Mapping Study and Size Estimation of Key Populations in Bangladesh for HIV Programs 2015-2016

National AIDS/STD Programme
Directorate General of Health Services
Ministry of Health and Family Welfare

UNAIDS

Save the Children

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National AIDS/STD Control Programme (NASP)
Directorate General of Health Services
Ministry of Health and Family Welfare
Government of Bangladesh

in collaboration with

Save the Children
United Nations Joint Program on HIV and AIDS (UNAIDS) Bangladesh

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Foreword

Countries experiencing concentrated epidemics of HIV need the size of key populations (KPs) to guide the national response on HIV and AIDS. Conducting a robust method to estimate the size of KPs is quite challenging as most of them are hidden and do not want to disclose their identity due to stigma and discriminations associated with their behaviour. KPs in Bangladesh include female sex workers (FSW), people who inject drugs (PWID), men who have sex with men (MSM) including transgender (TG)/Hijra and sex workers, and clients of sex workers in the country or abroad. In relation to HIV, size of KPs including young key populations (YKP) in the age group of 10-19 and 20-24 years and relevant & updated strategic information are essential to guide HIV prevention policy, planning and responses, and to monitor progress and accountability in achieving programme goals and objectives.

Bangladesh has done several exercises to estimate the population size of various KP groups in the past but most of such estimates have been based on information collected for program implementation or secondary sources limited in coverage as well as scope. In the absence of single and robust methods of size estimation of KPs and YKPs, various tools and methods should be used for this. Mapping and size estimation is one of the key tools that would allow understanding on where the KP and YKP groups are concentrated and the volume of the KPs and YKPs in those locations. Such information can ultimately be used for estimation of the size of KPs and YKPs.

National AIDS/STD Control Programme (NASP) under the Ministry of Health and Family Welfare in collaboration with Save the Children and UNAIDS conducted mapping study and size estimation of FSW, MSM/TG and PWID. The United Nations Office on Drugs and Crime (UNODC), United Nations Children's Fund (UNICEF), Institute of Epidemiology, Disease Control and Research (IEDCR) and icddr,b have provided technical support. The purpose of this study was to conduct a mapping and size estimation of KPs and YKPs in selected districts of Bangladesh and subsequently to extrapolate the information on size estimation for the country as a whole using sound extrapolation tools and methodologies.

We are pleased to disseminate the report of the Mapping Study and Size Estimation of Key Populations in Bangladesh for HIV Programs which helps us understand the various factors coming into play to influence the spread of HIV among the key population such as concentration of key population, targeting risky behaviour etc. The results from this mapping size estimation study will be used in next level program designing in the coming years.

We hope this report, jointly supported by the National AIDS/STD Control Programme on behalf of the Government of Bangladesh, Save the Children and UNAIDS will provide the basis for effective program interventions among key populations and provide critical insights into intervention and geographical prioritization to assist policy makers and experts in decision making with regard to the national response to limit HIV and AIDS.

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Acknowledgements

This study was carried out under the leadership and guidance of the National AIDS/STD Control Program (NASP) of the Ministry of Health and Family Welfare through collaboration between Save the Children and the United Nations Joint Program on HIV and AIDS (UNAIDS) Bangladesh. The report presents the results of a mapping and size estimation among key population of Bangladesh. The main purpose of the study was to conduct a mapping and size estimation of KPs and YKPs in selected districts of Bangladesh and subsequently to extrapolate for the country as a whole using sound extrapolation tools and methodologies.

National STD/AIDS Control Program (NASP) acknowledges contributions of organizations and institutions that shared knowledge and data in support of this report, specially the organizations implementing HIV prevention programs. Appreciation goes to RTM International for successfully completing filed level data collection and data analysis efficiently. We acknowledge the contribution of Professor S. K. Singh, International Institute for Population Sciences, Deonar, Mumbai and Dr. Nazmul Huq, Professor, Department of Statistics, Jahangirnagar University for their guidance and participation; both of them contributed to writing and reviewing the report. We are very grateful to the Technical Advisory Group (TAG) and Small Working Group (SWG) of this study who worked with the research team throughout the study. The members of the SWG were engaged in every step of the size estimation exercise. Special thanks also goes to the validation team members for their work relating to field level data validation.

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Thanks are due to the team of field investigators who worked hard in the field for data collection and those who conducted key informant interviews. We must acknowledge the contributions of the key populations who participated in the one-to-one interviews and Participatory Rapid Appraisal (PRA) and provided valuable information. They shared personal information about their lives for the purposes of this research and ultimately toward a better understanding of how harm reduction programs can prevent HIV transmission.

This study was supported by Save the Children and UNAIDS Bangladesh and funded by the Global Fund. The opinions expressed herein are generated from the collected data from the data collection sites and do not necessarily reflect the views of NASP, UNAIDS Bangladesh, Save the Children or the Global Fund.

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Abbreviations and Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
BBFSW	Brothel based Female Sex Workers
BMRC	Bangladesh Medical Research Council
CRC	Capture–Recapture
DGHS	Director General of Health Services
DIC	Drop-in Canter
FHI	Family Health International
FSW	Female Sex Worker
GARPR	Global AIDS Response Progress Reporting
GF	Global Fund
GOB	Government of Bangladesh
HBFSW	Hotel based Female Sex Workers
HIV	Human Immunodeficiency Virus
HTC	HIV Testing and Counseling
icddr,b	International Centre for Diarrhoeal Diseases Research, Bangladesh
IEDCR	Institute of Epidemiology, Disease Control and Research
KII	Key Informants Interview
KP	Key Population
MARA	Most at Risk Adolescent
MOHFW	Ministry of Health and Family Welfare
MSM	Men who have sex with Men
MSW	Male Sex Worker
NAC	National AIDS Committee
NASP	National AIDS/STD Programme
NGO	Non-Government Organization
NSUM	Network Scale-up Method
PLHIV	People Living with HIV
PRA	Participatory Rapid Appraisal
PWID	People Who Inject Drug
QCO	Quality Control Officer
RBFSW	Residence based Female Sex Workers
SBFSW	Street based Female Sex Workers
SC	Save the Children
STD	Sexually Transmitted Disease
STI	Sexually Transmitted infection
SWG	Small Working Group
TAG	Technical Advisory Group
TG	Transgender (hijra)
TWG	Technical Working Group
UN	United Nations
UNAIDS	United Nations Joint Program on HIV/AIDS
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund

UNODC	United Nations Office on Drugs and Crime
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WB	World Bank
WHO	World Health Organization
YKP	Young Key Population

Executive Summary

Background and Objective

In Bangladesh, a robust estimate of the size of different key populations (KPs) including young key populations (YKPs) aged 10-19 and 20-24 years is required to guide HIV prevention policy, planning and the national response on HIV and AIDS. Bangladesh has conducted several exercises to estimate the population size of various KP groups in the past. But most of such estimates have been based on secondary sources limited in coverage as well as in scope. With this backdrop, the National AIDS/STD Control Programme (NASP) under the Ministry of Health and Family Welfare (MOHFW) of the Government of Bangladesh (GOB) has conducted this mapping study and size estimation of KPs to maintain strong implementation of HIV prevention, treatment, care and support programmes and reduce the vulnerability of the KPs to STIs and HIV and improve their quality of life. The main objective of the study is to feed information into the process of size estimation of KPs and YKPs at national level and selected districts of Bangladesh for HIV programs and subsequently to extrapolate for the country as a whole using sound extrapolation tools and methodologies.

Methodology

The mapping and size estimation of Bangladesh was conducted among the KP groups of female sex workers (FSWs), men who have sex with men (MSM), male sex workers (MSWs), TG/Hijras and people who inject drugs (PWID), and clients of sex worker. there is no single robust method to estimate the size of KPs as most of them are hidden and do not want to disclose their identity. As a consequence, different methods may be appropriate for different goals. Mapping and size estimation is one of the key tools that allow an understanding as to where the KP and YKP groups are concentrated and at what is the size.

The methodology of Bangladesh Mapping and Size Estimation of Key Population is multiple and broadly divided into three phases. At the first phase, mapping was conducted in selected 21 districts. The validation of the mapping was conducted in the second phase, which generated the evidence to assess the accuracy of data collection. At the final phase, the size of each KP group was estimated for the selected districts using appropriate correction factors for frequency adjustment, duplication, turnover and hidden nature of these groups. After finalizing the size estimation, standard procedures were used for extrapolation in the remaining 43 districts and subsequently national estimates were determined.

The validation process reveals that the positive predictivity of all the KP groups is 91 percent with adjusted sensitivity of 98 percent; indicating the variability is within an acceptable range for mapping spots of such fluid population groups. Thus the mapping and size estimation exercises produced accurate and reliable information.

A behavioural survey among the selected KPs was also conducted to assess the behaviour, risk factor and access to services etc. among FSWs, MSM, MSWs, TG/Hijra and PWID (male and female). The survey covered 21 districts and conducted interviews with the selected KPs at the spot level. A total of 2,091 FSWs, 885 MSM, 838 MSWs, 444 TGs/Hijra, 1,281 males who inject drugs and 73 females who inject drugs were interviewed

from the selected districts where mapping was conducted. All the behavioural data presented in this report are corrected through appropriate sampling weights.

Mapping and Size Estimation of Key Populations (KPs)

Summary of estimated numbers of Key Population (KP) with typology is given below.

Sl. #	KP	Estimated size	Interval estimates		CoR (%)
			Lower Value	Upper Value	
1	SBFSW	36,593	31,837	41,350	13.0
2	HBFSW	15,960	13,945	17,976	12.6
3	RBFSW	36,539	34,000	39,078	6.9
4	BBFSW	3,479	3,102	3,856	10.8
FSW Total		92,572	82,884	102,260	10.5
5	MSM	93,632	85,569	101,695	8.6
6	MSW	26,237	22,698	29,777	13.5
MSM Total		119,869	108,267	131,472	9.7
7	Hijra/TG	8,533	6,867	10,199	19.5
Hijra Total		8,533	6,867	10,199	19.5
8	PWID (Male)	28,670	25,319	32,021	11.7
9	PWID (Female)	957	868	1,045	9.3
PWID Total		29,626	26,186	33,067	11.6

Behavioural Survey among Key Populations (KPs)

Female Sex Workers (FSWs)

The behavioural survey among the FSWs reveals that about 17.4 percent of the FSWs are aged 10-19 years, 35.4 percent are aged 20-24 years and the rest 47.2 percent are aged 25 years and above. Majority (72.0%) of the FSWs is married.

More than half (55.8%) of the FSWs interviewed reported to have sex for the first time before the age of 15 years. The illiterate or less educated FSWs are more likely to have first sex before the age of 15. The proportion of FSWs reported first sex before 15 is notably higher in the bordering districts. The brothel based sex workers entered into sex work relatively earlier compared to street, hotel and residence based sex workers. The average age of the FSWs to enter into sex work is about 18 years.

The average number of clients per week is notably higher for hotel based sex workers (30 clients/week), followed by street based sex workers (22 clients/week), and residence and brothel based sex workers (18 clients/week). Majority of the FSWs (73.7%) reported to use condom in their last sexual encounter with any client. However, only 15.7 percent of the FSWs reported consistent condom use during the last week. The use of condom during their last sexual encounter is relatively lower among the young sex workers.

Nearly half (48.0%) of the FSWs have contracted vaginal discharge in the last 12 months. About 43.7 percent of them also reported abdominal discharge with bad smell and another 19.6 percent reported genital ulcer/sore. About 95 percent of the FSWs reported to have sought treatment for STI. Among all these FSWs, 77.8 percent reported to have sought treatment from NGO clinics including DICs.

HIV testing is vital for mitigating the spread of HIV. About 68 percent of the FSWs have ever tested their HIV status and majority of them reported to have tested within the last 12 months. The young FSWs are less likely to go for HIV testing. Almost all (96.5%) the FSWs who underwent HIV testing reported to have received their results. An overwhelming majority (88.0%) of the FSWs in the survey locations reported to have received condoms at least once from the HIV prevention program in the last 12 months preceding the survey.

Men who have Sex with Men (MSM) and Male Sex Workers (MSW)

About, 11.7 percent of the MSM and 9.4 percent of the MSWs are aged 10-19 years and more than a quarter of them are aged between 20-24 years. In contrast, more than half of the MSM and MSWs are aged 25 years and above. The average age of the MSM and MSWs interviewed is 26 years. Majority of the MSM (69.0%) and MSWs (81.6%) are unmarried.

About a quarter (23.1%) of the MSM interviewed reported to have sex for the first time before the age of 15. However, among the MSWs, more than half (51.1%) reported to have sex before the age of 15. Both the MSM and MSWs having no formal education or lower educational attainment are more likely to have their first sex before the age of 15. The average age of entry into the same sex practices is 17 years for the MSM and for the MSWs the same is 15 years.

Sexual Behaviour of MSM:

An overwhelming majority (82.5%) of the MSM reported to have sex with any non-commercial male partner and 27.1 percent reported sex with female partners in the last 1 month preceding the survey. Moreover, an overwhelming majority (78.5%) of the MSM reported to have bought sex from male sex workers; 6.6 percent bought sex from TG/hijras and 20.1 percent from female sex workers. About 46 percent of the MSM interviewed reported to have used condom in the last anal sex act with any male. The MSM with no formal education are less likely to use condom in their last sexual encounter with any male.

Sexual Behaviour of MSWs:

About 88.2 percent of the MSWs reported to have sold sex to any male in the last week preceding the survey. Majority of the MSWs reported 5 or more clients over the last week, with an average of 6 clients per week. More than half (53.6%) of the MSWs mentioned that they used condom in their last anal sex with a male.

The behavioural survey among MSM and MSWs revealed that about one-third (32.7%) of the MSM and 40.1 percent of the MSWs reported at least one symptom of STI in the last 12 months. More than 90 percent of the MSM and MSWs reported that they sought treatment for STI in the last 12 months. Majority of the MSM reported that they sought treatment from NGO clinics including DICs.

Majority of the MSM (64.0%) and 76.8 percent of the MSWs reported that they had ever tested for HIV, of which majority have been tested within the last 12 months. The young and less educated MSM and MSWs are less likely to have undergone test for HIV. Overall, 85.2 percent of the MSM and 92.8 percent of the MSWs in the survey locations received condom at least once from the HIV prevention program in the last 12 months preceding the survey.

TG/Hijra

The average age of the Hijras interviewed is 27 years. Majority of the TG/Hijra (62.9%) are aged 25 years or above, 30.1 percent of them are aged within 20-24 years and 7.0 percent are aged 10-19 years. Among the TG/Hijras interviewed, 77.7 percent identified themselves as sex workers, while 21 percent preferred to identify themselves as badhai and the rest 1.3 percent as radhunihijra.

More than half (56.0%) of the TG/hijras reported to have sex for the first time before the age of 15 years. The average age of entry into sex work for TG/Hijra in Bangladesh is 15 years. An overwhelming majority (81.2%) of the TG/Hijra reported that they had sex with any male in the last week preceding the survey. The average number of commercial male partner is 8 in the last week. Moreover, more than half (56.0%) of the TG/Hijra reported sex with non-commercial males in the last month. About 58.4 percent of the TG/Hijra reported to have used condom in their last anal sex with any male.

About 37.8 percent of the TG/Hijra reported at least one symptom of STI in the last 12 months. The young TG/Hijra are relatively more likely to report at least one symptom of STI. Almost all the TG/Hijra with at least one symptom of STI in the last 12 months reported to have sought service for STI. An overwhelming majority of the TG/Hijra reported to have sought services from NGO clinics including DICs in the last 12 months.

About three-fourths (76.5%) of the TG/Hijra reported that they had ever tested for HIV. Majority of them also mentioned that they had tested for HIV within the last 12 months.

About 90 percent of the TG/Hijra mentioned that they had received condom at least once from the HIV prevention programs in the last 12 months preceding the survey.

People Who Inject Drug (PWID)

Majority of the males and females who inject drugs are aged 25 years or above, with an average age of 31 years. Majority of the males (69.5%) and females (88.2%) who inject drugs are ever married.

More than one third (37.7%) of the males who inject drugs and 32.1 percent of the females who inject drugs reported to have injected drugs before the age of 20 years. The males who inject drugs, on an average, have injected for the last 9 years, while the same for females who inject drugs is 6 years. Almost all the PWID-Male (97.0%) and 92.7 percent of the PWID-Female injected yesterday. Both the males and females who inject drugs, on an average, inject twice a day. As for sharing injections, 28.4 percent of the PWID (male) reported to have shared during last week with their partners in which only a few of them (1.6%) mentioned sharing 'all injections'. Moreover, among the PWID (female), 31.5 percent reported injection sharing in the last week, in which 8.5 percent shared 'all injections'. The needle sharing is notably higher among the young and never married PWID.

The behavioural survey among PWID reveals that majority of the females who inject drugs (61.4%) had regular partner who also inject drug. On the other hand, only 3.6 percent of the PWID (male) mentioned that their regular partner also injects drugs.

An overwhelming majority of both males and females who inject drugs (about 84%) mentioned that they did not use any needle or syringe that had previously been used by someone else during the last time they injected. It is important to note that the young and less educated PWID are less likely to use sterile injecting equipment the last time they injected. On the other hand, the use of sterile injecting equipment during the last injection is relatively higher in Dhaka region compared to other districts (including districts adjacent to the international border) covered under this study.

More than 90 percent of the PWID (female) and majority (72.7%) of the PWID (male) reported to have sex with any partner in the last month preceding the survey. An overwhelming majority of the females who inject drugs (81.5%) and 36.0 percent of the males who inject drugs reported having multiple sex partners in the last month. About 40 percent of the PWID (male) mentioned that they had bought sex from female sex workers in the last month preceding the survey. On the other hand, 42.6 percent of the PWID (female) sold sex to clients during the last one month. More than half (54.6%) of the PWID (female) reported to have used condom with their commercial partners, while the same is 46.6 percent among the PWID (male).

In response to the question "have you ever had sexual intercourse with any of your male/Hijra partners?" 6.4 percent of the PWID (males) mentioned that they have ever had sex with any male or hijra partner. The rate of condom use during last anal sex with male/hijra partners in the last 6 months is 35.4 percent.

The incidence of self-reported STI is very high among the females who inject drugs. About 75.9 percent of the PWID (female) reported at least one symptom of STI in the last 12 months. On the other hand, 28.8 percent of the PWID (male) mentioned at least one symptom of STI in the last 12 month preceding the survey. An overwhelming

majority (85.5%) of the PWID who reported at least one symptom of STI in the last 12 months sought treatment for STI. More than 90 percent of the females who inject drugsand 79.0 percent of the males who inject drugs sought treatment from NGO clinics including DICs.

Majority of the males (70.0%) and females (88.6%) who inject drugs interviewed mentioned that they had ever tested for HIV to know their HIV status. The young, never married and illiterate PWID, are less likely to have HIV testing. Majority of the males who inject drugs (78.2%) and females who inject drugs(85.3) reported to have HIV testing within the last 12 months. Almost all the PWID interviewed mentioned that they had received needle /syringe from the HIV prevention program at least once in the last 12 months preceding the survey.

Conclusion

Bangladesh Mapping and size estimation 2015 provides robust estimates of the size of key populations (KP) including young key populations (YKP) aged 10-19 and 20-24 years to guide the national response to HIV and AIDS appropriately and most cost effectively. The numbers reported here would be useful for filling the gap in information that is required to update the national size estimates of KPs as well as to ascertain the geographical prioritization of the HIV prevention program. However, it must be kept in mind that as some of these KPs (e.g. MSM, hotel and residence based female sex workers, etc.) are particularly hidden, these numbers are likely to be underestimated. However, those who have been counted are likely to be more accessible for providing services.

Recommendations

The findings of the mapping study should be used for increasing the effectiveness and efficiency of targeted interventions by using the detailed data from this study on size, geographical distribution, behavioral patterns, etc. It is demonstrated that 75% of the total estimated FSW are in 29 districts; 75% of the total estimated MSM/W are in 32 districts; 75% of the total estimated Hijra are in 25 districts; and 75% of the total estimated PWID are in 24 districts. Overall, 75% of the total estimated KPs belong to 33 districts. This information may be used for efficient planning in HIV prevention.

In order to increase service uptake by the KPs, particularly by the young KPs, it is important to create conducive environment by tailoring programs and services according to the specific vulnerabilities of these groups. Focus must be on reaching out to the hidden populations through appropriate behavior change communication interventions.

It is recommended that for designing intervention programs in the 43 unmapped districts, further mapping and estimation of size should be undertaken in order to obtain the number of KPs firsthand for subsequent planning.

Appropriate BCC activities should also be undertaken to increase comprehensive knowledge on HIV and STIs across communities, especially among the young key population groups. Information on sexual and reproductive health as well as importance of safer sexual practices, condom usage, use of sterile injecting equipment and access to treatment for STIs need to be disseminated among both the communities and the key populatns.

Section 1: Introduction

1.1 Background

The present trend in new HIV infection and deaths related to HIV/AIDS are the key to assess the effectiveness of the existing prevention approaches as well as to design effective investment case for Bangladesh and achieve the global target of 'Ending AIDS by 2030'. In addition, these indicators have a profound impact on future rates of infant, child and maternal mortality, life expectancy and economic growth (NASP and Save the Children, 2008). Yet without accurate measures and estimates of the impact and magnitude of HIV, it is not possible to carry out HIV programme activities, such as: advocating for key populations; planning and implementing HIV prevention, care and treatment programmes; and evaluating programmes (UNAIDS, WHO, 2010). However, measuring and understanding the impact and magnitude of the HIV epidemic persuades many challenges. In order to guide the national response on HIV and AIDS a robust estimate of the size of different key populations (KPs) is required. Reliable size estimates are important for several reasons. Size estimation data are needed to inform the design of HIV prevention, care and treatment programs; assist with the monitoring and evaluation of these programs; and advocate for implementation of new services (Abu S. Abdul-Quader, et al., 2014). Moreover, establishing the size of populations most at risk to HIV allows epidemiologists to develop models which estimate and project HIV prevalence (Vandepitte, J., et al., 2006) or inform countries of the distribution of HIV incidence within their country (Gouws, E., et al., 2006).

In Bangladesh, knowledge on the size of KPs and their behaviour is fundamental not only for HIV policy and programme formulation but also for monitoring and evaluating interventions and undertaking necessary corrections for ensuring effective and efficient delivery of the national AIDS programme. Bangladesh has conducted several exercises to estimate the population size of various KP groups in the past. The size estimation process in Bangladesh was first launched in 2003/2004 (NASP, 2004). Since that time the methods and capacity for conducting population size estimation have been improved and efforts to fill data gaps have increased. In 2009, the National AIDS/STD Contol Programme (NASP) in coordination with UNAIDS, NGOs, donor agencies and research organizations, initiated a process of updating National Population Size Estimates of KPs (IDUs, FSW and their clients, returning migrants) using the same collaborative and consultative process begun in 2004 (NASP, 2009). In 2012, icddr,b counted the numbers of MSM, MSW and Hijra in all 64 districts (iccdr,b, 2012). But most of such estimates have been based on secondary sources limited in coverage as well as in scope. With a robust mapping study and size estimation of KPs and YKPs, the geographical and strategic prioritization of the future HIV response is further clarified and supported.

With this backdrop, the National AIDS/STD Control Programme (NASP) under the Ministry of Health and Family Welfare (MOHFW) of Government of Bangladesh (GOB) has conducted this mapping study and size estimation of key populations for HIV programs with an aim to successful implementation of HIV prevention, treatment, care and support programmes and reduce the vulnerability of the KP to STI/HIV and improve their quality of life.

1.2 HIV Epidemic in Bangladesh

Bangladesh is considered to be a low prevalence country for HIV. The national prevalence among the key population groups remains low – PWID 1.1 percent, FSW 0.3 percent, MSW 0.4 percent, MSM 0.4 percent and TG/Hijra 1.0 percent . But, it remains extremely vulnerable due to its socio-economic and cultural settings (NASP, 2015). The first case of HIV in Bangladesh was detected in 1989 and up until December 2015 the total number of detected cases was 4,143, of whom 658 have died, leaving 3,485 known people living with HIV. Less thanone third of detected people living with HIV are women. However, the majority of infections are likely to remain undetected, and the total national estimate is about 9,000 people living with HIV. HIV prevalence has never exceeded 0.1% in the general population and has remained below 1% for most key populations (NASP, 2014). However, in certain geographical areas, key populations have higher HIV prevalence.

Key populations have high HIV prevalence in certain geographical areas:

- Among the TG/hijras, the HIV prevalence was 7.1 percent in Hilli - a small border town in the Northwestern part of Bangladesh bordering the Indian State of West Bengal

- Although HIV prevalence was below 1 percent in most groups of female sex workers, the prevalence was 1.6 percent among casual sex workers in Hilli

- HIV prevalence among males who inject drugs in Dhaka city has increased steadily over the years from 1.4 percent in 2000 to 7.0 percent in 2007 and it was 5.3 percent in 2011

The pattern of behaviors that boost the spread of the HIV infection is well established in the Bangladesh society (MOHFW, 2008 & MOHFW, 2005). A recent study undertaken by icddr,b in 2011 among male injecting drug users indicated that nearly 44.2 percent of the PWID share needles and syringes. The percent of PWID-Male who visit female sex workers was estimated to 21.9 percent. Although a significant portion of the male injecting drug users reported to use condom during their last sex with sex workers; condom use with their regular partners or spouses was reported to 27.7 percent (icddr,b, 2011). Moreover, selling sex to procure drugs is quite common in many parts of Bangladesh. Evidence shows that some female drug users in Bangladesh turn to sex work out of financial necessity to support their addiction (Azim, T., et al., 2006). The overlap between sex work and injecting drug use is considered to be among the most dangerous conditions for rapid spread of HIV and other sexually transmitted infections (STIs) and more opportunities for transmission to the general population (UNAIDS/WB, 2009). Women who are involved in commercial sex are very often largely dependent on their partners for the procurement and use of drugs.

There are well-documented reports of risk behaviors among MSM in Bangladesh. A behavioral survey conducted in a sample of MSM in Dhaka indicated that 71 percent of MSM reported having anal sex with commercial or non-commercial male partners within the month prior to the survey, and only 26 percent reported to have used condoms during their last anal sex. Moreover, 30 percent of the respondents bought sex from female sex workers and another 46.7 percent purchased sex services from male sex workers in the last one month preceding the survey. The survey also found that nearly 17.7 percent of MSM reported at least one symptom of STI in the past one year (icddr,b, 2010).

GARPR report, 2014
Case detection data from NASP, 2014
GARPR report, 2014

Moreover, a recent behavioral survey conducted by icddr,b in 2010 among TG/hijras in Dhaka reported that most TG/hijra (87.5 percent) had anal sex with male partners in the last month and only 19.4 percent used condom during the last sex act (icddr,b, 2010b).

A substantial proportion of youth have multiple sex partners; drug users share and re-use their needles; sex workers have poor condom use and high STI prevalence; unscreened blood transfusion and increasing high-risk sexual behaviors are common (MOHFW, 2005). The frequency of pre-marital and extra-marital sex and the large number of sexual acts with sex workers are commonly known factors associated with the transmission of HIV in Bangladesh. Among the general population, approximately 10 percent of the men reported having bought sex from female sex workers (FHI/icddr,b, 2006). Another study on unmarried young people revealed that almost one in three (28 percent) of them reported one or more symptoms of an STI in the past 12 months (MOHFW, 2005).

All these risk behaviors have been contributing to the continued HIV transmission among key population groups and may lead to the general population.

1.3 Objectives

The main objective of the study is to feed information into the process of size estimation of KPs and YKPs at national and district levels through conducting mapping and size estimation of KPs and YKPs in selected districts of Bangladesh and subsequently to extrapolate for the country as a whole using sound extrapolation tools and methodologies. The specific objectives of the study include:

- To conduct field studies to geographically map FSW and their clients, MSM, MSW, Hijra, and PWID (male and female) including those age 10-19 years and 20-24 years by ensuring participation of the affected communities.
- To arrive at a reliable estimate of FSW and their clients, MSM, MSW, Hijra and PWID (male and female) in each district and city with separate estimates for those age 10-19 years and 20-24 years.
- To assess the relevant information on behaviour, risk factor and access to services etc. among FSW and their clients, MSM, MSW, Hijra and both males and females who inject drugs.

The mapping and size estimation exercise is also expected to help the programme in determining the coverage of interventions in certain geographical areas, and thus if intervention expansion is needed (e.g. in case of YKP), classifying the sub categories within that population and identifying where and when each of those sub categories are available in a geographical area. Bangladesh mapping and size estimation exercise also provides basic insights into factors that make those populations particularly vulnerable to HIV, thus provides information to increase the quality of service delivery.

1.4 The Process

Bangladesh conducted a mapping and size estimation exercise of Key Population groups (KPs) and Young Key Population groups (YKPs) in 2015-2016, which considers the epidemic's nature, availability of limited information on the size of the KP groups of

female sex workers (FSWs), men who have sex with men (MSM), male sex workers (MSWs), TG/Hijras and people who inject drugs (PWID) population and the need for a more robust evidence and inform response to HIV for maximizing results. Mapping and size estimation was conducted under the leadership of the NASP with technical support of IEDCR, UNAIDS, UNODC, UNICEF, Save the Children and icddr,b.

The process of mapping and size estimation of KPs was started on 30th March 2014, with an agreement between the Global Fund and Save the Children. The Global Fund provided financial assistance and the technical aspect of this study and was guided by a technical advisory group (TAG) formed by NASP (list of TAG members is provided in Annex A).

In order to implement the mapping and size estimation of KPs in Bangladesh, a multidisciplinary team of international and national consultants was formed. A local research firm (RTM International) was also selected through a competitive bidding process for conducting field level data collection. A two-day planning workshop was conducted at NSP during September 21-22, 2015 to select districts for detailed mapping exercise, review the methodology and data collection tools as well as to finalize the operational definitions of KPs.

a small working group (SWG) consisting of 9 members (list of SWG members is provided in Annex B) was formed with the objective to help the process of population size estimation, study design, including selection of sites for geographic mapping. The SWG closely worked with the consultants in guiding the mapping study and size estimation in order to make sure that the process/steps are technically sound and informed with all available evidence. The SWG also monitor the field activities and provided technical inputs including verification and validation of population size received from various KP groups and size estimation methods.

Validation of mapping of spots was another important part of this exercise. The validation was conducted after completion of the mapping exercise in 21 selected districts. According to the decision of TAG, a team of experts were selected from SWG, who closely worked with selected mappers of the organization working for mapping and size estimation. The names of expert mappers were taken from RTM International. The validation team followed the same approach of mapping and agreed by the TAG. The list of validation team members is provided in Annex C.

Save the Children provided the administrative and management support to implement and facilitate the assessment and finalize the reports.

Section 2: Methodology and Technical Approach

2.1 Defining Key Terminologies

The mapping and size estimation of Bangladesh includes the KP groups of Female Sex Workers (FSWs), Men who have sex with Men (MSM), Male Sex Workers (MSWs), TG/Hijras and People Who Inject Drugs (PWID), and clients of sex worker in the country or abroad. The existing operational definitions available in the different sources and documents were reviewed by the all key stakeholders in a two-day planning workshop organized by NASP during September 21-22, 2015. Table 2.1 summarizes the operational definitions of all the KP groups suggested by the workshop participants for this mapping and size estimation process.

Table 2.1: Operational Definition of KP for Mapping and Size Estimation in Bangladesh,2015-16

Sl. #	Key populations	Definition
	Female Sex Workers and their clients	
1	Street based Female Sex Workers (SBFSW)	Females who sell sex and are contracted through negotiation by clients on the street or any public place for sex during last 1 year
2	Hotel based Female Sex Workers (HBFSW)	Females who sell sex and are contracted by clients in a hotel or guest house setting, with the sex act taking place in hotels or guest house during last 1 year
3	Residence based Female Sex Workers (RBFSW)	Females who sell sex and are contracted by clients in the residence setting, with sex act taking place in residence or other place during 1 year
4	Brothel based Female Sex Workers (BBFSW)	Females who sell sex and are contracted by clients in the brothel setting, with sex act taking place in brothel
5	Casual Female Sex Workers	Females who are selling sex during last 1 year and had either one or more main source of income
6	Clients of female sex workers	Males who bought the sexual services of female sex worker during last 1 year is a client of a sex worker
7	Males who have sex with males (MSM) and TG/Hijra	
8	Men who have sex with men (MSM)	Males who have had sex with males (with consent) within the last 1 year sex regardless of whether or not they have sex with women or have a personal or social gay or bisexual identity but do not sell sex
9	Male sex workers (MSW)	Male who sell sex to other males in exchange of money or gifts in the last 3 months
10	TG/Hijra (TG/Transgender or third gender)	Those who identify themselves as belonging to a traditional hijra sub-culture and who maintain the guru-chela Hijra hierarchy. They maybe sub-categorized as: Sex Worker Hijra, Badhaihijra and Radhunihijra

Sl. #	Key populations	Definition
	People who inject drugs (PWID)	
11	Male who inject drugs (PWID-Male)	Males who injected drugs within the last 1 year
12	Female who inject drugs (PWID-Female)	Females who injected drugs within the last 1 year
	Most at Risk Adolescent (MARA) for HIV	
	MARA for HIV includes:	• Female adolescents and youth (10-19 years and 20-24 years) who are involved in commercial or transactional sex work including those who were trafficked, and/or forced for the purpose of sexual exploitation during last 1 year • Male adolescents and youth (10-19 years and 20-24 years) who injected drugs within the last 1 year • Female adolescents and youth (10-19 years and 20-24 years) who injected drugs within the last 1 year • Adolescents and youth (10-19 years and 20-24 years) males who had sex with other males within last 1 year • Adolescents and youth (10-19 years and 20-24 years) males who had commercial or transactional sex to other males in exchange of money or gift in the last 3 months • Adolescents and youth (10-19 years and 20-24 years) who identify themselves as belonging to a traditional hijra sub-culture

The operational definition of other terms and terminologies used for the 2015 mapping and size estimation include:

Location/site: An area or locality that consisted of several spots where members of KPs can be found. In this study, 'Thanas/Upazilas' of each selected district are considered as locations.

Spot: Site is an area within a location, wherein high-risk activities are practiced by the populations categorized as KPs. In s spot, the individuals identifying themselves as the members of KP (i.e. FSW, MSM, MSW, Hijra and PWID) are likely togather during a particular time period. For the mapping of KPs, the research team had the flexibility of defining the boundaries of a spot in consultation with the key stakeholders at the district level. The definition of spot for different types of KPs is summarized below:

Table 2.2: Operational Definition of Spot of KP

Sl. #	Key populations	Definition
	Female Sex Workers and their clients	
1	Street based Female Sex Workers (SBFSW)	A particular place of street where sex workers usually negotiate with clients for having sex in exchange of money or any gift
2	Hotel based Female Sex Workers (HBFSW)	A particular residential hotel where sex workers usually negotiate with clients for having sex in exchange of money or any gift
3	Residence based Female Sex Workers (RBFSW)	A particular house/residence where sex workers usually negotiate with clients for having sex in exchange of money or any gift
4	Brothel based Female Sex Workers (BBFSW)	A brothel where sex workers usually negotiate with clients for having sex in exchange of money or any gift. Each row/entry gate of a brothel is considered as spot for mapping
5	Casual Female Sex Workers	A particular place/residence where sex workers usually negotiate with clients for having sex in exchange of money or any gift
	Men who have sex with men (MSM) and Hijra	
6	Males who have sex with males (MSM)	A place where MSM usually agree to have sex with male partners
7	Male sex workers (MSW)	A place where MSWs usually negotiate with customer for having sex in exchange of money or any gift
8	TG/Hijra (TG/Transgender or third gender)	A place where TG/Hijra usually negotiate with customer for having sex in exchange of money or any gift. Moreover, the Guru-Chela relationship was explored
	People who inject drugs (PWID)	
9	Male and Female who inject drugs	A place where PWID usually inject drugs individually or in a group

2.2 Methodology for Mapping and Size Estimation

There is no robust method to estimate the size of KPs as most of them are hidden and do not want to disclose their identity due to stigma and discrimination associated with their behavior. Different methods may be appropriate for different goals. For policy purposes, national estimates are frequently needed, where as local estimates will often do the job if the goal is to design or monitor specific prevention or care programmes (FHI, UNAIDS, et. al. 2003).

There are two broad categories of methods used to estimate the size of key populations. Methods under category one (census and enumeration, multiplier, and capture–recapture) are used to collect data directly from the key population at risk, including existing data from related institutions. Methods under category two (population survey, network scale-up) are used to collect data from the general population. A review of different methods for estimating size of key populations is summarized below:

Using census and enumeration can be a straightforward way to produce credible lower-limit estimates of population size. These activities are costly and may miss hidden

or hard to reach populations (Abu S. Abdul-Quader, et al, 2014). While, capture–recapture (CRC) has a long history (UNAIDS, WHO, 2010) but can be complex to implement. The addition of a third capture source may yield more stable and reliable estimates but requires more complex data analysis. The theoretical assumptions underlying CRC are difficult to meet or to assess (closed population, unique matching, independence of sources, and equal likelihood of capture).

The multiplier method compares two independent sources of data for populations to estimate the total number in the population. The first source is a count or listing from program data including only the population whose size is being estimated, and the second source is a representative survey of the populations whose size is being estimated. Another version of multiplier method involves the distribution of a unique object to members of the population. It relies on access to members of the key populations in which a particular unique object is distributed randomly. The multiplier method is widely used and relatively cost efficient. Multipliers based on different data sources can yield vastly different results because of the variations in the operational definitions of key populations. It requires accurate and timely demographic and geographic information to allow for linking with additional data sources, and is dependent on the quality of data sources. The multiplier method is often used as part of surveys in high-risk populations, and a lack of representativeness of the resulting survey samples can be an additional source of bias (UNAIDS, WHO, 2010).

Another size estimation method includes the addition of direct questions about high-risk behaviors (that define key populations) in general population- based surveys. Because only a minority of the general population practices such high-risk behaviors, large sample sizes are required to generate acceptably precise estimates. Further, participants may deny engaging in stigmatized or illegal behaviors, and adding such direct behavioral questions may risk exposure and breaches of confidentiality. Household-based sampling does not reach people in institutions, homeless persons, or mobile populations.

An alternative to direct survey questions is the network scale-up method (NSUM) (UNAIDS, WHO, 2010 & Bernard HR, et al., 2010), a relatively new method in HIV surveillance. NSUM allows for the concurrent estimation of sizes of key populations within the same study without requiring access to a key population. The survey respondents are not asked direct questions about their own behaviors; instead, NSUM probes respondents' personal network sizes and the number of high-risk individuals within them. Some inherent biases of NSUM include the respondents' social isolation or their ignorance of high-risk behaviors (transmission error) among their acquaintances. Also, estimating their personal network size can be complex or cognitively demanding for some respondents.

In the absence of single and robust methods of size estimation of KP and YKP 10-19 and 20-24 years, various tools and methods can be used for this. ***Mapping and size estimation is one of the key tools that allow us in understanding where the KP and YKP groups are concentrated and what the volume of the KPs and YKPs in those locations are.*** Such information can ultimately be used for estimation of the size of KPs and YKPs. The similar methodology was adopted in the recent size estimation of KPs in Nepal (HSCB/Nielsen/UNAIDS/World Bank, 2011).

The Bangladesh mapping and size estimation of KPs and YKPs was conducted in the selected districts of Bangladesh and subsequently extrapolate for the country as a whole using sound extrapolation tools and methodologies. In order to identify the most suitable methodology for conducting this study in Bangladesh due consideration was attributed to the latest internationally prescribed methods for mapping and size estimation, as identified by the WHO/UNAIDS, that is, UNAIDS Global Reference Group, and were contextualized in order to meet the country's requirements and specifications. The methodology of Bangladesh Mapping and Size Estimation of Key Population is broadly divided into three phases. At the first phase, mapping was conducted in the selected districts. The validation of the mapping was conducted in the second phase, which generated the evidence to assess the accuracy of data collection. At the final phase, size of each KP group was estimated for the selected districts using appropriate correction factors and standard protocol was used for extrapolating in unmapped districts to obtain national estimates.

2.3 Methodology for Mapping

The design and methodology for conducting the mapping exercise in 21 selected districts in Bangladesh are described in the following sub-sections.

2.3.1 Selection of Districts for Mapping

The study selected 21 districts for conducting detailed mapping and data collection. The districts were selected by the expert groups in a two-day workshop during 21-22 September 2015. The workshop participants comprising all key stakeholders analyzed the epidemiological data, service statistics, risk factors and other information to understand the extent of HIV vulnerability of different districts in Bangladesh and classified them in to two sets of districts. The first set comprises 21 districts for detailed mapping and size estimation exercise, while the second set provides 43 districts for which size data will be generated using extrapolation technique. The following table provides 21 districtsselected for detailed mapping and data collection:

Table 2.3: List of Selected Districts for Mapping and Size Estimation of KPs in Bangladesh

Sl. no.	Different Regions in Bangladesh (divisions)	Number of Districts	Number of Districts selected for mapping	Districts
1	Barisal	6	1	Barisal
2	Chittagong	11	5	Comilla, Chittagong, Cox's Bazar, Rangamati, Noakhali
3	Dhaka	17	5	Dhaka, Narayanganj Gazipur, Mymensingh Tangail
4	Khulna	10	4	Jessore, Sathkhira, KhulnaBagerhat
5	Rajshahi	8	2	ChapaiNawabganj KhulnaBagerhat
6	Rangpur	8	2	Dinajpur, Rangpur
7	Sylhet	4	2	Sylhet, Sunamganj
	Total	***64***	***21***	

2.3.2 Operational Strategies for Data Collection

Once the operational definition of the KPs and the key relevant terminologies were agreed upon by the SWG members, research teams were formed for collecting mapping data through a participatory approach involving representatives from government, non-government organizations (NGOs) and networks of key populations/local community organizations. Seven research teams (data collection teams) were formed; each comprised one supervisor, two social scientists and one representative from the KPs. Different data collection methods and tools were utilized by the research teams. Data were collected at three different levels – district, location and spot levels. The data collection techniques at different levels are discussed below:

Stakeholders' consultation meeting at district level:	One stakeholders' consultation meeting was conducted at each of the selected districts with district level health officials and major NGO representatives. A comprehensive list of all the locations within the district was prepared in consultation with the stakeholders where the KPs are likely to be present and interventions among KPs are going on. To cover the entire area of the district, a district map was used. Discussions were also held for determining issues associated with STI and HIV in the districts, such as the nature of the epidemic, change in the trajectory and factors attributing to this change.	The data collection tool/guideline and protocols (Tool 1) used for the district level consultation is provided in the Annex D.

Broad mapping at location level:	After having a comprehensive list of locations of KPs from the district level consultation, the research teams then moved to the locations and conducted a comprehensive assessment of locations through key informant interview (KII) with 3/5 key informants. A comprehensive list of spots was prepared at the location level using free listing technique after segmenting the location in smaller operational/administrative areas/units. The research teams, with the help of the KIs fixed the boundary of locations and conducted free listing of spots with major landmarks. Further, all the reported spots were explored for their typology, approximate number of KPs and service availability in and around the spot.	The data collection tools (Tool 2) and protocols are provided in Annex D.

Conducting PRA at the spot level:	After completion of broad mapping in all segments of a location, further information about different categories of KPs present in the site was collected for the last seven days and the last one month through participatory rapid appraisal (PRA) technique. PRA was conducted with a mixed group 3-5 members of primary (KPs) as well as secondary stakeholders (e.g. pimps, shopkeepers, ferry-walas, rickshaw/van pullers etc.) functioning at the locality. For this purpose, the research teams visited a spot for three days at different points of time and also observed the actual number of KPs operating at that time. The estimated number of KPs by their typology as emerged from the PRA was also recorded. **Mapping of service:** The research teams also assessed the availability of relevant services in and around the sites and also the access of KPs to these services.	The data collection tools and guidelines (Tool 3) for conducting PRA at the spot level is provided in Annex D

Assessing the risk factor and access to services:	For the behavioral component of the study, in each spot, the research teams interviewed 5 KPs and YKPs using especially designed tool for the purpose. In the case of less than 5 KPs, all the KPs present during the visits were interviewed. The research teams visited all the spots with at least 5 KPs and for the spots with less than 5 KPs in each mapping district, about 5 percent were selected for mapping.	The data collection tools (Tool 4) for conducting behavioural survey among KPs are provided in Annex D.

The data collection was conducted during November 01, 2015 to December 07, 2015. Before starting the data collection activities in the 21 selected districts, the ethical clearance for this study was taken from Bangladesh Medical Research Council (BMRC) – an internationally accredited review authority for ethical research. The research teams were also respectful for protecting rights of the KPs by ensuring:

- **Data confidentiality:** All the KPs were given assurance of confidentiality that information gathered will be used exclusively for research purposes and information provided by any individual will not be disclosed.
- **Data protection:** Only authorized team members will have access to data collection formats and electronic files. Results will be presented in aggregated form, not publicly by spots.
- **Requesting informed consent:** The respondents were assured that the interview will be voluntary and the respondent can quit any time during interview. The interview was taken place only when the respondent agreed.

Finally, research teams worked carefully to ensure that the tools and materials used in the mapping are in conformity with government policies and guidelines.

2.3.3 Quality Control

The quality of the mapping data was of utmost importance and thus sufficient attention was given to ensure quality at different stages of the study including study design, development of data collection tools and guidelines, recruitment and training of data collection staff, field management, monitoring and supervision, validation, analysis of results as well as selection of sound methodology for extrapolation of size data into the unmapped data to derive the national estimates.

For quality data collection, the research organization recruited qualified and experienced staffs following a standard recruitment policy. All the data collection staffs were provided with three-days training and one day field testing before final recruitment. The field supervisor of each field research team was primarily responsible for ensuring quality of mapping and data collection through constant supervision, spot checking, re-interviewing if necessary and field editing.

In order to ensure better coverage of spots and size data, a representative of KP from each location was recruited by the research teams. The representatives of the KPs who were recruited to support the mapping and size estimation exercise received appropriate orientation covering selected areas that were encompassed by the four-day national level training.

For ensuring adequate and improved monitoring and supervision two quality control officers (QCO) were deployed by the research organization. The responsibility of the QCOs was to continuously visit various teams in rotation (one team after another) to physically monitor the quality of work, provide necessary solutions to field problems. In addition to the quality visits by the research organization, the members of the SWG and other relevant experts from NASP, UNAIDS, Save the Children, icddr,b and both the national and international technical experts visited several field locations and randomly checked the completeness of the listing of locations and spots for KPs. Any discrepancy was instantly corrected and informed to all other teams for uniformity.

To ensure high quality of the mapping data, all the field research teams started data collection at Dhaka so that their activities can be closely monitored and field performance of the data collectors can be evaluated for further improvements. After completing the data collection at Dhaka, all research teams were deployed to other districts for mapping. Each research team covered 2 to 3 districts and completed mapping in all 21 districts by the first week of December 2015.

After completing the fieldwork in the districts, a validation of the mapping and size estimation exercise was conducted in five percent of the locations included in the study. This validation conducted by an independent research team who adhered to the same protocols and methodology was another important dimension for evaluating the overall quality of data collection.

2.4 Validation of Data Collection

Validation exercise was conducted to ascertain the accuracy of the estimates obtained from the field mapping exercise and provide reliable and credible estimates. validation plays an important role in the size estimation of KPs and in introducing necessary modifications in case considerable differences are found in the estimated indicators. The

main objectives of the validation process are to examine the completeness of the assessment of spots; qualitatively explore possible reasons of oversight, that is, if any spots are found to be overlooked by the mapping agency at the initial stages of broad mapping; determine whether the research teams followed the prescribed protocols for size estimation.

2.4.1 Methods of validation

The validation methodology included two main approaches including modified capture-recapture approach and application of indices/tests.

Modified Capture-Recapture Approach: Owing to the time lag between completion of the original mapping of KPs across different districts/epidemic regions and the initiation of the validation exercise, which in the case of Bangladesh ranged from a minimum of two weeks to a maximum of four weeks, the validation team adopted a modified capture-recapture method and classified all the spots into the following three categories:

- Spots recorded by mapping teams and could be traced by the validation team (+/+) were classified as matched spots;
- Spots recorded by mapping teams but could not be traced by the validation team (+/-) were classified as missed spots; and
- Spots not recorded by mapping teams but could be found by the validation team were classified as new spots (-/+).

Application of indices/tests: The data on the estimated number of KPs of various typologies and their spots, gathered by the mapping and re-validation teams at two points of time was assessed for completeness and effectiveness of the mapping exercise. The following three indices/tests were used for validation:

a. **Estimated number of spots expected to be missed by the mapping and validation teams:** The estimation of number of spots that might have been missed by both the teams may be vital for the overall planning and implementation of HIV prevention practices on one hand and availability of essential services to different KPs on the other. This number can be arrived at by applying Chandrashekar-Demming's method, developed to match events recorded under two independent systems for collecting information under the dual record system. The formula is as follows:

$$n = \frac{n_1 \times n_2}{C}$$

where n_1 is the number of spots recorded only by the mapping team in a geographical area (+/-), n_2 is the number of spots recorded only by the validation team in the same geographical area after a gap of two to four weeks (-/+) and C is the number of spots recorded by mapping as well as validation teams (+/+).

The above method assumes that the probability of missing a spot by the mapping team is independent of the probability of missing a spot by the validation team.

b. Positive predictivity (PP): If one assumes that the quality of validation exercise is of high standard both in terms of completeness and effectiveness, then the positive predictivity of the mapping exercise indicates that the sites identified as spots by the mapping team are true spots. This essentially calculates the proportion of spots that are counted by both the mapping and validation teams to the total spots counted by the mapping teams. It is calculated as follows:

$$PP = \frac{No.\ of\ matched\ hotspots\ (+/+)}{No.\ of\ matched\ hotspots\ (+/+) + No.\ of\ missed\ hotspots\ (+/-)}$$

c. Adjusted Sensitivity: The proportion of spots that were counted by both the mapping and validation teams to the total number of spots counted by the validation teams is the adjusted sensitivity. In other words, it indicates the proportion of 'true' spots identified by the mapping team in a given geographical area. Adjusted sensitivity of KP mapping (S) in a particular location is computed as follows:

$$S = \frac{No.\ of\ matched\ hotspots\ (+/+)}{No.\ of\ matched\ hotspots\ (+/+) + No.\ of\ new\ hotspots\ (-/+)}$$

In view of the variation in the number of KPs in the common (+/+) and new (-/+) spots, this study has used an indicator modified sensitivity by weighting the number of spots by the mean size of KPs. The adjusted sensitivity is defined as follows:

$$Adjusted\ \ S = \frac{n_1 \bar{\bar{x}}_1}{n_1 \bar{\bar{x}}_1 + n_2 \bar{\bar{x}}_2}$$

where n_1 is the number of matched spots (+/+) in a given location for a particular category of KPs, n_2 is the number of new spots (-/+) mapped by the validation team, $\bar{\bar{x}}_1$ is the weighted average of the number of KPs of all typologies in all matched spots, and is $\bar{\bar{x}}_2$ the weighted average of KPs in all new spots recorded by the validation team.

2.4.2 Operational Strategies for Validation

The **first stage** of validation was the selection of locations where the validation exercise would be conducted. Five per cent of the locations, where the mapping exercise was conducted, were selected for this purpose by using the probability proportion to size (PPS) sampling method. From each selected location, at least 10 percent of the spots were selected in such a way that the sample spots included in validation covers all KP typologies.

The **second phase** was the listing of spots in each of the selected locations using segmentation approach, which provided the mapping teams with a list of all spots in a

location, including landmarks and estimated size of the KPs in the spots. A comprehensive listing of spots in all segments of the selected locations was done using the KI interview (Delphi) method, whereby the teams followed the same approach as followed in the actual mapping exercise.

The **final phase** collected the spot level information in the selected spots. The validation teams replicated the same process used by mapping teams for estimating KP sizes at the spot level. They used the PRA technique for validating the size estimates at each spot, and from among the numbers quoted by the KP respondents, secondary KIs and their own observation of KPs, the validation teams selected the average number as the KP size estimate for that spot.

For qualitative exploration, in case of newly identified spots and missing spots, the validation teams provided their observations on which they had been briefed at the time of training.

For conducting validation exercise in the sampled locations, the selection was done separately for the locations of Dhaka and outside Dhaka regions. From the total of 49 locations in Dhaka, 3 locations (5%) were selected using PPS sampling method. Similarly, 4 out of 73 locations (5%) were selected from the remaining districts. In each selected location, 10 percent of the spots were also visited for PRA. The following table provides the list of locations with number of spots selected for validation.

Table 2.4: List of Locations and number of spots selected for validation

Sl. #	District	Location selected for validation	Spots identified by mapping agency	Number of spots selected for validation (10% of spots)
Dhaka region				
1	Dhaka	Bangshal	17	2
2	Dhaka	Jatrabari	23	3
3	Dhaka	Mirpur	15	2
Remaining districts (outside Dhaka)				
1	Chittagong	Kotwali	23	2
2	Jessore	Sadar	32	3
3	Noakhali	Maijdi	24	2
4	Tangail	Modhupur	18	2
	Total		***152***	***16***

2.4.3 Findings of Validation Exercise

The validation process yields very few new spots in all the three categories of KPs suggesting a comprehensive coverage of spots by the mapping teams. It is important to note that in the locations selected for the mapping and size estimation exercise, 148 hotspots were covered by the mapping team, of which 134 were matched after validation. Although 14 hotspots could not be traced at the reported location, 6 new spots were reported during the validation. It was observed that all the matched hotspots were well-established and commonly known spots, whereas the reasons for missed spots may include: the spots recently emerged or liable to relocation and discontinuation.

Such a high level of convergence has been possible primarily due to the application of standard protocols both by the mapping and validation teams. This process minimized the chance of any deviance owing to structural and operational factors. In addition, the inclusion of appropriate key informants, NGO partners and KP representatives in the process of mapping and size estimation enabled the creation of a comprehensive list of the KP spots.

Table 2.5: Effectiveness in covering KP spots during mapping and validation

KP typology	Matched spots (+/+)	Missed spots (+/-)	New spots (-/+)
FSW	47	6	5
MSM/Hijra	47	3	1
PWID	40	5	-
Total	134	14	6

The positive predictivity of all the three types of spots is estimated to 91 percent; the variability is an acceptable in the mapping of spots for such fluid population groups. Thus, within the little time lag between the mapping and validation stages, the mapping and size estimation exercises yielded highly accurate and reliable information. Moreover, the positive predictivity for FSW is 89 percent, i.e. there may be a chance of 11 percent variance in the spots of FSW. Similarly, the positive predictivity for MSM/W and TG/hijra is 94 percent and the same is 89 percent for PWID. Such a high level of positive predictivity in listing of spots of KPs with various typologies establishes credible evidences for planning programs and services for KPs.

Table 2.6: Statistical indicators revealing effectiveness in the coverage of spots

KP typology	Estimated no. of missed spots	Positive Predictivity	Adjusted Sensitivity
FSW	0.6	89%	94%
MSM/Hijra	0.1	94%	99%
PWID	0.0	89%	100%
Total	0.6	91%	98%

It is also evident from the validation that that for all the three categories of KPs, the value of adjusted sensitivity is estimated to 98 percent (94% for FSWs, 99% for MSM and 100% for PWID), which is much higher than the satisfaction level of 80 percent. Variation in the adjusted sensitivity may be due to increased number of spots reported during validation and variation in the average number of KPs in the spots. Relatively much higher estimates of adjusted sensitivity affirm a high degree of convergence in the mapping and validation estimates of number of KPs operating from those spots included in the mapping and size estimation exercise.

2.5 Methodology for Size Estimation Using Mapping Data

The methodology adopted for size estimation of KPs utilized the size data captured during the mapping exercise using different tools and protocols. Various corrections factors and assumptions were applied to derive the district level estimates of KPs and subsequently arrive at the national estimates through tested extrapolation techniques. The methods used for size estimation are discussed in the following sub-sections.

2.5.1: Assessment of the size estimates of KPs in various spots obtained through three different approaches i.e. during interaction with KIs in different locations, PRA estimates and total of observed and seen on three consecutive days at different point of time and considering the total of observed and seen as the base estimate for application of correction factors. However, the other two estimates serves the purpose of developing coefficient of range in the absence of any reliable estimate of standard error in the estimate.

2.5.1 Development of Correction Factors

For different categories of KPs the level of activity at a spot may vary widely on different days of the week. At the same time, some KP may come to spots infrequently. If they come less often than the period of recall used in the PRA or the period of observation (as has been the case in Bangladesh), they have a probability of not being at the spot during the period of data collection. Moreover, some KPs may go to more than one spot in a day or in a week. If key informants estimate the number of KPs coming to a spot, they are likely to include KPs who have already been estimated by key informants at other spots. The same situation may arise even if we account for the observed and interacted as the threshold for the numbers of KPs operating from a hotspot.

At any given time point the population of KPs, is made of a mixture of people who have just started, those who have been practicing the behaviour for a while, and those who may stop the behaviour in the near future. To estimate the overall number (for example in a year time) the current number mapped must be "converted" in an overall number by accounting for turnover. In addition, a portion of the KPs remains hidden and do not visit any spot for seeking services of activities. As the consequences, the study decided to address these issues by using four correction factors for adjusting the frequency of KPs visiting a spot, duplication of KPs visiting multiple spots, turnover of KPs, and hidden nature of these population groups.

After reviewing the data collected from different spots of five districts and stability in the estimated number of KPs of different typologies the SWG group decided to use the observed and interacted number of KPs at different spots as the best base estimate for applying correction factors at four levels under the following assumptions:

- KPs visiting different hotspots have a fixed pattern in timing of their visit for a period of over three days and hence the records of three consecutive days at different point of time may constitute the estimated number of KPs operating from a spot in a typical day.
- Proportion of KPs visiting multiple spots is uniform in different parts of a district.
- Proportion of KPs not visiting any hotspot either for soliciting or for activities is uniform across district.

A brief description of applying different level correction factors to convert base estimate in to final point estimate is summarized below:

I. Adjusting for the frequency at which KP come to a spot

The frequency adjustment is used for addressing the potential undercount due to frequency of visit in the spots. The formula used two different sets of data. The **first set of data** comes from the total of observed and interacted number of KPs on three consecutive days at three different point of time (Tool 3), which has been assumed to represent the number of KPs operating from the spot. The **second set of data** on frequency of visits to spots derived from the behavioural survey of KPs from different spots (Tool 4).

Rules : The small working group developed the following three rules to use frequencies of visit from the behavioural survey:

- Frequency of visits to different spots was derived at national level after merging the SPSS data file for all the districts in order to minimize the fluctuations in the distribution and decided to apply for adjusting the frequency of visits of KPs to each of the remaining 43 unmapped districts.
- Frequency of visits was restricted to the three categories namely- daily, 2-3 times a week and once a week. The KPs visiting the spot less frequently than once a week were not considered for this adjustment and hence excluded from the distribution. In other words, the three categories were adjusted to 100 percent. However, the KPs reporting less frequent visit to the spots should be taken care with the fourth adjustment for those not coming to the spot.
- As the behavioural survey has been conducted among those who were available and willing to participate in the study during three day visit of the research team to the spot, there is a probability that some of the KPs, who in fact visit 2-3 days in a week or once a week might have been recorded in the daily figure due to addition of the numbers observed and interacted on three days. Therefore, the observed frequencies for 2-3 days in a week and once a week need to be modified to ensure true representation of those who were recorded as daily. To adjust the observed frequency of those reporting that they visit 2-3 times a week, we can consider it as proportion p and hence p^2 will be the adjusted proportion of those who will virtually visiting the hotspot 2-3 days in a week. Accordingly, $p-p^2$ will be added to the proportion of those reporting daily visit to the hotspot. The same computation will be repeated to adjust those who reported once a week but found and interviewed on the hotspot during either of the three day. Let p_1 is the proportion of those who reported visiting once a week then p_1^2 will be the adjusted proportion of those who visited once a week and hence $p_1-p_1^2$ will be the proportion to be added in the proportion of those who reported to visit the hotspot daily.

Method of adjustment: Following the above three rules, the adjustments in the estimates for the people who are not currently at the site, based on the frequency with which people are reported to visit the site, can be done with the help of the following formula:

$$S_1 = (C_i * P_f * f_p) + (C_i * P_f * f_p) + (C_i * P_f * f_p)$$

Where:

S_1= Estimated total of KPs in district (i) after adjusting for the frequency

C_i= Estimated number of current KPs functioning in a district based on observed plus interacted

P_f = Proportion of MARPs visiting hotspots in a district with frequency f_p

Assumptions related to adjustment of frequency

- KPs that come to a spot infrequently come randomly over a period of time.
- An overall pattern of seasonality (e.g. tourist season in some areas for FSW or MSM) is not addressed by this adjustment. Or strong patterns of coming to a spot over a time period longer than a week.

II. Adjusting for duplication of KPs going to multiple hotspots

This adjustment accounts for KPs who come to spots frequently and also assumes that people go to the all spots with the same frequency. Computational procedure requires two types of data – the proportion of KPs visiting other spots along with the size of spots. These two types of data are then used to compute weighted average of the proportion operating from multiple spot.

Rules: The small working group members also decided to follow the following rules to use proportion of KPs visiting multiple spots from Tool 3:

- The proportion of KPs operating from multiple spots can be computed by aggregating data for all districts and deriving the weighted proportion of KPs operating from multiple spots.
- The value of weighted proportion was computed at the national level for each KP separately, and applies to get the number of duplicates and subsequently obtain the adjusted size of KPs for duplication.

Method of adjustment: Following the above rules, the adjustments in the estimates for the KPs operating from multiple spots can be done with the help of the following formula:

$$S_2 = S_1 - \frac{1}{2}(D_i)$$

Where:

S_2 = Estimated number after adjusting for duplication

S_1 = Estimated size after adjusting for frequency

D_i= Estimated number of current KPs in district i who are estimated to operate from multiple spots (i.e. $D_i = C_i * S_1$)

C_i = Weighted proportion of KPs operating from multiple spots

III. Adjusting for turnover of KPs

This correction factor adjusts for the KPs entering and dropping out over the year. The computation of turn over requires the average duration of risk activity for each group of KP (e.g. duration of sex work, duration of injection drug use, duration of having multiple male anal sex partners). Once the average duration in sex work/ injecting (D) is computed the estimated size, which has been derived after frequency as well as duplication adjustments, can be further adjusted for turnover.

Method of adjustment: The adjustment for turnover can be done with the help of the following formula:

$$S_3 = S_2 + (T * S_2 / 2D)$$

Where:

S_3 = Adjusted total Size of KP population over time T

S_2 = Estimated size after adjusting for frequency and duplication

D= Average duration of being a KP (i.e. sex worker, injecting drug, anal sex, etc.)

T = Period of interest for the estimate (which is usually taken as one year)

It should be noted that T and D should be in same units (i.e. if one is in years the other should be in years, if one is in months, the other should be in months).

IV. Adjusting for "hidden" population

Another aspect that was considered whilst determining the KP size estimates was the number of KPs that are estimated to remain hidden. This adjustment is done to account for this assuming that a certain proportion (P) of KP who are currently engaged in high risk behaviour may not come to mappable sites.

Method of adjustment: The adjustment for KPs who are not coming to any spot (i.e. hidden) can be done with the help of the following formula:

$$S_4 = S_3 / (1 - P)$$

Where:

S_4 = Adjusted total size of KPs

S_3 = Estimated size after adjusting for frequency, duplication and turnover

P= Estimated proportion of KPs who do not come to mappable sites

But, in case of Bangladesh there is no published document or study to estimate P for the KPs. However, the SWG members, after having long discussions with the relevant program persons as well as with the KP representatives, decided this proportion for each KP nationally. Then the total number of KPs in a district is inflated by the inverse of the proportion believed to go to mappable sites.

Once the size estimates of the FSWs were finalized through the application of the four different levelcorrection factors, the final estimates were presented as interval estimates with a coefficient of range, whichwas computed using the following formula:

$$\left(\frac{[Maximum\ size - Minimum\ size]}{[Maximum\ size + Minimum\ size]}\right) \times 100$$

The inputs for computation of interval estimates were computed based on three different sources of information on number of KPs operating from various sites that were estimated during mapping exercise, e.g. estimated size through KII at location level, number observed and seen, number estimated through PRA at the spot level, usual size of KPs during the last one week and last one month. The half of the difference of maximum and minimum number of estimated values obtained through five sources was subtracted and added from the final estimates after adjusting for all corrections to give the lower and upper limits of the final interval estimate, respectively.

Table 2.7: Illustration of correction factors to estimate size of FSWs in Tangail district

Indicator		FSW			
		SBFSW	HBFSW	RBFSW	BBFSW
PRA estimate		342	130	141	705
Agreed upon estimate		252	110	139	650
Observed and seen(S)		257	67	129	600
Frequency adjustment					
P1		0.64	0.52	0.45	0.99
P2		0.36	0.48	0.55	0.01
P3		0.00	0.00	0.00	0.00
S1		***491***	***147***	***305***	***616***
Duplication adjustment					
Ci		0.25	0.33	0.30	0.00
Di		123.5	49.2	90.1	0.0
S2		***429***	***123***	***260***	***616***
Turnover adjustment					
T		1	1	1	1
Di		7.55	6.58	7.55	8.39
S3		***458***	***132***	***277***	***653***
Hidden population adjustment					
P		0.20	0.25	0.25	0.00
S4		***572***	***176***	***370***	***653***
Interval estimates of KP size					
Maximum KP value		342	130	141	705
Minimum KP value		221	6	102	600
Range		60.5	62.0	19.5	52.5
S4 -/+ (range/2)	*Lower estimate*	***511***	***114***	***350***	***600***
	Upper estimate	***632***	***238***	***389***	***705***
Coefficient of Range (%)		10.6	35.2	5.3	8.0

2.5.2 Protocols for Extrapolating the size of KPs in Unmapped Districts

Once the comprehensive exercise of mapping and size estimation has been completed in selected 21 districts with appropriate correction factors, sound statistical procedure has been adopted to extrapolate the size of KPs and YKPs to rest of districts and subsequently for the country as a whole. For this purpose, three basic rules have applied, which are briefly explained below:

Rule 1: All the 64 districts in the country were ranked based on vulnerability index computed based on five indicators namely concentration of KPs, reported number of STI cases, percent of urban population, cross boarder vulnerability and size of adult population age 15-49. Subsequently, each of the 64 districts was assigned relative rank (raging from maximum to minimum) with respect to the five indicators using the following formula:

$$(V_i - V_{min}) / (V_{max} - V_{min}) * 100$$

where,

V_i is the actual value of the rank of ith district in a particular indicator i.e. level of urbanization or cross-border vulnerability or prevalence of STI, etc.

V_{max} is the maximum value, and

V_{min} is the minimum value in the series.

The above five indicators for developing a comprehensive vulnerability index were decided by the SWG for extrapolation of size data to the unmapped districts. Further, to facilitate an effective matching of unmapped districts with 21 districts included in mapping and size estimation, weighted vulnerability index was computed using the weights assigned to each of the five indicators selected for extrapolation. Table 2.8 portrays the weights assigned to each of the five indicators used for computing weighted vulnerability used in matching of unmapped districts:

Table 2.8: Indicators with relative weights used in computation of vulnerability index

Sl. no.	Indicators	weights for computing the vulnerability Index
1.	KP Concentration	28%
2.	reported number of STI cases	23%
3.	Percent of urban population	20%
4.	Cross border vulnerability	15%
5.	Adult population aged 15-49 years	9%

Rule 2: The weighted vulnerability indices of unmapped districts were compared with the same for 21 districts included in the mapping and size estimation exercise. Once the unmapped district that closely matched with the mapped district was identified based on the weighted vulnerability index, and the SWG had unanimously approved its suitability, the proportion of the KPs in the district in particular typology (e.g. SBFSWs, HBFSWs, RBFSWs, MSM/W, PWID) in the district was estimated against the total adult female/male population age between 15 and 49 years. This ratio was multiplied with the total adult female/male population age between 15 and 49 years in the unmapped district for getting the estimated numbers. This method was employed for effectively extrapolating the number of KPs with different typology in all the unmapped districts.

Rule 3: In the event that a suitable match for the unmapped district could not be identified among the list of 21 districts included in the mapping and size estimation based on the weighed vulnerability index, rs, as specified under Rule 1, an average of the ratio of weighted vulnerability of two or three districts having proximity in terms of vulnerability have been considered for the purpose of extrapolation of size of KPs in unmatched districts

2.6 Limitations

To the extent possible, the methodology for the mapping exercise was comprehensively and uniformly applied across the 21 districts; however, certain limitations, which are typical for a study like this type of estimating hidden population groups like FSW, MSM, MSW, TG/Hijra and PWID are summarized as follows:

Firstly, a central assumption of the mapping and size estimates of KPs at the spots was the definition of a typical day. A typical day was considered as the number of observations made and recorded at spots during three consecutive day visit at different times. Although this definition was applied to a majority of the districts, there were few fluctuations among the observations owing to seasonal variations or changes in law and order situation at the spots, considering that KPs do not receive legal sanctity and are largely stigmatized. For instance, in some districts including Dhaka and Narayanganj, the research teams faced difficulties in getting access to the hotels and interview the sex workers, which limit the number of HBFSWs seen and interacted during the three days visit. Moreover, the field research teams observed that the hotel authorities in some spots were not allowing the sex workers due to police raid. Similar incidence as well as shift of spots also happened for the other KP groups as well.

The field exploration revealed that a significant portion of the KPs (e.g. MSM, FSW, PWID) do not visit any spot and contact their clients/partners through Mobile phones or any other means. Another factor that necessitates consideration is the mobility of KPs from one location or district to the other. In order to overcome these weaknesses, which influence the size estimates of a population at a spot or location and are beyond the researchers' control, different levels of correction factors were employed for adjusting for frequency of the visit, avoiding duplication, adjusting for turnover and counting for hidden population in the estimation of the population size.

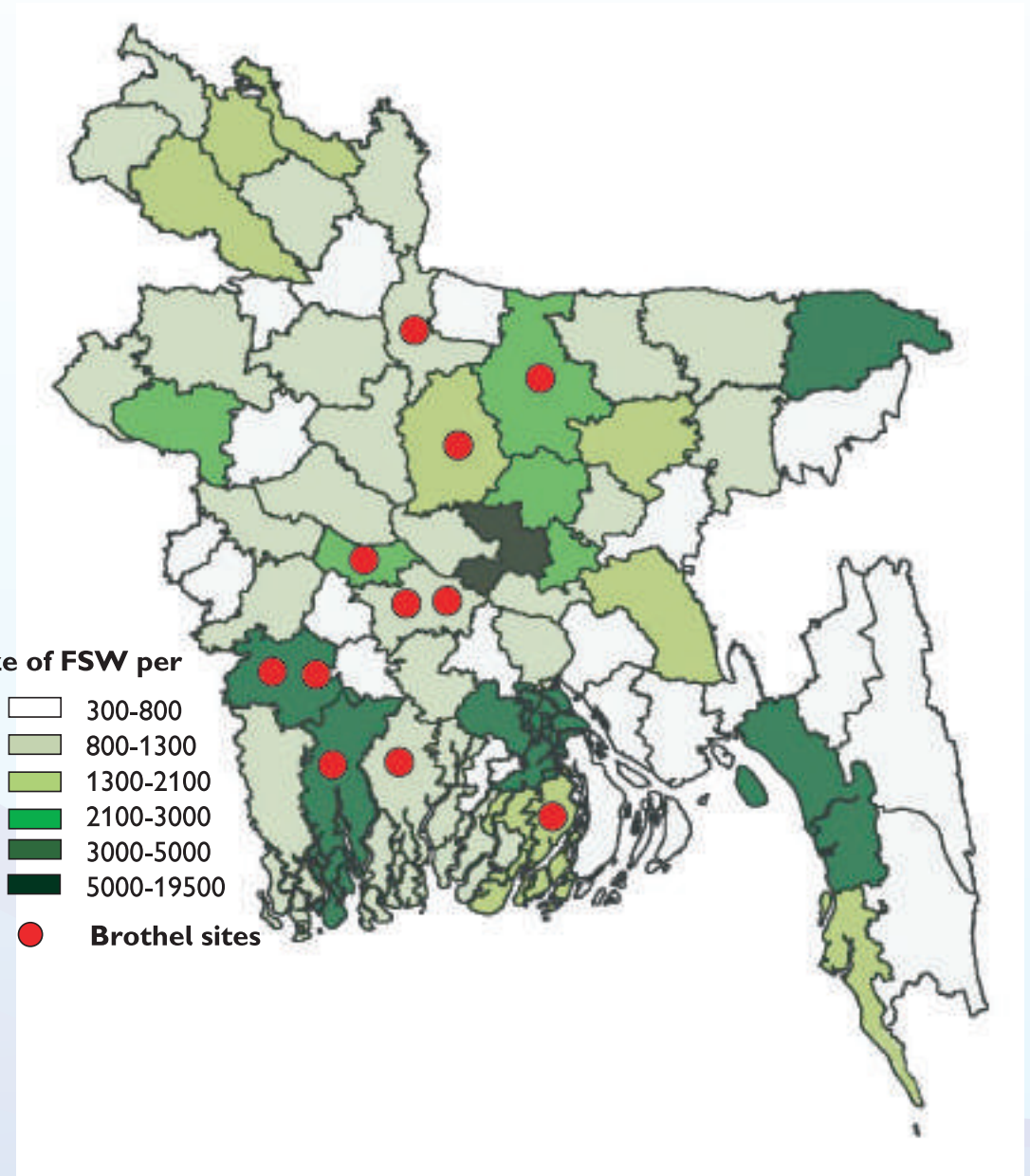
Moreover, the field research teams faced difficulties in finding spots for casual sex workers. Although the district level consultation with the key stakeholders reported existence of casual sex workers in some parts of the districts, but the study identified only 6 spots of casual sex workers. Neither the key informants nor the representatives of the KPs in the existing locations were able to locate more spots of casual sex workers. As a result, the estimate of casual sex workers under this study may not be robust and thus the separate analysis of this group is not included in this report.

Although the research team was successful in observing and interacting with KPs at the spots, the number of interviews that were conducted for the behavioural survey in few locations was insufficient. This could be attributed to the fact that the KPs in certain locations were unwilling to openly participate and disclose information. This weakness was addressed by developing proportional weights by using extrapolated figures of different districts. The weights were calculated separately for FSW, MSM, TG/Hijra and PWID in three different databases.

The scheme of extrapolation depends upon various assumptions related to the similarity of unmapped districts with mapped districts. Moreover, the weights used for calculating weighted vulnerability index were decided based on the discussions in SWG and not free from subjective bias. As a consequence, it is recommended that the results for unmapped districts be viewed in this context.

It is recommended that for designing intervention programs in the unmapped districts, further exploratory study is undertaken in order to obtain the number of KPs first and subsequently plan.

Estimated Size of FSW by Districts, 2015-2016



3.1 Mapping and Size Estimation of Female Sex Workers

As discussed in the section on methodology, for a comprehensive mapping of various hotspots, which would be exhaustive, mutually exclusive and non-overlapping in nature and precise estimation of the size of KPs, application of four tools have provided us three opportunities to get estimated size of FSWs operating at diverse hotspots in different districts of Bangladesh (a copy of tools has been enclosed as Annex-D The last three columns of Tool-2 provide key Informants perspectives to approximate size of FSWs operating from different hotspots in their areas, where research team recorded minimum, maximum and the agreed estimate of FSWs. The second such opportunity is the estimate from first part of Tool-3, where research team visited a hotspot on three consecutive days at different point of time and recorded observed as well as interacted number of FSWs. The third source of information on number of FSWs operating from a hotspot has been the PRA conducted in all the hotspots recorded in 21 districts included in mapping and size estimation. Subsequently, in view of the stability in the estimated number of FSWs of different typologies, the reported number of observed and interacted number of FSWs at different hotspots as the best base estimate for applying correction factors at four levels. Once the number of FSWs operating in 21 districts have been finalized the same has been extrapolated for the remaining 43 districts and developed the national estimates of FSWs with different typologies. The same procedure has been adopted to estimate and extrapolate the clients of FSWs with different typology. The results are presented in this section along with the distribution of FSWs in three broad age groups along with their estimated client load per week.

Further, this section provides the distribution of locations and spots of FSW across different districts by their typology, i.e. street, hotel, residence and brothel, which may be useful in developing national commitments and policy instruments to strengthen the service delivery as part of the national response to HIV epidemic.

3.1.1 Estimated number of FSWs of Different Typology and their Broad Age groups

It is worth mentioning that the national response to STI/HIV cannot adopt uniform strategy for FSWs of different typology and those falling in different age brackets. That is why, estimated number of KPs by their typology and age groups may be an important ingredient in the planning and implementation of programmes and services across different regions/districts of the country. It is evident from Table 3.1 that the total estimated number of FSWs in Bangladesh, which ranges from a minimum of 82,884 to the maximum of 102,260; the maximum contribution has been from street based FSWs, which is estimated to be a minimum of 31,837 to the maximum of 41,350, followed by the residence based FSWs (between 34,000 to 39,078) and hotel based FSWs (between 13,945 to 17,976). A substantial proportion of these FSWs are in the age group 10-19, which may demand for another set of strategic approaches to ensure their health related quality of life. Thus, a very high volume of YKPs in Bangladesh may be another challenge for the programme and services designed towards risk reduction of STI/HIV.

Table 3.1: Estimated number of FSWs with different typologies and age groups in Bangladesh

Typology	Age limits						Total	
	10-19		20-24		25 and above			
	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
SBFSW	6,267	8,187	11,301	14,732	14,269	18,431	31,837	41,350
HBFSW	2,320	3,197	5,372	6,825	6,253	7,954	13,945	17,976
RBFSW	5,176	5,972	11,920	13,718	16,904	19,388	34,000	39,078
BBFSW	573	701	1,152	1,431	1,377	1,724	3,102	3,856
Total	14,336	18,057	29,745	36,706	38,803	47,497	82,884	102,260

3.1.2 Regional Variation in Estimated Number of FSWs

Table 3.2 portrays the division and district wise variation in estimated number of FSWs in three major typologies i.e. street based FSWs, Hotel based FSWs and Residence based FSWs. It is evident from the first part of the table that among the SBFSWs, which ranges from a minimum of 29579 to the maximum of 41918, their concentration is the maximum in Dhaka division (41%) followed by Khulna division (14%). Of course, the concentration of SBFSWs are considerably higher even in Rajshahi and Rangpur divisions. The situation of maximum concertation is the same in case of residence based FSWs and hotel based FSWs, where Dhaka division has the maximum contribution with 29 percent among residence based FSWs and 23 percent among hotel based FSWs. In case of concentration of residence based FSWs in other divisions, Chittagong (19%) and Rajshahi (17%) are the other two divisions with relatively higher concentrations following Dhaka. On the other hand, Rajshahi and Rangpur divisions have relatively higher concentration of hotel based FSWs (21 and 15 % respectively) in addition to Dhaka. Variations in estimated numbers across all 64 districts in Bangladesh are evident from Table 3.2 presented separately for Street based FSWs, Hotel based FSWs and Residence based FSWs.

Table 3.2: Division and District wise variation in estimated number of FSWs of different typologies in Bangladesh

Street Based FSWs

Division	District	SB-FSW			
		Estimate	Lower Value	Upper Value	CR(%)
BARISAL	Barguna	373	314	432	15.8
	Barisal	593	472	715	20.5
	Bhola	119	100	138	15.8
	Jhalokati	252	212	292	15.8
	Patuakhali	642	540	743	15.8
	Pirojpur	466	393	540	15.8
CHITTAGONG	Bandarban	192	165	220	14.5
	Brahmanbaria	288	267	308	7.2
	Chandpur	245	227	263	7.2
	Chittagong	769	714	825	7.2
	Comilla	147	137	157	6.8
	Cox's bazar	378	337	420	11.0
	Feni	249	186	311	25.3
	Khagrachhari	132	113	152	14.9
	Lakshmipur	326	274	377	15.8
	Noakhali	316	236	396	25.3
	Rangamati	299	256	343	14.5
DHAKA	Dhaka	7,196	6,154	8,238	14.5
	Faridpur	395	332	457	15.8
	Gazipur	1,315	1,046	1,584	20.5
	Gopalganj	486	409	563	15.8
	Jamalpur	366	342	390	6.6
	Kishorganj	844	672	1,017	20.5
	Maharipur	486	409	563	15.8
	Manikganj	583	491	675	15.8
	Munshiganj	601	506	695	15.8
	Mymensingh	903	815	992	9.8
	Narayanganj	1,696	1,526	1,867	10.1
	Narsingdi	419	353	485	15.8
	Netrakona	241	237	246	1.9
	Rajbari	440	370	509	15.8
	Shariatpur	485	408	561	15.8
	Sherpur	214	191	236	10.6
	Tangail	572	511	632	10.6
KHULNA	Bagerhat	618	520	715	15.8
	Chuadanga	229	197	260	13.8

Division	District	SB-FSW			
		Estimate	Lower Value	Upper Value	CR(%)
	Jessore	748	673	822	10.0
	Jhenaidah	382	325	439	14.9
	Khula	1,369	1,202	1,537	12.2
	Kushtia	315	268	363	14.9
	Magura	386	325	447	15.8
	Meherpur	246	210	281	14.5
	Narail	302	255	350	15.8
	Satkhira	429	365	493	14.9
RAJSHAHI	Bogra	405	362	448	10.6
	Joypurhat	198	168	227	14.9
	Naogaon	420	358	483	14.9
	Natore	221	188	254	14.9
	Chapai Nababganj	333	287	379	13.8
	Pabna	272	231	312	14.9
	Rajshahi	887	841	932	5.1
	Sirajganj	167	142	192	14.9
RANGPUR	Dinajpur	1,206	1,128	1,285	6.5
	Gaibandha	190	177	202	6.6
	Kurigram	446	380	513	14.9
	Lalmonirhat	628	536	719	14.5
	Nilphamari	294	275	313	6.6
	Panchagarh	493	421	565	14.5
	Rangpur	463	432	493	6.6
	Thakurgaon	223	208	238	6.6
SYLHET	Habiganj	225	221	229	1.9
	Maulvibazar	166	163	169	1.9
	Sunamganj	374	367	381	1.9
	Sylhet	930	894	965	3.8
	BANGLADESH	36,593	31,837	41,350	13.0

Note: Yellow highlighted rows are actual districts where field level data collection took place

Hotel Based FSWs:

Division		HB-FSW			
		Estimate	Lower Value	Upper Value	CR(%)
BARISAL	Barguna	60	47	72	20.3
	Barisal	1,344	715	1,973	46.8
	Bhola	83	66	100	20.3
	Jhalokati	40	32	48	20.3
	Patuakhali	102	82	123	20.3
	Pirojpur	74	59	90	20.3
CHITTAGONG	Bandarban	160	145	175	9.4
	Brahmanbaria	-	-	-	-
	Chandpur	170	163	176	3.7
	Chittagong	1,065	1,026	1,104	3.7
	Comilla	621	511	731	17.7
	Cox's bazar	350	315	385	10.0
	Feni	-	-	-	-
	Khagrachhari	74	66	82	10.8
	Lakshmipur	52	41	63	20.3
	Noakhali	-	-	-	-
	Rangamati	249	226	273	9.4
DHAKA	Dhaka	2,268	2,189	2,348	3.5
	Faridpur	63	50	76	20.3
	Gazipur	811	717	905	11.6
	Gopalganj	78	62	93	20.3
	Jamalpur	258	235	280	8.7
	Kishoreganj	521	460	581	11.6
	Madaripur	78	62	93	20.3
	Manikganj	93	74	112	20.3
	Munshiganj	96	76	115	20.3
	Mymensingh	362	351	373	3.0
	Narayanganj	-	-	-	-
	Narsingdi	104	83	125	20.3
	Netrakona	-	-	-	-
	Rajbari	70	56	84	20.3
	Shariatpur	77	62	93	20.3
	Sherpur	66	43	89	35.2
	Tangail	176	114	238	35.2
KHULNA	Bagerhat	99	79	119	20.3
	Chuadanga	-	-	-	-
	Jessore	759	720	799	5.2
	Jhenaidah	215	192	238	10.8
	Khulna	500	488	512	2.4
	Kushtia	178	158	197	10.8
	Magura	62	49	74	20.3

Division	District	HB-FSW			
		Estimate	Lower Value	Upper Value	CR(%)
	Meherpur	204	185	224	9.4
	Narail	48	38	58	20.3
	Satkhira	242	216	268	10.8
RAJSHAHI	Bogra	166	108	225	35.2
	Joypurhat	111	99	123	10.8
	Naogaon	158	141	175	10.8
	Natore	156	139	173	10.8
	Chapai Nababganj	-	-	-	-
	Pabna	153	136	169	10.8
	Rajshahi	410	367	453	10.5
	Sirajganj	188	168	208	10.8
RANGPUR	Dinajpur	210	199	222	5.5
	Gaibandha	125	118	132	5.5
	Kurigram	251	224	278	10.8
	Lalmonirhat	522	473	571	9.4
	Nilphamari	207	189	225	8.7
	Panchagarh	410	371	449	9.4
	Ranrpur	326	298	355	8.7
	Thakurgaon	157	143	171	8.7
SYLHET	Habiganj	-	-	-	-
	Maulvibazar	-	-	-	-
	Sunamganj	-	-	-	-
	Sylhet	539	518	560	3.9
BANGLADESH		15,960	13,945	17,976	12.6

Note: Yellow highlighted rows are actual districts where field level data collection took place

Residence Based FSWs

Division	District	RB-FSW			
		Estimate	Lower Value	Upper Value	CR(%)
BARISAL	Barguna	188	166	210	11.7
	Barisal	675	582	767	13.7
	Bhola	300	265	335	11.7
	Jhalokati	127	112	142	11.7
	Patuakhali	323	286	361	11.7
	Pirojpur	235	208	263	11.7
CHITTAGONG	Bandarban	41	35	48	16.3
	Brahmanbaria	217	196	238	9.6
	Chandpur	308	279	338	9.6
	Chittagong	1,934	1,749	2,119	9.6
	Comilla	714	679	749	4.9
	Cox's bazar	607	567	647	6.6
	Feni	112	97	127	13.7
	Khagrachhari	102	90	113	11.4
	Lakshmipur	164	145	183	11.7
	Noakhali	142	123	162	13.7
	Rangamati	64	54	75	16.3
DHAKA	Dhaka	8,442	8,176	8,708	3.2
	Faridpur	199	176	222	11.7
	Gazipur	-	-	-	-
	Gopalganj	245	216	274	11.7
	Jamalpur	231	208	253	9.8
	Kishoreganj	-	-	-	-
	Madaripur	245	216	274	11.7
	Manikganj	294	260	328	11.7
	Munshiganj	303	267	338	11.7
	Mymensingh	1,031	933	1,130	9.6
	Narayanganj	881	767	995	12.9
	Narsingdi	329	290	367	11.7
	Netrakona	631	619	642	1.8
	Rajbari	222	196	248	11.7
	Shariatpur	244	216	273	11.7
	Sherpur	138	116	161	16.3
	Tangail	370	350	389	5.3
KHULNA	Bagerhat	312	275	348	11.7
	Chuadanga	430	392	467	8.7
	Jessore	1,579	1,435	1,723	9.1
	Jhenaidah	294	254	334	13.7
	Khulna	1,177	1,153	1,202	2.1
	Kushtia	243	203	282	16.3
	Magura	195	172	217	11.7

Division	District	HB-FSW			
		Estimate	Lower Value	Upper Value	CR(%)
	Meherpur	71	59	82	16.3
	Narail	152	135	170	11.7
	Satkhira	330	293	368	11.4
RAJSHAHI	Bogra	349	301	397	13.7
	Joypurhat	152	135	169	11.4
	Naogaon	216	191	240	11.4
	Natore	213	189	237	11.4
	Chapai Nababganj	626	571	680	8.7
	Pabna	314	278	349	11.4
	Rajshahi	877	781	972	10.9
	Sirajganj	386	342	430	11.4
RANGPUR	Dinajpur	537	526	548	2.0
	Gaibandha	425	416	434	2.0
	Kurigram	343	304	382	11.4
	Lalmonirhat	135	113	157	16.3
	Nilphamari	940	858	1,022	8.7
	Panchagarh	106	89	123	16.3
	Ranrpur	292	264	321	9.8
	Thakurgaon	528	482	574	8.7
SYLHET	Habiganj	589	578	599	1.8
	Maulvibazar	544	534	554	1.8
	Sunamganj	838	822	853	1.8
	Sylhet	3,289	3,217	3,361	2.2
BANGLADESH		36,539	34,000	39,078	6.9

Note:Yellow highlighted rows are actual districts where field level data collection took place

Brothel Based FSWs

Districts	Name of brothels	Estimated number of BBFSW			CR (%)
		Estimate	Lower Limit	Upper Limit	
Bagerhat	KormokarPotti	88	61	114	30.2
Jessore	MarowariMondir	109	105	114	4.1
Jessore	Babu Bazar	44	40	48	9.1
Khulna	Banishanta	158	124	191	21.2
Mymensing	Ganginarpar	260	239	281	8.1
Tangail	Kandapara	653	600	705	8.0
Rajbari	Daulatdia	1,470	1,311	1,629	10.8
Jamalpur	Rani Bazar	122	109	135	10.8
Faridpur	Rothkhola	286	255	317	10.8
Faridpur	C & B Ghat	166	148	184	10.8
Patuakhali	Chorpara	124	111	137	10.8
	Total	3,479	3,102	3,856	10.8

District wise variation in estimated number of FSWs with age group distribution and lower and upper estimates are summarized in the Annex-E.

Clients of FSWs

Clients of FSWs remain, in most of the cases, outside the purview of research as well as intervention relating to STI/HIV prevention practices, which is mainly because of their high mobility, invisibility and shakiness to provide information. In addition, they are highly inaccessible to researchers and programme people. But, they play an instrumental role into changing the face of sex work in different societies, which demands enhancement in the heterogeneity in the programmatic response to STI/HIV epidemic. Against this backdrop, it is important to provide an estimate of the clients of FSW. In the absence of any robust estimate, this mapping and size estimation study suggests to consider 8 - 11 percent of the adult male population in Bangladesh as the clients of FSW. The same proportion was also used in the previous size estimation study (NASP, 2009).

3.1.3 Mapping of Location and Spots for Female Sex Workers

The mapping exercise of female sex workers conducted in 21 selected districts revealed 470 spots in 85 locations (Table 3.3). The FSW spots were found in all 21 districts where mapping exercise was conducted. Nearly half of the locations and more than a quarter of the spots were identified in Dhaka. The other districts with more than 20 FSW spots include: Mymensingh, Narayanganj, Gazipur, Chittagong, Jessore, Sylhet and Barisal. Moreover, the districts of Dhaka division have relatively higher number of FSW spots.

Table 3.3: Distribution of location and spots of FSWs across different districts included in Mapping and Size Estimation

Division	District	No. of locations	No. of spots
Barisal	Barisal	1	21
Chittagong	Chittagong	9	25
	Comilla	1	7
	Cox's bazar	1	10
	Noakhali	1	12
	Rangamati	1	15
Dhaka	Dhaka	42	130
	Gazipur	3	23
	Mymensing	1	38
	Narayanganj	4	28
	Tangail	2	19
Khulna	Bagerhat	1	11
	Jessore	2	22
	Khulna	4	18
	Shatkhira	1	13
Rajshahi	Chapainawabganj	1	10
	Rajshahi	3	14
Rangpur	Dinajpur	3	16
	Rangpur	1	11
Sylhet	Sunamganj	1	6
	Sylhet	2	21
Total		85	470

The distribution of FSW spots across different districts and by their typology indicates that the mapping exercise revealed highest number of spots for SBFSW (Table 3.4). Out of 470 spots of FSW, 218 spots (45.8%) were identified for SBFSW, followed by RBFSW (151 spots), and HBFSW (77 spots). The study also identified 6 brothels in 5 districts with 24 rows/gates in total.

Out of the 218 spots of SBFSW, Dhaka has the maximum number of spots. The other districts with more than 10 spots of SBFSW include: Narayanganj, Gazipur and Mymensingh. On the other hand, the concentration of HBFSW spots is relatively higher in Gazipur, Barisal, Rangamati, Mymensingh districts. Moreover, Dhaka has the maximum number of RBFSW spots (34 spots), followed by Chittagong (16 spots), Mymensingh (11 spots), etc.

Table 3.4: Distribution of spots by typology of FSWs across different districts included in Mapping and Size Estimation

Division	District	FSW				
		SBFSW	HBFSW	RBFSW	BBFSW	Total
Barisal	Barisal	6	8	7	-	21
Chittagong	Chittagong	5	4	16	-	25
	Comilla	1	3	3	-	7
	Cox's bazar	2	1	7	-	10
	Noakhali	7	-	5	-	12
	Rangamati	7	7	1	-	15
Dhaka	Dhaka	90	6	34	-	130
	Gazipur	14	9	-	-	23
	Mymensingh	10	7	11	10	38
	Narayanganj	15	5	8	-	28
	Tangail	8	3	5	3	19
Khulna	Bagerhat	6	1	2	2	11
	Jessore	3	4	10	5	22
	Khulna	8	2	4	4	18
	Shatkhira	5	3	5	-	13
Rajshahi	Chapainawabganj	4	-	6	-	10
	Rajshahi	7	3	4	-	14
Rangpur	Dinajpur	8	3	5	-	16
	Rangpur	4	4	3	-	11
Sylhet	Sunamganj	1	-	5	-	6
	Sylhet	7	4	10	-	21
Total		218	77	151	24	470

3.2 Behavioural Characteristics of Female Sex Workers

This section provides the background characteristics of female sex workers in terms of age, educational qualification, marital status and living arrangements. The risk behaviour of FSW including age of entry sex work, client load, use of condom with different clients are analysed in this section. This section also analyzes the incidence of STI among FSWs, care seeking behaviour, HIV testing and other related services.

A total of 2,091 FSWs were interviewed, of which SBFSW comprises the highest share (n=930), followed by RBFSW (n=565), HBFSW (n=303), BBFSW (n=269) and casual sex workers (n=25). Due to the small size of the casual sex workers, this group has been excluded from the analysis. All the tables and figures presented in this section are corrected through appropriate sampling weights.

3.2.1 Background Characteristics

The average age of the FSWs is 25 years. About 17.4 percent of the FSW interviewed are aged 10-19 years, 35.4 percent are aged 20-24 years and the rest 47.2 percent are aged 25 years and above (Table 3.5). In overall, 19.6 percent of the FSWs do not have any formal education, and majority have attained up to 5 years of schooling. About 19.1 percent of the FSW have completed 6-10 years of schooling and less than one

percent completed more than 10 years of schooling. Majority (72.0%) of the FSWs is ever married and the rest 28.0 percent are never married.

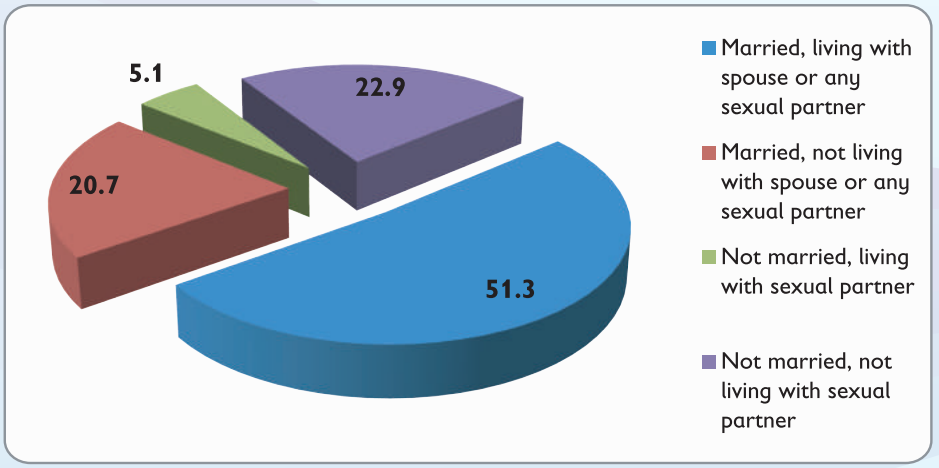
Table 3.5: Percentage distribution of FSWs by selected background characteristics

Background characteristics	Percent of FSWs				All FSW (n=2091*)
	RBSW (n=565)	SBSW (n=930)	HBSW (n=303)	BBSW (n=269)	
Age					
Below age 20	16.2	17.9	18.6	16.3	17.4
20-24	32.6	34.6	40.9	35.2	35.4
25 and above	51.2	47.5	40.9	48.4	47.2
Average age	**26**	**26**	**24**	**25**	**25**
Education					
No formal education	16.3	19.9	15.9	27.0	19.6
Up to 5 years	61.2	62.1	57.5	60.3	60.5
6-10 years	20.5	17.6	26.2	12.2	19.1
More than 10 years	2.0	0.4	0.4	0.5	0.8
Marital status					
Never married	18.1	24.7	39.5	42.8	28.0
Ever married	81.9	75.3	60.5	57.2	72.0
Region					
Dhaka	34.0	54.5	22.4	54.3	44.4
Bordering districts	47.3	26.3	45.7	30.6	35.4
Other	18.7	19.2	32.0	15.1	20.2

*The total sample size of FSW includes 25 casual sex workers.

More than half (51.3%) of the FSWs are currently married and living with their spouse or regular partners and another 20.7 percent are married and not living with spouse or regular partners (Figure 3.1). About 22.9 percent of them are not married and not living with sexual partner and the rest 5.1 percent of the FSWs are not married but living with sexual partner.

Figure 3.1: Distribution of the FSWs by their living arrangements



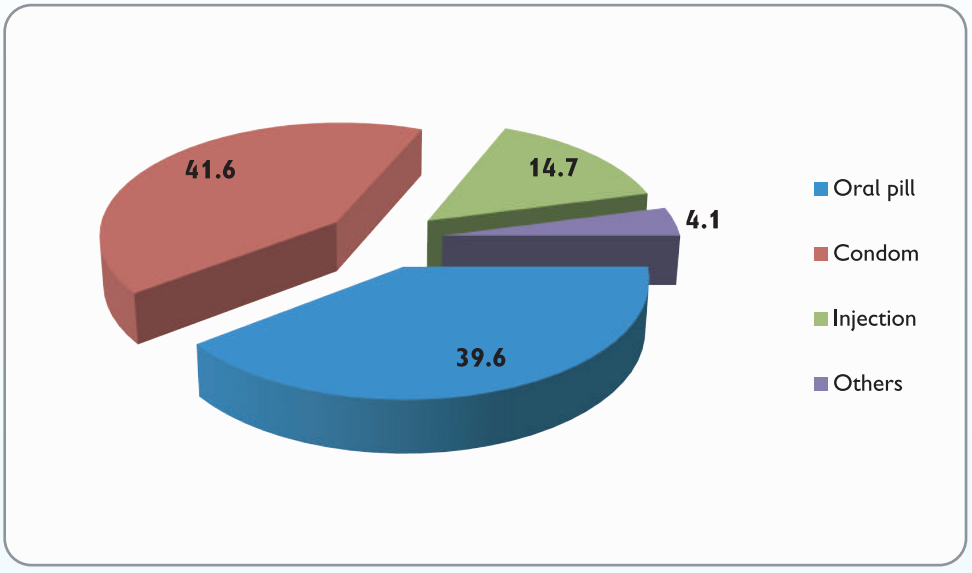
In overall, 82.2 percent of the FSWs reported to use any method of contraception to avoid pregnancy (Table 3.6). The use of contraception is relatively lower among the young aged FSWs. The use of contraception is significantly lower among the FSWs of Dhaka (72.1%) as compared to the FSWs of bordering districts (88.7%) and other districts (93.1%). It is also important to note that the current use of contraception is relatively higher among residence and brothel based FSWs as compared to the streetand hotel sex workers.

Table 3.6: Current use of contraception by FSW

Background characteristics	Percent of FSW	Number of FSW
Age		
Below age 20	68.3	364
20-24	77.2	741
25 and above	91.2	987
Education		
No formal education	74.6	409
Up to 5 years	85.2	1265
6-10 years	81.1	399
More than 10 years	69.6	18
Marital status		
Never married	61.5	585
Ever married	90.3	1506
Living arrangements		
Married, living with spouse or any sexual partner	92.3	1074
Married, not living with spouse or any sexual partner	85.3	432
Not married, living with sexual partner	90.5	107
Not married, not living with sexual partner	55.1	479
Typology		
RBSW	93.5	565
SBSW	78.6	930
HBSW	75.2	303
BBSW	84.3	269
Received condom from program		
Yes	85.0	1840
No	61.7	251
Region		
Dhaka	72.1	929
Bordering districts	88.7	740
Other	93.1	422
Total	82.2	2091

Among the FSWs who reported to use any contraceptive method, 41.6 percent mentioned use of condom and another 39.6 percent mentioned oral pills (Figure 3.2). About 14.7 percent of the FSWs also mentioned injections and the rest 4.1 percent mentioned other methods of contraception for avoiding pregnancy. Only a few (1.2%) of the FSWs are currently pregnant.

Figure 3.2: Distribution of the FSWs by methods of contraception



3.2.2 Behavioural Factors

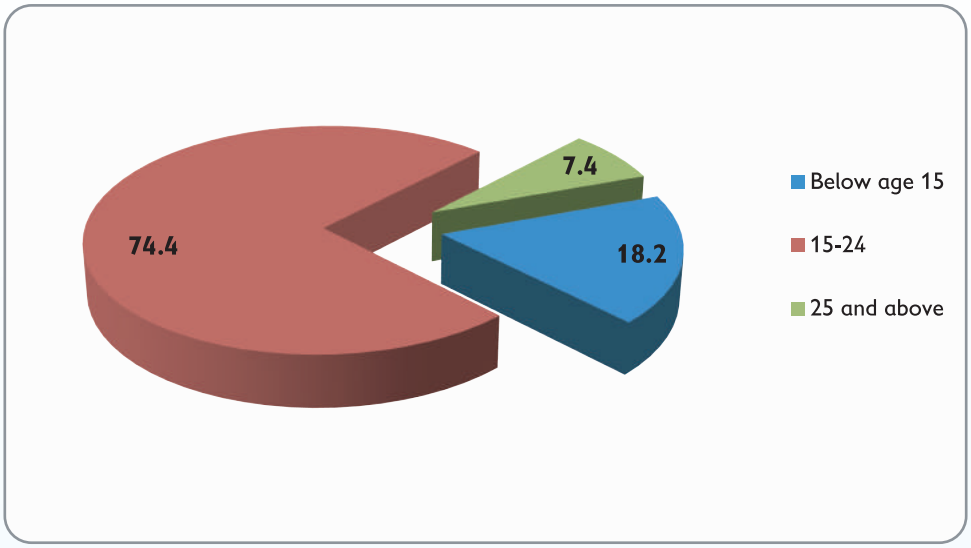
More than half (55.8%) of the FSWs interviewed reported to have sex for the first time before the age of 15 (Table 3.7). The illiterate and less educated FSWs are more likely to have their first sex before age 15. The proportion of FSWs reported the same is notably higher in the bordering districts (64.6%) as compared to Dhaka (48.5%) and other districts (56.2%). Moreover, majority (64.4%) of the brothel based FSWs reported to have their first sex before age 15, followed by hotel based sex workers (59.7%), street based sex workers (54.0%) and residence based sex workers (53.7%).

Table 3.7: Percentage of FSWs who had sex for the first time before the age of 15

Background characteristics	Percent of FSW	Number of FSW
Age		
Below age 20	71.8	364
20-24	55.4	741
25 and above	50.2	987
Education		
No formal education	65.7	409
Up to 5 years	55.5	1265
6-10 years	47.8	399
More than 10 years	27.0	18
Marital status		
Never married	58.7	585
Ever married	54.6	1506
Living arrangements		
Married, living with spouse or any sexual partner	53.4	1074
Married, not living with spouse or any sexual partner	57.7	432
Not married, living with sexual partner	53.5	107
Not married, not living with sexual partner	59.9	479
Typology		
RBSW	53.7	565
SBSW	54.0	930
HBSW	59.7	303
BBSW	64.4	269
Region		
Dhaka	48.5	929
Bordering districts	64.6	740
Other	56.2	422
Total	55.8	2091

About 18.2 percent of the FSWs entered into the sex work before reaching 15 years and another 74.4 percent entered within 15-24 years of age (Figure 3.3). The average age of the FSWs to enter into sex work is about 18 years.

Figure 3.3: Percentage distribution of FSW by their age of entry sex work



The brothel based sex workers entered into the sex work relatively much earlier as compared to the street, hotel and residence based sex workers (Table 3.8). Moreover, the FSWs interviewed are reported to spend about seven and half a year in this profession.

Table 3.8: Percentage distribution of FSW by their age of entry sex work and years in this profession and typology

Background characteristics	Percent of FSWs				All FSW (n=2091)
	RBSW (n=565)	SBSW (n=930)	HBSW (n=303)	BBSW (n=269)	
Age of entry sex work					
Below age 15	16.2	15.6	16.2	35.1	18.2
15-24	74.3	76.3	78.6	61.4	74.4
25 and above	9.4	8.1	5.2	3.5	7.4
Average age	18	18	18	16	18
Duration of sex work					
Below 5 yrs	30.6	33.1	33.4	24.8	32.0
5-10	46.5	43.9	53.2	45.0	45.8
10 and above	22.9	23.0	13.4	30.2	22.2
Averageduration	7.6	7.6	6.6	8.4	7.5

The brothel based sex workers, on an average, work 6 days a week, while the street, hotel and residence based sex workers reported 5 days a week (Table 3.9). More than half of the street based (52.8%) and hotel based (58.0%) sex workers reported to have more than 20 clients per week, while majority of the residence and brothel based sex workers reported less than 20 clients per week. The average number of clients per week is notably higher for hotel based sex workers (30 clients/week), followed by street based sex workers (22 clients/week), residence and brothel based sex workers (18 clients/week).

Table 3.9: Percentage distribution of FSW by their sex work days and client load

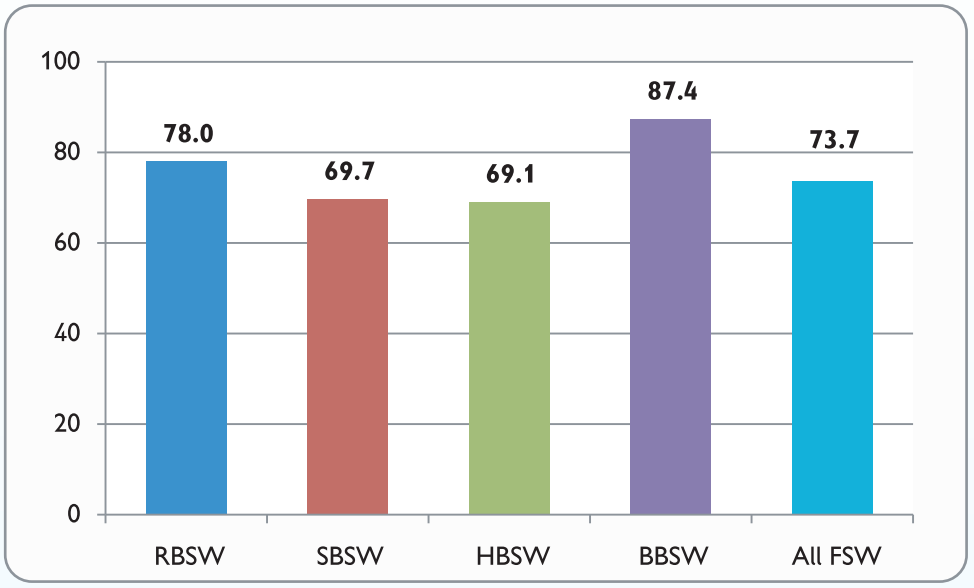
Indicators	Percent of FSW				All FSW (n=2091)
	RBSW (n=565)	SBSW (n=930)	HBSW (n=303)	BBSW (n=269)	
Number of days worked per week					
Sex work days/week					
Up to 3					
4-5	15.3	13.0	8.8	2.4	12.6
6 or more	54.3	46.6	56.4	31.7	47.7
Mean	30.4	40.4	34.8	65.9	39.7
	5	5	5	6	5
Client load					
Weekly					
Up to 10	24.8	25.5	14.7	26.1	24.5
11-19	38.1	21.7	27.3	34.7	28.6
20 or more	37.2	52.8	58.0	39.1	46.9
Mean	18	22	30	18	21
Daily					
Up to 3	46.6	38.8	31.1	61.2	43.0
4-5	27.7	25.6	21.8	27.4	25.8
6 or more	25.7	35.5	47.1	11.3	31.1
Mean	4	4	6	3	4
Yesterday					
Up to 3	51.8	47.7	35.9	67.2	50.1
4-5	27.2	22.6	15.9	20.0	22.3
6 or more	21.0	29.7	48.2	12.9	27.5
Mean	4	4	6	3	4

The FSWs, on an average, take 4 clients per day. The daily client loads is highest for hotel based sex workers (6 clients per day).

3.2.3 Safe Sexual Practices

Majority of the FSWs (73.7%) reported to use condom in their last sexual encounter with any client (Figure 3.4). The use of condom during last sex act is higher among brothel based sex workers (87.4%), as compared to 78.0 percent for residence based sex workers, 69.7 percent among street based sex workers and 69.1 percent among hotel based sex workers.

Figure 3.4: Percentage of FSWs reporting condom use during last sex act with any client



The use of condom during last sexual encounter is relatively lower among the young sex workers aged 10-19 years as compared to sex workers aged 25 years and above (Table 3.10). Moreover, marital status of the sex workers also influences the use of condom – the never married FSWs are less likely to use condom (66.1%) as compared to the ever married FSWs (76.6%). The involvement of FSWs in the intervention program also affects the condom use. It is revealed that among the FSWs who received services from HIV intervention program during the last 12 months 75.5 percent reported to use condom with any client during the last sexual encounter as compared to 60.0 percent for the FSWs who did not receive any services from the program.

Table 3.10: Percentage of FSWs reporting condom use in their last sexual encounter with different type of partners by selected background characteristics

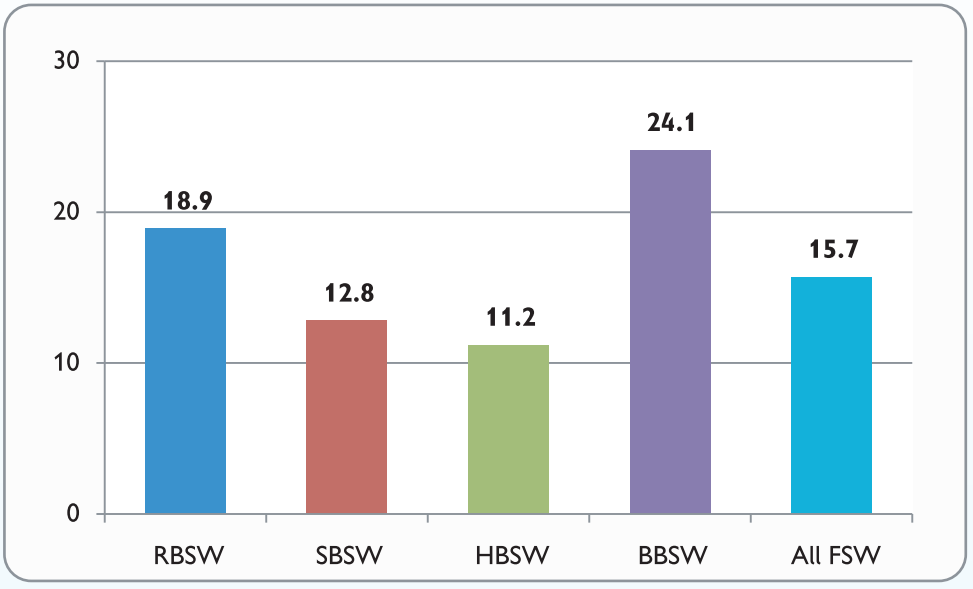
Background characteristics	Percent of FSW reporting condom use in their last sexual encounter with:			
	Any client (new/regular)	Number of FSW	Husband or live in partner	Number of FSW
Age				
Below age 20	69.9	364	50.6	157
20-24	71.0	741	33.2	448
25 and above	77.0	987	31.7	687
Education				
No formal education	70.8	409	37.5	213
Up to 5 years	74.8	1265	34.9	820
6-10 years	72.9	399	30.4	249
More than 10 years	71.4	18	37.4	9
Marital status				
Never married	66.1	585	40.7	161
Ever married	76.6	1506	33.6	1131
Living arrangements				
Married, living with spouse or any sexual partner	76.7	1074	33.7	1038
Married, not living with spouse or any sexual partner	76.2	432	32.9	93
Not married, living with sexual partner	73.2	107	46.4	90
Not married, not living with sexual partner	64.5	479	33.6	71
Typology				
RBSW	78.0	565	37.4	430
SBSW	69.7	930	33.0	579
HBSW	69.1	303	19.0	170
BBSW	87.4	269	57.1	108
Received condom from program				
Yes	75.5	1840	34.2	1178
No	60.0	251	37.6	114
Region				
Dhaka	76.1	929	42.5	450
Bordering districts	70.0	740	39.0	548
Other	74.6	422	12.8	294
Total	73.7	2091	34.5	1292

The use of condom with spouse or live in partner is relatively lower among FSWs – 34.5 percent of them reported to use condom with their spouse or live in partner during their last sexual intercourse. It is also important to note that only 19.0 percent of the hotel based sex workers reported to use condom during their last sex with spouse or live-in partner as compared to 33.0 percent among street based sex workers, 37.4 percent among residence based sex workers and 57.1 percent among brothel based sex workers.

In overall, only 15.7 percent of the FSWs reported to use condom in every sexual encounter with their clients during the last week. Moreover, 24.1 percent of the brothel

based sex workers reported consistent condom use during last week, while the same is 18.9 percent for residence based sex workers, followed by street based sex workers (12.8%) and hotel based sex workers (11.2%).

Figure 3.5: Percentage of FSWs reporting consistent condom use with client over last week



Consistent use of condom is significantly lower among the illiterate and young aged FSWs (Table 3.11). On the other hand, consistent condom use is relatively higher among the FSWs who received any services from the HIV intervention (16.8%) during the last 12 months as compared to the FSWs who did not receive any services (6.9%) from the program. Moreover, the FSWs residing in the bordering areas are less likely to report consistent condom use (4.3%) as compared to Dhaka region (16.4%) and other districts (33.9%).

Table 3.11: Percentage of FSWs reporting consistent condom use with client over the last week by selected background characteristics

Background characteristics	Percent of FSW reporting consistent condom use	Number of FSW
Age		
Below age 20	9.1	364
20-24	12.6	741
25 and above	20.3	987
Education		
No formal education	10.2	409
Up to 5 years	17.4	1265
6-10 years	14.8	399
More than 10 years	37.0	18
Marital status		
Never married	14.2	585
Ever married	16.2	1506
Living arrangements		
Married, living with spouse or any sexual partner	12.5	1074
Married, not living with spouse or any sexual partner	25.5	432
Not married, living with sexual partner	12.5	107
Not married, not living with sexual partner	14.5	479
Typology		
RBSW	18.9	565
SBSW	12.8	930
HBSW	11.2	303
BBSW	24.1	269
Received condom from program		
Yes	16.8	1840
No	6.9	251
Region		
Dhaka	16.4	929
Bordering districts	4.3	740
Other	33.9	422
Total	15.7	2091

3.2.4 STI Prevalence and Treatment Seeking Behaviour

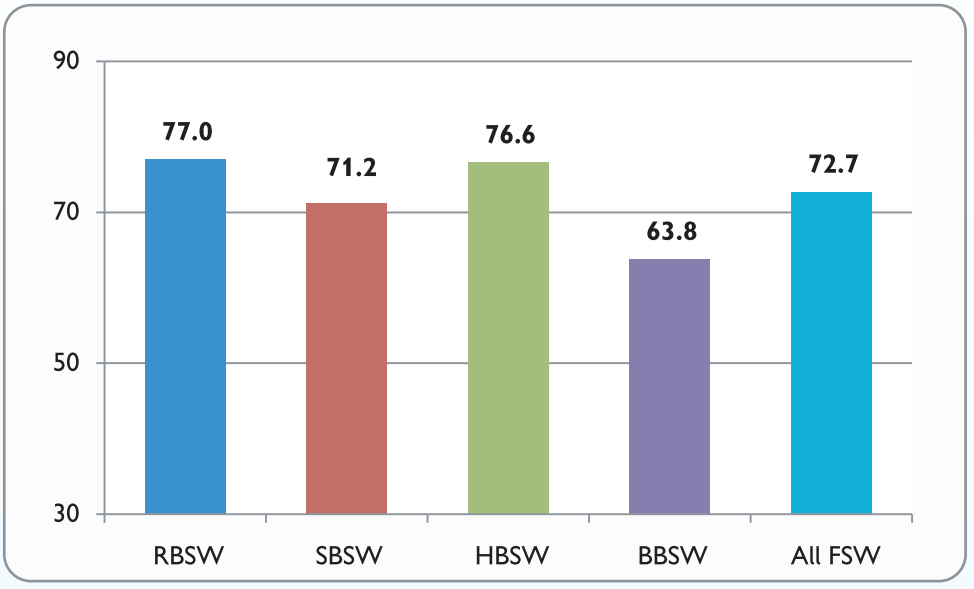
The incidence of diseases that have been transmitted through sexual contact is remarkably high among the FSWs in Bangladesh. From the behavioural survey, it is evident that nearly half (48.0%) of the FSWs have contracted vaginal discharge in the last 12 months (Table 3.12). About 43.7 percent of them also reported abdominal discharge with bad smell and another 19.6 percent reported genital ulcer/sore.

Table 3.12: Percentage of FSWs reporting STI in the last 12 months

Background characteristics	Percent of FSW reporting STI in last 12 months				
	Vaginal discharge	Abdominal discharge with bad smell	Genital ulcer / sore	Any STI	Number of FSW
Age					
Below age 20	56.1	34.7	14.9	73.2	364
20-24	51.1	49.2	18.1	75.9	741
25 and above	42.7	42.8	22.5	70.1	987
Education					
No formal education	43.6	36.4	18.9	59.6	409
Up to 5 years	48.8	45.2	19.0	75.9	1265
6-10 years	49.2	46.1	22.2	75.7	399
More than 10 years	68.4	46.4	16.0	75.8	18
Marital status					
Never married	52.4	39.6	15.0	71.6	585
Ever married	46.4	45.3	21.4	73.1	1506
Living arrangements					
Married, living with spouse or any sexual partner	48.8	50.1	22.5	76.2	1074
Married, not living with spouse or any sexual partner	40.2	33.2	18.6	65.4	432
Not married, living with sexual partner	47.9	24.7	13.8	70.7	107
Not married, not living with sexual partner	53.4	42.9	15.3	71.8	479
Typology					
RBSW	49.7	48.6	23.3	77.0	565
SBSW	49.8	43.5	18.2	71.2	930
HBSW	46.9	50.5	19.2	76.6	303
BBSW	37.7	27.4	17.3	63.8	269
Received condom from program					
Yes	47.0	44.9	21.1	73.4	1840
No	55.6	34.7	8.7	67.6	251
Region					
Dhaka	55.1	47.6	23.1	79.3	929
Bordering districts	44.8	34.3	11.3	61.4	740
Other	38.1	51.4	26.3	77.9	422
Total	48.0	43.7	19.6	72.7	2091

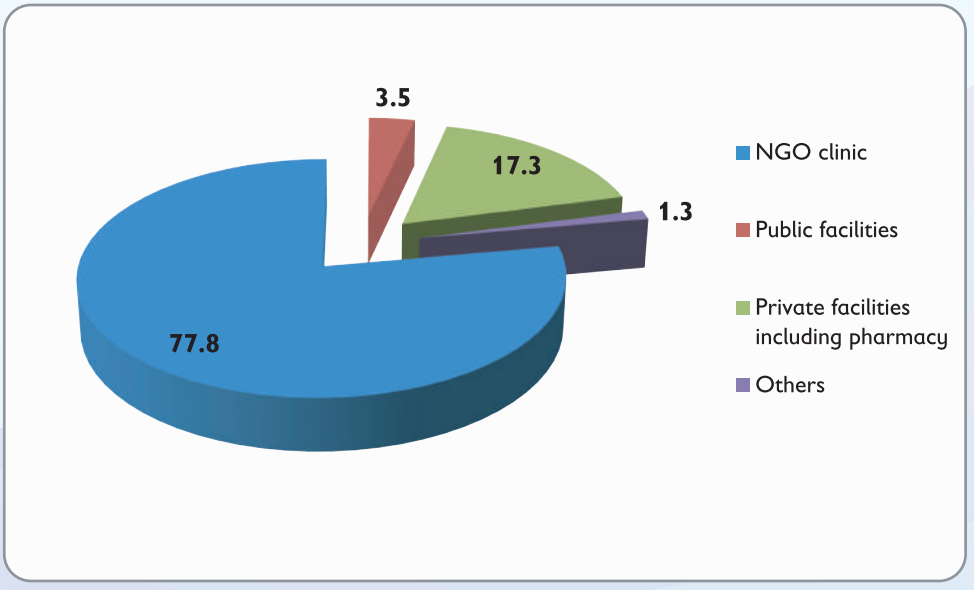
Majority (72.7%) of the FSWs in Bangladesh have contracted at least one symptom of STI in the last 12 months prior to the survey (Figure 3.6). The percentage of FSWs reporting at least one symptom of STI in last 12 months is relatively lower among the brothel based sex workers (63.8%) as compared to the other types of sex workers. Among the residence based sex workers, 77.0 percent reported at least one symptom of STI in the last 12 months, which is 76.6 percent among hotel based sex workers and 71.2 percent among street based sex workers.

Figure 3.6: Percentage of FSWs reporting at least one symptom of STI in last 12 months



About 95 percent of the FSWs reported to seek treatment for STI (Table 3.14). Among all these FSWs, 77.8 percent reported to seek treatment from NGO clinics including DICs, 17.3 percent from private facilities including pharmacy, 3.5 percent from public healthcare facilities and the remaining 1.3 percent reported to seek treatment from other sources (Figure 3.7).

Figure 3.7: Percentage of FSWs by place of seeking treatment for STI in the last 12 months



It is also evident that an overwhelming majority (84.3%) of the FSWs who received any services from the HIV prevention program sought treatment for STI from NGO facilities/DICs, while the same is significantly lower among the FSWs who did not

receive any services from the program (Table 3.13). On the other hand, the young and never married FSWs are more likely to receive STI treatment from private facilities including pharmacy. It is also important to note that more than 80 percent of the street, residence and brothel based sex workers reported to seek services from NGO facilities, as compared to 64.1 percent among hotel based sex workers. Moreover, 71.2 percent of the FSWs in the bordering districts and 76.3 percent in Dhaka sought treatment for STI from DICs/NGO facilities, as compared to 89.6 percent in the other districts covered under this study.

Table 3.13: Percentage of FSWs sought treatment for STI in last 12 months

Background characteristics	Percent of FSW sought treatment for STI	Number of FSW	Place of treatment				
			NGO clinic	Public facilities	Private facilities including pharmacy	Others	Number of FSW
Age							
Below age 20	90.3	266	73.6	4.1	22.2	0.1	240
20-24	96.3	562	75.5	2.4	21.1	1.0	541
25 and above	94.9	691	81.3	4.3	12.5	2.0	656
Education							
No formal education	93.1	244	75.9	6.6	15.8	1.7	227
Up to 5 years	94.9	960	78.5	2.6	17.7	1.2	912
6-10 years	94.9	302	77.1	4.2	17.6	1.2	287
More than 10 years	89.5	13	84.6	0.0	15.4	0.0	12
Marital status							
Never married	92.0	419	70.8	2.5	26.1	0.6	385
Ever married	95.6	1101	80.4	3.9	14.1	1.5	1053
Living arrangements							
Married, living with spouse or any sexual partner	97.4	818	82.5	4.1	11.9	1.5	797
Married, not living with spouse or any sexual partner	90.4	283	74.0	3.3	21.2	1.5	255
Not married, living with sexual partner	93.8	75	91.3	0.0	8.7	0.0	71
Not married, not living with sexual partner	91.5	343	66.2	3.1	30.0	0.7	314
Typology							
RBSW	94.4	435	84.1	3.6	11.9	0.3	410
SBSW	95.8	662	80.3	3.3	14.8	1.6	635
HBSW	97.3	232	64.1	5.9	28.3	1.7	226
BBSW	87.0	171	80.2	0.9	16.8	2.0	149
Received condom from program							
Yes	96.1	1350	84.3	3.7	11.1	1.0	1298
No	82.3	169	17.8	2.5	76.0	3.8	139
Region							
Dhaka	93.7	737	76.3	2.0	20.6	1.1	690
Bordering districts	92.6	454	71.2	8.5	18.1	2.3	421
Other	99.4	329	89.6	0.4	9.6	0.4	327
Total	94.6	1520	77.8	3.5	17.3	1.3	1438

3.2.5 HIV Testing and Other Services

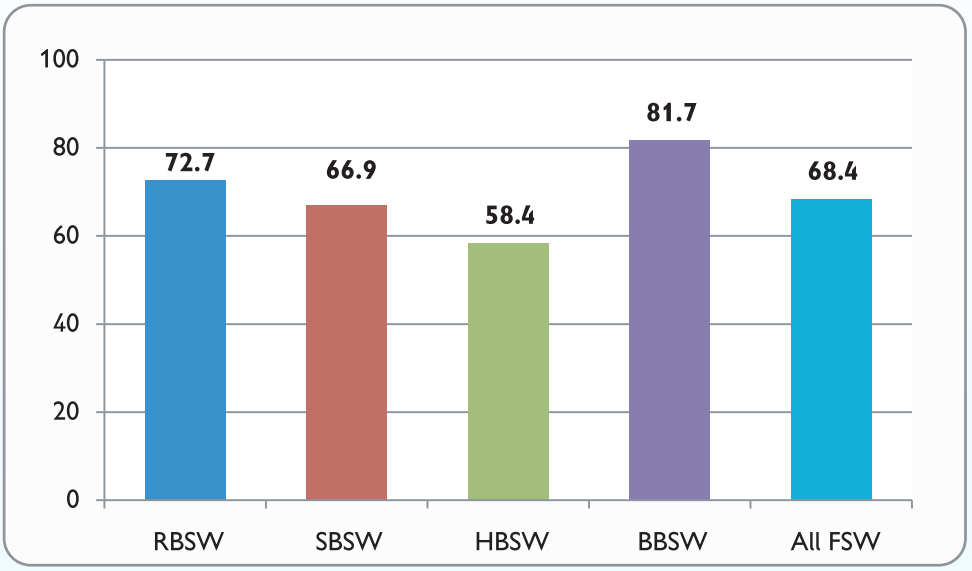
An overwhelming majority (86.1%) of the FSWs mention that they know a place where people can go for HIV testing (Table 3.14). However, the young and never married FSWs are less likely to know a place for HIV testing. Al most all the brothel based and residence based sex workers are aware of a place where one can go for HIV testing, while the same is 83.2 percent among street based sex workers and 77.6 percent among hotel based sex workers.

Table 3.14: Percentage of FSWs who know a place where people can go for HIV testing

Background characteristics	Percent of FSW know a place for HIV testing	Number of FSW
Age		
Below age 20	77.5	364
20-24	77.3	741
25 and above	95.9	987
Education		
No formal education	81.0	409
Up to 5 years	88.0	1265
6-10 years	85.2	399
More than 10 years	89.5	18
Marital status		
Never married	72.7	585
Ever married	91.3	1506
Living arrangements		
Married, living with spouse or any sexual partner	90.0	1074
Married, not living with spouse or any sexual partner	94.5	432
Not married, living with sexual partner	89.9	107
Not married, not living with sexual partner	68.9	479
Typology		
RBSW	92.7	565
SBSW	83.2	930
HBSW	77.6	303
BBSW	98.9	269
Received condom from program		
Yes	92.2	1840
No	41.1	251
Region		
Dhaka	80.4	929
Bordering districts	87.7	740
Other	95.8	422
Total	86.1	2091

The behavioural survey among the FSWs reveals that 68.4 percent of the FSWs have ever been tested for HIV status (Figure 3.8). However, this proportion is significantly lower among the hotel based sex workers (58.4%) as compared to 81.7 percent for brothel based sex workers, 72.7 percent for residence based sex workers and 66.9 percent for street based sex workers.

Figure 3.8: Percentage of FSWs who reported ever being tested for HIV



It is important to note that the young FSWs are less likely to go for HIV testing as compared to their elder counterpart. Among the FSWs aged 10-19 years, less than half (48.3%) reported to go for HIV testing, while the same is 81.5 percent among the FSWs aged 25 years and above (Table 3.15). The never married as well as FSWs with low educational attainment are also less likely to go for HIV testing. On the other hand, majority (75.3%) of the FSWs who have received any services from HIV intervention program have been tested for HIV at some point as compared to only 17.9 percent for those who did not receive any services from the program. Majority of the FSWs (67.8%) reported ever being tested within the last 12 months prior to the survey.

Table 3.15: Percentage of FSWs who reported ever being tested for HIV by selected background characteristics

Background characteristics	Percent of FSW tested for HIV	Number of FSW	Time since last time testing for HIV			
			<12 months	12-23 months	Above 24 months	Number of FSW
Age						
Below age 20	48.3	364	66.5	31.8	1.7	176
20-24	60.8	741	68.3	27.9	3.8	451
25 and above	81.5	987	67.8	25.7	6.5	803
Education						
No formal education	62.1	409	69.7	26.8	3.5	254
Up to 5 years	69.7	1265	66.3	28.7	5.0	881
6-10 years	70.3	399	69.4	24.2	6.4	281
More than 10 years	76.1	18	92.9	-	7.1	14
Marital status						
Never married	49.5	585	65.5	30.3	4.1	290
Ever married	75.8	1506	68.4	26.4	5.2	1140
Typology						
RBSW	72.7	565	66.6	30.2	3.2	411
SBSW	66.9	930	71.6	23.6	4.8	622
HBSW	58.4	303	60.5	30.3	9.2	177
BBSW	81.7	269	64.7	29.6	5.7	219
Received condom from program						
Yes	75.3	1840	67.8	27.1	5.1	1385
No	17.9	251	66.7	31.1	2.2	45
Region						
Dhaka	67.9	929	69.3	28.6	2.1	469
Bordering districts	63.3	740	69.6	24.2	6.2	631
Other	78.4	422	62.2	30.9	7.7	330
Total	68.4	2091	67.8	27.2	5.0	1430

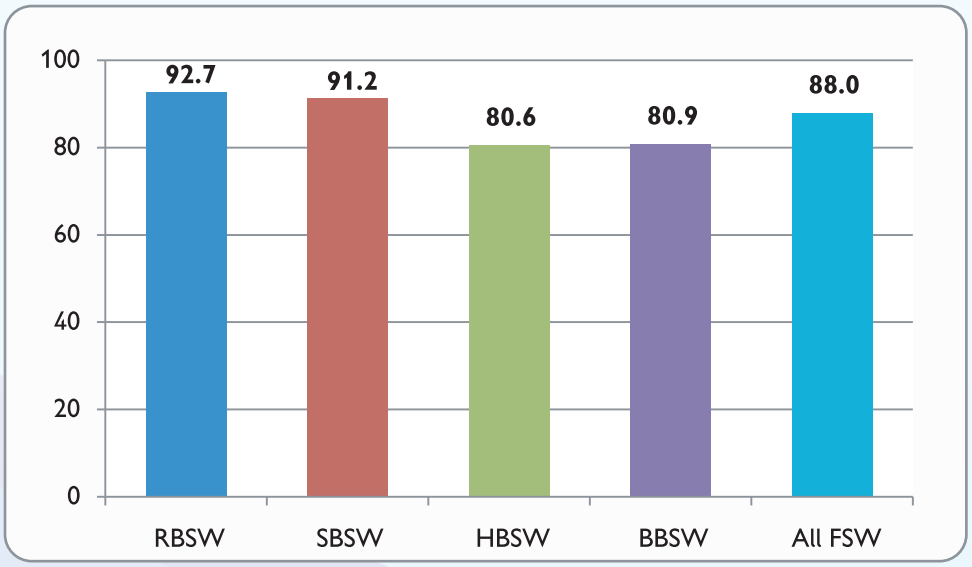
Almost all (96.5%) the FSWs who underwent HIV testing reported to receive the test result (Table 3.16). The most preferred site for HIV testing was DIC and 94.4 percent of them had been tested there.

Table 3.16: Percentage of FSWs by source of testing for HIV and getting results

Indicators	RBSW (n=411)	SBSW (n=622)	HBSW (n=177)	BBSW (n=219)	All FSW (n=1430)
Sources of getting HIV tested					
DIC	95.4	95.5	96.7	87.2	94.4
HTC Centre	3.2	2.8	1.7	10.0	3.9
Government Hospital	1.1	1.0	0.7	2.2	1.2
Private laboratory	0.3	0.5	0.0	0.6	0.4
Other	-	0.2	0.9	-	0.2
Getting the result of the test					
Yes	98.0	95.0	97.7	97.2	96.5
No	2.0	5.0	2.3	2.8	3.5

An overwhelming majority (88.0%) of the FSWs interviewed reported to receive condoms at least once from HIV prevention program during the last 12 months prior to the survey (Figure 3.9). It is important to note that more than 90 percent of the residence and street based sex workers received condom in the last 12 months while the same is about 81 percent for the brothel and hotel based sex workers.

Figure 3.9: Percentage of FSWs receiving condoms from HIV prevention program during past 12 months



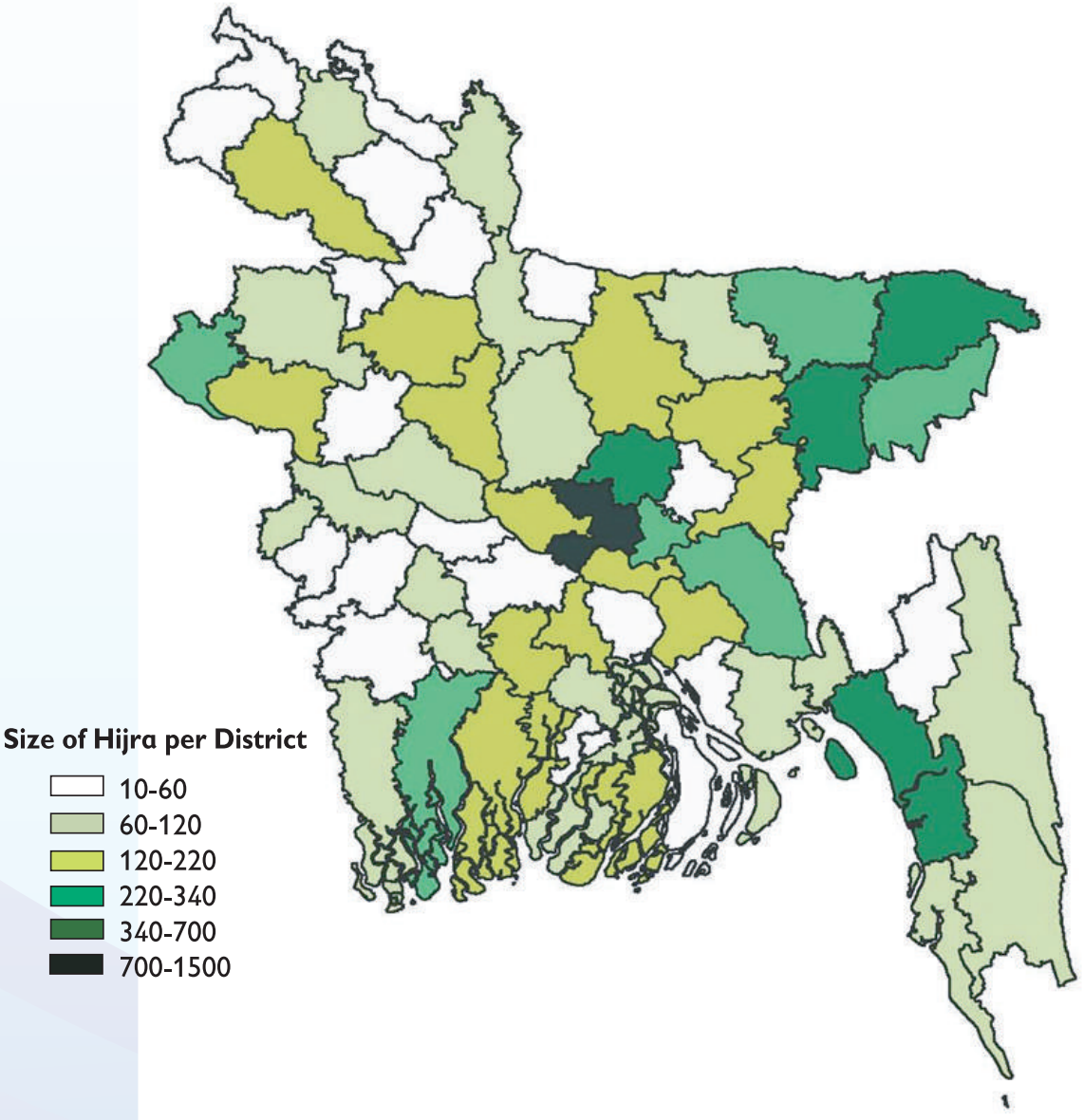
About 94 percent of the FSWs aged 25 years and above received condom in the last 12 months from HIV intervention program, while the same is 81 percent for the young FSWs aged 10-19 years (Table 3.17). Moreover, 86.9 percent FSWs in Dhaka region and 86.1 percent in bordering districts received condoms, while more than 90 percent FSWs in the other districts received condom from HIV intervention program.

Table 3.17: Percentage of FSWs receiving condoms from HIV prevention program during past 12 months by selected background characteristics

Background characteristics	Percent of FSW received condoms from	Number of FSW
Age		
Below age 20	81.0	364
20-24	83.5	741
25 and above	94.0	987
Education		
No formal education	84.8	409
Up to 5 years	88.5	1265
6-10 years	89.6	399
More than 10 years	93.5	18
Marital status		
Never married	78.6	585
Ever married	91.7	1506
Living arrangements		
Married, living with spouse or any sexual partner	92.3	1074
Married, not living with spouse or any sexual partner	90.3	432
Not married, living with sexual partner	90.0	107
Not married, not living with sexual partner	76.0	479
Typology		
RBSW	92.7	565
SBSW	91.2	930
HBSW	80.6	303
BBSW	80.9	269
Region		
Dhaka	86.9	929
Bordering districts	86.1	740
Other	93.9	422
Total	88.0	2091

The field exploration revealed that all the FSW who received condoms from HIV prevention program in the last 12 months were not enlisted with any DIC. Many of them received condoms occasionally from their mates who are actually the members of the DICs and brought those from the DICs.

Estimated Size of Hijra by Districts, 2015-2016



4.1 Mapping and Size Estimation of MSM and MSW

Mapping and size estimation of MSM/MSW have also followed the same protocols as discussed in the previous section on size estimation of FSWs, where the survey team followed three approaches of size estimation and relied on the number of MSM/MSM observed and seen on the sites/spots for which the research team visited a spot on three consecutive days at different point of time and recorded as well as interacted number of MSM/MSWs. Subsequently, four levels of correction factors were applied to finalize the numbers along with their coefficient of range. Once the number of MSM/MSW operating in 21 districts have been finalized the same has been extrapolated for the remaining 43 districts and developed the national estimates of MSM/MSW with the coefficient of range in the estimate. The national estimated size of MSM and MSW classified for their age groups is also presented. Further, the distribution of locations and spots of MSM and MSW across different districts is also provided in this section, which may be vital for planning and intervention of various programmes and services for the risk reduction of MSM/MSW.

4.1.1 Estimated number of MSM and MSW by Age groups

Estimated sizes of MSM and MSW across the country have been discussed in this section, along with their age break ups. Needless to mention that the national response to STI/HIV cannot adopt uniform strategy for MSM and MSWs due to their nature of functioning, stigma associated with the profession and the societal response to the behavior. That is why, estimated number of MSM and MSW with their age groups may be an important ingredient in the planning and implementation of programmes and services across different regions/districts in the country. It is evident from Table 4.1 that the total estimated number of MSM and MSW in Bangladesh, which ranges from a minimum of 108,267 to the maximum of 131,472, where the number of MSM is much higher in comparison to MSW, which is estimated to be a minimum of 85,569 to the maximum of 101,695, as against the number of MSW, which ranges between 22,698 to the upper value of 29,777. A substantial proportion of the MSM and MSW in Bangladesh are in the age group 10-19 (between 12,882 to 15,617), which may demand for another set of strategic approaches to ensure their health related quality of life. Thus, a very high volume of YKPs in Bangladesh may be another challenge for the programme and services designed towards risk reduction of STI/HIV and MSM and MSW.

Table 4.1: Estimated number of MSM and MSW by age group

Typology	Age limits						Total	
	10-19		20-24		25 and above			
	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
MSM	9,961	11,754	30,453	36,192	45,155	53,749	85,569	101,695
MSW	2,921	3,863	8,189	10,810	11,588	15,104	22,698	29,777
Total	12,882	15,617	38,642	47,003	56,743	68,852	108,267	131,472

4.1.2 Regional Variation in Estimated Number of MSM and MSW

Table 4.2 reveals the division and district wise variation in estimated number of MSM and MSW. It is evident from the first part of the table that among the number of MSM, which ranges from a minimum of 85,569 to the maximum of 101,695, their concentration is the maximum in Dhaka division (34%) followed by Chittagong division (18%) and Rajshahi division (13%). The observed pattern in the estimated number of MSW is the same, where Dhaka division has the maximum contribution with 37 percent followed by Chittagong division (15%) and Rajshahi division (13%). Variations in estimated numbers of MSM and MSWS across all 64 districts in Bangladesh are also presented in Table 4.2.

Table 4.2: Division and District wise variation in estimated number of MSM and MSW

Men who have Sex with Men (MSM)

Division	District	MSM			
		Estimate	Lower Value	Upper Value	CR(%)
BARISAL	BARGUNA	1,341	1,217	1,465	9.3
	BARISAL	1,476	1,391	1,561	5.8
	BHOLA	537	406	667	24.4
	JHALOKATI	384	362	406	5.8
	PATUAKHALI	2,307	2,093	2,520	9.3
	PIROJPUR	1,677	1,522	1,832	9.3
CHITTAGONG	BANDARBAN	130	121	140	7.4
	BRAHMANBARIA	1,969	1,763	2,175	10.5
	CHANDPUR	924	875	973	5.3
	CHITTAGONG	7,274	6,793	7,756	6.6
	COMILLA	2,227	1,719	2,734	22.8
	COX'S BAZAR	1,292	1,121	1,463	13.2
	FENI	996	891	1,100	10.5
	KHAGRACHHARI	326	291	362	10.9
	LAKSHMIPUR	522	395	650	24.4
	NOAKHALI	938	709	1,166	24.4
	RANGAMATI	203	188	218	7.4
DHAKA	DHAKA	9,103	8,827	9,379	3.0
	FARIDPUR	749	675	822	9.8
	GAZIPUR	1,337	1,205	1,468	9.8
	GOPALGANJ	1,747	1,585	1,909	9.3
	JAMALPUR	1,117	1,013	1,220	9.3
	KISHOREGONJ	1,667	1,573	1,762	5.7
	MADARIPUR	1,747	1,585	1,909	9.3
	MANIKGANJ	2,097	1,903	2,291	9.3
	MUNSHIGANJ	2,159	1,959	2,359	9.3
	MYMENSINGH	2,039	1,856	2,222	9.0
	NARAYANGANJ	1,693	1,597	1,789	5.7
	NARSINGDI	413	395	431	4.4
	NETRAKONA	1,843	1,738	1,947	5.7
	RAJBARI	1,581	1,435	1,728	9.3
	SHARIATPUR	1,743	1,581	1,904	9.3
	SHERPUR	454	420	488	7.4
	TANGAIL	670	641	700	4.4

Division	District	MSM			
		Estimate	Lower Value	Upper Value	CR(%)
KHULNA	BAGERHAT	2,221	2,016	2,427	9.3
	CHUADANGA	787	705	870	10.5
	JESSORE	880	811	949	7.8
	JHENAIDAH	834	726	942	13.0
	KHULNA	1,657	1,518	1,796	8.4
	KUSHTIA	1,397	1,279	1,514	8.4
	MAGURA	660	604	715	8.4
	MEHERPUR	222	205	238	7.4
	NARAIL	517	473	560	8.4
	SATKHIRA	1,058	943	1,173	10.9
RAJSHAHI	BOGRA	2,337	2,139	2,535	8.5
	JOYPURHAT	630	577	684	8.5
	NAOGAON	1,382	1,231	1,532	10.9
	NATORE	805	701	910	13.0
	CHAPAI NABABGANJ	1,146	1,026	1,266	10.5
	PABNA	1,731	1,584	1,878	8.5
	RAJSHAHI	2,929	2,760	3,099	5.8
	SIRAJGANJ	1,514	1,374	1,655	9.3
RANGPUR	DINAJPUR	2,059	1,884	2,233	8.5
	GAIBANDHA	1,158	1,051	1,265	9.3
	KURIGRAM	1,099	980	1,219	10.9
	LALMONIRHAT	425	394	456	7.4
	NILPHAMARI	976	870	1,082	10.9
	PANCHAGARH	334	309	359	7.4
	RANGPUR	1,413	1,282	1,544	9.3
	THAKURGAON	470	435	504	7.4
SYLHET	HABIGANJ	1,118	1,043	1,194	6.7
	MAULVIBAZAR	1,685	1,572	1,799	6.7
	SUNAMGANJ	489	415	564	15.2
	SYLHET	3,016	2,814	3,219	6.7
BANGLADESH		93,632	85,569	101,695	8.6

Note: Yellow highlighted rows are actual districts where field level data collection took place

Male Sex Workers (MSW)

Division	District	MSW			
		Estimate	Lower Value	Upper Value	CR(%)
	BARGUNA	342	306	378	10.5
BARISAL	BARISAL	395	347	443	12.2
	BHOLA	117	95	138	18.4
	JHALOKATI	103	90	115	12.2
	PATUAKHALI	589	527	650	10.5
	PIROJPUR	428	383	473	10.5
CHITTAGONG	BANDARBAN	33	27	39	17.7
	BRAHMANBARIA	600	486	714	19.0
	CHANDPUR	293	257	329	12.4
	CHITTAGONG	1,575	1,252	1,897	20.5
	COMILLA	502	402	602	19.9
	COX'S BAZAR	306	224	388	26.8
	FENI	303	246	361	19.0
	KHAGRACHHARI	73	59	88	19.5
	LAKSHMIPUR	114	93	134	18.4
	NOAKHALI	204	166	241	18.4
	RANGAMATI	51	42	60	17.7
DHAKA	DHAKA	2,849	2,668	3,031	6.4
	FARIDPUR	318	229	406	27.8
	GAZIPUR	567	409	724	27.8
	GOPALGANJ	446	399	493	10.5
	JAMALPUR	385	339	432	12.1
	KISHOREGONJ	668	577	758	13.5
	MADARIPUR	446	399	493	10.5
	MANIKGANJ	535	479	591	10.5
	MUNSHIGANJ	551	493	609	10.5
	MYMENSINGH	447	419	476	6.4
	NARAYANGANJ	542	469	616	13.5
	NARSINGDI	279	253	305	9.2
	NETRAKONA	551	476	626	13.5
	RAJBARI	404	361	446	10.5
	SHARIATPUR	445	398	491	10.5
	SHERPUR	114	94	134	17.7
	TANGAIL	206	187	225	9.2
KHULNA	BAGERHAT	567	507	626	10.5
	CHUADANGA	240	194	286	19.0
	JESSORE	401	346	456	13.7
	JHENAIDAH	209	180	239	14.3
	KHULNA	612	526	697	14.0
	KUSHTIA	515	443	587	14.0
	MAGURA	243	209	277	14.0

Division	District	MSW			
		Estimate	Lower Value	Upper Value	CR(%)
	MEHERPUR	56	46	66	17.7
	NARAIL	191	164	217	14.0
	SATKHIRA	238	191	284	19.5
RAJSHAHI	BOGRA	653	589	718	9.9
	JOYPURHAT	176	159	194	9.9
	NAOGAON	311	250	371	19.5
	NATORE	202	173	231	14.3
	CHAPAI NABABGANJ	349	283	416	19.0
	PABNA	484	436	532	9.9
	RAJSHAHI	745	650	839	12.7
	SIRAJGANJ	522	459	586	12.1
RANGPUR	DINAJPUR	576	519	633	9.9
	GAIBANDHA	399	351	448	12.1
	KURIGRAM	247	199	296	19.5
	LALMONIRHAT	153	126	180	17.7
	NILPHAMARI	219	177	262	19.5
	PANCHAGARH	84	69	99	17.7
	RANGPUR	487	428	546	12.1
	THAKURGAON	118	97	139	17.7
SYLHET	HABIGANJ	287	250	323	12.7
	MAULVIBAZAR	327	286	369	12.7
	SUNAMGANJ	260	227	293	12.7
	SYLHET	586	511	660	12.7
BANGLADESH		26,237	22,698	29,777	13.5

Note: Yellow highlighted rows are actual districts where field level data collection took place

District wise variation in estimated number of MSM and MSW with age group distribution and lower and upper estimates are summarized in the Annex-E.

4.1.3 Mapping of Location and Spots for MSM and MSW

The mapping exercise of MSM and MSW was conducted in 21 selected districts. During the mapping of MSM the field research teams identified 237 spots in 94 locations (Table 4.3). The MSM spots were found in all 21 districts where mapping exercise was conducted. It is important to note that both the MSM and MSW were observed to gather in the same venues in all the study locations. Out of the total 237 MSM spots, MSWs were observed in more than 90 percent of the cases.

Table 4.3: Distribution of location and spots of MSM and MSW across different districts

Division	District	No. of locations	No. of spots	
			MSM	MSW
Barisal	Barisal	1	9	9
Chittagong	Chittagong	16	25	25
	Comilla	3	12	12
	Cox's bazar	2	9	9
	Noakhali	2	8	7
	Rangamati	1	4	2
Dhaka	Dhaka	35	56	44
	Gazipur	2	5	5
	Mymensingh	2	12	12
	Narayanganj	5	8	7
	Tangail	3	9	8
Khulna	Bagerhat	2	8	8
	Jessore	1	4	4
	Khulna	4	10	10
	Shatkhira	1	7	7
Rajshahi	Chapainawabganj	2	4	5
	Rajshahi	4	7	7
Rangpur	Dinajpur	3	19	19
	Rangpur	1	7	7
Sylhet	Sunamganj	1	6	6
	Sylhet	3	8	8
	Total	94	237	221

The distribution of MSM spots across different districts indicates that the mapping exercise revealed highest number of spots in Dhaka, which is 23.6 percent of the total spots. The next concentration of MSM spots is in Chittagong district with 25 spots. The other districts with more than 10 spots of MSM include: Dinajpur (19 spots), Comilla (12 spots) and Mymensingh (12 spots) and Khulna (10 spots).

4.2 Behavioural Characteristics of MSM and MSW

This section provides the background characteristics of male having sex with males and male sex workers in terms of age, educational qualification, marital status and living arrangements. The risk behaviour of MSM and MSW including age of entry sex work, use of condom during last sex are analyzed in this section. This section also analyses the incidence of STI, care seeking behaviour, HIV testing and access to other related services.

A total of 885 MSM and 838 MSWs were interviewed. All the tables and figures presented in this section are corrected through appropriate sampling weights.

4.2.1 Background Characteristics

The average age of the MSM and MSW interviewed is about 26 years. More than half of the MSM and MSW are aged 25 years and above (Table 4.4). On the other hand, 11.7 percent of the MSM and 9.4 percent of the MSW are aged 10-19 years and more than a quarter of them are aged between 20-24 years. Only 14.9 percent of the MSM and 9.1 percent of the MSW reported to complete more than 10 years of education and about half of them completed 6-10 years of education. Majority of the MSM (69.0%) and MSW (81.6%) are unmarried. Among those who live with their regular partner/wife, most of MSM (72.5%) and MSW (82.2%) mentioned that their sexual partner who they live with is male.

Table 4.4: Percentage distribution of MSM by selected background characteristics

Background characteristics	Percent of KPs	
	MSM (n=885)	MSW (n=838)
Age		
Below age 20	11.7	9.4
20-24	35.5	37.0
25 and above	52.8	53.6
Average age	26	26
Education		
No formal education	9.0	7.8
Up to 5 years	31.1	34.3
6-10 years	45.0	48.8
More than 10 years	14.9	9.1
Marital status		
Never married	69.0	81.6
Ever married	30.6	18.3
No response	0.3	-
Living arrangements		
Married, living with spouse or any sexual partner	27.2	14.2
Married, not living with spouse or any sexual partner	3.5	4.1
Not married, living with sexual partner	25.6	30.4
Not married, not living with sexual partner	43.7	51.3
Is your sexual partner who you live with male, female or TG/Hijra? [among those who are currently living with wife or regular partner]		
Male	72.5	82.2
Female	36.3	15.2
TG/Hijra	4.3	0.8
Region		
Dhaka	25.4	20.8
Bordering districts	49.5	54.2
Other	25.1	25.0

4.2.2 Behaviour Factors of MSM and MSW

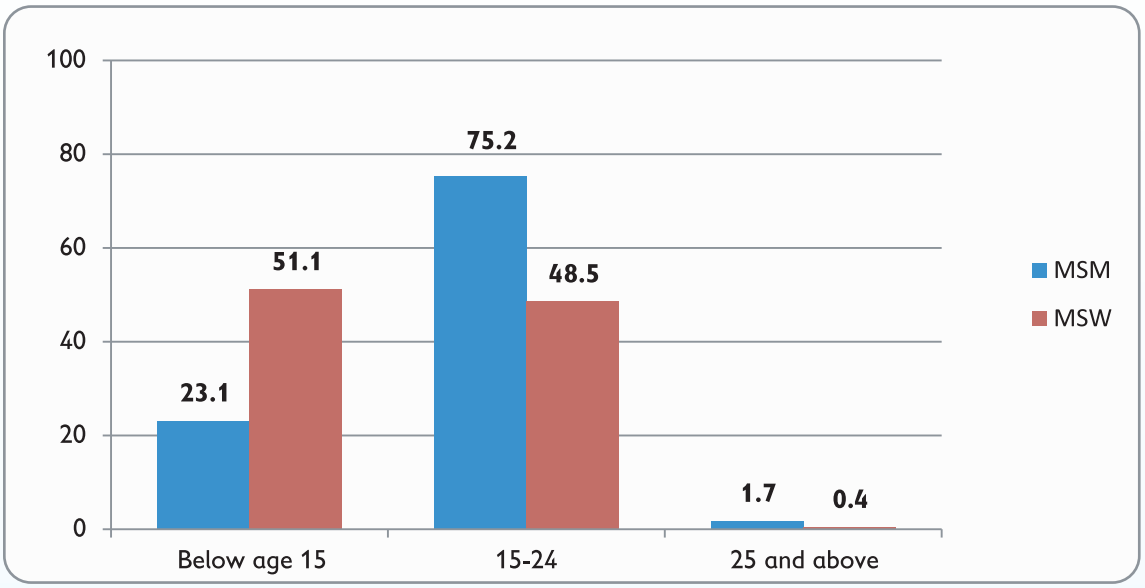
About a quarter (23.1%) of the MSM interviewed reported to have sex for the first time before the age of 15. However, among the MSWs, more than half (51.1%) reported to have sex before the age of 15 (Table 4.5). It is also important to note that both the MSM and MSWs with no formal education or lower educational attainment are more likely to have their first sex before the age of 15. In addition, more MSM living in bordering districts had sex for the first time before the age of 15 (29.3%) as compared to the districts of Dhaka region (18.3%) and other districts (15.8%).

Table 4.5: Percentage of MSM and MSW who had sex for the first time before the age of 15

Background characteristics	MSM		MSW	
	Percent	Number	Percent	Number
Age				
Below age 20	58.8	103	70.8	79
20-24	25.8	314	56.6	310
25 and above	13.4	467	43.9	449
Education				
No formal education	46.6	80	59.5	65
Up to 5 years	31.3	275	55.4	288
6-10 years	15.6	398	49.5	409
More than 10 years	14.3	132	36.4	77
Marital status				
Never married	25.1	611	53.4	684
Ever married	18.9	271	41.1	154
Living arrangements				
Married, living with spouse or any sexual partner	20.6	240	44.8	119
Married, not living with spouse or any sexual partner	5.5	31	28.5	35 2
Not married, living with sexual partner	31.1	226	53.5	254
Not married, not living with sexual partner	21.5	385	53.3	430
Region				
Dhaka	18.3	225	45.1	174
Bordering districts	29.3	438	51.5	454
Other	15.8	222	55.4	210
Total	23.1	885	51.1	838

From the behavioural survey conducted among MSM and MSWs reveals that 51.1 percent of the MSWs entered into the sex work before the age of 15, while majority (75.2%) of the MSM started the same sex practices between the age group of 15-24 (Figure 4.1). The average age of entry into the same sex practices is 17 years for the MSM and 15 years for the MSWs.

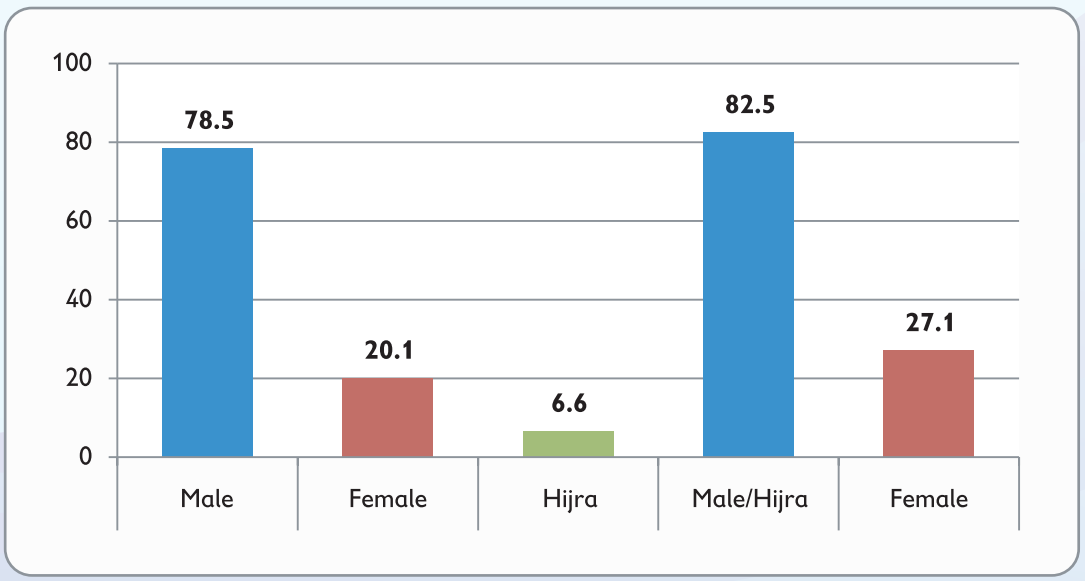
Figure 4.1: Percentage distribution of MSM and MSW by age of entry sex work



Sexual Behaviour of MSM

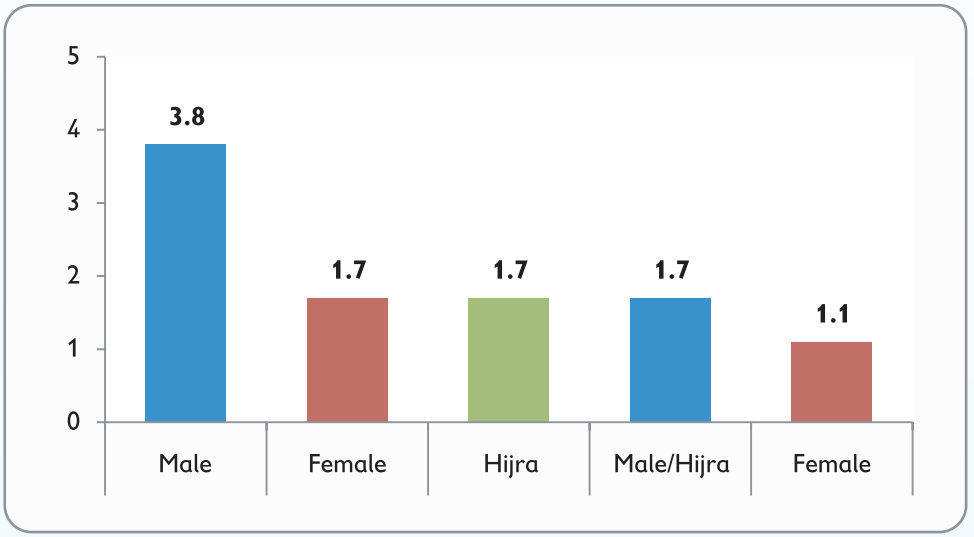
An overwhelming majority (82.5%) of the MSM reported to have sex with non-commercial male partners and 27.1 percent reported sex with female partners in the last 1 month preceding the survey (Figure 4.2). The MSM interviewed also bought sex from MSW, TG/Hijras and FSW. It is important to note that a majority (78.5%) of the MSM reported to buy sex from MSW; 6.6 percent bought sex from TG/Hijras and 20.1 percent from FSW.

Figure 4.2: Percentage of MSM reporting sex with different partners in last 1 month



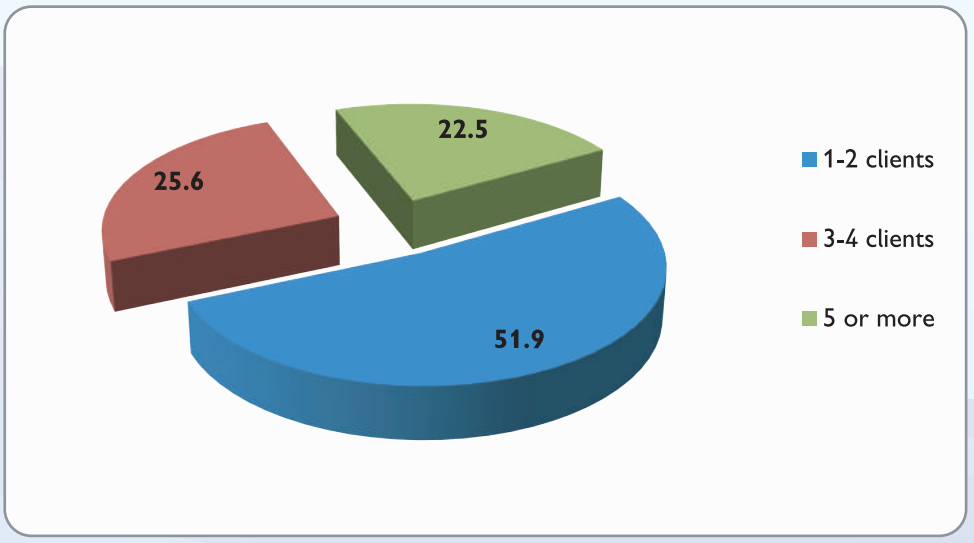
An MSM, on an average, reported to have 2 non-commercial male partners during the last 1 month preceding the survey (Figure 4.3). The average number of non-commercial female partner is 1. On the other hand, the MSM reported to buy sex from approximately 4 male sex workers, 2 female sex workers and 2 TG/Hijras in the last one month preceding the survey.

Figure 4.3: Average number of different sex partners of MSM in last 1 month



It is also important to note that more than half (51.9%) of the MSM reported to buy sex from more than 5 male sex workers during the last one month preceding the survey (Figure 4.4), while 25.6 percent reported 2-3 male commercial parents and the rest 22.5 percent reported 1-2 commercial partners during the last one month period.

Figure 4.4: Percentage of MSM reporting commercial male sex partners in last 1 month



Sexual Behaviour of MSW

About 88.2 percent of the MSWs reported to sell sex to any male in the last week preceding the survey (Table 4.6). Majority of the MSWs reported 5 or more clients over

the last week, while 27.4 percent reported 2-4 clients and the rest 13.6 percent reported

1-2 clients. The average number of clients of the male sex workers in the last week is estimated to 6. About 60 percent of the MSWs also reported sex with males without exchange of money or any compulsory gift. Moreover, 16.8 percent of the MSWs reported to have sex with non-commercial female partners and only 1.6 percent reported buying sex from female sex workers in the last week preceding the survey.

Table 4.6: Percent of MSW reporting sex with different partners

Indicators	Percent of MSW	Number
Selling sex to males		
Sell sex to any male in last 1 week		
Yes	88.2	740
No	11.8	99
Number of different male sex partner in the last 1 week		
1-2	13.6	100
3-4	27.4	203
5 or more	59.0	437
Mean	6.1	
Non-commercial sex with males		
Sex with any male in last 1 month		
Yes	60.2	505
No	39.8	333
Number of different male sex partner in the last 1 week		
1-2	89.5	452
3-4	6.0	30
5 or more	4.5	23
Mean	1.6	
Non-commercial sex with female		
Sex with any female in last 1 month		
Yes	16.8	141
No	83.2	698
Number of different female sex partner in the last 1 week		
1-2	97.2	137
3-4	2.8	4
Mean	1.2	
Buying sex from females		
Buy sex from any female (FSW) in last 1 month		
Yes	1.7	14
No	98.3	824
Number of FSW sex partner in the last 1 month		
1-2	63.9	9
3-4	36.1	5
Mean	2.0	

4.2.3 Safe Sexual Practices

Safe Sexual Practices of MSM

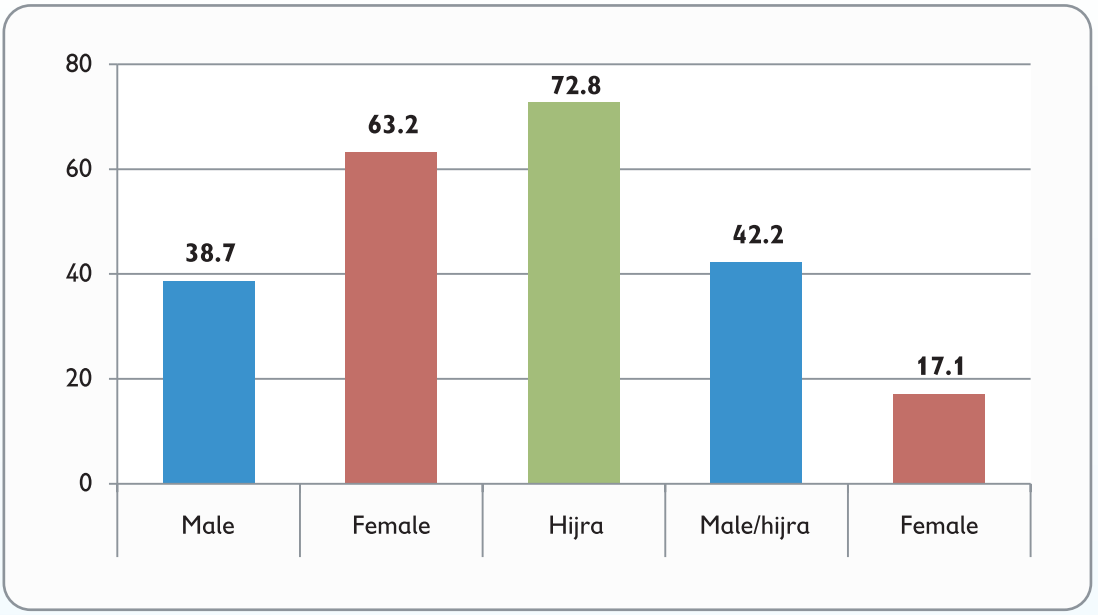
About 46 percent of the MSM interviewed reported to use condom in the last anal sex act with any male partner in the last 6 months (Table 4.7). More than half (52.3%) of the MSM in Dhaka reported to use condom in their last anal sex with any male partner, as compared to 45.9 percent in bordering districts and 39.0 percent in other districts covered under this study. The MSM with no formal education are less likely to use condom in their last sex with any male in the last 6 months preceding the survey.

Table 4.7: Percentage of MSM reporting use of condom in the last anal sex act with any male partner in the last 6 months and background characteristics

Background characteristics	Percent of MSM	Number of MSM
Age		
Below age 20	43.7	103
20-24	47.2	314
25 and above	45.3	467
Education		
No formal education	30.3	80
Up to 5 years	40.7	275
6-10 years	48.2	398
More than 10 years	58.6	132
Marital status		
Never married	44.2	611
Ever married	50.0	271
Living arrangements		
Married, living with spouse or any sexual partner	48.1	240
Married, not living with spouse or any sexual partner	64.6	31
Not married, living with sexual partner	45.3	226
Not married, not living with sexual partner	43.5	385
Received condom from DICs, outreach workers, etc.		
Yes	45.6	754
No	47.3	131
Region		
Dhaka	52.3	225
Bordering districts	45.9	438
Other	39.0	222
Total	45.8	885

In response to the question on the use of condom with non-commercial partners, 42.2 percent of the MSM reported that they used condom in the last anal sex with the non-commercial male/Hijra partner in last 1 month (Figure 4.5). On the other hand, 38.7 percent of the MSM reported condom use in the last anal sex with male sex workers. The percent of MSM reported use of condom in the last anal/vaginal sex act with female sex workers is 63.2 percent and with non-commercial female partner is 17.1 percent. Among the MSM who reported to have sex with commercial TG/Hijras in last one month, majority (72.8%) used condom in last anal sex.

Figure 4.5: Percentage of MSM reporting use of condom in last sex act with different partners in last 1 month



Safe Sexual Practices of MSW

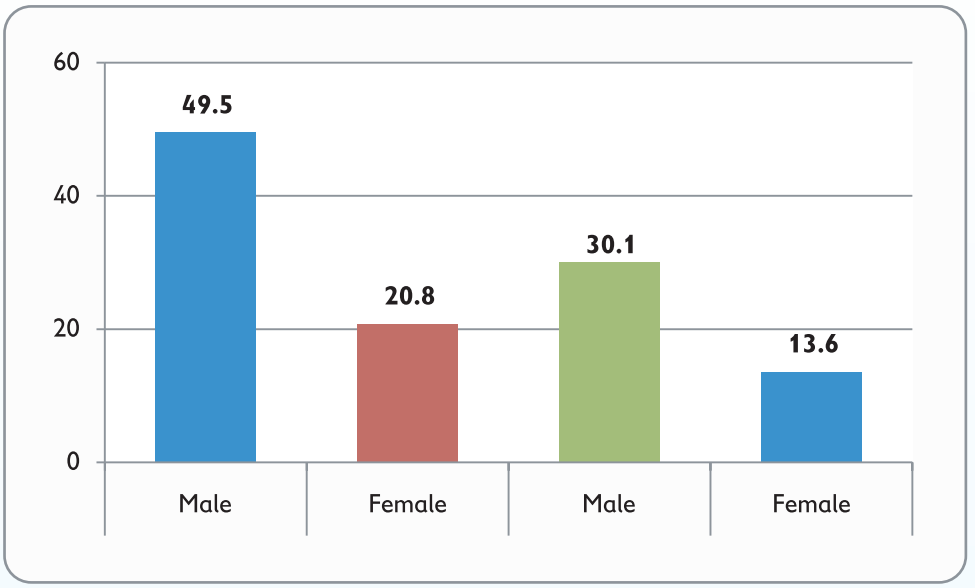
More than half (53.6%) of the MSW mentioned that they used a condom in their last anal sex with a male (Table 4.8). Among the MSWs who received any services from HIV intervention program, 54.6 percent reported to use condom as compared to 40.4 percent of the MSWs who did not receive any service from the program. Moreover, the never married MSWs (50.3%) are less likely to use condom during their last anal sex with a male as compared to ever married MSWs (68.7%). The use of condom in the last anal sex with a male is somewhat higher among the MSWs of bordering districts (55.8%) as compared to Dhaka (52.5%) and other districts (49.9%).

Table 4.8: Percentage of MSW reporting use of condom in the last anal sex act with a male partner in the last 1 year and background characteristics

Background characteristics	Percent	Number
Age		
Below age 20	50.1	79
20-24	47.1	310
25 and above	58.5	449
Education		
No formal education	62.5	65
Up to 5 years	51.8	288
6-10 years	53.0	409
More than 10 years	55.8	77
Marital status		
Never married	50.3	684
Ever married	68.7	154
Living arrangements		
Married, living with spouse or any sexual partner	65.9	119
Married, not living with spouse or any sexual partner	78.2	35
Not married, living with sexual partner	59.2	254
Not married, not living with sexual partner	45.0	430
Received condom from DICs, outreach workers, etc.		
Yes	54.6	778
No	40.4	61
Region		
Dhaka	52.5	174
Bordering districts	55.8	454
Other	49.9	210
Total	53.6	838

In response to the question on use of condom during last anal sex with different clients/partners, about half (49.5%) of the MSWs reported that they used condom with their male clients, while 30.1 percent of them used condom with their non-commercial partners in the last week preceding the survey (Figure 4.6). Moreover, among the MSWs who reported to buy sex from female sex workers, only 20.8 percent reported to use condom during their last sex act in the last week. The use of condom in the last sex act with non-commercial female partner is only 13.6 percent.

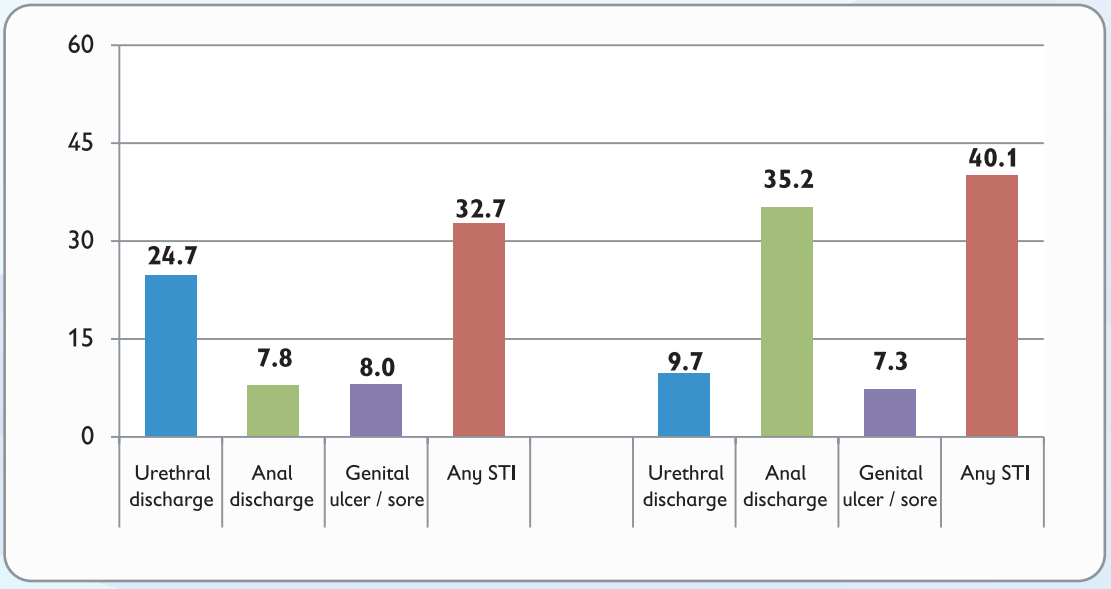
Figure 4.6: Percentage of MSW reporting use of condom in last anal sex act with different partners in last 1 week



4.2.4 STI Prevalence and Treatment Seeking Behaviour

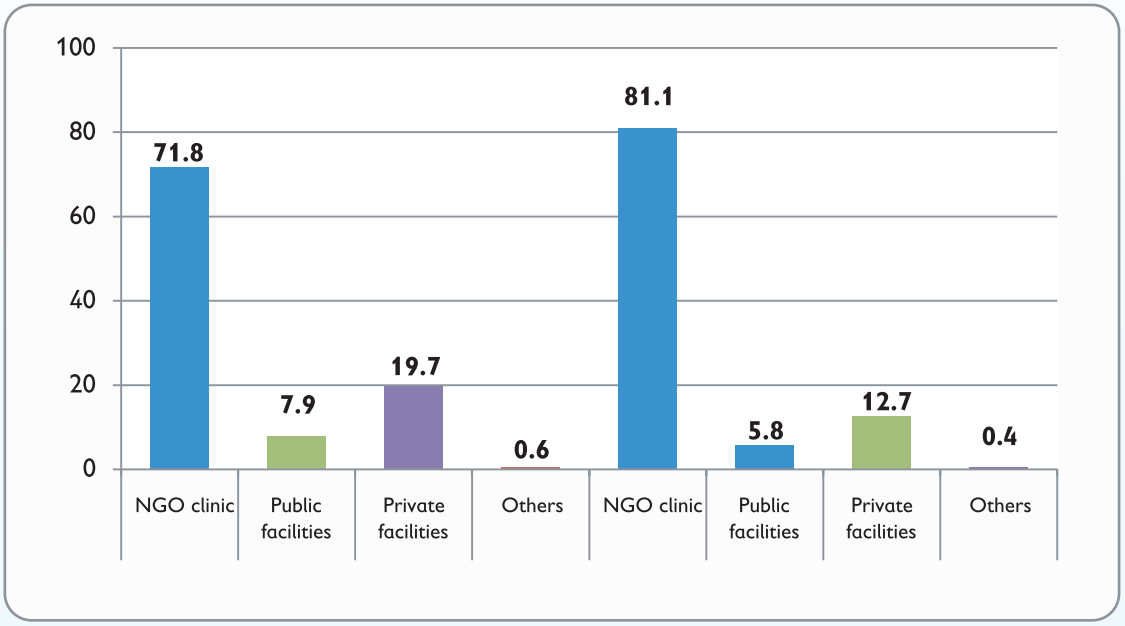
The behavioural survey among MSM and MSW revealed that 24.7 percent of the MSM and 9.7 percent of the MSWs reported urethral discharge in the last 12 months preceding the survey (Figure 4.7). About 8 percent of the MSM also reported anal discharge as well as genital ulcer/sore. On the other hand, 35.2 percent of the MSWs reported anal discharge and 7.3 percent reported genital ulcer/sore in the last 12 months. All these findings reveal that about one-third (32.7%) of the MSM and 40.1 percent of the MSWs reported at least one symptom of STI in the last 12 months. The self-reported STI among MSW is higher (40.1%) as compared to the MSM in the study locations.

Figure 4.7: Percentage of MSM and MSW reporting STI in last 12 months



More than 90 percent of the both MSM and MSWs reported that they sought treatment for STI in the last 12 months (Figure 4.8). Majority of the MSM reported that they sought treatment form NGO clinics including DICs. The other places for seeking STI treatment as reported by the MSM include private facilities including pharmacies (19.7%), public facilities (7.9%) and other services (0.6%). The case seeking behaviour for STI was also similar among the MSWs. About 81 percent of the MSWs reported to seek services from NGO clinics/DICs, followed by private facilities (12.7%), public facilities (5.8%) and other services (0.4%).

Figure 4.8: Percentage of MSM and MSW sought treatment for STI in last 12 months



4.2.5 HIV Testing and Other Services

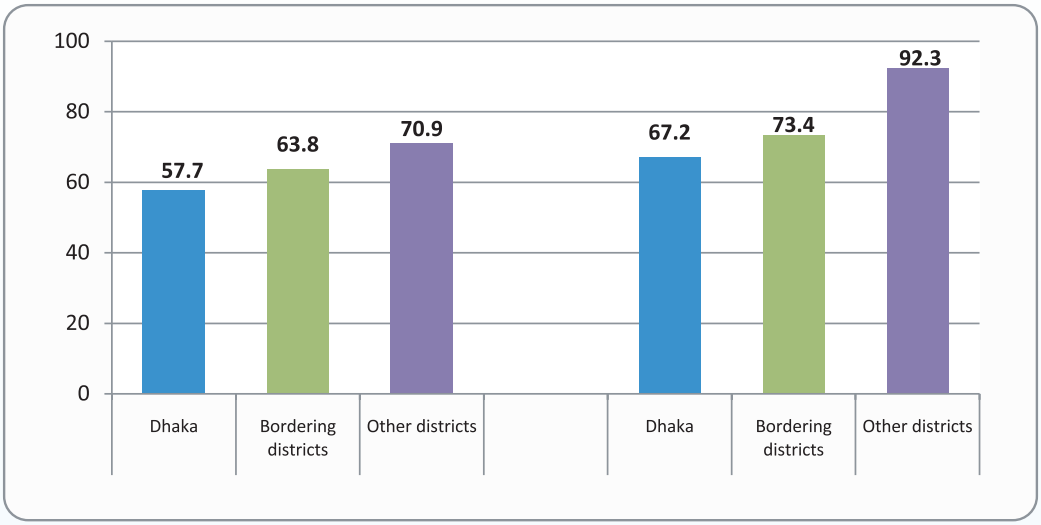
About 90 percent of the MSM and more than 90 of the MSWs mentioned that they know a place where people can go for HIV testing (Table 4.9). However, the young MSM and MSWs are less likely to know a place for HIV testing. Moreover, the MSM and MSWs of the Dhaka region are less aware of a place for HIV testing as compared to the bordering and other districts.

Table 4.9: Percentage of MSM and MSW who know a place where people can go for HIV testing

Background characteristics	MSM		MSW	
	Percent	Number	Percent	Number
Age				
Below age 20	77.9	103	89.8	79
20-24	85.5	314	90.4	310
25 and above	95.1	467	97.4	449
Education				
No formal education	83.1	80	92.3	65
Up to 5 years	91.0	275	94.6	288
6-10 years	89.3	398	93.2	409
More than 10 years	92.2	132	98.3	77
Marital status				
Never married	88.0	611	93.1	684
Ever married	93.4	271	98.3	154
Living arrangements				
Married, living with spouse or any sexual partner	93.8	240	97.8	119
Married, not living with spouse or any sexual partner	90.4	31	100.0	35
Not married, living with sexual partner	91.9	226	95.4	254
Not married, not living with sexual partner	85.7	385	91.8	430
Received condom from program				
Yes	93.8	754	95.9	778
No	65.5	131	70.4	61
Region				
Dhaka	76.5	225	80.5	174
Bordering districts	94.2	438	96.6	454
Other	94.1	222	100.0	210
Total	89.7	885	94.1	838

It is important to note that majority of the MSM in the other districts reported that they have ever been tested for HIV, while the same is 57.7 percent in the Dhaka region and 63.8 percent in the bordering districts (Figure 4.9). Moreover, 67.2 percent of the MSWs in Dhaka and 73.4 percent in bordering districts have ever been tested for HIV. On the other hand, more than 90 percent of the MSWs of the other districts have ever been tested for HIV.

Figure 4.9: Percentage of MSM and MSW who reported ever being tested for HIV



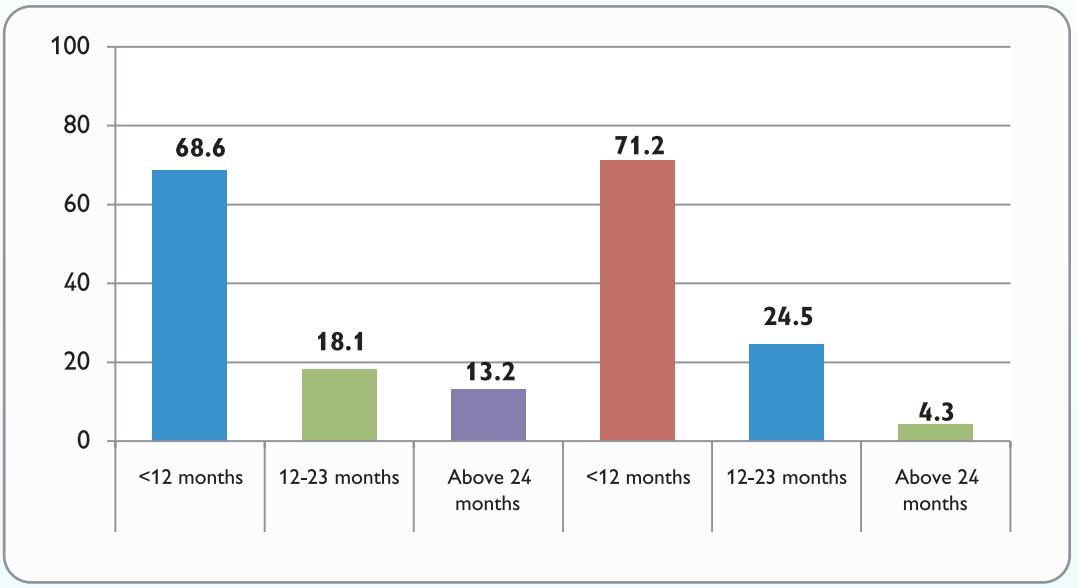
The analysis of the study findings reveals that the young and less educated MSM and MSWs are less likely to have HIV tests (Table 4.10). Moreover, about 72 percent of the MSM and 82 percent of the MSWs who reported to receive any services from the HIV prevention program been ever tested for HIV, while the same is significantly lower for those who did not receive any services (19.1% for MSM and 16.0% for MSWs).

Table 4.10: Percentage of MSM and MSW who reported ever being tested for HIV and selected background characteristics

Background characteristics		MSM		MSW	
		Percent	Number	Percent	Number
Age	Below age 20	48.9	103	53.4	79
	20-24	65.4	314	77.5	310
	25 and above	66.5	467	80.5	449
Education	No formal education	56.6	80	56.3	65
	Up to 5 years	54.9	275	78.7	288
	6-10 years	70.0	398	80.0	409
	More than 10 years	69.5	132	70.5	77
Marital status	Never married	66.7	611	78.2	684
	Ever married	58.0	271	70.7	154
Living arrangements					
Married, living with spouse or any sexual partner		58.0	240	66.0	119
Married, not living with spouse or any sexual partner		58.2	31	86.6	35
Not married, living with sexual partner		66.9	226	81.2	254
Not married, not living with sexual partner		66.5	385	76.4	430
Received condom from program					
	Yes	71.7	754	81.6	778
	No	19.1	131	16.0	61
Region	Dhaka	57.7	225	67.2	174
	Bordering districts	63.8	438	73.4	454
	Other	70.9	222	92.3	210
Total		64.0	885	76.8	838

Majority of the MSM (68.6%) and MSWs (71.2%) mentioned that they have been tested for HIV within the last 12 months (Figure 4.10). Moreover, 18.1 percent of the MSM mentioned 12-23 months and another 13.2 percent mentioned above 24 months since last testing for HIV. Among the MSWs who reported ever being tested for HIV, 24.5 percent mentioned 12-23 months since last testing and 4.3 percent mentioned more than 24 months.

Figure 4.10: Percentage of MSM and MSWs reporting time since last testing



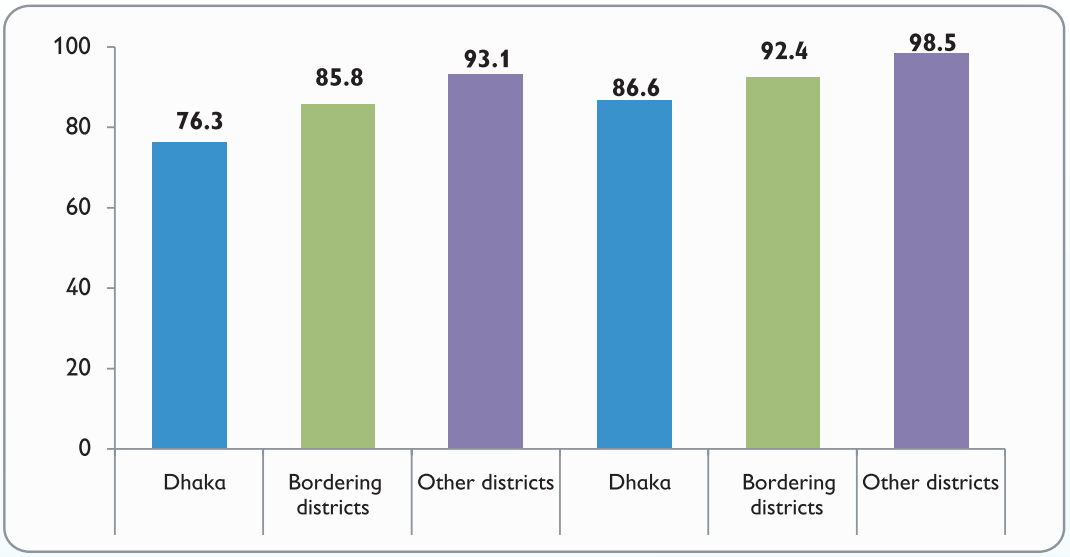
Almost all the MSM and MSWs mentioned that they have been tested for HIV from DICs (Table 4.11). More than 90 percent of the both MSM and MSWs who have been tested for HIV got the result of the test.

Table 4.11: Percentage of MSM and MSW by source of testing for HIV and getting the result

Indicators	MSM		MSW	
	Percent	Number	Percent	Number
Sources of getting HIV tested				
DIC	95.0	538	97.6	629
HTC Centre	1.4	8	1.0	7
Government Hospital	2.3	13	1.0	6
Private laboratory	1.1	6	0.1	3
NGO hospital	0.2	1	0.0	0
Getting the result of the test				
Yes	92.9	527	97.0	625
No	7.1	40	3.0	19

About 76 percent of the MSM in Dhaka region and 86 percent in the bordering districts reported to receive condoms from HIV intervention program, while the same is more than 90 percent in the other districts (Figure 4.11). Similarly, almost all the MSWs in the other districts (98.5%) and 92.4 percent in the bordering districts reported to receive condoms from the HIV intervention program as compared to Dhaka region (86.6%).

Figure 4.11: Percentage of MSM and MSW receiving condom from HIV prevention program

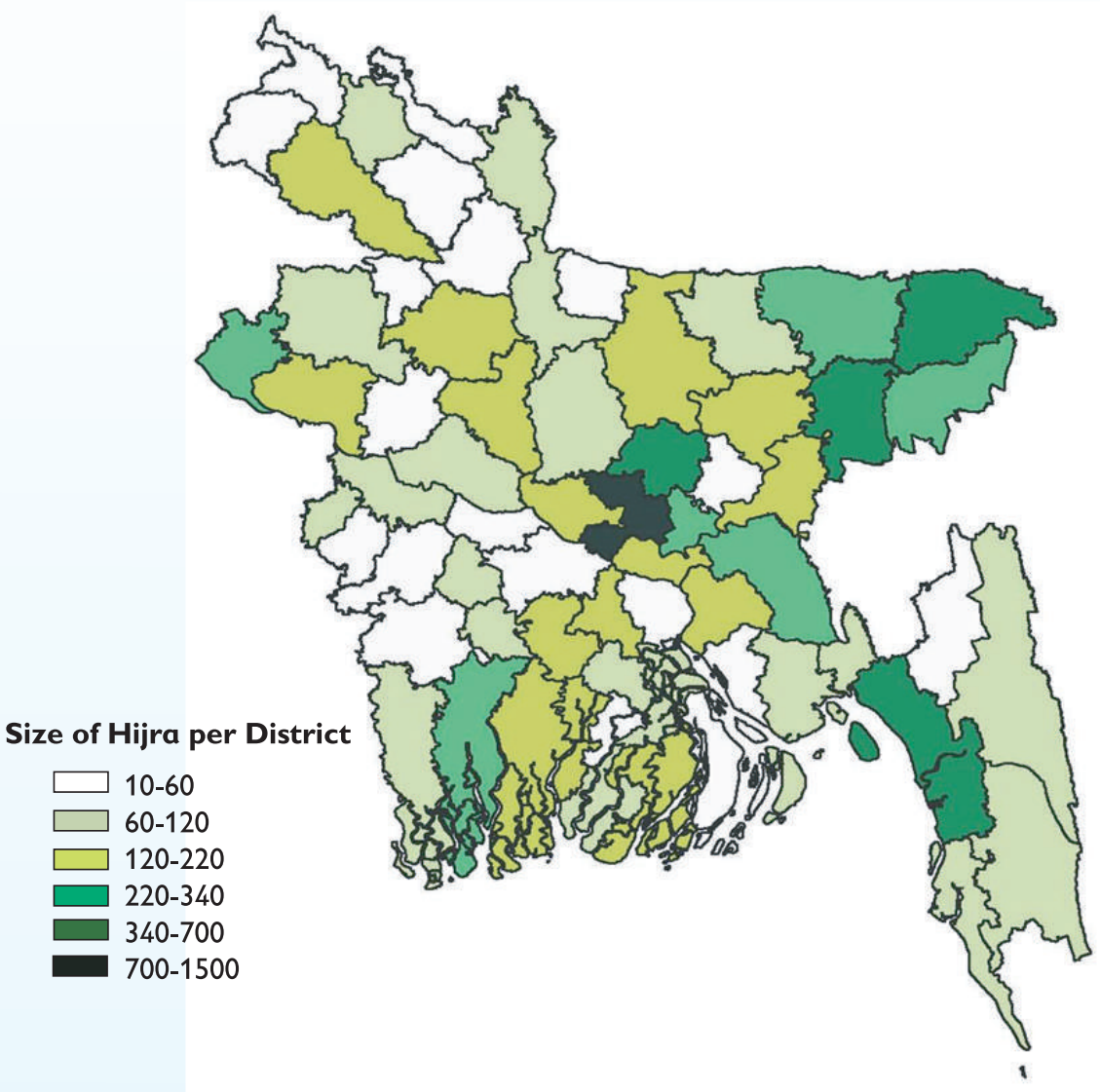


In overall, 85.2 percent of the MSM in the survey locations received condom from the HIV prevention program in the last 12 months with a little difference by their background characteristics (Table 4.12). Similar findings have been revealed for the MSWs.

Table 4.12: Percentage of MSM and MSW receiving condom from HIV prevention program Background characteristics

Background characteristics	MSM		MSW	
	Percent	Number	Percent	Number
Age				
Below age 20	81.9	103	91.9	79
20-24	86.8	314	93.2	310
25 and above	84.9	467	92.6	449
Education				
No formal education	89.4	80	93.2	65
Up to 5 years	82.0	275	92.8	288
6-10 years	87.5	398	94.3	409
More than 10 years	82.5	132	83.8	77
Marital status				
Never married	86.0	611	93.5	684
Ever married	83.2	271	89.4	154
Living arrangements				
Married, living with spouse or any sexual partner	83.1	240	88.8	119
Married, not living with spouse or any sexual partner	83.6	31	91.4	35
Not married, living with sexual partner	84.1	226	92.4	254
Not married, not living with sexual partner	87.1	385	94.2	430
Region				
Dhaka	76.3	225	86.6	174
Bordering districts	85.8	438	92.4	454
Other	93.1	222	98.5	210
Total	85.2	885	92.8	835

Estimated Size of Hijra by Districts, 2015-2016



5.1 Mapping and Size Estimation of TG/Hijra

Similar to the process and protocols adopted for mapping and size estimation of MSM/MSW, estimation of TG/Hijra population in Bangladesh has also been based on three prone strategy of estimating their size and application of four different corrections factors. Once the number of Hijra operating in 21 districts have been finalized the same has been extrapolated for the remaining 43 districts and developed the national estimate along with the coefficient of range in the estimate. The national estimated size of Hijra classified for their age groups is also presented in this section, along with region and district specific distribution by age of TG/Hijra has been presented as Annex-E of the report. Further, the distribution of locations and spots of Hijra/TG across different districts is also provided in this section, which may be vital for planning and intervention of various programmes and services for the risk reduction of STI/HIV among Hijra/TG.

5.1.1 Estimated number of TG/Hijra by Age group

Estimated number of TG/Hijra from mapping and size estimation 2015-16 is presented in Table 5.1. It is evident from Table 5.1 that the total estimated number of TG/Hijra in Bangladesh ranges from as low as 6,867 to the maximum of 10,199. A substantial proportion of the TG/Hijra in Bangladesh is in the age group 10-24, which may demand for another set of strategic approaches to ensure their health related quality of life.

Table 5.1: Estimated number of TG/Hijra along with their broad age groups

Typology	Age limits						Total	
	10-19		20-24		25 and above			
	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
TG/HIJRA	615	893	2,174	3,224	4,078	6,082	6,867	10,199
Total	615	893	2,174	3,224	4,078	6,082	6,867	10,199

5.1.2 Regional Variation in Estimated Number of TG/Hijra

Table 5.2 reveals the division and district wise variation in estimated number of TG/Hijra. It is evident from the table that out of the total number of TG/Hijra in Bangladesh, which ranges from a minimum of 6,867 to the maximum of 10,199, their concentration is the maximum in Dhaka division (35%) followed by Sylhet 17 percent and Chittagong division (16%). Variations in estimated numbers of TG/Hijra across all 64 districts in Bangladesh are also presented in Table 5.2.

Table 5.2: Division and District wise variation in estimated number of TG/Hijra

Division	District	Hijra			
		Estimate	Lower Value	Upper Value	CR(%)
	BARGUNA	91	72	110	21.2
BARISAL	BARISAL	66	61	72	8.3
	BHOLA	28	20	35	28.0
	JHALOKATI	17	16	19	8.3
	PATUAKHALI	157	123	190	21.2
	PIROJPUR	114	90	138	21.2
CHITTAGONG	BANDARBAN	52	42	62	19.3
	BRAHMANBARIA	130	98	163	24.8
	CHANDPUR	130	116	144	10.7
	CHITTAGONG	521	369	673	29.2
	COMILLA	246	185	307	24.8
	COX'S BAZAR	56	43	68	22.4
	FENI	66	50	82	24.8
	KHAGRACHHARI	22	18	26	17.9
	LAKSHMIPUR	27	19	34	28.0
	NOAKHALI	48	35	62	28.0
	RANGAMATI	80	65	96	19.3
DHAKA	DHAKA	1,221	958	1,485	21.6
	FARIDPUR	43	35	50	18.4
	GAZIPUR	377	312	441	17.1
	GOPALGANJ	119	93	144	21.2
	JAMALPUR	52	41	62	19.7
	KISHOREGONJ	132	100	165	24.8
	MADARIPUR	119	93	144	21.2
	MANIKGANJ	142	112	173	21.2
	MUNSHIGANJ	147	115	178	21.2
	MYMENSINGH	137	121	153	11.7
	NARAYANGANJ	250	229	270	8.2
	NARSINGDI	50	41	59	18.4
	NETRAKONA	75	61	89	18.4
	RAJBARI	24	19	28	18.4
	SHARIATPUR	26	21	31	18.4
	SHERPUR	30	25	36	18.4
	TANGAIL	81	66	96	18.4
KHULNA	BAGERHAT	151	119	183	21.2
	CHUADANGA	26	21	30	18.4
	JESSORE	41	38	44	7.4
	JHENAIDAH	39	33	46	16.6
	KHULNA	221	170	273	23.3
	KUSHTIA	71	58	84	17.9
	MAGURA	88	68	109	23.3

Division	District	Hijra			
		Estimate	Lower Value	Upper Value	CR(%)
	MEHERPUR	88	71	105	19.3
	NARAIL	69	53	85	23.3
	SATKHIRA	72	59	85	17.9
RAJSHAHI	BOGRA	127	107	146	15.2
	JOYPURHAT	34	29	39	15.2
	NAOGAON	95	78	112	17.9
	NATORE	38	32	44	16.6
	CHAPAI NABABGANJ	271	207	336	23.8
	PABNA	94	80	108	15.2
	RAJSHAHI	172	126	218	26.8
	SIRAJGANJ	113	93	133	17.9
RANGPUR	DINAJPUR	112	95	129	15.2
	GAIBANDHA	12	10	15	19.7
	KURIGRAM	75	62	89	17.9
	LALMONIRHAT	47	40	54	15.2
	NILPHAMARI	67	55	79	17.9
	PANCHAGARH	37	31	42	15.2
	RANGPUR	15	12	18	19.7
	THAKURGAON	52	44	60	15.2
SYLHET	HABIGANJ	523	416	631	20.6
	MAULVIBAZAR	242	231	253	4.5
	SUNAMGANJ	233	223	244	4.5
	SYLHET	433	344	522	20.6
BANGLADESH		8,533	6,867	10,199	19.5

Note 1: Yellow highlighted rows are actual districts where field level data collection took place

District wise variation in estimated number of Hijra with age group distribution and lower and upper estimates are summarized in the Annex-E.

5.1.3 Mapping of Location and Spots for TG/Hijra

The mapping exercise of Hijra conducted in 21 selected districts identified 130 spots in 77 locations (Table 5.3). The /Hijra spots were found in all 21 districts where mapping exercise was conducted. Out of this total spots of Hijra, maximum spots (42 spots) were identified in Dhaka. Moreover, 12 spots were identified in Chittagong, 9 spots in Mymensingh, 7 spots in Comillaand Gazipur, 6 spots in Narayanganj, Khulna and Chapainawabganj, 5 spots in Shunamganj and the rest of the districts have less than 5 spots.

Table 5.3: Distribution of location and spots of TG/Hijra across different districts

Division	District	No. of locations	No. of spots
Barisal	Barisal	1	1
Chittagong	Chittagong	7	12
	Comilla	3	7
	Cox's bazar	1	1
	Noakhali	2	2
	Rangamati	1	4
Dhaka	Dhaka	29	42
	Gazipur	3	7
	Mymensingh	5	9
	Narayanganj	3	6
	Tangail	3	3
Khulna	Bagerhat	2	2
	Jessore	1	2
	Khulna	3	6
	Shatkhira	1	3
Rajshahi	Chapainawabganj	3	6
	Rajshahi	3	3
Rangpur	Dinajpur	2	4
	Rangpur	1	2
Sylhet	Sunamganj	1	5
	Sylhet	2	3
Total		77	130

The districts of Dhaka region alone constitute more than half of the spots identified in the selected locations where the mapping exercise was conducted.

5.2 Behavioural Characteristics of TG/Hijra

This section provides the selected background characteristics of TG/Hijra including age, educational qualification, marital status and their living arrangements. The risk behaviour of hijraare also analysed in this section, which include age of entry sex work, use of condom during last sex. This section also analyses the incidence of STI among Hijra and care seeking behaviour, HIV testing and access to other related services.

The behavioural survey among Hijra was conducted in the selected study locations and a total of 444 TG/Hijras were interviewed. All the tables and figures presented in this section are corrected through appropriate sampling weights.

5.2.1 Background Characteristics

The average age of the TG/Hijras interviewed is 27 years. Majority of the Hijras (62.9%) are aged 25 years or above, 30.1 percent of them are aged 20-24 years and the rest 7.0 percent are aged 10-19 years (Table 5.4). Nearly half of the Hijras (49.3%) have

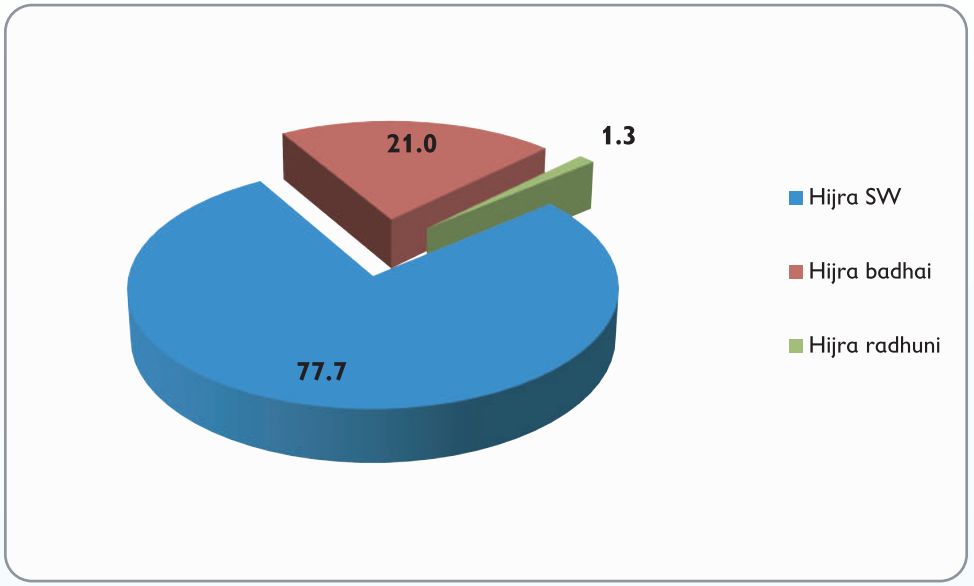
attained less than 5 years of schooling and another 23.4 percent have no formal education. About a quarter (24.5%) of the Hijras also completed 6-10 years of schooling and only 2.8 percent have attained more than 10 years of schooling. Almost all the Hijras interviewed mention that their sexual partner is a male.

Table 5.4: Percentage distribution of TG/Hijra by selected background characteristics

Background characteristics	TG/Hijra (n=444)	
	Percent	Frequency
Age		
Below age 20	7.0	31
20-24	30.1	134
25 and above	62.9	279
Average age	27	444
Education		
No formal education	23.4	104
Up to 5 years	49.3	219
6-10 years	24.5	109
More than 10 years	2.8	12
Marital status		
Never married	94.4	419
Ever married	4.7	21
No response	0.9	4
Is your sexual partner who you live with male, female or TG/hijra?		
Male	98.0	336
Female	0.7	3
TG/Hijra	1.3	6
Region		
Dhaka	39.5	175
Bordering districts	46.8	208
Other	13.7	61

During the behavioural survey, the TG/Hijras selected for interview were asked to identify themselves as 'sex worker', 'badhai' and 'radhuni'. Among the TG/Hijras interviewed, 77.7 percent identified themselves as sex workers, while 21 percent identified themselves as badhai and the rest 1.3 percent as radhunihijra (Figure 5.1).

Figure 5.1: Percentage of TG/Hijra according to their type



5.2.2 Behaviour Factors

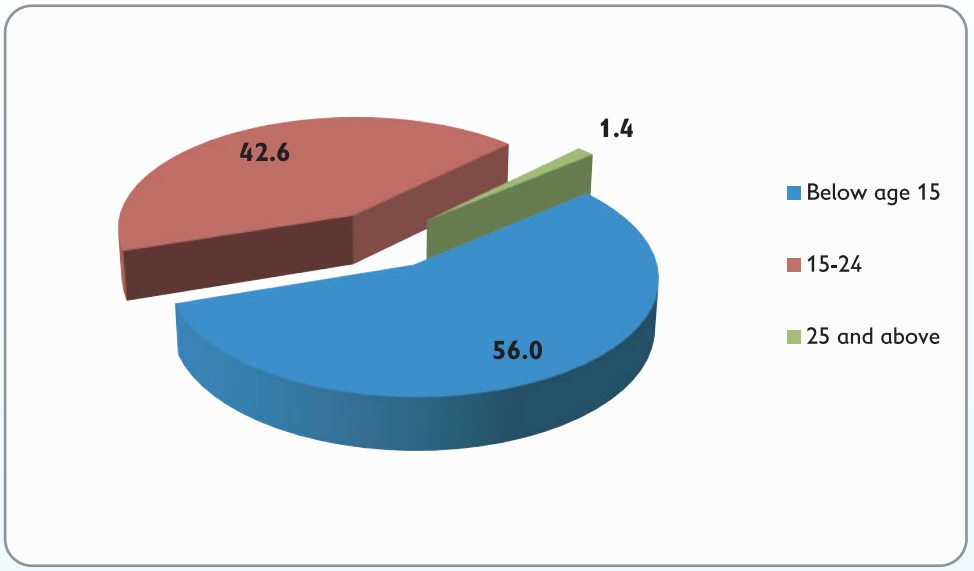
More than half (56.0%) of the TG/Hijras reported to have sex for the first time before the age of 15 (Table 5.5). The TG/Hijras having no formal education or less educated Hijras are more likely to have their first sex before the age of 15.

Table 5.5: Percentage of TG/Hijra who had sex for the first time before the age of 15

Background characteristics	TG/Hijra	
	Percent	Number
Age		
Below age 20	81.8	31
20-24	53.8	134
25 and above	54.1	279
Education		
No formal education	52.8	104
Up to 5 years	62.7	219
6-10 years	46.5	109
More than 10 years	45.6	12
Region		
Dhaka	52.4	175
Bordering districts	56.9	208
Other	63.1	61
Total	56.0	444

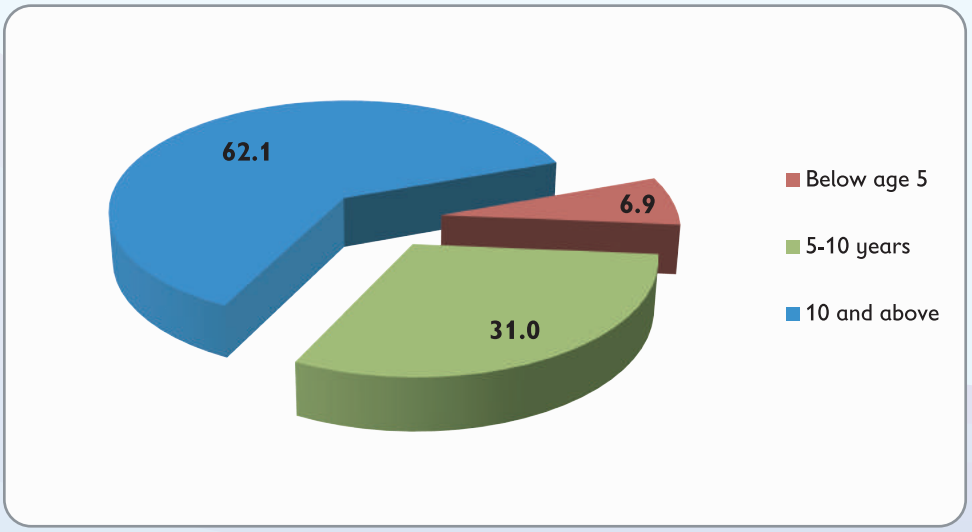
More than half (56.0%) of the TG/Hijra reported to start their sex work before the age of 15 years (Figure 5.2). Another 42.6 percent of the TG/Hijra mentioned that they started the sex work within 15-24 years and the rest 1.54 percent started at the age of 25 or above. The average age to entry sex work for TG/Hijra in Bangladesh is 15 years.

Figure 5.2: Percentage distribution of TG/Hijra by their age of entry sex work



Majority (62.1%) of the Hijra interviewed mentioned that they have been involved in this profession for more than 10 years and another 31 percent for 5-10 years (Figure 5.3). A very few (6.9%) of the TG/Hijra are working for less than 5 years in this profession of sex work. The average years in this profession for the TG/Hijra is estimated to 12.4 years.

Figure 5.3: Percentage distribution of TG/Hijra by their years in this profession



Most of the TG/Hijra (81.2%) reported that they had sex with any commercial male in the last week preceding the survey (Table 5.6). The majority of the TG/Hijra reported more than 5 clients in the last week with the average number estimated to 8 in the last week. Moreover, 56.0 percent of the TG/Hijra reported sex with non-commercial males in the last months. The average number of non-commercial partners in the last month is estimated to 1.3.

Table 5.6: Percentage of TG/Hijra reporting sex with different partners

Indicators	Percent of hijra	Number
Selling sex to males		
Sell sex to any male in last 1 week		
Yes	81.2	360
No	18.8	83
Number of different male sex partner in the last 1 week		
1-2	12.5	45
3-4	18.6	67
5 or more	68.9	248
Mean	8.0	360
Non-commercial sex with males		
Sex with any male in last 1 month		
Yes	56.0	248
No	44.0	195
Number of different male sex partner in the last 1 week		
1-2	95.0	236
3-4	2.9	7
5 or more	2.1	5
Mean	1.3	248

5.2.3 Safe Sexual Practices

More than half (58.4%) of the TG/Hijra reported to use condom in their last anal sex with any male during last 12 months preceding the survey (Table 5.7). It is important to note that majority of the TG/Hijra (62.4%) who received any services from the HIV prevention program used condom in their last anal sex, while the same is significantly lower (14.8%) among those who did not receive any service for the program. The proportion of TG/Hijra reported use of condom in their last anal sex with a male is 67.9 percent in Dhaka, 48.0 percent in bordering districts and 66.9 percent in the other districts of the study.

Table 5.7: Percentage of TG/Hijra reporting use of condom in the last anal sex act with a male partner in the last 12 months and background characteristics

Background characteristics	Percent of Hijra	Number
Age		
Below age 20	63.0	31
20-24	58.4	134
25 and above	58.0	279
Education		
No formal education	62.8	104
Up to 5 years	55.7	219
6-10 years	57.9	109
More than 10 years	75.6	12
Received condom from DICs, outreach workers, etc.		
Yes	62.4	407
No	14.8	37
Region		
Dhaka	67.9	175
Bordering districts	48.0	208
Other	66.9	61
Total	58.4	444

The Hijra were also asked to mention use of condom during last anal sex with different commercial and non-commercial partners in the last one week. In response, about a half (52.1%) of the TG/Hijra reported that they used condom in the last anal sex with a commercial male in last one week (Table 5.8). Less than a half (43.8%) of them also reported to use condom in their last anal sex with non-commercial partners in the last week.

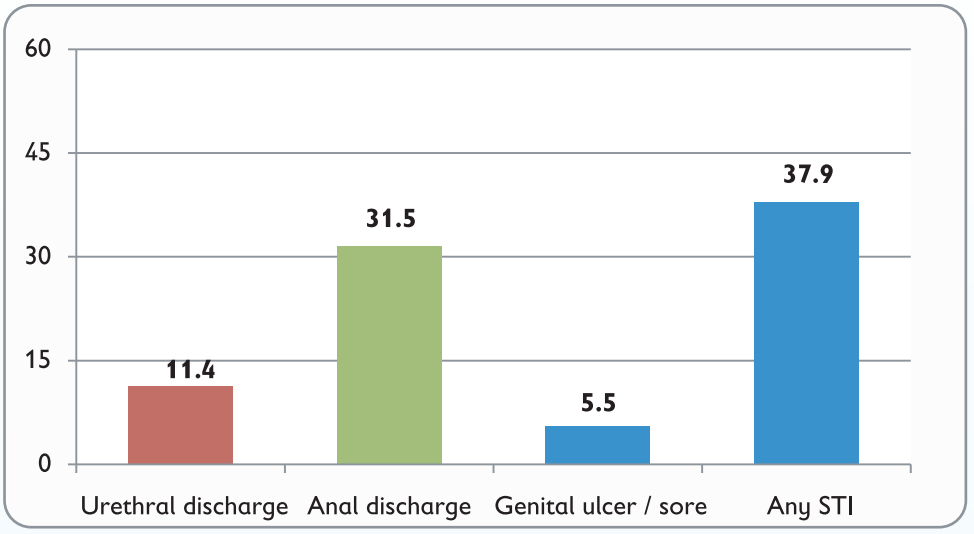
Table 5.8: Percentage of TG/ Hijra reporting use of condom with different partners

Indicators	Percent of Hijra	Number
Use condom in the last sex act with commercial male in last 1 week		
Yes	52.1	207
No	47.9	153
Use of condom in the last anal sex act with your non-commercial male/hijr a in the last 1 week		
Yes	43.8	109
No	56.2	139

5.2.4 STI Prevalence and Treatment Seeking Behaviour

About 32 percent of the TG/Hijra interviewed reported to contact anal discharge in the last 12 months preceding the survey (Figure 5.4). Moreover, 11.4 percent of the Hijra mentioned urethral discharge and another 5.5 percent mentioned genital ulcer/sore in the last 12 months. In together, 37.8 percent of the Hijra reported at least one symptom of STI in last 12 months.

Figure 5.4: Percentage of Hijra reporting STI in the last 12 months



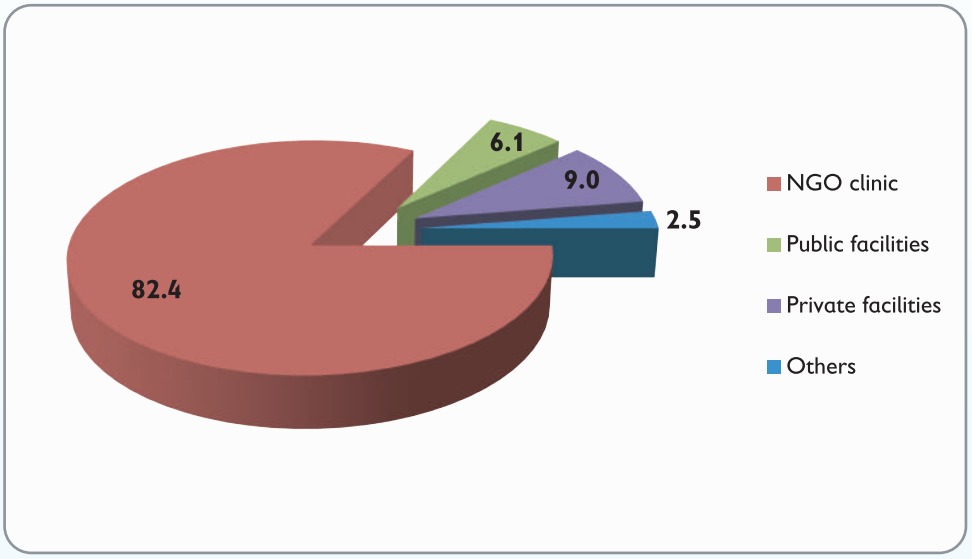
The young TG/Hijra are relatively more likely to report at least one symptom of STI. About 41 percent of the TG/Hijras aged below age 20 and 44 percent aged 20-24 years reported STIs in the last 12 months, while the same is 34.6 percent among the TG/Hijra aged 25 years or above. It is also important to note that the self-reported incidence of STI is relatively higher among the Hijra of Dhaka region (40.8%) and bordering districts (39.7%) as compared to 23.7 percent in the other districts of the study location.

Table 5.9: Percentage of TG/Hijra reporting STI in the last 12 months and background characteristics

Background characteristics	Percent of Hijra reporting STI in last 12 months				
	Urethral discharge	Anal discharge	Genital ulcer / sore	Any STI	Number of Hijra
Age					
Below age 20	14.6	36.7	4.5	41.1	31
20-24	20.4	35.1	9.7	44.1	134
25 and above	6.8	29.2	3.6	34.6	279
Education					
No formal education	8.8	19.8	3.0	25.4	104
Up to 5 years	8.5	33.1	5.9	38.0	219
6-10 years	15.3	39.7	7.7	48.6	109
More than 10 years	48.8	27.8	0.0	48.8	12
Received condom from program					
Yes	11.7	32.7	4.8	37.7	407
No	8.5	17.9	13.7	40.1	37
Region					
Dhaka	20.1	32.5	8.6	40.8	175
Bordering districts	5.8	33.9	3.6	39.7	208
Other	5.3	20.1	3.3	23.7	61
Total	11.4	31.5	5.5	37.9	444

Almost all the TG/Hijra with at least one symptom of STI in the last 12 months reported to seek service for STI. An overwhelming majority of the TG/Hijra reported to seek services from NGO clinics including DICs (Figure 5.5). About 9 percent of the TG/Hijra also mentioned that they sought STI treatment from private facilities including pharmacies, 6.1 percent from public facilities and the rest 2.5 percent mentioned other services.

Figure 5.5: Percentage of TG/Hijra sought treatment for STI in the last 12 months



An overwhelming majority (86.5%) of the TG/Hijra who received services from HIV prevention services sought treatment for STI as compared to only 37.6 percent among those who did not receive any services from the program in the preceding 12 months (Table 5.10). On the other hand, 26.6 percent of the TG/Hijra who did not receive any services from HIV prevention program sought treatment for STI from private facilities including pharmacies as compared to 7.4 percent among those who received any services from the program.

Table 5.10: Percentage of TG/Hijra sought treatment for STI in the last 12 months and background characteristics

Background characteristics	Percent of Hijra sought treatment for STI	Number of Hijra	Place of treatment				
			NGO clinic	Public facilities	Private facilities including pharmacy	Others	Number of Hijra
Age							
Below age 20	97.1	13	72.4	10.7	17.0	0.0	12
20-24	98.9	59	89.7	2.7	3.3	4.3	58
25 and above	99.3	97	79.3	7.5	11.4	1.8	96
Education							
No formal education	97.6	26	80.4	5.1	14.5	0.0	26
Up to 5 years	98.8	83	83.5	7.4	4.8	4.3	82
6-10 years	100.0	53	82.0	5.2	11.6	1.2	53
More than 10 years	100.0	6	80.2	0.0	19.8	0.0	6
Received condom from program							
Yes	99.3	154	86.5	5.4	7.4	0.7	153
No	95.7	15	37.6	13.5	26.6	22.2	14
Region							
Dhaka	98.2	72	84.7	7.2	7.2	0.9	70
Bordering districts	99.6	82	80.6	6.2	10.2	3.0	82
Other	100.0	14	81.5	0.0	11.0	7.5	14
Total	99.0	168	82.4	6.1	9.0	2.5	167

5.2.5 HIV Testing and Other Services

About 89 percent of the TG/Hijra interviewed mentioned that they know a place where one can go for HIV testing (Table 5.11). The study findings also reveal that about all the TG/Hijra in bordering and other districts (more than 95%) are aware of a place where people can go for HIV testing, while the same is relatively lower (76.2%) in the districts of Dhaka region.

Table 5.11: Percentage of TG/Hijra who know a place where people can go for HIV testing

Background characteristics	Hijra	
	Percent	Number
Age		
Below age 20	84.3	31
20-24	75.5	134
25 and above	96.1	279
Education		
No formal education	95.1	104
Up to 5 years	90.6	219
6-10 years	80.3	109
More than 10 years	88.7	12
Received condom from program		
Yes	90.2	407
No	76.5	37
Region		
Dhaka	76.2	175
Bordering districts	97.8	208
Other	96.6	61
Total	89.1	444

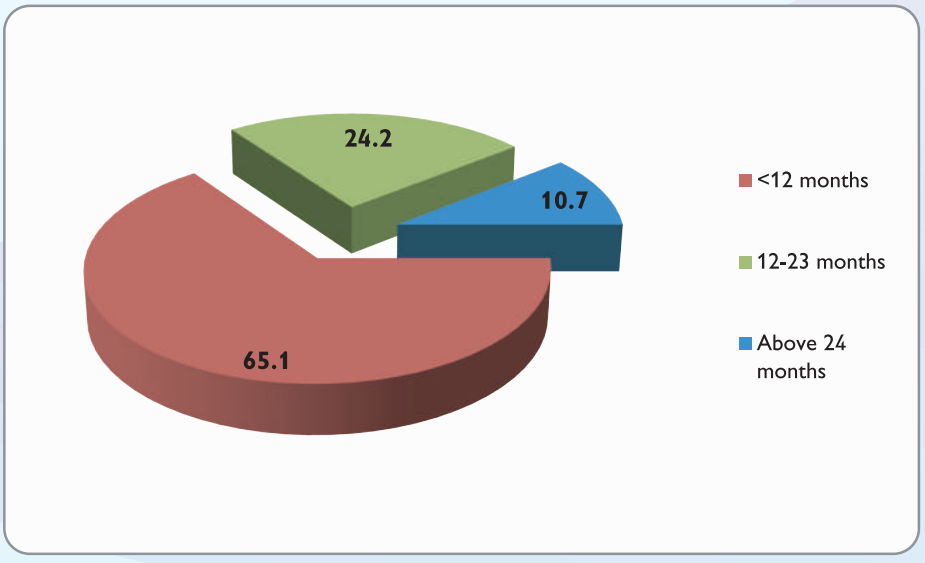
About three-fourth (76.5%) of the TG/Hijra reported that they have ever been tested for HIV (Table 5.12) with higher proportion in bordering districts (81.9%) as compared to other districts (72.5%) and the districts of Dhaka region (71.5%). An overwhelming majority of the TG/Hijra (79.3%) who received any services from HIV prevention program reported ever being tested for HIV, while the same is 45.3 percent for those who did not receive any service from the program. Moreover, the younger TG/Hijra are less likely for reporting HIV testing.

Table 5.12: Percentage of TG/Hijra who reported ever being tested for HIV

Background characteristics	Percent of Hijra	Number of Hijra
Age		
Below age 20	66.7	31
20-24	61.6	134
25 and above	84.7	279
Education		
No formal education	80.2	104
Up to 5 years	76.3	219
6-10 years	73.5	109
More than 10 years	73.9	12
Received condom from program		
Yes	79.3	407
No	45.3	37
Region		
Dhaka	71.5	175
Bordering districts	81.9	208
Other	72.4	61
Total	76.5	444

Majority of the TG/Hijra mentioned that they have been tested for HIV within the last 12 months (Figure 5.6). About 24.2 percent of them also reported been tested for HIV between 12 months and 24 months and another 10.7 percent mentioned more than 24 months.

Figure 5.6: Percent of TG/Hijra by time since last testing for HIV



Almost all the TG/Hijra who have ever been tested for HIV reported that they received the test from DICs (Table 5.13) and another 4.4 percent mentioned HTC centers. Only a few of them (1.6%) also mentioned public facilities for HIV testing. About 96 percent of the Hijra who have been tested for HIV collected the result of the test.

Table 5.13: Percentage of TG/Hijra by time since last test and source of testing for HIV

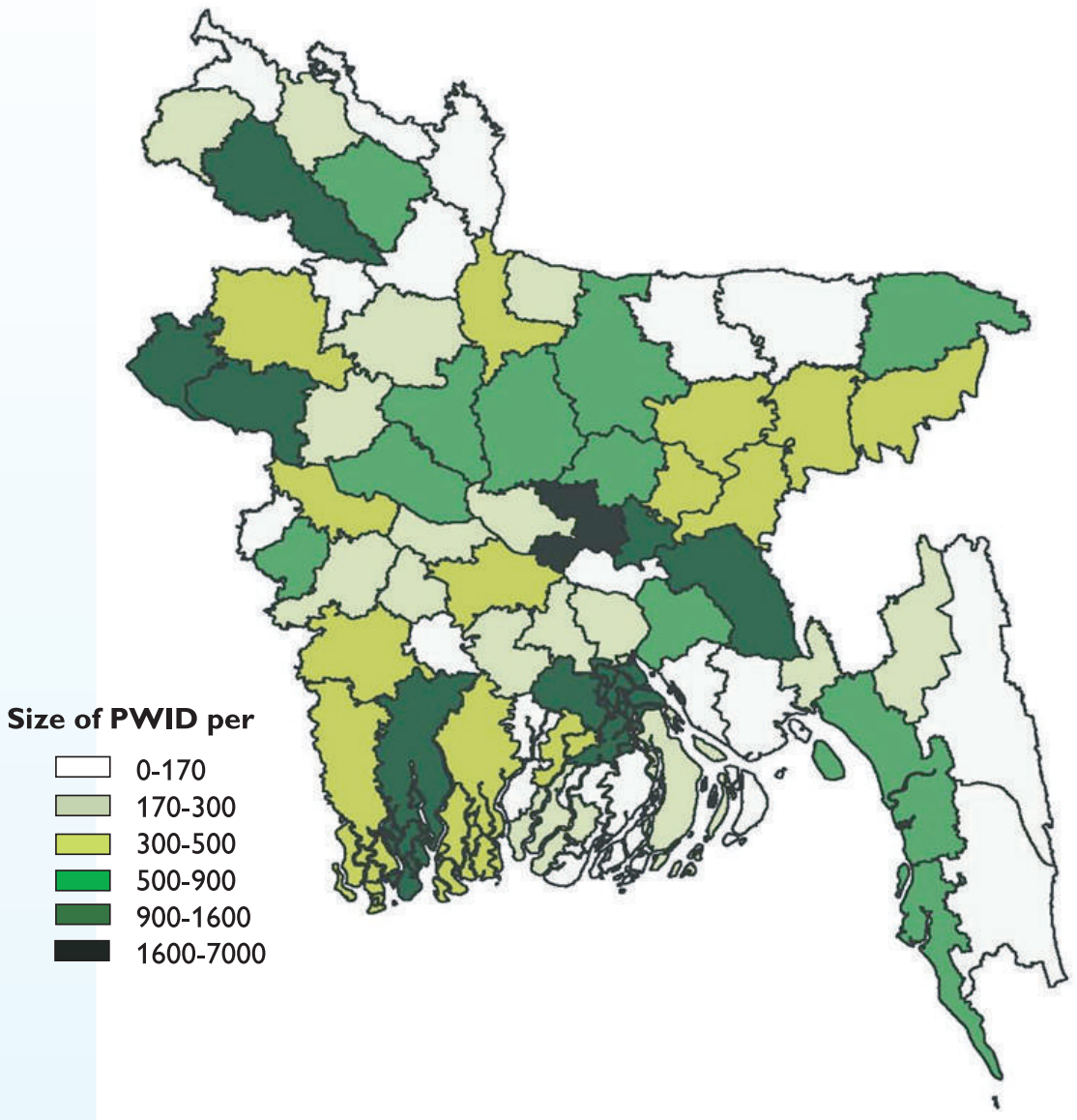
Indicators	Percent	Number
Sources of getting HIV tested		
DIC	94.0	319
HTC Centre	4.4	15
Government Hospital	1.6	6
Getting the result of the test		
Yes	96.1	326
No	3.9	13

About 90 percent of the Hijra in Dhaka region and more than 90 percent Hijra in bordering and other districts mentioned that they received condom at least once from the HIV prevention program in the last 12 months preceding the survey (Table 5.14).

Table 5.14: Percentage of Hijra receiving condom from HIV prevention

Background characteristics	Percent of Hijra	Number of Hijra
Age		
Below age 20	98.0	31
20-24	91.5	134
25 and above	91.2	279
Education		
No formal education	91.8	104
Up to 5 years	91.3	219
6-10 years	92.9	109
More than 10 years	90.3	12
Region		
Dhaka	89.9	175
Bordering districts	92.7	208
Other	93.9	61
Total	91.8	444

Estimated Size of PWID by Districts, 2015-2016



6.1 Mapping and Size Estimation of PWID

Mapping and size estimation of PWID has also followed the same protocols as discussed in the previous section on size estimation of FSWs/MSM/MSW/Hijra. Subsequently, four level of correction factors were applied to finalize the numbers along with their coefficient of range. Once the number of PWID operating in 21 districts have been finalized the same has been extrapolated for the remaining 43 districts and developed the national estimates of PWID with the coefficient of range in the estimate. The national estimated size of PWID classified for their age groups is also presented, along with region and district specific distribution by age of PWID has been presented as Annex-E of the report. Further, the distribution of locations and spots of PWID across different districts is also provided in this section, which may be vital for planning and intervention of various programmers and services for the risk reduction of HIV among PWID.

6.1.1 Estimated number of PWID by Sex and Age groups

Age specific estimated numbers of People Who Inject Drugs (PWID) is presented in Table 6.1. It is evident from the Table that the total estimated number of PWID in Bangladesh ranges from a minimum of 26,186 to the maximum of 33,067. The presence of PWID female is restricted to only few districts with the total estimated number ranging from a minimum of 868 to the maximum of 1,045. A substantial proportion of the male PWID in Bangladesh are in the age group 10-19 (between 1,966 to 2,485), which may demand for another set of strategic approaches of interventions through programme and services designed towards risk reduction of STI/HIV among PWID.

Table 6.1: Estimated number of PWID by gender and age group

Typology	Age limits						Total	
	10-19		20-24		25 and above			
	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
PWID-Male	1,896	2,402	6,006	7,566	17,417	22,053	25,319	32,021
PWID-Female	70	83	211	251	586	711	868	1,045
Total	1,966	2,485	6,217	7,817	18,004	22,765	26,186	33,067

6.1.2 Regional Variation in Estimated Number of PWID-Male

Table 6.2 reveals the division and district wise variation in estimated number of PWID-Male. It is evident from the table that among the number of PWID-Male, which ranges from a minimum of 16949 to the maximum of 26199, their concentration is the maximum in Dhaka division (33%) followed by Rajshahi division (22%) and Chittagong division (17%). Variations in estimated numbers of PWID-Male across all 64 districts in Bangladesh are also presented in Table 6.2.

Table 6.2: Division and District wise variation in estimated number of PWID-Male

Division	District	PWID-Male			
		Estimate	Lower Value	Upper Value	CR(%)
BARISAL	BARGUNA	99	79	119	20.5
	BARISAL	1,070	926	1,214	13.5
	BHOLA	98	78	119	20.5
	JHALOKATI	278	241	316	13.5
	PATUAKHALI	119	95	143	20.5
	PIROJPUR	124	98	149	20.5
CHITTAGONG	BANDARBAN	74	66	81	10.2
	BRAHMANBARIA	295	262	327	11.0
	CHANDPUR	520	434	606	16.6
	CHITTAGONG	788	701	875	11.0
	COMILLA	1,019	915	1,123	10.2
	COX'S BAZAR	580	555	604	4.2
	FENI	224	199	248	11.0
	KHAGRACHHARI	126	112	140	11.3
	LAKSHMIPUR	90	80	100	11.0
	NOAKHALI	-	-	-	-
	RANGAMATI	115	103	126	10.2
DHAKA	DHAKA	5,732	5,307	6,157	7.4
	FARIDPUR	322	295	348	8.2
	GAZIPUR	587	470	704	19.9
	GOPALGANJ	198	182	214	8.2
	JAMALPUR	399	320	479	19.9
	KISHOREGONJ	322	288	357	10.7
	MADARIPUR	198	182	214	8.2
	MANIKGANJ	238	218	257	8.2
	MUNSHIGANJ	80	72	89	10.7
	MYMENSINGH	569	508	631	10.7
	NARAYANGANJ	847	718	977	15.3
	NARSINGDI	380	348	411	8.2
	NETRAKONA	55	49	61	11.3
	RAJBARI	256	235	277	8.2
	SHARIATPUR	198	181	214	8.2
	SHERPUR	154	138	170	10.2
	TANGAIL	507	412	602	18.7
KHULNA	BAGERHAT	360	330	389	8.2
	CHUADANGA	523	394	651	24.5
	JESSORE	307	244	370	20.5
	JHENAIDAH	197	170	223	13.5
	KHULNA	1,276	1,210	1,342	5.2
	KUSHTIA	346	298	394	13.9
	MAGURA	225	206	243	8.2

Division	District	Hijra			
		Estimate	Lower Value	Upper Value	CR(%)
	MEHERPUR	75	68	83	10.2
	NARAIL	123	113	133	8.2
	SATKHIRA	409	363	455	11.3
RAJSHAHI	BOGRA	210	186	233	11.3
	JOYPURHAT	132	117	147	11.3
	NAOGAON	374	331	416	11.3
	NATORE	198	171	225	13.5
	CHAPAI NABABGANJ	845	638	1,053	24.5
	PABNA	583	505	662	13.5
	RAJSHAHI	1,322	1,079	1,564	18.3
	SIRAJGANJ	530	486	573	8.2
RANGPUR	DINAJPUR	1,136	990	1,283	12.9
	GAIBANDHA	146	130	163	11.3
	KURIGRAM	106	94	118	11.3
	LALMONIRHAT	144	129	159	10.2
	NILPHAMARI	264	234	294	11.3
	PANCHAGARH	113	102	125	10.2
	RANGPUR	466	411	521	11.8
	THAKURGAON	264	230	298	12.9
SYLHET	HABIGANJ	299	265	333	11.3
	MAULVIBAZAR	296	262	329	11.3
	SUNAMGANJ	101	90	113	11.3
	SYLHET	643	607	678	5.6
BANGLADESH		28,670	25,319	32,021	11.7

Note: Yellow highlighted rows are actual districts where field level data collection took place

District wise variation in estimated number of male PWID with age group distribution and lower and upper estimates are summarized in the Annex-E.

6.1.3 Mapping of Location and Spots for PWID

The mapping exercise of PWID conducted in 21 selected districts identified 288 spots in 70 locations (Table 6.3). The PWID spots were found in 19 districts where mapping exercise was conducted. Out of this total spots of PWID, females who inject drugs were found in 44 spots mainly located in Dhaka region.

Moreover, maximum spots (97 spots) were identified in Dhaka district. Another, 23 spots were identified in Barisal, 18 spots in Khulna, 17 spots in Tangail and 16 spots in Mymensingh, and 15 spots in Chapainawabganj, while the rest of the districts have less than 15 spots.

Table 6.3: Distribution of location and spots of PWID across different districts

Division	District	No. of locations	No. of spots	No. of spots with PWID-Female
Barisal	Barisal	1	23	-
Chittagong	Chittagong	6	13	-
	Comilla	1	7	-
	Cox's bazar	1	3	-
	Noakhali	-	-	-
	Rangamati	-	-	
Dhaka	Dhaka	33	97	28
	Gazipur	3	13	-
	Mymensing	2	16	3
	Narayanganj	2	10	3
	Tangail	2	17	-
Khulna	Bagerhat	2	9	-
	Jessore	1	6	2
	Khulna	5	18	6
	Shatkhira	1	7	1
Rajshahi	Chapainawabganj	2	15	-
	Rajshahi	3	13	-
Rangpur	Dinajpur	2	9	-
	Rangpur	1	4	-
Sylhet	Sunamganj	-	-	-
	Sylhet	2	8	1
	Total	70	288	44

The districts of Dhaka region alone constitute more than half of the PWID-Male spots and 77 percent of the PWID-Female spots in the study locations where the mapping exercise was conducted.

6.2 Behavioral Characteristics of PWID

This section provides the selected background characteristics of both male and female PWID including age, educational qualification, marital status and their living arrangements. The injecting as well as sexual behavior of PWID are also analyzed in this section, which include use of sterile injecting equipment, number of injections taken, sharing of injections, use of condom during last sex act with different commercial and non-commercial partners. This section also analyses the incidence of STI among PWID and care seeking behaviour, HIV testing and access to other related services.

The behavioral survey among PWID was conducted in the selected study locations. A total of 1,281 males who inject drugs and 73 females who inject drugs were interviewed under the behavioral survey of the study. All the tables and figures presented in this section are corrected through appropriate sampling weights.

6.2.1 Background Characteristics

Majority of the males who inject drugs are aged 25 years or above, followed by 20-24 years (22.6%) and the rest 6.6 percent of them are aged 10-19 years (Table 6.4). Moreover, 78.8 percent of the females who inject drugs are aged 25 years and above, 13.3 percent of them are aged 20-24 years and 8.2 percent are aged 10-19 years. The PWID interviewed are, on an average, 31 years old. About half (49.1%) of the males who inject drugs and majority of the females who inject drugs have attained up to 5 years of schooling and about one-fifth of them have no formal education. Only 2.9 percent of the males who inject drugs and none of the females who inject drugs have completed 10 years of schooling. Majority of the males who inject drugs (69.5%) and females who inject drugs (88.2%) are ever married.

Table 6.4: Percentage distribution of PWID by selected background characteristics

Background characteristics	Percent of PWID	
	PWID-Male (n=1281)	PWID-Female (n=73)
Age		
Below age 20	6.6	8.2
20-24	22.6	13.1
25 and above	70.8	78.8
Average age	31	30
Education		
No formal education	21.7	18.8
Up to 5 years	49.1	68.2
6-10 years	26.3	13.0
More than 10 years	2.9	-
Marital status		
Never married	30.5	11.8
Ever married	69.5	88.2
Living arrangements		
Married, living with spouse or any sexual partner	56.8	59.0
Married,not living with spouse or any sexual partner	12.8	29.1
Not married, living with sexual partner	2.7	3.0
Not married, not living with sexual partner	27.8	8.8
Region		
Dhaka	43.4	80.4
Bordering districts	39.4	15.5
Other	17.2	4.1

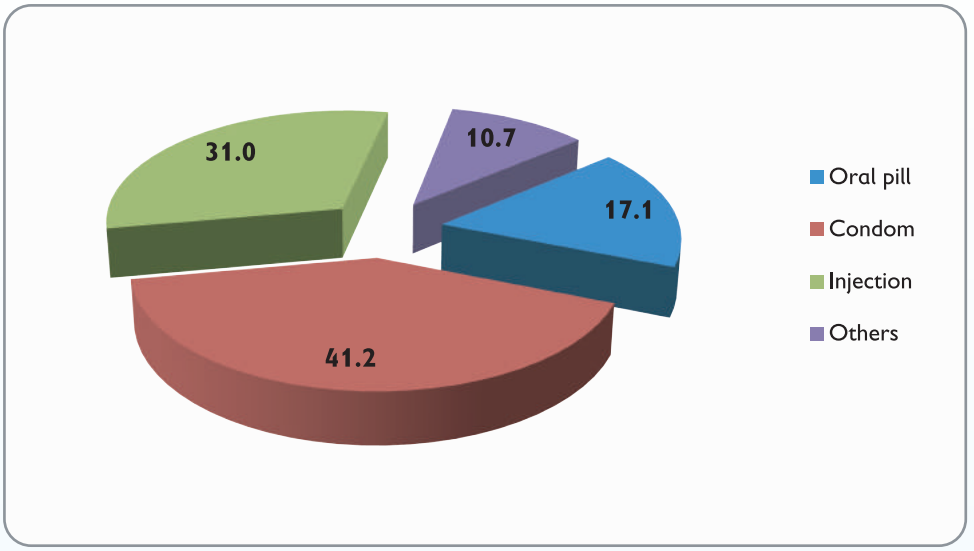
About 79 percent of the females who inject drugs interviewed mentioned that they are currently using any method of contraception for family planning purposes as well as avoiding unwanted pregnancies (Table 6.5). The young and never married PWID (female) are less likely to use a family planning method.

Table 6.5: Percentage of female PWID reporting current use of contraception

Indicators		PWID-Female	
		Percent reporting use of contraception	Number
Age			
Below age 20		55.2	6
20-24		80.6	10
25 and above		81.4	58
Education			
No formal education		93.1	14
Up to 5 years		74.9	50
6-10 years		81.1	9
More than 10 years		0.0	0
Marital status			
Never married		68.2	9
Ever married		80.6	64
Received syringe from NSE		78.9	72
Yes		100.0	1
No			
Region			
Dhaka		75.7	11
Bordering districts		91.6	59
Other		100.0	3
Total		79.2	73

Among the PWID (female) who reported to use any family planning method, 41.2 percent reported to use condom (Figure 6.1) and another 31.0 percent mentioned injections, followed by oral pill (17.1%) and other methods (10.7%).

Figure 6.1: Percenaget of females who inject drugs by methods of contraception used



6.2.2 Injecting Behaviour

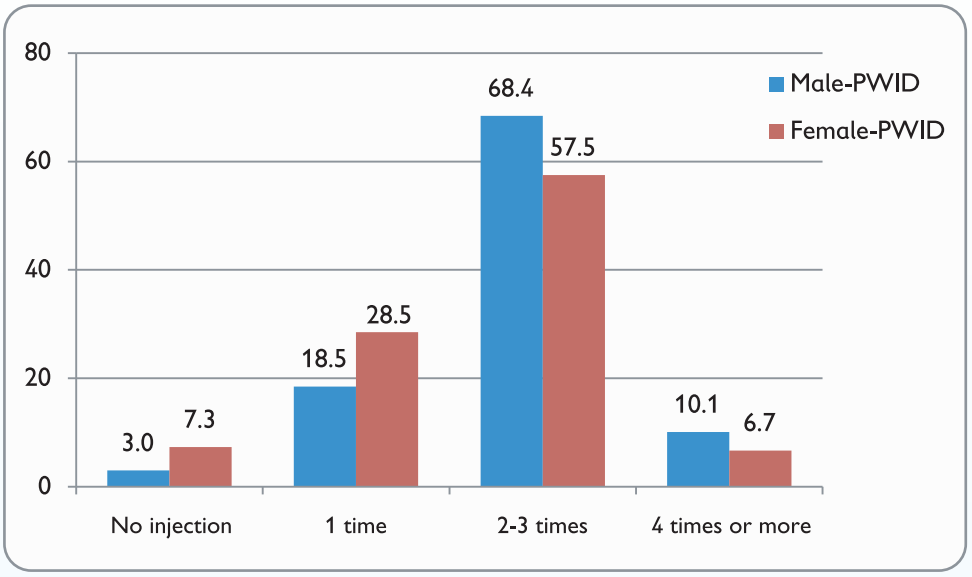
More than one third (37.7%) of the males who inject drugs and 32.1 percent of the females who inject drugs reported to inject drugs before the age of 20 years (Table 6.6). The average age of first injecting drug is 22 years for males who inject drugs and 23 years for females who inject drugs. A significant portion of the males who inject drugs (28.1%) and 11.0 percent of the females who inject drugs have been injected for more than 10 years. The males who inject drugs, on an average, have injected for the last 9 years, while the same for females who inject drugs is 6 years.

Table 6.6: Percentage of PWID by age of first injected and years of injecting drugs

Indicators	PWID-Male (n=1281)	PWID-Female (n=73)
Age of first injected non-medical drugs		
Below age 20	37.7	32.1
20-24	31.2	27.8
25 and above	30.5	40.0
Can't say	0.7	0.0
Average	22	23
How long have you been injecting drugs?		
< 5 years	27.2	34.5
5-10 years	44.7	54.5
Above 10 years	28.1	11.0
Average	9	6

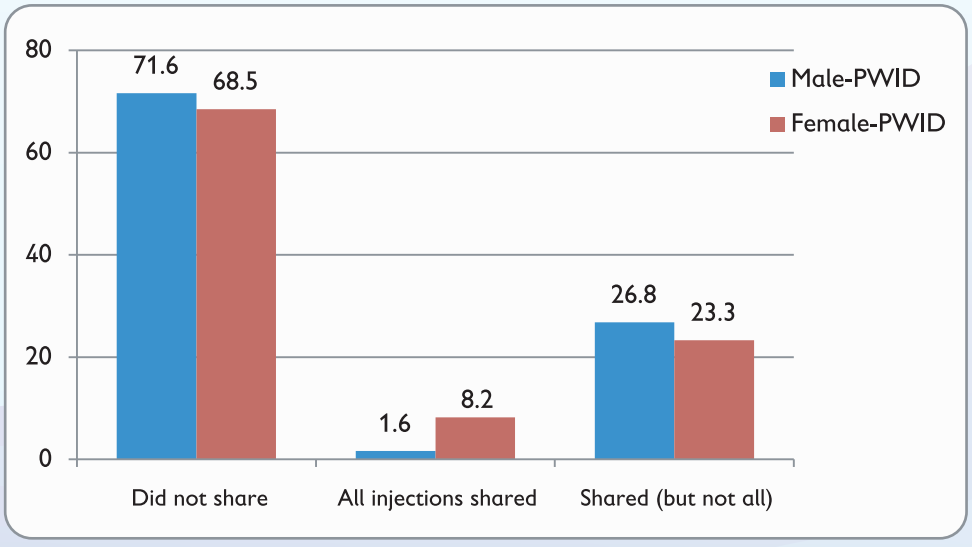
The behavioural study among PWID reveals that almost all the males (97.0%) and females (92.7%) who inject drugs injected yesterday (Figure 6.2). In response to the frequency of injections, majority of the males who inject drugs (68.4%) reported that they injected 2-3 time in the day before the survey and the same is 57.5 percent for females who inject drugs. The PWID, on an average, take about 2 injections in a day.

Figure 6.2: Percentage of PWID by frequency of injecting drug in yesterday



The PWID interviewed were asked "how many injections did you share during last week?". In response, majority of the males (71.6%) and females (68.5%) who inject drugs mentioned that they did not share any injection during the last one week preceding the survey (Figure 6.3). On the other hand, 28.4 percent of the males who inject drugs reported injection sharing with their partners in which only a few of them (1.6%) shared 'all injections' during the last week. Moreover, among the females who inject drugs, 31.5 percent reported injection sharing in the last week, in which 8.5 percent shared 'all injections'.

Figure 6.3: Percentage of PWID reporting needle sharing over last one week



The needle sharing is notably higher among the young and never married PWID (Table 7.6). On the other hand, majority of the PWID who received needle syringe from needle syringe exchange (NSE) program in the last 12 months did not share any injections in the last week preceding the survey. The proportion of PWID (male) reporting injection sharing is 29.9 percent in Dhaka region, 25.4 percent in bordering districts and 30.9 percent in other districts. Similarly, the sharing is reported by 33.9 percent of the PWID (female) in Dhaka, followed by 33.3 percent in other districts and only 18.2 percent in the bordering districts.

Table 6.7: Percentage of PWID reporting needle sharing in the last week by selected background characteristics

Indicators	PWID-Male		PWID-Female	
	Percent reporting needle sharing	Number	Percent reporting needle sharing	Number
Age				
Below age 20	35.3	85	66.7	6
20-24	41.4	289	60.0	10
25 and above	23.6	907	22.8	58
Education				
No formal education	16.9	278	35.7	14
Up to 5 years	31.5	629	30.0	50
6-10 years	33.8	337	40.0	9
More than 10 years	10.8	37	-	0
Marital status				
Never married	41.5	391	55.6	9
Ever married	22.6	890	28.1	64
Living arrangements				
Married, living with spouse or any sexual partner	21.3	727	31.5	43
Married, not living with spouse or any sexual partner	28.3	163	8.4	21
Not married, living with sexual partner	24.8	34	100.0	2
Not married, not living with sexual partner	43.1	357	42.8	6
Received syringe from NSE				
Yes	27.1	1237	30.6	72
No	63.6	44	100.0	1
Region				
Dhaka	29.9	556	33.9	59
Bordering districts	25.4	505	18.2	11
Other	30.9	220	33.3	3
Total	28.4	1281	31.5	73

An overwhelming majority of the both males and females who inject drugs (about 84%) mentioned that they did not use any needle or syringe that had previously been used by someone else during the last time they injected (Table 6.8). It is important to note that the young and less educated PWID are less likely to use sterile injecting equipment in the last time they injected. Moreover, about 85 percent of the both males and females who inject drugs who received any services from NSE program reported to use sterile injecting equipment as compared to those who did not receive any service from the program. The use of sterile injecting equipment during the last injection is relatively higher in Dhaka region as compared to bordering and other districts covered under this study.

Table 6.8: Percentage of PWID reporting sterile injecting equipment by selected background characteristics

Indicators	PWID-Male		PWID-Female	
	Percent reporting needle sharing	Number	Percent reporting needle sharing	Number
Age				
Below age 20	74.0	85	37.1	6
20-24	78.7	289	83.7	10
25 and above	86.5	907	88.4	58
Education				
No formal education	85.0	278	66.2	14
Up to 5 years	83.3	629	86.5	50
6-10 years	83.3	337	93.7	9
More than 10 years	91.5	37	0.0	0
Marital status				
Never married	76.7	391	66.8	9
Ever married	87.1	890	85.8	64
Living arrangements				
Married, living with spouse or any sexual partner	89.0	727	85.0	43
Married, not living with spouse or any sexual partner	78.7	163	87.4	21
Not married, living with sexual partner	83.4	34	100.0	2
Not married, not living with sexual partner	76.0	357	55.3	6
Received syringe from NSE				
Yes	85.6	1237	84.6	72
No	37.5	44	0.0	1
Region				
Dhaka	89.7	556	87.1	59
Bordering districts	82.3	505	66.3	11
Other	73.1	220	80.0	3
Total	83.9	1281	83.6	73

6.2.3 Sexual Behaviour and Safe Sexual Practices

More than 90 percent of the females who inject drugs and 72.7 percent of the males who inject drugs reported to have sex with any partner in the last month preceding the survey (Table 6.9). An overwhelming majority of the females who inject drugs and 36.0 percent of the males who inject drugs reported multiple sex partners in the last month. Although majority of the females who inject drugs reported condom use in the last sex in last one month, the same is notably lower (32.8%) among the males who inject drugs who reported sex in the last one month.

Table 6.9: Percentage of PWID reporting sex with any partner in last 1 month

Indicators	PWID-Male (n=1281)	PWID-Female (n=73)
Having sexual intercourse in the last 1 month		
Yes	72.7	94.3
No	27.3	5.7
Number of sexual partner	(n=931)	(n=69)
Single	64.0	18.5
Multiple	36.0	81.5
Use of condom of during last sex		
Yes	32.8	64.2
No	67.2	35.8

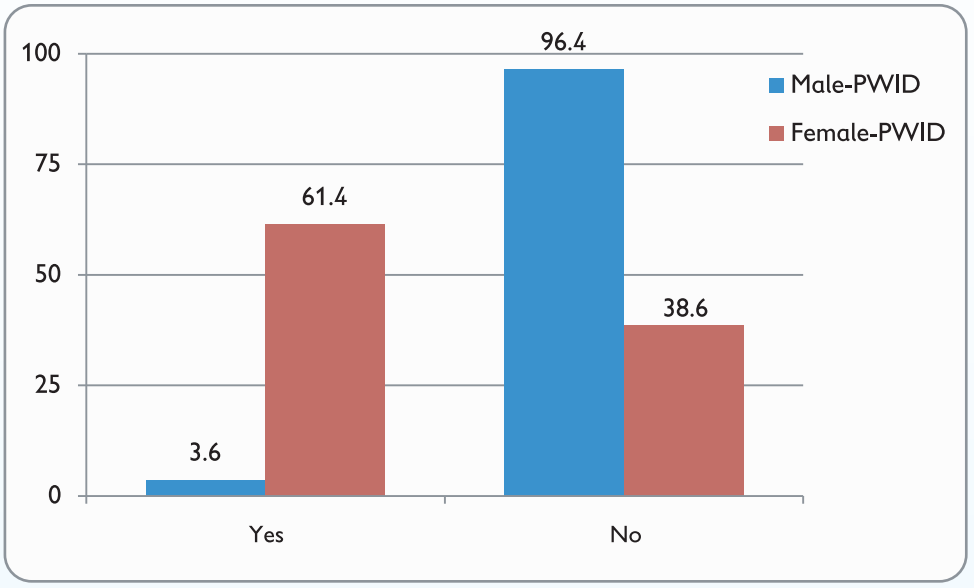
In response to sex with regular partner, majority of the males and females who inject drugsmentioned that they had sex with regular partner in last one month preceding the survey (Table 6.10). The use of condom during last sex act with the regular partner is 62.1 percent among PWID who are female as compared to only 23.8 percent among the PWID who are male.

Table 6.10: Percentage of PWID reporting sex with regular partner

Indicators	PWID-Male (n=931)	PWID-Female (n=69)
Regular partner		
Sex with regular partner in the last 1 months		
Yes	74.6	73.0
No	25.4	27.0
	PWID-Male (n=694)	PWID-Female (n=50)
Use of condom during last sex with regular partner in the last 1 months		
Yes	23.8	62.1
No	76.2	37.9

The behavioural survey among PWID reveals that majority of the PWID (female) have regular partner who also inject drug (Figure 6.4). On the other hand, only 3.6 percent of the PWID (male) mentioned that their regular partner also inject drugs.

Figure 6.4: Percentage of PWID reporting their regular partner also injects drug



About 40 percent of the males who inject drugs mentioned that they bought sex from female sex workers in the last month preceding the survey (Table 6.11). On the other hand 42.6 percent of the females who inject drugs sold sex to the clients during the last one month. More than a half (54.6%) of the females who inject drugs reported to use condom with their commercial partners, while the same is 46.6 percent among the maleswho inject drugs.

Table 6.11: Percentage of PWID reporting sex with commercial partner

Indicators	PWID-Male (n=931)	PWID-Female (n=69)
Sex with commercial partner in the last 1 months		
Yes	40.0	42.6
No	60.0	57.4
Use of condom during last sex with commercial partner in the last 1 months	(n=372)	(n=29)
Yes	46.6	54.6
No	51.4	39.1
Can't say	2.0	6.3

The males who inject drugs were also asked "have you ever had sexual intercourse with any of your male/Hijra partners?". In response, 6.4percent mentioned that they ever had sex with any male or Hijra partner (Table 6.12). The rate of condom use during last anal sex with a male/Hijra partner during last anal sex in the last 6 months is 35.4 percent.

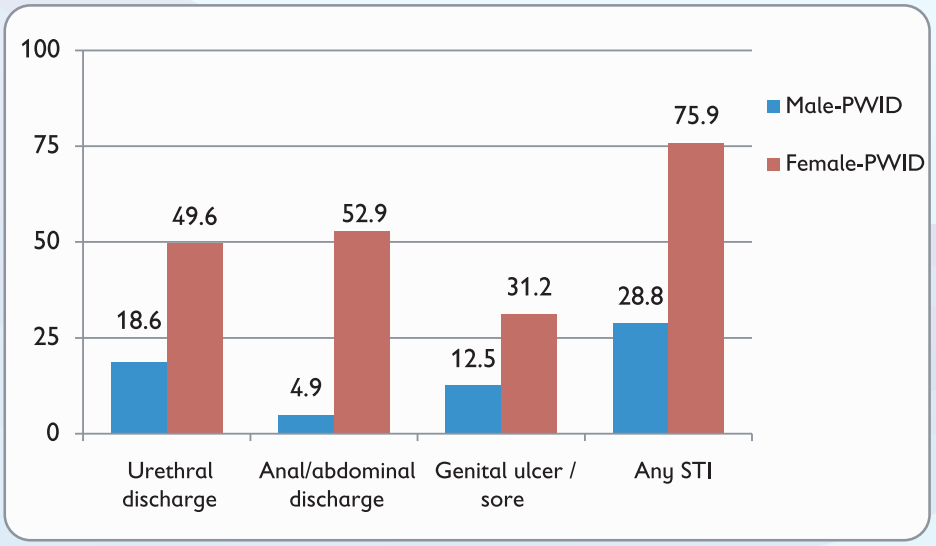
Table 6.12: Percentage of PWID-Male reporting sex with male/Hijra partner

Indicators	Percent of PWID-Male	Frequency of PWID-Male
Ever had sex with male////Hijra partner		
Yes	6.4	82
No	93.6	1199
Sex with male/Hijra partner in last 6 months		
Yes	32.9	27
No	67.1	55
Use of condom during last sex with male/Hijra partner		
Yes	35.4	10
No	64.6	17

6.2.4 STI Prevalence and Treatment Seeking Behaviour

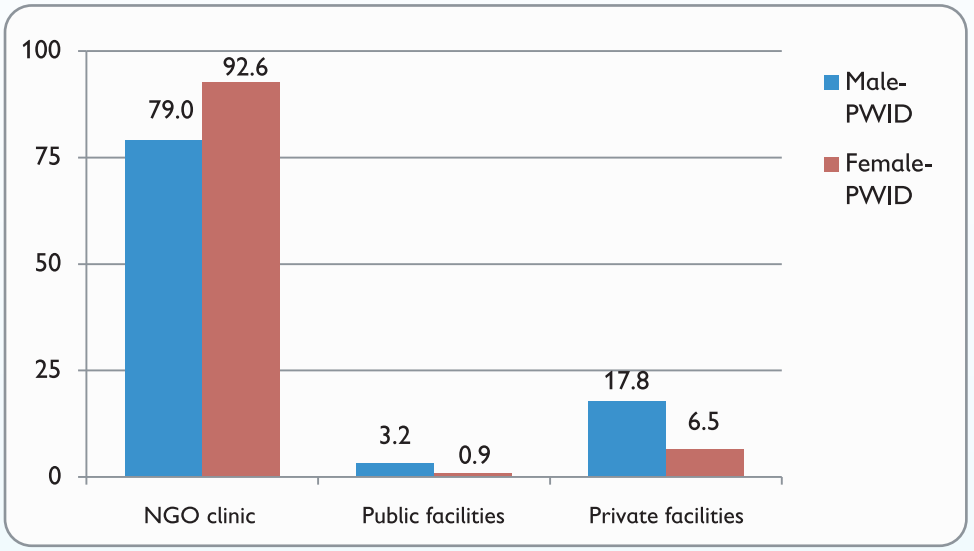
The incidence of self-reported STI is very high among the females who inject drugs. About half (49.6%) mentioned vaginal discharge in the last 12 months preceding the survey (Figure 6.5). The percent reporting abdominal discharge with bed smelling is 52.9 percent and genital ulcer/sore is 31.2 percent. Overall, 75.9 percent of the females who inject drugs reported at least one symptom of STI in the last 12 months. On the other hand, 28.8 percentage of the males who inject drugs mentioned at least one symptom of STI in the last 12 month preceding the survey.

Figure 6.5: Percentage of PWID reporting STI in the last 12 months



An overwhelming majority (85.5%) of the PWID who reported at least one symptom of STI in the last 12 months sought treatment for STI. More than 90 percent of the females who inject drugs and 79.0 percent of the males who inject drugs sought treatment from NGO clinics including DICs (Figure 6.6). Relatively higher proportion of male PWID (17.8%) sought treatment from private facilities for STI as compared to 6.5 percent among the females who inject drugs. A small portion of both males and females also mentioned public facilities for seeking STI treatment.

Figure 6.6: Percentage of PWID by place of STI treatment



The PWID who did not receive any services from the NSE program in last 12 months as well as the illiterate and less educated PWID are less likely to seek services for STI in the last 12 months preceding the survey (Table 6.13). The proportion of the PWID received treatment for STI is 88.2 percent in Dhaka region and 88.6 percent in bordering districts as compared to 72.3 percent in the other districts. Moreover, relatively more PWID in Dhaka region (89.5%) reported to seek treatment from DICs as compared to 71.2 percent for bordering districts and 75.5 in the other districts.

Table 6.13: Percentage of PWID sought treatment for STI in the last 12 months

Background characteristics	Percent of PWID sought treatment for STI	Number	Place of treatment			
			NGO clinic	Public facilities	Private facilities	Number
Age						
Below age 20	93.9	23	74.4	12.5	13.0	22
20-24	90.2	118	84.0	2.1	13.9	106
25 and above	83.3	283	79.9	2.3	17.7	235
Education						
No formal education	84.0	79	72.2	8.6	19.1	67
Up to 5 years	84.3	203	81.9	2.8	15.3	171
6-10 years	88.2	132	84.0	0.0	16.0	116
More than 10 years	100.0	10	80.1	0.0	19.9	10
Marital status						
Never married	91.2	155	77.0	3.2	19.8	141
Ever married	82.7	269	83.2	2.7	14.1	223
Living arrangements						
Married, living with spouse or any sexual partner	82.2	211	83.6	3.4	13.0	174
Married, not living with spouse or any sexual partner	84.8	58	81.6	0.0	18.4	49
Not married, living with sexual partner	86.0	11	63.5	0.0	36.5	9
Not married, not living with sexual partner	91.6	144	77.9	3.5	18.6	132
Typology						
PWID-Male	85.8	368	79.0	3.2	17.8	316
PWID-Female	86.1	56	92.6	0.9	6.5	48
Received syringe from NSE						
Yes	87.0	402	82.4	3.0	14.6	350
No	64.4	22	42.2	0.0	57.8	14
Region						
Dhaka	88.2	203	89.5	05	10.0	179
Bordering districts	88.6	155	71.2	7.0	21.8	137
Other	72.3	66	75.5	0.0	24.5	48
Total	85.8	424	80.8	2.9	16.3	364

6.2.5 HIV Testing and Other Services

More than 90 percent of both males and females who inject drugs interviewed mentioned that they know a place where people can go for HIV testing (Table 6.14). The knowledge of a place for HIV testing is notably lower among the younger PWID. More than 90 percent of the PWID-Male who received any services from NSE program are more likely to know a place for HIV testing as compared to those who did not receive services from the program.

Table 6.14: Percentage of PWID who know a place where people can go for HIV testing

Background characteristics	PWID-Male		PWID-Female	
	Percent	Number	Percent	Number
Age				
Below age 20	75.5	85	68.0	6
20-24	83.6	289	90.0	10
25 and above	96.0	907	98.4	58
Education				
No formal education	92.5	278	79.2	14
Up to 5 years	92.6	629	98.2	50
6-10 years	90.1	337	100.0	9
More than 10 years	91.4	37	0.0	0
Marital status				
Never married	82.3	391	77.9	9
Ever married	96.1	890	97.1	64
Living arrangements				
Married, living with spouse or any sexual partner	96.0	727	95.7	43
Married, not living with spouse or any sexual partner	96.3	163	100.0	21
Not married, living with sexual partner	92.3	34	100.0	2
Not married, not living with sexual partner	81.3	357	70.2	6
Received syringe from NSE				
Yes	92.8	1237	96.0	72
No	64.7	44	0.0	1
Region				
Dhaka	90.0	556	95.5	59
Borderingdistricts	90.7	505	74.7	11
Other	99.2	220	100.0	3
Total	91.9	1281	94.9	73

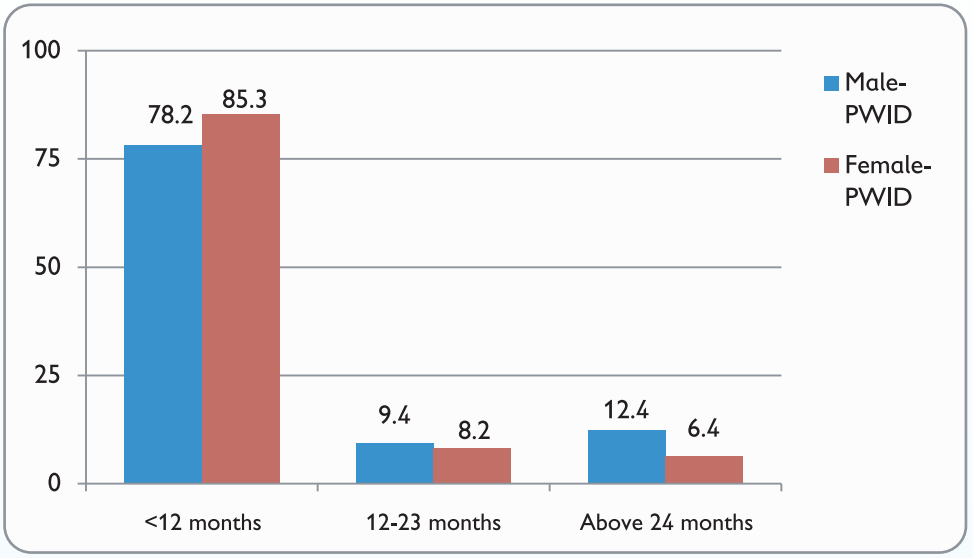
Majority of the males (70.0%) and females (88.6%) who inject drugs interviewed mentioned that they have ever been tested for HIV (Table 6.15). The young, never married and illiterate PWID are less likely to have HIV testing. Moreover, a significant portion of the males (72.0%) and females (89.7%) who inject drugs who received any services from NSE program in the last 12 months have been tested for HIV. The proportion of males who inject drugs reported been tested for HIV in Dhaka region is 76.3 percent as compared to 58.9 percent in bordering districts and 79.7 percent in other districts under this study. On the other hand, relatively smaller proportion of females who inject drugs reported ever being tested for HIV in Dhaka region as compared to bordering and other districts.

Table 6.15: Percentage of PWID who reported ever being tested for HIV

Background characteristics	PWID-Male		PWID-Female	
	Percent	Number	Percent	Number
Age				
Below age 20	35.5	85	37.1	6
20-24	51.6	289	80.6	10
25 and above	79.1	907	95.2	58
Education				
No formal education	67.5	278	79.2	14
Up to 5 years	72.1	629	90.8	50
6-10 years	67.3	337	90.6	9
More than 10 years	76.7	37	0.0	0
Marital status				
Never married	47.1	391	56.4	9
Ever married	80.0	890	92.9	64
Living arrangements				
Married, living with spouse or any sexual partner	78.7	727	89.3	43
Married, not living with spouse or any sexual partner	86.0	163	100.0	21
Not married, living with sexual partner	65.1	34	100.0	2
Not married, not living with sexual partner	45.4	357	41.4	6
Received syringe from NSE				
Yes	72.0	1237	89.7	72
No	14.8	44	0.0	1
Region				
Dhaka	76.3	556	57.9	59
Bordering districts	58.9	505	93.9	11
Other	79.7	220	100.0	3
Total	70.0	1281	88.6	73

Majority (78.2%) of the males who inject drugs reported to have HIV testing within the last 12 months, while 9.4 percent mentioned 12-23 months and the rest 12.4 percent mentioned more than 24 months (Figure 6.7). Moreover, 85.3 percent of the females who inject drugs mentioned that they have been tested for HIV within the last 12 months, 8.2 percent mentioned 12-23 months and the rest 6.4 percent mentioned above 24 months for HIV testing.

Figure 6.7: Percentage of PWID by time since tested for HIV



Among the PWID who reported ever being tested for HIV, more than 90 percent mentioned that they received the test from DICs (Table 6.16). Another 3.2 percent of the males who inject drugs and 4.1 percent of the females who inject drugs reported HTC centers for HIV testing. A few of the PWID also visited government hospitals as well as private diagnostic centers for HIV testing. It is also important to note that about 96 percent of the males who inject drugs and 98 percent of the females who inject drugs who have ever been tested for HIV collected the result to know their HIV status.

Table 6.16: Percentage of PWID by source of testing and getting results

Indicators	PWID-Male (n=897)	PWID-Female (n=65)
Sources of getting HIV tested		
DIC	94.6	92.4
HTC Centre	3.2	4.1
Government Hospital	2.1	3.4
Private laboratory	0.2	0.0
Getting the result of the test		
Yes	95.5	98.2
No	4.5	1.8

Almost all the PWID interviewed mentioned that they have received needle/syringe from the HIV prevention program at least once in the last 12 months preceding the survey (Table 6.17). Among the males interviewed, 98.1 percent in Dhaka region mentioned that they received needle/syringe in the last 12 months and the same is 94.8 percent in bordering districts and 96.7 percent in other districts. Moreover, the proportion of females receiving needle/syringe from program is almost universal in all the districts covered under this study.

Table 6.17: Percentage of PWID receiving needle/syringe from HIV prevention program in last 12 months

Background characteristics	PWID-Male		PWID-Female	
	Percent	Number	Percent	Number
Age				
Below age 20	93.3	85	100.0	6
20-24	94.0	289	100.0	10
25 and above	97.7	907	98.4	58
Education				
No formal education	95.7	278	100.0	14
Up to 5 years	96.7	629	98.2	50
6-10 years	96.7	337	100.0	9
More than 10 years	100.0	37	0.0	0
Marital status				
Never married	94.1	391	100.0	9
Ever married	97.7	890	98.6	64
Living arrangements				
Married, living with spouse or any sexual partner	97.5	727	97.9	43
Married, not living with spouse or any sexual partner	98.2	163	100.0	21
Not married, living with sexual partner	98.2	34	100.0	2
Not married, not living with sexual partner	93.7	357	100.0	6
Region				
Dhaka	98.1	556	98.5	59
Bordering districts	94.8	505	100.0	11
Other	96.7	220	100.0	3
Total	96.6	1281	98.8	73

All the PWID who received needle/syringe from HIV prevention program in the last 12 months were not enlisted with any DIC and did not receive the needle/syringe directly from the program. Many of them received needle/syringe occasionally from their injecting partners who are actually the members of the DICs and brought those from the DICs.

Section 7: Conclusions and Recommendations

Bangladesh Mapping and size estimation 2015-16 is an attempt to provide robust estimates of the size of key population (KP) including young key population (YKP) aged 10-19 and 20-24 years with an aim to guide the policy response appropriately and cost effectively. The mapping and size estimation of Bangladesh includes the KP groups of Female Sex Workers (FSWs) and their clients, Men who have sex with Men (MSM), Male Sex Workers (MSWs), Hijras and People Who Inject Drugs (PWID).

The methods used for obtaining these numbers were multiple and adapted to suit the context, e.g. mapping and size estimation was conducted in the selected 21 districts and the final size of each KP group was estimated after adjusting for frequency, duplication, turnover and hidden nature of the KPs. Sound extrapolation tools and methodologies were also adopted for extrapolation for the remaining 43 districts and providing the size estimates for the country as a whole.

The numbers reported here would be useful for filling the gap in information that is required to update the national size estimates of KPs as well as to ascertain the geographical prioritization of the HIV prevention program. However, it must be kept in mind that as some of these KPs (e.g. MSM, hotel and residence based female sex workers, etc.) are much more hidden, these numbers are likely to be underestimated. However, those who have been counted are likely to be accessible for providing services. It might also be noted that, estimates and information for YKPs of age groups of 10 to 14 years and 15 to 19 years are not presented separately due to lack of information based on the data collection tools. Future estimations of size may take this matter into consideration.

The behavioural survey among the KPs reveals that a large number of sex workers have been initiated into commercial sex at an early age and a significant portion of them were adolescents when they were entered into this profession. Similarly, a substantial number of PWID also initiated injecting drugs at an early age. Although a significant portion of the sex workers reported use of condom during the last sexual encounter, but the young and uneducated/less educated KPs are less likely to report use of condom. As a consequence, the self-reported incidence of STIs is also high among these groups.

Although an overwhelming portion of the sex workers, MSM and TG/Hijra reported receiving condoms and PWID to receiving needle/syringe from HIV prevention programs in the last 12 months; the field exploration revealed that all of them are not enlisted with any DIC. Many of them received condoms or needle/syringe occasionally from their mates or partners who are the members of the DICs.

This mapping and size estimation exercise presents concrete evidence in order to inform the national HIV response more comprehensively. Analyzing the size of KPs in different geographical regions as well as assessing the risk behaviour of KPs and their access to services, the mapping and size estimation study suggests the following:

- The study clearly identifies all the districts with presence of different key population groups. The data of this study should be used for prioritizing resource allocation and planning for effective prevention services in the districts where KPs are present in substantial numbers. However, in order to prevent a sudden surge of epidemic in the districts wherein the estimated size of the KPs is lower than the minimum threshold level for initiating targeted interventions, national programme should undertake innovative strategies to cover these population groups.

  It is demonstrated that 75% of the total estimated FSW are in 29 districts; 75% of the total estimated MSM/W are in 32 districts; 75% of the total estimated Hijra are in 25 districts; and 75% of the total estimated PWID are in 24 districts. Overall, 75% of the total estimated KPs belong to 33 districts. This information may be used for efficient planning in HIV prevention.

- A large proportion of the KPs particularly among MSM, hotel and residence sex workers are estimated to remain hidden and therefore reaching them is challenging. In order to increase service uptake by these groups it is important to create a conducive environment by tailoring programmes and services according to the specific vulnerabilities of these groups. Focus must be on reaching out to the hidden populations through appropriate behaviour and communication change interventions.

- It is recommended that for designing intervention programs in the 43 unmapped districts, further mapping and estimation of size should be undertaken in order to obtain the number of KPs firsthand for subsequent planning.

- Appropriate BCC activities should also be undertaken to increase comprehensive knowledge on HIV and STIs across communities. Information on sexual and reproductive health as well as importance of safer sexual practices, condom usage, use of sterile injecting equipment and access to treatment for STIs needs to be disseminated among both the communities and the key populations.

- The study findings also suggest the need for more focused services to the young population before they are exposed to high-risk behaviour. Therefore, the programme monitoring should separately focus on the new KPs entering into the commercial sex trade. This also calls for the need to ensure age disaggregated monitoring of prevention, care and treatment programs.

- As the analysis of risk and vulnerability clearly indicates the multi-sectorality of HIV, rather than it being only a health sector problem, the response also needs to be multi-sectoral in nature, addressing all aspects of risk and vulnerability through a coordinated response between various sectors and ministries, e.g. Ministry of Health and Family Welfare, Ministry of Home Affairs, Ministry of Women and Child Affairs, Ministry of Local Government, Rural Development and Cooperatives, etc.

In a nutshell, the findings of the mapping study can be extremely useful for increasing the effectiveness and efficiency of targeted interventions by using the detailed data on size, geographical distribution, behavioural patterns, etc. Since the dynamics of epidemic transmission keeps changing, this kind of mapping exercise should be repeated periodically, preferably at three to four year intervals in order to identify emerging districts with key population.

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Annex-A

The Structure of the Technical Working Group (TAG) was as follows:

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Member Secretary:

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Dr. Khandaker A.T. M. Farhad Hossain
Director and Line Director, NASP (17 January – 8 June, 2016)

Members:

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The Structure of the Technical Working Group (TAG) was as follows:

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7. **Ms. Hena Akhter**
   President, Sex Workers Network of Bangladesh
8. **Ms. Joya Shikder**
   President, SomporkerNoyaSetu, Bangladesh
9. **Mr. Shahed Ibne Obaed (Chotton)**
   Vice President, Organization of Bangladesh Drug Addict Rehabilitation (BODAR)

Annex-D

As suggested in the TAG and decided in the SWG meeting the Supervisors of validation team is consisted of the following resources:

1. **Ms. Nadira Yasmin**
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2. **Mr. Masud Reza**
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3. **Mr. Shakawat Alam**
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5. **Ms. AnonnyaBanik**
   Liaison Officer, Executive Director, Bandhu Social Welfare Society (BSWS)
6. **Mr. Zakir Hossain**
   Manager (M&E), HIV/AIDS Program, Save the Children

Annex-D

Tool 1: District Level Tool

Size Estimation of Most at Risk Population in _____ District in Bangladesh

Group Discussion Guideline for Broad Mapping with Key Stakeholders

Introduction: Assalamualikum! My name is…….. and my colleague's name is_____ .We are working for …… (name of the research organization) to collect data for a research study being conducted under the leadership of the National AIDS and STD Programme (NASP), Government of Bangladesh.

As you are aware, we all in the society are not at equal risk of contracting STI/HIV infection but some of our friends, who are also like us, are at higher risk of contracting STI/HIV. That is why NASP plans to ensure essential support and services to such people in order to reduce their vulnerability to STD/HIV and improve their quality of life. Since planning of any such program or services will require database relating to their number/location/time of operation etc., we are here to get your support in getting such information, especially the major locations so that our team member can personally visit those locations/sites and interact with some of them in order to assess their needs.

Therefore in this interaction we will ask you some questions that will be about Most at Risk Population for HIV/AIDs (MARPS) like FSW, MSM/MSW/HIJRA and IDUs, their presence in different location, their size, risk behavior and availability of HIV/AIDS related services to them.

We would greatly appreciate your support in this exercise.
Thanks for your cooperation.

A. General Information

I request all of you to have a brief introduction; I am starting from my side. (Proceed one by one)

S.N.	Name	Organization	No. of years working in the area of STI/HIV (KPs)	Type of your Association (In terms of nature of involvement in HIV/AIDS programs)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

B. Part 1

1. What type of KPs present in this districts?
2. Do you think that there is substantial change in size of KPs in the recent years in this district? If yes, what may be the possible reasons?
3. How is the seasonal variation (including festivals) in KP activities in this district?
4. What are the STI/HIV services for different type of KPs in this district?
5. How these services for different KPs have changed over a period of time
6. In your opinion, what are the major gaps in effective services to KPs in this district?

C. Part 2

As we all agree, effective services to KPs can be rendered only after a comprehensive mapping of the areas of their operation and knowing their numbers. Therefore let us list down the major locations/sites where high risk activities are taking place in this district. Please tell us about the places in this district where different categories of KPs operate? (Also use a map to identify the locations) and probe for new locations.

List of locations for FSWs:

Sl. #	Type (SB/HB/RB/CB)	Location	Urban/ Rural	Estimated No. of KP (of each sub groups)		Name of Key Informant(s)
				Min.	Max.	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Tool 2: Location level KII Tool

Size Estimation of Most at Risk Population in _____ District in Bangladesh

Name of the City/ Town/ Rural Location: _____
(Check with locations from Tool 1)

Name of KIs:

1._____; 2._____; 3. _____

Site Number	Site Name	Land Mark	Typology of Hot Spot*	Estimated population on a normal day			Peak Activity Time	Services Available
				Min.	Max.	Agreed		

* RB, SB, HB, CB, MSM, MSW, Hijra, MWID, FWID

Note: Use separate sheet for each location revealed from Tool 1.

Instructions for canvassing Tool 2 in listed locations

After reaching to the location there should be the round of location and identify the major land marks within the approximate boundary of the location.

Look for minimum 2 - 3 key informants with heterogeneous background.

Draw a rough sketch of the landmarks behind the sheet and then request KI to mark major sites where high risk activities take place.

Probe for additional sites till it is conformed that no more site is left.

This information is not to be solicited by the KIs but the research team will use its judgments based on the inputs in numbers suggested by KIs to reach to a consensus about the number. If there is very large difference in the minimum and maximum estimated numbers, the research team should write a justification.

Tool 3: Spot level PRA Tool

Size Estimation of Most at Risk Population in _____ District in Bangladesh

PRA among FSW (RB/SB/HB/CB)

Site/Hot Spot Information Sheet

Location _____

1. Site No. _____
2. Name and Address of site: _____
3. Site type: _____ (RB/SB/HB/CB)

Visit History

Dates of visit	Time of Visit	Peak Time (Yes/ No)	Site No. Visited	Name of the site	Number of FSW Interacted	Number of FSW Seen	Types and number of Informant	Estimated number of FSW emerged in PRA

Site Level Information (PRA)

Size Data: Number of FSW estimated to come to the site over the last one week

KI (KP and Non KP) Number	Busiest day at site (for FSW)	Total duration in hours that FSW are active in a week	Estimated size of FSW for last week	% of FSW at the site who go to other sites	% of FSW coming to this site from other site	% of FSWs at this site in the age group 10-19	% of FSWs at this site in the age group 20-24	Number of clients visiting the site	Which is the most accessed health service delivery point

Number of FSW estimated to come to the site over a last one month period

KI (KP and Non KP) Number	Busiest day at site (for FSW)	Average number of days FSW are active in a month	Estimated size for the last one month	% of FSW at the site who go to other sites	% of FSW coming to this site from other site	% of FSWs at this site in the age group 10-19	% of FSWs at this site in the age group 20-24	Number of clients visiting the site

Identification of Additional Sites

Type of site	Name	Location information

If the additional sites reported here are the same recorded during the broad mapping it will act as validation while any new site identified here should be treated as an additional site in the locality and tools 3 and 4 will be canvassed. Please compare this list with the tool 2 at the end of every three day's work.

Observations

Data from key informants is consistent with team observations: Y / N
Comments or issues about site visits:

Completed by: _____ Date: ___ / ___ / ____
Reviewed by: _____ Date: ___ / ___ / ____
Data entered: ____ / ____ / ____

PRA among PWID (Male and Female)

Site/Hot Spot Information Sheet

Location _____

1. Site No. _____
2. Name and Address of site: _____
3. Site type: _____ (MWID/ FWID)

Visit History:

Dates of visit	Time of Visit	Peak Time (Yes/No)	Name of the site	Number of IDU Interacted	Number of IDU Seen	Types and number of Informant	Estimated number of IDU emerged in PRA

Site Level Information

Size Data

Number of IDU estimated to come to the site over the last one week

KI (KP and Non KP) Number	Busiest day at site (for IDU)	Estimated size of IDU (M+F) that visit this site in last week	% of IDUs (M+F) at the site who go to other sites	% of IDUs (M+F) coming to this site from other site	% of IDUs at this site in the age group 10-19	% of IDUs at this site in the age group 20-24	Number of Female IDUs visiting the site	Which is the most accessed health service delivery point

Number of IDU estimated to come to the site over a last one month period

KI (KP and Non KP) Number	Busiest day at site (for IDU)	Estimated size of IDU (M+F) that visit this site in last one month	% of IDUs (M+F) at the site who go to other sites	% of IDUs (M+F) coming to this site from other site	% of IDUs at this site in the age group 10-19	% of IDUs at this site in the age group 20-24	Number of Female IDUs visiting the site	Number of Female IDUs who sell sex

Identification of Additional Sites

Type of site	Name	Location information

If the additional sites reported here are the same recorded during the broad mapping it will act as validation while any new site identified here should be treated as an additional site in the locality and tools 3 and 4 will be canvassed. Please compare this list with the tool 2 at the end of every three day's work.

Observations

Data from key informants is consistent with team observations: Y / N
Comments or issues about site visits:

Completed by: _____ Date: ___ / ___ / ____
Reviewed by: _____ Date: ___ / ___ / ____
Data entered: ____ / ____ / ____

PRA among MSM/MSW/HIJRA

Site/Hot Spot Information Sheet

Location _____

1. Site No. _____
2. Name and Address of site: _____
3. Site type: _____ (MSM/MSW/Hijra)

Visit History:

Dates of visit	Time of Visit	Peak Time (Yes/ No)	Name of the site	Number of MSM/MSW/ HIJRA/MSW / Hijra Interacted	Number of MSM/MS W/HIJRA/ MSW/ Hijra Seen	Types and number of Informant	Estimated number of MSM/MSW/ HIJRA emerged in PRA

Site Level Information

Size Data: Number of MSM/MSW/Hijra estimated to come to the site over the last one week

KI (KP and Non KP) Number	Busiest day at site (for MSM/ MSW/ Hijra)	Estimated sizefor last week	% of MSM/MS W/ Hijra at the site who go to other sites	% of MSM/MS W/ Hijra coming to this site from other site	% of MSM/ MSW/ Hijra at this site in the age group 10-19	% of MSM/ MSW/ Hijra at this site in the age group 20-24	Number of clients of MSM/ MSW/ Hijra visiting this site	Which is the most accessed health service delivery point

Number of MSM/MSW/HIJRA estimated to come to the site over a last one month period

KI (KP and Non KP) Number	Busiest day at site (for MSM/MSW/ Hijra)	Estimated size for **the** last one month	% of MSM/MSW/ Hijra at the site who go to other sites	% of MSM/MSW/ Hijra coming to this site from other site	% of MSM/MSW / Hijra / at this site in the age group 10-19	% of MSM/MSW/ Hijra / at this site in the age group 20-24	Number of clients of MSM/MSW/ Hijra visiting this site

Identification of Additional Sites:

Type of site	Name	Location information

If the additional sites reported here are the same recorded during the broad mapping it will act as validation while any new site identified here should be treated as an additional site in the locality and tools 3 and 4 will be canvassed. Please compare this list with the tool 2 at the end of every three day's work.

Observations

Data from key informants is consistent with team observations: Y / N
Comments or issues about site visits:

Completed by: _____ Date: ___ / ___ / ____
Reviewed by: _____ Date: ___ / ___ / ____
Data entered: ____ / ____ / ____

Protocols to conduct PRA

1) PRA should be conducted with a mixed group of primary (KPs) as well as secondary stakeholders
2) Like pimps, shopkeepers, paanwals, rikshwa driver etc. functioning the locality with a clear demarcation in codes such as M1, M2, M3 &NM1, NM2, NM3, etc.
3) Please remember to clarify the difference between the two tables. The first table seeks to get the number in the preceding week period, while the second table require these information of over a period of last four weeks.
4) Please ensure heterogeneity among the members
5) Facilitators should allow extrapolation in case of four weeks estimates
6) All the estimates can be recorded as interval estimate
7) Identification of additional Sites is another priority where tools 3 and 4 will be canvassed.
8) Please continue to compare this list with the tool 2 at the end of every three day's work

Tool 4: Behaviour Tool: MSM, MSW and TG/Hijra

CONFIDENTIAL

Primary Key Informants Questionnaire (MSM/MSW/Hijra)

Introduction:
My name is _____ and my colleague's name is_____.We are working for _____ (name of the research organization) to collect data for a research study being conducted under the leadership of the National AIDS and STD Programme (NASP), Government of Bangladesh. As you are aware, we all are not at equal risk of contracting STI/HIV infection but some of our friends, who are also like us, are at higher risk of contracting STI/HIV. That is why NASP plans to ensure essential support and services to such people to reduce their vulnerability to STI/HIV and improve their quality of life. Since planning of any such program or services will require data relating to their number/location/time of operation etc. we are here to get your support in getting such information and assess the needs.

Confidentiality and consent:
In this interview we will ask you some questions that will be about Key Population for HIV/AIDs like FSW, MSM/MSW/HIJRA and PWID, their presence in different location, their size, risk behavior and availability of HIV/AIDS related services to them. In case you need more information about the survey, you may contact the person named _____ and mobile number _____.
The questions usually take about 30 minutes. All the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time. We would greatly appreciate your support in this exercise.
Do you have any questions? May I begin the interview now?
Respondent agrees to be interviewed: ☐
Respondent does not agree to be interviewed: ☐ ➔ STOP.

Signature of interviewer: _____ Date: _____/_____/_____

IDENTIFICATION

Q. N.	Questions and Filters	Coding Categories
100	Type of respondent (KP)	MSM 1 MSW 2 Hijra SW 3 Hijrabadhai 4 Hijraradhuni 5

1.0 PERSONAL INFORMATION

Q. N.	Questions and Filters	Coding Categories	Skip to
101	How old were you at your last birthday?	Age in completed Years ☐☐ Don't Know 98 No Response 99	
102	How many years of education have you completed up to now?	# Years Completed ☐☐ Less than one year 00 Never been to school 97 No response 99	
103	What is your current marital status? (Only one response)	*Unmarried 1* *Currently married 2* *Separated/divorced/widower 3* *No Response 99*	
104	Are you currently living with a wife/ regular sex partner?	*Yes . 1* *No. 2* *No Response 98*	
105	Is your sexual partner who you live with male, female or hijra? (Multiple response possible)	Y N *Male 1 2* *Female 1 2* *Hijra 1 2* *No response 98*	

2.0 SEXUAL HISTORY of MSM/MSW/Hijra: Commercial Partners

Q. N.	Questions and Filters	Coding Categories	Skip to
201	What was your age when you have had the first anal sex?	*Age ☐☐ years* *Don't Know 98* *No Response 99*	

SEXUAL HISTORY of MSM: Ask Questions 202 to 231 to MSM Only

Q. N.	Questions and Filters	Coding Categories		Skip to
202	Did you use condom during last anal sex with a male in last 6 months?	*Yes* *No* *Don't know* *Can't Say*	*1* *2* *98* *99*	
	Buying sex from <u>males</u>			
203	Did you buy sex from any male in last 6 months?	*Yes* *No* *Don't Know* *No Response*	*1* *2* *98* *99*	→210
204	Did you use condom in the last sex act with your commercial male partner in the last 6 Months?	*Yes* *No* *Don't know* *Can't Say*	*1* *2* *98* *99*	
205	Did you buy sex from any male in last 1 month?	*Yes* *No* *Don't Know* *No Response*	*1* *2* *98* *99*	→210
206	How may different commercial male sex partner did you have in the last 1 month?	*Number of Partners* *Don't Know* *No Response*	☐☐ *98* *99*	
207	How many times did you have anal sex with commercial male partner during the last 1 month?	*Number of times* *Don't Know* *No Response*	☐☐ *98* *99*	
208	What is the frequency of anal sex with your commercial male partner? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	*Daily* *1-2 times a week* *3-5 times a week* *Once in 2 weeks* *Once in a Month* *Less than once in a month*	☐ ☐ ☐ ☐ ☐ ☐	
209	Did you use condom in the last sex act with your commercial male partner?	*Yes* *No* *Don't Know* *No Response*	*1* *2* *98* *99*	

Q. N.	Questions and Filters	Coding Categories		Skip to
	Buying sex from females			
210	Did you buy sex from any female (FSW) in last 1 month?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	→215
211	How may different commercial female sex partner did you have in the lst 1 month?	*Number of Partners* Don't Know No Response	☐☐ 98 99	
212	How many times did you have anal/veginal sex with your commercial female sex partner during the last 1 month?	Number of times Don't Know No Response	☐☐ 98 99	
213	What is the frequency of anal/veginal sex with your commercial female partner? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	*Daily* *1-2 times a week* *3-5 times a week* *Once in 2 weeks* *Once in a Month* *Less than once in a month*	☐ ☐ ☐ ☐ ☐ ☐	
214	Did you use condom in the last sex act with your commercial female partner?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	
	Buying sex from Hijra			
215	Did you buy sex from any Hijra in last 1 month?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	→220
216	How may different commercial Hijra sex partner did you have in the lst 1 month?	*Number of Partners* Don't Know No Response	☐☐ 98 99	
217	How many times did you have anal sex with commercial Hijra during the last 1 month?	*Number of times* Don't Know No Response	☐☐ 98 99	
218	What is the frequency of anal sex with your commercial Hijra partner? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	*Daily* *1-2 times a week* *3-5 times a week* *Once in 2 weeks* *Once in a Month* *Less than once in a month*	☐ ☐ ☐ ☐ ☐ ☐	
219	Did you use condom in the last sex act with your commercial Hijra partner?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	

Q. N.	Questions and Filters	Coding Categories		Skip to
	Non-commmercial sex with males/Hijra			
220	Did you have anal sex with any non-commercial male/Hijra in last 6 months?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	→227
221	Did you use condom in the last sex act with your non-commercial male/hijra partner in the last 6 months?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	
222	Did you have anal sex with any non-commercial male/Hijra in last 1 month?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	→227
223	How may different male/hijra sex partner did you have in the lst 1 month?	*Number of Partners* Don't Know No Response	☐☐ 98 99	
224	How many times did you have anal sex during the last 1 month?	*Number of times* Don't Know No Response	☐☐ 98 99	
225	What is the frequency of anal sex with your non-commercial partner? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	*Daily* *1-2 times a week* *3-5 times a week* *Once in 2 weeks* *Once in a Month* *Less than once in a month*	☐ ☐ ☐ ☐ ☐ ☐	
226	Did you use condom in the last sex act?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	
	Non-commmercial sex with females			
227	Did you have anal/veginal sex with any non-commercial female in last 1 month?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	→301
228	How may different non-commercial female sex partner did you have in the lst 1 month?	*Number of Partners* Don't Know No Response	☐☐ 98 99	
229	How many times did you have anal/veginal sex during the last 1 month?	*Number of times* Don't Know No Response	☐☐ 98 99	
230	What is the frequency of anal/veginal sex with your non -commercial female partner? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	*Daily* *1-2 times a week* *3-5 times a week* *Once in 2 weeks* *Once in a Month* *Less than once in a month*	☐ ☐ ☐ ☐ ☐ ☐	
231	Did you use condom in the last sex act?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	

SEXUAL HISTORY of MSW/Hijra: Ask Questions 232 to 242 to MSW/Hijra Only

Q. N.	Questions and Filters	Coding Categories		Skip to
232	Did you use condom during last anal sex with a male in last 1 year?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	
	Selling sex to males			
233	Did you sell sex to any male in last 1 week?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	→238
234	How may different male sex partner did you have in the lst 1 week?	*Number of Partners* Don't Know No Response	☐☐ 98 99	
235	How many times did you have anal sex during the last 1 week?	*Number of times* Don't Know No Response	☐☐ 98 99	
236	What is the frequency of anal sex with your commercial partner? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	*Daily* *1-2 times a week* *3-5 times a week* *Once in 2 weeks* *Once in a Month* *Less than once in a month*	☐ ☐ ☐ ☐ ☐ ☐	
237	Did you use condom in the last sex act?	*Yes* *No* Don't Know No Response	*1* *2* 98 99	
	Non-commercialsex with males			
238	Did you have sex with any male in last 1 month?	*Yes* *No* *Don't Know* *No Response*	*1* *2* *98* *99*	→243
239	How many different male sex partner did you have in the last 1 month?	*Number of Partners* *Don't Know* *No Response*	☐☐ *98* *99*	
240	How many times did you have anal sex during the last 1 month?	*Number of times* *Don't Know* *No Response*	☐☐ *98* *99*	
241	What is the frequency of anal sex with your non-commercial partner? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	*Daily* *1-2 times a week* *3-5 times a week* *Once in 2 weeks*	☐ ☐ ☐ ☐	
242	Did you use condom in the last sex act?	*Yes* *No* *Don't Know* *No Response*	*1* *2* *98* *99*	

Ask the following questions 243 to 252 to MSW only. DO NOT ask Hijra.

Q. N.	Questions and Filters	Coding Categories	Skip to
	Non-commercialsex with females		
243	Did you have sex with any female in last 1 month?	*Yes* 1 *No* 2 → 248 *Don't Know* 98 *No Response* 99	
244	How may different female sex partner did you have in the last 1 month?	*Number of Partners* ☐☐ *Don't Know* 98 *No Response* 99	
245	How many times did you have anal/veginal sex during the last 1 month?	*Number of times* ☐☐ *Don't Know* 98 *No Response* 99	
246	What is the frequency of anal sex with your non-commercial partner? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	*Daily* ☐ *1-2 times a week* ☐ *3-5 times a week* ☐ *Once in 2 weeks* ☐ *Once in a Month* ☐ *Less than once in a month* ☐	
247	Did you use condom in the last sex act?	*Yes* 1 *No* 2 *Don't Know* 98 *No Response* 99	

Q. N.	Questions and Filters	Coding Categories	Skip to
	Buying sex from females		
248	Did you buy sex from any female (FSW) in last 1 month?	Yes 1 No 2 → 301 Don't Know 98 No Response 99	
249	How may different FSW did you have in the last 1 month?	Number of Partners ☐☐ Don't Know 98 No Response 99	
250	How many times did you have anal/veginal sex during the last 1 month?	Number of times ☐☐ Don't Know 98 No Response 99	
251	What is the frequency of anal/veginal sex with your commercial partner? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	Daily ☐ 1-2 times a week ☐ 3-5 times a week ☐ Once in 2 weeks ☐ Once in a Month ☐ Less than once in a month ☐	
252	Did you use condom in the last sex act?	Yes 1 No 2 Don't Know 98 No Response 99	

3.0 Prevalence of STIs and treatment seeking behaviors

Q. N.	Questions and Filters	Coding Categories	Skip to
301	During the last 12 months, have you had urethral discharge/ anal discharge/ genital ulcer / sore?	YN *Urethral discharge* 1 2 *Anal discharge* 1 2 *Genital ulcer / sore* 1 2	402
302	Last time you had any of the above three problem did you seek any kind of advice or treatment	*Yes* 1 *No* 2 →	401
303	Where did you visit (last visit)?	Hospital…… 1 Drug seller/pharmacy…… 2 Private doctor…… 3 Private clinic … 4 NGO clinic … 5 Traditional healer … 6 Advice/treatment from friend … 7 Medicine you had at home 8 Nothing ..... 9 Other_____ 10 *Don't Know* 98 No Response 99	

4.0 HIV Test and other services

Q. N.	Questions and Filters	Coding Categories	Skip to
401	Do you know a place where people can go to get tested for HIV?	*Yes* 1 *No* 2	
402	I don't want to know the result, have you been ever tested to see if you have HIV?	*Yes* 1 *No* 2 →	*406*
403	When was the last time you were tested?	*Less than 12 months ago* 1 *12–23 months* 2 *2 or more years ago* 98	
404	Where was the test done?	*DIC* 1 *HTC Centre* 2 *Government Hospital* 3 *Private laboratory* 4 *Other (Specify)* 5	
405	I don't want to know the result; did you get the result of the test?	*Yes* 1 *No* 2 *Don't Know* 98 *No Response* 99	
406	In the last 1 year, did you receive condoms from HIV prevention program (DIC, outreach worker, etc)?	*Yes* 1 *No* 2 *Don't Know* 98 *No Response* 99	

Tool 4: Behavour tool: PWID

CONFIDENTIAL

Primary Key Informants Questionnaire (PWID: Male/Female)

Introduction:
My name is _____ and my colleague's name is_____.We are working for _____ (name of the research organization) to collect data for a research study being conducted under the leadership of the National AIDS and STD Programme (NASP), Government of Bangladesh. As you are aware, we all are not at equal risk of contracting STI/HIV infection but some of our friends, who are also like us, are at higher risk of contracting STI/HIV. That is why NASP plans to ensure essential support and services to such people to reduce their vulnerability to STI/HIV and improve their quality of life. Since planning of any such program or services will require data relating to their number/location/time of operation etc. we are here to get your support in getting such information and assess the needs.

Confidentiality and consent:
In this interview we will ask you some questions that will be about Key Population for HIV/AIDs like FSW, MSM/MSW/HIJRA and PWID, their presence in different location, their size, risk behavior and availability of HIV/AIDS related services to them. In case you need more information about the survey, you may contact the person named _____ and mobile number _____.
The questions usually take about 30 minutes. All the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time. We would greatly appreciate your support in this exercise.
Do you have any questions? May I begin the interview now?
Respondent agrees to be interviewed: ☐
Respondent does not agree to be interviewed: ☐ ➔ STOP.

Signature of interviewer: _____ Date: _____/_____/_____

IDENTIFICATION

Q. N.	Questions and Filters	Coding Categories
100	Type of respondent/PWID (KP)	PWID -- Male 1 PWID -- Female 2

1.0 PERSONAL INFORMATION

Q. N.	Questions and Filters	Coding Categories	Skip to
101	How old were you at your last birthday?	Age in completed Years ☐☐ Don't Know 98 No Response 99	
102	How many years of education have you completed up to now?	# Years Completed ☐☐ Less than one year 00 Never been to school 97 No response 99	
103	What is your current marital status? (Only one response)	*Unmarried* 1 *Currently married* 2 *Separated/divorced/widower* 3 *No Response* 99	
104	Are you currently living with a wife/husband, regular sex partner?	*Yes .* 1 *No.* 2 *No Response* 98	
Ask Q105–Q108 to Only female PWID-for male PWID skip to 201			
105	Are you currently using any family planning method?	*Yes* 1 *No* 2 → 107 *No response* 98 → 107	
106	Which method of FP you are currently using?	*Oral pill* 1 *Condom* 2 *Injection* 3 *Implant/Norplant* 4 *IUD/ CU-T* 5 *Female ligation/Tubectomy* 6 *Male ligation/ Vasectomy* 7 *Safe period* 8 *Withdrawal method* 9 *Emergency contra. pill/ECP* 10 *Others* 97	
107	Are you pregnant now?	*Yes* 1 *No* 2 → 201 *Not sure* 98 → 201	
108	How many months pregnant are you? (Record number of completed months.)	*Months* ☐☐	

2.0 Injecting Drug

Q. N.	Questions and Filters	Coding Categories	Skip to
201	How long have you been injecting drugs? Record 00 if less than 1 month	*Number of Years* ☐☐ *Number of Months* ☐☐ *Don't know* 98 No Response 99	
202	How old were you when you first injected non-medical drugs? (Includes self-injection or injection by another)	*Age in completed Years* ☐☐ *Don't know* 98 No Response 99	
203	In the past month, how often in a day did you usually inject?	*Once a day* 1 *2-3 times a day* 2 *4 times or more a day* 3 *Don't Know* 98 No Response 99	
204	How many times did you inject yesterday?	Zero 0 Number_____ ☐☐ Don't know 98 No Response 99	

3.0 Needle and sharing behaviors

Q. N.	Questions and Filters	Coding Categories	Skip to
301	In the last week, how many times did you inject?	Zero 0 → *Number* _____ ☐☐ *Don't know* 98 No Response 99	303
302	How many injections did you share during last week?	Zero 0 Number _____ ☐☐ Don't know 98 No Response 99	
303	Think about the last time (in the past 2 months) you injected drugs. Did you use sterile injecting equipment (a needle or syringe that had not previously been used by someone else)?	*Yes* 1 *No* 2 *Don't know* 98 *No Response* 99	
304	Last time (during the past 2 months) you shared, how many people used the same needles or syringe either before or after you?	Zero 0 Number _____ ☐☐ Don't know 98 No Response 99	

4.0 Sexual History

Q. N.	Questions and Filters	Coding Categories	Skip to
401	Have you had sexual intercourse in the last 1 month?	*Yes* 1 *No* 2 → *Don't know* 98 *No Response* 99	501

Any partner

Q. N.	Questions and Filters	Coding Categories	Skip to
402	In total, how many different sexual partners (spouse, regular, commercial, etc) have you had in the last 1 month?	*Total* ☐☐ *Don't know* 98 No Response 99	
403	The last time you had sex with any partner (during last 1 month) did you and your partner use a condom?	*Yes* 1 *No* 2 *Don't know* 98 No Response 99	

Regular partners

Q. N.	Questions and Filters	Coding Categories	Skip to
404	Had sex with spouse(s) or live-in-sexual partners during last 1 month?	*Yes* 1 *No* 2 → *Don't know* 98 No Response 99	408
405	In the last 1 week, how many times did you have sexual intercourse with your regular partner?	*Number of times* ☐☐ *Don't know* 98 *No Response* 99	
406	The last time you had sex with a regular partner; did you or your partner use a condom?	*Yes* 1 *No* 2 *Don't know* 98 No Response 99	
407	Did your regular partner also inject drugs?	*Yes* 1 *No* 2 *Don't know* 98 No Response 99	

Commercial Partners

Q. N.	Questions and Filters	Coding Categories	Skip to
408	Had sex with a commercial partner during last 1 month? (Partners with whom you bought or sold sex in exchange for money or drugs)	*Yes* 1 *No* 2 → *Don't know* 98 No Response 99	411
409	Among the partners that you have had in the last 1 month, how many were "Commercial" (including both sold and bought)	*Commercial* ☐☐ *Don't know* 98 *No Response* 99	
410	The last time you had sex with a commercial partner did you and your partner use a condom?	*Yes* 1 *No* 2 *Not applicable* 97 *Don't know* 98 No Response 99	

Male/Hijra Partners (Ask Q 418 – Q421 to Male PWID Only)

Q. N.	Questions and Filters	Coding Categories	Skip to
411	Have you ever had any male/Hijra sexual partners?	*Yes* 1 *No* 2 → 501 *Don't know* 98 No Response 99	
412	Have you had sexual intercourse with any of your male/Hijra partners in the last 6 months? (sexual intercourse defined as penetrative anal sex)	*Yes* 1 *No* 2 → 501 *Don't know* 98 No Response 99	
413	With how many different male/Hijra partners have you had anal intercourse in the last 6 months?	*Male Partners* ☐☐ *Don't know* 98 *No Response* 99	
414	The last time you had sex with a male/Hijra did you and your partner use a condom?	*Yes* 1 *No* 2 *Not applicable* 97 *Don't know* 98 *No Response* 99	

5.0 Prevalence of STIs and treatment seeking behaviors

Q. N.	Questions and Filters	Coding Categories	Skip to
501	During the last 12 months, have you had urethral discharge/ anal discharge/ genital ulcer / sore?	*For Male PWID:* YN *Urethral discharge* 1 2 *Anal discharge* 1 2 *Genital ulcer / sore* 1 2 For Female PWID: YN Urethral discharge 1 2 Lower abdominal pain 1 2 Genital ulcer / sore 1 2	601 601
502	Last time you had any of the above three problem did you seek any kind of advice or treatment	*Yes* 1 *No* 2 → 601	
503	Where did you visit (last visit)?	Hospital…… 1 Drug seller/pharmacy…… 2 Private doctor…… 3 Private clinic … 4 NGO clinic … 5 Traditional healer … 6 Advice/treatment from friend … 7 Medicine you had at home 8 Nothing ..... 9 Other_____ 10 *Don't know* 98 No Response 99	

6.0 HIV Test and other services

Q. N.	Questions and Filters	Coding Categories		Skip to
601	Do you know aplace where people can go to get tested for HIV?	*Yes* *No*	*1* *2*	
602	I don't want to know the result, have you been ever tested to see if you have HIV?	*Yes* *No*	*1* *2*	 → 606
603	When was the last time you were tested?	*Less than 12 months ago* *12–23 months* *2 or more years ago*	*1* *2* *98*	
604	Where was the test done?	*DIC* *HTC Centre* *Government Hospital* *Private laboratory* *Other (Specify)*	*1* *2* *3* *4* *5*	
605	I don't want to know the result; did you get the result of the test?	*Yes* *No* *Don't know* *No Response*	*1* *2* *98* *99*	
606	In the last 1 year, did you receive needle/syringe from HIV prevention program (DIC, out reach worker, etc)?	*Yes* *No* *Don't know* No Response	*1* *2* *98* 99	

Tool 4: Behavour tool: FSW

CONFIDENTIAL

Primary Key Informants Questionnaire (FSW: RB/SB/HB/BB/Casual)

Introduction:
My name is _____ and my colleague's name is_____.We are working for _____ (name of the research organization) to collect data for a research study being conducted under the leadership of the National AIDS and STD Programme (NASP), Government of Bangladesh.As you are aware, we all are not at equal risk of contracting STI/HIV infection but some of our friends, who are also like us, are at higher risk of contracting STI/HIV. That is why NASP plans to ensure essential support and services to such people to reduce their vulnerability to STI/HIV and improve their quality of life. Since planning of any such program or services will require data relating to their number/location/time of operation etc. we are here to get your support in getting such information and assess the needs.

Confidentiality and consent:
In this interview we will ask you some questions that will be about Key Population for HIV/AIDs like FSW, MSM/MSW/HIJRA and PWID, their presence in different location, their size, risk behavior and availability of HIV/AIDS related services to them. In case you need more information about the survey, you may contact the person named _____ and mobile number _____.
The questions usually take about 30 minutes. All the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time. We would greatly appreciate your support in this exercise.
Do you have any questions? May I begin the interview now?
Respondent agrees to be interviewed: ☐
Respondent does not agree to be interviewed: ☐ ➔ STOP.

Signature of interviewer: _____ Date: _____/_____/_____

IDENTIFICATION

Q. N.	Questions and Filters	Coding Categories
100	Type of respondent/FSW (KP)	*Residence based FSW .....1* *Street based FSW .....2* *Hotel based FSW .....3* *Brothel based FSW .....4* *Casual FSW 5*

1.0 PERSONAL INFORMATION

Q. N.	Questions and Filters	Coding Categories	Skip to
101	How old were you at your last birthday?	Age in completed Years ☐☐ Don't Know 98 No Response 99	
102	How many years of education have you completed up to now?	# Years Completed ☐☐ Less than one year 00 Never been to school 97 No response 99	
103	What is your current marital status? (Only one response)	*Unmarried .....1* *Currently married ..... 2* *Separated/divorced/widower .....3* *No Response 99*	
104	Are you currently living with a husband/ regular sex partner?	*Yes . .....1* *No. .....2* *No Response 99*	
105	Are you currently using any family planning method?	*Yes* 1 *No* 2 → 107 *No response* 99 → 107	
106	Which method of FP you are currently using?	*Oral pill .....1* *Condom .....2* *Injection .....3* *Implant/Norplant .....4* *IUD/ CU-T.....5* *Female ligation/Tubectomy .....6* *Male ligation/ Vasectomy .....7* *Safe period .....8* *Withdrawal method .....9* *Emergency contra.pill/ECP .....10* *Others 97*	
107	Are you pregnant now?	*Yes* 1 *No* 2 → 201 *Not sure* 98 → 201	
108	How many months pregnant are you? (Record number of completed months.)	*Months .....* ☐☐	

2.0 SEXUAL HISTORY

Q. N.	Questions and Filters	Coding Categories	Skip to
201	How old were you at your first sexual intercourse? [For the purpose of this study, "sexual intercourse," is defined as vaginal or anal sex]	*Age in years* ☐☐ Don't Know 98 No Response 99	
202	How old were you when you entered in this profession	*Age in years* ☐☐ Don't Know 98 No Response 99	
203	Among all of your partners, how many of them had sex with you in exchange for money/goods in the past week?	*Number* ☐☐ *Don't know 98* No Response 99	
204	Among all of your partners, how many of them had sex with you without paying any money in the past week? (Include sexual contacts with spouse and live-in sexual partners/boy friend/friend/casual sexual partner)	Number ☐☐ Don't know 98 No Response 99	
205	With how many different sexual partners in total have you had sex during the past week? (Note: Check total number of partners in Q. 203 + Q. 204 to match with Q 205).	*Number* ☐☐ *Don't know 98* No Response 99	
206	With how many clients did you have sexual intercourse yesterday?	*Number* ..... ☐☐	
207	How many days in a week (on an average) do you work as a sex worker?	*Days* ..... ☐	

3.0 Safe Sexual Practices

Q. N.	Questions and Filters	Coding Categories	Skip to
	Any Client (new or regular)		
301	The last time (in last 12 months) you had sex with your client, did he use a condom?	*Yes* 1 *No* 2 → *Don't know* 98 No Response 99	303
302	Who suggested condom use at that time?	*Myself* 1 *My Partner* 2 *Don't know* 98 *No Response* 99	
303	How many times did you have sexual intercourse with any client over the last week?	*Number* ..... ☐	
304	In how many sex acts did you use a condom (over the last week)?	*Number* ..... ☐	
	Regular Client		
305	Do you have any client who visits you on regular basis?	*Yes* 1 *No* ..... 2 →	309
306	How many such regular clients do you have?	*Number* ..... ☐	
307	What is the frequency of visit of your regular clients? RECORD NUMBER IN DIFFERENT CATAGORIES EXCLUSIVELY	*Daily* ..... ☐ *1-2 times a week* ..... ☐ *3-5 times a week* ..... ☐ *Once in aweek* ..... ☐ *Once in a Month* ..... ☐ *Less than once in a month* ..... ☐	
308	How many times did you have sexual intercourse with your regular clients over the last week?	*Number* ..... ☐	

Non-Paying Partner (spouse and live-in sexual partners/boy friend/friend/casual sexual partner)

Q. N.	Questions and Filters	Coding Categories	Skip to
309	Did you have sexual intercourse with your husband or a male friend in the last 1 month?	*Yes* ..... 1 *No* ..... 2 → *Don't know* 98 No Response 99	401
310	How many times did you have sexual intercourse with your non-paying sex partners in the last 1 month?	*Number of times* ..... ☐☐ *Don't know* 98 No Response 99	
311	The last time you had sex with your husband or male friend staying togather; did your sex partner use a condom?	*Yes* .....1 *No* .....2 *Don't know* 98 No Response 99	

4.0 Prevalence of STIs and treatment seeking behaviors

Q. N.	Questions and Filters	Coding Categories	Skip to
401	During the last 12 months, have you had urethral discharge/ anal discharge/ genital ulcer / sore?	YN *Urethral discharge* .....1 2 *Anal discharge* .....1 2 *Genital ulcer / sore* 1 2	→ 501
402	Last time you had any of the above three problem did you seek any kind of advice or treatment	*Yes* .....1 *No* .....2 →	501
403	Where did you visit (last visit)?	Hospital.....1 Drug seller/pharmacy.....2 Private doctor.....3 Private clinic ...4 NGO clinic ...5 Taditional healer ...6 Advice/treatment from friend ...7 Medicine you had at home 8 Nothing ..... 9 Other_____10 *Don't know* 98 No Response 99	

5.0 HIV Test and other services

Q. N.	Questions and Filters	Coding Categories	Skip to
501	Do you know a place where people can go to get tested for HIV?	*Yes* .....1 *No* 2	
502	I don't want to know the result, have you been ever tested to see if you have HIV?	*Yes* .....1 *No* .....2 →	506
503	When was the last time you were tested?	*Less than 12 months ago* .....1 *12–23 months*.....2 *2 or more years ago* 98	
504	Where was the test done?	*DIC* .....1 *HTC Centre* .....2 *Government Hospital* .....3 *Private laboratory* .....4 *Other (Specify)* 5	
505	I don't want to know the result; did you get the result of the test?	*Yes* .....1 *No* .....2 *Don't know* 98 *No Response* 99	
506	In the last 1 year, did you receive condoms from HIV prevention program (DIC, out reach worker, etc)?	*Yes* 1 *No* 2 *Don't know* 98 No Response 99	

Annex E: Detailed SE Tables with age group distribution and upper and lower estimates by districts

Street Based FSWs:

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
BARISAL	BARGUNA	83	114	86	119	145	199	314	432
	BARISAL	101	153	94	143	277	419	472	715
	BHOLA	26	36	28	38	46	64	100	138
	JHALOKATI	56	77	58	80	98	135	212	292
	PATUAKHALI	142	196	149	204	249	343	540	743
	PIROJPUR	103	142	108	149	181	249	393	540
CHITTAGONG	BANDARBAN	49	66	88	118	27	36	165	220
	BRAHMANBARIA	33	39	45	52	189	218	267	308
	CHANDPUR	49	56	81	93	98	114	227	263
	CHITTAGONG	176	203	354	409	184	213	714	825
	COMILLA	19	22	38	44	79	91	137	157
	COX'S BAZAR	104	130	165	206	67	84	337	420
	FENI	23	39	31	52	131	220	186	311
	KHAGRACHHARI	11	15	42	57	60	81	113	152
	LAKSHMIPUR	72	99	75	104	127	174	274	377
	NOAKHALI	34	57	88	147	115	192	236	396
	RANGAMATI	77	103	137	184	42	56	256	343
DHAKA	DHAKA	1,168	1,563	2,352	3,148	2,635	3,527	6,154	8,238
	FARIDPUR	88	120	91	126	153	211	332	457
	GAZIPUR	168	255	590	894	288	436	1,046	1,584
	GOPALGANJ	108	148	113	155	189	260	409	563
	JAMALPUR	59	67	93	106	190	216	342	390
	KISHOREGONJ	108	163	379	574	185	280	672	1,017

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
	MADARIPUR	108		113	155	189	260	409	563
	MANIKGANJ	129		135	186	227	312	491	675
	MUNSHIGANJ	133		139	191	233	321	506	695
	MYMENSINGH	163		420	511	232	283	815	992
	NARAYANGANJ	212		556	681	758	927	1,526	1,867
	NARSINGDI	93		97	133	163	224	353	485
	NETRAKONA	64	66	95	98	78	81	237	246
	RAJBARI	98		102	140	171	235	370	509
	SHARIATPUR	107		112	154	188	259	408	561
	SHERPUR	57	71	102	127	31	39	191	236
	TANGAIL	148		176	217	188	232	511	632
KHULNA	BAGERHAT	137		143	197	240	330	520	715
	CHUADANGA	25	33	33	44	139	184	197	260
	JESSORE	61	74	171	208	442	540	673	822
	JHENAIDAH	58	78	93	125	174	235	325	439
	KHULNA	173		360	461	668	855	1,202	1,537
	KUSHTIA	81		144	194	44	60	268	363
	MAGURA	86		89	123	150	206	325	447
	MEHERPUR	63	84	113	151	35	46	210	281
	NARAIL	67	92	70	96	118	162	255	350
	SATKHIRA	36	48	136	184	194	261	365	493
RAJSHAHI	BOGRA	64	80	103	128	194	240	362	448
	JOYPURHAT	16	22	63	85	89	120	168	227
	NAOGAON	35	47	133	180	190	256	358	483
	NATORE	34	45	54	73	101	136	188	254

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
	CHAPAI NABABGANJ	36	47	48	63	203	268	287	379
	PABNA	41	56	66	89	124	167	231	312
	RAJSHAHI	43	48	243	269	555	615	841	932
	SIRAJGANJ	37	51	39	53	66	89	142	192
	DINAJPUR	168	191	279	318	681	776	1,128	1,285
	GAIBANDHA	47	53	49	56	82	93	177	202
	KURIGRAM	37	50	141	191	201	272	380	513
	LALMONIRHAT	161	216	287	385	88	118	536	719
	NILPHAMARI	27	31	102	117	146	166	275	313
	PANCHAGARH	126	169	226	302	69	93	421	565
	RANGPUR	75	85	118	134	240	274	432	493
	THAKURGAON	62	71	112	127	34	39	208	238
SYLHET	HABIGANJ	22	22	82	85	117	122	221	229
	MAULVIBAZAR	44	46	65	68	54	56	163	169
	SUNAMGANJ	99	103	147	152	121	126	367	381
	SYLHET	138	149	261	281	496	535	894	965
BANGLADESH		6,267	8,187	11,301	14,732	14,269	18,431	31,837	41,350

Note: Yellow highlighted rows are actual districts where field level data collection took place

Hotel Based FSWs:

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
BARISAL	BARGUNA	9	13	13	20	26	39	47	72
	BARISAL	210	579	205	565	300	828	715	1,973
	BHOLA	12	18	19	28	36	54	66	100
	JHALOKATI	6	9	9	14	17	26	32	48
	PATUAKHALI	15	22	23	34	44	67	82	123
	PIROJPUR	11	16	17	25	32	48	59	90
CHITTAGONG	BANDARBAN	35	43	90	109	20	24	145	175
	BRAHMANBARIA	-	-	-	-	-	-	-	-
	CHANDPUR	14	15	41	44	109	117	163	176
	CHITTAGONG	259	279	539	580	228	246	1,026	1,104
	COMILLA	169	241	232	332	111	158	511	731
	COX'S BAZAR	66	81	180	220	69	85	315	385
	FENI	-	-	-	-	-	-	-	-
	KHAGRACHHARI	5	7	27	34	34	42	66	82
	LAKSHMIPUR	7	11	12	18	22	34	41	63
	NOAKHALI	-	-	-	-	-	-	-	-
	RANGAMATI	55	66	140	169	31	37	226	273
	DHAKA	22	23	642	689	1,525	1,636	2,189	2,348
	FARIDPUR	9	14	14	21	27	41	50	76
	GAZIPUR	175	221	402	508	139	176	717	905
	GOPALGANJ	11	17	17	26	33	50	62	93
	JAMALPUR	44	53	63	75	128	153	235	280
	KISHOREGONJ	113	142	258	326	90	113	460	581

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
DHAKA	MADARIPUR	11	17	17	26	33	50	62	93
	MANIKGANJ	13	20	21	31	40	60	74	112
	MUNSHIGANJ	14	21	21	32	41	62	76	115
	MYMENSINGH	78	83	178	189	95	101	351	373
	NARAYANGANJ	-	-	-	-	-	-	-	-
	NARSINGDI	15	23	23	35	45	68	83	125
	NETRAKONA	-	-	-	-	-	-	-	-
	RAJBARI	10	15	16	24	30	46	56	84
	SHARIATPUR	11	17	17	26	33	50	62	93
	SHERPUR	10	22	27	55	6	12	43	89
	TANGAIL	19	40	57	119	38	79	114	238
KHULNA	BAGERHAT	14	21	22	33	42	64	79	119
	CHUADANGA	-	-	-	-	-	-	-	-
	JESSORE	25	28	198	220	497	551	720	799
	JHENAIDAH	28	35	27	34	136	169	192	238
	KHULNA	51	54	154	161	283	297	488	512
	KUSHTIA	38	48	98	122	22	27	158	197
	MAGURA	9	13	14	21	27	40	49	74
	MEHERPUR	45	54	115	139	25	30	185	224
	NARAIL	7	10	11	16	21	31	38	58
	SATKHIRA	17	21	88	110	110	136	216	268
	BOGRA	16	33	15	32	77	160	108	225
	JOYPURHAT	8	10	41	51	51	63	99	123
	NAOGAON	11	14	58	72	72	89	141	175
	NATORE	20	25	20	25	99	122	139	173

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
RAJSHAHI	CHAPAI GAIBANDHA	-	-	-	-	-	-	-	-
	PABNA	20	25	20	24	97	120	136	169
	RAJSHAHI	17	21	42	51	308	381	367	453
	SIRAJGANJ	30	38	47	58	91	113	168	208
RANGPUR	DINAJPUR	33	37	63	70	103	115	199	222
	GAIBANDHA	21	24	33	37	64	71	118	132
	KURIGRAM	18	22	92	114	114	142	224	278
	LALMONIRHAT	115	139	294	355	64	78	473	571
	NILPHAMARI	15	18	77	92	96	115	189	225
	PANCHAGARH	90	109	231	279	50	61	371	449
	RANGPUR	56	66	80	95	162	193	298	355
	THAKURGAON	35	41	89	106	19	23	143	171
SYLHET	HABIGANJ	-	-	-	-	-	-	-	-
	MAULVIBAZAR	-	-	-	-	-	-	-	-
	SUNAMGANJ	-	-	-	-	-	-	-	-
	SYLHET	152	164	126	136	241	260	518	560
BANGLADESH		2,320	3,197	5,372	6,825	6,253	7,954	13,945	17,976

Note: Yellow highlighted rows are actual districts where field level data collection took place

Residence Based FSWs:

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
BARISAL	BARGUNA	27	35	43	55	95	121	166	210
	BARISAL	93	123	141	185	349	459	582	767
	BHOLA	44	55	69	87	152	193	265	335
	JHALOKATI	19	23	29	37	65	82	112	142
	PATUAKHALI	47	60	74	94	164	208	286	361
	PIROJPUR	34	43	54	68	119	151	208	263
CHITTAGONG	BANDARBAN	14	19	21	29	-	-	35	48
	BRAHMANBARIA	20	25	43	51	133	162	196	238
	CHANDPUR	79	95	104	126	96	116	279	338
	CHITTAGONG	404	490	866	1,049	479	580	1,749	2,119
	COMILLA	106	117	217	240	356	392	679	749
	COX'S BAZAR	104	118	269	307	194	222	567	647
	FENI	10	13	21	28	66	86	97	127
	KHAGRACHHARI	2	2	49	61	40	50	90	113
	LAKSHMIPUR	24	30	38	48	83	105	145	183
	NOAKHALI	15	19	49	65	59	78	123	162
	RANGAMATI	22	30	32	45	-	-	54	75
	DHAKA	1,027	1,094	2,662	2,835	4,487	4,779	8,176	8,708
	FARIDPUR	29	37	46	58	101	128	176	222
	GAZIPUR	-	-	-	-	-	-	-	-
	GOPALGANJ	36	45	56	71	124	157	216	274
	JAMALPUR	35	43	77	94	96	117	208	253
	KISHOREGONJ	-	-	-	-	-	-	-	-

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
DHAKA	MADARIPUR	36	45	56	71	124	157	216	274
	MANIKGANJ	43	54	67	85	149	189	260	328
	MUNSHIGANJ	44	56	70	88	154	195	267	338
	MYMENSINGH	108	130	403	488	422	511	933	1,130
	NARAYANGANJ	136	177	259	336	372	483	767	995
	NARSINGDI	48	61	75	95	167	211	290	367
	NETRAKONA	180	186	306	317	134	139	619	642
	RAJBARI	32	41	51	64	113	142	196	248
	SHARIATPUR	36	45	56	71	124	157	216	273
	SHERPUR	46	64	69	96	-	-	116	161
	TANGAIL	136	151	144	160	71	79	350	389
KHULNA	BAGERHAT	45	57	72	90	158	200	275	348
	CHUADANGA	41	48	85	101	267	318	392	467
	JESSORE	50	60	405	486	980	1,177	1,435	1,723
	JHENAIDAH	36	47	81	107	137	180	254	334
	KHULNA	210	219	389	406	553	577	1,153	1,202
	KUSHTIA	81	113	122	169	-	-	203	282
	MAGURA	28	36	45	57	99	125	172	217
	MEHERPUR	24	33	35	49	-	-	59	82
	NARAIL	22	28	35	44	77	98	135	170
	SATKHIRA	6	8	158	199	128	161	293	368
	BOGRA	42	56	97	127	162	214	301	397
	JOYPURHAT	3	4	73	92	59	74	135	169
	NAOGAON	4	5	103	130	84	105	191	240
	NATORE	26	33	61	76	102	128	189	237

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
RAJSHAHI	CHAPAI NABABGANJ	59	70	124	147	388	463	571	680
	PABNA	39	49	89	112	150	188	278	349
	RAJSHAHI	64	80	111	139	605	753	781	972
	SIRAJGANJ	56	71	89	112	197	247	342	430
RANGPUR	DINAJPUR	63	66	143	149	320	333	526	548
	GAIBANDHA	69	72	108	113	239	249	416	434
	KURIGRAM	7	8	164	206	133	167	304	382
	LALMONIRHAT	45	63	68	94	-	-	113	157
	NILPHAMARI	19	22	464	552	376	448	858	1,022
	PANCHAGARH	36	49	53	74	-	-	89	123
	RANGPUR	45	55	98	119	121	148	264	321
	THAKURGAON	193	230	289	344	-	-	482	574
SYLHET	HABIGANJ	13	13	312	324	253	263	578	599
	MAULVIBAZAR	155	161	264	274	115	120	534	554
	SUNAMGANJ	239	247	406	422	178	184	822	853
	SYLHET	421	440	862	901	1,933	2,020	3,217	3,361
BANGLADESH		5,176	5,972	11,920	13,718	16,904	19,388	34,000	39,078

Note: Yellow highlighted rows are actual districts where field level data collection took place

Men who have Sex with Men

Division	District	10-19		20-24		25		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
BARISAL	BARGUNA	-	-	362	436	855	1,029	1,217	1,465
	BARISAL	-	-	354	397	1,037	1,164	1,391	1,561
	BHOLA	-	-	121	199	285	469	406	667
	JHALOKATI	-	-	108	121	254	285	362	406
	PATUAKHALI	-	-	623	750	1,470	1,770	2,093	2,520
	PIROJPUR	-	-	453	545	1,069	1,287	1,522	1,832
CHITTAGONG	BANDARBAN	21	24	72	84	27	31	121	140
	BRAHMANBARIA	427	527	419	517	917	1,131	1,763	2,175
	CHANDPUR	-	-	228	254	647	719	875	973
	CHITTAGONG	1,054	1,204	2,345	2,677	3,394	3,875	6,793	7,756
	COMILLA	317	504	662	1,053	741	1,178	1,719	2,734
	COX'S BAZAR	75	98	318	414	729	951	1,121	1,463
	FENI	216	267	212	261	464	572	891	1,100
	KHAGRACHHARI	28	35	173	215	90	112	291	362
	LAKSHMIPUR	-	-	118	193	278	456	395	650
	NOAKHALI	67	111	248	408	394	647	709	1,166
	RANGAMATI	33	38	113	131	42	49	188	218
	DHAKA	1,266	1,345	3,288	3,494	4,273	4,540	8,827	9,379
	FARIDPUR	-	-	201	245	474	578	675	822
	GAZIPUR	289	352	651	793	265	323	1,205	1,468
	GOPALGANJ	-	-	472	568	1,114	1,341	1,585	1,909
	JAMALPUR	220	265	353	425	440	530	1,013	1,220
	KISHOREGONJ	377	423	849	951	346	388	1,573	1,762

Division	District	10-19		20-24		25		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
DHAKA	MADARIPUR	-	-	472	568	1,114	1,341	1,585	1,909
	MANIKGANJ	-	-	566	681	1,337	1,609	1,903	2,291
	MUNSHIGANJ	-	-	583	702	1,376	1,657	1,959	2,359
	MYMENSINGH	456	546	719	861	681	815	1,856	2,222
	NARAYANGANJ	-	-	292	327	1,305	1,462	1,597	1,789
	NARSINGDI	-	-	118	128	278	303	395	431
KHULNA	NETRAKONA	484	542	620	694	634	711	1,738	1,947
	RAJBARI	-	-	427	514	1,008	1,214	1,435	1,728
	SHARIATPUR	-	-	470	566	1,111	1,337	1,581	1,904
	SHERPUR	74	85	252	293	95	110	420	488
	TANGAIL	-	-	217	237	424	463	641	700
	BAGERHAT	-	-	600	722	1,416	1,705	2,016	2,427
	CHUADANGA	171	211	167	207	367	452	705	870
	JESSORE	128	150	430	503	254	297	811	949
	JHENAIDAH	34	45	219	285	472	613	726	942
	KHULNA	308	365	723	855	487	577	1,518	1,796
	KUSHTIA	224	265	768	908	288	341	1,279	1,514
	MAGURA	-	-	180	213	425	502	604	715
	MEHERPUR	36	42	123	143	46	54	205	238
	NARAIL	-	-	141	167	332	393	473	560
	SATKHIRA	92	114	560	697	291	362	943	1,173
	BOGRA	102	120	646	766	1,391	1,648	2,139	2,535
	JOYPURHAT	56	66	343	406	178	211	577	684
	NAOGAON	120	149	732	910	380	473	1,231	1,532
	NATORE	33	43	212	275	456	592	701	910

Division	District	10-19		20-24		25		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
RAJSHAHI	CHAPAI NABABGANJ	249	307	244	301	534	658	1,026	1,266
	PABNA	75	89	479	567	1,030	1,221	1,584	1,878
	RAJSHAHI	434	487	654	735	1,672	1,877	2,760	3,099
	SIRAJGANJ	-	-	409	492	965	1,163	1,374	1,655
RANGPUR	DINAJPUR	441	523	562	667	881	1,044	1,884	2,233
	GAIBANDHA	-	-	313	376	738	889	1,051	1,265
	KURIGRAM	95	118	582	724	302	376	980	1,219
	LALMONIRHAT	69	80	236	274	89	103	394	456
	NILPHAMARI	85	105	517	643	268	334	870	1,082
	PANCHAGARH	54	63	185	215	70	81	309	359
	RANGPUR	278	335	447	538	557	670	1,282	1,544
	THAKURGAON	76	88	261	303	98	113	435	504
SYLHET	HABIGANJ	101	116	620	709	322	368	1,043	1,194
	MAULVIBAZAR	438	501	561	642	574	656	1,572	1,799
	SUNAMGANJ	115	157	148	201	151	206	415	564
	SYLHET	742	849	915	1,046	1,157	1,324	2,814	3,219
BANGLADESH		**9,961**	**11,754**	**30,453**	**36,192**	**45,155**	**53,749**	**85,569**	**101,695**

Note: Yellow highlighted rows are actual districts where field level data collection took place

Male Sex Workers

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
BARISAL	BARGUNA	12	15	101	125	193	239	306	378
	BARISAL	37	47	96	123	214	273	347	443
	BHOLA	4	5	31	46	60	87	95	138
	JHALOKATI	3	4	30	38	57	73	90	115
	PATUAKHALI	20	25	174	215	333	411	527	650
	PIROJPUR	15	18	126	156	242	299	383	473
CHITTAGONG	BANDARBAN	5	8	18	25	4	6	27	39
	BRAHMANBARIA	60	89	87	129	338	497	486	714
	CHANDPUR	10	13	75	96	172	221	257	329
	CHITTAGONG	184	279	461	698	608	921	1,252	1,897
	COMILLA	104	155	126	189	172	258	402	602
	COX'S BAZAR	23	40	75	130	125	217	224	388
	FENI	30	45	44	65	171	251	246	361
	KHAGRACHHARI	6	9	35	52	18	27	59	88
	LAKSHMIPUR	4	5	31	44	59	85	93	134
	NOAKHALI	6	9	64	93	96	139	166	241
	RANGAMATI	8	12	27	39	6	9	42	60
	DHAKA	326	370	900	1,022	1,443	1,639	2,668	3,031
	FARIDPUR	9	16	76	134	145	256	229	406
	GAZIPUR	82	145	197	348	131	232	409	724
	GOPALGANJ	15	19	132	163	252	311	399	493
	JAMALPUR	168	215	104	133	66	85	339	432
	KISHOREGONJ	115	152	277	364	185	243	577	758

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
DHAKA	MADARIPUR	15	19	132	163	252	311	399	493
	MANIKGANJ	19	23	158	195	302	373	479	591
	MUNSHIGANJ	19	24	163	201	311	384	493	609
	MYMENSINGH	98	111	119	135	202	230	419	476
	NARAYANGANJ	15	20	116	152	338	445	469	616
	NARSINGDI	10	12	84	101	160	192	253	305
KHULNA	NETRAKONA	129	170	176	232	171	224	476	626
	RAJBARI	14	17	119	147	228	281	361	446
	SHARIATPUR	15	19	131	162	251	310	398	491
	SHERPUR	19	27	61	87	14	20	94	134
	TANGAIL	9	10	62	75	116	139	187	225
	BAGERHAT	20	24	167	207	320	395	507	626
	CHUADANGA	24	35	35	51	135	199	194	286
	JESSORE	39	51	178	235	129	170	346	456
	JHENAIDAH	13	17	60	80	107	143	180	239
	KHULNA	84	111	248	328	195	258	526	697
	KUSHTIA	89	117	288	382	67	88	443	587
	MAGURA	8	11	69	92	132	175	209	277
	MEHERPUR	9	13	30	43	7	10	46	66
	NARAIL	6	8	54	72	104	137	164	217
	SATKHIRA	20	30	113	168	59	87	191	284
	BOGRA	42	51	196	239	351	428	589	718
	JOYPURHAT	17	20	94	114	49	59	159	194
	NAOGAON	26	39	147	219	76	114	250	371
	NATORE	12	16	58	77	103	138	173	231

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
RAJSHAHI	CHAPAI NABABGANJ	35	52	51	75	197	289	283	416
	PABNA	31	38	145	177	260	317	436	532
	RAJSHAHI	71	91	122	157	458	591	650	839
	SIRAJGANJ	18	23	152	193	290	370	459	586
RANGPUR	DINAJPUR	130	159	176	215	212	259	519	633
	GAIBANDHA	14	17	116	148	222	283	351	448
	KURIGRAM	21	31	117	174	61	90	199	296
	LALMONIRHAT	25	36	82	117	19	27	126	180
	NILPHAMARI	18	27	104	155	54	80	177	262
	PANCHAGARH	14	20	45	64	10	15	69	99
	RANGPUR	213	272	132	168	84	107	428	546
	THAKURGAON	19	28	63	90	15	21	97	139
SYLHET	HABIGANJ	26	34	148	191	76	99	250	323
	MAULVIBAZAR	78	100	106	136	102	132	286	369
	SUNAMGANJ	62	80	84	108	81	105	227	293
	SYLHET	129	167	203	262	179	231	511	660
BANGLADESH		2,921	3,863	8,189	10,810	11,588	15,104	22,698	29,777

Note: Yellow highlighted rows are actual districts where field level data collection took place

Hijra/TG

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
BARISAL	BARGUNA	-	-	19	29	53	82	72	110
	BARISAL	-	-	19	23	41	49	61	72
	BHOLA	-	-	5	9	15	26	20	35
	JHALOKATI	-	-	4	5	12	14	16	19
	PATUAKHALI	-	-	32	49	91	140	123	190
	PIROJPUR	-	-	23	36	66	102	90	138
CHITTAGONG	BANDARBAN	8	12	23	34	10	15	42	62
	BRAHMANBARIA	14	24	24	40	60	99	98	163
	CHANDPUR	0	0	27	34	89	110	116	144
	CHITTAGONG	25	45	122	222	222	405	369	673
	COMILLA	46	76	77	127	63	104	185	307
	COX'S BAZAR	8	12	11	17	25	39	43	68
	FENI	7	12	12	20	30	50	50	82
	KHAGRACHHARI	0	1	5	7	13	19	18	26
	LAKSHMIPUR	-	-	5	9	14	25	19	34
	NOAKHALI	3	6	7	12	24	43	35	62
	RANGAMATI	13	19	36	53	16	24	65	96
	DHAKA	78	122	314	487	565	876	958	1,485
	FARIDPUR	-	-	9	13	26	37	35	50
	GAZIPUR	51	72	161	227	100	142	312	441
	GOPALGANJ	-	-	24	37	69	106	93	144
	JAMALPUR	-	-	7	10	35	52	41	62
	KISHOREGONJ	16	27	51	85	32	53	100	165

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
DHAKA	MADARIPUR	-	-	24	37	69	106	93	144
	MANIKGANJ	-	-	29	45	83	128	112	173
	MUNSHIGANJ	-	-	30	46	85	131	115	178
	MYMENSINGH	29	37	41	52	50	64	121	153
	NARAYANGANJ	2	2	43	51	184	217	229	270
	NARSINGDI	-	-	11	15	30	44	41	59
KHULNA	NETRAKONA	13	19	21	31	27	38	61	89
	RAJBARI	-	-	5	7	14	21	19	28
	SHARIATPUR	-	-	6	8	16	23	21	31
	SHERPUR	5	7	14	20	6	9	25	36
	TANGAIL	-	-	19	27	48	69	66	96
	BAGERHAT	-	-	31	48	88	135	119	183
	CHUADANGA	3	4	5	8	13	18	21	30
	JESSORE	3	3	10	11	25	29	38	44
	JHENAIDAH	2	2	8	12	23	31	33	46
	KHULNA	20	32	57	92	93	149	170	273
	KUSHTIA	12	17	32	46	15	21	58	84
	MAGURA	-	-	18	28	50	80	68	109
	MEHERPUR	14	21	39	58	18	26	71	105
	NARAIL	-	-	14	22	39	63	53	85
	SATKHIRA	1	2	16	23	42	61	59	85
	BOGRA	5	7	28	38	74	101	107	146
	JOYPURHAT	1	1	8	11	21	28	29	39
	NAOGAON	2	2	21	30	55	79	78	112
	NATORE	2	2	8	11	22	30	32	44

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
RAJSHAHI	CHAPAI NABABGANJ	30	49	51	83	125	204	207	336
	PABNA	4	5	21	28	55	75	80	108
	RAJSHAHI	7	12	23	40	96	165	126	218
	SIRAJGANJ	-	-	24	35	68	98	93	133
RANGPUR	DINAJPUR	21	29	31	43	42	57	95	129
	GAIBANDHA	-	-	3	4	7	11	10	15
	KURIGRAM	1	2	17	24	44	63	62	89
	LALMONIRHAT	8	11	22	30	10	14	40	54
	NILPHAMARI	1	2	15	21	39	56	55	79
	PANCHAGARH	6	8	17	23	8	11	31	42
	RANGPUR	-	-	2	3	10	15	12	18
	THAKURGAON	9	12	24	33	11	15	44	60
SYLHET	HABIGANJ	8	13	112	170	295	448	416	631
	MAULVIBAZAR	50	55	81	88	100	110	231	253
	SUNAMGANJ	49	53	78	85	97	106	223	244
	SYLHET	36	54	99	150	210	318	344	522
BANGLADESH		**615**	**893**	**2,174**	**3,224**	**4,078**	**6,082**	**6,867**	**10,199**

Note: Yellow highlighted rows are actual districts where field level data collection took place

Peoples Who Inject Drugs (Male)

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
BARISAL	BARGUNA	8	12	23	35	47	72	79	119
	BARISAL	39	51	250	327	638	836	926	1,214
	BHOLA	8	12	23	35	47	71	78	119
	JHALOKATI	25	33	71	93	145	190	241	316
	PATUAKHALI	10	15	28	42	57	86	95	143
	PIROJPUR	10	15	29	44	59	89	98	149
CHITTAGONG	BANDARBAN	1	1	8	10	58	71	66	81
	BRAHMANBARIA	20	25	40	50	202	252	262	327
	CHANDPUR	27	38	102	143	304	425	434	606
	CHITTAGONG	52	65	99	124	550	687	701	875
	COMILLA	8	10	109	133	799	980	915	1,123
	COX'S BAZAR	56	60	152	165	348	379	555	604
	FENI	15	19	30	38	153	191	199	248
	KHAGRACHHARI	2	3	18	22	92	115	112	140
	LAKSHMIPUR	8	10	24	29	48	60	80	100
	NOAKHALI	-	-	-	-	-	-	-	-
	RANGAMATI	1	1	12	15	90	110	103	126
	DHAKA	459	533	1,379	1,600	3,469	4,024	5,307	6,157
	FARIDPUR	31	36	87	103	178	209	295	348
	GAZIPUR	60	89	231	347	179	268	470	704
	GOPALGANJ	19	22	54	63	109	129	182	214
	JAMALPUR	56	84	123	184	141	211	320	479
	KISHOREGONJ	36	45	142	176	109	136	288	357

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
DHAKA	MADARIPUR	19	22	54	63	109	129	182	214
	MANIKGANJ	23	27	64	76	131	155	218	257
	MUNSHIGANJ	7	9	21	26	43	53	72	89
	MYMENSINGH	87	108	189	234	232	288	508	631
	NARAYANGANJ	37	50	126	172	555	755	718	977
	NARSINGDI	36	42	103	121	209	247	348	411
KHULNA	NETRAKONA	1	1	8	10	40	50	49	61
	RAJBARI	24	29	69	82	141	167	235	277
	SHARIATPUR	19	22	54	63	109	128	181	214
	SHERPUR	1	1	16	20	121	148	138	170
	TANGAIL	31	45	121	177	260	379	412	602
	BAGERHAT	34	40	98	115	199	234	330	389
	CHUADANGA	30	50	60	99	304	502	394	651
	JESSORE	7	10	28	43	210	318	244	370
	JHENAIDAH	4	5	23	30	144	188	170	223
	KHULNA	114	127	282	313	813	902	1,210	1,342
	KUSHTIA	3	3	35	47	260	344	298	394
	MAGURA	21	25	61	72	124	146	206	243
	MEHERPUR	1	1	8	10	59	72	68	83
	NARAIL	12	14	33	39	68	80	113	133
	SATKHIRA	7	9	58	72	298	374	363	455
	BOGRA	4	5	25	31	157	197	186	233
	JOYPURHAT	2	3	19	23	96	121	117	147
	NAOGAON	7	8	53	66	272	342	331	416
	NATORE	4	5	23	30	145	190	171	225

Division	District	10-19		20-24		25 and Above		Total	
		Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value	Lower Value	Upper Value
RAJSHAHI	CHAPAI NABABGANJ	49	81	97	161	492	811	638	1,053
	PABNA	11	14	68	89	426	559	505	662
	RAJSHAHI	147	213	261	379	671	972	1,079	1,564
	SIRAJGANJ	50	59	144	169	292	344	486	573
RANGPUR	DINAJPUR	26	34	190	247	773	1,002	990	1,283
	GAIBANDHA	13	17	38	48	78	98	130	163
	KURIGRAM	2	2	15	19	77	97	94	118
	LALMONIRHAT	1	1	15	19	113	139	129	159
	NILPHAMARI	5	6	37	47	192	242	234	294
	PANCHAGARH	1	1	12	15	89	109	102	125
	RANGPUR	72	91	158	201	181	229	411	521
	THAKURGAON	2	3	27	35	201	260	230	298
SYLHET	HABIGANJ	5	7	42	53	218	273	265	333
	MAULVIBAZAR	5	7	42	52	215	270	262	329
	SUNAMGANJ	2	2	14	18	74	93	90	113
	SYLHET	21	24	178	199	407	455	607	678
BANGLADESH		1,896	2,402	6,006	7,566	17,417	22,053	25,319	32,021

Note: Yellow highlighted rows are actual districts where field level data collection took place

National AIDS/STD Programme
Directorate General of Health Services
Ministry of Health and Family Welfare

Save the Children

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