



USAID | **WEST AFRICA**
FROM THE AMERICAN PEOPLE

ACTION FOR WEST AFRICA REGION II (AWARE II)

The Epidemiology of HIV epidemics in the 21-country West Africa Region: The impact of most at risk populations (MARPs).

CONTRACT GHS-I-05-07-00006-00

<June 2011>

This publication was produced for review by the United States Agency for International Development. It was prepared by the USAID AWARE II Project team: Scott Kellerman, MD, MPH, Sara Holtz, DrPH, MPH, Arin Dutta, PhD, Sani Aliou, MD, Issakha Diallo, MD, Steve Redding, Laura McPherson, Modibo Maiga

This report is made possible by the support of the American People through the United States Agency for International Development (USAID.) The contents of this report are the sole responsibility of AWARE II and do not necessarily reflect the views of USAID or the United States Government.

Contents

Summary 4

Background 4

Volume 1 – Epidemiology: Generating Data for Decision Making..... 7

Summaries of West Africa MSM, FSW, and PWID Articles 12

 Female Sex Workers: 13

 MSM:..... 17

 PWID 21

Assessment of National Responses and Funding for MARPs Prevention Efforts in the Region: 23

Discussion: 25

References: 38

Summary: This report analyses available relevant data to describe the HIV epidemics in most at risk populations (MARPs) in the 21-countries in West Africa that are served by the USAID AWARE II project. It serves to update the information presented in the World Bank (WB) report from 2008 that characterized the epidemic in West Africa to date and provided information for the following fifteen countries: Burkina Faso, Benin, Côte d'Ivoire, Cape Verde, The Gambia, Guinea Bissau, Ghana, Guinea, Liberia, Mali, Nigeria, Niger, Sierra Leone, Senegal, and Togo.¹ While proportionally less research and programmatic activity for HIV has occurred in the region compared to other sub-Saharan African countries or other parts of the world, the majority of country epidemics in this region are primarily driven by MARPs, specifically men who have sex with men (MSM), commercial sex workers (both female sex workers [FSW] and male sex workers [MSM sex workers]), and to a lesser extent people who inject drugs (PWID). This review will serve to describe the current state of knowledge of the HIV epidemiology in the fifteen countries covered in the WB report as well as six additional countries in the region (Cameroon, Chad, Equatorial Guinea, Gabon, Mauritania and Sao Tome & Principe) and highlight gaps in the current state of knowledge and programming for these populations in the West African region.

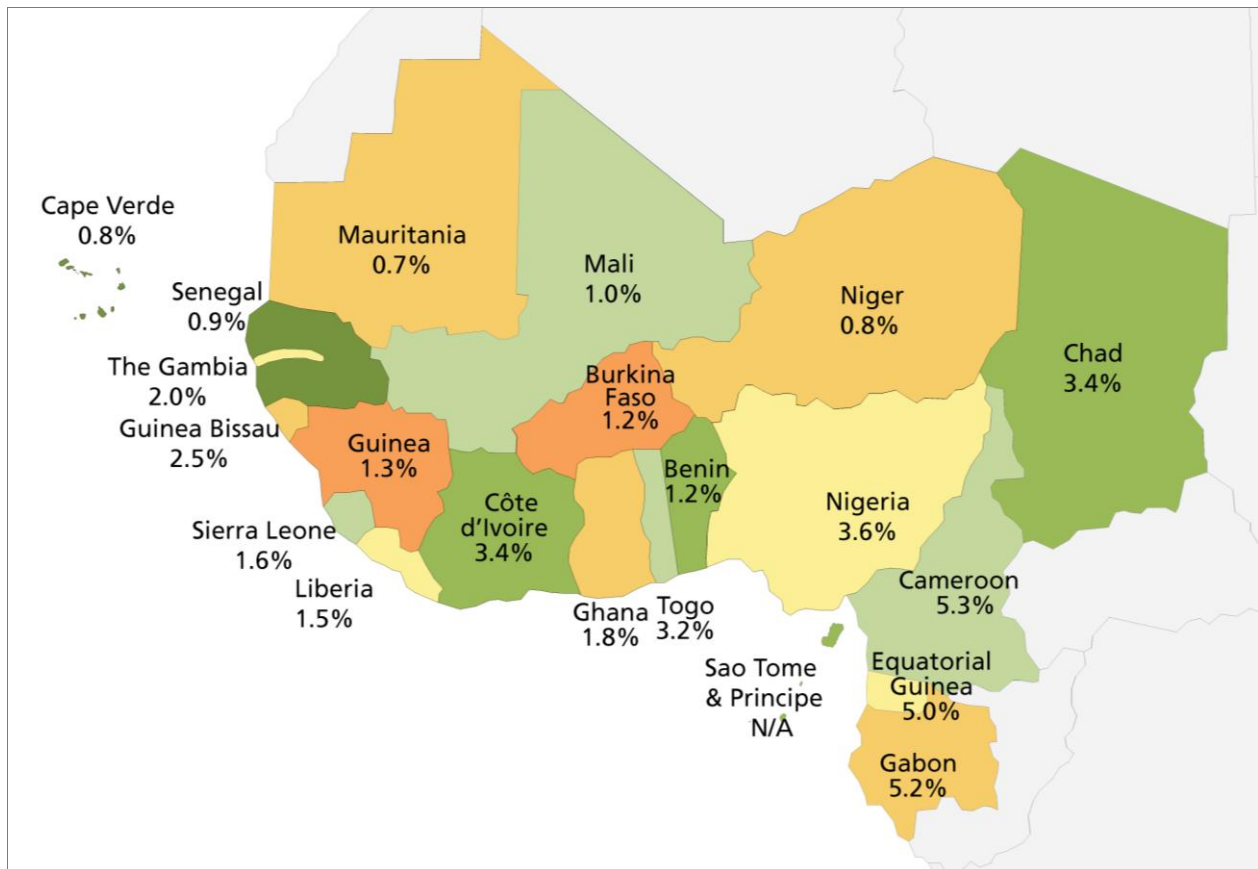
Background: Since the first cases appeared in the early 1980's HIV has ravaged sub-Saharan Africa and significantly affected health and economic well-being throughout the world. As our understanding of the epidemiology increased and as new diagnostic, treatment and prevention approaches were developed, it has become increasingly clear that no single approach would be sufficient to contain the varying drivers and cofactors differentially affecting populations in different geographic regions affected by the disease. The backbone of prevention responses in most countries has been to target the general population with generalized approaches (Information, Education, Counseling [IEC], behavior change communication [BCC], mass media) but has not always taken into account the epidemiology of the local epidemic, i.e., is the general population really at risk? Is the epidemic concentrated in specific risk groups? Compounding this issue is the lack of data available within many countries to help HIV program personnel adequately focus prevention resources where the epidemic is concentrated.² For instance, only 34% of countries with a concentrated or low level epidemic among PWID have implemented specific prevention strategies to reduce their risk.³

Nowhere is this disconnect more pronounced than in sub-Saharan Africa. The hyper-endemic epidemics in countries like South Africa, Swaziland, Kenya, Zimbabwe and Tanzania require a broad approach to prevention, with strategies to engage the general population in education and prevention activities. While MARPs populations contribute substantially to the disease burden in these most affected countries, an argument can be made that by targeting the general population with prevention activities the potential impact will be greater. In most of West Africa, the opposite is true, i.e., the majority of epidemics in this region are not

generalized; rather they are mixed, which means they are focused and propagated within highest risk populations but transmission occurs in both MARPS and the general population and would continue if transmission in either sector were interrupted.⁴ Despite our understanding of the dynamics of the disease, prevention activities in most of these countries do not reflect the realities and the bulk of prevention programming in most West African countries is focused on the general population rather than on those sub populations most at risk.

In the past decade, population-based studies of HIV prevalence in sub-Saharan Africa have shown that antenatal clinic sero-surveillance overestimates HIV prevalence in the general population.⁵ Prevalence is below 2% in most countries for which population-based data are available and although low compared to Southern or East African standards, West Africa’s HIV epidemic is serious, with around five million adults and children infected.¹ Adult population prevalence (for those aged 15-49) exceeds 5% in Cameroon, Equatorial Guinea, and Gabon, and is 1% or less in Mali, Mauritania, Niger, Senegal, Cape Verde and likely Sao Tome & Principe (though no current prevalence data exists for this country) (Figure 1). The median prevalence for the region is 1.8%.

Figure 1: HIV Prevalence in the 21 AWARE II Countries, 2009 (UNAIDS)



Given available data on HIV prevalence in West Africa and the disproportionate prevalence among MSM⁶, PWID⁷, and male and female sex workers⁸, there is a need for increased evidence generation in order to inform resource allocation, services, and policies to address the epidemic in MARPs in West Africa. AWARE II will generate evidence to inform development and implementation of best practices for identified MARP communities in the region, particularly in underserved USAID non-presence countries where proportionally less research and programmatic work has been done.

As a first step, we performed a desk review to establish what is currently known about these populations and what has been done in terms of characterizing the scope of the epidemic and programming to address the epidemic, i.e., the situational analysis. This activity highlights data released since the 2008 World Bank Report on the influence of MARPs on the HIV epidemic in the fifteen countries covered in that report, and summarizes available, relevant information for the six countries not covered in that report (Cameroon, Chad, Equatorial Guinea, Gabon, Mauritania and Sao Tome & Principe). While much of the data presented in previous reviews and in this report come from the peer-reviewed literature, we also made an effort to find information reported at relevant conferences as well as so called grey literature, i.e., reports from specific projects that have been carried out in these countries or from individual organizations active in the region, country strategic plans, etc. We also included data from discussions with key informants, researchers and policy experts active in the region. Furthermore AWARE II staff and consultants collectively have identified data within and outside these countries and all have contributed to creating this report. Finally, we perused data from individual country Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) applications, as well as reports from the United Nations General Assembly Special Session (UNGASS), National Strategic Frameworks from individual countries and National AIDS Spending Assessments (NASA).

Volume 2 focuses on current policies and regulations as they pertain to HIV and MARPs in the 21 country West Africa region. Aspects of policy examined include the legal structure surrounding criminality of behaviors and practices, e.g., homosexuality, commercial sex work, and injecting drug use. Laws which aim to reduce stigma and discrimination, or worsen these, are a particular focus. Aspects of policy related to equity in access and utilization of HIV/AIDS treatment, care, and mitigation services will be examined. The policy volume will include an overview of current interventions (response) that target MARPs in these 21 West African countries. Of particular interest are policies which aim to target treatment, care, and mitigation; behavior change communication or other targeted preventive interventions; and policy interventions to reduce stigma and discrimination.

These two volumes provide a base of available evidence and inform discussions about the types of studies needed to close the knowledge gap associated with HIV prevention programming in the region. Ultimately, AWARE II will launch a small grants program for local non-governmental organizations to carry out MARPs-focused interventions in AWARE II countries. This activity will focus in areas where gaps are identified by the situation analyses and it is anticipated that a total of 8-10 small grants may be provided to local indigenous organizations in the region in late 2011.

Volume 1 – Epidemiology: Generating Data for Decision Making: In 2008, WB published a synthesis of data that characterized the HIV epidemics in the following fifteen West African countries: Benin, Burkina Faso, Cape Verde, Côte d’Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.¹ The aim of that report was to improve understanding of HIV transmission dynamics in West Africa, analyze the extent to which existing responses address these specific transmission dynamics, and recommend ways to improve the effectiveness of West Africa’s HIV prevention response. Of note, the WB report did not provide information on the non-ECOWAS countries that are under the purview of the AWARE II project: Cameroon, Chad, Gabon, Equatorial Guinea, Mauritania and Sao Tome & Principe. This report will update that work with discussion of activities over the last three years in the fifteen countries originally reported as well as six additional countries (listed above) that are covered by the AWARE II project.

The WB document described how the HIV epidemics in West Africa differ significantly from those in East and Southern Africa. It concluded, among other things, that the epidemic had not spread as aggressively as anticipated in the West Africa region, but it remains serious. Some reasons offered for the lower prevalence in the region include high rates of male circumcision and the presence of the less transmissible HIV-2 strain. Challenges identified are not unlike those seen in other parts of Africa and include blurry distinctions between commercial and non-commercial sex work, gender inequality, and high levels of stigma and discrimination surrounding HIV/AIDS and the resultant barriers such stigma places on access to care, treatment and prevention services. As in other areas in Africa, urban rates are at least 1.3 times higher than rural in nine of eleven countries reporting such data.⁹

The WB report concluded that traditional HIV epidemic definitions and numerical thresholds do not seem appropriate for aligning HIV prevention programming with the epidemiology in West African epidemics. The epidemics are less generalized than originally expected, with the majority of countries closer to concentrated or mixed epidemics. Predefined epidemic definitions have traditionally been helpful in describing the epidemic and distributing resources accordingly, but generalized responses that don’t consider the specific epidemiology of a

country's epidemic are increasingly being challenged. Indeed, in most countries, there are likely different "types" of epidemics occurring concurrently in different geographic regions based on population density, extent of risk behaviors, presence of MARPs, etc. So while our ability to describe epidemics is becoming more sophisticated, resultant programmatic responses with respect to prevention programming have not followed suit. Recent thinking has created a rallying cry around "know your epidemic, know your response" reflecting a growing recognition that there is no single global HIV epidemic, but rather a multitude of diverse epidemics, even within the same country.¹⁰ As Wilson and Halperin report, "For too long, the global HIV-prevention community has pursued generalized responses in concentrated epidemics, concentrated approaches in generalized epidemics, or hedged their bets and done a bit of everything." To date the response in West Africa has largely focused on the general population when in fact more prevention focus is needed on the specific groups in which HIV transmission is concentrated, including FSW, MSM, and to a lesser extent, PWID.

Despite the individuality of the epidemic in each of the West African countries, some common themes are evident and generalizations can be made. One is the complex nature of transactional sex in West Africa. Many women involved in commercial sex do not self-identify as sex workers and have other occupations in addition to sex work, thus blurring the boundaries between commercial and non-commercial sex. With respect to efforts to characterize the epidemic among FSW (and their clients), these distinctions of what constitutes commercial sex coupled with strong social biases which result in substantial under-reporting of sex with FSW, make it difficult to have a clear understanding of the true prevalence of the behavior and the prevalence of disease. Another generalization is the importance of MSM in the HIV epidemic in West Africa. In most countries in the region (as in other parts of Africa), many if not most MSM are likely also married and/or have sex with other women, and condom use among MSM is consistently low during anal sex with other men as well as with female partners resulting in high transmission rates.¹¹ The third generalization about HIV in West Africa is that injection drug use, originally thought to be insignificant and concentrated almost exclusively in Nigeria, likely occurs elsewhere as well. While very little data exists to document this assertion in West Africa, some evidence is emerging from other parts of the continent, and it is plausible that injection drug use occurs and is contributing silently to HIV transmission.

These three generalizations about West African HIV epidemics provide some important insights. However the paucity of epidemiological data makes it difficult to gain a clear understanding of which factors predominate for the region. Because of this lack of data and of the considerable stigma against people engaged in illicit and/or high-risk behaviors, programmatic responses have not generally targeted MARPs for prevention interventions. Instead HIV strategies for most countries in the region have centered on prevention and programmatic approaches that

are more suitable to generalized epidemics but that are likely to have limited impact in more concentrated or mixed epidemics. Given the current economic situation and uncertain future of funding for HIV, it is absolutely critical that all investments henceforth be “smart investments” based on solid epidemiological data and in the case of West Africa, that the limited amount of money available for prevention be programmed effectively; once we “know the epidemic”, we will be better positioned to “align the response”.

Tables 1 and 2 offer a “snapshot” of HIV prevalence and behavior, culled from existing UNAIDS data among the 21 countries examined. In Table 1, population prevalence is low in most countries studied compared to Southern and Eastern Africa (0.7-5.3%) with large fluctuations in only a few countries in the last decade (Burkina Faso and Cote d’Ivoire decreased 90%; Ghana decreased 60%; Mali decreased 50% while Equatorial Guinea, and Guinea Bissau both increased by 75%, and prevalence in The Gambia more than doubled). Apart from prevalence data from convenience samples and small cohorts that will be discussed later, HIV prevalence for MARPs in capital cities as reported in the UNAIDS global reports shows that prevalence has in general not changed appreciably over the last 4-5 years, with the exception of an increase in FSW prevalence in Cameroon and a decrease in Ghana. Most striking about Table 1, however, is the scarcity of available data for MARPs.

In table 2, condom use data as reported by UNAIDS, shows consistently high condom use among FSW for most countries, which contrasts sharply with reported prevalence data for these populations, although none of this data is based on national samples. It is known that self-report of condom use can be notoriously inaccurate due to social desirability bias or other factors as will be discussed later in this report, but they are presented here to highlight the state of the best available data as reported by UNAIDS. Similar information about MSM or PWID shows much lower reported condom use which may reflect the fact that these populations are not generally targeted with safer sex information in the same way that FSW have been. Still, data are largely unavailable for most West African countries beyond short, time-limited non-representative studies that will be summarized later in this report.

Table 1: Summary of HIV prevalence among MARPs in the 21 West African Countries covered by AWARE II*

Country	Pop prevalence (15-49)			Estimates of HIV Prevalence in Capital City of Selected MARPS (From UNAIDS Global Report, 2010 and 2008)				
	2001	2007	2010	FSW (year)	FSW (year)	MSM (year)	MSM (year)	PWID (year)
Benin	1.3	1.2	1.2	25.5 (2006)	24.7 (2009)			4.2 (2009)
Burkina Faso	2.1	1.6	1.2		16.3 (2005)			
Cameroon	6.0	5.1	5.3	26.4 (2004)	35.5 (2009)			
Cape Verde								
Chad	3.4	3.5	3.4		20.0 (2009)			
Cote d'Ivoire	6.0	3.9	3.4					
Equatorial Guinea	3.7	3.4	5.0					
Gabon	5.6	5.9	5.2	20 (2007)	23.6 (2009)			
Gambia	0.9	0.9	2.0					
Ghana	2.3	1.9	1.8	38 (2006)	25.0 (2009)		25 (2006)	
Guinea	1.2	1.6	1.3	34.5 (2007)	32.7 (2008)		19.1 (2007)	
Guinea Bissau	1.8	1.8	2.5		39.6 (2009)			
Liberia	1.4	1.7	1.5					
Mali	1.5	1.5	1.0		35.3 (2006)			
Mauritania	0.7	0.8	0.7		7.6 (2006)			
Niger	0.7	0.8	0.8	38.4 (2006)	35.6 (2009)			
Nigeria	3.2	3.1	3.6		32.7 (2007)		13.5 (2007)	5.6 (2007)
Sao Tome & Principe								
Senegal	0.4	1.0	0.9		19.8 (2006)	21.5 (2004)	21.8 (2007)	
Sierra Leone	1.3	1.7	1.6		8.5 (2005)			
Togo	3.6	3.3	3.2		44.5 (2005)			

* Data from UNAIDS Report on the Global AIDS Epidemic. 2010 and 2008.

Table 2: Percent of MARPs reporting use of a condom, UNAIDS, 2010

Country and Year of Report	% of sex workers reporting condom use with last client ^a			% of men reporting condom use during last anal sex with a male partner ^b			% of PWID reporting condom use at last sexual intercourse ^c
	Female	Male	All	MSM	Female	Male	All
Benin (2009)	25		25		33	29	30
Burkina Faso (2009)	99	99	98	52			
Cameroon (2009)	73		73	43			
Cape Verde (2009)	74		74				
Chad (2009)	38		38				
Cote d'Ivoire							
Equatorial Guinea							
Gabon (2009)	77	57	76				
Gambia							
Ghana (2007)			98	48			
Guinea (2009)	65		65				
Guinea Bissau (2009)	93		93				
Liberia							
Mali (2009)	99		99	54			
Mauritania (2009)	88		88				
Niger (2009)	85		85				
Nigeria (2009)	98		98	53	68	66	66
Sao Tome & Principe (2007)	60						
Senegal (2009)	97		97	76			
Sierra Leone (2009)	68						
Togo (2009)	89	67	88	72			

Empty cell means data not available

a- 2010 Global Report, p 346-9

b- 2010 Global Report, p 350-1

c- 2010 Global Report, p 352-3

Summaries of West Africa MSM, FSW, and PWID Articles:

Since publication of the 2008 WB Report, additional analyses addressing the MARPs epidemics have been performed in West African countries. We conducted a literature review to identify new information and to update the number of studies, reports, documents and posters. We searched MedLine; conference websites including the International AIDS Society, International Conference on AIDS and STDs in Africa (ICASA), Conference on Retroviruses and Opportunistic Infections (CROI); UNAIDS website for NASA and UNGASS reports; GFATM website for country proposals; country websites for their National Strategic Frameworks and Modes of Transmission reports; and Google Scholar. Our analysis of these studies shows consistently that the risk factors amongst the two most studied MARPs groups, FSW and MSM, remain exceedingly high and similar to those reported in the earlier WB report, while very little information is available on PWID. Also of note, recent studies reporting prevalence have shown consistently high prevalence with little improvement, suggesting that current prevention efforts are either insufficient or ineffective. Finally, when available, we included relevant data published over the last ten years on the populations of interest in the six countries not initially included in the WB report in order to gain a broader understanding of population characteristics in these countries.

We used the following search terms to search for “Africa, Western” [Mesh] and “Africa, Central” [Mesh] and also for each of the 21 countries in the AWARE II catchment area: for CSW, we entered "HIV Infections"[Mesh] AND "Prostitution"[Mesh]) AND "country name (i.e. Benin)"[Mesh]; for MSM we used "HIV Infections"[Mesh] AND "Homosexuality, Male"[Mesh]) AND "country name"[Mesh]; and for PWID we entered "HIV Infections"[Mesh] AND "Substance Abuse, Intravenous"[Mesh]) AND "country name"[Mesh]. We also gleaned the reference lists of these documents and included those that were not included in the 2008 World Bank report and that met our criteria with respect to geography and publication date. In addition, we searched the latest Global Fund applications for each of the 21 countries as well as NASA, UNGASS reports, and National Strategic plans and modes of transmission reports of all countries with these resources. Finally, we queried National AIDS programs in each of the 21 countries, as well as major donors and known non-governmental organizations to gain further information on what has been done in terms of programming for these populations and what is currently being done; the relative proportion of resources being spent on programming for MSM, FSW and PWID; and successes and challenges related to such programming. This last effort is still ongoing and data are being refined.

In total, we identified 286 peer reviewed journal articles, 29 abstracts and posters, and eleven reports concerning MARPS prevention activities. This is not the total number of articles published about MARPS in West Africa as some articles described biomedical aspects of STIs or

HIV, and were not relevant to for the purposes of this review and so were not included. For the final report, we reviewed 52 published or presented studies concerning HIV and FSW, 32 studies published or presented on HIV prevalence, risk factors and associated factors affecting MSM, and 5 concerning PWID in these 21 West African countries, as well as review papers and commentaries that addressed these issues in the African context. A small number of peer reviewed articles could not be located (n=15). We also located 21 UNGASS reports, 21 National Strategic Frameworks, an additional Strategic Framework for ECOWAS, 19 Global Fund (GFATM) proposals, eleven NASA reports and three Modes of Transmission reports.

Female Sex Workers: In studies reporting HIV prevalence in this risk group, all were substantially higher than general population prevalence. Although there were no population based prevalence studies among FSW in these countries, two studies from the region approximated incidence among FSW. In Senegal, incidence in a cohort of 752 FSW followed at 3 month intervals were estimated at 3.23 cases/person years.¹² In Burkina Faso, a study following 377 FSW over 4 years (1998-2002), estimated incidence at 3.2 cases/100 person years.¹³

In Benin, a behavioral surveillance survey conducted in four Benin cities reported prevalence as high as 60% (overall prevalence 46%), but lower in the capital city of Cotonou (39%).¹⁴ A follow up study in the same cities in 2005 showed significant reductions in HIV prevalence (30.5%) following several years of condom promotion and STI treatment.¹⁵ In Togo, much higher prevalence among FSW and their clients were documented in the capital Lome (FSW 45% in 2005; 8.3% among their clients), compared with areas outside of Lome (FSW 17.7%; 3.9% in clients).¹⁶ In a prevalence study in Cameroon, the highest prevalence was seen in FSW (26.4%), particularly older FSW, and truck drivers (16.3%).¹⁷ In Niger, a small study in 2002 documented 50% seroprevalence among FSW active near a military base in northern Niger, increasing from 28% in 1995.¹⁸ In Guinea, one study documented a decreasing, but still high HIV prevalence among FSW in the capital between 2001 (41%) and 2007 (34%) and suggested that risk factors may be changing for this population: In 2001, the primary risk factors for this cohort were illiteracy and the presence of genital ulcer disease, while in 2007 the primary risk factors were illiteracy and older age.¹⁹ This suggests that STI control may have impacted HIV prevalence though the study was small and not replicated. Another study of Guinean FSW from 2007 measured human papilloma virus and HIV infection rates.²⁰ HIV prevalence was 36%, and as expected, HIV-infected FSW were more likely to be infected with HPV. Efforts around micro financing for FSW were evaluated in Senegal and difficulties identified, primarily related to the vulnerabilities of FSW and MSM using risky practices (i.e., prostitution) as a source of income to repay the loans.²¹

In Mali, data presented at the 2008 ICASA conference documented increasing HIV prevalence in Malian FSW from 29% in 2000 to 35% in 2006, despite self-reported condom use with clients of greater than 95% among FSW.²² Condom use with regular partners was only 54%. Such high self-reported condom use by FSW with clients but much lower condom use with regular partners is a consistent feature in much of the FSW data but should be interpreted with caution. In addition to social desirability bias, in most of the region, FSW are often viewed with disdain and it is not uncommon for men, especially uniformed persons, to use force to obtain sex from women, with condom use unlikely in those circumstances, suggesting that high condom use reported by clients of FSW should also be verified.²³ The fact that many respondents knew what the “correct” answer was with respect to condom use may suggest that prevention messaging is reaching at least some of its intended targets, even if they are perhaps not adhering to the message. One study from Guinea used the presence of vaginal prostate specific antigen (PSA) as a biomarker for unprotected vaginal sex (PSA is found in semen and indicates that unprotected vaginal intercourse occurred in the 3 days prior to sampling). Self-perceived high risk of HIV infection was the only significant independent predictor of misreported condom use.²⁴ Some work done in other locales has reported more “truthful” responses to sensitive questions through use of computer aided, or ACASI methodology, though one report suggested that vulnerable populations may distrust this methodology.²⁵ In Guinea, a qualitative study correctly observed that commercial sex is often perceived by its practitioners on a continuum, e.g., it takes on different forms and the risks, health and otherwise, differ. In this particular group of FSW, women noted, sometimes erroneously, the different harms of sex work, namely that sex with multiple people was dangerous, but also that condoms could be deleterious, particularly repeated exposure to the lubricant used with condoms.²⁶

Other studies examined the correlates of condom use with non-paying partners, or boyfriends of FSW. In Senegal, one study reported that only 17% of a cohort of FSW studied used condoms with boyfriends or husbands.²⁷ Other work in Benin, Guinea and Senegal found that promotion of condom use among FSW and their non-paying partners is best achieved by development of personal ability to overcome obstacles to condom use (i.e., by discussing risk behaviors with non-paying partners).²⁸ A report surveying mainly Ghanaian FSWs (approximately 25% of other nationalities, including Nigerian, Togolese, Burkinabe) found that about half of FSW surveyed always requested clients use condoms, and half reported that condoms were always worn.²⁹ Of those who reported no condom use, two thirds reported it was due to client refusal. Of note, only 25% of respondents reported obtaining free condoms, and nearly two thirds reported that they would be more likely to use condoms if obtained for free.

Qualitative research in Ghana³⁰ and Cameroon³¹ suggest that HIV knowledge is high among FSW studied. In addition, even though self-reported condom use was high with clients (100% reported always using condoms), only half reported condom use with non-paying partners. A behavioral study of clients of commercial sex workers in Conakry documented 4.3% HIV prevalence among male clients but again showed high self reported condom use with FSW, and low (35%) condom use with non-FSW partners.³²

Reasons for not using condoms are consistent with those seen in other parts of the world and are primarily economic. In Lagos, Nigeria, over 75% of FSW surveyed said they would accept a client who refused to wear a condom, driven as they were by harsh economic realities and the need to buy food for themselves and their families.³³ In Niger, consistent condom use was reported by only 50% of FSW surveyed in one study.³⁴ In a qualitative study in Nigeria, FSW stated that long-standing clients pay extra for unprotected vaginal sex, or when they needed extra money they will engage in unprotected vaginal intercourse with anyone with the caveat that they believed they could profile their clientele and that STI's come from "poor men who want cheap sex".³⁵ In Guinea-Bissau, the primary risk factor among barracks-based military recruits was previous contact with a FSW and condom use was reported in only 47% of these encounters.³⁶ In areas with high concentrations of geographically single, wage-earning men coupled with relatively poor local populations, i.e., areas centered on oil production, logging or mining, military bases commercial sex continues to thrive.³⁷ In the Niger delta region of Nigeria, women migrating from poor rural areas often resort to commercial sex to buy food³⁸ and for material gain.³⁹ In Cameroon, commercial sex associated with logging operations is persistent.⁴⁰ In addition, structural barriers to condom use continue. In Ghana, knowledge of HIV transmission among FSW is high, but condoms are not free (though survey respondents in one study reported consistent condom use).⁴¹

In Senegal, the intersection of high HIV prevalence (21% in 2006), coupled with high herpes simplex virus (HSV) co-infection rates was examined.⁴² While recent studies were not able to show significant effects on population HIV incidence by acyclovir treatment,⁴³ in reality the presence of HSV likely increases risk of HIV infection at the individual level. Enumeration studies (i.e., capture-recapture) estimated the size of the FSW population at 1160, 1202 and 1916 in 3 towns in Cote d'Ivoire. Associated behavioral questions suggested that less than half of those studied were aware of specific medical services available at a local clinic specializing in care for FSW, and less than a third had visited that clinic.⁴⁴

Reports on cultural attitudes or practices specific to the countries included in this review provided some insight into risk behaviors. In particular, one study from Burkina Faso focused on the phenomenon of clandestine sex workers, as differentiated by FSW who were more open

about their profession.⁴⁵ These sex workers tend to be younger and uneducated and recruited through social networks, essentially co-opted or mentored into the trade they use a variety of strategies to hide their profession from their friends and families. Of particular interest, the authors note that strategies to address official or professional commercial sex work may likely result in the development of clandestine commercial sex work, which is more dangerous for its practitioners, who are harder to reach with HIV prevention messages and for their sexual partners who do not use condoms systematically. A small cohort study of 377 women in Burkina Faso found that non-professional FSW (i.e., occasional performing SW) were more likely to acquire HIV.⁴⁶

Other studies documented cultural practices FSW employ to prevent HIV transmission. In Nigeria, some FSW believe the use of lemon or lime juice as a douche after vaginal intercourse may be protective,⁴⁷ or the practice of “pressing the penis” (i.e., squeezing the glans to check for discharge) will be sufficient to determine if the client is high-risk and a condom should be worn.⁴⁸ It is not clear if either of these practices are widespread outside of Nigeria, and it must be noted that while lemon/lime juice has virocidal activity in the laboratory, little is known about its effectiveness in practice. In this study, both users and non-users of lemon/lime douching had nearly equivalent HIV prevalence (48.8 and 48.2%, respectively), making conclusions difficult, though the lack of a difference between the two groups may well reflect the overwhelmingly high seroprevalence present prior to the study. A study from 2001 reported rates of using herbs for vaginal drying and sex during menstruation among FSW in Cameroon and Benin (18% and 15% reported “always using herbs for dry sex”, respectively; and 22% and 39% reported “usually have sex during menstruation”, respectively).⁴⁹ This study also reported that between 2 and 4% of FSW engaged in anal sex with their last client. In Nigerian FSW, 9.9% report washing directly after sex, 6.5% report inspecting their client’s genitalia and 2.3% use herbs for vaginal drying as HIV prevention interventions.⁵⁰

A number of studies reported ways in which FSW “manage” their HIV risk. One Nigerian study reported that apart from practicing safe sex, women took antibiotics for STI’s (30%), or prayed (6.5%) to protect themselves.⁵¹ Also from Nigeria, a qualitative study interviewing brothel-based FSW found that many FSW believed they know enough about how HIV is transmitted and can therefore prevent it through prophylactic use of antibiotics.⁵² In Burkina Faso, approximately 14% of women also reported prophylactic use of antibiotics to protect against STIs and HIV.⁵³

Pragmatic suggestions for scalable HIV prevention programs to address the substantial HIV risk among FSW were largely absent from most studies with the exception of increasing condom promotion, policy changes to decrease structural barriers to prevention and the like. In a review

of 28 interventions with externally measured outcomes for HIV and STI prevention, risk reduction counseling coupled with condom promotion, including the introduction and promotion of female condoms were found to be effective.⁵⁴ Presumptive treatment and regular screening of STIs were not found to reduce HIV acquisition. Some observation data suggest that empowering FSW may reduce their HIV & STI risk and structural interventions, such as policy changes to decrease prosecution or punishment. One small study addressing interventions in post-conflict Sierra Leone showed markedly higher knowledge of HIV transmission and prevention interventions and a near doubling of condom use among military personnel and FSW operating around a military base between 2001 and 2003 following a simple, educational intervention. However, stigma remained unchanged in the cohort studied (e.g., proportion of respondents believing that HIV-infected persons should be isolated).⁵⁵ Several studies examined adherence to treatment among those FSW diagnosed with HIV and on treatment and found adherence to be lacking. In Senegal, one small cohort reported that 20% of HIV-diagnosed FSW died and 57% were loss to follow up over 2 years.⁵⁶ In Burkina Faso, an intervention to evaluate the effect of disclosure to family/friends revealed that among FSW, such disclosure made little difference with respect to ARV adherence.⁵⁷

MSM: While challenges exist for delivery of HIV prevention services to high-risk groups in much of the world, the situation is particularly troublesome for MSM populations. Estimates suggest that male-to-male sex may contribute 10-20% of the total number of HIV infections in African men,⁵⁸ and that seroprevalence among MSM populations in most sub-Saharan countries — regardless of HIV seroprevalence within the general population—ranges from 10-40%.⁵⁹ According to UNAIDS, only 40% of MSM from a variety of surveys conducted throughout the developing world, including Africa, even reported access to HIV prevention programs such as HIV testing or free condoms, and programming to distribute lubricant is not common. MSM are rarely studied in most developing countries and despite well-characterized risks for HIV acquisition and transmission MSM continue to be under-represented in national HIV surveillance systems, in targeted prevention programs, and in care. Sex between consenting adult men is criminalized in 85 countries as of 2008, and in more than half of African states.⁶⁰ While data on HIV prevalence in MSM is scarce, where it does exist, nearly all reports suggest significantly higher rates among MSM than among the general population.⁶¹ In the few studies documenting risk among MSM in Africa, less than half of men surveyed used a condom during their last anal sex encounter with another man and less than 20% used a condom consistently during any anal sex with another man in the preceding year.⁶² This is all the more concerning as a substantial proportion of MSM report transactional sex, an unfamiliarity of basic HIV transmission dynamics, and unprotected intercourse with female partners.⁶³ These data suggest that general population prevalence does not accurately reflect the epidemic within

high-risk groups such as MSM⁶⁴ and underscores the absence of appropriate prevention messages and strategies for MSM.

Since the Mexico City International AIDS Society meeting in 2008, in which advocacy and donor priorities first aligned around, and recognized the need for further data, there has been an upsurge in activity in research regarding MSM in less-resourced settings. One example is countries' commitment to report on UNGASS indicators, four of which specifically relate to MSM. An examination of UNGASS reports and indicators in 2008 found that 45% of countries reported at least one indicator for MSM: 31% of MSM in low and middle income countries (LMIC) were tested, 33% were reached by prevention, 44% had correct HIV knowledge and 54% used condoms during last sex with man.⁶⁵

Some studies identified the extent of laws criminalizing same sex behaviors and the consequences of those laws on the effectiveness of public health interventions aimed at MSM, and other studies described the persistence of stigma aimed at this population. In a 2007 qualitative study from Nigeria, researchers identified issues facing MSM such as denial, discrimination, criminalization of male to male sex, religious persecution, repression, and found that homosexuality continues to be seen by some as Western in origin, i.e., as an element of colonial imperialism.⁶⁶ Further work identified that most HIV prevention programs in sub-Saharan Africa have focused solely on risks associated with vaginal sex; recognition of deeply rooted culture of homophobia in sub-Saharan Africa; high levels of insertive and receptive anal sex with inconsistent condom use are the norm; MSM tend to have high levels of multiple or concurrent sex partners; many MSM in sub-Saharan Africa sell sex to other men; and physical, verbal and sexual victimization of MSM is common.⁶⁷ In coastal Kenya, a study of MSM sex workers⁶⁸ found high rates of unprotected anal intercourse coupled with low levels of basic HIV knowledge: 35% of respondents were unaware of HIV transmission via anal sex, which was perceived to be a dry environment through which the HIV virus cannot move. Importantly, respondents cited that anal sex as a risk behavior was never mentioned in Kenyan media campaigns or by health educators and so was not perceived as a risk factor for HIV.⁶⁹ It is likely that the same misunderstandings exist in West Africa, though it has not been documented.

Most of the MSM work implemented prior to and since 2008 in less resourced countries is largely based on convenience samples and centered among networks of MSM, thereby jeopardizing generalizability. A report from 2010 confirms that although there have been increases in research and programming for MSM, the underlying structural barriers remain, including persistent legal barriers and stigma. The authors suggest continued focus on strategies to reduce incidence, but also on actions to decrease psychosocial stressors which may increase the propensity for risk-taking behaviors, disenfranchisement of MSM and homophobia by health care workers.⁷⁰ Recent reviews confirm this point of view.⁷¹

Senegal has been the most active country in conducting research around MSM and their risk for HIV and has realized some success in stemming their epidemic through early intervention, political dialogue about HIV, conversations with the religious communities to address stigma and treatment, and even tolerance of commercial sex work with mandated regular checkups for FSW.⁷² Yet, the Senegal penal code still criminalizes homosexual conduct with fines and imprisonment and behavioral data obtained through snowball sampling confirms the high rate of both homosexual and heterosexual sexual contact among Senegalese MSM, with nearly 9 of 10 reporting sex with both men and women⁷³ in the previous year with most reporting that penile-vaginal sex was rarely protected.⁷⁴ Senegal started conducting ethnographic studies that characterized the persistent stigma experienced by MSM in the early 2000's.⁷⁵ Epidemiologic surveys conducted in 2004 measured the prevalence of HIV infection (21.5%) among Senegalese MSM as 30 times higher than the general population, and documented high-risk practices in this population.⁷⁶ Several prevention campaigns targeting MSM were then initiated by the National HIV/AIDS Program and Senegalese NGOs but statistics confirm persistently high prevalence among MSM, 22% HIV prevalence among a snowball sample cohort of MSM in 2010.⁷⁷ However, this same study showed decreases in risk behaviors as a result of targeted interventions, namely STI and HIV care and support programs, and information to increase awareness about sexual risks within social networks of MSM (i.e., promoting condom use during anal sex, correct use of appropriate lubricant, information about HIV transmission) suggesting that such simple efforts can result in programmatic success.⁷⁸ Work done in resourced countries supports a positive association between condom use in male-to-male anal intercourse and access to HIV prevention activities, even after adjusting for the frequency of sexual relationships. A meta-analysis carried out in 2005 suggested the efficacy of targeted HIV behavioral interventions for reducing high-risk sexual behavior of MSM.⁷⁹ Although this reflects observations gleaned from work largely among white men in the United States and Western Europe, it is likely that the basic premise would hold in less resourced settings: access to prevention information and services results in measurable reduction in high-risk behaviors. Still, implementation of such programs within societies that actively vilify MSM and male to male sexual behaviors remains problematic.

The recent arrest of providers of MSM services in Senegal was examined in the context of how that incident affected other MSM programs in the country.⁸⁰ Qualitative techniques including in depth interviews and focus groups revealed that the incident exacerbated pervasive fear and concerns about arrest, discrimination and violence aimed not only at MSM, but also at service providers treating MSM. A number of providers suspended HIV prevention work with MSM out of concern for their own safety and that of their clients. This is unfortunate given that other work documented the effectiveness of MSM specific services, with preliminary results suggesting that MSM presenting for services in MSM-friendly facilities are more willing to be

tested and seek services, particularly with counselors who do not discriminate.⁸¹ Similar work documented the pervasive hostile religious context in Senegal with demonization of MSM but suggests that focused advocacy with religious leaders and opinion leaders can counteract some of these negative effects.⁸²

Some work done in Nigeria and other West African countries suggests that patterns seen in Senegal (i.e., low understanding of risk behavior with concomitant high risk practices and cultural taboos against male to male sexual activity obviating the opportunity to implement strong programming) persist in other countries as well. A cross sectional study of 293 MSM in each of three Nigerian states showed prevalence as high as 17% in Lagos and 9% in Kano (only 1.1% in Cross Rivers). Condom use was above 60% among MSM reporting sex with a FSW in the previous year, but consistently below 50% in commercial or non-commercial anal sex with another man.⁸³ Of note, this study confirmed a high proportion of MSM engage in transactional sex with other men (24% of MSM in Lagos, 36% in Kano and 35% in Cross Rivers States). Unpublished data obtained using capture-recapture methodology by the author (Kellerman) document the existence of more than 400 MSM sex workers in each of the cities of Kano and Lagos. These data suggest the presence of a large population of MSM sex workers who are likely at high risk (though risk behaviors were not assessed). Other data from Nigeria documented prevalence of 13% among MSM with a low level of status awareness, low condom use and a high proportion of MSM concurrently married to women.⁸⁴

In adolescent MSM in Ghana, transactional sex with older MSM is common, and condom use is low (12%),⁸⁵ despite innovative prevention methods such as text messaging prevention messages that resulted in a 6-fold increase in STI testing.⁸⁶ In Cameroon, high rates of unprotected anal intercourse persist and as shown elsewhere result from a lack of prevention interventions aimed at MSM and a lack of discussion about risks associated with anal sex.⁸⁷ Of note, the Cameroon data highlight one intervention that can be expanded to serve African MSM—the use of peer-implemented (i.e., other MSM) and adapted prevention messaging can be an effective way to reach MSM communities with accurate information and to distribute prevention materials. Fascinating data documenting sexual networks in Cameroonian prisons document a very high prevalence of male prison rape that is nearly always unprotected and generally perpetrated against minors.⁸⁸ A survey on attitudes of the general population toward MARPs in Ghana highlighted persistent stigma and discrimination toward MSM and FSW.⁸⁹ Still, a report on a MSM-friendly facility in Douala, Cameroon suggests that MSM-friendly services can be successfully implemented even in areas that are not accepting of these populations in general.⁹⁰

Several studies documented the existence and challenges faced by MSM in countries in which such research has not previously occurred. A qualitative study in Liberia showed the existence of MSM communities in Liberia with social issues similar to those seen in other countries in the region, such as cultural marginalization, widespread discrimination and social rejection.⁹¹ In Burkina Faso, one organization documented the existence of MSM among PLHIV being treated in their clinic and described the success of simple peer education efforts including outreach, condom and lubricant distribution, and STI treatment.⁹² In Togo, mobile counseling and testing outreach strategies proved much more successful in reaching MSM for testing, than did fixed site HCT services, and documented 40% prevalence among a convenience sample of MSM.⁹³ HIV prevention interventions tied to such mobile outreach proved successful as well, including IEC distribution, peer education and condom promotion.⁹⁴ Other work in Togo has identified that a low understanding of HIV risk underscores the lack of condom use among MSM.⁹⁵

In sum, low levels of understanding of transmission dynamics lead MSM to assume that male-to-male sex is not risky and that specific protection is not required. This is confounded by a lack of targeted HIV prevention interventions for MSM, and criminalization of same-sex activity in most African countries. Further, condoms are distributed largely through the public sector, i.e., through health clinics infrequently accessed by MSM and social marketing programs largely target condoms as a way to decrease the risk of heterosexual sex. Finally, distribution of water-based lubricants is not generally part of HIV prevention programming in sub-Saharan Africa, for either MSM or to heterosexuals. Still, relatively simple approaches to prevention can have substantial impact on risk behaviors and by extension, on HIV transmission and prevalence.

PWID

Recognition of drug abuse in sub-Saharan Africa is nascent and nearly absent in the West African region. Given the paucity of PWID data from West Africa this review will report global data, and when available, provide specifics about West Africa. Global data suggest injection drug use and PWID have been identified and characterized, however rudimentarily in 148 (of 200) countries, with an estimated 15.9 million PWID worldwide and 3 million infected with HIV.⁹⁶ Of these, there are an estimated 1.8 million PWID in Africa (534,000 to 3.02 million), among whom 221,000 are living with HIV. While economic conditions likely preclude widespread use of injectable drugs, there is mounting evidence that supports the existence of a small but likely growing cohort of people who inject illicit drugs in the region and likely transactional sex around drug use. It is important then to consider investments that make sense from a public health perspective that would effectively combat this highly risky activity (e.g., syringe exchange and opioid substitution therapy). Unfortunately accurate information simply does not yet exist in sub-Saharan Africa outside of Kenya and South Africa.

One report highlighted that historically some sub-Saharan African countries were sources for trafficking of indigenous cannabis, and that recently drug use, injection and otherwise, is growing as the continent becomes increasingly vulnerable to production, trafficking and consumption.⁹⁷ Another review suggests that heroin use now occurs in most large towns in Kenya and Tanzania, and is increasing in Cote d'Ivoire, Kenya, Mauritius, Morocco, Nigeria, Mozambique, South Africa and Tanzania⁹⁸ and that PWID are also highly prevalent in Ghana and the Democratic Republic of Congo. According to the UN Office on Drug Control,⁹⁹ there has been an increase in cocaine shipments via West Africa – typically off the coasts of Cape Verde, Guinea Bissau and the Canary Islands, as well as to various countries along the Gulf of Guinea, including Ghana, Cote d'Ivoire, Togo, Nigeria, and, further west, Guinea, Sierra Leone, Liberia and Senegal, for subsequent deliveries to Europe. Reports are generally not available for Guinea-Bissau, which is now considered a narco-state.¹⁰⁰ According to the UNODC, the recent increases in both seizures and use in West Africa appear to reflect the development of new distribution routes through West Africa to Western Europe and will likely lead to increase use and abuse in the future.

UNAIDS acknowledges drug use and abuse in the Global report, but little national data from West Africa are available. In the latest report, only Benin and Nigeria reported variables associated with injection drug use (proportion of PWID who use sterile injection equipment: 31% in Benin and 89% in Nigeria), but these should be interpreted with caution (data is not representative of all PWID in these countries). Other reports document the existence of risky behaviors associated with injection drug use. The practice of “flashblood” in which an addict injects themselves with blood extracted from another drug user, most commonly from someone who has just injected heroin, has been identified among FSW in Tanzania, though it is likely that the practice has spread from East Africa.¹⁰¹ In addition, there is some evidence that methamphetamine (or use of a popular substitute, Khat) use is on the rise in sub-Saharan Africa, though is likely negligible outside of South Africa.¹⁰²

Some work has been done to characterize PWID populations and specific risk factors in the West African region. In Nigeria, a small study identified a total of 90 current PWID, 145 ex-PWID & 912 non-injecting drug users and concluded that injection drug was not a major driver of the HIV epidemic in Nigeria.¹⁰³ Another study of inmates and prison officers in Ghana suggested that among inmates, prevalence of current or ever-injecting was surprisingly high. Among 1,366 inmates surveyed in ten Ghanaian prisons (5.9% HIV prevalence), 29.5% identified as homosexual, 64.8% ever injected drugs, 28.5% ever shared needles or injection equipment, 5.3% had ever paid or been paid for sex and 10% ever had sex with an IDU.¹⁰⁴ In both of these studies, women were much more likely to engage in commercial sex to fund drug use (though males reported sex work as well). The intersection of prison and injection drug use was further

explored in eight countries in West Africa (Burkina Faso, Cameroon, Cote d'Ivoire, Gabon, Guinea, Niger, Nigeria, and Senegal). While no specific surveillance exists, anecdotal information shows that injection drug use is not uncommon. In Cote d'Ivoire, 7% of inmates reported sharing needles. In all countries, save for Niger (where HIV-infected prisoners are released from prison), HIV prevalence rates among PWID were substantially higher than that seen in the general population.¹⁰⁵

Apart from calls for establishing harm reduction programs, only one study examined behavioral interventions aimed at promoting condom use among PWID. This study focused on FSW along the Nigeria-Benin border, of whom 15% of those enrolled were currently injecting drugs. FSW who injected drugs had significantly higher baseline levels of STIs (gonorrhea: 22.7% in injectors vs. 11.5% in non-injectors; syphilis: 20.8% in injectors vs. 12.2% in non-injectors; and HIV: 18.7% in injectors vs. 8.8% in non-injectors) and were significantly less likely to gain benefit from the intervention as evidenced by higher STI and HIV rates following the intervention.¹⁰⁶

Treatment options for drug users, injection or otherwise are limited in sub-Saharan Africa. Affordable drug-dependency treatment is out of reach for most, needle exchange does not exist, and legal services are not available or affordable. There are limited PEPFAR programs funding methadone projects in Vietnam and Ukraine, but to date none in sub-Saharan Africa. There remains a need for basic harm reduction approaches including provision of sterile syringes, or instruction on how to clean injection equipment with bleach, and bridges to ensure that infected PWID are linked to ART programs.¹⁰⁷ Components of a comprehensive program for HIV prevention among PWID should include creation of rational national drug policies that emphasize harm reduction. Prevention should focus not just on risks associated with injection, but also on sexual risk factors, by providing access to condoms, lubricant, HIV testing and counseling and accurate information. Opioid agonist therapy to reduce consumption of illicit opioids and limit exposure to needle sharing has been shown to be effective but is unfortunately rarely available outside mental health services in major cities. In addition, linkages are needed with HIV services, and behavioral interventions such as those to educate on refraining from sharing needles are necessary. Sexual transmission of HIV among PWID should not be neglected. Condom promotion is essential, HIV testing and counseling (HTC) should be widespread to ensure knowledge of status and ART must be instituted to reduce viral load among PWID and subsequent risk of HIV transmission.¹⁰⁸

Assessment of National Responses and Funding for MARPs Prevention Efforts in the Region: Some generalizations can be made about HIV prevention interventions targeted at MARPs in West Africa. Almost all countries in the region have recently completed or are in the process of developing or implementing new national HIV & AIDS strategic plans that will guide

the planning and implementation of the country's national response to the HIV/AIDS epidemic. These plans increasingly mention MARPs as priorities. Currently, however, few countries specify programming activities targeting MARPs and those that do focus primarily on FSW and to a lesser degree MSM; projects targeting PWIDs are practically non-existent (Table 3). Of note, only 3 countries, Cameroon, Cote d'Ivoire and Ghana report progress towards implementing condom and lubricant programs, though most reported scaling up peer-education programming.

Similarly, we perused GFATM applications from countries for information on insights into plans to implement MARPs programming. As of June 2011, GFATM had invested over \$21.7 billion to fight TB, HIV and Malaria, with a particular focus on HIV. While specific monetary amounts dedicated to MARPs were difficult to interpret from the applications, useful information included countries estimation of the size of MARPs populations in their respective countries (Table 4). While such size estimation is a requirement for GFATM applications, methods used to estimate MARPs are generally not well documented, so the data are of questionable accuracy. In our survey of GFATM applications, the most interesting example of this comes from Niger, a country of 15 million persons. Niger's Country Coordinating Mechanism (CCM) estimated that there were 192 MSM currently residing in the country. Several reports have characterized the GFATM commitment to funding MARPs programming as anemic. For example in 2007, the GFATM estimated that less than 10% of MSM worldwide receive basic prevention services and that only 0.6% of prevention expenditures (approximately 3 million US dollars) were spent on targeted prevention for MSM (based on 38 countries); meanwhile the estimated need to reach 80% of MSM is 29 million US dollars.¹⁰⁹ Another commentary suggested that in countries where male to male sexual activity and/or sex work were illegal and because CCM are government-dominated, it is rare that principal recipients will seek active participation of representatives of MARPs groups in planning and implementation of GFATM resources.¹¹⁰

We also reviewed National AIDS Spending Assessment (NASA) reports (Table 5). To conduct NASA countries follow a systematic approach to track resources destined for HIV and AIDS programming and to provide information on the financial gap between resources available and resources needed to address the specific needs in a country.¹¹¹ NASA has three phases of data collection, processing and reporting: (1) total public spending from central, sub-national, local and municipal governments, as well as government managed funds including, but not limited to parastatal organizations and public social security health insurance schemes; (2) international aid from bilateral and multilateral agencies, including the Global Fund for AIDS Tuberculosis and Malaria (GFATM) and private international; and (3) private expenditures, with emphasis on the households' expenditure, mainly out-of-pocket, and from corporations (as workplace programs). In none of the reports were allocations for any of the MARPs groups of interest

greater than 7% (Ghana) of total expenditures in a given year for HIV prevention, treatment or care. Despite the existence of guidelines and training by UNAIDS staff around resource tracking, it is likely that absolute numbers documented in NASA reports can be disputed. The consistently low proportion of resources reported as being directed to MARPs in these countries likely reflects the truth and underscores the issues presented in this document: in the West African Region, HIV resources are not being programmed in response to the dynamics of the epidemic.

Countries in attendance at the UN General Assembly Special Session on HIV/AIDS in 2001 committed themselves to addressing HIV and reporting on HIV indicators every two years. The commitment to MARPs is evident in the fact that nine of the 25 indicators relate specifically to MARPs. Despite this commitment to address and report on MARPs, two countries (Mauritania and Sao Tome & Principe) did not report on any of the MARP-related indicators in their last UNGASS report and eleven countries reported on fewer than half of the indicators (Table 6). Data for MSM and PWID are particularly scarce. For example, only three of the 21 countries reported on the percent of MSM that received an HIV test in the last twelve months and who know their result; for PWID only one country reported on this indicator. Overall the most prominent aspect of this table is the number of blank cells, meaning that countries did not report on these indicators and thus did not uphold their commitment to UNGASS.

While no country in the region has significant programming directed to MARPs, apart from interventions aimed to increase condom use and HIV knowledge in FSW, analysis of the latest strategic plans of countries in the region suggests that policy makers and program directors in the majority of countries are at least starting to incorporate discussions of MSM and PWID within these plans.

Discussion: Research aimed at understanding HIV-related risk behaviors among FSW, MSM and PWID and the utility of prevention programming in these groups in West Africa is nascent but growing. While some programming has occurred since the 2008 World Bank report, more thought should be focused on the types of studies needed and the methodologies employed to fill the knowledge gaps. The majority of work has consisted of small scale convenience samples, making generalizability difficult. While much of the work presented here confirms the extent of the problem, i.e., persistently high HIV prevalence within populations of FSW, MSM, and likely PWID, there is a paucity of pragmatic interventions presented. Furthermore we note a scarcity of evaluations of existing prevention programs that may provide insight into how best to scale up effective and efficient approaches to HIV prevention in MARPS. On a positive note, the Modes of Transmission studies were useful in that they highlighted the proportion of HIV infections attributable to MARPs and underscored the disproportionate role that MARPs have in these countries HIV epidemics. More of this type of work should be encouraged.

HIV prevalence in MARPs populations has not changed appreciably over the years in most countries studied and HIV prevention interventions aimed specifically at MARPs, perhaps with the exception of FSW in some countries, remain sporadic. A simple comparison of prevalence rates gleaned from the latest and previous UNAIDS Global AIDS reports suggests that regardless of what is or is not being done, prevalence in these high-risk groups has not changed considerably in the last decade. UNAIDS modes of transmission studies from Nigeria, Ghana, and Sierra Leone suggest that a disproportionate amount of the HIV disease burden is centered in MARPs and their clients and/or partners. For instance, in Nigeria, MARPs contribute 23% of new infections despite being estimated at 1% of the population. MARPs and their partners contribute 32%; an additional 40% of infections occur in the “general population”, i.e., among couples who are engaging in low-risk heterosexual sex or through vertical transmission.¹¹² In Ghana, 40.6% of new infections occurred among MARPs and their partners and 30% among the general, low risk population.¹¹³ In Sierra Leone 43.9% of new infections are attributable to these same MARPs and 15.6% to persons in steady heterosexual relationships.¹¹⁴

Regional projects that span several countries, usually along truck routes, tend to focus on FSW but also on truck drivers, security forces and mobile or migrant populations. Examples of cross-border initiatives include the Lagos-Abidjan Corridor Project funded by World Bank, the Mano River Project funded by the African Development Bank, and the Borders and HIV Vulnerability project funded by the Luxemburg Red Cross. While some HIV projects have a national scope, there were no reports identified in the literature that had as their goal to target the entire population of one of more MARPs groups in country. Rather, such projects tended to have a smaller geographic focus and reported only on a particular cohort of persons with certain risk behaviors (primarily sex work or male to male sexual activity). Certainly, a first step should be to increase the availability of population based information, either using existing mechanisms like DHS or IBBSS, but more importantly, there needs to be the political will to ensure that data, whether population based or local is used to implement effective prevention programming for these populations.

Lessons from more resourced countries on how best to create scalable prevention programming can surely be extrapolated to less resourced countries, but their implementation has been sporadic. For FSW and MSM, peer-mediated interventions have been associated with an increase in protected sex in other settings, namely promoting behavioral change via peers delivering messaging to improve knowledge, attitudes and awareness of HIV serostatus and STI diagnosis and treatment.¹¹⁵ While peer-education programming was represented in the literature we surveyed, the relative quality of such programming and the mechanisms used to deliver these programs are unclear. The AWARE team is continuing to gather relevant information about the types of programs that are currently employed to compile a more comprehensive and nuanced understanding of how prevention programming is implemented in

the region. In addition, risk reduction counseling coupled with condom promotion has shown to reduce HIV or STI risk and increase condom use, while simple efforts such as female condom promotion showed an increase in female condom uptake.¹¹⁶ For MSM, along with condom promotion, risk reduction counseling and knowledge exchange through peer mediated approaches have proven effective.¹¹⁷ Prevention interventions for each of the MARPs will probably vary across countries depending on the characteristics of the epidemic. For example, promotion of condom use in stable sexual partnerships can be challenging, but increasing condom use in casual sexual or transactional partnerships is absolutely essential, and may require a rethinking of how to distribute condoms (and water based lubricant), particularly for MSM, but likely for FSW and PWID as well. New approaches that have not been evaluated include passive distribution in venues or locales, distribution through outreach activities, peer-to-peer distribution, or other methods to ensure that access to condoms is never a barrier. Other interventions, such as increasing uptake of water-based lubricants, will probably be relevant across all risk categories and will require changes in policy, programming and supply chain to support lubricant access.

Despite anecdotal evidence, there has been virtually no activity aimed at determining the prevalence and risk factors associated with injection drug use, and no programming that has addressed this population. Work in other parts of the world has shown that interventions such as needle exchange or opiate exchange therapy (e.g., methadone or buprenorphine) is effective in decreasing number of injections and risks. Given local and international political considerations, including prohibitions on funding such programs by some donors, it is unlikely that such programming will become common anytime soon in the West Africa region. However, knowledge exchange including an essential minimum package of safe injection programs including information regarding sharing needles and other drug paraphernalia, opioid substitution therapy and ART for those PWID found to be positive is required.¹¹⁸

The reasons for the limited amount of activity around research into or programming for MARPs in West Africa are many. Political intransigence on the part of some donors is certainly a factor, particularly around provision of appropriate public health interventions for injection drug users, though the level of discomfort regarding these populations among policy makers within these countries is likely the biggest factor. While programming for FSWs has been a staple part of HIV prevention activities since early in the epidemic, in most countries it has not translated into significant drops in prevalence, despite evidence that peer-group education of FSW and high risk men, and condom provision proved to be highly cost-effective in a 2003 study from Chad.¹¹⁹ Homophobia, not only in West Africa, but throughout the continent has resulted in unnecessary delays in addressing the epidemic within MSM. Despite recent recognition of the increased risk among MSM, reticence to develop meaningful prevention programming remains, and will likely take even longer to develop for PWID. Prevention efforts should incorporate

combination prevention which must be multilevel in order to respond effectively to the different epidemics among MARPS in West Africa.¹²⁰ For MSM, this will likely require structural interventions including decriminalization of same-sex behavior between consenting adults to allow implementation of HIV prevention services for these men. For PWID, necessary policy changes include decriminalizing drug use and encouraging policy makers to adopt a public health approach.

An important question that should be addressed is whether health facility based clinical and preventive services for FSW, MSM and PWID should be mainstreamed with HIV prevention programs targeting the general population or should be designed as parallel to these existing structures. While mainstreaming would probably increase the cost-efficacy of these interventions, significant social stigma and criminalization would limit their efficacy, as high risk persons in such settings may opt not to present at such facilities.¹²¹ Stigma is stubbornly entrenched throughout West Africa and it is unlikely that nothing short of a generational shift in attitudes will change hearts and minds. One study from Ghana examined HIV related stigma and perceptions of HIV infected persons.¹²² 59% of persons stated that HIV-infected persons should inform other people about their status, 28% thought that HIV-infected persons should be isolated to certain villages and 12% would request a job change if they knew of a colleague with HIV. Workplace discriminatory behavior was more likely exhibited by people with a higher educational status, but people with lower educational status expressed a broader spectrum of stigmatizing attitudes, including mandatory screening, identification of status and isolation of HIV infected persons. No other pertinent information could be found on stigma or discriminatory attitudes despite its generally recognized feeling that these attitudes impair effective programming. As general HIV-related stigma is known to decrease with level of understanding of the disease, educational efforts are important. More specific interventions, such as addressing the substantial stigma still present among health care workers, which serves as a barrier to those seeking care, must also be addressed. Specific clinics set up for FSW, MSM or PWID have had some success in more developed settings, though as mentioned, high risk persons may feel targeted if they self refer to such services, or members of risk groups may not feel comfortable availing themselves of these services if it means self-identification. Still, strategies such as provision of MSM, FSW or PWID-friendly services within an existing program may be effective.

Finally, it is important to consider the in-country capacity of indigenous organizations to provide such services for the highest-risk groups and to devise strategies to increase capacity building among local NGO partners to effectively work with MARPs.¹²³ Small grants programs are needed to provide mentorship from established NGOs or donors to local organizations to increase understanding, portfolio of services and approaches, and to decrease internal stigma and discriminatory attitudes among indigenous organizations. For all MARPs, expansion of

country-specific research and surveillance strategies is needed to give governments better and more strategic information about epidemics in these populations. Further, HIV epidemics in at-risk people in resource constrained settings can be largely controlled and their harms mitigated with currently available strategies. What is needed is massive scale-up of combination prevention, treatment, and care. Expanded action and advocacy by health professionals on behalf of MARPs are urgently needed in both health-care and criminal justice sectors. Health professionals should not be complicit in programs and policies that have no evidence base or that violate human rights.¹²⁴

Table 3: MARPs in National Strategic Frameworks

Mention of MARPs in National Strategic Frameworks

Country	Name of strategic framework	Dates for current framework	FSW	MSM	PWID	Specific mention of planned interventions for MARPs in the National Strategic Framework (page numbers within report)
Benin	Cadre Strategique National de Lutte contre le VIH/SIDA/IST	2006 - 2010	Y	Y		Aim to reduce HIV prevalence among FSW and clients, ensure availability and access to condoms and develop a sero-surveillance system. Also plan to conduct a KAP survey among MSM and intensify prevention activities targeting FSW. Update Benin-AIDS Impact Model (AIM Benin)- Conduct regular mapping of FSW; capacity building in sex negotiation; train peer educators, harmonize FSW training modules, increase availability and access to condoms, FSW support groups, advocacy to reduce stigma toward FSW, income generating activities; replicate FSW friendly services, STI care and treatment, VCT services, adopt, disseminate and enforce HIV law against stigma and discrimination, annual HIV prevalence survey among FSW - HIV surveillance system for FSW (Pages 8,9,25,33,38,66,95,107)
Burkina Faso	Cadre Strategique National de Lutte contre le SIDA et les IST	2011- 2015	Y	Y	Y	2008 KAP survey identified 2.6% MSM. Anecdotal information about increasing drug use among sex workers, prisoners and street children. Increase female condom promotion and distribution, advocate access to condom, management of used condoms, BCC/IEC for FSWs, MSM and PWID: STI care and treatment; identify and implement minimum activities package for MSM; outreach and mobile VCT services; Survey/mapping MARPs (Pages 13,33, 34, 35,38,43,59, 64, 77,115,129, 130, 143, 166,167,169,170)
Cameroon	Plan Strategique National de lutte contre le SIDA et les IST	2011- 2015	Y	Y	Y	There is no reference to PWID in the narrative of the strategic framework but the prevention line in the budget allocates money for vulnerable populations including inmates, drug users, and soldiers. KAP surveys have documented MSM presence. Strengthen prevention activities toward FSW, MSM, PWID: condom promotion and distribution; BCC/IEC for FSW, update the mapping of FSW; STI care and treatment and referral system for FSW, outreach/mobile services for FSW, access to lubricant, training services providers and peer educators. MSM: BCC/IEC condom, STI, HCT; capacity building services providers-stigma discrimination; access condom and

						lubricant (Pages 23,30,31,36, 37, 38,42, 77, 79, 89,91,92, 93, 95,96, 97, 113,116)
Cape Verde	Plano Estrategico Nacional de Luta Contra A SIDA	2006-2010	Y		Y	Primary MARPS focus is on FSW. Priority intervention is to ensure universal access to care and treatment and income generation activities. FSW: STI care and treatment, condom promotion and distribution HCT, income generating activities, MSM: HCT, condom promotion and distribution (Pages 20,22,23, 24,26, 27,31,36,38,40,43,58, 71, 76,93,99)
Chad	Cadre Strategique National de Lutte contre le VIH/SIDA/IST	2007-2011	Y			Primary focus is on FSW and income generation activity; IEC/BCC; condom promotion and distribution; STI care and treatment at health facility; VCT sites; capacity building FSW friendly services; mapping FSW (Pages 16,51,52)
Cote d'Ivoire	Plan Strategique National de lutte contre le SIDA	2011-2015	Y	Y	Y	Prevention interventions have targeted FSW since 1999. MSM activities to be integrated into FSW activities. 2 nascent MSM NGOs are now active, provided services to less than 500 MSM in 2009. FSW: condoms promotion and distribution; peer education; Adopt/enforce HIV Law, community mobilization; advocacy around stigma & discrimination against MSM: access to lubricant procurement/distribution; peer education; operational research; capacity building services (Pages 16,17,18,20,21,24,26,42)
Equatorial Guinea	Cadre strategique de lutte contre le SIDA en Guinee Equatoriale	2001-2005	Y			Education for behavior change to prevent HIV transmission among hidden sex workers (Page 33). Condom promotion and distribution, STI screening, care and treatment, STI care and treatment; training health services providers
Gabon	Plan Strategique National de lutte contre le SIDA	2008 - 2012	Y	Y		FSW and clients are among the priority target populations together with mobile people, borders populations, defense forces and people infected by STI. A budget line is dedicated for prevention among MSM but the activities are not specified (Pages 5,15,16,22,32,33,38,40, 78)
Gambia	The National HIV&AIDS Strategic Framework (NSF) for the Gambia	2008 - 2014	Y	Y	Y	MARPS BSS conducted 2008. Recognition that criminalization of homosexual behaviors may impede HIV prevention efforts. Carry out pre-surveillance surveys to identify MARPs, who will be monitored within the surveillance framework; conduct surveys among high risk groups /Social Behavioral Change Intervention (SBCI) formative Assessment; Conduct a National Rapid Assessment of access to Condoms and VCT services; have consistent access to quality subsidized or free condoms; random cluster sero-behavioral survey; Identify and train peer health educators and counselors on special issues of MARP. Provide training for health care

						professionals; Identify and train local “gatekeepers” in MARP communities as HIV educators and mediators; VCT services; Provision of mobile VCT, counseling and support services. Pages 19, 21,35,36,57,58,59,62,64
Ghana	National Strategic Plan for HIV and AIDS	2011-2015	Y	Y	Y	The NASA shows that about 9% of spending on HIV prevention and less than 2% of the total spending was utilized to provide services to MARPs. There are no documented interventions targeting PWID. Plan to map PWID. Condom promotion and distribution/define package of services for MARPs for HIV prevention and Peer Education, and Condom and Lubricant promotion and distribution. Treatment services include ART, management of OIs, and SRH/FP/HIV; capacity building services providers to support MARPs (Pages 15,16,19,20,22,23,35,36,49, 50,51,52,53,65,90,92)
Guinea	Cadre Strategique National /Plan National de Suivi et Evaluation	2008-2012	Y			Primary mention of MARPS is FSW prevalence. FSW: IEC/BCC, STI-HIV prevention; condoms promotion and distribution; stigma and discrimination reduction/ training health services providers, surveillance survey /second generation type (Pages 10,27,61,72,73,83)
Guinea Bissau	Plano Estratégico Nacional de Luta contra SIDA na Guiné-Bissau	2007 - 2011	Y			Primary mention of MARPS is FSW. FSW: Adapted BCC/IEC strategy, training peer educators; STI prevention, care and treatment messages, condom promotion and distribution sites, study causes of limited access to HIV prevention services; capacity building health services providers/ FSW friendly services, HCT (Pages 9,19,20,22,26,31,34,45,53,86,92,93,96, 103, 111)
Liberia	National HIV&AIDS Strategic Framework II	2010 - 2014	Y	Y		Plan to train FSW peer educators; better tailor IEC to SW needs; provision of basic reproductive health-care services through FSW-friendly facilities; implement IEC programs for FSW that better focus on specific hot spots for sex workers, such as bars, cafes, hotels, military barracks, places where UN peacekeepers go, truck stops, bus stations. Preliminary work on MSM suggests MSM are extremely marginalized. (Pages 10,11,12,14,16,17,22,23,24,27,30,31,32,33,40,42,48.50, 52,57, 58, 59,60,61,64,71,72)
Mali	Plan Operationnel du cadre strategique national	2006 - 2010	Y	Y	Y	To prevent HIV transmission among vulnerable groups, education and sensitization activities targeting MSM, PWID and FSWs will be conducted and these populations will be mapped. At the end of this plan it is expected that the HIV prevalence among FSWs will be below 31.9% and STI prevalence below 29.7% in 2010. (Pages 7,12,21,22,28)

Mauritania	Cadre Strategique National de Lutte contre le SIDA et les IST (draft)	2011-2015	Y			Primary discussion about MARPS around FSW prevalence. FSW: IEC HIV prevention, STI prevention; HCT, MSM: IEC HIV prevention, STI prevention, HCT (Pages 11,12,15,29)
Niger	Cadre Strategique National de Lutte contre le VIH/SIDA/IST	2008 - 2012	Y			Primary discussion around MARPS is concerning FSW. Planned prevention activities include behavior change communication using adapted IEC material, VCT, impact mitigation. BCC/IEC for HIV prevention adapted to each group; peer education; access to condoms (promotion and distribution) (Pages 18,19,23,28,42,45,60)
Nigeria	National HIV&AIDS Strategic Plan	2010 - 2015	Y	Y	Y	Urgent need to respond to the unmet HIV prevention needs of special groups including MARPs. Recommend lubricants to improve condom efficacy among MSM. Prioritize social research to inform better design and delivery of condom programs. Aim for 80% of drug dependant persons to have access to quality prevention (Pages 12,14,16,17,22,27,31,37,39,48,82,100)
Sao Tome & Principe	Plano Estrategico Nacional de Luta contra o VIH/SIDA	2010 - 2014	Y	Y	Y	There is a need to strengthen primary prevention, IEC, and condom promotion and access for FSW; prevent HIV transmission through injection by PWID; identify and train peer educators among PWID (Pages 16, 19,23,33,34,37)
Senegal	Plan Strategique de lutte contre le SIDA	2007 - 2011	Y	Y	Y	Registration by FSW is compulsory. Government to continue support of FSW-friendly STI care and treatment services. FSW: condom promotion and distribution/ IEC/BCC; HIV counseling and testing, advocacy human rights; training services providers on STI care and treatment, MSM: STI care and treatment, HCT, advocacy human rights / reduction stigma and discrimination; condom promotion and distribution. Pages 5,12,15,16,20,21,28,47,48,51,52,63
Sierra Leone	Report on the final joint review of NSP	2006 - 2010	Y	Y	Y	Improve access to condoms among vulnerable groups such as CSWs in high transmission areas. The new NSP should have strategies promoting discussion among political, civic, religious and cultural leaders that will lead to HIV prevention programs for FSW, MSM and PWID. New NSP should also promote research to alternative treatments by traditional healers, including focus on FSW, MSM and PWID. Must strengthen statutory bodies to monitor, investigate, collect data and report on human right violations and abuses against PLHIVs, CSWs and other vulnerable groups. (Pages 13,16,39,43,50,56)

Togo	Plan Strategique National de lutte contre le SIDA et les IST (2011-2015 plan in development)	2006 - 2010	Y	Y		FSW friendly services will offer free VCT services. A surveillance system is planned that will allow annual estimation of STI and HIV prevalence among FSWs and clients. A program targeting VCT services for MSM will be implemented from 2007 to 2010. (Pages 7,8,10,11,12,14,19,21,25,26,27,30,31,40,41,42,54,55,58,60,90,91,92, 93,94, 97, 98,103,108)
ECOWAS-Region	ECOWAS Regional Strategic Plan for HIV and AIDS Control (draft)	2011 - 2015	Y	Y	Y	Provide FSW, MSM and transsexual persons the means to protect themselves against HIV infection and enable them to have full access to antiretroviral therapy; abolish punitive laws, policies, practices, stigmatization and discrimination; meet the needs of women and girls; end sexual and sexist violence (Pages 9,11,12,14,15,17,18,25, 26, 30,31,32,34,39)

Table 4: Table of Estimated size and HIV prevalence of MARP populations as reported in the most recently funded GFATM proposal

Country	Round number	Size of MARPs			HIV Prevalence		
		FSW	MSM	PWID	FSW	MSM	PWID
Benin	9	12,402	13,591	3,398	25.6		
Burkina Faso	10	31,000	3,174				
Cape Verde	8	922					14.3
Cameroon	10	18,000					
Chad	8						
Cote d'Ivoire	9	78,191	11,892				
Equatorial Guinee	4				44	43	
Gabon	8	10,000			20		
Gambia	8				28		
Ghana	8	22,000					
Guinea Bissau	7	3,000					
Guinea Conakry	6				42		
Liberia	8						
Mali	8	15,297	2,172		35.3		
Mauritania	5						
Niger	7	10,297	192				
Nigeria	9				34	13.5	5.6
Sao Tome & Principe	5						
Senegal	9	6,209	2,000		19.8	21.8	
Sierra Leone	9	6,000	12,000	40,000	0.3-0.4	<1	0.4
Togo	8	6,000	1,000	400	29.5		

Empty cell means that data was not reported in the most recently funded GFATM proposal

Table 5: Mention of MARPs in National AIDS Spending Accounts (NASA) documents

Country	Dates for NASA	Text related to MARP groups
Benin	2006-7	FSW (2007): 0.61% for interventions targeting FSW and clients. (pages 39, 41, 51)
		Other: 14.64% for interventions targeting other vulnerable groups such as: youth in school, militaries, STI patients and pregnant women
Burkina Faso	2008-9	FSW (2008): 0.67% for interventions targeting FSW (63% of all funding for vulnerable groups). (pages 57, 68)
		MSM (2008): estimated 0.01% for interventions targeting MSM. (pages 57, 68)
Cameroon	2007	FSW (2007): estimated 1.17% for interventions targeting FSW and their clients. (page 28)
Cape Verde	NA*	
Chad	NA	
Cote d'Ivoire	2006-8	FSW (2008): estimated 3.12% for interventions targeting FSW and their clients. Increase from 1.59% (2006) and 2.45% (2007). (pages 41-2)
Equatorial Guinea	NA	
Gabon	NA	
Gambia	NA	
Ghana	2007	FSW (2007): estimated 7.01% for interventions targeting FSW and their clients. (page 17)
		MSM (2007): estimated 2.09% for interventions targeting MSM. (page 17)
Guinea	NA	
Guinea Bissau	NA	
Liberia	NA	
Mali	2007-8	FSW (2008): estimated 7.52% for interventions targeting FSW and their clients. Increase from 4.93% in 2007. (pages 63, 66, 77)
		MSM (2008): estimated 1.67% in 2008 for MSM interventions. (page 67)
		PWID (2008): 0.27% for PWID interventions. Increase from 0.00% in 2007. (pages 67 and 72)
Mauritania	NA	
Niger	2007-8	FSW (2008): 0.62% for FSWs and clients. Decrease from 1.52% in 2007. (page 50)
Nigeria	NA	FSW (2007): 0.1% (2008) for FSW and clients, up from 0.08% in 2007. In total, MARPs received 0.1% of all expenditures in 2007 and 2008.
Sao Tome & Principe	NA	
Senegal	NA	
Sierra Leone	2006-7	Combined 2% for all high risk groups (FSW, MSM, PWID) in 2007. (page 33)
Togo	2006-7	FSW (2007): 3% spending for FSWs. Increase from 2.83% in 2006. (page 26)

*NA means that country does not have a NASA

Table 6: UNGASS Indicators from most recently available UNGASS report (NA = Data Not Available/reported)

	Percent of International Funding for HIV Programming 1	Percentage of MARPs receiving an HIV test in the last 12 months and who know their result 8	Percentage of MARPs reached with HIV prevention programs 9	Percent of MARPs who identify ways to prevent sexual transmission of HIV and who reject misconceptions about HIV 14	Percentage of female and male sex workers who report condom use with their last client 18	Pe m the at
Benin (2010)	65.90%	FSW = 86.63% PWID = 25%	FSW = 56.38% PWID = 0%	FSW = 60.20% PWID = 19.57%	female =24.68%	
Burkina Faso (2010)	67.70%	FSW = 94% MSM = 100%	FSW= 36.69%	NA	female = 98.9%	
Cameroon (2010)	NA	NA	NA	NA	female =72.7	
Cape Verde (2010)	NA	NA	NA	NA	female =64	
Chad (2010)	NA	FSW = 38	FSW = 17.16	FSW = 4.79	female =37.54	
Cote d'Ivoire (2010)	NA	NA	NA	NA	NA	
Equatorial Guinea (2010)	NA	NA	NA	NA	NA	
Gabon (2010)	NA	FSW = 64.1	FSW = 34.6	FSW = 26.6	female = 75.9	
Gambia (2008)	NA	NA	NA	NA	male = 70 female= 60	
Ghana (2010)	NA	NA	FSW = 47.9	NA	NA	
Guinea (2010)	96.41	NA	FSW =89	NA	female =65	
Guinea Bissau (2010)	81	FSW = 43.1	FSW = 55.3	FSW=31.4	female=93.1	
Liberia (2010)	NA	NA	NA	NA	female =36.1 male =33.7	
Mali (2010)	82	FSW= 91.5	NA	NA	Female= 98.5	
Mauritania (2010)	NA	NA	NA	NA	NA	
Niger (2010)	NA	NA	NA	NA	female = 77.7	
Nigeria (2010)	NA	FSW = 38.2 MSM =30.2	FSW =49.4 MSM = 60.3	FSW= 32.9 MSM=44 PWID =34	female=98	52.
Sao Tome & Principe (2009)	NA	NA	NA	NA	NA	
Senegal (2010)	NA	FSW= 69.8 MSM=34.1	MSM =84.6	FSW 41	female = 98.8	
Sierra Leone (2010)	98	FSW = 47.5	NA	NA	female=68	
Togo (2010)	83	FSW 59.4 MSM=53.2	FSW=83.6 MSM=58.6	FSW=52.3 MSM=54.3	female = 89.5 male=66.7	

References:

- ¹ Lowndes, C.M., et al. "West Africa: HIV/AIDS Epidemiology and Response Synthesis: Implications for prevention". November 2008. Global AIDS Monitoring and Evaluation Team: The Global HIV/AIDS Program, The World Bank: Washington DC.
- ² Bertozzi SM, Laga M, Bautista-Arredondo S, Coutinho A. Making HIV prevention programmes work. *Lancet*. 2008 Sep 6;372(9641):831-44. Epub 2008 Aug 5.
- ³ UNAIDS. 2008 UNGASS country progress reports. <http://search.unaids.org/Results.aspx?q=2008+country+progress+reports&o=html&d=en&l=en&s=false> (accessed May 10, 2011).
- ⁴ David Wilson, Presented at HIV Prevention in Mixed Epidemics PEPFAR technical consultation, Accra, Ghana, February 8-10, 2011.
- ⁵ Montana L, Mishra V, Hong R. Comparison of HIV prevalence estimates from antenatal care surveillance and population-based surveys in sub-Saharan Africa. *Sex Transm Infect* 2008;84(Suppl 1):i78-i84.
- ⁶ Baral S, Sifakis F, Cleghorn F, Beyrer C. Elevated risk for HIV infection among men who have sex with men in low- and middle-income countries 2000-2006: a systematic review. *PLoS Med*. 2007 Dec;4(12):e339.
- ⁷ Mathers BM, Degenhardt L, Phillips B, et al. Global epidemiology of injecting drug use and HIV among people who inject drugs: a systematic review. *Lancet* 2008;372:1733-45.
- ⁸ Shahmanesh M, Patel V, Mabey D, Cowan F. Effectiveness of interventions for the prevention of HIV and other sexually transmitted infections in female sex workers in resource poor setting: a systematic review. *Tropical Medicine and International Health*. 2008, 13;5.
- ⁹ UNAIDS. Report on the global HIV/AIDS epidemic. Geneva: UNAIDS; 2010.
- ¹⁰ Wilson D, Halperin DT. "Know your epidemic, know your response": a useful approach, if we get it right. *The Lancet*, 2008;372: 423-426.
- ¹¹ van Griensven F, de Lind van Wijngaarden JW, Baral S, Grulich A. The global epidemic of HIV infection among men who have sex with men. *Current Opinion in HIV and AIDS* 2009;4:300-307.
- ¹² Sarr AD, Eisen G, Guèye-Ndiaye A, et al. Viral dynamics of primary HIV-1 infection in Senegal, West Africa. *J Infect Dis* 2005;191:1460-7.
- ¹³ Nagot N, Ouedraogo A, Ouangre A, et al. Is sexually transmitted infection management among sex workers still able to mitigate the spread of HIV infection in West Africa? *J Acquir Immune Defic Syndr* 2005;39:454-8.
- ¹⁴ Aho J, Alary M, Méda H, Ndour M, Batona G, Bitéra R, Adjoni C, Medegan VK, Labbé AC, Adjimon T. Female sex workers in Benin, 2002. Behavioural survey and HIV and other STI screening. *Sante*. 2007 Jul-Sep;17(3):143-51.
- ¹⁵ Aho J, Alary M, Ndour M, Labbé AC, Ahooussinou C. [HIV and sexually transmitted disease among female sex workers in Benin]. *Med Trop* 2009;69:457-62.
- ¹⁶ Sobéla F, Pépin J, Gbéléou S, Banla AK, Pitche VP, Adom W, Sodji D, Frost E, Deslandes S, Labbé AC. A tale of two countries: HIV among core groups in Togo. *J Acquir Immune Defic Syndr*. 2009 Jun 1;51(2):216-23.
- ¹⁷ Mosoko JJ, Macauley IB, Zoungkanyi A-CB, Bella A, Koulla-Shiro S. Human Immunodeficiency Virus Infection and Associated Factors among Specific Population Subgroups in Cameroon. *AIDS Behav* 2007;13:277-87.
- ¹⁸ Tohon Z, Garba A, Amadou Hamidou A, et al. [Behaviour and HIV seroprevalence investigation in sex workers of Dirkou, Niger, 2002]. *Bull Soc Pathol Exot* 2006;99:49-51.
- ¹⁹ Diallo BL, Alary M, Barry A, Rashed S. Épidémie du VIH chez les travailleuses du sexe en Guinée : prévalence, facteurs associés, vulnérabilité et tendances 2001-2007. *Revue d'Épidémiologie et de Santé Publique* 2010;58:245-54.
- ²⁰ Aho J, Coutlée F, Rashed, S. Human papillomavirus-16 and HIV coinfection in female sex workers of Conakry, Guinea. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.

-
- ²¹ Ndoye PD. Evaluation of the socio economic program of reintegration of vulnerable groups (MSM, PLWHA, SW) in Senegal. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ²² Barry MA, Sangaré A, Bougoudogo F, et al. The need for scaling up HIV prevention for Female Sex Workers (FSW) in Mali. Poster presented at: 15th International Conference on AIDS and STI in Africa: 2008 December 3 – 7; Dakar, Senegal.
- ²³ Giguère, K. Vulnerability to HIV/AIDS among young Malian prostitutes: an examination of causes linked to gender relations. Poster presented at: 15th International Conference on AIDS and STI in Africa: 2008 December 3 – 7; Dakar, Senegal.
- ²⁴ Aho J, Koushik A, Diakité SL, Loua KM, Nguyen VK, Rashed S. Biological validation of self-reported condom use among sex workers in Guinea. *AIDS Behav.* 2010 Dec;14(6):1287-93.
- ²⁵ Guest G, Bunce A, Johnson L, Akumatey B, Adeokun L. Fear, hope and social desirability bias among women at high risk for HIV in West Africa. *J Fam Plann Reprod Health Care.* 2005 Oct;31(4):285-7.
- ²⁶ Mantoura P, Fournier P, Campeau D. Maladies sexuellement transmissibles, sida et prostitution: une étude de cas en Guinée-Conakry. *Santé Publique* 2003;15:223.
- ²⁷ Laurent C, Seck K, Coumba N, et al. Prevalence of HIV and other sexually transmitted infections, and risk behaviours in unregistered sex workers in Dakar, Senegal. *AIDS* 2003;17:1811-6.
- ²⁸ Godin G, Tinka Bah A, Sow A, Minani I, Morin D, Alary M. Correlates of condom use among sex workers and their boyfriends in three West African countries. *AIDS Behav.* 2008 May;12(3):441-51.
- ²⁹ Adu-Oppong A, Grimes RM, Ross MW, Risser J, Kessie G. Social and behavioral determinants of consistent condom use among female commercial sex workers in Ghana. *AIDS Educ Prev.* 2007 Apr;19(2):160-72.
- ³⁰ Sallar A, Mensah W, Govina F. Telling their stories: a conversation with commercial sex workers in three different locations in Accra, Ghana. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ³¹ Talnan E, Moukam L, Vouffo RF, Nzie AMS, Female Sex Workers. To use or not to use: exploring the determinants of consistent condom use among female sex workers in Cameroon. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ³² Diallo MM, Diallo MA, Sow A, Austin A, Barry, TA. [Behavioral study on the clients of commercial sex workers at 10 sites in Conakry.] Poster presented at: 15th International Conference on AIDS and STI in Africa: 2008 December 3 – 7; Dakar, Senegal.
- ³³ Oyefara JL. Food insecurity, HIV/AIDS pandemic and sexual behaviour of female commercial sex workers in Lagos metropolis, Nigeria. *SAHARA J* 2007;4:626-35.
- ³⁴ Mamadou S, Laouel Kader A, Rabiou S, et al. [Prevalence of the HIV infection and five other sexually-transmitted infections among sex workers in Niamey, Niger]. *Bull Soc Pathol Exot* 2006;99:19-22.
- ³⁵ Izugbara CO. Constituting the unsafe: Nigerian sex workers' notions of unsafe sexual conduct. *African Studies Review* 2007;50:29-49.
- ³⁶ Biague A, Månsson F, da Silva Z, et al. High sexual risk taking and diverging trends of HIV-1 and HIV-2 in the military of Guinea Bissau. *J Infect Dev Ctries* 2010;4:301-8.
- ³⁷ Mosoko JJ, Macauley IB, Zoungkanyi AC, Bella A, Koulla-Shiro S. Human immunodeficiency virus infection and associated factors among specific population subgroups in Cameroon. *AIDS Behav.* 2009 Apr;13(2):277-87. Epub 2007 Aug 13.
- ³⁸ Tinuola F. T03-O-17 Leave me alone and let me enjoy sex, no bi my right? Experiences with commercial sex workers in south west Nigeria. *Sexologies* 2008;17:S72-3.
- ³⁹ Udoh I, Mantell J, Sandfort T, Eighmy M. Potential pathways to HIV/AIDS transmission in the Niger Delta of Nigeria: poverty, migration and commercial sex. *CAIC* 2009;21:567-74.
- ⁴⁰ Laurent C, Bourgeois A, Mpoudi M, et al. Commercial logging and HIV epidemic, rural Equatorial Africa. *Emerging Infect Dis* 2004;10:1953-6.
- ⁴¹ Raingruber B, Uwazie E, Bowie S. Women's Voices: Attitudes and Behaviors of Female Ghanaian Sex Workers Regarding HIV Prevention and AIDS-Related Stigma. *Issues Ment Health Nurs* 2010;31:514-9.
- ⁴² Kane CT, Diawara S, Ndiaye HD, et al. Concentrated and linked epidemics of both HSV-2 and HIV-1/HIV-2 infections in Senegal: public health impacts of the spread of HIV. *International Journal of STD & AIDS* 2009;20:793-6.

-
- ⁴³ Celum C, Wald A, Lingappa JR, Magaret AS, Wang RS, Mugo N et al. Acyclovir and transmission of HIV-1 from persons infected with HIV-1 and HSV-2. *N Engl J Med*. 2010 Feb 4;362(5):427-39
- ⁴⁴ Vuylsteke B, Vandenhoude H, Langat L, et al. Capture-recapture for estimating the size of the female sex worker population in three cities in Côte d'Ivoire and in Kisumu, western Kenya. *Tropical Medicine & International Health* 2010;15:1537-43.
- ⁴⁵ Berthé A, Huygens P, Ouattara C, Sanon A, Ouédraogo A, Nagot N. [Understanding and reaching young clandestine sex workers in Burkina Faso to improve response to HIV]. *Sante*. 2008 Jul-Sep;18(3):163-73.
- ⁴⁶ Nagot N, Ouedraogo A, Ouangre A, et al. Is sexually transmitted infection management among sex workers still able to mitigate the spread of HIV infection in West Africa? *J Acquir Immune Defic Syndr* 2005;39:454-8.
- ⁴⁷ Imade, G., Sagay, A., Egah, D., Onwuliri, V., Grigg, M., Egbodo, C., Thacher, T., et al. Prevalence of HIV and other sexually transmissible infections in relation to lemon or lime juice douching among female sex workers in Jos, Nigeria. *Sexual Health*, 2008; 5(1), 55-60.
- ⁴⁸ Fatusi, AO. Most-at-risk population for HIV and AIDS in Nigeria: desk review commissioned by ENHANSE. [Nigeria]: ENHANSE, 2007.
- ⁴⁹ Morison L, Weiss HA, Buvé A, et al. Commercial sex and the spread of HIV in four cities in sub-Saharan Africa. *AIDS* 2001;15:S61-9.
- ⁵⁰ Onyeneho NG. HIV/AIDS risk factors and economic empowerment needs of female sex workers in Enugu Urban, Nigeria. *Tanzan J Health Res* 2009;11:126-35.
- ⁵¹ Olufayo O-O, Omotosho BJ. Women trafficking and women prostitution in selected local government areas in mid-west Nigeria. *J Soc Sci* 2009;12:175-82.
- ⁵² Muñoz J, Adedimeji A, Alawode O. "They bring AIDS to us and say we give it to them": Socio-structural context of female sex workers' vulnerability to HIV infection in Ibadan Nigeria. *SAHARA J* 2010;7:52-61.
- ⁵³ Nagot N. Review of STI and HIV epidemiological data from 1990 to 2001 in urban Burkina Faso: implications for STI and HIV control. *Sexually Transmitted Infections* 2004;80:124-9.
- ⁵⁴ Shahmanesh M, Patel V, Mabey D, Cowan F. Effectiveness of interventions for the prevention of HIV and other sexually transmitted infections in female sex workers in resource poor setting: a systematic review. *Tropical Medicine & International Health* 2008;13:659-79.
- ⁵⁵ Larsen MM, Sartie M-T, Musa T, Casey SE, Tommy J, Saldinger M. Changes in HIV/AIDS/STI knowledge, attitudes and practices among commercial sex workers and military forces in Port Loko, Sierra Leone. *Disasters* 2004;28:239-54.
- ⁵⁶ Traoré I, Sarr M, Ndiaye BP, et al. Lost of follow-up among HIV infected female sex workers receiving ARV in Dakar, Senegal. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria. Abstract no. TUPE0360.
- ⁵⁷ Sanon A, Traore I, Diallo R, Ouedraogo A, Andonaba J, Konate I, et al. [Do commercial sex workers who discuss treatment with family and friends adhere to it better?]. *Sante*. 2009 Apr-Jun;19(2):95-9.
- ⁵⁸ van Griensven F. Men who have sex with men and their HIV epidemics in Africa. *AIDS*. 2007 Jun 19;21:1361-2.
- ⁵⁹ Beyrer C. Hidden yet happening: the epidemics of sexually transmitted infections and HIV among men who have sex with men in developing countries. *Sex Transm Infect* 2008;84:410-2.
- ⁶⁰ Ottosson, D. State-sponsored homophobia: a world survey of laws prohibiting same sex activity between consenting adults. International Lesbian and Gay Association, 2007. (Accessed May 24, 2011, at http://ilga.org/historic/Statehomophobia/State_sponsored_homophobia_ILGA_07.pdf.)
- ⁶¹ Cáceres CF, Konda K, Segura ER, Lyerla R. Epidemiology of male same-sex behaviour and associated sexual health indicators in low- and middle-income countries: 2003-2007 estimates. *Sex Transm Infect*. 2008 Aug;84 Suppl 1:i49-i56.
- ⁶² Wade AS, Kane CT, Diallo PA, et al. HIV infection and sexually transmitted infections among men who have sex with men in Senegal. *AIDS* 2005;19:2133-40.
- ⁶³ Sanders EJ, Graham SM, Okuku HS, et al. HIV-1 infection in high risk men who have sex with men in Mombasa, Kenya. *AIDS* 2007; 21:2513-2520.
- ⁶⁴ Baral S, Sifakis F, Cleghorn F, Beyrer C (2007) Elevated risk for HIV infection among men who have sex with men in low- and middle income countries 2000-2006: A systematic review. *PLoS Med* 4(12):e339.

-
- ⁶⁵ Adam PCG, de Wit JBF, Toskin I, et al. Estimating levels of HIV testing, HIV prevention coverage, HIV knowledge, and condom use among men who have sex with men (MSM) in low-income and middle-income countries. *J Acquir Immune Defic Syndr* 2009;52:S143-51.
- ⁶⁶ Allman D, Adebajo S, Myers T, Odumuye O, Ogunisola S. Challenges for the sexual health and social acceptance of men who have sex with men in Nigeria. *Culture, Hlth & Sexuality* 2007;9:153-68.
- ⁶⁷ Geibel S, Tun W, Tapsoba P, Kellerman S. HIV vulnerability of men who have sex with men in developing countries: Horizons studies, 2001-2008. *Public Health Rep* 2010;125:316-24.
- ⁶⁸ Geibel S, van der Elst EM, King'ola N, et al. 'Are you on the market?': a capture-recapture enumeration of men who sell sex to men in and around Mombasa, Kenya. *AIDS*. 2007 Jun 19;21(10):1349-54.
- ⁶⁹ Geibel S, Luchters S, King'ola N, et al. Factors Associated With Self-Reported Unprotected Anal Sex Among Male Sex Workers in Mombasa, Kenya. *Sex Transm Dis*. 2008 Aug;35(8):746-52.
- ⁷⁰ Mayer KH, Mimiaga MJ, Safren SA. Out of the closet and into public health focus: HIV and STDs in men who have sex with men in middle income and resource-limited countries. *Sex Transm Dis* 2010;37:205-7.
- ⁷¹ Smith AD, Tapsoba P, Peshu N, Sanders EJ, Jaffe HW. Men who have sex with men and HIV/AIDS in sub-Saharan Africa. *Lancet* 2009;374:416-22.
- ⁷² Chris Beyrer, Andrea L. Wirtz, Damian Walker, Benjamin Johns, Francisco Sifakis, and Stefan D. Baral. *The Global HIV Epidemics among Men Who Have Sex with Men*. The World Bank. 2011.
- ⁷³ Larmarange J, Enel C, Wade AS, Desgrées Du Loû A, Groupe Elihos Anrs 12139. Masculine homosexuality and bisexuality and risk-taking during last reported sexual intercourse with a man and a women [sic] in Senegal. Poster presented at: 15th International Conference on AIDS and STI in Africa: 2008 December 3 – 7; Dakar, Senegal.
- ⁷⁴ Larmarange J, Wade AS, Diop AK, et al. Men who have sex with men (MSM) and factors associated with not using a condom at last sexual intercourse with a man and with a woman in Senegal. *PLoS ONE* 2010;5:e13189
- ⁷⁵ Niang, C.I., Tapsoba, P., Weiss, E., Diagne, M., Niang, Y., Moreau, A.M., et al. (2003). It's raining stones': Stigma, violence and HIV-vulnerability among men who have sex with men in Dakar, Senegal. *Culture, Health & Sexuality*, 5(6), 499-512.
- ⁷⁶ Wade, A.S., Toure Kane, C., Niang Diallo, P., Diop, A., Gueye, K., Mboup, S., et al. (2005). HIV infection and sexually transmitted infections among men who have sex with men in Senegal. *AIDS*, 19(18), 2133-2140.
- ⁷⁷ Ndiaye HD, Toure-Kane C, Vidal N, et al. Surprisingly high prevalence of subtype C and specific HIV-1 subtype/CRF distribution in men having sex with men in Senegal. *J Acquir Immune Defic Syndr* 2009;52:249-52.
- ⁷⁸ Wade A, Larmarange J, Diop A, et al. Reduction in risk-taking behaviors among MSM in Senegal between 2004 and 2007 and prevalence of HIV and other STIs. ELIHoS Project, ANRS 12139. *CAIC* 2010;22:409-14.
- ⁷⁹ Herbst JH, Sherba RT, Crepez N, et al. A meta-analytic review of HIV behavioral interventions for reducing sexual risk behavior of men who have sex with men. *J Acquir Immune Defic Syndr* 2005;39:228-41.
- ⁸⁰ Poteat T, Diouf D, Baral S, et al. The impact of criminalization of same sex practices on HIV risk among men who have sex with men (MSM) in Senegal: results of a qualitative rapid assessment. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ⁸¹ Konare Z, Diaw K, Diagne I. Lessons learned from the mediation within a care center in HIV/AIDS in Senegal. Poster presented at: XVII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ⁸² Ndoye PD. HIV/AIDS and intervention with MSM groups in a hostile religious and cultural context: experience of enda santé in Senegal. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria
- ⁸³ Merrigan M, Azeez A, Afolabi B, et al. HIV prevalence and risk behaviours among men having sex with men in Nigeria. *Sex Transm Infect* 2011;87:65-70.
- ⁸⁴ Adebajo S, Myers T, Allman D, et al. HIV and sexually transmitted infections among men who have sex with men (MSM) in Nigeria. Poster presented at: XVII International AIDS Conference: 2008 August 3 – 8; Mexico City, Mexico.
- ⁸⁵ Drah B, Clement NF, Duodo J, Benefour S. Social characteristics of adolescent men who have sex with men (AMSM) in Ghana. Poster presented at: XVII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria
- ⁸⁶ Robertson J, Cobbinah M-D, Wosornu F. Engaging new partners and new technologies to prevent HIV among men who have sex with men (MSM): a case study on the Center for Popular Education and Human Rights, Ghana (CEPEHRG) and the Maritime Life Precious Foundation in Ghana. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.

-
- ⁸⁷ Henry E, Marcellin F, Yomb Y, et al. Factors associated with unprotected anal intercourse among men who have sex with men in Douala, Cameroon. *Sex Transm Infect* 2010;86:136-140
- ⁸⁸ Herzig SL, Mbondi Mfondih S, Ndonko F, Noeske J. 'Fuck-Shit-Hole', 'Lèche - Lèche', prostitution and 'love': a qualitative study of sexual networks in Cameroonian prisons. Poster presented at: XVII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ⁸⁹ Nzambi K, Bevalot M, Till H, Dzokoto A, Bodal H, Amenya R. Stigma and discriminatory attitudes and perceptions in Accra and Tema metropolis in Ghana: how does the general adult population see most at risk populations (MARPs) and how do MARPs see themselves in the context of HIV and AIDS? Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ⁹⁰ Roger Yves YF, Tchanté C, Maliedji Mbeya S, Makong D, Pouani D. Support the access to information on STI/HIV/AIDS for the men who have sexual relations with other men (MSM) through the opening of a center of prevention and care of STI/HIV/AIDS adapted to the realities and needs of the MSM in the town of Douala, Cameroon. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ⁹¹ Martin, R. Taylor C, Nagbe W. et al. HIV risk behaviors of men who have sex with men (MSM) in post-conflict Liberia. Poster presented at: 5th IAS Conference on HIV.
- ⁹² Traoré AS, Koblavi P, Tiendrbeogo I. MSM are part of the active file of PLWHA monitored by the organization AAS in Ouagadougou, Burkina Faso. Poster presented at: XVIII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ⁹³ Clapham B, Pedersen BE. Mobile HIV counseling and testing removes barriers to testing among men who have sex with men in Togo. Poster presented at: XVII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ⁹⁴ Koumagnanou K, Kassegne S, Clapham B, Men who Have Sex with Men (MSM). Scaling up HIV interventions among MSM in Togo. Poster presented at: XVII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ⁹⁵ Koumagnanou K, Montcho Y, Kassegne S, Astatke H, Men who Have Sex with Men (MSM). Psychosocial determinants of condom use among MSM in Togo. Poster presented at: XVII International AIDS Conference: 2010 July 18 – 23; Vienna, Austria.
- ⁹⁶ Mathers BM, Degenhardt L, Phillips B, et al. Global epidemiology of injecting drug use and HIV among people who inject drugs: a systematic review. *Lancet* 2008;372:1733-45.
- ⁹⁷ Needle RH, Kroeger K, Belani H, Hegle, J. Substance abuse and HIV in sub-Saharan Africa: introduction to the special issue. *African Journal of Drug & Alcohol Studies* 2006;5:83-94.
- ⁹⁸ Reid SR. Injection drug use, unsafe medical injections, and HIV in Africa: a systematic review. *Harm Reduct J* 2009;6:24.
- ⁹⁹ United Nations Office of Drugs and Crime (UNODC). 2010 World Drug Report. Geneva: UNODC; 2010.
- ¹⁰⁰ Einarsdottir J: Partnership and Post-War Guinea-Bissau. *Afr J Int Affairs* 2007, 10(1–2):93-112.
- ¹⁰¹ Cleland CM, Des Jarlais DC, Perlis TE, et al. HIV risk behaviors among female IDUs in developing and transitional countries. *BMC Public Health* 2007;7:271.
- ¹⁰² Degenhardt L, Mathers B, Guarinieri M, et al. Meth/amphetamine use and associated HIV: Implications for global policy and public health. *International Journal of Drug Policy* 2010;21:347-58.
- ¹⁰³ Adelekan ML, Lawal RA. Drug use and HIV infection in Nigeria: a review of recent findings. *African Journal of Drug & Alcohol Studies* 2006;5:118-29.
- ¹⁰⁴ Adjei AA, Armah HB, Gbagbo F, et al. Correlates of HIV, HBV, HCV and syphilis infections among prison inmates and officers in Ghana: a national multicenter study. *BMC Infect Dis* 2008;8:33.
- ¹⁰⁵ Dolan K, Kite B, Black E, Aceijas C, Stimson GV. HIV in prison in low-income and middle-income countries. *Lancet Infect Dis* 2007;7:32-41.
- ¹⁰⁶ Busari O, Busari O, Oligbu G, and HIV Study Group. Effect of a novel behavioral intervention to promote condom use among female sex workers along Lagos, Nigeria – Cotonou, Benin International border. Poster presented at: 15th Conference on Retroviruses and Opportunistic Infections: 2008 February 3 – 6, 2008; Boston, Massachusetts.
- ¹⁰⁷ Csete J, Gathumbi A, Wolfe D, Cohen J. Lives to save: PEPFAR, HIV, and injecting drug use in Africa. *Lancet* 2009;373:2006-7.
- ¹⁰⁸ Vlahov D, Robertson AM, Strathdee SA. Prevention of HIV infection among injection drug users in resource-limited settings. *Clin Infect Dis* 2010;50:S114-21.

-
- ¹⁰⁹ Beyrer C. Global Prevention of HIV infection for neglected populations: men who have sex with men. *Clin Infect Dis* 2010 May;50:S108-13.
- ¹¹⁰ Fried ST, Kowalski-Morton S. Sex and the global fund: how sex workers, lesbians, gays, bisexuals, transgender people, and men who have sex with men are benefiting from the Global Fund, or not. *Health Hum Rights* 2008;10:1-10.
- ¹¹¹ Guide to produce National AIDS Spending Assessment (NASA). UNAIDS. May 2009
- ¹¹² National Agency for the Control of AIDS/UNAIDS/World Bank. Modes of HIV Transmission in Nigeria: Analysis of the Distribution of New HIV Infections in Nigeria and Recommendations for Prevention. 2009
- ¹¹³ Ghana AIDS Commission. Modes of HIV transmission in West Africa. [Ghana]: UNAIDS; 2010.
- ¹¹⁴ National HIV and AIDS Secretariat. Sierra Leone HIV Modes of Transmission Study: Know your epidemic, know your response. 2010
- ¹¹⁵ Luchters S, Chersich MF, Rinyiru A, Barasa MS, King'ola N, Mandaliya K, Bosire W, Wambugu S, Mwarogo P, Temmerman M. Impact of five years of peer-mediated interventions on sexual behavior and sexually transmitted infections among female sex workers in Mombasa, Kenya. *BMC Public Health*. 2008 Apr 29;8:143.
- ¹¹⁶ Shahmanesh M, Patel V, Mabey D, Cowan F. Effectiveness of interventions for the prevention of HIV and other sexually transmitted infections in female sex workers in resource poor setting: a systematic review. *Tropical Medicine & International Health* 2008;13:659-79.
- ¹¹⁷ Herbst JH, Beeker C, Mathew A, McNally T, Passin WF, Kay LS, Crepez N, Lyles CM, Briss P, Chattopadhyay S, Johnson RL; Task Force on Community Preventive Services. The effectiveness of individual-, group-, and community-level HIV behavioral risk-reduction interventions for adult men who have sex with men: a systematic review. *Am J Prev Med*. 2007 Apr;32(4 Suppl):S38-67.
- ¹¹⁸ Stockman JK, Strathdee SA. HIV among people who use drugs: a global perspective of populations at risk. *J. Acquir. Immune Defic. Syndr* 2010;55:S17-22.
- ¹¹⁹ Hutton G, Wyss K, N'Diékhon Y. Prioritization of prevention activities to combat the spread of HIV/AIDS in resource constrained settings: a cost-effectiveness analysis from Chad, Central Africa. *Int J Health Plann Mgmt* 2003;18:117-36.
- ¹²⁰ Piot P, Bartos M, Larson H, et al. Coming to terms with complexity: a call to action for HIV prevention. *Lancet* 2008;372(9641):845-859.
- ¹²¹ Beyrer C, Baral SD, Walker D, Wirtz AL, Johns B, Sifakis F. The Expanding Epidemics of HIV Type 1 Among Men Who Have Sex With Men in Low- and Middle-Income Countries: Diversity and Consistency. *Epidemiologic Reviews* 2010;32:137-151.
- ¹²² Ulasi CI, Preko PO, Baidoo JA, et al. HIV/AIDS-related stigma in Kumasi, Ghana. *Health Place* 2009;15:255-62.
- ¹²³ Mah TL, Dibba FJ. HIV/AIDS in the Gambia: a qualitative assessment of most-at-risk populations. Banjul: National AIDS Secretariat, UNAIDS and UNDP, 2008.
- ¹²⁴ Beyrer C, Malinowska-Sempruch K, Kamarulzaman A, Kazatchkine M, Sidibe M, Strathdee SA. Time to act: a call for comprehensive responses to HIV in people who use drugs. *Lancet*. 2010 Aug 14;376(9740):551-63.

GFATM Proposals

1. Abidjan – Lagos Corridor Organization (ALCO). Intensification of activities to fight STI/HIV/AIDS, targeting mobile populations. Round 6 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; August 2006. 118 p.
2. Comité de Coordination Multisectoriel de lutte contre le HIV/AIDS, la tuberculose et le malaria (CCM Guinea). Round 6 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; August 2006. 110 p.
3. Comité de Gestion du Fonds Mondial de lutte contre le SIDA, la Tuberculose et le Paludisme (CG/FM-STP) ou Burkina Faso. HIV/AIDS Components: Extension and strengthening of the fight against STI and HIV/AIDS (ERLIV). Round 6 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; July 2006. 104 p.
4. Country Coordinating Mechanism of Cameroon. HIV/AIDS Component. Round 5 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; August 2002. 78 p.
5. Country Coordinating Mechanism of Côte d'Ivoire. Strengthening of the national response to HIV to scale up prevention and general care taking into account gender and key populations at high risk of HIV infection. Round 9 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; June 2009. 159 p.
6. Country Coordinating Mechanism of Equatorial Guinea. Project component on strengthening national capacities and competence to manage integrated activities and services in the fight against HIV/AIDS for the period 2005 – 2009. Round 4 project proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; April 2004. 87 p.
7. Country Coordinating Mechanism of Gabon. Support for the Gabonese initiative to fight AIDS and Roll back malaria in Gabon. Round 8 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; July 2008. 73 p.
8. Country Coordinating Mechanism of the Gambia. Accelerating access to Prevention, Treatment, Care and Support Services. Round 8 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; July 2008. 98 p.
9. Country Coordinating Mechanism of Ghana. Round 8 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; July 2008. 84 p.
10. Country Coordinating Mechanism of Liberia. Increasing facility-based expansion and health system strengthening while strengthening prevention and community-based initiatives. Round 8 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; July 2008. 82 p.
11. Country Coordinating Mechanism of Nigeria. Round 9 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; June 2009. 83 p.

-
12. Country Coordinating Mechanism of the Republic of Mali. Strengthening of the fight against HIV and AIDS in Mali for universal access to prevention, treatment, care and support: an integrated and decentralized approach in community-based health care. Round 8 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; July 2008. 140 p.
 13. Country Coordinating Mechanism of Sri Lanka. Response to maintain the current low prevalence of HIV and improve the quality of life of people infected with and affected by HIV. Round 9 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; August 2009. 85 p.
 14. Country Coordinating Mechanism of Togo. Strengthening and expansion of prevention services and overall management of PLWHA in the context of universal access in Togo. Round 8 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; June 2008. 78 p.
 15. Country Coordinating Mechanisms (CCM)/Global Fund Senegal and the National Coordination Commission of the Global Fund to fight HIV/AIDS, Tuberculosis and Malaria. Senegal proposal – Global Fund round 9. Round 9 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; June 2009. 113 p.
 16. Global Fund Country Coordinating Mechanism of Cape Verde. Program to strengthen the prevention of HIV/AIDS and improve quality of life for PLWHA in the poorer populations of Cape Verde and improve quality of life for PLWHA in Cape Verde. Round 8 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; June 2008. 70 p.
 17. The National Committee for the Co-ordination of the projects funded by the Global Fund against AIDS, TB and Malaria (CNC/Benin). Accelerated access to services preventing HIV infection, care and treatment, and community-based support. Round 9 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; June 2009. 161 p.
 18. National Coordination High Council of Chad. Strengthening of the national response to HIV/AIDS for transition to the scale of prevention structures and global treatment: eligibility of the HIV/AIDS component. Round 8 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; June 2008. 94 p.
 19. President of Country Coordinating Mechanism of the Republic of Guinea Bissau. Round 7 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; July 2007. 101 p.
 20. Strengthening the HIV/AIDS epidemic response in Sao Tome and Principe. Round 5 proposal presented to the Global Fund to Fight AIDS, Tuberculosis and Malaria; June 2005. 79 p.

National AIDS Spending Accounts

-
1. Asante FA, Fenny AP. Ghana national AIDS spending assessment 2007: level and flow of resources and expenditures to confront HIV and AIDS. Ghana: Jointly published by the Institute of Statistical, Social and Economic Research (ISSER), University of Ghana for the Ghana AIDS Commission (GAC) and the Joint United Nations Programme on HIV and AIDS (UNAIDS); 2008. 31 p.
 2. Comité National de Lutte contre le Sida (Republique du Cameroun). L'Impact du VIH et du Sida au Cameroun à l'horizon 2020. [Republique du Cameroun]: Comité National de Lutte contre le Sida; 2010. 42 p.
 3. Comité National de Lutte contre le Sida (Republique du Cameroun), Programme Commun des Nations Unies Sur le VIH/Sida (UNAIDS). Rapport de l'analyse des flux des ressources et des dépenses nationaux contre le Sida (EF-REDES au Cameroun en 2007. [Republique du Cameroun]: Ministère de la Santé Publique; [2008?]. 47 p.
 4. Comité National de Lutte contre le Sida (Benin), Programme Commun des Nations Unies Sur le VIH/Sida (UNAIDS). Estimation des flux de ressources et de dépenses nationaux de lutte contre le VIH/Sida et les IST (REDES), Benin 2006 – 2007. [Benin]: Comité National de Lutte contre le Sida; 2008. 114 p.
 5. Comité National de Lutte contre le Sida (Benin), Programme Commun des Nations Unies Sur le VIH/Sida (UNAIDS). REDES 2006 – 2007: Estimation des flux de ressources et des dépenses de lutte contre le VIH/Sida, Report final. [Benin]: Comité National de Lutte contre le Sida; [2008?]. 43 p.
 6. Conseil National de Lutte contre le Sida et les Infections Sexuellement Transmissibles (Burkina Faso). Estimation des flux de ressources et de dépenses nationaux de lutte contre le VIH/Sida et les IST (EF-REDES), Rapport Final. [Burkina Faso]: Conseil National de Lutte contre le Sida et les Infections Sexuellement Transmissibles; 2009. 115 p.
 7. Conseil National de Lutte contre le Sida et les Infections Sexuellement Transmissibles (Togo). Flux des financements et des dépenses consacrés au VIH et au sida en 2006 et 2007 au Togo (REDES – Togo 2006 et 2007). Lomé, Togo: Conseil National de Lutte contre le Sida et les Infections Sexuellement Transmissibles; [2008?]; 49 p.
 8. Coordination Intersectorielle de Lutte contre le SIDA (Niger). Estimation des flux des ressources et dépenses de la lutte contre le VIH/Sida et les IST (REDES): Niger, 2007 – 2008. [Republique du Niger]: Coordination Intersectorielle de Lutte contre le SIDA; 2009. 107p.
 9. Ministère de la Lutte contre le Sida (Côte d'Ivoire). Estimation des flux des ressources et dépenses de la lutte contre le Sida (EF/REDES). [Côte d'Ivoire]: Ministère de la Lutte contre le Sida; 2009; 75p.

-
10. National HIV/AIDS Secretariat (Republic of Sierra Leone) and UNAIDS. Republic of Sierra Leone: national AIDS spending assessment (NASA) for the period 2006 – 2007, flow and level of resources and expenditures of the national HIV and AIDS Response. [Republic of Sierra Leone]: Jointly published by National HIV/AIDS Secretariat and UNAIDS; 2009. 84 p.
 11. Partnership framework on HIV/AIDS, 2010 – 2015: a memorandum of understanding between the Government of Nigeria and the United States Government to fight HIV/AIDS in Nigeria. [place unknown]: The U.S. President's Emergency Plan for AIDS Relief (PEPFAR); 2010. 19 p.
 12. Secrétaire Exécutif du Haut Conseil National de Lutte contre le Sida (HCNLS) (Mali). Estimation des flux des ressources et dépenses de la lutte contre le VIH/Sida et les IST (EF-REDES): Mali, 2007 – 2008. [Mali]: Haut Conseil National de Lutte contre le Sida; 2009. 137 p.
 13. UNAIDS. Guide to produce National AIDS Spending Assessment (NASA), Final Draft. [Geneva]: UNAIDS; 2009. 76 p.

Country Strategic Plans

1. Cadre stratégique national de lutte contre les IST/VIH/SIDA: 2003 – 2007. [République Islamique de Mauritanie]: [Conseil National de Lutte contre le SIDA]; 2002. 68 p.
2. Comité National de Lutte contre le SIDA (Bénin). Cadre stratégique national de lutte contre le VIH/SIDA/IST 2006-2010. [Bénin]: Comité National de Lutte contre le SIDA; [2005?]. 125 p.
3. Comité National de Lutte Contre le SIDA (Cameroun). L'Impact du VIH et du SIDA au Cameroun à l'horizon 2020. [Cameroun]: Comité National de Lutte Contre le SIDA; 2010. 32 p.
4. Comité National de Lutte contre le SIDA (Cameroun). Plan stratégique national de lutte contre le VIH/SIDA: 2006 – 2010. [Cameroun]: Comité National de Lutte contre le SIDA; [2006]. 82 p.
5. Comité National de Lutte contre le SIDA (Cameroun). Le plan stratégique national de lutte contre le VIH/ le SIDA et les autres IST 2011 – 2015, document préliminaire. [Cameroun]: Comité National de Lutte contre le SIDA; 2010. 123 p.
6. Comité National de Lutte contre le SIDA (Cameroun). Plan stratégique national de lutte contre le VIH, le SIDA et les IST 2011 – 2015. Yaoundé, Cameroun: Comité National de Lutte contre le SIDA; 2010. 99 p.
7. Comité National de Lutte contre le SIDA (Guinée). Cadre stratégique national: 2008-2012. [Guinée]: Comité National de Lutte contre le SIDA; 2008. 273 p.

-
8. Comité Sectoriel de la Santé (Mauritanie). Plan sectoriel triennal de lutte contre IST/VIH/SIDA du Ministère de la Santé et des Affaires Sociales. [Mauritanie]: Ministère de la Santé et des Affaires Sociales; [2002?]. 36 p.
 9. Conseil National de Lutte contre le SIDA (Côte d'Ivoire). Plan stratégique national de lutte contre le VIH/SIDA 2006-2010. [Côte d'Ivoire]: Conseil National de Lutte contre le SIDA; 2006. 161 p.
 10. Conseil National de Lutte contre le SIDA (Sénégal). Plan stratégique de lutte contre le SIDA: 2007 – 2011. Dakar, Sénégal: Conseil National de Lutte contre le SIDA; 2008. 78 p.
 11. Conseil National de Lutte contre le SIDA et les IST (Burkina Faso). Cadre stratégique de lutte contre le VIH/SIDA et les IST 2006-2010. [Burkina Faso]: Conseil National de Lutte contre le SIDA et les IST; 2005. 107 p.
 12. Coordination Intersectorielle de Lutte contre les IST/VIH/SIDA (Niger). Cadre stratégique national de lutte contre les IST/VIH/SIDA 2008-2012. [Niger]: Coordination Intersectorielle de Lutte Contre les IST/VIH/SIDA; 2007. 82 p.
 13. Ghana AIDS Commission. National strategic plan for HIV & AIDS 2011-2015. [Ghana]: Ghana AIDS Commission; 2010. 136 p.
 14. Haut Conseil National de Lutte contre le SIDA (République du Mali). Présentation du cadre stratégique de lutte contre le SIDA 2006 – 2010. Presentation at the July 2006 session of the HCNLS; June 2006; République du Mali.
 15. National Action Committee on AIDS (Nigeria). HIV/AIDS: National strategic framework for action (2005 – 2010). [Nigeria]: Society for Family Health; 2005. 86 p.
 16. Programme National de Lutte contre le SIDA (Tchad). Cadre stratégique national de lutte contre le VIH/SIDA et les IST 2007-2011. [Tchad]: Programme National de Lutte contre le SIDA; 2007. 89 p.
 17. Programme National de Lutte contre le SIDA et les IST (République Togolaise). Plan sectoriel de lutte contre le VIH/SIDA du Ministère de la Santé: 2009 – 2013. [République Togolaise]: Programme National de Lutte contre le SIDA et les IST; 2008. 115 p.
 18. Le secretariat permanent de Conseil National de Lutte contre le Sida et les Infections Sexuellement Transmissibles (République Togolaise). Plan stratégique national de lutte contre le Sida et les IST 2007 – 2010. [République Togolaise]: Conseil National de Lutte contre le Sida et les Infections Sexuellement Transmissibles; [2006?]. 108 p.

-
1. Asante FA, Fenny AP. The Gambia: National AIDS spending assessment 2007 and 2008 level and flow of resources and expenditures to confront HIV/AIDS. [The Gambia]: Jointly published by the National AIDS Secretariat (The Gambia) and UNAIDS; 2009. 82 p.
 2. Comité de Coordenação do Combate à Sida (República de Cabo Verde). Rapport de situation national à l'intention de l'UNGASS: Cap Vert Janvier 2008 – Décembre 2009. Praia, República de Cabo Verde: Comité de Coordenação do Combate à Sida; [2010?] 45 p.
 3. Comité National de Lutte contre le Sida (Bénin), Programme Commun des Nations Unies Sur le VIH/Sida (UNAIDS). Rapport de la situation nationale à l'intention de l'UNGASS: Bénin. [Bénin]: Comité National de Lutte contre le Sida; 2010. 75 p.
 4. Comité National de Lutte contre le Sida (Guinée). Rapport UNGASS 2010: Guinée. [Guinée]: Comité National de Lutte contre le Sida; 2010. 73 p.
 5. Comité National de Lutte contre le Sida (Republique du Cameroun). *Rapport de progrès sur la déclaration* d'engagement sur le VIH/Sida UNGASS: Janvier 2008 – Décembre 2009. [Republique du Cameroun]: Comité National de Lutte contre le Sida; 2010. 38 p.
 6. Comité National de Lutte contre le Sida (République Islamique de Mauritanie). Rapport UNGASS 2010. [République Islamique de Mauritanie]: Comité National de Lutte contre le Sida; 2010. 19 p.
 7. Conseil National de Lutte contre les IST/VIH/SIDA (Republique du Tchad). Rapport de la situation national à l'intention de l'UNGASS: Janvier 2008 – Décembre 2009. [Republique du Tchad]: Conseil National de Lutte contre les IST/VIH/SIDA; 2010. 44 p.
 8. Conseil National de Lutte contre le Sida (Côte d'Ivoire). Rapport national UNGASS 2010: Côte d'Ivoire, Janvier 2008 – Décembre 2009, Version finale. [Côte d'Ivoire]: Conseil National de Lutte contre le Sida; 2010. 66 p.
 9. Conseil National de Lutte contre le Sida (République du Sénégal). Rapport de situation sur la riposte nationale a l'épidémie de VIH/Sida, Sénégal: 2008 – 2009: Suivi de la session extraordinaire de l'assemblée générale des nations unies sur le VIH/SIDA (UNGASS). [Sénégal]: Conseil National de Lutte contre le Sida; 2010. 61 p.
 10. Conseil National de Lutte contre le Sida et les IST (République du Togo). Suivi de la déclaration d'engagement sur le VIH et le sida: rapport 2010. [République du Togo]: Conseil National de Lutte contre le Sida et les IST ; [2010?]; 84 p.
 11. Conseil National de Lutte contre le Sida et les Infections Sexuellement Transmissibles (Burkina Faso). *Suivi de la déclaration d'engagement sur le VIH/SIDA: Rapport UNGASS 2010 du Burkina Faso*. [Burkina Faso]: Conseil National de Lutte contre le Sida et les IST; 2010. 40 p.

-
12. Coordination Intersectorielle de Lutte contre les IST/VIH/SIDA (Republique du Niger). 2010 rapport national UNGASS: période considérée: Janvier 2008 - Décembre 2009. [Republique du Niger]: Coordination Intersectorielle de Lutte contre les IST/VIH/SIDA; 2010. 29 p.
 13. Direction Générale de la Prévention du SIDA (Gabon). Rapport national *de suivi de la Déclaration d'engagement* (UNGASS). [Gabon]: Ministère de la Santé, des Affaires Sociales, de la Solidarité et de la Famille; 2010. 33p.
 14. Ghana AIDS Commission. Ghana's progress report on the United Nations General Assembly Special Session (UNGASS) declaration of commitment on HIV and AIDS: Reporting Period January 2008 – December 2009. [Ghana]: Ghana AIDS Commission; 2010. 116 p.
 15. Haut Conseil National de Lutte contre le SIDA (République du Mali). Rapport national UNGASS: Période: Janvier 2008 - Décembre 2009. [Mali]: Haut Conseil National de Lutte contre le SIDA; 2010. 92 p.
 16. National Agency for the Control of AIDS (Nigeria). United Nations General Assembly Special Session (UNGASS) Country progress report. [Nigeria]: National Agency for the Control of AIDS; 2010. 109 p.
 17. National HIV/AIDS Secretariat (Sierra Leone). 2010 Sierra Leone UNGASS progress report. Freetown, Sierra Leone: National HIV/AIDS Secretariat; 2010. 39 p.
 18. Programa Nacional de Lucha contra el SIDA (República de Guinea Ecuatorial). Declaración de compromiso sobre VIH-SIDA, UNGASS: informe nacional sobre los progresos realizados en la aplicación del UNGASS. [República de Guinea Ecuatorial]: Programa Nacional de Lucha contra el SIDA; 2010. 87 p.
 19. Programa Nacional de Luta Contra o SIDA (São Tomé and Príncipe). Monitorização e avaliação /evolução dos dados epidemiológicos: 2005 a 2008. [São Tomé and Príncipe]: Programa Nacional de Luta Contra o SIDA; 2009; 88 p.