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SUBSTANCE ABUSE AND HIV IN SUB-SAHARAN AFRICA: INTRODUCTION TO THE SPECIAL ISSUE

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INTRODUCTION

This special issue of the *African Journal of Drug and Alcohol Studies (AJDAS)* is devoted to describing the current status of the HIV/AIDS epidemic among substance users in sub-Saharan Africa. Included in this issue are papers that address two important and overlapping public health concerns: drug use and HIV, and alcohol use linked to high-risk sexual practices and HIV transmission, both within the sub-Saharan Africa context. Sub-Saharan Africa remains the "global epicentre" of the HIV/AIDS epidemic. The region contains only 10% of the world's population but carries more than 60% of the global HIV/AIDS burden. In 2005, an estimated 24.5 million people were living with HIV/AIDS in the region, 2.7 million persons were newly infected with the virus, and 930,000 died of AIDS (UNAIDS, 2006). In addition to facing the enormous burden of heterosexually transmitted HIV, some sub-Saharan African countries are experiencing significant changes in the patterns of illicit drug use, through both non-injection and injection drug use, which has implications for the potential spread of HIV.

Concern about drug use and its consequences in sub-Saharan Africa was raised as early as 1999 in a publication by the United Nations Office on Drugs and Crime (UNODC) formerly named the United Nations Office for Drug Control and Crime Prevention (UNODCCP). The UNODC report "The Drug Nexus in Africa" documented trends in drug production, trafficking to and through sub-Saharan Africa, and the consumption of cannabis, heroin, cocaine, and other drugs, suggesting that illicit drug use in sub-Saharan Africa is not a "minor" concern as was often assumed (UNODDCP, 1999). Following the publication of the UNODC report on drugs in Africa in 1999, a series of meetings, starting in 2000, was convened to review HIV in drug-using populations in sub-Saharan Africa. The link between drug use and HIV was formally discussed at the Third Annual Meeting of the Global Research Network for the Primary Prevention of HIV/AIDS in Drug-Using Populations, Durban (NIDA 2000). In 2001, the UNODC and UNAIDS held the first joint workshop on drug abuse and HIV/AIDS in Africa in Sharm-el-Sheik, Egypt. Despite limited data available to characterize HIV and injection drug users (IDUs) in sub-Saharan Africa, there were reports of the expansion of both injection and non-injection drug use and the emergence of HIV among drug-using populations. Since that time, the literature on drugs and HIV in sub-Saharan Africa has expanded, although it is still limited.

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Our goal in assembling these papers for the special issue of the *African Journal of Drug and Alcohol Studies* is to present in a single document the most current data on HIV and substance use, including alcohol, in sub-Saharan African countries, drawing attention to the potential for substance use related HIV transmission in the region.

This issue is organized into two sections. The first section focuses on drug use and HIV. It includes reports from five sub-Saharan countries on the emergence of injection drug use and HIV and the use of non-injection drugs such as crack cocaine and amphetamine-type stimulants (ATS) and implications for increasing sexual risk in Kenya, Tanzania, South Africa, Nigeria and Mauritius. Deveau, et al., report on outcomes from a community outreach programme targeting drug users in Mombasa and Nairobi, Kenya (2006). Dahoma, et al., report findings from a cross-sectional study conducted to document HIV and sexually transmitted infection (STI)-linked risk behaviours among drug users in Zanzibar, Tanzania (2006). Timpson et al., report preliminary findings from an ongoing study of drug use and sexual risk behaviours among IDUs in Dar es Salaam, Tanzania (2006). Parry and Pithey review the relevant literature on HIV and drug use in South Africa, and also report the findings of a 2005 rapid assessment conducted among drug users in three South African cities (2006). Adelekan and Lawal review the results of three rapid assessments recently conducted in Nigeria to investigate injection drug use and HIV (2006). Abdool et al., review national surveillance data and the results from a 2004 assessment of drug-using, sex work, and prison populations in Mauritius (2006). The data for these reports derive primarily from rapid ethnographic assessments that rely on qualitative methods to allow for quickly collecting locally relevant data to help better understand emerging patterns of risk, and the potential for rapidly changing dynamics of HIV transmission in vulnerable, hard-to-reach, stigmatized, and hidden drug-using populations not included in sentinel surveillance systems in resource limited settings (Stimson et al., 2006; Needle, 2003).

In the second section, reports on alcohol use, high risk sexual behaviour and HIV are included. Ashley et al., summarize proceedings from the 2005 meeting, *Alcohol, HIV Risk Behaviours and Transmission in Africa: Developing Programme fro the President's Emergency Plan for AIDS Relief (PEPFAR),* held in Tanzania (2006). Morojele et al., discuss proceedings from the 2006 meeting, *The World Health Organisation (WHO) Technical Consultation on Public Health Problems Caused by Harmful Use of Alcohol in the African Region*, held in Congo (2006). Morris et al., present results from a three-country assessment on alcohol and HIV carried out in 2006 in Kenya, Rwanda and Zambia (2006).

Contributors to this special issue are country and regional experts on HIV, drugs, and alcohol in Africa and their papers represent an important collective contribution to the growing body of published evidence on expanding epidemics of drug use and emerging substance abuse-related HIV in the region. They present the available data drawn from reviews of the literature and the results of small studies, drawing attention to the need to strengthen methodologies and systems for better understanding and monitoring the changing dynamics of drug and alcohol use and HIV in the region. They also point out the urgent need to utilize evidence-based approaches to reach drug users with prevention interventions, and to tailor and adapt interventions to

improve accessibility, acceptability and appropriateness for the local cultural context and specific needs of the targeted population. This introductory paper presents an overview of the key findings related to the dynamics of risk for HIV associated with drug and alcohol use, and outlines some of the steps that need to be taken to address this issue in sub-Saharan Africa. It also acknowledges the challenges inherent in drawing attention to the HIV prevention, care, and treatment needs of this under-served, hidden population in a region that continues to be overwhelmed with responding to generalized heterosexual epidemics of HIV.

DRUG TRAFFICKING AND PATTERNS OF USE IN SUB-SAHARAN AFRICA

In 2004, Aceijas et al., reviewed available data on HIV and IDUs for 1998-2003 and documented injection drug use in 130 countries and HIV among IDUs in 78 countries. Nine of these were sub-Saharan Africa countries (Côte d'Ivoire, Ghana, Guinea, Mauritius, Niger, Nigeria, Somalia, South Africa, and Zambia). Only one country, South Africa, had data on HIV prevalence among IDUs, reported as 2% in a study done in the early 1990s (Aceijas et al., 2004). In 2005, a review of published and unpublished data and reports found evidence for injection drug use in 23 sub-Saharan African countries and HIV among IDUs in 5 of these countries (Needle et al., 2005). Global estimates indicate that 13 million people inject drugs, and at least 10% of all new HIV infections occur among IDUs (Aceijas et al., 2004). In Eastern Europe, Central Asia and a number of countries in the Middle East, North Africa, South and Southeast Asia and Latin America, injection drug use is the major mode of HIV transmission (UNAIDS, 2005). Sub-Saharan Africa has become increasingly vulnerable to illicit drug production, trafficking, and consumption. Historically, a number of sub-Saharan African countries were sources for large scale trafficking of indigenously cultivated cannabis (Affinah, 1999). Heroin, which is not indigenous to sub-Saharan Africa, is, in increasing volumes, shipped through Africa en route to European and North American drug markets (UNDCP, 1999). In addition to heroin shipments that originate in Asia, cocaine shipments that originate in South America are trafficked through South, West and Central Africa en route to Europe (UNODC, 2006).

The expansion of drug trafficking in the region can be attributed to several factors, including international air and sea connections, international trade links, and inadequate law enforcement. Lax border controls and a weak criminal justice system, along with modern telecommunications and banking systems, and international trade links with South America, North America, Europe and Asia all contribute to an increase in the transhipment of drugs, both heroin and cocaine, through the region. This has resulted in an expansion of the local drug market and consumption of a greater variety of drugs, including heroin from Asia and cocaine from South America. Trafficking and transport of drugs is not limited to sea and airports; drugs are also shipped overland and along interior transport corridors, which introduces drugs into new geographic areas, expands domestic markets, and can introduce HIV into new communities and populations along transport routes (Parry and Pithy). This has already been demonstrated in parts of Burma, China, India and Vietnam, where molecular epidemiology has been used to document the spread of particular sub-types of HIV along drug trafficking routes (Beyrer et al., 2000).

Heroin is the primary drug used by both IDUs and non-injection drug users (NIDUs) in Kenya, as it is in Mauritius and Tanzania (Abdool et al., 2006; Deveau et al., 2006; Timpson et al., 2006). The introduction of heroin and pattern of heroin use are similar across countries. Initially, when heroin was introduced to sub-Saharan Africa in the 1980s, it was more commonly available in its "brown sugar," or less refined form, was high in quality, relatively inexpensive, and commonly used by "chasing the dragon," a practice in which the drug is heated and the fumes are inhaled. Later, as the price of heroin increased, a shift took place from the use of 'brown sugar' to 'white' or more refined, heroin, accompanied by a shift from non-injection to injection use of the drug (Beckerleg and Hundt, 2004). Injection is a more cost-effective and efficient way of delivering the drug into the body, as none is lost to the air as it is when smoked or inhaled. White heroin is now less expensive than brown in most cases.

The use of non-injection drugs, such as cannabis, cocaine and methamphetamine also appears to be spreading. Cannabis is reported to be used in Mauritius, Kenya (often in combination with heroin), in Nigeria, and in South Africa (often in combination with Mandrax[i]) (Abdool et al., 2006; Deveau et al., 2006; Parry and Pithey, 2006). Cocaine use has also been reported in Kenya (Deveau et al., 2006). Of all the countries reported on in this special issue, there appears to be a greater range of drugs being used in South Africa, where crack cocaine is now the third most widely used drug in the country, after Mandrax and cannabis (Parry and Pithey, 2006). There are also dramatic increases in use of methamphetamine in South Africa, particularly among young people, and in urban areas (Parry and Pithey, 2006; SACENDU, 2006).

DRUGS AND HIV RISK

HIV transmission due to sharing of injection equipment has been extensively documented (Aceijas, 2004; AED, 2000; Friedland GH et al., 1985; Marmor M et al., 1984), and is present in many of the countries reported on in this issue. In Kenya 38.7% (278/719) of drug users reached through community outreach reported sharing needles, and high prevalence of equipment sharing, including cookers, filters, rinse water and injection solution was also reported in Nigeria, Tanzania, and Mauritius. The adoption of a high risk injection practice referred to as "flashblood" has been documented among both male and female drug users in Tanzania. This is a practice in which an IDU who cannot afford to purchase heroin injects the blood of another IDU who recently injected, in the belief that the blood contains heroin and can prevent withdrawal. The potential for HIV transmission through the exchange of such a large quantity of blood—usually 3 or 4 ccs—is substantial. This practice is particularly alarming because it was first identified in female commercial sex workers (CSWs), who are already at increased risk of sexually transmitted HIV infection and have the potential to transmit HIV to their clients (McCurdy, 2005).

In addition to sharing injection equipment, many IDUs have regular sexual partners with whom they may not be using condoms. Also, as documented in this issue, both male and female IDUs often trade or sell sex to support their

[i] Mandrax is a blend of methaqualone and antihistamine and was originally used as a sleeping tablet (UNODC, 2002).

drug addiction. Most countries do not have estimates of how many CSWs inject drugs; however, this population is significant because clients of both male and female sex workers can serve as a bridge for HIV transmission to low risk partners in the general population.

HIV transmission risks are also associated with non-injection drug use. Cocaine and amphetamine-type stimulants (ATS) can lead to high-risk sexual behaviours by inhibiting judgment and decreasing the likelihood that that one will practice safe sex. Methamphetamine, for example, has been associated with increased HIV sexual risk behaviours among men who have sex with men (MSM) and heterosexuals. Risk behaviours include unprotected receptive anal and vaginal sex and greater numbers of sex partners (Mansergh et al., 2005; Colfax et al., 2001; Molitor et al., 1998; Frosch et al., 1996). Crack cocaine use has been associated with higher prevalence of HIV infection due to greater frequency of high-risk sexual practices such as unprotected sex and sex with multiple partners and with exchange of sex for drugs (Edlin et al., 1994). Male and female CSWs interviewed in South Africa reported using methamphetamine, crack cocaine, or ecstasy before or during sex, and said that using these drugs increased the likelihood of high-risk sex, including anal sex, unprotected sex, and group sex (Pithey and Parry, 2006).

HIV in drug-using populations

The data on HIV among drug users are limited. Nevertheless, contributors to this special issue identify several trends of concern to the public health community. Mauritius, for example, is experiencing "a dramatic shift in the mode of [HIV] infection from heterosexual to injection drug use." In 2001, 64% of new infections were through heterosexual transmission, while injection drug use accounted for only 7% of new cases. In 2005, only 6% of new cases were through heterosexual contact and 90% were through injection drug use. Mauritius has between 17,000 and 18,000 IDUs; nearly a third of new infections were among prisoners (Abdool et al., 2006). Data from Kenya, for example, indicate that in Mombasa, of 1000 drug users referred through community outreach to HIV counselling and testing, 31.2% (43/138) of IDUs and 6.3% (352/1546) of NIDUs were HIV positive (Deveau et al., 2006). In Zanzibar, a recent study of drug users documented HIV prevalence of 26.2% (50/191) among IDUs, and 4.1% (13/316) among NIDUs, as well as co-infection with hepatitis C (HCV) and other STIs (Dahoma et al., 2006). Timpson et al. also note that the number of female IDUs in Tanzania appears to be increasing and report that among 417 IDUs in Dar es Salaam, 27% of men and 58% of women were HIV positive (2006). Compelling data also come from South Africa where a rapid assessment conducted among male and female drug users in three cities documented HIV prevalence of 28% (n=92) (Pithey and Parry, 2006).

Alcohol Abuse and HIV Risk

Along with increasing concern about the potential for HIV spread among drug-using populations, there is also growing awareness in sub-Saharan Africa of the relationship between alcohol use, particularly misuse and abuse of alcohol, and HIV risk (Bryant, 2006; Campbell, 2003). Sexual risk-taking behaviours associated with alcohol use are highly prevalent in many African countries severely affected by HIV/AIDS (Fritz et al., 2002; Mnyika et al., 1997; Simbayi et al., 2004). According to the World Health Organization (WHO), the eastern and southern regions in Africa have the highest con-

sumption of alcohol per drinker in the world, and the prevalence of hazardous drinking patterns, such as drinking a large quantity of alcohol per session, or being frequently intoxicated, is second only to Eastern Europe.

Within the past two years, several significant events have generated momentum for addressing the link between alcohol use and HIV as a public health issue in the region. In May 2005, Resolution WHA58.26 on the Public Health Problems Caused by Harmful Alcohol Use was adopted, giving WHO the mandate to intensify efforts to reduce the burden of alcohol-related problems regionally, nationally, and globally. In August 2005, U.S. government agencies hosted a meeting, *Alcohol, HIV Risk Behaviours and Transmission in Africa: Developing Programmes for the President's Emergency Plan for AIDS Relief (PEPFAR),* in Dar es Salaam, Tanzania, with the purpose of providing expert consultation on alcohol and HIV risk and assisting countries in developing programmes to address this issue. A key outcome of the Tanzania meeting was its impact on the technical and programmatic resolutions made at the 42nd Annual Regional Health Ministers' Conference held in Mombasa, Kenya in February 2006. Health ministers from countries in the East, Central and Southern Africa regions resolved to incorporate issues related to alcohol into their national HIV/AIDS strategies, to ensure that appropriate alcohol and HIV/AIDS policies, guidelines, and programmes are in place, and to establish national and regional technical working groups to spearhead the implementation of alcohol and HIV/AIDS programmes. The ministers also called for rapid situational analysis to be conducted on the relationship between alcohol and HIV in the region. The resulting three-country assessment carried out in Rwanda, Kenya, and Zambia identified priorities for HIV and alcohol-related programming and policy changes to address alcohol use. Finally, *The World Health Organization (WHO) Technical Consultation on the Public Health Problems Caused by Harmful Use of Alcohol in the African Region* in Brazzaville, Congo in 2006 was held to address alcohol consumption and production and resulted in the development of a five-year plan for work in the region.

PUBLIC HEALTH RESPONSE TO SUBSTANCE RELATED HIV

Given the efficiency of injection as a mode of HIV transmission (UNODC, 2005), early intervention with IDUs in the region is of the utmost importance to prevent the further escalation of HIV. Mauritius, Tanzania, and Kenya are among the countries that have acknowledged the need for HIV prevention with drug users in their national HIV/AIDS strategic plans, but other countries have yet to do this. Adelekan et al. note the "general lack of awareness among policy makers and health practitioners of the emerging injection drug use and HIV among drug users" in Nigeria (2006). Contributors to this special volume recommend strategies to address HIV prevention among drug users, including community outreach and peer-based interventions to discourage sharing of injection equipment and encourage safe injecting as well as safe sex practices, and increasing the availability of commodities such as sterile injection equipment and condoms. Increasing access to important services such as VCT is critical and may require tailoring and adaptation of traditional models to meet the needs of hidden and hard to reach populations of drug users. Rapid HIV testing, for example, has great potential for reaching drug users and sex workers in non-clinical settings including brothels, bathhouses, homeless

shelters, street outreach locations and other venues frequented by drug users. Integration of HIV and substance abuse programmes, and increased facilities for HIV, STI, Hepatitis B and C counselling and testing are also needed. While countries such as Kenya and South Africa offer drug treatment, facilities are often inadequate in number and geographic distribution, and services are unaffordable for most drug users. In addition, most drug treatment programmes do not address HIV prevention.

Contributors also call for prevention interventions that address alcohol-related HIV sexual risk behaviours, including individual and community-level behavioural interventions. In addition, alcohol treatment programmes provide the opportunity to incorporate HIV risk-reduction interventions and promote adherence to HIV treatment for persons already diagnosed with HIV. Morris et al., call for a multi-sectoral approach to alcohol and HIV issues, including involvement from civil society, faith-based organisations, government and law enforcement (2006). Morojele's report identifies the need for advocacy at the national level to raise awareness about the seriousness of alcohol-related social and health problems among policy makers, community and other key stakeholders, and to encourage greater financial commitment to prevention activities (2006). Countries are urged to strengthen national alcohol policies and legislation, with a particular emphasis on those activities that are most likely to have success in the shorter term.

CONCLUSION

Global, regional, and country-specific reports suggest that the epidemic of HIV/AIDS in drug users continues to spread, with an increasing number of countries reporting HIV infection in this group (Ball, 1999). Data from studies described in this special issue indicate that drug trafficking and drug abuse, including injection drug use, are increasing in some sub-Saharan Africa countries. Shifts in patterns of drug trafficking, including expansion of local markets, when linked to ongoing and serious epidemics of HIV, are a major concern for the region. While the primary mode of HIV transmission in the region will continue to be through heterosexual contact, there is still a need to focus on the potential for drug driven HIV to exacerbate the heterosexual epidemic. HIV transmission among drug users is not limited to sharing contaminated injection equipment; it includes IDUs' sexual contact with partners, and the non-injection use of drugs such as cocaine, crack or ATS associated with high risk sexual behaviours. Twenty-five years of research indicate that a comprehensive approach is the most effective strategy for preventing HIV/AIDS in drug-using populations and their communities (NIDA, 2002). In addition, momentum is growing in sub-Saharan Africa to address HIV transmission linked to alcohol use and high-risk sexual behaviour. Early implementation of prevention programmes can significantly limit the further spread of HIV and, by acting now, sub-Saharan Africa has the opportunity to meet this challenge.

Contributors to this special issue acknowledge the limitations of the available literature and data on drugs, alcohol, and HIV. Of the five countries reporting on drugs, South Africa is the only one with a surveillance system for monitoring drug use over time. Currently, most HIV surveillance systems focus on antenatal clinic populations and do not include drug users as sentinel populations. Moreover, large population

studies such as Demographic Health Surveys (DHS) or AIDS Indicator Surveys (AIS) will not capture hard-to-reach populations, and size estimates of drug-using populations are lacking.

Data reported on drugs and HIV in Kenya, Tanzania, South Africa, Nigeria, and Mauritius have been derived primarily from rapid assessments, a methodological approach used globally to better understand the dynamics of HIV risk in hidden populations, particularly drug users (Fitch et al., 2004). Other small-scale studies have focused on drug use and HIV risk. These studies, while important, employ a variety of methodologies and approaches, making it difficult to identify trends or make systematic comparisons across the region. There is a critical need to strengthen systems for monitoring the epidemic in drug-using populations. This includes planning for and implementing more systematic data collection on drug users and HIV, including routine sentinel surveillance and integrated behavioural and biological surveillance. Data are needed not only to monitor prevalence of HIV and risk behaviours, but also to design, manage, and evaluate prevention, care, and treatment programmes for drug users. Both qualitative and quantitative data are essential to our understanding of how to better reach and serve hidden populations of drug users. Data are needed to describe the context of risk behaviours, identify barriers and gaps in services, tailor and adapt interventions and inform the design of programmes. Finally, data are needed to determine if programmes are successfully reaching drug users and if interventions are effective in reducing drug and alcohol related HIV risk.

We want to acknowledge and thank the dedicated researchers and public health practitioners working in the field to characterize the epidemic and create awareness through publishing and speaking. We hope that this special issue will become a useful resource for researchers and policy makers, as well as a catalyst for collaboration among countries in the region as they work together to address drug- and alcohol-related HIV risks both nationally and regionally.

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