of heroin, corresponding to different slang terms. Heroin is typically sold as a white powder packaged in a small plastic bag that is sealed by melting the plastic at the top (see right side of photo in Figure 3). This quantity is called a nut or a knot, and the cost for one package ranges from LD300-350, depending on the strength of the product. Participants reported using heroin (a single knot) anywhere between one and six times a day. Participants used words such as dizzy, sluggish, sleepy and high to describe the feeling that is induced by the use of heroin.

Figure 3. Photo of heroin

> "It can make you feel high, sleeping whole day, standing up sleeping... If it move from in you now, that's the time you can get active to go look for money again." – **Substance User 207, Male, Age not available**

Heroin was almost uniformly described as being smoked in the way described by these participants:

> "You cut a piece of the aluminum foil and you fix a pipe. Then you put the powder on the aluminum foil, and you got the pipe to your mouth and you got the matches underneath the aluminum foil and you keep rolling. Keep rolling. As you rolling you inhaling it. Getting high." – **Key Informant 120, NGO staff and former substance user**

> "You can put it on the foil, the aluminum foil. When you put it on the foil, then you light the matches. It can be white first like dust. When you light the matches under it, then it can start melting. As it melting, the smoke coming. That's the smoke we can be chasing." **– Substance User 215, Male, Age 18**

According to participants, heroin is sometimes – though not frequently – injected. Refer to the section below on injection drug use for more information about this method of use.

Cocaine

In addition to heroin and marijuana, cocaine was reported as being quite common, though more expensive than other substances and therefore not always available to substance users. In Liberia, cocaine is used almost exclusively as crack cocaine, and it is also known as coke, coco, crack or rock.

> "I have friends taking marijuana, taking Italian white. But they don't have money really to purchase cocaine, because you don't see really cocaine in Liberia. Only the people who have money can carry cocaine in Liberia." **– Substance User 219, Male, Age 20**

Cocaine is typically sold in crack cocaine form, and is most often a white-colored crystal. A single rock, which is described as being approximately the size of the end of matchstick, is sold for US$5-10, depending on the exact size and quality. In some cases, cocaine is sold in a brown color, which is more expensive than the white color.

> "You got brown coke, white coke. But the white one is more popular than the brown one… the brown one is expensive. But the other one is more popular. That the one you see. The other one is big, big people smoking." – **Substance User 211, Male, Age 31**

According to participants, cocaine usually comes into Liberia in powder form but then is cooked into crack cocaine, by the user or by the local dealers, using either ammonia or sodium bicarbonate. Participants described smoking crack cocaine using a "bong" made from a film canister, a water bottle or a bottle top, like in this example:

> "We call it a bongo. It's almost like a pipe. You can use a bottle top. You put a silver foil on top of it. You bore holes in it. You smoke a cigarette, you take the ashes and you put the ashes on top of it. Then you put the coco on top of it. Then you light a matchstick and put it to your mouth and just pull the smoke." – **Substance User 220, Male, Age 26**

Participants used words such as spinning and sharp to describe the feeling that is induced by the use of cocaine. Cocaine is specifically identified as the substance most commonly used while carrying out criminal activities.

> "When you take the cocaine, you take a coco, like for the arm robber they take coco, they take cocaine to carry on a desperate act… When you see arm robber go to your house, that's cocaine they can take in, that's coco they can take in. That's crack they can take in." – **Substance User 201, Male, Age 25**

Whereas in some contexts, substance users have a single drug of choice, many participants reported that in Liberia, substance users frequently use both heroin and cocaine, depending of the resources available to them at any particular time. In some cases, the drugs are actually consumed simultaneously, and in other cases people use cocaine and then use heroin shortly after to "come down".

> "I smoke Coco, when I not get money for Coco, I drop it to tie; I smoke my tie where I say Market now, yes. I smoke my Market… [Market] can't do nothing because Coco higher than tie. Coco is higher than tie." – **Substance User 201, Male, Age 25**

> "If you take tie today, then you put coco on it… Almost it's like soup and rice. Just like soup and rice. Yes if you cook the rice, you will put the soup over it just to eat the rice for you to enjoy it." **– Substance User 207, Male, Age not available**

Benzodiazepines

Benzodiazepines are most commonly available in Liberia in the form of diazepam, and are referred to as bubbles or ten-ten. The name "ten-ten" is related to the 10mg quantity that the tablets are sold in. According to participants, diazepam can be purchased from pharmacies without a prescription in the form of a blue tablet. Diazepam was popularized in Liberia during the war, but according to most participants, it is no longer widely abused.

> "Diazepam – in the '90s it was popular. But for now, drugs have over-ceded it… now you hardly hear the youth talking about it now. It's drugs now. Everybody on drugs… Because diazepam, it was not giving them the kind of feeling they wanted, so they go to the drugs. So they turn to drugs." **– Key Informant 120, NGO staff and former substance user**

Participants recognized that diazepam has a clinical use that can be recommended by a doctor, but they described the abuse of diazepam by saying that someone takes it "over-plus". Because of fears about being caught and beaten by community members, diazepam is often used by people who are committing stealing or committing other crimes.

> "Like for the arm robbers, they take bubbles to numb themselves, to cook themselves where you beat on them they can't feel it." **– Substance User 201, Male, Age 25**

Other substances

Some participants described having seen or heard of the abuse of other substances in Liberia, including: amphetamines, inhalants (known as snuff or slide), and other prescription drugs. However, this research suggests that these substances are less common.

Injection drug use

Based on this research, injection drug use does not appear to be common in Liberia currently. Injection drug use was generally described as expensive and as something that only people with means were able to do. Some participants also believed myths about injection drug use, such as the idea that injecting a drug can cause a high that would last for months or even years. Most substance users were familiar with injection, but few of them had used drugs in this way or seen others doing it. For example, this participant described the process based on watching his girlfriend inject drugs.

> "[My girlfriend] used to buy the Halloween and put it on the spoon with water, put it on the candle and melt. And then she would get the injection and … she would tie off the thing, tie it here and when the vein was showing, she would plug in the vein…" **– Key Informant 120, NGO staff and former substance user**

While injection drug use appears not to be common, several participants did share stories that suggest that in contexts where people inject drugs, sharing syringes is typical.

> "The whole ghetto can use that one syringe about one thousand person can use that one something… They can't change it. They can just use that one something over and over." – **Substance User 207, Male, Age not available**

Appendix 6. Example quotations for themes in qualitative data

Thematic construct			Brief explanatory quotation
Risk Factors			
	War-related risk factors		
		Substance use in combat	"A lot of young people were drugged to be able to go to the front line to fight, it make them brave."
		Trauma	"Some people can't sleep; they keep having flash back of different things… People want to self-medicated; they don't want to think about it."
		Increased drug supply	"Our country is a war-torn country so [drug traffickers] took advantage of it… It was... a transit point for the sale of drugs."
	Social risk factors		
		Separation of families and social networks	"My whole generation, they pass away and I lose contact… I started taking marijuana because of the death of my people… I don't have anybody."
		Desires for closeness with peers	"I have friends that I follow, I want to be them because I love them, I decide to follow them and start to spoil myself."
	Economic risk factors		
		Poverty	"Drugs that habit where we put ourself inside because no hand [no money]."
		Lack of education or opportunity	"I out education, no support for me to go to school… That's it put me into this type of life that you see me in."
	Individual risk factors		
		Mental health	"Some people take drugs to move sad from on their mind… Some people take drugs because they are disturbed."
		Stressful life events	"The pressure from home, the ill treatment, the violence against some of those children too causes them, some of them to go on the street."
Consequences			
	Individual consequences		
		Dependence	"The drugs people, they can call it june when you not smoke… They can say you're june… Your skin can be itching... sleep can never get in your eyeball... I can start vomiting all type of green water."
		Poor physical health	"Drugs can put cold in your body and it weaken all your bones, your joints and you get sick."
		Social consequences	"If I had a son that is selling drugs, they next thing I would do is throw him out of my house… Because of the frustration that drug use place on the family members, it cause them to avoid those family members."
	Community consequences		
		Crime	"The drugs can make you brave to go do evil thing… If you want smoke drugs, you got to go steal to come to smoke."
		Violence	"Most of the violence have been accelerated by drugs. 99.99% of most of the violence… Basically, people killing one another."
		Sexual risk	"Men can go and steal for the money. They take it. But the women can go and do the prostitute work and come smoke."

Appendix 7. Research briefs for distribution in Liberia

This research on substance use offers a contextualized view of substance use in Liberia and documents the perceptions and experiences of substance users and key informants in their own words. This information can be valuable for policy makers and program planners in Liberia among whom knowledge is limited about specific substance used, changes in patterns of substance use, and the drivers of substance use. While this report and an accompanying journal manuscript are being compiled for academic and research audiences, the following research briefs have been developed in order to make the findings of the research accessible to program and policy staff in Liberia.

In an effort to ensure that the format, presentation, and content of this information was appropriate for the target audience, drafts of these briefs were reviewed and edited by Liberian colleagues and experts with extensive experience working in Liberia.

This appendix includes two policy briefs: one describing the substances that are used in Liberia and a second which includes information about the risk factors and consequences of substance use in Liberia.

Substance Use in Liberia

Research Brief #1: Substances Use and Language

OBJECTIVES OF THIS RESEARCH BRIEF

- Describe the **overall patterns of substance use and the most common substances** currently used in Liberia.
- Document the **terminology** used for the various substances available in Liberia.
- Provide details about substances used in Liberia, including **cost, appearance, and user experience**.

BACKGROUND

Substance abuse is a key issue affecting the health and well-being of young people in post-conflict Liberia. However, the patterns of substance use in Liberia are not well understood. Gaps in knowledge related to substance use make it difficult to conduct studies to quantify substance use and to provide services to the substance-using population. This project aimed to document the patterns of substance use, the perceived risk factors for substance use, the perceived consequences of substance use, and the barriers to providing services to substance users in Monrovia, Liberia.

RESEARCH METHODS

Data were obtained in July and August 2012 from 41 in-person interviews with:

- *20 current and former substance users*, aged 18 to 35, and
- *21 key informants*, including staff from government, non-governmental organizations, and health clinics, law enforcement officials, and community members.

Qualitative sampling methods were used to recruit a diverse sample (not meant to be representative of the total populations of substance users). Participants responded to open-ended questions related to substance use, and interviews were recorded and transcribed. The transcripts were coded by a team of four people, using the constant comparative method, where a code structure was created directly from the responses and applied to all transcripts. This study was conducted with funding from Yale University, and in collaboration with the Ministry of Health and Social Welfare and the Mother Patern College of Health Sciences.

SUMMARY OF RESEARCH FINDINGS

Section 1: Substance Use Overview

- According to most participants, ***marijuana*** **is the most commonly used substance** in Liberia. ***Heroin*** **and** ***crack cocaine*** **use are also common**.
- ***Benzodiazepines*** **and** ***amphetamines*****, which were reportedly used during the civil war, are no longer common today.**
- **Injection drug use does not appear to be common in Liberia currently.** Most substance users were familiar with injection, but few of them had used drugs in this way or seen others doing it. However, among those that had seen or experienced injection drug use, they suggested that sharing needles was common. This presents an important public health threat.
- While some substance users have a single drug of choice, many participants reported that in Liberia **substance users frequently use multiple drugs, including heroin, marijuana and cocaine**, depending on the resources available to them at any particular time.
- *For more information about specific drugs, see section 3 below.*

Section 2: Liberian English Terminology for Substances

One of the challenges faced by researchers, policy makers and program planners has been the lack of understanding of the terminology used to refer to the various substances available in Monrovia. The qualitative methods captured this information in the words of the participants. The substance-related terminology used is included in the table below:

Table 1. Substances used in Liberia, with Liberian English terminology

Substance	Terminology Used in Liberia	Street names for unit
Marijuana	Opium, grass, ganja, weed, cannabis, bazoga	Load, parcel
Heroin	Italian white, tie, rolling tie, market, Halloween, brown brown, dugee	Knot, nut
Crack cocaine	Coke, coco, crack, rock	Rock
Benzodiazepines	Diazepam, bubbles, ten-ten	Tablet
Amphetamines	Amphetamines	*n/a*
Inhalants	Slide, snuff	*n/a*

Section 3: Additional Information about Substances Used

This section provides additional details about the substances that are most common in Liberia, including their cost, appearance, and the way people feel after using the drugs.

Marijuana: Marijuana is considered to be very cheap and therefore accessible to almost anyone, including adolescents. A load, or joint, typically costs LD$5-50. As such, marijuana is often viewed as a low-level drug that may lead to later risk-taking with other drugs. Compared to heroin and cocaine, marijuana is typically not associated with severe negative consequences. Marijuana is most often smoked and cooked into food, such as soup or kanyan. Participants, including law enforcement officials, reported that marijuana is produced domestically, in Bong County and other rural parts of the country.

***Heroin*:** Heroin is typically sold as a white powder packaged in a small plastic bag that is sealed by melting the plastic at the top (see the small packages on the right side of the photo to the right). The cost for this quantity ranges from LD300-350, depending on the strength of the product. Participants reported smoking heroin (a single knot) anywhere between one and six times a day. Participants used words such as dizzy, sluggish, sleepy and high to describe the feeling that is induced by the use of heroin.

***Cocaine*:** Cocaine is typically sold in crack cocaine form, and is most often a white-colored crystal. A single rock, which is approximately the size of the end of matchstick, is sold for US$5-10, depending on the size and quality. According to participants, cocaine usually comes into Liberia in powder form and is cooked into crack cocaine, by the user or by the local dealers, using ammonia or sodium bicarbonate. Participants described smoking crack cocaine using a "bong" made from a film canister, a water bottle or a bottle top. Participants used words such as spinning and sharp to describe the feeling from the use of cocaine. Cocaine was identified as the substance most commonly linked with criminal activities.

Other substances: Some participants described having seen or heard of the abuse of other substances in Liberia, including: amphetamines, inhalants (known as snuff or slide), and prescription drugs, such as diazepam (valium). However, this research suggests that these substances are not common today.

This research brief was compiled in April 2013. For more information about this research or to request the full report of findings from this study, please contact Margaret Lippitt at mwlippitt@gmail.com.

Substance Use in Liberia

Research Brief #2: Risk Factors for and Consequences of Substance Use

OBJECTIVES OF THIS RESEARCH BRIEF

- Outline the **key risk factors** for substance use in post-conflict Liberia.
- Describe the **most important consequences** of substance use, for individuals and for communities.
- Present a **conceptual model** to depict the possible relationships between factors related to substance use.

BACKGROUND

Substance abuse is a key issue affecting the health and well-being of young people in post-conflict Liberia. However, the patterns of substance use in Liberia are not well understood. Gaps in knowledge related to substance use make it difficult to conduct studies to quantify substance use and to provide services to the substance-using population. This project aimed to document the patterns of substance use, the perceived risk factors for substance use, the perceived consequences of substance use, and the barriers to substance-related service provision in Monrovia, Liberia.

RESEARCH METHODS

Data were obtained in July and August 2012 from 41 in-person interviews with:

- *20 current and former substance users*, aged 18 to 35, and
- *21 key informants*, including staff from government, non-governmental organizations, and health clinics, law enforcement officials, and community members.

Qualitative sampling methods were used to recruit a diverse sample (not meant to be representative of the total populations of substance users). Participants responded to open-ended questions related to substance use, and interviews were recorded and transcribed. The transcripts were coded by a team of four people, using the constant comparative method, where a code structure was created directly from the responses and applied to all transcripts. This study was conducted with funding from Yale University, and in collaboration with the Ministry of Health and Social Welfare and the Mother Patern College of Health Sciences.

SUMMARY OF RESEARCH FINDINGS

Section 1: Risk Factors

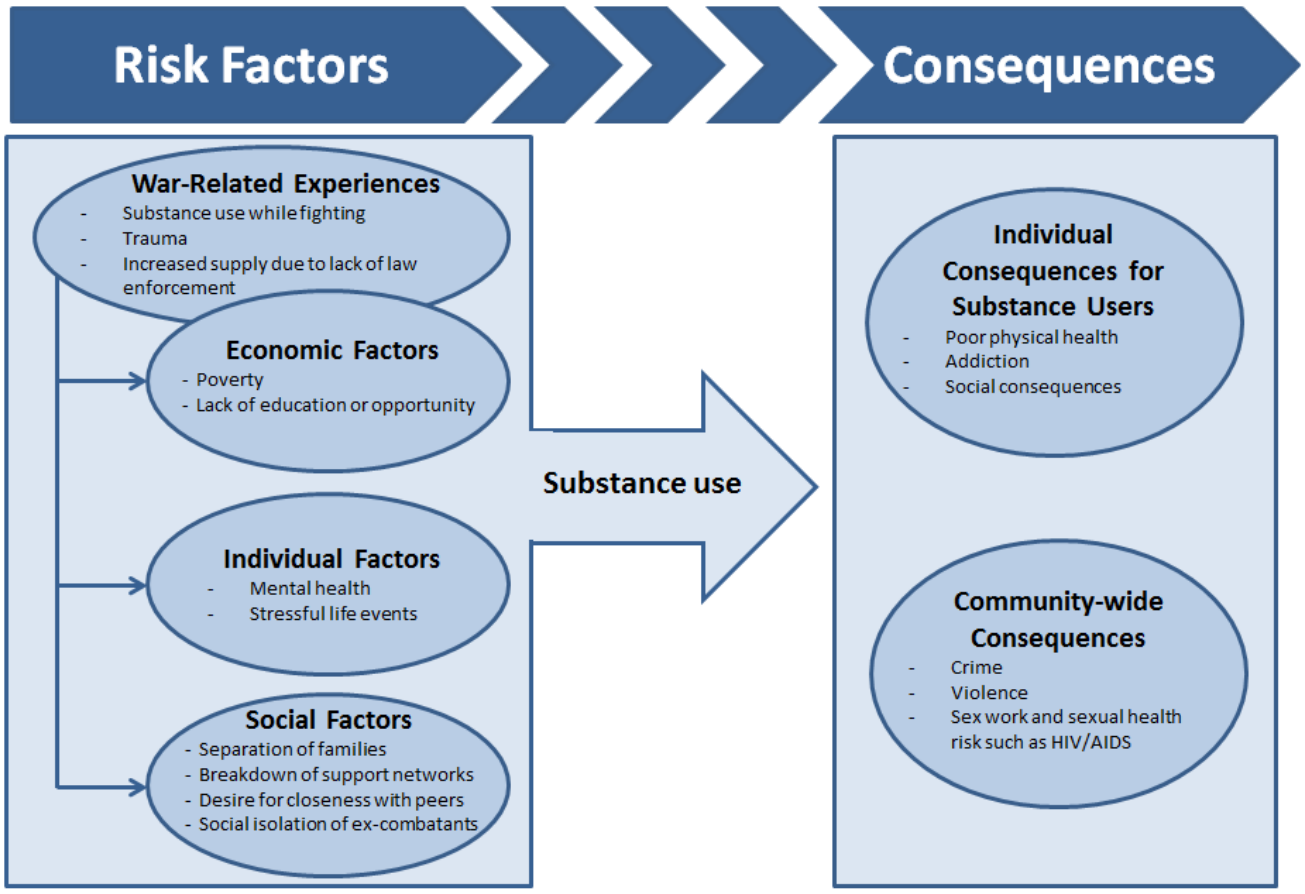
- Previous research in Liberia and some other post-conflict settings has focused on the risk factors related to experiences during the conflict. In Liberia, there were a number of **risk factors created by the war** that increased substance use, including: drug use by combatants and child soldiers, creation of drug trafficking networks due to weak institutions and lack of law enforcement, and drug use to cope with trauma caused by experiences in the war.
- At the same time there are additional risk factors that continue to increase substance use in Monrovia today – even ten years after the end of the conflict. The economic, social and individual risk factors that support increasing substance use today include:
- *Economic risk factors*: Many participants in this study said that they had begun using drugs because of **extreme poverty** or because of **a lack of education and opportunities to find jobs**. These conditions were present to some degree prior to the war, but have been made worse by the conflict.
- *Social risk factors*: Others reported that they were using drugs because of the stress caused by the **separation of their families** and the **breakdown of traditional social networks**. For youth with no stable family support, the **influence of peers** or peer pressure may have a large and negative influence on them. Also, the **social isolation of ex-combatants** after the war caused them to be more likely to stay within their own peer groups and maintain behavior such as substance use.
- *Individual risk factors*: Finally, individual factors such as **stressful life events** and **poor mental health** can increase the risk for substance use.

Section 2: Consequences

- Substance use leads to significant consequences for individual substance users and for broader communities in Liberia.
- *Individual consequences*: Substance users described consequences such as: **addiction, poor physical health and social consequences** like isolation from their families. These consequences may make it more difficult for substance users to stop this habit.
- *Community consequences*: Even people who are not directly involved with substance use experience consequences. For example, participants believed that substance use was the root cause of **crime and violence** in Monrovia. Substance use can also lead to **sex work and the spread of HIV/AIDS**.
- Consequences such as crime, violence and sex work were described as causes and consequences of substance use, meaning that many people become involved in a **cycle where one behavior leads to another**.

Section 3: Conceptual Model

- This conceptual model is a diagram or map that shows the relationships between substance use and other issues. This model was created based on the information gathered during this research study.
- Because of the small sample size and the qualitative methods, this study was not designed to describe the relationships between these issues in a way that represents the experiences of all substance users in Liberia. However, this study can provide a basic framework, which can be tested in future studies using



This research brief was compiled in April 2013. For more information about this research or to request the full report of findings from this study, please contact Margaret Lippitt at mwlippitt@gmail.com.