









2016 Integrated Biological and Behavioral Survey (IBBS) Report among Key Populations in Cameroon:

Female sex workers and men who have sex with men

September 2017

Funded by U.S. Agency for International Development (USAID) through PEPFAR

The USAID | CHAMP Project, Task Order No.2, is funded by the U.S. Agency for International Development under Contract No.AID-624-A-14-00003, beginning April,2014, and supported by the President's Emergency Plan for AIDS Relief. The Continuum of Prevention, Care and Treatment (CoPCT) of HIV/AIDS with Most At-Risk- Populations (CHAMP) Project is led by CARE International and managed by CARE Cameroon

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Acronyms

ART ..... Antiretroviral therapy

CBO..... Community-based organization

CCU ..... Consistent condom use

CHAMP .... Continuum of Prevention, Care and Treatment of HIV/AIDS with most at-risk-Populations

CI..... Confidence interval

CoPCT ..... Continuum of Prevention, Care and Treatment

FSW..... Female sex workers

HIV ..... Human immunodeficiency virus

IBBS..... Integrated biological and behavioral survey

IDU..... Injecting drug use

JHU ..... Johns Hopkins University

LDTD ..... Long-distance truck drivers

MSM ..... Men who have sex with men

NACC..... National AIDS Control Committee

NGO ..... Non-governmental organization

PLHIV ..... People living with HIV

PrEP ..... Pre-exposure prophylaxis

RDS ..... Respondent driven sampling

UIC ..... Unique identification code

Executive summary

Background. In Cameroon, HIV is disproportionately high among female sex workers (FSW) and men who have sex with men (MSM) compared to the overall adult population (national prevalence 4.3% in 2011)[1]. In 2016 an Integrated Biological and Behavioral Survey (IBBS) was conducted among these two key populations. The aim of the IBBS was to assess the knowledge, attitude, risk behavior, and prevalence of HIV and syphilis infections among FSW and MSM in Cameroon, in order to inform programmatic interventions and policies to reduce disease prevalence and incidence in these populations.

Methods. A cross-sectional survey was conducted among FSW and MSM recruited from five locations from December 2015-October 2016. Participants were recruited through respondent driven sampling (RDS), which enables recruitment of hard-to-reach populations. Trained interviewers administered a behavioral questionnaire and conducted rapid serological testing for HIV and syphilis. This report focuses on descriptive indicators of risk, HIV prevalence and active syphilis.

Results. In total, 2255 FSW and 1323 MSM were recruited and tested for HIV and syphilis.

Female sex workers: The estimated number (95% CI) of FSW in major cities was: Yaoundé 8,948 (6,988–12,434), Douala 7,111 (7,111–12,652) and Bamenda 1,334 (1,042–1,854). It was estimated that 1.5% of reproductive aged women in major cities are FSW.

Overall, the crude HIV prevalence estimate was 24.3% (547/2,255), which included 254 (48.3%) FSW with newly diagnosed HIV infection. RDS-adjusted point estimates (95% CI) varied by city: Yaoundé 21.1% (16.9–25.9); Douala 30.3% (23.8–37.7); Bertoua 18.7% (13.3–25.7); Bamenda 33.9% (26.9–41.8); and Kribi 13.6% (10.4–17.6). Crude syphilis prevalence was 8.2% (186/2,255) overall, and 9.5% of HIV positive FSW were coinfected with syphilis.

In addition to their clients, FSW commonly reported regular (83.5%) and casual (27.7%) non-paying partners. Consistent condom use (CCU) was highest with clients (77.5%) followed by casual non-paying partners (51.3%) then regular non-paying partners (19.5%).

The most common negative experiences related to sex work reported by FSW were blackmail (44.7%), being arrested (33.5%) and being physically harassed or hurt (24.8%). Further, 32.6% of FSW reported ever being forced to have sex against their will.

Men who have sex with men: The estimated number (95% CI) of MSM in major cities was: Yaoundé 4,967 (3,506–8,516), Douala 5,069 (3,578–8,692) and Bamenda 705 (4,498–1,209). It was estimated that 0.8% of reproductive aged men in major cities are MSM.

Overall, the crude HIV prevalence estimate was 20.7% (272/1,323), which included 158 (58.1%) MSM with newly diagnosed HIV infection. RDS-adjusted estimates varied by city: Yaoundé 43.1% (33.0-53.7); Douala 20.5% (13.3–30.4); Bertoua 7.2% (4.1–12.5); and Kribi 3.0% (1.4–6.4). Crude syphilis prevalence was 2.7% (36/1,323) overall, and 3.3% of HIV positive MSM were coinfected with syphilis.

MSM reported both regular (85.5%) and casual (66.8%) male partners. CCU ranged from 33.8% during insertive sex with regular partners to 41.6% during receptive anal sex with casual partners. In addition to male sex partners, MSM commonly reported ever having regular female (66.2%) or casual female (50.3%) sex partners. CCU was low with female partners (21.5% and 32.4%, respectively).

The most common negative experiences related to having sex with men reported by MSM were blackmail (22.6%), being arrested (14.7%) and verbal harassment (14.8%). Additionally, 16.7% of MSM reported ever being forced to have sex against their will.

Discussion. HIV prevalence was exceptionally high among FSW and MSM in Cameroon, and at least half of positive cases were previously undiagnosed. Disparities by city were evident for biological and behavioral indicators and should be considered in the design and implementation of HIV prevention and treatment programs. Comprehensive prevention and treatment programs will need to overcome barriers to engaging FSW and MSM in care, including stigma, discrimination, and gender-based violence, which were widely reported in this sample.

[1] Comité National de Lutte contre le Sida (CNLS) and UNAIDS (2014). Rapport national de suivi de la declaration politque sur le VIH/SIDA Cameroun: Global AIDS Response Program (GARP). Yaounde, CNLS.

Résumé

Contexte. Au Cameroun, le VIH chez les travailleuses de sexe (TS) et les hommes qui ont des rapports sexuels avec les hommes (HSH) est disproportionnellement élevé par rapport à la population adulte en général (prévalence nationale 4,3% en 2011)[1].

En 2016, une enquête intégrée sérologique et comportementale (IBBS) a été menée parmi ces deux populations clés. Le but de l'IBBS était d'évaluer les facteurs de connaissance, d'attitudes, de comportements et biologiques associés aux infections par le VIH et la syphilis chez les TS et les HSH au Cameroun afin d'informer les interventions programmatiques et les politiques visant à réduire la prévalence et l'incidence de ces maladies dans ces populations.

Méthodes. C'est une étude transversale qui a été menée auprès des TS et HSH recrutés dans cinq sites de cinq régions du Cameroun. Les participants ont été enrôlés en utilisant la méthode de recrutement en chaine (RDS) qui permet de recruter les populations difficiles à atteindre. Les enquêteurs formés ont administré un questionnaire comportemental et les laborantins tout aussi formés, ont pratiqué des tests rapides du VIH et de la syphilis. Ce rapport ne présente que des analyses descriptives des indicateurs du risque, de la prévalence du VIH et de la syphilis active.

Résultats. Au total, 2 255 TS et 1 323 HSH ont été recrutés dans cette étude et testés pour le VIH et la syphilis.

Travailleuses de sexe: L'estimation du nombre (95% CI) de TS dans les principales villes a donné: Yaoundé 8 948 (6 988¬12 434), Douala 7 111 (7 111¬12 652) et Bamenda 1 334 (1 042¬1 854). Il a été estimé que dans les principales villes 1,5% de femmes en âge de procréer sont des TS.

Dans l'ensemble, 547 (24,3%) des TS ont été testées positives pour le VIH, dont 254 (48,3%) avec une infection à VIH nouvellement diagnostiquée. La prévalence de la syphilis était de 8,2% et 9,5% des TS séropositives étaient infectées par la syphilis. En plus de leurs clients, les TS ont généralement rapporté des partenaires non payants réguliers (83,5%) et occasionnels (27,7%). L'utilisation systématique du préservatif (CCU) a été la plus élevée avec les clients (77,5%), suivi par les partenaires occasionnels non payants (51,3%) et les partenaires réguliers non payants (19,5%).

Les expériences négatives les plus courantes liées au travail du sexe rapportées par les TS étaient le chantage (44,7%), l'arrestation (33,5%) et le harcèlement physique ou blessé (24,8%). En outre, 32,6% des TS ont déclaré avoir été forcées d'avoir des rapports sexuels contre leur gré.

Hommes qui ont des rapports sexuels avec des hommes : L'estimation du nombre (95% CI) de HSH dans les principales villes a donné: Yaoundé 4 967 (3 506¬8 516), Douala 5 069 (3 578¬8 692) et Bamenda 705 (4 498¬1 209). Il a été estimé que dans les principales villes 0,8% d'hommes en âge de procréer sont des HSH.

Dans l'ensemble, l'estimation brute de la prévalence du VIH était de 20,7% (272/1 323), dont 158 (58,1%) HSH avec une infection à VIH nouvellement diagnostiquée. L'effet du corrigé de

l'échantillonnage piloté par le répondant (RDS) sur l'estimation de la prévalence du VIH était variable selon les villes : Yaoundé 43,1% (33,0-53,7) ; Douala 20,5% (13,3-30,4) ; Bertoua 7,2% (4,1-12,5) ; et Kribi 3,0% (1,4-6,4). La prévalence brute de la syphilis était globalement de 2,7% (36/1 323), et 3,3% des HSH VIH positifs avaient une co-infection avec la syphilis.

Les HSH ont rapporté des partenaires réguliers masculins (85,5%) et occasionnels (66,8%). L'utilisation systématique du condom variait de 33,8% pendant les rapports sexuels inserts avec des partenaires réguliers à 41,6% pendant le sexe anal réceptif avec des partenaires occasionnels. En plus des partenaires sexuels masculins, les HSH déclarent avoir des conjoints sexuels féminins réguliers (66,2%) ou partenaires occasionnels féminins (50,3%). L'utilisation systématique du condom était faible avec les partenaires féminins (21,5% et 32,4%, respectivement).

Les expériences négatives les plus fréquentes pour avoir eu des rapports sexuels avec les hommes, rapportées par les HSH étaient le chantage (22,6%), l'arrestation (14,7%) et le harcèlement verbal (14,8%). En outre, 16,7% des HSH ont rapporté avoir été forcés d'avoir des rapports sexuels contre leur volonté.

Discussion. La prévalence du VIH était exceptionnellement élevée chez les TS et les HSH au Cameroun, et au moins la moitié des cas positifs étaient précédemment non diagnostiqués. Les disparités entre les villes étaient significatives pour les indicateurs biologiques et comportementaux et devraient être prises en compte dans la conception, le développement et la mise en œuvre des programmes de prévention et de traitement du VIH. Des programmes complets de prévention et de traitement devront surmonter les obstacles à la liaison des TS et des HSH aux soins, y compris la stigmatisation, la discrimination et la violence basée sur le genre, qui ont été largement rapportés dans cet échantillon.

[1] Comité National de Lutte contre le Sida (CNLS) and UNAIDS (2014). Rapport national de suivi de la declaration politque sur le VIH/SIDA Cameroun: Global AIDS Response Program (GARP). Yaounde, CNLS.

Background

In Cameroon, the estimated HIV prevalence among the adult population is 4.3% (2011) but exceeds one-in-five among certain sub-populations [1]. Based on a review of available data from 1991–2009, the HIV prevalence was estimated to be 23.6% among female sex workers (FSW) [2], while a 2009 study estimated prevalence as high as 37.0% among FSW nationally, with strong regional disparity [3]. Among men who have sex with men (MSM), the estimated HIV prevalence in 2011 was 25.5% in Douala and 44.4% in Yaoundé [4]. In 2004, the prevalence among long distance truck drivers (LDTD), a proxy used for clients of FSW, was reported to be 16.3% [5]. Based on National strategies put in place in response to HIV and AIDS (2011-2015) in Cameroon, MSM, FSW, clients of FSW and LDTD are defined as key populations for HIV prevention and control.

In addition to increased risk of HIV infection due to engagement in high-risk sexual behavior, gender-based violence, stigma, discrimination and criminalization of sexual practices faced by FSW and MSM may exacerbate HIV risk and threaten safety [6, 7]. Further, in Cameroon these factors are documented barriers to accessing HIV prevention, treatment and care services. A study of antiretroviral treatment (ART) coverage among FSW and MSM in Cameroon found that across seven cities in Cameroon, 0% to 25% of FSW and MSM living with HIV were on ART, and ART service provision was substantially lower for key populations compared to the total population [7]. ART coverage fell well below the UNAID targets of 90% ART coverage among PLHIV [8]. Studies have consistently demonstrated the importance of expanded HIV treatment to improve clinical outcomes for those living with HIV as well as decrease onward sexual and vertical HIV transmission.

In response to the elevated HIV prevalence and barriers to HIV care and treatment among key populations, CARE USA was awarded a USAID grant to establish the Continuum of Prevention, Care and Treatment (CoPCT) of HIV/AIDS with Most at-risk Populations (CHAMP) in Cameroon. Within the CHAMP project, CARE Cameroon contracted Johns Hopkins University (JHU) and Metabiota to conduct, in collaboration with National AIDS Control Committee (NACC), an Integrated Biological and Behavioral Survey (IBBS). The results of this study will inform the national indicators on HIV/AIDS in these populations and programmatic implementation for HIV care and treatment services.

Aims and objectives

The goal of the study was to assess the knowledge, attitude, behavioral and biological factors associated with HIV and syphilis infections among two key populations in Cameroon—FSW and MSM—in order to inform programmatic interventions and policies to reduce disease prevalence and incidence in these populations.

Specific objectives of the 2016 IBBS were the following:

1. To establish baseline risk behaviors, attitudes and biological factors with respect to HIV and syphilis among FSW and MSM;
2. To determine the point prevalence of HIV and syphilis among FSW and MSM; and
3. To refine population size estimates of FSW and MSM in the CHAMP intervention sites as a means of characterizing baseline coverage of HIV prevention, treatment, and care services.

Methodology

Overview

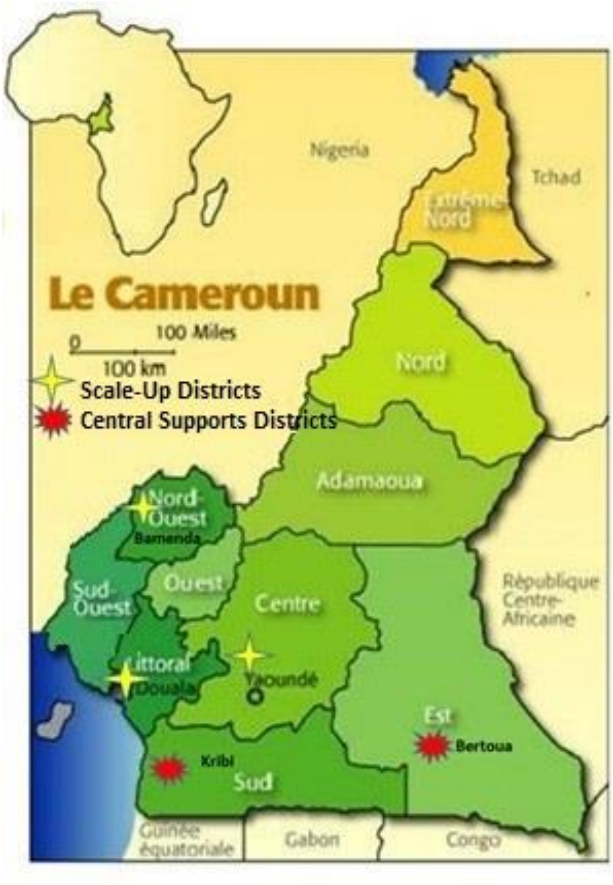
This study was based on cross-sectional data collected for an IBBS among FSW and MSM in Cameroon, December 2015–October 2016.

The IBBS data collection tools and recruitment strategy were informed by formative qualitative research and mapping. A qualitative study was conducted simultaneously to supplement quantitative data and better understand and describe issues surrounding HIV and HIV risk, including practices, perceptions, stigma, and violence. These findings will be reported elsewhere. This report focuses on the descriptive analysis (aims one and two) of the primary quantitative survey and population size estimation (aim three).

Study sites

The IBBS was conducted at CHAMP's five intervention sites in Cameroon: Douala, Yaoundé, Bamenda, Bertoua and Kribi (Figure 1).

Figure 1. CHAMP intervention sites in Cameroon



Study population and inclusion criteria

For this report, we defined female sex workers (FSW) as women who report sex work as their primary source of income (Table 1). Women who reported transacting sex for money, favors or other goods but as a non-primary source of income were not eligible. We defined MSM as men

who reported anal sex with another man in the past 12 months. Men who only reported other sexual contact (e.g. oral sex) with other men were excluded.

Inclusion criteria for enrolment in the IBBS were based on the following characteristics defined for each key population in Table 1:

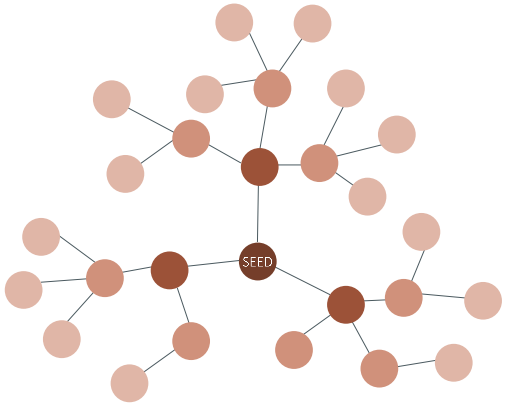
Table 1. Inclusion criteria of 2016 IBBS

FSW	MSM
• Born female • 18 years of age or older • Reports practice sex work in the past 12 months • Sex work is the principal source of income	• Born male • 18 years of age or older • Reports having anal sex (insertive or receptive) with another man in the past 12 months
• Capable of providing verbal informed consent • Speaks and understand English or French • Did not participate in a similar study in the past 6 months • Presents a valid RDS coupon for the study • Have resided in a study site for the last three months (residency card not needed)	

Participant recruitment & data collection procedures

Recruitment of FSW and MSM was based on RDS methodology, a chain-referral sampling scheme. For each key population group, sampling aimed for a minimum of two seeds. At the end of recruitment, one FSW site (Bertoua) and three MSM sites (Douala, Bamenda and Kribi) used only one seed per site. Each seed was asked to recruit up to three members of their social network who satisfied the study's eligibility criteria. Recruited members, known as nodes, in turn recruited up to three members of their own social networks, repeating in waves until the desired sample size was met (Figure 2).

Figure 2. Schematic diagram of respondent driven sampling



Recruitment of seeds was based on convenience sampling, informed by the formative study and mapping exercise, with selection based on meeting the following criteria:

1) Understand recruitment process;
2) Able to recruit peers;
3) Knows many other peers; and
4) Shows interest in being a recruiter.

Study staff explained the study to potential seeds and provided willing participants with contact information to arrange eligibility screening and interviews at the study site. After screening and providing informed consent, seeds completed an interviewer-assisted behavioral questionnaire and underwent serologic testing. Thereafter, seeds were provided with three coupons to distribute to peers. Subsequent recruits were then provided with three coupons of their own to distribute within their peer network.

Participants who tested positive for HIV and/or syphilis were referred to CHAMP-supported health facilities for care and treatment and to CHAMP supported DIC/non-DIC for continuous uptake of prevention services. Those who tested negative for HIV and Syphilis were referred to CHAMP-supported DIC/non DIC for uptake of prevention services and promotion of routine HIV and STI testing.

Sample size

The required sample size was calculated using a design effect to adjust for the quasi-random nature of RDS. The estimated sample size was therefore determined by the following: the level of confidence (95%) type I error; 80% power; the acceptable margin of error (6%); the design effect (2); presumed refusal rate of 10%; and presumed missing data rate of 10%. For FSW, calculations considered the estimated HIV prevalence among FSW by region (Littoral: 33.7%; Center: 28.7%; Northwest: 41.5%; South 28.4%; East 44.8%) [9]. For MSM, calculations considered report of consistent condom use during anal sex among MSM in Yaoundé (63.8%), Douala (52.0%) and Bamenda (61.6%), and proportion who never used female condom during vaginal sex in the last month for MSM in Bertoua (55.4%) and Kribi (62.2%) [10]. Calculated sample size targets by study site are listed in Table 2.

Table 2. Target sample sizes for FSW and MSM by study site

City	FSW	MSM
Douala	460	350
Yaoundé	571	306
Bamenda	340	203
Bertoua	301	250
Kribi	578	203
Total	**2250**	**1312**

Integrated biological and behavioral questionnaire

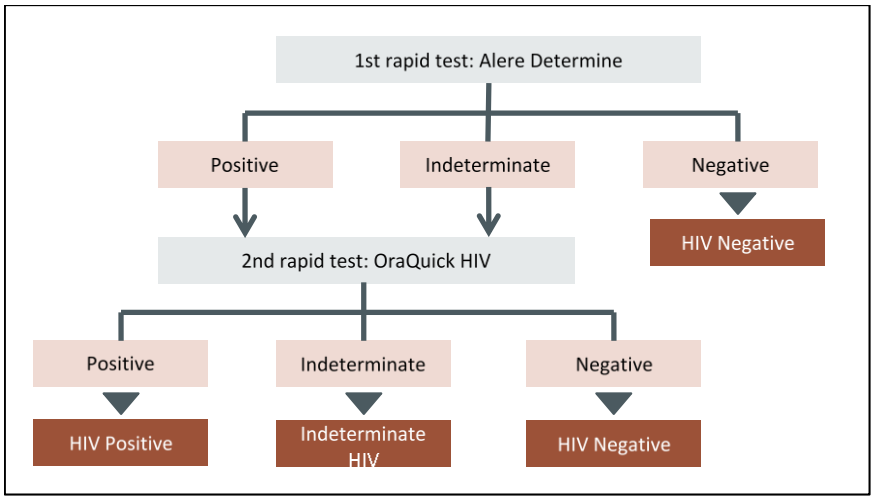
Questionnaires were developed by the technical working group including input from Ministerial departments, local and international organizations, and the NACC. Trained interviewers administered questionnaires to participants in a secure and private setting. Completion took approximately 45–60 minutes and was done prior to biological testing. Questionnaires covered the following domains:

1. Socio-demographic status;
2. Drug use history;
3. Sexual behavior and condom use;
4. History and knowledge of HIV and syphilis;
5. History of tuberculosis and blood donations;
6. Stigma and discrimination;
7. Exposure to Drop-in-centers;
8. Network size and population size; estimation questions; and
9. HIV and Syphilis test results.

Testing procedure

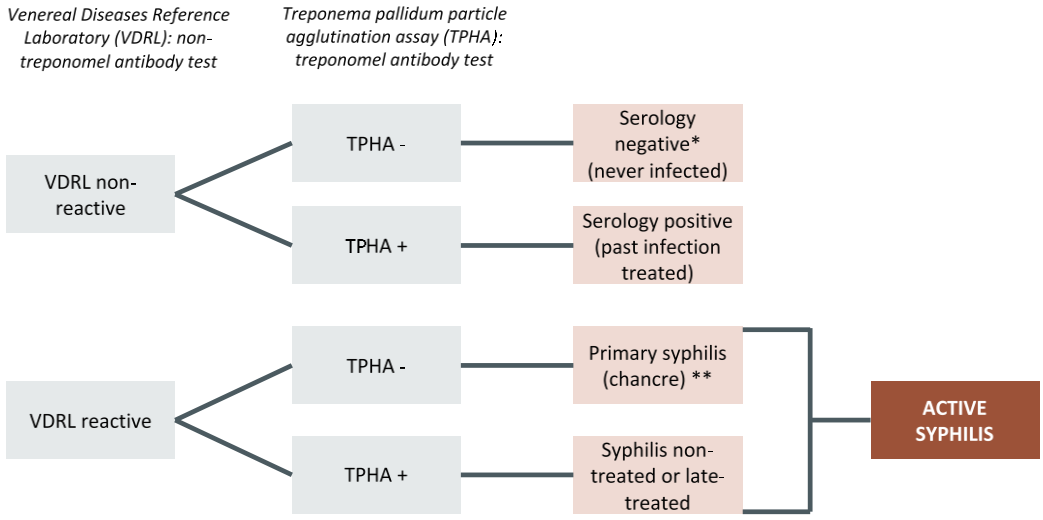
Serological testing was based on venous blood draw and followed national procedures, including both pre- and post-test counselling. HIV testing utilized dual rapid testing (Alere Determine ™ HIV – ½ and OraQuick HIV – ½) based on the national testing protocol (Figure 3).

Figure 3. HIV testing algorithm based on national protocol



Syphilis testing utilized rapid VDRL and *Treponema pallidum* hemagglutination assays (TPHA) for detection of syphilis antibodies and classification of primary, active and past infection (Figure 4). The testing algorithm was based on the national protocol (Annex 1) but confirmatory testing with FTA-ABS was not available. Subsequently, we could not exclude false-positive VDRL tests. Following blood-draw, participants received post-test counselling until results were available 30–40 minutes after testing.

Figure 4. Syphilis testing algorithm adapted from the national protocol



* Does not exclude early syphilis in the case of recent infection
** Confirmatory-testing through FTA-ABS not available, so could not differentiate false-positive VDRL tests (FTA negative)

Quality control

For quality control, all samples testing positive and every 15th result, regardless of result, were forwarded to CRESAR laboratory at Metabiota. Plasma was collected from samples and sent to

the Military Hospital, Yaoundé, for ELISA testing. Due to limited availability of reagent, only samples from Yaoundé were screened for quality control.

All indeterminate results in Yaoundé were also verified with ELISA; 6/7 were confirmed negative and 1/7 was confirmed positive. Among remaining results verified by ELISA, there was one false-positive, with a resulting positive predictive value of 99.6% and negative predictive value of 100%. Verified results were used to estimate HIV prevalence.

Participant reimbursement

Coupons allocated to seeds and subsequent participants entitled them to collection of 2000 FCFA (~4 USD) for reimbursement of transportation costs and an additional 1000 FCFA (~2 USD) for each referred participant who was recruited and completed the study. Based on up to three referred participants per recruiter, participants received a maximum of 5000 FCFA (~10 USD). Transport reimbursement was paid in cash after survey completion, and additional recruitment payments were made following recruitment of referred participants.

Data analysis

Questionnaires and test results were doubled-entered into STATA [11] at the JHU/Metabiota Office based in Yaoundé. Data were checked for skip patterns, consistency and validity.

The primary outcomes were HIV and active syphilis prevalence. Indeterminate results were excluded from the denominator. Secondary outcomes included knowledge and behavioral variables such as condom use (at last sex and consistent condom use), experience of stigma and discrimination, mental health and gender-based violence. Exploratory data analysis (i.e. frequencies and cross-tabulations) were performed for indicator variables. We report unadjusted proportions of indicator variables and biological testing outcomes. RDS-adjusted population estimates (see below) are reported separately, where available. Full frequency and proportions are provided in Annex 1. Except where indicated, denominators exclude answer refusals, don't know or missing data.

RDS-adjusted estimation

RDS-adjusted population estimates were computed using the Volz-Heckathorn estimator with bootstrapping to obtain 95% confidence intervals (95%CI) [12]. RDS-adjusted estimations were calculated for indicators with less than 10 missing responses and with seeds equally distributed between the set categories for each of the indicators.

Mapping MSM venues and services

A mapping exercise was conducted in the five study sites to locate and characterize venues frequented by MSM, services for MSM, and key implementing partners for MSM. A similar process was led by the World Bank for FSW and is available elsewhere [13].

First, key informants were identified from CBOs and programs that serve MSM, public services (police, Ministry of Women and Family [MINPROFF], municipal counsellors) and community gatekeepers. Interviews were held with key informants and focus groups held with MSM beneficiaries in order to develop a preliminary list of sites and services. The study team visited all listed sites to validate sites and ensure they were functional. GPS coordinates were used to pinpoint each location. These were mapped using Google Maps. Mapped sites included venues highly frequented by MSM, health facilities/clinics, and services selling/providing condoms within the close vicinity of hotspots.

Population size estimation

See Part 4. Population size estimates for details of methods, implementation and analysis relating to population size estimation.

Ethical considerations

This study was approved by the National Ethics Committee of Cameroon in May 2015 (No. 2015/05/591/CE/CNERSH/SP), amended in June 2016 (No. 2016/06/782/CE/CNERSH/SP) and received administrative authorization from the Ministry of Public Health in June 2015 (No. 631 2315). To maintain confidentiality and privacy, all data are non-identifiable and personal or location identifiers were not collected. Participants received a unique identification code (UIC) generated at enrolment using information known only to them based on questions that are easily answered, reproducible, culturally appropriate, individually unique, and that members of the target populations would be comfortable answering. The UIC for each participant was developed using the following guide:

1. What is the first two letters of your mother maiden? L1L2
2. What is the first two letters of the village you were born? L3L4
3. What is the month of your birth? (‘‘00’’ if don’t know) N1N2
4. What is the year of your birth? (‘‘00” if don’t know) N3N4
5. What is the first two letters of the quarter you are living in? L5L6

L1 L2 L3 L4 N1 N2 N3 N4 L5 L6
L=Letter N=Number
Example: BAYA0185BI

The UIC was used on coupons to verify participant information for the purpose of reimbursement and to establish network ties in RDS sampling.

Paper forms were transported securely in locked boxes and stored in a secure facility at JHU/Metabiota office premises. Electronic data were password-protected. Access to data was restricted to the study investigators, the study coordinator, and the data manager only. All data and sample blood collections will be destroyed after five years.

Results

Part 1. Female sex workers

Socio-demographic profile

A total of 2255 FSW were recruited from five cities nationally (Table 3).

Table 3. Socio-demographic characteristics of FSW

	Yaoundé (n=574)	Douala (n=457)	Bertoua (n=304)	Bamenda (n=341)	Kribi (n=579)	Total (n=2255)
	%	%	%	%	%	%
Median age (years)	29.0	32.0	24.0	32.0	26.0	28.0
Education						
Primary school or less	24.7	37.5	27.4	49.3	23.9	31.2
Some secondary school	65.5	57.3	63.7	34.6	70.3	60.2
Secondary school	3.8	2.2	6.6	11.7	2.8	4.8
Post-high school education*	5.9	3.1	2.4	4.4	3.1	3.9
Marital status						
Single/Never married	81.9	84.0	69.0	46.9	88.4	77.0
Married	0.5	0.9	1.0	1.2	1.4	1.0
Married but separated	2.4	1.8	0.3	10.6	0.9	2.8
Stable partner (boyfriend)	4.9	4.8	23.4	21.1	6.9	10.3
Divorced	5.7	3.5	2.6	5.6	0.9	3.6
Widowed	4.5	5.0	3.6	14.7	1.6	5.3
Living situation						
Homeless	0.0	0.2	0.0	0.0	0.0	0.0
Live alone	35.7	58.9	42.4	44.6	44.5	44.9
Live with family	54.0	33.7	53.6	45.2	46.7	46.6
Live with roommates/friends	5.9	7.2	1.6	8.2	2.3	5.0
Brothel	0.0	0.0	0.0	1.2	1.0	0.4
Living with partner	4.4	0.0	2.3	0.9	5.5	3.0
Biological children						
No biological children	15.7	12.3	18.1	11.7	19.3	15.7
1 to 5 biological children	79.8	84.7	78.3	84.5	78.2	80.9
More than 5 biological children	4.5	3.1	3.6	3.8	2.4	3.5
Average monthly income**						
<50 000 FCFA	25.5	8.8	20.2	65.1	33.6	29.5
50 001-100 000 FCFA	40.7	24.9	51.2	31.4	45.8	38.8
100 001-150 000 FCFA	18.0	21.7	17.8	2.6	11.4	14.7
150 001-200 000 FCFA	6.3	14.0	5.1	0.3	5.2	6.5
200 001-250 000 FCFA	4.9	18.6	3.0	0.6	1.7	6.0
250 001-300 000 FCFA	2.6	8.1	2.4	0.0	1.6	3.0
>300 000 FCFA	2.1	3.9	0.3	0.0	0.7	1.6
Profession#						
None/Unemployed/Looking for work	56.8	72.6	57.9	40.5	44.4	54.5
Training/Student	8.5	4.2	12.2	3.8	11.7	8.3
Intern	0.0	0.2	0.0	1.2	0.2	0.3
Independent worker	27.4	21.7	22.7	12.9	39.7	26.6
Short-term contract	1.9	0.7	3.0	16.7	1.7	4.0
Indefinite contract	0.7	0.2	3.0	2.1	1.2	1.2
Other¤	4.7	0.4	1.3	22.9	1.0	5.2

* Technical, professional or university training
** Acquired through formal and/or informal work
# Professional employment other than sex work
¤ Including hairdresser, tailor, shopkeeper, peer educator

Ages ranged from 18 to 70 years. The median age was 28 years (interquartile range [IQR]: 23–36) with a relatively younger sample recruited in Bertoua and Kribi. The level of education was low throughout the sample, with only 88 (3.9%) FSW reporting any post-high school education. The majority of FSW were single and never married, ranging from 46.9% in Bamenda to 88.4% in Kribi. FSW predominantly lived alone (1012/2254; 44.9%) or lived with family (1051/2254; 46.6%). Across all cities, most FSW (1902/2255; 84.4%) reported having any biological children.

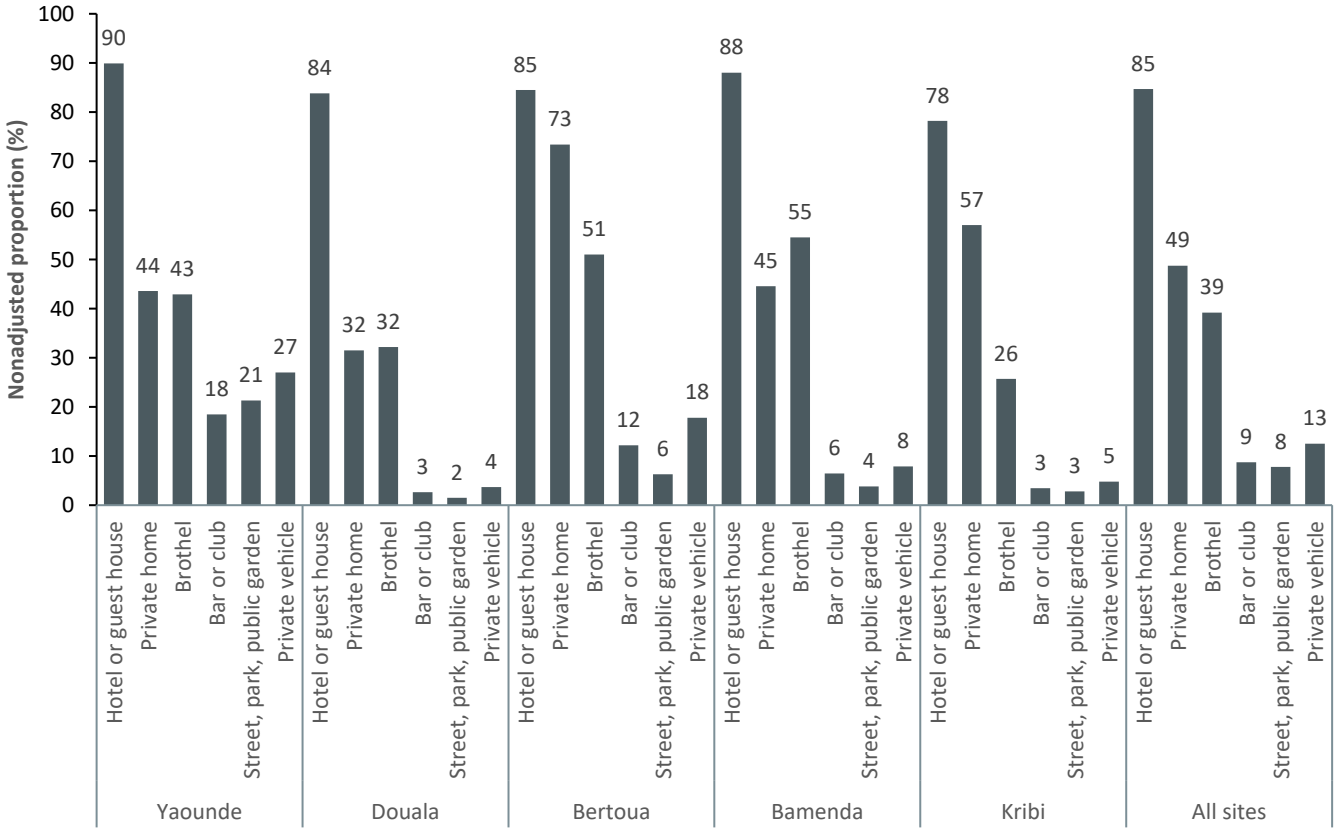
The majority of FSW reported currently being unemployed (1228/2254; 54.5%) or an independent worker (599/2254; 26.6%). Overall, 29.5% (663/2247) of FSW earned less than 50,000 FCFAs through formal and/or informal work, and 38.8% (871/2247) earned 50,000–100,000 FCFAs on average monthly. FSW in Douala reported higher monthly earnings than other cities, with 66.3% (303/457) reporting earning over 100,000 FCFA.

Risk behaviors

Paying and non-paying sex partners

The median age of first sex in exchange for goods or money was 22 years (IQR 19–28), but ranged from 11 to 56 years. Participants reported being involved in sex in exchange for money/goods for an average of 5.2 years. The most common locations for meeting clients were on the street/public places (1462/2255; 64.8%), in a bar or club (1366/2255; 60.6%), at a hotel or guesthouse (602/2255; 26.7%) and at a brothel (527/2255; 23.4%). Overall, 293 (13.0%) FSW reported meeting clients online, which was relatively higher in Bertoua (23.0%) and Kribi (25.7%). The most common locations for having sex with clients were in a hotel or guesthouse (1909/2255; 84.7%), followed by private home (1099/2255; 48.7%) or brothel (883/2255; 39.2%). The relative frequency of other locations differed by regional location (Figure 5).

Figure 5. Reported locations for having sex with clients among FSW



Most FSW reported both regular (1975/2254; 87.6%) and casual (2097/2255; 93.0%) clients in their lifetime (Table 4). Nearly all FSW reported vaginal sex with regular (1958/1974; 99.2%) and casual clients (2076/2097; 99.0%); a small proportion reported anal sex with regular (90/1975; 4.6%) and casual (52/2096; 2.5%) clients. Based on average clients per day and working days per month, across all cities FSW had on average 111 clients per month.

In addition to paying clients, the majority (1883/2255; 83.5%) of FSW reported ever having a regular non-paying sex partner, of which 87.1% (1638/1880) reported a regular non-paying sex partner in the past 12 months. Additionally, 27.7% (625/2253) reported ever having a casual non-paying sex partner, of which 81.6% (509/524) reported a casual partner in the past 12 months. Nearly all FSW reported vaginal sex with regular (100%) and casual (598/624; 95.8%) non-paying partners, and a small proportion reported anal sex with regular (85/1882; 4.5%) and casual (18/625; 2.9%) non-paying partners.

Table 4. Sexual behavior of FSW with paying and non-paying sex partners

	Yaoundé (n=574)	Douala (n=457)	Bertoua (n=304)	Bamenda (n=341)	Kribi (n=579)	Total (n=2255)
	%	%	%	%	%	%
Transactional sex						
Median age of first sex in exchange for money or goods (IQR)	22 (19-29)	25 (21-30)	20 (18-24)	23 (20-28)	22 (19-27)	22 (19-28)
Mean total years of sex in exchange of money	5.2	5.1	4.5	7.6	3.8	5.2
Have ever had a regular client	92.2	84.6	83.6	92.7	84.6	87.6
Have ever had a casual client	95.6	99.6	85.9	94.7	87.9	93.0
Average number of clients a day	6.3	7.4	6.4	5.1	5.4	6.1
Average number of working days per month	18.1	19.6	18.5	20.1	15.8	18.2
Non-transactional sex						
Ever had a regular non-paying male partner	78.7	94.5	77.3	70.1	90.7	83.5
Regular non-paying male partner in the past 12 months*	85.1	79.2	97.4	93.7	87.8	87.1
Ever had a casual non-paying male partner	35.7	12.1	48.7	39.6	14.2	27.7
Casual non-paying partner in the past 12 months*	87.8	41.8	86.5	89.6	70.7	81.6

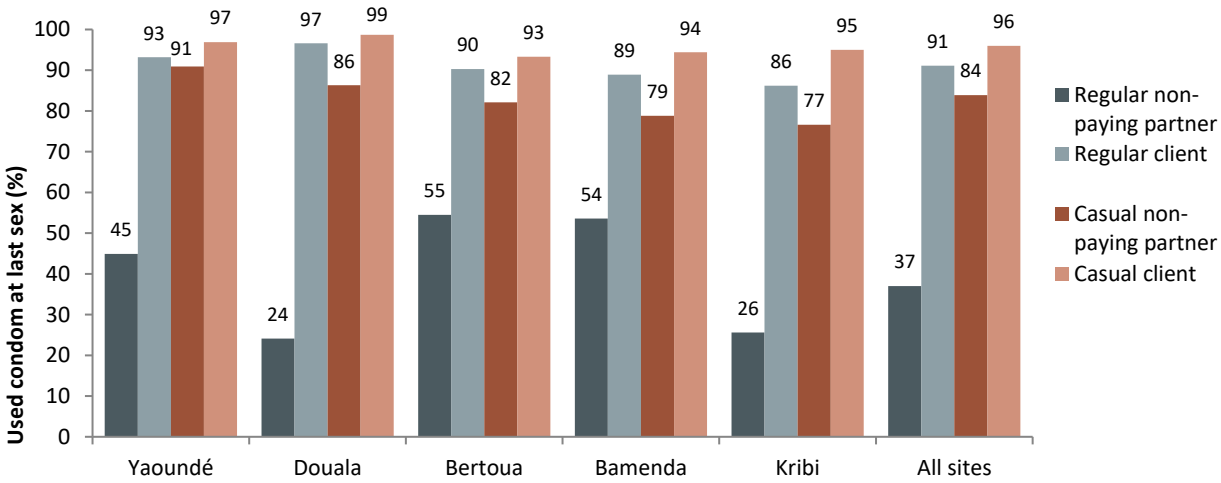
* % of those eligible for that item

Condom use and negotiation

Despite a median age of 16 years (IQR 15-18) at first vaginal sex, the median age of first time using a condom was 20 years (IQR 17-24).

Condom use at last vaginal sex was lowest with regular non-paying partners at all sites (overall 673/1818; 37.0%) and relatively similar between casual non-paying partners (501/597; 83.9%), regular clients (1782/1957; 91.1%) and casual clients (1993/2076; 96.0%; Figure 6). In the past month, overall FSW reported being offered more money for sex without a condom an average of 5.2 times, and of these, accepted more money for sex without a condom an average of 2.3 times (of average 111 clients per month).

Figure 6. Condom use at last vaginal sex by partner type among FSW



Among those reporting the relevant partner type in the previous 12 months, consistent condom use (CCU; always using a condom) during vaginal and anal sex (if relevant) was highest with clients (77.5%; 1734/2237) followed by casual non-paying partners (51.3%; 212/413). CCU was lowest (19.5%; 304/1562) with regular non-paying partners.

The most common reported issue in negotiating condom use was with suggesting the use of a condom with regular non-paying partners, with 27.5% (403/1466) reporting that negotiation was difficult or very difficult. Less FSW reported that it was difficult to negotiate condom use with regular (118/1952; 6.0%) and casual (83/2075; 4.0%) clients. A higher proportion of FSW in Bamenda and Bertoua reported difficulties in negotiating condom use than in other cities (Table 5).

Table 5. Condom use and negotiation among FSW

	Yaoundé (n=574)	Douala (n=457)	Bertoua (n=304)	Bamenda (n=341)	Kribi (n=579)	Total (n=2255)
	%	%	%	%	%	%
Condom & lubricants use						
Ever used lubricants during sex	62.4	76.6	44.7	54	50.3	58.5
Consistent condom use*						
All clients	79.6	91.2	67.8	63.1	78.1	77.5
Regular non-paying partners	25.1	14.0	31.1	22.7	11.6	19.5
Casual non-paying partners	49.2	54.6	61.3	42.7	51.0	51.3
Mean times offered more money for sex without condom in past month	7.0	8.3	2.3	5.3	2.6	5.2
Mean times accepted more money to have sex without condom in past month	2.9	1.4	1.4	4.6	1.3	2.3
Method of condom acquisition in past 6 months:						
Bought condoms	69.1	69.1	38.3	73.8	76.5	64
Received condoms for free	8.3	8.3	23.6	11.9	8.8	12.9
Bought and received condoms for free	22.6	22.6	38.1	14.3	14.7	23.1
Never re-used condom in the past 6 months	97.4	97.4	98.7	99.1	99	98.6
Condom negotiation: difficult/very difficult to suggest use of condom with the following partners:						
Regular client	3.2	1.6	12.3	11.8	5.6	6.0
Casual client	1.3	1.8	9.8	8.4	3.2	4.0
Regular non-paying partner	22.9	28.2	37.3	41.5	16.0	27.5
Casual non-paying partner	5.7	4.0	19.3	32.8	6.3	15.0

* % of those who report vaginal and/or anal sex in the past 12 months

Drug use

Overall, 211 (9.4%) of FSW reported any non-injecting illegal drug use, ranging from 4.6% in Bertoua to 16.4% in Bamenda. Only 49 (2.2%) of FSW reported ever using an injectable substance, of which 59.6% (28/47) reported using an illegal injectable drug (Table 6). Report of a sexual partner injecting drugs was relatively higher (378/2255; 16.8%).

Table 6. Drug use among FSW

	Yaoundé (n=574)	Douala (n=457)	Bertoua (n=304)	Bamenda (n=341)	Kribi (n=579)	All sites (n=2255)
	%	%	%	%	%	%
Ever used injectable substance	3.5	1.3	0.7	4.7	0.9	2.2
Ever used an illegal injectable drug*	50.0	100.0	0.0	71.4	40.0	59.6
Ever shared needles*	15.0	50.0	0.0	6.3	20.0	16.3
Sexual partner ever injected illegal drug	22.1	28.7	3.9	26.1	3.3	16.8
Ever used non-injectable drug	8.7	11.8	4.6	16.4	6.4	9.4

* % is of those eligible for that item

Mental Health

Mental health was measured using the Patient Health Questionnaire (PHQ-9). Mental health problems were commonly reported in the past two weeks, including 52.9% (1192/2252) reporting feeling down, depressed or hopeless, and 18.9% (425/2251) reporting thoughts they would be better off dead or of hurting themselves (Table 7). Approximately half (781/1416; 55.2%) of people experiencing problems reported that these problems made it difficult in their work, home or relationships at least sometimes.

Table 7. Mental health problems experienced by FSW

	Yaoundé (n=574)	Douala (n=457)	Bertoua (n=304)	Bamenda (n=341)	Kribi (n=579)	Total (n=2255)
	%	%	%	%	%	%
Ever experienced the following problems in the past two weeks:						
Little interest or pleasure in doing things	77.3	26.9	59.3	52.8	23.7	47.1
Feeling down/depressed/hopeless	78.4	34.8	70.9	58.9	29.1	52.9
Sleep troubles	59.2	47.3	42.4	52.5	23.0	44.2
Feeling tired or having little energy	78.2	54.3	69.1	62.5	35.4	58.8
Poor appetite/overeating	46.5	23.2	34.5	41.3	13.5	30.9
Feeling bad about yourself	44.2	16.8	60.8	63.3	23.1	38.3
Trouble concentrating	53.9	11.6	50.7	45.7	20.7	35.1
Noticeably moving or speaking slowly/fidgety or restless	49.4	6.3	48.5	52.4	20.4	33.4
Thoughts that you would be better off dead/hurting self	26.7	10.1	27.9	34.6	4.1	18.9
These problems at least sometimes have made it difficult in work/home/relationships*	67.4	22.9	66.0	72.8	42.7	55.2

* % among those experiencing any mental health problems in the past two week

Access to HIV and sexual health services

HIV knowledge

Knowledge of HIV transmission risk through anal sex was poor, and overall only 5% (113/2255) of FSW identified that anal sex has the highest risk of sexual transmission (Table 8). Knowledge of transmission risk through sharing needles was higher (2136/2255; 94.7%). Approximately one-

third of participants correctly reported that the safest lubricant is water-based (832/2255; 36.9%); this was substantially higher in Douala (258/457; 62.6%).

HIV prevention services

Overall, two-thirds (1499/2255; 66.5%) of FSW reported receiving any HIV prevention information in the past six months (Table 8). Information on how to prevent HIV was most commonly received (1469/2255; 65.1%) and highest in Douala (78.8%) and Kribi (75.0%). Information on how to treat HIV was also more commonly received in Douala (68.1%) and Kribi (70.3%) than other districts. The most common sources of information on HIV prevention were healthcare facilities (927/1501; 61.8%), internet/media (769/1501; 51.2%) and peer educators (728/1501; 48.5%).

The majority of FSW in all cities reported that condoms were easily accessible in the past six months (2094/2255; 92.9%). Accessibility was highest in Yaoundé and Douala. At all sites other than Douala, the majority of FSW (overall 64.0%; 1382/2160) reported only buying condoms in the past six months, and 23.1% (499/2160) reported both buying and receiving condoms for free. Accordingly, the most common source of condoms was stores (1877/2170; 86.5%). In Douala, a similar proportion of FSW reporting only buying, receiving for free, or both buying and receiving condoms (Table 8).

Table 8. Exposure to HIV prevention services among FSW

	Yaoundé (n=574)	Douala (n=457)	Bertoua (n=304)	Bamenda (n=341)	Kribi (n=579)	Total (n=2255)
	%	%	%	%	%	%
Access to HV information						
Received the following HIV prevention information in the past 6 months:						
How to prevent HIV	59.6	78.8	42.8	59.5	75.0	65.1
How often to get HIV testing	47.4	66.5	38.5	57.8	64.8	56.1
How to treat and care for yourself if you have HIV	53.5	68.1	38.2	59.2	70.3	59.6
Source of information on HIV prevention:						
CBO/NGO	17.7	23.8	5.9	21.8	3.0	14.4
Peer educator	54.2	72.1	45.9	40.5	29.4	48.5
Internet/Media	67.5	43.1	35.6	20.0	65.6	51.2
Healthcare facility	82.0	53.3	48.2	55.5	60.1	61.8
Participated in an educational session conducted by a peer educator in the past 3 months	17.9	35.0	14.1	17.0	4.7	17.3
HIV knowledge – correctly reports that:						
Anal sex has highest sexual risk	3.5	2.2	2.3	5.6	9.8	5.0
Safest lubricant is water-based	32.8	62.6	28.6	22.6	33.5	36.9
One can get HIV from sharing needles	92.5	98.0	93.8	92.4	96.2	94.7
Access to condoms						
Accessibility of condoms in past 6 months:						
Not easily accessible	2.3	1.1	5.6	9.7	1.4	3.4
Easily accessible	96.0	98.9	92.8	89.4	87.1	92.9
Haven't tried to get condoms	1.7	0.0	1.6	0.9	11.6	3.8
Usual location for getting condoms in the past 6 months:						
Public areas	1.6	34.4	2.7	10.4	33.0	17.4
Stores	93.3	74.6	92.0	80.2	90.6	86.5
CBO/NGO	24.3	58.6	13.0	26.3	8.8	26.6
Healthcare facility	3.7	0.2	6.0	12.4	3.3	4.6
Method of condom acquisition in past 6 months:						
Bought condoms	69.1	38.3	73.8	62.7	76.5	64.0
Received condoms for free	8.4	23.6	11.9	13.1	8.8	12.9
Bought and received condoms for free	22.6	38.1	14.3	24.2	14.7	23.1

STI and HIV testing history

Overall, 48.9% (1087/2222) of FSW reported ever having an STI test, of which 48.4% (526/1087) were tested in the past 12 months. Based on the past 12 months, FSW commonly self-reported symptoms of STIs such as blister or sores (495/2255; 22.0%), unusual discharge (692/2255; 30.7%), and pain or burning when urinating (561/2255; 24.9%) (Table 9).

Approximately half of FSW (1046/2253; 46.4%) reported having worried about HIV/AIDS in the past 12 months. Overall, 173 (7.7%) FSW reported ever taking ARVs to prevent HIV (pre-exposure prophylaxis/PrEP), reaching 16.4% (75/457) in Douala. The majority of FSW (2029/2252; 90.1%) reported ever previously testing for HIV, of which 97% (1969/2029) had always received their HIV test result. Less FSW (1329/2247; 59.1%) reported being tested for HIV in the past 12 months. Overall, 14.9% (297/2000) of FSW self-reported HIV positive, ranging from 5.9% (Kribi) to 24.0% (Bamenda).

Of those self-reporting being HIV positive, 81% (245/297) reported ever initiating ARVs, of which 99% reported currently taking ARV; however, 15.8% (38/240) reported ever stopping ART, including 26% of those in Yaoundé. Eighty-seven per cent (224/257) self-reported receiving a CD4 test, which varied by region. Overall, 28.7% (74/258) of FSW reported disclosing their HIV status to some or all of the non-paying sex partners, ranging from 13.3% (Kribi) to 53.6% (Bamenda).

Table 9. STI and HIV history among FSW

	Yaoundé (n=574)	Douala (n=457)	Bertoua (n=304)	Bamenda (n=341)	Kribi (n=579)	Total (n=2255)
	%	%	%	%	%	%
STI history						
Ever been tested for STI	40.1	60.3	34.9	68.8	44.1	48.9
Tested for STI in the past 12 months*	48.5	27.6	74.5	59.8	49.4	48.4
Experienced STI symptoms in the past 12 months:						
Blisters or sores in genital region or anus	31.2	12.0	10.2	53.4	8.3	22.0
Pain or burning sensation during urination	35.7	16.2	11.2	51.0	12.8	24.9
Vaginal discharge or unusual white discharge	44.3	16.4	20.4	63.3	14.7	30.7
Irregular vaginal bleeding	12.5	4.8	4.3	7.6	2.4	6.5
Ever had genital warts	7.8	17.3	4.6	7.6	4.3	8.4
Ever had anal warts	2.6	3.7	0.0	2.3	0.0	1.8
HIV testing and treatment						
Reported ever taken ARVs to prevent HIV	9.2	16.4	6.6	5.3	1.2	7.7
Have been worried about HIV/AIDS over the past 12 months	60.1	35.4	49.2	65.1	29.1	46.4
Have ever been tested for HIV infection	89.7	92.6	85.9	97.1	86.7	90.1
Reported to have always received HIV test results*	98.8	95.3	96.6	95.5	98.0	97.0
Tested for HIV in past 12 months	56.8	66.1	60.6	65.6	51.5	59.1
Self-reported living with HIV	14.8	19.8	12.5	24.0	5.9	14.9
Self-reported to have ever initiated ARV*	82.7	88.0	59.4	94.9	41.4	80.8
Self-reported currently on ARVs*	98.4	100.0	100.0	98.6	100.0	99.2
Self-reported to have ever stopped taking ARVs*	25.8	12.3	21.1	10.8	8.3	15.8
Self-reported to have had CD4 test*	80.6	93.9	61.9	93.5	80.0	87.2
Disclosed HIV status to some or all regular non-paying sex partners*	23.0	17.3	22.7	54.6	13.3	28.7

* % is of those eligible for that item

Stigma, discrimination and violence

Disclosure of sex work to uniformed officers (145/2255; 6.4%) and healthcare workers (306/2255; 13.6%), were low. Where relevant, 5.9% (5/85) and 18.0% (42/227) of FSW reported

disclosing their engagement in sex work to their husband or boyfriend, respectively, and 4.1% (77/1902) disclosed to their children (Table 10).

Table 10. Disclosure of sex work and experience of stigma and discrimination among FSW

	Yaoundé (n=574)	Douala (n=457)	Bertoua (n=304)	Bamenda (n=341)	Kribi (n=579)	Total (n=2255)
	%	%	%	%	%	%
Ever disclosed having sex in exchange for money/goods to:						
Healthcare worker	14.8	32.2	5.6	3.2	7.9	13.6
Uniformed officer	9.6	14.4	2.6	2.3	1.4	6.4
Husband*	5.9	8.3	25.0	5.1	0.0	5.9
Child*	6.0	4.7	2.0	3.7	2.8	4.1
Boyfriend*	23.1	50.0	5.6	23.6	10.0	18.0
Healthcare related						
Ever felt afraid seeking health services¤	6.1	2.8	7.9	14.7	3.1	6.2
Ever avoided seeking health services¤	6.3	3.1	3.9	6.8	3.8	4.7
Ever been denied health services¤	0.5	0.0	0.7	1.5	0.0	0.4
Ever heard health care provider making discriminatory remarks¤	5.9	1.8	2.0	9.1	1.6	3.9
Ever felt not well treated in a health center¤	0.5	0.2	0.7	10.6	0.2	1.9
Ever been tested for HIV against will¤	4.2	1.1	1.3	6.5	1.7	2.9
Police/justice						
Ever been arrested on charges related to sex work	40.6	63.5	14.8	19.7	20.6	33.5
Ever avoid carrying condoms because afraid of the police	4.4	10.9	3.6	5.9	11.9	7.8
Violence and harassment						
Ever been physically harassed or hurt ¤	30.4	26.1	23.1	26.5	18.3	24.8
Been physically harassed or hurt in the past 6 months¤	12.9	14.7	13.2	11.5	8.1	11.9
Ever been blackmailed¤	53.2	64.7	30.9	20.3	42	44.7
Ever forced to have sex against will	39.4	21.0	38.3	50.1	21.8	32.6
Believed forced to have sex due to sex work activities #	56.4	44.7	51.8	62.4	32.5	51.5
Been forced to have sex against will in the past 6 months	10.5	5.0	20.1	21.1	3.1	10.4

* Among those reporting existing relation
¤ Because of involvement in sex work
% is of those eligible for that item

The most common negative experiences related to sex work reported by FSW were being blackmailed because of sex work activities (1006/2252; 44.7%), being arrested on charges related to sex work (754/2254; 33.5%), and being physically harassed or hurt (559/2251; 24.8%). History of arrest was highest in Douala (96.7%) and Yaoundé (88.9%). Overall, 735 (32.6%) FSW reported ever being forced to have sex against their will, of which 52% (370/719) believed this was due to involvement in sex work. Recent (past six months) report of being forced to have sex against will was most commonly reported in Bertoua (61/303; 20.1%) and Bamenda (72/341; 21.1%). Some FSW reported exclusion (7.4%) and discrimination (11.9%) from family members. Report of negative experiences when receiving healthcare was low (Table 10).

HIV and syphilis prevalence

Excluding seven indeterminate HIV results, overall 547 (24.3%) FSW tested HIV positive (Table 11). Of FSW testing HIV positive, 254 (48%) were newly diagnosed with HIV based on self-reported HIV status. Proportion of infections that were newly diagnosed was highest in Kribi (62/87; 71%) and lowest in Bamenda (42/112; 38%) (Figure 7). Among the seven FSW with indeterminate HIV results, six self-reported HIV negative and one reported unknown HIV status.

RDS-adjusted population estimates of HIV prevalence ranged from 13.6% (95% CI 10.4–17.6) in Kribi to 33.9% (95% CI 26.9–41.8) in Bamenda (Table 11).

Overall 186 (8.2%) FSW tested syphilis positive (Table 11). In total, 9.5% (52/547) HIV positive FSW were coinfected with syphilis, ranging from 0% (Bamenda) to 23% (Kribi; Table 11). Based on RDS-adjusted population estimates (where available), syphilis prevalence was highest in Douala (10.5%; 95% CI 6.5–14.4).

Figure 7. HIV and syphilis positivity among FSW (crude prevalence estimates)

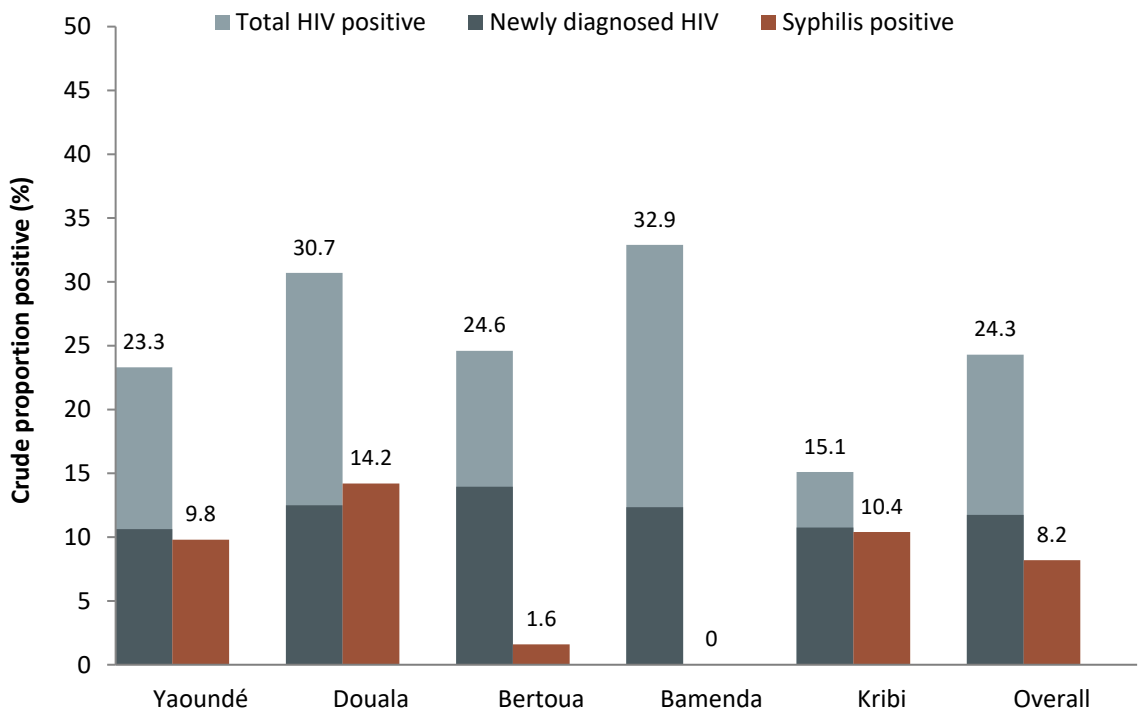


Table 11. Crude and RDS-adjusted prevalence estimates for HIV, syphilis and coinfection among FSW

City	Total*	HIV positive				Syphilis positive				Syphilis coinfection#	
		Crude		RDS-adjusted		Crude		RDS-adjusted			
	n	n	%	%	95% CI	n	%	%	95% CI	n	%
Yaoundé	574	134	23.3	21.1	[16.9, 25.9]	56	9.8	8.9	[5.7,12.2]	15	11.2
Douala	457	140	30.7	30.3	[23.8, 37.7]	65	14.2	10.5	[6.5, 14.4]	15	10.7
Bertoua	304	74	24.6	18.7	[13.3, 25.7]	5	1.6	NA	NA	2	2.7
Bamenda	341	112	32.9	33.9	[26.9, 41.8]	0	0	NA	NA	0	0
Kribi	579	87	15.1	13.6	[10.4, 17.6]	60	10.4	9.5	[6.5, 12.5]	20	23
Overall	2255	547	24.3	NA	NA	186	8.2	NA	NA	52	9.5

* Seven indeterminate cases excluded from denominator (Douala-1, Bertoua-3, Bamenda-1, Kribi-2).
# Proportion of HIV positive individuals who were coinfected with syphilis
NA: not available

RDS-adjusted population estimates

RDS-adjusted population estimates for available indicators are reported in Table 12.

Table 12. RDS-adjusted population estimates for available indicators among FSW

	Yaoundé		Douala		Bertoua		Bamenda		Kribi	
	RDS-adj %	Adj 95% CI	RDS-adj %	Adj 95% CI	RDS-adj %	Adj 95% CI	RDS-adj %	Adj 95% CI	RDS-adj %	Adj 95% CI
Education										
Never attended school	2.6	[1.2,5.4]	11.7	[7.4,18.1]	1.8	[0.5,6.5]	1.0	[0.3,3.9]	0.3	[0.1,0.9]
Primary school incomplete	9.2	[6.7,12.5]	16.0	[11.4,22.1]	27.0	[19.3,36.5]	8.6	[5.7,12.9]	8.1	[5.5,11.6]
Primary school	10.2	[6.8,14.8]	8.7	[6.0,12.5]	2.8	[1.2,6.5]	38.6	[31.0,46.9]	14.3	[11.1,18.3]
Secondary school incomplete	64.6	[58.4,70.3]	57.5	[50.0,64.8]	57.7	[48.5,66.4]	32.3	[25.5,40.0]	71.7	[66.7,76.2]
Secondary school	4.3	[2.5,7.2]	3.2	[1.1,9.3]	7.9	[4.3,13.9]	12.3	[8.4,17.8]	1.9	[0.9,3.7]
Technical or professional training	0.4	[0.1,2.8]	1.3	[0.3,4.9]	0.7	[0.2,2.9]	1.2	[0.4,3.5]	0.1	[0.0,0.6]
University	8.8	[5.4,14.1]	1.5	[0.6,3.7]	2.1	[0.8,5.5]	5.9	[2.6,12.9]	3.6	[2.1,6.4]
Ever had a regular client(s)	91.6	[87.7,94.3]	87.4	[82.1,91.2]	89.9	[82.8,94.2]	89.7	[81.9,94.3]	84.3	[80.1,87.8]
Reused a condom in the past 6 months	2.4	[1.2,4.7]	2.1	[0.8,5.1]	1.0	[0.2,4.2]	0.9	[0.3,3.4]	1.2	[0.5,2.8]
Disclosed sex work to boyfriend	15.7	[11.8,20.6]	28.5	[22.0,36.0]	2.1	[0.8,5.5]	8.1	[5.1,12.8]	2.2	[1.1,4.6]
Ever felt excluded from family*	5.4	[3.5,8.0]	5.7	[3.3,9.6]	10.8	[6.9,16.3]	8.9	[5.8,13.5]	3.1	[2.0,4.8]
Ever heard discriminatory remarks from family*	9.1	[6.3,13.1]	9.5	[5.9,15.2]	17.5	[12.3,24.3]	22.7	[16.6,30.3]	4.5	[2.9,6.8]
Ever felt afraid seeking health services *	7.3	[4.9,10.6]	1.6	[0.6,4.7]	8.1	[4.7,13.4]	10.5	[7.2,15.2]	2.9	[1.6,5.2]
Ever avoided seeking health services*	7.2	[4.9,10.5]	4.4	[2.2,8.9]	4.2	[2.0,8.9]	4.4	[2.5,7.8]	3.6	[2.1,6.0]
Ever heard discriminatory remarks from health care provider*	4.0	[2.5,6.3]	1.0	[0.3,3.2]	1.2	[0.4,3.7]	5.2	[3.2,8.4]	1.3	[0.6,2.8]
Ever been tested for HIV against will*	3.8	[2.3,6.1]	0.4	[0.1,1.6]	1.6	[0.5,4.7]	6.1	[3.2,11.2]	1.4	[0.6,3.4]
Ever blackmailed*	56.1	[49.9,62.1]	70.8	[62.9,77.6]	23.2	[16.9,30.9]	23.3	[16.2,32.2]	33.9	[29.4,38.7]
Ever physically harassed or hurt*	27.5	[22.6,33.0]	29.5	[23.0,37.1]	19.9	[13.7,27.9]	25.3	[18.6,33.4]	13.3	[10.4,16.8]
Physically harassed or hurt* in past 6 months	9.0	[6.6,12.1]	10.8	[7.6,15.2]	9.9	[6.3,15.3]	14.1	[8.5,22.7]	6.7	[4.5,9.7]
Ever forced you to have sex against will	37.9	[32.1,44.0]	18.0	[12.9,24.4]	41.7	[33.1,50.9]	46.1	[38.3,54.1]	19.5	[15.7,23.9]
Forced to have sex against will in past 6 months	7.4	[4.8,11.3]	3.1	[1.5,6.2]	18.8	[12.7,27.1]	18.7	[12.9,26.2]	3.4	[1.8,6.2]
Ever had an STI test	43.3	[37.3,49.4]	35.5	[29.1,42.6]	44.1	[35.3,53.3]	69.6	[62.3,76.0]	48.8	[43.4,54.2]
Ever taken ARVs to prevent HIV (PrEP)	8.5	[6.0,11.9]	16.7	[11.6,23.6]	4.4	[2.2,8.6]	6.2	[3.2,11.6]	1.3	[0.6,2.7]
Worried about HIV/AIDS in the past 12 months	59.3	[53.3,65.2]	39.4	[32.3,47.1]	41.7	[33.2,50.8]	61.4	[53.5,68.8]	27.2	[22.7,32.2]
Ever previously tested for HIV	87.2	[82.6,90.7]	90.5	[85.0,94.1]	84.7	[77.2,90.1]	97.8	[95.6,98.9]	87.3	[83.6,90.3]
HIV test result										
Positive	21.1	[16.9,25.9]	30.3	[23.8,37.7]	18.7	[13.3,25.7]	33.9	[26.9,41.8]	13.6	[10.4,17.6]
Negative	78.9	[74.1,83.1]	69.7	[62.3,76.2]	81.3	[74.3,86.7]	66.1	[58.2,73.1]	86.4	[82.4,89.6]

* Because of involvement in sex work

Part 2. Men who have sex with men

Socio-demographic profile

A total of 1323 MSM were recruited from five cities nationally (Table 13).

Table 13. Socio-demographic characteristics of MSM

	Yaoundé (n=306)	Douala (n=354)	Bertoua (n=251)	Bamenda (n=208)	Kribi (n=204)	Total (n=1323)
	%	%	%	%	%	%
Median age (years)	23	23	22	22	25	23
Education						
Primary school or less	4.9	3.6	10.4	16.3	14.2	8.9
Some secondary school	40.2	59.0	59.0	49.5	76.5	55.9
Secondary school complete	9.5	8.8	21.9	16.3	3.9	11.9
Post-high school education[1]	45.4	28.5	8.8	17.8	5.4	23.4
Living situation						
Homeless	0.0	0.3	0.4	1.9	0.5	0.5
Live alone	22.9	23.7	25.5	31.7	37.7	27.3
Live with family	68.3	71.2	63.4	54.8	52.2	63.5
Live with roommates/friends	8.8	4.8	10.4	10.6	9.4	8.4
Live with partner	0.0	0.0	0.0	0.5	0.0	0.1
Other[2]	0.0	0.0	0.4	0.5	0.0	0.2
Marital status						
Single/Never married	54.9	88.7	73.3	92.3	92.1	79.0
Married	2.0	1.1	2.8	5.3	0.5	2.2
Married but separated	1.0	0.6	0.0	0.5	0.5	0.5
Stable partner (boyfriend)	41.2	8.8	23.5	1.9	6.4	17.6
Divorced	0.7	0.6	0.0	0.0	0.0	0.3
Widowed	0.3	0.0	0.0	0.0	0.0	0.1
Other[3]	0.0	0.3	0.4	0.0	0.5	0.2
Biological children						
No biological children	77.8	80.8	76.9	76.9	50.0	74.0
1+ biological children	22.2	19.2	23.1	23.1	50.0	26.1
Profession[4]						
None/Unemployed/Looking for work	16.7	21.2	17.1	8.7	18.2	17.0
Training/Student	52.3	37.9	37.5	33.0	15.3	36.9
Intern	0.0	0.0	0.4	4.4	0.5	0.8
Independent worker	15.7	18.6	35.1	40.8	40.9	28.2
Short-term contract	7.5	10.2	2.0	7.8	15.3	8.5
Indefinite contract	7.2	11.0	4.8	0.0	9.9	7.1
Other[5]	0.7	1.1	3.2	5.3	0.0	1.6
Average monthly income[6]						
<50 000 FCFA	70.8	66.0	63.5	52.2	36.1	60.1
50 001-100 000 FCFA	17.7	18.1	25.2	35.9	43.6	25.7
100 001-150 000 FCFA	8.2	11.1	6.3	5.0	11.4	8.8
150 001-200 000 FCFA	2.0	4.0	3.4	5.0	5.0	3.7
200 001-250 000 FCFA	0.7	0.3	1.3	1.3	2.0	1.0
250 001-300 000 FCFA	0.0	0.3	0.0	0.6	0.5	0.2
>300 000 FCFA	0.7	0.3	0.4	0.0	1.5	0.6
Sexual orientation						
Heterosexual	0.3	0.9	0.0	0.0	0.5	0.4
Bisexual	61.7	53.4	48.6	72.6	69.5	59.9
Homosexual/gay	37.6	45.8	51.4	27.4	30.1	39.7
Other[7]	0.3	0.0	0.0	0.0	0.0	0.1
Gender identity						
Male	62.1	68.4	55.8	76.0	82.8	68.0
Female	30.4	25.7	43.8	23.6	16.2	28.4
Other[8]	6.9	5.6	0.4	0.5	1.0	3.4

Don't know	0.7	0.3	0.0	0.0	0.0	0.2

[1] Technical, professional or university training
[2] Other includes internat and junior.
[3] Other includes living with concubine, casual partners, and union libre
[4] Professional employment other than sex work
[5] Other includes retired, business, trader, footballer
[6] Acquired through formal and/or informal work
[7] Reports orientation as transgender
[8] While participants were prompted that gender was separate to sexual roles and behavior, other responses included: versatile; active and passive; and both male and female.

Ages ranged from 18 to 57 years. The median age was 23 years (IQR 21–26). Approximately half the sample had some secondary school education, and 310 (23.5%) reported any post-high school education. A higher proportion of MSM recruited from Yaoundé reported post-high school education than other cities. The majority of MSM were single and never married, ranging from 54.9% (168/306) in Yaoundé to 92.3% (192/208) in Bamenda; 233 (17.6%) MSM reported a stable partner. MSM predominantly lived with family (840/1322; 63.5%) or lived alone (361/1322; 27.3%). Across all cities, 26% of MSM (344/1323) reported having any biological children.

MSM most frequently reported being a student or in training (487/1320; 36.9%), an independent worker (372/1320; 28.2%) or unemployed (224/1320; 17.0%). Where reported, 60.1% (757/1260) of MSM earned less than 50,000 FCFAs through formal and/or informal work, 25.7% (323/1260) earned 50,000–100,000 FCFAs, and 14.2% (178/1260) earned more than 100,000 FCFAs on average monthly.

Most MSM identified as male (899/1323; 68.0%) but an additional 376 (28.4%) identified as female and 45 (3.4%) as another gender. The majority reported a bisexual (790/1319; 59.9%) or homosexual/gay (523/1319; 39.7%) sexual identity.

Risk behaviors

Sexual partners and condom use

The majority of MSM (1129/1320; 85.5%) reported ever having a regular male partner, of which most (989/1126, 87.8%) reported a regular male partner in the past month (Table 14). A higher proportion of MSM reported ever having insertive anal sex with their regular male partner (886/1128; 78.5%) compared to receptive anal sex (578/1128; 51.2%). Condom use was similar for insertive and receptive anal sex: 75.8% (670/884) and 76.5% (441/575) reported using a condom use at last sex respectively (Figure 8). Report of CCU was lower than for condom use at last sex; where relevant partner type was reported in the past 12 months, 33.8% (273/809) reported CCU during insertive anal sex and 34.2% (178/521) reported CCU during receptive anal sex with a regular male partner.

Two-thirds of MSM (882/1321; 66.8%) reported ever having a casual male partner, of which 69.1% (607/878) reported a casual male partner in the past month (Table 14). Insertive anal sex (686/880; 78.0%) was more commonly reported than receptive anal sex (449/878; 51.1%) with casual male partners. Condom use was similar for insertive and receptive anal sex: 81.4% (557/684) and 81.7% (365/447) reported using a condom use at last sex respectively (Figure 8). Report of CCU with casual male partner was lower than for last sex and marginally higher than for regular male sex partners; where relevant partner type was reported in the past 12 months, 41.0% (229/558) reported CCU during insertive anal sex and 41.6% (152/365) reported CCU during receptive anal sex with a casual male partner.

In addition to male sex partners, MSM commonly reported ever having regular female (875/1322; 66.2%) and casual female (665/1322; 50.3%) sex partner/s (Table 14). Of these, 69.0% (602/872) reported regular and 58.9% (390/662) reported casual female partners in the past

Table 14. Sexual behavior of MSM

	Yaoundé (n=306)	Douala (n=354)	Bertoua (n=251)	Bamenda (n=208)	Kribi (n=204)	Total (n=1323)
	%	%	%	%	%	%
Regular male partner						
Ever had regular male partner	89.8	83.3	92.0	80.3	80.4	85.5
Number of regular male partners in the past month*						
None	21.0	19.1	3.9	4.2	4.9	12.2
1 or 2	76.1	74.8	81.3	79.0	88.3	79.0
3+	2.9	6.1	14.8	16.8	6.8	8.8
Ever had insertive anal sex with regular male partner*	72.9	75.9	84.3	77.8	85.4	78.5
CCU during insertive anal sex with regular male partner*,#	32.6	42.4	28.8	19.8	41.9	33.8
Ever had receptive anal sex with regular male partner*	71.4	45.1	57.2	46.1	25.6	51.2
CCU during receptive anal sex with regular male partner*,#	39.2	42.0	27.8	22.2	32.5	34.2
Casual male partners						
Ever had casual male partner	79.4	75.4	59.8	47.6	60.8	66.8
Number of casual male partners in the past month*						
None	32.6	33.0	27.7	22.5	33.3	30.9
1 or 2	49.2	38.2	54.1	61.2	53.7	48.6
3+	18.2	28.8	18.2	16.3	13.0	20.5
Ever had insertive anal sex with casual male partner*	75.7	79.4	81.6	71.7	79.8	78.0
CCU during insertive anal sex with casual male partner*,#	43.6	49.1	22.2	17.0	60.5	41.0
Ever had receptive anal sex with casual male partner*	67.4	41.6	62.4	52.5	25.8	51.1
CCU during receptive anal sex with casual male partner*,#	51.1	51.9	23.8	11.4	66.7	41.6
Female sex partners						
Ever regular female partner	70.3	63.6	56.4	65.9	77.0	66.2
At least 1 regular female partner in the past month*	67.8	58.2	66.4	88.2	72.0	69.0
CCU during vaginal/anal sex with regular female partner*,#	32.9	28.0	24.0	13.3	12.0	22.8
Ever casual female partner	47.5	47.2	51.4	47.6	61.3	50.3
At least 1 casual female partner in the past month*	51.0	47.9	75.8	73.7	53.6	58.9
CCU during vaginal/anal sex with casual female partner(s)*,#	49.0	43.0	27.0	16.7	34.2	34.7
Transactional sex						
Ever had sex in exchange for money, goods or favors	39.5	53.1	64.9	57.7	63.1	54.5
Ever used lubricants	92.2	80.2	44.2	29.3	57.4	64.6
Always use lubricants and condoms during anal sex with men*	66.2	62.1	21.6	18.0	53.9	53.9
Type of lubricant used during anal sex with men during past 3 months*						
Water-based	77.9	95.1	71.3	57.7	89.4	83.0
Oil-based, lotion, Vaseline	19.5	4.2	28.7	23.1	7.1	14.1
Saliva	2.6	0.8	0.0	19.2	3.5	2.9

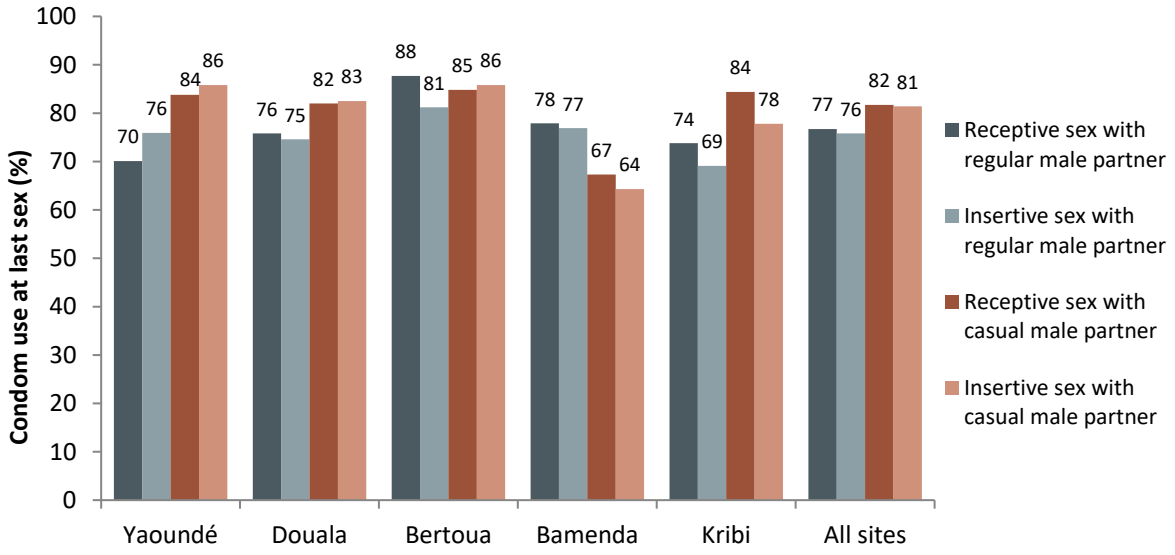
* % of those eligible for that item
# % of those reporting relevant partner type in past 12 months
CCU – consistent condom use; reports always using condom

month. Among MSM reporting ever having a regular or casual female partner, 278 (31.8%) and 221 (33.3%) respectively reported ever having anal sex with their female partners. CCU with female partners was low, but a relatively higher proportion of MSM reported always using a condom during vaginal and anal sex with their casual female partners (158/455; 34.7%) than regular female partners (144/633; 22.8%).

Transactional sex was common, and overall 54.5% of MSM (720/1322) reported ever having sex in exchange for money, goods or favors.

In regards to all sex partners, 64.6% (855/1323) of MSM reported ever using lubricant during sex. Of these MSM, 53.9% (459/852) reported always using lubricant with condoms during anal sex with men. In the past 3 months, 83% (665/801) reported using water-based lubricants. Otherwise, oil-based products such as Vaseline, body lotion or oil were mostly used (14.1%; 13/801).

Figure 8. Condom use at last sex with male sex partners among MSM



Drug use

Overall, 22.0% (289/1316) of MSM reported any non-injecting drug use, ranging from 7.7% in Bamenda to 41.2% in Kribi. Only 116 (8.8%) of MSM reported ever using an injectable substance, of which 31.9% (37/116) reported using an illegal injectable drug (Table 15).

Table 15. Drug use among MSM

	Yaoundé (n=306)	Douala (n=354)	Bertoua (n=251)	Bamenda (n=208)	Kribi (n=204)	Total (n=1323)
	%	%	%	%	%	%
Ever used non-injectable drug	11.9	23.1	28.7	7.7	41.2	22.0
Ever used injectable substance	7.8	5.1	6.0	3.4	25.5	8.8
Ever injected an illicit drug *	54.2	38.9	46.7	42.9	13.5	31.9
Ever shared needles *	45.8	11.1	46.7	42.9	5.9	22.6
Sexual partner ever injected illegal drug	4.9	6.2	10.4	1.4	4.4	5.7

* % is of those eligible for that item

Mental Health

Mental health problems were commonly reported in the past two weeks, including 43.6% (576/1321) reporting feeling down, depressed or hopeless, and 22.3% (295/1320) reporting thoughts they would be better off dead or of hurting themselves (Table 16). Nearly two-thirds (593/926; 64.0%) of people experiencing problems reported that these problems made it difficult in their work, home or relationships at least sometimes.

Table 16. Mental health of MSM

	Yaoundé (n=306)	Douala (n=354)	Bertoua (n=251)	Bamenda (n=208)	Kribi (n=204)	Total (n=1323)
	%	%	%	%	%	%
Ever experienced the following problems in the past two weeks:						
Little interest or pleasure in doing things	45.5	39.6	58.4	11.9	19.4	37.3
Feeling down/depressed/hopeless	63.0	45.8	53.8	19.7	22.7	43.6
Sleep troubles	53.8	42.1	51.4	20.2	25.6	40.6
Feeling tired or having little energy	52.7	53.7	63.6	23.7	25.6	46.3
Poor appetite/overeating	57.2	27.0	48.2	16.8	23.6	35.9
Feeling bad about yourself	53.0	31.1	45.8	16.0	12.8	33.7
Trouble concentrating	47.9	36.2	50.6	13.5	15.3	34.8
Noticeably moving or speaking slowly/fidgety or restless	34.8	22.0	52.4	13.1	5.4	26.7
Thoughts that you would be better off dead/hurting self	39.7	13.3	39.0	8.2	5.9	22.3
These problems at least sometimes have made it difficult in work/home/relationships*	73.0	50.7	67.3	71.3	69.0	64.0

* % among those experiencing any mental health problems in the past 2 weeks

Access to HIV and sexual health services

HIV knowledge

Knowledge of HIV transmission risk through anal sex was poor, and overall only 35% (463/1321) of MSM identified that anal sex has the highest risk of sexual transmission (Table 17). Correct knowledge of anal sex risk was lowest in Bamenda (16/208; 7.7%) and highest in Yaoundé (160/360; 52.3%). Knowledge of transmission risk through sharing needles was higher, and over 84% in all cities other than Bamenda (121/208; 58.2%). Approximately half of participants correctly reported that the safest lubricant is water-based (641/1319; 48.6%).

HIV prevention services

Overall, half (638/1321; 48.3%) of MSM had received any HIV prevention information in the past six (Table 17). Information of how to prevent HIV was most commonly received (610/1321; 46.2%) and highest in Yaoundé (75.4%). The most common sources of information on HIV prevention were peer educators (422/644; 65.5%), internet/media (327/644; 50.8%) and healthcare facilities (301/644; 46.7%).

Most MSM reported only buying condoms (715/1196; 59.8%), but both buying and receiving condoms for free was also common, particularly in Yaoundé (42.1%) and Douala (45.5%). The most common locations for getting condoms were stores (801/1201; 67.5%) and CBO or NGOs (356/1200; 29.7%). However, CBOs were less important sources of condoms in Bertoua, Bamenda and Kribi than in Yaoundé and Douala (Table 17).

Table 17. Access to HIV prevention services among MSM

	Yaoundé (n=306)	Douala (n=354)	Bertoua (n=251)	Bamenda (n=208)	Kribi (n=204)	Total (n=1323)
	%	%	%	%	%	%
Access to HIV information						
Received the following HIV prevention information in the past 6 months:						
How to prevent HIV	75.4	55.4	16.3	23.6	46.3	46.2
How often to get HIV testing	48.0	54.5	13.3	24.0	39.9	38.2
How to treat and care for yourself if you have HIV	47.9	49.2	12.4	15.4	43.4	35.7
Source of information on HIV prevention:						
CBO/NGO	5.5	14.7	17.0	0.0	25.5	12.0
Peer educator	62.0	77.3	37.3	94.2	52.0	65.5
Internet/Media	58.7	35.9	27.1	42.3	80.6	50.8
Healthcare facility	51.5	26.8	49.2	86.5	53.1	46.7
Participated in an educational session conducted by a peer educator in the *past 3 months*	44.4	34.2	6.0	1.0	17.2	23.4
HIV knowledge – correctly reports that:						
Anal sex has highest sexual risk	52.3	45.2	20.4	7.7	37.4	35.1
Safest lubricant is water-based	69.4	63.6	30.3	12.6	50.7	48.6
One can get HIV from sharing needles	93.1	92.4	84.9	58.2	97.0	86.5
Access to condoms						
Usual location for getting condoms in the *past 6 months:*						
Public areas	3.7	2.0	21.2	2.0	0.5	5.7
Stores	51.7	58.1	70.5	93.9	76.3	67.5
CBO/NGO	52.4	49.8	8.3	0.5	16.9	29.7
Healthcare facility	2.4	0.7	17.1	6.1	1.6	5.1
Method of condom acquisition in past 6 months:						
Bought condoms in the past 6 months	28.4	43.2	78.1	98.0	74.2	59.8
Received condoms for free in the past 6 months	42.1	45.5	14.4	1.5	20.0	27.8
Bought and received condoms for free in the past 6 months	29.5	11.2	7.4	0.5	5.8	12.4

STI and HIV testing history

Overall, 37.7% (498/1322) of MSM reported ever having an STI test, of which 72.9% (363/498) reported an STI test in the past 12 months. Based on the past 12 months, a small proportion of MSM self-reported symptoms of STIs such as pain or burning when urinating (168/1323; 12.7%), blister or sores (130/1323; 9.8%) or penile discharge (112/1323; 8.5%; Table 18).

Approximately half of MSM (643/1319; 48.7%) reported being worried about HIV/AIDS in the past 12 months. Overall, 7% (92/1318) of MSM reported ever taking ARVs to prevent HIV (PrEP), reaching 13.4% (41/306) in Yaoundé. Approximately three-quarters of MSM (959/1323; 72.5%) reported ever previously testing for HIV, of which 93% (888/957) had always received their HIV test result. Less MSM (728/1321; 55.1%) reported being tested for HIV in the past 12 months. Overall, where known 13.3% (121/912) of MSM self-reported HIV positive, ranging from 0% (Bamenda) to 27.2% (Yaoundé).

Of those self-reporting HIV positive, 64% (77/121) reported ever initiating ARVs, of which 97% reported currently taking ARVs; however, 28% (21/76) of those initiated on ART had ever stopped taking ART, including 42% of those in Douala. Seventy-five per cent (89/119) self-reported receiving a CD4 test. Overall, 50.4% (58/115) and 20.2% (22/109) of MSM reported disclosing their HIV status to some or all of the regular and casual sex partners, respectively.

Table 18. STI and HIV history among MSM

	Yaoundé (n=306)	Douala (n=354)	Bertoua (n=251)	Bamenda (n=208)	Kribi (n=204)	Total (n=1323)
	%	%	%	%	%	%
STI history						
Ever been tested for STI	59.0	36.2	31.5	32.7	21.1	37.7
Tested for STI in the past 12 months *	84.4	69.5	73.4	60.3	53.5	72.9
Experienced STI symptoms in past 12 months:						
Blisters or sores in the genital region or in the anus	18.3	5.1	14.7	5.8	3.4	9.8
Pain or burning sensation when urinate	14.1	6.8	21.1	11.1	12.3	12.7
Penis discharge or unusual white discharge	9.8	9.0	7.2	5.8	9.8	8.5
Bleeding from the penis	6.2	1.7	15.5	3.4	0.5	5.5
Genital warts	2.0	2.3	5.2	1.0	0.0	2.2
Anal warts	2.6	4.2	5.6	1.0	0.5	3.0
HIV testing and treatment						
Reported ever taken ARVs to prevent HIV	13.4	8.8	3.6	2.0	3.4	7.0
Have been worried about HIV/AIDS over the *past 12 months*	71.5	47.3	53.4	31.6	28.9	48.7
Have ever been tested for HIV infection	83.0	81.6	61.0	52.9	75.0	72.5
Reported to have always received HIV test results *	89.8	95.8	84.2	98.2	96.7	92.8
Tested for HIV in past 12 months	68.5	67.2	41.0	32.2	54.7	55.1
Self-reported living with HIV	27.2	15.6	3.4	0.0	5.6	13.3
Self-reported to have ever initiated ARV *	56.9	74.4	60.0	NA	62.5	63.6
Self-reported currently on ARVs *	97.3	100.0	66.7	NA	100.0	97.4
Self-reported to have ever stopped taking ARVs *	10.8	41.9	33.3	NA	60.0	27.6
Self-reported to have had CD4 test *	73.8	79.1	66.7	NA	62.5	74.8
Disclosed HIV status to some or all regular sex partners *	58.3	39.5	40.0	NA	57.1	50.4
Disclosed HIV status to some or all casual sex partners *	26.8	7.3	40.0	NA	28.6	20.2

* % is of those eligible for that item

Stigma, discrimination and violence

Disclosure of male-to-male sexual behavior to healthcare workers (103/1323; 7.8%), a parent (90/1322; 6.8%) or girlfriend (26/666; 3.9%) was low.

The most common negative experiences related to having sex with men reported by MSM were being blackmailed (299/1323; 22.6%), being arrested in relation to homosexuality (194/1323; 14.7%) and verbal harassment (196/1323; 14.8%). Overall, 221 (16.7%) MSM reported ever being forced to have sex against their will, of which 67% (137/204) believed this was due to having sex with men. One-quarter of MSM (335/1308) reported that they had experienced stigma mostly due to being MSM, and another 26% of MSM reported stigma due to other reasons. MSM reported some exclusion (8.0%) and discrimination (13.9%) from family members. Perceived stigma was also a reason for being afraid (182/1323; 13.8%) or avoiding (178/1323; 13.5%) healthcare services (Table 19).

Table 19. Disclosure of sex with men and experience of stigma and discrimination among MSM

	Yaoundé (n=306)	Douala (n=354)	Bertoua (n=251)	Bamenda (n=208)	Kribi (n=204)	Total (n=1323)
	%	%	%	%	%	%
Ever disclosed having sex with men to:						
Healthcare worker	14.4	13.6	2.8	0.5	1.5	7.8
Parent(s)	11.1	12.2	2.8	0.5	2.5	6.8
Girlfriend*	6.9	4.8	3.5	1.6	1.6	3.9
Family and social						
Ever felt excluded from family activities¤	16.7	8.5	6.8	0.0	3.9	8.0
Ever heard discriminatory remarks by family members¤	23.3	23.2	7.6	0.5	5.0	13.9
Ever felt rejected by non-MSM friends¤	14.1	11.0	6.8	0.5	6.4	8.6
Ever felt scared to be in public places¤	7.5	15.6	12.0	1.0	2.9	8.8
Ever lost employment¤	9.2	6.2	8.8	1.0	1.0	5.7
Healthcare services						
Ever felt afraid seeking health services because worried someone may learn you have sex with men	20.3	19.2	18.7	1.4	1.0	13.8
Ever avoided seeking health services because worried someone may learn you have sex with men	20.9	18.4	17.9	1.0	1.0	13.5
Ever been denied health services¤	7.5	2.3	11.2	0.5	0.5	4.6
Ever heard discriminatory remarks from healthcare providers¤	16.3	7.4	12.8	1.0	1.0	8.5
Ever felt not well treated in a health center¤	8.8	5.1	12.5	1.4	0.5	6.1
Police/justice						
Ever been arrested on charges related to homosexuality	21.9	13.0	14.3	2.4	19.6	14.7
Ever avoided carrying condoms for fear of police	9.8	7.3	13.6	0.5	1.0	7.0
Violence						
Ever been physically harassed or hurt¤	17.3	11.9	10.8	4.3	3.5	10.4
Been physically harassed or in the past 6 months¤	9.8	5.1	7.2	2.9	2.5	5.8
Ever blackmailed¤	36.9	27.7	15.1	6.7	17.6	22.6
Ever forced to have sex against will	25.8	19.0	15.5	12.0	5.4	16.7
Believed forced to have sex due to sex with men#	62.7	82.1	71.1	54.2	36.4	67.2
Been forced to have sex against will in the past 6 months	8.2	6.8	11.2	8.7	1.0	7.3
Experience of stigma						
Experienced most stigma because of being MSM	39.1	31.5	12.1	23.7	14.3	25.6
Experienced most stigma due to other reasons	29.0	22.2	41.8	0.5	36.0	26.2
Have not experienced stigma	32.0	46.3	46.2	75.9	49.8	48.2

* Among those a regular female partner in the previous 12 months
¤ Because of having sex with men
% is of those eligible for that item

HIV and syphilis prevalence

Excluding 10 indeterminate cases, overall, 272 (20.7%) MSM tested HIV positive (Table 20). Of those testing HIV positive, 158 (58%) were newly diagnosed with HIV based on self-reported HIV status (Figure 9). Proportion of infections that were newly diagnosed was highest in Bamenda (8/8; 100%) and Bertoua (19/23; 83%), and lowest in Kribi (4/12; 33%) (Figure 9). Among the 10 MSM with indeterminate HIV results, five self-reported HIV negative and five reported unknown

HIV status. RDS-adjusted population estimates of HIV prevalence ranged from 1.7% (95%CI 0.7–3.9) in Bamenda to 43.1% (95%CI 33.0–53.7) in Yaoundé (Table 20).

Overall 36 (2.7%) MSM tested syphilis positive (Table 20). In total, 3.3% (9/272) MSM were coinfected with syphilis. Syphilis coinfection was limited to Yaoundé and Bertoua. RDS-adjusted estimates were not available for syphilis, but the highest sample prevalence was detected in Yaoundé (5.6%).

Figure 9. HIV and syphilis positivity among MSM (crude prevalence estimates)

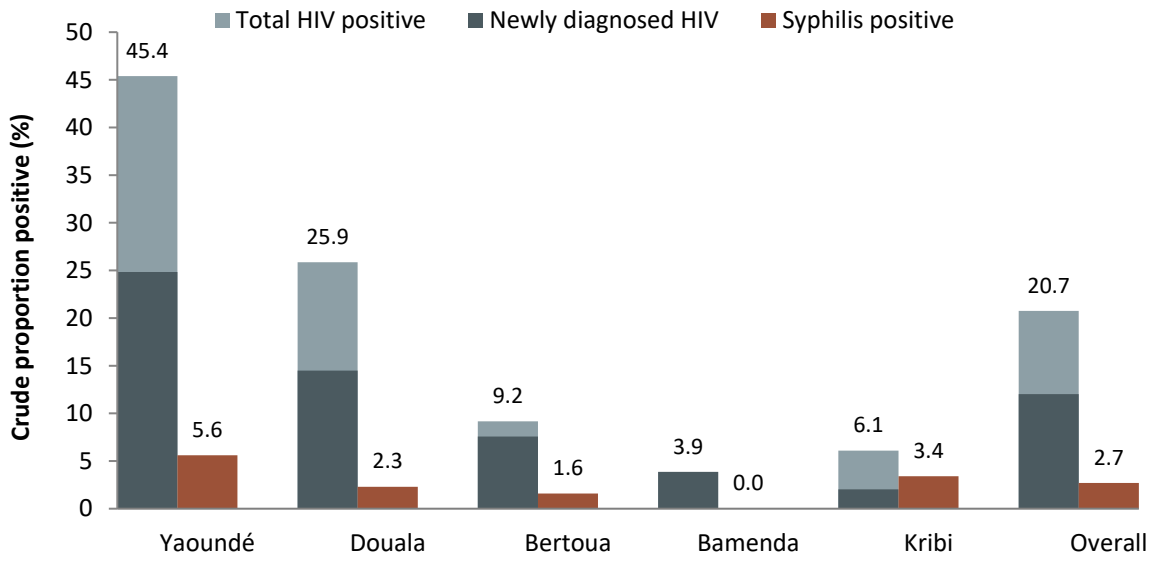


Table 20. Crude and RDS-adjusted prevalence estimates for HIV, syphilis and coinfection among MSM

City	Total*	HIV positive					Syphilis positive		Syphilis coinfection#	
		Crude		RDS-adjusted			Crude			
	n	n	%	%	95% CI		n	%	n	%
Yaoundé	306	138	45.4	43.1	[33.0, 53.7]		17	5.6	8	5.8
Douala	354	91	25.9	20.5	[13.3, 30.4]		8	2.3	0	0.0
Bertoua	251	23	9.2	7.2	[4.1, 12.5]		4	1.6	1	4.4
Bamenda	208	8	3.9	1.7	[0.7, 3.9]		0	0	0	0.0
Kribi	204	12	6.1	3.0	[1.4, 6.4]		7	3.4	0	0.0
Overall	1323	272	20.7	NA	NA		36	2.7	9	3.3

*Ten indeterminate cases excluded from denominator (Douala-2, Bamenda-1, Kribi-7)
Proportion of HIV positive individuals who were coinfected with syphilis
NA–not available

RDS-adjusted population estimates

RDS-adjusted population estimates for available indicators are reported in Table 21 (next page).

Table 21. RDS-adjusted population estimates for available indicators among MSM

	Yaoundé		Douala		Bertoua		Bamenda		Kribi	
	RDS-adj %	Adj 95% CI	RDS-adj %	Adj 95% CI	RDS-adj %	Adj 95% CI	RDS-adj %	Adj 95% CI	RDS-adj %	Adj 95% CI
Ever had a regular male partner	82.2	[70.3,90.0]	74	[63.9,82.1]	90.1	[83.4,94.2]	78.5	[69.6,85.3]	79.4	[71.6,85.6]
Ever had a casual male partner	78.6	[68.0,86.5]	68.5	[57.6,77.7]	54.1	[45.8,62.1]	45.2	[36.2,54.5]	51.8	[41.9,61.5]
Ever had a regular female partner	67.8	[57.3,76.8]	54.9	[44.4,65.0]	56.6	[48.3,64.5]	72.4	[63.7,79.7]	82.6	[75.4,88.1]
Ever had a casual female partner	38.6	[29.2,49.0]	40.3	[30.9,50.6]	47.7	[39.7,55.8]	52.6	[43.4,61.8]	57.6	[47.5,67.1]
Ever used lubricants during sex	93.8	[83.1,97.9]	78.6	[68.9,85.9]	39.3	[31.8,47.4]	30.7	[22.9,39.8]	60.9	[51.2,69.8]
Injecting drug use	8.1	[4.7,13.8]	2.2	[0.8,5.9]	6	[3.1,11.0]	1.8	[0.8,4.2]	41.2	[31.4,51.7]
Ever used non-injecting illegal drug[1]	14.4	[8.5,23.3]	23.8	[15.9,34.0]	20.9	[15.5,27.6]	4.2	[2.3,7.7]	44.4	[34.9,54.4]
Injecting drug use by sexual partner	5.1	[2.8,9.2]	4.7	[1.7,12.2]	9.5	[5.8,15.1]	0.2	[0.1,0.8]	4.2	[1.8,9.8]
Ever avoided seeking health services*	17.6	[12.0,25.2]	14.0	[8.1,23.0]	14.0	[9.6,20.1]	0.1	[0.0,0.6]	0.1	[0.0,0.5]
Ever heard discriminatory remarks from healthcare providers*	14.3	[8.2,23.7]	2.3	[1.3,4.1]	9.1	[5.5,14.8]	0.3	[0.0,2.0]	0.1	[0.0,0.5]
Ever felt not treated well at health service*	6.6	[3.4,12.6]	2.7	[1.2,6.2]	8.9	[5.4,14.4]	0.5	[0.1,1.9]	0.0	[0.0,0.2]
Ever felt rejected by non-MSM friends	15.6	[9.0,25.8]	8.1	[4.0,15.7]	4.7	[2.3,9.4]	0.9	[0.1,6.3]	3.8	[1.8,8.2]
Ever felt scared to be in public places*	6.9	[3.6,12.6]	16.8	[9.9,27.2]	8.8	[5.5,13.8]	1.0	[0.2,5.3]	3.1	[0.6,13.7]
Physically harassed or hurt* in past 6 months	11.0	[5.5,20.8]	10.0	[4.5,20.9]	6.4	[3.3,12.3]	2.7	[1.1,6.6]	2.6	[0.9,7.0]
Ever verbally harassed*	20.9	[14.2,29.7]	14.7	[8.8,23.3]	6.9	[3.8,12.1]	4.2	[2.1,8.1]	4.9	[2.0,11.6]
Ever harassed or intimidated by a uniformed officer*	18.5	[11.6,28.3]	11.1	[5.8,20.4]	11.7	[7.2,18.5]	3.2	[1.4,7.3]	1.8	[0.5,7.1]
Ever blackmailed*	32.5	[23.7,42.6]	17.1	[11.2,25.0]	10.7	[6.9,16.3]	6.4	[3.5,11.4]	16.8	[10.8,25.4]
Ever forced you to have sex against will	20.8	[14.2,29.4]	13.1	[7.7,21.5]	11.6	[7.7,17.3]	10.6	[6.2,17.4]	4.8	[2.2,10.3]
Forced to have sex against will in past 6 months	8.3	[4.3,15.6]	7.6	[3.3,16.4]	8.6	[5.2,13.8]	4.9	[2.6,8.8]	0.7	[0.1,4.1]
Ever forced to have sex against will *	13.0	[7.8,21.1]	9.1	[4.9,16.2]	8.3	[5.0,13.3]	6.1	[2.8,12.9]	1.2	[0.3,4.4]
Experienced STI symptoms in past 12 months:										
Blisters or sores in the genital region or anus	12.5	[7.9,19.1]	1.1	[0.6,2.0]	12.3	[8.1,18.3]	4.6	[2.3,9.2]	5.9	[2.1,15.0]
Penile discharge or unusual white discharge	7.7	[4.0,14.5]	8.9	[4.6,16.5]	5.4	[3.1,9.3]	5.5	[2.7,11.1]	9	[5.0,15.8]
Anal warts	3	[1.3,7.0]	1.3	[0.6,2.7]	3.4	[1.8,6.4]	0.9	[0.2,3.8]	0.4	[0.1,3.0]
Ever had an STI test	70.5	[59.7,79.4]	30.1	[21.3,40.6]	28.2	[21.7,35.9]	36.8	[28.2,46.4]	23.7	[15.8,34.0]
Ever taken ARVs to prevent HIV infection	12.8	[6.8,22.9]	1.7	[1.0,2.8]	2.8	[1.1,7.0]	1.5	[0.4,5.2]	2.5	[1.0,6.1]
Worried about HIV/AIDS in the past 12 months	67	[54.5,77.6]	47.4	[37.2,57.8]	56.2	[48.0,64.1]	33.6	[25.0,43.4]	35.9	[26.4,46.6]
Ever previously tested for HIV	79.5	[69.1,87.1]	71	[59.9,80.1]	62.6	[54.3,70.2]	53.2	[43.6,62.5]	79.2	[71.4,85.3]
HIV test result:										
Positive	43.1	[33.0,53.7]	20.5	[13.3,30.4]	7.2	[4.1,12.5]	1.7	[0.7,3.9]	3	[1.4,6.4]
Negative	56.9	[46.3,67.0]	79.5	[69.6,86.7]	92.8	[87.5,95.9]	98.3	[96.1,99.3]	97	[93.6,98.6]

* Because have sex with men

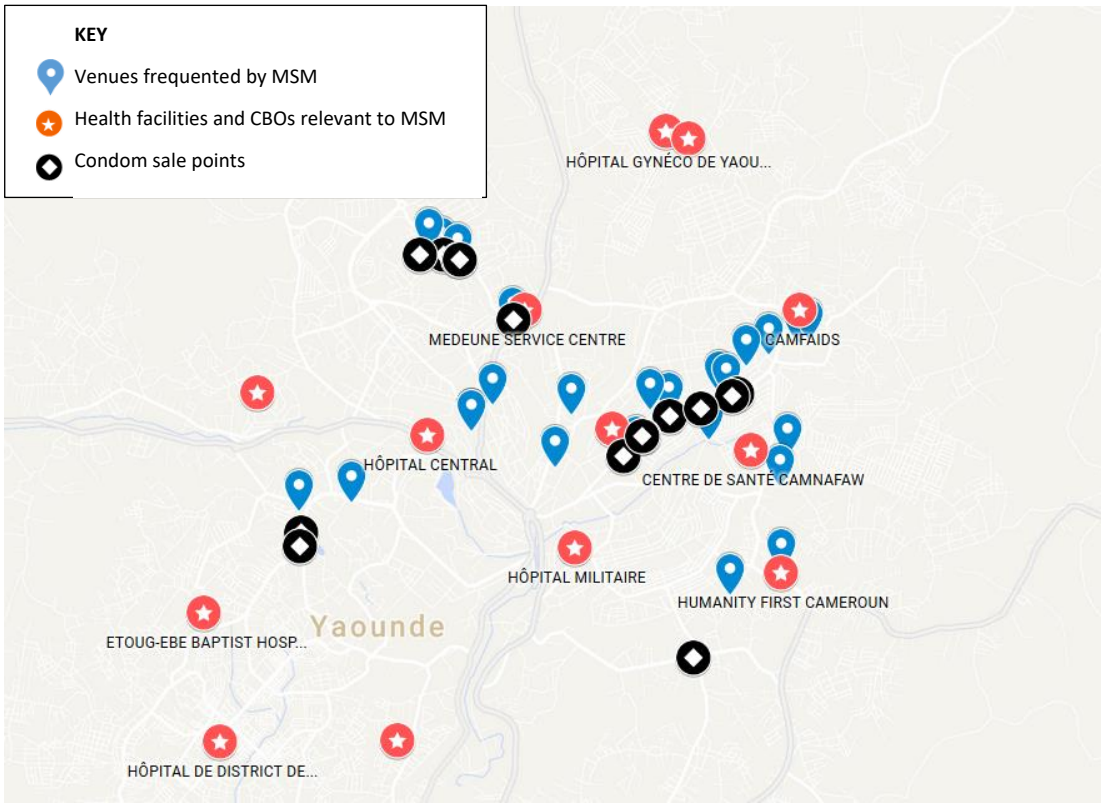
Population mapping

In all study sites MSM venues were predominantly bars and snack bars and centered around areas with high density of these venues.

Yaoundé

In Yaoundé, 25 MSM venues were identified. The highest density of MSM venues was in the Djoungolo district (Figure 10).

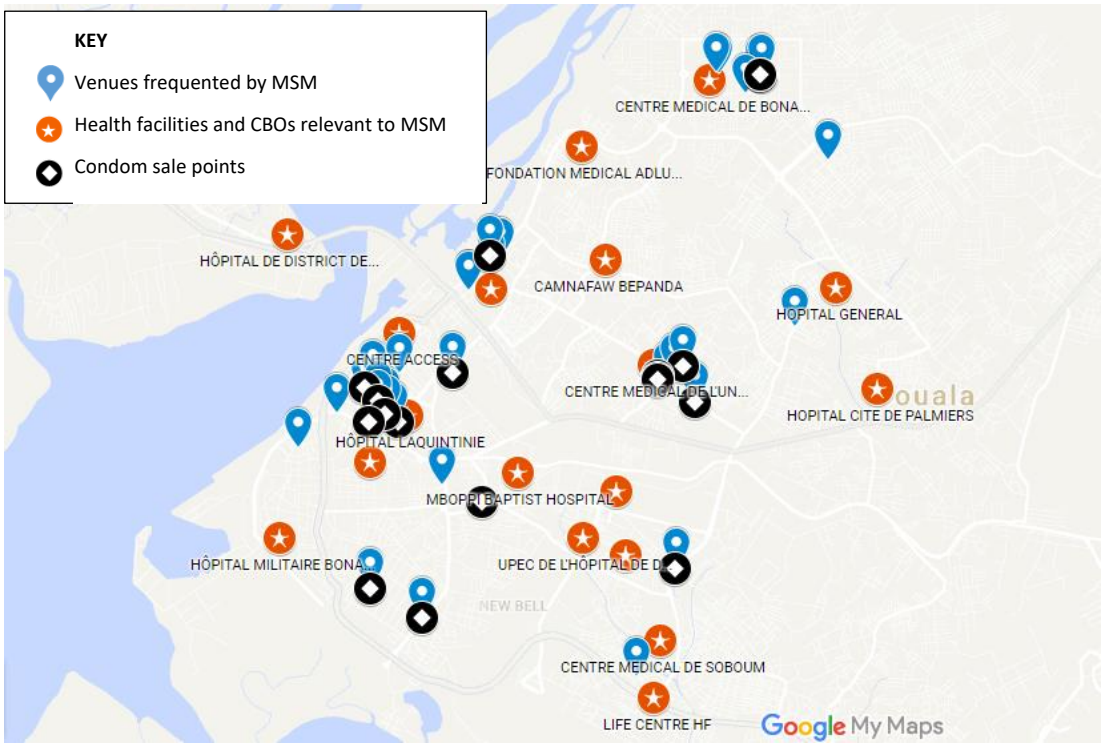
Figure 10. MSM venues in Yaoundé



Douala

In Douala, 36 MSM venues were identified. Areas with greatest density of MSM venues were Akwa, Deido and Ange-Raphael–the latter of which is in the vicinity of the University of Douala (Figure 11, next page).

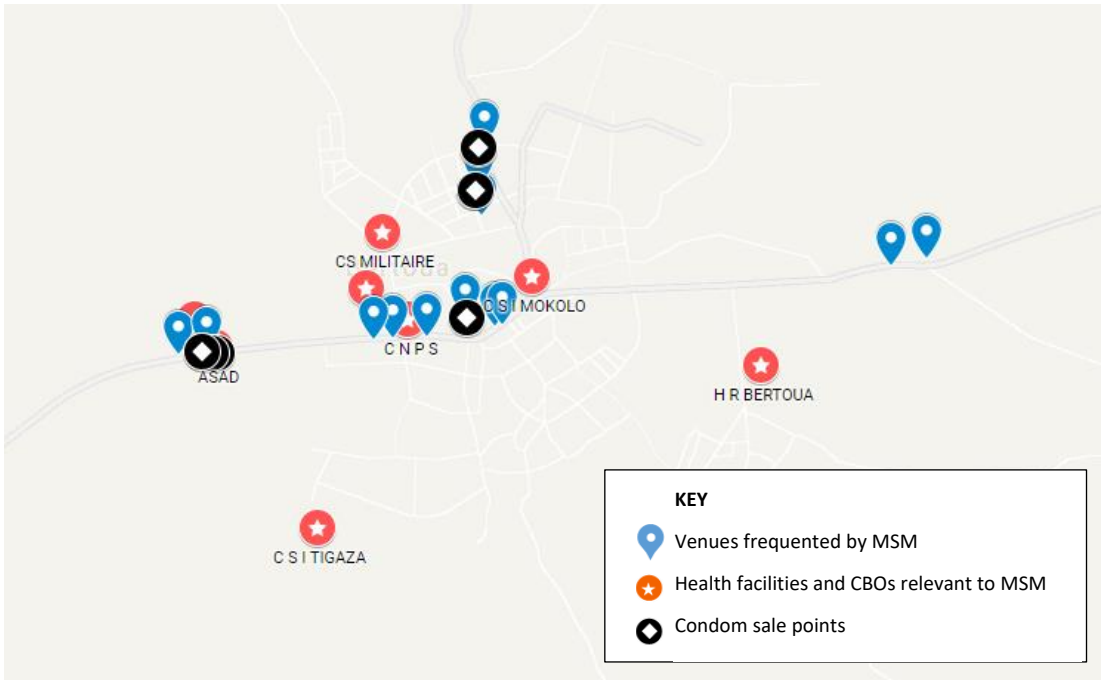
Figure 11. MSM venues in Douala



Bertoua

In Bertoua, 14 MSM venues were identified. MSM venues were predominantly clustered along the major road and the city center (Figure 12).

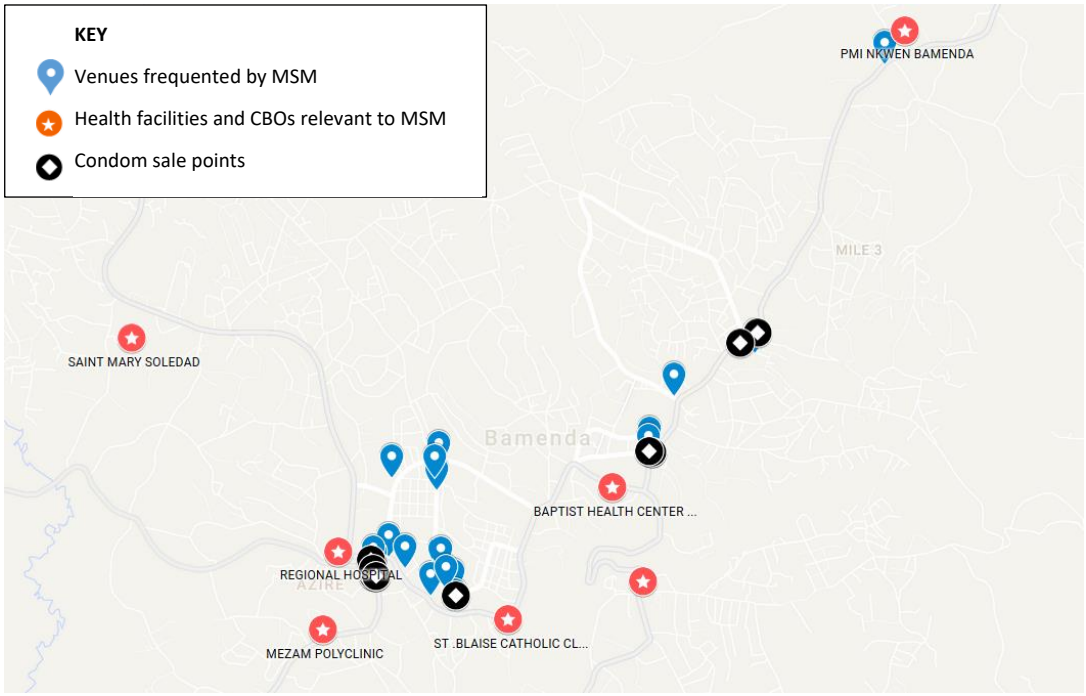
Figure 12. MSM venues in Bertoua



Bamenda

In Bamenda, 19 MSM venues were identified. The highest concentration of venues was around Commercial Avenue (Figure 13).

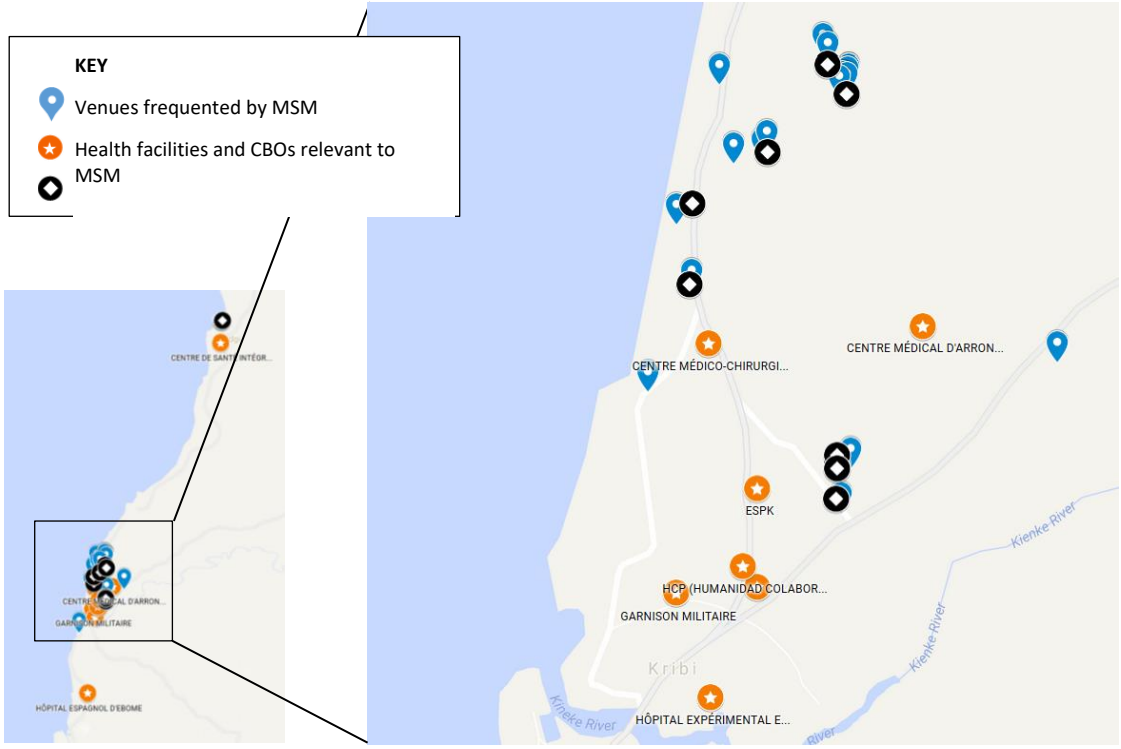
Figure 13. MSM venues in Bamenda



Kribi

In Kribi, 19 MSM venues were identified. The highest concentration of MSM venues was around Carrefour Kingue (Figure 14).

Figure 14. MSM venues in Kribi (inset greater Kribi)



Part 3. Comparative results

FSW and MSM

The samples of FSW and MSM recruited in the IBBS had very different sociodemographic profiles; MSM were younger than FSW, more highly educated, and had a lower income (Table 22).

Table 22. A comparison of indicators between FSW and MSM (all cities), 2016

	FSW (%)	MSM (%)
Socio-demographic		
Median age (years)	28.0	23.0
Post high-school education	3.9	23.4
Low income (<50,000/month)	29.5	60.1
HIV and syphilis		
HIV prevalence	24.3	20.7
Syphilis Prevalence	8.2	2.7
HIV/Syphilis coinfection	9.5	3.3
% of HIV infections newly diagnosed	48.3	58.1
HIV & STI testing history		
Ever tested for STIs	48.9	37.7
Experienced any STI symptoms in past 12 months	44.6	27.3
Reported ever taking ARVs to prevent HIV	7.7	7.0
Tested for HIV in past 12 months	59.1	55.1
Ever initiated ART (if self-report HIV positive)	80.8	63.6
Ever stopped ART (if initiated)	15.8	27.6
Consistent condom use (anal/vaginal sex)		
CCU regular male partners[1]	19.5	43.9
CCU with casual male partners[1]	51.3	34.0
CCU regular female partners	NA	22.8
CCU with casual female partners	NA	34.7
CCU with all clients	77.5	NA
Access to HIV prevention and education		
Received HIV prevention information in past 6 months	66.5	48.3
Participated in an educational session conducted by a peer educator in the past 3 months	17.3	23.4
HIV knowledge		
Correctly reports that anal sex has highest sexual risk	5.0	35.1
Correctly reports that the safest lubricant is water-based	36.9	48.6
Correctly reports that one can get HIV from sharing needles	94.7	86.5
Stigma & discrimination[2]		
Ever heard discriminatory remarks by family members	11.9	13.9
Ever felt afraid seeking health services	6.2	13.8
Ever avoided seeking health services	4.7	13.5
Ever been arrested	33.5	14.7
Ever avoid carrying condoms because afraid of the police	7.8	7.0
Ever been physically harassed or hurt	24.8	10.4
Ever been blackmailed	44.7	22.6
Ever forced to have sex against will	32.6	16.7
Mental health		
Feeling down/depressed/hopeless	52.9	37.3
Thoughts that you would be better off dead/hurting self	18.9	22.3

[1] For FSW refers to non-paying male partners
[2] Experienced in relation to being a FSW or MSM, respectively

Overall HIV prevalence was higher among FSW (24.3%) than MSM (20.7%), with the exception of in Yaoundé. Syphilis prevalence was also higher among FSW (8.2% vs. 2.7%). Of those testing HIV positive, a higher proportion of MSM (58.1%) than FSW (48.3%) had newly diagnosed HIV based on self-reported HIV status and testing history. Experience of STI symptoms in the past year was higher in FSW (44.6%) than MSM (27.3%). A similar proportion in both groups reported testing

for HIV in the previous 12 months and taking ARVs to prevent HIV (PrEP). Among those who self-reported HIV positive, a higher proportion of FSW (80.8%) than MSM (63.6%) self-reported ever initiating ART, while a higher proportion of MSM (27.6% vs. 15.8%) had ever stopped taking ART once initiated.

FSW and MSM reported similar CCU with their regular opposite-sex non-paying partners (19.5% and 22.8%, respectively), but a higher proportion of MSM reported CCU with their regular male partners (43.9%).

A higher proportion of FSW (66.5%) than MSM (48.3%) had received HIV prevention information in the past 6 months. Areas of HIV knowledge differed; for example, more MSM (35.1%) than FSW (5.0%) knew that anal sex poses the highest sexual risk.

Experience of stigma and discrimination differed between FSW and MSM. While family-based discrimination was similar, a higher proportion of MSM than FSW reported healthcare related stigma, whereas arrest was more common among FSW. Experience of physical violence was higher among FSW (24.8%) than MSM (10.4%). Mental health problems, including suicidal ideation, were high in both groups.

2016 IBBS and R2P

In 2013, a Research to Prevention (R2P) study was done to characterize access to health services for key populations in Cameroon. The study utilized venue-based sampling to recruit FSW and MSM.

Female sex workers

The 2013 R2P study recruited a more educated sample of FSW than the current IBBS (Table 23).

Table 23. A comparison of common indicators between the 2013 R2P study and 2016 IBBS: FSW

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total[1]	
	R2P %	IBBS %	R2P %	IBBS %	R2P %	IBBS %	R2P %	IBBS %	R2P %	IBBS %	R2P %	IBBS %
Age group												
18-20	5.5	3.5	7.0	2.6	17.2	10.5	15.2	2.6	7.7	9.2	11.0	5.6
21-24	19.7	27.2	16.3	17.7	14.6	42.4	24.2	18.5	22.5	29.2	19.3	26.5
25-29	32.9	21.3	30.2	20.6	27.0	19.4	28.9	21.1	31.4	26.1	29.5	22.1
30-34	19.4	17.2	20.6	19.3	12.4	14.1	18.0	18.8	18.3	16.9	17.6	17.4
35+	22.6	30.9	24.3	39.9	28.8	13.5	13.7	39.0	20.1	18.7	22.6	28.5
Education												
Never attended school	3.2	1.7	3.7	5.9	8.6	3.0	1.9	1.2	1.2	0.7	4.7	2.4
Primary school or less	34.6	23.0	32.6	31.6	45.3	24.4	35.1	48.1	29.6	23.2	37.2	28.8
Secondary school incomplete	39.8	65.6	47.2	57.3	30.0	63.7	26.5	34.6	41.4	70.3	38.2	60.2
Secondary school	19.4	3.8	13.6	3.8	13.5	6.6	34.6	11.7	24.9	2.8	18.0	4.8
Post high-school education	2.9	5.9	3.0	5.9	2.6	2.4	1.8	4.4	3.0	3.1	2.0	3.9
Condom use												
CCU during vaginal sex with non-paying sex partners[2]	15.1	25.3	13.0	14.6	5.7	30.9	3.0	23.1	29.4	12.2	13.1	20.1
CCU during vaginal sex with clients[2]	69.0	79.8	58.5	91.2	9.4	68.0	17.5	63.1	46.7	78.1	40.8	77.6
Offered more money for not using a condom in past month	68.6	72.5	70.7	72.4	81.2	65.7	58.4	71.0	67.0	60.1	72.6	68.1
Access to HIV prevention												
Received HIV prevention message[3]	60.3	60.1	67.8	79.2	87.5	44.4	65.7	64.5	82.8	75.5	68.2	66.5
Source of information on HIV prevention:												
Peer educator	43.5	54.2	43.1	72.1	78.2	45.9	39.7	40.5	67.3	29.4	45.4	48.5
Internet	1.9	13.0	2.7	0.8	5.6	2.2	2.5	5.0	12.0	5.2	3.7	5.7
Media	32.5	67.3	40.1	43.1	26.4	34.1	29.3	17.3	56.0	65.4	33.6	50.6
Friends	24.9	28.1	24.1	5.5	25.9	13.3	16.7	10.0	46.4	22.3	23.7	17.0
Healthcare facility	34.5	82.0	35.2	53.3	23.4	48.2	31.9	55.5	48.2	60.1	32.8	61.8
Church/mosque/religious group	11.0	2.9	7.7	0.8	2.3	4.4	6.4	7.7	22.0	2.3	7.3	3.1
Method of condom acquisition in past 6 months												
Bought condoms	65.8	69.1	81.4	38.3	14.4	73.8	44.0	62.7	55.7	76.5	63.5	64.0
Received condoms for free	5.5	8.4	2.3	23.6	8.4	11.9	1.9	13.1	15.6	8.8	4.7	12.9
Bought and received condoms for free	28.7	22.6	16.3	38.1	77.2	14.3	54.1	24.2	28.7	14.7	31.8	23.1
Ever previously tested for HIV	91.6	89.7	94.1	92.6	90.2	85.9	98.6	97.1	95.2	86.7	92.4	90.1
Stigma and discrimination												
Ever felt afraid seeking health services[4]	13.0	6.1	12.7	2.8	8.0	7.9	9.1	14.7	29.6	3.1	13.0	6.2
Ever denied health services[4]	1.0	0.5	3.0	0.0	5.6	0.7	1.9	1.5	11.8	0.0	3.2	0.4
Ever not treated well at health services[4]	1.6	0.5	3.0	0.2	12.9	0.7	4.3	10.6	17.2	0.2	5.4	1.9
Ever blackmailed[4]	57.5	53.2	53.2	64.7	66.2	30.9	49.8	20.3	69.5	42.0	55.1	44.7
Ever physically harassed or hurt[4]	31.6	30.4	35.9	26.1	41.7	23.1	41.7	26.5	31.6	18.3	40.0	24.8
Ever been arrested	65.2	45.6	67.9	65.7	63.9	30.3	43.3	32.8	42.6	35.9	55.6	43.2

[1] R2P 2013 total includes additional cities Bafoussam and Ngaoundere
[2] R2P 2013 specific to male condom use, whereas IBBS 2016 specified male or female condom use
[3] Recall period differed between R2P (past 12 months) and IBBS (past 6 months)
[4] Experienced because of involvement in sex work

In all localities, report of consistent condom use with clients was substantially higher (overall 77.6%) than in the prior R2P study (40.8%). In comparison, CCU with non-paying partners was higher in some cities, similar in others, and lower in Kribi in the IBBS compared to the R2P.

Receipt of HIV prevention messages was similar in both studies. However, the source of information differed between the two studies; overall, healthcare facilities and media were more important in the IBBS than R2P, and religious groups less important. A higher proportion of FSW reported receiving free condoms in the IBBS than R2P study, with the exception of Yaoundé and Kribi. Report of a prior HIV test was similar in both samples.

Indicators of stigma and discrimination were mostly lower in the 2016 IBBS sample than R2P sample.

Men who have sex with men

The 2013 R2P study recruited a more educated sample of MSM than the current IBBS (Table 24, next page). Sexual orientation of included MSM was similar in both studies. In most localities, report of consistent condom use with male partners was lower in the 2016 IBBS (overall 34.4%) than prior R2P study (53.3%). In comparison, CCU during vaginal sex was generally higher in the 2016 IBBS than 2013 R2P, but similar overall.

Receipt of HIV prevention messages was substantially lower in the IBBS (48.3%) than R2P study (88.3%). Overall the source of information was similar between the two studies, but the relative important of friends and media was lower in the IBBS than R2P study. Compared to the R2P study, in the IBBS more MSM reported buying or both buying and receiving free condoms. Report of a prior HIV test was lower in the IBBS than R2P study.

Indicators of stigma and discrimination were similar in the IBBS and R2P with the exception of blackmail, which a lower proportion reported in the IBBS.

Table 24. A comparison of common indicators between the 2013 R2P study and 2016 IBBS: MSM

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total[1]	
	R2P %	IBBS %	R2P %	IBBS %	R2P %	IBBS %	R2P %	IBBS %	R2P %	IBBS %	R2P %	IBBS %
Age group												
18-20	12.4	17.0	7.6	7.3	15.2	14.7	2.6	16.3	19.0	7.4	12.1	12.4
21-24	39.0	43.8	39.6	54.0	25.2	61.8	23.0	54.8	37.7	40.2	33.5	51.1
25-29	34.4	24.5	31.6	24.0	33.2	19.9	47.4	15.9	29.4	31.4	32.9	23.2
30-34	7.7	8.5	13.2	9.0	14.4	2.4	22.4	7.7	61.0	14.2	11.6	8.2
35+	6.6	6.3	8.0	5.6	12.0	1.2	4.6	5.3	7.9	6.9	9.8	5.0
Education												
Never attended school	0.0	0.0	0.4	0.0	0.4	0.8	0.0	3.4	1.6	0.5	1.6	0.8
Primary school or less	3.9	4.9	2.4	3.6	2.8	9.6	3.3	12.9	6.8	13.7	6.7	8.1
Secondary school incomplete	10.4	40.2	17.7	59.0	17.0	59.0	25.7	49.5	16.2	76.5	15.7	55.9
Secondary school	43.2	9.5	38.3	8.8	39.3	21.9	39.5	16.3	55.0	3.9	40.2	11.9
Post high-school education	42.5	45.4	28.5	28.5	40.5	8.8	31.5	17.8	20.4	5.4	35.8	23.4
Sexual orientation												
Gay or Homosexual	36.9	37.6	34.0	45.8	25.0	51.4	44.3	27.4	50.5	30.1	36.9	39.7
Bisexual	62.0	61.7	64.0	53.4	75.0	48.6	55.7	72.6	49.5	69.5	62.5	59.9
Heterosexual	1.2	0.3	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.4
Transgender	0.0	0.3	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1
Condom use												
CCU during anal sex with male partners[2]	63.8	36.1	52.0	39.5	48.1	29.7	61.6	17.3	44.7	44.4	53.3	34.3
CCU during vaginal sex with female partners[2]	38.3	51.1	46.6	43.0	16.0	26.5	50.5	18.0	39.2	34.6	33.1	35.3
Access to HIV prevention												
Received HIV prevention message[3]	93.8	77.1	86.4	55.9	96.0	22.3	99.3	25.0	78.9	47.8	88.3	48.3
Source of information on HIV prevention:												
Peer educator	75.7	62.0	71.6	77.3	57.5	37.3	58.3	94.2	64.2	52.0	61.3	65.5
Internet	40.9	37.6	41.9	20.7	18.5	15.3	43.4	34.6	29.6	3.1	33.5	24.8
Media	80.0	54.9	60.9	21.2	78.6	22.0	94.7	21.2	47.9	80.6	69.4	42.7
Friends	67.3	40.9	54.6	16.2	42.1	20.3	85.5	17.3	47.3	35.7	55.0	28.7
Healthcare provider	54.3	51.5	44.6	26.8	63.1	49.2	64.5	86.5	39.4	53.1	50.3	46.7
Church/mosque/religious group	23.3	32.1	12.2	1.5	5.1	10.2	20.7	5.8	19.7	0.0	15.8	13.7
Method of condom acquisition in past 6 months												
Bought condoms	21.8	28.4	16.9	43.2	20.1	78.1	69.1	98.0	33.5	74.2	34.9	59.8
Received condoms for free	48.0	42.1	49.8	45.5	22.2	14.4	5.3	1.5	40.5	20.0	30.1	27.8
Bought and received condoms for free	30.2	29.5	33.3	11.2	57.7	7.4	25.7	0.5	25.9	5.8	35.0	12.4
Ever previously tested for HIV	94.6	83.0	93.6	81.6	97.7	61.0	95.3	52.9	78.9	74.9	91.5	72.5
Stigma and discrimination												
Ever denied health services[4]	4.3	7.5	8.4	2.3	1.6	11.2	16.0	0.5	10.5	0.5	5.8	4.6
Ever not treated well at health services[4]	3.9	8.8	13.2	5.1	3.6	12.5	2.0	1.4	13.6	0.5	8.3	6.1
Ever blackmailed[4]	45.3	36.9	43.6	27.7	18.8	15.1	68.0	6.7	52.4	17.6	39.8	22.6
Ever physically harassed or hurt[4]	16.8	17.3	16.9	11.9	4.4	10.8	27.5	4.3	24.9	3.5	13.7	10.4
Ever been arrested[4]	10.1	21.9	14.0	13.0	0.8	14.3	3.9	2.4	15.8	19.6	7.7	14.7

[1] R2P 2013 total includes additional cities Bafoussam and Ngaoundere
[2] CCU-consistent condom use; R2P 2013 specific to male condom use, whereas IBBS 2016 specified male or female condom use
[3] Recall period differed between R2P (past 12 months) and IBBS (past 6 months)
[4] Experienced because have sex with men

Part 4. Population size estimates

Methods

Three methods, described below, were implemented to estimate population size of FSW and MSM in study implementation cities and the proportion of key populations captured in the IBBS.

1) Wisdom of the masses

This population size estimation was based on the median response to the question, 'how many FSW/MSM live in this city', calculated by site and key population. Median was used to reduce the possibility of outliers skewing the estimate, and the interquartile range was calculated to provide a confidence interval on the estimate.

2) Unique object method

A unique object was distributed in each of the five study sites by peer educators associated with the relevant community-based organizations (CBO). This population size estimation was based on the inverse of the proportion of survey participants who received the object multiplied by the number of objects that were distributed, using the following formula:

$$p = \frac{n1}{(m/n2)}$$

Where *p* is the population estimate, *n1* is the number of objects distributed; *n2* is the total number of participants in the study and *m* is the number of participants who received the object [14].

3) Service multiplier method

Attendance at a peer education session in the previous three months was asked in the questionnaire and compared to registration records for local CBOs to determine the number of individuals accessing peer education. This population size estimation used the same mathematical method as the unique object formula, where *p* is the population estimate, *n1* is the actual number of people who used the service, *n2* is the total number of participants in the study, and *m* is number of study participants who used the service.

For methods 2 to 3, the proportion receiving object/accessing service were adjusted using RDS-derived weights, as described in general methods.

Implementation and preliminary results

Program data for the service multiplier method and unique object method are summarized in Table 25.

The estimates for each of the three population size methods were evaluated and retained based on the following criteria in each city:

- Based on implausibility, wisdom of the masses estimates were excluded on an individual basis in the following circumstances: individual's size estimation was less than actual sample size at the relevant site; or individual's size estimation was more than 5% (FSW) or 20% (MSM) of adult population, by sex and respective city. If after censoring out these estimates the resulting estimation was based on less than 60% of the site sample size, then the wisdom of the masses population estimate was excluded.
- Unique object method was excluded if the number of objects distributed was less than 80% of the sample size in that city.
- Service multiplier method was excluded if there were problems in implementation or if assumptions of the method were violated.

Details pertaining to these exclusions and problems experience during implementation of each method are described below.

After excluding individual implausible estimates for wisdom of the masses, three sites for FSW and four sites for MSM had less than 60% valid responses, and wisdom of the masses estimates were not calculated for these sites.

Based on implementation of the IBBS survey over 11 months and a recall period of attendance in a peer education session of three months, comparative program data was required for a 14-month period. Due to confidentiality concerns and priority to provide an anonymous service, organizations serving key populations often lack or have incomplete data to identity the same individual over time. A unique code (UIC) was unavailable at CBOs prior to implementation of the IBBS, thus to ensure individuals were counted only once, program numbers were limited to 2016 only (12 months). Further, program data counting unique individuals were not available for two FSW CBOs and three MSM CBOs. In Douala, due the restricted time period that program data was available for, the number of actual program attendees was less than the number of study participants attending peer education at Alternative Cameroon, and population size estimates were not calculated for Douala using this method. Study participants who reported attending a peer education session in a different city to where they were recruited were not counted as having attended.

At three CBOs, the number of objects distributed was lower than intended; Bamenda and Bertoua lacked CBOs working with MSM, which meant that a CBO working with FSW was used to identify MSM peer leaders for object distribution, and the relevant CBO in Kribi for both FSW and MSM was being phased out at the time of distribution. In each of these cases the resulting networks were smaller than needed to distribute the intended number of objects. As a result, the numbers of objects distributed among FSW in Kribi and among MSM in Bertoua, Bamenda and Kribi were less than 80% of the sample size in these locations, and the population size estimate from unique object distribution method could not be determined in these cities. At other sites, invalid methods of receiving the object were individually excluded from local estimates. Six FSW and eight MSM received the object through invalid means, including receiving from a friend, researcher, boss, family member or “guy”.

Table 25. Program data for population size estimation

			Peer edu. attendance 2016	Unique objects distributed	
				Intended	Actual
FSW	Yaoundé	Horizons Femmes Yaoundé	1025	500	500
	Douala	Horizons Femmes Douala	647	400	400
	Bertoua	ASAD	N/A	300	300
	Bamenda	CMWA	1013	300	300
	Kribi	ESPK	N/A	350	150
MSM	Yaoundé	Humanity First	896	300	300
	Douala	Alternatives	68	300	300
	Bertoua	ASAD (FSW)*	N/A	300	150
	Bamenda	CMWA (FSW)*	N/A	200	50
	Kribi	ESPK	N/A	250	100

* No MSM-specific CBO was available, and a CBO working with FSW was used to distribute objects to MSM

To estimate denominators for total population size, by study site, the national age structure derived from the World Bank-compiled 2016 population estimates [15] was applied to 2015 city population projections, by sex, from the Cameroon Census Bureau [16].

To calculate the number of FSW/MSM as a proportion of the general population, by city, the key population size estimate was divided by the total population estimate matched by sex and age range of the study sample, specific to key population (FSW: females aged 18-49 years; MSM: males aged 18-29 years). The proportion of FSW/MSM in each city was then applied to the population of female/male reproductive aged adults (ages 15-49 years) in each city to estimate the total population of FSW and MSM in each study city.

Based on these data, crude and RDS-adjusted population estimates for all available methods in each city are reported in Table 26.

Table 26. Crude and RDS-adjusted population size estimates by city, where available

			Yaoundé	Douala	Bertoua	Bamenda	Kribi
FSW	Wisdom of the masses	Valid responses (% of sample)	384 (67%)	321 (70%)	111 (37%)	130 (38%)	10 (2%)
		Crude point estimate	3,000	1,500	Undetermined	Undetermined	Undetermined
		Range	(1,000–5,000)	(600–4,000)	Undetermined	Undetermined	Undetermined
	Unique object method	% Received object	7%	18%	8%	11%	6%
		Crude point estimate	6,674	2,257	3,800	2,692	Undetermined
		RDS-adj point estimate	11,366	4,039	7,016	3,537	Undetermined
		RDS-adj range	(7,723–21,513)	(2,936–6,468)	(4,267–19,727)	(2,410–6,640)	Undetermined
	Service multiplier method	% Attended P.E.	18%	35%	13%	17%	4%
		Crude point estimate	5,712	1,860	NA	6,060	NA
		RDS-adj point estimate	7,736	3,385	NA	5,842	NA
		RDS-adj range	(6,042–10,750)	(2,621–4,779)	NA	(4,315–9,043)	NA
MSM	Wisdom of the masses	Valid responses (% of sample)	148 (48%)	257 (73%)	45 (18%)	68 (33%)	25 (12%)
		Crude point estimate	Undetermined	2,000	Undetermined	Undetermined	Undetermined
		Range	Undetermined	(1,000–5,000)	Undetermined	Undetermined	Undetermined
	Unique object method	% Received object	18%	23%	2%	1%	15%
		Crude point estimate	1,669	1,295	Undetermined	Undetermined	Undetermined
		RDS-adj point estimate	2,300	1,421	Undetermined	Undetermined	Undetermined
		RDS-adj range	(1,623–3,944)	(1,009–2,402)	Undetermined	Undetermined	Undetermined
	Service multiplier method	% Attended P.E.	39%	29%	0%	0%	16%
		Crude point estimate	2,304	Undetermined	NA	NA	NA
		RDS-adj point estimate	2,771	Undetermined	NA	NA	NA
		RDS-adj range	(2,133–3,955)	Undetermined	NA	NA	NA

Adjusted methodology and results

Due to problems in the implementation of population size estimation methods, the final population size estimates were calculated using the estimated proportion of females/males aged 15-49 years who were FSW/MSM in Yaoundé, based on the unique object distribution method only. This proportion was applied to the population of reproductive aged female/males in each city (Table 27).

In the smaller cities (Bertoua and Bamenda) this method resulted in implausible population size estimates, less than the IBBS sample size, and are not considered valid estimates of size of FSW and MSM populations in thee localities.

Based on key population size estimates in Yaoundé, Douala and Bamenda, the IBBS reached 6%, 5% and 26% of FSW in each respective city, and 6%, 7% and 30% of MSM in each respective city.

Table 27. Final population size estimates for FSW and MSM, by city

Region	Repro. Aged female popn*	Adjusted % of women* who are FSW %	95%CI	FSW point size estimate#	Estimated range# Min	Max	Repro. Aged male popn*	Adjusted % of men* who are MSM %	95%CI	MSM point size estimate#	Estimated range# Min	Max
Yaoundé	604,901	1.48	[1.16,2.06]	8,948	6,988	12,434	612,539	0.81	[0.57,1.39]	4,967	3,506	8,516
Douala	615,500	1.48	[1.16,2.06]	9,105	7,111	12,652	625,149	0.81	[0.57,1.39]	5,069	3,578	8,692
Bertoua	24,089	1.48	[1.16,2.06]	356	278	495	25,419	0.81	[0.57,1.39]	206	145	353
Bamenda	90,177	1.48	[1.16,2.06]	1,334	1,042	1,854	86,949	0.81	[0.57,1.39]	705	498	1,209
Kribi	20,016	1.48	[1.16,2.06]	296	231	411	20,140	0.81	[0.57,1.39]	163	115	280

* Reproductive aged population (15-49 years)
# RDS-adjusted

Discussion

The 2016 IBBS among key populations in Cameroon revealed exceptionally high prevalence of HIV among FSW and MSM. The highest prevalence estimates were seen among MSM in Yaoundé and FSW in Doula and Bamenda. Results were comparable to previous estimates of HIV among these populations in Cameroon. Of concern, at least half of HIV infections were new diagnoses based on self-reported HIV status. HIV testing and knowledge of status is the first step in the treatment cascade and essential to realizing global 90–90–90 targets of treatment and viral suppression. While report of ever testing was high, results suggest that frequency of HIV testing falls well below the national recommendation of every three months in key populations; less than 60% of FSW and MSM had tested for HIV in the past year. There are clear opportunities for improvement in the HIV treatment cascade. Comprehensive treatment programs will need to overcome barriers to engaging FSW and MSM in care, including stigma, discrimination, and gender-based violence, which were widely reported in this sample.

Prevalence of active syphilis was also substantial among FSW in this sample, at approximately 8%. Further, symptoms associated with STIs were commonly self-reported, particularly among FSW. STIs may increase the risk of HIV acquisition and transmission, and STI management is an essential component of HIV prevention programs for key populations [17]. The prevalence of syphilis among FSW also raises concerns of congenital syphilis risk, given that the majority of FSW reported biological children. Testing for HIV-exposed infants is crucial in monitoring for and reducing vertical transmission. Strategies for promoting antenatal care for FSW will be essential, including routine syphilis testing. In general, the children of key populations need to be included in HIV programming for both FSW and MSM, who also commonly reported having children.

Regional disparities were evident for biological and behavioral indicators in both key populations. However, regional patterns differed between FSW and MSM. Among FSW, Bamenda notably had the highest HIV prevalence and report of STI symptoms, as well as more common report of problems negotiating condom use and lower condom use with clients. Among MSM, HIV prevalence was exceptionally higher in Yaoundé, and experience of stigma, discrimination and violence more commonly reported, than other cities. HIV prevalence was lowest among MSM in Bamenda, although 95% CIs overlapped with two other cities; concerningly, all detected cases were newly diagnosed. Compared to other cities, a higher proportion of MSM from Bamenda were married, reported a bisexual identity and reported recent female sex partners. Some other international settings have also reported lower HIV prevalence among men who have sex with men and women compared to men who have sex with men only [18], which may account for the lower prevalence in Bamenda.

Regional differences should be considered in the design and implementation of HIV prevention and treatment programs, including strategies for outreach and prevention. Moreover, the individual-level acquisition and transmission risks among people within different communities is guided by risks within sexual networks and access to HIV prevention and treatment services within the communities. In certain areas, such as Bamenda, the general HIV prevalence was lower. However, there are sexual networks that are at high risk for rapid transmission given very limited condom use, high numbers of sexual partners, and limited uptake of HIV prevention and treatment services. In similar communities, there is good evidence of risks of rapid transmission of HIV when a single member of the sexual network becomes acutely infected with significant viremia. Consequently, it remains relevant to target these areas for increasing HIV prevention practices along with regular testing to ensure that when acquisition events do happen, people are diagnosed quickly and the risks of onward HIV transmission are mitigated.

Among FSW, report of difficulties negotiating condom use were low, with the exception of regular non-paying partners. However only three-quarters of FSW used condoms consistently with clients. Condom use with regular non-paying partners was low, and based on minimal

disclosure of sex work activities to FSW husbands and boyfriends, regular non-paying partners of FSW may not have an accurate perception of their HIV risk. These partners may also have other sex partners of their own, including other FSW, and thus represent an important risk of transmission. Further work is needed to determine how best to address these men through HIV programming and prevention initiatives.

Bisexual behavior was widespread among MSM. Coupled with high prevalence of HIV, common report of anal sex and high rates of condomless sex, there is high risk of HIV and STI transmission between MSM and their female partners. Further analysis and research is needed to understand how HIV risk compares between MSM with bisexual and same-sex practices and transmission patterns within their respective sexual networks.

Knowledge indicators differed between FSW and MSM, which is perhaps indicative of targeted prevention messages. However, even among MSM only one-third knew that anal sex poses the highest risk of sexual transmission. Anal sex was commonly reported by MSM with female partners, and may be considered safer due to absence of pregnancy risk. Increasing access to information on anal transmission risk and the correct use of lubricants is particularly important to this group.

Findings from the 2016 IBBS suggest a demand for PrEP, with 7–8% of key populations reporting using ART for prevention purposes. Further research is needed to understand procurement and safety of off-label usage of ART among key populations, given PrEP is not currently available in Cameroon. Given the high prevalence of HIV among FSW and MSM in Cameroon, PrEP may be an effective option to add to prevention programming. Ongoing research could provide a clearer understanding of overall demand and acceptability of PrEP. These findings must be considered alongside the poor uptake of ART as treatment in these populations, financing and drug supply issues.

The 2016 IBBS looked at broad indicators of health and social wellbeing, not just biological indicators. Physical and sexual violence against FSW was prevalent, impacting women's HIV risk as well as general safety and wellbeing. MSM in Cameroon also experienced prevalent physical and sexual violence. Same-sex relations are currently criminalized in Cameroon, and laws against rape in Cameroon are not inclusive of male victims. The high prevalence of violence and associated HIV risks indicates the need to address violence within HIV programming for key populations.

Mental health problems were widely evident in both key populations, and a cause for serious concern. Both FSW and MSM reported high rates of depressive disorders in the past two weeks, including one in five reporting thoughts related to suicidal ideation or self-harm. There is an urgent need for mental health services and comprehensive sexual health care to be integrated into key population-friendly HIV prevention services. The social and structural influences on mental health problems in these groups, including experience of stigma, discrimination and violence, also need to be further explored.

Among FSW, the overall HIV prevalence estimate was lower than estimated in 2009 (37.0%) [9]. Some of this difference may be accounted by the previous study using venue-based sampling from hotspots with a minimum number of FSW working, which is likely to capture FSW with higher-risk behaviors. Among MSM, HIV prevalence estimates in Yaoundé and Doula were relatively consistent with those from the 2011 study (44.4% and 25.5%, respectively), although slightly lower in Douala [4].

There were apparent differences between findings from the 2016 IBBS and the previous R2P Study of key populations in Cameroon [10]. Some of these differences may be anticipated due to the differences in sample recruitment. The RDS-recruited samples of the IBBS were less educated and slightly younger (MSM) than the R2P samples, and RDS may have facilitated recruiting a more hard-to-reach sample. Although trends cannot be assessed due to a lack of time points and

differences in sample recruitment, basic comparison indicate some differences in experience of stigma, discrimination and violence. Increasing sensitization of health professionals and law control may have contributed to decrease in these indicators. There was also a tendency towards greater CCU in the latter sample of FSW, but this may be due to methodological differences in how condom use was assessed. In contrast, CCU among MSM was lower in most cities compared to the R2P study.

Conclusion and recommendations

In conclusion, HIV remains highly prevalent among key populations in Cameroon, with much of detected HIV previously undiagnosed in this sample. Indicators of knowledge and condom use suggest there still a need for expanded and more comprehensive education and behavior change communication targeting FSW and MSM. HIV treatment and prevention programs need to incorporate broader support and services to meet the sexual health, mental health, legal and social needs of key populations, as well as overcome barriers to engaging key populations in prevention and care. Detailed recommendations are provided below.

1 Expand comprehensive HIV prevention and treatment services targeting key populations

There is still unmet need for HIV prevention education and HIV testing services targeting key populations; for instance, there were large gaps in receipt of HIV information. Clear messaging around condom use, sexual risks, lubricants, importance of regular testing, and the benefits of HIV treatment remain important. Barriers to accessing existing services need to be further explored to determine the most effect means of expanding access (i.e. scaling up geographical coverage, increase relevance and appeal of programs, expand targeted services or strengthen the competency and acceptability of mainstream public services to provide services to key populations). Given high prevalence of HIV in FSW and MSM, ensuring linkage to treatment is essential. MSM appear to have lower access to ART than FSW, and barriers to treatment initiation, retention and adherence need to be further explored. Community-based treatment programs, as well as programs facilitating referral to treatment centers and individual support for treatment, are crucial. Initiatives which facilitate treatment initiation within community drop-in-centers are ideal and should be supported to reduce the loss-to-follow-up after referral to treatment centers.

2 Incorporate other STI, mental health and social services into programs targeting key populations

As well as HIV, prevalence of active syphilis and recent report of STIs were high among FSW and MSM. Prior STI testing was substantially less common than prior HIV testing, despite the common risks and implications of STIs in the susceptibility and infectiousness of HIV. STI testing and treatment services should be incorporated into HIV services targeting key populations. Mental health problems were widespread with serious consequences for individuals' wellbeing, as well as potential impact on HIV risk and care seeking. Community-based organizations serving key populations should include mental health modules and psychosocial counselling, outside of HIV counselling. Finally, gender-based violence was widely reported, and violence prevention and response services, including strong referral networks, should be readily available to key populations.

3 Improve reproductive and antenatal services for FSW

Routine, prompt testing and treatment of HIV and syphilis of pregnant FSW will optimize both maternal and child health. Where available, testing may be conducted in community DICs, but comprehensive antenatal care is still critical. Community programs serving FSW should provide antenatal care advice to FSW and develop strong referral linkages to antenatal care services. Services referred to should be given sensitization training providing comprehensive, non-judgmental care to FSW. Focal-points for FSW at key services should be identified. All women

testing HIV positive should be offered ART immediately, but the importance of ART for preventing vertical transmission must be emphasized. Community-based treatment programs (within DICs) will facilitate treatment uptake in pregnant women and other key population members alike. Family planning advice and contraception for FSW, regardless of HIV status, should also be prioritized in community DICs serving FSW. Existing children of HIV positive FSW or judged otherwise to be vulnerable should also be prioritized for HIV testing; this should be facilitated through existing services working with FSW.

4 Ongoing sensitization programs for law enforcement and healthcare workers

Although there was some indication that stigmatization of key populations may have decreased in recent years, stigma and discrimination of FSW and MSM were still apparent and may poorly affect individuals' health, dignity, and access to services. Sensitization programs for law enforcement and healthcare workers, in particular, should be ongoing and repeated to account for staff turnover and ensure message reinforcement.

5 Regional coverage of key population programs

There is demonstrated need for HIV programs for key populations in all cities covered in the IBBS. HIV prevalence exceeded 13% among FSW in all cities. Among MSM HIV prevalence was disproportionately high in Yaoundé and Douala compared to other cities, and the largest HIV programs should be focused here. While lowest HIV prevalence was detected in Bamenda among MSM, low existing access to HIV prevention education, HIV testing and low condom use are problematic. HIV prevention programs should be scaled up in Bamenda with targeted testing of MSM reporting high-risk practices. No HIV prevention programs for key populations are ongoing in Kribi and Bertoua. Given the high HIV prevalence and risk-practices reported from these sites, they should be prioritized for re-inclusion in HIV prevention programming among FSW and MSM.

6 Ongoing research and surveillance

Numerous areas for further research and assessment have been highlighted throughout this report. Ongoing analysis and assessment will help to further understand the drivers of HIV transmission among key populations in Cameroon to inform HIV prevention and care programs. In order to assess temporal trends in HIV prevalence and STIs among key populations, periodic IBBS surveys using comparable methodology are advised. Standardized sentinel surveillance of HIV and STIs at key sites serving FSW and MSM is recommended, and CBO partners of CHAMP are ideal settings for this due to their focus and high volume of key populations seen. Report of injecting drug use (IDU) was low in these two samples of FSW and MSM, yet in Eastern Africa, IDU is an important driver of HIV transmission among key populations [19-21]. The influence of response bias due to fear of ramifications of reporting an illegal behavior should not be excluded. A rapid assessment of people who inject drugs in Yaoundé and Douala, where drug use was higher, is recommended in addition to further qualitative enquiry.

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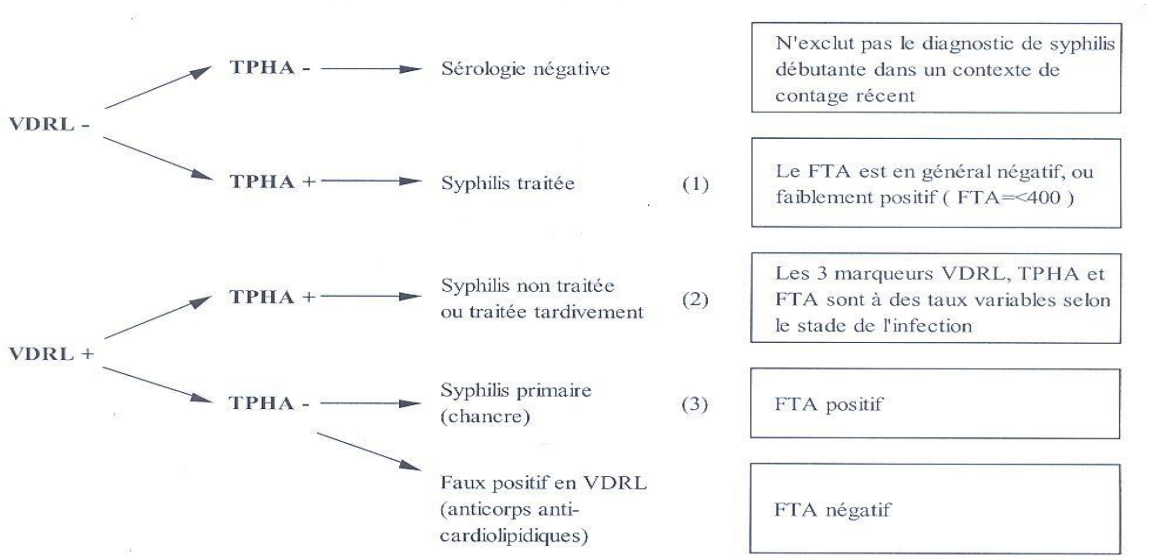
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Annex 1: National syphilis testing algorithm



Annex 2: FSWs data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Total recruited	574		457		304		341		579		2255	
SOCIODEMOGRAPHIC												
Age group												
18-19	20	3.5	12	2.6	32	10.5	9	2.6	53	9.2	126	5.6
20-24	156	27.2	81	17.7	129	42.4	63	18.5	169	29.2	598	26.5
25-29	122	21.3	94	20.6	59	19.4	72	21.1	151	26.1	498	22.1
30-34	99	17.2	88	19.3	43	14.1	64	18.8	98	16.9	392	17.4
35-39	67	11.7	79	17.3	21	6.9	52	15.2	56	9.7	275	12.2
40-45	59	10.3	62	13.6	13	4.3	50	14.7	32	5.5	216	9.6
45+	51	8.9	41	9.0	7	2.3	31	9.1	20	3.5	150	6.7
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Education												
Never attended school	10	1.7	27	5.9	9	3.0	4	1.2	4	0.7	54	2.4
Primary school school incomplete	71	12.4	88	19.3	57	18.8	39	11.4	42	7.3	297	13.2
Primary school	61	10.6	56	12.3	17	5.6	125	36.7	92	15.9	351	15.6
Secondary school incomplete	376	65.5	262	57.3	193	63.7	118	34.6	407	70.3	1356	60.2
Secondary school	22	3.8	10	2.2	20	6.6	40	11.7	16	2.8	108	4.8
Technical or professional training	1	0.2	4	0.9	2	0.7	6	1.8	2	0.3	15	0.7
University	33	5.7	10	2.2	5	1.7	9	2.6	16	2.8	73	3.2
Total	574	100.0	457	100.0	303	100.0	341	100.0	579	100.0	2254	100.0
Marital status												
Single/Never married	470	81.9	384	84.0	209	69.0	160	46.9	512	88.4	1735	77.0
Married	3	0.5	4	0.9	3	1.0	4	1.2	8	1.4	22	1.0
Married but seperated	14	2.4	8	1.8	1	0.3	36	10.6	5	0.9	64	2.8
Stable partner (boyfriend)	26	4.5	22	4.8	71	23.4	72	21.1	36	6.2	227	10.1
Divorced	33	5.7	16	3.5	8	2.6	19	5.6	5	0.9	81	3.6
Widowed	26	4.5	23	5.0	11	3.6	50	14.7	9	1.6	119	5.3
Other	2	0.3	0	0.0	0	0.0	0	0.0	4	0.7	6	0.3
Total	574	100.0	457	100.0	303	100.0	341	100.0	579	100.0	2254	100.0
Living situation (past 12 months)												
Homeless	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.0
Live alone	205	35.7	269	58.9	129	42.4	152	44.6	257	44.4	1012	44.9
Live with family	310	54.0	154	33.7	161	53.0	154	45.2	271	46.8	1050	46.6
Live with roommates/friends	59	10.3	33	7.2	11	3.6	31	9.1	44	7.6	178	7.9
Brothel	0	0.0	0	0.0	0	0.0	4	1.2	6	1.0	10	0.4
Other	0	0.0	0	0.0	3	1.0	0	0.0	1	0.2	4	0.2
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Biological children												
No biological children	90	15.7	56	12.3	55	18.1	40	11.7	112	19.3	353	15.7
1 to 5 biological children	458	79.8	387	84.7	238	78.3	288	84.5	453	78.2	1824	80.9
More than 5 biological children	26	4.5	14	3.1	11	3.6	13	3.8	14	2.4	78	3.5
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Profession												
None/Unemployed/Looking for work	326	56.8	331	72.6	176	57.9	138	40.5	257	44.4	1228	54.5
Training/Student	49	8.5	19	4.2	37	12.2	13	3.8	68	11.7	186	8.3
Intern	0	0.0	1	0.2	0	0.0	4	1.2	1	0.2	6	0.3
Independant worker	157	27.4	99	21.7	69	22.7	44	12.9	230	39.7	599	26.6
Short-term contract	11	1.9	3	0.7	9	3.0	57	16.7	10	1.7	90	4.0
Indefinite contract	4	0.7	1	0.2	9	3.0	7	2.1	7	1.2	28	1.2
Other	27	4.7	2	0.4	4	1.3	78	22.9	6	1.0	117	5.2
Total	574	100.0	456	100.0	304	100.0	341	100.0	579	100.0	2254	100.0
Average monthly income (formal/informal work)												
0 FCFA	13	2.3	0	0.0	0	0.0	0	0.0	2	0.3	15	0.7
<50 000 FCFA	133	23.2	40	8.8	60	20.2	222	65.1	193	33.3	648	28.8
50 001-100 000 FCFA	233	40.7	114	24.9	152	51.2	107	31.4	265	45.8	871	38.8
100 001-150 000 FCFA	103	18.0	99	21.7	53	17.8	9	2.6	66	11.4	330	14.7
150 001-200 000 FCFA	36	6.3	64	14.0	15	5.1	1	0.3	30	5.2	146	6.5
200 001-250 000 FCFA	28	4.9	85	18.6	9	3.0	2	0.6	10	1.7	134	6.0
250 001-300 000 FCFA	15	2.6	37	8.1	7	2.4	0	0.0	9	1.6	68	3.0
>300 000 FCFA	12	2.1	18	3.9	1	0.3	0	0.0	4	0.7	35	1.6
Total	573	100.0	457	100.0	297	100.0	341	100.0	579	100.0	2247	100.0
SEXUAL BEHAVIOUR AND CONDOM USE												
Ever had a regular client(s)												
No	45	7.8	70	15.4	50	16.4	25	7.3	89	15.4	279	12.4
Yes	529	92.2	386	84.6	254	83.6	316	92.7	490	84.6	1975	87.6
Total	574	100.0	456	100.0	304	100.0	341	100.0	579	100.0	2254	100.0
Condom use at last vaginal sex with regular clients												
No	36	6.8	13	3.4	24	9.7	35	11.1	67	13.8	175	8.9
Yes	490	93.2	373	96.6	223	90.3	279	88.9	417	86.2	1782	91.1
Total	526	100.0	386	100.0	247	100.0	314	100.0	484	100.0	1957	100.0
Ever had a casual client(s)												
No	25	4.4	2	0.4	43	14.1	18	5.3	70	12.1	158	7.0
Yes	549	95.6	455	99.6	261	85.9	323	94.7	509	87.9	2097	93.0

Annex 2: FSWs data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Condom use at last vaginal sex with casual clients												
No	17	3.1	6	1.3	17	6.7	18	5.6	25	5.0	83	4.0
Yes	531	96.9	448	98.7	238	93.3	303	94.4	473	95.0	1993	96.0
Total	548	100.0	454	100.0	255	100.0	321	100.0	498	100.0	2076	100.0
Consistent condom use during vaginal sex with all clients												
Not always	116	20.5	41	9.1	95	33.9	125	37.4	127	23.1	504	23.1
Always	450	79.5	409	90.9	185	66.1	209	62.6	424	77.0	1677	76.9
Total	566	100.0	450	100.0	280	100.0	334	100.0	551	100.0	2181	100.0
Ever had a regular non-paying partner(s)												
No	122	21.3	25	5.5	69	22.7	102	29.9	54	9.3	372	16.5
Yes	452	78.7	432	94.5	235	77.3	239	70.1	525	90.7	1883	83.5
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Condom use at last vaginal sex with regular non-paying partners												
No	239	55.1	312	75.9	101	45.5	109	46.4	384	74.4	1145	63.0
Yes	195	44.9	99	24.1	121	54.5	126	53.6	132	25.6	673	37.0
Total	434	100.0	411	100.0	222	100.0	235	100.0	516	100.0	1818	100.0
Consistent condom use with regular non-paying partner(s)												
Not always	283	75.3	287	85.4	153	68.6	172	77.5	404	88.4	1299	80.5
Always	93	24.7	49	14.6	70	31.4	50	22.5	53	11.6	315	19.5
Total	376	100.0	336	100.0	223	100.0	222	100.0	457	100.0	1614	100.0
Ever had a casual non-paying partner(s)												
No	369	83.3	400	97.1	156	71.9	206	78.3	497	95.8	1628	87.8
Yes	74	16.7	12	2.9	61	28.1	57	21.7	22	4.2	226	12.2
Total	443	100.0	412	100.0	217	100.0	263	100.0	519	100.0	1854	100.0
Condom use at last vaginal sex with casual non-paying partners												
No	18	9.1	7	13.7	25	17.9	28	21.2	18	23.4	96	16.1
Yes	179	90.9	44	86.3	115	82.1	104	78.8	59	76.6	501	83.9
Total	197	100.0	51	100.0	140	100.0	132	100.0	77	100.0	597	100.0
Consistent condom use with casual non-paying partner(s)												
Not always	65	51.2	10	45.5	46	40.4	59	57.3	25	49.0	205	49.2
Always	62	48.8	12	54.6	68	59.7	44	42.7	26	51.0	212	50.8
Total	127	100.0	22	100.0	114	100.0	103	100.0	51	100.0	417	100.0
Condom reuse in the past 6 months												
Never re-used condom	559	97.4	451	98.7	302	99.3	338	99.1	572	99.0	2222	98.6
Reused condoms	15	2.6	6	1.3	2	0.7	3	0.9	6	1.0	32	1.4
Total	574	100.0	457	100.0	304	100.0	341	100.0	578	100.0	2254	100.0
Difficulty to suggest condom use with a regular non-paying partner												
Not difficult	253	77.1	219	71.8	143	62.7	138	58.5	310	84.0	1063	72.5
Difficult/very difficult	75	22.9	86	28.2	85	37.3	98	41.5	59	16.0	403	27.5
Total	328	100.0	305	100.0	228	100.0	236	100.0	369	100.0	1466	100.0
Difficulty to suggest condom use with a casual non-paying partner												
Not difficult	182	94.3	48	96.0	117	80.7	90	67.2	75	93.8	512	85.0
Difficult/very difficult	11	5.7	2	4.0	28	19.3	44	32.8	5	6.3	90	15.0
Total	193	100.0	50	100.0	145	100.0	134	100.0	80	100.0	602	100.0
Difficulty to suggest condom use with a regular client												
Not difficult	508	96.8	378	98.4	221	87.7	276	88.2	451	94.4	1834	94.0
Difficult/very difficult	17	3.2	6	1.6	31	12.3	37	11.8	27	5.6	118	6.0
Total	525	100.0	384	100.0	252	100.0	313	100.0	478	100.0	1952	100.0
Difficulty to suggest condom use with a casual client												
Not difficult	540	98.7	446	98.2	230	90.2	294	91.6	482	96.8	1992	96.0
Difficult/very difficult	7	1.3	8	1.8	25	9.8	27	8.4	16	3.2	83	4.0
Total	547	100.0	454	100.0	255	100.0	321	100.0	498	100.0	2075	100.0
Location of sex with clients												
Private home	250	43.6	143	31.3	223	73.4	137	40.2	330	57.0	1083	48.0
Brothel	246	42.9	147	32.2	155	51.0	186	54.5	149	25.7	883	39.2
Bar/club	106	18.5	12	2.6	37	12.2	22	6.5	20	3.5	197	8.7
Street/park/garden	122	21.3	7	1.5	19	6.3	13	3.8	16	2.8	177	7.8
Private vehicle	155	27.0	17	3.7	54	17.8	27	7.9	28	4.8	281	12.5
Hotel/guest house	516	89.9	383	83.8	257	84.5	300	88.0	453	78.2	1909	84.7
Total	574		457		304		341		579		2255	
DRUG USE												
Ever used non-injecting illegal drug												
No	524	91.3	403	88.2	290	95.4	285	83.6	542	93.6	2044	90.6
Yes	50	8.7	54	11.8	14	4.6	56	16.4	37	6.4	211	9.4
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Injecting drug use												
Never used injectable substance	554	96.5	451	98.7	302	99.3	325	95.3	574	99.1	2206	97.8
Ever used injectable substance	20	3.5	6	1.3	2	0.7	16	4.7	5	0.9	49	2.2
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Illegal injection drug use												
Never used illegal injectable drug	10	50.0	0	0.0	2	100.0	4	28.6	3	60.0	19	40.4
Ever used an illegal injectable drug	10	50.0	6	100.0	0	0.0	10	71.4	2	40.0	28	59.6

Annex 2: FSWs data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Total	20	100.0	6	100.0	2	100.0	14	100.0	5	100.0	47	100.0
Ever shared needles												
No	17	85.0	3	50.0	2	100.0	15	93.8	4	80.0	41	83.7
Yes	3	15.0	3	50.0	0	0.0	1	6.3	1	20.0	8	16.3
Total	20	100.0	6	100.0	2	100.0	16	100.0	5	100.0	49	100.0
Sexual partner ever injected drugs												
No	382	66.6	301	65.9	243	79.9	177	51.9	488	84.3	1591	70.6
Yes	127	22.1	131	28.7	12	3.9	89	26.1	19	3.3	378	16.8
Don't know	65	11.3	25	5.5	49	16.1	75	22.0	72	12.4	286	12.7
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
ACCESS HIV PREVENTION												
Received the following HIV prevention information in the past 6 months:												
How to prevent HIV	342	59.6	360	78.8	130	42.8	203	59.5	434	75.0	1469	65.1
How often to get HIV testing	272	47.4	304	66.5	117	38.5	197	57.8	375	64.8	1265	56.1
How to treat and care for yourself if you have	307	53.5	311	68.1	116	38.2	202	59.2	407	70.3	1343	59.6
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Source of information on HIV prevention (if any):												
CBO/NGO	61	17.7	86	23.8	8	5.9	48	21.8	13	3.0	216	14.4
Peer educator	187	54.2	261	72.1	62	45.9	89	40.5	129	29.4	728	48.5
Internet/Media	233	67.5	156	43.1	48	35.6	44	20.0	288	65.6	769	51.2
Healthcare facility	283	82.0	193	53.3	65	48.2	122	55.5	264	60.1	927	61.8
Total	345	100.0	362	100.0	135	100.0	220	100.0	439	100.0	1501	100.0
Participated in an educational session conducted by a peer educator in the past 3 months												
No	471	82.1	297	65.0	261	85.9	283	83.0	552	95.3	1864	82.7
Yes	103	17.9	160	35.0	43	14.1	58	17.0	27	4.7	391	17.3
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Usual location for getting condoms in the past 6 months												
Public areas	9	1.6	157	34.4	8	2.7	35	10.4	169	33.0	378	17.4
Stores	526	93.3	341	74.6	275	92.0	271	80.2	464	90.6	1877	86.5
CBO/NGO	137	24.3	268	58.6	39	13.0	89	26.3	45	8.8	578	26.6
Healthcare facility	21	3.7	1	0.2	18	6.0	42	12.4	17	3.3	99	4.6
Total	564	100.0	457	100.0	299	100.0	338	100.0	512	100.0	2170	100.0
Method of condom acquisition in past 6 months												
Bought condoms	389	69.1	175	38.3	217	73.8	210	62.7	391	76.5	1382	64.0
Received condoms for free	47	8.4	108	23.6	35	11.9	44	13.1	45	8.8	279	12.9
Bought and received condoms for free	127	22.6	174	38.1	42	14.3	81	24.2	75	14.7	499	23.1
Total	563	100.0	457	100.0	294	100.0	335	100.0	511	100.0	2160	100.0
HIV KNOWLEDGE												
Correctly reports that anal sex has highest sexual risk												
No	554	96.5	447	97.8	297	97.7	322	94.4	522	90.2	2142	95.0
Yes	20	3.5	10	2.2	7	2.3	19	5.6	57	9.8	113	5.0
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Correctly reports that the safest lubricant is water-based												
No	386	67.3	171	37.4	217	71.4	264	77.4	385	66.5	1423	63.1
Yes	188	32.8	286	62.6	87	28.6	77	22.6	194	33.5	832	36.9
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Correctly reports that one can get HIV from sharing needles												
No	43	7.5	9	2.0	19	6.3	26	7.6	22	3.8	119	5.3
Yes	531	92.5	448	98.0	285	93.8	315	92.4	557	96.2	2136	94.7
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
STIGMA & DISCRIMATION												
Disclosed sex work to a healthcare worker												
No	489	85.2	310	67.8	287	94.4	330	96.8	533	92.1	1949	86.4
Yes	85	14.8	147	32.2	17	5.6	11	3.2	46	7.9	306	13.6
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Disclosed sex work to a uniformed officer												
No	519	90.4	391	85.6	296	97.4	333	97.7	571	98.6	2110	93.6
Yes	55	9.6	66	14.4	8	2.6	8	2.3	8	1.4	145	6.4
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Disclosed sex work to your husband												
No	16	94.1	11	91.7	3	75.0	37	94.9	13	100.0	80	94.1
Yes	1	5.9	1	8.3	1	25.0	2	5.1	0	0.0	5	5.9
Total	17	100.0	12	100.0	4	100.0	39	100.0	13	100.0	85	100.0
Disclosed sex work to your child												
No	455	94.0	382	95.3	244	98.0	290	96.4	454	97.2	1825	96.0
Yes	29	6.0	19	4.7	5	2.0	11	3.7	13	2.8	77	4.1
Total	484	100.0	401	100.0	249	100.0	301	100.0	467	100.0	1902	100.0
Disclosed sex work to your boyfriend												
No	20	76.9	11	50.0	67	94.4	55	76.4	32	88.9	185	81.5
Yes	6	23.1	11	50.0	4	5.6	17	23.6	4	11.1	42	18.5
Total	26	100.0	22	100.0	71	100.0	72	100.0	36	100.0	227	100.0
Ever felt excluded from family												
No	538	93.7	430	94.1	269	88.8	297	87.4	552	95.3	2086	92.6

Annex 2: FSWs data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	36	6.3	27	5.9	34	11.2	43	12.6	27	4.7	167	7.4
Total	574	100.0	457	100.0	303	100.0	340	100.0	579	100.0	2253	100.0
Ever heard discriminatory remarks from family												
No	519	90.7	415	90.8	251	83.4	249	73.7	544	94.1	1978	88.1
Yes	53	9.3	42	9.2	50	16.6	89	26.3	34	5.9	268	11.9
Total	572	100.0	457	100.0	301	100.0	338	100.0	578	100.0	2246	100.0
Ever felt afraid seeking health services because of sex work												
No	538	93.9	444	97.2	280	92.1	290	85.3	561	96.9	2113	93.8
Yes	35	6.1	13	2.8	24	7.9	50	14.7	18	3.1	140	6.2
Total	573	100.0	457	100.0	304	100.0	340	100.0	579	100.0	2253	100.0
Ever avoided seeking health services because of sex work activities												
No	538	93.7	443	96.9	292	96.1	317	93.2	557	96.2	2147	95.3
Yes	36	6.3	14	3.1	12	3.9	23	6.8	22	3.8	107	4.7
Total	574	100.0	457	100.0	304	100.0	340	100.0	579	100.0	2254	100.0
Ever denied health services because of sex work												
No	571	99.5	457	100.0	302	99.3	335	98.5	579	100.0	2244	99.6
Yes	3	0.5	0	0.0	2	0.7	5	1.5	0	0.0	10	0.4
Total	574	100.0	457	100.0	304	100.0	340	100.0	579	100.0	2254	100.0
Ever heard discriminatory remarks from health care provider												
No	540	94.1	449	98.2	297	98.0	309	90.9	570	98.4	2165	96.1
Yes	34	5.9	8	1.8	6	2.0	31	9.1	9	1.6	88	3.9
Total	574	100.0	457	100.0	303	100.0	340	100.0	579	100.0	2253	100.0
Ever felt were not treated well at health services due to sex work												
No	571	99.5	456	99.8	302	99.3	304	89.4	578	99.8	2211	98.1
Yes	3	0.5	1	0.2	2	0.7	36	10.6	1	0.2	43	1.9
Total	574	100.0	457	100.0	304	100.0	340	100.0	579	100.0	2254	100.0
Ever been arrested on charges related to sex work												
No	341	59.4	167	36.5	259	85.2	274	80.4	459	79.4	1500	66.6
Yes	233	40.6	290	63.5	45	14.8	67	19.7	119	20.6	754	33.5
Total	574	100.0	457	100.0	304	100.0	341	100.0	578	100.0	2254	100.0
Ever been tested for HIV against will because of sex work												
No	548	95.8	452	98.9	299	98.7	319	93.5	569	98.3	2187	97.1
Yes	24	4.2	5	1.1	4	1.3	22	6.5	10	1.7	65	2.9
Total	572	100.0	457	100.0	303	100.0	341	100.0	579	100.0	2252	100.0
Ever blackmailed because of sex work												
No	268	46.8	161	35.3	210	69.1	271	79.7	336	58.0	1246	55.3
Yes	305	53.2	295	64.7	94	30.9	69	20.3	243	42.0	1006	44.7
Total	573	100.0	456	100.0	304	100.0	340	100.0	579	100.0	2252	100.0
Ever physically harassed or hurt because of sex work												
No	399	69.6	337	73.9	233	76.9	250	73.5	473	81.7	1692	75.2
Yes	174	30.4	119	26.1	70	23.1	90	26.5	106	18.3	559	24.8
Total	573	100.0	456	100.0	303	100.0	340	100.0	579	100.0	2251	100.0
Recently physically harassed or hurt because of sex work (past 6 months)												
No	499	87.1	389	85.3	263	86.8	301	88.5	532	91.9	1984	88.1
Yes	74	12.9	67	14.7	40	13.2	39	11.5	47	8.1	267	11.9
Total	573	100.0	456	100.0	303	100.0	340	100.0	579	100.0	2251	100.0
Ever forced you to have sex against will												
No	348	60.6	361	79.0	187	61.7	170	49.9	452	78.2	1518	67.4
Yes	226	39.4	96	21.0	116	38.3	171	50.1	126	21.8	735	32.6
Total	574	100.0	457	100.0	303	100.0	341	100.0	578	100.0	2253	100.0
Recently forced to have sex against will (past 6 months)												
No	514	89.5	434	95.0	242	79.9	269	78.9	560	96.9	2019	89.6
Yes	60	10.5	23	5.0	61	20.1	72	21.1	18	3.1	234	10.4
Total	574	100.0	457	100.0	303	100.0	341	100.0	578	100.0	2253	100.0
STI & HIV TESTING HISTORY												
Ever had an STI test												
No	342	59.9	181	39.7	198	65.1	106	31.2	308	55.9	1135	51.1
Yes	229	40.1	275	60.3	106	34.9	234	68.8	243	44.1	1087	48.9
Total	571	100.0	456	100.0	304	100.0	340	100.0	551	100.0	2222	100.0
Tested for STIs in past 12 months												
No	118	51.5	199	72.4	27	25.5	94	40.2	123	50.6	561	51.6
Yes	111	48.5	76	27.6	79	74.5	140	59.8	120	49.4	526	48.4
Total	229	100.0	275	100.0	106	100.0	234	100.0	243	100.0	1087	100.0
Experienced STI symptoms in past 12 months												
Blisters or sores in genital region or anus	179	31.2	55	12.0	31	10.2	182	53.4	48	8.3	495	22.0
Pain or burning sensation when urinate	205	35.7	74	16.2	34	11.2	174	51.0	74	12.8	561	24.9
Vaginal discharge or unusual white discharge	254	44.3	75	16.4	62	20.4	216	63.3	85	14.7	692	30.7
Irregular vaginal bleeding	72	12.5	22	4.8	13	4.3	26	7.6	14	2.4	147	6.5
Anal warts	15	2.6	17	3.7	0	0.0	8	2.3	0	0.0	40	1.8
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
PrEP: ever taken ARVs to prevent HIV												
No	521	90.8	382	83.6	282	93.4	323	94.7	571	98.8	2079	92.3
Yes	53	9.2	75	16.4	20	6.6	18	5.3	7	1.2	173	7.7

Annex 2: FSWs data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Total	574	100.0	457	100.0	302	100.0	341	100.0	578	100.0	2252	100.0
Worried about HIV/AIDS in the past 12 months												
No	229	39.9	295	64.6	154	50.8	119	34.9	410	70.9	1207	53.6
Yes	345	60.1	162	35.4	149	49.2	222	65.1	168	29.1	1046	46.4
Total	574	100.0	457	100.0	303	100.0	341	100.0	578	100.0	2253	100.0
Ever previously tested for HIV												
No	59	10.3	34	7.4	43	14.1	10	2.9	77	13.3	223	9.9
Yes	515	89.7	423	92.6	261	85.9	330	97.1	500	86.7	2029	90.1
Total	574	100.0	457	100.0	304	100.0	340	100.0	577	100.0	2252	100.0
Tested for HIV in past 12 months												
No	248	43.2	155	33.9	119	39.4	116	34.4	280	48.5	918	40.9
Yes	326	56.8	302	66.1	183	60.6	221	65.6	297	51.5	1329	59.1
Total	574	100.0	457	100.0	302	100.0	337	100.0	577	100.0	2247	100.0
Receipt of HIV test results												
Has not always received	6	1.2	20	4.7	9	3.4	15	4.5	10	2.0	60	3.0
Always received	509	98.8	403	95.3	252	96.6	315	95.5	490	98.0	1969	97.0
Total	515	100.0	423	100.0	261	100.0	330	100.0	500	100.0	2029	100.0
Received last HIV test result												
No	2	0.4	0	0.0	3	1.2	3	0.9	4	0.8	12	0.6
Yes	510	99.6	420	100.0	255	98.8	325	99.1	491	99.2	2001	99.4
Total	512	100.0	420	100.0	258	100.0	328	100.0	495	100.0	2013	100.0
Self-reported HIV status												
HIV positive	75	14.8	83	19.8	32	12.5	78	24.0	29	5.9	297	14.9
HIV negative	433	85.2	337	80.2	223	87.5	247	76.0	463	94.1	1703	85.2
Total	508	100.0	420	100.0	255	100.0	325	100.0	492	100.0	2000	100.0
Ever taken ARVs to treat HIV												
No	13	17.3	10	12.1	13	40.6	4	5.1	17	58.6	57	19.2
Yes	62	82.7	73	88.0	19	59.4	74	94.9	12	41.4	240	80.8
Total	75	100.0	83	100.0	33	100.0	78	100.0	31	100.0	297	100.0
Currently on ARV												
No	1	1.6	0	0.0	0	0.0	1	1.4	0	0.0	2	0.8
Yes	61	98.4	73	100.0	19	100.0	73	98.6	12	100.0	238	99.2
Total	62	100.0	73	100.0	19	100.0	74	100.0	12	100.0	240	100.0
Self-report ever stopping antiretroviral therapy												
No	46	75.4	64	87.7	15	78.9	66	90.4	11	91.7	202	84.9
Yes	15	24.6	9	12.3	4	21.1	7	9.6	1	8.3	36	15.1
Total	61	100.0	73	100.0	19	100.0	73	100.0	12	100.0	238	100.0
Self-report ever receiving CD4 test												
No	12	19.4	5	6.1	8	38.1	5	6.5	3	20.0	33	12.8
Yes	50	80.6	77	93.9	13	61.9	72	93.5	12	80.0	224	87.2
Total	62	100.0	82	100.0	21	100.0	77	100.0	15	100.0	257	100.0
Disclosed HIV status to principle non-paying partner(s)												
No	57	77.0	67	82.7	17	77.3	30	45.5	13	86.7	184	71.3
Disclosed to some or all	17	23.0	14	17.3	5	22.7	36	54.6	2	13.3	74	28.7
Total	74	100.0	81	100.0	22	100.0	66	100.0	15	100.0	258	100.0
BIOLOGICAL TEST RESULTS												
HIV test result												
Positive	134	23.3	140	30.6	74	24.3	112	32.8	87	15.0	547	24.3
Negative	440	76.7	316	69.1	227	74.7	228	66.9	490	84.6	1701	75.4
Indeterminate/ invalid	0	0.0	1	0.2	3	1.0	1	0.3	2	0.3	7	0.3
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0
Syphilis test result												
Positive	56	9.8	65	14.2	5	1.6	0	0.0	60	10.4	186	8.2
Negative	518	90.2	392	85.8	299	98.4	341	100.0	519	89.6	2069	91.8
Total	574	100.0	457	100.0	304	100.0	341	100.0	579	100.0	2255	100.0

Annex 3: MSM data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
TOTAL	**306**		**354**		**251**		**208**		**204**		**1323**	
SOCIODEMOGRAPHIC												
Age group												
18-19	52	17.0	26	7.3	37	14.7	34	16.3	15	7.4	164	12.4
20-24	134	43.8	191	54.0	155	61.8	114	54.8	82	40.2	676	51.1
25-29	75	24.5	85	24.0	50	19.9	33	15.9	64	31.4	307	23.2
30-34	26	8.5	32	9.0	6	2.4	16	7.7	29	14.2	109	8.2
35-39	11	3.6	11	3.1	1	0.4	7	3.4	10	4.9	40	3.0
40-45	6	2.0	6	1.7	1	0.4	3	1.4	4	2.0	20	1.5
45+	2	0.7	3	0.8	1	0.4	1	0.5	0	0.0	7	0.5
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Education												
Never attended school	0	0.0	0	0.0	2	0.8	7	3.4	1	0.5	10	0.8
Primary school school incomplete	2	0.7	4	1.1	6	2.4	8	3.8	9	4.4	29	2.2
Primary school	13	4.2	9	2.5	18	7.2	19	9.1	19	9.3	78	5.9
Secondary school incomplete	123	40.2	209	59.0	148	59.0	103	49.5	156	76.5	739	55.9
Secondary school	29	9.5	31	8.8	55	21.9	34	16.3	8	3.9	157	11.9
Technical or professional training	19	6.2	16	4.5	3	1.2	0	0.0	3	1.5	41	3.1
University	120	39.2	85	24.0	19	7.6	37	17.8	8	3.9	269	20.3
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Marital status												
Single/Never married	168	54.9	313	88.4	184	73.3	192	92.3	188	92.2	1045	79.0
Married	6	2.0	4	1.1	7	2.8	11	5.3	1	0.5	29	2.2
Married but seperated	3	1.0	2	0.6	0	0.0	1	0.5	1	0.5	7	0.5
Stable partner (boyfriend/girlfirend)	126	41.2	31	8.8	58	23.1	4	1.9	13	6.4	232	17.5
Divorced	2	0.7	2	0.6	0	0.0	0	0.0	0	0.0	4	0.3
Widower	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Other	0	0.0	2	0.6	2	0.8	0	0.0	1	0.5	5	0.4
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Biological children												
No biological children	238	77.8	286	80.8	193	76.9	160	76.9	102	50.0	979	74.0
1 to 5 biological children	68	22.2	68	19.2	58	23.1	48	23.1	100	49.0	342	25.9
More than 5 biological children	0	0.0	0	0.0	0	0.0	0	0.0	2	1.0	2	0.2
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Living situation (past 12 months)												
Homeless	0	0.0	1	0.3	1	0.4	4	1.9	1	0.5	7	0.5
Live alone	70	22.9	84	23.7	64	25.5	66	31.7	77	37.7	361	27.3
Live with family	209	68.3	250	70.6	150	59.8	110	52.9	105	51.5	824	62.3
Live with roommates/friends	27	8.8	17	4.8	24	9.6	18	8.7	19	9.3	105	7.9
Other	0	0.0	2	0.6	12	4.8	10	4.8	2	1.0	26	2.0
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Profession												
None/Unemployed/Looking for work	51	16.7	76	21.5	43	17.1	18	8.7	37	18.1	225	17.0
Retired	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Training/Student	159	52.0	133	37.6	94	37.5	68	33.0	30	14.7	484	36.6
Intern	0	0.0	0	0.0	1	0.4	9	4.4	1	0.5	11	0.8
Independant worker	48	15.7	66	18.6	88	35.1	84	40.8	83	40.7	369	27.9
Short-term contract	23	7.5	36	10.2	5	2.0	16	7.8	31	15.2	111	8.4
Indefinite contract	22	7.2	39	11.0	12	4.8	0	0.0	20	9.8	93	7.0
Other	2	0.7	4	1.1	8	3.2	11	5.3	2	1.0	27	2.0
Total	306	100.0	354	100.0	251	100.0	206	100.0	204	100.0	1321	100.0
Average monthly income (formal/informal work)												
0 FCFA	42	13.8	177	50.1	46	19.3	19	12.0	21	9.9	305	24.2
<50 000 FCFA	174	57.1	56	15.9	105	44.1	64	40.3	53	26.2	452	36.0
50 001-100 000 FCFA	54	17.7	64	18.1	60	25.2	57	35.9	88	43.6	323	25.7
100 001-150 000 FCFA	25	8.2	39	11.1	15	6.3	8	5.0	23	11.4	110	8.8
150 001-200 000 FCFA	6	2.0	14	4.0	8	3.4	8	5.0	10	5.0	46	3.7
200 001-250 000 FCFA	2	0.7	1	0.3	3	1.3	2	1.3	4	2.0	12	1.0
250 001-300 000 FCFA	0	0.0	1	0.3	0	0.0	1	0.6	1	0.5	3	0.2
>300 000 FCFA	2	0.7	1	0.3	1	0.4	0	0.0	3	1.5	7	0.6
Total	306	100.0	353	100.0	238	100.0	160	100.0	203	100.0	1260	100.0
Gender identity												
Male	190	62.1	242	68.4	140	55.8	158	76.0	169	82.8	899	68.0
Female	93	30.4	91	25.7	110	43.8	49	23.6	33	16.2	376	28.4
Other	21	6.9	20	5.6	1	0.4	1	0.5	2	1.0	45	3.4
Don't know	2	0.7	1	0.3	0	0.0	0	0.0	0	0.0	3	0.2
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Sexual orientation												

Annex 3: MSM data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Heterosexual	1	0.3	3	0.9	0	0.0	0	0.0	1	0.5	5	0.4
Bisexual	187	61.7	189	53.4	121	48.2	151	72.6	141	69.5	789	59.8
Homosexual (Gay, MSM)	114	37.6	162	45.8	129	51.4	57	27.4	62	30.1	524	39.7
Other	1	0.3	0	0.0	1	0.4	0	0.0	0	0.0	2	0.2
Total	303	100.0	354	100.0	251	100.0	208	100.0	203	100.0	1319	100.0
SEXUAL BEHAVIOUR AND CONDOM USE												
REGULAR MALE PARTNER												
Ever had a regular male partner (e.g. boyfriend)												
No	31	10.2	59	16.7	20	8.0	41	19.7	40	19.6	191	14.5
Yes	273	89.8	295	83.3	230	92.0	167	80.3	164	80.4	1129	85.5
Total	304	100.0	354	100.0	250	100.0	208	100.0	204	100.0	1320	100.0
Number of regular male partners in the past month												
None	57	21.0	56	19.1	9	3.9	7	4.2	8	4.9	137	12.2
1 or 2	207	76.1	220	74.8	187	81.3	132	79.0	144	88.3	890	79.0
3+	8	2.9	18	6.1	34	14.8	28	16.8	11	6.8	99	8.8
Total	272	100.0	294	100.0	230	100.0	167	100.0	163	100.0	1126	100.0
Ever had receptive anal sex with a regular male partner												
No	78	28.6	162	54.9	98	42.8	90	53.9	122	74.4	550	48.8
Yes	195	71.4	133	45.1	131	57.2	77	46.1	42	25.6	578	51.2
Total	273	100.0	295	100.0	229	100.0	167	100.0	164	100.0	1128	100.0
Condom use at last sex during receptive anal sex with regular male partner												
No	58	29.9	32	24.2	16	12.3	17	22.1	11	26.2	134	23.3
Yes	136	70.1	100	75.8	114	87.7	60	77.9	31	73.8	441	76.7
Total	194	100.0	132	100.0	130	100.0	77	100.0	42	100.0	575	100.0
Frequency of condom use during receptive anal sex with regular male partner(s)												
Not always	104	60.8	65	58.0	91	72.2	56	77.8	27	67.5	343	65.8
Always	67	39.2	47	42.0	35	27.8	16	22.2	13	32.5	178	34.2
Total	171	100.0	112	100.0	126	100.0	72	100.0	40	100.0	521	100.0
Number of times had receptive anal sex with a regular male partner in prior week												
<3 times	158	85.4	92	74.8	95	76.6	48	64.0	35	83.3	428	78.0
3+ times	27	14.6	31	25.2	29	23.4	27	36.0	7	16.7	121	22.0
Total	185	100.0	123	100.0	124	100.0	75	100.0	42	100.0	549	100.0
Ever had insertive anal sex with a regular male partner												
No	74	27.1	71	24.1	36	15.7	37	22.2	24	14.6	242	21.5
Yes	199	72.9	224	75.9	193	84.3	130	77.8	140	85.4	886	78.5
Total	273	100.0	295	100.0	229	100.0	167	100.0	164	100.0	1128	100.0
Condom use at last sex during insertive anal sex with regular male partner												
No	48	24.1	57	25.4	36	18.8	30	23.1	43	30.9	214	24.2
Yes	151	75.9	167	74.6	156	81.2	100	76.9	96	69.1	670	75.8
Total	199	100.0	224	100.0	192	100.0	130	100.0	139	100.0	884	100.0
Frequency of condom use during insertive anal sex with regular male partner(s)												
Not always	116	67.4	117	57.6	131	71.2	97	80.2	75	58.1	536	66.3
Always	56	32.6	86	42.4	53	28.8	24	19.8	54	41.9	273	33.8
Total	172	100.0	203	100.0	184	100.0	121	100.0	129	100.0	809	100.0
Number of times had insertive anal sex with a regular male partner in prior week												
<3 times	140	77.8	149	70.0	131	70.1	85	60.3	108	81.2	605	72.0
3+ times	40	22.2	64	30.1	56	30.0	56	39.7	25	18.8	235	28.0
Total	180	100.0	213	100.0	187	100.0	141	100.0	133	100.0	840	100.0
CASUAL MALE PARTNER												
Ever had a casual male partner												
No	63	20.6	87	24.6	100	40.2	109	52.4	80	39.2	439	33.2
Yes	243	79.4	267	75.4	149	59.8	99	47.6	124	60.8	882	66.8
Total	306	100.0	354	100.0	249	100.0	208	100.0	204	100.0	1321	100.0
Number of casual male partners in the past month												
None	79	32.6	88	33.0	41	27.7	22	22.5	41	33.3	271	30.9
1 or 2	119	49.2	102	38.2	80	54.1	60	61.2	66	53.7	427	48.6
3+	44	18.2	77	28.8	27	18.2	16	16.3	16	13.0	180	20.5
Total	242	100.0	267	100.0	148	100.0	98	100.0	123	100.0	878	100.0
Ever had receptive anal sex with a casual male partner												
No	78	32.6	156	58.4	56	37.6	47	47.5	92	74.2	429	48.9
Yes	161	67.4	111	41.6	93	62.4	52	52.5	32	25.8	449	51.1
Total	239	100.0	267	100.0	149	100.0	99	100.0	124	100.0	878	100.0
Condom use at last sex during receptive anal sex with casual male partner												
No	26	16.2	20	18.0	14	15.2	17	32.7	5	15.6	82	18.3
Yes	134	83.8	91	82.0	78	84.8	35	67.3	27	84.4	365	81.7
Total	160	100.0	111	100.0	92	100.0	52	100.0	32	100.0	447	100.0
Frequency of condom use during receptive anal sex with casual male partner(s)												
Not always	65	48.9	39	48.2	61	76.3	39	88.6	9	33.3	213	58.4

Annex 3: MSM data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Always	68	51.1	42	51.9	19	23.8	5	11.4	18	66.7	152	41.6
Total	133	100.0	81	100.0	80	100.0	44	100.0	27	100.0	365	100.0
Number of times had receptive anal sex with a casual male partner in prior week												
<3 times	123	91.1	88	88.9	61	71.8	45	88.2	31	96.9	348	86.6
3+ times	12	8.9	11	11.1	24	28.2	6	11.8	1	3.1	54	13.4
Total	135	100.0	99	100.0	85	100.0	51	100.0	32	100.0	402	100.0
Ever had insertive anal sex with a casual male partner												
No	59	24.3	55	20.6	27	18.4	28	28.3	25	20.2	194	22.0
Yes	184	75.7	212	79.4	120	81.6	71	71.7	99	79.8	686	78.0
Total	243	100.0	267	100.0	147	100.0	99	100.0	124	100.0	880	100.0
Condom use at last sex during insertive anal sex with casual male partner												
No	26	14.2	37	17.5	17	14.2	25	35.7	22	22.2	127	18.6
Yes	157	85.8	175	82.5	103	85.8	45	64.3	77	77.8	557	81.4
Total	183	100.0	212	100.0	120	100.0	70	100.0	99	100.0	684	100.0
Frequency of condom use during insertive anal sex with casual male partner(s)												
Not always	84	56.4	89	50.9	77	77.8	49	83.1	30	39.5	329	59.0
Always	65	43.6	86	49.1	22	22.2	10	17.0	46	60.5	229	41.0
Total	149	100.0	175	100.0	99	100.0	59	100.0	76	100.0	558	100.0
Number of times had insertive anal sex with a casual male partner in prior week												
<3 times	132	93.0	156	77.6	94	81.7	52	77.6	90	95.7	524	84.7
3+ times	10	7.0	45	22.4	21	18.3	15	22.4	4	4.3	95	15.4
Total	142	100.0	201	100.0	115	100.0	67	100.0	94	100.0	619	100.0
FEMALE PARTNERS												
Ever had a regular female partner (e.g. wife, girlfriend)	**girlfriend)**											
No	91	29.7	129	36.4	109	43.6	71	34.1	47	23.0	447	33.8
Yes	215	70.3	225	63.6	141	56.4	137	65.9	157	77.0	875	66.2
Total	306	100.0	354	100.0	250	100.0	208	100.0	204	100.0	1322	100.0
Number of regular female partners in the past month												
None	69	32.2	94	41.8	47	33.6	16	11.8	44	28.0	270	31.0
1+	145	67.8	131	58.2	93	66.4	120	88.2	113	72.0	602	69.0
Total	214	100.0	225	100.0	140	100.0	136	100.0	157	100.0	872	100.0
Frequency of condom use during vaginal/anal sex with regular female partner(s)												
Not always	136	68.7	150	73.9	116	80.6	116	86.6	129	89.0	647	78.5
Always	62	31.3	53	26.1	28	19.4	18	13.4	16	11.0	177	21.5
Total	198	100.0	203	100.0	144	100.0	134	100.0	145	100.0	824	100.0
Ever had a casual female partner												
No	160	52.5	187	52.8	122	48.6	109	52.4	79	38.7	657	49.7
Yes	145	47.5	167	47.2	129	51.4	99	47.6	125	61.3	665	50.3
Total	305	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1322	100.0
Frequency of condom use during vaginal/anal sex with casual female partner(s)												
Not always	72	55.4	83	57.6	91	74.6	80	86.0	77	72.0	403	67.6
Always	58	44.6	61	42.4	31	25.4	13	14.0	30	28.0	193	32.4
Total	130	100.0	144	100.0	122	100.0	93	100.0	107	100.0	596	100.0
Number of casual female partners in the past month												
None	71	49.0	86	52.1	31	24.2	26	26.3	58	46.4	272	41.1
1+	74	51.0	79	47.9	97	75.8	73	73.7	67	53.6	390	58.9
Total	145	100.0	165	100.0	128	100.0	99	100.0	125	100.0	662	100.0
Ever had sex in exchange for money, goods or favours												
No	185	60.5	166	46.9	88	35.1	88	42.3	75	37.0	602	45.5
Yes	121	39.5	188	53.1	163	64.9	120	57.7	128	63.1	720	54.5
Total	306	100.0	354	100.0	251	100.0	208	100.0	203	100.0	1322	100.0
Mode of condom acquisition in past 6 months												
Bought condoms	83	28.4	131	43.2	168	78.1	192	98.0	141	74.2	715	59.8
Received condoms for free	123	42.1	138	45.5	31	14.4	3	1.5	38	20.0	333	27.8
Bought and recieved condoms for free	86	29.5	34	11.2	16	7.4	1	0.5	11	5.8	148	12.4
Total	292	100.0	303	100.0	215	100.0	196	100.0	190	100.0	1196	100.0
Condom reuse												
Never re-used condom in the past 6 months	252	82.6	352	99.4	142	57.5	200	96.6	201	98.5	1147	87.1
Reused condoms	53	17.4	2	0.6	105	42.5	7	3.4	3	1.5	170	12.9
Total	305	100.0	354	100.0	247	100.0	207	100.0	204	100.0	1317	100.0
Ever used lubricants during sex												
No	24	7.8	70	19.8	140	55.8	147	70.7	87	42.6	468	35.4
Yes	282	92.2	284	80.2	111	44.2	61	29.3	117	57.4	855	64.6
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Frequency of using lubricants and condoms during anal sex with men												
Not always	95	33.8	107	37.9	87	78.4	50	82.0	54	46.2	393	46.1
Always	186	66.2	175	62.1	24	21.6	11	18.0	63	53.9	459	53.9
Total	281	100.0	282	100.0	111	100.0	61	100.0	117	100.0	852	100.0

Annex 3: MSM data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Type of lubricant used during anal sex with men												
Vaseline/Petroleum jelly	7	2.6	4	1.5	14	13.9	11	21.2	2	1.8	38	4.7
Body lotion or creme	11	4.0	0	0.0	4	4.0	0	0.0	4	3.5	19	2.4
Water-based lubricant	212	77.9	250	95.1	72	71.3	30	57.7	101	89.4	665	83.0
Oil-based lubricant	35	12.9	7	2.7	11	10.9	1	1.9	2	1.8	56	7.0
Saliva	7	2.6	2	0.8	0	0.0	10	19.2	4	3.5	23	2.9
Total	272	100.0	263	100.0	101	100.0	52	100.0	113	100.0	801	100.0
SUBSTANCE USE												
Injecting drug use												
Never used injectable substance	282	92.2	336	94.9	236	94.0	200	96.6	152	74.5	1206	91.2
Ever used injectable substance	24	7.8	18	5.1	15	6.0	7	3.4	52	25.5	116	8.8
Total	306	100.0	354	100.0	251	100.0	207	100.0	204	100.0	1322	100.0
Ever injected an illicit drug												
No	11	45.8	11	61.1	8	53.3	4	57.1	45	86.5	79	68.1
Yes	13	54.2	7	38.9	7	46.7	3	42.9	7	13.5	37	31.9
Total	24	100.0	18	100.0	15	100.0	7	100.0	52	100.0	116	100.0
Ever shared needles												
No	13	54.2	16	88.9	8	53.3	4	57.1	48	94.1	89	77.4
Yes	11	45.8	2	11.1	7	46.7	3	42.9	3	5.9	26	22.6
Total	24	100.0	18	100.0	15	100.0	7	100.0	51	100.0	115	100.0
Injecting drug use by sexual partner												
Sexual partners never used an injectable drug	253	83.0	280	79.1	220	87.6	172	82.7	190	93.1	1115	84.3
Sexual partner ever used illegal injectable drug	15	4.9	22	6.2	26	10.4	3	1.4	9	4.4	75	5.7
Dont know	37	12.1	52	14.7	5	2.0	33	15.9	5	2.5	132	10.0
Total	305	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1322	100.0
Ever used non-injecting illegal drug												
No	267	88.1	270	76.9	179	71.3	191	92.3	120	58.8	1027	78.0
Yes	36	11.9	81	23.1	72	28.7	16	7.7	84	41.2	289	22.0
Total	303	100.0	351	100.0	251	100.0	207	100.0	204	100.0	1316	100.0
Drank alcohol in past 12 months												
No	51	16.7	110	31.1	59	23.5	74	35.6	40	19.7	334	25.3
Yes	255	83.3	244	68.9	192	76.5	134	64.4	163	80.3	988	74.7
Total	306	100.0	354	100.0	251	100.0	208	100.0	203	100.0	1322	100.0
Frequency of consuming alcohol												
Less than weekly	146	57.9	85	35.0	31	16.2	21	15.7	31	19.1	314	31.9
Weekly or more	106	42.1	158	65.0	161	83.9	113	84.3	131	80.9	669	68.1
Total	252	100.0	243	100.0	192	100.0	134	100.0	162	100.0	983	100.0
Frequency of consuming 6+ drinks at a time												
Less than weekly	182	71.4	157	64.6	77	40.1	56	41.8	81	50.3	553	56.1
Weekly or more	73	28.6	86	35.4	115	59.9	78	58.2	80	49.7	432	43.9
Total	255	100.0	243	100.0	192	100.0	134	100.0	161	100.0	985	100.0
Frequency of experiencing memory loss after drinking												
Less than monthly	211	83.7	201	82.4	95	49.7	117	88.0	160	98.8	784	79.8
Monthly or more	41	16.3	43	17.6	96	50.3	16	12.0	2	1.2	198	20.2
Total	252	100.0	244	100.0	191	100.0	133	100.0	162	100.0	982	100.0
Ever been injured or injured someone else due to drinking												
No	217	85.1	210	86.8	133	69.3	76	56.7	137	84.1	773	78.4
Yes	38	14.9	32	13.2	59	30.7	58	43.3	26	16.0	213	21.6
Total	255	100.0	242	100.0	192	100.0	134	100.0	163	100.0	986	100.0
HIV KNOWLEDGE												
Correctly reports that anal sex has highest sexual risk												
No	146	47.7	194	54.8	199	79.6	192	92.3	127	62.6	858	65.0
Yes	160	52.3	160	45.2	51	20.4	16	7.7	76	37.4	463	35.1
Total	306	100.0	354	100.0	250	100.0	208	100.0	203	100.0	1321	100.0
Correctly reports that the safest lubricant is water-based												
No	93	30.6	129	36.4	175	69.7	181	87.4	100	49.3	678	51.4
Yes	211	69.4	225	63.6	76	30.3	26	12.6	103	50.7	641	48.6
Total	304	100.0	354	100.0	251	100.0	207	100.0	203	100.0	1319	100.0
Correctly reports that one can get HIV from sharing needles												
No	21	6.9	27	7.6	38	15.1	87	41.8	6	3.0	179	13.6
Yes	284	93.1	327	92.4	213	84.9	121	58.2	197	97.0	1142	86.5
Total	305	100.0	354	100.0	251	100.0	208	100.0	203	100.0	1321	100.0
STIGMA, DISCRIMATION & VIOLENCE												
Disclosed having sex with men to a healthcare worker												
No	262	85.6	306	86.4	244	97.2	207	99.5	201	98.5	1220	92.2
Yes	44	14.4	48	13.6	7	2.8	1	0.5	3	1.5	103	7.8
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Ever avoided seeking health services because worried someone may learn you have sex with men												

Annex 3: MSM data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
No	242	79.1	289	81.6	206	82.1	206	99.0	202	99.0	1145	86.5
Yes	64	20.9	65	18.4	45	17.9	2	1.0	2	1.0	178	13.5
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Ever heard discriminatory remarks from healthcare providers because have sex with men												
No	256	83.7	326	92.6	218	87.2	206	99.0	202	99.0	1208	91.5
Yes	50	16.3	26	7.4	32	12.8	2	1.0	2	1.0	112	8.5
Total	306	100.0	352	100.0	250	100.0	208	100.0	204	100.0	1320	100.0
Ever felt afraid seeking health services because worried someone may learn you have sex with men												
No	244	79.7	286	80.8	204	81.3	205	98.6	202	99.0	1141	86.2
Yes	62	20.3	68	19.2	47	18.7	3	1.4	2	1.0	182	13.8
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Ever felt not treated well at health service because have sex with men												
No	279	91.2	336	94.9	218	87.6	205	98.6	202	99.5	1240	93.9
Yes	27	8.8	18	5.1	31	12.5	3	1.4	1	0.5	80	6.1
Total	306	100.0	354	100.0	249	100.0	208	100.0	203	100.0	1320	100.0
Ever denied health services because have sex with men												
No	282	92.5	345	97.7	222	88.8	207	99.5	203	99.5	1259	95.4
Yes	23	7.5	8	2.3	28	11.2	1	0.5	1	0.5	61	4.6
Total	305	100.0	353	100.0	250	100.0	208	100.0	204	100.0	1320	100.0
Ever been arrested on charges related to homosexuality												
No	239	78.1	308	87.0	215	85.7	203	97.6	164	80.4	1129	85.3
Yes	67	21.9	46	13.0	36	14.3	5	2.4	40	19.6	194	14.7
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Ever avoided carrying condoms because afraid of the police												
No	276	90.2	328	92.7	217	86.5	207	99.5	201	99.0	1229	93.0
Yes	30	9.8	26	7.3	34	13.6	1	0.5	2	1.0	93	7.0
Total	306	100.0	354	100.0	251	100.0	208	100.0	203	100.0	1322	100.0
Ever felt excluded from family activities because have sex with men												
No	254	83.3	324	91.5	233	93.2	208	100.0	196	96.1	1215	92.0
Yes	51	16.7	30	8.5	17	6.8	0	0.0	8	3.9	106	8.0
Total	305	100.0	354	100.0	250	100.0	208	100.0	204	100.0	1321	100.0
Ever felt that family made discriminatory remarks because have sex with men												
No	234	76.7	272	76.8	231	92.4	207	99.5	192	95.0	1136	86.1
Yes	71	23.3	82	23.2	19	7.6	1	0.5	10	5.0	183	13.9
Total	305	100.0	354	100.0	250	100.0	208	100.0	202	100.0	1319	100.0
Ever felt rejected by non-MSM friends												
No	262	85.9	315	89.0	233	93.2	207	99.5	191	93.6	1208	91.4
Yes	43	14.1	39	11.0	17	6.8	1	0.5	13	6.4	113	8.6
Total	305	100.0	354	100.0	250	100.0	208	100.0	204	100.0	1321	100.0
Ever felt scared to be in public places because have sex with men												
No	283	92.5	298	84.4	221	88.0	206	99.0	198	97.1	1206	91.2
Yes	23	7.5	55	15.6	30	12.0	2	1.0	6	2.9	116	8.8
Total	306	100.0	353	100.0	251	100.0	208	100.0	204	100.0	1322	100.0
Ever lost employment because have sex with men												
No	278	90.8	331	93.8	229	91.2	206	99.0	202	99.0	1246	94.3
Yes	28	9.2	22	6.2	22	8.8	2	1.0	2	1.0	76	5.7
Total	306	100.0	353	100.0	251	100.0	208	100.0	204	100.0	1322	100.0
Experience of stigma												
Experienced most stigma because of being MSM	116	39.1	111	31.5	30	12.1	49	23.7	29	14.3	335	25.6
Experienced most stigma due to other reasons	86	29.0	78	22.2	104	41.8	1	0.5	73	36.0	342	26.2
Have not experienced stigma	95	32.0	163	46.3	115	46.2	157	75.9	101	49.8	631	48.2
Total	297	100.0	352	100.0	249	100.0	207	100.0	203	100.0	1308	100.0
Recently physically harassed or hurt because have sex with men (past 6 months)												
No or not in the last 6 months	276	90.2	336	94.9	233	92.8	202	97.1	199	97.5	1246	94.2
Yes	30	9.8	18	5.1	18	7.2	6	2.9	5	2.5	77	5.8
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Ever verbally harassed you because have sex with men												
No or not in the last 6 months	239	78.1	279	78.8	230	91.6	194	93.3	185	90.7	1127	85.2
Yes	67	21.9	75	21.2	21	8.4	14	6.7	19	9.3	196	14.8
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Ever harassed (verbally or physically) or intimidated by a uniformed officer because have sex with men												
No	245	80.3	313	88.4	220	87.6	199	95.7	199	97.5	1176	89.0
Yes	60	19.7	41	11.6	31	12.4	9	4.3	5	2.5	146	11.0
Total	305	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1322	100.0
Ever blackmailed because of having sex with men												
No	193	63.1	256	72.3	213	84.9	194	93.3	168	82.4	1024	77.4
Yes	113	36.9	98	27.7	38	15.1	14	6.7	36	17.6	299	22.6
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0

Annex 3: MSM data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Ever forced you to have sex against will												
No	227	74.2	285	81.0	212	84.5	183	88.0	193	94.6	1100	83.3
Yes	79	25.8	67	19.0	39	15.5	25	12.0	11	5.4	221	16.7
Total	306	100.0	352	100.0	251	100.0	208	100.0	204	100.0	1321	100.0
Recently forced to have sex against will (past 6 months)												
No	281	91.8	328	93.2	223	88.8	190	91.3	202	99.0	1224	92.7
Yes	25	8.2	24	6.8	28	11.2	18	8.7	2	1.0	97	7.3
Total	306	100.0	352	100.0	251	100.0	208	100.0	204	100.0	1321	100.0
Believe were forced to have sex because have sex with men												
No	28	37.3	10	17.9	11	28.9	11	45.8	7	63.6	67	32.8
Yes	47	62.7	46	82.1	27	71.1	13	54.2	4	36.4	137	67.2
Total	75	100.0	56	100.0	38	100.0	24	100.0	11	100.0	204	100.0
Ever forced to have sex against will because have sex with men												
No	259	84.6	306	86.9	224	89.2	195	93.8	200	98.0	1184	89.6
Yes	47	15.4	46	13.1	27	10.8	13	6.2	4	2.0	137	10.4
Total	306	100.0	352	100.0	251	100.0	208	100.0	204	100.0	1321	100.0
MENTAL HEALTH												
Little interest or pleasure in doing things												
Never	165	54.5	212	60.4	104	41.6	171	88.1	162	80.6	814	62.7
Ever	138	45.5	139	39.6	146	58.4	23	11.9	39	19.4	485	37.3
Total	303	100.0	351	100.0	250	100.0	194	100.0	201	100.0	1299	100.0
Feeling down/depressed/hopeless												
Never	113	37.0	192	54.2	116	46.2	167	80.3	157	77.3	745	56.4
Ever	192	63.0	162	45.8	135	53.8	41	19.7	46	22.7	576	43.6
Total	305	100.0	354	100.0	251	100.0	208	100.0	203	100.0	1321	100.0
Sleep troubles												
Never	141	46.2	205	57.9	122	48.6	166	79.8	151	74.4	785	59.4
Ever	164	53.8	149	42.1	129	51.4	42	20.2	52	25.6	536	40.6
Total	305	100.0	354	100.0	251	100.0	208	100.0	203	100.0	1321	100.0
Feeling tired or having little energy												
Never	142	47.3	164	46.3	91	36.4	158	76.3	151	74.4	706	53.7
Ever	158	52.7	190	53.7	159	63.6	49	23.7	52	25.6	608	46.3
Total	300	100.0	354	100.0	250	100.0	207	100.0	203	100.0	1314	100.0
Poor appetite/overeating												
Never	130	42.8	257	73.0	130	51.8	173	83.2	155	76.4	845	64.1
Ever	174	57.2	95	27.0	121	48.2	35	16.8	48	23.6	473	35.9
Total	304	100.0	352	100.0	251	100.0	208	100.0	203	100.0	1318	100.0
Feeling bad about yourself												
Never	143	47.0	244	68.9	135	54.2	173	84.0	177	87.2	872	66.3
Ever	161	53.0	110	31.1	114	45.8	33	16.0	26	12.8	444	33.7
Total	304	100.0	354	100.0	249	100.0	206	100.0	203	100.0	1316	100.0
Trouble concentrating												
Never	158	52.1	226	63.8	124	49.4	180	86.5	172	84.7	860	65.2
Ever	145	47.9	128	36.2	127	50.6	28	13.5	31	15.3	459	34.8
Total	303	100.0	354	100.0	251	100.0	208	100.0	203	100.0	1319	100.0
Noticeably moving or speaking slowly/fidgetty or restless												
Never	193	65.2	273	78.0	117	47.6	173	86.9	192	94.6	948	73.3
Ever	103	34.8	77	22.0	129	52.4	26	13.1	11	5.4	346	26.7
Total	296	100.0	350	100.0	246	100.0	199	100.0	203	100.0	1294	100.0
Thoughts that you would be better off dead/hurting self												
Never	184	60.3	307	86.7	153	61.0	190	91.8	191	94.1	1025	77.7
Ever	121	39.7	47	13.3	98	39.0	17	8.2	12	5.9	295	22.3
Total	305	100.0	354	100.0	251	100.0	207	100.0	203	100.0	1320	100.0
Frequency that these problems have made it difficult in work/home/relationships												
Rarely/Never	62	27.0	145	49.3	70	32.7	29	28.7	27	31.0	333	36.0
At least sometimes	168	73.0	149	50.7	144	67.3	72	71.3	60	69.0	593	64.0
Total	230	100.0	294	100.0	214	100.0	101	100.0	87	100.0	926	100.0
STI & HIV TESTING HISTORY												
Experienced STI symptoms in past 12 months												
Blisters or sores in the genital region or anus	56	18.3	18	5.1	37	14.7	12	5.8	7	3.4	130	9.8
Pain or burning sensation when urinate	43	14.1	24	6.8	53	21.1	23	11.1	25	12.3	168	12.7
Penile discharge or unusual white discharge	30	9.8	32	9.0	18	7.2	12	5.8	20	9.8	112	8.5
Bleeding from the penis	19	6.2	6	1.7	39	15.5	7	3.4	1	0.5	72	5.5
Genital warts	6	2.0	8	2.3	13	5.2	2	1.0	0	0.0	29	2.2
Anal warts	8	2.6	15	4.2	14	5.6	2	1.0	1	0.5	40	3.0
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Ever had an STI test												
No	125	41.0	226	63.8	172	68.5	140	67.3	161	78.9	824	62.3

Annex 3: MSM data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	180	59.0	128	36.2	79	31.5	68	32.7	43	21.1	498	37.7
Total	305	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1322	100.0
Tested for STIs in past 12 months												
No	28	15.6	39	30.5	21	26.6	27	39.7	20	46.5	135	27.1
Yes	152	84.4	89	69.5	58	73.4	41	60.3	23	53.5	363	72.9
Total	180	100.0	128	100.0	79	100.0	68	100.0	43	100.0	498	100.0
Self-report having syphilis in past 12 months												
No	131	87.3	78	87.6	48	82.8	33	80.5	21	91.3	311	86.1
Yes	19	12.7	11	12.4	10	17.2	8	19.5	2	8.7	50	13.9
Total	150	100.0	89	100.0	58	100.0	41	100.0	23	100.0	361	100.0
Self-report having gonorrhoea in past 12 months												
No	132	89.2	81	91.0	57	98.3	36	87.8	16	69.6	322	89.7
Yes	16	10.8	8	9.0	1	1.7	5	12.2	7	30.4	37	10.3
Total	148	100.0	89	100.0	58	100.0	41	100.0	23	100.0	359	100.0
Self-report having herpes in past 12 months												
No	142	95.3	89	100.0	56	96.6	41	100.0	23	100.0	351	97.5
Yes	7	4.7	0	0.0	2	3.4	0	0.0	0	0.0	9	2.5
Total	149	100.0	89	100.0	58	100.0	41	100.0	23	100.0	360	100.0
Self-report having chlamydia in past 12 months												
No	134	90.5	83	93.3	55	94.8	38	92.7	20	87.0	330	91.9
Yes	14	9.5	6	6.7	3	5.2	3	7.3	3	13.0	29	8.1
Total	148	100.0	89	100.0	58	100.0	41	100.0	23	100.0	359	100.0
Self-report having hepatitis B in past 12 months												
No	146	96.7	87	97.8	55	94.8	41	100.0	23	100.0	352	97.2
Yes	5	3.3	2	2.2	3	5.2	0	0.0	0	0.0	10	2.8
Total	151	100.0	89	100.0	58	100.0	41	100.0	23	100.0	362	100.0
Ever taken ARVs to prevent HIV infection												
No	265	86.6	322	91.2	241	96.4	201	98.0	197	96.6	1226	93.0
Yes	41	13.4	31	8.8	9	3.6	4	2.0	7	3.4	92	7.0
Total	306	100.0	353	100.0	250	100.0	205	100.0	204	100.0	1318	100.0
Worried about HIV/AIDS in the past 12 months												
No	87	28.5	186	52.7	117	46.6	141	68.4	145	71.1	676	51.3
Yes	218	71.5	167	47.3	134	53.4	65	31.6	59	28.9	643	48.7
Total	305	100.0	353	100.0	251	100.0	206	100.0	204	100.0	1319	100.0
Ever previously tested for HIV												
No	52	17.0	65	18.4	98	39.0	98	47.1	51	25.0	364	27.5
Yes	254	83.0	289	81.6	153	61.0	110	52.9	153	75.0	959	72.5
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Receipt of HIV test results												
Always	228	89.8	277	95.8	128	84.2	108	98.2	147	96.7	888	92.8
Not always	26	10.2	12	4.2	24	15.8	2	1.8	5	3.3	69	7.2
Total	254	100.0	289	100.0	152	100.0	110	100.0	152	100.0	957	100.0
Self-reported HIV status (where known)												
Negative	174	72.8	233	84.4	140	96.6	110	100.0	134	94.4	791	86.7
Positive	65	27.2	43	15.6	5	3.4	0	0.0	8	5.6	121	13.3
Total	239	100.0	276	100.0	145	100.0	110	100.0	142	100.0	912	100.0
Ever taken ARVs to treat HIV												
No	28	43.1	11	25.6	2	40	NA	NA	3	37.5	44	36.4
Yes	37	56.9	32	74.4	3	60	NA	NA	5	62.5	77	63.6
Total	65	100.0	43	100.0	5	100.0	NA	NA	8	100.0	121	100.0
Currently on ARV												
No	1	2.7	0	0.0	1	33.3	NA	NA	0	0.0	2	2.6
Yes	36	97.3	32	100.0	2	66.7	NA	NA	5	100.0	75	97.4
Total	37	100.0	32	100.0	3	100.0	NA	NA	5	100.0	77	100.0
Self-report ever stopping antiretroviral therapy												
No	33	89.2	18	58.1	2	66.7	NA	NA	2	40.0	55	72.4
Yes	4	10.8	13	41.9	1	33.3	NA	NA	3	60.0	21	27.6
Total	37	100.0	31	100.0	3	100.0	NA	NA	5	100.0	76	100.0
Self-report ever receiving CD4 test												
No	17	26.2	9	20.9	1	33.3	NA	NA	3	37.5	30	25.2
Yes	48	73.8	34	79.1	2	66.7	NA	NA	5	62.5	89	74.8
Total	65	100.0	43	100.0	3	100.0	NA	NA	8	100.0	119	100.0
Disclosed HIV status to regular sex partner(s)												
No	25	41.7	26	60.5	3	60.0	NA	NA	3	42.9	57	49.6
Disclosed to some or all	35	58.3	17	39.5	2	40.0	NA	NA	4	57.1	58	50.4
Total	60	100.0	43	100.0	5	100.0	NA	NA	7	100.0	115	100.0
Disclosed HIV status to casual sex partner(s)												
No	41	73.2	38	92.7	3	60.0	NA	NA	5	71.4	87	79.8

Annex 3: MSM data tables

	Yaoundé		Douala		Bertoua		Bamenda		Kribi		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Disclosed to some or all	15	26.8	3	7.3	2	40.0	NA	NA	2	28.6	22	20.2
Total	56	100.0	41	100.0	5	100.0	NA	NA	7	100.0	109	100.0
BIOLOGICAL TEST RESULTS												
HIV test result												
Positive	138	45.1	91	25.7	23	9.2	8	3.8	12	5.9	272	20.6
Negative	168	54.9	261	73.7	228	90.8	199	95.7	185	90.7	1041	78.7
Indeterminate/ invalid	0	0.0	2	0.6	0	0.0	1	0.5	7	3.4	10	0.8
Total	306	100.0	354	100.0	251	100.0	208	100.0	204	100.0	1323	100.0
Syphilis test result												
Positive	17	5.6	8	2.3	4	1.6	0	0.0	7	3.4	36	2.7
Negative	289	94.4	346	97.7	247	98.4	207	100.0	197	96.6	1286	97.3
Total	306	100.0	354	100.0	251	100.0	207	100.0	204	100.0	1322	100.0