MALAYSIA

Integrated Biological and Behavioural Surveillance Survey 2014 Report

HIV/STI/Hepatitis C Sector

Disease Control Division

Ministry of Health Malaysia

INTEGRATED BIOLOGICAL AND BEHAVIOURAL SURVEILLANCE SURVEY 2014

This report was coordinated and produced by HIV/STI Sector of Ministry of Health Malaysia.

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It is hopeful that the findings in this report will assist in advocacy and programme planning and review towards effective HIV/AIDS responses in Malaysia.

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Foreword

Integrated Biological and Behavioural Surveillance (IBBS) survey has been introduced since 2009 to complement the National HIV Surveillance System. Conducted periodically at the interval of 2-3 years, IBBS survey focuses on main key populations (KPs) in Malaysia that include people who inject drugs (PWID), men who have sex with men (MSM), female sex worker (FSW) and transgender people (TG). Being a country with concentrated HIV epidemic, the rate of infection and the possibility of transmission are higher among these KPs because of their risk-taking behaviours such as unprotected sex and unsafe injecting practices.

In order to effectively respond to HIV, it is important to understand the epidemic through gathering of important data. Therefore, IBBS survey serves as one of the assessment tool that determine the epidemiologic pattern not only the disease but also their behaviours that lead to HIV infection. This survey also explored the HIV/STI services utilization pattern and incorporated the antiretroviral treatment received by these KPs.

The results of this third round IBBS presented in this report brought out the successful implementation of Harm Reduction Programme as indicated by the reduced trend of HIV prevalence among PWID over the years. However, the increasing trends of risk-taking behaviour and HIV prevalence among MSM, FSW and TG are worrying.

Based on this scientific evidence, it is our hope that relevant agencies other than Ministry of Health Malaysia will strive to implement strategic and effective HIV prevention, care and support that address the real problem among KPs. We hope this study will continue in the future as the findings will be beneficial to project and estimate the epidemic and progress of disease for better planning of intervention activities among KPs. Lastly, we would like to acknowledge the efforts of HIV/STI/Hepatitis C Sector, the research team and those who were involved in this survey.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-Retroviral Therapy
ARV	Anti-Retroviral drugs
DIC	Drop-In Centre
DRC	Drug Rehabilitation Centre
FSW	Female Sex Worker
GARPR	Global AIDS Response Progress Report
HIV	Human Immunodeficiency Virus
HR	Harm reduction
IBBS	Integrated Biological Behavioural Surveillance
JAKIM	Department of Islamic Development
MAC	Malaysian AIDS Council
MDG	Millennium Development Goals
MMT	Methadone Maintenance Therapy
MoH	Ministry of Health
MSM	Men having Sex with Men
MTCT	Mother to Child Transmission
NADA	National Anti-Drug Agency
BSS	Behavioural Surveillance Survey
CBOs	Community-Based Surveillance
PWID	Person/People Who Inject Drugs
KP	Key Populations
MREC	Medical Research Ethics Committee
NGOs	Non-Government Organizations
NSEP	Needle and Syringe Exchange Programme
NSP	National Strategic Plan
PLHIV	People Living with HIV
POs	Partner Organisations
RDS	Respondent Driven Sampling
SPSS	Statistical Package for the Social Sciences
STI	Sexually Transmitted Infection
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

EXECUTIVE SUMMARY

Since the first case of HIV/AIDS was reported in Malaysia in 1986, Malaysia's epidemic was concentrated among key populations (KP) with infection rates exceeding 5% especially among people who inject drugs (PWID), men who have sex with men (MSM), female sex worker (FSW) and transgender (TG). Through the years, total numbers of new infection have been on steady decline (GARPR 2014) and this was contributed by reduction of new HIV infections among injecting drugs use following the inception of Harm Reduction Programme in 2006. At the beginning, the epidemic in Malaysia was dominated by injecting drug use, however, there is concern today that the trends and patterns of HIV epidemic in Malaysia has changed from injecting drug use to sexual transmission over the rise in HIV infection through sexual transmission.

To track the trends and patterns of the HIV epidemic, Malaysia has adopted the Integrated Biological and Behavioural Surveillance Survey (IBBS) that complement the National HIV Surveillance System. This survey is conducted every 2 to 3 years and first round of IBBS was conducted in 2009. Besides assessing the trends of local HIV epidemic in Malaysia, this survey will allow us to identify the factors that may impact the course of the epidemic in a specific geographic and population being studied. The findings from this survey also will be used to project and estimate the epidemic and disease progress over time which is crucial for better planning of preventive activities among KP.

IBBS 2014 is the third round of IBBS survey conducted in Malaysia and was conducted via cross-sectional method using Respondent Driven Sampling (RDS) between December 2014 and March 2015 involving 12 states in Malaysia. A total of 3,922 respondents participated in this survey including PWID (n=1,445), MSM (n=531), FSW (n=849) and TG (n=1,097). Respondents were recruited and interviewed in drop-in centres and site offices of related non-government organisations (NGOs) and Health Clinics. Some of the study sites conduct surveys to more than one KP. Participation in the study was voluntary and contingent upon eligibility criteria in the screening process, which then included a structured interviewer administered questionnaire followed with unlinked anonymous HIV testing using HIV rapid test. Results were not disclosed to respondents; instead they were referred to the nearest health clinic for proper testing and counselling upon request.

KEY FINDINGS

Summary of key findings are narrated in Table 1.

People who inject drugs:

Respondents were predominantly older adults aged above 30 years (89.2%) with median age of 39 years, were Malay (86.2%) and had attained at least secondary education (77.6%). Slightly more than half of respondents were unmarried (53.3%), while about one-quarter of the respondents had secured job with monthly income (24.6%). More than three quarter of the

respondents (80.8%) were chronic injectors who injected more than five years with heroin being the most popular injected drug (97.2%). Median duration of risk behaviour was 15 years (1 – 57 years). With lower frequency of injection (2.0 ± 0.63 per day) coupled with safe injection practices at last injection (92.8%) and at last 12 months (75.3%), the overall HIV prevalence had reduced to 16.3% from 18.9% (2012). The prevalence was highest in Kelantan (44.7%) and Terengganu (30.0%). As for sexual practices, only 20.8% had used condom during last sex.

Less than half of PWID respondents (41.4%) had tested for HIV in the past 12 months, of which they did the test because they felt at risk (31.0%) and on request (22.2%). Meanwhile, about one-third (34.5%) had ever enrolled in Methadone Maintenance Programme.

Men who have sex with men:

Almost two-third of MSM respondents were younger adults aged below 30 years (67.8%) with median age of 25 years. Meanwhile, respondents were predominantly Malay (44.8%), had attained at least secondary education (60.1%) and were mainly unmarried (89.8%).

Median duration of risk behaviour (having sex with man or transgender) was 7 years; while more than three-quarter (77.4%) had anal sexual intercourse in the last 1 month. Condom use was generally low - during last anal sex (56.7%) and during last sex with female sex worker (47.4%). There has been an increasing trend of substance abuse prior to having sex. Alcohol consumption increased from 31.8% in 2012 to 38.7% in 2014, and significantly associated with HIV prevalence among MSM respondents in 2014 ($p < 0.05$). Psychoactive drug use among sexual partner was also associated with the HIV prevalence ($p < 0.05$). These findings indicated that substance abuse prior to sexual intercourse contributed to considerable increase in HIV prevalence among MSM.

Despite low condom use, only 10.9% attended STI check-up and less than half (40.9%) had HIV test done in the last 12 months. Due to its 'hidden' nature, only 19.6% were reached with prevention programme by NGO outreach worker and healthcare worker. The overall HIV prevalence was 8.9%, with Kuala Lumpur and Johor reported higher prevalence (22.0% and 15.7%, respectively). While Penang showed dramatic reduction in prevalence rate (from 13.7% to 4.0%), Kuala Lumpur depicted significant increase by two-fold in the past two years (10.2%).

Female sex workers:

Majority of female sex workers (FSW) aged above 25 years (77.5%) with median age of 34 years, were Malay (37.2%) and unmarried (37.5%). Almost half (48.1%) had either lower or no education; while 68.6% resorted to working full time sex worker. Majority had sold sex at median age of 26 years. The pattern of condom uses during last sexual intercourse with lovers (from 53.9% to 29.6%) and husband (from 21.7% to 16.0%) was substantially reduced between 2012 and 2014. Condom use during last sex with clients has not changed much during the same period (from 83.9% to 84.5%) while persistent condom use behaviour in the

past 12 months has slightly dropped from 63.7% to 60.6%. The alcohol consumption prior to sexual intercourse among FSW respondents steadily increased between 2012 (39.9%) and 2014 (46.2%). This survey also revealed increasing trend of other psychoactive drug abuse prior to having sex from 38.5% to 42.8% in the last 5 years.

Health seeking behaviour for STI has been low at only 12.8% despite high risk activity. Inversely, close to 80% had HIV test done and know status. Overall HIV prevalence among FSW respondents increased from 4.2% to 7.3% between 2012 and 2014, with Kuala Lumpur (15.0%) and Pahang (14.5%) reported higher prevalence.

Transgender:

Majority of the respondents aged below 30 years (52.6%), were Malay (54.1%), had attained at least secondary education (72.7%) and were unmarried (94.8%). Approximately 87% had received money for sex with men.

Condom use during last sexual intercourse with man had constantly dropped from 85.2% to 79.8% between 2012 and 2014. Similar trend was illustrated with last paid partner (from 69.5% to 39.4%) during the same period. Health seeking behaviour reflected by STI check-up had substantially dropped from 43.8% to 8.5% between 2012 and 2014. Nonetheless, the percentage of TG respondents who had their blood tested for HIV and know status in the last 12 months had also decreased from 88.4% to 71.7% over the last five years.

Substance abuse prior to having sex has becoming a worrying trend. In the past five years, there has been a steady increase in alcohol use prior to having sex - 35.9% in 2009, 38.1% in 2012, and 38.7% in 2014. Conversely, the use of psychoactive drugs such as syabu ($p < 0.001$) and heroine ($p < 0.05$) before sexual intercourse in the last 12 months was significantly associated with HIV prevalence among TG respondents. Injecting drug abuse was also associated significantly with HIV positivity ($p <0.001$). Overall, HIV prevalence has increased from 4.8% (2012) to 6.3% (2014).

CONCLUSION AND RECOMMENDATION

HIV prevalence among PWID has declined steadily in the last 5 years from 22.1% (2009) to 18.9% (2012) and 16.3% (2014). This finding concurs with the high prevalence of safe injecting practices (above 90%) coupled with low injecting frequency. Nevertheless, states in the East Region are still facing with highest prevalence such as Kelantan (44.7%) and Terengganu (30.0%). Scaling up Harm Reduction Programmes in the East Region states will eventually cease the HIV epidemic among PWID.

Unlike PWID, HIV prevalence among other KPs (MSM, FSW and TG) have increased significantly between 2012 and 2014 - 7.1% to 8.9% for MSM, 4.2% to 7.3% for FSW and 4.8% to 6.3% for TG. High prevalence of unprotected sex substantiated by increasing trend of substance abuse prior to having sex offer a valid explanation. Behaviour change communication focusing on persistent condom use among KPs was either ineffective,

inadequate or not reaching the target groups. There is a need to consider different modality for information delivery such as using proper ICT to reach out to these KPs.

Overall antiretroviral therapy (ART) coverage among KPs did not improve over time. There is a grave need to explore reasons for not initiating ART from both perspectives – health care provider and KPs and effort to accelerate coverage cannot be delayed any longer. Pre-Exposure Prophylaxis can only prevent HIV infection through sexual transmission but not STI. Hence, persistent condom use cannot just be ignored by KPs.

Table 1: Summary findings of IBBS 2014

People who inject drugs	**2014 (n=1,445)**
HIV prevalence	16.3%
Duration of injecting (median year)	15 (1 – 57 years)
Median number of injection/day	2 (1 – 4)
Used sterile injecting equipment	92.8%
Received needles/syringes in the last 12 months	75.3%
Condom use with most recent partner (paid – regular)	28.0%
Visited FSW in the last 12 months	10.4%
Diagnosed with STI in the last 12 months	0.4%
Adequate knowledge on HIV transmission	58.3%
Tested in the last 12 months and knew results	37.8%
Reached with prevention programmes[1]	64.8%
Currently on ARV	5.0%
Had enrolled in MMT programme	34.5%
Female sex workers	**2014 (n=839)**
HIV prevalence	7.3%
Duration of sex work (median year)	7 (1 – 49)
Number of day work/week (median)	5 (0 – 7)
Number of client in the last 1 week (median)	5 (0 – 70)
Condom use with most recent client	84.5%
Received condom in the past 12 months	57.5%
Used psychoactive drugs before sex	33.8%
Consumed alcohol before sex	46.2%
Injected drugs in the past 12 months	7.2%
Had been diagnosed with STI in the past 12 months	6.5%
Adequate knowledge on HIV transmission	39.0%
Tested in the past 12 months and knew results	49.4%
Reached with prevention programmes[1]	49.9%
Currently on ARV	1.8%

Men who have sex with men (MSM)	**2014 (n=531)**
HIV prevalence	8.9%
Duration of risk behaviour (median year)	7 (1 – 50)
Ever being paid for anal sex in the past 12 months	39.4%
Condom use with most recent partner	56.7%
Received condom in the past 12 months	39.2%
Injected drugs in the past 12 months	2.8%
Used psychoactive drugs before sex	26.9%
Consumed alcohol before sex	45.8%
Diagnosed with STI in the past 12 months	8.1%
Adequate knowledge on HIV transmission	47.8%
Tested in the past 12 months and knew results	40.9%
Reached with intervention programmes[1]	30.7%
Currently on ART	1.9%
Transgender (TG)	**2014 (n=1,247)**
HIV prevalence	5.6%
Duration of risk behaviour (median year)	13 (0 – 53)
Had received money for sex with man	86.6%
Condom use with most recent client	81.2%
Received condom in the past 12 months	74.8%
Injected drugs in the past 12 months	1.0%
Used psychoactive drugs before sex	24.1%
Consumed alcohol before sex	39.5%
Adequate knowledge on HIV transmission	38.1%
Tested in the past 12 months and knew results	46.7%
Reached with intervention programmes[1]	64.1%
Currently on ART	3.0%

[1] 'Reached with prevention programmes' refers to the KPs who received free condom in the last 12 months and know where to go for HIV test

1. INTRODUCTION

1.1 Background

Since 1986 when the first HIV case made its debut, HIV has become one of the country's most serious health and development challenges. People who inject drugs was the key driven factor of HIV prevalence at the initial epidemic, which charted the graph by leaps and bounds leading the country's responses to focus more on creating awareness and early detection.

Over period of 28 years, HIV prevention landscape has seen tremendous biomedical and behavioural advances in preventing, diagnosing and treating HIV disease. As a result, a significant reduction of new cases by more than half from 28.4 per 100,000 populations in 2002 to 11.4 cases per 100,000 populations in 2013 was illustrated[1]. There were 3,393 HIV cases reported or average of 9 cases per day in 2013, which was significant but levelling off since the epidemic reached up to 6,978 cases in 2002[1]. At the end of 2013, Malaysia was estimated to have 86,324 people living with HIV (PLHIV), as well as a cumulative 101,672 HIV cases, 20,235 AIDS cases and 16,340 deaths related to HIV/AIDS, which resulted in 85,332 PLHIV cases being reported (Table 2).

Malaysia has observed a significant changing trend in HIV infections by sex over more than a decade. Early cases were concentrated among male but as the epidemic spread, the pattern continuously shifted towards increasing infection rates among female with ratio of male/female from 9.6 in 2000 to 3.7 in 2013[1]. Early phase of the epidemic was driven by PWID with the highest PWID/sexual transmission ratio reached at 12.2 in 1994[1]; however, the pattern has dramatically shifted to more sexual transmission with the ratio of PWID/ sexual transmission declined to 0.3 in 2013. The IBBS 2012 revealed HIV prevalence of 18.9%, 7.1%, 4.2% and 4.8% for PWID, MSM, FSW and TG respectively[2].

1.2 Rationale of the study

Surveillance of HIV/STI and behavioural risk factors should be the cornerstone of a country's response to HIV. Unfortunately, the formal surveillance system and limited behavioural or ad hoc survey is still insufficient to adequately monitor the epidemic and risk trends in the country. IBBS surveys need to be done periodically to reassess and adjust the surveillance system based on the information generated as well as assisting in impact assessment. By comparing data with the previous rounds, the IBBS 2014 survey could assist in determining the epidemiologic pattern of the disease and risk behaviours trend in the country. The findings could also help the country to project and estimate the epidemic and disease progress over time which is crucial for better planning of preventive activities among KPs.

[1] Ministry of Health Malaysia. Global AIDS Progress Report 2014. http://www.aidsdatahub.org/Malaysia-Global-AIDS-Response-Progress-Report-2014

[2] Ministry of Health Malaysia. Integrated Biological & Behavioural Surveillance Survey 2012. http://www.moh.gov.my/english.php/pages/view/418

Table 2: Overview of the HIV epidemic in Malaysia in 2013

Indicator	Number [%]
Cumulative no. of reported HIV infections since first detection in 1986	101,672
Cumulative no. of reported AIDS since 1986	20,235
Cumulative no. of reported deaths related to HIV/AIDS since 1986	16,340
Estimated no. PLHIV [EPP 2014]	86,324
Total number of PLHIV [surveillance data]	85,332
New HIV infections detected in 2013	3,393
Notification rate of HIV (per 100,000) in 2013	11.42
Women reported with HIV in 2013	728
Cumulative no. of women reported with HIV as of December 2013	10,956
Children aged under 13 with HIV in 2013	50
Cumulative no. of children under 13 with HIV as of December 2013	1,076
Estimated no. PLHIV eligible for treatment [EPP 2014]	38,418
No. PLHIV receiving ART (surveillance data) as of December 2013	17,369
Estimated adult (15 – 49 years) HIV prevalence [EPP 2014]	73,005 [0.44%]

Source: Ministry of Health Malaysia

1.3 Objective of the study

The primary objective of the IBBS 2014 is to determine the prevalence of HIV and sexually transmitted infections (STI) among KPs and to access their HIV-related knowledge and risk behaviours.

The specific objectives of this study are to identify the socio-demographic characteristics; risk behaviours practices; knowledge of HIV/AIDS and STIs, and preventive practices as well as attributes of HIV prevalence among KPs. The study would also reveal exposure to available HIV/STI services among KPs and HIV/STI treatments received.

2. METHODOLOGY

2.1 Study design and sample size

This survey was conducted between December 2014 and March 2015 involving 14 study sites currently servicing at least one KP in Malaysia – female sex workers (FSWs), people who inject drugs (PWID), men who have sex with men (MSM) and transgender (TG). Respondents were recruited and interviewed in drop-in centres and site offices of related NGOs and Health Care Centres. Some of the study sites catered to more than one key population. All study sites were assigned with a team consisting of nurses, Medical Assistants, Health Inspector and volunteer/s from the community for data collection.

The sample size for each KP was calculated using Epi Info v 7.1. The sample size required for a simple random sample (SRS) were first calculated and then adjusted by a measure of the complex sampling method's efficiency compared to SRS, termed the design effect with a factor of 2.0 to accommodate the design effect (1). The sample size for each study population is presented in Table 3. For each study site, sample size assigned was proportionate to key populations based on service coverage mapping.

However, respondents who did not meet the selection criteria were excluded from the survey:

(a) Had already participated in the study (e.g. using a different recruitment coupon). [To minimise repeat respondents, clear instructions were given to recruiters. Screening of respondents was carried out by researchers on-site using screening questions];

(b) Unable to converse in the languages used in the interviews;

(c) Member of the IBBS research team; and

(d) Paid staff of the site organisations.

Only respondents who had fulfilled the following selection criteria were enrolled.

(a) PWID Current injectors aged 18 years or above and had been injecting drugs for at least six months prior to the date of survey

(b) FSW Women reporting having been paid in cash or in kind for sex within the last three months

(c) MSM Men aged 18 years or older, who had engaged in sex with men at least once in the previous six months

(d) TG Individual who was born a male, but considers himself as a female, and had sex at least once in the previous six months.

Table 3: Distribution of calculated sample size for target populations in IBBS 2014

Study Population	Population size	Expected frequency	Total sample with design effect 2.0
PWID	150,000	18%	1274
FSW	21,000	4.2%	346
TG	24,000	5.6%	454
MSM	170,000	7.1%	570

2.2 Selection of seeds

Seeds are the first respondents who start the chains of recruitment among their community networks. For each study site (Table 4), approximately three to eight seeds were identified by the community prior to data collection but only one seed was planted to kick start the recruitment process. The remaining identified seeds were added later during data collection when recruitment speed became slower than anticipated or when too many chains died out. Seeds that are different in terms of demographic including age, gender, socio-economic status and key outcome variables such as HIV status and locations where they solicit (venue or street) are purposely selected to ensure diversity of social network in the selected sites.

Seed selection was carried out through discussion with the NGOs and community networks. NGOs and community representatives were briefed on seed selection and the characteristics of an ideal seed which includes but not limited to being well connected within their network, well regarded by their peers and showing interest to the goals of the study.

PWID seeds involved clients of needle and syringe exchange program while FSW and TG seeds involved those working in brothels, massage parlours, bars and streets. The MSM seeds involved those in saunas and other specific venues identified by the MSM community.

2.3 Recruitment of respondent

Survey respondents were recruited using respondent-driven sampling method (RDS). RDS has been shown to be an effective sampling method for hidden and 'hard-to-reach' populations which has no sampling frame and it is specially designed to avoid many of the biases and problems of other chain referral systems such as snowballing. Every respondent was screened for eligibility using screening question prior to enrolment (annex 1). This important step was taken to exclude respondents who were not the target of this study and those who came into the study site just for the incentive.

Upon completion of the survey, three referral coupons were passed to each seed to recruit the first wave of respondents among his/her peers in his/her network who in turn are enrolled and instructed to refer more peers from his or her network. To ensure that the chain of recruitment progressed through diverse social networks, the number of referrals per respondent was restricted to three.

Each wave of respondents recruited the next wave of respondents until the desired sample size was reached. The coupons of subsequent recruits were valid within 3-10 days of recruiter's own interview date depending on the level of wave and capability of the interviewers to manage large numbers of respondents.

For each successful interview and blood test, respondents were awarded with an incentive of RM40 (USD 12.5) and an additional RM10 (USD 3.1) was given for each successful referral (up to a maximum of three). To ensure confidentiality, a unique number was assigned to each respondent and only this number was recorded on the questionnaires and test results.

2.4 Study instrument and data collection

Adopted from Family Health International (FHI) Guidelines for Repeated Behavioural Surveys in Population at Risk of HIV[3], the questionnaires were constructed in two main languages – Malay and English. However, the interviewer could conduct the survey in other local languages including Tamil and Mandarin when deemed necessary. The questionnaire covered questions on socio-demographic characteristics, sexual and drug use behaviours, STI symptoms, HIV knowledge, stigma experience and respondents' social network. Information was collected through a face-to-face interview in a private room after which a sample of blood for HIV screening was taken via finger prick and tested on-site using rapid test kit (Intech). Reactive result was taken as HIV positive.

2.5 Ethical Review

The IBBS 2014 study was conducted in compliance with both ethical and human rights standards and approved by the National Medical Research Registry (NMRR-14-1565-23175). These standards include respondent anonymity as well as referral to free Voluntary Counseling Testing (VCT). The respondents were fully informed about the nature of the study. HIV test result was not disclosed; however, respondents were offered referrals to the nearest VCT centre for proper counselling and testing should they require one.

2.6 Data management and analysis

Data collection was managed at each site by the site manager who was responsible for delivering the completed questionnaires with blood test results to the project leader at the Ministry of Health on a weekly basis. Coupon management was done manually at the study site. Data was input and analyse using SPSS. Descriptive and multivariate analyses to identify statistically significant correlates of HIV infection were performed using SPSS.

[3] Guidelines for Repeated Behavioral Surveys in Populations at Risk of HIV. http://www.who.int/hiv/strategic/en/bss_fhi2000.pdf

Table 4: Distribution of suggested sample size distribution for each study population

Study population	Study sites	State	Proportion size of KPs (%)	Sample size
PWID	1. Insaf Murni	Selangor	14.4	210
	2. Ikhlas	KL	12.1	180
	3. DIC	Pahang	11.7	170
	4. Intan Life Zone	Johor Bahru	9.5	140
	5. Mawar	Melaka	3.7	120
	6. Sahabat	Kelantan	7.4	150
	7. CAKNA	Terengganu	8.2	150
	8. Cahaya Harapan	Kedah	5.0	150
	9. Payong	Penang	3.7	120
	Total Samples			**1,390**
FSW	1. PAMT	KL	12.1	120
	2. Payong	Penang	24.7	160
	3. PKI	Perak	28.5	180
	4. DIC	Pahang	8.5	120
	5. SACS	Sarawak	5.3	120
	6. Health Centre	Sabah	11.5	120
	Total Samples			**820**
TG	1 SEED	KL	13.3	150
	2 Payong	Penang	13.4	150
	3 PKI	Perak	13.3	150
	4 Intan Life Zone	Johor	20.3	160
	5 ReHak	Kelantan	10.5	120
	6 SACS	Sarawak	8.5	150
	7 SAGA	Sabah	11.7	150
	Total Samples			**1,030**
MSM	1. KK Tanglin	KL	61.2	380
	2. Payong	Penang	10.1	120
	3. Intan Life Zone	Johor	12	150
	4. Health Centre	Sabah	28.6	180
	Total Samples			**830**
	Grand total samples			**4,070**

3. PEOPLE WHO INJECT DRUGS (PWID)

A total of 1,445 PWID (including seeds) were recruited from nine different study sites. Recruitment was initiated with 26 seeds (Table 5) and distribution of respondents is depicted in Figure 1.

Table 5: Distribution of respondents and seeds by Region/State

Region	State	Site	No. Seed	No. wave	No. Respondents
North	Pulau Pinang	Payong	1	11	129
	Kedah	Cahaya Harapan	2	7	191
West	Kuala Lumpur	Ikhlas	3	3	180
	Selangor	Insaf Murni	1	12	210
South	Johor	Intan Life Zone	4	6	144
	Melaka	Mawar	6	6	121
East	Kelantan	Sahabat	4	3	150
	Terengganu	CAKNA	4	7	150
	Pahang	DIC	2	9	170
TOTAL			**26**		**1,445**

3.1 Socio-demographic Characteristics

Table 6 presents selected socio-demographic characteristics of PWID respondents. Majority were aged between 30 to 49 years (70.4%). Most respondents were Malay (86.2%), Muslim (89%), had attained at least secondary school level education (77.6%), and not married (53.3%). About half of the PWID respondents reported to be independent worker engaged in odd jobs (44.2%) and had stayed in the city for a mean of 29 ± 16 (1 – 72) years.

Figure 1: Geographical distribution of study sites for PWID and respondents (n=1,445)

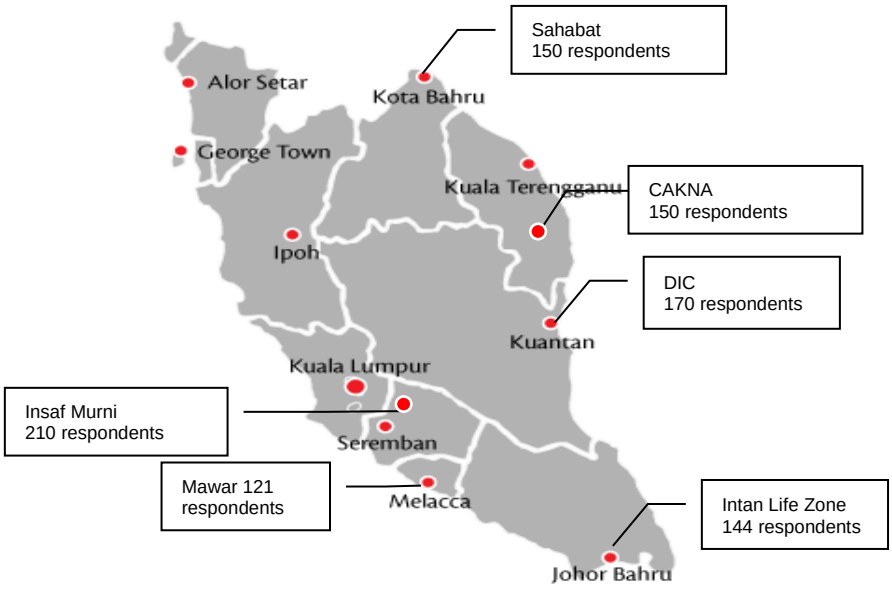


Table 6: Socio-demographic characteristics of PWID respondents (N=1,445)

	N	%
Age		
≤ 24	44	3.0
25 – 29	112	7.8
30 – 39	570	39.4
40 – 49	448	31.0
≥ 50	271	18.8
Median age (years)		39 (18 – 73)
Ethnic		
Malay	1,246	86.2
Chinese	92	6.4
Indian	79	5.5
Sabah	16	1.1
Sarawak	6	0.4
Others	6	0.4
Education		
No school	21	1.5
Primary	249	17.2
Secondary	1,122	77.6
Tertiary	53	3.7
Marital status		
Unmarried	770	53.3
Married	391	27.1
Divorced	269	18.6
Widow	15	1.0

	N	%
Source of income		
Job with salary	356	24.6
Independent worker (odd jobs)	638	44.2
Student	3	0.2
Other job	314	21.7
Unemployed	134	9.3
Faith		
Muslim	1,28	89.0
Buddhism	76	5.3
Hinduism	60	4.2
Christianity	20	1.4
Sikhism	2	0.1
No religion	1	0.1
Duration of living in the city		
Median duration (years)		31 (1– 72)

3.2 Drug use and injecting practices

Majority of the PWID had been using drugs (94.8%) and injecting drugs (80.8%) for more than 5 years (Table 7). Median duration of drug use and injecting drug were 20±10 (1-58) years and 15±10 (1-64) years respectively. Heroin was the most commonly injected drug (97.2%). Average daily injecting frequency was calculated based on self-reported injecting frequency in the past seven days. Most respondents injected more than 1 - 4 times daily (62.1%) with a median number of injection daily at 2.0 ± 0.63 (1-4). About 92.8% of respondents reported using sterile needle and syringe at last injection. However, just above three quarter (75.3%) reported to have consistently used sterile needle and syringe in the past 12 months while a small proportion (8.5%) claimed they passed on their used needles. Majority of the PWID respondents reported that they had no problem in accessing sterile needles and syringes (76.8%).

3.3 Sexual practices

The percentage of PWID respondents who ever had sex (anal or vaginal) was 80.2% and majority of the respondents (79.2%) did not use condom during last sex (Table 8). About frequency of sexual activity in the past month, in general majority (84.6%) had less than one sexual intercourse per week. Irrespective of type of sexual partner, majority had less than one sexual intercourse per week – spouse (87.2%), regular partner (97.6%) and female sex workers (99.0%). Although frequency of sex was reportedly low, majority had unprotected sex

regardless of type of sex partner - spouse (90.8%), regular partner (98.4%) and female sex workers (99.6%).

Table 7: Drug use and injecting practices among PWID respondents (N=1,445)

	N	%
Duration of drug use		
< 2 years	6	0.4
2 - 5 years	69	4.8
> 5 years	1369	94.8
Median duration of drug use (years)		20 (1 – 58)
Duration of injecting drug		
< 2 years	62	4.3
2 - 5 years	215	14.9
> 5 years	1166	80.8
Median duration of injecting drug (years)		15 (1 – 57)
Type of drug injected*		
Heroin	1,404	97.2
Amphetamine (Syabu/ice)	212	14.7
Methamphetamine / Ecstasy	181	12.5
Ketamine	97	6.7
Subutex / Methadone	66	4.6
Diazepam (Valium)	43	3.0
LSD	9	0.6
Opium	8	0.6
Codeine	7	0.5
*(*multiple response)*		
Average daily injection frequency		
≤ 1 time	416	28.8
> 1 - 4 times	897	62.1
> 4 - 7 times	95	6.6
> 7 times	36	2.5
Median injection per day		2.0 (1-4)
Injecting practices past 12 months		
Shared needle and syringe with friends	357	24.7
Used sterile needle and syringe	1,088	75.3
Injecting practices at last injection		
Used sterile needle and syringe	1,341	92.8
Used needle that had been previously used by others	104	7.2
Passing on used needle		
Yes	123	8.5
No	1,322	91.5
Had problem getting sterile needles and syringes		
Yes	335	23.2
No	1,109	76.8

Table 8: Sexual practices among PWID respondents (N=1,445)

	N	%
Ever had sex (anal/vaginal)		
Yes	1,159	80.2
No	286	19.8
Condom used during last sex		
Yes	234	20.8
No	889	79.2
Sexual activity		
Have regular sexual partner	194	13.5
Have ever visited female sex worker in past 12 months	150	10.4
Frequency of sex in the past month		
< 1 time per week	1,222	84.6
1 – 3 times per week	197	13.6
> 3 times – 7 times per week	21	1.5
>7 times per week	5	0.3
Frequency of sex with spouse in the past month		
< 1 time per week	1,260	87.2
1 – 3 times per week	162	11.2
> 3 times – 7 times per week	21	1.5
>7 times per week	2	0.1
Frequency of unprotected sex with spouse in the past month		
< 1 time per week	1,312	90.8
1 – 3 times per week	119	8.2
> 3 times – 7 times per week	13	0.9
>7 times per week	1	0.1
Frequency of sex with regular partner in the past month		
< 1 time per week	1,411	97.6
1 – 3 times per week	31	2.1
> 3 times – 7 times per week	2	0.1
>7 times per week	1	0.1
Frequency of unprotected sex with regular partner in the past month		
< 1 time per week	1,422	98.4
1 – 3 times per week	21	1.5
> 3 times – 7 times per week	1	0.1
>7 times per week	1	0.1
Frequency of sex with FSW in the past month		
< 1 time per week	1,430	99.0
1 – 3 times per week	14	1.0
> 3 times – 7 times per week	0	0
>7 times per week	1	0.1
Frequency of unprotected sex with FSW in the past month		
< 1 time per week	1,439	99.6
1 – 3 times per week	5	0.3
> 3 times – 7 times per week	0	0
>7 times per week	1	0.1

3.4 Pattern of HIV services utilisation

Approximately 38.2% of the PWID respondents claimed they had ever attended health talks and events, 50.2% took part in group discussions and 41.9% had face-to-face discussions in the last 12 months (Table 9). The two most common organisers of the health talks include health departments (16.1%) and NGO/CBO (15.6%). In addition to health talks, only 25.6% of the PWID respondents had ever been contacted by an NGO field worker, health care worker or friend to discuss about HIV in the last 3 months. HIV prevention and control were among the issues mostly discussed (24.5%).

As for STI, a very low proportion of the PWID respondents reported to have visited STI clinic in the last three months (1.9%). Of those who had visited the clinic, about 35.7% had anal examination as part of check-up. The proportion of PWID respondents who had their blood tested for HIV was 86.2%. Less than half (41.4%) of the respondents had their test in the past twelve months while 37.7% of them had their test and were informed of the result in the past twelve months. The respondents had their blood tested because they felt they were at risk (31%) and on request / suggestion (22.2%). About 46.5% had informed their permanent partner, friend or family of their HIV test result.

A little above one third (34.5%) had enrolled in Methadone Maintenance Therapy (MMT). Almost the same proportion of PWID respondents (34.6%) reported to have ever been arrested and imprisoned in the past twelve months. Nevertheless, only a small proportion (9%) reported to have ever been into Drug Rehabilitation Centre at the same time.

Table 9: Services exposure and utilization among PWID respondents (N=1,445)

	N	%
Have ever attended health talk		
Yes	552	38.2
No	892	61.7
Health talk Organizer		
Health Department	232	16.1
Social Welfare Department	16	1.1
Other government department	124	8.6
NGO / CBO	225	15.6
Others	66	4.6
Have ever attended health event		
Yes	494	34.2
No	951	65.8
Last participated in face-to-face discussion		
Never participated	839	58.1
More than 1 year ago	281	19.4
In the past 4 months – 1 year	201	13.9
In the past 3 months	124	8.6

	N	%
Last participated in group discussion		
Never participated	720	49.8
In the past 3 months	136	9.4
In the past 4 months – 1 year	273	18.9
More than 1 year ago	315	21.8
Contacted by NGO ORW/healthcare worker/friend to discuss about HIV in the past 3 months		
Yes	370	25.6
No	1,075	74.4
Issues discussed in the past 3 months		
HIV prevention and control	351	24.5
Sexual activity / desire	90	6.3
Proper use of condom	129	9.0
Spiritual awareness	136	9.5
Others	71	4.9
*(*multiple responses)*		
STI		
Visited STI clinic in last 3 months	28	1.9
Had anal examination as part of checkup	10	0.7
Have been diagnosed with STI in past 12 months	6	0.4
VCT services		
Ever had blood tested for HIV	1,246	86.2
Had HIV tested in the past year	598	41.4
Had HIV tested and informed of result in the last 12 months	544	37.7
Had HIV tested over a year ago	646	44.7
Shared result with permanent partner, friend or family	576	39.9
Reason for HIV testing (N=1,242)		
To obtain certificate	21	1.7
To get married	64	5.2
To engage in monogamous relationship	1	0.1
Feeling at risk	382	30.8
Feeling sick	50	4.0
Requested / suggested by someone	276	22.2
Other reason	448	36.1
Enrolled in Methadone program	499	34.5
Have ever been arrested and imprisoned past 12 months	499	34.6
Have ever been into Drug Rehabilitation Center past 12 months	130	9.0

The findings related to HIV prevention kit is presented in Table 10. In terms of access to preventive kit in the past year, about 75.3% of the respondents had received at least sterile needles.

Table 10: Access to HIV prevention kit in the past 12 months (N=1,445)

	N	%
Given sterile needles only	554	38.4
Given sterile needles and information related to HIV/STI	337	23.3
Given sterile needles and information related to HIV/STI and condoms	197	13.6
Given information related to HIV/STI only	15	1.0
Did not receive any HIV prevention package	341	23.6

3.5 Awareness on HIV, risk and prevention efforts

A total of 60.3% of the respondents felt that they were at risk of being infected with HIV (Table 11). In terms of knowledge on HIV, only about 58.3% of the respondents reported to have adequate overall knowledge on HIV.

In general, more than 85% of the PWID respondents had attained correct answers to the questions accessing their knowledge on HIV, However, approximately 19.2% were not able to correctly tell that the risk of HIV transmission can be reduced by having one faithful, uninfected partner.

Table 11: Knowledge of HIV, risk and prevention efforts among PWID respondents (N=1,445)

	N	%
Felt at risk of being infected with HIV	872	60.3
Knowledge of HIV*		
1. A person can reduce HIV transmission by using condom	1,295	89.6
2. A person can reduce risk of HIV by having one faithful, uninfected partner	1,167	80.8
3. A person can become infected through mosquito bites	1,263	87.4
4. A person can get HIV by sharing meal with someone who is infected with HIV	1,303	90.2
5. A healthy-looking person can have HIV	1,246	86.3
*(*number with correct answer)*		
Score Knowledge of HIV		
5 score	843	58.3
4 score	351	24.3
3 score	167	11.6
2 score	72	5.0
1 score	10	0.7
0 score	2	0.1
(score 5=adequate knowledge, score 0-4=inadequate knowledge)		

3.6 HIV prevalence and ART

In this survey overall HIV prevalence among the PWID respondents to be at 16.3% with the highest prevalence observed in Kelantan (44.7%), followed by Terengganu (30%), Johor (27.1%), Kuala Lumpur (21.7%) and Pahang (12.4%) while the other states were below 10%. Of those (n=235) who were found to be positive through HIV rapid screening, 29.1% were already receiving antiretroviral treatment while 4.3% had defaulted (Table 12).

Table 12: HIV prevalence by states (n=1,445)

	N	%
HIV Prevalence by state		
North Peninsular:		
Kedah (n=191)	8	4.2
Penang (n=129)	2	1.6
West Peninsular:		
Selangor (n=210)	12	5.7
Kuala Lumpur & Putrajaya (n=180)	39	21.7
East Peninsular:		
Kelantan (n=150)	67	44.7
Terengganu (n=150)	45	30.0
Pahang (n=170)	21	12.4
South Peninsular:		
Johor (n=144)	39	27.1
Malacca (n=121)	2	1.7
Total prevalence	**235**	**16.6**
ART		
Receiving ART (n=235)	68	29.1
Defaulted ART (n=235)	10	4.3

3.7 Sexually Transmitted Infection

The respondents were asked to recall if they ever had any STI symptom. Three most common STI symptoms experienced by the respondents were dysuria (4.6%), penile discharge (1.7%) and penile ulcer (1.5%) (**Figure 3**). Of those who experienced STI symptom, only 21% had sought treatment from either government doctor or private doctor (Figure 2).

Figure 3: Distribution of STI symptoms as reported by respondents (n=1,445)

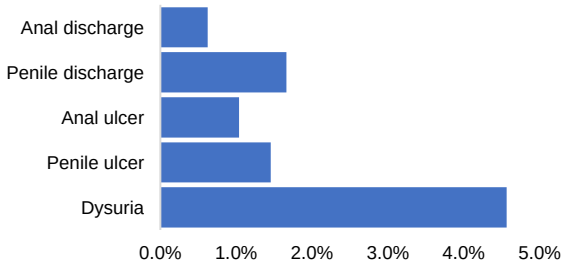
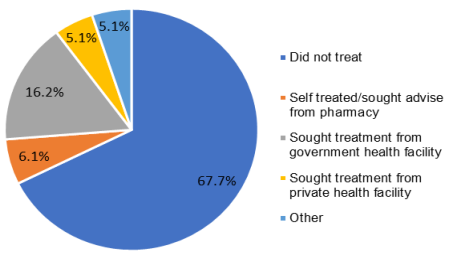


Figure 2: Action taken by respondents the last time they had STI (n=99)



3.8 Discussion

The discussion on the PWID is based on comparisons with the findings of IBBS 2009 and 2012. While IBBS 2009 interviewed 630 PWID respondents in Klang Valley only covering Selangor and Kuala Lumpur, IBBS 2012 surveyed 1,906 PWID respondents in 7 sites including Kedah, Penang, Selangor, Kelantan, Terengganu, Pahang and Johor. In 2014, IBBS surveyed 1,445 PWID respondents in 9 sites with Melaka and Kuala Lumpur being the two new additional sites. Apart from the difference in respondent size, the other limitation to the comparison is that the questionnaire used for the 2014 has been modified. As such, certain comparisons could not be made with the IBBS 2012. Recall bias could also be encountered during the interview session, whereby several respondents might be having difficulties to remember the exact response for questions regarding their past injecting and sexual behaviours and exposure. Duplication of samples may come across at study sites, yet precautions have been made by using communities to screen and determine the potential respondents who came to participate the survey.

3.8.1 Socio-demographic Characteristics

Table 13 gives a summary of the socio-demographic characteristics of the respondents for the 2009, 2012 and 2014 surveys.

Table 13: Socio-demographic comparison of PWID respondents for the 2009, 2012 and 2014 IBBS surveys.

	2009 (%)	2012 (%)	2014 (%)
Gender			
Male	97.8	98.1	100
Female	1.7	1.9	0
Age			
≤ 24	7.0	3.3	3.0
25 – 29	15.7	11.3	7.8
30 – 39	40.4	44.7	39.4
40 – 49	37.0	27.2	31.0
≥ 50		13.5	18.8
Ethnic			
Malay	90.2	85.9	86.2
Chinese	4.9	6	6.4
Indian	4.0	7.4	5.5
Sabah	-	0.6	1.1
Sarawak	-		0.4
Others	0.9	0.2	0.4
Education			
No schooling	1.1	1.1	1.5
Primary	12.2	18.6	17.2
Secondary	83.4	78	77.6
Tertiary	3.3	2.3	3.7

	2009 (%)	2012 (%)	2014 (%)
Marital status			
Unmarried	57.5	58.1	53.3
Married	19.6	41.9	27.1
Divorced	-	-	18.6
Widow	-	-	1.0
Source of Income			
Job with salary	83.8	33.1	24.6
Independent worker (odd jobs)		42.0	44.2
Student	-	-	0.2
Other job	1.1	13.6	21.7
Unemployed	15.1	11.3	9.3
Faith			
Muslim	91.9	86.8	89.0
Hinduism	2.4	6.3	4.2
Buddhism	3.0	4.6	5.3
Christianity	2.1	2.2	1.4
Sikhism	-	-	0.1
No religion	-	-	0.1
Others	0.6	0.2	-
Duration of living in the city			
Mean duration (years)	-	28 (1-75)	31 (1–72)

Comparing PWID subpopulation between 2009, 2012 and 2014 on the socio-demographic characteristics, it can be summarised that:

1. PWID in this country are getting older as shown by the increased proportion among 30 years and above;

2. The ethnicity of the respondents is better reflected in the 2014 survey as it recorded respondents from Borneo i.e. Sabah and Sarawak separately. The ethnic structure of PWID has not changed much with the majority being the Malay ethnic

3. The education level of PWID remains unchanged with the highest achieving up to secondary education.

4. The 2014 survey provided more information on the marital status of the PWID respondents as it also captured divorced and widowed PWID respondents. Unmarried PWID respondents remained the highest in all surveys;

5. Most PWID still dependent on odd jobs however, the unemployment is getting lesser in recent survey.

3.8.2 Drug use and injecting practices

Below are the comparison of drug use behaviour and injecting practices among PWID from 2009 to 2014 (Table 14).

a) PWID stayed injecting longer in recent surveys (15 years). The PWID are getting aged, and so do their injecting behaviour as most PWID were chronic injectors.

b) There is a change in the pattern of drug injected by PWID. Heroin is still the most widely and increasingly injected drug while others are slowly declining. There was an upsurge of amphetamine, methamphetamine, codeine and ketamine injected in 2012 before declining in 2014.

c) Frequency of injection has declined since 2009 (2.6 injection/day) and continue to remain low at about 2 injection/day in 2012 and 2014.

d) The use of sterile injecting paraphernalia did not vary considerably between 2012 (97.5%) and 2014 (92.8%) but has increased compared to that of 2009 (83.5%). The use of needle previously used by others had also declined strikingly between 2009 (14.6%) and 2012 (2.5%) but has bounced back in 2014 (7.2%).

e) A striking difference was observed when the respondents were asked if they practiced passing on used needles. The proportion of PWID that practiced passing on used needles was much lower in 2014 in which the proportion decreased from 20.1% in 2012 to 8.5% in 2014.

Table 14: Injecting practices among PWID in 2009 (n=630), 2012 (1,906) and 2014 (1,445) IBBS surveys

	2009 (%)	**2012 (%)**	**2014 (%)**
Duration of injecting drug			
Median duration injecting (years)	8.0 (0.5-40)	11.7 (0.2-40.9)	15 (1 – 57)
Types of drug injected* (multiple responses)			
Heroin	87.1	96.4	97.2
Amphetamine/Syabu	10.6	21.7	14.7
Methamphetamine/ecstasy	9.7	29.0	12.5
Ketamine	3.2	10.4	6.7
Subutex/methadone	15.2	14.0	4.6
Diazepam	42.9	12.3	3.0
Codeine	1.0	2.4	0.5
Opium	4.1	2.4	0.6
LCD	0.6	1.9	0.6
Average daily injection frequency			
Median no. of injection per day	2.6 (0-25)	2.0 (1-3)	2.0 (1-4)
Injecting practices at last injection			
Used clean needle and syringe	83.5	97.5	92.8
Used needle that had been previously used by others	14.6	2.5	7.2

3.8.3 Sexual practices

The 2014 survey did not specify condom use by type of partner, however the proportion who used condom was much lower than any type of partner in 2012 (Table 15).

Table 15: Comparison of condom use behaviour among PWID in 2009, 2012 and 2014 IBBS surveys

	2009 (%)	2012 (%)	2014 (%)
Regular partner	19.1	32.3	20.8
Paid sex partner	57.9	72.2	

3.8.4 Pattern of HIV services utilisation

In general, health talk participation by the respondents had not changed much over the past 2 years (Table 16), but contacts with NGO/healthcare worker had slightly decreased from 28.0% (2012) to 25.6% (2014). More PWID respondents reportedly had their blood ever tested for HIV in 2014 (86.2%) than they had in 2012 (85%) and 2009 (71%), but the percentage who had their blood tested for HIV and informed of result in the past 12 months had declined considerably from 64.5% (2012) to 37.7% (2014). It is very important that every individual who engages with high risk behaviour to regularly undergo HIV test at least 6 monthly or yearly. There was also a reduction in percentages of PWID who had received clean needles and syringes and condoms over the past 2 years (Table 16) indicating inadequate outreach activity amplified with inefficient behaviour change communication.

Table 16: Comparison of HIV services utilization among PWID in 2009, 2012 and 2014 IBBS surveys

	2009 (%)	2012 (%)	2014 (%)
Attended health talk	-	37.9	38.2
Never participated in face-to-face discussion	-	73.8	58.1
Contacted by NGO/healthcare worker in the past 3 mo.	-	28.0	25.6
Received sterile needles/syringes in the past 12 mo.	27.0	86.5	75.3
Received condoms in the past 12 mo.	10.3	33.8	13.6
Ever had HIV test done	71.1	85.0	86.2
Had HIV test in the past 12 mo. and know result	37.5	64.5	37.7
Visited STI clinic	-	5.8	1.9

3.8.5 Awareness on HIV, risk and prevention efforts

A comparison of data from 2009, 2012 and 2014 can be summarised as below.

a) Knowledge of HIV, risk and prevention efforts had improved over 5 years depicted by the increase in proportion who have adequate score (5).
b) There was still misperception about HIV transmission especially related to having one faithful uninfected partner.

Table 17: Comparison of HIV knowledge between IBBS 2009, IBBS 2012 and IBBS 2014.

	2009 (%)	2012 (%)	2014 (%)
A person can reduce HIV transmission by using a condom	88.9	91.2	89.6
A person can reduce risk of HIV by having one faithful, uninfected partner	73.2	82.7	80.8
A person can become infected with HIV through mosquito bites	83.2	85.4	87.4
A person can become infected with HIV by sharing meal with someone infected with HIV	88.9	87.7	90.2
A healthy-looking person can have HIV	87.0	84.6	86.3
Adequate knowledge (score 5)	49.7	53.8	58.3

3.8.6 HIV prevalence

Overall HIV prevalence among PWID has declined steadily between 2012 and 2014 with higher prevalence seemed to be in the East Region of Kelantan (44.7%) and Terengganu (30%). The declining trend is signalling the positive impact of Harm Reduction Programme that was implemented in 2005/2006. Harm Reduction Programme consist of Needle/Syringe Exchange Programme and Methadone Maintenance Therapy. Table 18 compares the PWID HIV prevalence across surveys. By region, East has the highest HIV prevalence followed with South and West region. It is important to note that two new states were included in IBBS 2014; Kuala Lumpur and Malacca. Selangor and Johor are observing an increasing trend.

Table 18: HIV prevalence by states, IBBS 2009-2014

	2009 (%)	2012 (%)	2014 (%)
North Region:			
Kedah	-	8.8	4.2
Penang	-	5.6	1.6
Average prevalence (North)		***7.2***	***2.9***
West Region:			
Selangor	22.1	5.3	5.7
Kuala Lumpur		-	21.7
Average prevalence (West)	***22.1***	***5.3***	***13.7***
East Region:			
Kelantan	-	46.5	44.7
Terengganu	-	32.5	30.0
Pahang	-	16.5	12.4
Average prevalence (East)		***31.8***	***29.0***
South Region:			
Johor	-	20.6	27.1
Melaka	-	-	1.7
Average prevalence (South)		***20.6***	***14.4***
National Prevalence	**-**	**18.9**	**16.3**

3.9 Conclusion and recommendation

Although the methodologies used in IBBS 2009, IBBS 2012 and IBBS 2014 are different in terms of the questionnaire and locations and areas covered, the discussion thus far allowed reasonable comparisons between the 2012 and 2014 results. From the comparisons, the following conclusions could be derived and summarised:

(a) Overall HIV prevalence among PWID in Malaysia is declining steadily between 2009 and 2014. This decline is the fruit of Harm Reduction Program implemented country-wide since 2005/2006. Focusing on accelerating and scaling up Harm Reduction efforts in states with highest prevalence above 20% like Kelantan, Terengganu, Johor and Kuala Lumpur will certainly give a huge impact on reducing further the HIV prevalence among this key population.

(b) Meanwhile, there is a huge treatment gap as only 29.1% of PLHIV among PWID were receiving ART. To end AIDS, this gap must be closed by reaching 90% by 2020 and 95% by 2030. Effective ART with undetectable viral load demonstrate 96% reduction in onward HIV transmission risk to heterosexual sero-discordant couples[4] and this should be emphasized as mechanism to curb transmission to heterosexual partners.

(c) The socio-demographic characteristics of PWID respondents have not changed much from 2009; majority were male, Malay, Muslim, had attained secondary education level and had source of income either via employment or odd jobs. However, it seemed that most of the PWID were chronic injector as they became aged, hence longer duration of risk behaviour. The good point is, Heroin is still the most widely injected drug giving them better chance to change to MMT and possibility to start ART.

(d) PWID is at lower risk of infection for as long as adherence to safe injecting practices is strictly observed. With low injecting frequency (2 injection/day) coupled with safe injecting practices high above 90%, HIV prevalence among PWID may continue to decline in the future. Majority of the PWID respondents had access to clean needle and syringes through the HIV prevention programmes implemented in their areas. The smart partnership between the government and civil societies facilitated by increasing government funding

[4] Cohen MS, Chen YQ, McCauley M et al. Prevention of HIV-1 Infection with Early Antiretroviral Therapy. N Engl J Med 2011;365:493-505

allocations allowed for sufficient coverage of prevention programmes targeted at PWID. However, this coverage has started to gradual decline in 2014.

(e) Percentage of HIV testing in the past 12 months among PWID respondents has gradually dropped as well. Respondents who felt at risk of infection had their blood tested for HIV.

(f) Condom use remained low. Frequency of unprotected sex was the highest with female sex worker (99.6%), followed by regular partner (98.4%) and spouse (90.8%).

The comparisons between 2009, 2012 and 2014 IBBS surveys illustrates the impact of HIV prevention efforts especially the Needle & Syringe Exchange Programme (NSEP) and MMT in reducing HIV transmission rate among the PWID in the country. Overall, it is encouraging to see the prevalence rate to have reduced between 2009, 2012 and 2014. This establishes the need for the NSEP and MMT to be continued to further reduce the HIV transmission rate among the PWID especially in highest prevalence states. Outreach work and health education/promotion on preventing HIV transmission need to be scaled up in areas involving safe sex education, regular HIV testing and MMT. More PWID must be encouraged to enrol in MMT to not only reduce the risk of infection but to also close the HIV treatment gap. The success of NSEP is not replicated in the uptake of MMT. Uptake of MMT among PWID is well below 40%. Knowing one's status is the first step in HIV prevention and subsequent antiretroviral treatment. Community-based testing will have added value to the HIV testing coverage and a National review on ART policy for this KP is crucial.

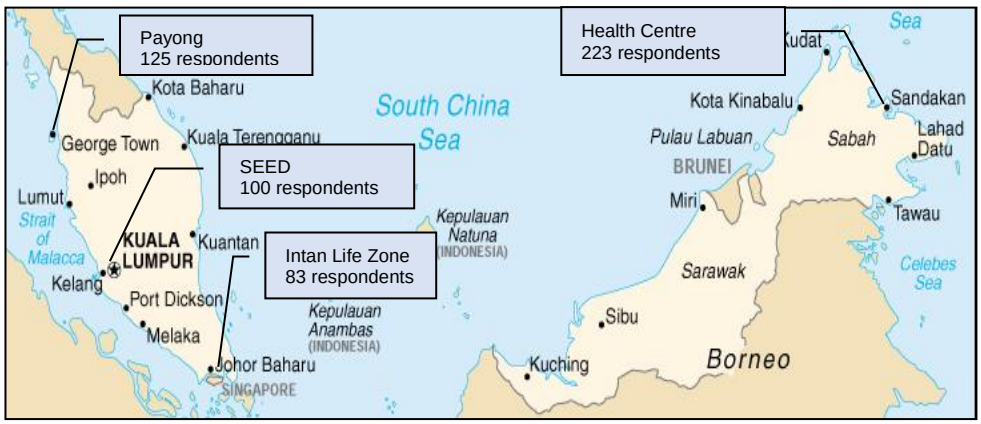
4. MEN WHO HAVE SEX WITH MEN (MSM)

This study was carried out at four (4) sites involving a total of 531 respondents (including seeds). Recruitments were initiated with 20 seeds (Table 19).

Table 19: Distribution of respondents and seeds by Region/State

Region	State	Site	No. Seed	No. wave	No. Respondents
West Malaysia:					
North	Penang	Payong	3	10	125
West	Kuala Lumpur	SEED	6	8	100
South	Johor	Intan Life Zone	4	6	83
East Malaysia	Sabah	Health Centre	7	12	223
TOTAL			**20**		**531**

Figure 4: Geographical distribution of study sites for MSM and respondents (n=531)



4.1 Socio-demographic characteristics

Socio-demographic characteristics for MSM respondents are summarised in

Table **20**. Majority of MSM aged less than 24 years with median age approximately 25 ± 10 (17 – 67) years, of which 44.8% were Malay, 35.8% and 8.3% were Sabahan and Chinese,

respectively. Approximately three-quarter of the respondents were Muslim (78.9%), while almost all of them were unmarried (89.8%). Majority (60%) have attained at least secondary school and were employed (70.6%) with median average income per month at RM 1,000 ± 1,803 (0 – 30,000).

Table 20: Socio-demographic characteristics of MSM respondents (n=531)

	N	%
Age		
≤ 24	254	47.8
25 – 29	106	20.0
30 – 39	88	16.6
40 – 49	47	8.9
≥ 50	36	6.8
Median age (years)		25 (17 – 67)
Ethnic		
Malay	238	44.8
Chinese	44	8.3
Indian	27	5.1
Sabah	190	35.8
Sarawak	23	4.3
Others	9	1.7
Education		
No formal education	8	1.5
Primary	45	8.5
Secondary	319	60.1
Tertiary	159	29.9
Faith		
Muslim	419	78.9
Christianity	56	10.5
Buddhism	30	5.6
Hinduism	11	2.1
Others	15	2.9
Marital status		
Unmarried	477	89.8
Married to a woman	26	4.9
Married to a man	4	0.8
Divorced	21	4.0
Widow	3	0.6
Employment status		
Employed	375	70.6
Unemployed	96	18.1
Student	60	11.3
Median income/month (RM)		1,000 (0 – 30,000)
Nature of job (n=381)		
Professional	68	17.8
Non-professional	163	42.8

Self-employed	75	19.7
Others	75	19.7

4.2 Sexual practices and condom use pattern

The sexual practice and pattern of condom use among MSM respondents showed that the median age of anal sex debut was reported at 17 ± 5 (8 – 61), while the median duration of risk (having sex with man or transgender) was 7 ± 9.4 (1 – 50) years (Table 21). Though majority consented to have sex for the first time, there were some 30% claimed they had been forced. Over three-quarter of the respondents (77.4%) had anal sex in the last 1 month with median number of different men for sex was 2 ± 3.97 (1 – 30). Approximately 39.4% admitted they ever had sex in exchange for money in the last 12 months, while the percentage of MSM respondents who bought sex was lower (19.8%) with a median number of condom used during anal sex of 70 ± 33.4 (1 – 100). More than half of the respondents (55.3%) reported they have permanent partners. Apart from having male sexual partners (75.0%), some 11.6% reported having female as sexual partners. As for condom use, majority reported have ever used condom (82.9%), while about 56.7% used condom during last anal sex. About 39.2% of MSM respondent had been given condom, while 83.2% of them usually used a lubricant prior to sex. Of those who used condom in the last 3 months, only 11.0% experienced condom breakage. Majority had chosen to buy condom from small shops/ retailers/ supermarket (46.9%), however approximately 43.9% never acquired condom.

Table 21: Sexual practices and condom use among MSM respondents (n=531)

	N	%
Sex debut		
Median age of anal sex debut (year)		17 (8 – 61)
Had been forced to have sex the first time	160	30.1
Duration of risk behavior (anal sex)		
Median duration of risk behavior (years)		7 (1 – 50)
Sexual activity in the last 1 month		
Had anal sex	410	77.4
Median number of different men for sex		2 (1 – 30)
Selling/buying sex in the past 12 months		
Ever being paid for sex with a man	209	39.4
Ever paid money to a man for sex	105	19.8
Sex with permanent partner		
Had a permanent partner	293	55.3
Gender of permanent partner		
Man	228	43.0
Woman	62	11.6
Transgender	14	2.6
Sex with female		
Ever have sex with a woman past 12 months	170	32.1
Currently had sex with a woman past 1 month	97	18.3

Had sex with female sex worker past 12 months	78	14.7
Used condom last time had sex with female sex worker past 12 months (n=78)	46	59.0

	N	%
Condom use pattern		
Have ever used condom while having sex	440	82.9
Had used condom during last anal sex	301	56.7
Had sex without condom in last 12 months	375	71.7
Have ever bought condom in the past 12 months	274	51.6
Had been given condom in past 12 months	208	39.2
Usually used a lubricant during anal sex	442	83.2
Experienced condom breakage in the past 3 months	48	9.1
Places where condoms were obtained		
Retail outlet	249	46.9
Pharmacy	48	8.7
Bar/ guest house/ hotel/club	2	0.4
Others	10	1.9
Never acquired condom	242	43.9

4.3 Pattern of HIV service utilisation

Table 22 illustrated exposure to HIV services among MSM respondents. About 28.6% of respondents reportedly have attended health talk in the last 12 months and majority attended health talk organised by health department (16.0%). Beside health talk, only 29.9% of them have ever attended health event discussing HIV transmission and prevention, while majority had never attended face-to-face discussion (72.7%) and group discussion (71.6%).

Only 19.6% of respondents had been contacted at least once by an NGO outreach worker, health care worker or friend in the last 3 months. Two (2) main issues discussed were about HIV transmission and prevention (15.0%) and proper use of condom (4.9%). Majority of MSM respondents (63.5%) claimed they did not received any HIV preventive kit, while 18.6% and 13.4% have received condoms only and received condom and information related to HIV/STI respectively. Two (2) main sources of HIV information among MSM respondents in the last 6 months came from the websites (49.7%) and friends (22.8%). As for STI service, only 10.9% had STI check-up, of whom only 34.1% of them had anal examination. Approximately 8.1% of the respondents have been diagnosed with STI in the last 12 months. Majority of MSM respondents experienced dysuria (16.4%), while 7.5% and 7.0% of them had penile ulcer and urethral discharge, respectively. Of those who experienced STI syndrome, 32% of them did not treat, while 27% sought treatment from government doctors and 19% self-treated / sought pharmacy advice.

About half of MSM respondents (54.6%) reported they had ever taken blood test; whilst 40.9% had it done in the last one year and informed of result. Majority (59.4%) of the respondents

had their blood tested because they felt at risk. However, only 19.8% shared their results with partner, friend or family. About 23.5% of respondents had their permanent partner tested for HIV.

Table 22: Services exposure and utilisation among MSM respondents (n=531)

	N	%
Health talk/event		
Have ever attended health talk past 12 months	152	28.6
Health talk organized by Health Department	85	16.0
Health talk organized by NGO/CBO	54	10.2
Health talk organized by Social Welfare Department	2	0.4
Health talk organized by other government department	11	2.1
Health talk organized by others	12	2.3
Have ever attended health event related to HIV & information	158	29.9
Participated in face-to-face discussion		
Never participated	386	72.7
In the past 3 months	50	9.4
In the past 4 months – 1 year	51	9.6
More than 1 year ago	44	8.3
Participated in group discussion		
Never participated	380	71.6
In the past 3 months	41	7.7
In the past 4 months – 1 year	46	8.7
More than 1 year ago	64	12.1
Contacted by NGO outreach worker/ healthcare worker / friend in last 3 months		
Yes	104	19.6
No	427	80.4
Issues discussed in the past 3 months (n=448)		
HIV prevention and control	67	15.0
Sexual activity / desire	8	1.8
Proper use of condom	22	4.9
Spiritual awareness	6	1.3
Others	22	4.9
(*multiple responses)		
Received HIV prevention package from NGO ORW		
Received condoms only	99	18.6
Received condoms and information related to HIV/STI	71	13.4
Received information related to HIV/STI only	24	4.5
Did not received condom or any information related to HIV/STI	337	63.5
STI service		
Attended STI checkup	58	10.9
Had anal examination as part of checkup	29	5.5
Had been diagnosed with STI in past 12 months	43	8.1
Sources of HIV information in the past 6 months		

Websites	264	49.7
Friends	121	22.8
School	11	2.1
NGO	22	4.1
	N	**%**
Doctor	55	10.4
Others	58	10.9
VCT services		
Ever had blood tested for HIV	290	54.6
Had HIV tested over a year ago	129	24.3
Had HIV tested and informed of result in the last 12 months	217	40.9
Shared result with permanent partner, friend or family	105	19.8
Wife	4	0.8
Sexual partner	35	6.6
Friend	67	12.6
Family members	11	2.1
Others	8	1.5
Permanent partner had HIV tested	125	23.5
Reason for HIV testing (n=293)		
To obtain certificate	13	4.4
To get married	13	4.4
To engage in monogamous relationship	2	0.7
Feeling at risk	174	59.4
Feeling sick	36	12.3
Requested / suggested by someone	31	10.6
Other reason	24	8.2

Figure 5: Distribution of STI symptoms as reported by respondents (n=531)

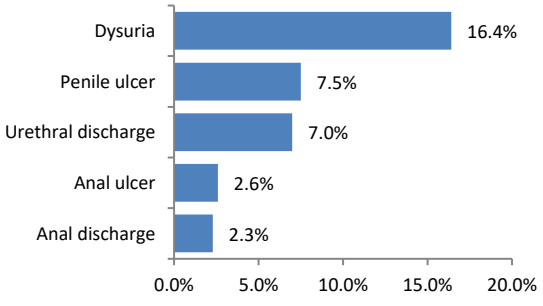
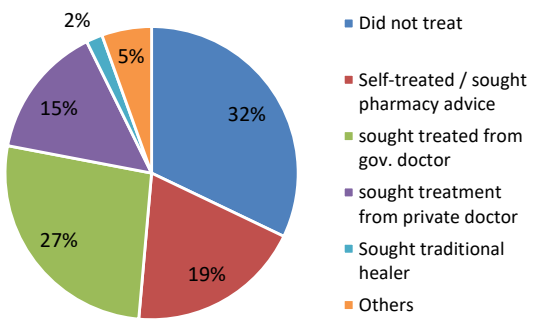


Figure 6: Action taken by respondents the last time they had STI (n=109)



4.4 Awareness on HIV, risk and prevention efforts

Table 23 depicted knowledge and risk perception by the MSM respondents. Majority (68.1%) admitted they felt at risk of being infected. Almost half of them (47.9%) obtained full score knowledge of HIV. However, we found that some respondents disbelieved that a healthy person can have HIV (18.1%). The findings from the individual questions on HIV knowledge revealed that several MSM respondents doubted that HIV can be reduced by using condom every time they have sex (10.4%) and by having one faithful uninfected partner (20.8%). Further exploration found that some respondents still embraced with misperception that HIV can be transmitted by sharing food with someone infected with HIV (19.2%) and through mosquito bites (25.4%).

Table 23: Knowledge of HIV, risk and prevention efforts among MSM respondents (n=531)

	N	(%)
Feel at risk of being infected with HIV	361	68.1
Knowledge of HIV (number with correct answer)		
1. A healthy-looking person can have HIV	435	81.9
2. A person can reduce HIV transmission by using condom every time having sex	476	89.6
3. A person can reduce risk of HIV by having one faithful, uninfected partner	426	80.2
4. A person can get HIV from mosquito bites	396	74.6
5. A person can get HIV by sharing food with someone who is infected with HIV	428	80.8
Score Knowledge of HIV		
5 score	254	47.9
4 score	120	22.6
3 score	103	19.4
2 score	47	8.9
1 score	5	0.9
0 score	1	0.2
(score 5=adequate knowledge, score 0-4=inadequate knowledge)		

4.5 Alcohol and psychoactive drug abuse

Table 24 demonstrated pattern of alcohol and psychoactive drug abuse among MSM respondents. This study revealed that almost half of the respondents (45.8%) had consumed alcohol prior to sex in the last 1 month. Two most common substance abused prior to having sex were syabu (19.0%) and heroin (8.1%). Similarly, about 24.3% reported that their sexual partners had also used substance prior to sex. About 8.1% of MSM respondents have ever injected drugs, 2.8% admitted still injecting and 7.4% of their sexual partners claimed they ever injected drugs. Cross-tabulation analyses showed that MSM respondents who had sexual intercourse without condom in the last 12 months were 2.5 times more likely had abused ecstasy during the same period ($p < 0.05$). Similarly, those who had unprotected

sexual intercourse were 1.9 times more likely had consumed alcoholic drinks before sex in the last 1 month ($p < 0.05$).

Table 24: Alcohol and substance use among MSM respondents (n=531)

	N	%
Consumed alcohol before having sex in the past 1 month	243	45.8
Have used syabu/ice before sex	101	19.0
Have used ecstasy before sex	42	7.9
Have used heroin before sex	43	8.1
Have use cocaine before sex	16	3.0
Sexual partners ever used drugs before having sex	129	24.3
Have ever injected drugs	43	8.1
Respondents still injecting drugs	15	2.8
Have ever shared needles/syringes past 12 months	15	2.8
Have sexual partners who ever injected drugs	39	7.4

4.6 HIV prevalence

Table 25 illustrated HIV prevalence of MSM respondents in Malaysia. In general, HIV prevalence among MSM respondents was 8.9% with highest HIV prevalence in Kuala Lumpur (22.0%) and Johor (15.7%) while other states were below 5%. Of those who found to be positive through HIV rapid screening, only 14.9% were currently on ARV treatment while 8.5% had defaulted treatment.

Table 25: HIV prevalence by states (n=531)

Region	State	N	Percentage (%)
North	Penang (n=125)	5	4.0
West	Kuala Lumpur (n=100)	22	22.0
South	Johor (n=83)	13	15.7
Borneo	Sabah (n=223)	7	3.1
	TOTAL	47	8.9

4.7 Discussion

Malaysia has embarked on regular behavioural and biological survey among key populations since 2009 and the survey is conducted every two years. Malacca and Sarawak were part of the sites where IBBS was conducted in 2012, yet these sites were replaced with Johor in 2014. Both surveys in 2012 and 2014 used RDS sampling method while survey in 2009 was venue-based sampled; hence the discussion will be based on 2012 and 2014 surveys. We noted that the sample size in 2014 has increased from 365 to 531 respondents with relatively same number of seeds but the wave number in 2014 had extended up to 12. Recall bias could also be encountered during the interview session, whereby several respondents might be having

difficulties to remember the exact response for questions regarding their past sexual behaviours and exposure. Duplication of samples may come across at study sites, yet precautions have been made by using communities to screen and determine the potential respondents who came to participate the survey.

4.7.1 Socio-demographic characteristics

Table **26** summarises the socio-demographic characteristics of the MSM respondents for the 2012 and 2014 surveys. It is noted that:

a) There was an obvious shift in the age structure with increasing proportion seen among MSM aged 40 and above and decreasing among younger MSM aged 25-39 years. However, there was alarming increase among young MSM aged 24 years and younger that could probably signify new MSM in the network.

b) Over two (2) years period, there has been an increasing trend of MSM among Malay, Indian and Sabahan while the percentage among Chinese MSM had dramatically decreased from 25.8% to 8.3% between 2012 and 2014.

c) Although majority remained unmarried including divorced or widowed (>90%), the recent 2014 survey revealed a noticeable increasing trend of MSM married to a woman (from 3.6% to 4.9%). There are few possibilities to offer this phenomenon – an act to conceal their sexual orientation as homosexuality is considered derogatory act[5], some may be pressured into marrying a woman by parents, some chose to marry a woman to honour their family or in effort to become straight. However, these reasons were not explored in both surveys. A considerable divorce rate of 4% suggests that many of MSM who have married were unhappy supporting speculation that many MSM might have married unwillingly under social or familial pressure.

d) The questions on source of income were different for both surveys thus we can only compare the unemployment trend. There was an increase in the unemployment rate in recent 2014 survey (18.1%) compared to 2012 (5.2%). This finding could just be a general fluctuation of unemployment rates in Malaysia.

Table 26: Socio-demographic characteristics of MSM respondents for the 2012 and 2014 surveys.

	2012 (%)	**2014 (%)**

[5] J.T.F Lau, M. Wang, H.N. Wong et al. Prevalence of Bisexual Behaviors Among Men Who Have Sex with Men (MSM) in China and Associations Between Condom Use in MSM and Heterosexual Behaviors. Sexually Transmitted Diseases. April 2008, Vol. 35 (4):406-413.

Age (years)		
≤ 24	38.6	47.8
25 – 29	29.6	20.0
30 – 39	23.3	16.6
40 – 49	5.5	8.9
≥ 50	3.0	6.8
Median age (years)	26 (18-67)	25 (17-67)

	2012 (%)	2014 (%)
Ethnic		
Malay	43.3	44.8
Chinese	25.8	8.3
Indian	2.7	5.1
Sabah	18.6	35.8
Sarawak	6.3	4.3
Others	3.3	1.3
Education		
No schooling	-	1.5
Primary	3.3	8.5
Secondary	53.7	60.1
Tertiary	43.0	29.9
Marital status		
Not married	92.8	89.8
Married to woman	3.6	4.9
Married to man	-	0.8
Divorced	-	4.0
Widow	-	0.6
Source of Income		
Professional	-	12.6
Non-professional	-	30.2
Self-employed	-	13.9
Job with salary	64.6	-
Independent worker (odd jobs)	12.2	-
Salon / beauty parlor / hairdresser	3.6	-
Student	14.1	11.3
Other job	0.3	13.9
Unemployed	5.2	18.1

4.7.2 Sexual practices and substance abuse

As some of the questions in 2012 differ from that of 2014, some of the comparison cannot be made while some are made based on assumptions and recalculation using existing data. The trend of sexual practices and substance abuse pattern can be summarised as below (Table 27 and Table 28).

a) In IBBS 2014, median age of anal sex debut was reported at 17 years old. In IBBS 2012, the median age of sex debut (19 years) did not specify type of sex but nonetheless, back calculation from median current age (26 years) and duration of risk

behaviour (7 years) in 2012 resulted in age of anal sex debut at around 19 years. From these findings, it seemed that the age of anal sex debut is getting younger, hence increasing likelihood of unprotected sex.

b) The duration of risk behaviour among MSM in both surveys has remained the same at around 7 years.

c) Findings from 2014 survey showed an increased prevalence of MSM selling and buying sex i.e. 39.4% and 19.8% respectively compared to 2012 survey i.e. 19.5% and 10.7% respectively. These findings are very much higher compared to a study across East and South-East Asia in 2010 that reported 6.1% and 17.1% respectively[6].Considering both time frame (6 and 12 months) would give same effect of recall bias, we can concur that these activities has been doubled in the last 2 years.

d) About half of MSM respondents had a permanent partner with a slight increase in recent 2014 survey (55.3%). Proportion who had man permanent partner remained stable at around 42-43% between 2012 and 2014, however the prevalence of respondents who had female permanent partner has more than doubled from 5% to 12% in two years' time signifying an increase of bisexual orientation. An online study involving MSM in East and South-Est Asia reported higher (16.4%) bisexual/heterosexual orientation[6]. Increasing prevalence of MSM who had sex with female (from 28% to 32%) and female sex worker is alarming. Social pressure may partially explain the observed increasing prevalence of bisexual behaviours apart from a means of concealing one's MSM status.

e) In general condom use pattern among MSM has declined markedly in the last 2 years. Condom use during last anal sex has dropped by 23% between 2012 (74%) and 2014 (57%). In the same period, persistent (100%) condom use has dropped even lower from 50% to 28% between 2012 and 2014.

f) The unprotected sex behaviour could possibly relate with the increasing trend of alcohol consumption (from 32% to 39%) and illicit drug use i.e. cocaine (from 2% to 4%) and syabu (19.3%-19.7%) prior to sex in the last 2 years (table 28). Alcohol use before sex was also reported at average of 37.6% in a study across Asia[6].The percentage of sexual partners using drugs prior to sex has also doubled from 16% to 29% between 2012 and 2014. Both surveys did not explore the reason for substance use prior to sex but there is evidence that alcohol use reduced the probability of condom use, noting that alcohol use fundamentally reduced inhibitions, impairing an assessment of risks and, ultimately, condom use[7,8]. Some also beliefs that illicit drugs

[6] C. Wei, S.H. Lim, T.E. Guadamuz et al. Virtual versus physical spaces: Which facilitates greater HIV risk taking among men who have sex with men in East and South-East Asia? AIDS Behav 2013 (published online). DOI 10.1007/s10461-013-0628-4.

[7] L. Sabin, J. Beard, T. Agyarko-Poku et al. Exploring the beliefs, attitudes and behaviors of MSM engaged in substance use and transactional sex in Ghana. http://www.bu.edu/cghd/files/2013/04/MSM-1-report-March-28-FINAL.pdf

[8] S. Ramanathan, V. Chakrapani, L. Ramakrishnan et al. Consistent condom use with regular, paying and casual male partners and associated factors among men who have sex with men in Tamil Nadu, India: findings from an

had sex more enjoyable as it gave them more energy, sexual drive, and stamina. The increasing use of club drug e.g. syabu is worrisome because the fact that they are commonly used in conjunction with sexual risk taking and proxy indicator of high-risk sexual behaviors[9].

Table 27: Comparison of sexual practices among MSM in 2012 and 2014 IBBS

	2012 (%)	**2014 (%)**
Median age of anal sex debut (year)	-	17 (8-61)
Median duration of risk behavior (years)	7 (1-52)	7 (1-50)
Ever being paid for sex with a man in the last 12 mo.	19.5[a]	39.4
Ever paid money to a man for sex in the last 12 mo.	10.7[a]	19.8
Had a permanent partner	51.5	55.3
Had man permanent partner	42.2	43.0
Had female permanent partner	4.9	11.6
Had transgender permanent partner	3.8	2.6
Had used condom during last anal sex	74.0[b]	56.7
Had always used condom during anal sex in last 12 mo.	50.1[c]	28.3[d]
Had sex with woman in the last 12 mo.	28.0[e]	32.1
Had sex with female sex worker in the last 12 mo.	-	14.7

[a]*The time frame used in IBBS 2012 was 'during the last 6 months'*
[b]*This data was recalculated from IBBS 2012 data as 'had used condom during last anal sex regardless of type of partner'*
[c]*Percentage is derived from average of 'always use condom' with paid sex, bought sex and consensual sex'*
[d]*Percentage is derived by subtracting 'Percentage who had sex without condom in the past 12 mo.' from 100%*
[e]*the data refer to 'ever had sex with a woman'*

Table 28: Comparison of substance abuse among MSM in 2012 and 2014 IBBS

	2012 (%)	**2014 (%)**
Consumed alcohol before sex in the past month	31.8	38.7
Have used syabu/ice before sex	19.7	19.3
Have used heroin before sex	1.6	1.5
Have used ecstasy before sex	7.4	5.8
Have use cocaine before sex	1.6	4.3
Sexual partners ever used drugs before having sex	15.9	29.1
Have ever injected drugs	3.6	2.8
Respondent still injecting drugs	-	1.0
Have sexual partners who used injected drugs	3.9	7.6

assessment of a large-scale HIV prevention program. BMC Public Health 2013, 13:827. http://www.biomedcentral.com/1471-2458/13/827

[9] Carey, JW, Mejia R, Bingham T, Ciesielski C et al. Drug use, high risk sex behaviors, and increase risk for recent HIV infection among men who have sex with men in Chicago and Los Angeles. AIDS Behavior. 2009 Dec; (13):1084-1096.

4.7.3 Pattern of HIV service utilisation

The comparison of HIV service utilisation is summarised below.

a) The percentages of MSM respondents have ever attended health talk in the last 12 months remain unchanged in the last 2 years (Table 29) while lesser participation is observed in face-to-face and group discussion. The proportion of MSM respondents being contacted by NGO outreach worker / healthcare worker / friend in the last 3 months had also declined between 2012 (22%) and 2014 (20%). In line with the development of information and communication technologies (ICT), more and more people are choosing ICT over conventional sources of information. Websites, social media and mobile apps are some of the ICTs which are changing the way MSM connect with each other.

b) Access to free condoms has markedly reduced between 2012 (53%) and 2014 (32%). Inversely, access to STI check-up has slightly increased between 2012 (9%) and 2014 (11%). These findings reflect low health seeking behaviour among MSM. Just above one third (34-38%) had anal examination as part of STI check-up signalling low level of awareness among health care provider on possibility of anal STI, hence missed diagnosis and treatment. Due to perceived stigma and discrimination by health care provider, many MSM distant themselves from seeking health[10].

c) In general, there has been a decline in proportion of MSM taking HIV test and know the result in the last 12 months from 47% (2012) to 41% (2014). Similar finding was also reported in an online study across Asia[6]. Lesser percentage of MSM disclosed HIV result to permanent partner in recent survey (20%) compared to 22% in 2012; hence lesser percentage of permanent partner took HIV test in 2014 (23%) compared to 2012 (29%). Majority of MSM respondents in both surveys resorted to HIV test because they felt at risk (58%-59%).

Table 29: Pattern of HIV service utilisation among MSM respondents in 2012 and 2014 surveys.

	2012 (%)	**2014 (%)**
Have ever attended health talk past 12 mo.	29.0	28.6
Have ever participated in face-to-face discussion past 12 mo.	23.5	19.0
Have ever participated in group discussion past 12 mo.	24.9	16.4
Have been contacted by NGO outreach/healthcare worker/friend last 3 mo.	22.2	19.6
Have accessed free condoms from NGO/drop-in center	52.9	32.0
Had STI checkup	9.3	10.9
Had anal examination as part of checkup	38.2	34.1
Had HIV tested and informed of result in the last 12 months	47.1	40.9
Shared result with permanent partner, friend or family	21.6	19.8
Permanent partner had HIV tested	29.0	23.5

[10] H. Fay, SD. Baral, G. Trapence et al. Stigma, Health Care Access and HIV Knowledge Among Men Who Have Sex With Men in Malawi, Namibia and Botswana. AIDS and Behavior, August 2011. Vol. 15 (6):1088-1097.

	2012 (%)	2014 (%)
Reason for HIV testing		
To obtain certificate	7.6	4.4
To marry / engage in monogamous relationship	3.1	-
To get married	-	4.4
To engage in monogamous relationship	-	0.7
Feeling at risk	57.6	59.4
Feeling sick	5.8	12.3
Requested / suggested by someone	7.6	10.6
Other reason	18.3	8.2

4.7.4 Awareness on HIV, risk and prevention efforts

Table 30 shows a comparison of data from 2012 and 2014 surveys on knowledge of HIV. Overall percentage of MSM with adequate score had increased slightly over the last 2 years. The understanding on the use of condom and having one faithful and uninfected partner in HIV prevention have not changed over the last 2 years, but misconception on mosquito bite could transmit HIV and healthy-looking person cannot have HIV surprisingly has increased in the recent survey.

Table 30: Comparison of HIV knowledge between IBBS 2012 and IBBS 2014.

	2012 (%) (N=365)	2014 (%) (N=531)
Adequate score on HIV knowledge (score 5 – all correct)	44.5	47.9
A person can reduce HIV transmission by using a condom	89.9	89.6
A person can reduce risk of HIV by having one faithful, uninfected partner	79.2	80.2
A person can become infected with HIV through mosquito bites	78.1	74.6
A person can become infected with HIV by sharing meal with someone infected with HIV	74.5	80.8
A healthy-looking person can have HIV	88.2	81.9

Calculation based on correct answer.

4.7.5 HIV prevalence

The HIV prevalence of IBBS respondents in 2014 was 8.9%, which noticeably higher than in 2012 (7.1%) as demonstrated in Table 31. Prevalence of HIV seemed concentrated in Kuala Lumpur and Johor, the most urbanised states in Malaysia. Inversely, Penang which also one of the urbanised state has seen a decline in HIV prevalence from 13.7% to 4%

between 2012 and 2014. Despite free ART provided in government health facilities, only 14.9% of MSM living with HIV were currently receiving ART while some 8.5% had defaulted treatment in 2014.

Table 31: Comparison of HIV prevalence among MSM between IBBS 2012 and IBBS 2014.

HIV Prevalence by State	2012 (%) [n=365]	2014 (%) [n=531]
Penang	13.7	4.0
Kuala Lumpur	10.2	22.0
Johor	-	15.7
Malacca	6.0	-
Sabah	1.3	3.1
Sarawak	2.0	-
Total	**7.1**	**8.9**

4.8 Conclusion and recommendation

Based from the findings in IBBS 2014 and 2012, it can be concluded that:

(a) The HIV prevalence among MSM has increased from 7.1% (2012) to 8.9% (2014) highest in big city like Kuala Lumpur (22%) and Johor (15.7%). Increasing prevalence of unprotected sex and substance abuse especially alcohol and syabu prior to sex substantiate this finding.

(b) There is a huge treatment gap among MSM and HIV test as a mean to know one's HIV status before treatment could be initiated is declining.

(c) Increasing proportion of young MSM aged 24 and younger is worrisome. Often, the younger MSM is associated with inconsistent condom use that put them at risk of infection.

(d) Majority of MSM are unmarried but the increasing prevalence of bisexual behaviour in the past 2 years is alarming. The bridging effects of the risk for HIV transmission from the MSM population to the female population are evident.

(e) HIV testing practices is still low among MSM.

Recommendation:

Breaking the stigma barrier within the health care providers and key populations (internal stigma) can accelerate testing and treatment coverage and ability to adhere to treatment among this sub-population. HIV prevention efforts need scaling up and repeatedly promoting a safer and protected sexual activity to reduce the prevalence of HIV. HIV will not decrease until we observe wide-scale behaviour change among these groups. Enforcement on sexual education is also critical to boost up awareness in society especially younger generations as sex exposure occurred at a younger age. The use of alcohol and drugs before sexual activity should be monitored as uncontrolled usage of

these substances could lead to higher frequency of unprotected sex, hence a higher HIV prevalence. Vigorous effort needed to address escalated HIV prevalence among this KP; among which is improving HIV testing by adopting community-based test. Effective HIV education program for young population for example ‘PROSTAR’ – Healthy Youth without AIDS Program, needed a review and reactivated to address younger MSM. Assuring those who are living with HIV to get treated with ART as soon as possible must be addressed.

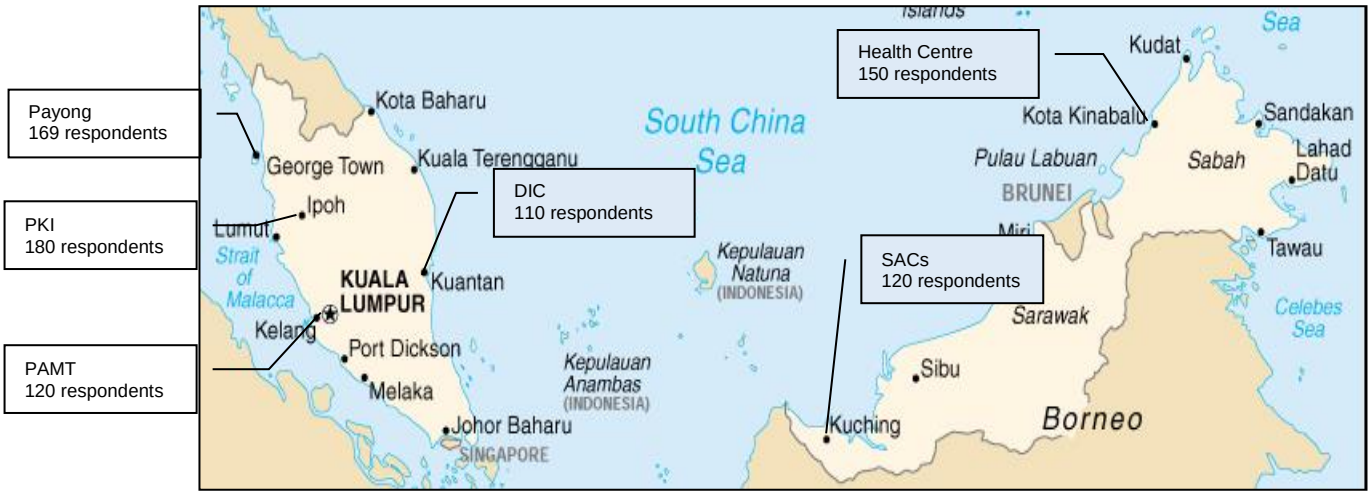
5. FEMALE SEX WORKER (FSW)

There were six (6) study sites involved in IBBS 2014 and a total of 849 respondents (including 17 seeds) were recruited (Table 32).

Table 32: Distribution of respondents and seeds by Region/State

Region	State	Site	No. Seed	No. wave	No. Respondents
West Malaysia:					
North	Penang	Payong	3	11	169
	Perak	PKI	3	6	180
West	Kuala Lumpur	PAMT	1	7	120
East	Pahang	DIC	4	11	110
East Malaysia:	Sabah	Health Centre	5	4	150
	Sarawak	SACs	1	9	120
TOTAL			**17**		**849**

Figure 6: Geographical distribution of study sites for FSW respondents (n=849)



5.1 Socio-demographic characteristics

Socio-demographic characteristics for FSW respondents are summarised in Table 33. Majority (47.3%) of FSW aged between 30 to 49 years with median age approximately 34 ± 12.5 (18-75) years, were Malays (37.2%), Muslim (50.6%), unmarried (37.5%) and had attained at least secondary school (47.5%). Majority (68.6%) work as full-time sex worker in hotel or motel (34%) and about half (50.5%) have children to care for. This study found that those who opted as full time FSW were mostly unmarried (36.3%) and divorced (35.5%) women.

Table 33: Socio-demographic characteristics of FSW respondents (n=849)

	N	%
Age		
≤ 24	192	22.6
25 – 29	116	13.7
30 – 39	223	26.3
40 – 49	178	21.0
≥ 50	140	16.5
Median age (years)		34 (18 – 75)
Ethnic		
Malay	316	37.2
Chinese	116	13.7
Indian	122	14.4
Sabah	140	16.5
Sarawak	129	15.2
Orang Asli	5	0.6
Others	21	2.5
Education		
No school	146	17.2
Primary	262	30.9
Secondary	403	47.5
Tertiary	38	4.5
Faith		
Muslim	430	50.6
Christianity	143	16.8
Hinduism	105	12.4
Buddhism	104	12.2
Others	67	8.0
Marital status		
Unmarried	318	37.5
Married	156	18.4
Divorced	281	33.1
Widow	94	11.0

	N	%
Places of contact clients		
Brothel	130	16.3
Street	168	21.1
Home	43	5.4
Hotel/motel	271	34.0
Massage parlor	16	2.0
Karaoke bar	43	5.4
Bar/discotheque	48	6.0
Through phone/SMS/social network	62	7.8
Others	17	2.1
Source of income		
Full time sex work	581	68.6
Unmarried	211	36.3
Married	99	17.0
Divorced	206	35.5
Widow	65	11.2
Part time sex work	266	31.4
Mean of average income/month (RM)		1,460 ± 1,343
Mean of period intent to work as sex worker (year)		4 ± 6.1
Number of children		
No child	420	49.5
1 – 4	392	46.2
5 – 9	36	4.2
>10	1	0.1

5.2 Sexual history and partners

The survey revealed that FSW had exposed to sex as early as 7 years old with mean age of sex debut of 18.4 years old (Table 34). More than one-third of the respondents (36.4%) were forced to have sex the first time. Two (2) most common first sexual partners were boyfriend (40.0%) and husband (37.0%). Majority of FSW respondents (86.2%) had worked as FSW for more than a year, with median duration of sex work of about 7.0 ± 10 (0.5 – 49.0) years. Majority of them (88.0%) had 14 clients or less in a week, with median number of clients served per week was 5 ± 7 (0 – 70). Most FSW worked throughout median of 12 ± 4 (0.5-12) months in a year and median 5 ± 2 (0 - 7) days a week.

Table 34. Sexual history and sexual practices among FSW respondents (n=849)

	N	%
Mean age of sex debut		18.4 ± 4.4 years
Mean age of first sex in exchange for money		25.8 ± 8.5 years
Had been forced to have sex the first time	309	36.4
Husband as first sex partner	313	37.0
Boyfriend as first sex partner	338	40.0
Sibling/family as first sex partner	40	4.7
Friend/acquaintance as first sex partner	94	11.1
Stranger as first sex partner	61	7.2
Duration of sex work:		
≤ 1 year	116	13.8
> 1 year	724	86.2
Median duration of sex work (years)		7.0 (0.5 – 49.0)
Client volume:		
≤ 14 clients/week	747	88.0
> 14 clients/week	102	12.0
Median number of clients in past 1 week		5 (0 - 70)
Frequency of day work as sex worker in 1 week		
1-2 days/week	120	14.3
3-4 days/week	221	26.3
5-7 days/week	498	59.4
Median number of days work as FSW in a week (day)		5 (0 - 7)
Frequency of month work as sex worker in 1 year		
1-3 months/year	92	11.0
4-6 months/year	102	12.2
7-9 months/year	109	13.1
10-12 months/year	532	63.7
Median number of months per year worked as FSW (month)		12 (0.5-12)

5.3 Condom availability and pattern of condom use

Almost all respondents (94.2%) have ever used condom during sex, while about 62.0% have ever bought condom in last 12 months (Table 35). Slightly over half (60.5%) of respondents have been given condoms by NGO, outreach worker (ORW) or clinic in last 12 months. While most did not provide condom (49.3%), there were several establishments provided condom to FSW for free (14.5%) and at a cost (36.2%). Two (2) most visited place to obtain condom were retail outlet (7-eleven/ small shops /supermarket / gas station) (41.4%) and pharmacy (20.3%). More than half were using lubricant during anal sex.

The highest percentage of condom use during last sex was with client (84.5%), followed by boyfriend (66.0%) and condom use with husband is the lowest (16.0%). Only about 33.4% and 21.6% of respondents claimed that they always proposed condom to their boyfriend and husband respectively. Three most common reasons to use condom during sex were for protection from sexual diseases (75.1%), pregnancy prevention (42.2%), and proposed by

clients (14.6%). While most common reason for unprotected sex with recent client was reported as client refusal (42.7%).

Table 35. Condom availability and condom use among FSW respondents (n=849)

	N	%
Condom availability		
Have ever used condom during sex	800	94.2
Have ever bought condom in last 12 months	525	62.0
Have been given condoms by NGO/ORW/clinic past 12 months	514	60.5
Broken a condom during sex past 3 months	148	17.4
Usually use a lubricant during anal sex	466	54.9
Condom provided by management at establishment:		
Provided for free	123	14.5
Provided at a cost	307	36.2
Not provided	418	49.3
Places condom were obtained:		
Retail outlets (7-eleven/Small shops/supermarket/gas station)	351	41.4
Pharmacy	172	20.3
Bar/ guest house/ hotel/club	135	15.9
Others	46	5.4
Condom use behavior		
Ever had unprotected sex in the last 12 months	334	39.4
Condom used with most recent client	717	84.5
Condom used the last time had sex with boyfriend	210	29.6
Had proposed condom during last sex with boyfriend	238	33.4
Condom used the last time had sex with husband (n=175)	28	16.0
Had proposed condom during last sex with husband (n=175)	38	21.6
Reason for using condom with most recent client (n=697):		
Protection from sexual diseases	523	75.1
Pregnancy prevention	294	42.2
Client proposed	102	14.6
Requested by manager/pimp	11	1.6
Other reason	16	2.3
Reason for not using condom with most recent client (n=96):		
Client refused	41	42.7
Condom not available	15	15.6
Don’t know/remember	15	15.6
Perceived as ‘clean’ / taken medication	11	11.5
Other reason	5	5.2

5.4 Intervention coverage

Over one third of the respondents have ever attended health events discussing HIV transmission and prevention (34.6%), while lower percentage had attended health talk in the last year (31.1%) as illustrated in Table 36. Most of the health talk attended by the respondents were organised by NGO/CBO (21.0%). More than half of the respondents never participated in face-to-face discussion (60.2%) or group discussion (66.2%) in the last 3 months. About

half of the respondents (49.1%) were contacted by NGO outreach worker/healthcare worker in the last 3 months, of which majority had discussed on HIV transmission and prevention (66.3%) and proper use of condom (67.5%).

On STI services, only 6.5% of the respondents have been diagnosed with STI in last 12 months. There were 12.8% of FSW respondents had visited STI clinic in last 3 months, of which about half (49.1%) had anal examination check-up. The most common STIs symptoms experienced among FSW respondents in the last 12 months were vaginal discharge (7.0%) and genital ulcer (5.2%) (Figure 7). Of those respondents who last time had STIs, more than two thirds had sought treatment from doctor (67%) (Figure 8). As for VCT, a little above three quarter (75.5%) know where to get HIV test. More than one third (38.3%) had HIV test done in the past 12 months whilst only 22% disclosed their result to permanent partner, friend or family member.

Table 36: Services utilisation among FSW respondents (n=849)

	N	%
Health talk		
Have ever attended health events about HIV transmission/prevention	293	34.6
Have ever attended health talk in the past year	258	31.1
Health talk organized by NGO / CBO	178	21.0
Health talk organized by Health Department	78	9.2
Health talk organized by other government departments	10	1.2
Health talk organized by others	31	3.6
Last participated in face-to-face discussion		
Never participated in the past 3 months	510	60.2
In the past 3 months	124	14.6
In the past 4 months – 1 year	98	11.6
More than 1 year ago	115	13.6
Last participated in group discussion		
Never participated in the past 3 months	561	66.2
In the past 3 months	81	9.6
In the past 4 months – 1 year	87	10.3
More than 1 year ago	118	13.9
Issues discussed in the past 3 months		
Contacted by NGO ORW/HCW	416	49.1
HIV transmission and prevention (n=416)	292	66.3
Proper use of condom (n=416)	281	67.5
Spiritual awareness (n=416)	26	6.3
Sexual activity and pleasure (n=416)	21	5.0
Other issues (n=416)	55	13.2
(multiple response)		
STI services		
Had visited STI clinic in past 3 months	108	12.8
Had anal examination as part of checkup (n=108)	53	49.1
Have been diagnosed with STI in past 12 months	55	6.5

	N	%
VCT services		
Know where to get HIV test	641	75.5
Had ever been tested for HIV	527	62.2
Had been tested for HIV in the past 12 months	325	38.3
Had been tested for HIV over 12 months ago	205	24.1
Shared result with permanent partner, friend or family member	187	22.0
Reason for last HIV test		
To check because I felt at risk	324	61.0
To obtain certificate (job, migration etc.)	28	5.3
To get married	20	3.8
To engage in monogamous relationship	2	0.4
Because I felt sick	41	7.7
Because someone else requested / suggested it	51	9.6
Other reason	65	12.2
Permanent partner had HIV tested	191	22.5
Had HIV tested and informed of result in the past year	419	49.4

Figure 7: Distribution of STI symptoms as reported by respondents in the last 12 months (n=849)

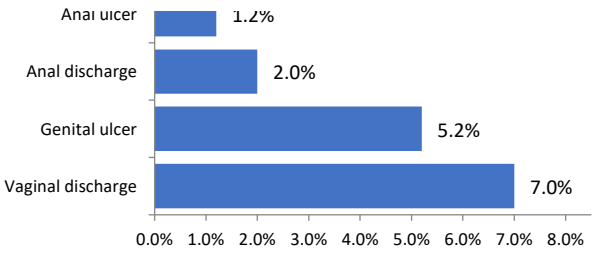
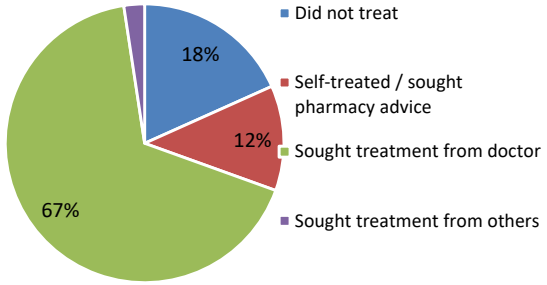


Figure 8: Action taken by respondents the last time they had STI (n=82)



5.5 Pattern of HIV services utilisation

Table 37 depicted the pattern of HIV services utilisation among respondents. About 57.4% had at least received condoms in the past 12 months while only 30% had received complete preventive package that consist of condoms and information on HIV/STI. Of those who were HIV positive, only 3.2% were currently receiving ARV treatment and one (1.6%) had defaulted.

Table 37: Pattern of HIV services utilisation (n=849)

	N	%
HIV Preventive kits		
Received condoms only	233	27.4
Received condoms and information related to HIV/STI	255	30.0
Received information related to HIV/STI	19	2.2
Did not received condoms or information related to HIV/STI	342	40.3
Antiretroviral treatment (ART)		
Currently receiving ART	2	3.2

5.6 Awareness on HIV, risk and prevention efforts

Table 38 summarised knowledge and risk perception among FSW respondents. About three-quarter of them (73.7%) felt at risk of being HIV-infected. Only 39.2% of the respondents have adequate knowledge on HIV. In addition, there were still some misunderstandings about HIV transmission especially of that related to having one faithful uninfected partner cannot reduce HIV risk, infection can occur through mosquito bite and looking healthy means no HIV.

Table 38. Knowledge of HIV, risk and prevention efforts among FSW respondents (n=849)

	N	%
Felt at risk of being infected with HIV	622	73.7
Knowledge of HIV		
1. A person can reduce HIV transmission by using condom	730	86.3
2. A person can reduce risk of HIV by having one faithful, uninfected partner	660	78.1
3. A person can become infected through mosquito bites	630	74.5
4. A person can get HIV by sharing meal with someone who is infected with HIV	696	82.3
5. A healthy-looking person can have HIV	588	69.6
*(*number with correct answer)*		
Total with adequate knowledge (score 5)	331	39.2
Median score knowledge		4.0 (0 – 5)

Alcohol and substance abuse in

Table 39 demonstrated the consumption of alcohol and psychoactive drug use among FSW respondents. About 46.2% admitted consumption of alcohol prior to sex in the last 1 month. Some of the respondent also reportedly used psychoactive drugs before sex with syabu/ice (26.1%) being the most commonly used drug and about one third (34.2%) of their sexual partners were also using drugs before sex. Although only a small percentage of 2.1% were currently injecting drugs, but most of them (89%) had shared used injecting paraphernalia.

Table 39: Alcohol and substance use among FSW respondents (n=849)

	N	%
Ever consumed alcohol before having sex in past 1 month	391	46.2
Used syabu/ice before sex in the last 12 mo.	221	26.1
Used ecstasy before sex in the last 12 mo.	74	8.7
Used heroin before sex in the last 12 mo.	51	6.0
Used cocaine before sex in the last 12 mo.	17	2.0
Sexual partners ever used drugs before having sex	289	34.2
Have ever injected drugs	61	7.2
Respondents still injecting drugs	18	2.1
Shared used needles and/or syringes in last 12 mo. (n=18)	16	88.9
Have sexual partners who injected drugs	119	15.8

5.7 HIV prevalence and its attributes

Overall HIV prevalence among FSW in Malaysia was 7.3% - highest in West and East Region of West Malaysia (Kuala Lumpur 15.0% and Pahang 14.5%). Further analysis on HIV attributes revealed that respondents who injected drugs were 2.4 times at higher risk of having HIV infection (Table 41). It was also noted that FSW who had unprotected sex in the last 12 months were 1.8 times at higher risk of having HIV infection. Respondents with STI diagnosed in the last 12 months were 3.6 times at higher risk of having HIV.

Table 40: HIV prevalence by states (n=849)

Region	State	N	%
West Malaysia:			
North	Penang (n=169)	9	5.3
	Perak (n=180)	1	0.6
	Average (North)		***2.95***
West	Kuala Lumpur (n=120)	18	***15.0***
East	Pahang (n=110)	16	***14.5***
East Malaysia:	Sabah	10	6.7
	Sarawak	8	6.7
	Average (East Malaysia)		***6.7***
	TOTAL		**849**

Table 41: Attributes of HIV among FSW (n=62)

Attributes	N	%	OR (95%CI)
Ever injected drugs	9	14.8	**2.4 (1.1 – 5.1)**
Ever used narcotics in the last 12 mo.	26	9.1	1.5 (0.9 – 2.5)
Consumed alcohol before sex the last 1 month	25	6.4	0.8 (0.5 – 1.3)
Had unprotected sex last 12 months	33	9.9	**1.8 (1.1 – 3.1)**
Diagnosed with STI last 12 months	11	20.0	**3.6 (1.8 – 7.4)**

5.8 Discussion

Since 2009, three cycles of IBBS surveys among FSW were completed - 2009, 2012 and 2014, all using RDS method. The IBBS 2009 was limited in only three sites - all in the Klang Valley (Selangor and Kuala Lumpur) with 551 respondents recruited. Survey sites were expanded in 2012 involving wider coverage in eight sites/states (Penang, Selangor, Perak, Melaka, Kelantan, Pahang, Sabah and Sarawak) with total respondent of 864. In current survey, few states (Melaka, Selangor and Kelantan) were dropped and replaced with Kuala Lumpur due to logistic issues but the number of respondents (849) are comparable to that in 2012 survey. While IBBS 2012 had 34 seeds with recruitments mostly reached 6 waves, the 2014 survey fare better with less seeds (16 seeds) and mostly reached 9 waves. For purpose of discussion, comparisons are made between 2012 and 2014 survey as both are more comparable in terms of coverage of states/sites.

5.9.1 Socio-demographic characteristics

The comparison between IBBS 2012 and 2014 is summarised in Table 42. We found that the age profile of the FSW has not changed much over 2 years but there has been a slight increase in the prevalence of FSW below 25 years indicating an increase in the young FSW. While majority of FSW remains with the Malay, the prevalence among Chinese, Indians and Sarawakians have shown an increase in 2014. The level of education in general has fallen slightly in the past 2 years but surprisingly, the prevalence with tertiary education has markedly raised from 0.5% to 4.5% between 2012 and 2014 signalling the possibility of students partaking sex work during college life to fund their studies or lifestyle[11] and continued post university to make ends meet or to pay their debts or simply as a better paid option[12]. In terms of marital status, the recent survey found a marked increase of FSW among divorced. Similarly, there has been an increasing trend of full time sex worker among divorced in the last two years. Many women were turning to becoming

[11] Students turn to sex work to make ends meet at university, study finds. The Guardian. https://www.theguardian.com/education/2015/mar/27/university-students-sex-work-living-costs-tuition-fee-debts

[12] Why we've turned to prostitution': British university students reveal why they have resorted to selling their bodies. Mirror news. http://www.mirror.co.uk/news/uk-news/why-weve-turned-prostitution-british-5525504

full time sex worker as easiest source of income, but some were desperate after they get divorced or husband died[13].

Table 42: Socio-demographic characteristics of FSW respondents in 2012 and 2014 surveys.

	2012 (%), N=864	2014 (%), N=849
Age		
≤ 24	21.1	22.6
25 – 29	14.8	13.7
30 – 39	24.9	26.3
40 – 49	23.8	21.0
≥ 50	15.4	16.5
Ethnic		
Malay	37.6	37.2
Chinese	10.2	13.7
Indian	12.0	14.4
Sabah	20.1	16.5
Sarawak	13.0	15.2
Others	7.1	2.5
Education		
No schooling	15.3	17.2
Primary	33.9	30.9
Secondary	50.3	47.5
Tertiary	0.5	4.5
Marital status		
Unmarried	46.9	37.5
Married	53.1	18.4
Divorced	0	33.1
Widowed	-	11.0
Source of Income		
Full time sex work	55.8	68.6
Unmarried	50.0	36.3
Married	50.0	17.0
Divorced	0	35.5
Widow	-	11.2
Part time sex work	41.3	31.4
Place of contact clients		
Hotel/motel	26.5	34.0
Street	14.3	21.1
Brothel	11.9	16.3
Through phone/SMS/social network	13.8	7.8
Bar/discotheque	8.4	6.0
Karaoke bar	10.4	5.4
Massage parlor	4.0	2.0
Home	-	5.4
Others	5.5	2.1

[13] Where Women Have No Doctor. Chapter 20: Sex Workers. Why women become sex workers. Page 342.

Faith		
Muslim	60.0	50.6
Christianity	17.1	16.8
Hinduism	10.2	12.4
Buddhism	9.7	12.2
Others	2.9	8.0

5.9.2 Sexual practices and substance abuse

Table 43 and Table 44 show comparisons on the sexual practices and substance abuse among FSW in 2012 and 2014 surveys that can be summarised as below.

a) There was no significant difference observed in the mean age of first paid sex between 2012 and 2014 surveys, i.e. 26.4 and 25.8 respectively.

b) The recent survey has seen a substantial increase in prevalence of FSW with duration of risk behaviour more than 1-year (86.2%) than that of the 2012 survey (77.4%).

c) Majority of the respondents had less than 14 clients per week in 2012 (90.5%) and 2014 (88.0%), but the percentage has slightly decreased over time. This finding may be true for establishment-based FSW especially at the hotel/motel or street or brothel; however, it may not represent the FSW in general as the surveys were limited to those mainly in those establishments. With the advance in the information communication technology (ICT), many sex workers (full and part timers) have moved from establishment-based to online sex work worldwide and get control of themselves but unfortunately, both surveys were not able to capture these sub-population.

d) The prevalence of protected sex with recent clients has not changed much between 2012 and 2014 – 83.9% and 84.5% respectively (Table 43). However, there was a drastic decline in the trend of protected sex with recent boyfriend or husband, i.e. 29.6% as compared to 53.9% in 2012 and 16% as compared to 21.7% in 2012 respectively.

e) The recent survey also spotted an alarming drop in the reasons for condom use as means to protect oneself from sexual disease apart from pregnancy prevention. The important of condom use as infection control method seemed waning off.

f) Alcohol consumption before sex seemed on the rise in recent survey i.e. 46.2% as compared to 39.9% in 2012. The recent survey also noticed an increasing trend in psychoactive drugs use before sex among both FSW (mainly syabu and ecstasy) and their sexual partners including injecting drug behaviour. Substance use is frequently associated with higher levels of sexual risk-taking and lower condom use[14]; this explains the low condom use with sexual partners other than clients.

[14] Family Planning Perspectives 1997. 29:132-136

Table 43: Condom use pattern among FSW respondents in 2012 and 2014 surveys.

	2012 (%), N=864	2014 (%), N=849
Condom used in the past 12 months with clients	63.7	60.6
Condom used with recent clients	83.9	84.5
Condom used with recent boyfriends	53.9	29.6
Condom used with husband at last sex	21.7	16.0
Used condom as protection from sexual diseases	96.8	67.6
Used condom as pregnancy prevention	83.1	37.7
Used condom as proposed by client	54.7	13.7
Used condom as requested by manager/pimp	21.2	1.3

Table 44: Comparison of substance abuse among FSW in 2012 and 2014 IBBS surveys.

	2012 (%), N=864	2014 (%), N=849
Consumed alcohol before having sex in the past 1 mo.	39.9	46.2
Used syabu/ice before sex in the past 12 mo.	18.7	26.1
Used heroin before sex in the past 12 mo.	7.3	6.0
Used ecstasy before sex in the past 12 mo.	6.9	8.7
Use cocaine before sex in the past 12 mo.	1.3	2.0
Sexual partners ever used drugs before having sex	25.5	34.2
Have ever injected drugs	4.1	7.2
Currently injecting drugs	-	9.8
Ever share used needles and/or syringes in last 12 mo.	-	9.2
Have sexual partners who used injected drugs	7.7	15.8

5.9.3 Pattern of HIV services utilisation

On pattern of service utilisation, Table 45 summarises the comparisons between IBBS 2012 and 2014.

a) The percentage of FSW respondents who attended health talk in the last year increased slightly from 27.8% to 30.7% in 2014. However, other methods of acquiring HIV information through face-to-face or group discussion have both declined markedly. Current survey disclosed that only half of FSW have been contacted by NGO outreach worker in the last 3 months. These observations may reflect difficulty in reaching out to this sub-population as the platform of contacts changed from physical to digital, hence physical contact as method to deliver HIV information or HIV prevention kit is losing relevance in the era of ICT.

b) Lack of physical contact by outreach worker made it impossible to distribute condoms for free. Since condom is relatively cheap and widely available in most retail outlets, low access to free condoms is not a big issue. But disseminating HIV behaviour change communication probably is an issue if FSW not already acquiring accurate information from internet or social media.

c) The percentage of FSW respondents who have visited STI clinic in the last year has dramatically reduced by more than half from 31.7% to 12.8% between 2012 and 2014. About 6.5% were diagnosed with STI in 2014; this percentage could be higher should more FSW had visited health facility for STI check-ups.

d) Concern (feeling at risk) about HIV infection resulted in higher percentage of FSW undergoing HIV test in 2014 (79.4%) compared to 2012 (32.8%). Increasing trend of disclosing one's results and HIV test coverage among permanent partner are signs of increasing HIV awareness to prevent transmission.

Table 45: Pattern of HIV service utilisation among FSW respondents in 2012 and 2014 surveys.

	2012 (%), N=864	**2014 (%), N=849**
Have ever attended health talk past 12 mo.	27.8	30.7
Participated in face-to-face discussion the past 12 mo.	54.2	26.2
Participated in group discussion the past 12 mo.	56.2	19.9
Contacted by NGO outreach/healthcare worker last 3 mo.	-	49.1
Have accessed to free condoms	57.8	57.4
Had STI checkup	31.7	12.8
Had anal examination as part of checkup	31.6	20.7
Had been diagnosed with STI in past 12 months	-	6.5
Had HIV tested and informed of result in the last 12 mo.	32.8	79.4
Shared result with permanent partner, friend or family	34.7	36.0
Permanent partner had HIV tested	19.2	36.6
Testing to obtain certificate	1.6	5.3
Testing to marry/engage in monogamous relationship	7.5	0.4
Testing to get married	-	3.8
Testing because feeling at risk	68.5	61.0
Testing because feeling sick	5.9	7.7
Testing as requested / suggested by someone	8.4	9.6
Testing for other reasons	8.1	12.2

5.9.4 Awareness on HIV risk and prevention

A comparison of data from 2012 and 2014 (Table 46) shows that overall knowledge on HIV, risk and prevention had slightly improved in recent survey although there was still some misconception that a healthy-looking person cannot have HIV infection.

Table 46: Comparison of HIV knowledge between IBBS 2012 and IBBS 2014.

	2012 (%), N=864	2014 (%), N=849
A person can reduce HIV transmission by using a condom	85.0	86.3
A person can reduce risk of HIV by having one faithful, uninfected partner	66.0	78.1
A person can become infected with HIV through mosquito bites	73.3	74.5
A person can become infected with HIV by sharing meal with someone infected with HIV	75.2	82.3
A healthy-looking person can have HIV	73.0	69.6
Total with adequate knowledge (score 5)	35.4	39.2

**Calculation based on correct answer.*

5.9.5 HIV prevalence

In general, HIV prevalence among FSW has increased from 4.2% to 7.3% between 2012 and 2014 – highest in Kuala Lumpur and Pahang. Some states were experiencing declining trend such as in Perak and Pahang while other had an increasing trend (Table 47). Although ART services are made for free, only 3.2% of FSW living with HIV were currently on ART. The increasing trend concurs with high risk-taking behaviour and low coverage of ART among HIV positive FSW.

Table 47: HIV prevalence among FSW in IBBS 2009, IBBS 2012 and IBBS 2014.

HIV Prevalence by State	2012 (%), N=864	2014 (%), N=849
North Peninsular:		
Penang	3.6	5.3
Perak	1.1	0.6
West Peninsular:		
Selangor	10.0	-
Kuala Lumpur	-	15.0
South Peninsular:		
Malacca	5.7	-
East Peninsular:		
Pahang	18.6	14.5
Kelantan	9.8	-
Borneo:		
Sabah	1.1	6.7
Sarawak	0.7	6.7
Total	4.2	7.3

5.9 Conclusion and recommendation

Based from the findings in IBBS 2014 and 2012, the following conclusions are summarised:

(a) The HIV prevalence among FSW has increased markedly from 4.2% (2012) to 7.3% (2014), highest in Kuala Lumpur (15%) and Pahang (14.5%). Increasing prevalence is worrying in East Malaysia – Sabah and Sarawak. Non-declining prevalence of unprotected sex amplified with epidemic of substance use among FSW and their partners prior to sex explain this finding.

(b) ART treatment coverage among FSW is extremely low despite higher percentage of FSW had been tested and knew their status. Although ART is provided free in main hospitals and primary care, a huge treatment gap is evident.

(c) Increasing prevalence of FSW engaging in full time sex work and increasingly among unmarried, divorced women and those with tertiary level education is alarming as sex work seemed the easiest means to sustain their living resulting in risk-taking behaviour.

(d) FSW has inadequate level of knowledge on HIV and transmission and behavioural change communication (BCC) that can be acquired through physical contacts with outreach workers or health care workers is limited.

(e) Prevalence of STI clinic visitations has also reduced markedly.

Recommendation:
An increase in risk-taking behaviour among FSW respondents indicates more effective HIV prevention efforts are needed to prevent and further reduce the prevalence of HIV among FSW in Malaysia. The prevention package should include Harm Reduction Program to address multiple risk factors among this KP. The low uptake of ART among this KP is prevalent and must be explored urgently. There is also a grave need to review the ART policy especially on early initiation of treatment without delay after HIV status is known. On one hand, FSW must be convinced on the benefit of early test and treatment through effective mechanisms (e.g. ICT). On the other hand, aggressive training of healthcare providers must be scaled up to accelerate the treatment coverage.

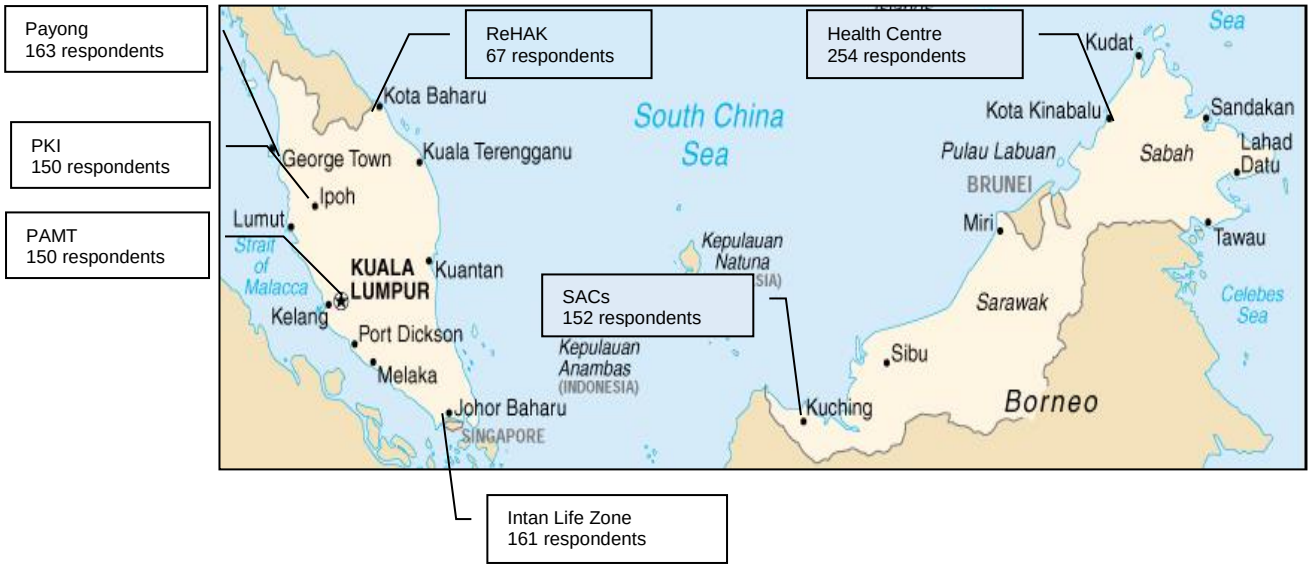
6. TRANSGENDER (TG)

There were seven (7) study sites involved in IBBS 2014. A total of 1,097 respondents (including 38 seeds) were recruited (Table 48). Some states (Penang, Perak and Sarawak) have good recruitment waves of at least 6 but some were having problem recruiting respondents as seen in the larger number of seeds and smaller wave length i.e. Johor and Kelantan.

Table 48: Distribution of respondents and seeds by Region/State

Region	State	Site	No. Seed	No. wave	No. Respondents
West Malaysia:					
North	Penang	Payong	2	10	163
	Perak	PKI	3	6	150
West	Kuala Lumpur	PAMT	3	7	150
South	Johor	Intan Life Zone	19	4	161
East	Kelantan	ReHAK	3	4	67
East Malaysia:	Sabah	Health Centre	5	7	254
	Sarawak	SACs	1	9	120
TOTAL			**38**		**1,097**

Figure 9: Geographical distribution of study sites for TG respondents (n=1,097)



6.1 Socio-demographic characteristics

Socio-demographic characteristics for TG respondents are summarised in Table 49. Majority of respondents aged 25 years and above (70.6%) with median age approximately 29 ± 10 (17 – 73) years, Malays (54.1%), Muslim (77.1%), completed secondary school (72.7%) and unmarried (94.8%). While majority of respondent had source of income, about a quarter of (27.4%) had main source of income from sex work. Median age when respondent began to experience gender dysphoria was at 13 ± 5 (5 – 46) years old.

Table 49: Socio-demographic characteristics of TG respondents (n=1,097)

	N	%
Age		
≤ 24	322	29.4
25 – 29	254	23.2
30 – 39	286	26.1
40 – 49	167	15.2
≥ 50	68	6.2
Median age (years)		29 (17 – 73)
Ethnic		
Malay	594	54.1
Chinese	59	5.4
Indian	115	10.5
Sabah	259	23.6
Sarawak	56	5.1
Others	14	1.3
Education		
No schooling	47	4.3
Primary	146	13.3
Secondary	797	72.7
Tertiary	107	9.8
Faith		
Islam	846	77.1
Buddhism	53	4.8
Hinduism	98	8.9
Christianity	87	7.9
Others	13	1.2
Marital status		
Unmarried	1039	94.8
Married	43	3.9
Divorced	14	1.3
Main source of income in past 1 month		
Sex worker	301	27.4
Job with salary	272	24.8
Independent worker (odd jobs)	167	15.2
Salon/beauty parlor/hairdresser	146	13.3
Student with part time job	50	4.6
Unemployed	84	7.7
Others	77	7.0

	N (min-max)
Median of average income/month (RM)	1,000 (0 –18,000)
Median duration living in the city (years)	19 (1 – 69)
Median age of transgender debut (years)	13 (5 – 46)

6.2 Condom availability

Almost all respondents (93.0%) have ever used condom during sex, while about 52.6% have ever bought condom in last 12 months (Table 50). Almost three-quarter of respondents (73.2%) have been given condoms by NGO outreach worker or clinic in last 12 months. Two (2) most popular places to obtain condom were retail outlet (7-eleven/ small shops /supermarket / gas station) (49.9%) and pharmacy (14.7%). Most TG respondents reported lubricant use during anal sex (91.1%) while some had experienced condom breakage in the last month (17.7%).

Table 50: Condom availability among TG respondents (n=1,097)

	N	%
Have ever used a condom while having sex	1,018	93.0
Have ever bought condom in the past 12 months	577	52.6
Have been given condoms in past 12 months	802	73.2
Experienced condom breakage in the past 3 months	194	17.7
Usually used a lubricant during anal sex	999	91.1
Obtained condom from retail outlets	536	48.9
Obtained condom from pharmacy	156	14.2
Obtained condom from bar/ guest house/ hotel/club	15	1.4
Obtained condom from other sources	26	2.4

6.3 Sexual history and partners

The survey revealed that TG had exposed to sex as early as 5 years old with median age of sex debut at 16 ± 3.8 (5 – 42) years old (Table 51). More than one-third of the respondents (39.7%) were forced to have sex for the first time and almost all had male first sexual partner (96.4%). Majority of TG respondents (86.1%) had ever worked as sex worker with mean age of paid sex debut at 19 ± 4 (5 – 43) years. While most had male permanent partner (41.5%), about 10% claimed their permanent partner had another sexual partner (22.9%).

Table 51: Sexual history of TG respondents (n=1,097)

	N	%
Median age of sex debut		16 (5 – 42) years
Had been forced to have sex the first time	436	39.7
Male as first sex partner	1,057	96.4
Woman as first sex partner	24	2.2
Transgender as first sex partner	16	1.5
Ever had sex in exchange for money	940	86.1
Median age of paid sex debut (years)		19 (5 – 43)
Had male permanent partner	455	41.5
Had female permanent partner	2	0.2
Had transgender permanent partner	2	0.2
Permanent partner has other sex partner (n=459)	107	22.9
Median number of male anal sex partner in past 1 week		3 (0 – 50)

6.4 Sexual practices and condom use pattern

Table 52 demonstrated sexual behaviours and pattern of condom use among TG respondents. More respondent reportedly had sold sex (85.8%) than buying sex (10%) while about two thirds (63.3%) admitted having consensual sex with male partner last 12 months. Condom use with recent partner varied by type of sex partner – the highest was reported with partner who paid respondent for sex (80.4%) and much lower with male partner who were being paid for sex (58.8%) and consensual male sex partner (58.7%).

Table 52. Sexual practices and condom use among TG respondents (n=1,097)

	N	%
Selling sex		
Ever had anal sex with male partner for money	940	85.8
Median number of male client who paid for sex last 1 week (n=918)		3 (0 – 50)
Median number of receptive male client who paid for sex last 1 week (n=739)		1 (0 – 40)
Median number of days/week respondent served client (n=932)		3 (0 – 7)
Respondent/most recent client had used condom (n=940)	732	80.4
Buying sex		
Ever paid man for anal sex last 12 months	109	10.0
Median number of male partner paid for anal sex last 1 month (n=104)		1 (0 – 20)
Used condom with recent paid male partner (n=109)	57	58.8
Consensual sex		
Ever had consensual sex with male last 12 months	691	63.3
Median number of consensual sex partner last 1 month (n=669)		2 (0 – 45)
Used condom with recent consensual anal sex partner (n=691)	403	58.7

6.5 Pattern of HIV services utilisation

Table 53 illustrated exposure of TG respondents to HIV services. Approximately 43.7% of the respondents have ever attended health talk in last 12 months, of which the majority was organised by NGO / CBO (36.5%). Less than half (43.1%) of TG respondents have ever attended events discussing about HIV transmission and prevention in the last year, either through face-to-face or group discussion. About 47.2% of respondents have been contacted by NGO outreach worker/health care worker / friend in last 3 months, of which the issues discussed were mainly about HIV transmission and prevention (40.2%) and proper use of condom (30.9%). A little above two thirds (66.3%) of the respondents had received at least condoms as part of the HIV prevention package.

A very low percentage of respondents (8.5%) had visited STI clinic in the last 3 months, of which only a quarter (25.2%) had their anal being examined as part of the STI check-up. Three most common symptoms of STI reported by the respondents in the last 12 months were dysuria (5.6%), anal ulcer (3.0%0 and penile ulcer (2.0%), however only 3.7% were diagnosed with STI. A little above two thirds (66.8%) had taken HIV test sometime in their life, but only 27.5% had been tested and know their status in the last 12 months; most were tested because they felt at risk (74.4%) and 21.9% had disclosed result to their partner, family or friend.

Table 53: Services exposure and utilisation among TG respondents (n=1,097)

	N	%
Health talk		
Have ever attended health events about HIV transmission/prevention	472	43.1
Have ever attended health talk in past 12 months	478	43.7
Health talk organized by NGO / CBO	384	36.5
Health talk organized by Health department	143	13.6
Health talk organized by other government department	37	3.5
Health talk organized by others	48	4.5
Face-to-face discussion		
Never participated	566	51.7
In the past 3 months	201	18.4
In the past 4 months – 1 year	201	18.4
More than 1 year ago	127	11.6
Group discussion		
Never participated	566	51.6
In the past 3 months	187	17.0
In the past 4 months – 1 year	188	17.1
More than 1 year ago	156	14.2
Contacted by NGO outreach worker/healthcare worker/friend last 3 mo.	517	47.2
Issues discussed in the past 3 months		
HIV transmission and prevention	426	40.2
Proper use of condom	325	30.9
Sexual activity / pleasure	93	8.8
Spiritual awareness from religious perspective	45	4.3
Others	83	7.9

	N	%
HIV prevention package		
Received condoms only	299	27.3
Received condoms and information related to HIV/STI	427	39.0
Received information related to HIV/STI only	16	1.5
Did not received condoms or information related to HIV/STI	354	32.3
STI services		
Had visited STI clinic in the past 3 months	93	8.5
Had anal examination as part of checkup	65	5.9
Have been diagnosed with STI in past 12 months	40	3.7
VCT services		
Ever had blood tested for HIV	731	66.8
Had HIV tested in the last 12 months	420	38.4
Had HIV tested and informed of result in the last 12 months	301	27.5
Had HIV tested over a year ago	284	25.9
Disclosure of HIV status		
Disclosed with permanent partner, friend or family	240	21.9
Permanent partner had HIV tested	211	19.3
Reason for HIV testing		
Feeling at risk	526	74.4
Requested / suggested by someone	87	12.3
Feeling sick	40	5.7
To obtain certificate	13	1.8
To get married	6	0.8
To engage in monogamous relationship	4	0.6
Others	31	4.4

Figure 10: Distribution of STI symptoms in the last 12 months as reported by respondents (n=1,097)

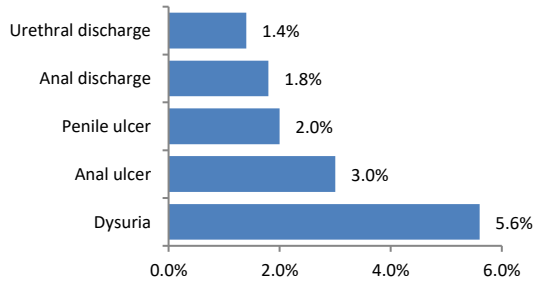
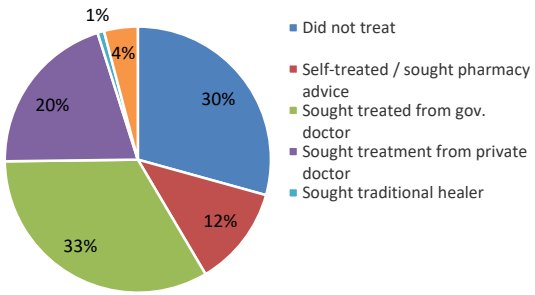


Figure 11: Action taken by respondents the last time they had STI (n=123)



6.6 Awareness on HIV, risk and prevention efforts

Table 54 summarises knowledge and risk perception of TG respondents. Overall, the prevalence of TG respondents having adequate knowledge on HIV transmission was only 38.9%.

Table 54: Knowledge of HIV, risk and prevention efforts among TG respondents (n=1,097)

	N	%
Feel at risk of being infected with HIV	796	72.6
Knowledge of HIV*		
1. A healthy-looking person can have HIV	853	77.8
2. A person can reduce HIV transmission by using condom every time having sex	956	87.1
3. A person can reduce risk of HIV by having one faithful, uninfected partner	796	72.6
4. A person can get HIV from mosquito bites	845	77.0
5. A person can get HIV by sharing food with someone who is infected with HIV	914	83.3
*(*number with correct answer)*		
Median score knowledge	4 ± 1 (0 – 5)	
Having adequate knowledge (score 5)	426	38.9

6.7 Alcohol and substance use

Table 55 illustrated alcohol and psychoactive drug use among TG respondents. Over one-third of the respondents (38.7%) had consumed alcohol before sex in the last 1 month. On psychoactive drug use, syabu is the most popular drug used (19.3%) before sex in the past 12 months while just a small percentage (1.2%) were currently injecting drug.

Table 55: Alcohol and psychoactive drug use among TG respondents (n=1,097)

	N	**%**
Consumed alcohol before having sex in the past month	425	38.7
Have used syabu/ice before sex past 12 months	212	19.3
Have used heroin before sex past 12 months	17	1.5
Have used ecstasy before sex past 12 months	64	5.8
Have use cocaine before sex past 12 months	47	4.3
Sexual partners ever used drugs before having sex	311	29.1
Have ever injected drugs	31	2.8
Respondent still injecting drugs	13	1.2
Ever share used needles and/or syringes in last 12 months	6	0.5
Have sexual partners who used injected drugs	76	6.9

6.8 HIV prevalence

Table 56 demonstrated HIV prevalence among TG respondents. This study found that overall HIV prevalence of TG was 6.3% with the highest prevalence observed in Kuala Lumpur (19.5%) and Johor (10.6%). It is obvious that West Malaysia has much higher average of HIV prevalence (9.0%) than its east counterpart (1.5%). Of those who found to be positive through HIV rapid screening, 44.9% were currently on ART. Further analysis revealed that injecting drug use, psychoactive drug use, had sold sex and had been diagnosed with STI in the last 12 months were significantly at higher risk for HIV (Table 57).

Table 56: HIV prevalence by states (n=1,097)

Region		State	N	(%)
West Malaysia	North region	Penang (n=163)	13	8.0
		Perak (n=150)	1	0.7
	Average North region			***4.35***
	West region	Kuala Lumpur (n=149)	29	***19.5***
	South region	Johor (n=161)	17	***10.6***
	East region	Kelantan (n=67)	4	***6.0***
	Average West Malaysia			***9.0***
East Malaysia		Sabah (n=254)	1	0.4
		Sarawak (n=152)	4	2.6
	Average East Malaysia			***1.5***
		TOTAL	69	6.3

Table 57: Attributes of HIV among TG (n=69)

Attributes	N	%	OR (95%CI)
Ever injected drugs	7	22.6	**4.7 (2.0 – 11.4)**
Ever used psychoactive in the last 12 mo.	35	13.0	**3.5 (2.1 – 5.7)**
Consumed alcohol before sex the last 1 month	25	5.9	0.9 (0.5 – 1.5)
Had ever sold sex	67	7.1	**5.9 (1.4 – 24.2)**
Diagnosed with STI last 12 months	12	30.0	**7.5 (3.6 – 15.6)**

6.9 Discussion

The IBBS survey is repeated every two years to track down the HIV prevalence and risky behaviour related to HIV. Healthcare workers alongside with NGO in Malacca and Selangor performed the IBBS 2012; however, these sites were replaced with Johor and Kuala Lumpur in 2014 survey due to logistic issue. The total number of seeds in both surveys did not differ much (37 in 2012 and 38 in 2014) but the number of respondents recruited in 2014 survey was much larger i.e. 1,097 respondents with longer wave length. Recall bias could also be encountered during the interview session, whereby several respondents might be having difficulties to remember the exact response for questions regarding their past behaviours and exposure. Duplication of samples may come across at study sites, yet precautions have been

made by using communities to screen and determine the potential respondents who came to participate the survey.

6.9.1 Socio-demographic characteristics

The age structure of the TG respondents in both surveys did not differ much except that the recent 2014 survey has seen more aged respondent (40 and above) and a decline in those aged 24 years and younger (Table 58). The ethnic structure has remained the same in the last 2 years with majority being the Malay. On the education level, the recent survey noted an increase of those without formal education as well as tertiary education. The recent survey saw a significant increase from about 2% to 27% in TG respondents who worked as sex worker. Many transgender women turn to sex work as a way of making money because of problems finding employment due to low education and their gender identity or gender presentation[15]. About 38.3% of TG respondents who worked as sex worker had no formal education ($p < 0.001$).

Table 58: Socio-demographic characteristics of TG respondents in 2009, 2012 and 2014 surveys.

	2012 (%)(n=870)	2014 (%)(n=1,097)
Age		
≤ 24	33.6	29.4
25 – 29	22.4	23.2
30 – 39	29.0	26.1
40 – 49	10.6	15.2
≥ 50	4.5	6.2
Ethnic		
Malay	52.9	54.1
Chinese	4.1	5.4
Indian	8.3	10.5
Sabah	24.5	23.6
Sarawak	5.9	5.1
Others	4.4	1.0
Education		
No schooling	1.9	4.3
Primary	12.6	13.3
Secondary	77.7	72.7
Tertiary	7.8	9.8
Marital status		
Unmarried	95.0	94.8
Married	5.0	3.9
Divorced	-	1.3
Source of Income		
Job with salary	35.3	24.8
Independent worker (odd jobs)	25.7	15.2

[15] E.C. Wilson, R. Garofalo, R.D. Harris et al. Transgender Female Youth and Sex Work: HIV Risk and a Comparison of Life Factors Related to Engagement in Sex Work. AIDS Behav. (2009); 13:902-913.

	2012 (%)(n=870)	2014 (%)(n=1,097)
Salon / beauty parlor / hairdresser	15.1	13.3
Student	2.4	4.6
Sex worker	2.2	27.4
Other job	18.1	7.0
Unemployed	1.2	7.7
Faith		
Islam	80.1	77.1
Christianity	8.3	7.9
Hinduism	7.5	8.9
Buddhism	3.7	4.8
Others	0.5	1.2

6.9.2 Sexual practices and substance abuse

Table 59 and Table 60 summarised comparisons on the sexual practices and substance use among TG in 2012 and 2014 surveys.

a) Majority recalled early sexual debut at 16 years in both surveys. Increasing trend of first sexual encounters by force from 25.1% to 39.7% between 2012 and 2014 is alarming as this would deemed forcible rape against minor[16].

b) The earliest age of getting paid for sex (sex worker) has becoming younger in recent survey (19 years) compared to 2012 (20 years). Many resorted to sex work as main source of income although the trend has slightly reduced from 89% to 86% in the last 2 years. Evidence elsewhere suggested that more than three quarter reported sex work as their main source of income as many deprived of dissent job due to their physical appearance[16-17].

c) Majority of TG were having male permanent partner, but this percentage has dropped slightly over the past 2 years from 98% to 96%. Inversely, there were slight increase in the TG having female (from 1.4% to 2.2%) and TG (from 0.5% to 1.5%) permanent partner. Higher prevalence of bisexual orientation (25%) among TG was reported in India[17]. Recent survey showed a marked decrease in permanent partner having another sexual partner from 40.6% to 22.9% indicating a change to more monogamous relationship.

d) Risk taking behaviour (unprotected sex) has increased among TG. Condom use with all type of partners have significantly dropped between 2012 and 2014 i.e. from 85.2% to 80.4% when selling sex, from 69.5% to 58.8% when buying sex and from 69.6% to 58.7%

[16] H. Budhwani, K.R. Hearld, J. Hasbun et al. Transgender female sex workers' HIV knowledge, experienced stigma, and condom use in the Dominican Republic. PLOS One. http://doi.org/10.1371/journal.pone.0186457

[17] A. Sinha, D.N. Goswami, D. Haldar et al. Sexual behavior of transgenders and their vulnerability to HIV/AIDS in an urban area of Eastern India. Indian J Public Health 2017;61:141-3

with consensual partner. Similar findings elsewhere supported the low condom use behaviour among TG individuals especially when paying for sex[17].

e) Increasing risk taking behaviour through unprotected sex is in sync with increasing use of alcohol and psychoactive drugs before sex. While prevalence of injecting drug use was kept low (2.8% and 2.5%), there has been an increasing trend in alcohol and syabu/ice use before sex from 17.9% to 19.3% and alcohol use just increased slightly above one third. Evidence from other countries revealed more than half had used alcohol and stimulants before sex[18-19].

Table 59: Sexual history and condom use pattern among TG respondents in 2012 and 2014 surveys.

	2012 (%) (n=870)	**2014 (%) (n=1,097)**
Median age of sex debut (year)	16 (7-45)	16 (5-42)
Had been forced to have sex the first time	25.1	39.7
Ever had sex in exchange for money	89.2	86.1
Median age of paid sex debut (years)	20 (9-52)	19 (5-43)
Having male permanent partner	98.1	96.4
Having female permanent partner	1.4	2.2
Having transgender permanent partner	0.5	1.5
Permanent partner has other sex partner	40.6	22.9
Condom used with recent male client when sold sex	85.2	80.4
Condom used with recent male client when bought sex	69.5	58.8
Condom used with recent male consensual partner	69.6	58.7

Table 60: Comparison of substance abuse among TG respondent in 2012 and 2014 IBBS surveys.

	2012 (%)(n=870)	**2014 (%) (n=1,097)**
Consumed alcohol before having sex in the past 1 mo.	37.9	38.7
Used syabu/ice before sex in the past 12 mo.	17.9	19.3
Used heroin before sex in the past 12 mo.	2.5	1.5
Used ecstasy before sex in the past 12 mo.	7.6	5.8
Used cocaine before sex in the past 12 mo.	1.4	4.3
Sexual partners ever used drugs before having sex	31.4	29.1
Have ever injected drugs	2.5	2.8
Currently injecting drugs	-	1.2
Ever share used needles and/or syringes in last 12 mo.	-	0.5
Have sexual partners who used injected drugs	7.2	6.9

[18] A. Weissman, S. Ngak, C. Srean et al. HIV prevalence and risks associated with HIV infection among transgender individuals in Cambodia. PLoS ONE 11 (4): e0152906.doi:10.1371/journal.pone.0152906

[19] C.J. Reback and J.B. Fletcher. HIV prevalence, substance use, and sexual risk behaviors among transgender women recruited through outreach. AIDS Behav. 2014 July; 18(7):1359-1367

6.9.3 Pattern of HIV services utilisation

Table 61 summarises the comparison for HIV service utilization between the 2 surveys (2012 and 2014).

a) The trend of acquiring HIV information through traditional physical interactions such as health talk, face-to-face discussion or group discussion has becoming less popular as less than half accessed to these methods of HIV information delivery. Similarly, contacts with NGO outreach worker or healthcare worker has not changed significantly over time. With rapid development of websites and internet services, they have become a primary source for gathering information among adults and teens worldwide[20]; making physical interactions irrelevant. A study using website avatar (computer generated character) as educational resource for public health workers by providing relevant and accurate information about HIV/AIDS has proven popular among information seekers especially those related to HIV stigma-laden questions[21].

b) The recent survey noticed a declining trend to free condom access. Since condoms are widely available in almost any retail outlets with affordable price, it is not of a huge concern.

c) The markedly declining trend in respondents seeking STI check-ups and anal examination by health care providers are most concerning, signalling possibility of low level of STI awareness among KP and health care provider. Prompt effective treatment of diagnosed STIs is vital to reduce harms associated with long-term infection and onward transmission but often timely access to health clinics is threatened by financial constraint, busy life schedule and perceived stigma. To overcome this, eSexual Health Clinic in London has offered an alternative over traditional care through online consultation and medication collected at the nearest pharmacy[22].

d) Unlike STI check-up, HIV testing uptake has increased considerably in the last 2 years that led to increased percentage of permanent partner undergoing HIV test; feeling at risk singled out as main reason for the test. The role of social media as effective platform to promote HIV testing especially among KP was evident in other country[23].

[20] S. Fox and M. Duggan. Information triage. Pew Research Center. Internet & Technology. 2013. http://www.pewinternet.org/2013/01/15/information-triage/

[21] S. Shantel and M. Hart. The use of avatar counseling for HIV/AIDS health education: The examination of self-identity preferences. J Med Internet Res. 2017 Dec; 19(12):e365

[22] C.R.H Aicken, L.J Sutcliffe, J. Gibbs et al. Using the eSexual Health Clinic to access chlamydia treatment and care via the internet: a qualitative interview study. Sex Transm Infect 2017;0:1-7.

[23] B. Cao, S. Gupta, J. Wang et al. Social Media Interventions to Promote HIV Testing, Linkage, Adherence, and Retention: Systematic Review and Meta-Analysis. J Med Internet Res. 2017 Nov; 19(11):e394

Table 61. Pattern of HIV service utilisation among TG respondents in 2012 and 2014 surveys.

	2012 (%) (n=870)	2014 (%) (n=1,097)
Have ever attended health talk past 12 mo.	49.5	43.7
Have ever participated in face-to-face discussion past 12 mo.	29.6	36.8
Have ever participated in group discussion past 12 mo.	32.3	34.1
Have been contacted by NGO outreach/healthcare worker/friend last 3 mo.	45.3	47.2
Have accessed free condoms from NGO/drop-in center	74.4	66.3
Had attended STI checkup	43.8	8.5
Had anal examination as part of checkup	34.5	25.2
Had been diagnosed with STI in past 12 months	-	3.7
Ever had blood tested for HIV	57.8	66.8
Had HIV tested and informed of result in the last 12 months	67.0	71.7
Shared result with permanent partner, friend or family	37.9	34.1
Permanent partner had HIV tested	17.8	39.2
Reason for HIV testing:		
To obtain certificate	3.0	1.8
To marry / engage in monogamous relationship	1.3	1.4
Feeling at risk	74.3	74.4
Feeling sick	4.3	5.7
Requested / suggested by someone	9.1	12.3
Other reasons	8.0	4.4

6.9.4 Awareness on HIV risk and prevention

Overall knowledge on HIV transmission and risk perception among TG was low and has not improved in the last 2 years. There was still misperception that HIV cannot be reduced by having one monogamous uninfected partner, HIV can be transmitted through mosquito bites and a healthy-looking person cannot have HIV.

Table 62. Comparison of HIV knowledge between IBBS 2012 and IBBS 2014.

Knowledge on HIV	2012 (%) (n=870)	2014 (%) (n=1,097)
Adequate knowledge (score 5 of 5)	40.6	38.9
A person can reduce HIV transmission by using a condom	91.6	87.1
A person can reduce risk of HIV by having one faithful, uninfected partner	69.3	72.6
A person can become infected through mosquito bites	75.8	77.0
A person can get HIV by sharing meal with someone infected with HIV	77.1	83.3
A healthy-looking person can have HIV	86.0	77.8

Calculation based on correct answer.

6.9.5 HIV prevalence

Overall national HIV prevalence among TG has increased from 4.8% to 6.3% between 2012 and 2014 (Table 63); highest in West and South Region of West Malaysia. Some states especially in the East Malaysia and Perak in the West Malaysia were observing a declining trend in the last 2 years. Question assessing ART coverage was not included in 2012 survey, thus it cannot be compared. The recent survey (2014) found that less than half (44.9%) of TG living with HIV were receiving ART; about the same with the national ART coverage of 45%[24]. Having had STI diagnosed last year, injected drugs, used psychoactive drugs and had sold sex were all significant attributes of HIV infection for this KP.

Table 63: Comparison of HIV prevalence among TG between IBBS 2012 and IBBS 2014.

HIV Prevalence by Region/States		**2012 (%) (n=870)**	**2014 (%) (n=1,097)**
West Malaysia:			
North Region	Penang	7.5	8.0
	Perak	1.8	0.7
	Average North Region	***4.65***	***4.35***
West Region	Selangor	4.8	-
	Kuala Lumpur	-	19.5
	Average West Region	***4.8***	***19.5***
South Region			
	Johor	-	10.6
	Malacca	1.4	-
	Average South Region	***1.4***	***10.6***
East Malaysia:	Sabah	3.7	0.4
	Sarawak	5.3	2.6
	Average East Malaysia	***4.5***	***1.5***
	National prevalence	**4.8**	**6.3**

6.10 Conclusion and recommendation

Based on the findings in IBBS 2012 and 2014, the conclusions below can be derived.

(a) The HIV prevalence among TG has increased from 4.8% (2012) to 6.3% (2014) highest in West Region (Selangor/Kuala Lumpur) and South Region (Johor) of West Malaysia while Penang maintained high prevalence at 7.5% to 8.0%. Those are the most developed states in Malaysia. Increasing prevalence of unprotected sex with multiple sexual partners, substance abuse especially alcohol and syabu prior to sex and poor STI seeking behaviour substantiate this finding.

(b) HIV testing practices has increased over the last 2 years, but there is still a gap in ART treatment coverage (45%). Relying on the traditional methods of information delivery,

[24] Malaysia AIDS Response Progress Report 2014. HIV/STI Section of Ministry of Health Malaysia. http://www.aidsdatahub.org/Malaysia-Global-AIDS-Response-Progress-Report-2014

accurate information on HIV prevention, risk of infection, STI and ART have not reached many of the TG population.

(c) Knowledge on HIV prevention and risk is low and declining.

(d) A whopping increase from 2% to 27% of TG had sex work as their main source of income. Substantiated by low condom use when selling sex, the epidemic among this KP is set to escalate in the future.

Recommendation:

HIV risk remains high among TG, hence urgent need for effective prevention interventions including managing substance abuse problem. Ensuring that TG individuals have access to the most accurate information is imperative through provision of suitable and innovative delivery modalities. Community-based HIV screening will scale-up HIV test among TG, but it would be useless without appropriate linkage to health care. Expanding ART coverage combined with interventions targeting risk behaviours amplify the preventive impact, potentially driving the HIV epidemic to elimination. Finally, given the high rates of HIV prevalence and high-risk behaviours among transgender individuals, pre-exposure prophylaxis could represent an important intervention to reduce HIV transmission among this population.

ANNEXES

Annex 1

SCREENING QUESTIONS FOR ELIGIBILITY OF KPS

(The interviewer should be aware of the responses to these answers)

1) PWID

a) When did you last inject drugs?

b) What did you last inject?

c) In which part of your body do you usually inject?

d) Can you show me where you last injected?

e) How much do you usually buy (heroin) and how much does it cost? (The screener should be aware of the current cost of drugs in the area.)

2) FSW/TG

a) When did you last exchange sex for drugs, money or other goods?

b) Where do you usually find your clients?

c) How much do you charge?

d) How do you negotiate your price?

3) MSM

a) How often do you sleep with men?

b) Do you enjoy receptive sex with a man?

c) Do you enjoy penetrative sex with a man?

Annex *2*

QUESTIONNAIRE FOR FEMALE SEX WORKER

(IBBS/2014/FSW/06)

INTEGRATED BIO-BEHAVIORAL SURVEILLANCE (IBBS) 2014

MINISTRY OF HEALTH MALAYSIA

CONFIDENTIAL

BLOCK A. IDENTIFICATION OF PLACE			
1	Mother's name		
2	State/City		□□
3	Respondent serial no.		□□□□□
4	Respondent Coupon Number		**(Copy the number of the coupon)** □□□□□□□□□□□
5	Wave number **[Seeds should be noted wave 0]**		(To be filled out by an officer) □□

BLOCK B. INTERVIEWER INFORMATION				
1	Name of Interviewer			
2	Date of Interview			Date Month Year□□-□□-□□
3	These questionnaire responses have been examined for completeness and consistency by:			
	Namesof Interviewer/ Site manager	Status	Date of examination	Signature
		Interviewer		
		Site manager		

INTRODUCTION

1. Greetings (for example: Good Morning/Good Afternoon/Good Evening).
2. Introduce yourself.
3. Explain the intention and goal of the Integrated Bio-Behavioural Surveillance Survey 2014.
4. Emphasize the confidentiality of the responses, and let the person know that the name of the respondent will not be recorded.
5. Ask about the person's willingness to be a respondent and to answer the questions honestly.
6. Thank the person for her willingness to participate.

THE INTERVIEWER SETS UP A PRIVATE ATMOSPHERE IN WHICH TO CONDUCT THE INTERVIEW.MAKE SURE NOONE ELSE IS THERE WHILE THE INTERVIEW IS TAKES PLACE.

"Have you already been interviewed for this survey in the past few weeks?"
If the person involved has already been interviewed for this survey, do not interview that person a second time; express thanks and end the interview.
If they have not yet been interviewed, continue this interview.

My name is (name), and I'm an officer working on collecting health data. We are collecting information about how to help people to prevent HIV/AIDS. We will ask some private questions about you. We will not ask for your name or address, so that you cannot be identified, and anything you communicate will be used solely for the purpose of planning health programs. You do not have to participate in this survey, unless you agree to participate.

There are no right or wrong answers to any of the questions we pose to you. If you agree to be interviewed, we will much appreciate it if you tell the situation as it is (as honestly as possible). Can we begin the interview?

BLOCK C. SOCIODEMOGRAPHIC CHARACTERISTICS			
1	How old are you?	..... years	□□
2	Highest level of education	1. No formal education 2. Primary 3. Secondary 4. Tertiary (College / University)	□
3	Which ethnic group do you belong to?	1. Malay 2. Chinese 3. Indian 4. Sabah 5. Sarawak 6. Orang asli 7. Other Malaysian, specify.....	□
4	Which religion do you belong to?	1. Islam 2. Buddhism 3. Hinduism 4. Christianity 5. Sikhism 6. No religion 7. Others, specify	□
5	What is your current marital status?	1. Unmarried 2. Married 3. Divorced 4. Widow	□
6	How many children do you have?	1. I do not have any children 2. Number of children:	□
7	Are working as sex worker your main job?	1. Yes 2. No	□
8	If yes [Q7], please state your main workplace		

	Establishment/place	
A	Brothel	A□
B	Street	B□
C	Home	C□
D	Hotel / motel	D□
E	Massage parlor	E□
F	Karaoke bar	F□
G	Bar / discotheque	G□
H	Through phone/sms/social network	H□
I	Other, specify:	I□

9	What is your average income every month?	RM……../month	□□□□
10	How long do you intent to work as sex worker?	…….year	□□

The following section consists of questions about your sexual practices/behaviors. We will keep the information and answers we receive from you <u>confidential</u>. Your honesty will be extremely useful to us in developing services and assistance that match the desires and needs of your group.

BLOCK D. CONDOM			
11	Have you ever used condom while having sex?	1. Yes 2. No	□
12	In the **last 12 months,** have you ever bought a condom?	1. Yes 2. No	□
13	How much money did you spend the **last time** you bought a condom?	RM ……../condom	□□□
14	Where did you normally buy condoms? **[Do not read out the answers]** **[Answers can be more than 1]**	1. Retail outlets (e.g. 7-eleven, small shops, supermarket, petrol station etc.) 2. Pharmacy 3. Bar/guest house/hotel/Club 4. Others: ……. 5. I never bought a condom	□
15	In the **last 12 months**, have you been given condoms (e.g. by outreach workers, NGO, clinics)	1. Yes 2. No	□
16	In the **past 3 months,** have you or your partner ever **broken a condom** while having sex?	1. Yes 2. No 3. I did not use condom in the past 3 months	□
17	Do you usually use a **lubricant** while having sex? (Lubricant - something that could make your penis or your partner's penis more slippery and easier to insert into the anus)	1. Yes 2. No	□
18	Are condom provided by the management in your establishment?	1. Yes, free 2. Yes, I have to pay 3. No	□

Now I would like to ask some questions about your sexual history			
BLOCK E. SEXUAL HISTORY			
19	How old were you when you first had sexual experience either by consensual or by force (vaginal or anal)?	.....years	□□
20	Have you been forced during the **first time** you had anal or vaginal sex?	1. Yes 2. No	□
21	Who was your first sex partner?	1. Husband 2. Boy friend 3. Sibling / family 4. Friend/acquaintance 5. Stranger	□
22	How old were you when you first have sex in exchange for money or in kind?	..... years old	□□
SEX WITH CLIENT			
23	Did you use a condom with your most recent client? **[UNGASS]**	1. Yes 2. No	□
24	Please state your reason for using condom with your most recent client **[Answer can be more than 1]**	1. The client proposed / requested 2. To protect myself from sexual disease 3. To prevent pregnancies 4. The manager / pimp request that we use condoms 5. Other, specify: ..... *8. I did not use condom with my most recent client*	□
25	Please state your reason for not using condom with your last client **[Answer can be more than 1]**	1. There weren't any/Not available 2. The client objected 3. Felt I am clean (No disease)/ I took medicine 4. Don't know/don't remember 5. Other, specify: ..... *8. I used condom with my most recent client*	□
26	In **the past 1 week**, can you recall total number of clients you had served?	..... clients (Please write '0' if no client served)	□□
27	Of the numbers above (Q26), how many clients with whom condom was **not** used?	.....clients *88. Did not have client last week*	□□
28	In the **last 12 months**, have you ever had sex without condom?	1. Yes 2. No	□

29	How many days in 1 week do you work as a sex worker?	……..days / 7 days	□
30	How many months in 12 months do you work as a sex worker?	……..months / 12 months	□
SEX WITH BOYFRIENDS / LOVERS			
31	In**the past 1 month**, can you recall total number of **boyfriends or lovers**you had had sex with? (excluding husband)	..... people (Please write '0' if no sex with boyfriends or lovers)	□□
32	Did you use a condom the **last time you had sex** with your boyfriend or lover?	1. Yes 2. No	□
33	Did you **propose** to use condom the **last time** you had sex with your **boyfriends or lovers**?	1. Yes 2. No	□
34	In the **past 6 months**, have you ever had sex with **boyfriends or lovers** without condom?	1. Yes 2. No	□
SEX WITH HUSBAND			
35	In the **past 1 month**, have you ever had sex with your husband?	1. I am not married 2. Yes, I had sex 3. No, I did not have sex	□
36	Did you **propose** to your husband to use condom the **last time** you had sex with him?	1. Yes 2. No *8. I am not married*	□
37	Did you use condom the **last time** you had sex with your husband?	1. Yes 2. No *8. I am not married*	□

BLOCK F. COVERAGE OF INTERVENTIONS			
38	In the **last 12 months,** have you ever attended a health talk addressing the prevention of HIV/sexual diseases transmission?	1. Yes 2. No	□

39	If yes [Q38], who organized the health talk? **[There may be more than one answer given, but do not read out the choices]**	1. Department of Health 2. Department of Social Welfare 3. Other government department 4. Company/business 5. NGO/CBO 6. Other 8. *I never attended any health talk in the past 12 months*	□
40	In the **past 12 months,** have you ever attended events where HIV transmission and prevention were discussed?	1. Yes 2. No	□
41	When did you **last** participate in **individual discussion** to assess your risk of HIV infection and prevention method?	1. In the past 3 months 2. In thepast 4 month to 1 year 3. More than one year ago 4. Never participated in such discussion	□
42	When did you **last** participate in **group discussion** to assess your risk of HIV infection and prevention method?	1. In the past 3 months 2. In thepast 4 month to 1 year 3. More than one year ago 4. Never participated in such discussion	□
43	In the **past 3 months**, have you been contacted by NGO outreach worker or health worker?	1. Yes 2. No	□
44	If yes (Q43), can you recall what were discussed? **[Answer can be more than 1]**	1. HIV transmission and prevention 2. Sexual activity/pleasure 3. Proper use of condom 4. Spiritual awareness from religious perspective 5. Others 8. *I have never been contacted by NGO outreach worker or health worker in the past 3 months*	□
45	In the **last 12 months,** have ever received HIV prevention package from NGO outreach worker?	1. Yes, I received condoms only 2. Yes, I received condoms and information related to HIV/STI/STD 3. Yes, I received information related to HIV/STI/STD only 4. No, I did not received condom or any information related to HIV/STI/STD	□

BLOCK G. TESTING AND TREATMENT			
HIV Testing			
46	Do you know where you can go for HIV testing?	1. Yes 2. No	□
47	Have you ever had HIV test to determine the status of HIV infection?	1. Yes 2. No, I never had blood test for HIV	□
48	When did you **last** take a HIV blood test?**(GARPR)**	1. In the past 12 months 2. Over 12 months ago 8. *I never had blood test for HIV*	□
49	If you had HIV test in the **last 12 months**, were you informed of the result? **(GARPR)**	1. I had HIV test and informed of the result 2. I had HIV test but not informed of the result *3. I had HIV blood test more than 12 months ago* 8. *I never had blood test for HIV*	□
50	What was the reason the**last time** you took a blood test for HIV testing?	1. To obtain a certificate (job, migration etc.) 2. To get married 3. To engage in a monogamous relationship 4. To check because I felt at risk 5. Because I felt sick 6. Because someone else requested / suggested it 7. Others *8. I never had blood test for HIV*	□
51	Did you share the result of last HIV test with anyone?	1. Yes 2. No 8. *I never had blood test for HIV*	□
52	With whom did you share the result of your HIV blood test?	1. Husband 2. Sexual partner 3. Friend 4. Family members 5. Others 6. Never shared the result of HIV test 8. *I never had blood test for HIV*	□
53	Has your permanent partner/spouse taken the HIV testing?	1. Yes 2. No 3. Does not have permanent partner/spouse	□
HIV Treatment			
54	Did you ever receive ARV treatment? (ARV is a HIV treatment which are given daily for the rest of life after being diagnosed with HIV)	1. Yes 2. No	□

55	Where did you receive your ARV treatment?	1. Government health facility 2. Private health facility *8. I did not receive ARV / I am HIV negative*	□
56	Are you still receiving ARV treatment?	1. Yes 2. No *8. I did not receive ARV / I am HIV negative*	□
57	If no (Q56), what was the main reason you defaulted your ARV treatment? **[Do not read the answer]**	1. Opting for spiritual/ alternative/ treatment 2. Financial problem 3. No time to seek for regular treatment 4. Loss of interest in the program 5. Cannot tolerate the side effects of ARV 6. Afraid of stigma or rejection 7. Others, specify ……. *8. I did not receive ARV / I am HIV negative*	□
	STI/STD		
58	**In the past 3 months,** have you ever visited a clinic for STI /STD check up or treatment?	1. Yes 2. No	□
59	If yes (Q58), did the doctor examine your anus?	1. Yes 2. No 8. *I did not visit STI /STD clinic in the past 3 months*	□
60	**In the past 12 months**, have you been diagnosed with STI / STD?	1. Yes 2. No	□
61	In the **past 12 months**, have you experienced any of the following symptoms (answer can be more than 1):		
			A □ B □ C □ D□

	STI/ STD symptoms	**Yes**	**No**
A	Genital ulcer	1	2
B	Anal ulcer	1	2
C	Vaginal discharge	1	2
D	Anal discharge	1	2

62	What did you do the last time you experienced any of those symptoms?	1. Never experienced any of those symptoms 2. Did not treat 3. Self-treated/sought advice from pharmacy 4. Sought treatment government health facility 5. Sought treatment from private health facility 6. Went to traditional healer 7. Other:	□

BLOCK H. KNOWLEDGE OF HIV, RISKS, AND MEANS OF PREVENTION			
63	Do you feel at risk of being infected with HIV?	1. Yes 2. No	□
64	Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners? **[UNGASS]**	1. Yes 2. No	□
65	Can a person reduce the risk for getting HIV by using a condom every time they have sex? **[UNGASS]**	1. Yes 2. No	□
66	Can a healthy-looking person have HIV? **[UNGASS]**	1. Yes 2. No	□
67	Can a person get HIV from mosquito bites? **[UNGASS]**	1. Yes 2. No	□
68	Can a person get HIV from sharing food with someone who is infected? **[UNGASS]**	1. Yes 2. No	□

BLOCK I: ALCOHOLIC DRINKS AND NARCOTIC DRUG USE			
I would like to take this opportunity to ask about some sensitive matters related to narcotics. I would like to remind you again that your answers will be kept confidential			
69	In the **past 1 month**, have you ever consume alchoholic drinks (arak, palm wine, beer, whiskey, etc.) before having sex?	1. Yes 2. No	□
70	Some people consume drugs, like ecstasy, shabu, or ice to feel good, party, or have fantasies. In the **last 12 months**, have you ever used ecstasy, shabu, ice or similar drugs before having sex?		

	<table><tr><th></th><th>Drugs</th><th colspan="2">Answer</th></tr><tr><td>A</td><td>Ecstasy</td><td>1. Yes</td><td>2. No</td></tr><tr><td>B</td><td>Shabu / Ice</td><td>1. Yes</td><td>2. No</td></tr><tr><td>C</td><td>Cocaine</td><td>1. Yes</td><td>2. No</td></tr><tr><td>D</td><td>Heroine</td><td>1. Yes</td><td>2. No</td></tr><tr><td>E</td><td>Others, specify……</td><td>1. Yes</td><td>2. No</td></tr></table>	A□ B□ C□ D□ E□
71	Have any of your sexual partners ever used ecstasy, shabu, ice or similar drugs before having sex with you?	1. Yes 2. No	□
72	Have you ever used injected drugs?	1. Yes 2. No	□
73	Are you still injecting drugs?	1. Yes 2. No 3. Never injected drugs	□
74	If you are still injecting drugs, did you ever share used needle and/or syringe in **the last 12 months**?	1. Yes 2. No 3. Never injected drugs	
75	Have any of your sexual partners ever injected drugs?	1. Yes 2. No	□

BLOCK J. QUESTIONS ABOUT SOCIAL NETWORK			
76	How many female sex workers do you know and they know you whom you had been in touch with in the **past 3months**?	..... People	□
77	Of those above [Q76], how many of them are less than 18 years old?	..... People	□
78	Of those above [Q76], how many of them came from same city / town as you?	..... People	□
79	Of those above [Q76], how many were in contact with you in the **last 1 week**?	..... People	□

BLOK K. HIV RAPID TEST			
80	Result HIV test	1. Reactive 2. Non-reactive	□

NOTES

Before ending the interview, **carefully review the questionnaire/respondent's answers for completeness**
Thank you for your participation

Annex 3

QUESTIONNAIRE FOR TRANSGENDER

(IBBS/2014/TG/06)

INTEGRATED BIO-BEHAVIORAL SURVEILLANCE (IBBS) 2014

MINISTRY OF HEALTH MALAYSIA

CONFIDENTIAL

BLOCK A. IDENTIFICATION OF PLACE			
1	Mother's name		
2	State/City		□□
3	Respondent serial no.		□□□□
4	Respondent Coupon Number		**(Copy the number of the coupon)** □□ □□□□□□□□□
5	Wave number **[Seeds should be noted wave 0]**		To be filled out by an officer □□

BLOCK B. INTERVIEWER INFORMATION				
1	Name of Interviewer			
2	Date of interview			Date Month Yr □□-□□-□□
3	These questionnaire responses have been examined for completeness and consistency by:			
	Names of Interviewer/Site manager	Status	Date of examination	Signature
		Interviewer		
		Site manager		

INTRODUCTION

1. Greetings (for example: Good Morning / Good Afternoon / Good Evening).
2. Introduce yourself.
3. Explain the intention and goal of the Integrated Bio-Behavioral Surveillance Survey 2014.
4. Emphasize the confidentiality of the responses, and let the person know that the name of the respondent will not be recorded.
5. Ask about the person's willingness to be a respondent and to answer the questions honestly.
6. Thank the person for her willingness to participate.

THE INTERVIEWER SETS UP A PRIVATE ATMOSPHERE IN WHICH TO CONDUCT THE INTERVIEW. MAKE SURE NO ONE ELSE IS THERE WHILE THE INTERVIEW IS TAKES PLACE.

"Have you already been interviewed for this survey in the past few weeks?"
If the person involved has already been interviewed for this survey, do not interview that person a second time; express thanks and end the interview.
If they have not yet been interviewed, continue this interview.

My name is (name), and I'm an officer working on collecting health data. We are collecting information about how to help people to prevent HIV/AIDS. We will ask some private questions about you. We will not ask for your name or address, so that you cannot be identified, and anything you communicate will be used solely for the purpose of planning health programs. You do not have to participate in this survey, unless you agree to participate.

There are no right or wrong answers to any of the questions we pose to you. If you agree to be interviewed, we will much appreciate it if you tell the situation as it is (as honestly as possible). Can we begin the interview?

BLOCK C. SOCIODEMOGRAPHIC CHARACTERISTICS

1	How old are you?	..... years	□□
2	Highest level of education	1. No formal education 2. Primary 3. Secondary 4. Tertiary (College / University)	□

3	Which ethnic group do you belong to?	1. Malay 2. Chinese 3. Indian 4. Sabah 5. Sarawak 6. Orang asli 7. Other Malaysian, specify ……	□
4	Which religion do you belong to?	8. Islam 9. Buddhism 10. Hinduism 11. Christianity 12. Sikhism 13. No religion 14. Others, specify ……	□
5	What is your current marital status?	1. Unmarried 2. Married 3. Divorced 4. Widow	□
6	What is the main source of your income in the past month? **[Read the answer choices]**	1. Employment with salary 2. Independent worker (odd jobs) 3. Work in salon/beauty parlors/hair dressers 4. Student with part time job 5. Sex worker 6. Unemployed 7. Other, specify: ……	
7	What is your average income every month?	RM……../month	□□□□
8	How long have you been living in this city (name of city)?	..... years, ...months (Total in months :.....)	
9	At what age did you began to feel that you are a transgender?	……years	

The following section consists of questions about your sexual practices/behaviors. We will keep the information and answers we receive from you <u>confidential</u>. Your honesty will be extremely useful to us in developing services and assistance that match the desires and needs of your group.

BLOCK D. CONDOM			
10	Have you ever used condom while having sex?	1. Yes 2. No	□
11	In the **last 12 months,** have you ever bought a condom?	1. Yes 2. No	□
12	How much money did you spend the **last time** you bought a condom?	RM ...../condom	□□□
13	Where did you normally buy condoms? **[Do not read out the answers] [Answers can be more than 1]**	6. Retail outlets (e.g. 7-eleven, small shops, supermarket, petrol station etc.) 7. Pharmacy 8. Bar/guest house/hotel/Club 9. Others: ..... 10. Never bought a condom	□
14	In the **last 12 months**, have you been given condoms (eg. by outreach workers, NGO, clinics)?	1. Yes 2. No	□
15	In the **past 3 months,** have you or your partner ever **broken a condom** while having sex?	4. Yes 5. No 6. Did not use condom in the past 3 months	□
16	Do you **usually use** a **lubricant** while having anal sex? (Lubricant - something that could make your penis or your partner's penis more slippery and easier to insert into the anus)	3. Yes 4. No	□

Now I would like to ask some questions about your sexual history			
BLOCK E. SEXUAL HISTORY			
17	How old were you when you first had sexual experience either by consensual or by force (vaginal or anal)?	.....years	□□
18	Was your first sex partner a man, a woman or transgender?	1. Man 2. Woman 3. Transgender	□
19	Have you been forced during the first time you had sex?	1. Yes 2. No	□
20	Do you have a permanent sex partner?	1. Yes 2. No	□

21	What is the gender of your permanent sex partner?	1. Man 2. Woman 3. Transgender 4. I don't have permanent sex partner	□
22	Does your permanent sex partner have other sex partners?	1. Yes 2. No 3. I do not know 4. I don't have permanent sex partner	□
23	In **the past 1 week**, can you recall total number of men you had anal sex with?	……..partner (Please write '0' if no anal sex last week)	□
24	Of the numbers above (Q23), how many partners with whom condom was **not** used?	……..partner ***88.*** *I never had anal sex in the past 1 week*	□□

BLOCK F. SEXUAL BEHAVIORS			
Selling sex			
25	Have you ever received money or in kind from men in exchange for sex?	1. Yes 2. No	□
26	How old were you when you first have sex in exchange for money or in kind?	Age: ..... years *88. Never had sex in exchange for money or in kind*	□□
27	*In the past 1 week, how many different men have you received money for anal sex?*	……men (Please write '0' if no anal sex last week) *88. Never had sex in exchange for money or in kind*	□□□
28	*Of the numbers above (Q27), how many men of whom condom was not used?*	……..men *888. Never had anal sex in exchange for money or in kind in the past 1 week*	□□□
29	*Of the numbers above (Q27), how many of clients who are receptive partner?*	……..men *888. Never had anal sex in exchange for money or in kind in the past 1 week*	□□□
30	*How many days a week do you serve your customers?*	……days	□

		88. Never had sex in exchange for money or in kind	
31	Did you or your most recent client use a condom?	1. Yes 2. No *8. Never had sex in exchange for money or in kind*	□
Buying sex from men			
32	*In the last 12 months, have you ever paid a man to have sex with you?* [Including any kind of sex: oral, anal or other non-penetrative sex]	1. Yes 2. No	□
33	*In the past 1 month, how many men have you paid to have <u>anal sex</u> with you?*	……men (Please write '0' if no anal sex last month) *88. I never paid a man to have anal sex*	□□□
34	*Of the numbers above (Q33), how many of whom condom was <u>not</u> used?*	……men *888. I never paid a man to have anal sex*	□□□
35	Did you or your last paid partner use a condom during <u>anal sex</u>?	1. Yes 2. No 8. *I never paid a man to have anal sex*	□
Sex with men without payment (casual sex)			
36	*In the past 12 months, have you ever had casual sex with a man?* [Including any kind of sex: oral, anal or other non-penetrative sex]	1. Yes 2. No	□
37	Did you or your partner use condom the last time you had casual <u>anal sex</u> with a man?	1. Yes 2. No *8. I never had casual sex with a man*	□
38	**In the past 1 month,** how many men have you had casual <u>anal sex</u> with?	……men (Please write '0' if no casual anal sex last month) *88. I never had casual sex with a man*	□□

39	Of the numbers above (Q38), how many men of whom condom was **not** used?	……..men *888. I never had casual sex with a man in the past 1 month*	□□□
40	In the **past 1 week,** how many different men you had casual anal sex with?	……..men (Please write '0' if no casual anal sex last week) *88. I never had casual sex with a man*	□□
41	If yes (Q40), how many casual partners were receptive?	..... men *88. I never had casual sex with a man in the past 1 week*	□□

BLOCK G. COVERAGE OF INTERVENTIONS			
42	In the **last 12 months,** have you ever attended a health talk addressing the prevention of HIV/sexual diseases transmission?	1. Yes 2. No	□
43	If "Yes" **(Q42)**, who organized it? **[There may be more than one answer given, but do not read out the choices]**	7. Department of Health 8. Department of Social Welfare 9. Other government department 10. Company/business 11. NGO/CBO 12. Other 9. *I never attended any health talk in the past 12 months*	□
44	In the **past 12 months,** have you ever attended events where HIV transmission and prevention were discussed?	3. Yes 4. No	□
45	**When** did you **last** participated in **individual discussion** to assess your risk of HIV infection and prevention method?	5. In the past 3 months 6. In the past 4 month to 1 year 7. More than one year ago 8. Never participated in such discussion	□

46	**When** did you **last** participated in **group discussion** to assess your risk of HIV infection and prevention method?	5. In the past 3 months 6. In the past 4 month to 1 year 7. More than one year ago 8. Never participated in such discussion	□
47	In the **past 3 months**, have you been contacted by NGO outreach worker or health worker?	3. Yes 4. No	□
48	If yes (Q47), can you recall what were discussed? **[Answer can be more than 1]**	6. HIV transmission and prevention 7. Sexual activity/pleasure 8. Proper use of condom 9. Spiritual awareness from religious perspective 10. Others 9. *I have never been contacted by NGO outreach worker or health worker in the past 3 months*	□
49	In the **last 12 months**, have you ever received HIV prevention package from NGO outreach worker?	5. Yes, I received condoms only 6. Yes, I received condoms and information related to HIV/STI 7. Yes, I received information related to HIV/STI only 8. No, I did not received condom or any information related to HIV/STI	□

BLOCK H. TESTING AND TREATMENT			
HIV Testing			
50	Do you know where you can go for HIV testing?	3. Yes 4. No	□
51	Have you ever had a test to determine the status of HIV infection?	3. Yes 4. No, I never had blood test for HIV	□
52	When did you last take HIV blood test? **(GARPR)**	3. In the past 12 months 4. Over 12 months ago 9. *I never had blood test for HIV*	□
53	If you had HIV test in the last 12 months, were you informed of the result? **(GARPR)**	4. I had HIV test and informed of the result 5. I had HIV test but not informed of the result *6. I had HIV blood test more than 12 months ago* 9. *I never had blood test for HIV*	□

54	What was the reason the last time you took a blood test for HIV testing?	9. To obtain a certificate (job, migration etc.) 10. To get married 11. To engage in a monogamous relationship 12. To check because I felt at risk 13. Because I felt sick 14. Because someone else requested / suggested it 15. Others *16. I never had blood test for HIV*	
55	Did you share the result of the HIV blood test last time with anyone?	3. Yes 4. No 9. *I never had blood test for HIV*	
56	With whom did you share the result of your HIV blood test?	7. Wife 8. Sexual partner 9. Friend 10. Family members 11. Others 12. Never shared the result of HIV test 9. *I never had blood test for HIV*	
57	Has your permanent partner/spouse taken the HIV testing?	4. Yes 5. No 6. Does not have permanent partner/spouse	

HIV Treatment			
58	Did you ever receive ARV treatment? (ARV is a HIV treatment which are given daily for the rest of life after being diagnosed with HIV)	3. Yes 4. No	
59	Where did you receive your ARV treatment?	3. Government health facility 4. Private health facility *9. I did not receive ARV / I am HIV negative*	
60	Are you still receiving ARV treatment?	3. Yes 4. No *9. I did not receive ARV / I am HIV negative*	
61	If no (Q60), what was the main reason you defaulted your ARV treatment? **[Do not read the answer]**	9. Opting for spiritual/ alternative/ treatment 10. Financial problem 11. No time to seek for regular treatment 12. Loss of interest in the program 13. Cannot tolerate the side effects of ARV 14. Afraid of stigma or rejection 15. Others, specify ……. *16. I did not receive ARV / I am HIV negative*	

<table>
<tr><th colspan="4">STI</th></tr>
<tr><td>62</td><td>In the past 3 months, have you ever visited a clinic for STI checkup or treatment?</td><td>3. Yes
4. No</td><td></td></tr>
<tr><td>63</td><td>If yes (Q62), did the doctor examine your anus?</td><td>3. Yes
4. No
9. I did not visit STI clinic in the past 3 months</td><td></td></tr>
<tr><td>64</td><td>In the past 12 months, have you been diagnosed with STI?</td><td>1. Yes
2. No</td><td></td></tr>
<tr><td>65</td><td colspan="2">In the last 12 months, have you experienced any of the following symptoms (answers can be more than 1):
<table>
<tr><th></th><th>STI symptoms</th><th>Yes</th><th>No</th></tr>
<tr><td>A</td><td>Extreme burning pain when urinating</td><td>1</td><td>2</td></tr>
<tr><td>B</td><td>Penile ulcer</td><td>1</td><td>2</td></tr>
<tr><td>C</td><td>Anal ulcer</td><td>1</td><td>2</td></tr>
<tr><td>D</td><td>Urethral discharge</td><td>1</td><td>2</td></tr>
<tr><td>E</td><td>Anal discharge</td><td>1</td><td>2</td></tr>
</table></td><td>A
B
C
D
E</td></tr>
<tr><td>66</td><td>What did you do the last time you experienced any of those symptoms?</td><td>1. Never experienced any of those symptoms
2. Did not treat
3. Self-treated/ sought advice from pharmacy
4. Sought treatment from government health facility
5. Sought treatment from private health facility
6. Went to traditional healer
7. Other: .....</td><td></td></tr>
</table>

BLOCK I. KNOWLEDGE OF HIV, RISKS, AND MEANS OF PREVENTION			
67	Do you feel at risk of being infected with HIV?	3. Yes 4. No	
68	Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners? **[UNGASS]**	3. Yes 4. No	
69	Can a person reduce the risk for getting HIV by using a condom every time they have sex? **[UNGASS]**	3. Yes 4. No	
70	Can a healthy-looking person have HIV? **[UNGASS]**	3. Yes 4. No	
71	Can a person get HIV from mosquito bites? **[UNGASS]**	3. Yes 4. No	

72	Can a person get HIV from sharing food with someone who is infected? **[UNGASS]**	3. Yes 4. No	□

BLOCK J. ALCHOHOLIC DRINKS AND NARCOTIC DRUG USE			
I would like to take this opportunity to ask about some sensitive matters related to narcotics. I would like to remind you again that your answers will be kept confidential			
73	In the **past 1 month**, have you ever consume alchoholic drinks (arak, palm wine, beer, whiskey, etc.) before having sex?	1. Yes 2. No	□
74	Some people consume narcotics, like ecstasy, shabu, ice or similar drugs to feel good, party, or have fantasies. In the **last 12 months**, have you ever used ecstasy, shabu, ice or similar drugs before having sex?		A □ B □ C □ D □ E □

	Drug	**Answer**	
A	Ecstasy	1. Yes	2. No
B	Shabu / Ice	1. Yes	2. No
C	Cocaine	1. Yes	2. No
D	Heroine	1. Yes	2. No
E	Others, specify……..	1. Yes	2. No

75	Have any of your sexual partners ever used ecstasy, shabu, ice or similar drugs before having sex with you?	1. Yes 2. No	□
76	Have you ever injected drugs?	1. Yes 2. No	□
77	Are you still injecting drugs?	4. Yes 5. No 6. Never injected drugs	□
78	If you are still injecting drugs, did you ever share used needle and/or syringe in **the last 12 months**?	4. Yes 5. No 6. Never injected drugs	□
79	Have any of your sexual partners ever injected drugs?	1. Yes 2. No	□

BLOCK K. QUESTIONS ABOUT SOCIAL NETWORK			
80	How many transgender do you know and they know you whom you had been in touch with in the **past 3 months**?	..... people	□

81	Of those above [Q80], how many of them aged 18 and younger?	……..people	□
82	Of those above [Q80], how many from the same location as you?	……..people	□□
83	Of those above [Q80], how many were in contact with you in the **last 1 week**?	……..people	□□

BLOK L. HIV RAPID TEST			
84	Result HIV test	1. Reactive 2. Non-reactive	□

NOTES

Before ending the interview, carefully review the completeness of the contents of the questionnaire / respondent's answers

Thank you very much for your participation

Annex 4

QUESTIONNAIRE FOR MEN-SEX-WITH-MEN

(IBBS/2014/MSM/06)

INTEGRATED BIO-BEHAVIORAL SURVEILLANCE (IBBS) 2014

MINISTRY OF HEALTH MALAYSIA

CONFIDENTIAL

BLOCK A. IDENTIFICATION OF PLACE			
1	Mother's initial		
2	State/City		□□
3	Respondent Serial Number		□□□□□
4	Respondent Coupon Number		**(Copy the number of the coupon)** □□ □□□□□□□□□
5	Wave number **[Seeds should be noted wave 0]**		**(To be filled out by an officer)** □□

BLOCK B. INTERVIEWER INFORMATION				
1	Name of Interviewer			
2	Date of interview			Date Month Year □□-□□-□□
3	These questionnaire responses have been examined for completeness and consistency by:			
	Names of Interviewers/Site manager	Status	Date of examination	Signature
		Interviewer		
		Site manager		

INTRODUCTION

1. Greetings (for example: Good Morning / Good Afternoon / Good Evening).
2. Introduce yourself
3. Explain the intention and goal of the Integrated Bio-Behavioral Surveillance Survey 2014
4. Emphasize the confidentiality of the responses, and let the person know that the name of the respondent will not be recorded.
5. Ask about the person'swillingness to be a respondent and to answer the questions honestly.
6. Thank the person for his willingness to participate.

THE INTERVIEWER SETS UP A PRIVATE ATMOSPHERE IN WHICH TO CONDUCT THE INTERVIEW. MAKE SURE THAT NO ONE ELSE IS THERE WHILE THE INTERVIEW TAKES PLACE.

"Have you already been interviewed for this survey in the past few weeks?"
If the person involved has already been interviewed for this survey, do not interview that person a second time; express thanks and end the interview.
If they have not yet been interviewed, continue this interview.

My name is (name), and I'm an officer working on collecting health data. We are collecting information about how to help people to prevent HIV/AIDS. We will ask some private and sensitive questions about you. We will not ask for your name or address, so that you cannot be identified, and anything you communicate will be used solely for the purpose of planning health programs. You do not have to participate in this survey, unless you agree to participate. There are no right or wrong answers to any of the questions we pose to you. If you agree to be interviewed, we will much appreciate it if you tell the situation as it is (as honestly as possible). Can we begin the interview?

BLOCK C: SOCIODEMOGRAPHIC CHARACTERISTICS			
1	How old are you now?	.....years	□□
2	Highest level of education	1. No formal education 2. Primary 3. Secondary 4. Tertiary (College / University)	□
3	Which ethnic group do you belong to?	1. Malay 2. Chinese 3. Indian 4. Bumiputera Sabah 5. Bumiputera Sarawak 6. Orang asli 7. Other Malaysian, specify…….	□

4	Which religion do you belong to?	1. Islam 2. Buddhism 3. Hinduism 4. Christianity 5. Sikhism 6. No religion 7. Others, specify……	□
5	What is your current marital status?	1. Unmarried 2. Married to a woman 3. Married to a man 4. Divorced 5. Widow	□
6	What is your employment status?	1. Employed 2. Unemployed 3. Student	□
7	What is the nature of your job?	1. Professional 2. Non-professional 3. Self-employed 4. Other, specify:…… 5. I am unemployed 6. I am a student	□
8	What is your average income every month?	RM……/month	□□□□□

The following section consists of questions about your sexual practices/behaviors. We will keep the information and answers we receive from you <u>confidential</u>. Your honesty will be extremely useful to us in developing services and assistance that match the desires and needs of your group.

BLOCK D. CONDOMS			
9	Have you ever used condom while having sex?	1. Yes 2. No	□
10	In the **last 12 months,** have you ever bought a condom?	1. Yes 2. No	□
11	How much money did you spend the **last time** you bought a condom?	RM ……/condom *88. Never bought a condom*	□□□
12	Where did you normally buy condoms? **[Do not read out the answers] [Answers can be more than 1]**	1. Retail outlets (e.g. 7-eleven, small shops, supermarket, petrol station etc.) 2. Pharmacy 3. Bar/guest house/hotel/Club 4. Others: …… 5. Never bought a condom	□

13	In the **last 12 months**, have you been given condoms (e.g. by outreach workers, clinics)?	1. Yes 2. No	□
14	In the **past 3 months,** have you or your partner ever **broken a condom** while having sex?	1. Yes 2. No 3. I did not use condom in the past 3 months	□
15	Do you **usually use** a **lubricant** while having anal sex? (Lubricant - something that could make your penis or your partner's penis more slippery and easier to insert into the anus)	1. Yes 2. No	□

Now I would like to ask some questions about your sexual history			
BLOCK E. SEXUAL HISTORY			
16	How old were you when you **first had** anal sex with a man ?	.....years	□□
17	Have you been forced during the **first time** you had anal sex with a man?	1. Yes 2. No	□
18	**In the last 12 months**, have you ever received money or in kind from men in exchange for sex?	1. Yes 2. No	□
19	*In the last 12 months, have you ever paid a man to have <u>anal</u> sex with you?*	1. Yes 2. No	□
20	If yes (Q19), how frequent did you use condom? (please rate between 0% to 100%)	.....% *888. I have never paid a man to have anal sex in the last 12 months*	□□□
21	Did you **use a condom the last time** you had anal sex with your male partner? **(GARPR)**	1. Yes 2. No	□
22	In the **last 12 months,** have you ever had sex <u>without</u> condom?	1. Yes 2. No *8. I never had sex in the last 12 months*	□
23	Have you had <u>anal</u> sex in the **past 1 month**? (this refer to all types of sexual partner)	1. Yes 2. No	□
24	If yes (Q23), how many different men you had sex with?	.....men *88. I never had anal sex in the past 1 month*	□□

25	Do you have a permanent sex partner?	1. Yes 2. No	□
26	Who is your permanent sex partner?	1. Man 2. Woman 3. Transgender (including female to male) 4. No permanent partner	□
27	**In the last 12 months**, have you had sex with a woman?	1. Yes 2. No	□
28	If yes (Q27), do you currently have sex with female partner in the last 1 month?	1. Yes 2. No *8. I never had sex with a woman in the last 12 months*	□
29	**In the last 12 months**, have you had sex with female sex worker?	1. Yes 2. No	□
30	If yes (Q29), did you use condom the last time you had sex with female sex worker?	1. Yes 2. No *8. I never had sex with female sex worker in the last 12 months*	□

BLOCK F. COVERAGE OF INTERVENTIONS			
31	In the **last 12 months,** have you ever attended a health talk addressing the prevention of HIV/sexual diseases transmission?	1. Yes 2. No	□
32	If yes **(Q31)**, who organized the health talk? **[There may be more than one answer given, but do not read out the choices]**	1. Department of Health 2. Department of Social Welfare 3. Other government department 4. Company/business 5. NGO/CBO 6. Other 10. *I never attended any health talk in the past 12 months*	□
33	In the **past 12 months,** have you ever attended events where HIV transmission and prevention were discussed?	1. Yes 2. No	□
34	When did you **last** participate in **individual discussion** to assess your risk of HIV infection and prevention method?	1. In the past 3 months 2. In the past 4 month to 1 year 3. More than one year ago 4. Never participated in such discussion	□

35	When did you **last** participate in **group discussion** to assess your risk of HIV infection and prevention method?	1. In the past 3 months 2. In the past 4 month to 1 year 3. More than one year ago 4. Never participated in such discussion	□
36	In the **past 3 months**, have you been contacted by NGO outreach worker or health worker?	1. Yes 2. No	□
37	If yes **(Q36)**, can you recall what were discussed? **[Answer can be more than 1]**	1. HIV transmission and prevention 2. Sexual activity/pleasure 3. Proper use of condom 4. Spiritual awareness from religious perspective 5. Others 10. *I have never been contacted by NGO outreach worker or health worker in the past 3 months*	□
38	In **the last 12 months** have you ever received HIV prevention package from NGO outreach worker?	9. Yes, I received condoms only 10. Yes, I received condoms and information related to HIV/STI/STD 11. Yes, I received information related to HIV/STI/STD only 12. No, I did not received condom or any information related to HIV/STI/STD	□
39	How many times have you connected to the websites (internet) for information about HIV transmission and prevention in the **past 6 month**?	…….times (Please write '0' if never connected to the websites in the past 1 month)	□□
40	What is your main source of HIV information?	1. Internet 2. Friends 3. School 4. NGO 5. Doctor 6. Others:……	□

BLOCK G. TESTING AND TREATMENT			
HIV Testing			
41	Do you know where you can go for HIV testing?	1. Yes 2. No	□
42	Have you ever had HIV test to determine the status of HIV infection?	1. Yes 2. No, I never had blood test for HIV	□

43	If yes (Q42), when did you last take a HIV blood test? **(GARPR)**	1. In the past 12 months 2. Over 12 months ago 10. *I never had blood test for HIV*	
44	If you had HIV test in the last 12 months, were you informed of the result? **(GARPR)**	1. I had HIV test and informed of the result 2. I had HIV test but not informed of the result *3. I had HIV blood test more than 12 months ago* 10. *I never had blood test for HIV*	
45	What was the reason the last time you took a blood test for HIV testing?	1. To obtain a certificate (job, migration etc.) 2. To get married 3. To engage in a monogamous relationship 4. To check because I felt at risk 5. Because I felt sick 6. Because someone else requested / suggested it 7. Others *8. I never had blood test for HIV*	
46	Did you share the result of the last HIV test with anyone?	1. Yes 2. No 10. *I never had blood test for HIV*	
47	With whom did you share the result of your HIV blood test?	1. Wife 2. Sexual partner 3. Friend 4. Family members 5. Others 6. Never shared the result of HIV test 10. *I never had blood test for HIV*	
48	Has your permanent partner/spouse taken the HIV testing?	1. Yes 2. No 3. Does not have permanent partner/spouse	
HIV Treatment			
49	Did you ever receive ARV treatment? (ARV is a HIV treatment which are given daily for the rest of life after being diagnosed with HIV)	1. Yes 2. No	
50	Where did you receive your ARV treatment?	1. Government health facility 2. Private health facility *10. I did not receive ARV / I am HIV negative*	
51	Are you still receiving ARV treatment?	1. Yes 2. No *10. I did not receive ARV / I am HIV negative*	

<table>
<tr><td>52</td><td>If no (Q51), what was the main reason you defaulted your ARV treatment?
[Do not read the answer]</td><td>1. Opting for spiritual/ alternative/ treatment
2. Financial problem
3. No time to seek for regular treatment
4. Loss of interest in the program
5. Cannot tolerate the side effects of ARV
6. Afraid of stigma or rejection
7. Others, specify …….
8. I did not receive ARV / I am HIV negative</td><td></td></tr>
<tr><td colspan="4">STI/STD</td></tr>
<tr><td>53</td><td>In the past 3 months, have you ever visited a clinic for STI / STD checkup or treatment?</td><td>1. Yes
2. No</td><td></td></tr>
<tr><td>54</td><td>If yes (Q53), did the doctor examine your anus?</td><td>1. Yes
2. No
10. I did not visit STI /STD clinic in the past 3 months</td><td></td></tr>
<tr><td>55</td><td>In the past 12 months, have you been diagnosed with STI / STD? (For example: gonorrhea, syphilis etc.)</td><td>1. Yes
2. No</td><td></td></tr>
<tr><td>56</td><td colspan="2">In the past 12 months, have you experienced any of the following symptoms (answers can be more than 1):
<table>
<tr><th></th><th>STI/STD symptoms</th><th>Yes</th><th>No</th></tr>
<tr><td>A</td><td>Extreme burning pain when urinating</td><td>1</td><td>2</td></tr>
<tr><td>B</td><td>Penile ulcer</td><td>1</td><td>2</td></tr>
<tr><td>C</td><td>Anal ulcer</td><td>1</td><td>2</td></tr>
<tr><td>D</td><td>Urethral discharge</td><td>1</td><td>2</td></tr>
<tr><td>E</td><td>Anal discharge</td><td>1</td><td>2</td></tr>
</table></td><td>A
B
C
D
E</td></tr>
<tr><td>57</td><td>What did you do the last time you experienced any of those symptoms?</td><td>8. Never experienced any of those symptoms
9. Did not treat
10. Self-treated/sought advice from pharmacy
11. Sought treatment from government health facility
12. Sought treatment from private health facility
13. Went to traditional healer
14. Other: .....</td><td></td></tr>
</table>

BLOCK H. KNOWLEDGE OF HIV, RISKS, AND MEANS OF PREVENTION			
58	Do you feel at risk of being infected with HIV?	1. Yes 2. No	□
59	Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners? **[UNGASS]**	1. Yes 2. No	□
60	Can a person reduce the risk for getting HIV by using a condom every time they have sex? **[UNGASS]**	1. Yes 2. No	□
61	Can a healthy-looking person have HIV? **[UNGASS]**	1. Yes 2. No	□
62	Can a person get HIV from mosquito bites? **[UNGASS]**	1. Yes 2. No	□
63	Can a person get HIV from sharing food with someone who is infected? **[UNGASS]**	1. Yes 2. No	□

BLOCK I. ALCHOHOLIC DRINKS AND NARCOTIC DRUG USE			
I would like to take this opportunity to ask about some sensitive matters related to narcotics. I would like to remind you again that your answers will be kept confidential			
64	In the **past 1 month**, have you ever consume alchoholic drinks (arak, palm wine, beer, whiskey, etc.) before having sex?	1. Yes 2. No	□
65	Some people consume narcotics, like ecstasy, shabu, ice or similar drugs to feel good, party, or have fantasies. In the **last 12 months**, have you ever used ecstasy, shabu, ice or similar drugs before having sex?		A □ B □ C □ D □ E □
66	Have any of your sexual partners ever used ecstacy, shabu, ice or similar drugs before having sex with you?	1. Yes 2. No	□
67	Have you ever injected drugs?	1. Yes 2. No	□

	Drug	Answer	
A	Ecstasy	1. Yes	2. No
B	Shabu / Ice	1. Yes	2. No
C	Cocaine	1. Yes	2. No
D	Heroine	1. Yes	2. No
E	Others, specify……..	1. Yes	2. No

68	Are you still injecting drugs?	1. Yes 2. No 3. Never injected drugs	□
69	If you are still injecting drugs, did you ever share used needle and/or syringe in the last 12 months?	1. Yes 2. No 3. Never injected drugs	□
70	Have any of your sexual partners ever injected drugs?	1. Yes 2. No	□

BLOCK J. QUESTIONS ABOUT SOCIAL NETWORK			
71	How many 'man who have sex with man' do you know and they know you whom you had been in touch with in the **past 3 months**?	..... people	□□
72	Of those above [Q71], how many of them aged 18 and younger?	.....people	□□
73	Of those above [Q71], how many from the same location as you?	.....people	□□
74	Of those above [Q71], how many were in contact with you **last week**?	.....people	□□

BLOCK K. HIV RAPID TEST			
75	Result HIV test	1.Reactive 2.Non-reactive	□

NOTES
Before ending the interview, **Carefully review the questionnaire/respondent'sanswers for completeness**
Thank you for your participation

Annex 5

QUESTIONNAIRE FOR PEOPLE WHO INJECT DRUG (IBBS/2014/PWID/06)

INTEGRATED BIO-BEHAVIORAL SURVEILLANCE (IBBS) 2014
MINISTRY OF HEALTH MALAYSIA

CONFIDENTIAL

BLOCK A. IDENTIFICATION OF PLACE		
1	Mother's name	
2	State/City	□□
3	Respondent serial no.	□□□□□
4	Respondent Coupon Number	**(Copy the number of the coupon)** □□ □□□□□□□□□
5	Wave number **[Seeds should be noted wave 0]**	**(To be filled out by an officer)** □□

BLOCK B. INTERVIEWER INFORMATION				
1	Name of Interviewer			
2	Date of Interview			Date Month Year □□-□□-□□
3	These questionnaire responses have been examined for completeness and consistency by:			
	Names of Interviewer / Site manager	Status	Date of examination	Signature
		Interviewer		
		Site manager		

INTRODUCTION

1. Greetings (for example: Good Morning / Good Afternoon / Good Evening).
2. Introduce yourself.
3. Explain the intention and goal of the Integrated Bio-Behavioral Surveillance Survey 2014.
4. Emphasize the confidentiality of the responses, and let the person know that the name of the respondent will not be recorded.
5. Ask about the person's willingness to be a respondent and to answer the questions honestly.
6. Thank the person for her willingness to participate.

THE INTERVIEWER SETS UP A PRIVATE ATMOSPHERE IN WHICH TO CONDUCT THE INTERVIEW. MAKE SURE NO ONE ELSE IS THERE WHILE THE INTERVIEW IS TAKES PLACE.

"Have you already been interviewed for this survey in the past few weeks?"
If the person involved has already been interviewed for this survey, do not interview that person a second time; express thanks and end the interview.
If they have not yet been interviewed, continue this interview.

My name is (name), and I'm an officer working on collecting health data. We are collecting information about how to help people to prevent HIV/AIDS. We will ask some private questions about you. We will not ask for your name or address, so that you cannot be identified, and anything you communicate will be used solely for the purpose of planning health programs. You do not have to participate in this survey, unless you agree to participate.

There are no right or wrong answers to any of the questions we pose to you. If you agree to be interviewed, we will much appreciate it if you tell the situation as it is (as honestly as possible). Can we begin the interview?

BLOCK C. SOCIODEMOGRAPHIC CHARACTERISTICS			
1	Gender	1. Male 2. Female	□
2	How old are you now?	.....years	□□
3	Highest level of education	5. No formal education 6. Primary 7. Secondary 8. Tertiary (College / University)	□

4	Which ethnic group do you belong to?	1. Malay 2. Chinese 3. Indian 4. Sabah 5. Sarawak 6. Orang Asli 7. Other Malaysian, specify	□
5	Which religion do you belong to?	1. Islam 2. Buddhism 3. Hinduism 4. Christianity 5. Sikhism 6. No religion 7. Others, specify	□
6	What is your current marital status?	8. Unmarried 9. Married 10. Divorced 11. Widow	□
7	What is the main source of your income in the **past 1 month**? **[Read the answer choices**	1. Job with salary 2. Independent worker (odd jobs) 3. Student 4. Unemployed 5. Other, specify:	□
8	What is your average income every month?	RM...../month	□□□□
9	How long have you been living in this city (name of city)?	..... years, ... months (Total months:.....)	□□□
10	In the past 12 months, have you ever been arrested and imprisoned?	1. Yes 2. No	□
11	In the past 12 months, have you ever been into Drug Rehabilitation Center (Pusat Serenti)?	1. Yes 2. No	□

The following questions are related to information about injected narcotic use and practices. The information that you provide will be kept confidential. Your honesty will be very useful to us in developing services and forms of assistance that meet the needs and desires of people in your group.

BLOCK D. INJECTED NARCOTICS

12	At what age did you started taking any kind of drugs?	……Years	□□
13	At what age did you started <u>injecting</u> drugs?	……Years	□□
14	Which kinds of narcotics have you used or injected in the **past 12 months**? **[Read out the answer choices, answers may be more than 1]**		

No	Narcotics	Yes injected	Yes Not Injected	No	
A	Heroin (Putaw)	1	2	3	A□
B	Diazepam (Valium, Xanax...)	1	2	3	B□
C	Amphetamines (Shabu/Ice)	1	2	3	C□
D	Subutex / Methadone	1	2	3	D□
E	Codeine	1	2	3	E□
F	Opium (Candu)	1	2	3	F□
G	Ketamine	1	2	3	G□
H	Ecstasy / methamphetamine	1	2	3	H□
I	LSD	1	2	3	I□
J	Other kinds:	1	2	3	J□

15	Have you ever share needle and/or syringe when you injected drugs?	1. Yes 2. No	□
16	In the **past 12 months**, have you shared needle and/or syringe with your friends when you injected drugs?	1. Yes 2. No	□
17	The **last time** you injected drug, did you share needle and/or syringe? **[UNGASS]**	1. Yes 2. No	□
18	The **last time** you injected drugs, did you pass on your needle after using it?	1. Yes 2. No	□
19	In the **past 1 week**, can you recall number of <u>days</u> you injected drugs?	……days / 7 days	□
20	In the **past 1 week**, can you recall how many times did you inject drug?	**..... times** **(Please write '0' if never injected drug in the past 1 week)** ***888. Never injected drug in the past 1 week***	□□

21	Of total injections above (Q20), how many times did you share needle and/or syringe?	**..... times** ***888. Never injected drug in the past 1 week***	□□□
22	Do you have problem getting clean needle and/or syringe?	1. Yes 2. No	□

The following section consists of questions about your sexual practices/behaviors. We will keep the information and answers we receive from you <u>confidential</u>. Your honesty will be extremely useful to us in developing services and assistance that match the desires and needs of your group.

BLOCK E SEXUAL HISTORY

23	Have you ever had sex (anal or vaginal)?	1. Yes 2. No	□
24	In **the past 1 month**, how many times did you have sexual intercourse?	..... times (please write '0' if no sex in the past month) *888. I never had sexual intercourse*	□□□
25	From numbers of sexual intercourse you reported above (Q24), how many times did you have sex <u>without</u> condom?	.....times *888. I never had sexual intercourse*	□□□
26	The **last time** you had sexual intercourse, did you use condom? [GARPR]	1. Yes 2. No 8. *I never had sexual intercourse*	□
27	In the past 1 month, how many times did you have sex with your <u>spouse</u>?	.....times *88. I am not married*	□□
28	Of number above (Q27), how many times did you have sex with your spouse <u>without</u> condom?	.....times *88. I am not married*	□□
29	Do you have regular sexual partner?	1. Yes 2. No	□
30	In the past 1 month, how many times did you have sexual intercourse with regular sex partner?	.....times *88. I do not have regular sex partner*	□□
31	Of number above (Q30), how many times did you have sex with your regular partner <u>without</u> condom?	.....times *88. I do not have regular sex partner*	□□
32	In the past 12 months, have you ever visited female sex worker?	1. Yes 2. No	□

33	In the past 1 month, can you recall how many times you visited female sex worker?	.....times (please write '0' if no sex in the past month) *88. I never visited female sex worker*	□□
34	From response above (Q33), how many times did you have sex with sex worker <u>without</u> condom?	.....times *88. I never visited female sex worker*	□□

BLOCK F. COVERAGE OF INTERVENTIONS			
35	In the **past 12 months,** have you ever attended a health talk addressing the prevention of HIV/sexual diseases transmission?	1. Yes 2. No	□
36	If yes [Q35], who organized the health talk? **[There may be more than one answer given, but do not read out the choices]**	1. Department of Health 2. Department of Social Welfare 3. Other government department 4. Company/business 5. NGO/CBO 6. Other 11. *I never attended any health talk in the past 12 months*	□
37	In the **past 12 months,** have you ever attended events where HIV transmission and prevention were discussed?	1. Yes 2. No	□
38	When did you **last** participate in **individual discussion** to assess your risk of HIV infection and prevention method?	1. In the past 3 months 2. Between 4 month to 1 year ago 3. More than one year ago 4. Never participated in such discussion	□
39	When did you **last** participate in **group discussion** to assess your risk of HIV infection and prevention method?	1. In the past 3 months 2. Between 4 month to 1 year ago 3. More than one year ago 4. Never participated in such discussion	□
40	In the **past 3 months**, have you been contacted by NGO outreach worker or health worker?	1. Yes 2. No	□

41	If yes (Q40), can you recall what were discussed? **[Answer can be more than 1]**	1. HIV transmission and prevention 2. Sexual activity/pleasure 3. Proper use of condom 4. Spiritual awareness from religious perspective 5. Others 11. *I have never been contacted by NGO outreach worker or health worker in the past 3 months*	
42	In the **past 12 month**, have you ever received HIV prevention package from NGO outreach worker?	1. Yes, I received clean needles/syringes only 2. Yes, I received clean needles/syringes and information related to HIV/STI 3. Yes, I received clean needles/syringes and information related to HIV/STI and condoms 4. Yes, I received information related to HIV/STI only 5. No, I did not received any HIV prevention package in the past year	

BLOCK G. TESTING AND TREATMENT			
HIV Testing			
43	Do you know where you can go for HIV testing?	1. Yes 2. No	
44	Have you ever had blood test to determine the status of HIV infection?	1. Yes 2. No, I never had blood test for HIV	
45	When did you last take a HIV blood test? **(GARPR)**	1. In the past 12 months 2. Over 12 months ago 11. *I never had blood test for HIV*	
46	In the **past 12 months,** did you have HIV test and informed of the result? **(GARPR)**	1. I had HIV test and informed of the result 2. I had HIV test but not informed of the result *3. I had HIV blood test more than 12 months ago* 11. *I never had blood test for HIV*	

47	What was the reason the **last time** you took a blood test for HIV testing?	1. To obtain a certificate (job, migration etc.) 2. To get married 3. To engage in a monogamous relationship 4. To check because I felt at risk 5. Because I felt sick 6. Because someone else requested / suggested it 7. Others *8. I never had blood test for HIV*	□
48	Did you share the result of the HIV blood test **last time** with anyone?	1. Yes 2. No 11. *I never had blood test for HIV*	□
49	With whom did you share the result of your HIV blood test?	1. Spouse 2. Sexual partner 3. Friend 4. Family members 5. Others 6. Never shared the result of HIV test 11. *I never had blood test for HIV*	□
50	Has your regular partner/spouse taken the HIV testing?	1. Yes 2. No 3. Does not have permanent partner/spouse	□
HIV Treatment			
51	Did you ever receive ARV treatment? (ARV is a HIV treatment which are given daily for the rest of life after being diagnosed with HIV)	1. Yes 2. No	□
52	Where did you receive your ARV treatment?	1. Government health facility 2. Private health facility *11. I did not receive ARV / I am HIV negative*	□
53	Are you still receiving ARV treatment?	1. Yes 2. No *11. I did not receive ARV / I am HIV negative*	□
54	If no (Q53), what was the main reason you defaulted your ARV treatment? **[Do not read the answer]**	1. Opting for spiritual/ alternative/ treatment 2. Financial problem 3. No time to seek for regular treatment 4. Loss of interest in the program 5. Cannot tolerate the side effects of ARV 6. Afraid of stigma or rejection 7. Others, specify ……. *8. I did not receive ARV / I am HIV negative*	□

<table>
<tr><th colspan="4">STI</th></tr>
<tr><td>55</td><td>In the past 3 months, have you ever visited a clinic for a STI checkup or treatment?</td><td>1. Yes
2. No</td><td></td></tr>
<tr><td>56</td><td>If yes, did the doctor examine your anus?</td><td>1. Yes
2. No
11. I did not visit STI clinic in the past 3 months</td><td></td></tr>
<tr><td>57</td><td>In the past 12 months, have you been diagnosed with STI?</td><td>1. Yes
2. No</td><td></td></tr>
<tr><td>58</td><td colspan="3">In the past 12 months, have you experienced any of the following symptoms (answer can be more than 1):
<table>
<tr><th></th><th>STI symptoms</th><th>Yes</th><th>No</th></tr>
<tr><td>A</td><td>Extreme burning pain when urinating</td><td>1</td><td>2</td></tr>
<tr><td>B</td><td>Penile ulcer</td><td>1</td><td>2</td></tr>
<tr><td>C</td><td>Anal ulcer</td><td>1</td><td>2</td></tr>
<tr><td>D</td><td>Penile discharge</td><td></td><td></td></tr>
<tr><td>E</td><td>Anal discharge</td><td></td><td></td></tr>
</table>
A
B
C
D
E</td></tr>
<tr><td>59</td><td>What did you do the last time you experienced any of those symptoms?</td><td>8. Never experienced any of those symptoms
9. Did not treat
10. Self-treated/sought advice from pharmacy
11. Sought treatment from government health facility
12. Sought treatment from private health facility
13. Went to traditional healer
14. Other: .....</td><td></td></tr>
</table>

<table>
<tr><th colspan="4">BLOCK H. KNOWLEDGE OF HIV, RISKS, AND MEANS OF PREVENTION</th></tr>
<tr><td>60</td><td>Do you feel at risk of being infected with HIV?</td><td>1. Yes
2. No</td><td></td></tr>
<tr><td>61</td><td>Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners? [UNGASS]</td><td>1. Yes
2. No</td><td></td></tr>
<tr><td>62</td><td>Can a person reduce the risk for getting HIV by using a condom every time they have sex? [UNGASS]</td><td>1. Yes
2. No</td><td></td></tr>
<tr><td>63</td><td>Can a healthy-looking person have HIV? [UNGASS]</td><td>1. Yes
2. No</td><td></td></tr>
</table>

64	Can a person get HIV from mosquito bites? **[UNGASS]**	1. Yes 2. No	□
65	Can a person get HIV from sharing food with someone who is infected? **[UNGASS]**	1. Yes 2. No	□
66	Have you ever enrolled in Methadone program in effort to reduce risk of infection?	1. Yes 2. No	□

BLOCK I. QUESTIONS ABOUT SOCIAL NETWORK			
67	How many PWID do you know and they know you whom you had been in touch with in the **past 3 months**?	..... People	□
68	Of those above [Q67], how many of them are less than 18 years old?	..... People	□
69	Of those above [Q67], how many of them came from same location as you?	..... People	□□
70	Of those above [Q67], how many were in contact with you in the **last 1 week**?	..... People	□□

BLOK J. HIV RAPID TEST			
71	Result HIV test	3. Reactive 4. Non-reactive	□

NOTES

Before ending the interview,

Carefully review the questionnaire/respondent's answers for completeness

Thank you for your participation

***Annex* 6**

MANAGEMENT OF THE SURVEY

1. **Office**: The project and data management will be based at the Disease Control Division, Ministry of Health. The Principle Investigator / Project Leader will be the focal person for the coordination of the various operation sites at state level.

2. **Training manual**: All personnel involved in the study (research team, site operators and seeds) will attend a 5 days training workshop prior to the commencement of the study. A detailed Operations Manual will also be prepared as a working guide (annex 8). The training session will include introduction to the project and study design, field operations training, interviewing skills and HIV testing using Rapid Testing procedure.

3. **On-site operations**: At each of the study sites, two or three research personnel (site operators) will be in place:

   a) *Site manager*: The site manager will oversee the orientation of research respondents, ensuring eligibility and the management of coupons. The site manager will also be the point of reference for communications with the Principle Investigator at MOH and Field Supervisor at State Health Department. The site manager will guide the respondent through the processed that will take place and obtain informed consent on i) going through the interview; ii) undergoing HIV Rapid Test; and iii) referral to health facility for care, treatment and support if found to be HIV-positive.

   b) *Interviewer*: Upon acquiring informed consent, the interviewer will conduct the face-to-face interview and perform the HIV test. A consent format will describe the objectives of the survey, the nature of the respondent's involvement, the benefits, and confidentiality issues and this information will be clearly read out to them. The interviewers are expected to regularly submit the completed questionnaires to the field supervisors.

   c) *Coupon Manager*: The coupon manager will ensure that all required data and forms are in place. The coupon manager will be in charge of making the incentive payment and giving out instructions of the subsequent recruitment process.

4. Research team

The research team comprises of Field Epidemiology experts (EIP), academia and HIV prevention and surveillance experts at program level. The list of research team is as below.

Table 64: List of personnel involved in IBBS 2014

	Name	Place of work	Task
1.	Dr. Shaari Bin Ngadiman	HIV/STI Sector (EIP)	Project Leader
2.	Dr. Anita Suleiman	HIV/STI Sector (EIP)	Principle Investigator
3.	Dr Asiah Binti Ayob	HIV/STI Sector	Co-Investigator
4.	Dr. Fazidah Yuswan	HIV/STI Sector	Co-Investigator
5.	Pn Fathimah Azzahroh Ahmad Hafad	HIV/STI Sector	Co-Investigator
			Data coordinator
6.	Dr. Masitah Mohamed	AIDS Officer (Selangor)	Field Supervisor
7.	Dr. Khamisah Awang Lukman	AIDS Officer (Sabah)	Field Supervisor
8.	Dr. Ruziana Miss	AIDS Officer (Sarawak)	Field Supervisor
9.	Dr. Janizah Abd Ghani	AIDS Officer (Penang)	Field Supervisor
10.	Dr. Rohaya Rahman	AIDS Officer (Pahang)	Field Supervisor
11.	Dr. Hazura Mat Zubir	AIDS Officer (Kelantan)	Field Supervisor
12.	Dr. Mahani Nordin	AIDS Officer (Terengganu)	Field Supervisor
13.	Dr. Norhayati Md Amin	AIDS Officer (Melaka)	Field Supervisor
14.	Dr. Surinah Asan	AIDS Officer (Johor)	Field Supervisor
15.	Dr. Mohd Nasir Abdul Aziz	AIDS Officer (KL)	Field Supervisor
16.	Dr. Zahariyah Yaacob	AIDS Officer (Kedah)	Field Supervisor
17.	Dr. Hairul Izwan Abdul Rahman	AIDS Officer (Perak)	Field Supervisor

NOTES

Correspondence:
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dranita@moh.gov.my